



Association of University Technology Managers®  
Advancing Discoveries for a Better World®

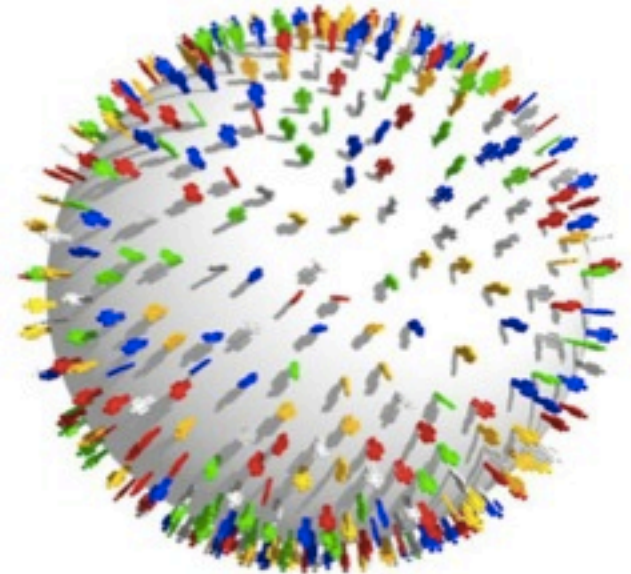
# The Global Innovation Imperative

**Richard A. Bendis**

Founder & CEO      Publisher  
Innovation America    Innovation Daily

(11/13/2012)

# The World According to Friedman: Hot, Flat, and Crowded



# The Global Innovation Imperative

- Innovation is Key to Growing and Maintaining a Country's **competitive** Position in the Global Economy and to address Global Challenges
- **Collaboration** among Small and Large Businesses, Universities, and Research Institutes is Essential for Innovation & Commercialization
- **New Institutions and New Incentives**, are increasingly important to support collaboration and foster innovation
- Competitive advantages are increasingly tied to human capital and innovation
- **Economic growth** is closely related to education/ workforce, energy, climate change, environmental, natural resource, geopolitical issues & entrepreneurship



**OPEN  
INNOVATION  
MATTERS**



# Why Is Innovation Essential?



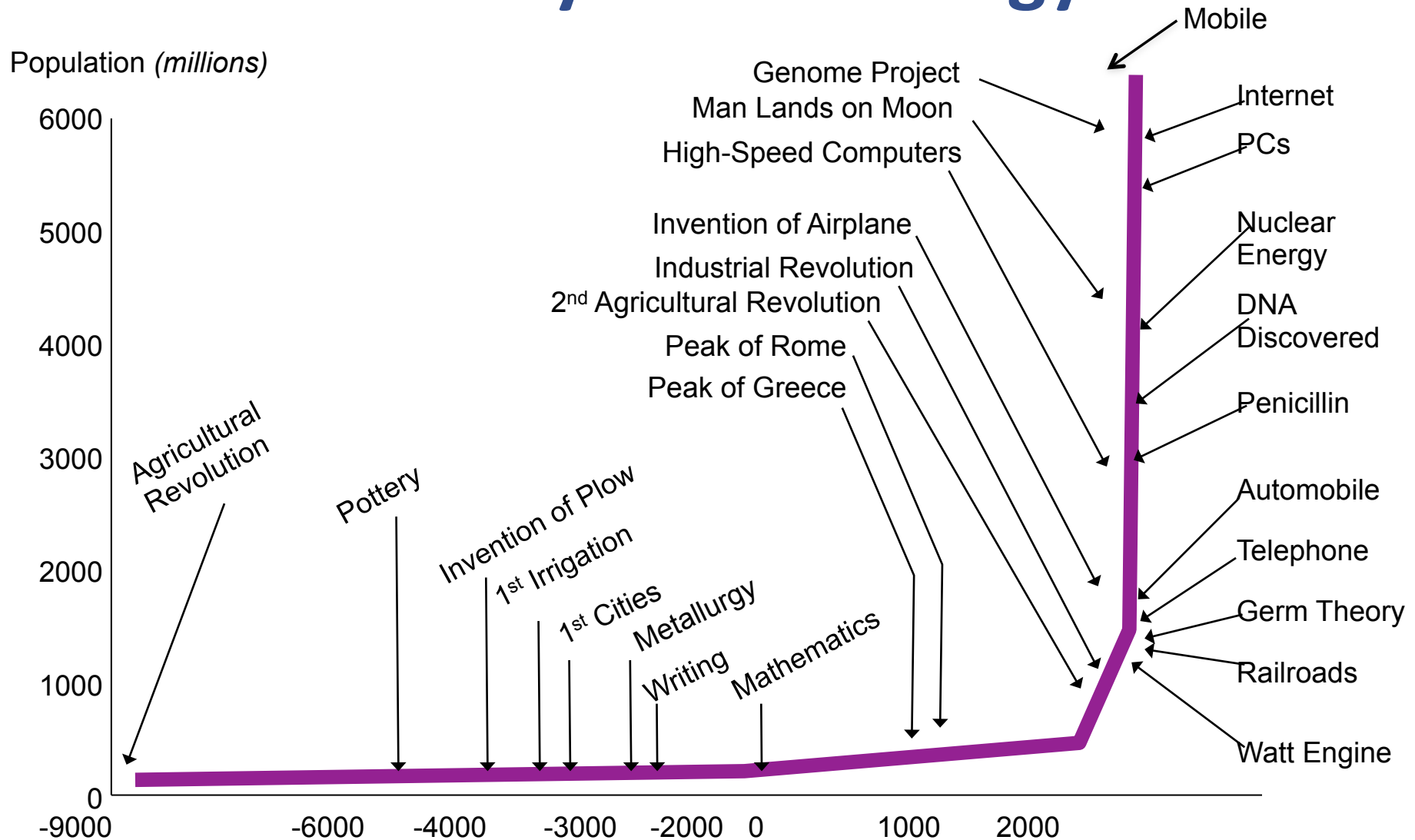
**“INNOVATION  
DISTINGUISHES BETWEEN A  
LEADER AND A FOLLOWER.”**

**- STEVE JOBS**

**INNOVATION** is the creation and transformation of knowledge into new products, processes, and services that meet market need.....and interactions, entertainment forms, and ways of communicating and collaborating



# Growth of World Population and the History of Technology



Source: Milken Institute, Robert Fogel/University of Chicago

# Top 10 College Campuses for Tech

1



2



3



4



5



6



7



8



9



10



Mashable 8/24/2012





# The New Locational Competition

***Definition: The competition for economic activity***

Intense and growing competition among nations and regions for well paid jobs and improving living standards.....



# States by Innovation Index

- Percentage growth and per capita growth of business establishments
- Business formation rate
- Number of patents per thousand residents
- Income per non-farm proprietor

Massachusetts	<b>3.01</b>	Hawaii	<b>0.34</b>
North Dakota	<b>2.52</b>	Kentucky	<b>0.30</b>
California	<b>2.39</b>	Mississippi	<b>0.29</b>
New York	<b>2.23</b>	South Carolina	<b>0.19</b>
Minnesota	<b>1.79</b>	Michigan*	<b>0.10</b>
Utah	<b>1.07</b>	Louisiana	<b>0.03</b>
Nebraska	<b>0.99</b>		

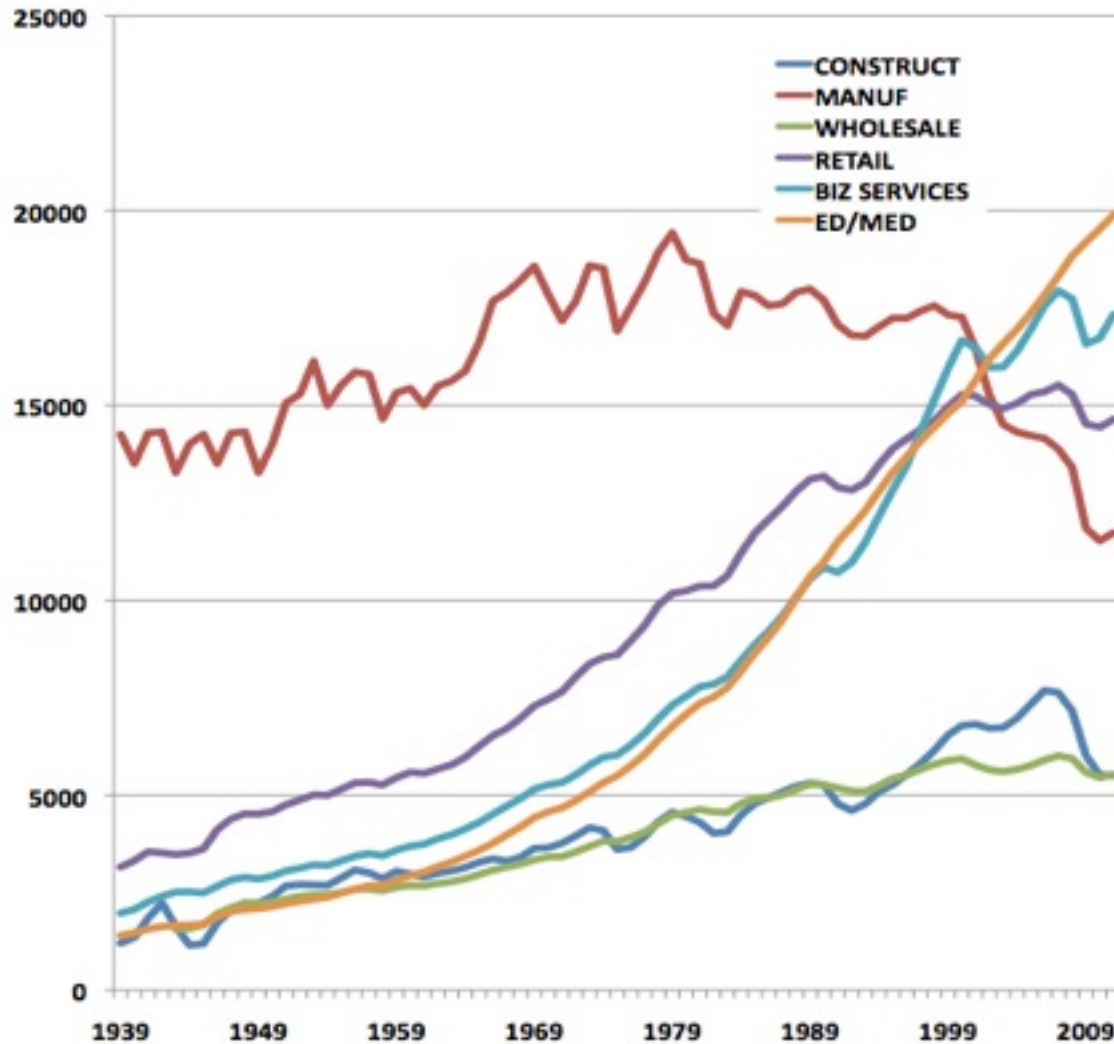
\* Weighed down by sharp declines in number of establishments, [...] Michigan (0.10) was No. 49.

