

Effective Strategies in Developing Accelerator Models

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President & CEO
BioHealth Innovation, Inc.



The Region:

Central Maryland

Unrivaled Research Assets

+ 59 Federal Laboratories, Centers, and Institutes

Annual Maryland R&D Investment

+ Federal: \$12 billion

JHU/USM: \$3.5 billion



An Innovation Intermediary

Align local technologies, assets and resources
to advance innovation

Regionally-oriented

Private-public partnership

501(c)(3) nonprofit

Market-driven

Private sector-led

**Technology
Focus**

E-Health

Therapeutics

Mobile Health

Medical Devices

Healthcare Services

Electronic Medical Records

BioHealth Cyber Security

Health Informatics

Diagnostics

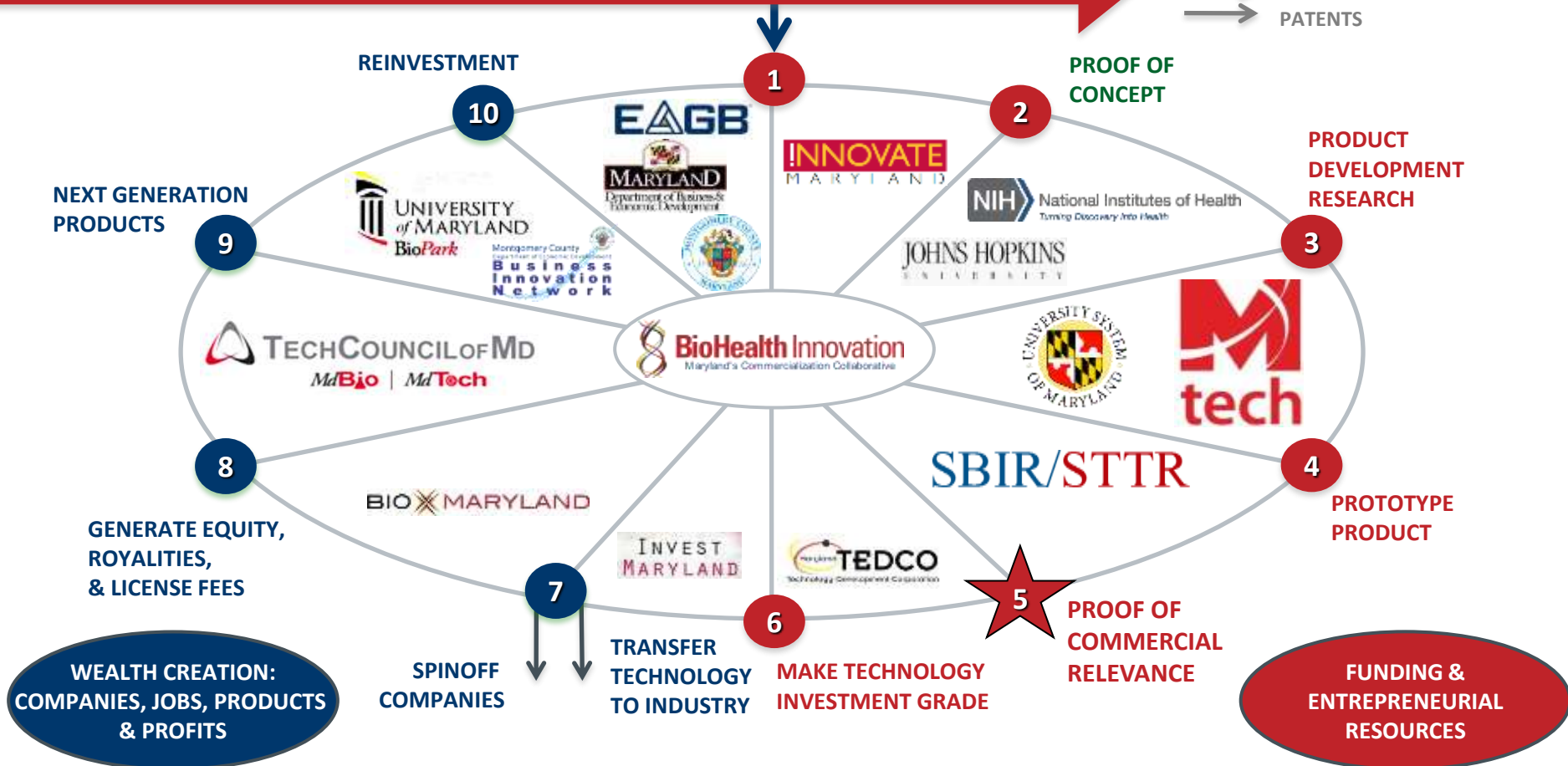
Partners and Sponsors



BHI Commercialization Model

UNIVERSITIES, FEDERAL GRANTS, PRIVATE R&D, BASIC RESEARCH, INVENTIONS

PUBLICATIONS
PhD's
TENURE
PATENTS



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”



What is an Entrepreneur in Residence?

An active partner with **research** institutions

**Todd
Chappell**



- + 13 Years Scientific
- + 4 Years Financial / Venture Capital
- + 13 Years Entrepreneurial Management

