CENTRAL MARYLAND

BioHealth Entrepreneur's Resource and Finance Guide

Brought to you by:

EAGB
Economic Alliance of Greater Baltimore

BioHealth Innovation
Maryland's Commercialization Collaborative

MONTGOMERY ECONOMIC DEVELOPMENT
MONTGOMERY COUNTY, MARYLAND

AN ADVERTISING SUPPLEMENT TO THE BALTIMORE BUSINESS JOURNAL
Central Maryland innovators make important discoveries every day. Many entrepreneurs find it difficult to navigate the commercialization path, get their ideas to market, and create successful business opportunities.

The Economic Alliance of Greater Baltimore is proud to partner with BioHealth Innovation to provide this guide to make the process for entrepreneurs and innovators easier and more accessible.

The directory lists the many organizations and programs that exist across the region to support entrepreneurs as they bring their ideas to market – economic development groups, business incubators, technology transfer offices, innovation centers, and others. The network of support organizations that entrepreneurs will find in Central Maryland is essential for advancing innovative ideas that spawn the successful commercial ventures that help drive our regional economy.

Central Maryland is home to many federal laboratories that flood the region with research and discovery. This directory contains complete information on each. The federal labs information provided by the Federal Laboratory Consortium provides a tutorial on partnering with government agencies to successfully transfer their research to the commercial marketplace. These assets are unique to Central Maryland and represent rare competitive advantages for entrepreneurs in the region.

The comprehensive financing information helps entrepreneurs understand the many funding opportunities available to them. The intellectual property information provided by Venable LLP assists innovators in taking the necessary steps to secure the rights to their research.

The network of support organizations that entrepreneurs will find in Central Maryland is essential for advancing innovative ideas that spawn the successful commercial ventures that help drive our regional economy.

Innovators, researchers, entrepreneurs, and startups create vital employment opportunities and are a critical part of Central Maryland’s economic future.

Central Maryland wants these trailblazers to call this region home.

Sincerely,

MICHAEL J. BAADER
Partner-in-Charge, Venable LLP
Chairman, Economic Alliance of Greater Baltimore

TOM SADOWSKI
President and CEO, Economic Alliance of Greater Baltimore

VENABLE LLP
Economic Alliance of Greater Baltimore
FROM BIOHEALTH INNOVATION INC.

Innovation, entrepreneurial dynamism, and risk-taking have always been part of the fabric of Maryland, and never more than now, exhibited in its brilliant biohealth industry.

From the corridor of emerging biotechnology, device and health information technology firms stretching along Interstate 270 to the biomedical research centers at the National Institutes of Health, the University System of Maryland, and Johns Hopkins University, Central Maryland is at the center of the health care industry.

The next breakthrough in healthcare delivery or drug discovery is likely percolating in a Maryland research park, corporation, or federal laboratory right now. Truly, resources in Maryland are plentiful in biomedical research, development, and commercialization.

BioHealth Innovation Inc. is proud to partner with the Economic Alliance of Greater Baltimore and the Montgomery County Department of Economic Development to produce the Central Maryland BioHealth Entrepreneur’s Resource and Financing Guide.

The road from an idea to a fully-formed business is arduous and often unfamiliar pathway to navigate for start-ups developing new commercially relevant technology. As shown within this Resource Guide, Central Maryland has many resources to tap along this pathway. The Guide can assist a range of entrepreneurs and innovators from startup companies to existing small business to those looking to start a business with identifying the many important assets we have here in Central Maryland.

These innovators, with the support of many potential partners, will keep Maryland at the center of biohealth discovery, innovation, and growth.

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BioHealth Innovation, Inc.

SCOTT CARMER  
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(Independent Auditor)
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UM Ventures is an ambitious joint research commercialization effort of the University of Maryland, Baltimore (UMB) and the University of Maryland, College Park (UMCP) to bring innovative technologies to the market and expand collaborations with industry.

Visit UMVentures.org to learn how you can advance your early-stage technology transfer opportunity or accelerate your new business venture.
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biohealth

The Baltimore-Washington region is among the top 5 biohealth hubs in the US, based on employment, number of firms and venture capital investment.

- The Washington-Baltimore area is 5th in the US in total VC funding for biotech since 2008 ($1.16 billion)
- Convenient, daily access to key federal agencies to facilitate the drug approval process
- A strong bioscience community network through state, regional and local tech councils
- The State of Maryland is 4th in research and development expenditures at colleges and universities (3.14 million)
- Greater Baltimore/Central Maryland is home to over 260,000 BioHealth professionals
- Baltimore-Washington is #1 in the US for percent of the population with bachelor’s or master’s degrees

No. 1 in Research

Greater Baltimore/Central Maryland is home to the nation’s #1 research university (Johns Hopkins), the University of Maryland, NIH, and major university bioparks, making the region the world’s largest hub for medical research and discovery.

Growing Bio Base

The region ranks favorably for employment concentration in biohealth professions. Over 85% of local biotech firms and activities are located in the Maryland portion of the Baltimore-Washington region.

Bio Megalopolis

The Northeast US corridor from Washington to Boston has the highest concentration of bioscience firms and employment in the world – larger even than California.

NIH Awards to All Institutions (2012)

<table>
<thead>
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<th>Rank</th>
<th>University</th>
<th>Total Awards</th>
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<td>1</td>
<td>Johns Hopkins</td>
<td>$606,763,376</td>
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<td>2</td>
<td>Cal - San Francisco</td>
<td>$500,437,073</td>
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<td>3</td>
<td>Michigan</td>
<td>$456,305,212</td>
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<td>4</td>
<td>Penn</td>
<td>$454,975,727</td>
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<td>5</td>
<td>Washington</td>
<td>$442,509,710</td>
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<td>$157,607,639</td>
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<td>Maryland - College Park</td>
<td>$38,201,955</td>
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<td>UMBC</td>
<td>$8,406,801</td>
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Total BioHealth Concentration

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<td>New York</td>
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<tr>
<td>3</td>
<td>Washington DC</td>
<td>1.18</td>
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<tr>
<td>4</td>
<td>Baltimore*</td>
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<td>5</td>
<td>Philadelphia</td>
<td>1.11</td>
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<tr>
<td>6</td>
<td>San Francisco</td>
<td>1.11</td>
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<td>Detroit</td>
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<td>San Antonio</td>
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<td>10</td>
<td>Pittsburgh</td>
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Source: US Census Bureau County Business Patterns

Total BioHealth Employment

<table>
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<tr>
<th>Metro Area</th>
<th>Employment</th>
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<tr>
<td>North East US</td>
<td>3,220,349</td>
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<tr>
<td>California</td>
<td>1,061,161</td>
</tr>
<tr>
<td>Percent of All US Venture Capital Funding</td>
<td>38.6%</td>
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<tr>
<td>for Biotech (2003 to 2012)</td>
<td></td>
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<tr>
<td>Rest of US</td>
<td>20.4%</td>
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Top 10 Bioscience Employers

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<th>Rank</th>
<th>Company</th>
<th>Employees</th>
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<td>1</td>
<td>MedImmune LLC</td>
<td>2,390</td>
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<tr>
<td>2</td>
<td>Westat</td>
<td>2,319</td>
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<tr>
<td>3</td>
<td>SAC Life Sciences</td>
<td>1,970</td>
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<tr>
<td>4</td>
<td>BD Diagnostics</td>
<td>1,700</td>
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<tr>
<td>5</td>
<td>Human Genome Sciences</td>
<td>980</td>
</tr>
<tr>
<td>6</td>
<td>Qiagen</td>
<td>800</td>
</tr>
<tr>
<td>7</td>
<td>US Pharmacopeia</td>
<td>470</td>
</tr>
<tr>
<td>8</td>
<td>Pharmaceuticals International</td>
<td>460</td>
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<td>9</td>
<td>Takeda Pharmaceutical</td>
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<tr>
<td>10</td>
<td>BioReliance/Lonza (tie)</td>
<td>400</td>
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</table>

Source: Maryland Department of Business and Economic Development

Megalopolis:
- Washington, D.C. — Boston: 442 miles
- San Diego — San Francisco: 502 miles

1 E. Pratt Street, Suite 200, Baltimore, MD 21202 | 410.468.0100 | 888.298.4322 | www.greaterbaltimore.org
22 Baltimore Road, Rockville, MD 20850 | 301.637.7950 | www.biohealthinnovation.org
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ACKNOWLEDGEMENTS

THE ECONOMIC ALLIANCE OF GREATER BALTIMORE AND BIOHEALTH INNOVATION are grateful for the support of our sponsors for making the print version of the Central Maryland BioHealth Entrepreneur’s Resource and Finance Guide possible. Sponsors are recognized in their advertisements found throughout the Guide.

EAGB AND BHI WOULD LIKE TO THANK our staff and all of our partners for the support provided in collecting and organizing the Resource Directory and complementary information. EAGB and BHI’s staffs were instrumental to the successful development of the Guide. EAGB and BHI will offer the same information in an electronic medium on their respective websites.

While every effort has been made to ensure the reliability of the information presented in this publication, EAGB and BHI cannot guarantee the accuracy of this information due to the fact that much of the information is provided by external sources. EAGB and BHI reserve the right to edit submissions for content, grammar, and accuracy.

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The UNIVERSITIES at Shady Grove

Delivering Entrepreneurship and BioScience Education in the Hub of Maryland’s BioHealth Community

Located along the I-270 corridor, USG is at the center of the region’s health, bioscience, and information technology companies.

- Hosting INNoVATE, an entrepreneurship training program for research scientists
- Launching UMBC’s Master’s of Professional Studies in Biotechnology program in Fall 2013
- Offering UMCP R.H. Smith School of Business’ Entrepreneurship bachelor’s degree program
- Providing entrepreneurship education across disciplines with course open to all students
- Offering bachelor degree programs from UMCP in Biological Sciences and Public Health Science, and Biotechnology from UMUC.

shadygrove.umd.edu
9636 Gudelsky Drive Rockville, MD 20850
A unique biotech investment incentive program in Montgomery County, Maryland, is one of several factors that makes the county a magnet for the biotech industry. With 19 federal laboratories and two universities, Montgomery County provides a powerful infrastructure for scientific research and development. Add to that the county’s Business Innovation Network—with 35 wet labs—created to support start-up and growing bioscience companies, and it’s no wonder we are home to more than 350 biotech companies.
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Baltimore County Department of Economic Development
400 Washington Avenue - Suite 100 | Towson, MD 21204
410-887-8000 | www.baltimorecountymd.gov/business
County Executive Kevin Kamenetz and the Baltimore County Council

Home to health & health IT leaders
• Centers for Medicare & Medicaid Services
• Social Security Administration
• BD Diagnostics
• Pharmaceuticals International, Inc.
• 5 major hospitals

Home to major educational assets
• University of Maryland Baltimore County (UMBC)
• Towson University
• Community College of Baltimore County (CCBC)
• Stevenson University
• Goucher College

Home to resources
• Small Business Loan Fund
• Small Business Resource Center
• UMBC Technology Incubator
• Towson Global Incubator

Central Maryland BioHealth Entrepreneur's Resource and Finance Guide

Energized for your success.

At the center of the nation's fourth largest retail market, Central Maryland is a vibrant economic region that also is superb for manufacturing, service and technical industries. BGE is proud to provide the energy behind the region's economy. We offer a wide range of pricing options and energy efficiency incentives to help companies flourish and grow. It's smart energy that is smart for business. To learn more, call BGE's Economic Development Office at 410.470.8965 or visit BGE.COM

HOW ENERGY WORKS together

BGE
An Exelon Company

Central Maryland BioHealth Entrepreneur's Resource and Finance Guide
INVESTMENT

Acacia Venture Partners
7912 Radnor Road, Suite 700
Bethesda, MD 20817

TELEPHONE: (301) 263-1070
WEBSITE: www.acaciavp.com

FIRST CONTACT: Jennifer Laubach, jlaubach@acaciavp.com; Sage Givens, Managing Director, sgivens@visualtelehealth.com

Overview: Acacia Venture Partners specializes in identifying and building leading service businesses in the healthcare industry. Acacia primarily invests in early stage service companies that provide compelling business, medical or technology solutions to the healthcare industry.

Acacia Venture Partners investments focus on seed and start-up stage financings. Acacia targets three primary types of business models for investment: innovative healthcare service companies, business services companies that focus on healthcare customers, and information technology companies that address the healthcare industry.

Stage of Investment: Seed and Startup
Areas of Interest: Healthcare services
Founded: 1995

Acorn, LLC

WEBSITE: www.acornllc.net/

KEY STAFF: William Oakes III, Managing Director, bill.oakes@acornllc.net

Overview: Acorn is a private equity investment company that provides angel financing to startup companies in the technology and bioscience industries.

It is also an investment partner in Blue Water Capital Venture Fund II, a growth stage private equity fund for information technology companies, and in the Maryland Angels Council, an organized group of angel investors providing financing and mentoring for technology and bioscience companies in the Mid-Atlantic Area

Stage of Investment: Start-Up, Seed, Early Stage
Preferred Location: Mid-Atlantic or Southeastern United States
Investment Range: Angel Financing $50,000-$400,000
Areas of Interest: Telecom, Software, IT, Internet, E-Business, Biotech, Bioscience, Pharmacia, health Care, Bioinformatics
Founded: 1996

American Capital
2 Bethesda Metro Center, 14thFloor
Bethesda, MD 20814

TELEPHONE: (301) 951-6122
WEBSITE: www.americancapital.com/

Overview: American Capital provides capital directly to private and public companies for a variety of purposes including buyouts, growth, acquisitions, and recapitalizations.

Stage of Investment: Targets new investments with at least $4 million in EBITDA.
Investment Size: Up to $500M per transaction
Areas of Interest: Primarily Manufacturing Services, Distribution Companies
Founded: 1986

Arlington Capital Partners
5425 Wisconsin Avenue Suite 200
Chevy Chase, MD 20815

TELEPHONE: (202) 337-7500
WEBSITE: www.arlingtoncap.com/

Overview: Arlington Capital Partners is a private equity firm with more than $1 billion of committed capital.

Stage of Investment: Arlington Capital Partners primarily invests in middle market companies with value between $50M-$500M
Areas of Interest: Business Services, Aerospace/Defense, Government Services, Media/Information Services, Education and Training, Healthcare Services
Founded: 1999
Baltimore Angels, LLC
Baltimore, MD
WEBSITE: Baltimoreangels.org
FIRST CONTACT: Greg Cangialosi, gcangialosi@gmail.com, (443) 255-6527
Overview: The Baltimore Angels are a group of early stage investors that connects with entrepreneurs via monthly meetings and other events.
Program Services: An opportunity to deploy early stage capital to start-up companies. The Baltimore Angels spur continued and sustained economic and technological development in the region.
Membership: 42 Members at a cost of $250
Qualifications: Member should have a keen interest in identifying investment opportunities, regularly attend monthly meetings, be an accredited investor, and have $50,000 available to invest in companies presenting to the club.
Stage of Investment: Early
Investment Range: $50,000 - $250,000
Preferred Investment Size: $150,000
Preferred Geographic Location: Mid-Atlantic region, as far north as Boston and as far south as Raleigh, NC
Founded: February, 2009

Boulder Ventures
5425 Wisconsin Avenue, Suite 704
Chevy Chase, MD 20815
TELEPHONE: (301) 913-0213
WEBSITE: www.boulderventures.com
KEY STAFF: Kyle Lefkoff, General Partner and Founder, kyle@boulderventures.com
Overview: Boulder Ventures has raised five venture capital partnerships totaling over $300 million in committed capital. Together, the three General Partners of Boulder Ventures have over 60 years of experience making early stage investments and helping exceptional entrepreneurs build their companies.
Preferred Investment Industry: software and applications, IT services, storage & communications, life sciences
Founded: 1995
Camden Partners Holdings, LLC
500 E Pratt Street, Suite 1200
Baltimore, MD 21202

**TELEPHONE:** (410) 878-6800
**WEBSITE:** www.camdenpartners.com

**KEY STAFF:** Donald Hughes, Managing Member & CFO, dhughes@camdenpartners.com, (410) 878-6820; Richard Berkeley, Managing Member, rberkeley@camdenpartners.com, (410) 878-6830; Shane Kim, Managing Member, skim@camdenpartners.com, (410) 878-6843; Christopher Kersey, Managing Member, ckersey@camdenpartners.com, (410) 878-6800; David Warnock, Managing Member, dwarnock@camdenpartners.com, (410) 878-6810

**FIRST CONTACT:** info@camdenpartners.com

**Overview:** Camden Partners Holdings, LLC is a Baltimore-based private equity firm providing growth capital to lower-middle market companies in its targeted sectors of education, healthcare, and business services. Since its founding in 1995, Camden Partners has raised four funds that have deployed growth capital to over 60 companies, generating 9 IPOs and 16 sales to strategic and financial buyers.

**Program Services:** Provide growth capital to lower-middle market companies and human capital in the form of expertise and relationships

**Preferred Investment Industry:** Education, Healthcare, and Business Services

**Founded:** 1995

Clark Enterprises, Inc.
7500 Old Georgetown Road 15th Floor
Bethesda, MD 20814

**TELEPHONE:** (301) 657-7100
**WEBSITE:** www.clarkenterprisesinc.com/

**Overview:** CNF Investments Private Equity and Venture Capital is a Clark Enterprises affiliate. CNF manages over $225 million in capital with current investments in life sciences, oil and gas, technology, telecommunications, and alternative energy. CNF focuses on early and growth stage companies, but will consider investments in later stages and selective public investments as well. CNF focuses its analysis on the potential investment's management team as well as other key players.

**Stage of Investment:** Early and growth stage companies

**Areas of Interest:** Life sciences, oil and gas, technology, telecommunications, and alternative energy

**Founded:** 1972

DB Capital Management
22 Baltimore Road, Suite 100
Rockville, MD 20850

**TELEPHONE:** (301) 279-9923
**WEBSITE:** dbcapllc.com

**Overview:** DB Capital Management is boutique-style investment firm that supports real estate construction and real estate related service companies, and technology companies.

Evergreen Advisors
Columbia, Maryland
9256 Bendix Rd Suite 300
Tyson's Corner, Virginia

**TELEPHONE:** (410) 997-6000
**WEBSITE:** evergreenadvisorsllc.com/

**KEY STAFF:** Rick Kohr, CEO, (410) 997-6000

**FIRST CONTACT:** Shelley Lombardo, (410) 997-6000, slombardo@evergreenadvisorsllc.com

**Overview:** Evergreen Advisors is a leading middle market investment bank and advisory firm focused on assisting companies in the areas of corporate finance, growth and exit strategies, business valuations and CFO advisory services.

**Program Services:** Assisting companies in the areas of corporate finance, growth and exit strategies, business valuations and CFO advisory services.

**Founded:** 2001
Global Environment Fund
5471 Wisconsin Avenue, Suite 300
Chevy Chase, Maryland 20815
TELEPHONE: (240) 482-8933
WEBSITE: www.globalenvironmentfund.com

KEY STAFF: H. Jeffrey Leonard, President and CEO, jleonard@gefdc.com, (240) 482-8929
FIRST CONTACT: George McPherson, Managing Director, gmcpherson@gefdc.com

Overview: Established in 1990, the Global Environment Fund (GEF) invests in businesses around the world that provide cost-effective solutions to environmental and energy challenges. Our mission is to be the premier alternative asset management firm in the domain of energy and environment by delivering favorable risk-adjusted investment returns to our limited partners over multiple vintage years and through varied macroeconomic climates.

Program Services: The firm manages private equity dedicated to clean technology, emerging markets, and sustainable forestry, with approximately $1 billion in aggregate capital under management.

Available Capital: $1 billion Capital under management, $400 million available
Stage of Investment: Growth
Investment Range: $10 to $50 Million
Preferred Investment Size: $15 Million
Preferred Geographic Location: US, Africa, India, Latin America and China
Preferred Investment Industry: Energy and resource efficiency
Founded: 1990

Greenspring Associates
100 Painters Mill Road, Suite 700
Owings Mills, MD 21117
TELEPHONE: (410) 363-2725
WEBSITE: www.greenspringassociates.com

KEY STAFF: Ashton Newhall, General Partner and Co-Founder, ashton@gspring.com
FIRST CONTACT: info@gspring.com

Overview: Greenspring Associates, founded in 2000 with offices in Maryland and California, is one of the largest venture-only fund-of-funds managers in the industry today. The Firm is actively managing five global venture capital fund-of-funds, a dedicated late stage venture capital/growth equity direct investment fund and certain customized venture capital investment mandates. To identify and gain access to the world's top-performing managers and their leading later stage direct investments, Greenspring Associates leverages its deep industry relationships, value-added investment approach and proprietary due diligence processes, in an effort to provide its investors with a globally diversified portfolio capable of generating superior investment performance.

Available Capital: Over $2.2 billion in committed capital
Founded: 2000
Grotech Ventures
230 Schilling Circle, Suite 362
Hunt Valley, MD 21031
WEBSITE: www.grotech.com
KEY STAFF: Frank Adams, Managing General Partner, fadams@grotech.com; Chuck Cullen, General Partner and CEO, ccullen@grotech.com
Overview: Grotech Ventures is a team committed to helping creative and driven entrepreneurs build technology companies that last. Grotech allocates capital that allows it to support a company's growth over its many stages of development.
Program Services: Grotech is early investors in high-potential technology companies. Grotech seeks to play a lead or co-lead role with a broad seat as an active partner to build companies of enduring value.
Available Capital: $1 billion
Stage of Investment: early and expansion
Investment Range: $500,000 - $5,000,000
Preferred Investment Size: $1,000,000 - $3,000,000
Preferred Geographic Location: Southeast & Mid-Atlantic
Preferred Investment Industry: Communications and IT infrastructure, Software and Services, Social Networking, and Internet and Digital Media Companies.
Founded: 1984

Hickory Ridge Group
17810 Meeting House Road, Suite 140
Sandy Spring, MD 20860
TELEPHONE: (240) 342-2582
WEBSITE: www.hickoryridgengroup.com/
Overview: Hickory Ridge provides strategic advice, tactical support, and/or access to capital for healthcare and technology companies to improve operations grow enterprise value or prepare for an exit event. The firm provides a range of services including “pure play” consulting and support exercises, contract management activities and turn-around operational situations. The Hickory Ridge Group works to create new or remodeled medically related facilities working with healthcare companies and/or developers.
Founded: 2011

jVen Capital
P.O. Box 60207
Potomac, MD 20859
TELEPHONE: (301) 299-2088
WEBSITE: jvencapital.com/
FIRST CONTACT: Evan Jones, CEO
Overview: jVen is a life sciences investment management company that provides venture capital and growth equity investments with a focus in the areas of personalized medicine, genetics, and medical devices. jVen Capital works closely with its portfolio companies to help develop their visions and to build successful businesses.
Areas of Interest: Personalized medicine, Genetics, Medical Devices
Founded: 2007

Kinetic Ventures
2 Wisconsin Circle, Suite 620
Chevy Chase, MD 20815
TELEPHONE: (301) 652-8066
WEBSITE: www.kineticventures.com/
Overview: Kinetic Ventures is a venture capital investor seeking to partner with outstanding entrepreneurs in a number of areas who are dedicated to building high growth, industry leading companies. Generally, Kinetic Ventures has invested in communications, information and power/clean technology companies. Level of involvement is flexible and majority control is not a requirement.
Stage of Investment: Early, Seed, Growth
Investment Range: $2M-$7M
Areas of Interest: Communications, Power/Clean Technology, Internet, and Business Services
Founded: 1983
Legend Ventures, LLC
7100 Arrowood Road
Bethesda, MD 20817

TELEPHONE: (301) 365-9359 (Fax)
WEBSITE: www.legendventures.com/

Overview: Legend Ventures aims to help entrepreneurs build world class businesses that will transform their industries or even create new ones.

Stage of Investment: Legend primarily invests in early and development stage companies.

Investment Range: $500,000 to $2.5M

Areas of Interest: New Media, Telecommunications and Information Technology

Founded: 2004

Maryland Agricultural & Resource-Based Industry Development Corporation (MARBIDCO)
Clock Tower Place
1410 Forest Drive, Suite 26
Annapolis, MD 21403

WEBSITE: www.marbidco.org

KEY STAFF: Stephen McHenry, Executive Director, (410) 267-6807, smchenry@marbidco.org

Overview: The primary mission of MARBIDCO is to assist Maryland’s farm, forestry, seafood, and related rural businesses achieve profitability through the provision of targeted services and a specialized infrastructure that helps retain existing resource-based industry production and commerce, promotes rural entrepreneurship, and nurtures emerging industries.

Program Name: Maryland Resource-Based Industry Financing Loan Fund

>> Description: Up to $200,000 for acquisition of equipment and fixed assets, up to $400,000 for real estate purchases, food/meat processing and bio-energy projects; low interest loans to established Ag/RB industry firms for the purchase of land and capital equipment for production and processing activities or environmental or water-quality enhancement projects; The Maryland Resource-Based Industry Financing Fund Loan (MRBIF) aids established Ag/RB industry firms in the growth of their business.

>> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Rural Business Equipment and Working Capital Loan Fund

>> Description: Up to $75,000; low-interest loans to Ag/RB-industry firms and producers for working capital and equipment purchases; The Rural Business Equipment and Working Capital Loan Fund (RBEWCL) will offer low-interest loans to established Ag/RB-industry firms and producers for working capital and equipment purchases.

>> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Did You Know
Greater Baltimore/Central Maryland is one of the most highly educated markets in the US and continues to educate tens of thousands of students in BioHealth fields annually.

Learn more at tedco.md

CENTRAL MARYLAND BIOHEALTH ENTREPRENEUR’S RESOURCE AND FINANCE GUIDE
Program Name: Maryland Shellfish Aquaculture Loan Program
  >> Description: $5,000 to $100,000+; financing to watermen and other parties who want to start or expand commercial shellfish aquaculture operations, training and business plan assistance provided by the University of Maryland Extension; The Maryland Shellfish Aquaculture Loan Program is a partnership between MARBIDCO and the Maryland Department of Natural Resources to aid current and prospective shellfish growers.
  >> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Maryland Remote Setting Shellfish Aquaculture Loan Program
  >> Description: $5,000 to $30,000; financing for capital to start or expand shellfish remote setting aquaculture operations, including seed, shell, tanks, pumps, blowers, values, and tank heaters, training and business plan assistance provided by the University of Maryland Extension; The Maryland Remote Setting Aquaculture Loan Program is a partnership between MARBIDCO and the Maryland Department of Natural Resources to aid current and prospective shellfish remote setting aquaculture operations.
  >> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Rural Business Energy Efficiency Improvement Loan Fund
  >> Description: $2,500 to $30,000; low-interest microloans for energy efficiency projects undertaken by food and fiber producers and processors; The Rural Business Energy Efficiency Improvement Loan Fund (RBEEIL) offers low-interest loans for energy efficiency projects undertaken by food and fiber producers and processors at the recommendation of a third-party energy auditor.
  >> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Maryland Vineyard Planting Loan Fund
  >> Description: $10,000-$100,000; low-interest loans for qualified applicants to aid in the installation of new vineyards; The Maryland Vineyard Planting Fund has been established to help meet the unique financing needs of Maryland's rural landowners wanting to plant vineyards and develop wineries. This program's major aim is to increase the acreage of viable commercial vineyards in Maryland. The MVPF also strives to complement the financial services offered by private commercial lenders by helping to make rural enterprise financing both available and affordable.
  >> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Forestry Equipment and Working Capital Loan
  >> Description: Up to $150,000; slightly more liberal underwriting guidelines than normal for making loans to forest products businesses for working capital and equipment; The Forestry Equipment and Working Capital Loan (FEWCL) is an effort to better serve the forestry products industry in Maryland.
  >> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Maryland Value Added Producer Grant for Capital Assets
  >> Description: Up to $20,000; grant funding to help agricultural producers install capital assets to make value added products; The Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) has announced a grant funding opportunity to encourage Maryland’s agricultural producers to expand or diversify their business operations by installing capital assets to make a product that is “value added.”
  >> Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

Program Name: Maryland Value Added Producer Matching Grants
  >> Description: Up to 20% of the USDA-VAPG matching requirement; grant funding to help an eligible applicant meet the non-federal financial matching requirement for a US Department of Agriculture Value Added Producer Grants Program grant; The Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) has announced a grant funding opportunity to encourage Maryland’s independent agricultural producers to engage in value-added activities and pursue financial support from the U.S. Department of Agriculture’s Value Added Producer Grants Program (USDA-VAPG). The USDA-VAPG is a highly competitive nationwide grants program with approximately $37 million available for distribution in 2011.
  Contact: Linda Arnold, Financial Programs Specialist, larnold@marbidco.org; Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org
Program Name: Local Government Ag/RBI Project Cost Share Program

**Description:** Up to $10,000 unless in a One Maryland jurisdiction; share up to 50% of the cost of an economic development project with an economic development office in a rural Maryland location or region, if in a One Maryland jurisdiction. MARBIDCO may pay up to 67% of a project’s cost; The Local Government Ag/RBI Project Cost Share Program is designed to lend support to local and regional rural business development efforts.

**Contact:** Linda Arnold, Financial Programs Specialist, lamold@marbidco.org Kristen Robinson, Financial Programs Officer, krobinson@marbidco.org

**Preferred Geographic Location:** Maryland

**Preferred Investment Industry:** Agriculture

**Founded:** 2007

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**Maryland Capital Access Program (MCAP)**

Maryland Department of Housing and Community Development
100 Community Place
Crownsville, MD 21032

WEBSITE: [www.neighborhoodrevitalization.org/programs/MCAP/Index.aspx](http://www.neighborhoodrevitalization.org/programs/MCAP/Index.aspx)

**Key Staff:** Michael Haloskey, Director, Business Lending Programs, Maryland Department of Housing and Community Development, Haloskey@mdhousing.org, (410) 514-7237

**Overview:** MCAP is a revitalization resource to support the growth and success of small businesses in Priority Funding Areas throughout the State of Maryland. MCAP is a credit enhancement program that enables private lenders to establish a loan loss reserve fund from fees paid by lenders, borrowers, and the State of Maryland. Communities that have small businesses receiving financing through loans enrolled will benefit from new or expanded services provided by the small businesses.

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**Maryland Capital Enterprises Inc.**

**Main Offices:**

144 E Main Street 1800 N Charles Street, Suite 808
Salisbury, MD 21801 Baltimore, MD

**Telephone:** (410) 546-1900

**Website:** [www.marylandcapital.org](http://www.marylandcapital.org)

**Key Staff:** Hayley Gallagher, info@marylandcapital.org

**First Contact:** Lori Grey, Executive Assistant, lgrey@marylandcapital.org

**Overview:** Maryland Capital Enterprises (MCE) is a non-profit, 501 (c)(3) organization that provides a variety of services to entrepreneurs and businesses on Maryland’s Eastern Shore as well as Baltimore County, Baltimore City, and Anne Arundel County. Programs include training, counseling and loan programs. At Maryland Capital Enterprises, our mission is to empower businesses to grow, create jobs, and generate wealth on Maryland’s Eastern Shore and across the state.

**Program Services:** MCE provides loans to both startups and existing small businesses and provides both business counseling and business training.

**Events:** MCE hosts a biannual fundraiser, Party on Park Place

**Founded:** 1998
Maryland Technology Development Corporation (TEDCO)

5565 Sterrett Place, Suite 214
Columbia, MD 21044

WEBSITE: www.tedco.md

KEY STAFF: Robert Rosenbaum, President & CEO, rosenbaum@tedco.md, (410) 715-4163

Overview: TEDCO was created by the Maryland State Legislature in 1998 to facilitate the transfer and commercialization of technology from Maryland's research universities and federal labs into the marketplace and to assist in the creation and growth of technology-based businesses in all regions of the State.

TEDCO is an independent organization that strives to be Maryland's leading source for entrepreneurial business assistance and seed funding for the development of startup companies in Maryland's innovation economy.

In Maryland and beyond, TEDCO is a resource of mentoring, funding and networking for entrepreneurs and start-ups that need guidance as they bring innovative concepts to market.

TEDCO is more than an early-stage funding resource. It is the hub of Maryland's entrepreneurial network where startups find mentors, organizational assistance, funding resources, and a roadmap for success.

Program Name: Maryland Entrepreneurial Resource List (MERL)

>> Description: The Maryland Entrepreneurs Resource List is a listing of entrepreneurs who are available in the Maryland area in the next 18 months to get involved with a start-up company. The List can be used by innovators who need an entrepreneur to commercialize their technology or by university and federal laboratory technology transfer professionals who want to identify management for a start-up opportunity being developed at their institution. The List also can provide entrepreneurs their next start-up opportunity or a chance to network with and mentor other entrepreneurs.

While all background information (i.e., area of expertise and experience level information) will be posted on the List, entrepreneurs have the option to keep their names and other personal contact information private. Any inquiries for an entrepreneur on the List who has selected this option will be managed by TEDCO such that the listed entrepreneur can remain anonymous and respond at their option. Any entrepreneur who is interested in assisting a start-up company is eligible to be listed on MERL. Anyone can search the list for entrepreneurial assistance.

>> Contact: Linda Saffer, Ph.D., Program Manager, University Programs, lsaffer@tedco.md, (410) 715-4175

Program Name: Maryland Innovation Initiative (MII)

>> Description: The Maryland Innovation Initiative was created to increase the commercialization rate of promising technologies having significant commercial potential from Qualifying Universities (Johns Hopkins, Morgan State, UMCP, UMBC and UMB) where they were discovered, to the commercial sector so they can be developed into products and services that meet identified market needs. This is accomplished through technology validation, market assessment, and the creation of start-up companies in Maryland.

All Qualifying Universities are eligible to apply for funding for Phase I and Phase II of the Program. Faculty from Qualifying Universities, and other entrepreneurs, interested in creating a University Start-up are also eligible for Phase II of the Program.

University Start-ups: (i) that have licensed technologies from a Qualifying University within twelve (12) months of applying for a Program award; and (ii) that are located in Maryland; are eligible for Phase III funding from the Program. In all Phases, proposals must be directed to the commercialization of a technology or group of technologies: (i) owned by a Qualifying University; (ii) disclosed to a Qualifying University's technology transfer office; and (iii) for which there exists appropriate intellectual property protection.

Subject to meeting the Program requirements, awards of up to $215,000, which is the maximum award for projects spanning all three Phases of the Program, may be made for a project at a single Qualifying University. A joint award may be made to two or more Qualifying Universities submitting a joint proposal and may total up to $270,000.

>> Contact: Jennifer Hammaker, Program Manager, Maryland Innovation Initiative, jhammaker@tedco.md, (410) 715-4173

NUMBERS GAME

$700 million
Amount of money the State of Maryland has invested in infrastructure and programs directly related to bioscience companies over the past 20 years.

$1.3 billion
Program Name: Rural Business Innovation Initiative (RBI2)

>> Description: The Rural Business Innovation Initiative (RBI2) is designed to provide technical and business assistance to small companies and early-stage, technology-based companies in rural Maryland as defined by the Rural Maryland Council. The goal of the program is to help companies overcome business and technical hurdles and advanced to the next growth level. There is no cost to the company to receive assistance.

Each region has a local RBI2 business mentor, whose job is to evaluate potential clients, provide resources, consulting services and technical management assistance. Mentors work closely with company clients at their business.

RBI2 mentors will meet with all companies for an initial assessment. Companies qualified to receive mentoring and project assistance must meet the following criteria:

- Must be involved in developing new technologies/products or utilizing technology to create new or expand their business
- Must have fewer than 16 employees
- Annual revenues $1 million or less
- Age of company not a factor
- Good standing with MD Dept. of Taxation & Assessments

>> Contact: Lower Eastern Shore (Dorchester, Wicomico, Somerset, Worcester): Barry Frey, (410) 202-8867, bfrey@tedco.md; Mid & Upper Eastern Shore (Talbot, Caroline, Queen Anne’s & Kent): John McQuaid, (410) 463-0855, jmquaid@tedco.md; Northeastern Maryland (Carroll, Harford, Cecil): Debbie Grosh, 443-986-2111, dgrosh@tedco.md; Southern Maryland (Charles, Calvert, St. Mary’s): Angela Singleton, (410) 941-9111, asingleton@tedco.md; Western Maryland (Frederick, Washington, Allegheny, Garrett): Chuck Ernst, (301) 491-7034, cernst@tedco.md

Program Name: Technology Commercialization Fund (TCF)

>> Description: The Technology Commercialization Fund (TCF) is a seed funding program for start-up companies in Maryland. It exists (i) to help develop and commercialize new products based on technology created in Maryland’s universities, federal laboratories having a partnership agreement with TEDCO, and other non-profit research organizations in the State, (ii) to support the commercialization of technology by companies affiliated with one of Maryland’s qualified incubator programs, or (iii) to support companies receiving mentorship through TEDCO-supported, entrepreneurial development programs including ACTiVATE, INNoVATE, and the RBI2. TCF enables companies to reach a critical milestone in their product (or service) development efforts that will move technologies further along the commercialization pathway, increase the company's valuation, and lead to follow-on investment for further growth.

>> Eligible Recipients: To be eligible, a company must meet all of the following criteria:

1. The company must be a for-profit entity located in Maryland (i.e., a majority of its employees must work in Maryland and the company's proposed project must have the potential to lead to future growth of the company within the State) with fewer than 16 employees (Full-Time Equivalents – FTEs); AND
2. The company must meet one of the following conditions:
   a. The company has an active license or research agreement in place with a Maryland university, a federal laboratory that has a partnership agreement with TEDCO, or another non-profit research organization in the State, to advance a technology toward commercialization, OR
   b. The company is affiliated with one of Maryland’s qualified incubator programs and has been receiving business advice or mentoring from the incubator’s manager or entrepreneur in residence (Business Advisor) for at least three months prior to the submission of an TCF application (a list of Maryland’s qualified incubator programs is available at http://tedco.md/resources-information/business-incubator-network/ OR
   c. The company has received mentorship from one of the TEDCO-supported entrepreneurial development programs including ACTiVATE or INNoVATE (the applicant must be a graduate), or the RBI2; AND
3. The company is pre-revenue OR has received less than an aggregate of $500,000 in equity investments from sophisticated investors (i.e., ‘Angels’ or institutional investors other than company founders).

TCF provides up to $100,000 to support projects that advance a technology toward commercialization. TCF provides funds through a convertible note bearing 8% interest. In the event that the company receives an aggregate outside investment of $500,000 or more, or in the event that the company sells substantial assets or equity, TEDCO may, at its sole option, convert the principal and interest due on the note at the time of the investment or sale to an equity investment in the company on the same terms and conditions received by the most recent investors.

>> Contact: Henry Ahn, Program Manager, Technology Funding Programs, Hahn@tedco.md, (410) 715-4165
**Program Name:** Technology Validation  

**>> Description:** The Technology Validation Program includes two distinct phases— the Technical Validation Phase and the Market Assessment Phase. The Technical Validation Phase consists of awards of up to $40,000 for proof-of-principle studies at a Maryland university. Awards are made for projects that can be completed in 6 – 9 months. The Market Assessment Phase consists of awards of up to $10,000 for a market analysis for a technology and for the development of a commercialization plan. Awards are made for projects that can be completed in 2 – 3 months.

University applicants apply for both phases of funding at the same time and TEDCO will determine which phase should be funded first. TEDCO will first fund the phase representing the greatest risk to commercialization – depending on market risk versus technology risk. Upon successful completion of the first phase project, the second phase will be funded. TEDCO will generally award a Market Assessment Phase before awarding a Technical Validation Phase.

Entrepreneurs seeking to commercialize technologies from one of Maryland’s universities, not-for-profit research universities, or federal laboratories may apply directly for the Market Assessment Phase.

Universities and not-for-profit research institutions in Maryland are eligible to apply for both phases of the Technology Validation Program, provided that they are not designated an Qualifying University as defined in the Maryland Innovation Initiative statute.

Entrepreneurs considering the creation of a Maryland-based start-up company relying on a technology from an eligible university, a not-for-profit research institution in Maryland, or a federal lab in Maryland for its formation are eligible to apply directly for the Market Assessment Phase of the Technology Validation Program.

**>> Contact:** Linda Saffer, Ph.D., Program Manager, University Programs, lsaffer@tedco.md, (410) 715-4175

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**Program Name:** Agricultural Technology Innovation Program (ATIP)

**>> Description:** Beginning in late 2007, the United States Department of Agriculture/Agricultural Research Service (ARS) established the Agricultural Technology Innovation Partnership (ATIP) program to further enhance the likelihood that research outcomes would be adopted by the private sector for commercialization. The program was born from the recognition that federal intramural R&D agencies were limited by mission and resources in the services they can provide to U.S. businesses. ATIP was established to strategically form geographic partnerships with well-established economic development entities that excel in providing the complementary assets that ARS cannot. ATIP is comprised of 8 economic development “Partners”, each serving as a portal anchored to an ARS Area. TEDCO was the first ATIP partner serving the ARS Beltsville Agricultural Research Service. This special partnership allows Maryland companies the opportunity to work with any ARS scientist in any of the research facilities nationwide. ARS has a national network of more than 100 research laboratories, 2,000 scientists, and extensive intellectual property portfolio.

**>> Contact:** Robbie Melton, Director, Entrepreneurial Innovation, rmelton@tedco.md, (410) 715-4164

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**Program Name:** Maryland Stem Cell Research Fund

**>> Description:** The purpose of the Maryland Stem Cell Research Fund is to promote State-funded stem cell research through grants and loans to public and private entities in the State. Three types of awards are available: Investigator-Initiated, Exploratory and Post-Doctoral Fellowships.

**>> Contact:** Dan Gincel, VP, University Partnerships & Executive Director, MD Stem Cell Research Fund, dgincel@tedco.md, (410) 715-4172

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**Program Name:** Patent Assistance Program

**>> Description:** The Patent Assistance Program addresses one of the problems that entrepreneurs have when licensing a technology from a Maryland university. Shortly after a start-up company completes a license agreement with a university, the company can begin to incur on-going patent-related expenses under the license before it has had time to raise funds to pay those expenses. Moreover, universities have constrained patent budgets and must consider an entrepreneur’s ability to pay ongoing patent expenses before engaging in license negotiations. The Patent Assistance Program addresses this problem by providing funds to the start-up company to help them pay on-going patent expenses while they are raising funds. The program will also incentivize universities to license technology to entrepreneurs who have not yet completely financed their businesses.

Maryland start-up companies, spun out of Maryland’s universities, which are new companies that are dependent on licensed technology for their formation (and therefore meet the Association of University Technology Manager's definition of a “Start-up Company”), are eligible for this award. The company's license agreement with the university must have a provision requiring the applicant company to reimburse the university for patent expenses incurred after the effective date of the license agreement. Start-up companies may not receive more than one Program award.

TEDCO will make awards of up to $10,000 over a period of 12 months following the effective date of a license agreement for payment of half of ongoing patent expenses owed to a Maryland university under the license agreement.

**>> Contact:** Linda Saffer, Ph.D., Program Manager, University Programs, lsaffer@tedco.md, (410) 715-4175
Program Name: Propel Baltimore Fund

**Description:** The Propel Baltimore Fund (Fund) was created through a partnership among the Maryland Technology Development Corporation (TEDCO), the Abell Foundation and the France-Merrick Foundation. The Fund, which has capital commitments of $4.3 million, will provide up to $220,000 as an angel investment in early-stage technology companies located in or willing to locate in Baltimore City. The Fund intends to acquire investment interests in target portfolio companies within its first three years.

Start-up and early-stage technology companies with compelling new technology ideas or innovation-focused business plans may apply for investment from the Fund. Such companies that are located in, will be located in, or have a significant business presence in, Baltimore City, are eligible for investment. The Fund does not have any constraints regarding the type of technology businesses that it will consider for investment; however, its investments are limited to those that can achieve profitable exits in four to seven years.

The Fund will both “lead” investments and make investments as part of a syndicate of investors. In such cases where the Fund will be the lead investor, companies will be required to secure matching funds from other investors.

**Contact:** Randy Domolky, Director, Angel Funds, rdomolky@tedco.md, (410) 715-4180

**Founded:** 1998

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**MedImmune Ventures**

One Medimmune Way
Gaithersburg, MD 20878

**Telephone:** (301) 398-3000  
**Website:** medimmuneventures.com/

**Overview:** MedImmune Ventures, a wholly-owned venture capital fund that invests in private companies which develop small and large molecules, vaccines, pharmaceutical technologies and platforms. MedImmune seeks investments in medical device, diagnostic, imaging and healthcare IT companies which pertain to the discovery, development and commercialization of pharmaceutical products.

MedImmune Venture’s scope is broad, including cardiology, gastroenterology, neuroscience, oncology, pulmonology, infectious disease, inflammation and metabolism, among others.

**Stage of Investment:** Seed to Mezzanine

**Founded:** 2002
**Program Name:** Equity Participation Investment Program’s (EPIP)

**Description:** The purpose of this program is to enhance business ownership of socially or economically disadvantaged entrepreneurs. Financial assistance is provided through the use of loans, loan guarantees and equity investments. The proceeds are used for the specific purpose of purchasing a franchise, acquiring an existing profitable business or developing a technology based business. Equity investments may take the form of the purchase of qualified securities, certificate of interest in a limited partnership and other debt and equity investments. All equity investments must be disposed of by the end of the seventh year. Before a financing relationship is begun, a general agreement regarding the probable method of exit must be developed. The most common form is for the owner to buy back its interest at a predetermined pricing formula between the fourth and seventh year. In all cases, the recovery amount shall be the greater of its percentage of the current value of the business or the initial investment.

**Program Name:** Contract Financing Program (CFP)

**Description:** This program provides financial assistance to eligible businesses in the form of a direct loan or the guaranty of loans made by a financial institution. These funds may be used for working capital and the acquisition of equipment needed to begin, continue or complete work on contracts where a majority of funds are provided by a federal, state or local governments or utilities regulated by the Public Service Commission. Financing in either form is limited to $1,000,000 and must be repaid during the term of the contract. Interest rates generally range from the prevailing prime rate up to prime plus two percent. Applicants may qualify for financing prior to contract award.

**Program Name:** Security Bond Program (SBP)

**Description:** This program assists eligible small businesses in obtaining bid, performance or payment bonds necessary to perform on contracts where the majority of funds are also provided by a government agency or public utility. SBP directly issues bid, performance or payment bonds or guarantees a surety's losses incurred as a result of the contractor is breach of a bid, performance or payment bond. Bonds issued directly by the SBP will remain in effect for a period consistent with that of a regular commercial surety contract. A surety bond line may be established to directly issue or guaranty multiple bonds to a principal within pre-approved terms, conditions and limitations.

**Program Name:** Guaranty Fund Program (GFP)

**Description:** This program provides financial assistance to eligible businesses in the form of loan guaranties and interest rate subsidies to financial institutions for long term loans and short-term lines of credit. A loan guaranty cannot exceed the lesser of eighty percent (80%) of the loan or $1,000,000. The term of the loan cannot exceed ten (10) years with the maximum interest rate of prime plus two percent. Loan proceeds can be used, among other things, for working capital, the acquisition and installation of machinery or equipment and the purchase or improvements to real property owned or leased by the applicant. GFP can also subsidize up to four percentage points of the interest rate being charged by the financial institution making the loan. The subsidy is subject to an annual review. Terms of repayment of the subsidy are negotiated directly with the borrower.
New Enterprise Associates, Inc.
5425 Wisconsin Ave, Suite 800
Chevy Chase, MD 20815
TELEPHONE: (301) 272-2300

1954 Greenspring Drive, Suite 600
Timonium, MD 21093
TELEPHONE: (410) 842-4000

2855 Sand Hill Road
Menlo Park, CA 94025
TELEPHONE: (650) 854-9499
WEBSITE: www.nea.com

KEY STAFF: Peter Barris, Managing General Partner, pbarris@nea.com; Dave Mott, General Partner, Head of Healthcare Practice, dmott@nea.com
FIRST CONTACT: Kate Barrett; Director, Marketing and Communications, (301) 272-2300, kbarrett@nea.com

Overview: NEA provides venture capital to help innovative entrepreneurs and business leaders build transformational, industry-leading companies around the world.

Program Services: New Enterprise Associates, Inc. (NEA) is a leading venture capital firm focused on helping entrepreneurs build transformational businesses across multiple stages, sectors and geographies. With approximately $13 billion in committed capital, NEA invests in information technology, healthcare and energy technology companies at all stages in a company’s lifecycle, from seed stage through IPO. The firm’s long track record of successful investing includes more than 175 portfolio company IPOs and more than 290 acquisitions. In the U.S., NEA has offices in Menlo Park, CA; New York, NY; and the Washington, D.C. metropolitan area. In addition, New Enterprise Associates (India) Pvt. Ltd. has offices in Bangalore and Mumbai, India and New Enterprise Associates (Beijing), Ltd. has offices in Beijing and Shanghai, China.

Available Capital: $13B in committed capital, Currently investing out of NEA 14 fund - $2.6B (held final close in July 2012)
Stage of Investment: All stages
Investment Range: $100k-$75M+
Preferred Investment Size: $5M-$50M
Preferred Geographic Location: US/Americas, Europe, Asia
Preferred Investment Industry: Information Technology, Healthcare, Energy technology
Founded: 1977

New Markets Venture Partners
8161 Maple Lawn Blvd., Suite 350
Fulton, MD 20759
TELEPHONE: (301) 362-5511
WEBSITE: www.newmarketsvp.com/

Overview: New Markets Venture Partners pursues investments with breakthrough technologies, large market opportunities, sustainable competitive advantages, and credible exit alternatives. NMVP is one of the leading education technology-focused venture firms in the United States.

Stage of Investment: Early, Growth
Preferred Location: New Markets has a preference for companies that are located or willing to locate in the Mid-Atlantic.
Areas of Interest: Innovative Education, Information Technology, Business Services
Founded: 2010

DID YOU KNOW

• The life sciences sector accounted for 1/3 of all job gains in Maryland during 2002 to 2010.
• Since 2008, 198 venture capital deals worth a total of $1.16 billion have been made with companies in the Baltimore-Washington corridor.

QIAGEN is making improvements in life possible in:
- Companion diagnostics
- Molecular diagnostics
- Pharma
- Animal and veterinary testing
- Food safety testing
- Human identity and forensics
- Life science research

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www.emergentbiosolutions.com
**Novak Biddle Venture Partners**

7501 Wisconsin Avenue, Suite 1380-E  
Bethesda, MD 20814  
**TELEPHONE:** (240) 497-1910  
**WEBSITE:** www.novakbiddle.com

**Overview:** Novak Biddle Venture Partners provides equity financing and assistance to the management of early-stage, information technology companies principally located in the Mid-Atlantic region. Their mission is to help build successful, long-term, sustainable companies.

**Investment Stage:** Early Stage through FirstRound  
**Investment Range:** $100,000-$10M  
**Preferred Location:** Mid-Atlantic region  
**Areas of Interest:** Communications, Consumer/Internet, Education, Security, Services, Software/Other, Information technology  
**Founded:** 1997

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**Opus8, Inc**

8401 Connecticut Avenue, Suite 400  
Chevy Chase, Maryland 20815  
**TELEPHONE:** (301) 913-9500  
**WEBSITE:** www.opus8.com

**Overview:** Opus8 is a private investment, advisory and conference management firm. The firm provides strategy and business advisory services and also organizes private equity and venture capital conferences and trade missions with the U.S. government. The company makes investments in angel investment situations with particular interest in Business services, B2B New Media, and Datacenter and cloud technologies. Opus8's private equity portfolio currently includes investments in companies in the following industries: Consumer Products, Health Care, and Information Technology.

**Investment Criteria:** Must be a proven entrepreneur with a strong team. The potential market for the product must be huge. There is no specific revenue requirement. The investment horizon is ideally between 7 and 10 years.

**Preferred Location:** Mid-Atlantic region  
**Investment Range:** Up to $1 million per transaction.  
**Areas of Interest:** Business Services, Information Technology, New Media and E-Commerce, and Nutraceuticals

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**Patriot Capital**

509 S. Exeter Street, Suite 210  
Baltimore, MD 21202  
**TELEPHONE:** (443) 573-3010  
**WEBSITE:** www.patriot-capital.com

**KEY STAFF:** Thomas Holland, Jr., Managing Partner, tholland@patriot-capital.com, (443) 573-3024; Charles McCusker, Managing Partner, cmccusker@patriot-capital.com, (443) 573-3015; Chris Royston, Managing Partner, croyston@patriot-capital.com, (443) 573-3014; Thomas Neale, Managing Partner, tneale@patriot-capital.com, (443) 573-3026; Charles Bryan, Senior Principal & Adviser, cbryan@patriot-capital.com, (443) 573-3033

**Overview:** Patriot Capital’s General Partners have long operating and financial track records of building highly successful growth companies. Patriot Capital typically makes subordinated debt and preferred equity investments in acquisitions, management buyouts and recapitalizations that range between $15 and $100 million in enterprise value. Patriot Capital will make business expansion investments between $3 and $15 million. Additionally, Patriot Capital will participate in financings that are significantly larger through our extensive network of regional and national private equity and mezzanine firms.

**Qualifications:** We seek business investment opportunities according to the following criteria:

- Successful, motivated management teams capable of delivering continued profit growth.
- Businesses with long-term positive trends and sustainable competitive advantages in their markets.
- Proven track records of revenue and profit growth.
- Companies with adequate cash flow from operations to service current coupon components of a Patriot investment.
- Companies or investment partners who can benefit not only from the capital provided by Patriot Capital but also from the many years of operating and financial experience of Patriot Capital’s General Partners.

**Stage of Investment:** medium-sized, typically having annual revenues of $10 million to $200 million  
**Investment Range:** $3 million to $15 million  
**Preferred Investment Industry:** business and consumer services, consumer products, niche manufacturing and distribution, education, e-commerce, application software, transportation, and telecom services
**RedShift Ventures**  
5425 Wisconsin Avenue, Suite 704  
Chevy Chase, MD 20815  
**TELEPHONE:** (703) 904-9800  
**WEBSITE:** www.redshiftventures.com/  

**Overview:** RedShift Ventures Chevy Chase, MD-based venture capital focused on tech transfer and spinouts. There is currently $220 million under management.  

**Stage of Investment:** Early  
**Preferred Location:** United States  
**Investment Range:** $1M-$4M in a portfolio company; $5M-$10M over life of investment  
**Areas of Interest:** Microelectronics, Communications, Information Technology with a focus on wireless communications, Networking, Infrastructure Software, Software Applications, and Satellite Related Technologies  
**Founded:** 1991

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**RLJ Equity Partners, LLC**  
3 Bethesda Metro Center, Suite 1000  
Bethesda, MD 20814  
**TELEPHONE:** (240) 744-7856  
**WEBSITE:** www.rljequitypartners.com  

**Overview:** RLJ Equity Partners seeks to identify and invest behind high quality companies led by motivated and skilled executives. The firm then aligns both short and long-term interests by providing management teams with a meaningful ownership stake in the businesses they lead.  

**Investment Criteria:** While RLJ will actively pursue opportunities across a broad range of industries, they seek certain characteristics within each of their investments: Ongoing participation with existing management; A history of consistent growth with operating profits greater than $7 million and operating margins greater than 10%; A base level of predictable, stable revenues; The opportunity to significantly increase profitability - through revenue growth, consolidation of expenses, add-on acquisitions leading to efficiencies of scale, or other operating improvement. The transaction size usually involves companies valued between $50 million and $200 million, equity investments of $20 to $45 million, larger transactions are pursued in collaboration with our strategic partners, and there is no minimum size for add-on acquisitions.  

**Investment Range:** $15M-$30M per transaction  
**Areas of Interest:** Aerospace/Defense, Auto/Transportation, Business Services, Consumer Retail, General Industrial, Media & Telecom

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**Rock Spring Ventures, LP**  
7910 Woodmont Avenue, Suite 1210  
Bethesda, MD 20814  
**TELEPHONE:** (301) 298-5455  
**WEBSITE:** www.rockspringventures.com  

**KEY STAFF:** Kyp Sirinakis, Managing Partner; Sinclair Dunlop, Managing Partner  
**FIRST CONTACT:** info@rockspringventures.com  

**Overview:** Rock Spring Ventures, LP is a venture capital fund that invests in early-stage, high-growth life science companies in the United States and the United Kingdom. RSV's provides equity capital to young companies including university spin-outs that are currently developing commercial applications of novel research.  

**Stage of Investment:** Early Stage  
**Investment Range:** $250K-$2M  
**Preferred Investment Size:** Determined on a deal by deal basis  
**Preferred Geographic Location:** Mid-Atlantic  
**Preferred Investment Industry:** Life Science including Therapeutics, Diagnostics, Devices, and Health IT  
**Founded:** 2010

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**bwtech :: Grow Your Life Sciences Company at bwtech@UMBC**  
- Affordable wet lab space  
- Minutes from BWI airport; near federal labs in B/W corridor  
- Access to university faculty, students, research facilities  
- Support services for business strategy, grants, marketing, intellectual property  
- Resources and access to capital for commercialization

**CENTRAL MARYLAND BIOHEALTH ENTREPRENEUR'S RESOURCE AND FINANCE GUIDE**
Slate Capital Group
The Latrobe Building
2 East Read Street, 3rd Floor
Baltimore, MD 21202
WEBSITE: www.slatecap.com

KEY STAFF: Partners, Erik Ginsberg, eag@slatecap.com, (410) 560-3572; Parker Davis, jpd@slatecap.com, (410) 560-3572; Rick Corcoran, rjc@slatecap.com, (410) 560-3572

Overview: Slate Capital Group is a private equity investment group based in Baltimore, Maryland. Slate invests at all stages of a company’s life cycle, from growth equity investing to leveraged buyouts, and is focused on companies headquartered in the Mid-Atlantic region. The principals of Slate have significant experience in both running small-to-mid-sized companies and investing in venture capital and leveraged buyout transactions. Slate’s primary areas of focus include business services, direct marketing, healthcare services, for-profit education, niche software and consumer and retail investments.

