

MEMORANDUM

TO: Planning, Housing and Economic Development Committee

FROM: Justina J. Ferber, Legislative Analyst

SUBJECT: **Briefing:** Biosciences

Steve Silverman, Director, Department of Economic Development, Thomas Street, Assistant Chief Administrative Officer, and Lily Qi, Special Assistant for Special Projects, will provide a Biosciences update to the Committee.

The briefing will provide an overview of the new regional innovation intermediary called BioHealth Innovation Inc. (BHI), a private-public partnership in the form of a 501(c)(3) nonprofit whose mission is to accelerate the region's innovation through effective technology transfer and commercialization, and increase access to early-stage capital.

BioHealth Innovation Inc. is the mechanism set up to implement the recommendations from the 2009 report "Bioscience Strategies" produced by the Montgomery County Biosciences Task Force. It is established by a group of senior executives in the biotech industries, academia (the Johns Hopkins University and the University System of Maryland), as well as representatives from Montgomery County government.

Attached are materials explaining BHI and a PowerPoint presentation. The discussion will also include a brief update on Great Seneca Sciences Corridor and other bioscience issues.

Attachments: BioHealth Innovation Inc. Materials



BioHealth Innovation Inc. (BHI)
"Maryland's Commercialization Collaborative"

A Compelling Opportunity

The central Maryland region has unmatched biohealth assets with iconic federal institutions, world-class universities, top-notch healthcare facilities, and global and emerging bioscience companies. Yet we have not fully realized the return on investment from these assets due to the lack of a cohesive strategy in moving ideas from labs to market, while regions with far less assets have proactively addressed this opportunity by creating innovation-driven economic development organizations and initiatives.

What is BHI?

BHI is a private-public **innovation intermediary** focused on commercializing market-relevant biohealth innovations and increasing access to early-stage funding.

- Leadership—private sector-led board and management team
- Industry focus—biotechnology and medical devices as well as healthcare services, e-health, mobile health, electronic medical records, health informatics, and biohealth cyber security
- Organizational structure—501(c)(3) nonprofit, private-public partnership
- Funding—businesses, universities, foundations/NGOs, and local, state, and federal governments.

Who are the founding partners of BHI?

BHI was founded by a group of leaders in business, academia, healthcare, and government. The initial contributors to BHI include the Montgomery County Government, Medimmune, Human Genome Sciences, the Johns Hopkins University, the University System of Maryland, and Adventist Healthcare Inc.

What does BHI do?

BHI **sources** and evaluates market-relevant biohealth intellectual properties, connects the IP with **funding**, and assists businesses in marketing and **growth**. It aims to:

- Increase the flow of private and public early stage capital;
- Develop an active commercialization talent network;
- Facilitate accelerated tech transfer and commercialization of relevant innovations;
- Market and brand the region as a global biohealth leader, and
- Ensure adequate supply of experienced biohealth entrepreneurs and workers.

How will success be measured?

In five years, BHI's goal is to reach the following benchmarks:

1. Double the current 2011 venture funding for the region's biotechnology industry to \$150 million a year;
2. Increase government grant funding to regional biohealth companies;
3. Source approximately 150 prospective deals with 20-25 percent of companies receiving funding, and
4. Improve economic return on R&D investment as measured by the amount of equity investment leveraged; the number of jobs created and retained; the number of entrepreneurs, experienced managers and businesses recruited into the region, and the number of biohealth technologies commercialized as well as new biohealth companies created.

Contact: Rich Bendis, Interim CEO, rbendis@bendisig.com, 215-593-3333
BioHealth Innovation Inc., 111 Rockville Pike, Suite 800, Rockville, MD 20850



Frequently Asked Questions about BioHealth Innovation inc. (BHI)

1. What is BioHealth Innovation inc. (BHI)?

BHI is a regionally-oriented, private-public partnership functioning as an **innovation intermediary** focused on commercializing market-relevant biohealth innovations and increasing access to early-stage funding in Maryland. It is a 501(c)(3) nonprofit with the goal of better realizing the return on investment from the world-class research assets with a cohesive strategy to move relevant, market driven ideas from labs to market.

2. How is BHI funded as an organization? How can a corporation or individual contribute to BHI?

BHI is funded by businesses, universities, foundations/NGOs, and local, state, and federal governments. Businesses can make contributions to BHI either as a tax deductible contribution to the 501c3 organization or as an investment in new biohealth early-stage investment funds. The initial contributors to BHI include Montgomery County Government, MedImmune, Human Genome Sciences, the Johns Hopkins University, the University System of Maryland, and Adventist Healthcare Inc.