University of Nebraska News Releases 10/2/2012



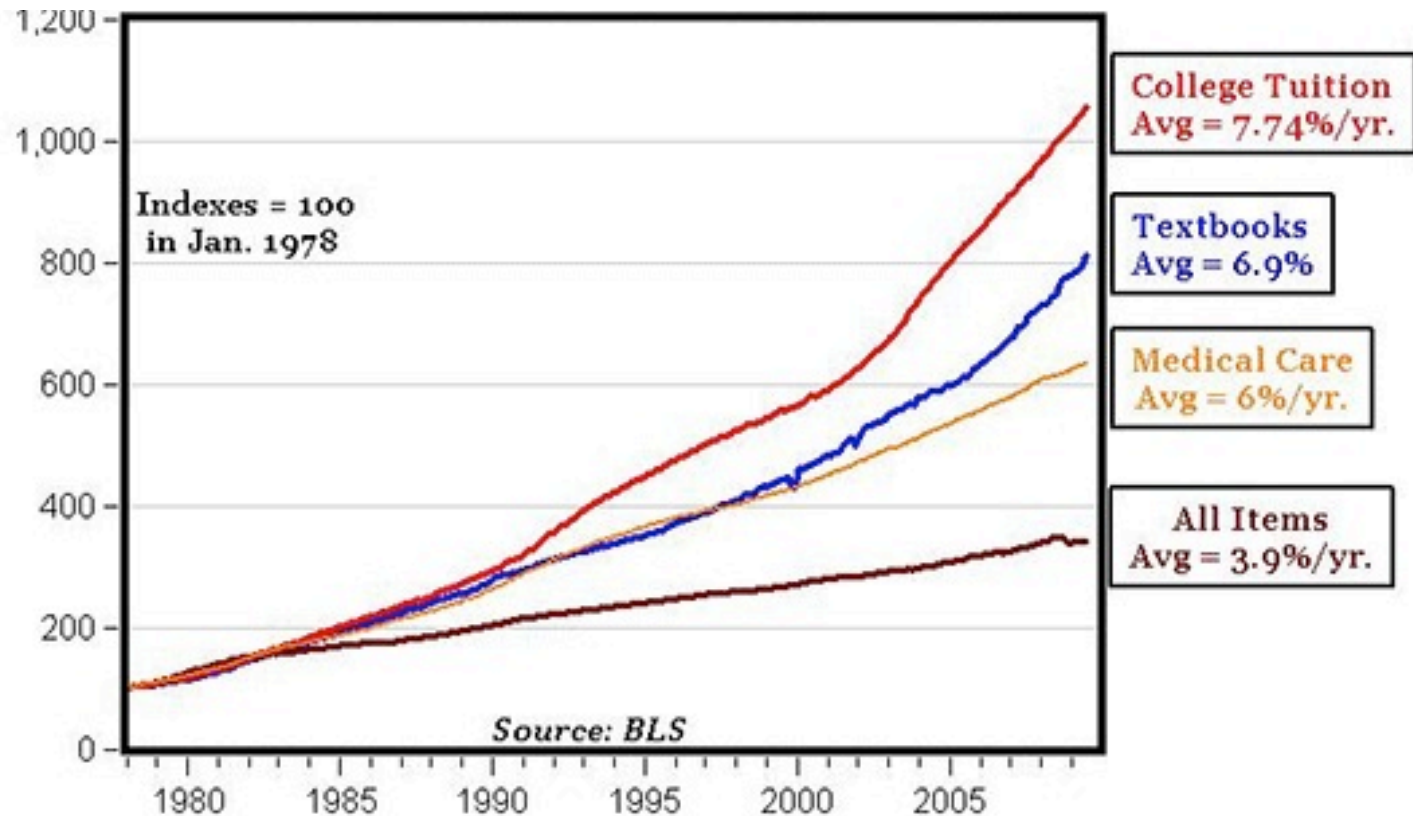


# Job Creation by Sector since 1939



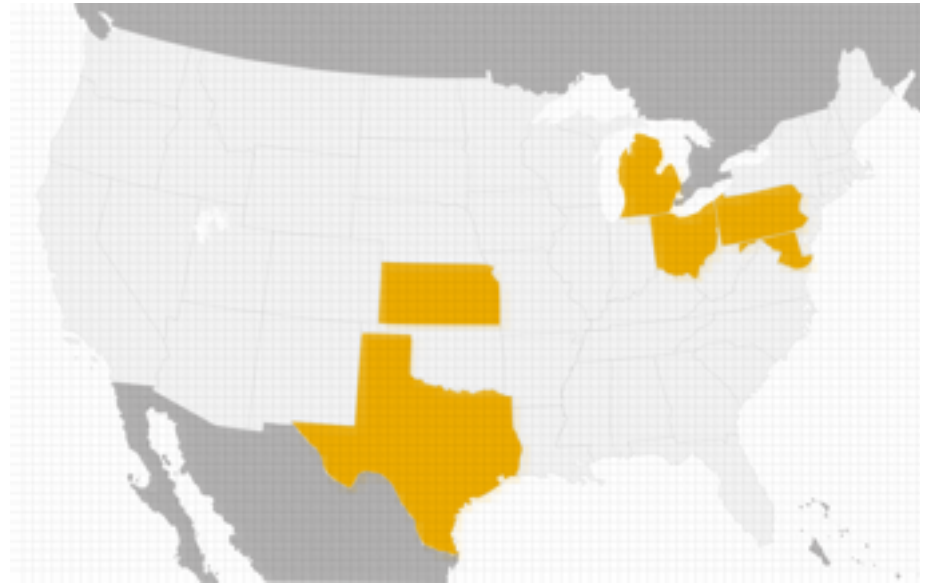
# Consumer Price Indexes

## January 1978 to July 2009



# 10 U.S. Areas Trying To Recruit New Grads

- New York City, NY
- Niagara Falls, NY
- Pittsburgh, PA
- Baltimore, MD
- Cincinnati, Ohio
- Dayton, Ohio
- Houston, TX
- Michigan
- Omaha, Nebraska
- Rural Kansas



# Accelerators Are the New B-school

As more young entrepreneurs find success from their business accelerator contacts, the usefulness of traditional business school is put into question.



Inc.com 10/26/2012



# Seed Accelerator Model May Be Relevant



- > 130 accelerators exist & spreading rapidly
- Could grow > 400 to 500 in 5 years
- Focus on emerging tech sectors



# Colleges build to compete in

Today's students want a school that embraces technology and helps them get their business going.

- University of Missouri-Kansas City
- Arizona State
- Washington University in St. Louis
- Oklahoma State University
- University of Nebraska
- Drexel

The Kansas City Star





# Student Entrepreneurialism

- When asked the number of patentable or copyrightable student inventions occurring annually, 12% of surveyed schools reported more than 100, 18% reported 26 – 100, 44% reported 6 – 25, and 26% reported five or fewer.
- Ongoing efforts to support student entrepreneurship and/or invention on campus included a variety of programs:
  - Entrepreneurship classes, boot camps or other programs 84%
  - Business plan competitions 72%
  - Incubators for student-owned companies 50%
  - Student entrepreneurship funding 41%
  - NCIIA programs 10%
- 72% of universities and colleges provide resources to help students learn about and navigate intellectual property and commercialization issues.
- 70% have a formal policy and/or guidelines addressing ownership of student inventions.
- 36% have formal procedures for processing student inventions.
- 48% proactively inform faculty and staff about policies or guidelines relating to student ownership rights and how it could impact them.
- 51% proactively inform companies working with students on R&D, or involved in student education in any other way, about policies or guidelines relating to student ownership rights and how it could impact them

# Six Distinct Organizational Paths for Entrepreneurs

- Lifestyle Business
- Small Business
- Scalable Startup
- Buyable Startup
- Large Company
- Social Entrepreneur

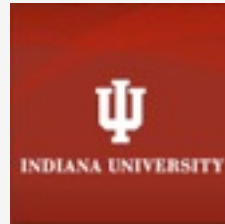


# Top 10 Universities for Entrepreneurs

1



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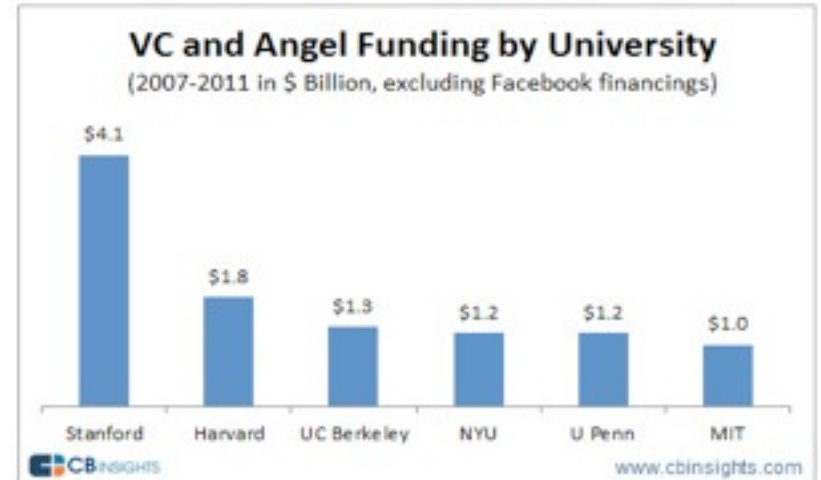
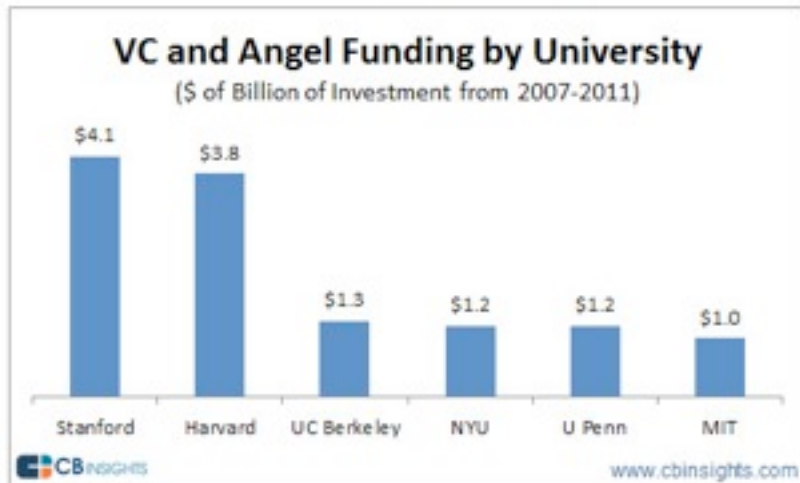
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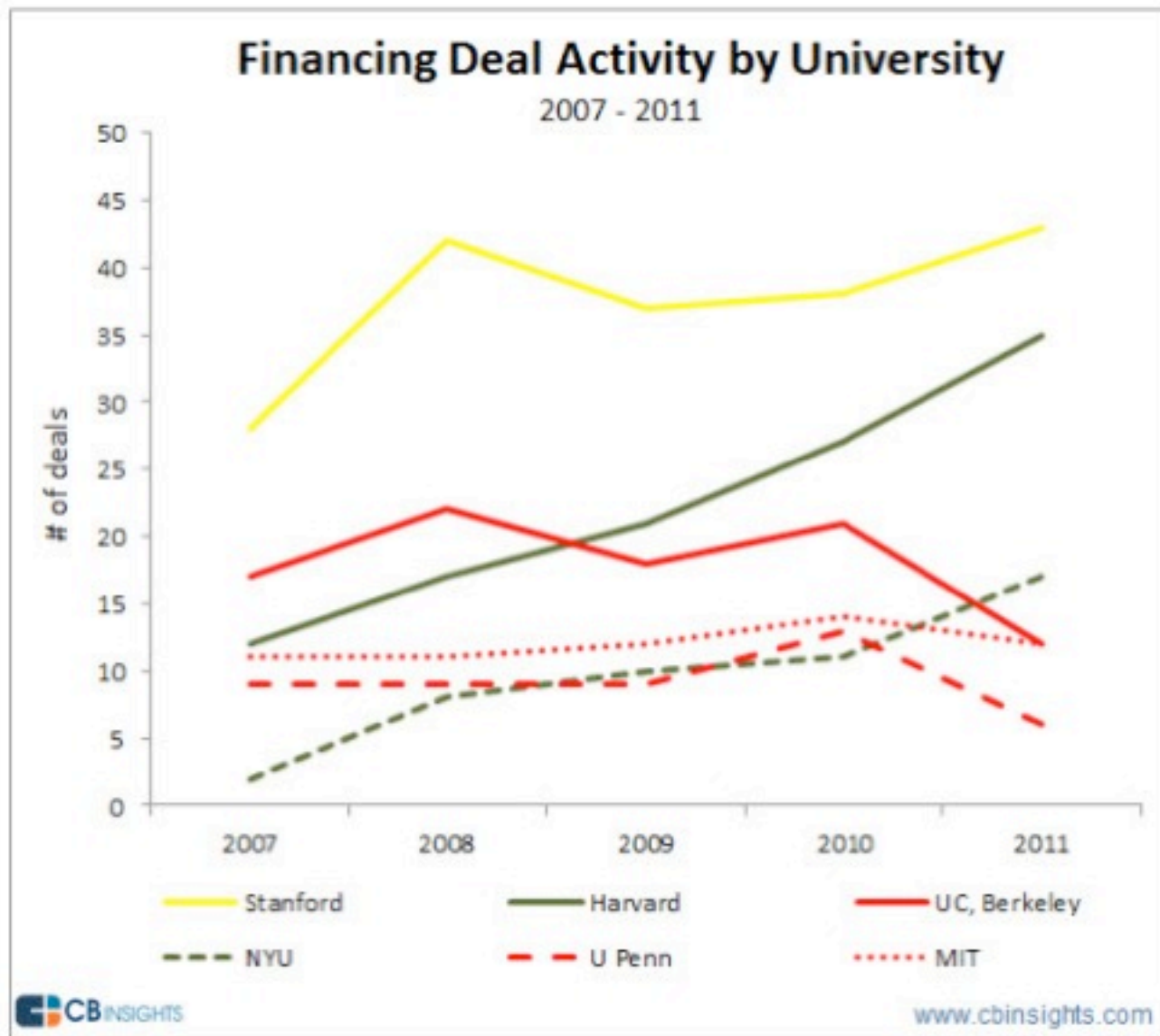