Program Services: Slate’s approach is to acquire/invest in one or two new companies per year and focus on their success, rather than striving for a larger volume of deals and a “portfolio” return. The Slate professionals are deeply involved with our portfolio companies – this involvement can range from a full-time management position to being an active board member. The Slate principals invest their own capital alongside their investors, who are mostly wealthy individuals. As such, our capital is patient, and we are comfortable with much longer holding periods than typical private equity funds.

Stage of Investment: Later stage/going concerns (must be generating cash flow)

Investment Range: Slate Capital Group target companies with $1M-10M of cash flow, with $2-5M being ideal

Preferred Investment Size: Have done deals ranging from 1M to 50M+ EV

Preferred Geographic Location: Mid-Atlantic (roughly Wilmington to Raleigh) but will also consider anywhere with a direct flight from Baltimore


Founded: 2004

RESOURCES TO HELP YOU

- Access capital
- Refine your business strategy
- Find a business location
- Grow your workforce
- Promote your business
- Develop partnerships
- Expand your network

Spring Capital Partners, LP
The Latrobe Building, Fifth Floor
2 E Read Street
Baltimore, MD 21202

TELEPHONE:  (410) 685-8000
WEBSITE: www.springcap.com

KEY STAFF: Micahel Donoghue, General Partner and Co-Founder, mfd@springcap.com; Robert Stewart, General Partner and Co-Founder, rms@springcap.com

Overview: Collectively, the principals of Spring Capital have decades of experience in venture capital, commercial banking, investment banking, operating management and entrepreneurship. Our portfolio companies represent investments across a broad range of industries, including technology services and software, business services, consumer products, manufacturing and health care services. We have a flexible investment mandate which allows us to tailor our investment to fit the need of our portfolio company. We believe that our expertise, as well as our capital, can help companies achieve their growth objectives.

Available Capital: over $185 million capital under management
Stage of Investment: Mezzanine capital for small- and medium-sized businesses
Investment Range: $2 million to $7 million
Founded: 1999

Syncom Venture Partners
4800 Hampden Lane, Suite 200
Bethesda, MD 20814

TELEPHONE: (301) 608-3203
WEBSITE: syncom.com

Overview: Syncom is a venture capital firm primarily focused on growth stage investments in emerging and underserved segments of the media and communications industry. Syncom’s mission is to diversify the ownership of media in the United States.

Stage of Investment: Growth
Areas of Interest: Multimedia Content, Digital media, Mobile Technology, and Web-based services
Founded: 1977
TWJ Capital
7272 Wisconsin Avenue, Suite 300
Bethesda, Maryland 20814
TELEPHONE: (301) 941-1959
WEBSITE: www.twjcapital.com/
FIRST CONTACT: Nigel W. Jones, Partner
Overview: TWJ Capital provides growth equity investments in expansion stage companies and venture capital investments in start-up and early stage companies.
Stage of Investment: Start-Up to Expansion
Investment Range: $500,000-$5M
Areas of Interest: Telecommunications software, Internet Marketing Software, Business Services Software, and Specialty Retail

Vital Venture Capital, LLC
7101 Wisconsin Avenue, Suite 1210
Bethesda, MD 20814
TELEPHONE: (415) 297-6451
WEBSITE: www.vitalvc.com
FIRST CONTACT: Craig Asher, casher@vitalfin.com
Overview: Vital Venture Capital provides venture capital investments in the business to business SaaS software, medical devices, and diagnostics industries. Their hope is that a meaningful portion of this capital will be used to better the lives of others and improve our world.
Stage of Investment: Early to Late
Investment Range: $500,000- $1.5M per round
Areas of Interest: B2B SaaS software, Medical Devices, and Diagnostics
Founded: 2009

Chesapeake Innovation Center
Providing entrepreneurs developing innovation with the resources they need to grow, prosper and succeed.

Member Benefits
- Access to a robust resource network
- Business basics
- Business development
- Coaching and mentoring
- Fund-raising support
- Marketing and PR leverage
- Class A office space services

Renée M. Winsky, Executive Director, rwinsky@cic-tech.org
(410)224-2030 • www.cic-tech.org
ECONOMIC DEVELOPMENT

Annapolis Economic Development Corporation
200 Westgate Circle, Suite 102
Annapolis, MD 21401

KEY STAFF: Lara Fritts, President and CEO, lfritts@annapolisedc.org, (410) 280-2712

Overview: AnnapolisEDC works in partnership with the business community, city government and residents to retain, expand and attract businesses to the City of Annapolis. As an independent organization, AnnapolisEDC is a confidential source of information and assistance in locating or growing businesses within Annapolis city limits.

Program Services: Link businesses to resources to help ensure success Annapolis Entrepreneur and Inventors Group, Monthly education programs, Networking, Business, market, financing, site and marketing/promotional help for businesses moving to or in Annapolis, Permitting assistance

Program Name: Bi-monthly the AEDC hosts the Annapolis Entreprenuer and Inventors Group – an education session followed by presentations by two companies to practice their investment “pitch”.

Founded: 2010

Anne Arundel Economic Development Corporation
2660 Riva Road, Suite 200
Annapolis, MD 21401

FIRST CONTACT: Dawn Seaton, Office Manager/Receptionist, dseaton@aaedc.org, (410) 222-7410

Overview: Anne Arundel Economic Development Corporation (AAEDC) serves as the advocate for the County’s commercial interests and provides direct services to businesses within all industry categories present within the County.


Founded: 1993

Association for Entrepreneurial Science
12111 Parklawn Drive
Rockville, Maryland 20852

TELEPHONE: (301) 881-3300

WEBSITE: www.afbr-bri.com/

KEY STAFF: Dr. James L. Leef, Director, (301) 881-3300 ext 23; Theresa Smith, Office Manager, (301) 881-3300 ext 22

Overview: The AES Incubator helps start-up companies by efficient use of space. Shared facilities eliminate unnecessary duplication. The Incubator also provides outside professional services for legal, financial, accounting assistance as well as secretarial support.

Amenities: Wet lab space; Autoclaves; Low temp repository; AAALAC-approved; Biohazard and chemical fume hoods; Controlled substance handling and storage; Environmental rooms; Clean room facilities for GLP & GMP
Baltimore City Mayor’s Office of Employment Development

417 E. Fayette Street, Suite 468
Baltimore, MD 21202

TELEPHONE: (410) 396-3009
WEBSITE: www.oedworks.com

KEY STAFF: Karen Sitnick, Director, ksitnick@oedworks.com, (410) 396-1910

Overview: MOED is Baltimore City’s workforce development agency. It is committed to building a strong workforce for Baltimore City using a variety of innovative strategies. Driving all of our activities is the common goal to connect citizens of all ages and backgrounds with jobs and pathways to stable careers while at the same time building meaningful partnerships with the local business community.

MISSION - The Baltimore City Mayor’s Office of Employment Development (MOED) coordinates and directs workforce development initiatives responsive to the needs of Baltimore City employers and job seekers in order to enhance and promote the local economy.

VISION - Every city resident maximizes his/her career potential and all employers have the human resources to grow and prosper – a workforce system that works.

Program Services: MOED has three divisions that serve adult job seekers, youth, and businesses:

>> Adult job seekers: MOED operates three one-stop career centers that offer city residents access to a comprehensive suite of employment readiness tools including resume preparation, interviewing skills workshops, job search and employment assistance, occupational skills training and academic support. We are also helping to help to close the digital divide by making computer literacy education accessible to all city jobseekers, and we provide programs to benefit job seekers who face significant barriers to employment, including ex-offenders, welfare recipients, veterans, older workers, etc.

>> Youth: MOED operates YouthWorks, Baltimore City’s summer jobs program, which places thousands of young people between the ages of 14 and 21 in six-week summer work experiences with private sector, nonprofit, and city and state government employers throughout the Baltimore region each year. The agency also co-operates the Academy for College and Career Exploration (ACCE), a public Baltimore City High School, and serves out-of-school youth through its Youth Opportunity (YO!) program.

>> Businesses: Employ Baltimore is the business services marketing strategy for MOED. We are a professional business service that provides customized workforce solutions to Baltimore area businesses.

>> Services include: No cost job posting, outreach and recruitment, Pre-screening and assessment of applicants, Tax credit information, Human resources support, Job fairs and on-site recruitment, Business network forums, Digital learning labs, Customized training for new employees, Community hiring project management, Academic remediation resources, Grants for incumbent worker skill upgrade training, Management of the Employ Baltimore Executive Order, Links to local and state economic development initiatives and resources, Professional outplacement services

Baltimore County Department of Economic Development

400 Washington Ave
Towson, MD 21204

WEBSITE: www.baltimorecountymd.gov/business

KEY STAFF: Daniel C Gundersen, Executive Director, dgundersen@baltimorecountymd.gov, (410) 887-2123
FIRST CONTACT: Helga Weschke, hweschke@baltimorecountymd.gov, (410) 887-8533

Overview: Baltimore County Economic Development assists business when they are ready to expand or relocate. It can assist with site selection, financing, workforce development and training.

Program Services: Baltimore County has the resources and the know-how to help businesses thrive. Our diverse business community of more than 22,000 companies can be found on corporate campuses in White Marsh, Hunt Valley and Owings Mills, in research and development facilities at UMBC and Towson University, inside federal headquarters of the Social Security Administration and Center for Medicare and Medicaid Services, and in the neighborhood shops of our traditional downtowns.

As part of the Department of Economic Development, Workforce Development diligently works with its customers to help develop a skilled and trained workforce to enhance and grow the business community. With the guidance of the Baltimore County Workforce Development Council, we strive to promote economic and workforce development.

We respond to the ever changing needs of area businesses by providing access to skilled, well trained, job ready employees by continuing our private-public partnerships and an open dialogue to find solutions for future workforce needs and issues. We also provide appropriate training programs through public and private resources and expertise to ensure that individuals have the necessary skills to meet the demands of today’s evolving workplace.

Available Capital: The County can provide direct loans in an amount up to $500,000. Proceeds of the loans can be used for the acquisition of real estate, improvements to real estate and for the acquisition of equipment.

Founded: 1959
Baltimore Development Corporation (BDC)

36 South Charles Street, Suite 1600
Baltimore, MD 21201-3015
TELEPHONE: (410) 837-9305
WEBSITE: www.baltimoredevelopment.com

KEY STAFF: Brenda McKenzie, President; Kim Clark, Executive Vice President, kclark@baltimoredevelopment.com

Overview: As the City of Baltimore’s economic development agency, Baltimore Development Corporation (BDC) serves as your guide to available resources for doing business in Baltimore City. BDC staff can help a business determine the mix of resources that will benefit your company's growth. BDC works with Baltimore City employers to retain and expand the employment base and attract new companies to the city.


Available Capital: The Baltimore Development Corporation offers loan programs to qualified borrowers that meet the standards of the BDC. Contact: Jeff Pillas, CFO, jpillas@baltimoredevelopment.com

Stage of Development for Investment: With regards to investing in startup companies, the Baltimore Development Corporation is risk averse.

Investment Range: Maximum of $500,000 or 30-35% of project costs.

Preferred Geographic Location: Baltimore City


Betamore

1111 Light Street
Baltimore, MD 21230
WEBSITE: Betamore.com

KEY STAFF: Mike Brenner, CEO/ Co-Founder, m@betamore.com, (443) 783-1039

Overview: Betamore is an urban campus for entrepreneurship and technology

Program Services: Betamore will be offering a daily flow of classes to the community on topics related with entrepreneurship, technology, and design. Betamore will also be offering long-form courses that will span multiple weeks and will be certified. Its community space will feature regular events like VC office hours, pitch practice, Startup Weekend, hackathons, and more.

Membership: Betamore is a membership-based organization for its workspace. Its educational offerings don’t require membership. Community Membership – $175/month Part-time access to the space and a shared desk (M-F, 9-6pm). Dedicated Membership – $300/month Full-time access to the space and a private desk with locker (24/7 access)

Qualifications: For Dedicated Members, Betamore is looking for web/mobile tech startups that are building product. For Community Members, it’s looking for freelancers, entrepreneurs, and other growth resources (legal, VC, Govt, Econ Dev, PR, etc) All interested people can apply for membership here: http://betamore.com/apply

Founded: 2012
BioHealth Innovation, Inc.
22 Baltimore Road
Rockville, MD 20850

TELEPHONE: (301) 637-6439
WEBSITE: biohealthinnovation.org

KEY STAFF: Richard Bendis, President & CEO, rbendis@biohealthinnovation.org, (301) 637-6439; Ethan Byler, Director, Innovations Programs, ebyler@biohealthinnovation.org, (301) 637-7952; Todd Chappell, Entrepreneur-in-Residence at the National Institutes of Health Office of Technology Transfer, tchappell@biohealthinnovation.org; Ken Malone, Entrepreneur-in-Residence, University of Maryland Ventures, kmalone@biohealthinnovation.org

Overview: BioHealth Innovation (BHI) is a regional innovation intermediary that facilitates commercialization of market-relevant research in Central Maryland by early-stage biohealth companies. BHI co-founds early-stage biohealth companies and works directly with existing regionally relevant biohealth firms on their early business development milestones to accelerate commercialization.

MISSION: BioHealth Innovation will connect market relevant research assets to appropriate funding, management and markets to facilitate the development of commercially viable bio health products and companies.

Program Name: BHI’s Entrepreneur-in-Residence (EIR) program is designed to be an active partner with research institutions to source, fund, and grow high-potential, early-stage products through project-focused companies.

Program Name: Commercial Relevance Program (CRP). The Commercial Relevance Program offers biohealth companies support in preparing applications for federal funding inclusive of SBIRs, STTRs, and other federal government awards.

BioMaryland Center
401 E. Pratt Street
Baltimore, MD 21202

9700 Great Seneca Highway
Rockville, MD 20850

TELEPHONE: (410) 767-0505
TELEPHONE: (301) 762-9214
WEBSITE: Bio.Maryland.gov/

KEY STAFF: Judith A. Britz, Ph.D., Executive Director, jbritz@bio.maryland.gov; Judith N. Costello, Deputy Director, jcostello@bio.maryland.gov

Program Name: BioEntrepreneur Resources Program, Biotechnology Development Program

>> Description: The BioMaryland Center is the office within Maryland's Department of Business and Economic Development that connects life sciences companies, academic and federal researchers with each other and with potential capital sources, partners, and clients. The Center provides information regarding funding and other resources, business plan feedback, access to market research, advocacy, and other industry support. The BioMaryland Center also promotes the State's life sciences industry domestically and abroad.

Program Name: Biotechnology Development Awards

>> Description: The BioMaryland Center's Biotechnology Development Awards program has two types of awards available-the Translational Research award and the Commercialization award. The primary difference in the types of projects funded by these two awards is the stage of commercialization of the technology associated with the proposed projects. Funding typically is up to $200,000 per project.

Program Name: Business Assistance Resources

>> Description: BioMaryland Center staff professionals are available to meet with life sciences entrepreneurs to provide assistance with business plan development and promotion, information regarding capital resources, site location possibilities and available technologies, access to market research, workforce resources and more.

Program Name: Angel and Venture Investment

>> Description: The BioMaryland Center supports both the Biotechnology Investor Incentive Tax Credit and the Maryland Venture Fund programs offered through the Center's colleagues at the Maryland Department of Business and Economic Development. Center staff will meet with life sciences entrepreneurs to provide guidance regarding funding requirements. (More information regarding these programs and other sources of capital are available on the Center's web site.)
bwtech@UMBC

bwtech@UMBC North
5523 Research Park Drive, Suite 310
Baltimore, MD 21228

bwtech@UMBC South
1450 South Rolling Road
Baltimore, MD 21227

WEB SITE:  www.bwtechumbc.com

KEY STAFF: Ellen Hemmerly, Executive Director, hemmerly@umbc.edu

FIRST CONTACT: bwtech@umbc.edu

Overview: bwtech@UMBC Research and Technology Park is a community engaged in research, entrepreneurship, and economic development. The bwtech@UMBC community is a center of innovation for businesses in all stages of development. The 71-acre community is located minutes from BWI airport and adjacent to UMBC, a research university voted #1 in innovation three years in a row.

The Research and Technology Park, located on bwtech’s North and South campuses, is comprised of four elements that serve a variety of technology companies:

• bwtech@UMBC North is a five building, 41-acre university-affiliated business park, with over 355,000 square feet of Class A office and laboratory space designed for technology companies and research institutions.

• Over 55 organizations call the Research Park home, including the U.S. Geological Survey, NASA/Joint Center for Earth Systems Technology, Allegis, and RMF Engineering.

• The Cyber Incubator and the Northrop Grumman Cync Program are located within the bwtech@UMBC North campus. Both the Cyber Incubator and the Cync Program were created to deliver business and technical support to early stage companies providing cybersecurity-related products and services.

• bwtech@UMBC South is a nationally-recognized life-science and technology business incubation and accelerator program that is home to over 45 early-stage bioscience and technology companies. Clients enjoy 165,000 square feet of affordable office and wet lab space, flexible lease arrangements, as well as access to resources and networking opportunities to help their businesses succeed.

• The bwtech@UMBC Life Sciences Incubator offers startup space, business advisory services, and access to the resources and capital needed by high potential early-stage companies in the healthcare and related fields, and to graduates of the incubator program.

• The Maryland Clean Energy Technology Incubator@bwtech (CETI) is designed for early-stage companies working with solar power, wind power, biofuels, electric grid, and energy management and storage. CETI has a working relationship with the Maryland Clean Energy Center to encourage statewide networking of clean energy entrepreneurs.

Program Services: office and wet lab space with flexible lease terms, business support services, access to university resources, CEO mentoring services through on-site Entrepreneurs in Residence, access to investors

Stage of Development for Investment: All stages from start-ups to investor-ready operating companies

Preferred Investment Industry: Clean Energy, Technology, Cyber Security, Biosciences, Life Sciences

Founded: 1989

Carroll County Department of Economic Development

225 North Center Street, Suite 101
Westminster, MD 21157

WEBSITE:  www.carrollbiz.org

KEY STAFF: Jonathon Weetman, Administrator, Operations and Small Business Development, jweetman@carrollbiz.org, (410) 386-2070

Overview: Whether your business is new or expanding or you need assistance, the Carroll County Department of Economic Development will help. We are a results-oriented team, committed to matching your business needs with the best possible location and creative programs that give you a competitive edge.

Program Services: Business assistance, relocation resources, access to information about Carroll County’s industries, employers, and local funding and tax credit programs.

Carroll Business Path: one-on-one business assistance to identify the steps needed to move forward successfully. The Carroll Business Path Navigator will connect businesses with relevant resources, facilitate each stage of the process, and provide ongoing support as businesses grow.

The Carroll County Small Business Development Center is located within the Carroll County Department of Economic Development offices to provide business assistance services
Cecil County Office of Economic Development
200 Chesapeake Boulevard, Suite 2700
Elkton, MD 21921
WEBSITE: www.cecilbusiness.org

KEY STAFF: Lisa Webb, CEdC, Director, lwebb@ccgov.org, (410) 996-6292

Overview: The mission of the Cecil County Office of Economic Development is to stimulate economic growth and job creation through the expansion of the County's existing business and agricultural base, attraction of new business and the development of tourism.

Program Services: The Office is a local government agency that focuses on business retention, as well as attracting new businesses to the County. The Office also promotes tourism development and agricultural economic development. Cecil County Office of Economic Development serves as the liaison with State agencies, Congressional staff and partner agencies.

Founded: The mid-1970s.

Chesapeake Innovation Center
175 Admiral Cochrane Drive, Suite 300
Annapolis, MD 21401

TELEPHONE: (410) 224-2030
WEBSITE: www.cic-tech.org

KEY STAFF: Renée M. Winsky, Executive Director, rwinsky@cic-tech.org
FIRST CONTACT: info@cic-tech.org

Overview: The mission of the Chesapeake Innovation Center is to support emerging technologies in Anne Arundel County by providing entrepreneurs developing innovation in national security and other vital industry sectors with the resources they need to grow, prosper and succeed. As a wholly-owned subsidiary of the Anne Arundel Economic Development Corporation, CIC serves as a direct connection between major users of technology and early-stage companies that are leading the way in innovation.

Program Services: For large, established corporate or government partners, CIC identifies particular technology solutions that address mission critical problems. For emerging technology companies, Resident and Affiliate membership provides many benefits such as basic business services, access to a robust resource network, business development, coaching and mentoring, fundraising support, and marketing and public relations leverage. All members have access to Class A office space with conference rooms, common shared office equipment and services. Exclusive benefits of Resident membership are the use of assigned private offices and secure 24/7 building access.

Program Name: CIC offers regularly scheduled programs designed to familiarize companies with key issues facing the technology sector as well as provide networking opportunities.

>> Description: Programs include CEO Roundtables, TechBridge Showcases and, for CIC members only, Synergy Meetings.
CEO Roundtables: Chesapeake Innovation Center’s CEO Roundtable is an opportunity for technology companies to meet industry and government leaders and experts while connecting to a close group of peers. Experts come from a variety of fields, each providing tactics for doing business with the government.
TechBridge Showcases: This opportunity allows companies from across the nation to showcase innovative technology with CIC corporate partners. Participants are referred to CIC through a number of sources including recommendations from the CIC partners and sponsors, incubator associations such as the Maryland Business Incubation Association and the National Business Incubation Association, CIC’s database of emerging companies, service providers, direct inquiries from the companies themselves, and referrals from the venture community.
Synergy Meetings (Members only): Synergy events provide the opportunity for members to gather together to discuss provocative and timely business topics in an environment that promotes collaboration and non-competitive interaction.

Membership: Six (as of March 29, 2013). Cost depends on Resident or Affiliate membership

Qualifications: CIC continuously seeks early stage companies developing proprietary innovative technology that have strong business potential, especially in the national security market and health IT space. During the application review process, companies are evaluated on technical merit, commercial viability, strength of management teams, and ability to leverage CIC offerings, and benefit from CIC’s partner network.

Founded: 2003
City of Gaithersburg Economic Development
315 Summit Ave
Gaithersburg, MD 20877
TELEPHONE: (301) 258-6300
WEBSITE: www.gaithersburgmd.gov

KEY STAFF: Tom Lonergan, Economic Development Director, tlonergan@gaithersburgmd.gov, (301) 258-6310

Overview: The Office of Economic and Business Development oversees economic development programs and services, assisting existing and potential businesses and industries, preparing marketing materials and strategies, and acting as a liaison between the City and the business community.

The City established an Economic Development Toolbox to provide diversified economic development incentives that could be broadly applied to existing businesses and eligible commercial buildings/spaces across the City in February 2010. These incentives are generally directed toward existing businesses (those in operation for more than two years) that exhibit growth potential and provide stable, well-paying jobs. All matching grants awarded under these programs are one-to-one matches and are provided on a reimbursement basis.

The program consists of five categories: Tenant Fit-up, Job Training, Commercial Signage Assistance, Demolition Assistance, ADA and Utility Upgrades.

Additionally, custom incentives may be available to businesses which exhibit growth potential and create stable, well-paying jobs but, whose potential projects do not fall under any of the program categories.

Economic Alliance of Greater Baltimore (EAGB)
1 E Pratt Street, Suite 200
Baltimore, MD 21202
TELEPHONE: (410) 468-0100
WEBSITE: www.greaterbaltimore.org

KEY STAFF: Tom Sadowski, President and CEO

FIRST CONTACT: info@greaterbaltimore.org

Overview: The Economic Alliance of Greater Baltimore strives to market Greater Baltimore as a world-class region in which to live, work, learn and invest.

Program Services: The Economic Alliance markets Greater Baltimore as a world-class region by:

• Educating the general public as to the benefits of doing business, working, and living in the Greater Baltimore area
• Engaging in business retention efforts, including targeting existing business located in the region for expansion and retention
• Working in close cooperation with officials of Baltimore City and the county governments of the surrounding counties and civic leaders in efforts to attract more business and industry to the area by engaging in efforts which will include professional prospect handling and support and outreach efforts
• Serving as a resource for the Greater Baltimore metropolitan area for the purpose of fostering economic development
• Performing non-partisan analysis, study, and research into various issues relating to doing business in the region. To make the results of such research available to the public by means of discussion groups, seminars, and other educational activities

Preferred Geographic Location: Anne Arundel, Baltimore, Carroll, Cecil, Harford, and Howard Counties and Baltimore City
Emerging Technology Centers
ETC @ Canton ETC @ JHU Eastern
2400 Boston Street 1101 E 33rd Street, 3rd Floor
Factory Building, 3rd Floor Baltimore, MD 21218
Baltimore, MD 21224
TELEPHONE: (410) 327-9150
WEBSITE: www.etcbaltimore.com

KEY STAFF: Deborah Tillett, dtillett@etcbaltimore.com, (410) 327-9150

Overview: The Emerging Technology Centers (ETC), a venture of the Baltimore Development Corporation (BDC), is a non-profit 501 (c)(3) corporation operating as a technology business incubator. ETC works with early stage Baltimore-based technology entrepreneurs to help them move their businesses ahead farther and faster than they could on their own. It is estimated that ETC companies have created in excess of $375 million in economic activity for the City of Baltimore.

Program Services: A comprehensive array of business services are offered to help start-up companies compete – and succeed – in the marketplace. The full-time ETC staff and subject matter volunteers assist companies with strategic planning, decision-making and business analysis. ETC also uses its extensive network to give start-up companies unprecedented access to business, university and government contacts; public and private funding sources; and networking opportunities with both early stage and mature technology companies.

ETC combines these business services with a low-risk, full-service, flexible and cost-effective real estate solution in two conveniently located Baltimore facilities where office options range from 125 ft² to 7100 ft². Amenities like fully equipped conference rooms, fiber optic internet access, office equipment, telephone system, cleaning and moving services, and furniture mean that the entrepreneur can focus attention on the critical success factors driving the business and not on administrative details.

ETC launched AccelerateBaltimore, the first accelerator in Baltimore City. The program is designed to help early stage technology companies go to market in 3-6 months by providing them an initial small seed investment, high-intensity support in a free office space where the participating companies can work collaboratively. AccelerateBaltimore™ graduated its first class on July 25th with a “Demo Day” attracting close to 100 people including angel investors, Venture Capitals and influential tech people from the Baltimore and DC area.

ETC is planning on launching the second class of AccelerateBaltimore in Spring 2013.

ETC also houses Beehive Baltimore, Baltimore’s first coworking space. Beehive is a community of freelancers, entrepreneurs, and other creative professionals sharing a common workspace at ETC. Beehive offers different membership levels.

Program Name: We partner with area technology organizations, host Cofounders Lab events in Baltimore, AccelerateBaltimore Demo Day

Membership: Incubator program, startup technology companies join the program for 2 years (+ optional one year). Currently we have 86 companies in our incubation program. Cost depends on the level of engagement, for incubation space, it changes with size of the space.

Qualifications: The company must have an innovative business model implemented via proprietary or COTS technology and less than five years old. The company can be >5 years old if they are repositioning. The company should be actively seeking assistance and have sincere desire to consider Baltimore City as a home.

Available Capital: $100,000
Stage of Development for Investment: Seed
Investment Range: $25,000
Preferred Investment Size: $25,000
Preferred Geographic Location: Baltimore City
Founded: 1999
Greater Baltimore Committee

111 S. Calvert Street, Suite 1700
Baltimore, MD 21202

WEBSITE:  www.gbc.org

KEY STAFF:  Donald C. Fry, President and CEO, donaldf@gbc.org, (410) 727-2820

FIRST CONTACT:  Lisbeth Pettengill, Vice President, lisbethp@gbc.org, (410) 727-2820

Overview:  Organization of business and civic leaders whose mission is to improve the business climate of the Greater Baltimore region by organizing its corporate and civic leadership to develop solutions to the problems that affect the region’s competitiveness and viability

Program Services:

- **Strategy development:** Develop regional economic development and growth strategy, both broad based and industry specific.
- **Policy development:** Create policy and programs to enhance industry sectors and solve problems facing business and competitiveness of the region and state.
- **Access and advocacy:** Provides access to state and federal legislators and to business leaders: Advocates for the business community on key issues such as economic development, transportation, education and workforce, taxation, regulation, and specific industry sectors (e.g. bioscience, technology, entrepreneurship, and innovations).
- **Research:** Conducts studies of issues and reports on industry sectors and trends, government efficiency, and comparative analyses of Greater Baltimore and competing regions.
- **Networking:** Offers events of all sizes, symposia, and training opportunities.
- **Information:** Both web based and publications on all major business issues and trends.

Founded:  1955

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Harford Business Innovation Center

1362 Brass Mill Road, Suite 11
Belcamp, MD 21017

WEBSITE:  www.harfordbic.com

KEY STAFF:  Ms. Jill McClune, President, Harford Business Innovation Center (HBIC), jill.mcclune@smithsdetection.com, (410) 306-6144

FIRST CONTACT:  Margie Giles, Resource Manager, 410-306-6144

Overview:  The Harford Business Innovation Center (HBIC), is a technology business incubator designed to accelerate the development of small defense contractors and early state technology ventures. HBIC provides business support services and fully-wired office and small conference room facilities for 12 -15 technology companies.

HBIC is located in Riverside Business Park (Belcamp) less than 3 miles from Aberdeen Proving Ground-Aberdeen Area.

Program Services:  Mentoring, Technical assistance, Marketing and sales assistance, Business development, Legal and accounting services, Product development, Presentation coaching, Business networking, Facilities, including office space, reception services, and conference room

Program Name:  programming for small businesses and entrepreneurs

- **Description:** Technology service companies: engineering, computer systems design, management and technical consulting, scientific research and development, wired and wireless telecommunications, telecommunications services, Technology manufacturing companies: communications equipment, electronic instruments

Preferred Investment Industry:  Pharmaceutical and manufacturing companies, Defense contractors

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Harford County Office of Economic Development

220 South Main Street
Bel Air, MD 21014

WEBSITE:  www.harfordbusiness.org/index.cfm

KEY STAFF:  James Richardson, Director, jcrichardson@harfordcountymd.gov

FIRST CONTACT:  oed@harfordcountymd.gov, (410) 638-3059

Program Services:  The Harford County Office of Economic Development provides a variety of programs and services to foster business retention, growth and new investment for all size businesses including:

- Site Selection, Fast Track, Incentives: Enterprise Zone Tax Credits, Job Creation Tax Credits, and Financial Services, Workforce Training, Technology Opportunities & Incubator Program, and Market Profiles
Howard County Economic Development Authority

6751 Columbia Gateway Drive
Columbia, MD 21046

TELEPHONE: (410) 313-6500
WEBSITE: www.hceda.org

KEY STAFF: Larry Twele, Chief Executive Officer
FIRST CONTACT: Deborah Leake, info@hceda.org

Overview: In its privatized role as the County’s economic development agency, the Authority assists businesses with land and building selection, financing, employee recruitment and training, permit and regulatory issues, and provides other development support services.

MISSION: To promote economic growth and stability in Howard County by supporting existing businesses, attracting targeted new businesses and attracting corporate and/or regional headquarters; to serve as the liaison between public and private economic development and planning organizations; and to recommend policies to County government that support the achievement of planned economic goals.

VISION: Howard County, Maryland will be widely recognized as the best place in the U.S. to live, work and operate a business.

Also, see text about Maryland Center for Entrepreneurship which is part of HCEDA below.

Program Services: Helping businesses to start, grow and relocate.

The Maryland Center for Entrepreneurship (MCE) provides a robust, interactive network of collaborating resources to successfully launch high-growth technology-based companies in an entrepreneurial ecosystem. The MCE will include: innovators, entrepreneurs, service providers, advisors, and investors.

By being centrally located in Columbia, Maryland, the MCE leverages its position in the heart of the Baltimore-Washington metropolitan corridor so that it can collaborate to deliver best-in-class services and be accessed as a resource for companies statewide.

The MCE is a new organization developed by the Howard County Economic Development Authority under the leadership of its new CEO, Laura Neuman and the County Executive Ken Ulman and is designed to be a catalyst to build innovation in Maryland.

COMPONENTS AND FOCUS: The Maryland Center for Entrepreneurship will serve as a central connecting point bringing together needed resources, igniting innovation, and supporting the launch and growth of job-creating businesses.

State-wide Programs

MCE Speaker Series. A series of educational presentation and workshops will center on supporting a strong community with knowledge sharing and CEO personal development, specifically transitioning from technical to management/leadership and from personal skill gap identification to competency building through both personal skills and startup team formation.

EnCorps™ and Service Providers-in-Residence. Additionally, there will be significant effort to bring other members of the ecosystem – the supporters and investors, in close contact with community members. To that end, EDA will reach out to members of the community to provide pro-bono services such as legal and accounting advice on a rotating basis to residents and affiliates. Entrepreneurs will also be recruited to join the Entrepreneurial Corps, or EnCorps™, to provide advice and counsel to tenants on a rotating basis as Entrepreneurs-In-Residence.

Startup Maryland. Startup Maryland is an initiative of the national Startup America Partnership, which focuses on bringing together the entrepreneurial ecosystem while igniting a culture of entrepreneurship. The MCE has played a key role in launching Startup Maryland with the MCE Executive Director serving as co-chair for the statewide-initiative. The MCE and HCEDA have also stepped up to sponsor Startup Maryland’s Pitch Across Maryland, which is a state-wide bus tour and business pitch competition taking place in September 2012.

Pipeline Programs. As part of connecting the community of entrepreneurs and increasing awareness about the MCE, we will engage with several programs designed to create a pipeline of growth-oriented technology entrepreneurs. Some of these programs include:

• Innovation Café – a central gathering place for innovators to think, work, and connect providing amenities such as coffee and free Wi-Fi so technology peers can meet, collaborate, and create.

• SEED MD: Fun, social activities meant to engage a younger set of entrepreneurial-minded individuals in start-up activities.

• ACTIVATE: Proven program for helping mid-career women start technology-enabled companies.

Program Name: Annual Meeting, Howard Tech Awards, Howard Tech Council Networking, CoRE Breakfasts for Commercial Real Estate professionals and more.

Membership: No members, but we do have investors. We have members of our Howard Tech Council.

Qualifications: Any company interested in the regional Tech community.

Founded: 1992
Maryland Center for Entrepreneurship
9250 Bendix Road
Columbia, MD 21045
TELEPHONE: (410) 313-6550
WEBSITE: www.hceda.org/Maryland-center-for-entrepreneurship

KEY STAFF: Julie Lenzer Kirk, Director, 410-313-6550

Overview: The incubator continues to serve emerging technology companies with new and innovative programs, access to a growing set of resources and an expanding community of like-minded entrepreneurs, investors, service providers, and mentors.

Amenities: Programs include: Howard Tech Council, Center Premier Affiliates, Business and Leadership Development, Monthly CEO Roundtable Discussions, Capital Scrubs

The incubator also provides assistance with: Advisors and Shadow Boards, Intellectual Property Management, Technology Commercialization, Strategic Business Partners, and Funding Resources.

Founded: 2011

Maryland Department of Business and Economic Development
The World Trade Center
401 E. Pratt St., Baltimore, MD 21202
WEBSITE: www.ChooseMaryland.org

KEY STAFF: Dominick Murray, Secretary, World Trade Center, Room 952, 401 E. Pratt St., Baltimore, MD 21202
FIRST CONTACT: Karen Glenn Hood, Director, Media Relations & Public Affairs, KGHood@choosemaryland.org, (410) 767-6318

Overview: The Department of Business and Economic Development's mission is to create, attract and retain jobs and promote Maryland's vibrant culture and heritage.

A one-stop economic development shop, the Agency attracts new businesses, stimulates private investment, creates jobs, encourages the expansion and retention of existing companies and provides businesses in Maryland with workforce training and financial assistance. The Department promotes the state’s economic assets and markets local products and services at home and abroad to spur economic development and international trade. Maryland’s official tourism and sports marketing, arts and film office, the agency invests in and promotes culture, heritage and recreation to enhance the state’s world class quality of life, stimulate economic development and create jobs.

The Department’s objectives are carried out by three divisions:

- Division of Business and Enterprise Development
- Division of Marketing & Communications
- Division of Tourism, Film and the Arts

The Agency has nine boards and commissions. The Division of Administration and Technology provides systems development, data processing and tech support, services and standards to the Department.

Program Services: Targeting core industries that maximize Maryland’s strengths and assets, the agency works with employers and entrepreneurs to develop connections that strengthen, expand and cultivate a sustainable economy.

Services include: Economic analysis and business information, Site location and expansion assistance, Financial incentives, tax credits and training grants, Training and training programs, Small business consulting and technical assistance, Foreign direct investment promotion, Export and international product marketing, American Recovery and Reinvestment Act assistance, Military relocation implementation, Arts organization grants, Visitor and event marketing, Sports events recruitment, Heritage attraction development

Founded: (DBED) is a government agency in the state of Maryland in the United States. Although its roots began in 1884, the department came to be recognized as the Department of Business and Economic Development under Maryland Constitutional Acts of 1995 (Chapter 120) to emphasize its function of bringing new jobs and new businesses to Maryland.

Program Name: Community Development Block Program

>> Description: Provides funding to commercial and industrial economic development projects. Program funds are dispersed to a local jurisdiction in the form of a conditional grant and are then used for public improvements or loaned to a business.

- Project must create employment for individuals from low to moderate income in non-urban areas of the state, or eliminate slum and blight conditions.
- The political subdivision may be liable if the project fails.
- The use of funds is fairly broad and includes the acquisition of fixed assets, infrastructure, and feasibility studies.
Program Name: Maryland Venture Fund
>> Description: Makes direct investments in technology and life sciences companies and indirect investments in venture capital funds.
>> Contact: Tom Dann, Managing Director, tdann@choosemaryland.org

Program Name: Equity Participation Investment Program (EPIP)
>> Description: To enhance business ownership of socially or economically disadvantaged entrepreneurs, financial assistance through loans, loan guaranties and equity investments. To be used for purchasing a franchise, acquiring an existing profitable business or developing a technology based business.
>> Contact: Stanley Tucker, (410) 333-4270

Program Name: Maryland Economic Adjustment Fund (MEAF)
>> Description: Established in 1994 as a non-lapsing fund. The U.S. Economic Development Administration and the State of Maryland combined to provide $1,500,000 and $500,000, respectively to assist small businesses. Since its inception, the state has transferred $800,000 of assets to the fund.

This fund assists business entities in the state with modernization of manufacturing operations, the development of commercial applications for technology, and exploring and entering new markets.

Applicants must demonstrate credit worthiness, ability to repay the obligation, and an inability to obtain financing on affordable terms through normal lending channels. A loan may not be used to relocate jobs from one commuting area to another. Funding assistance through MEAF is available to small businesses in all regions of the state.

Program Name: Maryland Economic Development Assistance Authority and Fund
>> Description: There are five financing capabilities offered through the Maryland Economic Development Assistance Authority and Fund (MEDAAF), with assistance being provided to the business community and political jurisdictions. To qualify for assistance from MEDAAF, applicants are restricted to businesses located within a priority funding area and an eligible industry sector. With a few exceptions, assistance cannot exceed 70 percent of the total project costs.

Program Name: Maryland Industrial Development Financing Authority (MIDFA)
>> Description: Encourages private sector financing in economic development projects located in Priority Funding Areas. MIDFA facilitates capital access by issuing private activity revenue bonds and can provide credit insurance in the form of a deficiency guaranty to reduce lender’s risk. While the transaction size is generally not limited, the credit enhancement is subject to the applicable program limits.

Program Name: Small Business Development Financing Authority
>> Description: Promotes the viability and expansion of businesses owned by economically and socially disadvantaged entrepreneurs, and also small businesses that do not meet the established credit criteria of financial institutions, and consequently are unable to obtain adequate business financing on reasonable terms through normal financing channels. Created in 1978, the nine members serve five year terms.

Program Name: Job Creation Tax Credit
>> Description: Maryland provides a $1,000 tax credit to businesses that create new jobs to encourage businesses expanding or relocating to Maryland.

Program Name: Enterprise Zone Tax Credits
>> Description: Real property tax credits: Ten-year credit against local real property taxes on a portion of real property improvements. Credit is 80% the first five years, and decreases 10% annually to 30 percent in the tenth and final year.

Income tax credits: A one-time $1,000 credit per new worker. For economically disadvantaged employees, the credit is $6,000 per employee over three years.

Program Name: One Maryland Tax Credit
>> Description: Businesses that invest in an economic development project in a “qualified distressed county” may qualify for project tax credits of up to $5 million and start-up tax credits of up to $500,000.

Program Name: Research and Development Tax Credit
>> Description: Businesses with qualified research and development expenses in Maryland are entitled to a tax credit if eligible and certified by DBED.

Program Name: Biotechnology Investment Tax Credit
>> Description: Provides income tax credits equal to 50% of an eligible investment for investors in qualified Maryland biotechnology companies. This tax credit program offers incentives for investment in seed and early stage, biotech companies, up to $250,000.
Program Name: Brownfields Revitalization Incentive Program

>> Description: A site that qualifies for this incentive program may qualify for real property tax credits as well. The site must be located in a jurisdiction that participates in the BRIP, and owned by an inculpable person. For five years after cleanup, a site may qualify for a real property tax credit between 50% and 70% of the increased value of the site. (In an Enterprise Zone, the tax credit may last for up to 10 years). This credit, combined with other real property tax credits, may not exceed 100% of the tax on the increased value of the site.

Program Name: BRAC Revitalization and Incentive Zone Program

>> Description: To focus growth in areas that are already designated for growth; provide local governments with financial assistance for public infrastructure in these well-defined areas; and align other state resources and programs to local governments and businesses located in the BRAC zones for a coordinated State effort on making the zones the focus of BRAC growth. Funds must be used for infrastructure improvements. Each year, the amount to be paid to all local jurisdictions is the amount appropriated in the State budget up to $5,000,000. If the total amount applied for exceeds the cap, each jurisdiction receives pro rata share.

Available Capital: As of close of the FY2012, Maryland Venture Fund has an expected $107M under management. These assets include existing investments, InvestMaryland investments to be invested into Venture Funds and directly into companies and federal stimulus funds.

NOTE: Source DBED FY2012 asset sheet: $102M assets + $15.5M SSBCI assets to be received LESS ($6.9M of InvestMD to MSB DFA and $250K to Rural, $2.8M SSBCI already received) = $107.55M

As of the close of the FY2012, Maryland Venture Fund has an expected $35M to be invested from the InvestMaryland and the Federal stimulus funds.

NOTE: $20.6M InvestMaryland { (($84M * 33%) - $250,000 ) * .75 } + $14.6M SSBCI ($2M received not invested + $12.6M to be received) = $35.2M

Stage of Development for Investment: All

Investment Range: $50,000 - $1,000,000

Preferred Investment Size: $500,000

Preferred Geographic Location: Maryland


Montgomery County Department of Economic Development

111 Rockville Pike, Suite 800
Rockville, Maryland 20850

TELEPHONE: (240) 777-2000
WEBSITE: www.choosemontgomerymd.com

KEY STAFF: Janis Pitts, Director of Life Sciences Strategy, Janis.Pitts@MontgomeryCountyMD.gov

Overview: The mission of the Montgomery County Department of Economic Development is to make Montgomery County a globally competitive and highly diversified knowledge-based economy.

Program Name: Business Innovation Network

>> Description: The Montgomery County Department of Economic Development has 5 business incubation centers with 147,000 square feet that offer a combination of flexible, modern offices (216), clean rooms (2) and labs (35) as well as business support services.

Program Name: Biotech Investor Tax Credit

>> Description: The Montgomery County Investor Tax Credit Program is available for investors of companies that receive approval first from the Maryland Bio Investor Tax Credit Program. The county's portion is an add-on to already approved investors by the State and it is given as cash, not credit. It is the first biotech investor tax credit program by a local jurisdiction in the nation.

Program Name: Tech Transfer Speakers Series

>> Description: The Department of Economic Development sponsors a monthly program as an opportunity for entrepreneurs to meet with technology transfer experts from academia and the federal laboratories. The series was developed in conjunction with the Federal Laboratory Consortium Mid-Atlantic Region.

Program Name: Innovation to Commercialization Conference

>> Description: This annual conference brings together stakeholders in the technology transfer field to share best practices, meet with experts, learn about the latest tech transfer start-ups, and connect with each other. Usually held in November.

Program Name: Local Small Business Reserve Program (LSBRP)

>> Description: The Local Small Business Reserve Program sets aside 20% of all Montgomery County procurements that are less than $10 million for inclusion in the LSBRP. Eligibility is based on business type, employee and sales limits, and compliance with wage requirements.
MONTGOMERY COUNTY BUSINESS INNOVATION NETWORK

Bethesda Green
4825 Cordell Avenue, Suite 200  
Bethesda, Maryland 20814  
TELEPHONE: (240) 396-2440  
WEBSITE: www.bethesdagreen.org/

KEY STAFF: Dave Feldman, Executive Director, (240) 396-2440 ext. 101

Overview: The primary mission of Bethesda Green is to bring business, government and community together through programs and services to promote a healthy economy and sustainable living practices in order to reduce our collective impact on the environment.

Amenities: Currently, the Bethesda Green incubator offers part-time and full-time office space for companies, as well as conference room, copier and mailbox services. All companies benefit equally from professional support and the vibrant collaborative environment in the incubator.

Germantown Innovation Center
20271 Goldenrod Lane  
Germantown, MD 20876  
TELEPHONE: (301) 528-4001  
WEBSITE: www.mcinnovationnetwork.com/facilitiesandtenants/germantown-ic/

KEY STAFF: John Korpela, (240) 453-6348

Overview: Located in the heart of the I-270 Technology Corridor, the Germantown Innovation Center opened its doors October 2008. The Innovation Center is co-located with Montgomery College's Goldenrod Academic Center, Germantown Campus.

Amenities: This innovation center provides 32,000 square feet to accommodate 20 to 30 life sciences and advanced technology companies, 45 offices, 11 wet labs, averaging 500 square feet, 2 modular clean rooms, 2 conference rooms, 2 huddle areas ,a large multi-purpose room, seating 80-100 people, Kitchenette and lunch room, Business and audio-visual equipment, Laboratory equipment, Telephone and video conferencing ability, Offices are voice and data ready, a tenant services coordinator; Green-design elements, including, Lab floors of rapidly renewable materials,, An innovative wall system that dramatically reduces dry-wall waste, Carpet made with recycled materials, Use of natural daylight and light sensors to reduce energy consumption, Efficient mechanical systems, and Internet Providers: Atlantech, Verizon FIOs.Comcast

Rockville Innovation Center
155 Gibbs Street  
Rockville, MD 20850  
WEBSITE: www.mcinnovationnetwork.com/facilitiesandtenants/rockville-ic/

KEY STAFF: Ruth Semple, Ruth.seemple@montgomerycountymd.gov, (240) 453-8488

Overview: The Rockville Innovation Center is located in the hub of the new $350 million Rockville Town Center Project, just minutes from Washington, D.C. and near the I-270 Technology Corridor. It is across the street from the Rockville Metro Station and near the headquarters of the U.S. Health and Human Services Administration, the National Institutes of Health and the National Institute of Standards and Technology. The center provides easy access to the region’s three major airports offering 475 weekly non-stop flights to 34 destinations in 30 foreign countries.

Amenities: 23,000 square feet of flexible office space on two floors; accommodates 20 to 30 international, professional service and advanced technology companies; 45 offices and office suites; 2 conference rooms; 4 huddle areas; business and audio-visual equipment; telephone and video conferencing ability; two full kitchenettes and lunch rooms; a tenant services coordinator; spaces are voice and data ready
Silver Spring Innovation Center
8070 Georgia Avenue
Silver Spring, MD 20910
WEBSITE: www.mcinnovationnetwork.com/facilitiesandtenants/silver-spring-ic/
KEY STAFF: Jerry Godwin, (240) 994-9123
Overview: The Silver Spring Innovation Center is located steps away from the nation’s capital, Washington, D.C., and is situated in a Federal Hub Zone. It offers a creative atmosphere to grow advanced technology companies. Neighbors include Discovery Communications, TV One, National Oceanic and Atmospheric Administration and is just a few minutes from the Food and Drug Administration’s new world headquarters campus.
This Center is in walking distance to the Silver Spring Metro and MARC commuter rail stations. It also offers convenient access to I-495, the Capital Beltway and I-95—a major north-south interstate highway serving the Eastern Seaboard.
Amenities: 20,000 square feet; 36 offices; accommodates 20-25 advanced technology and professional service businesses; 3 conference rooms; kitchenette and lunch room; business and audio-visual equipment; telephone and video conferencing ability; offices are voice and data ready; a tenant services coordinator

Wheaton Business Innovation Center
11002 Veirs Mill Road, 7th floor
Wheaton, MD 20902
WEBSITE: www.mcinnovationnetwork.com/facilitiesandtenants/wheaton-ic/
KEY STAFF: Jerry Godwin, (240) 994-9123
Overview: The Wheaton Business Innovation Center is located in the heart of Wheaton’s $400 million, multiphase commercial, residential and retail complex—creating nearly 2 million square feet of new development and generating over $280 million in private investment. It is in one of the County’s Enterprise Zones, offering special tax incentives to eligible businesses and is literally across the street from the Wheaton Metro Station. This Center is ideally suited for current, locally-based business service, government contracting and/or professional trade businesses looking to grow.
Amenities: 12,000 square foot, custom-renovated, Class A business center; 30 fully-secured offices in a variety of sizes and configurations; Each office is voice and data ready – choose from T1, Cable or DSL service; Shared facility amenities, including: Tenant services coordinator; 2 conference rooms equipped with videoconferencing; capability and wireless internet access; Copy/fax machine; Mailroom services; Kitchenette with refrigerator, microwave and vending machines

William E. Hanna Jr. (Shady Grove) Innovation Center
9700 Great Seneca Highway
Rockville, MD 20850
WEBSITE: www.mcinnovationnetwork.com/facilitiesandtenants/facilities/shady-grove-ic/
KEY STAFF: Ruth Semple, (240) 453-8488
Overview: The Shady Grove Innovation Center has been in operation since 1999 as Montgomery County’s first incubator (formerly the Maryland Technology Development Center). The SGIC is located along the I-270 Technology Corridor, in the nation’s third largest biotech cluster, near leading biotech companies such as MedImmune, Human Genome Sciences and Otsuka Pharmaceuticals. It is also adjacent to high level research and academic resources providing critical support for biotech and advanced technology companies such as the National Institutes of Health, Johns Hopkins University and the University for Maryland’s Center for Advanced research in Biotechnology.
Amenities: 60,000 square feet to accommodate 40-50 advanced technology and life sciences companies; 60 offices; 24 wet labs and; 3 conference rooms; a large multi-purpose room, seating 50-60 people; kitchenette and lunch room; business and audio-visual equipment; laboratory equipment; telephone and video conferencing ability; offices are voice and data ready; a tenant services coordinator; Internet providers: Atlantech Online, Comcast Xfinity, Verizon DSL

Prince George’s County Technology Assistance Center
1100 Mercantile Lane
Largo, MD 20774
TELEPHONE: (301) 583-4650
WEBSITE: www.pgcedc.com/tac/
KEY STAFF: Toni Miles, Small Business Specialist, tmiles@pgcedc.com; Shawn Branch, TAC Coordinator, sbranch@pgcedc.com
Overview: The Prince George’s County Technology Assistance Center (TAC) is an incubator program established to nurture the creation and development of early stage technology companies in Prince George’s County. The TAC promotes economic development by fostering the successful growth of its incubator companies through provision of affordable facilities and a broad range of business and technical services. The TAC also encourages and supports high-growth potential technology companies, with a preference for those developing proprietary products and services.
Rockville Economic Development, Inc. (REDI)
Rockville, MD
WEBSITE: www.rockvilleredi.org

KEY STAFF: Laurie Boyer, CEcD, Executive Director, boyer@rockvilleredi.org
FIRST CONTACT: Stacey Fearheiley, Administration, Communications & Events Manager, fearheiley@rockvilleredi.org, (301) 315-8096

Overview: Rockville Economic Development, Inc. (REDI) is a public-private partnership established in 1997 by the City of Rockville to strengthen and broaden the city's economic base through business recruitment, retention and expansion programs. REDI assists businesses in a variety of areas including site selection, fast track development, demographics, real estate data and trends, financing access and information, workforce development, and networking and referrals. REDI's services are provided free of charge, with the exception of Women's Business Center classes, which are very low cost.

Program Services:
- Maryland Women's Business Center – classes and technical assistance for women and men, and companies of all types and sizes
- StartRight! Women's Business Plan Competition – annual competition with cash prizes for women-owned businesses in DC, MD and VA
- MIT Enterprise Forum – events that showcase tech companies
- Co-Founders Wanted Meetups – those who would like to form or work in start-up companies meet and exchange ideas.
- Biotechnology Industry Organization Conference – REDI creates opportunities for Rockville biotechs to participate at the world's largest international annual BIO conference
- Rockville Innovation Center, William E. Hanna Innovation Center – Rockville-based business incubators for tech and bio-tech startups and early-stage companies
- "Why Rockville" – bi-weekly ads in the Business Gazette featuring Rockville companies

Preferred Geographic Location: Rockville, Montgomery County, MD/DC/VA
Founded: 1997

TowsonGlobal Business Incubator
Towson University
7801 York Road, Suite 342
Towson, MD 21204
WEBSITE: www.towsonglobal.com

KEY STAFF: Clay E. Hickson, Executive Director, (410) 769-6448 or (410) 769-6477, chickson@towsonglobal.com

Overview: TowsonGlobal is Towson University's business incubator for early-stage companies. TowsonGlobal helps bridge the way for entrepreneurial enterprises to find success in the global economy. The incubator accomplishes this by providing businesses with a wide range of support needed to flourish in today's competitive global environment, such as office facilities, business counseling, and workshops.

Program Services: As a member of TowsonGlobal, a company receives access to quality office facilities (offices, meeting space, Internet access, and photocopying to name a few), essential information through workshops, seminars, and customized counseling services to help it succeed in the global marketplace.

We believe that through networking, TowsonGlobal facilitates relationships among member companies and important contacts from other organizations locally and internationally.

Program Name: Annual TowsonGlobal Business Plan Competition
Membership: 15 members and membership costs vary by membership type.
Qualifications: A business plan and advisory board approval.
Founded: 2009
Wasabi Ventures Accelerator at Loyola University Maryland
301 Winston Avenue
Baltimore, MD 21212
This is on the campus of Loyola Maryland. WEBSITE: http://www.wasabiventures.com

KEY STAFF: Tom “TK” Kuegler, Managing Partner and Co-Founder, (603) 943-2010, tk@wasabiventures.com
FIRST CONTACT: Nicholas “Nick” Daley, (443) 690-5620, Nick@wasabiventures.com

Overview: The Wasabi Ventures Accelerator at Loyola University Maryland seeks to help build the startup ecosystem in Baltimore and all of Maryland by providing guidance, investment, and structure to our select companies in addition to evangelizing the greater Baltimore area startup scene.

Program Services: Help startup companies get off the ground and become sustainable and profitable without a time frame for entering and leaving the program, & Mesh educational resources and private startup experience

Membership: 45 members and cost is equity in the startup or a convertible note

Qualifications: Wasabi Ventures Portfolio Company in Maryland
Stage of Development for Investment: Seed and early
Investment Range: $0 (advising only) – $75,000
Preferred Investment Size: $10,000 to $50,000
Preferred Geographic Location: Maryland
Preferred Investment Industry: Portfolio is mostly tech but not exclusively any particular industry is preferred.

Founded: 2012
Annapolis and Anne Arundel County Chamber of Commerce
49 Old Solomons Island Road, Suite 204
Annapolis, MD 21401
WEBSITE: www.annapolischamber.com

KEY STAFF: Bob Burdon, President and CEO, rburdon@aaaccc.org, (410) 266-3960 x1007
FIRST CONTACT: Heidi Howard, hhoward@aaaccc.org, (410) 266-3960 x1000
Founded: 1918
Overview: The Annapolis and Anne Arundel Chamber of Commerce strives to serve as a strong and respected advocate for business, serve as an excellent resource for business, expand business relationships, and promote business and corporate citizenship in the community.

Program Services: The Annapolis and Anne Arundel County Chamber of Commerce offers its members direct access to elected and appointed officials in Anne Arundel County, the City of Annapolis, and the State Capital. The Chamber of Commerce also serves to help build and expand business relationships. A nationally-recognized Senior Core of Retired Executives (SCORE) Office is located in the Annapolis and Anne Arundel Chamber of Commerce offices to provide business and technical assistance.

Membership: The Annapolis and Anne Arundel County Chamber of Commerce is a membership organization with 638 current members. Annual investment is based on the number of full-time equivalent employees that are employed by the member company, ranging from $350 for 1-5 person firms to $3000 for 1000+ person firms for basic membership. Annual investment for premium membership ranges from $1000 to $15000 depending on size of organization and benefits desired. The only qualifications to joining the Annapolis and Anne Arundel Chamber of Commerce are submitting an application and the required annual investment.