3. What is the governance structure?

BHI is run by a private-sector-led board of directors made of top executives from academic, business, and government, as well as a management team. There will be several committees on the board based on the needs of the intermediary, including Finance and Investment Committee, Marketing Committee, Scientific Advisory Committee and Business Development Committee.

4. What is the industry focus of BHI?

BHI focuses on a cluster of related industries to drive the region's innovation economy, including biotechnology, biopharma, medical devices and healthcare services, Health IT, e-health, mobile health, electronic medical records, health informatics, and biohealth cyber security.

5. How is BHI different from other organizations such as TEDCO, MdBio, Maryland Biotechnology Center, and the Maryland Healthcare Product Development Fund that share similar vision of supporting and growing biotech industries and businesses?

BHI is not a state initiative, nor a membership organization. Rather, it is a market-driven, private sector-led initiative to complement the existing organizations and resources in tech transfer and commercialization that are providing any aspects of funding or technical assistance to take products from research to market. BHI will also focus on increasing the availability of early-stage capital by creating new early-stage funds and developing a national and global network of investors that will evaluate investments in the BHI region.

6. What is the value proposition? How does BHI work?

The greatest value of BHI is its ability to connect the scientific/academic, managerial/financial, and regulatory expertise and assets in the region and beyond to ensure that market-relevant research will not die in the valley of death. A team of experts will source intellectual properties from federal, academic and private labs, evaluate their market relevancy, and connect them to financial, managerial and regulatory resources to become successful businesses.

7. Where does BHI get funds to support and grow businesses?

As a non-profit organization, BHI will have a for-profit arm that will set up an angel fund and an early-stage venture capital fund dedicated to support early-stage research. The fund will be managed by experienced private sector VC managers, who are responsible for attracting investments from around the nation and the world. BHI will also work with existing public and private financing resources to leverage debt and equity funds and strategic co-investment opportunities.

8. Where and how will the funds be invested?

BHI's primary focus is to secure funding for regional, growth-oriented biohealth companies. It will develop a portfolio of funding resources to assist companies at each stage of their development.

9. What are the deliverables?

BHI sources and evaluates market-relevant biohealth intellectual properties, connects the IP with funding, and assists businesses in marketing and growth. It aims to:

- Increase the flow of private and public early-stage capital;
- Develop an active commercialization talent network;
- Facilitate accelerated tech transfer and commercialization of relevant innovations;
- Market and brand the region as a global biohealth leader, and
- Ensure adequate supply of experienced biohealth entrepreneurs and workers.

10. How is success measured?

In five years, BHI's goal is to reach the following benchmarks:

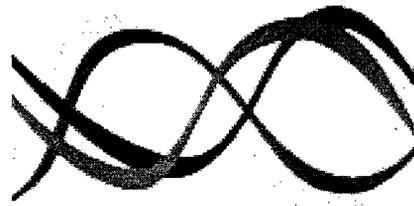
- Double the 2011 venture funding for the region's biotechnology industry to \$150 million a year;
- Increase government grant funding to regional biohealth companies;
- Source approximately 150 prospective deals with 20-25 percent of companies receiving funding;
- Improve economic return on R&D investment as measured by the amount of equity investment leveraged; the number of jobs created and retained; the number of entrepreneurs, experienced managers and businesses recruited into the region, and the number of biohealth technologies commercialized as well as new biohealth companies created.

11. Who should I contact if I need help or want to learn more?

BHI is being established as a legal entity in fall of 2011 and is expected to have functional teams by spring of 2012. In the interim, you may contact:

Rich Bendis, Interim CEO, rbendis@bendisig.com, 215-593-3333

BioHealth Innovation Inc., 111 Rockville Pike, Suite 800, Rockville, MD 20850



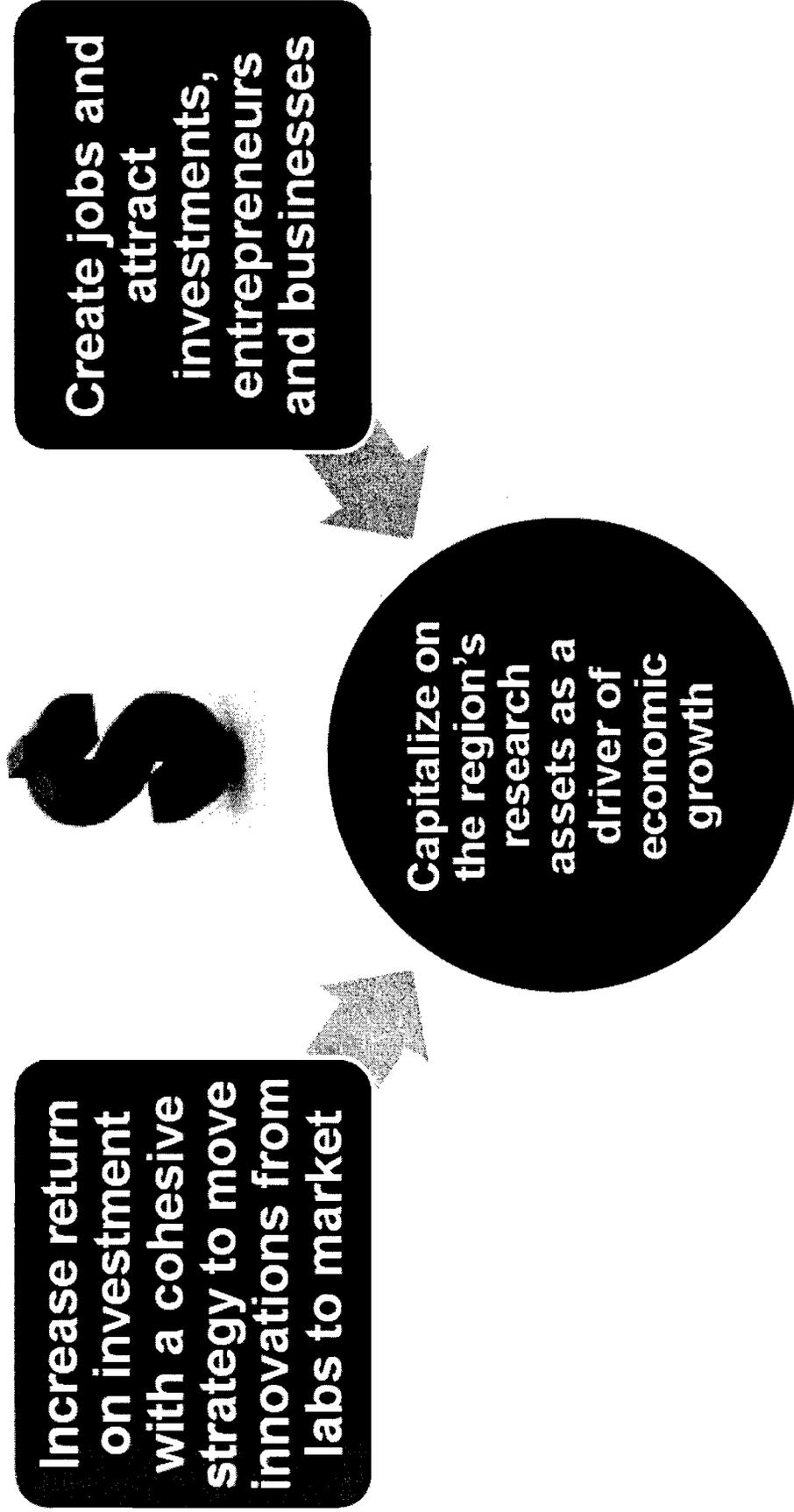
BioHealth Innovation

Maryland's Commercialization Collaborative

Background

- **Dec. 2009**—“*Biosciences Strategy*” report produced by the Montgomery County Biosciences Task Force
- **2010**—“**Phase 1**” implementation: A consultant was brought in to implement the recommendations
- **2011**—**BioHealth Innovation inc.** is the new mechanism that implements the Biosciences Strategy
- **How does BHI work with Montgomery County DED?**
 - DED is still the business development interface for the County
 - BHI provides technical and financial support for businesses in the bio industry cluster

The Big Picture



BioHealth-Regional Innovation Cluster



National Biodefense Analysis and Countermeasures Center



National Leadership



President Obama's Bioeconomy initiatives and America Invents Act (2011)

- **National Center for Advancing Translational Sciences** in NIH to advance commercialization (NCATS)
- Develop a **National Bioeconomy Blueprint** by January 2012
- **University Endowments** focused on lab to market innovations
- **New tools and license agreements** for start-ups and small businesses

State Leadership



Maryland Governor O'Malley:

- BioMaryland 2020
- Invest Maryland

- **Maryland Biotechnology Investment Tax Credit** (\$6 m/yr)
- **BioMaryland 2020** blueprint
- **Invest Maryland** (\$70 million)
- Maryland Life Sciences Advisory Board
- The Maryland Venture Fund

