



BHI Introduction

Rich Bendis

President & CEO BioHealth Innovation, Inc.

The Region – Central Maryland

- Unrivaled Research Assets -
- Unfulfilled Commercial Promise -



















State of Maryland: Federal & University Resources

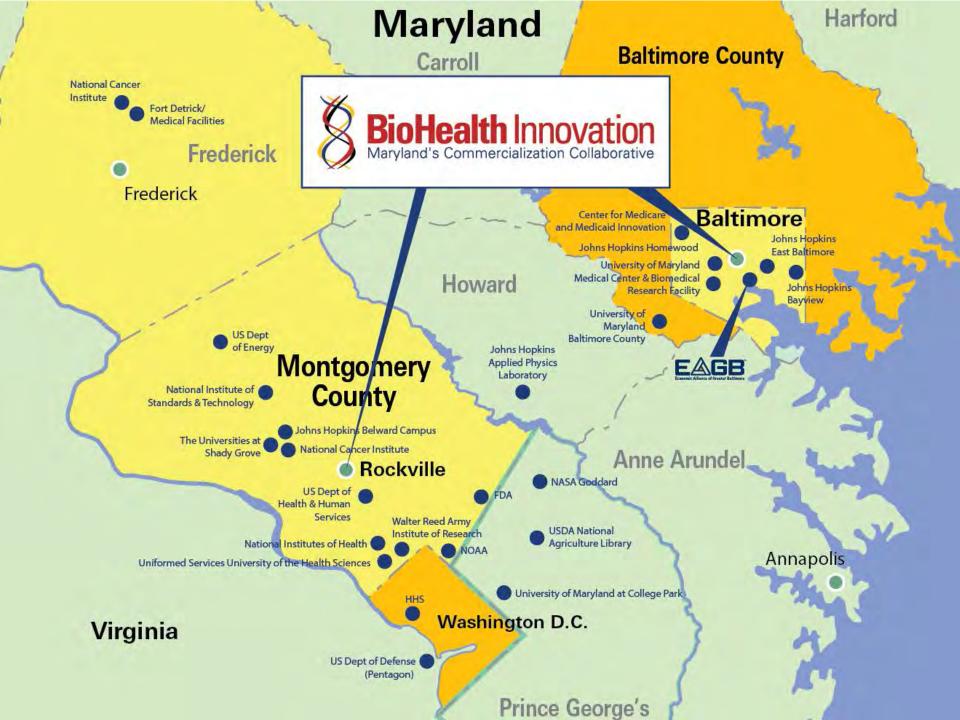


Maryland Federal R&D investment exceeding \$12 billion annually

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







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

Connect regional innovation assets

Develop an entrepreneurial talent and support pipeline

Attract funding for technology commercialization

Evaluate commercially relevant federal and university technology

BioHealth Regional Innovation Cluster Assets

























National Institute of Neurological Disorders and Stroke



National Heart, Lung, and Blood Institute



























National Biodefense Analysis and Countermeasures Center













BioHealth Innovation is an Innovation Intermediary

An private-public partnership, serving as an innovation intermediary in Central Maryland with a mission to:

- Advance local technologies, assets and resources
- Accelerate innovation
- Connect sectors, industries, communities, and markets



- Regionally-oriented
- Private-public partnership, 501(c)(3) nonprofit
- Market-driven, private sectorled and funded
- Neither a government initiative, nor a membership organization

Regional BioHealth Ecosystem Partners

ACADEMIA

- Research/T2
- LIFELONG LEARNING
- ECONOMIC DEVELOPMENT

INDUSTRY

- PROFIT
- PROCESS
- PRODUCT

INSEPARABLE MISSIONS

GOVERNMENT

- Sustainability
- INFRASTRUCTURE SUPPORT
 - ECONOMIC POLICY

FOUNDATIONS

- Economic Growth
- COMMUNITY INVESTMENT
- REGIONAL COLLABORATION

BHI Partners and Sponsors



























































Government























Academia













NGOs











BHI Board of Directors



Daniel J. Abdun-Nabi

CEO, Emergent BioSolutions



Judith Dunn

Roche

VP, Global Head of Clinical Dev.



Douglas Liu

Senior VP of GO Qiagen



Michael J. Baader, Esq.

General Counsel Greenspring Associates



Jens Eckstein

President SR One (GSK)



Charles Morton

Partner Venable LLP



Richard A. Bendis

President & CEO BioHealth Innovation, Inc.