Anne Arundel County Office of Central Services/ Purchasing Division Minority Business Enterprise Program
2660 Riva Rd, Annapolis, Md
TELEPHONE: (410) 222-7620
WEBSITE: www.aacounty.org

KEY STAFF: Fred Schram, Central Services Officer, (410) 222-7620
FIRST CONTACT: Joanne Jackson, Minority/Small Business Coordinator
Overview: To provide timely & economical procurement of equipment, materials, supplies and services required to support County operations; and ensure equal business opportunity by encouraging participation of M/WBEs in procurements of all types & all values

Program Services: Provides technical assistance to women & minority-owned business seeking to do business with Anne Arundel County government including: one-on-one counseling and referrals, procurement & construction opportunities, financing, business plan review, marketing & networking opportunities, workforce development

Program Name: networking focused primarily on government procurement and construction, business financing, partnership development

Available Capital: inquiries for financing are referred to the Anne Arundel Economic Development (AAEDC) Loan Fund

Baltimore City Chamber of Commerce
PO Box, 4483 Baltimore MD 21223
TELEPHONE: Phone: (410) 837-7101
WEBSITE: baltimorecitychamber.org/

KEY STAFF: Charles Owens, President, Charlieo@baltimorecitychamber.org
Overview: The mission of the Baltimore City Chamber of Commerce is to promote business interaction among its members, to provide information and resources for its members, and to advocate the adoption of a pro-business agenda by the City of Baltimore and the region on behalf of its members.

Program Services: The BCCC Small Business Alliance Program provides a platform for small businesses to join ranks with like businesses to increase their business acumen to develop sustainable business growth strategies. The Small Business Alliance Program will offer quarterly sessions of topics instrumental to building a sustainable growth pattern. Topics include, but are not limited to, Importance of Branding and Marketing; Creating and investing wealth; Retirement and Succession Planning; Business Organization and Structure

Benefits of SBAP Participation: Quarterly Business Sessions, Member-Only Dinner with Decision Makers, Discounted Marketing Opportunities, Focus Groups

Membership: Yes
Founded: 1991
Baltimore County Chamber of Commerce

102 West Pennsylvania Avenue, Suite 101
Towson, MD 21204

TELEPHONE: (410)-825-6200
WEBSITE: www.baltcountycc.com

KEY STAFF: Keith Scott, President and CEO, kscott@baltcountychamber.com

Overview: The primary objective of the Baltimore County Chamber of Commerce is to create a climate of growth and success in the community. The Chamber of Commerce is the area’s leading business advocate.

Program Services: Aggressive public policy agenda, Programs and events, Monthly networking events, Marketing opportunities, Member services such as referrals and meeting space, Small Business Resource Center provides business assistance

Program Name: Annual Meeting, Business Hall of Fame, County Council Reception, Monthly Member Breakfasts

Membership: 450

Qualifications: Membership dues range from $285 annually for firms of 1-2 employees to $1060 for firms of 100-500 employees. An application and membership dues are required for membership with the Chamber of Commerce.

Founded: 1966

Baltimore County, Maryland Office of Budget and Finance, Purchasing Division/Minority Business Enterprise Program

Historic Courthouse
400 Washington Ave, Room 148
Towson, Maryland 21204

WEBSITE: www.baltimorecountymd.gov/go/mwbe

KEY STAFF: Keith Dorsey, Director Office of Budget and Finance, (410) 887-3313

FIRST CONTACT: Carla Tucker, Purchasing Division, Minority and Small Business Marketing Manager, (410) 887-3119, ctucker@baltimorecountymd.gov, Damon Hughes, Purchasing Division, Minority Business Enterprise Officer, (410) 887-3407, dhughes@baltimorecountymd.gov

Overview: The mission of the Purchasing and Disbursements Division is to insure that the procurement process of Baltimore County is completed in an efficient and effective manner and conforms to the highest ethical standards in the industry. The Purchasing and Disbursements Division subscribes to the Code of Ethics of the National Institute of Governmental Purchasing, Inc. and is a charter member of the Maryland Public Purchasing Association.

The Purchasing Division procures over $200 million dollars in goods and services annually to support County operations and the delivery of services to the citizens of Baltimore County. Utilizing the latest e-commerce innovations available, Purchasing fosters open competition and sensible government spending.

The Baltimore County Minority and Women’s Business Enterprise Program was established by Executive Order to increase Minority and Women’s Business (MBE/ WBE) participation in county contracts. The County seeks to have an overall goal of 15 percent of the total dollars spent on discretionary procurements awarded to and/or performed by MBE and WBE firms.

Program Services: Educating businesses on County procurement processes and “How to Do Business with Baltimore County”.

Program Name: The Purchasing Division hosts: two “Meet the Buyers” events (Spring/Fall) and the Annual “Meet the Primes” event

The Baltimore Node

403 E Oliver Street
Baltimore, MD 21202

TELEPHONE: (410) 680-6633
WEBSITE: www.baltimorenode.org

KEY STAFF: Mark Huson (President) mehuman@gmail.com

FIRST CONTACT: root@baltimorenode.org, Google discussion list

Overview: The Baltimore Node is a member-run space where people can make, craft, and hack together on interesting things in a supportive and collaborative environment. The Node follows the Hackerspace model that is flourishing in cities around the world.

Program Services: 24/7 access to the space to work on projects on your own or in collaboration with other members, Use of all community tools and equipment within the space, Access to all workshops and events, Designated area to store in-progress work, A voice and a vote in the direction of the Baltimore Node

Program Name: Only regular events are our open-hack-nights, every Thursday at 7:30pm

Membership: Currently 35+, $50 per month, $25 per month (full time student)

Qualifications: New members show up to our open-hack-nights (Thursdays 7:30pm) and will then be voted in.

Founded: 2009
**Carroll County Chamber of Commerce**

Office address: 9 East Main Street, Suite 105
Westminster, MD 21157
Mailing address: PO Box 871
Westminster, MD 21158

**TELEPHONE:** (410) 848-9050
**WEBSITE:** www.carrollcounty chamber.org

**KEY STAFF:** Mike McMullin, President, mmcmullin@carrollcounty chamber.org

**FIRST CONTACT:** info@carrollcounty chamber.org

**Overview:** The Carroll County Chamber of Commerce exists to promote a sound economic environment in which the Carroll County business community can prosper.

**Program Services:** Legislative advocacy, Advertising and marketing opportunities, Referrals, Business-building programs and events, Professional development

**Program Name:** Business Awards Dinner & Golf Tournament

**Membership:** Over 450 members. Annual membership fees range from $248 for for-profit businesses of 1-2 employees to $1781 for for-profit businesses of 501+ employees. Annual membership fees range from $248 for nonprofit and government entities of 1-10 employees to $1336 for nonprofit and government entities of 501+ employees.

**Qualifications:** Application and membership fees

**Founded:** 1924

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**Carroll Technology Council**

255 Clifton Boulevard, Suite 215
Westminster, MD 21157

**WEBSITE:** www.carrolltechcouncil.org

**KEY STAFF:** Tracy Turner, Director, 443-244-1262, tracy@carrolltechcouncil.org

**Overview:** Member-run with an Executive Board and a Board of Directors.

**Program Services:**
- Building relationships between member organizations
- Facilitating the development of technology expertise and potential business opportunities
- Brings technology to those in need through CompuKids and TechWorks programs
- Networking events: evening networking, August Cookout, Holiday party
- Educational series on web conferencing, software, and other technical business needs
- Developing incubator program with the Carroll County Department of Economic Development

**Program Name:** Golf tournament fundraiser & Awards Ceremony & Dinner Gala

**Membership:** 78 Members. Annual membership fees are based on the size of the Member Company and range from $150 annually for companies of 1-5 employees to $350 annually for businesses of 11 or more employees.

**Qualifications:** Referral, application and membership fees

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**Cecil County Chamber of Commerce**

106 East Main Street, Suite 101A
Elkton, Maryland 21921

**WEBSITE:** www.cecilchamber.com

**KEY STAFF:** Laura Mayse, Executive Director, Cecil County Chamber of Commerce, (410) 392.3833, lmayse@cecilchamber.com

**Overview:** Our mission is to advocate for a strong viable economic environment in Cecil County.

**Program Services:** Advocating, Networking, Opportunity to Gain Visibility, Business Services and Support.

**Program Name:** Five major events each year are Cecil Night in Annapolis, Athena International Award in Leadership, Chamber Classic Golf Tournament, Annual Small Business of the Year Awards & Gala, Economic Forecast Breakfast.

**Membership:** 350 Members. Membership Investment is based on Full Time Employee Equivalent

**Qualifications:** Simply application process and investment.

**Founded:** 1988
Chesapeake Gateway Chamber of Commerce
405 Williams Ct., Suite 108
Baltimore, MD 21220

WEBSITE: www.chesapeakechamber.org/

FIRST CONTACT: (443)317-8763, info@emrchamber.org

Overview: The mission of the Chesapeake Gateway Chamber of Commerce is to promote the economic environment to attract new businesses while allowing established business to prosper. The Chamber is dedicated to enhancing the quality of life in the region it serves by reinvesting its resources in all phases of community life.

Program Services: Business Marketing, Publicity & Exposure, Training Seminars, Consumer & Business Referrals, Lobbying & Advocacy

Membership: Yes, cost is determined by employee size

Founded: 1956

Chesapeake Regional Technology Council
839 Bestgate Road, Suite 400
Annapolis, MD 21401

TELEPHONE: (410) 630-8200
WEBSITE: www.chesapeaketech.org

KEY STAFF: Kris Valerio, Executive Director, kris@chesapeaketech.org

FIRST CONTACT: info@chesapeaketech.org

Overview: The Chesapeake Regional Tech Council energizes and propels the advancement of technologies with the exchange of ideas expertise and business partnership opportunities.

Program Services: Support innovation and commercialization of advanced technologies, Attracts new technology companies to the region, Helps emerging technology companies grow and prosper, Resource for business, education, and networking needs

Program Name: BBQ on the Bay Tech Expo, Holiday Mixer, TechAwards

Membership: 284, Annual membership is a corporate investment based on the number of full-time employees the company has within the Annapolis-Washington-Baltimore tech triangle. Annual investments range from $250 for companies of 1-10 people to $2000 for companies of 400 or more people.

Qualifications: Application and membership investment

Founded: 1992

City of Baltimore Small Business Resource Center
1101 East 33rd Street, Suite C307
Johns Hopkins @ Eastern Campus
Baltimore MD 21218

TELEPHONE: (443) 451-7160
WEBSITE: www.sbrcbaltimore.com

KEY STAFF: Paul Taylor, Executive Director, info@sbrcbaltimore.com

FIRST CONTACT: Lisa Edwards, Resource Center Manager, info@sbrcbaltimore.com

Overview: The City of Baltimore Small Business Resource Center provides business development services to entrepreneurs and existing business with less than $5 million in annual revenue. Services are provided through a series of seminars, one-on-one counseling sessions, outreach events and targeted programs. Our seminars cover various business related topics including Accounting, Assisted Living, Basic Digital Photography, Business Plan Writing, Contract Negotiations Law Clinic For Contractors & Vendors, Government Contracting, Psychology of Selling, Quickbooks Intermediate, Small Business Opportunities With FedEx, Operating A Home Office, Project Management, and Recordkeeping For Childcare Providers. In 2011 SBRC serviced 3300 Entrepreneurs. Of the many services offered, counseling is provided by the Service Core Of Retired Executives (SCORE), Small Business Development Center (SBDC), Procurement Technical Assistance Program (PTAP), voluntary specialist and SBRC staff.

Program Services: Services are provided through a series of seminars, one-on-one counseling sessions, outreach events and targeted programs. Our seminars cover various business related topics including Accounting, Assisted Living, Basic Digital Photography, Business Plan Writing, Contract Negotiations Law Clinic For Contractors & Vendors, Government Contracting, Psychology of Selling, Quickbooks Intermediate, Small Business Opportunities With FedEx, Operating A Home Office, Project Management, and Recordkeeping For Childcare Providers. In 2011 SBRC serviced 3300 Entrepreneurs. Of the many services offered, counseling is provided by the Service Core Of Retired Executives (SCORE), Small Business Development Center (SBDC), Procurement Technical Assistance Program (PTAP), voluntary specialist and SBRC staff.

Program Name: Money Power Day, LCDP, Vendor Development Series, RFP’s Readiness, Contractor’s College, Co-Host MBE Program with Radio One

Membership: No

Founded: 1996
CoFoundersLab
Rockville, MD
WEBSITE: www.cofounderslab.com

KEY STAFF: Shahab Kaviani, Co-Founder, CEO, skaviani@cofounderslab.com, (301) 637-5488

Overview: CFL is an online matchmaking platform to help entrepreneurs find a cofounder to start and grow your business

Program Services: Matchmaking for those who are interested in starting a company and looking for a Co-founder

Membership: 10,000 members. Basic membership is free.

Qualifications: Interest in starting a company

Stage of Development for Investment: Series A

Investment Range: $500,000-$1m

Preferred Investment Size: $500,000

Preferred Geographic Location: Maryland

Preferred Investment Industry: Internet

Founded: 2011

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gb.tc (Greater Baltimore Tech Council)

As of January 2012, we moved out of our office in Canton’s ETC and moved into the wilderness.

We travel around the Greater Baltimore area to visit participating companies on our #nomorebox tour (gb.tc/nomorebox).

Let us know if you would like to participate!

WEBSITE: gb.tc

KEY STAFF: Jason Hardebeck, Executive Director, j@gb.tc, 1.855.our.gbtc x4

FIRST CONTACT: Kelly McKew, q@gb.tc, (410) 274-6442

Overview: gb.tc is connecting and celebrating the people and companies in and around Baltimore who dare to be great.

Program Services: As an organization, we offer many services. One of the hallmarks of gb.tc is the roundtable program, where committed, confidential advisory groups meet to discuss professional and personal development. We also have go.gb.tc, the community populated calendar that provides information on events of interest to the Baltimore-area tech and innovation community. Community organizations, nonprofits, or groups affiliated with gb.tc are welcome to submit events. A bi-weekly newsletter is another feature of gb.tc, which is opt-in and available to sign up through our website. Baltimore Weekly is a weekly broadcast of current goings-on as well as interviews of people relevant to the Baltimore community.

Program Name: gb.tc hosts major events almost every month. For 23 years, Tech Night has been a flagship event, bringing together the technology community as a fundraiser for gb.tc. In 2013, the focus of Tech Night will instead be on the people who do remarkable things in Baltimore.

Membership: gb.tc is no longer a membership organization, and has completely gotten rid of dues. gb.tc’s events are open to anyone; gb.tc would like to have as many engaged partners in the community as possible.

Founded: 1999
Greater Catonsville Chamber of Commerce
924 Frederick Road
Catonsville, MD 21228-0600

TELEPHONE: (410) 719-9609
WEBSITE: www.catonsville.org

KEY STAFF: Sally Griffin, 2012 President, chamber@catonsville.org
FIRST CONTACT: Teal Cary, Executive Director, chamber@catonsville.org

Overview: Together, the Catonsville Chamber and its member businesses offer a powerful knowledge base and source of mutual support. So, whether you’re a brand-new local startup seeking promotional resources, an established firm seeking high-tech R&D services, or anything in between, chances are that the Greater Catonsville Chamber of Commerce can help you to find what you need.

Program Services:
- **Marketing:** Chamber Directory and Community Guide, Website Advertising, Website Calendar Event Posting, E-view newsletter, Monthly Featured Member Profile, Member-to-Member Discount Program, Newsletter Inserts, Event Sponsorships, Welcome to Catonsville, July 4th, & Holiday Banner Sponsorship Program, Catonsville Garden and Frederick Road Planters Sponsorships
- **Networking:** Networking Mixers, County-wide MEGA Mixers, General Luncheon Meetings
- **Educational Seminars:** Lunch & Learn General Meetings, Economic Development Seminars, Annual Legislative Seminar
- **Community Outreach:** Taste of Catonsville & ReDiscover Catonsville Restaurant Week, Sunday Farmers Market, Frederick Road Fridays Concert Series, Annual Crab Feast, Catonsville Arts & Crafts Festival

Program Name: The Greater Catonsville Chamber of Commerce hosts the following major events:
- Taste of Catonsville & ReDiscover Catonsville Restaurant Week, Sunday Farmers Market
- Catonsville Flower Fest & Garden Party
- Outstanding Teachers Awards, Frederick Road Fridays Concert Series, Annual Crab Feast, Catonsville Arts & Crafts Festival
- Annual Business Awards, Holiday Party

Membership: 345 members.
Founded: 1946

Harford County Chamber of Commerce
108 South Bond Street
Bel Air, MD 21014

WEBSITE: www.harfordchamber.org

KEY STAFF: Robim Sommer, Chair of the Board, info@harfordchamber.org, (410) 838-2020
FIRST CONTACT: Liz Jeppi, Administrative Assistant, liz@harfordchamber.org, (410) 838-2020

Overview: The Harford County Chamber of Commerce’s mission is to foster an environment in which our economy and businesses thrive and prosper and by so doing, continually improve the quality of life. It is the vision for the Harford County Chamber of Commerce to be a preferred advocate and recognized voice of business in Harford County through member services and programs.

Program Services: Membership networking, marketing and advertising opportunities; Partnerships with key county and state agencies that support economic development; Pro-business action on legislative issues, taxes, and regulations though an active legislative committee; Standing committees that support the mission of the Chamber; Administration of Education Foundation.

Program Name: Harford County Chamber of Commerce hosts the Annual Dinner in February, the Military Appreciation Luncheon in May, and also the Harford Award in September.

Membership: 750 businesses.
Qualifications: operating as a business.
Founded: 1976
High Street Partners, Inc. (HSP)

222 Severn Avenue
Building 14, Suite 100
Annapolis, MD 21403

WEBSITE: www.hsp.com

KEY STAFF: Larry Harding, President and Founder, lharding@hsp.com, (410) 263-7400; Scott Preston, CFO, spreston@hsp.com, (410) 263-7400

FIRST CONTACT: Parag Sheth, Director, psheth@hsp.com, (703) 732-2812

Overview: HSP is the leader in international business software and services. For companies that are expanding or operating overseas, we extend the capabilities of HQ-based Finance, HR and Legal personnel, by offering cloud-based software, and a single point of accountability across lifecycles, functions and geographies.

Program Services: HSP provides Setup, Recurring, Compliance, and Advisory services. HSP OverseasConnect® – a cloud-based platform for the management, control and reporting of overseas operations – and HSP Overseas Direct - a service bundle – handle all required recurring activities. Advisory services address the ad hoc, non-recurring and broad range of often overwhelming issues.

Program Name: HSP regularly hosts webinars. More information can be found at www.hsp.com/hsp-in-action/events

Founded: 2003

Howard County Chamber of Commerce

5560 Sterrett Place, Suite 105
Columbia, MD 21044

TELEPHONE: (410) 730-4111

WEBSITE: www.howardchamber.com

KEY STAFF: Pamela Klahr, president and CEO, pklahr@howardchamber.com

FIRST CONTACT: info@howardchamber.com

Overview: The Howard County Chamber of Commerce is a nonprofit membership organization of more than 650 businesses in Howard County and throughout the region. We support the growth and success of our members by serving as the voice of business, providing information, education and resources, and facilitating connections.

Program Services: The Chamber offers networking opportunities, informative events and programs, educational and other resources, and affinity programs (such as the energy co-op and Chamber Power coupon site). It also advocates for public policies at the state and county level that support of the business community.

Program Name: The Chamber hosts five Member Luncheons per year with speakers of interest to the business community, a Cyber Conference in the Spring, Legislative Breakfasts at the beginning and end of the state legislative session, an Economic Forecast Breakfast in December, The gala Signature Event in September and a Holiday Party, as well as Mixers and smaller networking events.

Membership: 650 member businesses, Annual membership ranges from $200 to $3500, depending on the size and nonprofit status of the business.

Qualifications: Membership is open to businesses of all sizes and locations. Once a business joins, all of the employees of that business may take advantage of the benefits of membership.

Founded: 1969

Maryland Procurement Technical Assistance Program

7100 Baltimore Avenue, Suite 402
College Park, MD 20740

WEBSITE: www.mdptap.org

KEY STAFF: Director, Denise Warner, dwarner1@umd.edu, (301) 403-2739

FIRST CONTACT: Coordinator, Candice Richardson, ptapadmin@umd.edu, (301) 403-2740

Overview: The Procurement Technical Assistance Program (PTAP) was authorized by Congress in 1985 in an effort to assist small businesses in participating in the Government Marketplace. The Maryland PTAP opened its doors in 2002. The Maryland PTAP is administered directly by the Maryland Small Business Development Center, and funded by the State of Maryland, the Defense Logistics Agency, and hosted by the University of Maryland in College Park.

MISSION: The PTAP's mission is to maximize the number of capable U.S. companies participating in the government marketplace by:

• Providing businesses with an understanding of the requirements of government contracting and the market know-how they need to obtain and successfully perform federal, state, and local government contracts.
• Supporting government agencies in reaching and working with the suppliers they need.

**PTAP GOALS:** To improve local economies by helping Maryland businesses successfully compete for government contracts, thereby creating and retaining jobs and bringing other economic benefits to the state. To support government agency efforts to meet their mandated small business goals for contracting dollars.

**Program Services:** Information on federal/state/local procurement opportunities. Advice for obtaining solicitations, references, specifications, and drawings from buying offices. Assistance with preparation of bidders mailing list applications. Market research to locate government agencies who buy your products or services. Help in locating subcontracting opportunities. Access to library of federal, state, and local procurement resources. Support with bid package preparation. Pre/post-award contract assistance. Aid with electronic commerce/electronic data interchange. Guidance for small minority, women-owned, and disabled veteran certifications. Referrals to other programs or activities to support businesses when appropriate. Training workshop and webinars

**Program Name:** PTAP regularly host Training Events and Meet the Prime Contractor Events

**Membership:** You must be a PTAP Client to receive the majority of PTAP services. There are 576 Active Clients. There is no cost to the small businesses who receive the majority of these services.

**Qualifications:** Any business may receive PTAP services provided it has a product or service that has reasonable expectation of being procured under government contract or purchase order.

**Founded:** 2002

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**Mayor’s Office of Minority and Women-Owned Business Development (MWBD)**

City Hall, Room 229A
100 N. Holliday Street
Baltimore, Maryland 21202

**WEBSITE:** www.mwbd.baltimorecity.gov

**FIRST CONTACT:** Sharon Pinder, Director, sharon.pinder@baltimorecity.gov, (410) 396-3818

**Overview:** The Mayor’s Office of Minority and Women-Owned Business Development (MWBD) serves as the City of Baltimore’s advocate for small, local, minority and women-owned companies including prime contractors, subcontractors, and joint venture partners.

**Program Services:** MWBD provides the following services

- **Advocacy** - advocacy and technical assistance for small, local, minority-owned and women-owned companies seeking to do business with the City of Baltimore by expanding contracting opportunities and increasing the procurement dollars spent with minority and women-owned companies.

- **Policy** - direction and guidance to agencies procuring products and services.

- **Outreach and Marketing** - outreach to assist in forging strong business alliances, building capacity, accessing assistance, resolving problems with or barriers to compliance with Article 5, Subtitle 28 of the Baltimore City Code (2007 Edition).

**Program Name:** MWBD provides networking opportunities at the following annual events: Procurement and Outreach Fair, Women’s Business Forum, CEO Summit Series, Top 100 MBE Awards, Franchise Seminar, Vendor Development Seminar Series

**Founded:** 2001

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**Montgomery County Chamber of Commerce**

51 Monroe Street Suite 1800
Rockville, MD 20850

**TELEPHONE:** (301) 738-0015

**WEBSITE:** www.mcccmd.com

**KEY STAFF:** Jonathan Sachs, jsachs@mcccmd.com

**Overview:** The Montgomery County Chamber of Commerce of Maryland (MCCC MD) represents the diverse and innovative economic business of Montgomery County. Active Montgomery County Chamber membership includes small, medium, and large organizations representing a variety of businesses and industries. MCCC assists members in succeeding through advocacy, programs, and events.

The Chamber also hosts 3 forums four times a year to provide business with access to experts and information on topics such as Health, IT, Global Trade, and Green Business.
National Association of Women Business Owners
Baltimore Regional Chapter

2400 Boston Street, Suite 102
Baltimore, MD 21224

TELEPHONE: (410) 876-0502
WEBSITE: www.nawbobrc.org

KEY STAFF: Janine M. DiPaula Stevens, NAWBO BRC President, info@nawbobrc.org
FIRST CONTACT: Rose Kendig, Administrator, info@nawbobrc.org

Overview: National Association of Women Business Owners is an organization which works to:

1. Strengthen the wealth-creating capacity of its members and promote economic development;
2. Create innovative and effective changes in the business culture;
3. Build strategic alliances, coalitions, and affiliations; and
4. Transform public policy and influence opinion.

Program Services: strategies and advice from other women business owners to grow businesses, build relationships and partnerships with other women entrepreneurs, and help shape policy at the local, state, and federal levels

Program Name: Woman of the Year & Scholarship, Welcome Back to NAWBO, Procurement events

Membership: Approximately 100 members. $90 annual dues for chapter membership AND $150-$220 annual dues for national membership, based on varying level of involvement.

Qualifications: NAWBO® Membership is open to individual business owners who own an equity interest and actively participate as a sole proprietor; an active partner of a partnership or active member of a limited liability company; and independent contractor; or individual owners of 5 percent or more of the stock of a corporation and who are involved in policy-making and day-to-day management of the corporation. Must also join the national organization.

Northeastern Maryland Technology Council (NMTC)

The Higher Education Center
1201 Technology Drive
Aberdeen, MD 21001

WEBSITE: www.nmtc.org

KEY STAFF: John Casner, Executive Director, john.casner@nmtc.org, (443) 360-9132
FIRST CONTACT: Mary Paramore, Executive Assistant, mary.paramore@nmtc.org, (443) 360-9134

Overview: NMTC’s origins began the summer of 1991, after a year’s worth of informal conversations and meetings. A handful of individuals from academia, industry and local government arranged a small meeting to focus on a vehicle to spur local technology education and cooperative industry growth. This gap was also felt by the area’s largest existing employer at the time, Aberdeen Proving Ground. APG was then supporting the growing technology demands of soldier protection in the aftermath of Desert Storm. The NMTC was fully incorporated in 1992.

Program Services: Connect Decision Makers to peers and leaders in member organizations, Champion STEM Education in grades K-20 and beyond, Contribute to Economic Growth in the Susquehanna region of MD, PA and DE, Coordinate Information Resources for member’s benefit, Assist and advise with technology transfer

Program Name: NMTC sponsors annual Visionary Awards as a forum to celebrate our neighbors and colleagues making a difference in STEM education and to Technology Advancement in our community,
NMTC also sponsors an annual Golf 4 STEM Golf Tournament and a Wine Tasting to raise funds for STEM scholarships, including two, $1,000 Warren E. Mullins Scholarships at Harford Community College and at Cecil College.
Each month NMTC hosts the Expert Speakers Series to provide its members cutting edge technological information as well as a networking opportunity.
During the school year, NMTC sponsors the NMTC Science Café in Cecil and Harford counties, to make complicated science topics accessible to the general public.
NMTC sponsors a monthly YAH – You After Hours – networking happy hour to foster new relationships among tech providers and people with an interest in promoting STEM education.
NMTC also sponsors a Growing Business Roundtable, an advisory group to its members providing practical guidance to member challenges and opportunities. The target is NMTC’s small business members. Each group is limited to non-competing members and in size, to assure the maximum sharing of information and advice, in a confidential forum.

Membership: More than 100 member organizations, with more than 1,000 individuals on our contact roster. Cost depends on number of employees, from $175 to $1900.

Qualifications: Interest in furthering NMTC’s sponsored STEM Summit and its education initiatives and furthering economic development through technology growth

Founded: 1991
LOCAL SCORE CHAPTERS

The Greater Baltimore SCORE Chapter
“SCORE-COUNSELORS TO AMERICA’S SMALL BUSINESSES”

Small Business Administration
10 South Howard Street, 6th Floor
Baltimore, Maryland 21201

TELEPHONE: (410) 962-2233
WEBSITE: www.greaterbaltimore.score.org

KEY STAFF: Harold Rappoport, Chairman, Greater Baltimore SCORE Chapter, harold.rappoport@scorevolunteer.org, (410) 730-9555

FIRST CONTACT: To obtain information on workshops and other information regarding Greater Baltimore SCORE, call the main office in Baltimore on 10 Howard Street.

Overview: The mission of SCORE is to grow successful small businesses across America. In keeping with this mission, the Greater Baltimore SCORE seeks to grow small businesses across the Greater Baltimore area. Greater Baltimore SCORE seeks to enhance the small business community and maximize the small business successes

Program Services: The Greater Baltimore SCORE Chapter provides confidential face to face individual counseling at several counseling sites and telephone counseling for business start-ups and businesses already in existence, training workshops for small business owners in the technical and managerial aspects of a business, distribution of technical and business information, and attendance at various events for the dissemination of information along with other organizations serving small businesses and the Small Business Administration.

Program Name: The Baltimore SCORE Chapter holds a series of workshops regularly entitled “Simple Steps for Starting Your Business” and “Starting a Successful Business”. In addition, The Greater Baltimore Chapter supports major SBA functions in the Baltimore area such as Small Business Resource Day.

Membership: Approx. 60 members in the Greater Baltimore SCORE Chapter

Qualifications: No Cost. Members are retired or working executives, small business owners, educators, or other professionals. Members participate in a training program regarding the SCORE counseling and other requirements and must be willing to volunteer to assist with counseling, marketing, outreach, administrative tasks, and/or workshops.

Founded: SCORE was formed in 1964 as a resource partner with the U.S Small Business Administration (SBA). The Greater Baltimore Chapter is the third oldest chapter in the SCORE Association, started in 1965

Southern Maryland SCORE Chapter 390

49 Old Solomons Island Road, Suite 204
Annapolis, MD 21401

WEBSITE: southernmaryland.score.org and www.score390.org

KEY STAFF: Damien Wanner, Chapter President, damienwanner@aol.com, (301) 645-8405

FIRST CONTACT: SCORE Mentor, info@score390.org, (410) 266-9553

Overview: SCORE volunteers provide confidential business mentoring services, both in person and online. We lead seminars and workshops to help small business owners meet their goals and achieve success. We help expand outreach of SCORE through marketing and alliance building in our local communities. We provide subject matter expertise by industries and professional skills.

Program Services: One-on-one Business mentoring, training on business topics useful to small businesses via seminars and workshops.

Membership: 39 members

Qualifications: Members must have an email address and the ability to communicate effectively orally or in writing.

Whether a candidate has owned a small business, come from a Fortune 500 company, retired, college student, have a sincere commitment for helping small businesses or volunteering, there is a place for you as SCORE volunteer. Share your success and expertise through: 1. mentoring; 2. Lead workshops and seminars; 3. Provide online or telephone mentoring directly from your home or office; 4. Serve in a leadership capacity with SCORE; or 5. Serve within other capacity at SCORE (Marketing, IT, administration, finance, fundraising, HR, etc.)

Founded: 1989
Washington, DC SCORE
740 15th Street N. W. Washington, DC 20005
TELEPHONE: (202) 272-0390
WEBSITE: www.score.org/

Overview: SCORE is a nonprofit association dedicated to helping small businesses get off the ground, grow and achieve their goals through education and mentorship.

LOCAL SMALL BUSINESS DEVELOPMENT CENTERS

Small Business Development Centers (SBDC)
Carroll Community College
1601 Washington Road
Westminster, MD 21157
WEBSITE: www.mdsbdc.umd.edu/
KEY STAFF: Amy Wallace, awallace@ccg.carr.org, (410) 808-7492 (office), (410) 386-8133 (cell)
Overview: Small Business Development Network that helps over 500,000 U.S. businesses annually, the SBDC has a history of successful business assistance. It is the breadth of the SBDC services and depth of experiences that enable the network to meet the ever-changing needs of prospective and existing small businesses interested in achieving growth and profitability, whether in traditional or emerging industries. Through practical experience and continual professional development, consultants have the knowledge and insight to help resolve client problems and assist in the development and implementation of their strategies.
Program Services: One-on-one confidential business counseling for existing and start-up businesses. Key areas of counseling include, but are not limited to:
• Development of business and strategic plans
• Feasibility and market studies
• Sourcing capital
• Technology transfer programs
• Export/Import consulting
Program Name: Business Training and Education
Available Capital: We assist businesses in acquire financing.
Founded: We are a part of the a national SBDC network—founded in 1979

Maryland Small Business Technology Development Center (SBTDC)
7100 Baltimore Avenue, Suite 410
University of Maryland
College Park, MD 20740
TELEPHONE: (301)-209-2125 ext. 52
WEBSITE: www.mdsbdc.umd.edu

KEY STAFF: Ralph Blakeney – Technology Industry Manager
Overview: The Maryland Small Business Technology Development Center through its "Technology Support Program" provides entrepreneurs with expanded assistance in: market research, identification of and assistance in preparation for alternate sources of funding, patent & trade mark guidance; SBIR preparation assistance, technology transfer and other commercialization support services. These services are augmented by one-on-one counseling and specialized skills training for start-up, seed and early stage technology companies.
Maryland Small Business & Technology Development Center – Central Region

University of Baltimore
11 W. Mount Royal Avenue, Suite 104
Baltimore, MD 21201

WEBSITE: www.centralmdsbdc.org

KEY STAFF: Kiesha Haughton Smoots, Regional Director

FIRST CONTACT: Gabriel Omaru, Intake Specialist

Overview: Since 1988, the seasoned staff of the Maryland Small Business & Technology Development Center (MDSBTD C) Network has provided sound advice, counseling and support to entrepreneurs and small to mid-size businesses across the state. The Network, a partnership between the U.S. Small Business Administration and the University of Maryland College Park, links private enterprise, government, higher education and local economic development organizations to provide management, training and technical assistance to Maryland’s small businesses. As part of a national SBDC Network, the MDSBTD C has rapid access to a number of information resources to deliver assistance that strengthens businesses, thereby contributing to the growth of local, state and national economies.

Program Services: Confidential & cost free one-on-one counseling, Training, Technical Assistance

Program Name: We have two annual events: Open House and Export Conference

Founded: 1988

The Tech Council of Maryland

9210 Corporate Boulevard, Suite 470
Rockville, MD 20850

TELEPHONE: (240) 243-4026

WEBSITE: www.techcouncilmd.com

KEY STAFF: Wendy Dudrow, Director of Programs, wdudrow@techcouncilmd.com, (240) 243-4050; Brian Gaines, CEO, MDBIO Foundation, bgaines@mdbiofoundation.org

Overview: The Tech Council of Maryland (TCM) is the largest technology trade association in Maryland with more than 500 members and representing 250,000 people in Maryland and the region. TCM has two primary divisions: MdTech, which services the advanced technology community, and MdBio for the region's biotechnology community. TCM is the leading organization in the mid-Atlantic for providing professionals access to the technology and biotechnology industry leaders from Maryland, DC and Virginia. TCM helps the region’s technology organizations grow through activities such as regularly scheduled and robustly attended networking events, cost-saving programs, and advocacy initiatives. TCM’s mission is to promote the technology industry and to create an environment where technology companies can collaborate, grow, succeed and thrive. TCM is also able to serve the tech and biotech community through assets like the Maryland Health Care Product Development Corporation (MHCP-DC), which provides early-stage investment in biomedical technologies and the MdBioLab program, which is a mobile bioscience laboratory that visits Maryland high schools to teach science literacy.
Towson Chamber of Commerce, Inc.
44 W. Chesapeake Ave
Towson, MD 21204

TELEPHONE: (410) 825-1144
WEBSITE: www.towsonchamber.com

KEY STAFF: Nancy Hafford Executive Director, info@towsonchamber.com

Overview: The Towson Chamber of Commerce is a nonprofit membership organization that promotes business in Towson and thought out Baltimore County. We are support our business community by fostering a strong relationship with the local residential community and are a liaison between our county government.

Program Services: In 2011 the Towson Chamber was able to put back over $100,000 into our community through the following.

Towson Chamber Investments:
• Towson Beautification Program: Towson Chamber of Commerce hung 60 flower baskets, installed 250 knock out roses and provided weekly maintenance throughout the season. Provide a worker for 30 hours per week to clean the sidewalks and streets
• Towson Farmers Market, Thursdays: Bring out between 5,000 & 10,000 people per week. Feet on the Street Block Parties: Average 2,000 people per Friday night
• Scholarships to local High Schools
• Towson Gardens Day: Average 10,000-12,000 patrons
• Recycling Trash Cans: Only re-cycled cans provided in of Baltimore County
• WinterFest Activities throughout December: Bring over 15,000 people into town during the holiday season
• Towsontown Spring Festival: Bring over 200,000 people into town for the weekend
• Contributions to Community Service Projects: Through contribution to the Baltimore County Public Schools, Towson Chamber gives over $4,000 to provide seasonal original artwork to fill vacant storefront windows
• Chamber representation at Towson University & GTCCA
• Bi-annual Community Clean-ups: Towson Chamber organizes hundreds of students, residents and business owners providing thousands of dollars of much needed maintenance in the area
• Produce the Annual Towson Chamber Directory
• Design & Distribute Towson Street Maps
• Street Banners

Your membership dues not only benefit you as a business person, but contribute to maintaining the quality of life in Towson

Description: It is not enough to have a wonderful idea. Without support and commitment from you and others like you, even the most wonderful idea may wither and die. The Towson Chamber, Inc., from its inception over 47 years ago, has enjoyed the benefit of many people working together with a common goal, to improve and enhance Towson. The Chamber consistently fosters a higher quality of life for all who work and live in the area. Through the good works of our membership, Board of Directors, volunteers, staff, members of the residential community and Baltimore County Government, the Chamber has most assuredly made an indelible mark on this community.

We believe the success of our business community is the keystone to a healthy economy. Our organization's first mission is to promote area businesses and assist them in their success through our Chamber referral system, our specifically designed membership educational programs and our comprehensive networking opportunities.

The Towson Chamber of Commerce represents the best Towson has to offer. We encourage members to utilize the services and products of our member businesses. These are companies that not only produce quality products and offer excellent service, but also understand the importance of community involvement.

The Towson Chamber continues to strive for excellence. We plan to retain the wonderful long established community programs now considered tradition among the residents of this area. Unsatisfied with status quo, we also look toward developing exciting new programs in 2012/2013, with the purpose of enriching the members of our organization and our community.

We thank you for your continued support and would like to share with you on page two, some of the benefits and contributions the Chamber offers. — Nancy Hafford, Executive Director

Membership: 400 Members and costs are $200-$700 depending on the size
Qualifications: Our membership is open to all business and individuals that want to support our community.
Founded: 1964
U.S. Export Assistance Center, Baltimore Office
300 West Pratt Street, Suite 300
Baltimore, MD 21201

TELEPHONE: (410) 962-4593
WEBSITE: export.gov/maryland/

KEY STAFF: Martin Herbst, Senior International Trade Specialist, Martin.Herbst@trade.gov

Overview: The Baltimore U.S. Export Assistance Center (USEAC) serves companies in the entire Maryland State. By leveraging our global network of 165 offices in 82 countries around the world as well as a multitude of local and national partners, we connect exporters to buyers. Our in-depth industry and tradecraft counseling coupled with an array of exporting services allows us to specialize in providing customized international business solutions.

We combine these resources of the Commercial Service with the finance expertise of the Small Business Administration and local economic development offices to provide information on all Federal programs designed to support international trade.

Program Services:

TRADE COUNSELING
- **Planning and Strategy**: Create a comprehensive international business plan for entry or expansion into targeted markets. Get ideas and cost-effective solutions to help achieve your business goals.
- **Legal and Regulatory Issues**: Determine export licensing needs for shipping your products. Understand and comply with global product standards, certification requirements, electricity regulations, and packaging laws. Learn how to avoid intellectual property rights issues and legal disputes.
- **Documentation and Product Requirements**: Learn about export documents, including Electronic Export Information filing, invoices, packing lists, and certificates of origin. Verify the tariff rate for your product, as well as any import fees for a particular market. Determine your product’s Schedule B and HS numbers.
- **Trade Problems**: Get assistance with customs-related issues. Obtain support from our Advocacy Center if your company’s exports or foreign bids are adversely affected by a trade barrier or by market access issues. Learn how to limit the risk of non-payment, and receive counseling if problems arise.
- **Trade Finance and Insurance**: Formulate an export finance strategy leveraging loan programs provided by the Export-Import Bank of America, the Small Business Administration, and other trade finance organizations to reduce risk and enable your company to offer competitive terms of sale. Get guidance on pricing your products and services to ensure competitiveness in your target markets while maximizing your profits.

BUSINESS MATCHMAKING
- **Contact Lists**: Identify potential partners. Market your firm directly to local companies.
- **Partner Search**: Identify potential partners and get detailed company reports. Determine the marketability of your product or service.
- **Personalized Business Matchmaking**: Meet one-on-one with pre-screened buyers, sales representatives, and business partners through our Gold Key Service. Leverage customized market briefings, research, and advice.
- **Trade Shows**: Use our International Buyer Program to meet with pre-screened buyers and receive export counseling at major U.S. trade shows. Exhibit in the U.S. Pavilion at our Certified Trade Fairs. Let us distribute your marketing literature at international trade shows.
- **In-Country Promotions**: Leverage customized venues to reach potential partners and buyers. Advertise in our official catalog, Commercial News USA, of U.S. suppliers sent to nearly 400,000 international companies. Feature your company on our local-language Web sites.

MARKET INTELLIGENCE
- **Country and Industry Reports**: Get accurate and detailed information—at no cost—from more than 100,000 country and industry market reports, written by our in-country trade professionals. Receive updates on new regulations, business trends, and government-financed projects.
- **Customized Market Research**: Gauge the sales potential for your products or services with individualized reports on global markets. Discover which factors influence prospective customers, identify your competitors, and obtain pricing for comparable products.
- **Background Reports**: Learn about potential partners from our trade professionals working in the target markets. Order an international company report containing available sales, profit figures, potential liabilities, and other financial information.
- **Trade Data and Analysis**: Get the latest annual and quarterly trade data by country, state, commodity, and year. Find industry-specific trade data and analysis. Obtain country-specific tariff and trade agreement information.
University of Maryland BioPark

801 West Baltimore Street
Baltimore, MD 21201

TELEPHONE: (410) 706-5592
WEBSITE: www.umbiopark.com

KEY STAFF: Jane Shaab, UM BioPark, (410) 706-8282
FIRST CONTACT: info@umbiopark.com

Overview: For early-stage to mature bioscience companies, the BioPark offers a sophisticated laboratory and office environment on the University’s vibrant academic medical center campus. The BioPark is a thriving community of life science companies, translational research centers, contract research organizations, and focused educational programs. The 12-acre research park will include 1.8 million square feet of wet lab, office and clinical space, parking garages and landscaped parks at final build-out.

Program Services: From access to the University of Maryland’s 1,200 biomedical faculty researchers, cores, and facilities to commercial providers of contract research services located in the BioPark, many of the tools and expertise needed to advance your business are right here.

The Park includes a host of services to support early stage companies:

- A growing network of bioscience experts, including 25 tenants who employ 550 people
- An 8,500 square foot BioInnovation Center offers in-demand pre-built lab and office suites for early stage companies
- A workforce training institute for life sciences in partnership with Baltimore City Community College
- The Baltimore campus of the University of Maryland Smith School of Business with 200 MBA students in training

Park Amenities: Entrepreneurs in Residence, Fitness Center, Commercial Bank, Café and Patio Wine Bar, Conference Center, Garage Parking, Landscaped Park, 24/7 Police Station, Events & Programs

Founded: 2003
FEDERAL RESOURCES

Food and Drug Administration

10903 New Hampshire Avenue
Silver Spring, Maryland 20993

TELEPHONE: 1-888-INFO-FDA (1-888-463-6332)
WEBSITE: www.fda.gov/

KEY STAFF: Alice Y. Welch, CRADA Contact, alice.welch@fda.hhs.gov, (301) 796-8449

Overview: The FDA is responsible for protecting public health by assuring the safety, efficacy and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that emit radiation. FDA is also responsible for the progression of the public health by helping to develop medicines more effective, safer, and more affordable and by helping the public get the accurate, science-based information they need to use medicines and foods to maintain and improve their health.

Program Name: Technology Transfer Program (FDATT)

>> Description: FDA Technology Transfer Program (FDATT) provides current policies and procedures to assist the FDA community and potential collaborators to develop and transfer federal technology to the commercial marketplace.

FTTA created the mechanism for such collaborations, the cooperative Research and Development Agreement (CRADA), and provided incentives for: Federal scientists (royalties from licensed inventions), Federal laboratories (additional research resources and expertise), and CRADA partners (exclusive licenses for patented inventions).

The FTTA makes it responsibility of each technical employee, as well as the Agency's management structure, to develop opportunities to transfer technology. The Agency continues to strongly support collaborative research and development under CRADAs that are within FDA's mission and that may result in patents and licenses which promote public health.

FOOD AND DRUG ADMINISTRATION LABS

Center for Biologics and Evaluation Research (CBER)

1401 Rockville Pike, Suite 200N
Rockville, Maryland 20852

TELEPHONE: (301) 827-1800
WEBSITE: www.fda.gov/BiologicsBloodVaccines/default.htm

KEY STAFF: Mr. Dano Murphy, Laboratory Representative, murphyd@cber.fda.gov, (301) 827-0801

FIRST CONTACT: Industry.Biologics@fda.gov

Overview: The Center for Biologics Evaluation and Research (CBER) has established a Manufacturers Assistance and Technical Training Branch to provide assistance and training to industry, including large and small manufacturers and trade associations, and to respond to requests for information regarding CBER policies and procedures. Manufacturer assistance is available in numerous areas including: clinical investigator information, adverse event reporting procedures, electronic submissions guidance and requirements, and information on how to submit an Investigational New Drug Application (IND) to administer an investigational product to humans.

Areas of Expertise: Analytical Chemistry, Biophysics, Smallpox Vaccination, Vaccine Safety, Vector borne viral diseases, Viral products, Enteric and sexually transmitted diseases, Tumor vaccines and biotechnology, Gene transfer and immunogenicity, Hematology, Hepatitis and related emerging agents, Hepatitis viruses, Molecular virology, Mycobacterial diseases and cellular immunology, Pediatric and respiratory viral diseases, Pharmacogenomic and proteomic data analysis, Plasma derivatives, Respiratory and special pathogens, Retrovirus research

Center for Drug and Evaluation Research (CDER)

10903 New Hampshire Avenue
Life Sciences Building 64, Rm 2076
Silver Spring, Maryland 20993

TELEPHONE: 1-888-INFO-FDA (1-888-463-6332)
WEBSITE: www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/default.htm

KEY STAFF: Dr. Joseph Hanig, Laboratory Representative, joseph.hanig@fda.hhs.gov, (301) 796-0079; Small Business Contact, CDERSmallBusiness@fda.hhs.gov, (301) 796-6707

Overview: Small pharmaceutical business is integral in bringing innovative medical products to the U.S. marketplace. The purpose of this website is to support the CDER Small Business Assistance Program’s mission of promoting productive interaction with regulated industry by assisting regulated domestic and international small pharmaceutical business seeking timely and accurate information relating to development and regulation of human drug products.

Areas of Expertise: Generic Drug Review, New Drug Development and Review, OTC drug review, Post drug approval process
Center for Devices and Radiological Health (CDRH)

10903 New Hampshire Ave., WO-66-4303
Silver Spring, Maryland 20993

**TELEPHONE:** (301) 796-7100
**WEBSITE:** www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDRH/default.htm

**KEY STAFF:** Dr. Michelle Chenault, Laboratory Representative, v.chenault@fda.hhs.gov, (301) 796-5679; DSMICA, dsmica@fda.hhs.gov, (301) 796-7100

**Overview:** The Center for Devices and Radiological Health (CDRH) is responsible for protecting and promoting the public health. The CDRH assures that patients and providers have timely and continued access to safe, effective, and high-quality medical devices and safe radiation-emitting products. Also, the CDRH provides consumers, patients, their caregivers, and providers with understandable and accessible science-based information about the products we oversee. Finally, the CDRH facilitates medical device innovation by advancing regulatory science, providing industry with predictable, consistent, transparent, and efficient regulatory pathways, and assuring consumer confidence in devices marketed in the U.S.

**Program Name:** Division of Small Manufacturers, International and Consumer Assistance

**Description:** DSMICA assists with questions on a variety of topics including the following: Status of Submission, Premarket Notification, Adverse Events Reporting including Medical Device Reporting (MDR), Accredited Persons and Third Party Inspection, Biocompatibility, Bioresearch Monitoring Program, Classification of Medical Devices, Consumer Assistance, Corrections and Removals, Design Controls, Electronic Products Radiation Control, Establishment Registration, Export Requirements, Good Clinical Practice, Small Business Determinations, Regulatory Requirements to Market a Medical Device, Regulations, and In Vitro Diagnostic Products

**Program Name:** External Expertise and Partnerships (EEP)

**Description:** CDRH collaborates with experts in the academic community, government entities, clinical practice, and industry. EEP's mission is to advance public health by acquiring specialized expertise and material resources that support scientific and clinical evaluations conducted in the offices of CDRH. EEP is divided to three components: The Medical Device Fellowship Program (MDFP), Partnerships and Technology Transfer, and the Critical Path Initiative.

**Areas of Expertise:** Glucose monitors, Home Health care, Human genome project, Nanotechnology, Pacemakers, Prosthetics, Endoscope camera alternatives

Center for Food Safety and Applied Nutrition (CFSAN)

HFS-669 6021, 200 C Street SW
Washington, DC 20204

**TELEPHONE:** 1-888-SAFE-FOOD
**WEBSITE:** www.fda.gov/aboutfda/centersoffices/officeoffoods/cfsan/default.htm

**KEY STAFF:** Ms. LaQuia Geathers, Laboratory Representative, laquia.geathers@fda.hhs.gov, (301) 436-2821

**Overview:** The Center for Food Safety and Applied Nutrition (CFSAN) is a product-oriented center that carries out the mission of the Food and Drug Administration (FDA). The Center provides services to consumers, domestic and foreign industry and other outside groups regarding field programs; agency administrative tasks; scientific analysis and support; and policy, planning and handling of critical issues related to food and cosmetics.

**Areas of Expertise:** Biotechnology, Toxic metals, TSE-type diseases, Food allergens, Foodborne illness, Hazard Analysis and Critical Control Point, Naturally occurring toxins

CENTRAL MARYLAND BIOHEALTH ENTREPRENEUR'S RESOURCE AND FINANCE GUIDE
THE NATIONAL INSTITUTES OF HEALTH

Eunice Kennedy Shriver National Institute of Child Health and Human Development

NICHD Information Resource Center
P.O. Box 3006
Rockville, Maryland 20847

TELEPHONE: 800-370-2943
WEBSITE: www.nichd.nih.gov/

KEY STAFF: Eugene G. Hayunga, Ph.D. Office of Extramural Policy, ehayunga@mail.nih.gov, (301) 435-6856; Charlotte McGuinness, CRADA Contact, mcguinnc@mail.nih.gov, (301) 435-3130; Susan Streufert, streufes@mail.nih.gov

Overview: The NICHD conducts and supports research on topics related to the health of children, adults, families, and populations. Some of these topics include: Reducing infant deaths, improving the health of women, men, and families; Understanding reproductive health and fertility/infertility; Learning about growth and development; Examining, preventing and treating problems of birth defects and intellectual and developmental disabilities; and Enhancing well-being of persons through the lifespan with optimal rehabilitation research.

Program Name: Small Business Innovation Research Grant

>> Description: R43/R44 is a two-phase mechanism that supports a small business concern performing innovative research. The first phase (R43) establishes the technical/scientific merit and feasibility of the project, and the second phase (R44) develops the project’s commercial viability.

Program Name: Small Business Technology Transfer Grant

>> Description: R41/R42 is a two-phase mechanism that supports innovative research conducted cooperatively by a small business concern and a research institution. The first phase (R41) establishes the technical/scientific merit and feasibility of the project, and the second phase (R42) develops the project’s commercial viability.

Program Name: Partnership with the NICHD

>> Description: Public-Private Partnerships (PPP) involve the NIH in collaboration with any of a wide range of other organizations, including (but not limited to) patient advocacy groups, foundations, pharmaceutical or biotechnology companies, and academic institutions. Partnerships may take many forms and range widely in size and scope. Partnership activities center on the shared goals and mandates of the partners, leveraging knowledge, skills, resources, and services to achieve synergy.

Other Program Names: Research Cooperative Agreement, Cooperative Clinical Research, Cooperative Conference Grant/Conference Grant, Cooperative Research Program Project, Cooperative Specialized Research Center Grant

Fogarty International Center

31 Center Drive, MSC 2220
Bethesda, MD 20892

TELEPHONE: (301) 496-1415
WEBSITE: www.fic.nih.gov/

KEY STAFF: Dr. Roger I. Glass, Director, 301-496-1415; Dexter Collins, CRADA/MTA Contact, (301) 496-4625

Overview: The Fogarty International Center is dedicated to advancing the mission of the National Institutes of Health by supporting and facilitating global health research conducted by U.S. and international investigators, building partnerships between health research institutions in the U.S. and abroad, and training the next generation of scientists to address global health needs.

Program Name: Fogarty Center provides funding to perform research that includes grants for small businesses and training for researchers in a variety of global health topics.
Frederick National Laboratory for Cancer Research
1050 Boyles Street
Frederick, MD 21702

TELEPHONE: (301) 846-1108
WEBSITE: frederick.cancer.gov/

KEY STAFF: Karen Muszynski, Biological Resources Branch, muszynskik@ncifcrf.gov , (301) 846-1101

Overview: The Frederick National Laboratory is a Federally Funded Research and Development Center (FFRDC) operated by SAIC-Frederick, Inc. for the National Cancer Institute (NCI), part of the U.S. National Institutes of Health (NIH). FNL is a government-owned, contractor-operated facility, one of the nation’s 39 FFRDC’s and the only one devoted exclusively to biomedical research and development. Frederick National Lab provides quick response capabilities and meets special long-term research and development needs for NCI that cannot be met as effectively by existing in-house or contractor resources. The FFRDC also supports other institutes of NIH and wide range of research collaborations and partnerships with third parties, consistent with NCI’s mission.

Program Name: National Cancer Institute Biological Resources Grants and Contracts

>> Description: The subject matter of the funded grants in the BRB is in the area of biological agents, immunological concepts, and animal models for cancer treatment. For example, monoclonal antibodies (conjugated and unconjugated), cytokines, vaccines, gene therapy using a variety of vectors, delivery of biological agents, adoptive immunotherapy, innate immunity, bone marrow transplantation (including GVHD and GVL effects), antisense and siRNA therapy, specific animal models, and combination therapies are some of the grants the BRB funds. Although most of the grants are preclinical, some early Phase I pilot trials are also funded.

You may work with the any of the following laboratories: Cancer and Developmental Biology Laboratory, Laboratory of Cancer Prevention, Laboratory of Cell and Developmental Signaling, Chemical Biology Laboratory, Laboratory of Experimental Immunology, Gene Regulation and Chromosome Biology Laboratory, Macromolecular Crystallography Laboratory, Laboratory of Molecular Immunoregulation, Molecular Targets Laboratory, Nanotechnology Characterization Laboratory, Laboratory of Protein Dynamics and Signaling, Retroviral Replication Laboratory, Structural Biophysics Laboratory

Frederick National Lab Technology Transfer Branch
1003 West 7th Street
Frederick, MD 21701

TELEPHONE: (301) 846-5465
WEBSITE: web.ncifcrf.gov/

FIRST CONTACT: Bruce Crise, Director Business Development, FnlcrPartnershipDevOffice@nih.gov, (301) 846-5739

Overview: The Federal National Lab Technology Transfer Branch promotes technology transfer and scientific partnerships among National Institutes of Health (NIH) laboratories/scientists, industry, and academia. These scientific partnerships benefit the NIH laboratories and the partnering outside organizations by making personnel, services, facilities, expertise, material, and equipment accessible to both partners. The Technology Transfer Center merges scientific inquiry with commercial development through services including:

Transactional Agreements: Material Transfer Agreements (MTA); Confidential Disclosure Agreements (CDA); Collaboration Agreements (C-MTA); Clinical Trial Agreements (CTA); Cooperative Research and Development (CRADA)
National Cancer Institute
10 Center Drive
Bethesda, MD 20814

TELEPHONE: 1-800-4-CANCER
WEBSITE: www.cancer.gov/

KEY STAFF: Michael Weingarten, SBIR Resource Center, weingartenm@mail.nih.gov; Karen Maurey, CRADA Contact, maureyk@mail.nih.gov, (301) 496-0477; SBIR & STTR Programs, (240) 276-5530

Overview: The National Cancer Institute organizes the National Cancer Program, which conducts and supports research, training, health information dissemination and other programs with respect to the cause, diagnosis, prevention, and treatment of cancer, rehabilitation from cancer, and the continuing care of cancer patients and the families of cancer patients.

Program Name: National Cancer Institute Technology Transfer Center

>> Description: The NCI TTC provides a variety of services to support technology development activities for the National Cancer Institute and the NIH institutes served by TTC. The TTC negotiates transactional agreements with outside parties, including universities, pharmaceutical and biotechnology companies to ensure compliance with Federal statues, regulations and the policies of the National Institutes of Health.