”I thought that the BHI EIR experience would lead me to my next startup... but instead I now feel like a kid in a scientific candy store with the unlimited opportunities of the EIR program becoming its own interesting startup.”

Our Entrepreneur in Residence:

Todd Chappell

+ 30 NIH Postdocs and Interns



Identify



Evaluate



**Transfer /
Startup**

- + Drugs
- + Vaccines
- + Health IT
- + Diagnostics
- + Therapeutics
- + Medical Devices

"The NIH OTT/ BHI EIR program helps our 150 technology transfer professionals gain access to real-time needs of industry, the market, and the investment community."

Mark Rohrbaugh

Director of the NIH
Office of Technology Transfer

NIH/OTT:

First Year Outcomes



97
Innovations
identified



63
Innovations
progressed



12
Innovations in
Primary Analysis



5 Client Relationships

1 NCI Startup

1 Industry License Pending

Client Companies



Advanced Personalized Diagnostics, LLC

**Personalized
Cancer Care**

Offers chemosensitivity profiling services to provide personalized treatment plans



Ahead Research, Inc.

**Personalized
Diagnostics**

Web/Mobile application that matches patients to high quality healthcare providers



Mimetas

Pharmaceutical

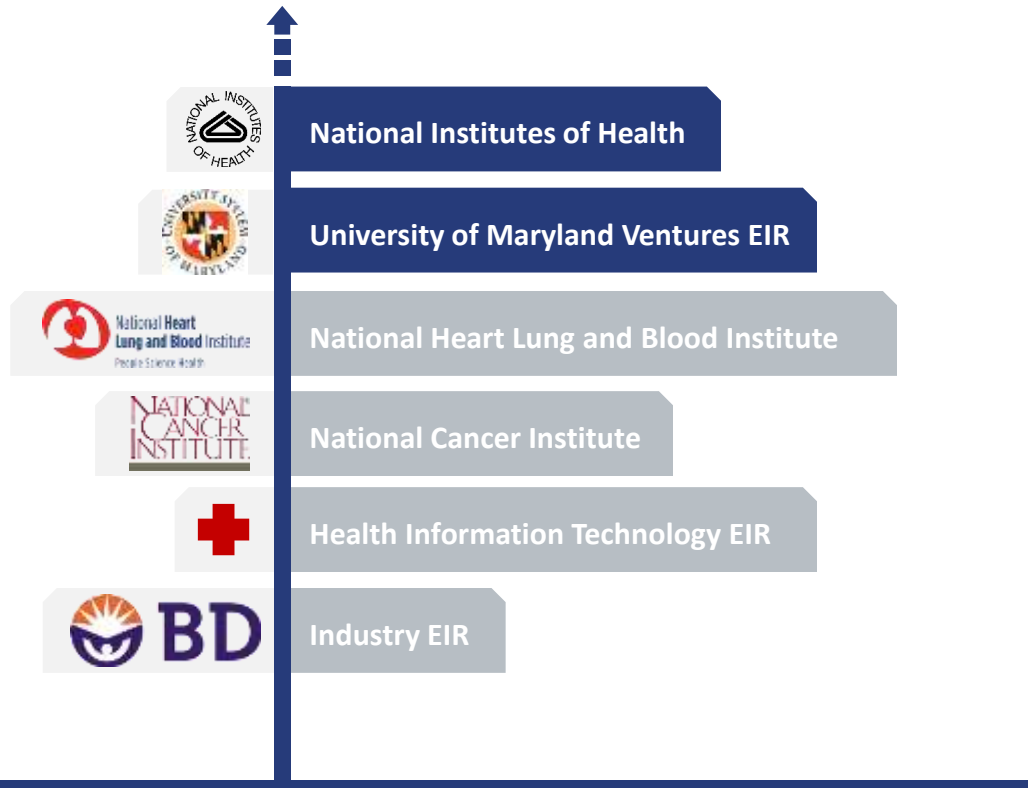
Organ-on-a-Chip solutions as an early screening model to predict toxic side effects and drug efficacy