Local Leadership



County Executive Ike Leggett:

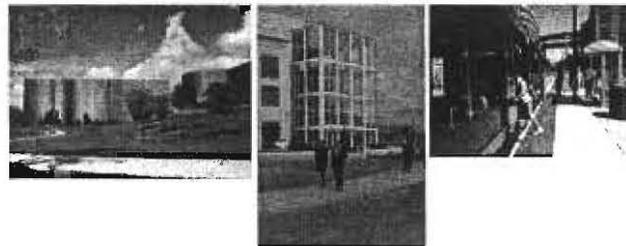
- A regional innovation intermediary
- Life Science Centers



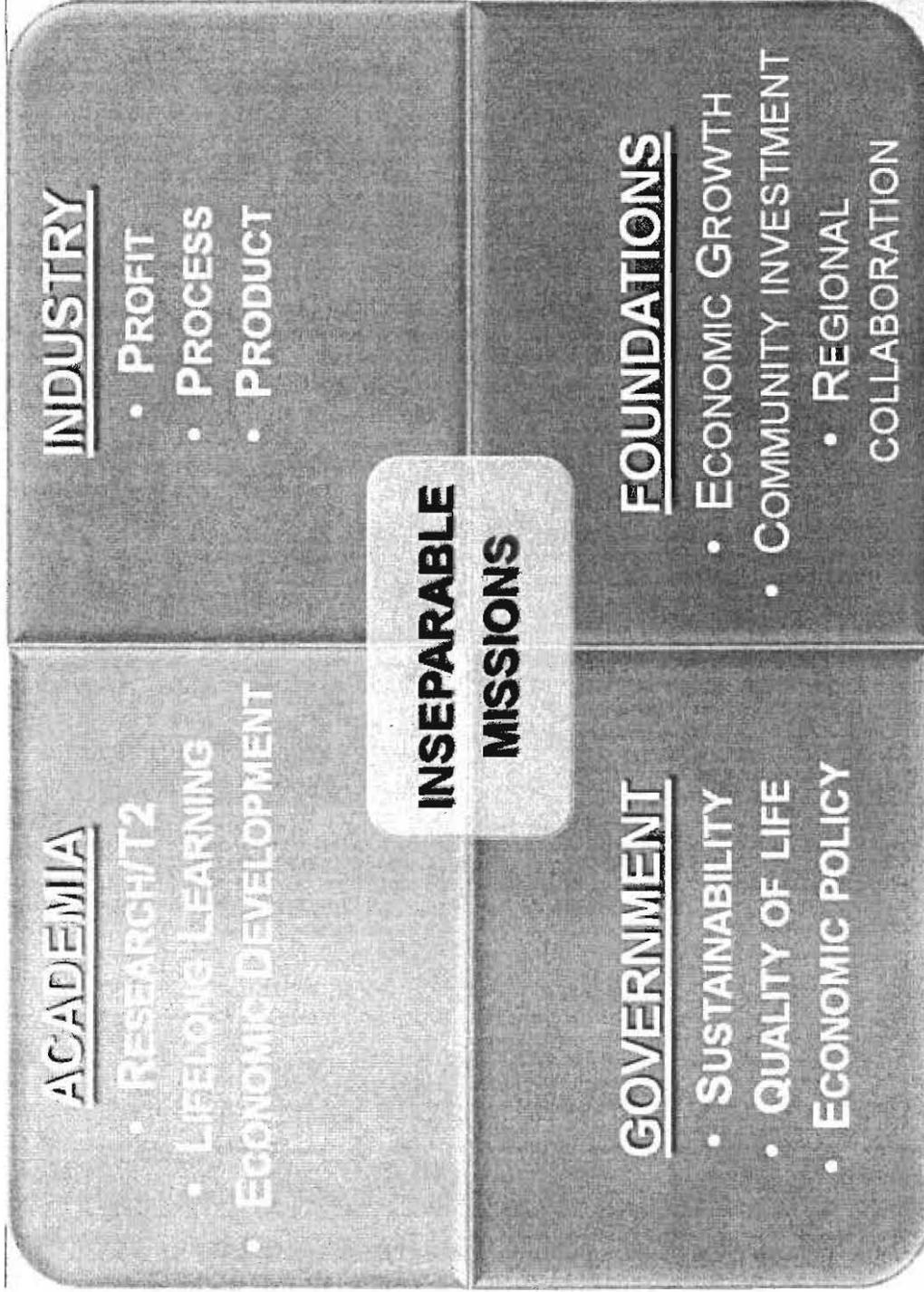
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great seneca science corridor master plan
The Life Sciences Center