Program Name: Small Business Innovation Research and Small Business Technology Transfer

>> Description: The goal of the NCI is to eliminate the suffering and death due to cancer. The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs are NCI’s engines of innovation for developing and commercializing novel technologies and products to prevent, diagnose, and treat cancer.

The SBIR & STTR Programs are some of the largest sources of early-stage technology financing in the United States. The STTR & SBIR Programs are similar in that both programs seek to increase small business participation and private-sector commercialization of technology developed through federal research and development. The SBIR Program funds early-stage research and development at small businesses. The unique feature of the STTR Program is the requirement for the small business concern applicant organization to formally collaborate with a research institution in Phase I and Phase II.

The NCI SBIR & STTR Programs fosters research and development for anticancer agents, biomarkers, informatics, medical devices, nanotechnology, proteomics, pharmacodynamics, and many other biotechnologies and programs designed to prevent, diagnose, and treat cancer.

Program Name: SBIR Resource Center

>> Description: The NCI SBIR Resource Center administers the SBIR and STTR programs for the National Cancer Institute. In addition, they offer the following resources for SBIR/STTR grantees:

• Commercialization Assistance Program
• NIH Niche Assessment Program for Phase I Awardees
• Regulatory Assistance Program

National Center Advancing Translational Services (NCATS)
9800 Medical Center Dr.
Building B, Room B3005
Bethesda, MD 20892

TELEPHONE: (301) 435-2688
WEBSITE: www.ncats.nih.gov

KEY STAFF: Thomas R. Insel, Acting Director (301) 443-3673; Lili M. Portilla, CRADA/MTA Contact (301) 217-2589

Overview: The mission of the National Center for Advancing Translational Services (NCATS) at the National Institutes of Health is to catalyze the generation of innovative methods and technologies that will enhance the development, testing and implementation of diagnostics and therapeutics across a wide range of human diseases and conditions.

Program Name: Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

>> Description: The Small Business Innovation Research program supports domestic small businesses through grants in developing research that has the potential for commercialization. The Small Business Technology Transfer grants also support research that results in products and/or services that benefit the public.

Program Name: Strategic Alliances for Technology Transfer

>> Description: The program aims to make it easy for industry and academia to interact and partner with NCATS laboratories and scientists. The branch provides a complete array of services to support NCATS technology development and partnership activities. These services include negotiating standard forms and model agreements between NCATS and outside parties including universities, pharmaceutical companies and biotechnology companies. These agreements provide for: The exchange of research materials under material transfer agreements (MTAs); Collaborative research conducted under cooperative research and development agreements (CRADAs); Clinical studies to determine the safety and efficacy of new agents under clinical trial agreements (CTAs); Exchange of confidential information under confidential disclosure agreements (CDAs).
National Center for Complementary and Alternative Medicine (NCCAM)

31 Center Drive, MSC 2182
Bethesda, MD 20892

TELEPHONE: 1-888-644-6226
WEBSITE: nccam.nih.gov/

KEY STAFF: George Tucker, Grants Management Officer, gt35v@nih.gov, (301) 594-8853

Overview: The mission of the National Center for Complementary and Alternative Medicine (NCCAM) is to define, through rigorous scientific investigation, the usefulness and safety of complementary and alternative medicine interventions and their roles in improving health and health care.

NCCAM encourages innovative technological research and development of commercializable products that would fulfill the mission of NCCAM. The application may include basic, pre-clinical, and early phase clinical studies. The areas of interest to NCCAM include but are not limited to development and validation of: technology for standardization and characterization of biologically active ingredients in natural products; technologies for taxonomic identification of botanical raw materials or detection of adulterants; Methods for standardization and characterization of active components of mind-body medicine interventions; Tools for the analysis of polysaccharides and polyphenols; Botanical or botanically derived products with useful therapeutic potential including symptom management.

Program Name: Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR)

National Eye Institute

2020 Vision Place
Bethesda, MD 20892

TELEPHONE: (301) 496-5248
WEBSITE: www.nei.nih.gov/

KEY STAFF: Paul A. Sieving, Director, paul.sieving@nih.gov; David L. Whitmer, Laboratory Representative, whitmerd@nei.nih.gov, (301) 496-4876; Dr. Donald Everett, Collaborative Clinical Research, (301) 451-2020

Overview: The National Eye Institute’s mission is to conduct and support research, training, health information dissemination, and other programs with respect to blinding eye diseases, visual disorders, mechanisms of visual function, preservation of sight, and special health problems and requirements of the blind.

Program Name: Small Business Technology Transfer

>> Description: The National Eye Institute (NEI), part of the National Institutes of Health (NIH), is committed to advancing medical research related to eye health and eye disease treatments. The Office of the NEI Technology Development Coordinator (TDC) is responsible for facilitating this commitment by assisting NEI scientists to exchange research materials, disseminate data, and forge scientific partnerships with industry, academia, and nonprofit organizations.

These investigator-initiated awards facilitate cooperative research and development between small business concerns and research institutions, where commercialization is the primary goal of the project. From time to time the NEI solicits STTR applications in a particular program area through an FOA. Phase I awards normally may not exceed $150,000 total costs for a one year period.

Program Name: Small Business Innovation Research

>> Description: These investigator-initiated awards have the objective of establishing the technical merit and feasibility of research and development activities which ultimately may lead to a commercial product or service.

Program Name: Collaborative Clinical Research Cooperative Agreements

>> Description: This mechanism are used whenever there is a demonstrated need for the substantial involvement NEI program staff during the performance of the activity. The use of this mechanism should be made on the basis of the existence of the assistance relationship and the need for substantial staff involvement. In some cases a project will be converted to a U when circumstances arise that make it clear that the activity requires assistance/substantial involvement with NEI staff.

NEI uses the U10 Cooperative Clinical Research—Cooperative Agreements award mechanisms to support clinical trials and other types of complex, fixed-protocol, clinical research. The applications are generally investigator-initiated, but entail substantial interactions among investigators and NEI staff.

Areas of Expertise: Glaucoma, Histoplasmosis, Cornea and Corneal Disease, Retinal Detachment, Retinopathy of Prematurity, Usher Syndrome, Vitreous Detachment, Eye Diseases, Simulations
National Human Genome Research Institute

12 South Drive
Building 12A, Room 1033, MSC5612  TELEPHONE: (301) 402-0911
Bethesda, MD 20892  WEBSITE: www.genome.gov

KEY STAFF: Eric D. Green, Director, (301) 486-0866; Rebecca Read, Technology Transfer Office, (301) 443-9426; Claire T. Driscoll, Lab Representative (CRADA/MTA), cdriscol@mail.nih.gov, (301) 594-2235 or (301) 402-2537

Overview: The National Human Genome Research Institute (NHGRI) supports the development of resources and technology that will accelerate genome research and its application to human health. NHGRI also supports the training of investigators and the media to promote the application of research results and leverage resources to address public health needs. The NHGRI also collaborates with international organizations to help reduce the burden of heart, lung, and blood diseases worldwide.

Program Name: Technology Transfer Office

>> Description: The mission of the National Human Genome Research Institute (NHGRI) Technology Transfer Office (TTO) is to build connections between the NHGRI’s research laboratories and the academic, non-profit and private sectors for the benefit of the public health. The TTO assists in the transfer of NHGRI-developed technologies to the private sector for further development; it also facilitates the exchange of research materials between NHGRI and outside scientific groups. TTO has been an integral part of the NHGRI Division of Intramural Research, posting steady annual increases in the number of transactional agreements, conditional gift fund agreements, licenses, and Cooperative Research and Development Agreements (CRADAs) executed, as well as logging increases in the number of Employee Invention Reports received in and the number of patent applications filed each year. The TTO is responsible for the evaluation, patenting, and licensing of novel technologies, biological materials and animal models invented by NHGRI investigators. The TTO is involved in negotiating Material Transfer Agreements (MTAs), Confidentiality Disclosure Agreements (CDAs) and other legal documents that enable the sharing of materials and resources between NHGRI scientists and third parties. This sharing may range from the transfer of a critical research reagent to the setting up of formal research collaborations. The TTO handles the negotiation and execution of Clinical Trial Agreements (CTAs) and CRADAs between NHGRI researchers and biotechnology and pharmaceutical companies. The TTO also provides NHGRI researchers and administrative staff with general advice on copyright, intellectual property, and related technology transfer procedural and policy matters.

Areas of Expertise: Fluorescence In Situ Hybridization, Gene Therapy, Gene-Based Diagnostics, Genetic Mapping, Genetic Technologies, Chromosome Abnormalities, Chromosome Microdissection, Comparative Genomics, Nanomedicine, Polymerase Chain Reaction, Spectral Karyotyping, Trascriptome, Transgenics
National Institute on Aging

Building 31, Room 5C27
31 Center Drive, MSC2292
Bethesda, MD 20892

TELEPHONE: 1-800-222-2225
WEBSITE: www.nia.nih.gov/

KEY STAFF: Michael David Kerns, SBIR/STTR, Michael-David.Kerns@nih.gov, (301) 402-7713; Linda Whipp, Grants, Linda.Whipp@nih.gov, (301) 496-1472; Michael O’Donnell, Lab Representative, odonnellmd@mail.nih.gov, (410) 558-8024; Michael R. Mowatt, CRADA, mmowatt@niaid.nih.gov, (301) 496-2644

Overview: The primary mission of NIA is to discover what may contribute to a healthy old age as well as to understand and address the disease and disability sometimes associated with growing older. In pursuit of these goals, the NIA research program covers a broad range of areas, from the study of basic cellular changes that occur with age to the examination of the biomedical, social, and behavioral aspects of age-related conditions, including Alzheimer's disease.

Program Name: Small Business Innovation Research Program and Small Business Technology Transfer Program

>> Description: The Small Business Innovation Research Program supports small businesses and nonprofit research organizations that conduct research leading to the development of products and services that improve the health and well-being of older Americans.

The goal is to translate research on aging, aging-related medical conditions and diseases, and special problems and needs of older Americans into innovative programs, systems, networks, and other products or services needed by health-care professionals, informal caregivers, and older Americans to maintain and/or improve their health, and to maintain and/or improve their overall sense of well-being.

All applicants are expected to develop, implement, and test the efficacy of their products and services. The SBIR-STTR programs target early-stage research and research development and encompass a broad range of research topics and types of research/research development, including preclinical translational research/research development and secondary research/research development.

Program Name: Research and Development Contracts

>> Description: Research and Development Contracts are negotiated with qualified domestic and foreign organizations to support basic, applied, or developmental research and to test or evaluate a product, material, device, or component for use by the research community. The initiative for this research generally is originated within NIA.

Program Name: NIAID Technology Transfer Partnerships

>> Description: NIAID is committed to making sure that NIAID-supported discoveries move steadily from the laboratory toward development into products such as approved vaccines, treatments, or diagnostic tools that improve public health. The NIAID Office of Technology Development (OTD) pursues collaborations with industry, academia, non-profit organizations, and other government agencies to exchange research information and materials and to facilitate the translation of research findings, technologies, and materials into useful products. Collaborative ventures are supported by various agreements, including cooperative research and development agreements (CRADAs) and research collaboration agreements (RCAs). These partnerships leverage NIAID resources to develop Effective HIB/AIDS prevention strategies, vaccines, and treatments, medical countermeasures to protect against emerging and re-emerging infectious diseases and for use in biodefense, and interventions for immune-mediated diseases, including asthma and allergic diseases.

The NIAID uses solicitations to support public-private partnerships that stimulate private-sector investment in the development of innovative ideas, preclinical and clinical trials, and products that would otherwise be too risky to be considered by private companies.
National Institute of Arthritis and Musculoskeletal and Skin Diseases

1 AMS Circle
Bethesda, MD 20892

TELEPHONE: (301) 495-4484
WEBSITE: www.niams.nih.gov/

KEY STAFF: Xibin Wang, SBIR, wangx1@mail.nih.gov; John J. O’Shea, CRADA Contact, osheajo@mail.nih.gov, (301) 496-2612; Melissa Porter, Lab Representative, porterm@mail.nih.gov, (301) 496-5213

Overview: The mission of the National Institute of Arthritis and Musculoskeletal and Skin Diseases is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of basic and clinical scientists to carry out this research; and the dissemination of information on research progress in these diseases.

Program Name: Small Business Technology Transfer (STTR) and Small Business Innovation Research (SBIR)

>> Description: The STTR program is a set-aside program designed to support innovative research that has the potential for commercialization of the subject research conducted cooperatively by a small business concern and research institution. Innovation and the potential for commercialization are two of the review criteria considered in the scientific and technical merit evaluation process.

Areas of Expertise: Spinal Stenosis, Sports Injuries, Sprains and Strains, Sun and Skin, Sweating Disorders, Vitiligo, Epidermolysis Bullosa, Fibromyalgia, Gout, Growth Plate Injuries, Hair Loss in Women, Heel Pain, Heritable Disorders of Connective Tissue, Hip Replacement, Connective Tissue, Osteogenesis Imperfecta, Osteonecrosis, Osteoporosis, Psoriasis, Psoriatic Arthritis, Reactiva Radiation, Rheumatic Disease, Rheumatoid Arthritis, Rosacea, Scleroderma, Scoliosis, Shoulder Problems

National Institute of Biomedical Imaging and Bioengineering

6707 Democracy Boulevard Suite 202
Bethesda, MD 20892

TELEPHONE: (301) 496-8859
WEBSITE: www.nibib.nih.gov/

KEY STAFF: Florence Turska, Program Contact, turskaaf@mail.nih.gov, (301) 496-9314; Peter Moy, CRADA Contact, moype@mail.nih.gov, 301-451-4778

Overview: The NIBIB is an Institute within the National Institutes of Health (NIH) devoted to merging the physical and biological sciences to develop new technologies that improve health. Our goal is to accelerate the pace of discovery and speed the development of biomedical technologies that prevent illnesses or treat them when they do strike.

The Institute supports basic research and research training through investigator-initiated grants, contracts, program project and center grants, and career development and training awards.

Program Name: Small Business Innovation Research and Small Business Technology Transfer Programs

>> Description: The NIBIB welcomes SBIR and STTR applications from small businesses proposing research and development in various areas of biomedical imaging and bioengineering.

Biomedical imaging research supported by the NIBIB includes imaging device development, biomedical imaging technology development, imaging processing, imaging agent and molecular probe development, informatics and computer sciences related to imaging, molecular and cellular imaging, bioelectrics/biomagnetics, organ and whole body imaging, screening for diseases and disorders, and imaging technology assessment.

Areas of Expertise: Image Processing, Visual Perception and Display, Image-Guided Interventions, Imaging Agents and Molecular Probes, Biomaterials, Nanotechnology

National Institute on Deafness and Other Communication Disorders

31 Center Drive MSC2320
Building 31, Room 3C01
Bethesda, MD 20892

TELEPHONE: (301) 496-7243
WEBSITE: www.nidcd.nih.gov/

KEY STAFF: Christopher P. Myers, myersc@nidcd.nih.gov, (301) 402-1758; Linda de Iberri, CRADA Contact, deiberril@nidcd.nih.gov, (301) 402-2829

Overview: NIDCD conducts and supports biomedical and behavioral research and research training in the normal and disordered processes of hearing, balance, taste, smell, voice, speech, and language. The Institute also conducts and supports research and research training related to disease prevention and health promotion; addresses special biomedical and behavioral problems associated with people who have communication impairments or disorders; and supports efforts to create devices which substitute for lost and impaired sensory and communication function.

NIDCD accomplishes the mandate through the Division of Intramural Research which conducts research in NIH laboratories and the Extramural Research Program, a program that awards grants to public and private research institutions and organizations.
Program Name: Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are structured in three phases:

>> Description: The objective of Phase I is to establish the technical merit and feasibility of the proposed R/R&D efforts and to determine the quality of performance of the small business awardee organization prior to providing further Federal support in Phase II.

Examples of areas in which small businesses can contribute to the mission of the NIDCD include, but are certainly not limited to: Hearing, e.g., new hearing aid and auditory implant technologies, research tools and models for studying the auditory system, viral vectors for gene transfer to the inner ear, Balance, e.g., drug delivery systems, new assessment and rehabilitative technologies, Voice, speech, and language, e.g., new assessment and rehabilitative strategies, animal models, and Smell and taste, e.g., drug delivery systems, new diagnostic tools, improved techniques for research.

National Institute of Dental and Craniofacial Research
10 Center Drive (MSC 1197)
Building 10, Room 1N103
Bethesda, MD 20892

TELEPHONE: 1-866-232-4528
WEBSITE: www.nidcr.nih.gov/

KEY STAFF: David W. Bradley, CRADA Contact, bradleyda@nidcr.nih.gov, (301) 402-0540 or (301) 402-1132

Overview: The mission of the National Institute of Dental and Craniofacial Research (NIDCR) is to improve oral, dental and craniofacial health through research, research training, and the dissemination of health information. The NIDCR accomplishes their mission by performing and supporting basic and clinical research, conducting and funding research training and career development programs to guarantee talented, well-prepared and diverse investigators, coordinating and assisting relevant research and research-related activities among all sectors of the research community, promoting the timely transfer of knowledge gained from research and its implications for health to the public, health professionals, researchers, and policy-makers.

Program Name: Small Business Innovation Research and Small Business Technology Transfer Research

>> Description: The SBIR is a set-aside program for small business concerns to engage in federal R&D with the potential for commercialization. The STTR is a set-aside program to facilitate cooperative R&D between small business concerns and U.S. research institutions with the potential for commercialization.


National Institute of Diabetes and Digestive and Kidney Diseases
12 South Drive (MSC 5362)
Building 12A, Room 3011
Bethesda, MD 20892

TELEPHONE: (301) 496-3583
WEBSITE: www.niddk.nih.gov/

KEY STAFF: Cindy K. Fuchs, Laboratory Representative, cindy.fuchs@nih.hhs.gov, (301) 451-3636

Overview: The NIDDK supports a wide range of medical research through grants to universities and other medical research institutions. The Institute also supports government scientists who conduct basic, translational, and clinical research across a broad spectrum of research topics and serious, chronic diseases and conditions related to the Institute’s mission. In addition, the NIDDK supports research training for student and scientists at various stages of their careers and a range of education and outreach programs to bring science-based information to patients and their families, health care professionals, and the public.

Program Name: Small Business Innovation Research and Small Business Technology Transfer

>> Description: The SBIR Program exists to stimulate technological innovation, strengthen the role of small business in meeting Federal R&D needs, increase private sector commercialization of innovations developed through Federal SBIR R&D, and increase small business participation in Federal R/R&D. The Small Business Technology Transfer Research program is intended to create formal collaborative relationships with research institutions and small businesses in the development of a commercial product.

Areas of Expertise: Genetic Metabolic Diseases and Gene Therapy, Genetics and Genomics, Hematological Diseases, Biotechnology, Nutrition, Obesity, Pancreas, Type 1 Diabetes, Urological Diseases
National Institute on Drug Abuse
6001 Executive Boulevard
Room 5213 MSC 9561
Bethesda, MD 20892

TELEPHONE: (301) 443-1124
WEBSITE: www.drugabuse.gov

KEY STAFF: Cathrine Sasek, SBIR/STTR Contact, csasek@nih.gov, (301) 443-6071; Elena Koustove, Small Business Funding Contact, koustovae@nida.nih.gov, (301) 496-8768; Amy Newman, CRADA Contact, anewman@intra.nida.nih.gov, (443) 740-2887; Aida Klin, Laboratory Representative, Ak102w@nih.gov, (301) 443-1122

Overview: The National Institute on Drug Abuse (NIDA) supports research to prevent and treat drug abuse and addiction and mitigate the impact of their consequences, which include the spread of HIV/AIDS and other infectious diseases.

Program Name: Small Business Innovation Research and Small Business Technology Transfer Research
>> Description: SBIR/STTR Funding is available from NIDA in the following research areas: drug development, Science Policy and Communication, Epidemiology, Education, and Prevention, Clinical and Behavioral Neuroscience, Basic Neuroscience, Collaborative Clinical Trials Network.

Program Name: Technology Transfer
>> Description: The National Institute on Drug Abuse (NIDA) offers opportunities to establish collaborative relationships with the private sector to facilitate the transfer of research results into public health advances. Opportunities based upon basic research findings, applied research findings, and in potential product development are considered and appropriate agreements facilitating further research and development may be negotiated.

National Institute of General Medical Sciences
45 Center Drive
Bethesda, MD 20892

TELEPHONE: (301) 496-7301
WEBSITE: www.nigms.nih.gov/Research/Mechanisms/STTR.htm

KEY STAFF: Kevin Lauderdale, CRADA Contact, lauderdk@nigms.nih.gov, (301) 594-4499; Stefan Maas, SBIR/STTR Contact, (301) 594-0943

Overview: The mission of the National Institute of General Medical Sciences (NIGMS) is to support research that increases understanding of life processes and lays the foundation for advances in disease diagnosis, treatment and prevention. NIGMS-funded researchers seek to answer important scientific questions in fields such as cell biology, biophysics, genetics, developmental biology, pharmacology, physiology, biological chemistry, biomedical technology, bioinformatics, computational biology, selected aspects of the behavioral sciences and specific cross-cutting clinical areas that affect multiple organ systems.

Program Name: Small Business Technology Transfer Program and Small Business Innovation Research
>> Description: NIH awards grants under the Small Business Technology Transfer Program for research or R&D of new technologies and methodologies that have the potential to succeed as commercial products. This support is provided to small business concerns in collaboration with U.S. research institutions because innovative technologies and methodologies fuel progress in biomedical and behavioral research and represent an increasingly important area of the economy.

Small Business Innovation Research grants help to stimulate technological innovation, use small business to meet development needs of federal research, and increase private sector commercialization innovations.

Areas of Expertise: Biochemistry, Biotechnology, Spectroscopic techniques, Synthetic chemistry, Trauma and burn injury, Wound healing, Extrachromosomal inheritance, Genetics and Development Biology, Glycoconjugates and glycobiology, High-throughput data analysis, Chromosome organization and mechanics, Computational genomics, Control of gene expression, Control of the cell cycle, Database design and enhancement, Molecular biophysics, Molecular immunobiology, Neurogenetics and the genetics of behavior, Pharmacogenetics, Pharmacology and clinical pharmacology, Pharmacology, Physiology and Biological Chemistry, Physiology, Population genetics, evolution, and the genetics of complex traits, Protein synthesis, Replication, recombination, and repair of genes, RNA processing and transcription

National Institute of Mental Health
6001 Executive Boulevard
Room 6154 MSC 9609
Bethesda, MD 20892

TELEPHONE: (301) 443-4513
WEBSITE: www.nimh.nih.gov/

KEY STAFF: Suzanne Winfield, Lab Representative, winfields@intra.nimh.nih.gov, (301) 402-4324; Margaret C. Grabb, SBIR/STTR Contact, mgrabb@mail.nih.gov, (301) 443-3563

Overview: The mission of NIMH is to transform the understanding and treatment of mental illnesses through basic and clinical research, paving the way for prevention, recovery, and cure.
Program Name: Small Business Innovation Research Program and Small Business Technology Transfer Research Program

>> Description: The overarching goal of the SBIR program at the National Institute of Mental Health is to support small businesses to develop technologies that can advance the mission of the Institute, including basic neuroscience research, translational and clinical research, clinical diagnosis and treatment, and dissemination and implementation of evidence-based research on mental disorders. In addition, NIMH research priorities address issues concerning HIV/AIDS prevention, treatment, care, and support as detailed in the Trans-NIH Plan for HIV-Related Research.

National Institute on Minority Health and Health Disparities
6707 Democracy Boulevard, Suite 800
Bethesda, MD 20892-5465
TELEPHONE: (301) 402-1366
WEBSITE: www.ncmhd.nih.gov

Overview: The mission of NIMHD is to lead scientific research to improve minority health and eliminate health disparities. NIMHD plans, reviews, coordinates, and evaluates minority health and health disparities research and activities of the National Institutes of Health. NIMDH conducts and supports research in minority health and health disparities, promotes and supports the training of a diverse research workforce, translates and disseminates research information, fosters innovative collaborations and partnerships.

Program Name: Small Business Innovation Research Program and Small Business Technology Transfer Program

>> Description: The NCMHD SBIR/STTR Programs give high priority to research activities designed to empower health disparity communities to achieve health equity through health education, disease prevention, and partnering in community-based, problem driven research.

National Institute of Neurological Disorders and Stroke
31 Center Drive, MSC 2540
Building 31, Room 8A31
Bethesda, MD 20824
TELEPHONE: (301) 496-5751
WEBSITE: www.ninds.nih.gov

KEY STAFF: Laurie Arrants, CRADA Contact, arrantsl@ninds.nih.gov, (301) 435-3112; Joanne Odenkirchen, Clinical Trial Contact, jo21x@nih.gov, (301) 496-3104; Dr. Linda McGavern, Cooperative Program Contact, mcgavernlm@ninds.nih.gov, (301) 496-1779; David A. Jett, Countermeasures Against Chemical Threats Contact, jettd@ninds.nih.gov, (301) 496-6035

Overview: The primary mission of NINDS is to reduce the burden of neurological disease. To this end, the Institute supports and conducts research on the health and diseased brain, spinal cord, and peripheral nerves.

Program Name: Small Business Innovation Research and Small Business Technology Transfer

>> Description: The NINDS SBIR/STTR program funds small business concerns to conduct innovative neuroscience research or neuroscience research and development (R/R&D) that has both the potential for commercialization and public benefit. NINDS is committed to helping small business concerns commercialize their technologies through its grant funding, technical assistance program participation, and outreach at meetings. Funding priority will be given to those small business concerns that show not only their ability to develop products but their growth as a small business concern towards independence from the SBIR/STTR program.

Program Name: Clinical Trials

>> Description: The NINDS is committed to identifying effective treatments for neurological disorders by supporting well-executive clinical trials. NINDS accepts SBIR and STTR clinical trial applications through specific opportunities, which can be found on the NIH SBIR webpage. Other human subjects research can be submitted through the Omnibus solicitation, NINDS may decline funding of any application that includes human subjects for programmatic or administrative reasons.

Program Name: Cooperative Program in Translational Research

>> Description: Although translational research is supported through the general SBIR/STTR program announcement, the NINDS also has a Cooperative Program in Translational research (PAR-11-296). The NINDS Cooperative Program encourages Phase II and Fast-Track applications that directly address the identification and pre-clinical testing of new therapeutics for neurological disorders. The program will facilitate solicitation, development, and review of therapy-directed projects to accelerate the translation of basic research discoveries into therapeutic candidates for clinical testing. This program is specifically directed at projects that include therapeutic leads with demonstrated activity against the intended disease target. The program supports pre-clinical optimization and testing of these leads and projects must be sufficiently advanced that an IND or IDE application to the FDA can be submitted by the end of the project period. The program does not support early-stage therapeutic discovery activities such as high throughput screening. The program also excludes clinical research, basic research, and studies of disease mechanism. This is a milestone-driven cooperative agreement program involving participation of NINDS staff in the development of the project plan and monitoring of research progress.
Program Name: NINDS Countermeasures against Chemical Threats

>> Description: NINDS manages the NIH Countermeasures against Chemical Threats (CounterACT) program. CounterACT supports research and development on new and improved therapeutics or diagnostic technologies to prevent or mitigate the toxic effects from exposure to chemical threats, defined as toxic chemical agents that could be used in a terrorist attack against civilians, or those that could be released at toxic levels by accident or natural disaster. This includes the development of new (or support of existing) partnerships between small business and not-for-profit laboratories engaged in this research. The scope of research supported includes early screening for compounds with the desired biological activity, advanced preclinical and efficacy testing, through clinical research with promising candidate therapeutics.

Areas of Expertise: Meningitis

National Institute of Nursing Research

TELEPHONE: (301) 496-0207 WEBSITE: www.ninr.nih.gov/

KEY STAFF: Hyungsuk Kim, CRADA Contact, kimhy@mail.nih.gov, (301) 435-8398

Overview: The mission of NINR is to promote and improve the health of individuals, families, communities, and populations. The Institute supports and conducts clinical and basic research and research training on health and illness across the lifespan to build the scientific foundation for clinical practice, prevent diseases and disability, manage and eliminate symptoms cause by illness, and improve palliative and end-of-life care.

NINR’s goal is to enhance nursing science and health care by integrating the biological and behavioral sciences, applying new technologies, promoting health equity, and developing scientists of the future.

Program Name: Small Business Innovation Research Program and Small Business Technology Transfer Program

>> Description: The SBIR and STTR programs support projects to establish the technical merit and feasibility of research and development ideas leading to commercial products or services.

National Institutes of Health Center for Information Technology

10401 Fernwood Road
Bethesda, MD 20892

TELEPHONE: (301) 496-6203 WEBSITE: www.cit.nih.gov

KEY STAFF: Andrea T. Norris, Director, andrea.norris@nih.gov, (301) 496-5703; Mr. Kevin Sullivan, Laboratory Representative, sullivak@mail.nih.gov, (301) 435-2924; Benes Trus, Ph.D., DCB Contact, trusb@mail.nih.gov; Anita D Miles, CRADA Contact, milesa@mail.nih.gov

Overview: The mission of the Center for Information Technology is to provide, coordinate, and manage information technology, and to advance computational science. The primary vision of the organization is to be a vital partner in the discovery of biomedical knowledge.

Program Name: Division of Computational Bioscience (DCB)

Program Services: DCS is committed to bring the latest biomedical technologies to the private sector through a Cooperative Research and Development Agreement (CRADA)

Areas of Expertise: High performance computer systems, computational chemistry and structural biology, computational science and engineering collaborations, sequence analysis tools, web-based scientific tools

National Institutes of Health Office of Extramural Research

6705 Rockledge Dr, Suite 350
Bethesda, MD 20892

TELEPHONE: (301) 435-0714 WEBSITE: grants.nih.gov/

KEY STAFF: Matthew E. Portnoy, PhD., sbir@od.nih.gov or mportnoy@mail.nih.gov, (301) 435-2688

Overview: The Office of Extramural Research at the National Institutes of Health’s mission is to provide the corporate framework for NIH research administration, ensuring scientific integrity, public accountability, and effective stewardship of the NIH extramural research portfolio.

Program Name: Small Business Innovation Research /SBIR STTR Programs

>> Description: The Small Business Innovation Research (SBIR) program is a set-aside program for domestic small business concerns to engage in Research/Research and Development (R/R&D) that has the potential for commercialization. Federal agencies with extramural research provide grants for small companies to conduct innovative research or research and development (R/R&D) that has potential for commercialization and public benefit.
National Institutes of Health Office of Technology Transfer

6011 Executive Boulevard, Suite 325  TELEPHONE:  (301) 496-7057
Mail Stop 7660  WEBSITE:  www.ott.nih.gov
Rockville, MD 20852

KEY STAFF: Steven Ferguson, Lab Representative, fergusos@mail.nih.gov, (301) 435-5561

Overview: OTT transfers the hundreds of new inventions are made in NIH and FRA to the private sector for further research and development and eventual commercialization. Often, companies require patent protection to justify the expenditure of resources needed to fully develop a particular invention. Where necessary to ensure the rapid and effective development of a particular invention, OTT seeks intellectual property protection (both domestic and foreign) on NIH and FDA inventions.

Program Name: Cooperative Research and Development Agreements and Material Transfer Agreements (CRADA & MTA)

>> Description: CRADAs provide an opportunity for NIH investigators to join with colleagues from industry and academia in the joint pursuit of common research goals. The purpose of a CRADA is to make Government facilities, intellectual property, and expertise available for collaborative interactions to further the development of scientific and technological knowledge into useful, marketable products. MTAs define the terms and conditions under which the recipients of materials, provided by either the NIH scientist or the other party, may use the materials. Included in the MTA are the requirements that the materials be used for research purposes only and that the materials cannot be used in human subjects.

Program Name: Licensing & Royalties

>> Description: The Office of Technology Transfer (OTT) transfers inventions – through licenses – to the private sector for further research and development and eventual commercialization. Often, companies require patent protection to justify the expenditure of resources needed to fully develop a particular invention. Where necessary to ensure the rapid and effective development of a particular invention, OTT seeks intellectual property protection (both domestic and foreign) on NIH and FDA inventions.

National Library of Medicine

8600 Rockville Pike  TELEPHONE:  (301) 496-6308
Bethesda, MD 20894  WEBSITE:  www.nlm.nih.gov/

KEY STAFF: Fred Wood, CRADA Contact, fredwood@mail.nih.gov, (301) 402-9278; Dr. Jane Ye, Program Contact, yej@mail.nih.gov

Overview: The National Library of Medicine (NLM) is the world’s largest biomedical library. NLM maintains and makes available a vast print collection and produces electronic information resources on a variety of topics that are searched billions of times each year by millions of people around the globe. The NLM supports and conducts research, development, and training in biomedical informatics and health information technology. In addition, the Library coordinates a National Network of Libraries of Medicine that promotes and provides access to health information across the United States.

Program Name: Small Business Innovation Research (SBIR) and Small Business Technology Transfer Research (STTR)

>> Description: Small Business Innovation Research (SBIR) and Small Business Technology Transfer Research (STTR) grants are made to U.S. small businesses that seek to undertake informatics research and development leading to commercialization. The STTR program requires a small business applicant organization to formally collaborate with a research institution in Phase I and Phase II. The National Library of Medicine (NLM) offers support for research and development projects in biomedical informatics. NLM defines biomedical informatics as the science of optimal organization, management, presentation and utilization of information relevant to medicine and biology.

Examples of research areas of interest that fit within the mission of NLM include, but are not limited to: Tools for managing interactive publications and /or large datasets, modeling tools for climate and environmental effects on human health, new technologies for disaster information management, Tools to enable communities to use health indicators.

Program Name: Innovations in Biomedical Computational Science and Technology Initiative (BISTI)

>> Description: The purpose of BISTI is to solicit Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grant applications that propose innovative research in biomedical computational science and technology to promote the progress of biomedical research. There exists an expanding need to speed the progress of biomedical research through the power of computing to manage and analyze data and to model biological processes.
National Security Agency
9800 Savage Road, Suite 6529
Ft. Meade, Maryland 20755

KEY STAFF: Frank Caruso, National Information Assurance Research Laboratory Representative, fjcarus@tycho.ncsc.mil,
(301) 688-0804; Marion Roche, Technology Transfer Contact, mtroche@nsa.gov, (443) 479-9569; National Information Assurance
Partnership Contact, scheme-comments@niap-ccesvs.org, (410) 854-4458; Small Business Set-Aside Contact, NSETS@nsa.gov,
smallbusiness@nsa.gov; Office of Small Business Programs, smallbusiness@nsa.gov, (443) 479-2384

Overview: The National Security Agency/Central Security Service leads the U.S. Government in cryptography that encompasses
both Signals Intelligence and Information Assurance products and services, and enables Computer Network Operations in order
to gain a decision advantage for the Nation and our allies under all circumstances.

Program Name: Certified Product Sales and Support (CPSS) Program
>> Description: The program encourages the availability of IA products with relatively limited impact on NSA's IA resources. The
CPSS authorizes qualified vendors to manufacture quantities above the originally contracted amount and to directly market and
sell the additional equipment to U.S. Government departments, agencies, and other qualified purchasers. A CPSS agreement is
entered into between NSA and a vendor when: An IA vendor, under contract to NSA for the production of IA equipment, wants
to produce more equipment than the quantity specified in the contract; An IA vendor of a certified product desires to contract
with a qualified company, other than the manufacturer, to market, install, and maintain an IA product that has already received U.S.
Government approval; or NSA authorizes an IA vendor of a certified product produced under another agency's or department's
contract to sell the equipment directly to qualified customers following testing and endorsement of the equipment by NSA.

Program Name: Commercial COMSEC Evaluation Program (CCEP)
>> Description: Under the CCEP, NSA enters into a business relationship with a vendor to develop and produce products that are of
direct and obvious benefit to improving the IA posture for DoD customers. NSA applies its limited IA resources to evaluate those products
that best provide for widespread availability of quality, inexpensive, secure communications systems for use by the U.S. Government. Interested vendors must complete a CCEP Product Summary Questionnaire. The answers to that questionnaire are the basis for the CCEP decision. Information in the vendor's
product proposal is measured against national IA needs and priorities to determine the suitability of a potential product.

Program Name: Independent Research and Development Program
>> Description: The NSA's Independent Research and Development Program (IR&D) has been established to benefit future
research development and production efforts by assisting vendors in the exploration of new IA technologies. NSA envisions the
IR&D as a means for decreasing the “learning curve” typically experienced by vendors as a result of their unfamiliarity with IA techniques and applications.

The goal of the IR&D is to encourage independent research and development efforts in areas of mutual interest to both in-
dustry and NSA's IA Mission. A major element of an IR&D is the Technical Addendum, the document that defines the scope of the work performed under the IR&D project.

Program Name: National Information Assurance Partnership (NIAP)
>> Description: A U.S Government program developed to meet the security testing needs of both consumers and produc-
ers of information technology. Through the Common Criteria Evaluation and Validation Scheme (CCEVS), approved testing
laboratories evaluate Commercial Off-The-Shelf Products.

Program Name: Small Business Set-Aside
>> Description: NSETS II (the NSA Small Business Set-aside) is a follow-on to the original NSETS program. NSETS II is an impor-
tant agency initiative that will enable NSA to competitively acquire agency requirements for business, engineering, information
technology, operations support, and training services from teams of highly qualified small businesses. NSA strives to meet or ex-
cede our small business utilization goals, while at the same time acquire the highest quality services and support for the Agency.

Program Name: Technology Transfer Program
>> Description: The NSA TTP Office works with businesses and investment partners to commercialize NSA technologies. Busi-
nesses interested in interacting with the TTP Office will need to present general information about their executive management and
advisory teams, industry focus, and performance history (track record). Businesses should also provide technology-specific
information about the potential area of collaboration, value proposition, customer base beyond NSA, execution strategy, and anticipated revenues. Investment partners will additionally provide information about their Board of Directors, type and size of
investment fund(s), and performance metrics relating to successfully building high growth technology business ventures.

Processing, Knowledge discovery, Language Analysis and Translation, Advanced Computing, Advanced Mathematics, Biomet-
rics (Security), Communications and Networking, Computer Sciences, Computer system security, Cryptanalysis, Cyber Security/ Information Assurance, Electrical Engineering Facilities Maintenance and Rehab, Graphics, Microelectronics, Nanotechnologies,
National Institute of Standards and Technology
100 Bureau Drive, Stop 1070
Gaithersburg, MD 20899

TELEPHONE: (301) 975-6478
WEBSITE: www.nist.gov/

KEY STAFF: Christopher Hunton, Small Business Grants, christopher.hunton@nist.gov, (301) 975-5718; Terry Lynch, Laboratory Representative, terry.lynch@nist.gov, (301) 975-2691; Robert Dimeo, Center for Neutron Research, (301) 975-6210; Robert Celotta, Center for Nanoscale Science and Technology, cnst@nist.gov, (301) 975-8001; Material Measurement Laboratory, mmlinfo@nist.gov, (301) 975-8300; Information Technology Laboratory, (301) 975-2900; Physical Measurement Laboratory, (301) 975-4200; Engineering Laboratory, (301) 975-5900

Overview: The mission of the National Institute of Standards and Technology is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

Program Name: Technology Partnerships Office
>> Description: The Technology Partnerships Office (TPO) works with partners to license NIST patented inventions. Parties interested in licensing an issued patent or patent application to conduct further research on and/or commercialize NIST technology can obtain a license application on-line or from TPO.
Commercial licenses can be granted both exclusively and non-exclusively by specific field of use. Research licenses are only granted on a non-exclusive basis.

Program Name: Small Business Innovation Research Program
>> Description: NIST funds industrial and academic research in a variety of ways. The Small Business Innovation Research Program funds R&D proposals from small businesses. NIST also offers grants to encourage work in specific fields: precision measurement, fire research, and materials science.

Laboratory: Center for Neutron Research
>> Description: The NCNR is located in Gaithersburg, Maryland and focuses on providing neutron measurement capabilities to the U.S. Research community. It is the national center for research using thermal and cold neutrons, offering its instrumentation for use by all qualified applicants. Many of its instruments rely on intense beams of cold neutrons emanating from an advanced liquid hydrogen moderator.
The mission of the NCNR involves three primary objectives: To operate the NCNR safely as a cost-effective national resource, to conduct a broad program of research using neutron techniques, and to develop and apply new neutron measurement techniques, and to operate the NCNR as a national resource for researchers from industry, university and other government agencies.

Laboratory: Center for Nanoscale Science and Technology
>> Description: The NIST Center for Nanoscale Science and Technology (CNST) supports the U.S. nanotechnology enterprise from discovery to production by providing industry, academia, NIST, and other government agencies with access to world-class nanoscale measurement and fabrication methods and technology. The CNST is the only national nanocenter with a focus on commerce.
CNST provides: A unique facility offering access to the instrumentation methods, and technical expertise required to make and measure components at the nanometer scale; Expertise in a wide variety of disciplines from physics, chemistry, materials science, molecular biology, computer science, and electrical, mechanical, chemical, and aeronautical engineering; A world-class 60,000 square foot shared resource for nanofabrication and measurement—with over 19,000 square feet of cleanroom laboratory space; A hub linking the international nanotechnology community to the comprehensive related measurement expertise throughout NIST.

Laboratory: Material Measurement Laboratory
>> Description: The Material Measurement Laboratory supports the NIST mission by serving as the national reference laboratory for measurements in the chemical, biological and material sciences. The MML's research and measurement services support areas of national importance such as: advanced materials, electronics, energy, environment, food safety and nutrition, health care, infrastructure, manufacturing and safe, security and forensics.

Laboratory: Information Technology Laboratory
>> Description: The ITL aims to respond to the growing need for measurement and testing technology to support the development of computing and communications systems that are usable, scalable, interoperable, and secure.
The ITL has programs in three primary areas: developing tests for human-machine interfaces, software diagnostics and performance, computer and network security, advanced network technologies, mathematical software, and conformance to standards; collaborating, consulting and operational services in computational sciences and information services; federal computer and network security activities.
Laboratory: Physical Measurement Laboratory

>> Description: The Physical Measurement Laboratory (PML) develops and disseminates the national standards of length, mass, force and shock, acceleration, time and frequency, electricity, temperature, humidity, pressure and vacuum, liquid and gas flow, and electromagnetic, optical microwave, acoustic, ultrasonic, and ionizing radiation. PML applies its measurement capabilities to problems of national significance through collaborations with industry, universities, professional and standards setting organizations, and other agencies of government.

Laboratory: Engineering Laboratory

>> Description: The Engineering Laboratory promotes U.S. innovation and industrial competitiveness in areas of critical national priority by anticipating and meeting the measurement science and standards needs for technology-intensive manufacturing, construction, and cyber-physical systems, including the Smart Grid Program Office in ways that enhance economic prosperity and improve the quality of life.

Measurement science research includes: development of performance metrics, measurement and testing methods, predictive tools, protocols, technical data, and reference materials and artifacts; conduct of intercomparison studies and calibrations; evaluation of technologies, systems and practices; and development of the technical basis for standards, codes, and practices in many instances via test beds, consortia, standards and codes development organizations, and/or other partnerships with industry and academia.

Laboratory: McNamara Facilities

>> Description: The McNamara Life Sciences Research Facility is designed for cutting edge research and toxicological testing. Within the McNamara Facilities, the High Containment Biological Facility allows for research regarding detection, identification and decontamination of pathogens in food, water, air and various other environments.

Areas of Expertise: Inhalation toxicology applications, Biochemical engineering, Biotechnology, Chemical Analysis, Enzymology, Forensics, Genomic and proteomic arrays, Mobile laboratory systems, Microbiology, Molecular biology, Pathogenic bacterial, viral and fungal microorganism testing, Toxicology, Urban nuclear, biological or chemical environments

Uniformed Services University of the Health Sciences/The Henry M. Jackson Foundation

4301 Jones Bridge Road
Bethesda, MD 20814

TELEPHONE: (301) 295-3303
WEBSITE: www.usuhs.mil/

KEY STAFF: Technology Transfer Contact, techtransfer@hjf.org, (240) 694-4028; Col. John Baker, Laboratory Representative, jbaker@ushus.mil, (301) 295-3028

Program Name: Technology Transfer and Commercialization

>> Description: The Henry M. Jackson Foundation for the Advancement of Military Medicine technology transfer staff encourages scientists and private industry to collaborate on research and development projects, with the goal of making innovative medical technologies available for clinical use. Established in 2000, the Joint (USU & HJF) Office of Technology Transfer (JOTT) was created to advance inventions by HJF and Uniformed Services University (USU) researchers. Although the JOTT assists HJF scientists who are not affiliated with USU, the vast majority of this work involves inventions developed at the university.

The principal service HJF provides to protect research results is prosecuting and filing patent applications on inventions. An issued patent will enable the patent holder to prevent competitors from making, using or selling novel innovation. HJF will help protect invention by:

- HDF also actively markets HDF and USU technologies and patent rights to potential licensees so your scientific ideas can be further developed into viable products and services.

United States Army Materiel Development Activity (USAMMDA)

1430 Veterans Drive
Fort Detrick, MD 21769

TELEPHONE: (301) 619-7046
WEBSITE: www.usammda.army.mil/

KEY STAFF: Judy Holian, Technology Transfer Contact, Judy.holian@amedd.army.mil, (301) 619-4712

Overview: USAMMDA develops new drugs, vaccines, and medical support devices that enhance readiness, ensure provisions of the highest quality medical care to the DoD and maximize the survival of medical casualties on the battlefield.

Product managers at USAMMDA guide promising new concepts and technologies developed in the U.S. Army Medical Research and Materiel Command (USAMRMC) laboratories through advanced development and the regulatory process to obtain U.S. FDA certification. Upon FDA certification, USAMMDA works in conjunction with the U.S. Army Medical Materiel Agency (USAMMA) to develop plans for fielding medical materiel.

Program Name: Army Domestic Technology Transfer Program

>> Description: USAMMDA is authorized to execute technology transfer agreements. The Office of Research Technology Applications (ORTA) prepares and manages the documents for USAMMDA. Cooperative Research and Development Agreements (CRADAs), Material Transfer Agreements (MTA), Commercial Test and Evaluation Agreements (TEA), Educational Partnership Agreements (EPA), Patent Licensing Agreements (PLA).

USAMMDA ORTA also manages the following agreements per USAMRMC Regulation 37-1: Memorandums of Understanding (MOU), Memorandums of Agreement (MOA), and Interagency Agreements (IAA).

USAMMDA requires a signed Clinical Trial Agreement (CTA) for all OTSG-sponsored investigational new drug studies. The CTA becomes part of the CRADA or IA.
United States Army Medical Research and Materiel Command
504 Scott Street, MCMR-JA
Fort Detrick, MD 21702

TELEPHONE: (301) 619-6664
WEBSITE: mrmc.amedd.army.mil/

KEY STAFF: Paul Mele, Director, Paul.mele1@us.army.mil, (301) 619-6664

Overview: The mission of the United States Army Medical Research and Materiel Command is to responsively and responsibly create and deliver medical information and products for the war fighting family.

Program Name: Cooperative Research and Development Agreement
  >> Description: CRADA provides an opportunity for Army investigators to collaborate with scientists in industry and academia to attain common research goals. Under CRADA, personnel, services, facilities, equipment and other resources are provided.

Program Name: Material Transfer Agreements
  >> Description: Material Transfer Agreements are agreements in which scientists can exchange materials and information. MTA is unidirectional and no collaboration is contemplated. In most instances, the providing party may require that the results of the study be communicated back to them. These agreements may also be used to request special immunization for personnel that would be working at the Army or are affiliated with the Institute.

Program Name: Patent License Agreements (PLA)
  >> Description: Patent License Agreements (PLA) is a contractual agreement between the licensor and a licensee to assign, grant, and convey either the whole patent, comprising the exclusive/nonexclusive rights to make, use, develop, and vend the invention throughout the U.S. & abroad in exchange for royalties.

Program Name: Interagency Agreements, Services Agreements, Memorandum of Agreements, Memorandum of Understanding
  >> Description: Interagency Agreements, Services Agreements, Memorandum of Agreements, Memorandum of Understanding agreements allow two or more federal agencies to exchange information, personnel, equipment, material, resources, and funds.

Program Name: Small Business Innovation Research and Small Business Technology Transfer
  >> Description: Small Business Innovation Research and Small Business Technology Transfer are highly competitive programs intended to allow small businesses to harness their innovative talents, with the incentive to profit from commercialization. By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated and the United States gains entrepreneurial spirit as it meets its specific research and development needs. The SBIR program is aimed at small companies exclusively, while the STTR programs funds small companies collaborating with not-for-profit research institutions.

Program Name: USAMRMC Medical Technology Transfer
  >> Description: The U.S. Army Medical Research and Materiel Command (USAMRMC) Office of Research and Technology Applications (ORTA) or Technology Transfer Office coordinates all intellectual property licensing on behalf of all USAMRMC's subordinate laboratories from the federal sector to nonfederal parties.

  The ORTA office at each subordinate laboratory coordinates Cooperative Research and Development Agreements (CRADAs), Material Transfer Agreements (MTAs), Interagency Agreements (IAs), Nondisclosure agreements (NDAs), and other technology transfer transactions.

Areas of Expertise: HIV/AIDS, Infectious Diseases, Injury Science and Systems Hazards Research, Leishmaniasis, Chemical Defense, Cognitive Performance, Judgment, Decision-marketing Combat Casualty Care, Dengue, Diarrhea, Environmental Medicine, Hanta Virus, Malaria Medical Chemical and Biological Defense, Medical Situational Awareness in the Theater (MSAT), Meningitis, Metabolism and Bioenergetics, Military Operational Medicine, Neuropsychology and Performance, Personal Information Carrier (PIC), Scrub Typhus, Surgical Research
United States Army Medical Research Institute of Chemical Defense

3100 Ricketts Point Road
Aberdeen Proving Ground, MD 21010

TELEPHONE: (410) 436-2216
WEBSITE: usamricd.apgea.army.mil/

KEY STAFF: Ms. Suaquita Perry, Laboratory Representative, suaquita.perry@us.army.mil, (410) 436-1339

Overview: The mission of the U.S. Army Medical Research Institute of Chemical Defense is to discover and develop medical products and knowledge solutions against chemical threats through research, education and training, and consultation.

Program Name: Collaborative Research Program

>> Description: The Collaborative Research Program (CRP) provides a venue for researchers to conduct operations that can be completed at the US Army Medical Research Institute of Chemical Defense due to the unique capability to use controlled chemical threat agents. The primary intent of the CRP is to provide non-USAMRICD scientists a way to collaborate on medical chemical defense projects. The CRP serves as a center of research excellent devoted to facilitating research cooperation across research organizations.

The Collaborative Research Facility is a state-of-the-art facility with experienced staff and over 6000 square feet of dedicated laboratories, offices and laboratory animal holding area. It has the programmatic infrastructure to run a wide variety of in vitro and in vivo Chemical Warfare Agent studies.

Areas of Expertise: Biomedical samples, Chemical casualty care training, Anticonvulsants, Behavior assessment, Bioscavengers, Drug screening, Experimental models of lung injury, Inhalation exposures, Medical diagnostics, Neuroprotectants, Oximes, Skin protectants, Wound healing

United States Army Medical Research Institute of Infectious Diseases

1425 Porter Street
Frederick, MD 21702

TELEPHONE: (301) 343-6886
WEBSITE: www.usamriid.army.mil/index.cfm

KEY STAFF: Dan Coffman, James.coffman@amedd.army.mil, (301) 619-6886

Overview: USAMRIID’s mission is to protect the warfighter from biological threats and to be prepared to investigate disease outbreaks or threats to public health.

Program Name: Technology Transfer Program

>> Description: The Technology Transfer Program makes it easier for USAMRIID laboratory scientists to bring funding, personnel, information, and resources into the USAMRIID community from outside sources through participation in the process. Outside sources may also realize these same benefits from the Command although government funding is strictly limited to specific arrangements when they participate in the process.

USAMRIID is an important partner with academia, industry, and other eligible entities in this process and utilizes a number of mechanisms for establishing the essential collaborative relationship.

Critical Components in Technology Transfer include: Cooperative Research and Development Agreements (CRADAs); Material Transfer Agreements (MTAs); Patent licenses; Technical meetings; Information dissemination/collegial interchange; Cooperative agreements

Areas of Expertise: Antiviral drug protocols, Applied medical research, Biodefense, Biological threat research, Biosafety, Containment, Diagnosis and treatment, Disease identification, Hazardous infectious agents, Management of biological casualties, Outbreak assessment and control, Vaccines, Virus analysis
**Walter Reed Army Institute of Research**

503 Robert Grant Road  
Silver Spring, MD 20910  
**TELEPHONE:** (301) 319-9471  
**WEBSITE:** wrair-www.army.mil/  
**KEY STAFF:** Gabriela Zollner, gabriela.zollner@us.army.mil, (301) 319-3182  

**Overview:** WRAIR's focus on research for the soldiers affects all aspects of its operations because military medical research priorities differ from those of the civilian sector. WRAIR scientists have a unique understanding of military operations and environments, including the stresses and exposures troops encounter and the performance requirements of a deployed military force. Despite WRAIR's focus on the military, its research has been used to solve nonmilitary medical problems around the world. Its history is filled with the life-saving or life-enhancing discoveries of distinguished scientists.  

**Program Name:** Cooperative Research and Development Agreements  

**Areas of Expertise:** Human stress studies, Bacteriology and ricketsiology, Control of insect vectors of important diseases, Defense against chemical and biological agents, Drug and vaccine delivery systems, Drug and vaccine development against infectious diseases and biologically active substances, Effects of microwave and directed energy of biological systems, Effect of transient overpressure on respiratory systems, Medical considerations of blast overpressure and toxic gases, Medical neurosciences of stress and performance, Monoclonal antibodies for vaccines and rapid identification and detection, Parasite diseases such as schistosomiasis, leishmaniasis, malaria, Pathology research, Preventative medicine Stereotyping of disease strains, Trauma and wound healing, Treatment of septic shock, Virology and retrovirology

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**United States Department of Agriculture**

Henry A. Wallace/Beltsville Agricultural Research Center  
10300 Baltimore Ave. Beltsville, MD 20705  
**TELEPHONE:** (301) 504-6078  
**WEBSITE:** www.ars.usda.gov/  

**KEY STAFF:** Steven R. Shafer, Director, steven.shafer@ars.usda.gov, (301) 504-6591; Thomas Moreland, CRADA Contact, Thomas.Moreland@ars.usda.gov, (301) 504-4838  

**Overview:** The Beltsville Agricultural Research Center conducts research related to the production and protection of plants and animals as well as research to protect our natural resources. In addition, the Center provides support services for facilities, research support and administration to the three units that make up the Beltsville Area.  

**Program Name:** Cooperative Research and Development Agreements (CRADA)  

**Program Name:** Technology Transfer Office  

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**United States Navy**

Naval Medical Research Center  
503 Robert Grant Ave.  
Silver Spring, MD 20910  
**TELEPHONE:** (301) 319-9646  
**WEBSITE:** www.med.navy.mil  

**KEY STAFF:** Captain John W. Sanders, Commanding Officer, svc.pao.nmrc@med.navy.mil; Dr. Charles Schlagel, Laboratory Representative, Charles.schlagel@med.navy.mil, (301) 319-7428  

**Overview:** The Naval Medical Research Center is a premier research organization with a vision: World-class, operationally relevant health and medical research solutions! The research at NMRC is focused on finding solutions to both traditional battlefield medical problems as well as to health problems associated with non-conventional weapons, including thermobaric blast, biological agents, and radiation.  

**Program Name:** Naval Medical Research Enterprise Technology Transfer Program  

**Areas of Expertise:** Biological Defense, Bone Marrows Registry, Combat Casualty Care, Infectious Diseases
UNIVERSITY RESOURCES

THE JOHNS HOPKINS UNIVERSITY

The Johns Hopkins Institute for Clinical and Translational Research
1820 Lancaster Street, Suite 300  WEBSITE: ictr.johnshopkins.edu/ictr/
Baltimore, MD 21231

KEY STAFF: Daniel Ford, MD, MPH, Vice Dean for Clinical Investigation
FIRST CONTACT: ictr@jhmi.edu, (443) 287-ICTR

Overview: The Johns Hopkins University Research Accelerator (RA) is designed to facilitate scientific collaboration and resource sharing across the JHU community. Researchers can share and discuss data, reagents, laboratory protocols, validated antibodies, cell lines, research projects and more.
Sharing resources and collaborating will enhance the quality of your research, save time, and will allow you to identify new potential collaborators across disciplines, institutions and geographical boundaries.