US News Rankings

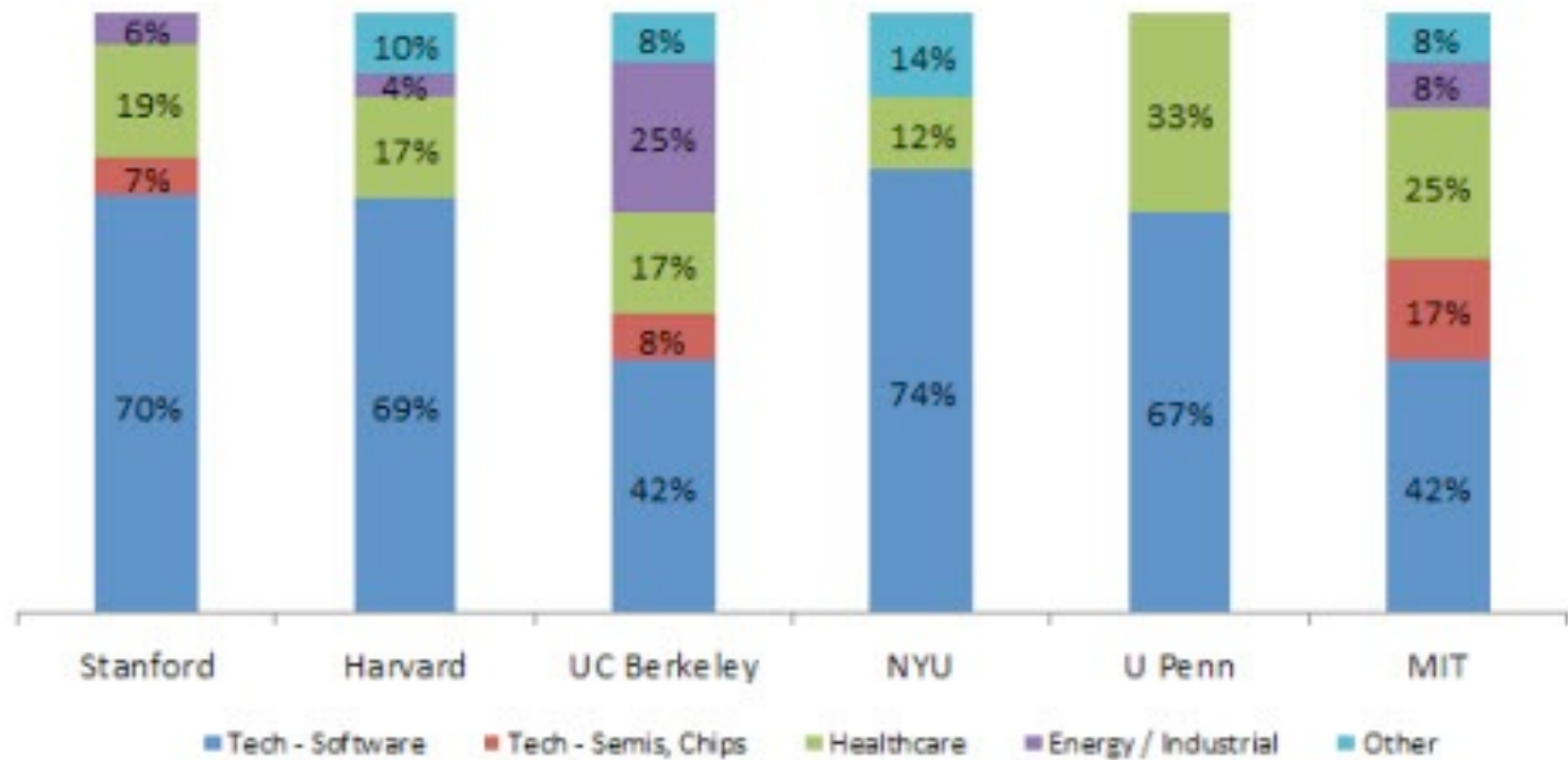


# The University Entrepreneurship Report



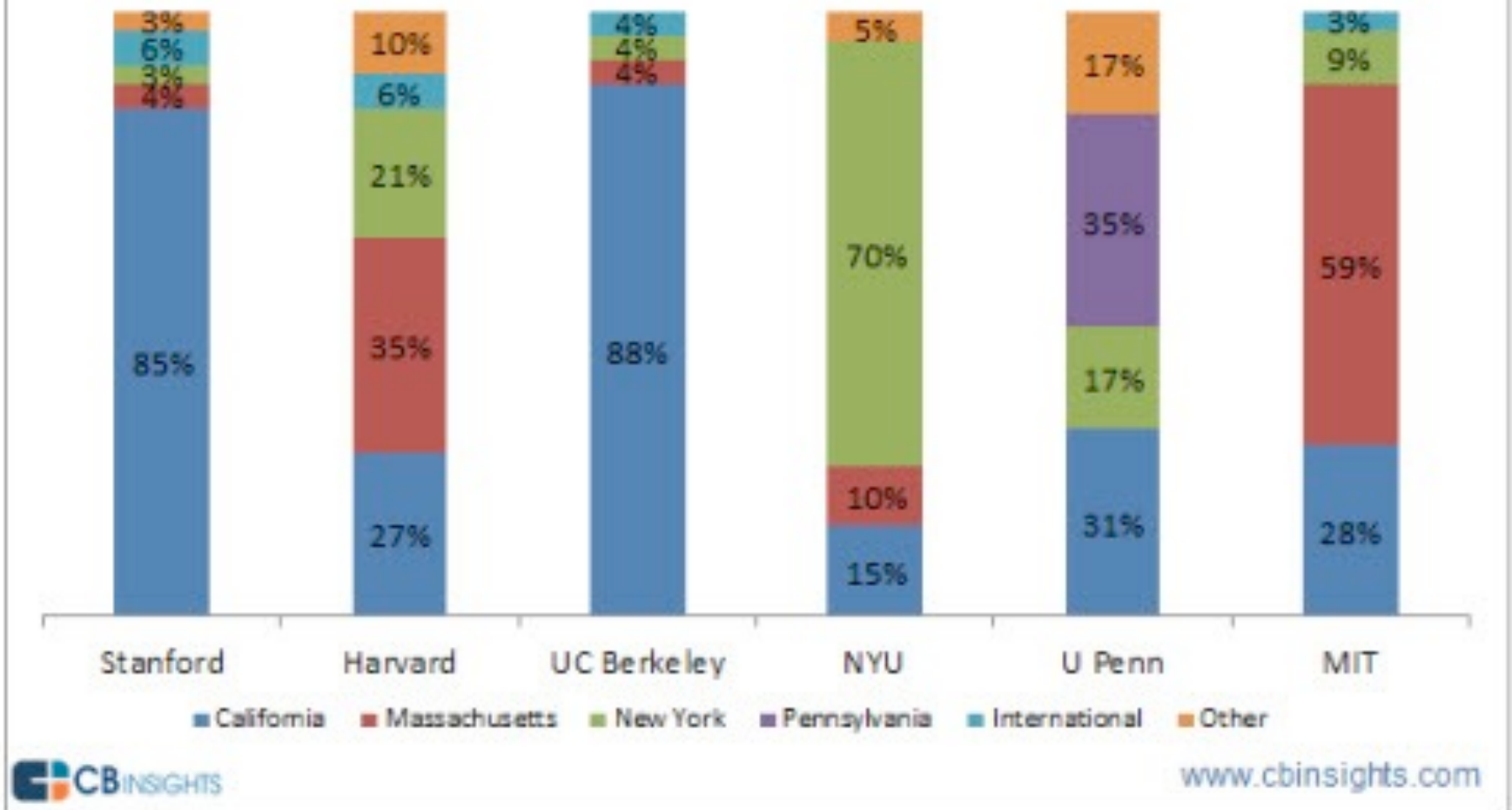


## University Deal Volume by Sector, 2011





## Where do University alumni set up their companies?



# 7 Paybacks an Alma Mater can Offer an Entrepreneur

1. Exploring hot ideas
2. Product research and prototype development
3. Business plan assistance
4. Early-stage funding
5. Legal guidance
6. Building a team
7. Connections to a mentor

# Small Business Facts

- **SME's employ over 50%** of the country's private sector workforce, hire 40% of high tech workers, such as **scientists, engineers, and computer workers.**
- The number of **women-owned firms continues** to grow at twice the rate of all U.S. **firms (23% vs. 9%)**
- 70% of SME's say retaining customers cheaper than getting new customers.
- **7 out of 10** new employer firms last about two years and about half survive five years.

Source:SBA



# Small Business Biggest Obstacles

- Lack of willingness or ability to take **risks**
- **Time and effort** required
- Raising **capital**
- **Business management** skills
- **Knowledge** about how to start a business
- **Industry and market** knowledge
- **Pressure** to keep a stable job

[www.entrepreneur.com/dbimages/blog/entrepreneurship-risk.jpg](http://www.entrepreneur.com/dbimages/blog/entrepreneurship-risk.jpg)



# Keys to Small Business Success

## Courage

The willingness to take risks

## Perseverance

The capacity to power through tough times

## Ambition

The insatiable drive to reach your goal

## Understanding

The knowledge to make wise business decisions

## Innovation

The ability to improve on existing ideas

[www.entrepreneur.com/dbimages/blog/entrepreneurship-risk.jpg](http://www.entrepreneur.com/dbimages/blog/entrepreneurship-risk.jpg)



***“Treat others as you want to be treated.”***

***“Share life’s rewards with those who make them possible.”***

***“Give back to society”***

**Ewing Marion Kauffman**





# Change Is Inevitable

“ It is not the strongest of species that survive, nor the most intelligent, but the ones most responsive to change.”

**Charles Darwin**



# Crowdfunding

***Crowdfunding***—as its name implies—aims to reach a funding goal by getting many investors to put in small amounts.



# Will Crowdfunding work for University Startups?

- University spinouts often present high risk
- The more widely crowdfunding is used, the more challenging it will be for high tech, high risk startups to raise capital this way
- University spinouts could have an advantage using crowdfunding if they tap into alumni networks.

University Tech Watch 9/24/2012



# Upstart

**Upstart allows a startup to raise capital in exchange for a small portion of future income.**



- Investors give money directly to startups in return for a percentage of future income
- Currently 5 universities participating
  - Arizona State University
  - Dartmouth College
  - Rhode Island School of Design
  - University of Michigan at Ann Arbor
  - University of Washington
- Entrepreneurs create profiles on site
- **Backers are advisors: Their goal is to make the startup successful**

The Chronicle of Higher Education 8/8/2012



# Startup Act 2.0/Free Agency

- **1980 Bayh-Dole Act**

- University control over intellectual property developed through federally funded research

- **Startup Act 2.0**

- University Professors choose their own agents for technology transfer
- Capacity-building grants and Accelerator Grants



# University of Maryland System Patents and



- Credit in tenure and promotion decisions for faculty work that leads to patents and other intellectual property applied in technology transfer.
- Texas A&M and approximately 24 other institutions nationally now recognize such activities for tenure.
- Maryland System set a tenure goal of creating 325 new companies based on academic research or helped along by university economic development programs.





