Working with the FLC
BioHealth Innovation, Inc.

Rich Bendis
President & CEO
BioHealth Innovation
4/23/2014
State of Maryland: Federal & University Resources

- Population: 5.9 million people
- 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
BioHealth Regional Innovation Cluster Assets
BioHealth Innovation is an Innovation Intermediary

BioHealth Innovation is a Central Maryland innovation intermediary that connects market relevant research assets to appropriate funding, management and global markets to facilitate the development of commercially viable biohealth products and companies.

- Regionally-oriented
- Innovation accelerator
- Private-public partnership, 501(c)(3) nonprofit
- Market-driven, private sector-led and funded
- Neither a government initiative, nor a membership organization
Partnership Intermediary Agreement

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.
**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

<table>
<thead>
<tr>
<th></th>
<th>NIH</th>
<th>Industry</th>
<th>University</th>
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<tr>
<td>EIRs</td>
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<td>Current Clients</td>
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<td>Potential New Clients</td>
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<tr>
<td>Future</td>
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</table>
- Grow portfolio to 15
- Add 2 new EIRs
- Create 5 spinouts or tech placements
- Develop educational programs
- Two funding or partnering deals
- Client Progression
# BHI Client Companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
<th>Entity</th>
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<tbody>
<tr>
<td><strong>BeneVir</strong></td>
<td>Developing a therapeutic platform that can be adapted to target a wide variety of cancers.</td>
<td>Moco-based Startup</td>
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<tr>
<td><strong>MIMETAS</strong></td>
<td>Developing and marketing Organ-on-a-Chip solutions for the pharmaceutical industry.</td>
<td>US-based Subsidiary of Dutch Company</td>
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<tr>
<td><strong>Mehr Medical</strong></td>
<td>Developing devices for cardiovascular procedures that will solve high unmet needs in the transcatheter valve replacement space.</td>
<td>NHLBI</td>
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<tr>
<td><strong>MockV</strong></td>
<td>Developing novel viral clearance kits to be utilized during process development bio therapeutics.</td>
<td>Moco-based Startup</td>
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<tr>
<td><strong>NS Sensors, Inc.</strong></td>
<td>Developing sensors that can detect harmful chemicals mixed in air in very small quantities, such as industrial chemicals, and other pollutants.</td>
<td>Licensee of UMCP and NIST</td>
</tr>
<tr>
<td><strong>Perceptive Navigation</strong></td>
<td>Developing medical devices related to image-guided, minimally-invasive niche markets.</td>
<td>JHU</td>
</tr>
<tr>
<td><strong>VLP Therapeutics</strong></td>
<td>Developing a platform vaccine like particle technology that has the potential to be used for various diseases including cancer.</td>
<td>NIH</td>
</tr>
<tr>
<td><strong>Speed Biosystems, Inc.</strong></td>
<td>Developing novel immunotoxins for the treatment of solid and liquid tumors.</td>
<td>Moco-based Startup</td>
</tr>
<tr>
<td><strong>Strand Life Sciences</strong></td>
<td>India-based molecular information company with multiple powerful bioinformatics platforms.</td>
<td>India</td>
</tr>
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</table>
BHI Startup Package

Corporate Legal

Intellectual Property

Accounting

Laboratory Space

Incubation

Banking

Grant Consulting
BHI Commercialization Model

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

1. Proof of Concept
2. Product Development Research
3. Prototype Product
4. Commercial Relevance Program
5. PROOF OF COMMERCIAL RELEVANCE
6. Make Technology Investment Grade
7. Transfer Technology to Industry
8. Generate Equity, Royalties & License Fees
9. Next Generation Products
10. Reinvestment

Wealth Creation: Companies, Jobs, Products & Profits

Funding & Entrepreneurial Resources

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# BHI Innovation Capital Map

## Pre-Proof of Concept
- NIH R01
- NIH R03
- NIH R21

## Translational Research/Proof of Concept
- SBIR/STTR Grant Phase 1
- NCATS Cures Acceleration Network (CAN)
- Maryland Stem Cell Research Fund (MSCRF) - Various
- TEDCO Technology Validation Program - Proof of Concept
- Maryland Stem Cell Research Fund (MSCRF) - Pre-Clinical
- TEDCO Maryland Innovation Initiative - Phase 1
- JHU - Coulter Translational Research Partnership

