



UNIVERSITY SYSTEM  
*of* MARYLAND

## **Agenda Item 4**

# **USM Office of Economic Development Updates:**

- a. Momentum Fund – Inaugural Investment Round**
- b. Governor’s Excel Maryland Initiative**
- c. NSA Education Partnership Agreement**
- d. USM New Company Formation Report**

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**TOPIC:** USM Economic Development Office Update (information item)

**COMMITTEE:** Economic Development and Technology Commercialization

**DATE OF COMMITTEE MEETING:** June 8, 2017

**SUMMARY:** The Committee will be updated on selected economic development initiatives.

**1. Momentum Fund – Inaugural Investment Round**

Approved in June 2016 by the BOR, the USM Momentum Fund was created to help sustain and grow USM startup and related commercialization activity. More than 50 applications were received as part of the opening investment round of the fund. Four finalists were considered by the Fund's External Investment Advisory Board on May 31, 2017.

**2. Governor's Excel Maryland Initiative**

On May 18, 2017, Governor Hogan announced the formation of a Steering Committee of Industry Stakeholders to be co-chaired by USM Chancellor Bob Caret and Johns Hopkins University President Ron Daniels. This committee's effort will be guided by a national consultant, who will collect input from leaders state-wide and beyond to develop and implement a new strategic plan for leveraging Maryland's innovation capacity and its strengths in the cyber and bio-health/life sciences sectors.

**3. NSA Education Partnership Agreement**

On May 8, 2017, the USM and the National Security Agency (NSA) signed an Educational Partnership Agreement (EPA). The purpose of the Agreement is to include mutual support for education, mentorships, technology transfer, and the promotion of commercial business ventures, based on the Government's intellectual property; to enable NSA staff to represent the Government at USM meetings, events; and to provide streamlined engagement and communications between the NSA and USM Institutions.

**4. USM New Company Formation Report**

As part of a series of measures to accelerate technology transfer and entrepreneurship, the USM has put in place a process to regularly monitor new company formation. The Committee will be briefed on the latest report on new companies facilitated by the USM institutions.

**ALTERNATIVE(S):** This item is for information purposes.

**FISCAL IMPACT:** This item is for information purposes.

**CHANCELLOR'S RECOMMENDATION:** This item is for information purposes.

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COMMITTEE RECOMMENDATION:

DATE:

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BOARD ACTION:

DATE:

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SUBMITTED BY: Tom Sadowski / Suresh Balakrishnan (301) 445-2783

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# USM

## Economic Development

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*Update for Committee on Economic  
Development & Tech Commercialization*

June 8, 2017



# Economic Development Objectives

Culture of  
Collaboration

Leverage USM  
Resources

Talent  
Development

Strengthen  
Entrepreneurial  
Ecosystem

Tell Our Story

# Momentum Fund – Goal

- To generate long-term returns for reinvestment in future USM affiliated startups
- Accelerate the success and profitability of USM startups
- Commercialize valuable USM affiliated Intellectual Property
- Attract promising entrepreneurs/innovators to work with USM Institutions

## Momentum Fund – Applicant Metrics

- 54 Applicants
- Represented from UMCP, UMB, UMBC, Towson, Salisbury, UMCES
- Represent 18 industry sectors including healthcare, medical devices, cybersecurity, semiconductors, food/beverage, energy and education.
- 9 invited to Pre-pitch session with internal staff (1 declined due to other investment)
  - 4 sent to final pitch with external board (1 deferred in light of new FDA ruling)
  - Remaining 45 companies are currently being reviewed for next steps and additional counseling as appropriate
- External Investment Advisory Board review of companies on 5/31

# Excel Maryland Initiative

- Effort to develop a comprehensive Statewide economic development strategy
- Diverse committee Co-Chaired by R. Caret and R. Daniels, comprised of key CEOs from large companies-to-startup firms
- Creation of a new model to accelerate innovation-driven industry and job growth via strategic public/private collaboration and investment
- Initial work to focus on the life sciences and cybersecurity industries
- Led by national consultant, Dr. Susan Wyndham Bannister, who wrote strategy and managed Massachusetts Life Sciences Center
- Input will be solicited from public/private stakeholders over the summer and report to be released August 2017



# NSA Education Partnership Agreement (EPA)

- On May 8, 2017, the USM and the National Security Agency (NSA) signed an Educational Partnership Agreement (EPA)
- Articulates mutual support for partnership ...
  - education programs, mentorship, technology transfer, and promotion of joint research and commercial business ventures based on the Government's intellectual property;
  - Better enables NSA staff to represent the Government interests and strategically engage with USM Institutions