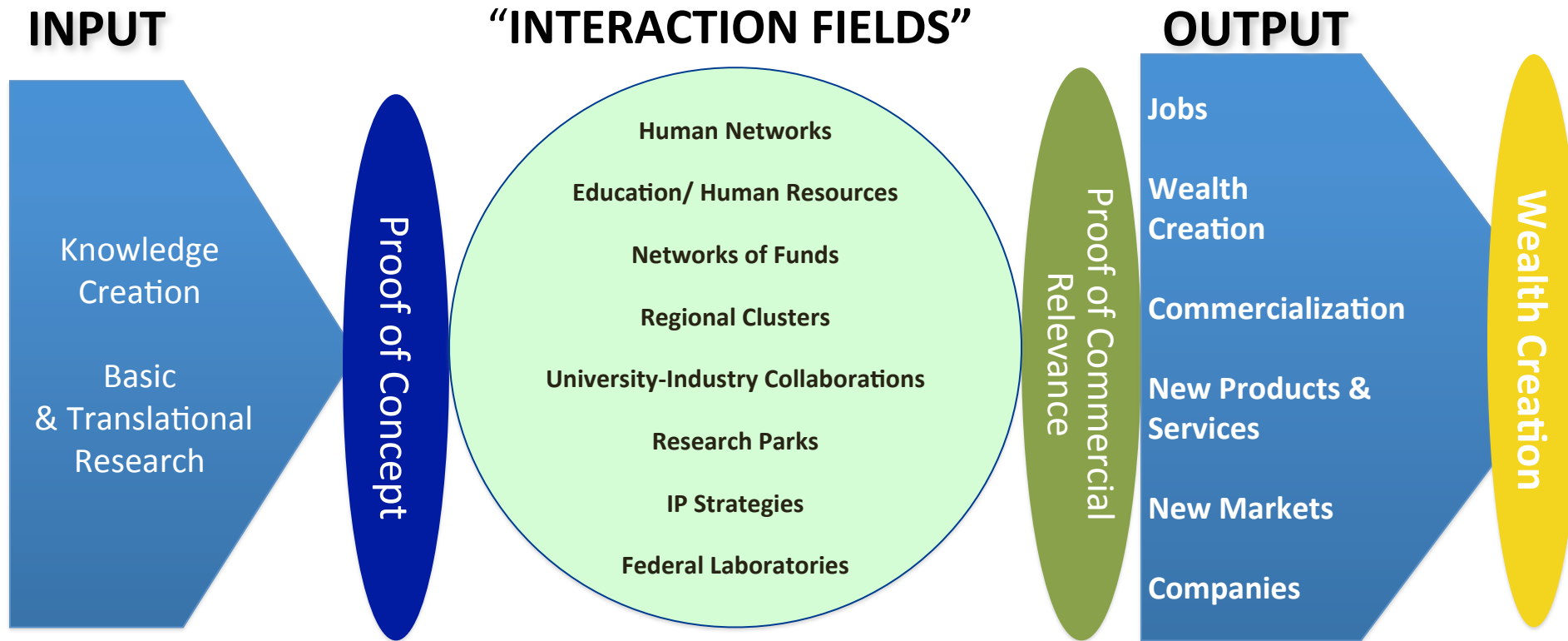
# The Secret Recipe to Building an Innovation Ecosystem

- There is none.
- Key Ingredients: Universities, Governments, NGOs, Incubators, and Startups
- These are nothing compared to:  
A committed group of people with a high degree of trust, collaboration, sharing, and interdependency

Wamda 8/14/2012



# Innovation Ecosystem



The concept of the **Innovation Ecosystem** stresses that the flow of technology and information among people, enterprises and institutions is key to a vibrant innovation process.



# Growing an innovation



# NSF Research Alliances

Nearly \$6 million **Accelerating Innovation Research Awards**  
awarded for 8 emerging projects



Nanoplasmonic Metamaterial Antennae for Efficient Wireless Power Transmission



Industry-Academia Research Partnership for Developing & Implementing Non-Destructive Characterization and Assessment of Pharmaceutical Oral Dosages in Continuous Manufacturing



Advanced SiNWs: Partnerships for Innovative Research in Energy (ASPIRE)



Accelerating Commercialization of the Solid State Transformer through Strategic Partnership



Transitioning Novel Polymeric Membranes for Natural Gas, Air, and Hydrogen Separations



Architectures for the Future Cellular Networks



CREST-I/UCRC-Industry Ecosystem to Pipeline Research



CASA Warning System Innovation Institute

# University Economic Development Association (UEDA) 2012 Award of



**Kemper Military School Redevelopment Project**

**IOWA STATE UNIVERSITY**

**Sustainable Economies Program**



**Kansas Opportunity Innovation Network (KOIN)**



**Linking Innovation, Industry and Commercialization (LIINC)**



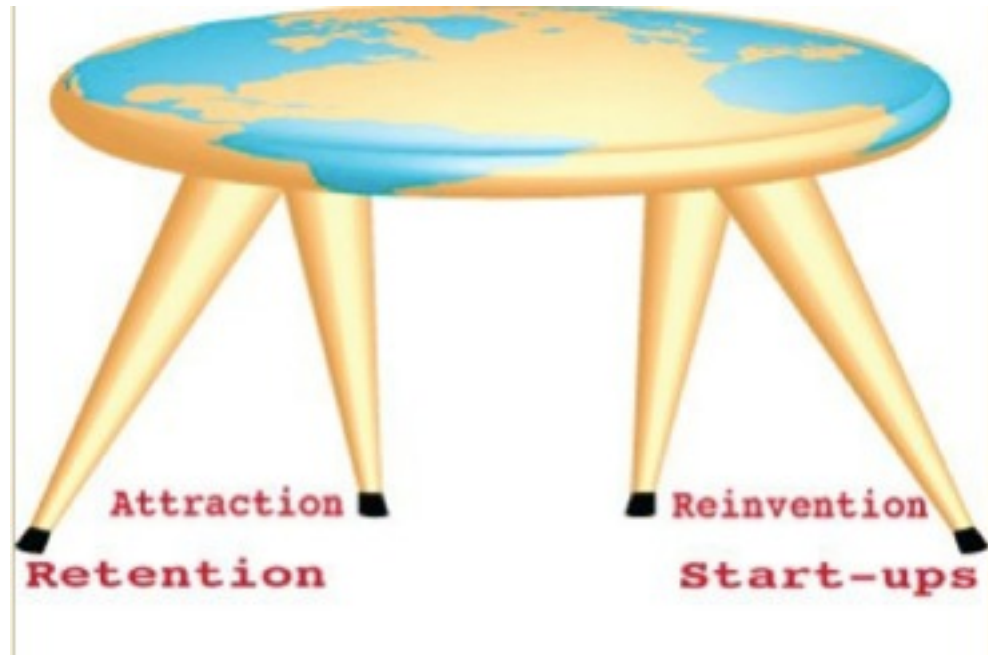
**Developing Analytics & Operations Research Practitioners**

Innovation America 10/29/2012



# Economic Development

- Economic Development is like a
- 4 - legged stool:
  - **Attraction**
  - **Retention**
  - **REINVENTION**
  - **Grow Your Own**
- IBED requires patience and persistence, continuity and consistency
- Working with early-stage companies takes time
- A balanced portfolio economic development strategy is best!



# Implementing a New Innovation Paradigm

- Deviate from traditional perspectives
- Encourage public investment and risk taking
- Develop trust through collaboration
- Ensuring responsiveness to partners' missions
- Build consensus of all constituents through education, participation, and positive outcomes
- Move from Tech-Based Economic Development (TBED) to.....

***Innovation-Based Economic Development (IBED)***





# Convergence of Traditional Eco Devo & IBED

## Traditional

## Innovation

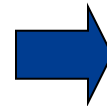
**Assets:**

PHYSICAL

KNOWLEDGE

**Competitive Basis:**

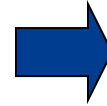
Natural resources  
Highways / Rail  
Proximity  
Costs



Specialized talent  
Networks, Clusters,  
University research  
Industry partnerships  
Commercialization, Market  
Positioning Globalization

**Key values/offerings:**

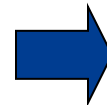
University Research  
Parks  
Incentives



Research Parks  
Workforce competencies  
Lifestyle

**Lead Organization:**

Chambers /  
EDCs



Economic developers

**INNOVATION INTERMEDIARIES**



# What is A Regional

- An organization at the Center of the region's, state's and country's efforts
  - Align local technologies, assets and resources
  - Advance Innovation
- Regionally-oriented
- Private-public partnership, 501(c)(3) nonprofit
- Market-driven, private sector-led
- Neither a government initiative, nor a membership organization
- Private sector governed and funded



# BHI H-RIC Model

**BHI  
H-RIC**

**Health Regional Innovation Cluster (H-RIC)**

Regional  
Innovation  
Planning

Research &  
Commercializa-  
tion

Innovation  
Capital

Accelerators &  
Incubators

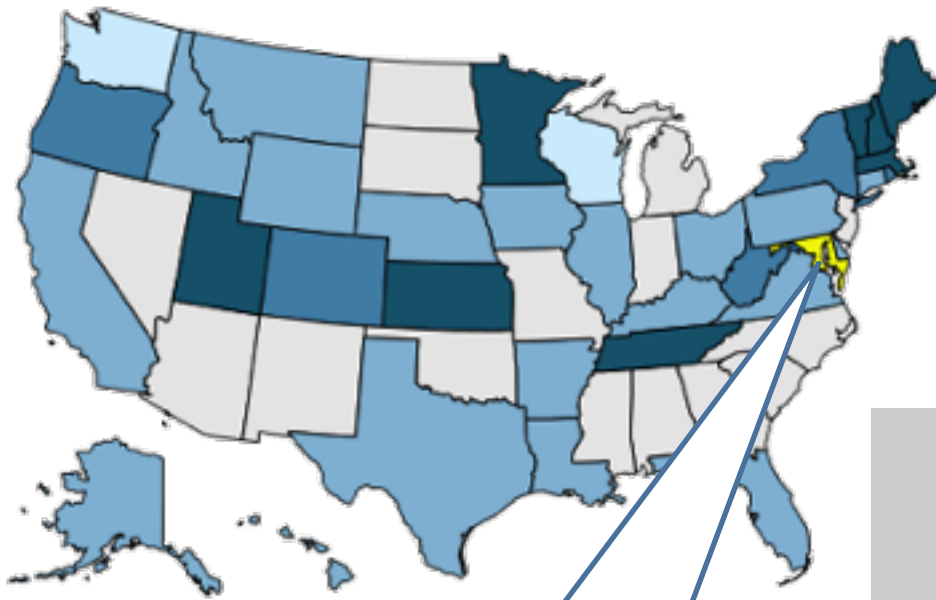
Innovation  
Workforce

- Regional, cluster-based economic development model
- Modeled after the Department of Energy's Regional Innovation Cluster
- Connects innovation assets to related industries
- Advances human health and economic prosperity
- Accelerates commercialization of University and Federal Lab research



# Maryland

Population:  
5.828 million people



# Alignment of National, State, and Regional Policies



**Obama  
Administration**



**Governor  
O'Malley  
(Maryland)**



**County Executive  
Ike Leggett  
Montgomery County**



**Stephanie Rawlings -  
Blake  
Mayor of Baltimore**

- Link Both State, County & City Strategies to Obama Administration Objectives
- Develop an integrated Regional BioHealth Economic Development and Transit Strategy
- Present the “Regional Job Generating BioHealth and Transit Plan” to the White House & partner with federal agencies and other stakeholder organizations as a “Showcase Model.”
- Develop structure & governance for the regional BioHealth innovation intermediary
- Obtain Priority Federal Funding for Region’s BioHealth Industry-Federal Labs-University Innovation Intermediary Pilot Plan
- Obtain Priority Federal Funding for the region’s Innovative “State of the Art” Comprehensive Rapid Transit Vehicle Plan (CCT et al)
- Develop a pilot BioHealth-Regional Innovation Cluster (H-RIC) program