Johns Hopkins University Office of Technology Transfer
100 North Charles Street, Suite 500  TELEPHONE: (410) 516-8300
Baltimore, MD 21201  WEBSITE: www.techtransfer.jhu.edu

KEY STAFF: Aris Melissaratos, Senior Advisor to the President, Johns Hopkins Enterprise Development, aris@jhu.edu, (410) 516-6511; Wesley D. Blakeslee, Executive Director, wdb@jhu.edu, (410) 516-6695
FIRST CONTACT: jhtt-communications@jhu.edu

Overview: The Johns Hopkins University Technology Transfer Office handles the growing complexity of collaborative corporate relationship and the resulting technology transfer. The JHTT also handles patent filing and applications stemming from University research.
Program Services:
• encouraging the disclosure of new ideas and discoveries
• help JHU researchers to identify patentable and copyrightable inventions and tangible research properties
• protecting and managing the University’s intellectual and tangible property
• licensing the University’s technologies
• encouraging and supporting product development and entrepreneurial activities within the University
• seeking and nurturing contacts with national and international companies and entrepreneurs that are capable of developing and commercializing JHU’s innovations for the public good

Preferred Industry Investment: Molecular Genetics, Proteomics, Chemistry, Biomedical Engineering, Material Sciences, and others

Founded: 1974
Johns Hopkins University Applied Physics Laboratory Office of Technology Transfer

Office address: 7700 Montpelier Road, MP1-N126
Mailing address: Applied Physics Laboratory
Laurel, MD 20723-6099

KEY STAFF: Norma Lee Todd, Technology Transfer Supervisor, norma.lee.todd@jhuapl.edu, (443) 778-4528
FIRST CONTACT: techtransfer@jhuapl.edu, (443) 778-3541

Overview: The Office of Technology Transfer hopes to broaden the impact of APL's scientific and technical contributions by transferring APL-developed technology to industry to benefit the local economy, the Laboratory and sponsors. The primary goals of the OTT are to identify, market, and license commercially viable technologies to business and industry and to identify current and future industry needs and match APL capabilities to those needs through research partnerships.

The OTT employs technology transfer tools including: license agreements; cooperative research agreements; industrial funding agreements; partnerships with regional high-tech companies, and new business spin-offs

Program Services:
- Technology Push: identify, market and license commercially viable technologies to business and industry.
- Market Pull: identify current and future needs and match APL capabilities to those needs through research partnerships
- License agreements
- Cooperative research agreements
- Industrial funding agreements: partnerships with regional high-tech companies, new business spin-offs

Founded: 1998

Johns Hopkins University, Montgomery County Campus

9601 Medical Center Drive
Rockville, MD 20850

TELEPHONE: (301) 294-7004
WEBSITE: mcc.jhu.edu

KEY STAFF: Elaine Amir, Executive Director, eamir@jhu.edu

Overview: Johns Hopkins University – Montgomery County Campus is a destination location for education, entrepreneurship and community relations. JHU MCC offers part-time graduate courses in biotechnology, business, education and engineering. The campus is home to a community of 30 private biotech companies and university research centers, and sits adjacent to the National Cancer Institute Shady Grove. JHU MCC serves students of all ages, budding entrepreneurs and researchers by offering classes, meeting space, lab space, support services, connections and other opportunities.

Johns Hopkins Office of Enterprise Development

WEBSITE: techtransfer.jhu.edu/enterprise_development/

KEY STAFF: Aris Melissaratos, Senior Advisor to the President, Johns Hopkins Enterprise Development, aris@jhu.edu, (410) 516-6511

FIRST CONTACT: Wesley D. Blakeslee, Executive Director, wdb@jhu.edu, (410) 516-6695

Overview: The Johns Hopkins Office of Enterprise Development works to accelerate the growth of new businesses based on the commercialization of Johns Hopkins intellectual property. With the help of our partners in state and local government economic development and business organizations, the Enterprise Development team also works to attract and grow mature businesses who want to take advantage of the proximity to Johns Hopkins 'thought leaders' and world-class trained workforce and modern research space, such as the Science + Technology Park at Johns Hopkins, the Johns Hopkins Montgomery County Campus and nearby Belward Research Campus, and the Johns Hopkins Applied Physics Lab.

Program Services: There are a number of ways to leverage the minds, resources, and intellectual property of Johns Hopkins, including startup opportunities and available technologies.
MORGAN STATE UNIVERSITY

Morgan State University Office of Technology Transfer & Commercialization
Morgan State University, Office of Sponsored Programs
1700 E. Cold Spring Ln., Montebello D302
Baltimore, MD 21251

WEBSITE: www.morgan.edu (the office does not currently have a website)

KEY STAFF: Alethea Pounds, Director, Office of Technology Transfer & Commercialization, Morgan State University, alethea.pounds@morgan.edu, (443) 885-3988 or (443) 885-8280

Overview: The Office evaluates, protects and licenses the University's intellectual property (manages intellectual property (patents, inventions, copyrightable works, including, but not limited to software); and encourages collaborations between Morgan State University and private industry and public agencies.

Program Services: Facilitate the transfer of University technology to the marketplace; manage intellectual property developed at Morgan State University; assist faculty develop start-up companies.

Founded: 2011

TOWSON UNIVERSITY

Division of Innovation & Applied Research at Towson University
Towson University, Administration Building
7720 York Road, Suite, 301
Towson, MD 21204

TELEPHONE: (410) 767-6449
WEBSITE: www.towson.edu/innovation
www.tuinnovates.com

KEY STAFF: Dyan Brasington Vice President, Towson University, dbrasington@towson.edu, (410) 704-3780 or (410) 704-2152; Clay Hickson, Executive Director, TowsonGlobal Business Incubator, chickson@towsonglobal.com, (410) 767-6449

Overview: Through partnerships, people, and programs, Towson University strives to positively impact the economic vitality and social well-being of our community, state, and region by combining research-based learning with practical application.

With a focus on the needs of the marketplace, the Division of Innovation and Applied Research at Towson University is a leading provider of analytical, technical, and research services. By leveraging the expertise, energy, and experience of our faculty and students, we provide a unique entry point for Maryland’s business, non-profit, and government organizations interested in accessing the resources of the University.

Learn how we can help support your organization with: Corporate and Government Training; Economic & Policy Analysis; Geographic Information Systems; Business Analysis & Management Consulting; Website Design, Development, and Hosting; Entrepreneurship and Business Growth

Program Services: As a member of TowsonGlobal, a company receives access to quality office facilities (offices, meeting space, Internet access, and photocopying to name a few), essential information through workshops, seminars, and customized counseling services to help it succeed in the global marketplace.

Program Name: We host three major events annually that are relevant for the business and entrepreneur community:
• RESI Economic Outlook Conference: http://www.towson.edu/outreach/conference/
• Towson University Solutions Showcase: http://www.towson.edu/outreach/showcase

Additionally, TowsonGlobal Business hosts workshops and events throughout the year geared towards entrepreneurs.

Membership: The Division of Innovation and Applied Research is not a membership organization, however within the Division is the TowsonGlobal Business Incubator.

Available Capital: We believe that through networking, TowsonGlobal can facilitate relationships with potential investors.

Founded: Towson University was founded in 1866, the Division was created in 2004; however many of the centers and institutes that reside within the Division had been in existence for several years.
The Object Lab at Towson University
Center for the Fine Arts, Towson University
Osler + Cross Campus Drive
Towson, MD 21252

WEBSITE: www.theobjectlab.com

KEY STAFF: Jan Baum, Director and founder, Object Lab, jbaum@towson.edu, (410) 704-2800; Dr. Maravene Loeschke, President, Towson University, Dean Susan Picinich, Dean, College of Fine and Performing Arts, Towson University

Overview: The Object Lab is a state-of-the-art rapid technologies/digital fabrication lab: 3d scanning/imaging, 3d modeling, 3d printing, cnc milling, laser cutting. We educate students with a broad range of rapid technologies/digital fabrication skills, collaborate with industry and educational institutions toward implementation of advanced manufacturing processes, and collaborate with industry, government, advocacy organizations to advance rapid tech in the Baltimore region.

Program Services: We work with entrepreneurs, small to medium size businesses, educational institutions, and industry collaboratively with rapid prototyping through laser cutting, cnc milling, and four different 3d printing technologies, as well as 3d modeling and 3d scanning and imaging.

Program Name: The Object Lab is a central part of advanced manufacturing/rapid technology for the wider Baltimore region. The Director has leadership roles in an annual conference, Next Gen M, Rapid Technology for Make and Manufacture as well as ongoing programming for a Rapid Tech Leaders and Learners. The Object Lab hosts events throughout the year: open houses and informational sessions.

Founded: 2011

The Procurement Department at Towson University, a member of the University System of Maryland
Towson University, Procurement Department
8000 York Road
Towson, Maryland 21252

WEBSITE: wwwnew.towson.edu/adminfinance/fiscalplanning/procurement/

KEY STAFF: Lucy Slaich, Director Procurement, lslaich@towson.edu, (410) 704-2050

FIRST CONTACT: For Minority Business Enterprise and Small Business Reserve Program information: Barbara Hufnagel, Contract Administrator, MBE/SBR Liaison, bhufnagel@towson.edu, (410) 704-3486

Overview: The Procurement Department procures goods and services using best value practices while working collaboratively to meet the needs of customers. It is our mission to ensure that Towson University's procurements are conducted in a competitive, fair and open environment in full compliance with applicable policies, laws and regulations. We identify opportunities to establish contracts that capitalize on the university's buying power and work closely with the campus community to ensure contract compliance. Towson University values participation and competition from small and minority-owned businesses. We encourage minority business enterprise (MBE) and small business reserve (SBR) vendor participation.

The Small Business Reserve Program specifically targets small businesses certified by the State of Maryland where certain procurements may be reserved for small businesses only. For procurements designated as such, only certified small businesses will be invited to bid.

Program Services: Regarding the Minority Business Enterprise Program: It is the goal of Towson University to afford Minority Business Enterprises (MBEs), certified by the Maryland Department of Transportation (MDOT), the opportunity to participate in all contracts. An Offeror may obtain MBE participation either directly as the prime or indirectly through subcontracting opportunities. The University attempts to achieve the result that a minimum of 25 percent of the total dollar value be made either directly or indirectly from Maryland certified MBEs. Minority Business Enterprise firms are encouraged to contact the University’s MBE Liaison, Barbara Hufnagel at 410-704-3486 or bhufnagel@towson.edu

Program Name: The Procurement Department is active in MBE outreach activities. We welcome MBE firms to visit our campus and network with Campus Customers. We share information with MBE firms on how to look for procurement opportunities, contact information for our Campus Customers and prime contractors. We are active in MBE outreach events sponsored by state, federal and local governments and other recognized organizations and ongoing outreach programs with other USM-affiliated institutions.

The Procurement Department welcomes SBR firms to visit our campus and network with Campus Customers. We share information with SBR firms on how to look for procurement opportunities and contact information for our Campus Customers. We are active in SBR outreach events sponsored by state, federal and local governments and other recognized organizations and ongoing outreach programs with other USM-affiliated institutions.

Founded: 1866
Towson University Center for Professional Studies

Towson, MD  
WEBSITE: www.towson.edu/outreach/cps

**KEY STAFF:** Jeff Beeson, Executive Director, jbeeson@towson.edu, (410) 704-3742

**Overview:** The Center for Professional Studies (CPS) at Towson University is committed to delivering the highest quality Continuing Education and Workforce Training Programs through innovative and customized instruction designed to meet the needs of the workforce system.

**Program Services:** CPS serves as the continuing education program at Towson University specializing in professional certification and workforce training programs that align with our core academic mission. We offer online and classroom education and training within the fields of Information Technology, Business, and the Health Professions. We also offer customized workforce training solutions to clients and serve as the professional development training affiliate for the Maryland State Department of Education for Information Technology and Construction Design and Management.

**Program Name:** We offer Entrepreneurial Training programs as part of our Continuing Education courses and host the Maryland State Department of Education fall and summer Professional Development training programs for Career and Technology Education teachers in Information Technology and Construction Design and Management.

**Founded:** 2004

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UNIVERSITY OF BALTIMORE

The Jacob France Institute

University of Baltimore  
1420 N. Charles Street  
Baltimore, Maryland 21201-5779  
WEBSITE: www.jacob-france-institute.org/

**KEY STAFF:** David W. Stevens, Executive Director, dstevens@ubalt.edu

**FIRST CONTACT:** Theresa Cherry, (410) 837-6652; Stacey Lee, (410) 837-4687

**Overview:** The Jacob France Institute (JFI) serves as a leading source of high quality statistical information and research covering the interaction of business, worker, and government investment decisions. Analysis of trends in the location and quality of employment along with continued education and training opportunities and outcomes are of particular importance in our current portfolio of research.

**Program Services:** The mission of this JFI Program is to develop valid and reliable measures of the performance of education, David Stevens employment training and cash assistance programs and related support services, and to study how often and in what combination these investments ‘touch’ defined target groups.

Program researchers use historical and routinely updated files of confidential administrative records maintained by the Institute under data-sharing agreements with federal, state, and local government agencies. A core asset of the Program includes a network of research partners with similar capabilities in other states. Program researchers study employment status patterns and industry and firm affiliations and employee earnings profiles, as these reflect and impact individual investments in continued education and training and individual acceptance of income supports.

Current research sponsors include the Abell Foundation; the Annie E. Casey Foundation; The Urban Institute; the Maryland Association of Community Colleges; the Governor’s Office of Crime Control and Prevention; the Maryland Department of Human Resources; the Maryland Department of Labor, Licensing and Regulation; the Maryland State Department of Education; the Maryland Department of Business and Economic Development; the Maryland Department of Health and Mental Hygiene; and the University System of Maryland.

The Economic and Workforce Development Program provides research and technical assistance to government, nonprofit and private sector clients on economic, fiscal and workforce development issues. The Program has a fifteen year history of providing both qualitative and quantitative research and analysis to support program planning and evaluation for a diverse Maryland and national clientele. The Program is skilled in both the identification and use of government statistics and generation and use of original data to support high impact, actionable research and evaluation. The Program specializes in issues relating to technology-led economic development, the importance and role of higher education, economic and workforce development strategic planning, and general economic and fiscal impact analysis.

**Program Name:**

- **Economic Development:** Real Estate Analysis, Economic and Fiscal Impact Analysis, Business Climate Assessment, Incubator Feasibility Studies, Targeted Sector Development, Strategic Planning
- **Workforce Development:** Evaluation, Project Occupational Projections, Labor Supply and Demand Analysis, Urban Spatial Mismatch, Urban Skills Mismatch, Surveys and Focus Groups
University of Maryland, Baltimore
Office of Research and Development
620 West Lexington Street, Fourth Floor
Baltimore, Maryland 21201
TELEPHONE: (410) 706-6723
WEBSITE: www.ord.umaryland.edu/

KEY STAFF: James L. Hughes, Vice President, Enterprise and Economic Development

Overview: The Office of Research and Development houses the University's research administration, corporate contract and technology commercialization efforts and leads global and economic development initiatives including the University of Maryland BioPark and Global Health Initiatives

University of Maryland, Baltimore Office of Technology Transfer
620 West Lexington Street, Fourth Floor
Baltimore, MD 21201
WEBSITE: www.ord.umaryland.edu/ott

KEY STAFF: Phil Robilotto, DO, MBA, Assistant Vice President, probilotto@umaryland.edu, (410) 706-2378
FIRST CONTACT: Gail Knott, Technology Transfer Associate, Gknott001@umaryland.edu, (410) 706-2380

Overview: The University of Maryland, Baltimore Office of Technology Transfer is responsible for intellectual property protection, development and commercialization for the six internationally recognized professional schools at UM. The Office of Technology Transfer is committed to protecting and translating the discoveries of its researchers into commercial products to benefit society and the University.

Program Services: Protection of intellectual property; Disclosure review, evaluation, tracking and reporting; Marketing and business development; Licensing and license compliance

University of Maryland Ventures
Mailing Address:
620 West Lexington Street, Fourth Floor
Baltimore, Maryland 21201
TELEPHONE: (410) 706-1935
WEBSITE: www.umventures.org

KEY STAFF: James L. Hughes, Director, UM Ventures, Vice President, Enterprise and Economic Development, University of Maryland, Baltimore

Overview: UM Ventures is an ambitious joint research commercialization effort of the University of Maryland, Baltimore (UMB) and the University of Maryland, College Park (UMCP). UM Ventures is a central part of an initiative called University of Maryland: MPowering the State. The program has combined the entrepreneurial efforts of the two powerhouse universities that together do more than $1 billion a year in externally sponsored research. UM Ventures is bringing innovative technologies to the market and expanding collaborations with industry.

Program Services: UM Ventures’ Technology Transfer offices license innovations developed by faculty, students and staff to industry partners from early stage start-ups to industry giants.

Services include:
- Evaluating, patenting, and licensing intellectual property
- Creating start-up companies to commercialize UM technology
- Finding development partners, management and funding opportunities for startups
- Assisting with funding proposals
- Coordinating industry sponsored research and clinical trial agreements

Founded: 2012
Joint Center for Earth Systems Technology (JCET)
5523 Research PK DR Suite 320
Baltimore, MD 21228
WEBSITE: j CET.umbc.edu/about/

KEY STAFF: Danita E. Eichenlaub, Administrative Director, eichenla@umbc.edu, (410) 455-1893

Overview: The Joint Center for Earth Systems Technology (JCET) operates under a cooperative agreement between the University of Maryland, Baltimore County and the NASA Goddard Space Flight Center (GSFC). JCET meets the common interest of UMBC and GSFC to develop new technology for environmental remote sensing. JCET includes tenured faculty, research faculty, research support staff, students and administrative support staff. Currently there are 12 research faculty members with affiliations to academic departments at UMBC and six UMBC tenured faculty members with a JCET affiliation. There are 19 additional research faculty members and two scientific support staff. Both graduate and undergraduate students work with JCET faculty. JCET's research focuses on themes which align with NASA's Earth Science Interests: engineering, mesoscale atmospheric processes, climate and radiation, atmospheric chemistry and dynamics, hydrospheric and biospheric sciences, and solar system science including geodesy and geophysics.

UMBC Center for Advanced Sensor Technology

University of Maryland, Baltimore County
1000 Hilltop Circle
Baltimore, MD 21250

TELEPHONE: (410) 455-1000
WEBSITE: cast.umbc.edu/

KEY STAFF: Govind Rao, Professor and Director

Overview: The UMBC Center for Advanced Sensor Technology's mission is to use innovative sensor technology to solve societal problems. Historically, innovation is an activity not associated with a university environment and is typically recognized as a business paradigm. Indeed, most people confuse innovation with invention. Innovation is what transforms an invention (usually just an idea or device) into a useful form of generally broad utility. Simply stated, inventions typically have narrow scope; innovation results in a paradigm shift.

Program Services: The Center for Advanced Sensor Technology has 2,000 sq. ft. of laboratory space in the Technology Research Center (TRC Building) on the University of Maryland Baltimore County Campus. The facilities include a cold room for protein purification, analytical equipment, spectrophotometers, glucose / lactate / glutamine analyzers, spectrofluorimeters, etc. Cell culture and fermentation equipment includes three 5-liter bioreactors, laminar flow hoods, centrifuges, shakers, incubators, microscopes, etc. Space is available for chemical synthesis including hoods, gas lines, vacuum equipment, etc…

There are three major aspects to CAST's work that are part of the process of innovation: basic research; applied sensor development; and education. Its main mission is to convert findings from our basic research into low-cost sensor technology and applications. Simultaneously, the CAST provides opportunities for our students and members of the public to learn more about sensors and their uses. Additionally, CAST is actively involved with academic partners, industrial collaborators and government agencies in a diverse array of projects.

UMBC Center for Advanced Studies in Photonics Research (CASPR)

1000 Hilltop Circle
Baltimore, MD 21250

TELEPHONE: (410) 455-8740
WEBSITE: www.umbc.edu/caspr/

FIRST CONTACT: caspr@umbc.edu

Overview: The Center for Advanced Studies in Photonics Research (CASPR) fosters advanced photonics research and technology development in the areas of optical communications, optical sensing and devices, nanophotonics, biophotonics, and quantum optics in order to benefit government, industry and scientific progress.

Program Services: An important function of CASPR is to assist university researchers and businesses in exploring and developing joint commercial applications of the new technology. The center will evolve into a long-term focus for photonics research in the Baltimore-Washington area, and it will participate in fostering a culture of economic growth and increasing expertise. Post-doctoral participants and UMBC students graduating with a heritage of CASPR-sponsored research will provide a valuable resource for that growth.

CASPR is operated in part through a NASA grant which was initiated in June, 2002. Photonics research is being conducted in diverse disciplines covering subjects in: Quantum Optics, Sensors Lasers and Detectors, Very High Capacity Optical Fiber Communication, Nanotechnology, Biophotonics

Founded: 2002
UMBC Center for Women in Technology (CWIT)

1000 Hilltop Circle  
Baltimore, MD 21250  

**TELEPHONE:** (410) 455-2822  
**WEBSITE:** www.cwit.umbc.edu/

**KEY STAFF:** Dr. Penny Rheingans, Director, rheingan@umbc.edu, (410) 455-2809

**Overview:** The Center for Women In Technology (CWIT) is dedicated to increasing the representation of women in the creation of technology in the engineering and information technology fields. CWIT efforts begin with nurturing a strong group of Scholars, grow to building community resources for other women in these majors, extend to fostering a healthy gender climate and ITE pedagogy in College of Engineering and Information Technology (COEIT) departments, and finally expand into outreach efforts to increase interest in technical careers. A successful program for female-friendly engineering and information technology education at UMBC will help make UMBC a destination for women (and men) interested in technical careers and serve as a national model for other universities.

We aspire to collaborate with our internal and external partners to make UMBC a national model for female-friendly education in ITE and UMBC COEIT a destination for women interested in technical fields. We have identified four goals key to this aspiration:

- Sustain and strengthen a vital Scholar program for undergraduates committed to increasing the representation of women in ITE fields.
- Foster a supportive community for all women in ITE at UMBC.
- Improve gender climate in COEIT.
- Broaden the pipeline of talented women interested in ITE with K-12 outreach programs.

**Founded:** 1998

UMBC Goddard Planetary Heliophysics Institute

5523 Research Park Drive, Suite 320  
Baltimore, MD 21228  

**TELEPHONE:** (410) 455-6362  
**WEBSITE:** gphi.umbc.edu/about.php

**Overview:** In May 2011, the NASA Goddard Space Flight Center (GSFC) awarded a Cooperative Agreement to the University of Maryland, Baltimore County, to create a science center for collaborative research in Solar-Planetary Sciences at NASA’s Goddard Space Flight Center, Greenbelt, MD. Through this arrangement, UMBC and its partners - University of Maryland College Park and American University - developed collaborative research programs in all areas of the Heliophysics sciences. This consortium between government and universities to create GPHI (Goddard Planetary Heliophysics Institute) not only provided a secure “home” for Heliophysics scientists, but also synergistically fostered new directions in research and technology.

**Founded:** 2011

UMBC’s Imaging Research Center (IRC)

Imaging Research Center, ITE 101  
University of Maryland, Baltimore County  
1000 Hilltop Circle  
Baltimore, MD 21250  

**TELEPHONE:** (410) 455-3373  
**WEBSITE:** www.irc.umbc.edu/

**FIRST CONTACT:** info@irc.umbc.edu

**Overview:** The UMBC IRC mission can easily be summarized…

- To implement new digital art technologies and interpret important content for the purpose of engaging the public.
- To develop broad interdisciplinary teams of researchers and students
- To create sustainable programs that directly engage students in all aspects of IRC research.

**Program Services:** Proposal process: The IRC believes that effectively combining art, technology and scholarship to create compelling works requires a collaborative effort. The IRC’s research and project management style emphasizes a group “think-tank” or horizontal approach during the first stages of defining a project’s research goals, outcomes, and implementation.

**Research projects are initiated in three ways:**

- Internally by IRC staff and faculty
- In partnership with faculty, researchers, or other Centers at UMBC
- By outside organizations and industry partners presenting an opportunity or problem to the IRC for assistance or development
UMBC Institute of Fluorescence (IoF)
The Columbus Center
701 East Pratt Street
Baltimore, MD 21202

TELEPHONE: (410) 576-5724
WEBSITE: www.theinstituteoffluorescence.com/

KEY STAFF: Dr. Chris D. Geddes, (Professor), Director: The Institute of Fluorescence, geddes@umbc.edu, (410) 576-5723

Overview: The IoF was founded in 2001 by Dr. Chris D. Geddes, Professor and Director. Under the leadership of Dr. Chris D. Geddes, the IoF has earned a well-deserved international reputation for its advances in Fluorescence Spectroscopy and Plasmonics. Approaches and concepts both developed and discovered by the group, such as Metal-Enhanced Fluorescence (MEF), Metal-Enhanced Chemiluminescence (MEC), Surface-Plasmon Coupled Phenomenon and the glucose-sensing contact lens, are both well-recognized, highly cited and currently used in laboratories around the world today.

Program Services: Dr Geddes’s and the IoF’s research is focused at the development of new Fluorescence and Plasmonics concepts and theory, with a view to their downstream biomedical application in health care, safeguard and diagnostics.

Founded: 2001

UMBC Office of Technology Development
5523 Research Park Drive, Suite 310
Baltimore, MD 21228

TELEPHONE: (410) 455-3658
WEBSITE: www.umbc.edu/otd

KEY STAFF: Wendy Martin, Director, wmartin@umbc.edu
FIRST CONTACT: researchnews@umbc.edu

Overview: The Office of Technology Development of UMBC assists the UMBC community in all phases of intellectual property protection and commercialization.

Program Services:
• evaluating disclosed inventions for patentability and market potential
• filing patent applications, copyright and trademark registrations
• reviewing and negotiating material transfer agreements and non-disclosure agreements related to UMBC technologies
• negotiating technology licenses
• license monitoring and revenue distribution
• assist entrepreneurial faculty in new company formation

UNIVERSITY OF MARYLAND, COLLEGE PARK

Center for Excellence in Regulatory Science and Innovation (CERSI)
2207 Jeong H. Kim Engineering Bldg
College Park, MD 20740

WEBSITE: www.cersi.umd.edu

KEY STAFF: Dr. William Bentley, bentley@umd.edu; Dr. James Polli, jpolli@rx.umd.edu; Ann M. Anonsen, aanonsen@umd.edu, (301) 405-0285

Overview: The Center for Excellence in Regulatory Science and Innovation (CERSI) primarily focuses on improving the ways drugs and medical devices are reviewed and evaluated. CERSI provides a collaborative partnership with the University of Maryland, College Park and the University of Maryland, Baltimore. The partnership allows researchers from both campuses to work with FDA staff to support the development of tools, standards, and approaches to assess the safety, efficacy, quality and performance of FDA-regulated products.

CERSI Consortia members include: Canon, Lockheed Martin, Siemens, SAIC, MedStar, AdvaMed, BD, MDMA, Waters and Weinberg

Founded: 2012
Dingman Center Angels
2518 Van Munching Hall
College Park, MD 20742
TELEPHONE: (301) 405-9545
WEBSITE: www.rhsmith.umd.edu/dingman/entrepreneurs/angels/

KEY STAFF: Elana Fine, Managing Director, efine@rhsmith.umd.edu; Joel Marquis, Assistant Director, Venture Programs, jmarquis@rhsmith.umd.edu

Overview: The Dingman Center Angels connects regional start-up companies seeking seed and early-stage funding with angel investors. Over 150 companies submit applications each year. Over $4 Million invested in start-ups since the creation of the program in 2005. 50 qualified angel investors and venture capitalists comprise the network. The Dingman Center Angels provides partnerships with incubators, economic development organizations and service providers in the region.

To be eligible to apply, the company must be located in the Mid-Atlantic region and should be seeking between $150,000 and $1,000,000 of equity financing.

Institute for Systems Research – A. James Clark School of Engineering
2173 A. V. Williams Building
University of Maryland
College Park, MD 20742
TELEPHONE: (301) 405-6615
WEBSITE: www.isr.umd.edu

KEY STAFF: Jeff Coriale, Director of External Relations, coriale@isr.umd.edu, (301) 405-6604

Overview: ISR’s strategy for partnerships with external organizations is to seek mutual benefit and work on topics that are of strategic priority to both parties. ISR supports its strategy by employing a process of understanding the customer, getting the right people together to define the partnership, and selecting the best business vehicle to implement the partnership.

ISR’s structure is designed to establish partnerships. ISR’s external relations unit, whose director is dedicated to building relationships, provides a “one stop shopping” service for both the company and ISR faculty. The director works across several domains (technical, legal, and business) and involves the appropriate faculty, university administration and legal staff, and external organization technical staff and management as needed to help form the partnership.

Maryland Biotechnology Research and Education Program
2103 Potomac Bldg. #092
University of Maryland
College Park, MD 20742
TELEPHONE: (301) 405-8004
WEBSITE: www.mtech.umd.edu/biotech/index.php

KEY STAFF: Paul Allenza, Director, allenza@umd.edu

Overview: The BREP program is designed to bolster Maryland’s burgeoning biotechnology industry and offers bioprocessing facilities and services, graduate degree programs, training and consulting for Maryland companies.

Maryland Industrial Partnerships
2100 Potomac Bldg.
College Park, MD 20742
TELEPHONE: (301) 405-3891
WEBSITE: www.mips.umd.edu/

KEY STAFF: Dr. Martha Connolly, Director, marthac@umd.edu, (301) 405-3892

Overview: Maryland Industrial Partnerships (MIPS) promotes the development and commercialization of products and processes through industry/university research partnerships. MIPS provide matching funds to help Maryland companies pay for the university research. Projects are initiated by the companies to meet their own research and development goals. Through MIPS, Maryland firms have the opportunity to leverage their research and development funds and gain access to the creative talents and extensive research base of the University System of Maryland. MIPS matching funds are awarded on a competitive basis for projects based on proposals submitted jointly by Maryland companies and researchers from any of the 13 University System institutions.

The Maryland Industrial Partnerships (MIPS) program accelerates the commercialization of technology in Maryland by jointly funding collaborative R&D projects between companies and University System of Maryland faculty. MIPS projects help companies find solutions to technical challenges, as well as develop products, processes or training materials. MIPS projects are conducted by university faculty and graduate students in conjunction with company researchers.

With more than 400 Maryland companies participating in project awards since 1987, worth over $160 million—MIPS projects create results. MIPS-supported products have generated more than $21.6 billion in sales, added jobs to the region, and infused state-of-the-art technology into the global marketplace.
Maryland Intellectual Property Legal Resource Center
387 Technology Drive
College Park, MD 20742
TELEPHONE: (301) 314-8572
WEBSITE: www.miplrc.org/

Overview: The Maryland Intellectual Property Legal Resource Center was established in 2002 to educate law students, entrepreneurs, and the community about the legal aspects of intellectual property. As part of its mission, the MIPLRC also provides free legal services on intellectual property and related matters to emerging technology companies and explores relevant legal, ethical and policy issues in the high technology and intellectual property areas.

Program Services: The Center delivers legal services primarily through law students, who practice under the supervision of experienced faculty members. The Center is therefore a vehicle for training law students to serve the needs of early stage high technology companies. The types of legal services provided include: general counseling; assistance in preparation, filing and prosecution of trademark and service mark applications; assistance in the preparation and filing of copyright registrations; undertaking limited patent and prior art searches; assistance in preparation of various agreements, such as nondisclosure agreements, employment and consulting agreements, and licenses; providing basic counseling on business entity selection and formation.

Maryland International Incubator
8400 Baltimore Avenue
College Park, MD 20742
TELEPHONE: (301) 982-0440
WEBSITE: www.mtech.umd.edu/mi2/index.html

KEY STAFF: Ericka Black, (301) 405-3905

Overview: The mission of the International Incubator is to connect Maryland and International companies for successful joint ventures through a targeted array of business services, state-of-the-art facilities, and world-class resources.

Amenities: MI2 provides partner companies with: Direct access to world-class faculty, students and research facilities; physical space for companies to reside in; hands-on mentoring and training; and networking opportunities with potential partners having common or complementary interests with potential investors.

Office of Technology Commercialization
0133 Cole Student Activities Building
College Park, MD 20742
TELEPHONE: (301) 405-3947
WEBSITE: www.techtransfer.umd.edu

KEY STAFF: Dr. Gayatri Varma, Gayatri@umd.edu

Overview: The Office of Technology Commercialization (OTC) is the gateway to the University of Maryland College Park's technology transfer and commercialization endeavors. OTC develops and manages a high-quality portfolio of diverse technologies, ensures intellectual property rights through patents or copyrights, negotiates and executes licensing agreements and, when feasible, assists in the formation of start-up businesses that utilize university technology to benefit the state and local economy. Today, the university is the largest public university patent holder in Maryland and ranks among the top 10 of all Maryland patent holders. OTC is leading an effort to integrate campus-wide entrepreneurial activities through the University Of Maryland Network Of Entrepreneurs. From the laboratory to the marketplace, OTC provides end-to-end support for faculty and student researchers and entrepreneurs.

The Office of Technology Commercialization assists with intellectual property rights through patents or copyrights, assists with the formation of start-up businesses, and assists faculty and student researchers with invention disclosures.

Founded: 1987

Tech Entrepreneur Research and Prototyping (TERP) Startup Laboratory
387 Technology Drive
College Park, MD 20742
WEBSITE: www.startuplab.umd.edu/

KEY STAFF: Craig Dye, Director, cdye@umd.edu

Overview: The TERP Startup Lab is a new technology incubation program for University faculty, students, and regional entrepreneurs who: are too early for or don’t yet meet the requirements for the Venture Accelerator or Technology Advancement Program, but need a place where they can quickly develop their technology prototypes and get some help to start their companies, and offer some strategic benefit or alignment with the University of Maryland.

Amenities: Benefits include: furnished 700 sq. ft. space in the TAP incubator, mailbox, company listing, shared conference rooms, basic hardware and software development tools, as well as access to TAP operations staff and business advisory staff at monthly Entrepreneur Office Hours.
University of Maryland M Square Research Park
2133 Lee Building
University of Maryland
College Park, MD 20742
TELEPHONE: (301) 405-1990
WEBSITE: msquare.umd.edu/

KEY STAFF: Brian Darmody, bdarmody@umd.edu, (301) 405-1990

Overview: M Square is a public-private partnership between Corporate Officer Properties Trust and the University of Maryland (UMD). UMD works with all M Square tenants to provide synergistic and collaborative opportunities. The Research Park offers flexible space locations from incubator space for startup companies to build to suit options for larger technology clients in Maryland's largest research park.

The University of Maryland Technology Advancement Program
387 Technology Drive
College Park, MD 20742
TELEPHONE: (301) 314-7805
WEBSITE: www.mtech.umd.edu/tap/index.php

KEY STAFF: Craig Dye, Director, cdye@umd.edu, (301) 314-7804

Overview: The Technology Advancement Program (TAP) staff is comprised of seasoned veterans of startups and venture capital firms who will provide: Business advice and support, Market intelligence, Introductions, Access to funding, other critical assistance that can accelerate the growth of your technology venture.

TAP offers furnished offices and flexible lab space as well as a multitude of other benefits and services that can only be found at a technology business incubator situated right on the campus of one of the nation's top research universities. The program also offers Furnished offices, Flex labs, wet labs, common labs, and bio scale-up facilities, Conference rooms, Receptionist, Office equipment, Telecom/Internet-ready, 24/7 HVAC, utilities included, Business Advice and Coaching, Product planning, Market intelligence, Customer acquisition, Financial analysis, Fundraising, Executive recruiting, Legal and intellectual property issues, Marketing and PR, Introductions, Angel investors, VCs, and grant organizations, Potential customers and partners, Industry experts and advisors

Access to UM research library system, Faculty expertise, Maryland Industrial Partnerships R&D funding, Student and alumni recruiting, Special facilities (Biotechnology Research and Education Program., Maryland Nano Center, Micro and Nano Fabrication Laboratory, University of Maryland Energy Research Center, Recreational facilities, Significant procurement discount

Venture Accelerator Program
WEBSITE: www.va.umd.edu/

KEY STAFF: Craig Dye, Director, cdye@umd.edu

Overview: The Venture Accelerator program helps University of Maryland inventors develop their research toward successful venture creation. An experienced team of business professionals enables inventors to maintain academic responsibilities as faculty, research staff, or student, while also furthering the development of the startup. The Venture Accelerator Program speeds the process of venture creation by systematically guiding and coaching inventors through new business processes such as: Sound Business Planning, Understanding Customers & Markets, Setting Goals & Priorities, Acquiring Skills & Recruiting Talent, and Raising Capital
THE UNIVERSITIES AT SHADY GROVE

9630 Gudelsky Drive
Rockville, MD 20850

TELEPHONE: (301) 738-6000
WEBSITE: www.shadygrove.umd.edu/

KEY STAFF: Dr. Stewart Edelstein, sedels@umd.edu, (301) 738-6034

Overview: The Universities at Shady Grove offers high quality University System of Maryland education, research, and services to citizens, businesses, and government in the Montgomery County and surrounding region. USG is Maryland's largest regional center with an innovative partnership of nine University System of Maryland universities on one Montgomery County campus.

Institute for Bioscience and Biotechnology Research (IBBR)

9600 Gudelsky Drive
5115 Plant Sciences Bldg
Rockville, MD 20850

TELEPHONE: (240) 314-6000 (Rockville); (301) 405-1581 (College Park)
WEBSITE: www.ibbr.umd.edu/

KEY STAFF: Lisa Garlena, (240) 314-6274

Overview: To leverage the collective research strengths of partnering institutions UMD, UMB, and NIST in the biological and quantitative sciences, medicine, and engineering. Develop integrated, cross-disciplinary team approaches to scientific challenges, technology development and education. To serve the expanding bio-economy of Maryland and the Nation.

Program Services: The Institute for Bioscience and Biotechnology Research (IBBR) is a University System of Maryland joint research enterprise created to enhance collaboration among the University of Maryland College Park, The University of Maryland Baltimore and the National Institute of Standards and Technology.

IBBR research spans four related Research Themes that benefit from strong interactions among the partnering institutions:

- Biomolecular Engineering and Biofabrication
- Biomolecular Structure, Function, and Metrology
- Host-Pathogen Interactions
- Therapeutic Design and Development

IBBR Biomolecular Labeling Laboratory (BL2)

9600 Gudelsky Drive
Rockville, MD 20850

TELEPHONE: (240) 314-6294
WEBSITE: www.ibbr.umd.edu/facilities/bl2

KEY STAFF: Zvi Kelman, Director, zkelman@umd.edu

Overview: The Biomolecular Labeling Laboratory (BL2) provides state-of-the-art capabilities in biochemistry, molecular biology and biophysics necessary to support users in the production, purification and characterization of stable-isotope labeled biomolecules for advanced biophysical and bioanalytical measurements. It supports internal measurement programs in areas such as neutron scattering, nuclear magnetic resonance (NMR) and high resolution mass spectrometry, as well as supports the external user community of the NIST Center for Neutron Research.

The BL2 currently supports labeling proteins and nucleic acids with 2H, 13C and 15N. It also has the capability for domain labeling and amino acid-specific labeling of proteins expressed in bacteria and yeast.

IBBR DNA Sequencing Facility

5129 Plant Sciences Building
College Park, MD 20742

TELEPHONE: (301) 405-5222
WEBSITE: www.ibbr.umd.edu/facilities/sequencing/staff

KEY STAFF: Suwei Zhao, Manager, suezhao@umd.edu, (301) 405-5222

Overview: The DNA Sequencing Facility is a fee-for-service laboratory operated by IBBR. It is open to members of the University System of Maryland, USDA, NIH, and other research institutions in the Washington DC area. It is operated by three dedicated technicians. An Applied Biosystems DNA sequencer (model 3730) is the principal instrument. Services provided include DNA sequencing reactions with user-provided template, electrophoretic fraction of reactions, and automated base-calling.

The UM-IBBR Sequencing Core provides the research community at the University of Maryland (as well as off-campus customers) with access to ‘Next Generation’ sequencing. We feature an Illumina HiSeq1000 instrument, which can generate up to 500 million clusters, or a billion paired-end reads per run. Run times range from about four days for 50-base applications to 8 days for 100-base paired-end reads and the accuracy enables a broad range of applications, including but not limited to: DNA sequencing (DNA-seq), Transcriptome analysis (RNA-seq)

Information about the Illumina technology and capabilities can be viewed at www.illumina.com.
IBBR Plant Growth Facilities
9600 Gudelsky Drive
Rockville, MD 20850
TELEPHONE: (301) 405-1581
WEBSITE: www.ibbr.umd.edu/facilities/plant-growth-facilities

Overview: IBBR’s Plant Growth Facilities are used to transform crop plants and model experimental plants for a variety of uses. Applications include production of economically important proteins, enhancement of nutritional value, and introduction of pest resistance or herbicide tolerance. Plants may also be tailored for use in genomic, proteomic or metabolomic studies.

The facilities include a transformation suite, plant tissue culture suite, controlled environment plant growth chambers, and a 4,500 sq. ft. greenhouse for the large scale production and testing of transformed plants. Projects are varied from the analysis of virus replication in tomatoes, growth of TMV-nanoparticles in tobacco, novel nanotechnology approaches for plant transformation, and metabolite analysis of medicinal herbs such as black cohosh.

IBBR W.M. Keck/NIST Laboratories for Biomolecular NMR
TELEPHONE: (240) 314-6284
WEBSITE: www.ibbr.umd.edu/facilities/nmr/staff

Overview: Includes state-of-the-art magnets operating at 500MHz and 600MHz proton resonance frequencies as well as a complement of resources for research in molecular biology, x-ray crystallography, fluorescence spectroscopy, fast kinetics, calorimetry and computational science.

IBBR W.M. Keck/NIST X-ray Crystallography Core Facility
TELEPHONE: (240) 314-6239
WEBSITE: www.ibbr.umd.edu/facilities/xray/staff

Overview: Supports IBBR’s strong research emphasis providing experience and expertise in macromolecular structural determination by X-ray crystallography and analysis of the resulting atomic structures.

Biopharmaceutical Advancement Facility
9600 Gudelsky Drive
Rockville, MD 20850
TELEPHONE: (240) 314-6157
WEBSITE: www.mtech.umd.edu/biotech/baf.html

KEY STAFF: John Kerwin, jkerwin@umd.edu, (240) 314-6157

Overview: The Biopharmaceutical Advancement Facility (BAF) is a translational core facility located at IBBR Shady Grove that specializes in the development of cell culture-based biopharmaceutical products. BAF is part of the Biotechnology Research and Education program of the University of Maryland’s Technology Enterprise Institute (MTECH). BAF clients include: Companies developing cell culture-based biopharmaceuticals or products, Researchers looking for solutions to cell culture-based development challenges, and Faculty needing a facility for, or expertise in, biopharmaceutical or cell culture-based research

Process Equipment: Static and shaking incubators, New Brunswick Scientific (NBS) Celligen 310 Bioreactors (working volume of 1.5, 2.5, 5.0, and 10.0 liters), NBS Bioflow 5000 Mobile Pilot Bioreactor, 60 liter working volume, Hollow Fiber and Tangential Flow Filtration Systems

Bioprocess Scale-Up Facility
Stadium Drive Bldg.990- Rm1203
College Park, MD 20742
TELEPHONE: (301) 405-3909
WEBSITE: www.mtech.umd.edu/biotech/bsf.html

KEY STAFF: Ben Woodard, Director BSF, woodard@umd.edu

Overview: The Bioprocess Scale-Up Facility (BSF) is the Biotechnology Research and Education Program’s modern bioprocessing laboratory dedicated to the development and scale-up of biotechnology products and processes. With over 1000 fermentations conducted since 1998 alone, the BSF has accelerated the R&D of local biotechnology leaders such as Human Genome Sciences, NIH and MedImmune, as well as growing Maryland start-ups such as Martek Biosciences and Digene Corporation.

The BSF’s capabilities include: fermentation, cell culture, separation, purification, and product analysis.
The road from idea to market requires more than money, management, and vision. Technology firms also need legal advisors who can represent their interests and help them with all aspects of their businesses—including structuring, financing, intellectual property asset protection, and the creation of an exit strategy.

As one of the nation’s leading law firms, Venable provides comprehensive legal services to fast growing technology and emerging life sciences companies. For more information visit us at www.Venable.com.

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1.888.VENABLE  |  www.Venable.com
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As one of the nation’s leading law firms, Venable provides comprehensive legal services to fast growing technology and emerging life sciences companies. For more information visit us at www.Venable.com.

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202.344.4072magollin@Venable.com
INTELLECTUAL PROPERTY LAW CAN BE COMPLEX

PROTECT YOURSELF

Almost every business, whether a startup or an established company, has intellectual property that provides a competitive advantage. Any business with a name, logo, advertisements, inventions, custom software, customer lists or a website has intellectual property and should understand how to protect it.

Intellectual property law is very complex and it is generally advisable to consult with an attorney for guidance on how best to protect your company's intellectual property assets.
Why should a startup take steps to protect intellectual property?

Intellectual property is a business asset and has commercial value. Startup companies should be proactive in developing and protecting their intellectual property for many reasons, including (1) to protect their competitive advantage, (2) to use intellectual property as a marketing edge, (3) to increase the value of the business and (4) to use as a potential revenue stream through licensing.

A company’s intellectual property portfolio is of significant interest to angel investors, venture capitalists, and during an IPO. Startups need to invest in intellectual property to make the business more attractive to investors. Companies need to take proactive steps to protect intellectual property by filing patent applications where appropriate, registering trademarks and copyrights, and taking appropriate steps to protect trade secrets. By taking steps early on to protect intellectual property, a company provides comfort to investors, builds credibility, and creates a solid foundation that can be capitalized on later.

As a startup company, you also need to be aware of others’ intellectual property rights to ensure that someone else’s rights will not prevent or limit you from operating your business.

Intellectual property is often created during a company’s earliest stages and startups need to develop a specific, robust intellectual property strategy from the beginning in order to maximize the value of these important assets.

There are four types of intellectual property that are discussed in detail in this Guide: patents, trademarks, copyrights, and trade secrets. The Guide also includes a section describing intellectual property transactions and agreements.

Patents

Patent law is the most complex area of intellectual property law and it is advisable to seek the assistance of a patent attorney licensed to practice before the U.S. Patent Office. Every entrepreneur should have an understanding of the basics of patent law in order to ensure that his or her company is proactively protecting its patentable innovations.

The U.S. Constitutional goal of the patent system is to “promote science and the useful arts.” In order to do this, the system grants limited monopolies to inventors in exchange for full public disclosure of the invention.

A patent can convey a significant monetary benefit to its owners. A patent protects the owner’s market share as it prevents competitors from copying. Essentially, the owner has a legal monopoly over the invention, can set prices and restrict how and where the invention is sold. Further, a strong patent portfolio and well-drafted patents can attract investors.

What is a patent?

A patent is a legal grant from the Federal Government giving an inventor and/or owner the right to prevent others from making, using, selling, offering for sale or importing the patented invention while the patent is in force. Note that a patent does not give the owner the right to make, use, sell or import the invention because though a patent is earned, you may not be able to practice the invention without infringement of another patent.

There are two principal types of patents: utility patents and design patents. Utility patents are issued for machines and articles of manufacture, processes, compositions, certain business methods, and software, as well as improvements on such ideas. Design patents protect the ornamental, non-functional design of an article of manufacture. Examples of design patents include the shape of the Coca-Cola bottle, the tread on a tire, and a vehicle grille.

The current term of a utility patent is twenty years from the date of filing of the patent application, once the patent is granted. The current term of a design patent is fourteen years from the date the patent is issued.

What is patentable?

To be patentable, an invention must be worthy of the monopoly protection granted. Three basic criteria are used to meet this goal. An invention must be new, useful and not obvious. New means that the invention, when viewed as a whole, is different from the prior art. Prior art is the existing body of knowledge in the technical field of the invention. Prior art includes all prior-existing devices, compositions, and processes as well as any type of publication or patent. The America Invents Act expanded...
the definition of prior art to include public use, sales, and other disclosures made available to the public anywhere in the world as of the filing date. In other words, the invention cannot be exactly like something already in existence. Useful means that the invention performs the purpose of the invention and must not be immoral, frivolous or mischievous. An example of a non-useful invention is a method for counterfeiting. An invention is not obvious if, at the time the invention was made, the invention would not have been obvious to one of ordinary skill in the art to which the invention relates. Examples of nonpatentable subject matter are naturally occurring products in nature, scientific principles, laws of nature, mental processes and mathematical expression or formulas.

**WHAT IS A PATENTABILITY SEARCH?**

Before investing in the time and expense of a patent application, it is often advisable to request a patent attorney to conduct a patentability search in the United States Patent Office. The search itself seeks identification of any areas of the invention that are new, useful and non-obvious and would therefore be eligible for patent protection.

A patentability search may turn up a patent or publication that already discloses the proposed invention or shows the proposed invention to be obvious to those of ordinary skill in the art. It is clearly better to discover a fatal reference early in the process in order to save the cost and time investment related with filing and prosecuting a patent application. Also, a patent search may identify references that are likely to be cited by a patent examiner when the application is examined in the Patent Office, and the patent application can be drafted in view of those references to better avoid problems with those references during the prosecution process.

**WHEN MUST A PATENT APPLICATION BE FILED?**

Historically, the United States has used a first-to-invent system. Thus, patents have been awarded to the first person or group of people to conceive of an invention and reduce that concept to practice. Most foreign countries use a first-to-file system, which awards a patent to the first inventor(s) to file an application. The America Invents Act (AIA), the sweeping patent reform legislation signed into law in September 2011, introduced a first-inventor-to-file system in the United States for all patents filed on or after March 16, 2013.

The United States’ system under the AIA grants a one year grace period wherein an inventor’s own publications, uses, disclosures, and sales do not preclude patentability. Publications and disclosures made independently by another inventor will constitute prior art and thus prohibit patentability. The public use or sale that triggers the grace period only has to be a disclosure that has enough detail to allow the invention to be reproduced, including a journal publication, speech, sales call or presentation. In other words, if an inventor publicly uses, sells, or otherwise discloses his or her own invention, then the inventors have no more than one year after that disclosure, use or sale in order to file a patent application. If more than one year passes, the invention is no longer patentable.

Because of the first-to-file system in foreign countries, however, there is usually no grace period for international protection. If there is any possibility that you will want to seek foreign protection for your invention, you must file any patent application, including a U.S. patent application, before any publication, public use, and offer for sale or sale of the invention.

A provisional patent application is a mechanism for quick and inexpensive filing in order to preserve a filing date. Provisional applications are routinely used when a public disclosure is imminent or if the one year grace period is soon to expire. In order to receive a patent, the provisional application must be replaced with a regular utility application within twelve months. Provisional applications are not examined or considered by the Patent Office during that twelve-month period; instead, the provisional application simply acts to secure the filing date as a basis for a utility application and possible international protection.

**WHAT RECORDS OF THE INVENTION PROCESS SHOULD BE MADE AND RETAINED?**

Retaining records of the invention process is very...
important. Records kept during the invention process can become very important during the patent application process and also in the event that you need to enforce your patent in a patent infringement lawsuit. Good record-keeping practices to employ include:

- **KEEPING A PERMANENTLY-BOUND NOTEBOOK** of the invention process (containing hand-written descriptions of experiments, data, results, etc.) with numbered pages
- **DATING EACH PAGE** of the notebook;
- **KEEPING ALL DRAWINGS** and specifications and write dates on each page as they are created
- **KEEPING DOCUMENTS**, source code, business plans, schematics, receipts and calendars and record dates on all
- **USING INK**
- **HAVING OTHER EMPLOYEES REVIEW** documents, notebooks, etc. and sign and date each page

**WHAT ARE THE REQUIREMENTS FOR A PATENT APPLICATION?**

The actual patent application is drafted with a disclosure, frequently including drawings, that is detailed enough that the invention can be replicated without “undue experimentation,” and a set of claims to the invention. Claims are numbered sentences that define the scope of the invention.

The inventors must also execute an oath and declaration, and if the patent application is to be assigned to another party, then an assignment of the application is also filed with the Patent Office.

The original inventors must apply for the patent and are the owners of the patent unless their rights have been assigned to another party. Typically inventions made in the scope of employment must be assigned to the employer and inventions made as a result of university research or at academic institutions must be assigned to the university.

Once a patent application has been filed, the subject article may be marked with a “patent pending” notice.

During the application process, the inventor(s) and the patent attorney have an obligation to disclose any and all information that the Patent Office may consider important in the examination of the patent application, including the identity of any prior art of which the inventors are aware.

**WHAT HAPPENS AFTER THE PATENT APPLICATION HAS BEEN FILED WITH THE PATENT OFFICE?**

In the absence of a request for expedited review, submission of a much more stringent application and payment of an additional fee, the patent process moves very slowly. It typically takes one to four years after filing for a patent to issue, with a pendency of three years being the norm.

Once a patent application has been submitted to the Patent Office, the application is assigned to a patent examiner charged with reviewing the application, conducting a search and determining whether the application meets the requirements of being new, useful and not obvious. The examiner com-
municates his or her findings with the patent application using “Office Actions” which describe any rejections of the claims based on prior art references or other reasons and describes any allowable subject matter. It is very, very rare that a patent application proceeds to issue without an Office Action. The applicant may respond to the Office Action by providing arguments in favor of allowance, making any changes required by the examiner and making certain amendments to distinguish the invention over the cited prior art references.

This process may be repeated several times, although once or twice is usually the norm. This process will eventually result either in the Patent Office’s allowance of the invention as claimed or in a final rejection of the invention as claimed. If the claims are finally rejected, an appeal process is available. If the claims are allowed, an issue fee is paid and the patent is issued.

**Q** IS INTERNATIONAL PATENT PROTECTION AVAILABLE?

Filing a U.S. patent application does not protect the invention outside of the United States. To obtain protection in a foreign country, a separate application must be filed. In general, most foreign countries require an inventor to file a patent application before any public disclosure is made. If a U.S. patent application is filed before any public disclosure has been made, a foreign patent can usually be filed up to one year after the U.S. filing date.

**Q** HOW IS A PATENT ENFORCED?

To enforce a patent, the owner may sue an infringer in federal court, stating a claim for patent infringement. A patent infringement lawsuit may seek an injunction to stop the infringement from continuing and may seek monetary damages.

**TRADEMARKS**

**WHAT IS A TRADEMARK?**

A trademark is a word, a symbol, or a combination thereof used by a manufacturer or merchant to identify its goods or services and to distinguish them from those of its competitors. An established and subsisting trademark provides value in several ways, including (1) it distinguishes your goods or services from those of your competitors, (2) it serves as a guaranty of consistency of quality; and (3) it helps advertise and sell your products or services.

Consumers encounter trademarks every day, while purchasing Starbucks coffee, wearing athletic clothing with the distinctive Nike “swoosh”, using their Visa card to buy groceries and listening to the distinctive NBC chimes during their favorite television program. Trademarks also protect packaging, such as the shape of the Mrs. Butterworth’s syrup bottle and the distinctive appearance of a restaurant such as I-Hop.
A trademark should be exclusive. It should indicate that all goods carrying that trademark come from or are sponsored by your company. Even though a purchaser may not know the name or location of your company, he or she is entitled to rely on the fact that your trademark is exclusively the mark of one entity and identifies goods or services emanating from that entity.

**WHEN DO TRADEMARK RIGHTS BEGIN?**

Trademark rights begin with use of the mark in commerce. Federal or state registration of a trademark is not required in order for rights to accrue; common law rights begin as soon as the mark is used. There are, however, significant benefits to obtaining federal registrations for your trademarks. The benefits of federal registration are discussed in detail below.

It should be noted that certain activities do not constitute use that give rise to trademark rights. First, incorporation with the Secretary of State or registration of a fictitious name is not use that gives rise to trademark rights. Also, reservation of a domain name with no use of the mark on the website other than in the domain is not use within the meaning of trademark law.

**WHAT SHOULD MY COMPANY DO BEFORE ADOPTING A TRADEMARK?**

The selection of new trademarks can be a difficult process. Problems can arise if the trademark you select is confusingly similar to a mark already in use by another company on the same or similar goods. Obviously, the mark does not distinguish your goods from the goods of the other company. You may face possible liability as an infringer of the other company’s trademark rights. It is very common for a new company to adopt a trademark, invest significant money in advertising, labels, and packaging with that trademark only to find out later that another company has superior rights in the mark and therefore the new company must stop using the advertising, labels and packaging and invest more money in rebranding.

You may find, after spending time and money creating goodwill and reputation in your new trademark, that another company may not only stop your further use but also reap for itself the benefits of your time and money.

It is, accordingly, essential that a careful search be made to determine whether the same or a similar trademark has previously been used on goods or with services which might have some connection with your company. You should seek the advice of an attorney experienced with trademark law for assistance with trademark searches.

**WHAT IS A TRADEMARK SEARCH?**

A trademark search helps determine whether a particular trademark is available for use and registration with the U.S. Trademark Office. At a minimum, the records of the U.S. Trademark Office should be searched for any proposed trademark to determine if an identical trademark has been applied for or registered for the same or similar goods or services. The search may identify trademark applications or registrations that make you select a new trademark and hopefully save the time and expense of rebranding after the trademark has already been adopted.

Another type of search frequently conducted is a comprehensive search. In this type of search, all state trademark registrations, all common law uses of a trademark and all web-based uses are searched in addition to the records of the U.S. Trademark Office. Usually an attorney oversees the search and then authors an opinion interpreting the findings of the search and how they relate to your ability to register your proposed trademark and the risk of adopting and using the mark.

**ARE THERE DIFFERENT TYPES OF TRADEMARKS?**

There are four general types of trademarks: generic, merely descriptive, suggestive, and arbitrary. The strongest marks, and thus the easiest to protect, are suggestive or arbitrary. The weakest marks (generic or descriptive) are very hard if not impossible to protect.

Arbitrary marks have no meaning within the industry, and include Apple for computers, Arrow for shirts and Kodak for cameras. Suggestive marks suggest characteristics of the product, but do not describe it. Examples include WordPerfect for a word
processing program, Coppertone for suntan lotion, and Jaguar for sports cars. A descriptive mark is not inherently distinctive for the product and directly identifies characteristics of the product. Descriptive marks include Vision Center for eye exam services and Comfort Inn for motels. Generic marks cannot be protected with trademarks and include Baking Soda for a baking soda product or Telephone for a telephone product.