Regional BioHealth Ecosystem Partners



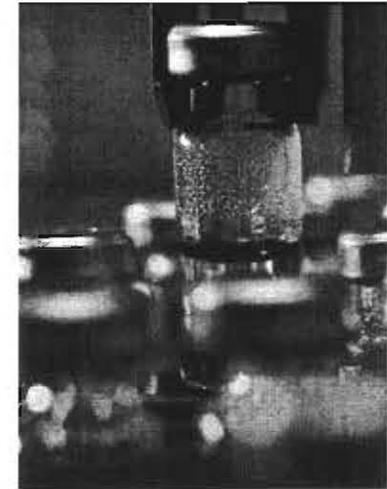
BHI is an Innovation Intermediary

An Organization at the Center of the region's, state's and country's efforts to align local technologies, assets and resources to work together on advancing Innovation.



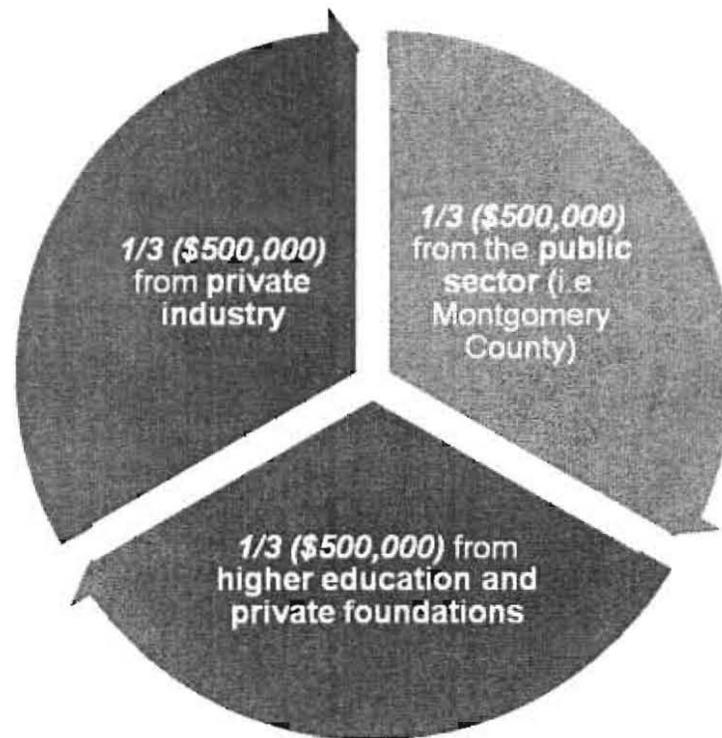
BHI Industry Focus

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



BHI Funding Plan

Assuming an annual operating budget of \$1.5 million, prospective sources of these operating funds would come from:



Funding the BHI

Founding Financial Sponsors:



JOHNS HOPKINS
UNIVERSITY



MedImmune

BHI is funded by:

businesses, universities, foundations/NGOs, and local, state, and federal governments.

Businesses can make contributions to BHI either as a tax deductible contribution to the 501c3 organization or as an investment in new biohealth early-stage investment funds.