# State of Maryland:



**59 Federal Laboratories, Centers, & Institutes in Maryland**

**Maryland Federal R&D investment exceeding \$12 billion annually**



**JHU and USM represent another \$3.5 billion in annual R&D**



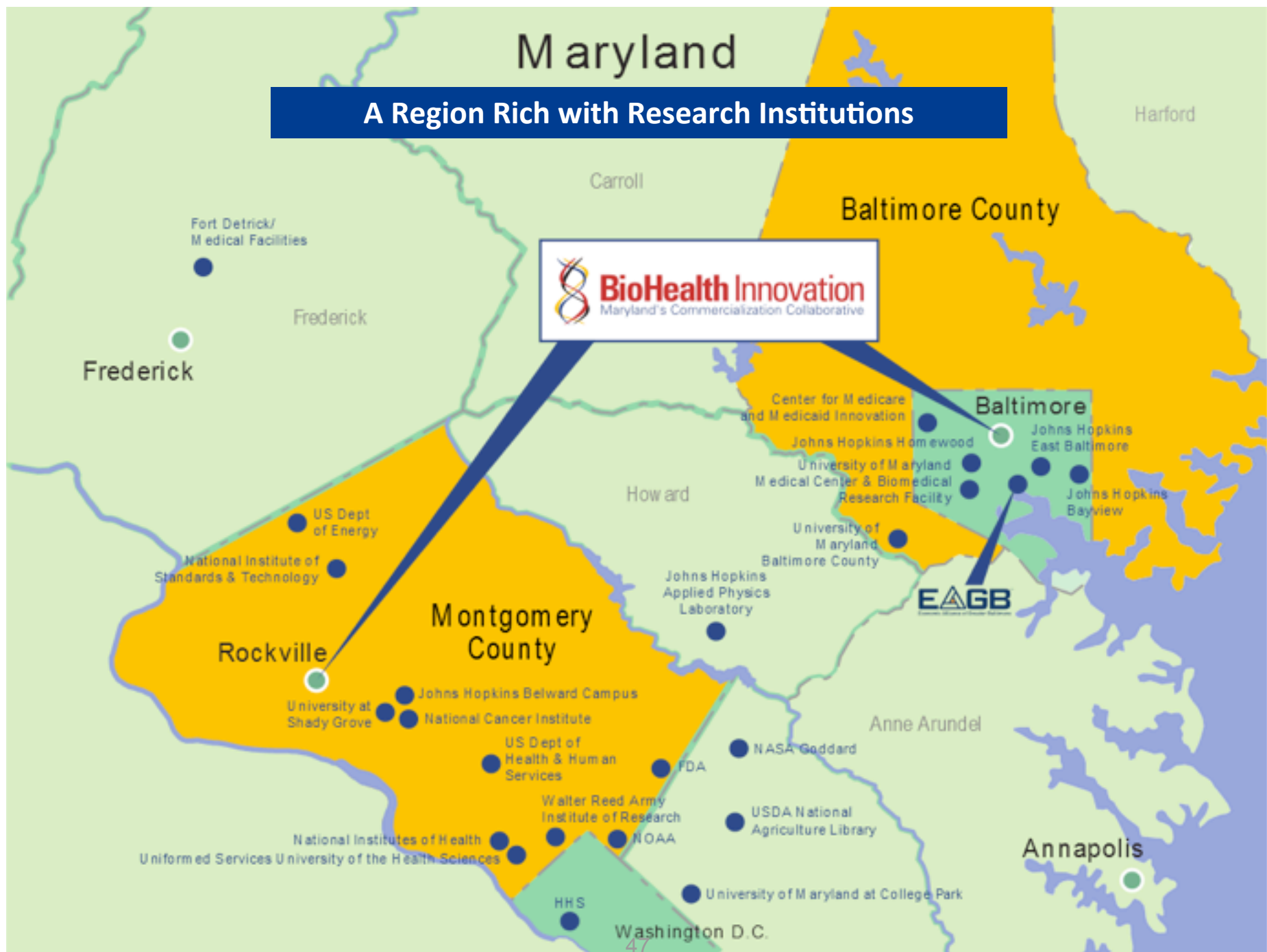


# “The Region”--Central Maryland

**Unrivaled Research Assets**  
**Unfulfilled Commercial Promise**







# Challenges to Innovation Economy

Lack of connection of innovation  
resources

Lack of an entrepreneurial culture  
and C-level executives

Lack of early-stage funding for  
commercializing technologies

Lack of spin-offs from federal and  
university R&D

# BHI Value Proposition

Connects regional innovation  
assets

Develops an entrepreneurial talent  
and support pipeline

Attracts funding for technology  
commercialization

Evaluate commercially relevant  
federal and university technology  
for new



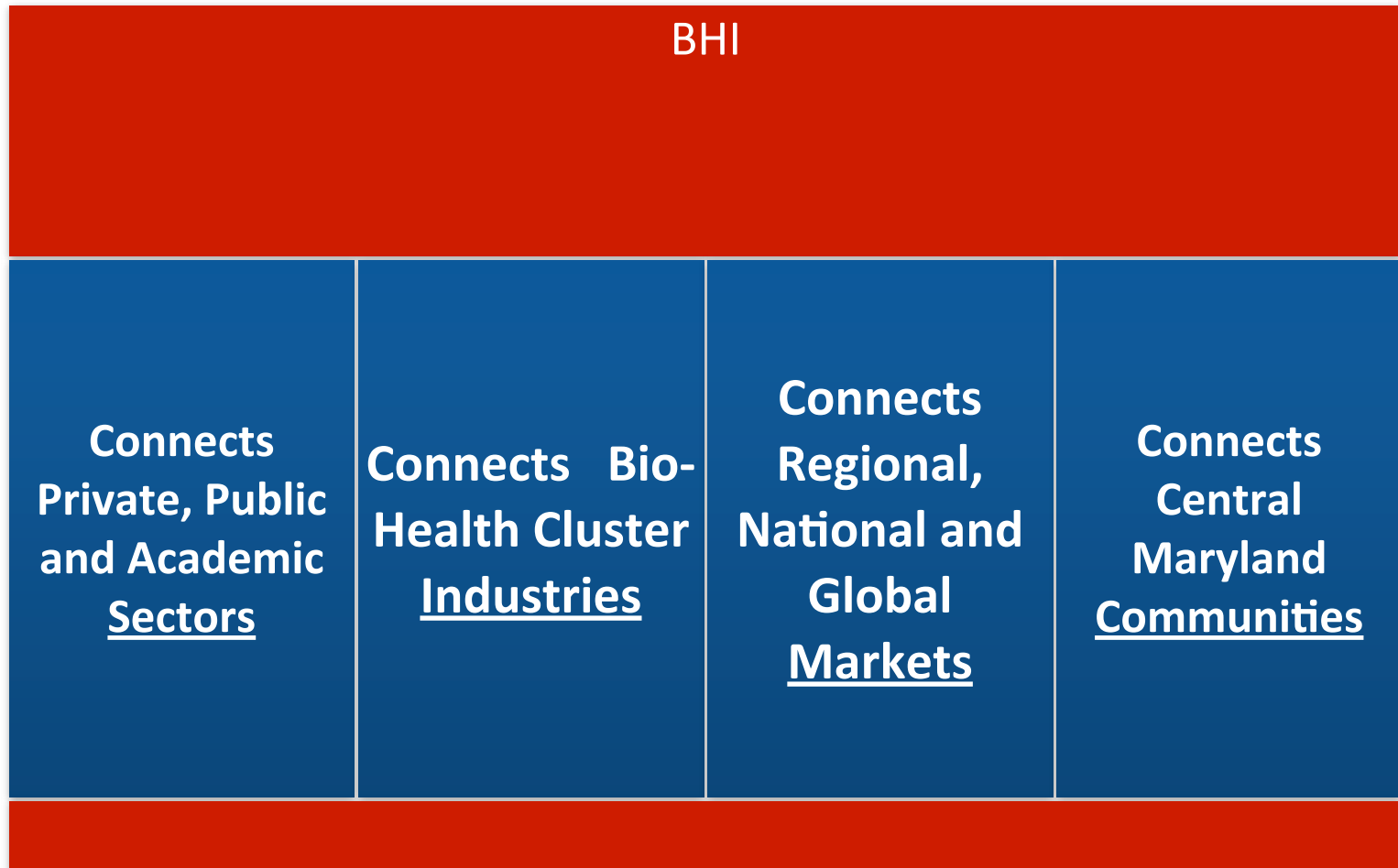
# BioHealth Regional Innovation Cluster Assets



National Biodefense Analysis and Countermeasures Center



# BHI: An Innovation Intermediary that Connects



# Regional BioHealth Ecosystem Partners

## INSEPARABLE MISSIONS

### ACADEMIA

- RESEARCH/  
T2
- LIFELONG  
LEARNING
- ECONOMIC  
DEVELOPMENT

### INDUSTRY

- PROFIT
- PROCESS
- PRODUCT

### GOVERNMENT

- SUSTAINABILITY
- INFRASTRUCTURE SUPPORT
- ECONOMIC POLICY
- 

### FOUNDATIONS

- ECONOMIC GROWTH
- COMMUNITY INVESTMENT
- REGIONAL COLLABORATION





# BHI Partners and Sponsors



# BHI Board of Directors



**Michael J. Baader, Esq.**  
Managing Director, Venable LLP



**Richard Bendis**  
President & CEO, BioHealth Innovation, Inc.



**Scott Carmer (Chair)**  
Executive Vice President of  
Commercial Operations, MedImmune



**Kenneth Carter**  
Chair, Noble Life Sciences



**Scott Dagenais**  
Senior Vice President, M&T Bank



**Ronald J. Daniels**  
President, Johns Hopkins University



**David M. Gillice (Secretary)**  
Regional Managing Principal, Cassidy Turley



**William E. Kirwan**  
Chancellor, University System of Maryland



**Douglas Liu**  
Senior Vice President of Global Operations, Qiagen



**David Mott**  
General Partner, New Enterprise Associates



**Jerry Parrott**  
Vice President, Corporate Communications and Public  
Policy, Human Genome Sciences



**Jay Ridder**  
Office Managing Partner, Ernst & Young



**William G. Robertson (Treasurer)**  
President & CEO, Adventist Healthcare



**J. Thomas Sadowski**  
President & CEO, Economic Alliance of Greater Baltimore



**Thomas Street**  
Assistant Chief Administrative Officer, Montgomery  
County Government

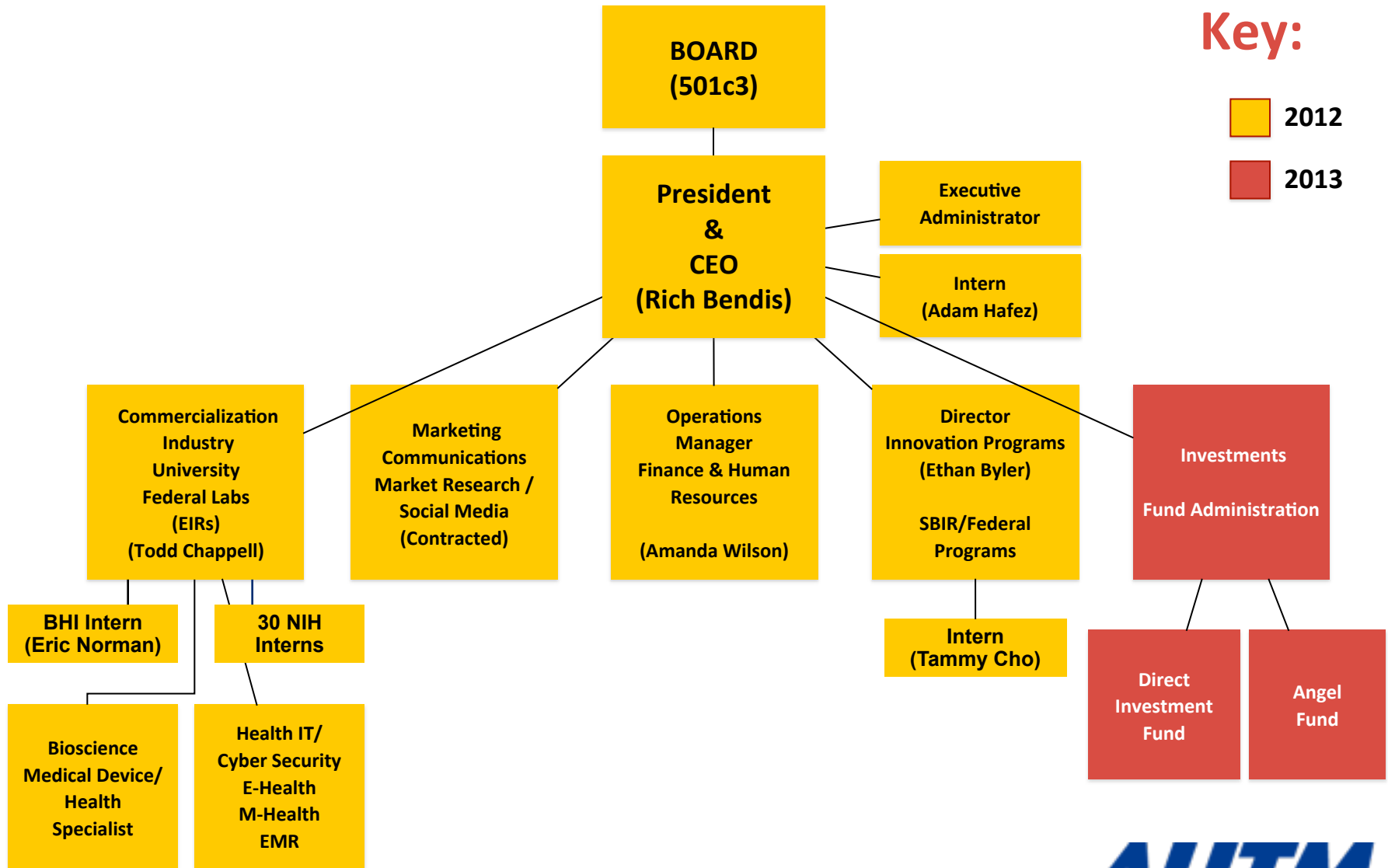


**Daniel J. Abdun-Nabi (Pending)**  
CEO, Emergent BioSolutions





# BHI Organizational Chart



# BHI/EIR Technology Focus

- **Therapeutics**
- **Diagnostics**
- **Medical Devices**
- **Healthcare Services**
- **E-Health**
- **Mobile Health**
- **Electronic Medical Records**
- **Health Informatics**
- **BioHealth Cyber Security**



