

**MEMORANDUM**

April 25, 2016

TO: Planning, Housing, and Economic Development Committee

FROM: Jacob Sesker, Senior Legislative Analyst 

SUBJECT: FY17 Operating Budget: MEDCO Grant – Incubator Network NDA

The following persons are expected to attend this worksession: Sally Sternbach, Acting Director of Economic Development (DED); Peter Bang, Chief Operating Officer (DED); Lily Qi, Assistant Chief Administrative Officer (CEX); Pofen Salem (OMB); and Rich Bendis, CEO (BioHealth Innovation).

The relevant page from the FY17 Recommended Operating Budget is attached at © 1.

<p><b>Staff Recommendation: Concur with Recommended Budget for MEDCO Grant – Incubator Network NDA</b></p>
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**Overview**

The County Executive requests \$3,416,621 for this NDA. This is the first year for this NDA. The NDA will provide debt service and facility-related payments for the County's Business Innovation Network (BIN) facilities (Silver Spring, Rockville, and Germantown), program funding for the Incubator Without Walls program (Wheaton), and debt service payments for the National CyberSecurity Center of Excellence (Shady Grove). Maryland Economic Development Corporation (MEDCO) is the County's partner in the BIN, and most of this budget facilitates payments, pursuant to executed agreements, from the County to MEDCO.

**The FY17 appropriation request is slightly below the FY16 approved appropriations totaling \$3,538,971 for these same budget items: \$2,208,971 for the incubator facility costs; \$400,000 for the Life Sciences Initiative (not including the 1776 Challenge Cup sponsorship); \$430,000 in support and expenses associated with starting the Rockville accelerator; and \$500,000 for BioHealth Innovation.**

<i>Change</i>	<i>Expenditure</i>	<i>FTEs</i>
<b>FY16 Approved Budget</b>	<b>\$0</b>	<b>0.00</b>
Silver Spring Innovation Center (replenish capital reserves)	+\$50,000	0.00
Rockville Innovation Center	+\$580,000	0.00
Rockville Innovation Center rent replacement (one-time)	+\$110,000	0.00
Germantown Innovation Center	+\$709,971	0.00
National CyberSecurity Center of Excellence	+\$685,000	0.00
Wheaton – Incubator Without Walls	+\$360,000	0.00
Life Science Initiative – Impact Grants	+\$150,000	0.00
Life Science Initiative – MIT Mentorship Program	+\$50,000	0.00
Life Science Initiative – Operating Support	+\$48,750	0.00
Data Analytics Initiative Programming	+\$100,000	0.00
Data Analytics Initiative – Operating Support	+\$72,900	0.00
BioHealth Innovation	+\$500,000	0.00
<b>FY17 Recommended Budget</b>	<b>\$3,416,621</b>	<b>0.00</b>

### Incubators

The Business Innovation Network (BIN) has been managed by and funded in the budget of the Department of Economic Development (DED). The incubator network is now in transition. The transition involves both a shift from the DED budget to this NDA (to be managed by Finance) and a shift in terms of the County’s approach to the incubator network.

The first BIN facility was built in 1998. As is often the case, Montgomery County was ahead of the curve in creating a publicly funded incubator network. However, best practices change over time and program results can inform second generation strategies. DED began to study and plan changes to the incubator network in 2012. The PHED Committee held multiple worksessions to discuss program changes. PHED supported DED’s effort to improve outcomes by shifting the focus from maintaining high occupancy rates in incubator facilities to achieving outcomes that are more meaningful.

A February 2016 memorandum from DED describes the new direction for the BIN program for FY17 and beyond. *See Incubator Memo*, © 2. The memo describes an approach that will focus each facility on a strategic sector, provide access to new (private) sources of capital for BIN tenants, provide an investor perspective to evaluating prospective/current tenants, and realize a greater impact from the facilities. An April e-mail from Acting Director Sternbach provides an update on the implementation of the transition. *See Incubator E-mail*, © 5. MEDCO and the County will negotiate agreements with operating entities for the Germantown, Rockville, and Silver Spring facilities. **Those operating entities will enter into two-year contracts with MEDCO. The goal is to have the contracts in place by the end of May.**

**Council staff recommends approval of the recommended budget - Incubators. Staff also recommends a PHED briefing in June regarding FY17-FY18 incubator management (prior to the end of the fiscal year, but following the selection of incubator operators) and the National Cybersecurity Center of Excellence (April 11 briefing was canceled).**

### **Wheaton – Incubator without Walls**

The County's Wheaton incubator lease expires at the end of FY16. In reviewing the County's incubator programs generally, and in an effort to implement the Small Business Assistance Program required under §20-76B of the County Code, DED developed the concept of an "incubator without walls" for the Wheaton community. Working with partners (Mid-County Regional Services Center; Latino Economic Development Corporation; Greater Hispanic Chamber of Commerce; Hispanic Chamber of Commerce of Montgomery County; and MEDCO), the County will facilitate technical assistance and financial assistance to qualifying businesses in Wheaton. The financial assistance will be available to businesses that were financially healthy and who can demonstrate an adverse impact due to the construction associated with the Wheaton Redevelopment Project. *See Small Business Assistance Program Quarterly Update, © 38.*

The goals of the program are: (1) to increase the likelihood that adversely impacted Wheaton small businesses will continue business operations during and after the Wheaton Redevelopment Project; and (2) to increase entrepreneurship and small business activity in Wheaton and the down-County area after the Wheaton Redevelopment Project. These goals, if they are to be achieved, will be achieved in partnership with organizations that are already providing small business programs in mid-County and down-County areas. *See Wheaton Small Business Service Delivery Program - Challenges and Responses, © 41.*

The FY16 appropriation for the Wheaton incubator lease was \$329,000. The County Executive recommends \$360,000 in FY17 for the new program (net increase of \$21,000). Financial assistance to businesses will ultimately be funded through the Economic Development Fund (EDF).

**Council staff recommends approving the recommended budget – Incubator without Walls.**

### **Life Science Initiative**

DED's Life Science Initiative will be continued in FY17 and funded in this NDA. The initiative includes three components: \$48,750 to fund an operating support contract during the transition of economic development service delivery from DED to Montgomery County Economic Development Corporation (MCEDC); \$50,000 to fund continued development of a network of business/innovation mentors; and \$150,000 to fund impact grants to life science firms (this program was initiated by the Council and will be continued in FY17 in collaboration with TEDCO).

The impact grant program was launched in 2015 and provided financial assistance, in the form of small grants, to Montgomery County-based life science employers. The program enabled the small companies that received grants to increase their valuation by achieving commercialization milestones that would help position them to receive additional downstream financing.

Seeking a way to continue the program following the privatization of economic development, DED reached an agreement with Maryland Technology Development Corporation (TEDCO) to combine the Montgomery County Life Sciences Impact Grant Program with the new TEDCO Life Science Investment Fund (launched in March 2016). The two programs are very similar—the TEDCO program also makes investments to assist life sciences companies to achieve critical early-stage milestones. This collaboration leverages the expertise that TEDCO’s review committee brings to the selection of awardees.

Companies from Montgomery County selected for TEDCO investment will become eligible to receive a financial supplement from Montgomery County. Some Montgomery County companies that are rejected for funding by TEDCO may also be eligible for the County funding under circumstances where the County funding could be used to help a company address concerns raised by the TEDCO review committee and help to improve the applicants’ competitiveness for the next round of funding.

**Council staff recommends approving the recommended budget - Life Science Initiative.**

#### **Data Analytics Initiative**

This initiative funds marketing related to data analytics and cybersecurity, and develops programming to support this growing cluster. FY16 activities included efforts to develop a speaker series in connection with the National Cybersecurity Center of Excellence, to develop joint branding and marketing at the nation’s largest cybersecurity conference (RSA), to develop joint communication releases, and to begin work on a cybersecurity cluster strategic plan. The total FY16 appropriation for these initiatives was \$300,000. *See Orion Ventures Memo, © 6.* The Data Analytics Initiative appropriation in FY17 will be used to continue those efforts and to provide operational support during the transition from DED to MCEDC. **As noted above, Council staff recommends a June PHED briefing to provide an update on the incubator operators and the National Cybersecurity Center of Excellence.**

**Council staff recommends approving the recommended budget – Data Analytics Initiative.**

#### **BioHealth Innovation (BHI)**

BHI facilitates the development of commercially viable biohealth products and companies by connecting market relevant research assets to funding, management, and marketplaces. *See BHI Business Model, © 14; BHI Board of Directors, ©14A.* BHI receives funding from a variety of sources, including: federal grants, in-kind donations, university partners, and private contributions. BHI has leveraged contributions from Montgomery County and other early funding partners and has subsequently raised a substantial amount of private capital. In recent years, the Council has appropriated \$500,000 annually to support BHI’s activities. That appropriation represents a fairly small portion of BHI’s total sources of funds. *See BHI Impact 2015, © 19.*

BHI adds value to the County's economic development service delivery system by investing in bioscience companies, assisting companies in the commercialization process, helping local companies apply for federal research grants, supporting accelerator and incubator programming, increasing access to early stage capital for bioscience companies in Central Maryland, and generally supporting economic development activities in this key industry cluster. *See BHI 2016 Metrics Dashboard, © 15; BHI 2015 Metrics Dashboard, © 16.*

BHI's portfolio includes 51 companies. BHI is an equity partner in 27 of those companies, and has consulting relationships and/or advisory relationships with the other 24 companies. The 51 companies in the BHI portfolio have approximately 165 FTEs. *See BHI Portfolio 2016, © 17; BHI Portfolio 2015, © 18.*

BHI, Montgomery County, and Product Savvy Consulting partnered to found the Relevant Health Accelerator at the Rockville Innovation Center. The initial cohort began on October 26, 2015 and ended on March 30, 2016. A second program cohort is tentatively scheduled to begin in October 2016. Mr. Rich Bendis, CEO of BioHealth Innovation, will present to the PHED Committee regarding the Relevant Health accelerator. *See Relevant Health, © 20.*

BHI has also served as a facilitator/convener of regional conferences and forums, most recently partnering with MedImmune on the BioHealth Capital Region Forum held on April 18-19 at MedImmune/Astra Zeneca's Gaithersburg campus. *See Regional Forum Cover, © 34.* BHI has also been involved in leading a strategic planning effort for the cluster, with the goal of establishing Central Maryland as one of the top 3 biotech hubs in the nation by 2023. *See BioHealth Index Press Release, © 35.*

<b>Council staff recommends approving the recommended budget – BHI.</b>
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- Attachment: © 1 Recommended FY17 Operating Budget: MEDCO Grant - Incubator NDA  
© 2 Incubators Memo  
© 5 Incubators E-mail  
© 6 Orion Ventures Memo re NCCoE  
© 14 BHI Business Model  
© 14A BHI Board of Directors  
© 15 2016 Metrics Dashboard  
© 16 2015 Metrics Dashboard  
© 17 2016 BHI Portfolio  
© 18 2015 BHI Portfolio  
© 19 2015 BHI Impact  
© 20 Relevant Health  
© 34 BioHealth Capital Region Forum  
© 35 Innovation Index Press Release  
© 38 Small Business Assistance Program Quarterly Report  
© 41 Wheaton Small Business Assistance - Challenges and Responses

Oversight, the Board of Appeals, the Office of Zoning and Administrative Hearings, and the Office of the Inspector General) to inform constituent communities of issues that directly affect them and to ensure that these communities' concerns are effectively taken into account. Communications efforts supported by this NDA include expanded outreach in Spanish and other languages, greater use of web and social media resources, Open Government initiatives, and improved management of constituent requests.