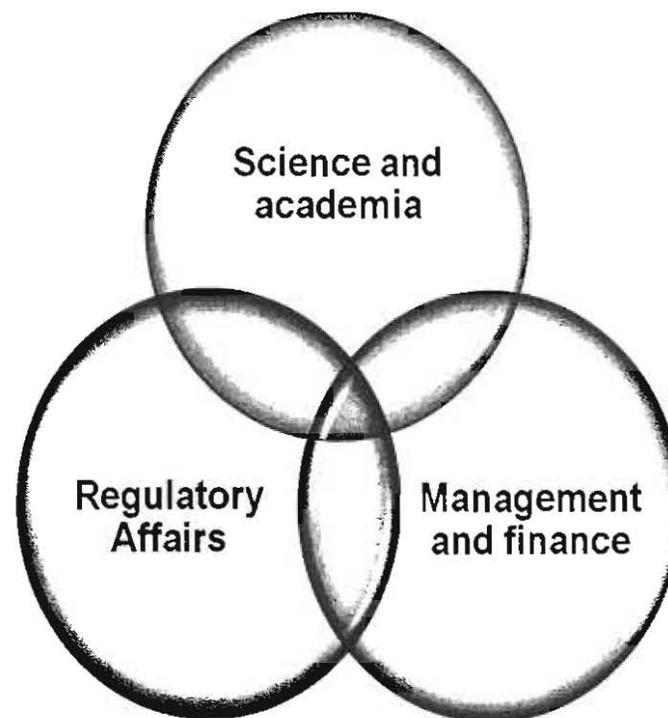
BHI Key Objectives

1. **Grow** healthcare companies
2. **Increase** the flow of early stage capital to businesses in the region;
3. **Connect** innovators to a network of entrepreneurs and investors
4. **Leverage** funding resources to support and grow healthcare and biotech companies
5. **Create** global awareness of the region's world class BioHealth and technology assets
6. **Connect** research, human, technical and financial resources through an integrated network
7. **Engage** with workforce development organizations to increase supply of talents to support the growth of industry



BHI Value Proposition

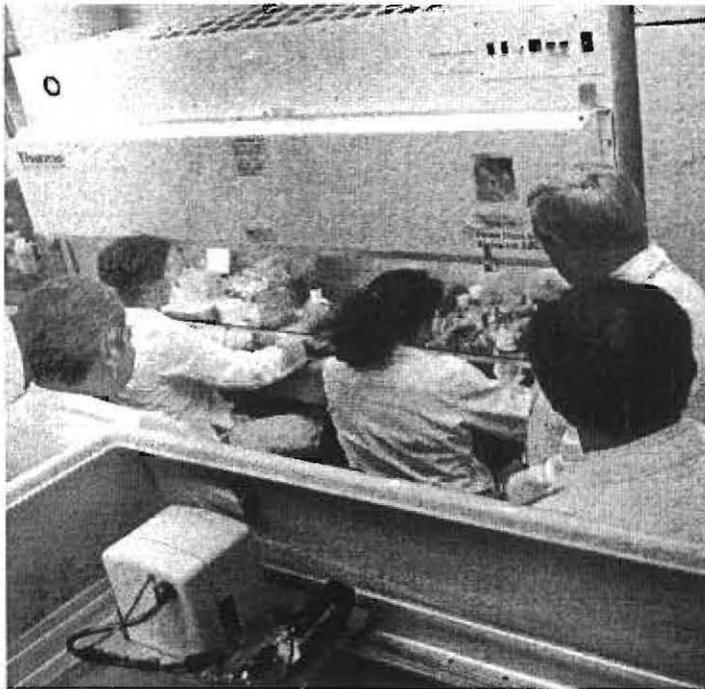
- **Connect** expertise and assets in the region
- **Ensure** that market-relevant research will not die in the valley of death
- **Source** intellectual properties, evaluate their market relevancy, and connect them to commercialization resources to establish successful businesses



Innovation Paradigm Shift

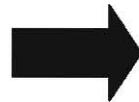
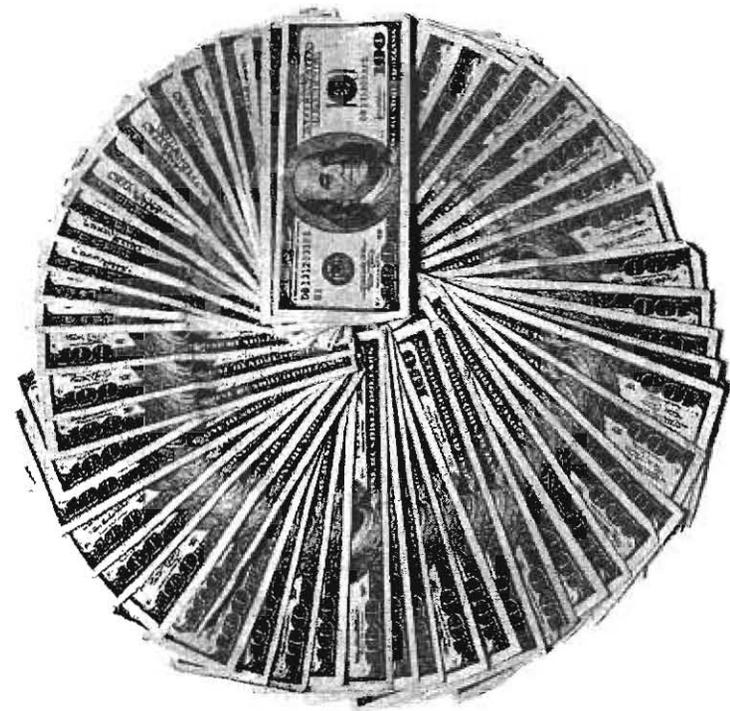
**PROOF OF CONCEPT
(Technological Feasibility)**