# Innovation Paradigm Shift

**PROOF OF CONCEPT**  
(Technological Feasibility)

**Laboratory Push**

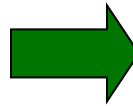
**“It Works!”**



**PROOF OF COMMERCIAL RELEVANCE**  
(Market Pull)

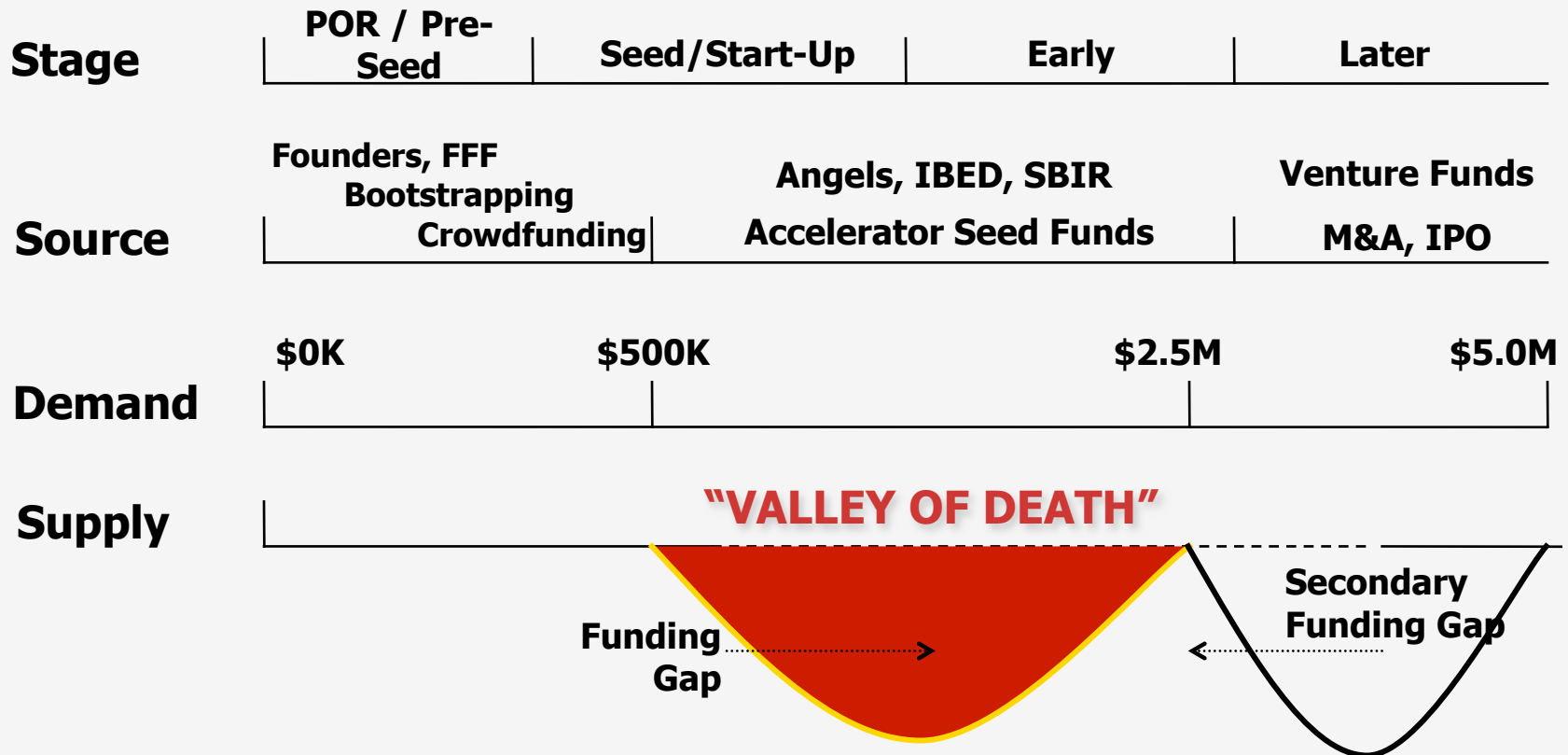
**“It Works To Solve A Problem”**

**“I’ll Buy It”**



# Innovation Capital

**"VALLEY OF DEATH"**



# Central Maryland Innovation Capital Map

Capital Sources by Investment Stage

Pre-Proof of Concept \$25K - \$1.5M (over 5 years)	Translational Research / Proof of Concept \$15K - \$2M	Proof of Commercial Relevance / Pre-Seed \$50K - \$500K	Seed / Start-Up \$50K - \$1M	Early Stage \$250K - \$2M	Later Stage \$2M+
<ul style="list-style-type: none"> <li>NIH R01</li> <li>NIH R03</li> <li>NIH R21</li> <li>Small Business Technology Transfer Research Grant (STTR) Phase I</li> <li>Innovate Maryland</li> </ul>	<ul style="list-style-type: none"> <li>NIH Center for Accelerated Innovations (CAI)</li> <li>NCATS Cures Acceleration Network (CAN)</li> <li>Small Business Innovation Research Grant (SBIR) Phase I</li> <li>Maryland Stem Cell Research Fund (MSCRF)</li> <li>TEDCO University Technology Development Fund (UTDF)</li> <li>TEDCO TechStart</li> <li>Maryland Biotechnology Center's Translational Research Award</li> </ul>	<ul style="list-style-type: none"> <li>Maryland Industrial Partnerships (MIPS @ UMD)</li> <li>Maryland Biotechnology Center's Biotechnology Commercialization Awards</li> <li>TEDCO Maryland Technology Transfer and Commercialization Fund (MTTCF)</li> <li>BHI SBIR/STTR Commercial Relevance</li> <li>BHI Commercial Relevance Fund (CRF)</li> </ul>	<ul style="list-style-type: none"> <li>Dingman Center Angels (UMD)</li> <li>TEDCO Johnson &amp; Johnson Joint Investment Program</li> <li>Propel Baltimore Fund</li> <li>SBIR / STTR Phase II</li> <li>BHI Central Maryland Angel Fund</li> <li>National Association of Seed &amp; Venture Funds (NASVF)</li> <li>Angel Capital Association (ACA)</li> </ul>	<ul style="list-style-type: none"> <li>Maryland Health Care Product Development Corporation (MHCPDC)</li> <li>Invest Maryland: Maryland Venture Fund</li> <li>New Enterprise Associates (NEA)</li> <li>TDF</li> <li>Abell Venture Fund</li> <li>MMG Ventures LP</li> </ul>	<ul style="list-style-type: none"> <li>Maryland Venture Fund Authority</li> <li>ABS Capital Partners</li> <li>Greenspring Associates</li> <li>Novak Biddle Venture Partners</li> <li>Sterling Venture Partners</li> <li>Harbert Venture Partners</li> <li>JMI Equity</li> <li>National Venture Capital Association (NVCA)</li> </ul>

- Association of University Resource Parks (AURP)
- Association of University Technology Managers (AUTM)
- Licensing Executive Society (LES)

■ Mid-Atlantic Venture Association (MAVA)

## Funding Type Key

- Academic
- Accelerator
- Associations
- Federal
- BioHealth Innovation, Inc.
- Innovation-based Economic Development (IBED)
- State of Maryland
- Venture Capital

## Tax Credits

- Maryland Biotechnology Investor Tax Credit
- Montgomery County Biotechnology Investor Tax Credit



# BHI Deal Goals

## VC Regional History:

Last decade the region: ***\$79.8 million per year\****  
in biotechnology venture financing (2003-2010).

Goal:

***150 prospective deals annually***

## Fund:

***25% or 35 deals per year***

## Avg. Investment:

***\$4.3 million per start-up***

## Targeted VC Annual Investment

***\$150,000,000***

\*This includes an estimated \$57.7 million per year in Montgomery County,  
and \$22.1 million per year in the rest of the state.

SEED  
CAPITAL



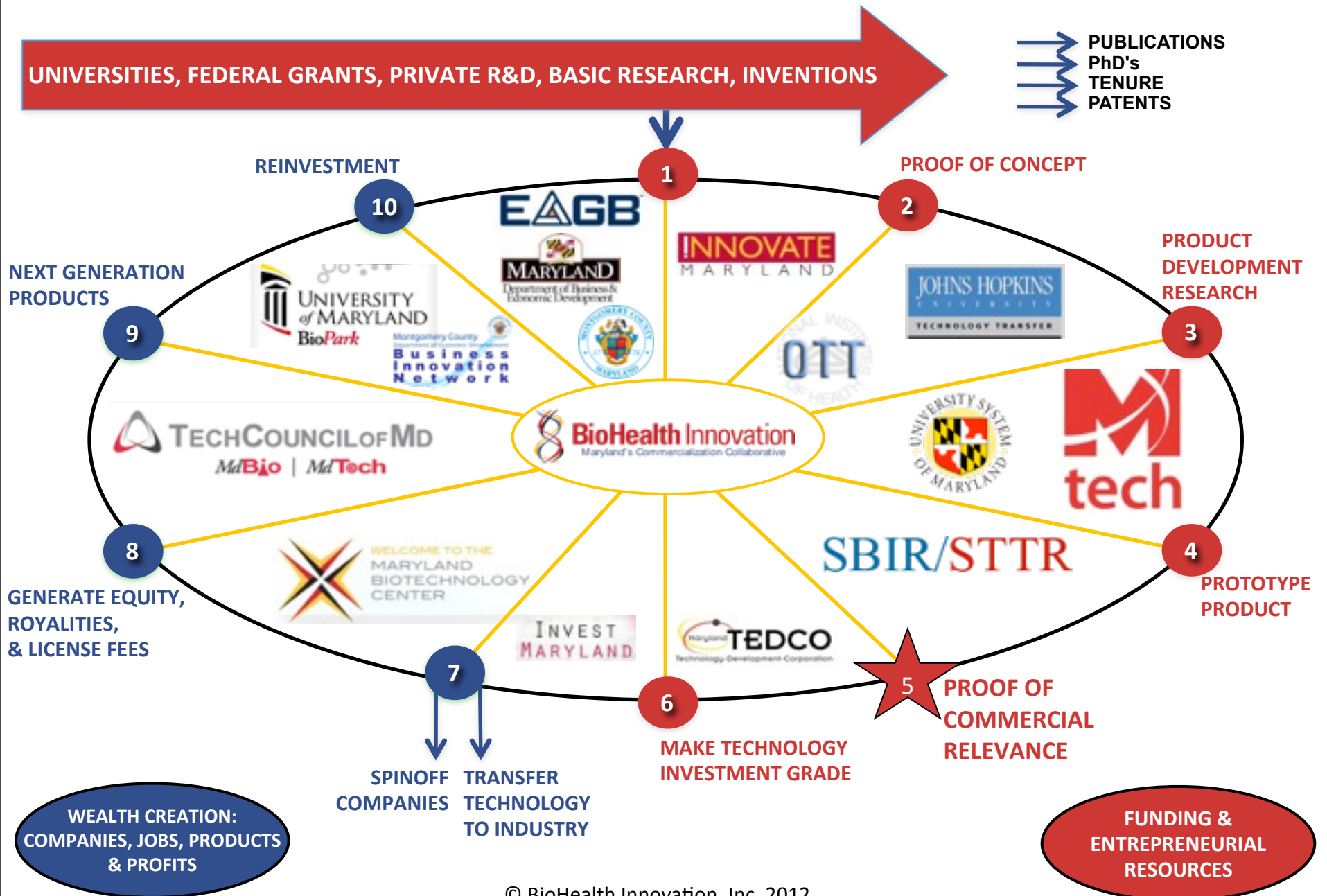
# How does BHI work?