FY17 Recommended Changes	Expenditures	FTEs
<b>FY16 Approved</b>	<b>490,000</b>	<b>2.00</b>
<b>FY17 Recommended</b>	<b>490,000</b>	<b>2.00</b>

### **MEDCO Grant - Incubator Network**

This NDA provides debt service and facility lease payments for the County's Business Innovation Network (BIN-business incubator) facilities, program funding for the Business Incubator Without Wall Program (for Wheaton and Down County area), and the debt service payment for the National CyberSecurity Center of Excellence (NCCoE). Maryland Economic Development Corporation (MEDCO) is the County's program partner and the agent responsible for managing these facilities and programs. The BIN network consists of three physical locations: the Silver Spring Innovation Center (SSIC) on Georgia Avenue owned by the County, the Rockville Innovation Center (RIC) in Rockville Town Square owned by MEDCO, and the Germantown Innovation Center (GIC) on the campus of Montgomery College that the County leases from the College Foundation until 2036. The NCCoE, located at 9700 Great Seneca Highway, Rockville, is a partnership between the National Institute of Standard and Technology (NIST), the State of Maryland, and Montgomery County. MEDCO provides facility management but the MITRE Corporation selected by the NIST is in charge of day to day operations.

FY17 Recommended Changes	Expenditures	FTEs
<b>FY16 Approved</b>	<b>0</b>	<b>0.00</b>
Shift: Operating Support of Incubators from Department of Economic Development	3,416,621	0.00
<b>FY17 Recommended</b>	<b>3,416,621</b>	<b>0.00</b>

### **Metro Washington Council of Governments**

FY17 Recommended Changes	Expenditures	FTEs
<b>FY16 Approved</b>	<b>818,488</b>	<b>0.00</b>
Increase Cost: General Membership Dues and Assessments	36,691	0.00
<b>FY17 Recommended</b>	<b>855,179</b>	<b>0.00</b>

### **Montgomery Coalition for Adult English Literacy (MCAEL)**

This NDA provides funding for the Montgomery Coalition for Adult English Literacy (MCAEL). MCAEL's mission is to strengthen the countywide adult English literacy providers' network with resources, training, collaborations, and advocacy to support a thriving community and an effective workforce. Funding for MCAEL supports program grants to organizations that provide adult English literacy services; technical assistance, training, and networking opportunities that improve program quality and coordination; information resources for the community; and operating expenses to administer grants to over 20 programs and educate and engage the community about the need for and benefits from adult English literacy classes. The County's contribution is implemented by a contract between the Department of Public Libraries and MCAEL.

FY17 Recommended Changes	Expenditures	FTEs
<b>FY16 Approved</b>	<b>1,357,058</b>	<b>0.00</b>
Enhance: MCAEL Grants and Operating Support	100,000	0.00
<b>FY17 Recommended</b>	<b>1,457,058</b>	<b>0.00</b>

### **Montgomery County Economic Development Corporation**



Business Innovation Network Recommendation  
February 22, 2016

Background

The first Business Innovation Network (BIN) center was erected in 1998 and was followed over the next 10 years by four other centers. The Shady Grove/William E. Hanna Jr. Innovation Center was converted to the National Cybersecurity Center of Excellence in 2015 with an official opening in February, 2016. The Wheaton Innovation Center is on a 10-year lease that will end on June 30, 2016. Given the redevelopment of Wheaton that is underway and the need to work intensively with impacted businesses, we have made a decision to put “feet on the street” and create an “incubator without walls” as the most effective way to reach the small businesses that will likely be adversely affected by the redevelopment. As a result, the Wheaton lease will be allowed to lapse. As of July 1, 2016, the BIN network will consist of three physical locations: the Silver Spring Innovation Center (SSIC) on Georgia Avenue owned by the County, the Rockville Innovation Center (RIC) above Rockville Town Square owned by the County’s BIN management partner MEDCO (Maryland Economic Development Corporation) and the Germantown Innovation Center (GIC) on the campus of Montgomery College that the County leases from the College Foundation until 2036.

In 2013, the Department of Economic Development underwrote a study by Orion Biosciences that looked at the past performance of the BIN and recommended steps to be taken to improve the BIN outcomes. The study found that the network was primarily run as a real estate solution for start-up companies. Instead, the study strongly endorsed using the following policy objectives to drive BIN decisions, a recommendation that was supported by the County Executive and the County Council and adopted by the department:

- 1) Grow technology companies
- 2) Develop economic clusters in target industries
- 3) Increase Montgomery County jobs that align with Montgomery County demographics
- 4) Leverage key regional research and business assets
- 5) Increase investment in local start-up companies
- 6) Support a pipeline of new companies

Today the three BIN facilities have 60 tenant companies and 15 virtual companies that have a license agreement with MEDCO, which allows flexibility in the tenant/operator relationship, e.g., each party can terminate the relationship with 60 days’ notice. There is an implicit contract, however, which goes to the heart of the incubator system’s purpose: to find, foster and grow high potential technology companies for Montgomery County. Companies expect to set and meet milestones, to have access to mentoring and programming that will aid in their growth, and to have access to sources of capital. It is important that services continue to be delivered and that these incubator assets be positioned and managed to deliver maximum results for the County.

Fast forward to 2015 and the decision to privatize the county's economic development organization. As of this writing, the board of the Montgomery County Economic Development Corporation (MCEDC) has been nominated and approved and an executive search is underway with the expectation that a CEO will be on board in May/June, 2016 and will begin to build out the organization. On July 1, 2016, the MCEDC becomes the county's economic development agent, and the Montgomery County Department of Economic Development ceases to exist. The MCEDC will essentially be a start-up and need to focus on its work plan, budget allocation, staffing, process and program identification, and marketing. It is reasonable to expect that the MCEDC may eventually wish to manage and run the BIN, but it clear that it is not a first year priority, e.g., note the first year areas of focus in the CEO opportunity profile.

The three BIN centers are owned by the county through a variety of mechanisms (outright ownership, long-term lease, mortgage) in partnership with MEDCO. It is a complex setup governed by legal and financial arrangements that determine the facility's use, financial commitments, and current and future ownership. The license payments from the tenants have never been sufficient to cover the costs of owning and operating the network and have consistently required an infusion of approximately \$2.5million from the county's general operating fund. If the costs of owning the facilities (mortgage, lease payment, tax, insurance, etc.) is eliminated, then tenant lease payments would be sufficient to cover the operating costs.

### Opportunity

The closure of the Montgomery County Department of Economic Development provides an opportunity to bring in different management for the BIN network able to move more quickly and with greater effect. Specifically, it makes it possible to:

Focus each facility on a strategic sector: the SSIC on IT; the RIC on cybersecurity; the GIC on life sciences and strengthen that focus by finding an operator with expertise, depth and a broad network in the sector.

Provide access to new sources of capital: to date, the primary sources of capital that BIN management has leveraged are public: SBIR, MD Challenge Grant, MIPS Grants, TEDCO grants, county EDF grants, etc. Operators with their own funds or with convincing access to other sources of private funds would significantly improve the growth potential of tenant companies.

Provide an investor perspective: The best investors have a very focused and disciplined approach to evaluating companies. They look at the size of the market, whether the technology is disruptive, the barriers to entry, the ROI, the quality of the management team, etc. The public sector is often driven by other considerations outside the policy goals articulated above.

Realize a greater impact from the facilities: Given management with greater expertise in select strategic sectors; with an investor perspective to guide the selection, management and mentoring of tenant companies; and with access to sources of private capital, the BIN facilities will begin to realize improved outcomes: more graduates, more jobs, more capital invested, more commercial real estate leased.

### Approach

DED has spent the last 3-4 months in conversation with numerous organizations that meet some or all of the objectives outlined above and have experience running incubator-like facilities. We are proposing for the next two years (7/1/16-6/30/18) that MEDCO, with the county's concurrence, enter into a contract with private sector management operators for each of the three BIN facilities. Due to the nature of the partnerships and MEDCO's legal characteristics, an open RFP was not necessary. However, DED spoke with many prominent partners in the region, giving them the opportunity to explore this partnership.

The two-year timeframe allows the operator sufficient time to transition the current tenant mix of a given BIN center into one that is more focused on high growth in the strategic sector and to amass a record of accomplishment.

The county would provide the facilities at zero cost to the operators (meaning continue the current level of funding infusion); the operators would be responsible for all operating and programming costs and could recover those costs as they saw fit, i.e., through rent, fees, sponsorships, grants, etc. Their sources of funding would need to cover all non-mortgage/lease costs such items as insurance, utilities, marketing, personnel, etc.

The MEDCO contracts would be managed by Peter Bang in the Montgomery County Department of Finance. Peter, since 1997, has worked with MEDCO to establish all of the BIN centers and has a deep knowledge of the intricacies of the BIN arrangements. This approach provides steady oversight and gives the MCEDC time to focus on the first-year activities outlined in the opportunity profile.

## Sesker, Jacob

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**From:** Sternbach, Sally  
**Sent:** Wednesday, April 20, 2016 12:25 PM  
**To:** Sesker, Jacob  
**Cc:** Bang, Peter; Salem, Pofen  
**Subject:** BIN Strategy Paper  
**Attachments:** BIN strategy 4-20-16.docx

Dear Jacob,

In February, I put together a strategy paper explaining the recommended approach to the BIN during the transition from DED to MCEDC. It is attached. While this is a very active project at this time, the course we are following is true to the vision laid out in the paper. Our current status is as follows:

We are working on an amended agreement with MEDCO to allow them to provide the same type of support to the County as they have since the BIN system was initiated. We expect the last of those issues to be resolved shortly and then can begin work with MEDCO on the contracts they will hold with the operating entities for each of the three facilities. Our goal is to have those contracts in place by the middle to the end of May. We will contract with only one entity for each facility; that entity is free to (and encouraged to) bring in additional resources to support the outcomes that will be the measure of their success. We would like to introduce the new operating entities to the BIN tenants in early June and allow the parties to begin their discussions on shared expectations, available resources, milestones to be achieved, etc. By July 1, the new operating entities will take official and full responsibility for their BIN facility and remaining DED support staff (Ruth Semple and Karen Kalantzis, a contractor) will no longer be engaged. The 2-year contracts should provide sufficient time to evaluate this approach based on metrics that will be specified in the contracts, e.g., company milestones achieved, jobs created, funds (investments, grants, loans, etc.) acquired by companies, companies graduated, graduate companies remaining in the county, % occupancy of the facility.

Please let me know if you have any questions or need additional information,

Sally

Sally Sternbach  
Acting Director  
Montgomery County Department of Economic Development  
c) 301-233-6999  
w) 240-777-2005



MEMORANDUM

TO: LILLY QI  
OFFICE OF THE COUNTY EXECUTIVE  
MONTGOMERY COUNTY

SALLY STERNBACH  
DED, MONTGOMERY COUNTY

FROM: MIKE KNAPP  
ORION VENTURES

DATE: 7 APRIL 2016

RE: NCCOE PIA UPDATE

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Overview

In February 2014, Montgomery County entered into a Partnership Intermediary Agreement (PIA) with the Maryland Dept. of Commerce (DOC) and the National Institute of Standards and Technology (NIST) regarding the National Cybersecurity Center of Excellence (NCCoE). The NCCoE is dedicated to furthering innovation through the rapid identification, integration and adoption of practical cybersecurity solutions. The benefit to Montgomery County is that the NCCoE is located in Rockville and can serve as a hub for the County's efforts to nurture, attract and retain companies in the growing commercial cybersecurity sector. The key excerpts of this agreement are attached to this document. **The NCCoE is the only Federally-Funded Research and Development Center in the United States dedicated to commercial cybersecurity activities.**

During past two years there have been a number of efforts underway to get the NCCoE established and functioning. The County, State and NIST each contributed \$4.5 million for the renovation of 1700 Great Seneca Highway to house the Center in the William Hanna Innovation Center (WHIC). **As of January 1, 2016 the NCCoE took occupancy and moved and hosted a Dedication and Ribbon Cutting event on February 8, 2016.**

Programmatically, the growth has been explosive. In 2014, there were two Uses Cases and two Building Block projects underway being undertaken with the few NIST staff who were getting the NCCoE up and running. **Late in 2014, MITRE was awarded the contract to manage the FFRDC and in 2015 that number increased to 9 Use Cases in 5 different industry sectors including Retail, Finance, Healthcare, Energy and Transportation.**

In undertaking these Use Cases and Building Block activities, NCCoE has two sets of partners. First, those who provide widely available technologies that can be broadly applicable to nearly any industry (i.e. Cisco, Intel) and those with more subject matter expertise that can be brought





to bear on specific industries or applications. **At this time the NCCoE has 23 companies that are included in the National Cybersecurity Excellence Partnership (NCEP), or better known as “NCEP Partners,” and an additional 26 companies working on specific projects for which their technology is best suited. A list of these companies is attached.**

Each Use Case results in a Practice Guide that provides companies and organizations within a specific industry sector with a “roadmap” to address significant cybersecurity challenges. This represents a significant investment that companies don’t have to make alone and can provide a huge benefit. In February at the Dedication Ceremony, **the New York Power Authority (NYPA), the largest public utility in the U.S., announced that will be the first utility to undertake a project to adopt the new NIST guide, Identity and Access Management for Electric Utilities, from the center.** This guide maps security characteristics to guidance and best practices from NIST, other standards organizations, and NERC CIP. On a smaller scale, the Montgomery County Police Department has entered the early stages of collaboration with NCCoE to identify and address cybersecurity challenges in law enforcement vehicles. The department has provided a police cruiser from its current fleet, which will be housed in one of the center’s new industrial control system labs. This new collaboration will explore potential cybersecurity challenges facing law enforcement vehicles today and in the future.