Selection of a mark that is distinctive and will uniquely identify your products or services from others in the same area of business is very important. The strongest trademark is one that bears little to no relationship to the goods or services used with it. You should also ensure that you select trademarks that will not cause customer confusion about the source of the goods or services.

**Q** ARE THERE BENEFITS TO OBTAINING A FEDERAL TRADEMARK REGISTRATION?

The United States has a federal statutory scheme of protection for trademarks known as the Lanham Act. Certain trademarks are register able under the Lanham Act by way of an application process administered by the United States Patent and Trademark Office.

A registration on the Principal Register of the United States Patent and Trademark Office is constructive notice of the registrant’s claim of ownership of the mark shown in the registration. No one else may commence using the same or a confusingly similar mark on the same or related goods and then assert that he did not know of your claim of ownership of the mark.

The registration is also evidence of the validity of the registration of the registrant’s ownership of the mark, and of the registrant’s exclusive right to use the mark in interstate, territorial, and foreign commerce on the goods recited in the Certificate of Registration issued by the Trademark Office. In any action or proceeding involving your registered mark, once the registration is offered in evidence, the burden is shifted to the other party to prove that you do not own the mark, that the registration is invalid, or that you do not have the exclusive right to use the mark in interstate, territorial, and foreign commerce.

Upon a filing of an affidavit in the appropriate time period after registration, the registration may become conclusive evidence of the registrant’s exclusive right to use the mark. A registration on the Principal Register may be used as the basis of obtaining a registration in any foreign country, which by treaty or law affords reciprocal privileges.

A federal trademark registration also confers the right to bring a lawsuit against infringers in United States federal court.

**Q** WHAT ARE THE REQUIREMENTS FOR A FEDERAL TRADEMARK APPLICATION?

A federal application identifies the trademark, the goods and/or services that the mark is used with and describes the applicant’s use of the mark (including a date of first use and evidence of how the mark is used in commerce).

An intent-to-use application may be filed if the applicant has selected a trademark and has a good faith intention to put the mark into use in the near future. An intent-to-use application offers a means of getting pre-approval of a proposed mark and knowing that it is register able prior to the time that it is actually used in commerce.

**Q** WHAT HAPPENS AFTER THE TRADEMARK APPLICATION HAS BEEN FILED WITH THE TRADEMARK OFFICE?

Once filed, the application is assigned to an Ex-
The Examin ing Attorney searches for marks that are likely to be confused with the applied-for mark. Marks don’t have to be identical to be confusingly similar; the marks only need to be similar enough and used on similar goods/services such that a consumer may be confused about the source of the goods.

If any confusingly similar marks are identified, or there are other substantive issues with the application, the Examin ing Attorney issues an Office Action describing the finding. The applicant then has an opportunity to provide arguments and amendments in favor of registration.

Once an application has been approved by the Examin ing Attorney, the mark is published in the Official Gazette and any member of the public is able to oppose the mark if he/she believes that he/she would be harmed by registration of the mark.

Following the period of opposition, and upon actual use of the mark in commerce in the case of an intent-to-use application, a registration will issue on the mark.

The application process generally takes between six and eighteen months.

**HOW ARE TRADEMARKS ENFORCED AGAINST INFRINGEMENTS?**

If another company is using a similar mark for similar or related goods or services, the owner of a federal trademark registration can bring a trademark infringement lawsuit in federal court. To prove infringement, the trademark owner must prove that it is likely that the allegedly infringing mark could create confusion about the source of the goods or services in the minds of potential customers.

**COPYRIGHTS**

Copyrights protect original works of authorship fixed in a tangible media. Examples of copyright-protected works include:

- Literary works (including computer programs and related documentation)
- Musical works
- Dramatic works
- Pictorial, graphic and sculptural works
- Motion pictures and other audiovisual works
- Sound recordings
- Architectural works

Copyrights protect advertisements, marketing materials, podcasts, videos, music, forms, websites, software, brochures and photographs.

Copyrights do not protect facts, slogans or data.

**SHOULD COPYRIGHTS BE REGISTERED?**

A copyright exists as soon as a work is fixed in a tangible medium. In other words, as soon as the music is recorded or book is written, the author has a copyright in the work. Copyright registration is not required for the right to exist.

Registration with the U.S. Copyright Office does convey certain benefits. Without a copyright registration, the copyright owner does not have access to courts to sue for copyright infringement. The owner also
has access to statutory damages and attorneys' fees when the work is registered.

Registration of a copyright is simple. The application filed with the Copyright Office comprises a basic form. A copyright application is not examined like a patent or trademark application. The Copyright Office confirms that the form was completed properly and then a registration certificate issues.

**Q** How long does a copyright last?

For a work created by an individual, a copyright lasts for the life of the author plus an additional 70 years. For a work created for an employer or otherwise under the work for hire doctrine (described below), the copyright lasts for the shorter of 95 years from the date of publication or 120 years from the date of creation.

**Q** What is a copyright notice and when should it be used?

Use of a proper copyright notice on all copyright-protected material, while not required by law, is strongly recommended. A copyright notice consists of (1) the word “copyright” or the symbol ©, (2) the year of first publication and (3) the name of the copyright owner. For example, the copyright notice for this work is:

© 2011 Davis, Brown, Koehn, Shors & Roberts, P.C.

Because a copyright exists as soon as the work is created and fixed in a tangible medium (e.g., written down) and there is no requirement to register the work, the copyright notice should be used on all works.

**Q** Who owns a copyright and what is a work for hire?

In general, the original author of a work is the owner of the copyright. Under the “work for hire” doctrine, however, employers own the works created by their employees within the scope of employment.

The work for hire doctrine also is used to transfer ownership rights to the person or company who pays for the work by changing the definition of author from the creator to the entity paying for the work. A work for hire agreement must be in writing. The agreement should affirmatively state that the work shall be construed as a work for hire.

If your company hires outside vendors or contractors to create works for the company, a work for hire agreement in writing may be very important. In the absence of such an agreement, third party-created logos or websites are likely to belong to the creator, even if your company paid for the work and hired the third party specifically to create the work for your business. If the third party retains ownership, then they may be able to sell the work created for you to your competitor or even prevent you from updating or modifying the work product created for you.

**Q** Can software be protected by a copyright?

Software can be protected with copyrights. The source code in the software is copyrightable. The appearance of the software (screen shots) is also copyrightable. Copyrights do not, however, protect the function of the software. Software functionality may be protected with patents.

**Q** Can a website be protected by a copyright?

There are many elements of a website that are copyrightable, including the overall appearance of the website, the graphics, text, podcasts, videos and the source code.

As discussed above, it is very important for a business to have a written work for hire agreement with any third party hired to design a website, shoot a video, create logos or graphics, or even write code for the site. Without a written agreement, the creator is likely to own the copyright in these works, even if you paid them for that creation.

**Q** How is a copyright enjoined?

A copyright owner who has registered the copyright with the U.S. Copyright Office can bring a lawsuit against an infringer in federal court. Infringement of a copyright involves a determination of whether the accused work is substantially similar to the copyrighted work. Penalties for copyright infringement include payment of damages, payment of the copyright owner's attorney fees, issuance of an injunction, impoundment of the illegal works, and the infringer can go to jail.
 TRADE SECRETS

Trade secrets are confidential, secret information that provides the owner a competitive advantage. Virtually any type of information can be protected as a trade secret as long as reasonable measures are taken within the requirements of the law to treat it as such.

Q HOW LONG DOES TRADE SECRET PROTECTION LAST?

Trade secrets last until the information is no longer secret. If a trade secret is discovered by legitimate means, such as reverse engineering, then the information is no longer a trade secret. If you do not maintain the confidentiality of your trade secrets, then trade secret protection is immediately lost.

Q WHAT ARE REASONABLE EFFORTS TO MAINTAIN TRADE SECRETS?

There are many practices that should be employed to maintain trade secret protection, including:

- HAVE ALL EMPLOYEES SIGN employment or proprietary rights agreements that include acknowledgements of the obligation to hold the company's information confidential
- HAVE THE CONFIDENTIALITY REQUIREMENT continue even after the employment relationship ends
- CLEARLY MARK ALL TRADE SECRET information as "CONFIDENTIAL"
- LIMIT EMPLOYEE ACCESS to trade secret information
- USE NON-DISCLOSURE AGREEMENTS with all outside vendors, independent contractors, and third-party investors

Q HOW DO PATENTS AND TRADE SECRETS WORK TOGETHER?

A company needs to strongly consider whether to opt for patent protection or trade secret protection for certain innovations.

In exchange for the limited monopoly conferred by an issued patent, the owner is required to publicly disclose the invention in the patent application, thus confidentiality is destroyed. This public disclosure thus usually eliminates the information from protection as a trade secret.

WHAT IS A TRADE SECRET?

A trade secret is information that has economic value because it is kept secret. Examples of trade secrets include:

- Business plans
- Customer lists
- Software, including source code
- Financial statements
- Product formulas
- Pricing models
- Specifications
- Marketing strategies
- Employee training materials

Maryland has adopted, in substantial form, the Uniform Trade Secrets Act, codified as the Maryland Uniform Trade Secrets Act (Maryland Commercial Law § 11-1201 – 11-1209). The Act defines a trade secret as information of nearly any kind that derives economic value from not being generally known or readily ascertainable by proper means, and is the subject of reasonable efforts to maintain its secrecy.

A patent monopoly lasts for twenty years; at the expiration of twenty years, the subject matter claimed in the patent is dedicated to the public and anyone can make, use or sell the invention. A trade secret lasts indefinitely unless the information is no longer confidential. A business should consider whether it will be economically advantageous to have a twenty-year limited monopoly from a patent, or if maintaining the information as a trade secret indefinitely would make better financial sense.

INTELLECTUAL PROPERTY TRANSACTIONS AND AGREEMENTS

Just like real property, intellectual property can be bought or sold, licensed and may be the subject of a variety of different types of agreements. A few types of agreements and transactions involving intellectual property are described below.

Q WHAT IS AN INTELLECTUAL PROPERTY LICENSE?

A license is a contract that gives permission to a party to allow that party to use intellectual property in ways that would have been, in the absence of the license, infringement. The owner of the intellectual
property is known as the licensor and the party being granted the right to use the intellectual property is the licensee. A patent license, for example, gives a licensee the ability to make, use or sell a patented invention when, without the license agreement, making, using or selling the invention would be patent infringement. The owner retains control over the intellectual property. A license does not sell or transfer ownership of the intellectual property to the licensee.

In exchange for the ability to use the intellectual property that is the subject of a license, the licensee typically pays the licensor. The payment for the use of the intellectual property may come in the form of a lump sum, installment payments, royalties or some combination of these. It is important for the intellectual property owner to carefully calculate a royalty based on the specific intellectual property being licensed. Royalties can be based on any number of different measures, including a percentage of profits, percentage of gross revenues or unit sales.

**WHAT ARE THE BENEFITS OF A LICENSE AGREEMENT?**

There are several benefits to licensing intellectual property, including:

- **INCREASE REVENUE** through money earned from the license
- **NEW MARKET PENETRATION**
- **INCREASE THE VISIBILITY** of your intellectual property, which may strengthen your brand

**WHAT IS AN INTELLECTUAL PROPERTY ASSIGNMENT?**

An assignment transfers all of one party's interest in the subject intellectual property to another. The transfer is complete and total: all of the right, title and interest transfers to the new owner. Assignments commonly arise in the following instances:

- Employees are generally required to assign any intellectual property developed in the course of employment to the employer;
- Assignments are executed in any outright sale of intellectual property; and
- Third party vendors, such as software developers, graphic designers, or website developers, may assign ownership of the work product created for the company to the company.

In order for the assignment of intellectual property to be valid and enforceable, the assignment must (1) be in writing and (2) be recorded with the appropriate federal government office (U.S. Patent Office, U.S. Trademark Office or U.S. Copyright Office).

From the earliest stages of a startup, it is extremely important to get everyone involved with the company, including the founders, to execute an intellectual property assignment transferring all intellectual property to the company. In the absence of this type of an assignment, it may be very easy for anyone (especially a founder) to walk away from the company and take the intellectual property with them.

**WHAT IS A NON-DISCLOSURE AGREEMENT (NDA)?**

In short, an NDA prevents the recipient of confidential information from using or disclosing the information. Startup companies typically need two kinds of NDAs. First, startups need an NDA to use when disclosing confidential information to third parties, such as vendors, consultants or investors.

Second, startups need a proprietary rights agreement that requires employees to avoid unauthorized disclosure or use of the company’s intellectual property. A proprietary rights agreement should also require the employee to certify that no documents, electronic files or other information containing trade secrets or confidential information of the employee’s former employer(s) is being brought to or used at the startup.

**WHAT IS DUE DILIGENCE?**

Due diligence is the process of investigating the financial and legal status of a party to a trans-
action. For example, an acquiring company will conduct due diligence by thoroughly investigating the records of the company being acquired. Due diligence investigations include careful consideration of any intellectual property owned or licensed by the company being acquired. Due diligence is usually conducted any time (1) a company is acquired, (2) investors plan to invest in a company, (3) an initial public offering (IPO) is made, or (4) venture financing is considered.

An acquiring company, investor or financer will likely investigate the following issues related to intellectual property:

- **VERIFY THAT ALL INTELLECTUAL PROPERTY** has been assigned to the company
- **REVIEW LICENSE AGREEMENTS** to ensure they have been properly drafted
- **IDENTIFY ANY THIRD PARTY CLAIMS** to the company's intellectual property
- **EXAMINE MEASURES TAKEN** to protect intellectual property
- **CONSIDER** patent, trademark and copyright records
- **REVIEW THE COMPANY'S TRADE SECRET** protection measures
- **CONSIDER WHETHER AN ATTORNEY** was used to prepare and file patent, trademark and copyright applications
- **IDENTIFY** all patent, trademark and copyright registrations

**CONCLUSIONS**

Intellectual property law, although complex, is critical to the success of most, if not all, startups. To avoid waste, whether of time or of money, and to ensure a competitive market position, startups must make early and material investments in their intellectual property portfolios. They must identify their unique assets, whether in the form of patentable inventions, trademarks, copyrights or trade secrets and they must secure their ownership of these assets. While this may involve the engagement of qualified legal counsel, which may involve the expenditure of precious resources, it must be remembered that these expenditures create assets and, in the case of patents, limited monopolies. These assets and limited monopolies, when properly structured and maintained, can add significant value to a startup and mean the difference between finding the investment capital necessary to grow and prosper your startup and having it wither on the vine.

Further information about patents and trademarks can be found at the United States Patent and Trademark Office website at www.uspto.gov.

Further information about copyrights can be found at the United States Copyright Office website at www.copyright.gov.

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**ABOUT:**

**MIKE BAADER** is partner-in-charge of Venable LLP’s Baltimore office. Mike is a corporate partner with over 25 years of experience in advising technology and growth companies on venture capital financings, mergers and acquisitions, strategic alliances, as well as IP protection strategies and product development/licensing deals. Mike has been recognized as one of the Top 100 lawyers in Maryland for the past three years. Venable is 600-lawyer full service law firm based in the Baltimore-Washington corridor and is Maryland’s largest law firm. Venable has been providing strategic business and legal advice to innovative entrepreneurs and growth companies for over a century. For more information contact either Mike Baader at mjbaader@venable.com or Chuck Morton at cjmorton@venable.com.

**EMILY HARRIS** is a senior shareholder in the Davis Brown Law Firm’s Intellectual Property Group. She is a registered patent attorney able to practice before the United States Patent and Trademark Office. Emily works to protect inventions in a wide variety of areas, including inventions in the biotechnology and biochemical industries, mechanical inventions, including innovations in agricultural machinery and in the construction industry, and software. She also assists clients with developing and protecting their entire intellectual property portfolio. Emily is a co-founder of the Davis Brown Law Firm’s Start-Up Launchpad® program, which provides targeted legal services to startup and emerging businesses. For more information about the Start-Up Launchpad® program, please visit https://www.thestartuplaunchpad.com.
The Economic Alliance promotes regional economic development by:

**Marketing**
promoting the region

**Business Retention**
preserving the business base and facilitating growth

**Business Attraction**
bringing in new business to grow jobs and investment

**Partnership**
convening business, education and government leaders to foster economic development

**Thought Leadership**
world-class market for research, business and innovation

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FEDERAL LABORATORIES HAVE A SIGNIFICANT PRESENCE IN MARYLAND, serving as a major driver of its economy. In fact, Maryland has more federal laboratories than any other state. Within our borders there are 59 laboratories representing 8 agencies and federal organizations, including:

- Department of Agriculture
- Department of Defense
- Department of Health and Human Services
- Department of Homeland Security
- Department of the Interior
- NASA
- National Science Foundation
- National Security Agency

At the core of each laboratory’s mission is a commitment to research and development (R&D). According to the National Science Foundation, federal laboratories in Maryland collectively spent $16.6 trillion on R&D activities in 2008 (the most recent year on record). A key element of federal R&D involves technology transfer, which is the process of laboratories engaging partners in industry, academia, and state and local governments to move federally developed technologies into the marketplace. Over the years, many successful transfers have involved Maryland-based businesses, such as the following:

- RECOGNIZING THE NEED for a comprehensive aerosol control platform suitable for a variety of agents, animal species, and aerosol forms in the event of a bioterrorism attack, researchers from the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) at Fort Detrick created the Automated Inhalation Toxicology Exposure System. This patented technology allows for experimental infection by inhalation, a process that is critical in developing medical countermeasures for biological threats. Later named the AeroMP, a patent license of the technology was given to Biaera Technologies of Hagerstown, where continued development of new technologies for aerobiology research is conducted.
- DR. EARLE HUNT OF THE USDA Beltville Agri-
A Cooperate Research and Development Agreement (CRADA) is a written agreement between one or more federal laboratories and one or more non-federal parties under which the government, through its laboratories, provides personnel, facilities, equipment or other resources with or without reimbursement (but not funds to non-federal...
parties). The non-federal parties provide personnel, funds, services, facilities, equipment, or other resources to conduct specific research or development efforts that are consistent with the laboratory’s mission.

CRADAs were authorized under the Federal Technology Transfer Act of 1986 and provide federal laboratories with an extremely flexible vehicle to facilitate the transfer of commercially useful technologies from federal laboratories to a variety of organizations. A CRADA can provide both the federal laboratory and its partner with a number of benefits, including:

- **LEVERAGING RESEARCH BUDGETS** and optimizing resources
- **SHARING** technical expertise, concepts, and information
- **PROTECTION FROM DISCLOSURE** by the federal government of any proprietary information brought to the CRADA by the partner
- **ACCESS BY THE PARTNER TO EXPERTISE** in a wide range of disciplines within the federal laboratory system
- **ANY PARTNER-CREATED INVENTIONS** arising from the CRADA result in the partner retaining patent, copyrights and technical data.

A CRADA can be initiated by either the laboratory, which is the most common scenario, or an interested partner. For instance, a laboratory may initiate a CRADA if it sees the commercial potential for an invention or idea it originated and is able to identify a potential external partner. Conversely, a business may have begun developing a product but believes that a government laboratory has unique resources or innovative technology that could enhance the success of the product. The business would approach the laboratory with a proposal to either pay for the needed resources, or offer the government some form of joint ownership or profit-sharing as the basis for cooperation.

**LICENSING AGREEMENT**

A licensing agreement is a contract between the owner, or lawful user, of intellectual property and another party (the licensee) that permits the licensee to use the intellectual property in accordance with the terms of the contract. The licensing of government-owned patents is one of the tools used to promote the utilization and commercialization of inventions that arise from federally supported R&D.

The government may grant nonexclusive, partially exclusive, or exclusive licenses. Nonexclusive licenses are granted when participation by several companies offers better opportunities for the broad development and use of an invention, or when an invention has already been substantially developed for commercial sale. Nonexclusive licenses may be granted without the publication of any notice. In general, nonexclusive licenses are preferred over exclusive licenses.

An exclusive or partially exclusive (e.g., limited to a field of use or geographic area) license grants the licensee the sole right to use, manufacture, and sell a patented article. When granting exclusive licenses, government-owned, government-operated (GOGO) laboratories must publish in the Federal Register the notice of availability and the notice of intent to grant an exclusive license, and provide an opportunity for the public to respond. For government-owned, contractor-operated (GOCO) laboratories, the contractor organization implements similar licensing
arrangements, but is not required to publish a notice in the Federal Register.

3 PARTNERSHIP INTERMEDIARY AGREEMENT
A Partnership Intermediary Agreement (PIA) is an agreement between a federal agency and the agency of a state or local government or nonprofit entity that allows the partnership intermediary to identify new technologies in the private sector that can be used by the federal agency; facilitates joint projects to accelerate the delivery of technologies; and helps companies identify federal technologies that can be licensed and commercialized. These services increase the likelihood of success in the conduct of cooperative or joint activities with small business firms and educational institutions that need technology-related assistance from a federal laboratory. A partnership intermediary relationship is normally implemented via a Memorandum of Understanding (MOU).

4 MEMORANDUM OF UNDERSTANDING
A Memorandum of Understanding (MOU) is an agreement between two government, academic, or private-sector partners. MOUs generally do not include specific information regarding a detailed scope of work or the exchange of funds or human resources. An MOU may address cooperation that ranges from a single state to activities at multi-state, regional, multi-regional, national, or international levels.

5 WORK FOR OTHERS AGREEMENT
A Work for Others Agreement is an arrangement by which a laboratory or agency can sell services not available in the private sector. Many agencies have statutory authority to sell services, including engineering and research services that are not available in the private sector. This allows the private sector to tap into the intellectual knowledge of federal employees without requiring the collaborative activity of a CRADA.

6 OTHER TECHNOLOGY TRANSFER
There are many other technology transfer mechanisms that are unique to specific federal agencies and disciplines. The following mechanisms may be of particular interest to entrepreneurs in the biology and health fields.

- **BIOLOGICAL MATERIALS LICENSE** — A type of license that allows a company to make, use, and/or sell commercially useful biological materials that are not in the public domain and for which patent protection cannot or will not be obtained.
- **CLINICAL TRIAL AGREEMENT** — An agreement that may be used for studies conducted to determine the safety and efficacy of new agents and devices.
- **MATERIAL TRANSFER AGREEMENT (MTA)** — A contract that governs the transfer of tangible research materials between two organizations when the recipient intends to use it for his or her own research purposes. Included in the MTA are the requirements that the materials be used for research purposes only and cannot be used in human subjects. Neither rights in intellectual property nor rights for commercial purposes may be granted under this type of agreement.

For more information on technology transfer mechanisms, including a searchable database, go to [http://www.federallabs.org/education/t2-mechanisms/](http://www.federallabs.org/education/t2-mechanisms/).

HOW TO PARTNER WITH A FEDERAL LAB IN MARYLAND
The Federal Laboratory Consortium for Technology Transfer (FLC) ([http://www.federallabs.org](http://www.federallabs.org)) is the nationwide network of federal laboratories that provides a forum to develop strategies and opportunities for linking laboratory mission technologies and expertise with the marketplace. With 59 member laboratories in Maryland, the FLC is a valuable resource for small businesses seeking to add federal laboratories to their portfolio. Through our Small Business Resource page ([http://www.federallabs.org/small-business/](http://www.federallabs.org/small-business/)), we can help you find the ideal partnership in four key ways:

1 **FINDING A TECHNOLOGY TRANSFER EXPERT**
Federal agencies and labs have experts to guide you through the process of technology transfer and its many facets, including licensing, facilities and test equipment. In most cases, technology transfer in federal laboratories is facilitated by a technology
transfer organization known as the Office of Research and Technology Applications (ORTA).

The technology transfer professionals who staff ORTAs possess basic knowledge of intellectual property rights and technology transfer mechanisms. They are empowered to develop and promote the key partnerships necessary for technology transfer, while recognizing that technology transfer is a responsibility of each laboratory scientist and engineer.

At many laboratories the function of the ORTA includes the marketing of laboratory resources; the establishment, negotiation, and management of cooperative R&D under collaborative agreements; and the negotiation of licenses for intellectual property.

Through our searchable database (http://www.federallabs.org/small-business/experts/) we can help you connect with the ORTAs and technology transfer professionals who best suit your needs.

2 FINDING RESOURCES AND FACILITIES
Some federal laboratories have facilities and equipment available to test your product or technology as a final step before it is ready for the marketplace. We can help you find laboratories that offer this service, searchable by agency at http://www.federallabs.org/small-business/facilities.

3 FINDING TECHNOLOGIES FOR TRANSFER
The ideal technology for your business to pursue is just a click away. The FLC maintains a database of thousands of technologies available for transfer from hundreds of laboratories, including those based in Maryland (http://www.federallabs.org/available_technologies/).

In addition, the FLC Technology Locator network can help you facilitate a relationship with a federal laboratory that can meet your technology transfer needs. Through its network of representatives, the FLC puts a potential partner in contact with a federal laboratory with expertise and capability in a specific area of interest. Once the FLC identifies the contact, the arrangements for the technical exchange are between the user and the laboratory. The network does best when the user makes the request as specific as possible and identifies considerations such as technical need, constraints, and intended use.

A central FLC Technology Locator helps the network match user technical requests for expertise and facilities with appropriate federal laboratory capabilities in the following ways:

- IDENTIFYING laboratory technical resources that can respond to specific requests
- PROVIDING referrals to other federal resources
- USING an FLC technical specialist system to complement information sources and network expertise.

The Technology Locator can point you in the right direction and introduce you to the right people to get you started at http://www.federallabs.org/locator/.

4 FINDING SUPPORT
There are numerous federal programs designed to help businesses fund and support tech transfer and early-stage technology development efforts. The most popular of these programs are the Small Business Administration’s (SBA) Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, respectively.

The SBIR Program, originally authorized in 1982, is a highly competitive program designed to encourage the commercialization of products and processes...
developed by small business through federal funds. Each year, 11 federal departments and agencies are required to reserve a portion of their R&D budgets for SBIR awards. These agencies designate SBIR R&D topics and accept proposals. SBIR awards or grants are awarded competitively to small U.S.-owned commercial businesses with less than 500 employees. Small businesses that receive awards or grants then begin a three-phase program. The SBIR Program provides two years of confidentiality for data created in the program, and the contractor obtains title to the inventions.

Authorized in 1992, STTR is a three-phase program similar in many ways to the SBIR program. The key differences are that STTR funding is available only from five agencies and award applicants must be collaborative partnerships involving a small business and a U.S.-located college or university, nonprofit research organization, or federally funded research center. The STTR program provides early-stage R&D funding directly to small companies working cooperatively with researchers at other research institutions.

The SBA offers several other initiatives as well, including:

- **SBA/SBIC IMPACT INVESTMENT INITIATIVE**—The Small Business Investment Company (SBIC) Initiative will commit up to $1 billion to those funds that invest growth capital in companies located in underserved communities. This includes investing in economically distressed areas as well as companies in emerging sectors such as clean energy. SBA will provide up to a 2:1 match to private capital raised by these funds, partnering with private investors to target “impact” investments.

- **SBA EARLY STAGE SBIC INITIATIVE**—The Early Stage SBIC Initiative will commit up to $1 billion in SBA guaranteed leverage over a five-year period to selected early-stage venture funds. This initiative is intended to promote American innovation and job creation by encouraging private sector investment in job-creating, early-stage small businesses.

Information on the SBIR/STTR programs, as well as other initiatives, can be found on the FLC website at http://www.federallabs.org/small-business/capital/.

Transferring technologies with federal laboratories in Maryland is a proposition worth considering for a host of reasons. You have access to the most cutting-edge technologies available, the federal laboratory is able to fully leverage its R&D funding, and the local connection between laboratory and partner ensures that jobs and funds stay in Maryland. Our laboratories are ready to do business with you.

NOTE

The Federal Laboratory Consortium (FLC) for Technology Transfer is the nationwide network of federal laboratory technology transfer professionals that provides the forum to develop strategies and opportunities for linking laboratory mission-related technologies and expertise with the marketplace. Organized in 1974 and formally chartered by the Federal Technology Transfer Act of 1986, the FLC today includes more than 300 major federal laboratories and centers and their parent departments and agencies. Their driving mission is to promote and facilitate the rapid movement of federal laboratory research results and technologies into the mainstream of the U.S. economy.

The views and opinions expressed in this publication are those of the authors and do not necessarily reflect the official policy or position of any agency of the U.S. government. The FLC has provided input for Federal Laboratory Partnership Section of this publication only with respect to working with federal laboratories in the State of Maryland.
Yes, we work with five billion dollar companies. The same way we did when they were five million dollar companies.

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WHAT ARE POTENTIAL INVESTORS AND LENDERS LOOKING FOR IN THOSE MASSES OF PAPERWORK THAT THEY KEEP ASKING FOR? Basically the same thing – a good business, good management and a good shot at getting the return they need. While both lenders and investors have always reviewed financial statements, it used to be that the similarities ended there. Loans are collateralized. Investments are not. Loans work on the avoidance of risk. Risk is an accepted part of equity investment. Equity investors try to anticipate additional capital requirements in order to judge whether the company will be able to meet their requirements. Lenders, on the other hand, get the same amount back whether the company doubles, triples or quadruples sales. For the equity investor, as earnings increase, so does the return. And, unlike lenders who are interested in your ability to repay debt, investors look at these financial statements to understand the ability of your company to grow and how that translates into a return on their investment.
That’s all still true but today, despite the differences in their goals, lenders and equity investors use the same strategies and tools to learn about the companies with which they work. Both want to know more about the character of the business owner(s). Both look at the primary source of revenue and margins to see if they are in line with the industry and with the day-to-day operations of the company. Both want to ensure that the company is not unduly saddled with debt. Both want to understand and be able to work with the management of the companies they fund.

Despite stiffening standards, banks and other lenders are still in the business of lending money and are always interested in quality people and companies that can repay loans. Similarly, equity investors need to invest in quality companies in order to stay in business.

So they continue to sift through hundreds of applications, meet business owners, and make decisions based on extensive research into each company. It’s called due diligence.

**DUE DILIGENCE**

In today’s business environment, the character of the business and its owners has become almost as important as its financials. Interviews with principals, personal credit checks, public record searches and more will provide clues as to the character of the owners. Never underestimate the networking that is done in financial circles. Make sure that you always put your best foot forward – whether in a formal meeting or during small talk at a networking get-together.

This emphasis on character is as important in the lending community as it is in the investment community. Fraud, according to many, is rampant and not just in the Enrons and WorldComs of the world. Small companies are susceptible as well. So be prepared for questions that go beyond the boardroom.

Personalities also come into play – especially for equity investors. After all, these people will own a part of the company and, as owners, will have some control over the operations of the company. They’re interested in protecting their investment and making sure that the company is run in a manner that will ensure the desired return. How extensive this role becomes depends on a variety of factors – some predictable and some not. If, when they meet with the principles, the chemistry just isn’t right, investors are likely to go directly to their next prospect.

**BUILDING BLOCKS: THE FINANCIAL STATEMENTS**

As we said, lenders are primarily concerned with the ability to repay, while equity investors are concerned with potential growth but, both will pour over these pages looking for the numbers that will assure them that they are putting their money in the right company and with the right people.

They will look at the level of current debt. Is it within normal ratios? Is it being paid on a timely and regular basis? Lenders analyze the performance of the company to see if it can support debt. Investors look at the same numbers to gauge the potential for growth.

Personal loans to the company, which show up as debt on the company’s books are, understandably, viewed a bit differently. Banks view these “loans” in a more positive manner, since they present additional funds from which they can be repaid. Equity investors want to make sure that their investment is not used just to pay back the owners.

Both lenders and equity investors will be interested in gross, operating and net margins and what these ratios mean in terms of the health of the business.

These and other industry margins will vary depending on the industry but basically tell you how much of your profits are used in simply making the product or service, versus contributing to the bottom line.

Lenders rely heavily upon certain financial ratios, such as debt-to-equity, quick ratio, current ratio and others, in assessing the creditworthiness of a prospective borrower. But, keep in mind that a poor number can be overcome by the experience of the owners, the value of potential customers, and other non-balance sheet items.

For instance, salaries are discretionary and if the owner(s) is taking a larger salary than might be expected, investors and lenders may be willing to continue discussions – if the owner(s) is willing to compromise.

**INCOME STATEMENTS**

Income statements, or profit and loss statements,
are used to measure business revenues vs. expenses and include components such as:

- **SALES** – the gross revenue generated
- **COST OF GOODS SOLD** – direct costs associated with making or producing the product or service
- **GROSS PROFIT** – sales less cost of goods sold
- **OPERATING EXPENSES** – selling, general and administrative expenses that are necessary to the running of any business
- **OPERATING PROFIT** – gross profit less operating expenses
- **OTHER INCOME AND EXPENSES** – those items that do not occur during the normal course of operation
- **NET PROFIT BEFORE TAXES** – the amount of income earned by the business before taxes

But, as important as income statements are, they can be deceiving. If a company has increased their sales, receivables may be high but cash flow can be negative. This is a huge problem for many small companies that can go out of business not due to a lack of sales but rather due to a lack of cash and a resulting inability to meet their payroll and pay their bills.

Gross margins are calculated by dividing gross profit by total sales, yielding the gross margin percentage. So, if a pair of shoes costs $40, and the shoes are being sold for $80, the gross margin is 50%. The operating margin is calculated by dividing operating profit (or the profit) by total sales. So, if the cost of the shoes is $40, but administrative, selling and operating expenses are $20, then the operating profit is $20 and the operating margin is 25%.

A cash flow statement will also be required by both lenders and investors. This statement is designed to convert the accrual basis of accounting used to prepare the income statement and balance sheet back to a cash basis – a critical step for all companies but especially important for small businesses. This statement will provide a view of incoming and outgoing cash, measuring financial activity over a period of time.

**A QUESTION OF ORIENTATION**

Other, more specific financial records will offer additional insights. Accounts receivable, for instance, will show repeat business – typically the more the better. Lenders and investors will ask about administrative expenses too and, although high administrative costs are not usually a good sign, sometimes there are financially strategic reasons. Just be prepared to answer the inevitable questions.

The balance sheet provides a snapshot of the business at a single point in time. Using the balance sheet, potential investors or lenders will be able to determine the working capital requirements of the business by analyzing the trend in turnover among the receivables, inventory and payables. These trends will be compared to previous balance sheets. Is the average age of receivables increasing? Are payables timely? Is inventory turnover cycle getting longer? No one of these items is a cause for a denial of funds, especially if your company is a step or two ahead of industry averages. They may, however, be a cause for concern if the trend is ongoing.

The asset column on the balance sheet is a high priority for lenders, offering a view of your inventory, receivables and equipment. Lenders consider these items as a potential secondary source of repayment but, should the business fall under hard times, banks are not anxious to enforcing their rights to foreclose or to repossess collateral.

Equity investors, on the other hand, are less interested in these assets that, most of the time, are already part of a debt agreement. They will, however, be very interested in the treatment of intellectual property and what that will mean in terms of future competitiveness.

What if you’re losing money? That’s not necessarily a deal breaker for either lenders or equity investors but you do need to be able to show that an infusion of capital will help to remedy the situation – and exactly how a turnaround will be accomplished.

Investors particularly will want to take a close look at the industry in which the business operates. Even a strong company – with an ability to repay debt – may find it difficult to justify strong projections in a declining industry. A growing industry on the other hand can significantly strengthen a company’s position for investors. So, to make a good impression and avoid surprises, do some research yourself. Contact your industry association. Do an Internet search. Call the library. Do whatever it takes to prove your case. This information should also be a key part of your busi-
The bottom-line is that there is no one thing that will kill a deal. Lenders and investors are interested in understanding the whole business, albeit with different goals in mind.

The best advice for an entrepreneur getting ready to bare their business soul to investors or lenders is: be prepared. Make sure the financials are professionally compiled, reviewed or audited. Take the professionals’ advice as to presentation. Even more important, take the time to discuss the meaning of the numbers with your financial advisor. If there is a red flag, forewarned is forearmed.

Gertrude Stein said, “The money is always there, but the pockets change.” And maybe she was right. But there’s no question that the process is getting tougher. Lenders and investors alike are tightening their criteria and to partake in a limited capital pool, business people must learn to respond to the needs of those with the pockets.

There are three levels of progressively elaborate—and progressively more expensive—accounting reports available to businesses. They are:

- **COMPILED STATEMENTS:** In a compiled statement your accountant places the financial information you provided in a standard form, with some checks and balances to ensure that the numbers are consistent and make sense. But a “compilation” includes only your accountant’s opinion that the statements conform to “generally accepted accounting principles” or GAAP, and typically also includes a significant disclaimer.
  
  - **REVIEW:** This next level of complexity adds more fact checking but still relies on the information provided by the client. Essentially, the accountant makes sure that the client has gone through the steps the accountant would in a full-fledged audit. However, a review does not include a physical review of documents such as cancelled checks.
  
  - **AUDIT:** Just the word strikes fear in the hearts of many otherwise confident businesspeople but, in fact, many businesses find that this is just what they need to obtain financing. In an audit, a certified public accountant will get intimately involved with the business, spot-checking inventory, verifying deposits and more. For all this, you get your accountant’s signature and if there’s ever a question, your accountant’s name is on the line. Not surprisingly, the audit is much more expensive, but it can be key when looking for financing. Banks often insist on an audit before considering lending to the company. Ditto for equity investors.

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**Central Maryland Innovation Capital Map**

**Capital Sources by Investment Stage**

<table>
<thead>
<tr>
<th>Pre-Proof of Concept</th>
<th>Translational Research / Proof of Concept</th>
<th>Proof of Commercial Relevance / Pre-Seed</th>
<th>Seed / Start-Up</th>
<th>Early Stage</th>
<th>Later Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25K - $1.5M</td>
<td>$15K - $750K (1-3 years)</td>
<td>$3K - $500K</td>
<td>$50K - $1.5M</td>
<td>$200K - $2M</td>
<td>$2M+</td>
</tr>
</tbody>
</table>

**Associations**

- Association of University Resource Parks (AURP)
- Association of University Technology Managers (AUTM)
- Licensing Executive Society (LES)

**Funding Type Key**

- Academic
- State of Maryland
- Private Capital
- Associations
- Economic Development
- BioHealth Innovation, Inc.

**Tax Credits**

- Maryland Biotechnology Investor Tax Credit
- Montgomery County Biotechnology Investor Tax Credit

**Central Maryland BioHealth Entrepreneur’s Resource and Finance Guide**
LENDING INSTITUTIONS LEND money based on the borrower’s ability to repay. It’s that simple and should not come as a surprise to any business owner. After all, would you extend credit to a company that did not demonstrate good credit worthiness? Not likely. The difference is that banks and commercial lenders are in the business of lending money. As a result, it is their best interest to accept, not reject, those applications that can make a strong case.

It’s your job to make that decision easy for lenders and that means doing your homework. First, know the type of loan you are seeking. Perhaps a bank loan meets your needs. Or an asset-based loan. Or a line of credit. Or maybe there is more than one type of loan that is appropriate for your circumstances. Make an appointment with your banker to discuss the possibilities that might be available based on your business. Also talk it over with your accountant or lawyer.

Don’t send a loan proposal (more about these later) to every bank in town and never go in cold. Call the banks. Ask the loan officer if they have made other loans to businesses at similar stages and/or in similar industries.

Also check out the SBA’s list of “business friendly banks” across the country and in Maryland, a ranking based on their lending activities for various sizes of loans.

Finding the right lender will not only improve your chances of approval but may give you better leverage when it comes to terms. The bottom line is that if a lender understands your business, the idiosyncrasies that exist in any industry may not become an obstacle.

TELLING ALL

Making the decision process easy for your lender means cooperating, answering all written questions and being available when additional questions arise.

There are forms – lots of them – which you can expect to fill out. These may include all or some of the following:

- **NEW ACCOUNT QUESTIONNAIRE** including contact information, accounts receivable summary, business information including factoring information, if any, and outstanding debt, supporting documents such as financial statements, tax returns – both personal and business – accounts payable and receivable totals, articles of incorporation, bank information, and finally a section dedicated to learning more about the financial position of your company. This section may ask about:

  >> Issues with payables or receivables verification,
  >> Plans for additional infusion of equity capital,
  >> Inquiries regarding other principles in the business, and
  >> Inquiries regarding tax status.

- **FINANCIAL STATEMENTS** – If you don’t have prepared statements, the lender is likely to have their own form that meets their needs. Expect to provide a
list of assets, liabilities, plus supplementary schedules including banking relationships, insurance policies, and a list of securities, real estate and any additional sources of income.

- **BUSINESS INFORMATION** – This form will ask for the background of the company, including corporate shareholders and officers; accounts receivable data such as your top customers plus contact information, professionals with whom you work and their contact information; tax information plus a checklist of supporting materials such as a copy of the Articles of Incorporation; and a detailed aging of receivables and payables.

- **SUPPLEMENTAL FUNDING WORKSHEET** – This can include qualitative data such as brief narrative summaries that describe what the company does, how much capital is being sought and for what purposes, plus estimated values for inventory.

- **PERSONAL FINANCIAL STATEMENTS** – Few lenders are going to lend money to a small business based solely on the assets of the business. They are going to also require personal guarantees from the principles.

Some of these items are fairly self-explanatory. Some may be a bit more trying. But despite the level of difficulty, fill in all the blanks with complete and accurate information – always. Why? Not doing so will jeopardize the approval of your applications. Blank lines, or a list of “not applicables,” raise red flags. After all, if these items weren’t “applicable” they wouldn’t be on the application in the first place! Then there’s the simple stuff that just may not be at your fingertips and tends to get overlooked. If an application requests your banker’s phone number, provide it. Don’t assume that the lender will look it up. Make sure you sign the forms. Even if it’s an oversight, the lack of a signature has to make the lender wonder. And that does not bode well for future lender/borrower relationships.

Cautious lenders will wonder if missing information means the borrower is trying to hide something. Remember that it’s better to provide too much information (within reason) than not enough. When it comes to “truthfulness,” you can assume that all the information you provide will be verified. Your loan officer is guaranteed to check credit references, D&B, and whatever else they need to ensure the information you have provided is accurate. If it’s found that you have provided information that is not truthful and accurate, your application is doomed.

While the lines may be small, the space between the lines on these applications can be quite large. Qualitative information can be just as important as the numbers and is even more important for newer companies.

**Still, brevity is important when writing the following descriptions so make every word count:**

- **COMPANY DESCRIPTION.** Include a brief description of your company, short product or service description, a quick overview of your marketing successes, and future plans.

- **KEY PERSONNEL.** This should include two to three paragraph biographies of each of the principals and/or executives. Highlight those areas that show experience and expertise in the industry in which you are operating but also include other management experience and educational background, especially as it relates to business. The goal is to inspire confidence.

- **INDUSTRY ANALYSIS.** This would include a com-
petitive analysis and a market analysis of the industry. Talk about the trends and especially why these trends will work to your company’s advantage.

• **USE OF PROCEEDS.** Be specific about your intended use of the proceeds. Do you want to build up your manufacturing capability? Your inventory? Add to your staff? And, most important, what will these additions do to enhance your business?

**CREDIT SCORING**

In our technological age, many banks have moved to an automated credit scoring system to make decisions on loans under $500,000.

There are a lot of deals out there – many of which are good credit risks. But the pool of available funds is limited. It is up to you to make your business rise to the top.

In summary, here are the top 7 things to think about – before you start shopping for a loan.

1. What am I going to use the proceeds for?
2. How much do I need?
3. Can my cash flow support the payments?
4. What collateral do I have?
5. Will my character, or the character of others on the management team, be an issue?
6. For how long a time period will I need the money?
7. Do I have the time to do the research, or should I consider a loan broker? (see sidebar)
8. Is my business plan carefully prepared, current and ready for viewing?

Enthusiasm – and a lack of experience – can make brevity and clarity tough for some businesspeople. Consider hiring a business writer who can help you identify and emphasize the critical points.

**LOAN PROPOSALS**

While most lenders don’t require formal documents, a loan proposal can help set a borrower apart from the pack. Many lenders view these proposals as evidence of the professionalism of the people with whom they may be working. In some ways, the loan proposal resembles a business plan. It includes an industry overview, a company profile, and management profiles as well as a “use of loan proceeds” section that will specifically address the anticipated purpose of the loan proceeds.

**LOAN BROKERS**

Loan brokers are in the business of obtaining appropriate financing for their clients. They can also help in the preparation of the loan documents. But, for many businesses, the biggest benefit to using a loan broker is being able to take advantage of their formal and informal lending network. These individuals know who’s lending, how much they’re lending, and to whom. And while the Internet certainly allows people to do much of this searching on their own, a broker can help a business through the process more efficiently. This is particularly true if you find a broker with experience in your industry.

Of course, a broker’s services are not free. Brokers charge a percentage of the loan proceeds, typically 1 to 2 percent for loans over $1 million or more for loans under $1 million. The difference lies in the fact that the administrative costs are basically the same for a $1 million loan as for a $5 million loan. Upfront fees may also be charged and so it is worth shopping around.

Look for loan brokers either online or in the phone book under “Financing/Business.” Even better, talk to other business people. Ask if they’ve used loan brokers. Ask your accountant and your attorney as well.

When you’ve narrowed down your search, interview the prospects. Ask about their experience in your industry. Ask about their fees. And ask about their relationships with lenders.
You’ve heard it all before. You need a business plan, a road map—a document that will lay out the future of your business so that you, and others, can get a true feel for the strength of your ideas, experience and the potential of your business. It’s all true. For most prospective lenders or investors, the business plan will be their first introduction to your business and the document that captures their interest and their imagination.

Introducing the Business Plan

Let’s start at the beginning—the cover page. Make sure to include:

- Individual name and business name,
- Company logo,
- Address,
- Telephone number,
- Fax number,
- E-mail address, and
- Web site, if applicable.

Use a professional and readable type style. Resist the temptation to use fancy fonts unless you’re a graphic artist and are using the cover to demonstrate your talents and, even then, don’t be too showy.

Executive Summary

The first section in a plan is the Executive Summary, a two-page summary of the information contained in the rest of the document. Keep in mind that most people will read this first and from these pages form an opinion that will determine whether or not they will invest more time reading your document. Use short, concise sentences to highlight your strengths. The summary should include your business concept, financial summary, financial requirements, current state of the business, where and when it was...
formed, principal owners and key personnel, and major achievements. Where appropriate, use industry figures and objective research to back up what you say but don’t go overboard. Keep the text short and involving. (Sometimes it is easier to do the Executive Summary after having completed the balance of the business plan.) Typically the corporate overview will follow next. This section should set the stage, explaining the business and its competitive and economic environment. It should be used to introduce your company and include the following components:
  • Mission statement,
  • Type of business,
  • Start-up date and a brief history of the founding of the company,
  • Notable accomplishments,
  • Intellectual property and patent ownership (if any),
  • Description of facilities (includes descriptions of leases and/or rental agreements),
  • Company’s legal structure,
  • Company principals (briefly – the time to tout their experience and knowledge will come later), and
  • A brief description of the market and market potential.

PRODUCTS, PRODUCTION AND PRICING

Use as much detail as necessary to give your readers a clear and accurate picture of your product or service. Include the applications and end uses for your product or service. Pay particular attention to those characteristics that distinguish your company from those of competitors – these traits make up what is called the “Unique Selling Proposition” or USP.

Take this opportunity to discuss your pricing structure. Where does your price fit into the overall competitive landscape? Are you top of the line? How is this justified? On the low-end? Why? Explain how you will maintain profitability. Investors often see business plans where entrepreneurs promise the best at the lowest price – a typically unrealistic strategy that raises suspicion on the part of an investor or lender.

If your business is one in which location is a critical issue – such as a retail store or professional office where client visits are the norm – this section can be very important. In it, address such issues as:
  • The business’ current location,
which the company would assist their customers in reaching their goals.

Part of the discussion in this section will include the rationale behind “make or buy” decisions. For instance, a consulting firm might choose to outsource their payroll or bookkeeping. A manufacturing firm might choose to subcontract certain aspects of their process, perhaps those areas that are most difficult to staff due to naturally occurring peaks and valleys in demand. Manufacturing companies should also provide a detailed description of their operations in a separate subsection.

**THE MARKETPLACE**

Use this section to assure potential investors or lenders that the market can, and will, support your business. Talk about your customers – who they are and where you will find them. What are their demographic (age, gender, income), geographic, and psycho-graphic or lifestyle characteristics? Be as specific as you can – no product or service is right for everyone and it is futile to try to convince investors or lenders otherwise. If you are already in business and can provide a list of customers, do so. If your customer list has shown consistent growth, even better. Then show how you are going to expand the market.

Discuss the size of the market and again, use objective and accurate facts to back up your assertions and cite your sources. Talk about the factors that influence the growth of the marketplace. Are there, for instance, regulatory considerations that present an issue? Ultimately, you want to create an actionable description of your target market(s), one that will not only convince readers that you understand your customers, but that can also work as a guide to help your future sales efforts.

Provide an overview of the industry. Is it growing? At what rate? Cite facts and figures from industry associations and research organizations – that is, objective sources that can provide reliable data. If there are obvious or not-so-obvious roadblocks, say so. Your readers are likely to be sophisticated and knowledgeable and trying to hide the bad news is self-defeating. But do say how your company will strive to overcome these issues.

Everyone has competition. Period. They may not be as good. They may not be as successful. But competition is a fact of life for all but the most innovative company and even then the situation is likely to be temporary. Be prepared to address this topic carefully and completely. Who are your biggest competitors? How does your product or service compare to theirs? Are you looking to garner a small part of a big market or a big part of a smaller marketplace? If your company has been around for a while, consider using a chart to show how your company compares, in terms of sales, with the competition.

Include estimated sales for your business. Again, if you have been in business for a period of time, this can be an easier task since you have historical data upon which to refer. But even start-ups can base their projections on the real world. Check with associations to get average prices, sales, etc. for similar businesses. Include best case, worst case, and most likely case
scenarios.

**MARKETING**

Marketing encompasses all those efforts that allow a company to communicate the benefits and features of your product and services to its market. That includes: sales, advertising, promotion and public relations.

Will you have an internal sales staff? What training will you provide and how will the sales staff be compensated? Will you contract with an outside sales organization? If so, make sure to explain why you chose this strategy and the advantages this organization will bring. Here too, explain the compensation plan.

Is branding a key part of your strategy? Will you use direct marketing techniques? Will these techniques be used instead of, or to complement, face-to-face sales? How will these efforts be measured?

**Other components to include in the marketing section are:**

- **A DESCRIPTION OF ALL ADVERTISING MEDIA** you intend to use – newspaper, radio, television, direct mail, etc. – with a rationale as to why each is appropriate for your audience. If you have advertisements currently running, include samples as part of your appendix.

- **WHAT COLLATERAL MATERIAL** such as brochures do you currently have? Again, attach a sample. Is new material in the works?

- **A DESCRIPTION OF PUBLIC RELATIONS** efforts that have been implemented should also be part of this section. (Any stories printed about your company, or its products or customers, should be included in the appendix.)

- **IF TRADE SHOWS ARE A PART** of your marketing strategy, include a list of those shows the company has attended or exhibited, and those that are coming up. If this list is extensive, include it as a part of the appendix.

- **IF YOU USE AN OUTSIDE ADVERTISING** or public relations agency, mention this as well along with a brief description of their expertise.

Advertising and marketing is expensive, so it’s important to include a justification for these expenses. If there is a way to show results from your efforts, include them. If your competitors advertise, include that information as well.

**MANAGEMENT**

Here’s where you have the opportunity to boast. Investors and lenders need to know that the management team has the experience to succeed. Describe the achievements of company management, including the specific expertise of each individual. But be brief and relevant – resumes can be included as an appendix.

Describe the ownership of the company, including who owns and controls what. This section will help the reader better understand who is making the decisions. In addition, potential investors will be very interested in what portion of a company’s equity is available.

Very few companies have the resources or good fortune to have a group of people involved in the company that brings all the professional experience and knowledge that may be needed. Thus, it is almost always necessary to hire outside professionals to fill in the gaps, especially in areas that are not directly industry-related such as accounting or law. If you have existing relationships with professional firms, say so and explain why each firm was chosen. If the individual with whom you work has particular expertise in your industry or with smaller businesses, mention this too.

And if, at the end, there are still gaps in your management team, don’t ignore it. Rather, include a job description and background requirements that this position will require. Include an organizational chart with a key indicating positions to be filled. Consider including a current chart plus charts with projected positions for future years.

An advisory board, comprised of individuals with complementary expertise in your industry is a good idea and looked kindly upon by the investment community. If you have an advisory board, list the members and their qualifications. If these board members have industry connections or ties to the venture capital or financial communities, this can be a real asset as well.

(Note: If you are interested in buying into a franchise, include a description of the resources available from the franchisor. Include a copy of the franchise agreement in the appendices.)
**FINANCIALS**

The financial section is where the rubber meets the road – so to speak. This is where you prove to potential investors and lenders that you have realistically analyzed the risks and rewards associated with your venture. If your business is up and running, use current financials. Include those from the previous two to three years in addition to projections. If strong growth has occurred, point that out.

If the business plan is for a start-up, you will have to rely on projections. The key here is that the more these projections are based in fact, the better they will look to the reader. So, where possible, use industry information, for instance on industry growth, to back up your assertions.

The financial section should include the following:

- **Summary of Historical Financial Performance**
- **Management Discussion and Analysis** (to provide insight into why specific numbers changed – up and down!)
- **Summary of Projected Financial Performance**
- **Use of Proceeds**
- **Valuation Analysis** (i.e. what is the company worth?)
- **Detailed Financial Projections, Assumptions to Financial Projections**
- **Detailed Historical Financial Statements**

If you are raising equity capital, a valuation analysis will be particularly important. An equity investor wants to know what the business is worth because he or she is buying a piece of it. Its value determines the price the investor will pay.

For instance, consider a business valued at $50 million that is looking to raise $10 million. The investor(s) who puts up the $10 million will get 20% of the company’s equity. If the business is worth $30 million, the investor’s $10 million jumps to 33%. From the entrepreneur’s perspective, a higher valuation helps to preserve their equity position.

There are those who believe that it is a mistake to suggest a hard and fast valuation. Rather it may be better to point out, in spreadsheet form, the valuation metrics (e.g. price to earnings, price to book) of similar public companies and to let the investor draw his or her own conclusions based on your company’s historical or projected sales.

The analysis should also provide insights as to how the entrepreneur reached his or her conclusions, and provide a basis for negotiation.

**USE OF PROCEEDS**

Many entrepreneurs handicap themselves by circulating a business plan that doesn’t mention how the funds being raised will be used. The use statement doesn’t have to be detailed but should give the investor an idea as to the anticipated distribution of the proceeds. For instance, how much will be devoted to facilities, research, raw materials, capital investments, marketing, working capital or professional fees? (And, don’t forget to make sure that the numbers match your anticipated expenditures listed throughout the rest of the business plan!)

**SUMMARY OF PROJECTED AND HISTORICAL FINANCIAL STATEMENTS**

Your business plan needs summary projected and historical income statements going back three years and forward five years. This is an easy place for investors to look to get the big picture before they take a closer look.

**HISTORICAL AND PROJECTED FINANCIAL STATEMENTS**

With the exception of pure R&D firms or brand new start-ups, you will need a set of historical financial statements to include.

**PROJECTED FINANCIAL STATEMENTS**

Projected financial statements consist of an income statement, a balance sheet, and a cash flow statement. Each of these statements generally projects five years out. If seasonal fluctuations are a part of your industry, consider including quarterly cash flow for the first two years.

And, while five years can seem awfully far into the future, especially given the rapidly changing nature of your industry, this is still important. You can build credibility by including past performance and demonstrating a trend of growth. The key is to be realistic and transparent in your projections.

**INSIDER’S TIP**

If you’re serious about raising significant amounts of money, have your financials prepared by a certified public accountant.
of the business environment, investors know that – most of the time - they are not going to make their money in a 12- or 24-month period. They understand that the accuracy of these statements must be taken with a grain of salt, but entrepreneurs must make an honest effort to be as accurate as possible given the information available. Further, a five-year time frame gives investors a window on your thinking. Are you, for instance, trying to build a $25 million, a $100 million, or a billion dollar organization?

Additional statements of interest to investors and lenders include:

- Projected Sales: The more these are based in fact (even as a comparison to competitor’s sales) the better. And again, make sure any projections match any assertions in other sections of the plan. If a company has been in business for a while, existing sales figures can be used as the basis for forecasts. But, if you’re projecting big gains, make sure to explain the basis for your assertion.
- Cost of Goods Sold and Gross Margin. For many service companies, there is no cost of goods. But companies that make things must discuss their gross margin. Companies that are already manufacturing, or assembling products, know or should know what it costs to make their product. For newer companies, document as many costs as possible, using for instance, vendor proposals or quotes to verify the numbers for raw materials or outsourcing. These can be made part of the appendices.
- Estimated Selling, General and Administrative Expenses (SG&A) The easy part of SG&A are the general and administrative costs. This is the one place in your projected income statement where you might actually be able to simply let the spreadsheet software increase the expenses by a factor of say 5% each year. Centralized administrative costs as a percentage are not that hard to calculate, and should remain fairly constant, even if there’s significant revenue increases.
- Selling Expenses. Often newer businesses, with little experience with which methods work best, are still in the experimental stage in terms of sales efforts. Focus on your best shots – and don’t insist on trying everything at this stage. Spreading yourself and your resources too thin, and not knowing what works, are red flags.
- Projected Operating Income. This is truly where push comes to shove. In a full-blown income statement the only things happening below operating income are extraordinary gains and losses, which defy projection; and taxes, which despite the best efforts of tax reformers in government, are also difficult to predict. So, these items, while important, do not aid in understanding the business. Err towards the conservative side but don’t sell yourself short. Use industry figures where appropriate and justify areas where your numbers will be significantly different.