David M. Gillece (Secretary)

Regional Managing Principal Cassidy Turley



David Mott

General Partner New Enterprise Associates



Kenneth Carter

Chair Noble Life Sciences



Rick Ivey

Vice President R&D **BD Diagnostics**



John A. Sackett

President Shady Grove Adventist Hospital



Dave Lemus

CEO

Sigma-Tau Pharmaceuticals



Joel Marcus

CEO & Founder

Alexandria Real Estate



J. Thomas Sadowski

President & CEO

EAGB



Chris Callaghan

Group VP, Healthcare Banking M&T Bank



Beth Meagher

Principal

Deloitte Consulting LLP



Reginald Seeto

VP, Partnering and Strategy Medlmmune



Ronald J. Daniels

President

Johns Hopkins University



William F. Kirwan

Chancellor

University System of MD



Thomas Street

ACAO

MoCo Government

SOURCES

BHI Program Structure

OUTCOMES



- **Technologies Progressed**
- Company Growth
- Risk Capital
- **New Startups & Spinoffs**
- * Partnerships
- Mergers & Acquisitions
- ★ Leveraged \$
- * Regional Branding
- Jobs
- * Economic Development

Financial Sponsors

















AstraZeneca



































emergent



BHI Technology Focus

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







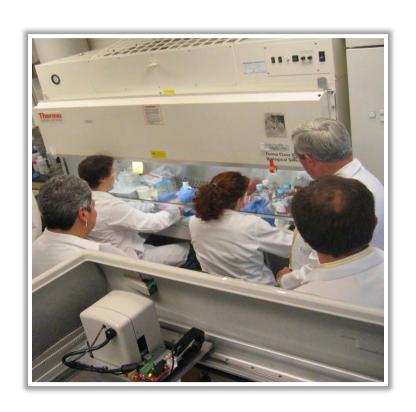
Innovation Paradigm Shift

PROOF OF CONCEPT
(Technological Feasibility)
Laboratory Push
"It Works!"

PROOF OF COMMERICAL RELEVANCE
(Market Pull)

"It Works To Solve A Problem"

"It Works To Solve A Problem"
"I'll Buy It"





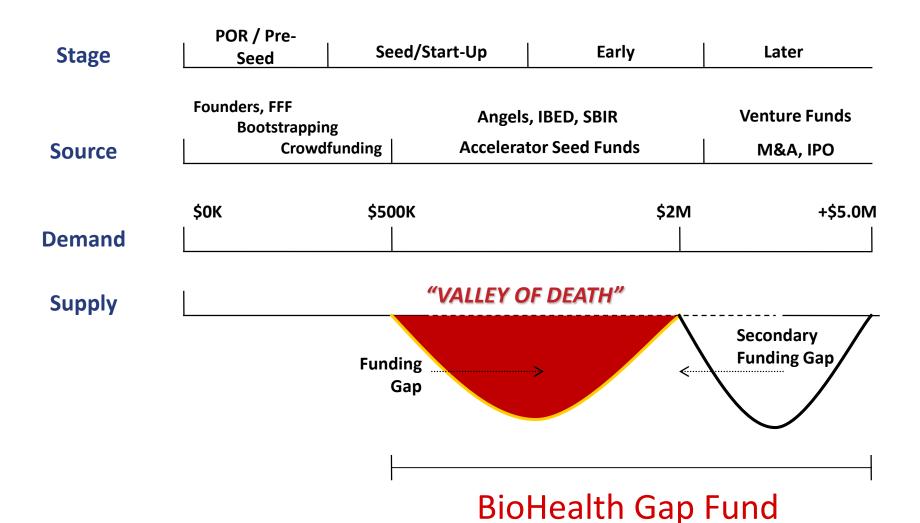


BHI Commercial Relevance Advisory Board



- A pool of experienced biohealth professionals who have agreed to assist BHI in evaluating market-relevant research and product development opportunities
- The CRAB helps determine the commercial applicability of emerging entrepreneurs, companies and their science or technology.

Innovation Capital Valley of Death



BHI Innovation Capital Map



Capital Sources by Investment Stage



BHI Commercialization Pipeline

Source and evaluate biohealth intellectual properties (IP)

Identify funding for market-relevant IP

Grow and markets businesses and products



BHI Commercialization Model

Inventions patented through Universities, Federal Labs, Private R&D, and Basic Research



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NIH Partnership Agreements



PIA between BHI and NIH's Office of Technology Transfer (OTT) 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.