The PIA has resulted in five different public events in FY16 including:

**Tuesday, August 25, 2015 1:00 PM to 2:00 PM (EDT)**

**Webcast: Tackling a Critical Health IT Security Challenge - Securing Electronic Health Records on Mobile Devices**

Maryland Department of Commerce

**Thursday, November 19, 2015 | 10:30 AM - 12:00 PM** *The Universities at Shady Grove (USG) University of Maryland*

**Cybersecurity in Retail: Trends and Challenges with Point of Sale and Payment Technologies**

**Monday, February 8, 2016** NCCoE, 1700 Great Seneca Highway, Rockville, MD

**The National Cybersecurity Center of Excellence (NCCoE) Dedication Ceremony and Discussion**

**Tuesday, March 22, 2016** NCCoE, 1700 Great Seneca Highway, Rockville, MD

**Lunch and Webcast Workshop - Protecting Consumer Data: Securing Payment and Transaction Information**

**Tuesday, April 26, 2016 1:00 PM – 3:00 PM** *The Universities at Shady Grove (USG) University of Maryland*

**Cyber and STEM Careers and Building a Workforce Pipeline, KATHRYN P. (KAY) HIRE (CAPTAIN, U.S. NAVY) NASA ASTRONAUT**



# Orion Ventures

## Next Steps

The PIA is now well positioned to begin to leverage the NCCoE relationship to increase the County and State's role in commercial cybersecurity activities which represents ~\$130 billion industry sector and growing. Efforts are underway to implement technology and investment showcases, additional conference opportunities bringing decision-makers from all industry sectors to the community, and increase the visibility and presence of this new, vitally important national resource.

The PIA is working with Tech Council of Maryland, the Cybersecurity Association of Maryland, Inc., the Chesapeake Regional Tech Council, the Chesapeake Innovation Center, BW Tech and other organizations from across the state to connect emerging companies and technologies, as well as existing federal assets with the efforts underway at the NCCoE to create a vibrant cybersecurity ecosystem for future economic growth.

One significant activity for Montgomery County to consider as the new MCEDC comes on-line is to create a set of programs and incentives that it can use to engage with NCCoE NCEP partners to facilitate their growth and expansion in proximity to the NCCoE. With the transition from the Department of Business and Economic Development at the State and the County's transition to the MCEDC there has not been as much focus on this type of outreach activity.

Given the rapid growth of the NCCoE and its solid foundation in its new facilities, the County and State are well positioned to be strong players in the important growth and expansion of the cybersecurity sector.



**List of NCCoE Partner Companies – April 7, 2016**

Akamai Technologies, Inc.	Cambridge	MA
AlertEnterprise, Inc.	Fremont	CA
AlphaPoint Technology	NYC	NY
Belarc, Inc.	Maynard	MA
CA Technologies	Manhattan	NYC
Cisco	San Jose	CA
CSG InvoTas (subsidiary of CSG Systems International, Inc.)	Milpitas	CA
Dragos Security, LLC	??	
FireEye	Milpitas	CA
GMO GlobalSign, Inc. (GMO Internet, Inc.)	Maidstone	UK
Hewlett-Packard Company	PaloAlto	CA
HyTrust, Inc.	Mountain View	CA
ID/DataWeb, Inc.	Vienna	VA
intel	Santa Clara	CA
Intel Federal LLC (subsidiary of Intel Corporation)	Fairfax	VA
Intel Security	Santa Clara	CA
Juniper	Sunnydale	CA
Juniper Networks, Inc.	Herndon	VA
Lookout, Inc.	San Francisco	CA
Microsoft Corporation	Redmond	WA
Mount Airey Group, Inc.	Fairfax	VA
NextLabs, Inc.	San Mateo	CA
OSIsoft, LLC	San Leandro	CA
Palo Alto	Santa Clara	CA
Peniel Solutions, LLC (PSL)	Duluth	GA
Ping Identity Corporation	Denver	CO
Process Improvement Achievers, LLC	Baltimore	MD
Pulse Secure, LLC	San Jose	CA
Puppet Labs, Inc.	Portland	OR
Radiant Logic, Inc.	Sterling	VA
RADiFlow, Ltd.	Mahwah	NJ
Red Hat, Inc.	Raleigh	NC
RedJack, LLC	Silver Spring	MD
RS2 Technologies, LLC	Munster	IN
RSA Security, LLC (a subsidiary of EMC Corporation)	Bedford	MA
Schneider Electric SA	Rueil-Malmaison	France
Secure Channels, Inc.	Irvine	CA
Seimens	Berlin	
Software House dba Sensormatic Electronics LLC	Gaithersburg	MD
Splunk, Inc.	San Francisco	CA
Symantec Corporation	Mountain View	CA



**List of NCCoE Partner  
Companies – April 7, 2016  
(cont.)**

TDi Technologies, Inc.	Plano	TX
Telos Corporation	Ashburn	VA
Tripwire, Inc.	San Francisco	CA
Vanguard Integrity Professionals, Inc.	Las Vegas	NV
Venafi, Inc.	Salt Lake City	UT
Waratek, Ltd.	Dublin	Ireland
Waterfall Security Solutions, Ltd.	Israel	
XTec, Inc.	Reston	VA



## **PARTNERSHIP INTERMEDIARY AGREEMENT (excerpts)**

BETWEEN  
THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY  
AND  
THE MARYLAND DEPARTMENT OF BUSINESS & ECONOMIC DEVELOPMENT  
AND  
THE MONTGOMERY COUNTY DEPARTMENT OF ECONOMIC DEVELOPMENT  
REGARDING THE  
NATIONAL CYBERSECURITY CENTER OF EXCELLENCE

### **Article 1. Purpose**

This Agreement is entered into in furtherance of the collaboration memorialized in the Memorandum of Understanding between Montgomery County, Maryland and the State of Maryland and the National Institute of Standards and Technology (NIST) dated February 21, 2012 (MOU), which intended to establish the National Cybersecurity Center of Excellence (NCCoE) as a public-private collaboration for accelerating the widespread adoption of integrated cybersecurity tools and technologies.

### **Article 3. Background**

It is envisioned that the NCCoE will serve as a national resource to integrate commercially available technologies to build practical cybersecurity solutions that can be applied to industry sector cyber challenges. In so doing, the NCCoE will create a pre-competitive environment for public and private sector organizations to work together to develop cybersecurity solutions, and create an environment where new cybersecurity technologies and applications can be identified, tested, and refined. Important objectives of the NCCoE include engaging a spectrum of technology and industry partners to accelerate the transfer and availability of solutions to the marketplace, and creating an effective access point for government-developed cybersecurity technologies and applications to be made available for licensing and co-development by the private sector. The Parties anticipate that the NCCoE will leverage federal cybersecurity assets located in Maryland, and increase commercial opportunities that can further economic development objectives.

The Parties contemplate the need to expand the NCCoE facilities as the NCCoE prepares to undertake multiple simultaneous specific industry sector Use Cases and Building Block solution efforts, each of which will involve one or more different teams of collaborators. In addition to participation of industry partners from large information technology sector firms, an important aspect of the NCCoE's activities will be engagement with small business firms as well as institutions of higher learning and educational institutions. The Parties also concur in the particular importance of facilitating the participation of small business firms, including start-ups, in the NCCoE. Such small business firms may not have the resources that allow large business firms, such as many National Cybersecurity Excellence Partnership (NCEP) partners, to co-



locate at NCCoE facilities and/or to otherwise participate along with academic experts and NIST staff. Yet, such participation will be critical to the success of the NCCoE mission.

Accordingly, the Parties recognize the need for expanded facilities operations services to increase the likelihood of success in the conduct of cooperative NCCoE activities with small business firms, institutions of higher learning and educational institutions, as well as with

#### **Article 5. Agreement Activities**

The NCCoE is dedicated to furthering innovation through the rapid identification, integration and adoption of practical cybersecurity solutions. It is contemplated that the NCCoE will evolve into a technology transfer hub for cyber solutions derived from government and private sector tools as they apply to specific sectors of the Nation's infrastructure, such as energy, financial services, telecommunications, transportation, and health, and as a key location for major research and development in cybersecurity as it applies to these and other key sectors of the U.S. economy. It is contemplated that DBED and DED will serve as primary agents, and all Parties will work in active collaboration in generating and facilitating technology transfer of security capabilities and platforms developed through NCCoE programs and projects and other federal entities. Once the FFRDC is established and a contractor is chosen, more specific objectives and metrics will be identified and may be agreed to by the Parties. It is also understood and agreed that DBED and DED will be primarily responsible for efforts to engage with institutions of higher learning, educational institutions, and private sector entities that may desire use of facilities in connection with the NCCoE through direct agreements with such institutions or entities. In these capacities, it is contemplated that the activities of DBED and DED may include active collaboration with the NCCoE for:

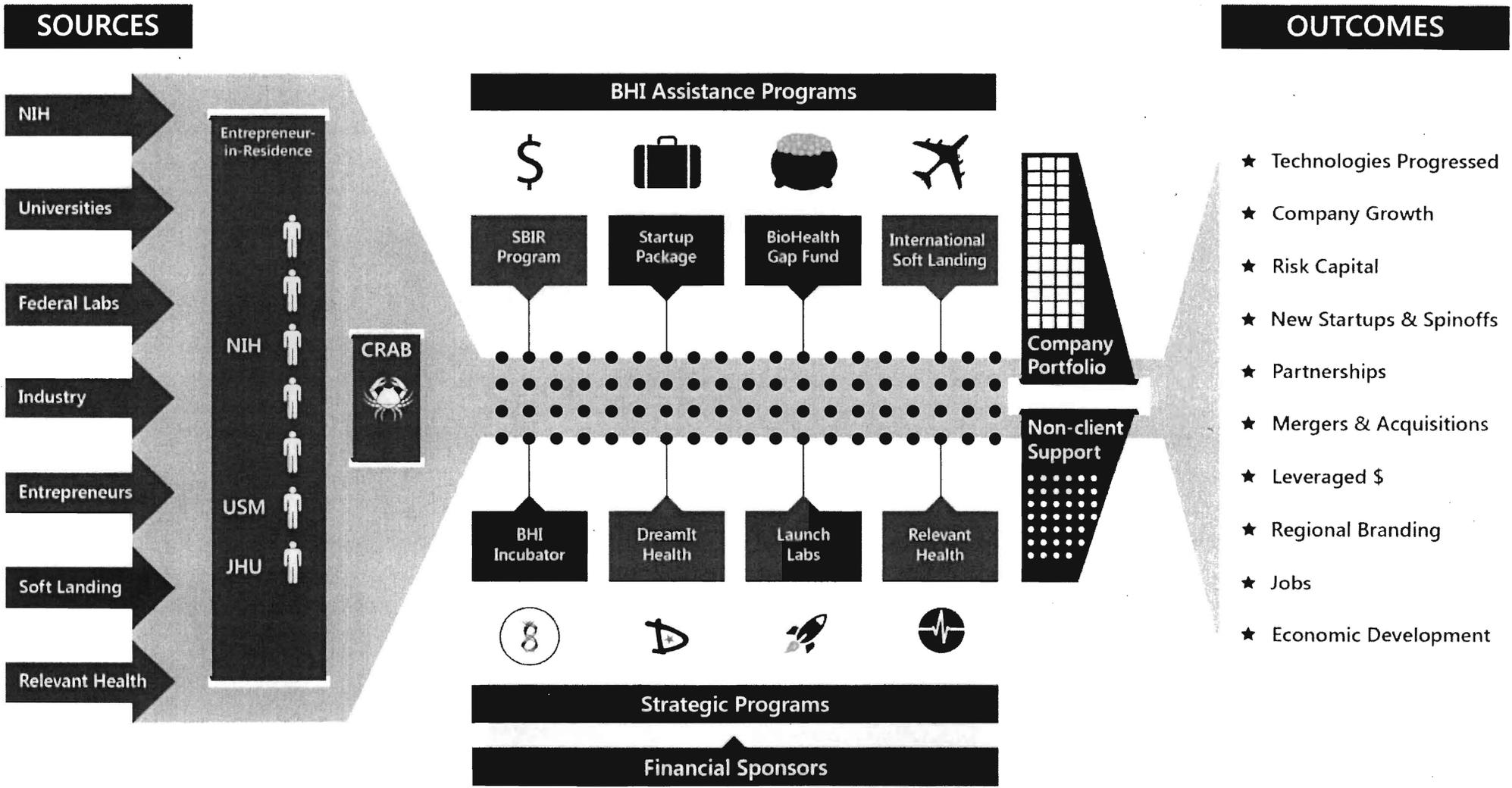
- a) developing and maintaining significant interactions with key commercial industry sectors for the identification of cybersecurity needs within those industry sectors where the NCCoE can contribute in accordance with its mission;
- b) facilitating access for small and emerging businesses in order to encourage their participation in the development of use case solutions;
- c) empowering commercial organizations to use the NCCoE as a tool to proactively develop and deploy cybersecurity solutions for specific industry sectors;
- d) fostering a physical environment in which businesses can locate in and around the NCCoE in order to work more closely with the Federal government, but also to work more closely in development of pre-competitive and non-competitive cybersecurity solutions;
- e) supporting the creation and growth of innovative cyber security platforms, mechanisms, and demonstrations developed at the NCCoE, including facilitating the ability of small business firms to co-locate at or locate near the NCCoE through the provision of flexible terms such as below market rent, short-term lease options, and lease options without requirement for personal guarantees;
- f) establishing industry incubators for commercial availability and adoption of, and participation in, NCCoE security platforms, especially by small business firms;



- g) integrating incubator activities into state and local economic development planning;
- h) identifying industry association partners and facilitating meetings between the NCCoE and private sector representatives (including both large and small business firms) to allow for the NCCoE to provide overviews of its mandate and goals and solicit feedback and input from the private sector regarding those elements;
- i) working with key representatives at NIST to develop a communication protocol by which information regarding cybersecurity standards is shared to provide an opportunity for various industry sectors to hear first-hand what is being proposed and interact directly with NCCoE participants in understanding the solution;
- j) coordinating with NIST to identify other Federal agencies that will be relevant to achieve the NCCoE's cybersecurity mission and that will also be beneficial to achieve the economic development objectives of the State and County;
- k) working with NIST, the NCCoE, and private sector companies to identify cybersecurity workforce needs and requirements, and to advance the programmatic development of workforce training and education;
- l) working with high schools, colleges, universities, and the Federal Government to implement appropriate programs to meet the need of these groups;
- m) assisting in developing and implementing strategies to recruit local, state, regional and national organizations for issue solicitation and development; and
- n) promoting the NCCoE's business and physical environment, accomplishments, and participants.

# BHI Business Model

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# BHI Board of Directors



**Daniel J. Abdun-Nabi**  
CEO, Emergent  
BioSolutions



**Robert Caret**  
Chancellor  
University System of MD



**John A. Sackett**  
President  
Shady Grove Adventist Hospital



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



**Dave Lemus (Treasurer)**  
CEO  
Medigene, Inc.



**J. Thomas Sadowski**  
President & CEO  
EAGB



**Kenneth Carter**  
Chair  
Noble Life Sciences



**Douglas Liu (Chair)**  
Senior VP of GO  
Qiagen



**Reginald Seeto**  
VP, Partnering and Strategy  
MedImmune



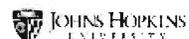
**Chris Callaghan**  
Group VP, Healthcare Banking  
M&T Bank



**Juan Carlos Lopez**  
Head of Academic Relations  
and Collaborations, Roche



**Lily Qi**  
ACAO  
MoCo Government



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



**Joel Marcus**  
CEO & Founder  
Alexandria Real Estate



**Jens Eckstein**  
President  
SR One (GSK)



**David Mott**  
General Partner  
New Enterprise Associates



**David M. Gillece**  
Market Leader  
Cushman & Wakefield



**Charles Morton (Secretary)**  
Partner  
Venable LLP



**Rick Ivey**  
Vice President R&D  
BD Diagnostics



**Beth Meagher**  
Principal  
Deloitte Consulting LLP



**Mike Gill (Ex-Officio)**  
Secretary of Commerce,  
Department of Commerce



# 2015 Metrics Dashboard

As of 01/19/2016

Goal	Sure	Probable	Possible	Grade	Status
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## 1 Accelerate Growth and Expand BHI Portfolio

**A** Track portfolio company funds raised. Expected \$18M in aggregate funding for a minimum of [9] portfolio companies (revenues and money raised through public, private, grants and in-kind services)

Progress: \$\$\$\$\$\$ \$18M \$18,404,500

**B** Achieve 10 commercial development milestones

Progress: 10 gears

**C** Achieve 8 product development milestones

Progress: 8 syringes

Appian, BWell, mdlogix, Paradigm Shift, Tissue Analytics, VLP, 3DBioWorks, Mimetas, MockV, NS, Perceptive, Nomful, Baton, Decisive Health, InsightMedi, Protenus, Quantified Care, Redox, Avhana, Emocha, Sisu

Mimetas partnership with Ival, Hardvard, and Rice. Both 3DBioWorks and Asulon have been incorporated and governance established. Partnerships: Asulon, PSTx, MockV, Avidea, Nanovir, Corvidia, Artgen.

IVS, MockV, Avidea, PSTx, Asulon, Corvidia, Perceptive

## 2 Maintain, Grow, and Diversify Financial Support for BHI

**A** Maintain a minimum cash balance of \$1 million at year end

Progress: \$1M \$1,062,701

On track with projection

**B** Obtain new renewal or unique commitments of a minimum of \$1.5 million in annualized federal, state and county govt. grants or program investments, as well as new funding from industry, foundations, NGOs, client returns and fees and in kind support

Progress: \$1.5M \$1,664,470

NIH (\$272,776), NINDS (\$64,746), IBBR (\$63,800), MOCO (\$500,000), Client Fees (\$55,648), Conference Sponsorships (\$102,500), EAGB (\$50,000), France-Merrick (\$100,000), REDI (\$5,000), MITRE (\$50,000), Roche (\$125,000), MedImmune (\$250,000), M&T (\$25,000)

## 3 Maintain and Evaluate the BHI Federal Funding Assistance Program

**A** Support the submission of at least 30 high quality SBIR grant proposals

Progress: 26 new projects submitted in 2015; 3 additional projects in various stages of application development

**B** Win a minimum of \$5 million in SBIR grants

Progress: \$2.76M \$5M

BHI has supported 14 successful grants thus far in 2015 for the following companies: Quantified Care, Appian Medical, Sonavex, Juxtopia, MockV, Revolve Bio, 3DBioWorks, Benevir, Care Progress, MD Logix, Sisu Global Health, Paradigm Shift, Audiodontics

**C** Exceed National Average win rate of 21.1%

Progress: 21.1% 42.7%

21 hits of 49 submissions since Jan. 2014. 11 Pending (No decision yet).

## 4 Expand BHI Supported Accelerator and Incubator Programs

**A** Obtain commitments for a minimum of \$800K for the Montgomery County Accelerator

Progress: \$680,355 \$800K

As of 1/8/16 \$730,355

MOCO commitment of \$250K + \$199K real estate. Awarded \$50K accelerator grant proposal from SBA. Received commitment from ARE for 10% of total fund. Received \$25,000 from REDI. Received 2 angel investments. Received \$50K from MITRE. David Nguyen made \$50K investment on 1/8/16. \$300K in pending investments from Maryland Department of Commerce for \$50K and Camden Partners for \$250K.

**B** Recruit at least eight high potential companies for first accelerator class

Progress: 7 people icons

We have recruited 7 companies: Agewell Biometrics, CheeksUp, Ergonomatrix, Gastro Girl, Lazy, Neopenda, Werbie

We are also recruiting Relevant Health affiliate companies including Share for Cures. Demo Day scheduled for March 23.

## 5 Increase Access to Early Stage Capital for Commercially Relevant BioHealth Companies in Central Maryland

**A** Launch fund, obtaining commitments for a first close of \$20 million in 2015

Progress: \$50M \$20M

Evaluating fund management and partner alternatives. Had preliminary discussions with Folio and Camden Partners. Received commitment for 10% of fund from ARE.

BHI venture capital strategic planning committee met to further evaluate Folio fund opportunity.

In discussions with Folio to study innovative funding platforms for a public biohealth fund.

## 6 Continue to Support Economic Development Activities in Central Maryland

**A** Complete the first Innovation Index and Genealogy Study to compare Maryland's strengths and weaknesses to other leading BIO Clusters

Progress: # icon

BHI provided a briefing on the innovation index and genealogy reports to the Board on Sept 2nd. The final versions of these reports were completed in September. BHI and EAGB are working together on a public relations and policy approach to work collectively on these topics.