**Laboratory Push
“It Works!”**

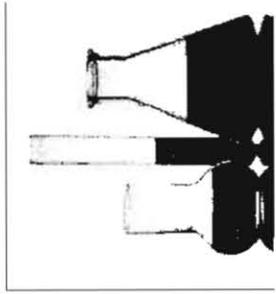
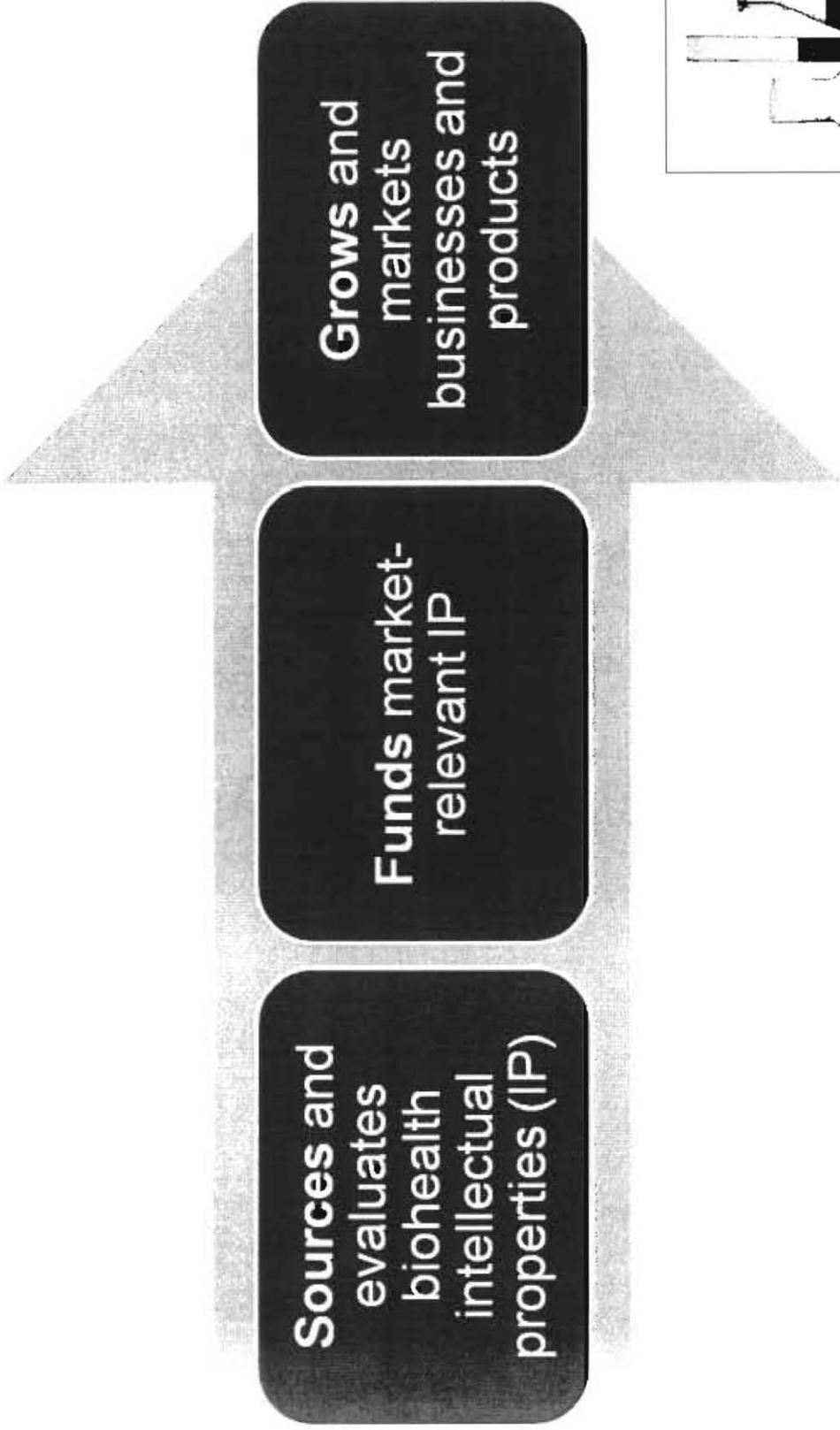


**PROOF OF COMMERCIAL RELEVANCE
(Market Pull)**

**“It Works To Solve A Problem”
“I’ll Buy It”**



How does BHI work? Commercialization Pipeline



BHI Deal Sources

Sources of BioHealth Innovation Discoveries:

- BioHealth Entrepreneurs
- NIH, NCI, FDA, NIST, and DOD Tech Transfer and SBIR Recipients
- Johns Hopkins & U of Maryland Tech Transfer Offices
- Biotech Industry Sources (MD Bio, Tech Council, BioHealth Firms)
- Biotech Incubators within the Region
- Other US and Global Biotech Discovery Sources

BHI Resources to Source BioHealth Discoveries:

- BHI Deal Source Outreach Team: Senior Managers & Interns will identify and initially screen 150 discovery opportunities per year and 1,500 opportunities over its first ten years

BHI Underwriting Criteria



- 1. Market Demand**
Is the market need adequate ?
- 2. Product Differentiation**
Is the product/ service unique ?
- 3. NewCo Management**
Does team have the right skills to succeed?
- 4. Financial Return**
Are the IRRs compelling to funding sources?
- 5. Regional Considerations**
Is regional location an added value?

BHI Talent Network

BHI Senior BioHealth and Health Product Management Team

- Sr. Product Managers From Big Pharma, BioHealth
- Outside Consultants from BioHealth and Health Care Products Industry
- Serial entrepreneurs with proven track in new Biotech and Healthcare related ventures

BHI Serial Entrepreneur Network

- Serial BioHealth Entrepreneurs representing Private Industry within the Region, University Labs (e.g. Tech Transfer Offices), Federal Labs (e.g. SBIR Offices) and Private Industry from Outside the Region

BHI Mentoring Network

- Retired Biotech CEO's In Residence
- Outside Consultants from Biotech and Healthcare Industry
- University Business School Mentoring Programs (e.g. INNOVATE)

BHI Domestic & Global Export Markets

Domestic Market Product Marketing & Distribution Team

- Biopharmaceutical Product Distribution Networks
- Medical Device Product Distribution Networks
- Health IT Product and Services Distribution Networks



Global Export Market Product Marketing & Distribution Team

- Biopharmaceutical Product Distribution Networks
- Medical Device Product Distribution Networks
- Health IT Product and Services Distribution Networks



1st Year Action Items

1. Generate an initial 1st year financial commitment of a minimum of \$1.5 million from public sector, academia, public foundations and industry.
2. Recruit Board Leadership, establish initial team and create a legal entity for BHI.
3. Develop specific metrics and outcome goals for BHI.
4. Source initial commercialization deal prospects locally, regionally, and globally.
5. Provide screened, qualified candidate start-up firms with management counsel, business plan development support, network connection and access to early stage capital.
6. Create access to early stage capital through a network of existing funds and fund organizations.
7. Create an BHI early stage capital seed and angel fund.
8. Develop Strategic partner relationships with existing regional organizations.
9. Apply for appropriate Global, Federal, Regional, State grant opportunities from Government, Foundation, and Industry sources.
10. Develop Strategic and operating plans for BHI.
11. Develop an electronic data base of all entrepreneurial, financial and innovation resources in the Region.

BHI Metrics – 1st 5 Years

1. Double the 2011 venture funding for the region's biotechnology industry to \$150 million a year
2. Increase government grant funding to regional biohealth companies
3. Source approximately 150 prospective deals with 20-25 percent of companies receiving funding
4. Improve economic return on R&D investment as measured by the amount of equity investment leveraged
5. Create and retain jobs
6. Recruit more entrepreneurs, experienced managers and businesses into the region
7. Commercialize more biohealth technologies commercialized and create more biohealth companies

BHI Web Site



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Welcome

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BHI is a regionally-oriented, private-public PARTNERSHIP FUNCTIONING AS AN Innovation Intermediary focused on commercializing market-relevant biohealth innovations and increasing access to early-stage funding in Maryland. It is a 501(c)(3) nonprofit with the goal of better realizing the return on investment from the world-class research assets with a cohesive strategy to move RELEVANT, MARKET DRIVEN ideas from labs to market.

The governance structure includes a private-sector-led board of directors and a management team. There will be four committees-- There will be several committees on the board based on the needs of the intermediary—Finance/INVESTMENT Committee, Marketing Committee, Scientific Advisory Committee and Business Development Committee ETC.

Category: Uncategorized

Progress to Date & Next Steps

- Interim CEO hired
- First-year fundraising over \$1.2m from 6 initial partners
- Name, logo, URL and initial location secured
- Legal status filing by first week of November
- Board of Directors finalized by mid-November
- Basic Web presence by end of November
- Public launch of BHI by year end
- Permanent CEO selected by spring of 2012

Contact Information



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Maryland's Commercialization Collaborative

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