NIH Consulting Entrepreneur Services Contract for 5 NIH Entrepreneurs-in-Residence



BHI Entrepreneur-in-Residence Program

A team leader who combines scientific, financial/VC and entrepreneurial management experience to:

- Perform due diligence
- Develop biohealth project-focused companies

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

- Federal labs
- Universities
- Private sector

2014 Status





15
Current Clients
7
Pending Clients
Potential New
Clients

2015 Outcomes

- Grow portfolio companies to 20
- Develop specific goals for each portfolio company and aggregate into overall 2015 goal

Who are the Entrepreneurs-in-Residence?



Ram Aiyar (NHLBI)

Ram assists the National Heart Lung and Blood Institute (NHLBI) in translating disruptive science into commercially viable technologies. He works with the relevant stakeholders within the NIH to develop commercial plans and/or develop licensing opportunities such that the NIH technologies can be translated into commercially viable entities that will solve unmet medical needs of patients.



Ken Malone (UM Ventures)

Ken has built his career on creating economic value from science. Whether it was developing new business lines for global corporations or spinning out new ventures from universities, he has engaged in the commercialization of hundreds of new products in advanced materials and life sciences.



Todd Chappell (EIR Consultant)

Todd assists the Office of Technology Transfer (OTT) in the evaluation of existing technologies, provide an entrepreneurial perspective on new licensing proposals from start-up companies, advise on opportunities for new ventures, assist with developmental strategies, and mentor scientists to help ensure their research becomes commercially valuable.



Albine Martin (EIR Consultant)

Dr. Albine Martin brings over 20 years of product commercialization and corporate development experience with 3 public companies located in Maryland and representing the biotechnology, diagnostics and life sciences sector. She has also served as a member of Active Angels, Inc where she syndicated and provides diligence for early stage investments.

Pending: 5 new NIH EIRs

BHI Company Portfolio

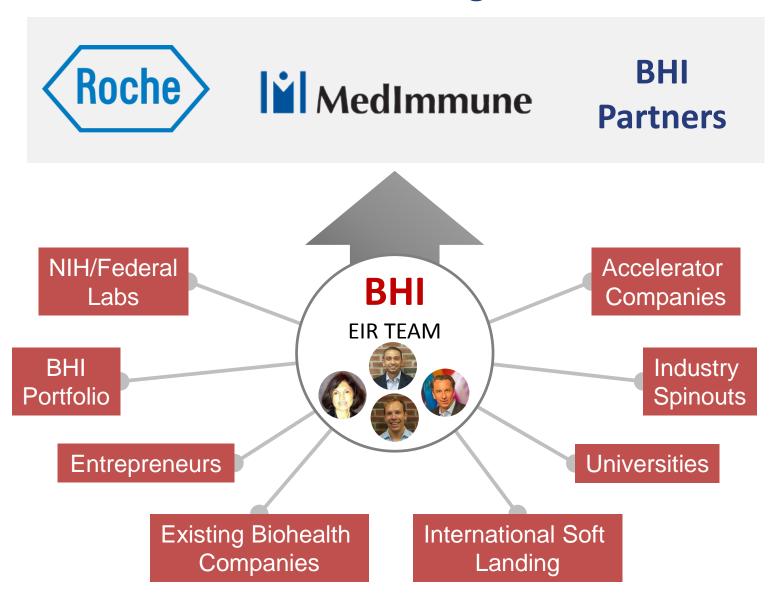


N5 Sensors, Inc.

Safety and Health

* Pending

BHI Scouting



Small Business Innovation Research (SBIR) Grant

- \$2.2 billion annual United States Government program coordinated by the Small Business Administration provides grants or contracts to small businesses to spur technological innovation
- Grants awarded in 3 phases between \$100,000 and \$1.5 million
- Non-dilutive



BHI Federal Funding Assistance

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BHI Federal Funding Assistance

Running Total – Small Businesses Assisted

- 7 Federal awards won; \$2.25M in funding
- 22 Projects supported by BHI funds
- **121** Projects Reviewed
- **46** Grant Proposals Submitted

BHI Startup Package

Corporate Legal



Intellectual Property



Clinical Services



Accounting



Laboratory Space





Incubation





Banking





Payer Advisory Services





Scientific Data Management Services



Grant Consulting





BHI Incubator

BHI interacts with companies and technologies at various stages in the biohealth industry from the results of basic research to companies currently selling products in the market. At these multiple levels of maturity, BHI evaluates whether the organization can help progress the scientist, inventor, entrepreneur, and/or business manager to support the growth of the entity.