**B** Support Maryland Biotech Forum on March 30-31 as a founding partner with TCM and MedImmune and raise \$60K in event sponsorships

Progress: \$60K \$70K

BHI in partnership with MedImmune and TCM successfully hosted first annual Maryland Regional Biotech Forum and received \$70K in sponsorship commitments. BHI is part of regional leadership team to develop strategy for making the Central Maryland region a top 3 bio region by 2023. Have already received commitments of \$7.5 million from sponsors in 2015 for the April 18/19 2016 Conference

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## BHI Company Portfolio (As of 04/15/2016) – 51 Companies (7 Pending, 6 potential) - 165 FTEs\* DRAFT

**Co-founders**  
11  
(2 pending, 2 potential)

<b>3DBioWorks</b>  UMB/UMCP 1 Ken Malone 3DBioWorks grows cord stem cells in 3D printed bioreactors.	<b>Mimetas US</b> Netherlands 1 Ram Aiyar / Anthony Saleh Mimetas is developing and marketing Organ-on-a-Chip solutions for the pharmaceutical industry.	<b>Tertius Analytics</b> UMCP 1 Ethan Byler Tertius Analytics provides analytical tools for network modeling of regional industry clusters.	<b>Asulon Pharma</b>  UMB 1 Ken Malone Asulon is developing small molecule therapeutics for rapid acting anti-depressants.	<b>Magnifygen</b> Montgomery County 1 Steve Wolpe Magnifygen is developing novel immunotoxins for the treatment of solid and liquid tumors.	<b>Artgen</b> Russia 3 Steve Wolpe / Ram Aiyar Artgen is a US-owned company developing a gene therapy for peripheral arterial disease.
<b>VakSea</b> UMBC/IMET 3 Ken Malone Maryland-based company to generate potent fish vaccines for aquaculture.	<b>AgamiLife, Inc.</b> UMB 3 Ken Malone Focused on harvesting, banking, and storing stem cells from patients' tonsils.	<b>COARE Therapeutics</b> Oklahoma 1 Steve Wolpe Antibodies and siRNA generated against a cancer stem cell antigen	<b>Cadence</b> JHU 1 Albine Martin Intracranial device to manage hydrocephalus	<b>JHU Marker NewCo</b> JHU 1 Albine Martin Epigenetic markers for prediction of depression disorders	

**Consulting Relationships**  
8  
(4 pending, 1 potential)

<b>MockV Solutions</b>  Montgomery County 1 Ram Aiyar MockV Solutions is developing novel kits to make biotherapeutic process development cost efficient.	<b>Paradigm Shift</b>  UMB/NIH 1 Ram Aiyar Developing small molecules to support counter-terrorism and radiation oncology products.	<b>Avidea</b> NIH/Oxford/Prague 1 Ram Aiyar A polymer-based neoantigen company from JHU, NIH, Oxford and Prague polymer institute	<b>Arbel LLC</b> MD 1 Steve Wolpe Developing novel small molecule anti-inflammatory compounds.	<b>Orgenesis</b> MD 1 Steve Wolpe Focused on cell replacement therapy for Type 1 diabetes and contract cell manufacturing	<b>Lazy</b> Relevant Health 1 Ethan Byler Developing a product to automate the collection of quality metrics by hospitals and health providers.	<b>Neopenda</b>  Relevant Health 1 Ethan Byler Developing a monitor to measure neonatal vitals with engineered hats for use in the developing world.	<b>NCAI Project</b> OH 1 Ethel Rubin Potential Spinout
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**Advisory Relationships**  
32  
(1 pending, 3 potential)

<b>Benevir</b>  Montgomery County 6	<b>Perceptive Navigation</b>  JHU 2	<b>Appian Medical</b>  Montgomery County 2	<b>N5 Sensors</b> UMCP/NIST 6	<b>Avhana</b>  Dreamt 1 9	<b>Cognuse</b> Dreamt 1 11	<b>Emocha</b>  Dreamt 1 5	<b>Protenus</b>  Dreamt 1 11	<b>Quantified Care</b>  Dreamt 1 5	<b>VLP</b>  Montgomery County 3	<b>MDLogix</b>  Baltimore 16	<b>Tissue Analytics</b>  Baltimore 5
<b>Aegle</b> Dreamt 1 1	<b>Patientfeed</b> Dreamt 1 0	<b>Baton</b>  Dreamt 2 3	<b>Decisive Health</b>  Dreamt 2 3	<b>InsightMedi</b> Dreamt 2 2	<b>Real Dietitian</b>  Dreamt 2 6	<b>Sisu Global Health</b>  Dreamt 2 5	<b>Redox</b>  Dreamt 2 12	<b>Corvidia</b>  Boston 1	<b>Respi</b> Dreamt 1 2	<b>Bwell America</b> Montgomery County 1	<b>Agewell Biometrics</b> Montgomery County 2
<b>Cheeksup</b> Relevant Health 3	<b>Ergonomatrix</b> Relevant Health 1	<b>Gastro Girl</b> Relevant Health 1	<b>Werbie</b> Relevant Health 1	<b>Onciomed</b> Relevant Health 1	<b>Atlas Medical Innovation</b> Montgomery County 1	<b>Coaptech</b> Montgomery County 1	<b>Avasys</b> Montgomery County 1				

\* Numbers do not reflect BHI employees, company consultants and full-time equivalents at each of the portfolio companies.

 22 Companies have raised capital

 BHI has an equity stake in 27 companies

## BHI Company Portfolio (As of 11/25/2015) – 46 Companies (6 Pending) - 135 FTEs\* DRAFT

Co-founders 11 (4 pending)	<b>3DBioWorks</b> UMB/UMCP 3 Ken Malone 3DBioWorks grows cord stem cells in 3D printed bioreactors.	<b>Mimetas US</b> Netherlands 1 Ram Aiyar / Anthony Saleh Mimetas is developing and marketing Organ-on-a-Chip solutions for the pharmaceutical industry.	<b>Tertius Analytics</b> UMD 1 Ethan Byler Tertius Analytics provides analytical tools for network modeling of regional industry clusters.	<b>Asulon Pharma</b> UMD 2 Ken Malone Asulon is developing small molecule therapeutics for rapid acting anti-depressants.	<b>Magnifygen</b> Montgomery County 2 Steve Wolpe Magnifygen is developing novel immunotoxins for the treatment of solid and liquid tumors.	<b>Artgen</b> Russia 3 Steve Wolpe / Ram Aiyar Artgen is a US-owned company developing a gene therapy for peripheral arterial disease.						
	<b>NewCo - Aquaculture</b> UMD 3 Ken Malone Maryland-based company to generate potent fish vaccines for aquaculture.	<b>NewCo - Cell Bank</b> UMD 3 Ken Malone Focused on harvesting, banking, and storing stem cells from patients' tonsils.	<b>Intelligent Immunity</b> Henry Jackson Foundation 4 Steve Wolpe Cancer vaccine platform that can be used in combination with approved monoclonal antibodies for active immunotherapy.	<b>Rensavir</b> MD/NIH 3 Steve Wolpe Infectious disease company developing polymers that bind to Viruses.	<b>Virongy</b> MD 2 Steve Wolpe Virology reagents for both the research and therapeutic markets.							
Consulting Relationships 5 (2 pending)	<b>MockV Solutions</b> Montgomery County 1 Ram Aiyar MockV Solutions is developing novel kits to make biotherapeutic process development cost efficient.	<b>Paradigm Shift</b> UMB/NIH 3 Ram Aiyar Developing small molecules to support counter-terrorism and radiation oncology products.	<b>Avidea</b> NIH/Oxford/Prague 3 Ram Aiyar A polymer-based neoantigen company from JHU, NIH, Oxford and Prague polymer institute	<b>Serpina Pharma</b> VA 3 Steve Wolpe First-in-class anti-inflammatory peptides	<b>Orgenesis</b> MD 2 Steve Wolpe Focused on cell replacement therapy for Type 1 diabetes and contract cell manufacturing							
	<b>Agewell Biometrics</b> Developing data analytics tools which can use accelerometers in devices to determine risk of falling among seniors.	<b>CheeksUp</b> CheeksUp are developing a system to support speech children receiving speech and language support.	<b>Ergonomatrix</b> Ergonomatrix are developing a wearable device which can determine the risk of back injury.	<b>Gastro Girl</b> Developing a technology platform focused on delivering health coaching and support to the GI community.	<b>Lazy</b> Developing a product to automate the collection of quality metrics by hospitals and health providers.	<b>Neopenda</b> Developing a monitor to measure neonatal vitals with engineered hats for use in the developing world.	<b>Werbie</b> Developing an application focused on the dietary needs of women managing high risk pregnancies.					
Relevant Health 7	<b>Benevir</b> Montgomery County 5	<b>Perceptive Navigation</b> JHU 2	<b>Appian Medical</b> Montgomery County 3	<b>N5 Sensors</b> UMCP/NIST 5	<b>Avhana</b> Dreamt 1 7	<b>Cognuse</b> Dreamt 1 5	<b>Emocha</b> Dreamt 1 6	<b>Protenus</b> Dreamt 1 6	<b>Quantified Care</b> Dreamt 1 4	<b>VLP</b> Montgomery County 8	<b>MDLogix</b> Baltimore 4	<b>Tissue Analytics</b> Baltimore 5
	<b>Aegle</b> Dreamt 1 3	<b>Patientfeed</b> Dreamt 1 4	<b>Baton</b> Dreamt 2 4	<b>Decisive Health</b> Dreamt 2 2	<b>InsightMedi</b> Dreamt 2 4	<b>Real Dietitian</b> Dreamt 2 3	<b>Sisu Global Health</b> Dreamt 2 3	<b>Redox</b> Dreamt 2 7	<b>Corvidia</b> Boston 1	<b>Respi</b> Dreamt 1 4	<b>Bwell America</b> Montgomery County 4	

\* Numbers do not reflect BHI employees, company consultants and full-time equivalents at each of the portfolio companies.

21 Companies have raised new capital in 2015

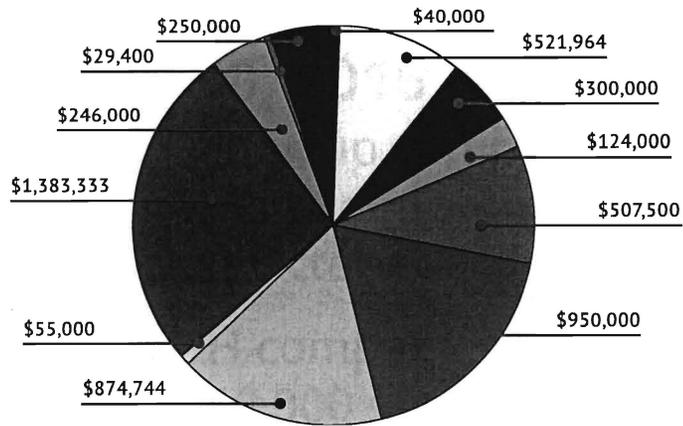
# has an equity stake in 21 companies

# 2015 BHI Impact in Montgomery County

## PROJECTED FUNDING

**\$5,281,941**

2015 Funding



**7:1**

Leverage Ratio

- University
- Sublease Income
- Special Projects Income
- Private Sector
- NGO
- EIR Funding
- Relevant Health Accelerator
- Local Government
- In-Kind
- Foundation
- Federal Grants
- Client Services

## BHI COMPANY PORTFOLIO (46 Companies, 135 FTEs)

Therapeutic

Medical Device

Health IT

R&D Tool

DreamIt Cohorts 1 & 2

Relevant Health Companies

Co-founded

## BHI FUNDING ASSISTANCE

**\$2.76M**

Grant Funding Awarded

**42.7%**

Program Success Rate

vs

**21.1%**

National Average Win Rate

## PORTFOLIO CAPITAL RAISE

**\$18.4M**

Appian, BWell, mdlogix, Paradigm Shift, Tissue Analytics, VLP, 3DBioWorks, Mimetas, MockV, N5, Perceptive, Nomful, Baton, Decisive Health, InsightMedi, Protenus, Quantified Care, Redox, Avhana, Emocha, Sisu

## BHI STAFF

Full-time

Part-time

# The Opportunity

## Maryland's 1<sup>st</sup> product-focused health tech accelerator

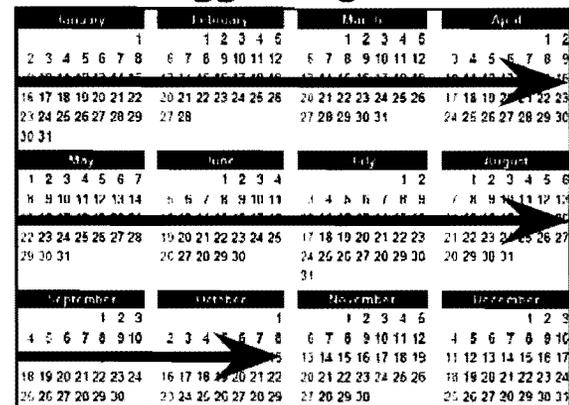


**It's a crowded field, why another accelerator?**

- 27 comparable health tech accelerators, many launched within last 2 years, but only 1 in the Delaware, Maryland, D.C., Virginia region
- Existing accelerators neglect product development: startups emerge from the accelerator without a functional product, then struggle to gain traction

**Health tech requires a longer timeline than the typical accelerator models allows**

- Strategic partnerships take 6-12 months to form
- Pilots with insurance companies and hospitals are difficult to achieve but critical to demonstrating value proposition