Perceptive Navigation, LLC

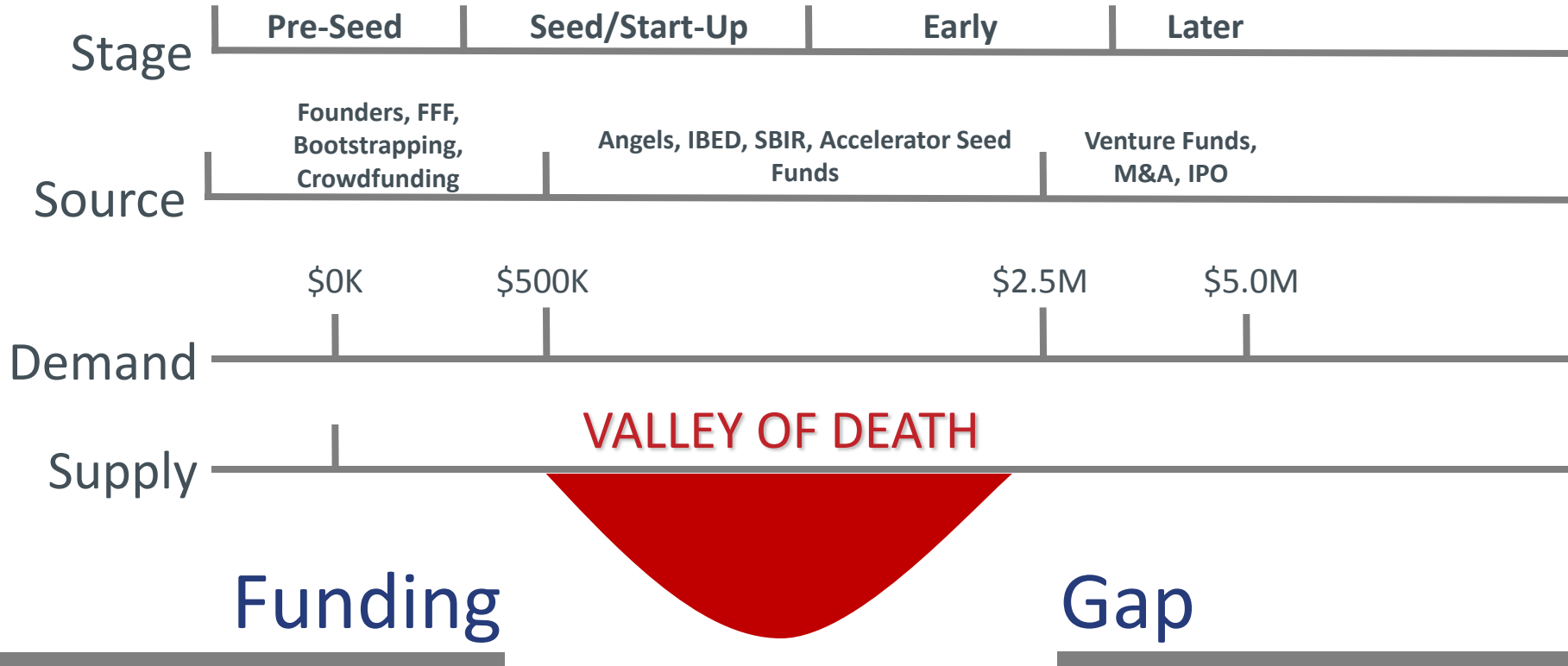
Medical Device

Develops medical devices related to image-guided, minimally-invasive markets



Potential Future EIR Expansion

Innovation Capital Valley of Death



Capital Sources by Investment Stage

4/12/2013

Pre-Proof of Concept \$25K - \$1.5M <small>(over 3 years)</small>	Translational Research / Proof of Concept \$15K - \$750K <small>(over 3 years)</small>	Proof of Commercial Relevance / Pre-Seed \$3K - \$500K	Seed / Start-Up \$50K - \$1.5M	Early Stage \$200K - \$2M	Later Stage \$2M+
<ul style="list-style-type: none"> ■ NIH R01 ■ NIH R03 ■ NIH R21 ■ Maryland Innovation Initiative (MII) (Managed by TEDCO) 	<ul style="list-style-type: none"> ■ NCATS Cures Acceleration Network (CAN) ■ SBIR/STTR Grant Phase I ■ Maryland Stem Cell Research Fund (MSCRF) ■ TEDCO Technology Validation Program ■ JHU-Coulter Translational Research Partnership 	<ul style="list-style-type: none"> ■ Maryland Industrial Partnerships (MIPS @ UMD) ■ TEDCO Technology Commercialization Fund ■ MII Phase 2 Grant ■ MII Phase 3 Grant ★ BHI SBIR/STTR Commercial Relevance Program (CRP) ★ BHI Commercial Relevance Fund (CRF) 	<ul style="list-style-type: none"> ■ Dingman Center Angels (UMD) ■ Propel Baltimore Fund ■ BioMaryland Center Biotechnology Development Awards - Translational Research ■ SBIR / STTR Phase II ★ BHI Central Maryland Angel Fund 	<ul style="list-style-type: none"> ■ Invest Maryland: Maryland Venture Fund ■ BioMaryland Center Biotech - nology Development Awards - Commercialization ■ Maryland Health Care Product