## Commercialization Pipeline





# BHI Commercialization Model



© BioHealth Innovation, Inc. 2012

# Partnership Intermediary Agreement (PIA)

- PIA between BHI and NIH's Office of Technology Transfer that supports the 27 NIH institutes' \$3 billion intramural research and the Food and Drug Administration.
- To **promote and foster cooperative research and accelerate technology commercialization** among NIH/FDA, businesses, and universities.



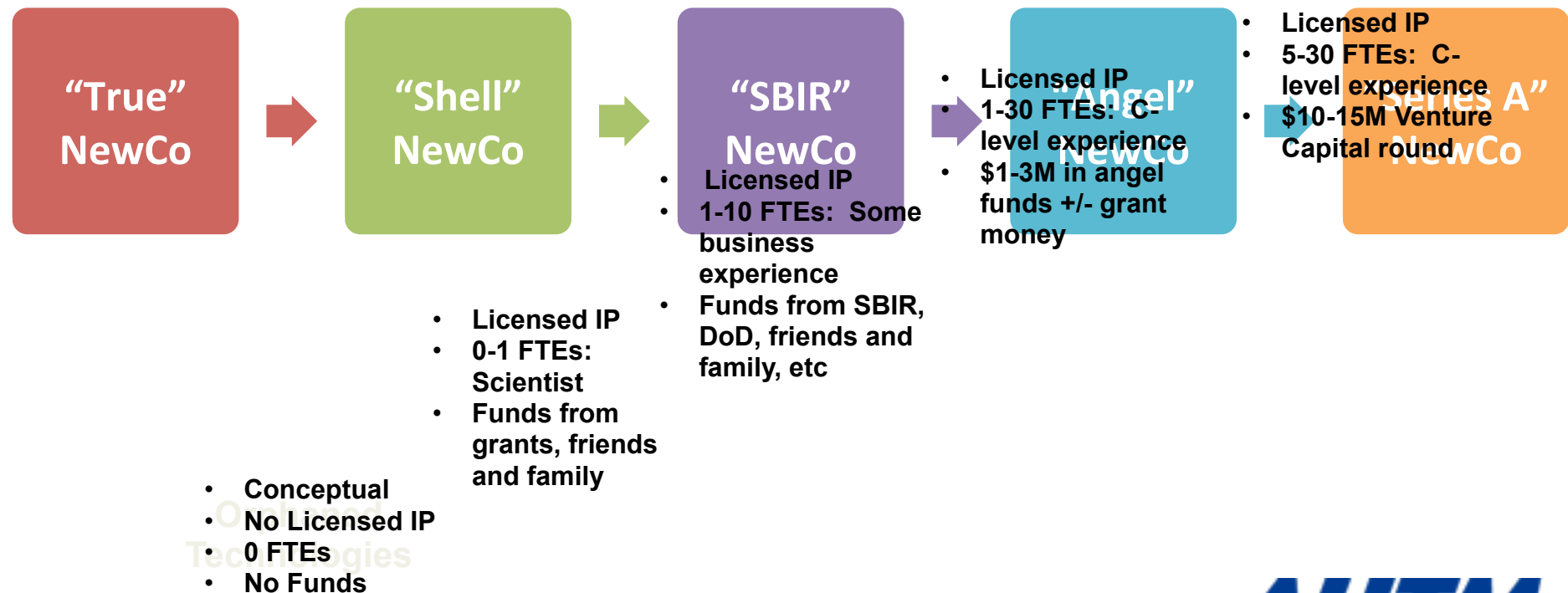
# Entrepreneur-in-Residence (EIR)

- Identify market viable biohealth assets
- Act as liaison among federal labs, academic, industry, venture capital, and non-profit
- Detailed commercial evaluation of most valuable technologies
- Provide early-stage developmental strategies
- Nurture relationships with scientists, mentor to ensure research becomes commercially valuable, and track progress
- Identify creative funding to advance exciting, novel technologies
- Create new BioHealth companies



# EIR Value Proposition

## The Start-Up Company Spectrum



# Entrepreneur-in-Residence (EIR)

- A team leader who combines scientific, financial/VC and entrepreneurial management experience to:
  - Perform due diligence
  - Develop biohealth project-focused companies



Todd Chappell

**Proactively** identifies and commercializes **market-relevant** intellectual properties from:

- Federal Labs
- Universities
- Private Sector

## Progress (6 months into Program)

- 73 Innovations identified and initially screened
- 7 Progressed to Secondary Analysis (Safety & Efficacy Profiling, IP Diligence, Regulatory & Development Pathways) and 12 to Primary Analysis
- 32 No De-prioritized, 22 still Under Review
- Goal to fund the operation of more EIRs



# EIR Expectations



- Assist OTT in the evaluation of existing technologies
  - Provide an entrepreneurial perspective to OTT in its evaluation of new licensing proposals
  - Advise OTT on opportunities for new ventures based on NIH/FDA technologies
  - Assist with developmental strategies
  - Mentor scientists to help ensure their research becomes commercially valuable
- Identify market viable innovations from NIH and other regional institutions
  - Act as liaison among regional biohealth stakeholders and NIH
  - Primary and secondary commercial analysis of lead technologies
  - Develop novel technologies that are at conceptual stage
  - Act as catalyst to license most interesting technologies and fund start-up companies

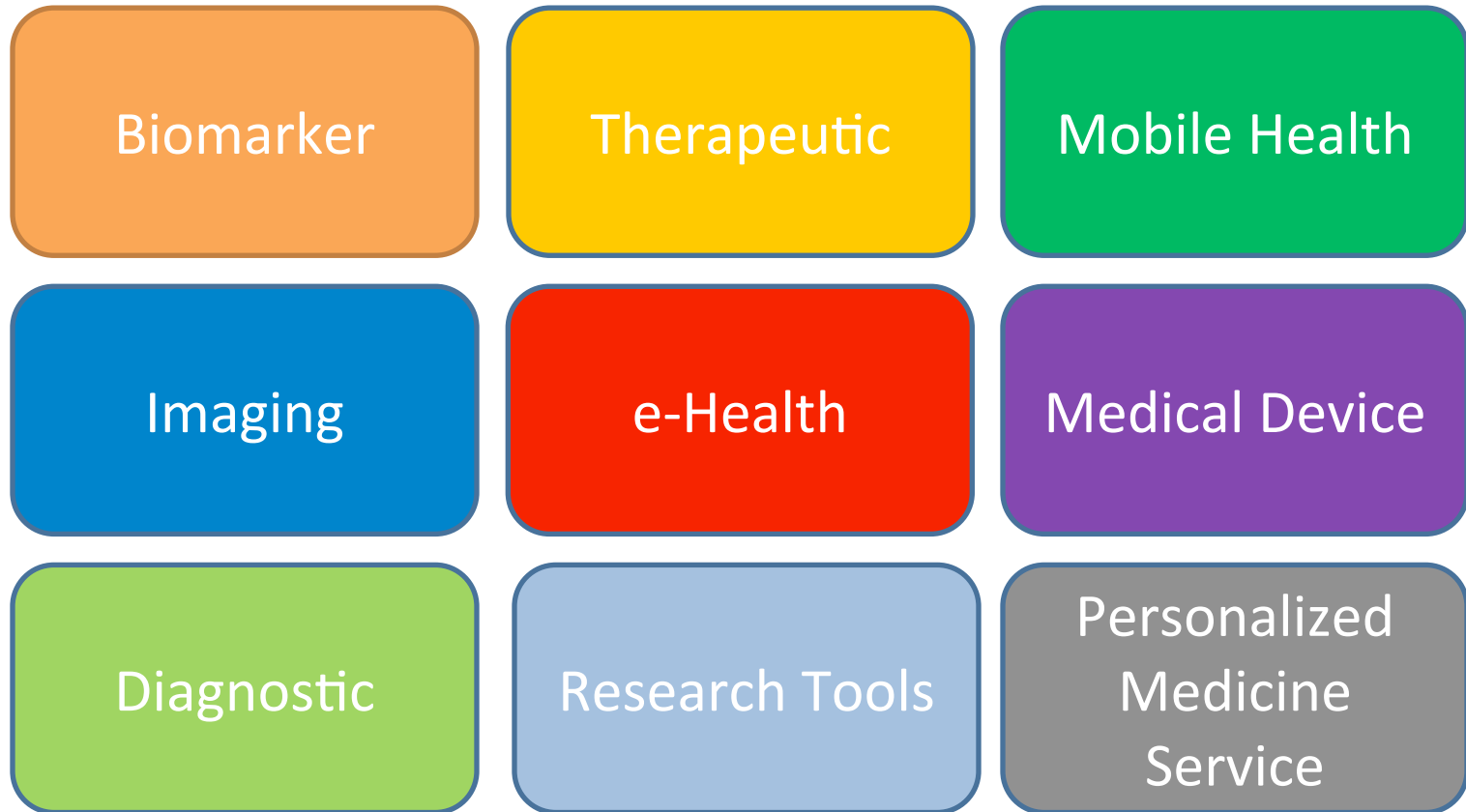
# EIR Integration into NIH System

- **Office at the central Office of Technology Transfer (OTT)**
  - Volunteer status
  - Report to Director and Deputy Director of centralized OTT
  - Full access to NIH campus and staff
- **Active participant in Technology Review Groups at top three institutions**
  - Review of patent prosecution decisions for new and existing inventions
- **Active participant in Technology Development Coordinator meetings**
  - Key decisions on selected technologies
- **Access to database (SYNAPSE) detailing invention filings**





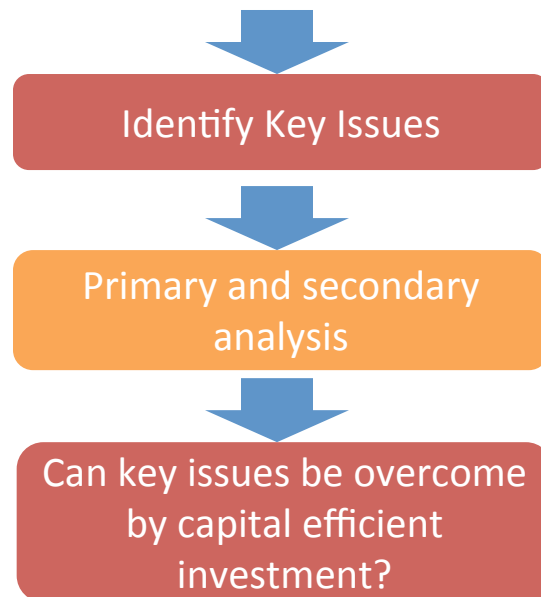
# Different Technologies = Different Strategy

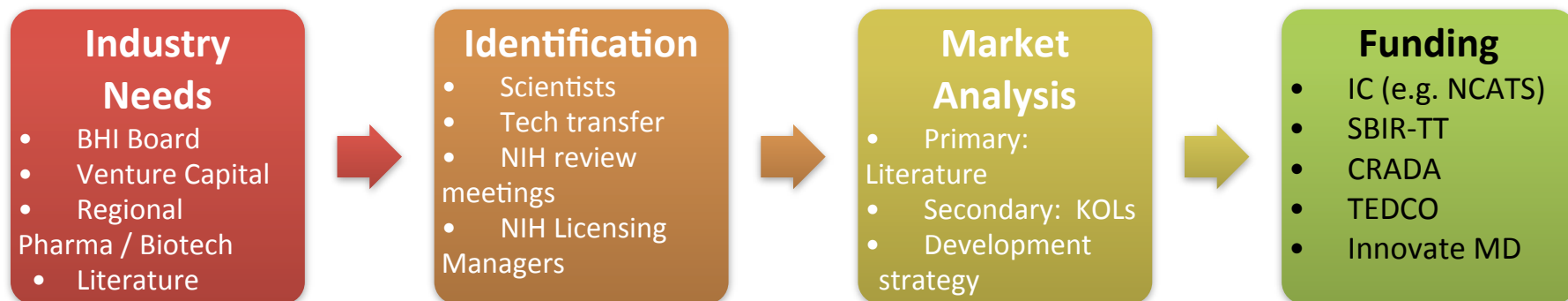


# Early-Stage Analysis of Commercial Relevance

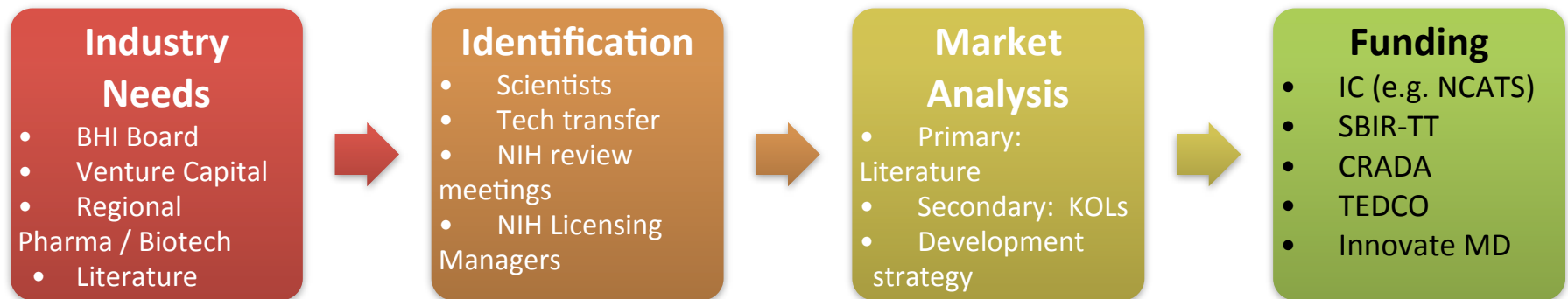
## Selected Criteria for Value Proposition

Differentiation	Efficacy Data	Market Size	Reimbursement
Safety Data	Unmet Medical Need	Stage of Development	Industry Interest
Intellectual Property	Competitive Landscape	Advantages for Clinical Development	Novelty





# What is the Overall Process for Licensing / Creating Company?



# BHI Approach to Progressing NIH Assets

EIR...