**Relevant Health provides a curriculum focused on building products and offers long term partnerships through BHI and the Montgomery County Incubation Network**

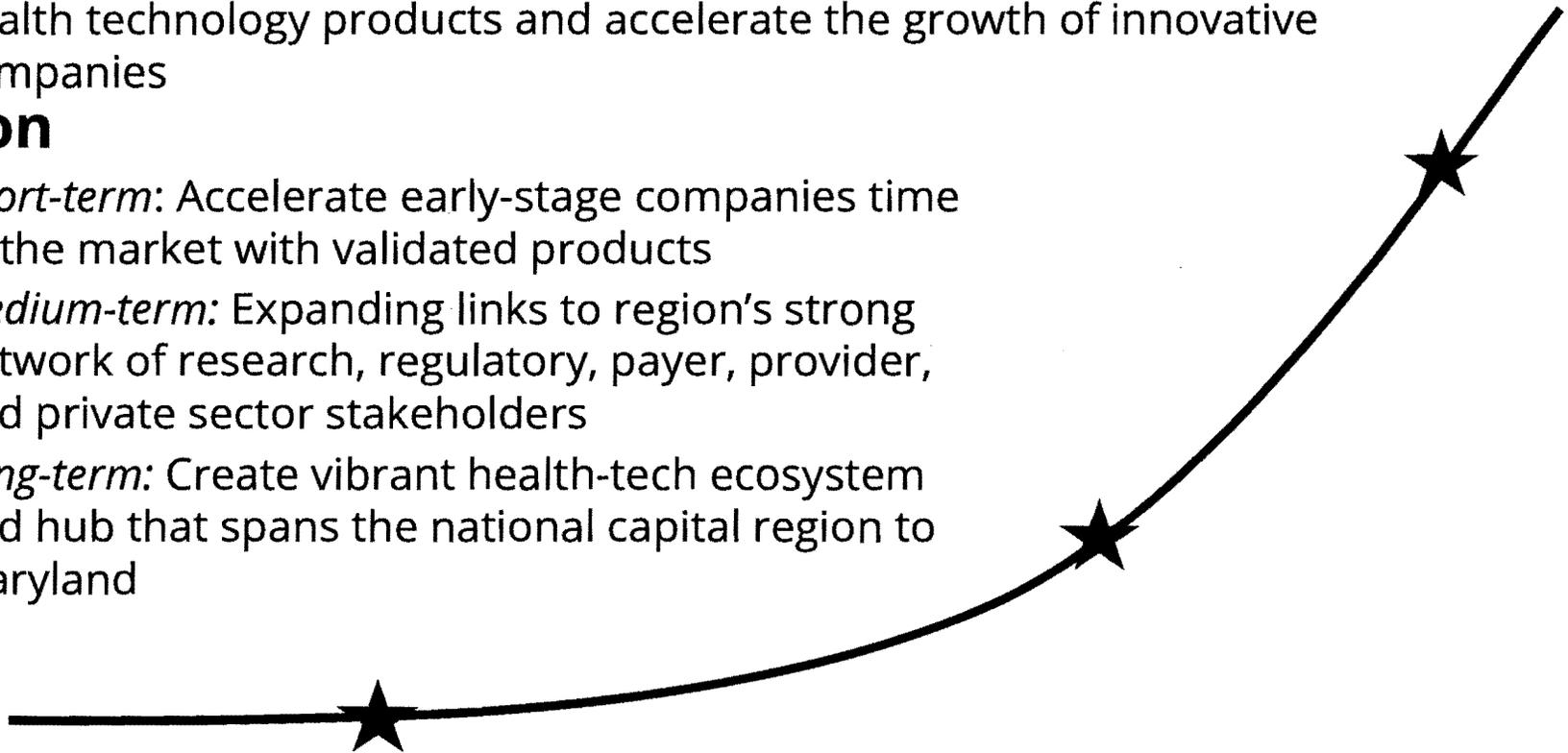
# Relevant Health's Mission and Vision

## Mission

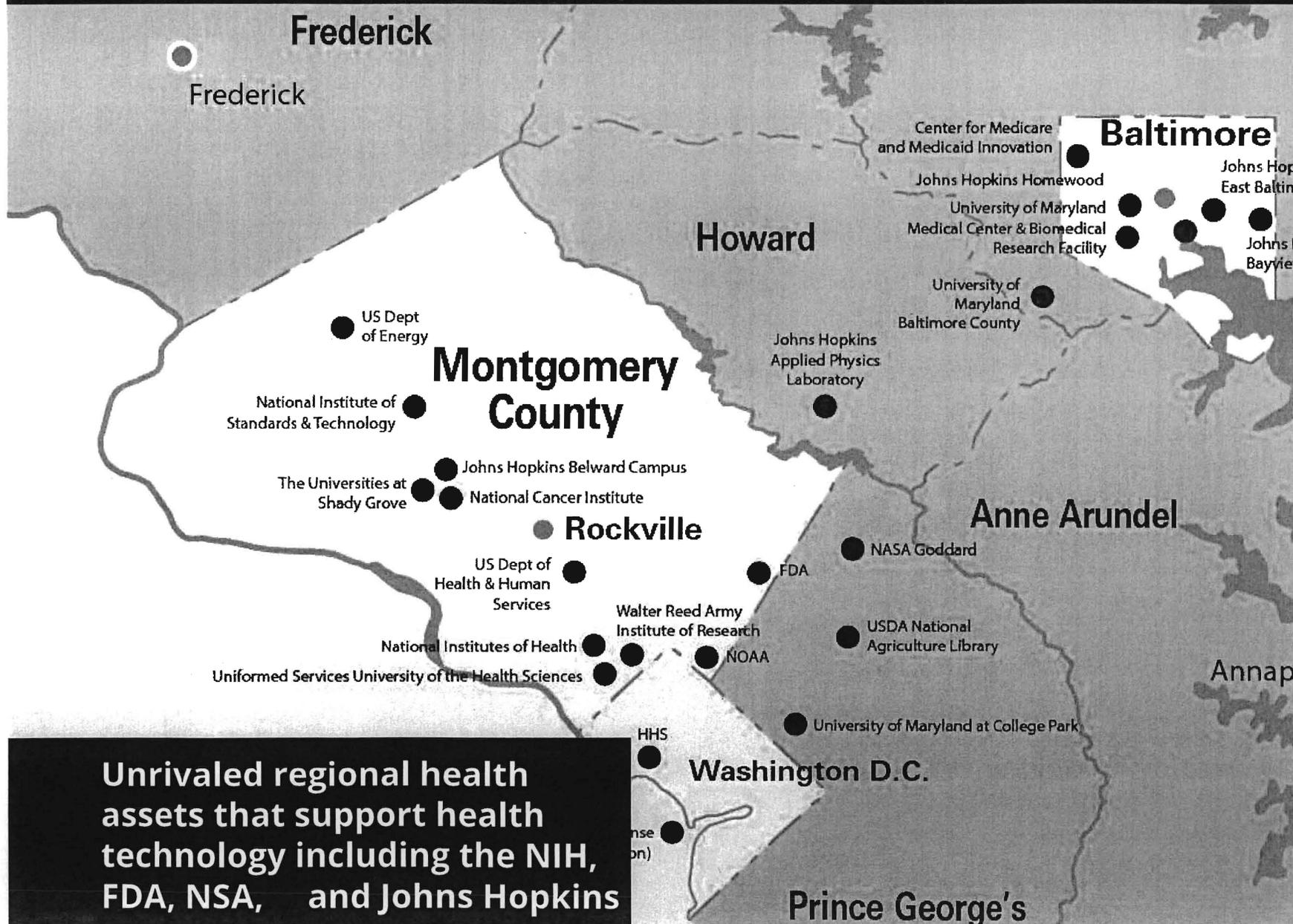
- Provide the missing piece to Maryland's health tech innovation ecosystem – a connection between the startup community and established, regional health assets – by developing talented people that build differentiated health technology products and accelerate the growth of innovative companies

## Vision

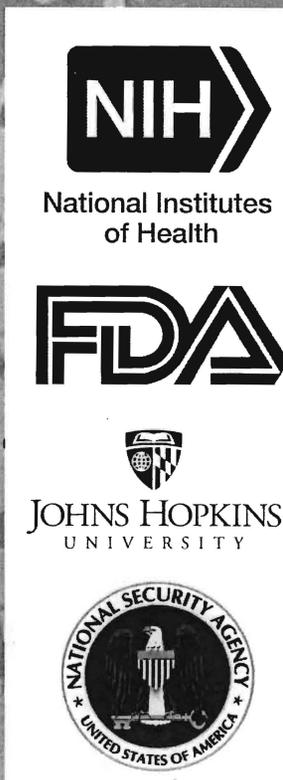
- *Short-term:* Accelerate early-stage companies time to the market with validated products
- *Medium-term:* Expanding links to region's strong network of research, regulatory, payer, provider, and private sector stakeholders
- *Long-term:* Create vibrant health-tech ecosystem and hub that spans the national capital region to Maryland



# Maryland's Unparalleled Health Resources



Unrivaled regional health assets that support health technology including the NIH, FDA, NSA, and Johns Hopkins



# Founding Partners



- Facilitates the support of entrepreneurship in the health industry and the commercialization of market-relevant research from universities, federal labs, and biohealth companies in Central Maryland. Deep network of top tier venture capital, large pharma, & medical technology companies.

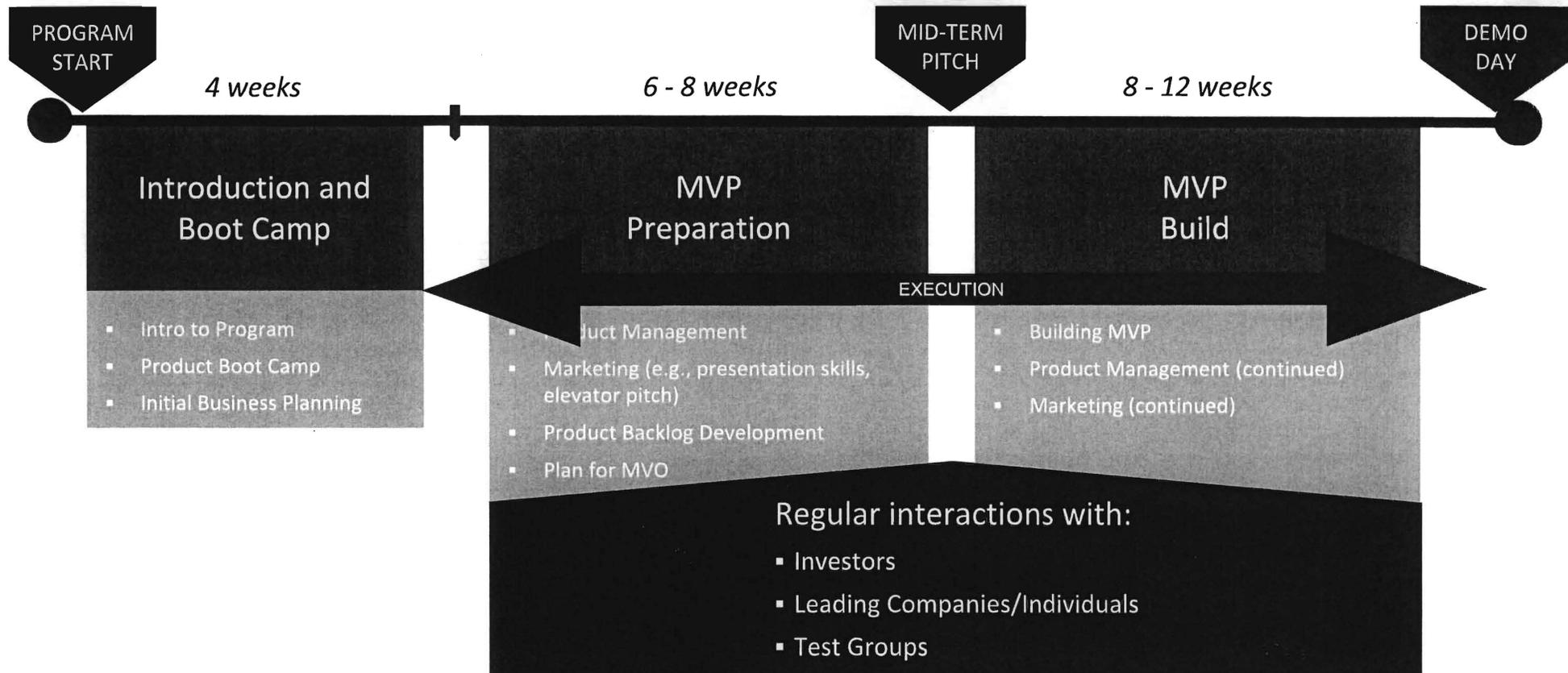


- Product acceleration company that supports tech startups with product strategy, marketing, and management and software development management.