ASSUMPTIONS TO THE FINANCIAL PROJECTIONS

The last elements of the financial analysis section of the business plan are the assumptions to the financial projections. Not quite as quantitative as the rest of the section, these assumptions are presented in a narrative style and are used to tie the financial forecasts with the plan as a whole.

Other assumptions in this section might address selling costs, payroll expenses, and administrative and engineering costs.

APPENDICES

Appendices are an integral part of any business plan. Here is the “show” part of the “show and tell.” Include those things that will help the investor/lender to gain confidence and comfort including items such as:

- Product literature,
- Patent certificates,
- Company sponsored research,
- Sample sales contracts and agreements,
- Publicity,
- Trade articles,
- Advertising literature or ad concepts under development,
- Supporting financial schedules,
- Licenses and permits,
- Trade references,
- Customer testimonials, or
- Site or personnel photos

Make sure that those items that logically go together are physically together in the appendices and clearly separate those items that stand on their own.

THE DEVIL IS IN THE DETAILS

Ok – the words are down on paper, you’ve checked
the financials and you’re ready to send it out. Right? Wrong. If you’re not the best editor – or even if you are – have someone else you trust take a look. Typos and other similar mistakes can make an otherwise excellent document look sloppy and unprofessional – the last thing an entrepreneur needs. Make sure for instance that the Table of Contents is accurate, logical, and easy to follow. Use different type styles to distinguish sections.

Then, once you’re sure you’ve dotted all the i’s and crossed all the t’s, go the extra mile and have it bound. Places like Staples and Kinko’s make this process painless and not terribly expensive. It’s worth the investment.

One last thing: When (not if) a potential investor or lender asks to see your business plan, send it out – that day or the next at the latest. Use an overnight delivery. Don’t make interested parties wait. They’ll find other businesses to consider in the meantime.

Insider’s Tip: Check the Internet for additional assistance in preparing a business plan. There are hundreds if not thousands of sample plans. You may even find a sample plan in your own industry!
and services will meet the needs of the marketplace. Where possible, quote credible and objective sources to demonstrate the potential of the market. Use charts to show growth since start-up and project forward. Visuals are always helpful in presenting your case as well as maintaining your audience’s attention. Don’t shy away from your competition – face them head on both in your plan and in your presentation. Show that you understand your marketplace and have completely evaluated your company’s market position.

Describe how your product or service will be sold. Which distribution channel(s) will you use? Will you have a sales team? Use outside reps? Use direct marketing channels such as mail, telemarketing, or the Internet? Do you intend to license your product and, if so, to whom? If you already have marketing partners or are in discussion stages, and they are credible and respected, be sure to mention them as well. Present brief summaries of the results of any market research that you have contracted.

As in the business plan, the next area of focus is on the management team, including advisors and any outside directors. Related work experience should highlight your team’s entrepreneurial and management experience in business and, even better, in your industry. If individuals have been active in your industry or business community, provide a short overview of their activities. Educational backgrounds should be mentioned briefly but especially as they relate to the technical, professional and managerial skills required by your business.

While the temptation may be great to explain the wonders of your technology – don’t give in. As technologically sophisticated as some investors may be, their goal is simply to assure themselves that you have the matter well in hand. Summarize your technology with a focus on how it meets the needs of the market. Save the details of development and technology for a follow up meeting. If you get to the due diligence stage there will be plenty of time and opportunity to explain the technology. Alternatively, you may be invited back to present before a more technologically oriented group. That’s the time to show off the beauty of your technology.
YOUR FINANCIAL STORY

At some point in your presentation, you will have to address the issue of financial arrangements. How much capital do you need? What is the purpose for the funding? Use charts to display anticipated growth and associated costs. While you will probably not want to show detailed financial statements, summary projections in chart form are appropriate. These charts should show the point at which you expect to reach profitability – a key factor for investors. If you are looking for initial financing but anticipate the need for a second round at a later date, this is the time to discuss it.

Exit strategies are an important topic in your presentation. Remember that the equity investor is concerned about how and when he or she will get their investment back – plus a profit. Will the company be sold? Is there merger potential? Will the company go public? And when? While everyone understands that predicting the future is based on an educated guess at best, investors want to know that you have thought about the end game.

A FEW MORE TIPS:

This is a formal presentation. Make sure all handouts are professionally prepared.

- Know exactly who will be attending the meeting and have enough material for all present – including individuals with your company.
- Personalize the handouts. Consider having them bound – an easy process with the large office super stores. Provide space for notes.
- Find a balance that allows you to speak to the audience while still having enough information to guide you through the presentation.
- Be prepared for questions. Have handouts that delve into more technological detail should it be necessary. Don’t bluff. If someone asks a question
  - And if you don’t have a complete and accurate answer, tell them. Then, after the presentation, find out and get back to the questioner ASAP.
  - Depending on the nature of your target audience, consider creating multiple versions of the plan.
  - Before the presentation date, conduct your own due diligence on the investor. In which firms have they already invested? Are they in similar industries? Find out about the firm’s focus, philosophy, successes and strengths and then explain where your business might fit into their overall strategy.

Then, when you think you’re ready, practice, practice and practice some more. Make your presentation in front of friends and family as well as individuals who understand your business, including your management team. Take their suggestions to heart. Preparation is key to a successful presentation and can be particularly important if you are interrupted by questions and need to recover quickly.

You’re asking people to invest or lend you hundreds of thousands if not millions of dollars. Make the investment you need to make the pitch perfect. If graphics aren’t your strong point, hire a designer, preferably one with experience in your industry or in presenting business plans. Have people review the text of the presentation to make sure the grammar and spelling are correct and that the nature of the presentation is such that someone without a technical bent can grasp the concepts.

Consider carefully who among your staff you want to bring along. Part of this will depend on the attendees from the potential investor – you don’t want to obviously overpower a prospective investor. But while one person, typically the CEO, will do the initial presentation, you do want those people who can respond well to specific questions, such as a technical person and a marketing person, to be available.

Make sure you’re comfortable with the technology with which you are presenting – including your laptop, remotes and any other equipment you may use. It simply looks bad if your Power Point doesn’t work or you’re fumbling with the remote. If you’re presenting on-site, you’ll have control over what equipment is there and when. If the meeting is off-site, go early to get set up, rehearse if you can, and test the equipment.

While the business world is getting more casual every year, presenting your business plan is a formal exercise in which you want to put your best foot forward – in every way. The goal, of course, is to make your business irresistible to potential investors or lenders and to ensure that they have confidence in you and your team.

Typically, an initial meeting will last an hour to an hour and a half, however, tailor your presentation to be no more than one half hour. Be sure to leave at least a half hour for questions.
CHAPTER FIVE

PLANNING TO RAISE EQUITY CAPITAL

OUT OF 100 viable business ideas, backed up by strong management, few will succeed. Most will fail because of poor execution. Some will fail because of a lack of capital. With odds like this, it’s critical that the search for capital equity be based on a carefully thought out strategy and a detailed implementation process.

THE BASICS

The first step – and you’ve heard this before – is to prepare a comprehensive, well-written business plan. Just as important is an abridged executive summary version of the business plan and a non-confidential slide deck. A confidential version can be shared once nondisclosure agreements are signed. Your business plan will turn prospective investors on – or off. It’s the blueprint for the deal.

It’s a good idea to be armed with a brief summary of the “ask.” That is, the amount of funding you’re seeking, what the funds will be used for, and how much equity you plan on selling.

And while it may be obvious, if an investor asks to see your summary or plan, don’t make the investor wait. Your best choice is to send it out immediately. Don’t let a potential investor forget, find a better prospect, or kill the deal because of unresponsiveness.

It is important to get a good read on the market. Investors are looking for a return from an investment in a viable idea, in a viable market and with a strong management team. And while they might like to double their money in 12 months, most have learned that patience is a virtue.

In today’s market,
ultimately, it is the steak that will sell the deal. A strong equity funding candidate will:

• Have an advisory board that consists of respected members of the business community. The fact that they have lent their name to your venture will go a long way towards establishing credibility in the venture community. Ideally these individuals also have leadership positions within your industry and can bring valuable insight to your business, not to mention a network of contacts. Focus on getting a “lead” investor. While venture capitalists may be, by nature, more of a leader than most, people still will look more positively upon a venture in which others have already invested. A lead investor is typically someone who provides 25% to 50% of the total required.

• Have a strong team of professionals behind the effort. These people will have experience with federal and state regulations and can help avoid the many pitfalls and obstacles that can stand in the way of a successful effort. It is especially important to enlist the services of a top accounting firm that is familiar with the process.

• Be adept at networking. A strong candidate will attend industry meetings, interact with the angel investment community, find opportunities to present in both formal and informal settings, and be energizing to interact with. They will take advantage of all opportunities to present their business.

• Protect their products and services with appropriate patents and trademarks.

• Be ready to take your show on the road. Interested investors will likely be from many locations, and could even be across the country.

DOING YOUR HOMEWORK

Don’t send the plan or even the summary to every list of investors you find.

Rather, make an initial call. Ask about the types of businesses in which the fund typically invests. Most investors have a niche and the closer you are to fitting in that niche, the better your chances.

Off-the-shelf business plan software can be useful to help provide hints as to what potential investors might ask. These can be especially helpful if you can find one that is relevant to your specific industry. Sometimes they can be found on the Internet as well – often at no cost.

THE NEXT STEP

Ok. You have an investor who is willing to talk to you. Now what? Well for a start, be prepared to answer questions – lots of them. And that’s the good news. Because if they’re willing to take the time to learn more, that shows interest.

You cannot meet with a potential investor without having a formal presentation prepared. Period. Even if you’re really good on your feet. You need to prove that you can professionally defend and sell your product and service and you typically don’t get a second chance.

GETTING TOGETHER

Generally the meeting will take place in their office but this is not cast in stone. If you have something in your factory or office worth seeing, then try to get the investor to meet at your place. If, on the other hand, you work at home, or in a barebones office, make the trip or find an appropriate space in a hotel or office building that will work to your benefit.

If your product or service lends itself to a visual demonstration, do so. In lieu of this, pictures, customer testimonials, or video tapes can help your cause tremendously.

CLOSING THE DEAL

As all sales people know, the key to a successful meeting is to close – on something – so don’t be afraid to ask. No investor is going to write a check at the first meeting so the goal is to “close” on a date for a second meeting or at least on the next step.

Ultimately it is a fine balance between “knowing when to hold and knowing when to fold.” That is, if a potential investor says “no,” believe them. Don’t continue to waste their time and yours but, make sure, if possible to get a reason. Sometimes, the things that turned off an investor early on — a not fully developed product, incomplete R&D, an as yet undefined marketplace — correct themselves as time goes on. If circumstances change, get back in touch with these investors but, in the meantime, continue more fruitful searches.
Finally, be ready to walk away from an equity offer. Be realistic but remember, it’s a two way street. Having said that, it’s also important not to burn bridges. Just because a deal isn’t right at one point in a company's growth, doesn’t mean that these same individuals won’t be the right partners a year later.

Similarly, if you get turned down but the investors say “keep in touch” as to your progress – do so. Send periodic updates. You never know when their needs will change, to whom they may pass the information on, or when your business will reach the stage where they might be willing to invest.

**CHAPTER SIX**

**START-UP FINANCING**

**START-UP FINANCING IS** just that – startup. These are funds that you get from your savings, from your rich uncle, by replacing your high value car with one that runs, by refinancing your home or running up your credit card bills. All tried and true methods used by entrepreneurs. Some methods are better than others. Some work better in specific situations. Bottom line? Whatever works – assuming it’s legal and moral. Best use? To get to a point where others may be convinced that you have a viable business worthy of additional investment.

**TAKING STOCK**

Want to start a business? No one is going to invest in a business (or lend money to a business) in which the owner doesn’t have enough faith to put up his or her own capital! After all, it’s your risk – and your reward.

Look to your own resources first. That includes everything from your savings account to timeshares, vacation homes, and any other assets than can generate some quick cash. If you have a new car, consider trading down for a car that will get you where you need to go. You’ll reduce your payments and may even have some cash leftover. And while a couple of hundred dollars a month is not enough to start a business, having the additional cash flow might make your application more attractive to a prospective lender.

Then there is your home. And while many people (spouses included) are understandably reluctant to put their house on the line, it is often necessary to get started. Let's say you have a home you bought for $250,000. And while your principal payments may not have made much of a dent in your mortgage, rising real estate values often made a real difference in the value in your home. Assuming that you still owe $200,000 on your mortgage, and the current value is up to $350,000, you can still borrow against the equity which in this case is $150,000. Most banks
and mortgage companies will lend up to 70% of the equity in your home, or $105,000 in our example.

Another option, depending on interest rates, is refinancing your home. If rates are lower than what you are currently paying – at least 1.5 to 2 percent less, you may be able to cut your payments significantly.

Other options include borrowing against insurance policies – policies that you have likely been paying for years if not decades. The only type of insurance that you can borrow against directly is a whole life policy; however, most companies will allow you to borrow against the cash value of your policy. Call your agent or insurance company to find out which options are available to you.

While the sale of investments is certainly an option, in certain situations, borrowing against your investments may be a possibility. You need a lot of guts to do this but margin loans can be an option when stock prices are steady or rising. When times are good, margin loans work like this: brokerage firms where you hold an account will lend you money against the value of your holdings to purchase other securities, usually stocks, or for your own purposes. The broker will charge you an interest rate 0-2.25 percent above the current broker’s call rate. Most exchange-traded stocks mutual funds, and individual bonds can be borrowed against, but margin borrowing is prohibited on most tax-deferred accounts. The rate depends on the type of investment – 90% for federal government bills, bonds and notes, 75% for municipal bonds, and for stocks and mutual funds the rate is 50%. Easy, yes, but risky. If you hold securities valued at $100,000 and borrow $100,000 to buy additional stocks, establishing the maximum 50% margin position, and the market goes down, decreasing the value of your portfolio to $140,000, the next phone call you get may be from your broker, asking you to restore your account to a maintenance margin limit set by your broker or even to restore the full amount of the loss.

Credit cards are, of course, another tempting option, especially when your mail box (both snail mail and e-mail) is literally littered with offers of low interest rates (to start) and high credit limits. Do not get snowed – rates are typically much higher than conventional borrowing – so watch for 0% offers and refinance to lower rates when you can. If you’re confident in the future, minimum payments for a period of time can help cash flow tremendously. If the business goes well, you can pay off the balance and come away with better credit than ever. But credit cards can be a dangerous trap, so tread with caution.

Family and friends are another tried-and-true option. Here, however, the risks tend to be emotional in addition to financial. How are you going to feel at Thanksgiving dinner when you see Uncle Harry who lent you $10,000 — at a nominal interest rate – and you missed the last two payments?

Alternatively, you might consider offering equity in the new venture, rather than a debt position. The downside, of course, is that equity gives the holder a say in how you run the business. Is that really how you want to spend family time? Of course, if there is someone in your family who has an excellent business background and the cash, and is someone on whom you can rely and in whose judgment you trust – there’s no harm in asking. But in an effort to deliver profit within a specified time frame, entrepreneurs may feel unduly pressured to go public before the time is right. Making an equity deal with relatives also exposes the family to more risk if the business goes into bankruptcy. And the potential costs in terms of hurt feelings and ruined relationships can be quite high.

If you go the family route, follow these rules:
• Put all loan agreements in writing, with the responsibilities of each party clearly defined in order to prevent misunderstandings as you move forward. Have a lawyer review the terms and conditions.
• Don’t borrow more than the lender can afford to lose.
• Don’t keep secrets from your lender – they deserve to know the truth – good and bad.
• Come to an agreement as to how much of a role your investor or lender will take in the running of the business.
• Make all payments on time – just as you would if you had borrowed from a bank. If you’re going to be late, say so.
• Be businesslike and always avoid discussing business issues at family gatherings.
• The other consideration is that, depending on the nature of the business, some start-ups simply don’t
need that much money. This is especially true of service businesses that often simply need to sign a lease on an office; buy a computer system, a telephone system, a copy machine and hire a part-time administrative person. Yet, most commercial banks are reluctant to make loans under about $30,000 simply because their fixed costs are too high. So, even if you have impeccable credit, smaller loans can be difficult to come by and personal avenues may be the best option.

How much should you commit? That, of course, depends on a number of factors including the willingness of you and your family to accept risk. One often-quoted rule of thumb says that you should borrow no more than what you can repay in five years earning a salary. That still may be more – or less – than you are willing to put on the line.

CHAPTER SEVEN

EQUIPMENT LEASING

IN A LEASE arrangement, the lessor (i.e. the leasing company) owns the equipment and then leases it back to the lessee at a fixed monthly rate. Lease financing provides an excellent option for businesses in all stages of the business cycle. It can be easier to obtain than bank financing and, under certain circumstances, can carry other tax advantages.

Leasing is a big business in the United States and one of the most popular financing options for small
business. Why? Because businesses in all stages of growth often find a need for capital equipment but may not have the need or wherewithal to purchase it outright. In these cases, the lender (typically a leasing company) purchases the equipment and “rents” it to the business at a flat monthly rate for a specified number of months. At the end of the lease, the business may purchase the equipment for its fair market value (or a fixed or predetermined amount – typically 10%), continue leasing, lease new equipment, or return the equipment.

**LEASING VS. BORROWING**

Companies have different needs, different cash flow patterns, and different and sometimes irregular revenue streams. For start-ups, cash flow is almost always an issue. Mature companies might have other needs. Leasing companies can meet these demands by providing term flexibility as well as some latitude as what may and may not be used as collateral.

From a tax point of view, the entire lease payment is deductible as an expense versus an equipment loan in which only the interest portion of your payment to the lender is deductible.

Leasing also provides protection against technological obsolescence – a real concern in a world where technology is advancing at dizzying speeds. When using lease financing, the end user bears all the risk of equipment devaluation since the risk is transferred back to the lessor and the lessee is under no obligation to purchase the equipment. So, as your needs change over time due to internal or technological advances, leasing allows you to stay on the cutting edge.

But perhaps the greatest benefit, especially for small or start-up businesses is the fact that you can lease 100 percent of the cost of the item and keep your cash flowing while still having the use of the equipment your company needs to stay competitive. Leases require no down payment and finance only the value of the equipment expected to be depleted during the lease term. For rapidly depreciating items, or items such as computers that quickly lose their value, this amount can be most of the price.

Leases provide fixed monthly payments that are easy to budget. Some leases even allow you to include “soft” costs like shipping, software, training, and installation in your lease and this too can be a significant boost to cash flow.

Another big difference between leasing and borrowing is the nature of the company with which you are doing business. A leasing company is typically willing and able to structure a “deal” that will work for their customer. Leasing companies will often lend larger sums on the basis of only an application than will banks. In part this is because leasing companies are not bound by federal regulations as are banks and because they own the underlying assets.

Leasing companies also typically offer a relatively easy application process and shortened approval times, especially for equipment under $150,000, an advantage especially for smaller businesses. Plus, the business doesn’t have to reduce their line of credit if they turn to a leasing company versus a bank.

**CREDIT SCORING**

Banks and leasing companies also differ in terms of how they look at a potential borrower/lessee. As a general rule, for leases more than $100,000 but less than $150,000, leasing companies will tend to use a credit “scoring” system. This is a much less cumbersome and comprehensive system than the credit “analysis” – a process that is the same, and therefore as expensive, for a $200,000 loan as it would be for a $2 million loan. Using a credit scoring model, leasing companies analyze a business based on the probability that they will repay a loan versus their ability to repay. For leases under $100,000, leasing companies may simply credit score the business owners’ personal credit and check trade and bank references to reach a decision – a much less costly and time-consuming process for all involved.

Credit scoring streamlines the process because it looks at and scores relatively few variables out of the many which make up a company's full financial profile. The credit decision is made either by computers or clerks versus a bank loan officer. Over time, the credit scoring models are adjusted to reflect a lender’s experience. Criteria used in a credit scoring model include:

- Time in business,
- Lessee’s industry,
- Type of equipment,
- Bank’s rating of lessee,
• Personal credit bureau reports of the principals,
• Landlord rating,
• Quality of the vendor supplying the equipment to be leased,
• Structure of the lease,
• Age of the equipment (new or used), and
• Credit reports from outside reporting agencies.

But while it may be a simpler process, credit scoring does not mean that credit problems won’t be found. Red flags might include personal credit problems such as past delinquencies, slow payments or non-payments, a high number of credit inquiries (this can indicate that you have made too many credit applications and are carrying too much debt), lengthy payments on trade credit, a high number of NSFs, lawsuits and judgments, frequent changes in banks, or equipment that is out of the norm for your business size and industry.

If your credit score is poor, don’t despair. Most leasing companies will try and work it through by utilizing “structuring” techniques. These techniques may include increasing the down payment, adding additional guarantors (i.e. other people or institutions that will pay off the lease if the original lessee runs into financial difficulty), and requiring additional collateral such as personal real estate or equipment that is free and clear of liens. In many cases, leases over $100,000 require additional collateral as a matter of course.

**FINDING A LEASING VENDOR**

Finding an equipment leasing company is easy. Almost any equipment that a business could conceivably need offers a lease option, typically through a third party and sometimes directly. But don’t automatically assume that you’re getting the best deal the first time. Many equipment manufacturers will offer multiple leasing options from more than one company. Get competitive quotes. Compare the costs of purchasing the equipment (if that is, in fact an option), borrowing the money and leasing.

Lease brokers are another option. Similar to an insurance broker, a lease broker might have a more extensive knowledge of the market and, especially if you are in a not-so-common business or are interested in a not-so-typical piece of equipment, may be able to help track down the right company.

When analyzing the lease offer, the key is to know the residual value of the equipment you are leasing. For instance, suppose you lease a $12,000 warehouse forklift for $300 per month for three years and at the end of the lease, the value of the forklift is $4,000. If at the end of the lease, you buy the forklift for $4,000, your total cash outlay is $14,800, or 36 payments x $300 plus $4,000. Thus the difference between the original sale price of $12,000 and the total cash outlay is $2,800. If the residual is higher, say $5,000, and the monthly payments stay the same, then the financing cost of the lease would increase to $3,800. Just like most business relationships, the final decision is not just about numbers. The company’s ability and willingness to extend a lease, upgrade to new equipment during the lease term, and negotiate fees are all important factors to consider especially if you anticipate that this will be a long-term relationship.

**HIDDEN COSTS**

All in all it sounds like a great deal, doesn’t it? It often is. But don’t forget the costs that may not be quite so obvious.

Non-cancelable agreements require that the business complete all payments to the end of the term. While there is no penalty for early payoff, the full payments are normally required to pay off the lease early.
Document fees can add to the cost of the lease, and will range with the complexity of the lease contract and the size of the transaction.

Some states also require other one-time fees to be paid to the state coffers and, of course, taxes are inevitable, whether you’re buying or leasing. With a lease, these amounts are typically figured into your lease payments. Leasing companies will also require insurance on the equipment. In some cases, businesses will already have adequate insurance on their building or facility to cover such equipment in the event of fire, flood, theft, etc. However, other companies using more portable equipment (such as lift trucks, golf carts, hydraulic lifts, etc.) may need to take out additional coverage.

For more information, try the United Association of Equipment Leasing at www.uael.org.

CHAPTER EIGHT

COMMUNITY DEVELOPMENT LOAN FUND

COMMUNITY DEVELOPMENT FINANCIAL Institutions (CDFI) provide funds that may be “unbankable” in the traditional commercial sector. Loans are provided for start-up or expansion purposes with the goal of generating economic stability in an economically disadvantaged area. The range of funds is typically between $25,000 and $500,000.

The Community Development and Financial Institutions Act of 1994 established the Community Development Financial Institutions Fund within the U.S. Department of the Treasury. The goal of the Fund was to expand the availability of credit, investment capital, and financial services in distressed urban and rural communities. The Fund provides both technical assistance and resources to banks, credit unions and community organizations certified as CDFIs.

Community Development Financial Institutions are financial intermediaries (nonprofit or for profit) with community development as a primary mission. A CDFI facilitates the flow of lending and investment capital into low-income communities and to individuals who are unable to take advantage of the full range of services offered by traditional financial institutions.

ELIGIBILITY

Applicants for CDFI status must meet certain eligibility requirements and must:
• Be a financing entity with a primary mission of promoting community development,
• Serve an investment area or targeted population providing development services, and
• Maintain accountability to residents of the investment area or target population through representation on its governing board of directors. There are over 800 CDFIs operating in the United States according to the CDFI Fund, a part of the US Depart-
1. Community Development Banks which provide capital to rebuild economically distressed communities through targeted lending and investment. They provide mortgage financing, home improvement, commercial business, nonprofit and student loans as well as consumer banking services.

2. Community Development Credit Unions promote ownership of assets and savings and provide affordable credit and retail financial services to low-income individuals with special outreach to minority communities. They primarily provide consumer-banking services.

3. Community Development Loan Funds aggregate capital from individual and institutional social investors at below-market rates and lend this money primarily to nonprofit housing and business developers in economically distressed urban and rural communities. They provide housing construction and pre-development, business start-up and expansion, and facilities loans.

4. Community Development Venture Capital Funds provide equity and debt with equity features for community real estate and medium-sized business projects. They typically provide real estate and commercial equity investments, loans, and some grants.

5. Microenterprise Development Loan Funds foster social and business development through loans and technical assistance to low-income individuals who are involved in very small businesses or who are self-employed and unable to access conventional credit. As the name suggests, these funds provide micro-business start-up and expansion loans.

Job creation and economic stability are key goals of CDFIs – the “second bottom-line” so to speak and so, potential borrowers who can prove that funding will generate jobs or will have a positive influence on the economic stability of an area, will have an advantage.

But the ability to pay back the loan is still critical. After all, in order to help their communities, lenders must be able to recycle their funds.

CDFI loans are appropriate for start-up businesses or the expansion of existing companies. Applicants are viewed with an eye towards their ability to repay the loan, and with less emphasis on historical patterns. So, those with past credit problems are likely to have an easier time than if they were to approach a traditional commercial lender. But, because of the
risk factor, rates tend to be a bit higher than traditional loans. The range of funds is generally $25,000 to $500,000.

Due to their community agenda, obtaining CDFI financing can be difficult for companies whose goals are not in sync with those of the lender.

Insider Tip: Be prepared when applying for a CDFI. Lenders will not only want to review your finances to make sure they’re in line with the lender’s requirements, but you must also be able to demonstrate a commitment to your community.

MORE THAN LOANS

While debt is the primary funding vehicle for CDFIs, some are beginning to make equity investments as well. As in the lending arena, these sources may elect to make equity investments in companies that do not attract “traditional” venture capitalists.

In large part because of their second “bottom-line,” CDFIs tend to spend a great deal of time with their borrowers. Be prepared to show your commitment and to spend time with the lender. They’ve “been there, done that” and their consultation could be productive in ways that extend far beyond financing.

For additional information, visit the Web site of the National Community Capital Association, www.communitycapital.org.

CHaPTER nInE

MICROLOANS

MICROLOANS ARE INTENDED for established small businesses as well as start-ups that can benefit from smaller amounts of capital – $100 to $50,000 – and from the advice and resources of Microloan lenders.

If you don’t need a large amount of capital, but your personal resources are tapped out, consider turning to the Small Business Association’s (SBA) Microloan Program. Developed in 1992 with the goal of increasing the availability of very small loans to small-business borrowers, the program was made permanent in 1997. Under this program, the SBA makes funds available to community based lenders (or intermediaries) that, in turn, make and administer the loans to eligible borrowers, including start-up, newly established or growing small business concerns. Since its inception, this SBA program has provided $80 million in about 7,900 loans of this type.

QUALIFYING

The maximum amount of a Microloan is $50,000, the minimum can be as low as $100, with an average
loan of approximately $13,000. The maximum term allowed for a Microloan is six years with an average of roughly three years. Loan terms vary according to the size of the loan, the planned use of funds, the requirements of the intermediary lender, and the needs of the small business borrower.

Generally, Microloans are administered much like a line of credit. Intended uses include:

- Purchase of machinery and equipment,
- Furniture and fixtures,
- Inventory,
- Supplies, or
- Working capital.

These funds may not be used to pay existing debts or to purchase real estate.

Lenders, which include local economic development organizations or state financing authorities, are selected and approved by the SBA. The SBA loans the money to the nonprofit organization which then pools the funds with local money and lends the money directly to local small businesses. Approval decisions are made on the local level and the turnaround can be quick, especially if you’re funding on the lower side of the scale, say $5,000 or so. Larger amounts may take longer because of the additional information required for approval. In terms of collateral, each intermediary has its own lending and credit requirements. However, as with most small business loans, intermediaries will typically require the personal guarantee of the business owners.

ADDITIONAL RESOURCES

Microloan lenders are uniquely familiar with the needs of their very small business clients and have made a commitment to that specific market niche. Thus, in general, Microloan lenders approach applications with different and more flexible underwriting criteria than the typical commercial lender. They may, for instance, accept collateral such as office equipment that other commercial lenders will not. While the universe of proceeds is limited, it is an especially good source of funds for businesses that have never borrowed from a bank and for which establishing credit may be an issue.

Microloans are also an important option for business owners who do not qualify for standard business loans and who do not want to borrow the money personally – an option that is often even more expensive, typically does not take into account business assets and, perhaps most importantly, does not advance the business’ credit. This is not to say that personal guarantees are not considered but simply that the strength of the business is factored into the decision process as well.

In addition to funding, under the terms of this program, each intermediary is required to provide business-based training and assistance to its Microloan recipients. Thus, borrowers may be obliged to participate in training and/or planning requirements before the application is considered. This training can be invaluable, especially for entrepreneurs who may be well-versed in their industry and product but who may have less experience in the day-to-day issues involved in running a business.

While comprehensive business plans are not always required for Microloans, borrowers must still demonstrate an excellent understanding of their market, their own capacity and that of the competition. Having a business plan in place, however, is always recommended and, given a limited amount of Microloan funding a well prepared loan, can help to put a company out in front of the pack.

On the downside, rates tend to be a bit higher than might be available for larger business loans, although this is again up to the intermediary. Some borrowers who start with Microloan financing use this opportunity to establish creditworthiness and then, later, refinance at a lower rate. But, even at a higher rate, these loans are typically less expensive than a credit card or personal loan option often used to finance small amounts.

Not all Microloan lenders offer a full range of loan products, or even the full range of Microloan amounts. To apply for a Microloan, you must work with an SBA-approved intermediary in your area. Contact your SBA district office or view the list of Participating Microloan Intermediary Lenders to work with an approved intermediary.

THE APPLICATION PROCESS

Due in part to the small amounts being financed, the process of applying for and receiving a Microloan is less cumbersome than it is for larger commercial loans. Typically, during the first call, the borrower will
be asked a series of standard questions about the history of the business, how much money is needed and for what purpose, who is involved in the management team and their background, and what collateral and personal guarantees would be available.

But just because the questions are straightforward, doesn’t mean that you shouldn’t be prepared. You cannot have a productive dialogue with a lender without financial documentation. You will need personal and business tax returns to get past a very preliminary discussion. And, you will need these items in a form that is ready to present to a potential lender.

The next step is to submit the application, along with a form on which applicants are asked to develop a personal financial statement. The lender will review this information along with any credit information obtained for third-party sources. Once this information is reviewed, the lender will contact the applicant with their decision. This process can take three to four weeks but may be shorter for smaller loan amounts.
CHAPTER TEN

ASSET-BASED LOANS

As asset-based loans, generally available from commercial finance companies, are loans that are based on the value of your company’s assets, specifically accounts receivable and inventory.

For companies that are highly leveraged or under-capitalized, asset-based loans can provide a viable financing option. In asset-based lending, lenders look at the liquidation value of accounts receivable and inventory, rather than cash flow, to determine the borrower’s ability to repay debt. This is important, especially for highly leveraged companies without the ability to add debt.

LOAN CRITERIA

Asset-based lenders look at accounts receivable and inventory and with this knowledge, will make a loan based on their value. The loan is, in effect, a revolving loan since for most businesses, receivables and inventory are cyclical. As receivables and inventory grow in value, so too might the availability and size of your asset-based credit line. Be aware that lenders want to see considerably more value in receivables than inventory – often at a ratio of 3 or 4 to 1. That is, a lender would like to see monthly receivables of $900,000 based on an inventory level of $300,000.

Acceptable uses for these loans include, but are not limited to:

• Working capital,
• Capital equipment purchases,
• Rapid growth funding, or
• Seasonal cash shortfalls.

These loans can be relatively easy to obtain if your company has good financial statements, good reporting systems, a saleable and liquid inventory, and customers who pay their bills – even if they take a while to pay! The lender makes the loan based on the value of the receivables or inventory. The loan amount will be based on a percentage of the value of the assets and interest accrues the moment the funds are available.

What is the Overall Process for Licensing/Creating Company?

Industry Needs
- Stage of Development
- IP Status
- Level of unmet medical need
- Industry interest
- Competitive advantage
- Scientific reputation
- Market Size and Differentiation

Identification
- Scientists
- Tech transfer
- NIH review meetings
- NIH Licensing Managers
- NIH database
- Existing Companies

Market Analysis
- Literature Review
- Investor Input
- IP Diligence
- Physician Input
- Regulatory Input
- Reimbursement Input
- CRAB Input

Funding
- IC (e.g. NCATS)
- SBIR-TT
- CRADA
- TEDCO
- Invest MD
- BioHealth Innovation
- Angel funding
- Venture capital
advanced, like a credit-line.

This emphasis on assets rather than cash flow impacts the relationships between borrower and lender. For instance, since the lender is lending against assets which can fluctuate rapidly, they are likely to monitor the status of their loan more closely. It is not uncommon for lenders to look at an inventory or receivables status as much as once a month.

Like any other loan, asset-based lenders will require that a business:

- Provide financial statements (audited statements may be required for larger loans),
- Make personal guarantees, especially for smaller businesses,
- Maintain insurance on key executives, and
- Demonstrate tangible net worth and long-term viability.

Don’t expect that your entire inventory or all receivables will be eligible for asset-based lending. Eligibility depends on the ease of sale – the final recourse for a lender should the loan go south. Look objectively at your inventory. Items that have been on the shelf longer than is considered normal may not be included. Damaged or spoiled inventory would also fall into this category. Pretend you’re the lender – what would you take a chance on having to resell? Receivables that have been on the books for too long or debts from customers that have had previous bad debts will not be eligible.

**AVAILABLE FUNDING**

Typically a lender will lend 25 to 40% of the value of the eligible inventory or 75-80% of the value of eligible receivables. Why such a big difference? Simply because receivables are, or should be, self-liquidating. Inventory has to be liquidated, a process that includes the lender taking possession and selling the inventory, often in an unfamiliar industry. Ultimately, your borrowing capacity for an asset-based loan will depend on a combination of what your assets will support and the maximum line a lender is willing to provide.

Asset-based lenders generally charge more than their bank counterparts to service the loan. Still, pricing is competitive among asset-based lenders. The good news is that if your financial statements are good, your inventory is not exotic, and your customers pay their bills, these loans can be comparatively easy to obtain.

These lenders will require a complete set of financial statements including:

- Balance sheet,
- Income statement for five years,
- Cash flow reports for two years,
- Accounts receivables and payables (in some cases),
- Tax returns for at least two years (both business and personal), and
- Current business plan.

**OTHER OPTIONS**

Your suppliers can actually provide another source of asset-based financing. In fact, they already do if your company, like most, takes a 30-day term. But what if your customers take 45, 60 or more days to pay? It can be a tough balancing act if you want to pay your bills within the 30-day term. You can, of course, choose to simply not pay your bills for 90 days, giving you three months of financing, often interest-free. But this is a dangerous route and not looked upon kindly by vendors with their own bills to pay! Suppliers can, for instance, freeze shipments until bills are paid – an action that will no doubt cause additional problems.

Alternatively, you can ask your supplier to extend your payment terms. Depending on your relationship, they might agree – even if it means increasing the price to cover the cost of funds. If that happens, the borrowing company is still in the same position as they would be if they had borrowed the money with interest from a lender.

There are other, more specific forms of asset-based lending including loans based on securities, letters of credit, machinery and equipment, and purchase orders. The more specific you get, however, the more limited the field of lenders. For more information, visit www.cfa.com, the Web site of the Commercial Finance Association.

**FACTORING**

Factoring is a close cousin of asset-based loans. In this process, a business sells its accounts receivables to the factor and the factor advances a percentage of the face of the invoices, less a fee after collection. Dat-
TOP 20 SOURCES OF BUSINESS FINANCE

1. ANGEL INVESTORS - Angel investors have been responsible for funding over 30,000 small businesses each and every year. With over 250,000 active angels in the country you may want to consider an angel investor network to simplify your search.

2. ASSET BASED FINANCING - If you’re company has collateral such as accounts receivable, inventory, equipment or real estate these assets can be used to secure the financing you need but keep in mind you still own your assets, but if you default, the lender can seize them.

3. BANK LOANS - Large banks tend to be much more conservative in lending so you may want to consider a community bank or credit union for a small business loan.

4. BUSINESS CREDIT CARDS - A fast and easy way to access cash for company expenses but be careful carrying a balance because the interest can be costly. Also make sure your payment experience reports to your business credit files.

5. BUSINESS CHARGE CARDS - This is a cash source that has all the convenience of a business credit card without the costly interest.

6. CROWD FUNDING - Crowd funding is a creative way to raise capital without having to rely on investors or banks.

7. EQUIPMENT LEASING - Leasing equipment is a source of financing that allows you to purchase or borrow new equipment with 100% financing.

8. FACTORING - With factoring, you sell your company’s accounts receivables to a company (known as a factor) at a discount, in order to free up your cash. The company that purchases the receivables then assumes the responsibility for collecting them.

9. GRANTS - To see if your company qualifies check out the Grants.gov web site.

10. LETTERS OF CREDIT - Using a letter of credit can be a great tool for processing smooth payment transactions overseas when dealing with foreign customers.

11. LINE OF CREDIT - A line of credit works like a revolving credit card but with much lower interest rates and higher available credit limits.

12. MERCHANT CASH ADVANCE - A merchant cash advance allows you to borrow off of your future credit card sales. You get a lump sum amount in exchange for an agreement which outlines the percentage that will be taken from every future credit card transaction until the amount you borrowed is paid back.

13. MERCHANT LINE OF CREDIT - An excellent source of cash (merchant card) that is strictly based on your company’s monthly sales volume.

14. MICROFINANCE LOANS - Microcredit loans are less difficult and time intensive to qualify for with loan amounts ranging from $500 to as high as $35k.

15. PURCHASE ORDER FINANCING - This finance option provides your business capital to pay suppliers upfront so your company doesn’t have to deplete its cash reserves.

16. P2P LOANS - P2P Loans removes traditional lenders from the finance equation and instead allows lending to take place directly between individuals.

17. SBA BACKED LOANS - SBA backed loans are much more flexible than traditional bank loans lenders but still require supporting documentation.

18. SOCIAL LOANS - Social lending provides individuals an opportunity to borrow and lend money to each other. Companies like Lending Club and Prosper have spearheaded this funding source.

19. VENDOR LINES OF CREDIT - Vendor credit also known as trade credit is when a business extends credit to your company in order to allow you to buy its products upfront but defer the payment for a later date.

20. VENTURE CAPITAL - Venture capital is neither easy nor fast to be able to tap into but can be a viable source of funding.
ing back to ancient Egypt, factoring is probably one of the oldest forms of financing. Today, it accounts for billions of dollars in financing each year.

For small, non-cash or credit card businesses, where cash flow is a real problem, factoring can be a valuable resource. It works like this. Let’s say you have a small manufacturing company. Sales are good but your customers are taking anywhere from 60 to 90 days or more to pay their bills – a situation in which you are, in essence, financing your customers. Meeting a weekly payroll is tough and getting tougher. Banks are unwilling to lend money due to a lack of collateral and credit history but your customers are solid, respected companies and repeat business is the norm.

Obtaining factoring is similar to obtaining a bank loan in that the information required by the factoring company also includes your business’ vital statistics, financials and tax returns. In addition, however, they will want to see a detailed list of receivables, the terms of the sales, and some basic information about your customers. (Note: if your business has pledged your receivables as collateral for another loan, this liability will have to be cleared.) Once approved, factoring takes place regularly, often weekly depending on the invoicing schedule. While factoring charges vary, typically companies receive 70 to 80 percent of the face value of the invoices purchased.

But be careful. The downside of factoring is that, once you have “sold” your receivables, the factoring company has the right to try to collect. If they do so in a particularly aggressive manner, your relationship with your customers might be damaged.

BANK TERM LOANS

Bank term loans typically carry fixed interest rates, monthly or quarterly repayment schedules and a set maturity date. They are appropriate for any business that can leverage sound financial statements and the necessary down payment to bring monthly payments in line with cash flow. And, term loans are often the cheapest way to go.

There are generally three types of bank term loans: short, intermediate and long-term loans.

Short-term loans are typically less than one year in duration and usually take the form of operating loans and revolving lines of credit. These loans finance the day-to-day operations of the business, including inventory and supplies. Rates for these loans tend to be higher than for longer-term loans.

Intermediate-term loans usually run under three years and are typically repaid in monthly installments (sometimes with a balloon payment) from a business’ cash flow.

Long-term loans are most commonly set for more than three years – typically between three and 10 years but sometimes extending for as long as 20 years. Long-term loans are collateralized by business assets and require quarterly or monthly payments derived from profits or cash flow. Often these loans carry additional restrictions including limitations on the amount of additional financial commitments the business may take on. These loans can be particularly difficult for small businesses – especially new businesses – since the longer-term represents a greater risk to the lender. Shorter-terms and/or additional collateral can sometimes help solve this problem.

LOAN CRITERIA

Qualifying for a bank term loan can be a challenge for a small business especially a start-up without established credit. Like most funding sources, banks will want the business owner to put down a part of the total cost of what is being financed – that is, to
assume some of the risk. But with term loans, the percentage is often a hefty 20% to 25%.

Consider, too, why and for how long you will need the funds. If you have a seasonal business, a line of credit – which offers working capital only when you need it – may be a better option since you pay for money only when you use it. If on the other hand, your business is undercapitalized, a term loan is likely to be a better alternative.

Finding bank term financing is a skill. Banks, like businesses, vary in their lending criteria and goals. So, getting turned down by one bank is not necessarily indicative of the response at another bank. So, shopping is a worthwhile effort, especially since rates can vary significantly from bank to bank.

PUTTING YOUR BEST FOOT FORWARD

When analyzing a potential borrower, banks look at the “five Cs.”

• Character – Have you had other loans (business and/or personal) and how have they been managed? Do you have experience in your industry that will enhance your chances of success?

• Credit capacity – The bank will conduct a full credit analysis, including a detailed review of financial statements and personal finances to assess your ability to repay from cash flow.

• Collateral – Most of the time, banks will require that the actual value of the collateral be larger than the loan amount – in order to protect their investment should cash flow dry up.

• Capital – There is truth to the saying that banks lend money to people who don’t need it. Lenders will want to know what you own outside the business – bonds, stocks, real estate, etc., that is, anything that can be used to repay the loan in case business cash flow or assets are not sufficient. Remember, if there is a loss, your personal assets will go first.

• Comfort/confidence with the business plan – When it comes to small business financing, much of it hinges upon the accuracy, completeness and projections of the business plan. Lenders will look at your financial projections as well as descriptions of your industry and how your business fits in.

Bankers are people too. So do your best to make a good impression. Go to all meetings prepared with the necessary paperwork. Be enthusiastic. Get the information they need – when they need it and if you promise something, be sure to do it when you say you will.

Lenders will require a complete set of financial statements including:

• Balance sheet,

• Income statement for five years,

• Cash flow reports for two years,

• Accounts receivables and payables (in some cases),

• Tax returns for at least two years (both business and personal), and

• Current business plan.

(Note: less documentation may be required for loans under $100,000.)

Finally, don’t expect that this will be the end. Many bankers will want to see ongoing financials over the life of the loan.

It is worthwhile contacting one of the credit bureaus (such as TRW or Equifax) to get a copy of your credit report prior to applying for a loan. You certainly don’t want to be caught off guard with a red flag on your report. Additional red flags include a poor reputation within the business community, a poor business plan, poor collateral and an insufficient down payment.

GOING SHOPPING

Like any other product or service, it is worth shopping for a loan. Banks vary fees, although they typically hover around 1%. Specialized loans that require more administrative support, such as construction loans, may be higher.

Other costs may include commitment fees which can range from 0.25 percent to 3 percent of the loan’s value, balance fees charged on the unused portion of credit lines, prepayment penalties and covenants, such as the owner maintaining full-time employment with the company for the duration of the loan. With some leverage, all these points are negotiable. But, be realistic. If your business is not well-established, does not have a proven track record, or generally is viewed as a risk, your negotiating position is clearly not as strong.

Expect too, that the bank will minimize its risk by conservatively valuing your collateral and by loaning only a percentage of its appraised value.
Choosing a bank is, hopefully, more than just going with the one that has agreed to lend you money. Do your homework. Ask business associates about their bank and their level of satisfaction.

Not all banks are in the same markets. Some actively seek out relationships with small businesses. Read their ads in the business section of the paper and visit their Web sites. Contact your local industry association or chamber of commerce. Their membership indicates a willingness to serve the membership – that’s you!

Also, visit the Small Business Administration’s Web site, where you will find a list of small business friendly banks.

Your banker is someone with whom you will, hopefully, enjoy a long and productive relationship. Your loan officer should be someone who understands your business and your goals and, perhaps most importantly, someone from whom you can learn, and who should be able to offer information, insights and even networking opportunities that would be advantageous.

That is, of course, unless your bank gets bought, sold or merges with another financial institution. Then you may have to start over again with a new loan officer. Frustrating? Yes. Part of life? Absolutely.

**CHAPTER TWELVE**

**SBA LOAN GUARANTEES**

There are three basic financing programs available through the Small Business Administration: The Microloan Program, the Section 504 Community Development Corporation Program, and a series of programs under the Section 7(a) umbrella. Rather than loaning the money directly, upon approval, the SBA guarantees a loan amount to the lending institution.

The Small Business Administration is one of small business’ best friends. On top of providing a free source of information on everything from personnel issues to financing, the SBA works with a network of over 7,000 lenders nationwide to assist small businesses in getting the money they need. The SBA does not lend money directly but instead guarantees a loan amount. With this safety net, lenders are then willing and able to make funds available that they would not otherwise be able to commit.

**THE ROLE OF THE SBA**

The SBA performs a critical role in the financing of small business in the U.S. – small businesses that provide much of the growth in the economic sector but are often viewed as second-class citizens when it comes to commercial loans. Consider the three primary criteria used by banks in analyzing a potential borrower – cash flow, collateral and character. While the small business owner may be able to provide character references a mile long, cash flow and collateral are typically a very different story. The SBA is more willing to take a risk on a personal guaranty than most lenders.

This is not to say that these things aren’t important. Most loans (especially for small businesses or start-ups) require at least some collateral and the personal guarantees of the principles. Interest rates vary, depending on the business climate, the region, and the lender but are, generally speaking, competitive. Lenders are charged a servicing fee which is passed on to the borrower but typically these fees are less than, or competitive to, typical commercial loan fees.
SBA maximum rates are pegged to the Prime Rate and may be fixed or variable. Fixed rate loans of $50,000 or more must not exceed prime plus 2.25 percent if the maturity is less than 7 years, and prime plus 2.75 if the maturity is 7 years or more. Rates are higher if loan amounts are under $50,000.

In addition to having access to funds that might not be available through traditional sources, borrowers are often the recipient of valuable advice and counseling from the SBA as well as from SBA lenders and, in fact, this is mandatory under some SBA programs.

**ELIGIBILITY**

According to the SBA, the majority of businesses are eligible for financial assistance from the SBA, but there are specific criteria that must be met. The business must operate for profit, be engaged in or plan to do business in the United States or its possessions, have reasonable owner equity to invest, and use alternative resources first, including personal assets.

Not surprisingly, repayment ability from the business’s cash flow is a primary consideration in the loan decision process. The SBA also looks at management capability and the owner's equity contribution. All owners of twenty percent or more are required to personally guarantee SBA loans.

The SBA defines an eligible small business as one that is “independently owned and operated and not dominant in its field of operations.” Additional size criteria are based on the type of business as defined by the Standard Industrial Classification (SIC) codes and matched to the North American Industry Classification System (NAICS). Note that the SBA does suggest that if the potential borrower is close to these standards, size eligibility should be discussed with the local SBA office and that some exceptions do apply.

Certain types of businesses, including franchises, recreational facilities and clubs, farms and agricultural operations, fishing vessels, and medical facilities may be eligible but special considerations do apply.

Businesses that are not eligible include real estate investment and other speculative activities, lending activities, pyramid sales plans, illegal activities, gambling activities, charitable, religious, or certain non-profit institutions.

**LOAN PROCEEDS**

As of April 24, 2013, a maximum loan amount of $5 million has been established for 7(a) loans. However, there is an additional fee of 0.25 percent on any guaranteed portion of more than $1 million. Small loans ($150,00 or less) carry a maximum guaranty of 85 percent. Loans greater than $150,000 carry a maximum guaranty of 75 percent.

Proceeds of the loan can be used for most business purposes and may include the purchase of real estate to house the business operations, construction, renovation or leasehold improvements, acquisition of furniture, fixtures, machinery, and equipment, purchase of inventory and working capital. Proceeds may not be used to refinance existing debt where the lender is in a position to sustain a loss, affect a partial change of business ownership or a change that will not benefit the business, permit the reimbursement of funds owed to any owner, or repay delinquent state or federal withholding taxes or other funds that should be held in trust or escrow.

SBA loan programs can be very helpful to small businesses due to the generally longer term financing, but actual maturities are based on the borrower’s ability to repay, the purpose of the loan proceeds, and the useful life of the assets financed. However, maximum loan maturities have been established: 25 years for real estate and equipment and generally 7 years for working capital.

**TYPES OF SBA GUARANTEED LOANS**

Under the Section 7(a) umbrella there are a number of different types of programs. These are divided into four categories and include:

1. **SPECIAL PURPOSE LOANS PROGRAM**: SBA offers several special purpose 7(a) loans to meet capital needs that provide financial assistance to Employee Stock Ownership Plans, and to help implement pollution control mechanisms.

   • CAPLines: CAPLines is an umbrella loan program that helps small businesses meet their short-term and cyclical working-capital needs. It features four lines, each with specific regulations concerning the use of the loan...

   • Pollution Control: Pollution Control loans offered through the SBA are 7(a) loans specifically designated to aid businesses that are reducing their environmen-
tal impact.
• Employee Trusts: The Employee Trusts program is designed to provide financial assistance to Employee Stock Ownership Plans. The employee trust must be part of a plan sponsored by the employer company and qualified under regulations set by either the Internal Revenue Service Code or the Department of Labor.

2. EXPRESS PROGRAMS: SBA’s Express programs offer streamlined and expedited loan procedures for particular groups of borrowers, notably active duty military personnel, veterans, and borrowers from distressed communities.
• SBAExpress: The SBAExpress program gives small business borrowers an accelerated turnaround time for SBA’s review. You will receive a response to your application within 36 hours. In addition, lower interest rates are often available to you when you apply through an Express program.
• Patriot Express: The U.S. Small Business Administration has announced the SBA’s Patriot Express Pilot Loan Initiative for veterans and members of the military community wanting to establish or expand small businesses. The SBA and its resource partners are focusing additional efforts on counseling and training to augment this loan initiative, making it more accessible and easy to use.

3. EXPORT LOAN PROGRAMS: Approximately 70 percent of all U.S. exporters have 20 or fewer employees. SBA has placed a priority on helping these small business exporters by providing a number of loan programs specifically designed to help them develop or expand their export activities. If you own or wish to start a small export business, the following loans may be available to you:
• Export Express Loan Program
• Export Working Capital Program (EWCP)
• International Trade Loan Program

4. RURAL BUSINESS LOANS PROGRAM
• Rural Lender Advantage: The Small/Rural Lender Advantage (S/RLA) initiative is designed to accommodate the unique loan processing needs of small community/rural-based lenders by simplifying and streamlining loan application process and procedures, particularly for smaller SBA loans. It is part of a broader SBA initiative to promote the economic development of local communities, particularly those facing the challenges of population loss, economic dislocation, and high unemployment.
• B&I Guaranteed Loan Program: If your business is located in a rural community, you may qualify for special financing. The U.S. Department of Agriculture (USDA) currently maintains a Business and Industry (B&I) Guaranteed Loan Program. The USDA provides guarantees of up to 80 percent of a loan made by a commercial lender.

OTHER PROGRAMS
Other, more specialized programs include the Export Working Capital Program, the Pollution Control Loan Program, and the Defense Loan and Technical Assistance Program (DELP). All specialized 7(a) Loan Programs can be found at http://bltmo.re/Special7a. Many, but not all, banks are SBA lenders. However, even among this group, not all lenders offer all SBA loan programs. There are two specialized categories of SBA lenders: Certified Lenders and Preferred Lenders. These banks have entered into contractual relationships with the SBA and officially participate in the Certified Lender/Preferred Lender programs. These lender programs were designed to provide better response to borrowers. This is accomplished by placing additional responsibilities on the lenders for analysis, structuring, approval, servicing and liquidation of loans, within SBA guidelines.

On the downside, the SBA loan application process presents a number of challenges to potential borrowers with respect to documentation and administration. These may include controlled disbursements, hazard and other specific types of insurance, additional disclosures and landlord consents. The good news is that the SBA staff and volunteers can, and do, help.

FOR MORE INFORMATION
Contact the Baltimore District SBA Office at http://bltmo.re/SBABaltimore or via phone at (410) 962-6195 or the Washington, DC Office at http://bltmo.re/SBADC or via phone at (202) 272-0345. These offices provide a number of programs that are listed on their calendars. You can also contact the Region III Office in King of Prussia, Pennsylvania, which serves Delaware, Maryland, Pennsylvania, Virginia, Washington, DC, and West Virginia at http://bltmo.re/SBA3 or via phone at (610) 382-3092.
CHAPTER THIRTEEN
CERTIFIED DEVELOPMENT COMPANY (504) LOAN PROGRAMS (SBA)

ESTABLISHED IN 1980, the 504 Certified Development Company (CDC) Program provides long-term, fixed-rate financing for major fixed assets such as real estate, facilities construction or expansion, or other fixed asset needs. Typically, these loans are appropriate for businesses within the SBA size range and that are interested in reducing the costs of real estate and equipment loans. Loans are made through Certified Development Companies.

A Certified Development Company is a nonprofit corporation set up to contribute to the economic development of its community. Approximately 270 CDCs nationwide work with the SBA and private-sector lenders to provide financing to small businesses. A more select group participates in the Premier Certified Lender Program (PCLP) and enjoy additional authority allowing them to approve loans on their own, thus significantly shortening the approval process.

LOCAL TIES
CDCs operate under the jurisdiction of a board that includes local government officials, private sector lending institutions and business and community organizations. Participants are usually banks, utilities, professional organizations, community groups, and private investors.

For participating banks, these loans help them achieve a number of goals. Lending through a CDC provides an opportunity to meet bank regulatory requirements for community lending while spreading the risk from those investments among the separate CDC corporate members. The bank also is not required to consider their CDC participation against its loan loss reserves. Finally, these loans are attractive to banks since the bank typically contributes only about 50 percent of the loan while maintaining a priority status.

The maximum amount ranges from $1.5 Million to $4.0 Million depending on the type of business and the private lender contribution is unlimited.

ELIGIBILITY
To be eligible for a CDC/504 loan, your business must be operated for profit and fall within the size standards set by the SBA. Under the 504 Program, a business qualifies as small if it does not have a tangible net worth in excess of $7.5 million and does not have an average net income in excess of $2.5 million after taxes for the preceding two years.

Most loans are obtained by existing businesses looking to expand their operations, although start-ups occasionally use 504 loans if the proceeds are to be used for property ownership. As stated, proceeds from 504 loans must be used for fixed asset projects. More specifically, these may include purchasing land and improvements, including existing buildings, grading, street improvements, utilities, parking lots and landscaping, construction of new facilities, or modernizing, renovating or converting existing facilities, or the purchase of long-term machinery and equipment. These programs also require that financed machinery and equipment have a useful life of at least 10 years and that real estate be primarily owner-occupied. Specific occupancy percentages differ depending on whether the property is new construction or a renovated site. The proceeds may not be used for working capital or inventory, consolidating or repaying debt or refinancing. Loans cannot be made to businesses engaged in speculation or investment in rental real estate.

Interest rates on 504 loans are tied to an increment above the current market rate for five year and 10-year U.S. Treasury issues. Fees total approximately three percent of the loan amount and may be financed with loan proceeds. Generally, project assets are used as collateral and personal guarantees are required.

PUBLIC POLICY GOALS
If there is a CDC lender within your community, fund availability is typically not an issue. However, because of the job generation component, location is
a key consideration.