- 1) Identifies NIH Asset
- 2) Conducts Scientific & Commercial Due Diligence
- 3) Interacts with Inventor & NIH OTT

BHI Commercial Relevance Board...

- 1) Provides Industry Input & Commercial Expertise
- 2) Makes recommends on commercial next steps i.e. NewCo formation, capital raising, etc.

BHI Staff & appropriate Board & other parties...

- 1) Assist in building NewCo Management Team, Board of Directors, & Scientific Advisors
- 2) Provides ongoing commercial strategy and support to the NewCo
- 3) With BHI support, NewCo files application to license technology with the NIH OTT

BHI...

Assists with finding appropriate laboratory space locally and other local partners appropriate for development

BHI Entrepreneur  
In Residence (EIR)

BHI Commercial  
Relevance  
Advisory Board  
Review

NewCo Formation

Novel Technology but  
not ready for  
development

Licensing Interest

License Negotiated  
between  
NewCo & NIH OTT

Capital Raise

Traditional Biotech  
Company

Project Focused  
Company

BHI...

Continues to track / monitor progress.  
Additional experimentation likely required

- Creative funding
- NIH programs
- Institution investment

BHI...

Works with Regional Companies to scout technologies for their own pipelines. When an asset is identified, companies will perform their own due diligence and investigate a licensing deal

BHI...

Is a silent partner to licensing process with NIH OTT. Any exclusive licenses are required to be posted on the Federal Register

BHI...

Supports NewCo with capital raise including Angel, Venture Capital, SBIR/STTR and Federal Funding, Foundation Resources, State Funding Programs, TEDCO, Accelerator, etc.

BHI...

Assists with referring appropriate development partners, consultants, and virtual services

# Maryland Innovation Programs

- A new annual \$5.8 million state Innovate Maryland program
- **Innovation Discovery Program** — provides funding that will enable the schools to engage “Site Miners,” who will be tech commercialization experts responsible for identifying promising technologies.
- **Innovation Commercialization Program** — provides funding to support the commercialization of university technologies:
  - Pre-commercial translational research (Phase I)
  - Commercialization planning (Phase II)
  - Early-stage product development (Phase III).
- Up to \$215,000 for a single qualifying university,
- Up to \$270,000 will be available to joint applications

<http://www.bizjournals.com/baltimore/news/2012/10/22/maryland-innovation-initiative-names.html>



# Maryland Universities/EIR Interaction



Maryland's Innovation Initiative

- **\$5.8M budget**
  - **5 University partners**
  - **5 University site miners**
  - **40 University pre proof-of-concept technologies funded**
  - **\$25-\$150K funded per technology**
- **Regular meetings between BHI/EIR and site miners**
  - **BHI identifies most commercially relevant technologies**
  - **BHI and INNOVATE MD partnership opportunities**





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# BHI SBIR Commercial Relevance Program

- The State of Maryland ranks 19<sup>th</sup> in population
- Maryland ranks number 3 in the number of SBIR proposals submitted to NIH
- Maryland ranks number 32 in number of NIH SBIR Phase I wins
- Maryland ranks number 36 in number of NIH SBIR Phase II wins
- **Maryland small BioHealth businesses do good research but do not do well in commercialization**

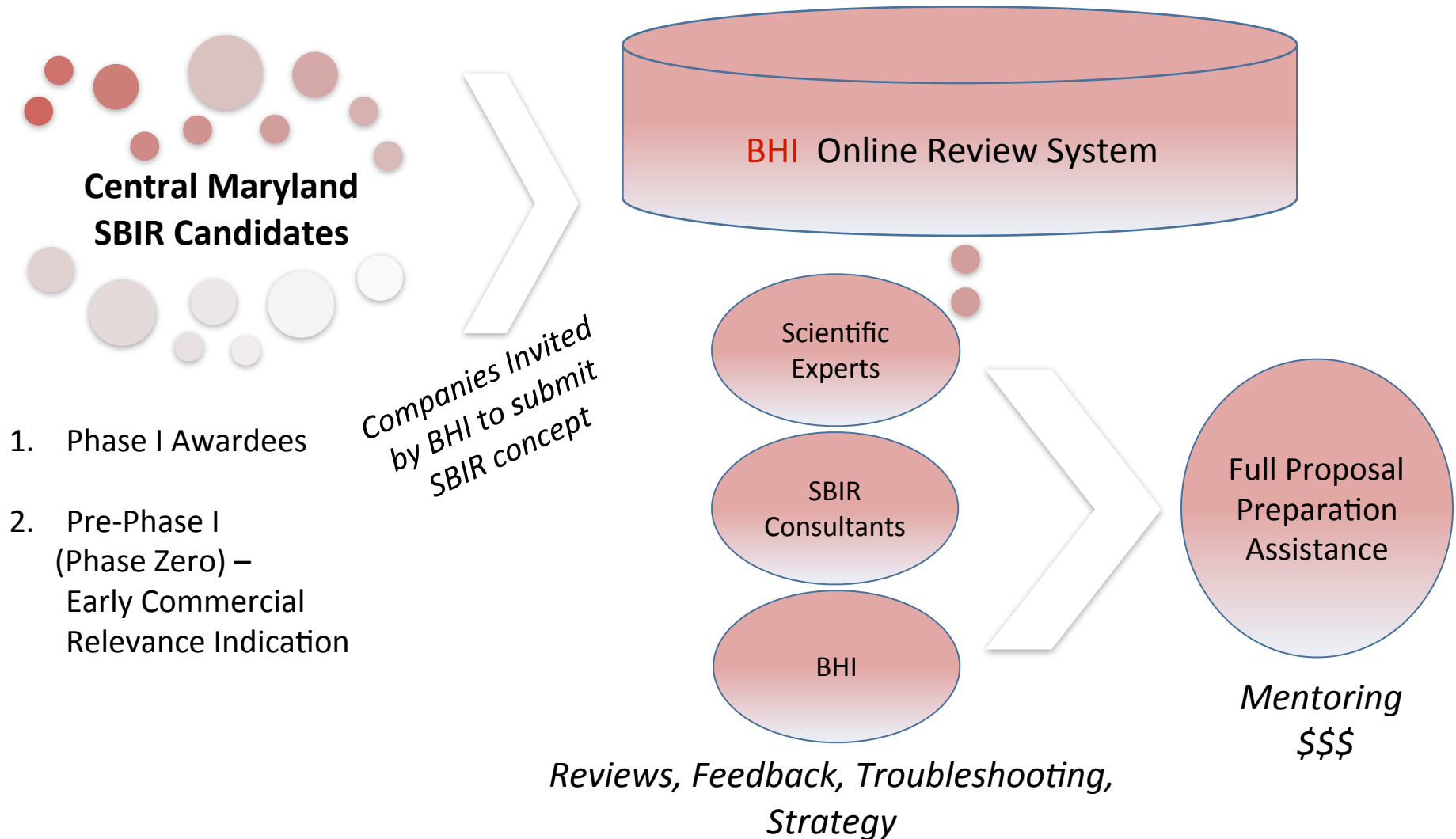


# BHI Innovation Capital

- **SBIR/STTR Assistance Program** - The BHI SBIR/STTR Assistance Program (in development) will provide assistance to biohealth-driven companies in the Central Maryland region in preparing for high-quality SBIR/STTR grant proposals for submission to federal funding agencies.
- **BHI Angel Fund** - The BHI Angel Fund (in development) will be a member-managed private equity investment fund that bridges the gap between pre-seed investments and institutional venture capital serving the Central Maryland region entrepreneurial needs.
- **BHI Commercial Relevance Investment Fund** - The BHI Commercial Relevance Investment Fund (in development) will be a pre-seed and early-stage, equity-based innovation capital fund to help grow, attract, retain and connect Central Maryland biohealth innovation-based companies that need financing to grow their enterprises.



# BHI SBIR/STTR: Commercial Relevance Program (CRP)



# Innovation Resource Guide

## *“Financing and Entrepreneurial Resource for Montgomery County and the Greater Baltimore Region”*

- Entrepreneur and Innovation Resource Network
- Innovator Financing Guide
- The Startup's Guide to Intellectual Property



### Central Maryland Biohealth Entrepreneur's Resource and Finance Guide

- Provides **businesses and entrepreneurs** with information to access resources necessary to **grow** their biohealth businesses.
- **A-Z directory** of relevant businesses, organizations and resources for business assistance, economic development, innovation research, investment and technical assistance.
- A **comprehensive financing guide** designed to prepare businesses and entrepreneurs to navigate the complicated world of financing and investment.
- A **startup's guide to intellectual property** that will introduce entrepreneurs to the complex issues surrounding patents, trademarks, copyrights and trade secrets.
- The guide will be **free** and available in both **print and electronic** formats.



#### Benefits of Inclusion:

- Exposure to businesses, entrepreneurs, non-profit organizations and government leaders.
- Opportunity to market assistance and investment programs to a large audience.

#### Benefits of Sponsorship:

- Company logo printed on the inside cover of the guide.
- Exposure to 1,000s of businesses, organizations and government leaders through distribution of the guide.

#### Benefits of Advertisement:

- Half-to-full-page detailed ads available to market your company or organization.
- Exposure to 1,000s of businesses, organizations and government leaders through distribution of the guide.

**To advertise, sponsor or be included in the guide, please contact:**

Michael Combs  
Economic Alliance  
of Greater Baltimore  
410-637-4105  
mcombs@greaterbaltimore.org



Central Maryland Biohealth Entrepreneur's Resource and Finance Guide is a joint effort between BioHealth Innovation and the Economic Alliance of Greater Baltimore. For more information, visit:

[www.biohealthinnovation.org](http://www.biohealthinnovation.org)  
[www.greaterbaltimore.org](http://www.greaterbaltimore.org)

# BHI News & Website



## BHI Web site

The BHI Web site has news, an events calendar, research publications, regional organization feature stories and resources for the biohealth industry. <http://www.biohealthinnovation.org>



## BHI News

BHI's weekly e-newsletter highlights the Central Maryland Region's news articles, national biohealth trends and feature stories. <http://www.biohealthinnovation.org/news>



# How is Success Measured?

	Now	In 5 Years
VC Funding for Biotech	\$79 Million	\$150
Government Funding for Biotech	Increased SBIR proposals & success	Improve Maryland's ranking
Source Prospective Deals Annually	30	150

Improve return on R&D investment by leveraging equity investment

Create and retain 1,300 jobs

Recruit entrepreneurs, experienced managers and businesses

Commercialize biohealth technologies and create biohealth companies



**Grows** high-paying jobs and businesses



**Expands** tax base; **improves** economic vitality



...and **Benefits** human health!



"Coming together is a beginning, staying together is progress, and working together is success."



**Henry Ford**



# Are you pulling alone or...



# Are we all pulling together for success?



**“Never before in history has innovation offered promise of so much to so many in so short a time.”**

**Bill Gates**



# Contact Information

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