- Provides facilities management to four incubators and the Rockville Innovation Center, where RH is located.

# Relevant Health's 5-Month Model



- Provides startups with product-focused support and incorporates repeated validation sessions that provide interaction with investors, corporate partners, and users.

- Post-demo day, longer term partnerships are offered through BHI and the Montgomery County Incubation Network

# Relevant Health Network

## Private Sector



## Government



## Academia



## NGOs



# Implementation & Funding

## Funding and Partners

- Relevant Health is a \$1,000,000 program

## Three types of supporters:

### ■ Investors

- Investors receive Class A Preferred Distribution Units in Relevant Health Holding Company which holds the common stock in the companies (see appendix for distribution structure)

### ■ Supporting Partners

- Funding supports operational budget for the accelerator management and programming for organization. Option selected for partners who are conflicted by being investors in the companies. Nonprofit donation also an option.

### ■ Network Partners – In-Kind

- Building RH network – test beds, events, meetings, facilitation, and outreach from people and organizations that can impact the direction of the companies

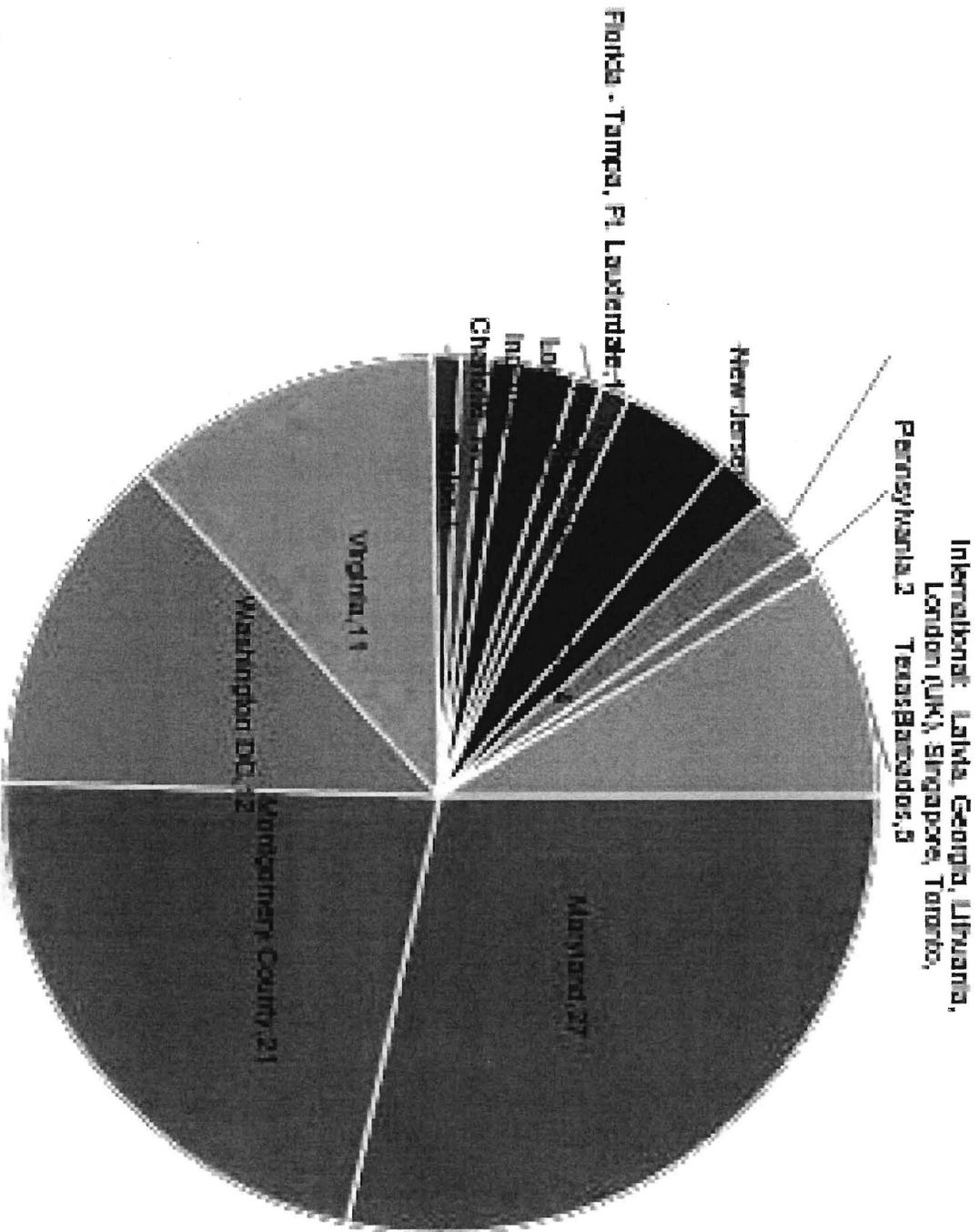
# Key Performance Metrics

## Success for Relevant Health

- Supporting the health tech capacity in the region: A groundswell of early stage health tech entrepreneurs coming to the area to grow their companies (inside and outside the accelerator)
- Partners engaged in supporting the entrepreneurial ecosystem
- Seed capital increasingly flowing to the health tech sector
- Cohort companies progress:
  - Product development
  - Customer acquisition
  - Fundraising

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# Applicant Pool Summary



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# Program Launch

## Co-working facility in Rockville, Maryland Innovation Center

- Dedicated accelerator co-working space (4500 sq. ft.)
- Hosted events for participants and alumni; open year round

### Timeline

- 1<sup>st</sup> Program October 26, 2015 - March 2016
- 2<sup>nd</sup> Program - October 2016 - March 2017
  - Marketing kick-off in May-June 2016

Rockville Innovation Center



Rockville, Maryland



Relevant Health Co-working Space



# Seven Companies in the First Relevant Health Cohort



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# Seven Companies in the First Relevant Health Cohort

## Wearable devices and sensors

- **Agewell Biometrics (Baltimore)** is developing a data analytics tool which can use the accelerometers in cell phones and wearables to determine risk of falling among seniors
- **Ergonometrix (Rockville)** is developing a wearable device to determine the risk of back injury
- **Neopenda (New York City)** is developing a monitor to measure neonatal vitals with engineered hats for use in the developing world

## Consumer-facing mobile health

- **CheeksUp (Riga, Latvia)** is developing a gamified system for children receiving speech and language support
- **Gastro Girl (Falls Church, Virginia)** is developing a technology platform focused on delivering health coaching and support to the GI community
- **Werbie (Bethesda)** is developing a mobile and web application focused on the dietary needs of women managing high risk pregnancies specifically manage gestational diabetes

## Provider-facing health IT

- **Lazy (Washington, DC)** is developing a product to automate and streamline the collection and submission of key quality metrics by hospitals and other health providers

# 2016 Cohort Performance Metrics

## Performance Metrics include

- 170 Demo Day Registrants
- Company retention: 6 of the 7 companies retained locally through June 30<sup>th</sup>
- County investment leveraged more than 1:1
  - US Small Business Administration - \$25,000 (Accelerator Challenge)
  - MITRE Corporation - \$25,000
  - Private investors - \$198,000
  - BHI General Fund - \$300,000
- Pilots completed: 5 - Agewell Biometrics, 2 (Motion Picture Television Fund & Portland, OR assisted living facility. ErgonometriX, 3 (Movers, Firefighters, Manufacturing floor)
- Follow-on capital raised: \$150,000 (Neopenda, Lazy Corporation)
  - Neopenda won the Cisco Internet of Everything Innovation Challenge Prize
- 3 TEDCO & Maryland Industrial Partnerships applications pending (Werbie, Agewell)
- ErgonometriX finalist at the Regional BioHealth Capital Forum Crab Trap Competition

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# BioHealth Capital Region Forum

APRIL 18 + 19, 2016

Held at MEDIMMUNE • One MedImmune Way • Gaithersburg, MD • 20878

# Economic Alliance of Greater Baltimore and BioHealth Innovation, Inc. Announce Key Findings of BioHealth Index for Central Maryland (/biohealth-news/bhi-press-releases/6290-economic-alliance-of-greater-baltimore-and-biohealth-innovation-inc-announce-key-findings-of-biohealth-index-for-central-maryland)

Wednesday, April 20, 2016

*Report Unveils Region's Position Among Other BioHealth/Tech Hotbeds Across the Country as Local Leaders Drive Towards Placement as Top Biotech Hub by 2023*

The Economic Alliance of Greater Baltimore (EAGB) and BioHealth Innovation, Inc. (BHI) officially released the BioHealth Innovation Index for Central Maryland at the Second Annual Regional BioTech Forum, which took place April 18 and 19 in Gaithersburg, Maryland. The Index is a comprehensive analysis of the biohealth industry highlighting the region's strengths, along with those areas that present opportunity for economic growth.

The Index will serve as a guide for the continued development of Maryland's booming biohealth region, by pinpointing key opportunities for future growth to accelerate the region to the top three biotech hubs in the U.S. by 2023.



According to BHI CEO Rich Bendis, who also serves on the Governor of Maryland's Life Sciences Advisory Board, "This index both confirms the region's standing, while also shedding light on what it will take to raise our spot among the top three biotech/biohealth hotbeds in the country. Our region is attracting new and innovative companies at unprecedented speeds. This Index reflects such innovation occurring in Greater Baltimore and Central Maryland, and provides a platform on which to develop a strategic analysis relevant to other U.S. markets such as Boston, New York, Philadelphia, Pittsburgh, Raleigh-Durham, San Diego and San Francisco."

The Index reveals that the Greater Baltimore and Central Maryland region has laid a strong foundation for the biohealth industry. The opportunity exists for professionals in the region's industry to capitalize on the market's leadership in early-stage research and development to commercialize more novel technologies and build more robust ecosystems that generates new companies and jobs. Other key findings from the Index include:

- **Concentration of Workers & Level of Education:** The region has 19 percent more BioHealth workers than average and is tied with New York for #1 among peer markets.
- **R&D:** The region has three times the average of R&D professionals.
  - Hopkins receives the second most funding in the U.S. for life sciences R&D.
  - Universities in Greater Baltimore receive more than \$1.7 billion in BioHealth R&D, the second greatest expenditure among peer markets.
- **Capital:** \$1.06 billion in venture investment in BioHealth from 2010-2014.
- **Entrepreneurship:** Maryland ranks seventh in start-up efficiency with an average of more than \$140 million of federal research required to generate one startup.

"This region has become a significant biohealth/biotech cluster. With most of the world-class health institutions and universities in our backyard, it offers a unique location for the expansion of continued biohealth innovation. The fact we are ranked number one in the concentration of talent serves as a tremendous launching point as we endeavor to become a top three market in the U.S.," states EAGB CEO Tom Sadowski.

The region is home to key biohealth assets like Johns Hopkins University and the University System of Maryland, 70 federal research facilities including the National Institutes of Health, and more than 800 life sciences companies. As a result, Central Maryland's BioHealth workforce is substantial and densely concentrated. Recently, more programs have launched to encourage more commercialization of technology, and life sciences companies like WellDoc have had success with IPOs and raising venture capital.