We have a dedicated co-working space at our headquarters in Rockville where we support client companies with the goal of progressing the business model for the company.

The BHI Incubator is a member of MBIA, NBIA, and is a certified Maryland TEDCO Incubator.











MockV Solutions



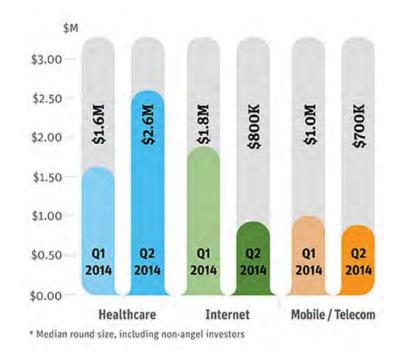
Strand Genomics

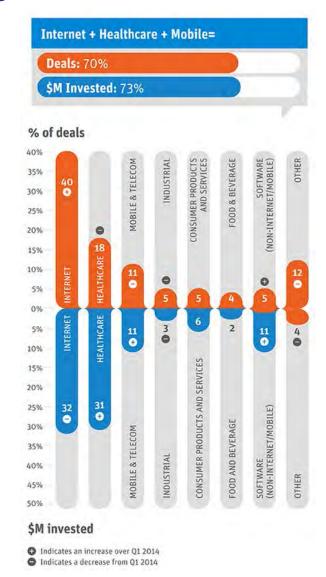


Mimetas US, Inc.

Health IT ... Booming

- Increased investments in the <u>mobile and</u> <u>healthcare sectors</u> helped boost the median size of angel and angel group syndicate rounds
- Mobile health technologies projected to be worth \$11.8 billion by 2018







- A Health IT Accelerator is an intensive 16 week program that admits toprecruited companies and entrepreneurs, provides a curriculum and network of experienced mentors in business, marketing and product development in the Health IT arena to "accelerate" top companies.
- Retain promising high growth HIT entrepreneurs in MD

Partners:

- BioHealth Innovation, Inc.
- Johns Hopkins University
- DreamIt Ventures
- Economic Alliance of Greater Baltimore
- Northrop Grumman
- Kaiser Permanente
- DBED













DreamIt Accelerator Companies

JHU Affiliated

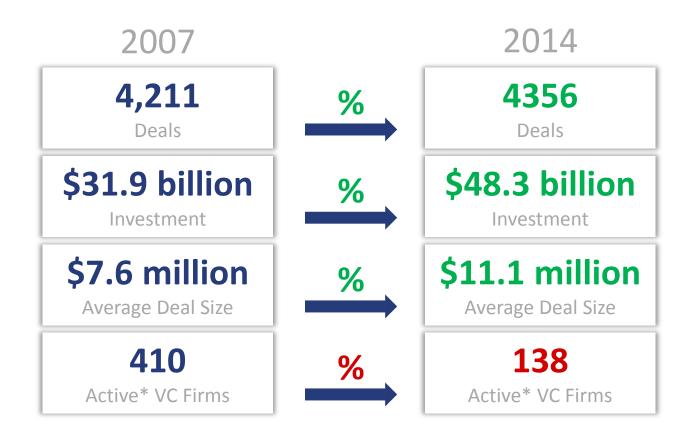
Aegle •	Wearable biometric devices	Baltimore, MD
Avhanahealth	Practicing smarter medicine	Baltimore, MD
0.0 6 7 1 8 E	Mobile Cognitive Rehabilitation	Talinn, Estonia
emocha*	Mobile Information Platform	Baltimore, MD
Protenus	Protecting Patient Data	Baltimore, MD
RESPI	Respiratory Medical Device	Athens, Greece
Patient feed saving time. saving lives.	Inpatient Care Collaboration	Pittsburgh, PA
Phobious live fearless	Augmented Reality Treatment	Barcelona, Spain
Quantified CARE	Digital Workflow Management	Baltimore, MD