Development Corporation ■ Abell Venture Fund ■ MMG Ventures LP ■ TDF 	<ul style="list-style-type: none"> ■ Maryland Venture Fund Authority ■ ABS Capital Partners ■ Greenspring Associates ■ Novak Biddle Venture Partners ■ Sterling Venture Partners ■ Harbert Venture Partners ■ JMI Equity ■ New Enterprise Associates (NEA)

Associations

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

- Angel Capital Association (ACA)

- Mid-Atlantic Venture Association (MAVA)

- National Venture Capital Association (NVCA)

Funding Type Key

- Academic
- Associations
- ★ BioHealth Innovation, Inc.
- Private Capital
- State of Maryland
- Federal
- Economic Development

Tax Credits

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

Innovation Capital Programs

SBIR/STTR Assistance Program

Help companies prepare high-quality SBIR/STTR grant proposals.

BHI Angel Fund

Bridge the gap between pre-seed investments and institutional venture capital.

BHI Commercial Relevance Investment Fund

Pre-seed and early-stage, equity-based innovation capital fund to help grow companies

New BHI Health IT Accelerator

An intensive **16-week program** for top-recruited companies and entrepreneurs

+

Provides a network of experienced mentors in:

Business

Marketing

Product Development



No HIT accelerators currently in Maryland

Public Private Partnerships

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

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“The BHI EIR program represents a significant paradigm shift in the way NIH hopes to advance commercially relevant science.”