The Economic Alliance, BHI and Johns Hopkins University were catalysts for forming the first health technology accelerator program, DreamIt Health in Baltimore to capture the significant opportunity for startups in the city. DreamIt Health Baltimore supported two successful cohorts of 15 companies, helping them pilot implementation projects, identify customers and investors, and in some cases, open office space in Baltimore. Successful companies that have spun out of DreamIt include Protenus, Avhana and Sisu Global Health.

Additionally, BHI has designed other strategies to enhance the local biohealth ecosystem. BHI has built the first of its kind partnership to place Entrepreneurs-In-Residence within the National Institutes of Health. It has supported the creation, spin-off or progression of 45

regional biohealth startups and early-stage companies in less than four years since the organization formed in 2012.

BHI also invested in Montgomery County's first health tech accelerator, Relevant Health that graduated its cohort of companies in March.

The full BioHealth Innovation Index for Central Maryland can be found at:

<http://www.greaterbaltimore.org/biohealth.aspx>  
(<http://www.greaterbaltimore.org/biohealth.aspx>)

The Economic Alliance of Greater Baltimore is a not-for-profit economic development organization led by a partnership of regional business executives, elected government officials and leaders from higher education focused on fostering business retention and development, job creation, workforce development and new investment throughout the Greater Baltimore region. The region is defined as Baltimore City and its seven surrounding counties: Anne Arundel County, Baltimore County, Carroll County, Cecil County, Harford County, Howard County and Queen Anne's County. The Economic Alliance markets Greater Baltimore, and establishes global recognition for the Greater Baltimore area, as a world-class region in which to live, work, learn and invest. More information can be found at [www.greaterbaltimore.org](http://www.greaterbaltimore.org).

BioHealth Innovation, Inc., is a regional innovation intermediary focused on commercializing market-relevant bio-health innovations and increasing access to early-stage funding in Maryland. BHI is known for providing commercial assistance to scientists and founders, educating and infusing Maryland's life science community with new and young entrepreneurs and fueling startups within Central Maryland's bio-ecosystem by connecting young companies to funding and business resources. Learn more at [www.biohealthinnovation.org](http://www.biohealthinnovation.org).

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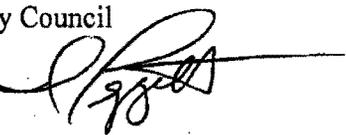
OFFICE OF THE COUNTY EXECUTIVE  
ROCKVILLE, MARYLAND 20850

Isiah Leggett  
County Executive

MEMORANDUM

April 19, 2016

TO: Nancy Floreen, President, County Council

FROM: Isiah Leggett, County Executive 

SUBJECT: Small Business Assistance Program -- Quarterly Update - 1, 2016Q1

**Purpose**

This memorandum provides an update on the activities and progress of the Department of Economic Development ("DED") under the Small Business Assistance Program ("SBAP" or the "Program"). The Montgomery County Code requires that we report the activities of the SBAP annually (§§ 20-76B.g); however, we believe that quarterly updates to you and the County Council will improve the County's response to Wheaton small businesses during the Wheaton Redevelopment Project (the "Project").

**Background**

The SBAP assists small businesses in Enterprise Zones or Urban Renewal Areas where the County initiates a redevelopment project through full or partial funding or the project occurs on County-owned land. The Program provides two forms of assistance -- technical assistance and financial assistance. The technical assistance must be available to small businesses at least twelve months prior to the start of construction and is available to any impacted businesses. This assistance must be provided by local non-profits or education intuitions. The financial assistance will be available to businesses that were financially healthy prior to construction and who can demonstrate an adverse impact due to the construction project.

The Wheaton Redevelopment Project, located on Parking Lot 13, is anticipated to begin in December 2016 or January 2017. This Project requires that the County provide services through the SBAP, and as is such, DED has begun working with our community partners to contact the small businesses with the greatest chance of being impacted to inform them about the Project and the Program and determine the appropriate level of technical assistance at this time. In addition, DED is working closely with Luisa Montero-Diaz, Director of the Mid-County Regional Services Center ("MCRSC") to ensure consistent communication and effective delivery of the County's services to the Wheaton small businesses.

### Quarterly Update – 2016Q1

Our quarterly updates will include three sections: 1) activities performed that quarter, by the County and/or our community partners, 2) notable progress, and 3) any notable challenges and immediate action that was or is being taken by DED.

#### Activities

- January 2016 – DED finalized the contract with the Latino Economic Development Corporation (“LEDC”) and its consortium that includes the Hispanic Chamber of Commerce of Montgomery County and the Greater Washington Hispanic Chamber of Commerce to deliver technical assistance during the Project. The contract is held by the County’s Business Innovation Network partner, MEDCO.
- February 2016 – DED, in conjunction with the MCRSC, provided an update in English and Spanish to the small businesses concerning the construction project and delivery of services under the SBAP.
- February 2016 – LEDC promoted a staff to the new, full-time business development position required under the contract.
- February 2016 – LEDC created a questionnaire to standardize and quickly assess small businesses to individualize technical assistance throughout the Project.
- March 2016 – LEDC met and assessed 30 Wheaton small businesses.
- March 2016 – LEDC hired a new small business development coach (60% time required through the contract) to assist the business development staff in assessments and technical assistance throughout the Project.

#### Notable Progress

- DED executed the contract between the County and the LEDC consortium.
- LEDC’s allotment of approximately 1.6 staff positions fully devoted to Wheaton small businesses.
- Assessment by LEDC of 30 businesses (approximately 70 remaining).

#### Notable Challenges

- Twenty-one businesses voiced concern about completing an assessment to individualize technical assistance because it provided “information” to the County that might be used to undermine their business or their ability to receive assistance.
  - The County and LEDC continually reiterate our support for the Wheaton small businesses, the importance of tailoring the technical assistance to each business, and the confidentiality of the information that is provided.
- Six businesses have refused support on the basis that they don’t believe the Project will occur.
  - DED and LEDC have provided documentation that the Project will begin in the next twelve months, and we will return to these businesses to see what assistance can be provided once the construction begins.

Nancy Floreen, Council President  
April 19, 2016  
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- Two businesses queried about the assistance process and amount because they are weighing their decision to renew a lease before construction begins.
  - DED informed the businesses that assistance cannot be estimated until construction begins because the business must be able to demonstrate an adverse impact.
- Two businesses expressed frustration that they were contacted in 2014 and haven't received any assistance, yet, and the need to complete additional assessments.
  - This issue stems from the Department of General Services contract with the Maryland Small Business Development Center ("SBDC"), which conducted a survey for the purpose of assessing the general profitability of area businesses and to estimate the costs under the SBAP. It was communicated that SBDC's survey was not linked to applying and receiving financial assistance under the Program. DED has issued a letter and additional verbiage to LEDC to reiterate the purpose of SBDC's assessment and how it differs from Program's purpose and process, now that the Project's start is approaching.

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## **Wheaton Small Business Service Delivery**

### Challenges (not related, but proximal geographically)

- 1) The Wheaton Redevelopment Project, a County-funded development on County-owned land, could significantly disrupt business operations for at least 100 Wheaton small businesses due to the closure of the parking lot.
- 2) The Wheaton Business Innovation Center can only provide programs and services to very limited number of small businesses in Wheaton and the down-County area, and is planned to close in June 2016.

### Response to the challenges

- 1) The County Executive and Council have created the Small Business Assistance Program to assist businesses adversely impacted by redevelopment projects that are either funded by the County or built on County-owned land. The program provides both technical business assistance and financial assistance for loss in profit due to the construction.
- 2) The Department of Economic Development issued a study of the Business Innovation Network and determined that closing the Wheaton Business Innovation's Center and repositioning its resources would better provide assistance and services to more small businesses in Wheaton and the down-County area.

### Goals of the responses

- 1) Increase the likelihood that adversely impacted Wheaton small businesses will maintain business operations during and after the Wheaton Redevelopment Project.
- 2) Increase entrepreneurship and small business activity in Wheaton and the down-County area after the Wheaton Redevelopment Project.

### Implementation of the response

The Department of Economic Development believes that the most effective way to respond to both challenges and achieve the desired goals is to partner with organizations that are already providing small business programs and services in Wheaton and the down-County area.

### Outcomes from partnership (short-term)

- 1) Inventory Wheaton small businesses into tiers for technical assistance, so that they are connected with the organization that is best suited to provide that assistance
- 2) Provide regular updates to Wheaton small businesses during the construction project.
- 3) Strengthen ties between Wheaton businesses through Collective Business Activities and mentorship.
- 4) Provide individualized technical assistance to increase business activity.
- 5) Provide assistance to apply and qualify for financial assistance from the County; qualification may require completion of the technical assistance.
- 6) Market Wheaton as a destination to do business in the County, as well as regionally.

### Outcome from partnership (long-term)

- 1) Create the “Incubator without Walls Program” to deliver small business programs and services to small businesses in Wheaton and the down-County area beyond the Wheaton Redevelopment Project.

#### Short-term Delivery

- 1) Inventory Wheaton small businesses for technical assistance

##### Specific outcomes:

- Assist small business owners to evaluate business operations for areas of improvement in a quick and standardized manner.
- Direct small business owners to the appropriate organization and technical assistance programs.
- Allow small businesses to opt out of future assistance from the County and partnering organizations.

##### County’s recommended delivery method:

Create a standardized form to assess critical elements of business operations for technical assistance, as well as allow them to opt out of future assistance.

- 2) Broad Outreach

##### Specific outcomes:

- Create an ombudsman-like position to meet with Wheaton small businesses regularly to receive feedback regarding the construction project and to provide generalized assistance.
- Provide regular updates about the Wheaton Redevelopment Project.
- Provide regular updates about additional programs and services available to small businesses through these partnerships.

##### County’s recommended delivery method:

- Hire at least one full-time bilingual (Spanish and English) staff that can be a regular face to the small businesses in Wheaton during and post construction project.

- 3) Community Building

##### Specific Outcomes:

- Increase “Collective Business Activities,” as defined as any activity that two or more businesses collaborate or combine resources to execute, such as collective marketing.
- Increase mentoring between experienced and younger business owners

##### County’s recommended delivery method:

- Workshops for Collective Business Activities (no more than once a month)
- Mentoring program (B2B or Organization’s staff led)

- 4) Technical Assistance

Specific Outcomes:

- Increased business acumen that includes but is not limited to accounting, inventory turnover, signage, and marketing through multiple mediums.
- Increased awareness and understanding of the changing clientele that will enter the Wheaton market as a result of the Wheaton Redevelopment Project.
- Increase the likelihood that Impacted Businesses will remain in operation in Wheaton after construction.

County's recommended delivery method:

- A suite of technical assistance programs that are free of charge and will allow the organizations to tailor assistance for each business.

5) Financial Assistance

Specific Outcomes:

- Assist Wheaton small businesses in the application process for financial assistance under the Small Business Assistance Program.
- Assist Wheaton small businesses in preparing financial documents to support that they are "Financially Healthy" and that they were "Adversely Impacted," as defined in Executive Regulation 24-12AM.
- Ensure Wheaton small businesses are completing any required Technical Assistance programs to receive financial assistance.

County's recommended delivery method:

- A staff or consultant with business management experience will provide aid to the small businesses that wish to take advantage of financial assistance but do not have the required documentation. This support may be in conjunction with the technical assistance or "ombudsman-like" position.

6) Wheaton Marketing

Specific Outcomes:

- Increased public awareness of goods and services available from the Wheaton area.
- Increased purchasing of goods and services from the Wheaton area.

County's recommended delivery method:

- Research and collaboration with Wheaton small businesses to develop a marketing campaign.

Long-term Delivery

The long-term delivery for the Incubator without Walls Program will be dependent on the success of the organizations and assessment of small business needs following the Wheaton Redevelopment Project.