Public policy goals of the CDC 504 program are as follows:
- Business district revitalization,
- Expansion of exports,
- Expansion of minority business development,
- Rural development,
- Increasing productivity and competitiveness
- Restructuring because of federally mandated standards or policies,
- Changes necessitated by federal budget cutbacks,
- Expansion of small business concerns owned and controlled by veterans (especially service-disabled veterans), and/or
- Expansion of small business concerns owned and controlled by women.

**FUNDING**

Typically, a 504 project includes a loan secured with a senior lien from a private-sector lender (generally a bank) plus a loan secured with a junior lien from the CDC. The latter is backed by a 100 percent SBA-guaranteed debenture and covers 40% of the amount. A 10% contribution from the small business (this increases to 15% if the borrower has been in operation for two years or less, but is still lower than required by a conventional lender) is the financial component. The maximum SBA debenture is $1,000,000. Generally, your business must create or retain one job for every $65,000 provided by the SBA, except for small manufacturers which have a $100,000 job creation or retention goal.

The process by which 504 loans are funded is more complicated than most other SBA funds and is best understood with an example. Assume there is a $1 million project with proceeds to go towards purchasing land and constructing a building. The bank provides $500,000 and assumes a first mortgage. The CDC takes a second mortgage for $400,000. The $100,000 balance comes from the borrower.

Depending on the terms of the loan, the bank will often, for an interim period, actually assume $900,000 (their part plus the CDC portion). This period may extend from one month – if no construction is involved and the wait is just until the next debenture sale – up to six or eight months if there is construction. Longer interim terms are possible under certain circumstances. These interim loans, like construction loans, must at some point be converted into a longer-term vehicle such as a CDC loan.

Once the debentures are sold, funds are wired to the bank – ($400,000 in our example) and the bank retains its senior lien position on the $500,000. As with other SBA financing vehicles, CDC lenders often
Down payments that are lower than what traditional lenders require, combined with below-market rates, allow small businesses to conserve working capital. Longer-terms reduce monthly debt payments.

On the other hand, start-ups without adequate capitalization, may find it difficult to obtain a 504 CDC loan due to the equity requirements (10% if the business is more than two years old, 15% if not).

There are also prepayment penalties attached to the CDC portion of the financing and thus, a business that is considering refinancing or moving within a few years is probably well-advised to consider other funding sources. Finally, due to employment requirements (one job for every $65,000 of debenture proceeds) companies that rely on technology to expand may not be appropriate candidates.

While the paperwork can be cumbersome, once a banker is convinced of the viability of the loan, and the creditworthiness of the company, the bank may recommend the loan as a candidate for 504 financing.

Once the bank has preliminarily approved the 504 applicant, the borrower is referred to a local CDC. The CDC office will work with the application on a management level, offering financial and technical assistance, general business assistance and even help with filling out the SBA paperwork.

A FINAL NOTE

The SBA offers another alternative for real estate financing under the SBA 7 (a) program that differs from the 504 program in a number of ways. The 7 (a) program:

- Offers a longer-term –25 years vs. 20 years,
- Does not incur the level of prepayment penalties of the 504,
- Offers an adjustable rate,
- Is funded by lenders with SBA guarantees as opposed to the private debenture sale,
- Considers borrowers that may not have a strong track record, and
- Does not consider job creation

There are about 270 CDCs nationwide, each covering a specific geographic area. If you are interested in applying for a 504 loan, contact the CDC nearest you. You can get a listing from your local SBA District Office at http://bltmo.re/SBA3.
ROYALTY FINANCING PROVIDES funds as an advance against future sales. The advance is repaid by diverting a percentage of the product or service sales back to the investor.

Royalty financing is a very specific type of financing that may be appropriate for established companies that have a product or service, an emerging company about to launch a product with high gross and net margin, or a company with elastic pricing, i.e. the ability to raise prices without a significant impact on sales.

Many companies, especially those still in their formative stages, face a difficult dilemma when looking for equity capital. Those who are willing to invest often require a big piece of the company and, the bigger the risk, the bigger the piece. This can be tough for an entrepreneur.

With royalty financing, instead of giving up equity, a company pledges a piece of its future sales against an advance provided by the investors. Each deal is unique with variables including the percentage of sales, the length of time that the investor receives the royalties, and the cap on the total return. These variables offer a great deal of flexibility in royalty financing. And, unlike a loan – under which you are obligated to pay the money loaned on time and with interest – under royalty financing, payment is dependent on sales exclusively.

A HYPOTHETICAL CASE IN POINT

Let’s look at a hypothetical example of a manufacturer of a specialized group of products for use by veterinarians. The company has $2 million in sales but has shown steady growth over the past three years. They are looking for a capital infusion that will permit them to add manufacturing capabilities and increase production. The company was looking for $300,000 to ramp up their facility. They approached investors with the following proposal: 3% of the company’s sales or until the investors received payments totaling $600,000 – that is the initial investment of $300,000 plus $300,000 more.

Thus the company would have to generate $20 million in sales over the seven year period. Based on its historical sales patterns, the company and its investors were confident that these goals could be met. If the company’s sales exceeded projections, the investor would still receive the promised 3% – until they received the total $600,000. If it were paid sooner than the seven years, it simply meant that the investors received an even better return on their investment in the form of an even higher compound annual return.

Royalty financing can provide some truly impressive returns to investors if sales take off.

NEGOTIATING THE ROYALTY CONTRACT

Negotiating points may include the time when the royalty payments start, and the timing of the payments relative to when the revenues are recognized.
That is, at what point after the receivables have been paid by the customer, does the company have to pay the investor?

The concept of “revenue recognition” becomes very significant in royalty financing because it defines the payments to the investor. There are several options to consider when determining when the revenue is to be recognized, each of which carries significant implications. The revenue may be recognized, for instance, when:

1. the customer agrees to purchase the product,
2. the product has been billed,
3. the invoice has been paid or,
4. after a 30 day return period has elapsed.

While a bit off the beaten finance track, royalty financing can be an attractive option for both entrepreneurs and investors. Consider that this option:

• Is attractive to individual investors who may not have the funds to finance private companies but do want to get involved,
• Rather than having to wait for an exit strategy to come to fruition, royalty financing provides regular payments, often on a monthly or quarterly payment schedule.
• Because a royalty advance is, in fact, a loan, it may not provoke any state or federal securities laws. And, it does not incur the accounting and legal fees that are an inherent part of equity financing where companies sell shares to individual investors.
• Helps to preserve equity – a good thing for future rounds of financing as well as for the company’s owners.

THE DOWNSIDE OF ROYALTY FINANCING

But royalty financing is not for everyone. Disadvantages may include:

• Thin margins. If a company’s gross margin (sales less cost of goods sold) is only 15%, then a 6% royalty
payment makes a big dent in the owner’s ability to make much money.

- A competitive pricing environment. Royalty financing works well for companies whose pricing is fairly elastic. If you can raise prices to cover the royalty percentage so much the better. If, on the other hand, your company is in a price war, royalty financing may not be for you.

- A lengthy sales cycle. Royalty investors wait for their monthly or quarterly checks and will quickly become unhappy if payment is delayed by a long sales cycle.

- Royalty financing is also not appropriate for financing product development, or other situations where the outcome is uncertain or the timing is not predictable.

Royalty financing is a highly specialized form of financing available from a limited number of companies. Those companies that do offer royalty financing, however, are likely to be well-versed in the intricacies of this type of funding.

These lenders are less concerned with the rest of the business than they are with the particular product or products they are financing, and thus their focus is much narrower. They are, however, very interested in the marketing skills that have been demonstrated by the company because it is upon these skills that the successful repayment of their loan will depend.

THE GOOD NEWS

Under the right circumstances, royalty financing can be a true win-win offering the following advantages:

- No specific payment schedule,
- Does not show up as a debt on the balance sheet,
- May not dilute company ownership,
- All payments to investors are tax-deductible,
- Payments are not fixed but tied to revenues,
- May not require collateral or liens on assets,
- Preserves borrowing capacity, and
- The principals may not be personally liable.

If you do get involved in royalty financing, make sure that your exit strategies are clear, including a cap on total payments and/or a limit on how long the royalties will be paid. You might also include a pre-payment option. Some companies even offer equity instead of cash to buy out royalty investors.

**CHAPTER FIFTEEN**

**SMALL BUSINESS INVESTMENT COMPANIES**

**CREATED BY CONGRESS** in 1958, Small Business Investment Companies (SBICs) are privately organized and privately managed investment firms, licensed by the Small Business Administration (SBA). They have their own private capital of several million dollars and may borrow additional funds from an SBA-sponsored trust at favorable rates. These funds are particularly appropriate for companies with established sales and earnings or that are about to turn the corner to profitability.

What do Intel, FedEx, Apple Computer and Staples have in common? An investment from a Small Business Investment Company.

While they are affiliated with the SBA, SBICs and a subset, Specialized Small Business Investment Companies (SSBICs) should not be confused with other, more traditional forms of SBA funding. Rather, SBICs tend to act more like lenders in that they look for an obvious form of repayment and a lower degree of risk than traditional equity-based venture investors. But, although there are similarities with lenders, SBICs do tend to tolerate more risk than their commercial counterparts. They may, for instance, take a higher risk than a banker in terms of available collateral. The second big difference is that SBICs may take a greater interest in smaller loans, say from $150,000 to $1 million. Commercial banks tend to prefer to make larger loans that give them the ability to spread their costs more efficiently.

SSBICs are specifically targeted towards the needs of entrepreneurs who have been deemed socially or economically disadvantaged. While no new SSBIC licenses have been issued since 1996 as a result of the Small Business Program Improvement Act, existing licenses were “grandfathered” and are still in operation.

The SBIC must pay interest on the funds it borrows
from the SBA. Thus, they must charge interest to the borrower. But because the cost for funds can be relatively low, borrowers may be able to get a better deal than through a traditional commercial lender.

SBICs are often considered the federal government's source of venture capital and small businesses that qualify for assistance from the SBIC program are able to receive equity capital, long-term loans, and expert management assistance. All SBICs are profit-motivated businesses and the chance to share in the success of the small business is a major incentive.

**SOURCES OF CAPITAL**

SBICs – whether lenders or venture capitalists – have their own private capital of several million dollars and may borrow additional funds from an SBA-sponsored trust at favorable rates. Currently, the SBA requires a minimum capital investment of $5 million for an SBIC, $10 million if they intend to utilize participating securities. A minimum of 30 percent of this capital must come from sources unaffiliated with the management.

An SBIC in good standing may receive leverage equal to 300 percent of its private capital, not to exceed $108.8 million but certainly enough to make a significant investment in a region’s business and economic development. As of March 31, 2013, 296 SBICs were licensed nationally with $9.5 billion in private
capital under management and average over 2,000 financings per year. An additional $9.3 billion in SBA leveraged funding is available to these companies.

To obtain leverage, SBICs issue SBA-guaranteed debentures. Pools of these debentures are formed, and SBA-guaranteed participation certificates are sold to investors through a public offering. These securities allow SBICs and SSBICs to borrow capital from the SBA trust fund and defer interest until their investments start to generate cash. Thus, investment companies are able to finance businesses that may not yet be capable of paying interest.

**WHO BENEFITS?**

SBIC financing carries with it a number of advantages. Small businesses which qualify for assistance from the SBIC program are able to receive equity capital, long-term loans, and expert management assistance. Venture capitalists participating in the SBIC program can supplement their own private investment capital with funds borrowed at favorable rates through the federal government.

From a lender perspective, participation permits banks to invest in small businesses in which they might not have otherwise been able to invest due to banking laws and regulations. A bank may invest up to 5 percent of its capital and surplus in a partially or wholly-owned SBIC.

**THE ROLE OF THE SBIC**

By law, the SBIC must provide equity capital to small businesses and may do so by purchasing the small business concern’s equity securities. The SBIC may not, however, become a general partner in any unincorporated small business concern, or otherwise become liable for the general obligations of an unincorporated business.

SBICs may invest only in qualifying “small business” concerns as defined by SBA regulations. In most industries, this is defined as businesses with a net worth of $18 million or less and an average net income for the preceding two years that does not exceed $6 million. There are exceptions for businesses in industries for which these standards may be too low. The program makes funding available to all types of manufacturing and service industries.

Many SBICs seek out small businesses with new products or services because of the strong growth potential of these firms. Most consider a wide variety of investment opportunities although some will specialize in areas where they have particular management expertise.

SBICs may not invest in other SBICs, finance and investment companies or finance-type leasing companies, unimproved real estate, companies with less than one-half of their assets and operations in the United States, passive or casual businesses (i.e. those not engaged in a regular and continuous business operation), or companies which will use the proceeds to acquire farm land.

SBICs are often interested in some form of equity position, usually in the form of stock and/or options or warrants which allow the holder to buy stock at a pre-determined price for a specified length of time. Some entrepreneurs view this as a disadvantage because it dilutes ownership, just as any venture capital investment. For others, such as newer businesses or those reaching new levels of growth, this can be a real advantage, offering management and industry experience as part of the package.

**OBTAINING FINANCING**

So what do you have to do to obtain financing through an SBIC? First, do your homework. All SBICs are good but they’re not all the same. For instance, some focus their investments on specific industries or geographic areas. Others have expertise in specific industries that can work to the borrower’s benefit in three ways. First, their management assistance is likely to be more on target; secondly, because of their knowledge of and involvement in a particular industry, they might be a bit less risk-adverse; and third, their industry expertise might encourage them to assign more value to specialized collateral.

SBICs also come in different sizes. Smaller SBICs and SSBICs may have more limited capital and are careful not to make investments that will stretch their financial resources. Other SBICs are affiliated with large commercial banks or large funds and thus are capable of making substantial loans and investments.

For more information, visit the Small Business Investor Alliance at www.sbia.org a trade group that serves SBICs and other investors that service small businesses.
THE SMALL BUSINESS Innovation Research (SBIR) and Small Business Technology Transfer (STTR) research grants are great sources of non-dilutive funding for early-stage research and development. Perhaps the best program that the federal government has implemented for innovation, the funding for the program is offered in two phases that implement innovative but often-to-fund early-stage research. For small companies developing technology particularly in cost-intensive biohealth products and applications, SBIR funding can allow companies to bootstrap through some elements of R&D and not sacrifice founders’ equity early on in the company’s development.

SBIR awards are open to small businesses that have 500 or fewer employees and are at least 51% U.S.-owned. The program was established under the Small Business Innovation Development Act of 1982, reauthorized until September 30, 2000 and again until September 30, 2008 with a most recent reauthorization occurring in December of 2011 through 2017. The goal of this program is to use small business to stimulate technological innovation, strengthen the role of small business in meeting federal research and development needs, and increase private sector commercialization of innovations.

FEDERAL SBIR/STTR PROGRAMS
Agencies with R&D budgets of over $100 million are
required to set aside funds (currently 2.7 percent) for an SBIR program, and those with R&D budgets of over $1 billion are required to set aside funds (currently 0.35 percent) for an STTR program. Both programs provide small businesses with the opportunity to receive federal funding for R&D projects that advance the mission of the funding agency. Awards can be made for Phase I and Phase II projects but not for later-stage commercialization activities. The primary difference between the SBIR and STTR programs is that STTR grantees are required to partner with a nonprofit research institution, whereas SBIR grantees may have such partners but are not required to do so. There are 11 Federal agencies with SBIR programs and five with STTR programs. The U.S. Small Business Administration serves as the coordinating agency for the SBIR/STTR programs, overseeing their implementation and progress, and provides reports to Congress on their performance.

The mission of the two programs “is to support scientific excellence and technological innovation through the investment of Federal research funds in critical American priorities to build a strong national economy.” Congressionally-mandated goals for both programs are to stimulate technological innovation and increase private sector commercialization of innovations derived from Federal R&D. SBIR program goals also include meeting Federal R&D needs and promoting and supporting participation in innovation and entrepreneurship by socially and economically disadvantaged persons.

There are three phases of the SBIR/STTR program: The SBIR program agencies award monetary grants in phases I and II of a three-phase program:

- Phase I, the startup phase, makes awards of “up to $150,000 for approximately 6 months support [for] exploration of the technical merit or feasibility of an idea or technology.”
- Phase II awards grants of “up to $1,000,000, for as many as 2 years,” in order to facilitate expansion of Phase I results. Research and development work is performed and the developer evaluates the potential for commercialization. Phase II grants are awarded exclusively to Phase I award winners.
- Phase III is intended to be the time when innovation moves from the laboratory into the marketplace. No additional SBIR funds are awarded for Phase III. “The small business must find funding in the private sector or other non-SBIR federal agency funding.” Although, specific agencies particularly through the National Institutes of Health are offering Phase IIB programs where additional government funding grants could be acquired if there’s proof of private sector matching dollars.

### CONGRESSIONAL REAUTHORIZATION

On December 31, 2011, the SBIR/STTR programs were reauthorized through FY 2017 when the 2012 National Defense Authorization Act was signed into law. One important change to the SBIR/STTR programs included in this reauthorization was the gradual increase in the percentage of funds set aside (shown in Table 1). Between FY 2011 and FY 2017, participating agencies are required to increase the funds set aside to 3.2 percent for SBIR programs and to 0.45 percent for STTR programs.

Note that under certain circumstances, Phase I and Phase II grants can be applied for simultaneously, but Phase II awards are not given to businesses that are not Phase I award recipients.

Federal agencies with research and development

### INCREASE IN SET-ASIDE FUNDS FOR SBIR/STTR PROGRAMS FY 2011–2017

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>SBIR</td>
<td>2.5%</td>
<td>2.6%</td>
<td>2.7%</td>
<td>2.8%</td>
<td>2.9%</td>
<td>3.0%</td>
<td>3.2%</td>
</tr>
<tr>
<td>STTR</td>
<td>0.30%</td>
<td>0.35%</td>
<td>0.35%</td>
<td>0.40%</td>
<td>0.40%</td>
<td>0.45%</td>
<td>0.45%</td>
</tr>
<tr>
<td>Combined</td>
<td>2.80%</td>
<td>2.95%</td>
<td>3.05%</td>
<td>3.20%</td>
<td>3.30%</td>
<td>3.45%</td>
<td>3.65%</td>
</tr>
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</table>
Budgets over $100 million are required to administer SBIR programs using an annual set-aside for small companies to conduct innovative research or research and development that has potential for commercialization and public benefit. SBIR grants are given by the following Federal agencies:

  - Missile Defense Agency (MDA) – [mdasbir.com](http://mdasbir.com)
  - National Geospatial Intelligence Agency – [https://www1.nga.mil/Partners/ResearchandGrants/SmallBusinessInnovationResearch/Pages/default.aspx](https://www1.nga.mil/Partners/ResearchandGrants/SmallBusinessInnovationResearch/Pages/default.aspx)
- Department of Education – [www2.ed.gov/programs/sbir](http://www2.ed.gov/programs/sbir)
- Department of Health and Human Services – [grants.nih.gov/grants/funding/sbir.htm](http://grants.nih.gov/grants/funding/sbir.htm)
- Department of Transportation – [www.volpe.dot.gov/sbir/](http://www.volpe.dot.gov/sbir/)
- Environmental Protective Agency – [www.epa.gov/ncer/sbir/](http://www.epa.gov/ncer/sbir/)

In each case, the appropriate department has responsibility for selecting SBIR topics, releasing SBIR solicitations, evaluating SBIR proposals, and awarding SBIR funding agreements on a competitive basis. While part of the same program, each department has its own specific objectives with major differences lying between procurement agencies and non-procurement agencies. In other words, agencies particularly in the Defense and Homeland Security arenas have an interest specifically in technology development for internal purchase. Many other agencies fall outside this consideration and develop the technology for the good of society or to work on very large unsolved problems.

**NIH SBIR/STTR Programs**

As an R&D-focused agency with a budget of nearly $31 billion in Fiscal Year (FY) 2012, NIH is required to set aside funds for and administer its SBIR/STTR programs. NIH funds one of the largest SBIR/STTR programs in the Federal government, second only to the Department of Defense. In addition to the congressionally-mandated goals for the SBIR/STTR programs described in the previous section, NIH aims to use these programs to further its own mission, which is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability.

**DOD SBIR/STTR Programs**

The Department of Defense (DOD) funds projects that serve a “Department of Defense need and have the potential for commercialization in the private sector and/or military markets.” DoD’s SBIR and STTR programs alone funded approximately 65% of the awards of all federal agencies, and are also seeking to procure technologies under development.

**Small Business Technology Transfer (STTR)**

The Small Business Technology Transfer (STTR) program has similar objectives to the SBIR program but differs in two significant ways. First, under the SBIR Program, the Principal Investigator (“PI” or lead researcher) must have his/her primary employment...
with the small business at the time of the award and for the duration of the project period. Primary employment is not a requirement under the STTR Program. The STTR Program also requires that the small business have a formal collaborative relationship with a university or other non-profit research partner. At least 40 percent of the STTR research project is to be conducted by the small business concern and at least 30 percent of the work is to be conducted by the single “partnering” research institution.

**APPLYING FOR SBIR/STTR FUNDING**

The SBIR awards process is very competitive and it is in every applicant’s best interest to be thorough, complete and accurate when filling out the application. Use credible sources for facts and figures such as market size. If you have not been down this road before, consider getting help.

BioHealth Innovation, Inc., for instance, offers the “Commercial Relevance” program that provides technical and financial assistance to the region’s researchers and early-stage tech companies to help them win a larger share of federal grant dollars available to develop and commercialize new technology. Pre-proposal peer review is offered under confidentiality and some financial assistance of up to $4,000 to be put towards preparation of the proposal is also available.

Once the applications are received, gone out to peer review (as in the case of the NIH), and scored, the applicant will receive a score and feedback from reviewers. Some agencies and individual institutes “fund to the line,” or go strictly by the scores in determining which projects get funded given budget allocations. In these cases, funding starts at the top and works down until the money runs out. So, it is entirely possible to get a very good score and not get funded – today, only about 10-15% receive funding. Others will be more selective and endorse projects that are compelling internally, but must still have high quality scores from the review. If you don’t
receive funding, you have another opportunity to resubmit on a given project, but only 2 strikes before you’re out for that project.

**TIPS AND CONSIDERATIONS ON PREPARING FOR SBIR**

- BioHealth startups feature scientifically sound, highly innovative and commercially relevant technology that needs capital for feasibility
- SBIR programs are not appropriate for incremental upgrades to existing products.
  - Conduct discussion with potential customers and thought leaders to confirm your project is of interest to them
    - Collect letters of support for the application
    - Include a complete project team to execute on the feasibility plan
    - Highlight the innovative nature of the proposed project
  - Up to 33% of the phase 1 and up to 50% of the phase 2 research effort can be performed by subcontractors
  - For STTR projects, the small business must carry out at least 40% of the funded effort, and the primary nonprofit collaborator at least 30%
  - Strong application provide a clear and exciting story about the importance of the proposed product and gives reviewers confidence in the company’s ability to carry out the proposed R&D
    - Preliminary data that builds on the current state-of-the-art technology in the respective field is highly encouraged
    - Your research plan must contain detailed description as to how the project will be executed for the reviewer to appropriately evaluate the opportunity for funding
    - Phase 2 applications require a commercialization plan describing the value of the proposed product, customer base, market, competition, and financing, but you’d better start considering the full path to market prior to applying to Phase I.
Angel financing is venture capital provided by individual investors or investor groups that invest in companies with high growth potential. These investor(s) often bring a synergy or affinity in the industry in which the company operates.

“Angels” provide early stage capital to start-up ventures (often with some managerial strings attached). In fact, it has been estimated that angel investors fund as much as thirty to forty times more ventures than professional venture capitalists – about $50 billion annually according to some estimates.

Angel financing is often a local or regional deal primarily because of the very personal relationship that these deals require. Other than that, it's tough to define standards for these investments since each deal is structured around the specific combination of needs of the company and the investor.

There is, however, one thing that all investors require – an exit strategy with the potential for the investor to realize a significant return on their investment. Investors are, without exception, looking to recoup their investment plus a significant return, usually within a five-to-ten year time frame.

Initial investments are made during years one to four. Years two to six primarily involve follow-on investment in portfolio companies. Cashing out typically occurs from years four through ten. Different funds have different interests in terms of the stage of the business, and knowing the investor's desired position on this continuum is an important consideration when searching for the right funding source.

Investment capital – just like the economy – has peaks and valleys depending on economic conditions. And so while at times, capital might be abundant, at other times investors may shy away from early stage companies or those in certain industries. This was the case following the collapse of the dotcoms.

Individual Angels v. Venture Capital Funds

There are many individual angel investors, but they do not enjoy the competitive advantages that venture capital funds offer, such as large pools of capital, professional back office operations, and thor-
ough due diligence support. As a result, many investors choose to join with other, like-minded investors to increase their deal-flow as well as the level of due diligence performed on a given deal.

The highest evolution of angel investing is through a structured, professionally administered fund vehicle. This method allows the angel investor to achieve many of the competitive advantages of a venture capital fund and many of the less glamorous tasks involved in making investments can be outsourced through the fund administrators. This allows the angel investor to focus on the areas they are most interested in, such as looking at new companies and working with executive teams.

The term venture capital typically refers to professionally managed funds (versus angel investors) that have raised funds from multiple sources with the goal of investing in emerging businesses. Typically these funds have between $25 million and $1 billion to invest.

There are hundreds, if not thousands, of venture capital companies nationwide whose mission is to raise money, invest the money, and realize a return on these investments. Venture capital funds are run by professional managers with experience in business finance. These funds have played a key role in the expansion of small business in the U.S. and, for the right companies, represent an important funding source. In fact, according to the National Venture Capital Association, (www.NVCA.org) currently more than 50% of investments in venture capital/private equity comes from institutional public and private pension funds, with the balance coming from endowments, foundations, insurance companies, banks, individuals and other entities that seek to diversify their portfolio with this investment class.

Professionally managed venture capital firms are generally private partnerships. Funds are raised from a number of sources including wealthy individuals, private and public pension funds, educational endowments, insurance companies and others.

WHERE YOU FIT IN

Finding venture capitalists is easy. Finding the right one is much, much harder. Most funds have specific niches within the market and it is the job of the entrepreneur to find out where they fit in.

In addition to their other areas of interest, funds typically specialize in certain industries. Some, for instance, focus on the biotech industry, and will often have specialists on staff that can provide the technical insights they need to pick the winners. This specialization is good news because it allows entrepreneurs to easily identify venture funds that, in theory at least, should be interested in your busi-
Institutional investors, also often specialize in specific stages of business development from start-ups through companies listed on a stock exchange.

Though there is some disagreement over the precise cut-offs, in general, these stages are:

- **Seed financing** – A relatively small amount of capital invested in an early stage company that is just getting started.
- **Start-up financing** – Typical investment amounts between $500,000 and $3 million and are intended for companies which have developed a product or service and are ready to begin production and/or sales.
- **First stage financing** – Investment ranges in this stage are from $500,000 to $5 million and are typically intended for companies that have proven they can deliver a product or service successfully and are ready to move to commercialization on a larger scale.
- **Second stage financing** – Investments range from $3 million to $10 million, generally funding for proven and profitable businesses that need working capital.
- **Mezzanine financing** – This is typically the top range of funding, starting at around $5 million and going up to $15 million or more. Mezzanine financing is meant for companies about to go public and that need assistance in expanding operations and handling the very significant costs of an IPO.

Most venture investors take a very hands-on approach to their portfolio companies, and because of this, geography is often a consideration. That is, to be a board member, and perhaps be intimately involved in a company’s development, is more difficult from a distance. This is a rule with exceptions, but certainly it makes sense to focus your search, at least initially on regional funds.

Other companies fund within specific monetary limits. A fund with $250 million to invest, for instance, may not want to discuss a $500,000 deal. Why? Because the fixed cost of a $500,000 investment is not all that much less than for a $5 million investment. Plus, with $250,000, a fund would have

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**PRIVATE VENTURE FUNDS**

The chart below outlines the largest investors in Maryland companies.

<table>
<thead>
<tr>
<th>Fund</th>
<th>Location</th>
<th>Investment Focus/Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature Capital LLC</td>
<td>Portland, OR</td>
<td>Electronics, BioTech, Health Care</td>
</tr>
<tr>
<td>Safeguard Sciences</td>
<td>Wayne, PA</td>
<td>Life Sciences, Technologies</td>
</tr>
<tr>
<td>NEA New Enterprise Associates</td>
<td>Chevy Chase, MD</td>
<td>IT, Health Care, Energy Technology</td>
</tr>
<tr>
<td>TPG Growth</td>
<td>New York, NY</td>
<td>Consumer, Retail, Technology, Internet, Health Care</td>
</tr>
<tr>
<td>Comcast Ventures</td>
<td>Philadelphia, PA</td>
<td>Advertising, Consumer, Enterprise, Infrastructure</td>
</tr>
<tr>
<td>Valhalla Partners</td>
<td>McLean, VA</td>
<td>Digital Media, Technology, Infrastructure, Software</td>
</tr>
<tr>
<td>Quaker BioVentures Inc.</td>
<td>Philadelphia, PA</td>
<td>Pharmaceuticals, BioTech, Health Care Services</td>
</tr>
<tr>
<td>MB Venture Partners LLC</td>
<td>Memphis, TN</td>
<td>BioTech, Medical Devices</td>
</tr>
<tr>
<td>Edison Ventures</td>
<td>Lawrenceville, NJ</td>
<td>Enterprise, Financial Technology, Health Care IT</td>
</tr>
<tr>
<td>New Markets Venture Partners</td>
<td>Fulton, MD</td>
<td>Business Services, IT, Education</td>
</tr>
<tr>
<td>Columbia Capital, LLC</td>
<td>Alexandria, VA</td>
<td>Wireless, Broadband, Enterprise, Media</td>
</tr>
<tr>
<td>Intel Capital</td>
<td>Cary, NC</td>
<td>Clean Tech, Computing, Consumer, Internet</td>
</tr>
<tr>
<td>Telecommunications Development Fund</td>
<td>Washington, DC</td>
<td>Communications Services, Technology, Media</td>
</tr>
<tr>
<td>Alta Partners</td>
<td>San Francisco, CA</td>
<td>Biopharmaceuticals, IT, Medical Technology</td>
</tr>
<tr>
<td>InterWest Partners LLC</td>
<td>Melo Park, CA</td>
<td>IT, Life Sciences, Finance and Administration</td>
</tr>
<tr>
<td>Ventures West Management Inc.</td>
<td>Toronto, Ontario</td>
<td>BioTech, Clean Tech, Communications, IT</td>
</tr>
</tbody>
</table>
to invest in 500 deals. That’s a lot to manage, especially when considering the number of companies most funds would have to review to find this many appropriate deals.

Smaller funds, on the other hand, probably do not want to commit a large percentage of their fund on one or two deals so it’s pretty tough to get $5 million from a $10 million fund. Most venture capital firms and other investors list a preferred deal size in the Directory of this Guide.

**TYPES OF ANGEL INVESTORS**

- Corporate angels: These are typically upper to senior management at large corporations, many of whom have taken early retirement and are not interested in letting their experience or financial resources go to waste.

- Entrepreneurial angels: These are the most prevalent investors. Most own and operate successful businesses, and have a substantial source of income, often complemented by wealth from other investments. Thus, these people often are more willing to accept bigger risks. Typically, these investors will want to take a position on the Board of Directors but are not involved in the day-to-day management of the company.

- Enthusiasts: These are people who are generally in it for the thrill of the deal. Most are older, independently wealthy and with time on their hands. Still, investing is a hobby and they generally leave daily operations to company management.

- Micromanagement angels: These are serious investors who have often built successful businesses and are confident in their ability to do so again. Thus, they do tend to try to implement their previously successful techniques in the new venture.

- Professionals: This category includes doctors, lawyers, and accountants who like to invest in companies that offer a product or service with which they have some experience. Often they invest in more than one company at a time, and have little interest in micromanaging although they may want to lend their professional expertise to the company.

**WHAT VCS WANT**

What do investors look for in a company? First and foremost is the ability to achieve a minimum level of profitability that makes the business worth enough for a venture capitalist to get involved. Depending on the nature of the business environment, they may be interested in a particular market segment.

Generally speaking, venture capitalists want to invest in companies that can achieve market leadership. They are more than a bit hesitant to invest money in a company going up against a market leader unless there is something particularly unique or compelling about the product or service.

Venture capitalists, unlike many other financing sources, often want to be the only kid on the block. That is, they may not want to dilute their investment or their control or rely on obtaining other sources of capital to be able to realize the return on their money. Rather, they want the company to be able to reach a profitable level with the funds they are able to commit to the deal.

Often, entrepreneurs have great ideas but no clear way of selling their product of service. Therefore, companies with joint venture marketing opportunities – that is the opportunity to move products through already existing distribution channels – can have an advantage.

Other issues in which investors are interested include the infrastructure that will be required for a successful product. Is a complex customer support system needed? Will the company need to rely on third parties to install their product? And what will this do to potential profits? Are the gross margins appropriate for the industry? Generally, a number greater than 50% will help an investor reach a comfort level because this will provide a cushion to pay for general and administrative expenses while still delivering earnings that generate an increase in value.

**CAST A WIDE NET**

Sometimes, asking the entire Internet population can help fund your business. Crowdfunding has seen a recent boom in popularity. Online crowdfunding websites like Kickstarter and IndieGoGo have helped many entrepreneurs launch a first product offering. Crowdfunding a compelling project helps raise a producer’s profile and prove a market for a product. It also provides a platform for audience engagement – including positive and negative feedback. Crowd-
funding carries some risks as well. The same ability to raise profile can be detrimental if an entrepreneur fails to meet campaign goals or deliver on promises. Some entrepreneurs are reluctant enough of their product to gain financial support because it may lead to idea theft and plagiarism. In some cases, crowdfunding does not guarantee any return for the many investors involved – no equity stake or product. Or, you can try debt or equity crowdfunding.

- **Debt Crowdfunding:** Also known as peer-to-peer lending, a group of individual or institutional lenders lend funds to individuals or businesses in return for interest payments on top of capital repayments. Borrowers must demonstrate creditworthiness and the capability to repay the debt. Active platforms include www.rebuildingsociety.com.
- **Equity Crowdfunding:** Similar to regular equity investment, equity crowdfunding gives investors equity in a business in return for funding. In the case of crowdfunding, the investments made and the equity given in return are much smaller than in regular equity investment. If the business succeeds, the value of the equity goes up. Startups stand to benefit most from equity crowdfunding, since they typically seek smaller investments to launch and seek additional follow-on funding from other sources for rapid growth.

The JOBS Act was signed into law on April 5, 2013 and removed restrictions for private companies publicly soliciting funds. Crowdfunding portals are also required to register with the SEC and a self-regulatory organization in order to operate. The JOBS Act also places limits on the value of securities the issuer may offer: an issuer may sell up to $1 million of its securities per 12 months, and investors will be permitted to invest up to $100,000 in crowdfunding issues per 12 months. An independent financial statement review by a CPA firm is required for raises of $100,000-$500,000 and an independent financial statement audit by a CPA firm is required for raises over $500,000.

**NARROWING THE SEARCH**

Finding just the right angel or venture capitalist can be difficult, so you may need tools that narrow down the field of potential investors. Online platforms allow for the hosting of business plans and pitches that can connect potential funders to your idea. EquityNet and Gust are two examples of web-based software that allow you to create a startup profile that shows your business plan and let you track investor interest. Electronic matching services like these can deliver true value to entrepreneurs as they begin their search for equity financing. Costs are relatively low – ranging from free to several hundred dollars.

Of course, the downside is that along with potential investors, every competitor you may have can also view your strategies if they’re posted to open websites. One solution is to password protect the document. That way if people want to view it, they can contact your Webmaster who will make the determination as to whether or not they can enter the site. Electronic signatures may also provide some protection.

Remember, however, that an electronic presentation is in addition to, not instead of, essential face-to-face meetings that allow all parties to decide whether the personal chemistry is right for the long-term.

Finally, follow-up. Equity investors expect this and their feedback – good or bad – will help you in your ongoing efforts.

Networks are very useful for funding opportunities. Finding just the right angel can be a challenge but we’re fortunate in our area to have a number of sources toward which to turn. Universities are a great place to start, especially those – like the University of Maryland, College Park, the University of Maryland, Baltimore County, and the University of Baltimore -- with entrepreneurial centers. Business incubators may have relationships with venture capitalists and may be another great source and again, there are a number of them in Central Maryland. For additional background on business incubators and a listing in Central Maryland, check out the Economic Development organizations in this directory or visit the National Business Incubator Association Website at www.nbia.org.

**MAKING THE CALLS**

You can avoid turning cold calls into an exercise in futility by following a few simple rules.

- If you are unfamiliar with the firm, call and ask
the receptionist to send you a brochure. Or visit the Web site and learn all you can especially about the types of companies in which they are interested. Sometimes you can even learn information which could help you get a referral. For instance, Web sites often list companies in which the fund has invested. Or they might list their accountants, attorneys, advisory board members, key employees, technical consultants, and more. With six degrees of separation, or less, there may be someone you know on that list.

• Try calling your chamber of commerce or others in the industry. Someone is bound to know someone who can guide you. If not, don’t despair. While a referral is always preferred, it’s not always necessary. What is necessary, though, is a solid business, with good potential and a business owner or executive who is willing to go the extra mile to promote his or her company. And after all, that’s what it is – promotion. Venture capitalists expect and demand enthusiasm – an enthusiasm that must be grounded in knowledge and experience.

• Once you’ve captured the interest of an investor, be ready. Have an executive summary of your business plan ready for distribution and make sure your business plan is in shape to show those who want to take the next step. Have a confidentiality agreement ready to be signed prior to sending out your business plan. When questions arise, answer them promptly. Angel investors have to work with you, too, and they’re not likely to look favorably on a business owner that makes them wait.

• Create a term sheet – with the help of your attorney and accountant. This is a one-page outline of the investment opportunity offered by your company. It should include a valuation – that is, your best estimate of what the company is worth. Make sure you are aware of your state’s disclosure requirements – check with your attorney and/or CPA to make sure you are in compliance.

MAKING CONTACT

An initial meeting is likely to involve a relatively short presentation – some advise using 10 to 15 slides running no more than 20 minutes. In the course of your presentation, outline your product, your market, and your team. And don’t forget to customize the message for your audience.

Remember, venture capital investors will be, in every sense of the word, business partners. Unlike a bank that doesn’t need to like the borrower as long as they make their payments on time, angel investors have a different kind of interest. Personal chemistry is critical to the success of these arrangements. Angel investors may be the only, or most practical, source of potential funds for small or start-up companies. They have money and understand that their role is to provide equity financing. While the entrepreneur has to give up some ownership, the good news is that it does not require monthly or quarterly payments. In addition to the anticipated return, angel investors have many reasons to invest in a particular firm. Maybe they want to help an enterprising business owner. Maybe they have an affinity for a particular industry or technology. Maybe they just want to be involved with an exciting new venture. Whatever their motivation (none of which preclude the need for a significant return), they provide an important source of capital for emerging businesses.

Angels and venture capital groups often have specific interests in either a particular type of business, say biotech, or in a particular stage of business. Depending on the economy, very early-stage companies often find potential investors few and far between but as a business moves on the continuum from pre-seed, to seed, growth, mezzanine, and ongoing businesses, the universe of potential investors grows.

Ultimately, venture capital-backed firms tend to do well, perhaps because of the involvement of the investors. In fact, according to a recent DRI-WEFA study, “venture capital-backed companies had approximately twice the sales, paid almost three times the federal taxes, generated almost twice the exports, and invested almost three times as much in R&D as the average non-venture capital-backed public company, per each $1,000 of assets.” The study also showed that, in addition, to its well-understood role as the lifeblood for high technology advances, venture capital financing was responsible for innovation across a broad swath of the U.S. economy, including biotechnology, consumer products, retailing, construction, transportation, financial services and forestry.
AN INITIAL PUBLIC Offering (IPO) is the first sale of a company’s shares to the public and the listing of the shares on a stock exchange.

Perhaps the sexiest of all funding alternatives, IPOs have received voluminous media attention over the years. From the biotech honeymoon to the dot.com bubble, the sagas of investors making – and losing – their money overnight are legendary.

Business owners dream of an IPO as an ideal exit strategy, leading to visions of early retirement at the ultimate resort location. Others see it as a vehicle to fuel capital expansion, accelerate growth, and achieve market leadership. But no matter what the ultimate goal, the fact is that the IPO market is finite and treacherous and companies must think long and hard before heading in this direction.

A company must be in very good shape before even considering an IPO. Start-ups must demonstrate the potential to develop into profitable enterprises that will deliver the return investors want. Established companies, already showing a profit, must show that they have potential for significant growth.

PLANNING AND MORE PLANNING

An IPO requires an exhaustive planning process, taking months if not years – depending on what you consider the “start point.”

For some companies, the starting point can be the day they went into business. For others, going public may be the result of unanticipated success. Count on needing help from experienced, outside professionals during the process. There are a lot of players in an IPO – the company and its management team, an underwriter (the investment banker that sponsors your IPO and helps find initial buyers for your shares), financial analysts, external public accountants, and multiple sets of lawyers. All of them will be your “partners” in this venture.

In the post-Enron, WorldCom world of corporate indiscretions, expect potential investors to scrutinize your books, as well as your internal control framework with a fine-tooth comb. Would-be IPO companies have to be extra careful to follow SEC guidelines so it is important to make sure your legal counsel is up-to-date with a regulatory environment that is evolving rapidly including enactment of the Jumpstart our Business Startups Act (JOBS Act) in April of 2012.

Best practice is to begin the IPO readiness process early enough so that your pre-listed company acts and operates like a public company at least a year before the actual IPO. It is imperative to commit substantial resources to the IPO process and build a quality management team, robust financial and business infrastructure, corporate governance and investor relations strategy that will attract the right investors. Finally, it will be important to properly assess the amount of
time the IPO journey will take, and the level of scrutiny and accountability that is faced by a public company once the IPO is complete.

FUNDAMENTAL QUALITIES OF A SUCCESSFUL IPO

There are no “rules” as to what or when a company can and cannot go public. However, successful IPOs share a number of fundamental qualities, according to Edward Lowe Perspectives, a publication of the Edward Lowe Foundation, a non-profit organization offering services to entrepreneurs. These include:

- A strong network of loyal customers, community supporters and industry colleagues. These individuals and institutions are likely to be your first shareholders.
- A management team that will “wow” investors.
- Patents and trademarks that protect your product.
- A standardized system for every aspect of your operation.
- A permanent staff that is not dependent on independent contractors.
- A well-thought-out business strategy.
- Products or services that meet the needs of the market.

THE DOWNSIDE...

It’s not cheap to go public. Just filing the registration statement can cost several hundred thousand dollars. Expect to spend another couple of hundred thousand
annually on direct expenses including reporting, auditing, and responding to SEC and shareholder requirements and requests.

And, of course, the biggest disadvantage to an IPO for many entrepreneurs is the dilution of ownership. The impact can be minimized through proper planning and the use of techniques such as different voting rights for different classes of stock. Ultimately though, the owner will never again be “the” owner. Once you’ve successfully completed an IPO, you have hundreds if not thousands of bosses – only in this case they’re called shareholders. Increasingly felt through corporate governance initiatives, these people have an interest in the success of your company. From a financial, as well as an emotional point of view, this can be a difficult transition for the entrepreneur who has worked hard to build a viable business.

...AND THE UPSIDE

Despite the costs and obstacles, an IPO can offer a number of advantages that cannot be realized by other forms of financing including:

• If a company sells stock, unless a dividend is guaranteed, there is no drain on the company's cash flow,
• A public company has direct access to the capital markets and can raise additional capital by issuing stock in a secondary offering,
• Public companies can use their common stock to attract and retain good employees,
• Being a public company carries a great deal of prestige,
• Going public provides a clear exit strategy for selling ownership holdings, and
• Public companies are generally worth more than private companies and can make estate planning simpler.

GETTING STARTED

So how does a company get started? First by finding the right investment banker to help them navigate the road ahead. Do your homework on the Internet as well as personal networking. Specifically, see which firms over the past two years have consistently facilitated initial public offerings for companies similar in size and scope to yours. Ask about the companies with whom they have worked. Have all of their underwritings been for profitable companies? For companies in one industry? For companies with substantial revenues? Does your company look like these companies? If so, that might indicate a good match.

Smaller, or “boutique” bankers, might offer more intensive service. Likewise, larger organizations might be able to provide additional breadth of expertise. You may consider a “multi-track approach” and expanding the number of capital-raising strategies- including a strategic sale to a financial buyer. Also pursue pre-IPO transactions to achieve maximum value- especially debt financing and refinancing, corporate reorganizations, private placements or business alliances.

PLUGGING IN

As in so many other areas of doing business, a personal introduction or referral can be the key to getting your foot in the door. So, if you’re not already plugged into the region’s financial network, there are other professionals that can help. The right accounting firm, for instance, can provide excellent contacts. Even if you have a long-standing relationship with your accounting firm, experts often advise hiring a national firm. These are the firms that do the audit work for the bulk of IPOs. This means that they know investment bankers and can get the kind of consideration you need to get your information to the top of the pile. Smaller firms with extensive IPO experience may have similar connections.

Attorneys, of course, have similar contacts. Every financing transaction, whether it’s an IPO or venture capital financing, has two attorneys – one for the company seeking funding and the other for the funding source. Of course, this is not as simple as calling an attorney and asking for help. You can really only ask for a referral within the context of an engagement. But the engagement can be light, such as the review of issues that are relevant to an upcoming IPO.

SELLING THE CONCEPT

Remember plans from enthusiastic entrepreneurs who think their business will make everyone rich. This means you will need to be prepared for a selling process. When you meet with the underwriter, be prepared to make a formal presentation. In addition to the strength of the business, you can help your cause in other ways.

• Demonstrate that you, as an owner and manager, have the staying power it takes to see the deal through and, if necessary, move mountains to make it happen.
• Recognize the need for enhanced corporate governance- especially recruiting qualified non-executive board members, improving internal controls, and forming a qualified audit committee.
• Don’t expect to negotiate fees. If you are contemplating an IPO of $15 million or less, the investment banking firm is going to take the maximum allowable compensation by law. From their point of view, the work is the same as if it were a $25 million or $50 million venture.
• Be straightforward with the good news and the bad. If there have been financial or legal issues in the company’s history, say so up front. They’ll find out anyway during the due diligence process.
• Deal with current accounting challenges—especially asset valuation impairment, consolidated subsidiary financial statement issues and revenue recognition.
• Prove your salesmanship. Your underwriter wants to be sure that your presentation skills can conjure up enthusiasm in others about your offering.
• Be realistic in your projections. Investment bankers are in the business of analyzing industries and will know if your projections are off.
• Don’t try to sell your shares in the IPO. Investment bankers as well as other investors will want to know that you have the confidence and commitment to see it through.
• Don’t burn your bridges. This is a long-term process, measured in months and potentially years, and over time, an initial “no” can turn into a “yes” if circumstances—internally or externally—change.

OUTPERFORM YOUR COMPETITORS ON KEY BENCHMARKS

Investors base an average of 60% of their IPO investment decisions on financial factors especially: debt to equity ratios, earnings per share growth, sales growth, return on equity, profitability and EBITDA growth. The remaining 40% of IPO investment decisions are based on non-financial factors such as: quality of management, corporate strategy and execution, brand strength, operational effectiveness, and corporate governance. Articulating a compelling equity story backed up by a strong track record of growth will set you apart from your peers while maximizing value for your owners.

CHOOSING THE RIGHT PARTNERS

Research the investment banker’s successes. For instance, what is the initial price range of their IPOs? Then, what was the actual offering price? How different are the two and what are the reasons? What is the difference in price between the initial offering and the price of the shares two or three months down the road?

For instance, if every offering done by an underwriter is way up after the IPO, it can be a signal that the offering was underpriced. And vice versa. Consider a company that raises $10 million by selling one million shares representing 25% of common stock at $10/share. Then, if the market goes up to $20/share, it might mean that, theoretically, the company could have raised the same amount by selling only 500,000 shares, or 12.5% of the company—potentially an unnecessary dilution of ownership. That’s significant, especially in terms of the company’s ability to do a second round of equity financing. Experts say that a 15% to 20% increase in three months from the date of the IPO is about right. There can be very valid reasons for huge swings that might have nothing to do with the investment banker, but it’s worth asking.

How long does all this take? Finding the right investment banker alone can take months. The registration process can take another four to six months, assuming that there are no unforeseen obstacles. Yet despite this, once you decide to move forward, speed to market is a key factor in the success of the IPO. Markets change daily, impacted by everything from global affairs to new technologies, and the longer the delay, the greater the chance that circumstances could change.

Still, it is important to be prepared for delays. If the IPO market heads into a ditch, your underwriters might suggest holding off until the market improves. As we said before, an IPO is not for the faint of heart.

You will have to answer to an independent Board of Directors who have the authority to fire an executive they think is not doing the best job possible for the shareholders. That’s a long way from an entrepreneurial venture. There’s no question, it’s a compromise between capital and control.

THE JOBS ACT

The JOBS Act (the “Act”) was enacted on April 5, 2012 to give private companies greater access to capital and make it easier for certain companies to go public on US exchanges. The intention was to promote job creation and economic growth by improving access to the capital markets for emerging, high-growth companies. The Act created a new category of issuer called an emerging growth company (EGC) and provided regulatory relief to EGCs to encourage IPOs. The Act also increased the number of record or shareholders that would
trigger a company’s obligation to register and report as a public company under the SEC’s Exchange Act. In addition, the Act allows private companies to raise capital through new exemptions from registration. Most provisions of the Act were effective immediately; however other provisions of the Act are still subject to SEC rulemaking.

Under the Act an EGC is defined as a company with “total annual gross revenues” (i.e. total revenues presented on the income statement in accordance with US GAAP) of less than $1 billion in its most recently completed fiscal year. Under the Act, an issuer with EGC status loses its eligibility as an EGC five years after its IPO or earlier if it meets certain criteria. Benefits to companies considering an IPO as an EGE include:

- Confidential SEC review accommodation - this accommodation allows EGCs to submit registration statements to the SEC on a confidential basis. The SEC can comment on the confidential submission, and the company can respond before filing publically. EGCs are required to publically file all prior confidential submissions no later than 21 days before the anticipated effective date of the registration statement. EGCs should weigh the advantages of not disclosing sensitive nonpublic information against the benefit of providing information to investors at an earlier date to increase awareness and attract potential investors.
- Scaled disclosures during the five year “on-ramping” - Benefits to EGEs include (a) filing 2 years of audited financial statements as opposed to 3 years, (b) reduced executive compensation disclosures, (c) reduced requirements for auditor attestation of internal control over financial reporting (SOX), and (d) ability to follow private company effective dates for new accounting standards.

**CROWDFUNDING**

The JOBS Act allows private companies to raise small amounts of equity capital from a potentially large pool of investors (e.g., through the internet), a process commonly referred to as “crowdfunding”. Under the Act, no more than $1 million of securities can be sold through crowdfunding in a rolling 12-month period. The aggregate amount sold to any single investor during that period also is capped, based on the annual income or net worth of the investor. Company’s relying on the crowdfunding exemption, will be subject to certain informational and other requirements, including an obligation to file financial statements, which may require independent audit or review, depending on the offering size.

The SEC has yet to propose a rule to adopt the crowdfunding exemption, which the JOBS Act had required to be in place by December 31, 2012. Keep in mind, until the SEC adopts the final rules, use of the crowdfunding exemption is unlawful.

**DIRECT PUBLIC OFFERINGS**

Direct Public Offerings (DPOs) provide a mechanism by which businesses may raise capital from outside investors, typically constituency groups of the business versus the general public. DPOs are an alternative to underwritten public offerings in which securities are sold to a broker’s clients.

Like Initial Public Offerings (IPOs), DPOs can be an effective technique for raising capital from investors. But because of their relative size, DPOs can be cost effective for offerings as small as $500,000, and often don’t carry the legal and financial restrictions that are usually associated with bank and venture capital financing. Having said that, there’s nothing easy about a DPO either and it is worth consulting with those who have “been there and done that” prior to any DPO activity. Most companies that engage in a DPO do so with both long-and short-term goals. In the short term (which may up to 12 – 24 months), the idea is to raise the capital the company needs to get to the next plateau. In the longer-term, the company may also be paving the way to move to an IPO. In the meantime, DPOs can provide companies with a financing vehicle via investors who will give the company the room it needs to grow. In some cases, this “patient capital” can be all a company needs to move to the next level.

Unlike IPOs, DPOs are sold by the company, not an intermediary such as a broker or investment banker, and are exempt from many of the federal and state rulings that govern IPOs. This is not to suggest however that legal representation is unnecessary. In fact, it is just as important – perhaps more so – since the company is going directly to investors.

DPOs generally fall under three regulatory classifications. Regulation D Section 504 of the Securities Act of 1933 has become the most widely known, and is called the “Small Corporate Offering Registration” or “SCOR.” SCOR allows you to raise up to $1 million every twelve months, through registration with state securities administrations. Regulation A offerings extend that size to $5 million. Finally, intrastate offerings typically have...
no ceiling. Variations of these options exist as well with even more legal choices, but most companies will be well-served by one of these three options.

The JOBS Act also requires the SEC to adopt or amend current regulations to encourage capital formation without requiring an SEC registration statement. This exemption, referred to as “Regulation A+” increases the Regulation A offering size up to $50 million. The SEC however has not currently proposed rules to implement Regulation A+ and the JOBS Act did not set a deadline for the adoption. Legislation was recently introduced in the House of Representatives that, if enacted, would require the SEC to finalize Regulation A+ by October 31, 2013.

In a direct public offering, the target markets are the constituencies of the company. That is, friends, relatives, and suppliers as well as other groups that may have an interest in the company. For instance, if you have a business that develops energy alternatives, there are many environmental groups to whom you can reach out. These groups presumably have an interest in the company and faith in its management, and typically do not require significant control.

Still, despite the targeted audience, marketing is one of the biggest challenges of a direct public offering. This timeconsuming and expensive task, which would be assumed by a broker in the case of an IPO, falls squarely on the shoulders of the management of the company. A strategy needs to be developed, marketing materials need to be created and distributed. Mailing lists need to be compiled or purchased. Administrative time can be extensive and expensive as well.

But perhaps the biggest cost will be the time involved for the owner(s) as they talk to prospective investors in an effort to convince them that their company represents a worthwhile investment.

Investors in a direct public offering should not count on being able to sell their shares in order to see a return, although that may happen. Instead, investors will be rewarded based upon the success of the company. Having said that, however, it is important to plan for the resale mechanism of your direct public offering.

Is a DPO right for your company? Maybe. Candidates for direct public offerings should have some or all of the following business characteristics:
- The business is easily understood. Investors must feel an affinity with the companies in which they invest. These investors do not have brokers or institutions to go to with questions and their scope of understanding can be much narrower, thus placing more responsibility on the business owner(s).
- The business is profitable. While there are exceptions, investors are much more willing to turn over their own money to a profitable business than one that is still in the red.
- The business has some sizzle. The selling and promotional efforts that are undertaken in a DPO are highly regulated and therefore direct public offerings require a lot of motivation on the part of the investor.

Even with what is usually a supportive and sympathetic group, most companies who enter into a DPO do so from a position of financial strength. After all, even the most ardent supporters want to see a return on their money.

To avoid the pitfalls of a DPO, consult with your legal and accounting professionals throughout the process. Make sure too that the professionals who have helped you grow your business up to this point, are still the right people to help your company grow to the next level. Few attorneys or accountants have experience with direct public offerings and it is this experience or lack of experience that can make the difference between success and failure.

Ultimately, if you choose this route, don’t forget that you are selling – your company, the management and the company’s potential. After all, potential investors, even if they have a prior relationship with you or your company, will not have an intimate knowledge of the company – a requirement for making an informed decision. The goal is to combine your knowledge of your business, your industry and your market with your enthusiasm and commitment, to create a combination that will be hard to resist.

FOR MORE INFORMATION

INITIAL AND DIRECT PUBLIC OFFERINGS

There are many sources to go to for additional information and an internet search will yield thousands of results. Here’s a few to get you started:
- The National Investment Bankers Association (www.nibanet.org)
- www.IPOCentral.com
- The IPO Reporter (www.ipo-reporter.de)
- www.IPO.com
- www.iporesources.org
- www.gopublictoday.com
An innovation intermediary that translates market-relevant research into commercial success by connecting management, funding, and markets.

⇒ Increasing the flow of private and public early stage capital
⇒ Developing an active commercialization talent network
⇒ Facilitating accelerated tech transfer and commercialization of relevant innovations
⇒ Branding the region as a global biohealth leader
⇒ Ensuring an adequate supply of experienced biohealth entrepreneurs and workforce

Technology Focus

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Programs

Entrepreneur-in-Residence Program

BHI’s Entrepreneur-in-Residence (EIR) program is designed to be an active partner with research institutions to source, fund, and grow high-potential, early-stage products through project-focused companies.

Contact:
Todd Chappell (301) 825-9021

Commercial Relevance Program

The CRP offers biohealth companies support in preparing applications for federal funding (SBIRs, STTRs, others) by giving pre-proposal feedback and guidance, increasing the likelihood of approval.

Contact:
Ethan Byler (301) 637-7952

Health IT Accelerator

The HIT Accelerator will help incubate and accelerate promising biohealth information technologies, entrepreneurs, and small

Central Maryland BioHealth Entrepreneur’s Resource and Finance Guide

The Guide will provide the Maryland region with essential information to keep innovators and entrepreneurs informed as well as showcase the regional organizations working to help entrepreneurs succeed.

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22 Baltimore Road
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Contact
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