## Proof of Commercial Relevance/Pre-Seed
- Maryland Industrial Partnerships (MIPS @ UMD)
- TEDCO Maryland Innovation Initiative - Phase 2
- Maryland Stem Cell Research Fund (MSCRF) - Pre-Clinical
- TEDCO Technology Validation Program - Market Assessment
- BHI SBIR/STTR Federal Funding Assistance Program

## Seed/Start-Up
- Dingman Center Angels (UMD)
- BioMaryland Biotechnology Dev. Award - Translational Res.
- TEDCO Patent Assistance Program
- TEDCO Technology Commercialization Fund
- TEDCO Maryland Innovation Initiative - Phase 3
- SBIR/STTR Phase 2
- BHI Commercial Relevance Fund (CRF)

## Early Stage
- Propel Baltimore Fund
- TEDCO Veterans’ Opportunity Fund
- Invest Maryland: Maryland Venture Fund
- BioMaryland Biotechnology Dev. Award - Commercialization
- Maryland Health Care Product Development Corporation
- Abell Venture Fund
- MMG Ventures LLP
- TDF

## Later Stage
- Maryland Venture Fund Authority
- ABS Capital Partners
- Greenspring Associates
- Novak Biddle Venture Partners
- Sterling Venture Partners
- Harbert Venture Partners
- JMI Equity
- New Enterprise Associates

### 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**
- **State of Maryland**
- **Federal**
- **BioHealth Innovation, Inc.**
- **Economic Development**
- **Private Capital**

### Tax Credits
- Maryland Biotechnology Investor Tax Credit
- Montgomery County Biotechnology Investor Tax Credit
Small Business Innovation Research (SBIR) Grant

- $2.5 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

Value Chain of Assistance

- Funding Concept Review
  Ensure Appropriateness for the Federal Agency

- Application Technical Support
  Guidance through Federal Registration Process

- Proposal Development
  In-Kind Guidance on Proposal Best Practices

- Funding for High-Quality Proposals
  Intensive Support with Professional Consultant

Funding Agencies

- NSF
- Bill & Melinda Gates Foundation
- USAID
- United States Army Medical Research Institute of Infectious Diseases
- BARDA
- NIH
- National Heart, Lung, and Blood Institute
- DARPA
- CDMRP
- National Institutes of Health
- National Cancer Institute
- National Center for Advancing Translational Sciences
- Congressionally Directed Medical Research Programs

BioHealth Technology
- Therapeutics
- Devices
- Diagnostics
- Tools
- Bioinformatics
- Health IT
A Health IT Accelerator is an intensive 16 week program that admits top-recruited 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

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<tr>
<th>Company</th>
<th>Category</th>
<th>Location</th>
<th>JHU Affiliated</th>
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<tbody>
<tr>
<td>Aegle</td>
<td>Wearable biometric devices</td>
<td>Baltimore, MD</td>
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<tr>
<td>Avhana+</td>
<td>Clinical Decision Support</td>
<td>Baltimore, MD</td>
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<td>Talinn, Estonia</td>
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<td></td>
<td>Mobile Cognitive Rehabilitation</td>
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<td>Mobile Information Platform</td>
<td>Baltimore, MD</td>
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<td></td>
<td>Protecting Patient Data</td>
<td>Baltimore, MD</td>
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<td>Augmented Reality Treatment</td>
<td>Athens, Greece</td>
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<td></td>
<td>Inpatient Care Collaboration</td>
<td>Pittsburgh, PA</td>
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<tr>
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<td>Augmented Reality Treatment</td>
<td>Barcelona, Spain</td>
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</tr>
<tr>
<td></td>
<td>Digital Workflow Management</td>
<td>Baltimore, MD</td>
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</table>
BHI offers international companies the perfect starting point to create US based subsidiaries by connecting them with BHI’s extensive network.
Contact

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President & CEO
BioHealth Innovation, Inc.

215-593-3333
rbendis@biohealthinnovation.org