Montgomery County Healthtech Accelerator

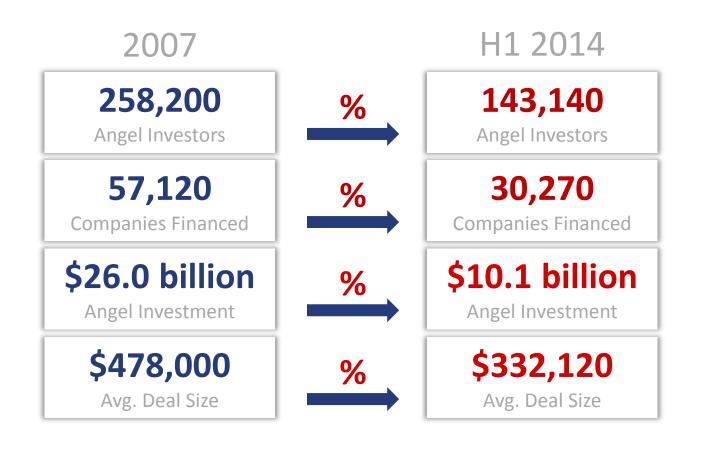


- Business accelerator for health startups in 2015
- 5 month formal co-working program with 7 month continuation
- Connect founders with a strong mentor network
- Help founders grow into a company ready for pilot testing and
- Cohorts of 8 10 companies and their founders recruited globally
- Up to \$50,000 in stipends per company
- Product focus
- Software developer pool
- Long term support/transition into Montgomery County Incubator Network
- Close proximity to NIH, FDA, HHS, Health companies, international trade representatives and BioHealth Innovation

US Venture Capital Investment



US Angel Investment





- Will provide direct seed and early-stage equity investments ranging from \$500,000 to \$2,000,000
- Focused on BioHealth companies that fall into the 4 categories:
 Therapeutics, Medical Devices, Diagnostics, and Health IT
- Goal: Achieve a \$20,000,000 to \$50,000,000 initial fund
- Expectation: 30% of companies generating 10x the original investment
- 2015 Target first close

BHI International Soft Landing



Maryland Regional Biotech Forum



Tech Council of MD

9210 Corporate Boulevard Suite 470 Rockville, MD 20850

MARYLAND BIOTECH FORUM

AstraZeneca/Medimmune, BioHealth Innovation, and the Tech Council of Maryland have partnered to host a comprehensive two-day biotechnology industry forum that is focused on the Maryland region. Policymakers will discuss growing the biotech ecosystem, while world-renowned leaders from the commercial and academic sectors will talk about their roles in driving development and workforce innovation. Several prominent leaders will be speaking at the event, including Soriot, Executive Director and Chief Executive Officer, AstraZeneca; Martine Rothblatt, Chairman and CEO of United Therapeutics; Rachel King, CEO and founder of GlycoMimetics; Joel Marcus, Chairman, CEO, and founder of Alexandria Real Estate Equities, and Maryland Governor Larry Hogan (invited).

Company showcase breakout sessions will highlight some exciting developments that have come out of the area in diagnostics, therapeutics, medical devices, and health IT. We will also have several targeted and topical scientific and breakout sessions, Join us for an event that will spotlight a world-class biopharmaceutical community that has been a significant economic driver for the region over the past decade.

This is a free, invitation-only event. Seating is limited, so early registration is encouraged, REGISTER AT WWW.MARYLANDBIOTECHFORUM.COM

BHI Website and News



BHI Website

The BHI website 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

Entrepreneur Training Programs





DC I-corps is a custom commercialization program for biohealth related technologies and startup companies. The six-week program guides teams through a rigorous market assessment and validation process ultimately creating a viable business model.





The BHI Commercialization Consulting Club is a place where BHI's EIRs and Commercialization Consultants can discuss all aspects of the technologies being researched and make new networking connections.





The Postdoc Conference & Career fair is for current postdoctoral fellows working in Washington, D.C. area federal labs and universities, and for companies recruiting high-level S.T.E.M. (Science, Technology, Engineering and Mathematics) professionals.





The FastTrac program is a practical, hands-on, entrepreneur-learning program designed to help entrepreneurs hone the skills needed to create, manage, and grow a successful business.

Not currently active





The INNoVATE program provides applied training for postdoctoral fellows, research scientists, and other professionals who want to start life science based companies.

Not currently active

BHI: The Triple Bottom Line

Grows high-paying jobs and businesses

Expands tax base; improves economic vitality

...and benefits human health!

BHI Key Staff

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The Wire Hardware store
- BHI's Office Space

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