# University System of Maryland

## New Company Formation

July 1, 2016 – December 31, 2016

### Summary of New Companies Facilitated by USM Institutions by Tier

#### **Tier 1: 11 total**

- UMCP – Total: 7 licensed university-owned IP
- UMB – Total: 3 licensed university-owned IP
- UMBC – Total: 1 licensed university-owned IP
- Total Women-Owned: 0

#### **Tier 2: 34 total**

- UMCP – Total 16: 5 companies received significant mentoring through the Fearless Founders Program at the Dingman Center; 1 company received significant mentoring and is a part of the Dingman Center Angel Investment Portfolio; 8 companies received significant mentoring through the Venture Accelerator Program at Mtech; 2 received significant mentoring through the I-Corps Program through Mtech;
- SU – Total: 4 received significant mentoring in SU's Shore Hatchery
- UMBC – Total: 3 companies are new tenants in the Cyber Incubator
- UMUC – Total: 1 company received significant resources and mentoring
- SBDCs – Total of 10 received significant mentoring (Corridor Region - 7 (UMCP – 3, UMB – 4); FSU – 3)
- Total Women-Owned: 5

#### **Tier 3: 70 total**

- UB – Total: 4 companies are using UB's Incubator space
- UMCP – Total: 3 companies are Business Plan Competition winners
- SBDCs – Total of 63 received counseling services (Corridor Region – 48 (UMCP – 22, UMB – 26); Salisbury - 3; FSU - 12)
- Total Women-owned: 4

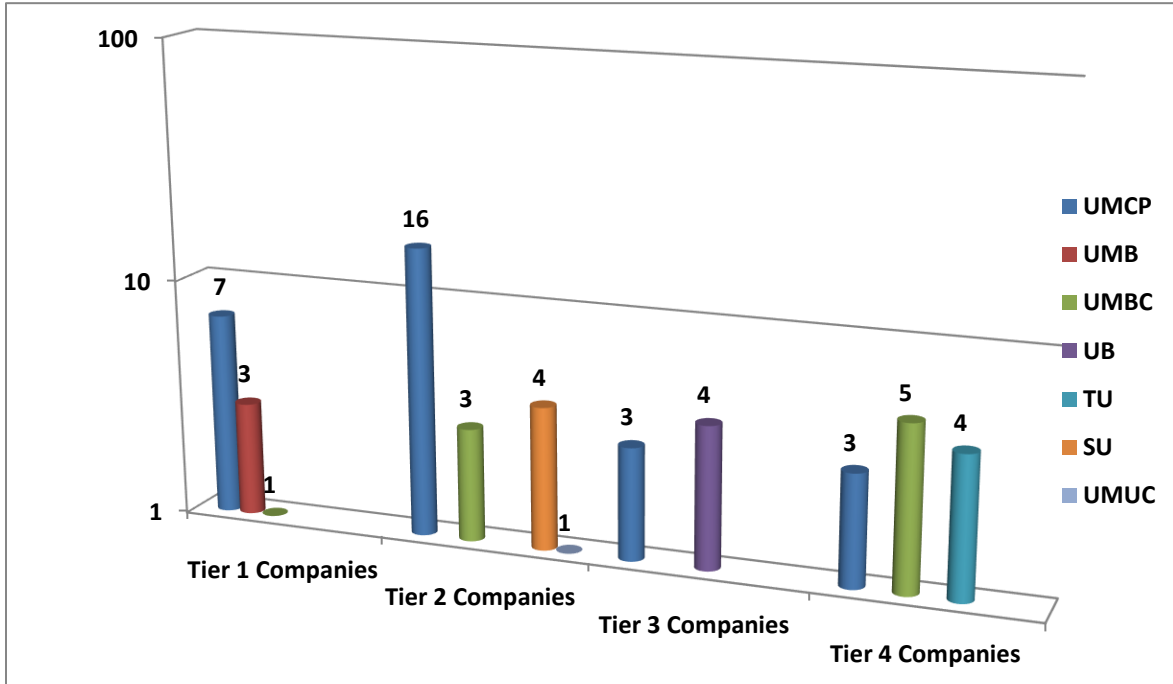
#### **Tier 4: 12 total**

- UMBC – Total: 5 companies moved into UMBC's Cyber incubator from in-state
- UMCP – Total: 3 established companies are part of the Dingman Center Angel Investment program
- TU – Total: 4 companies moved into TU's incubator
- Total Women-Owned: 6

# University System of Maryland New Company Formation

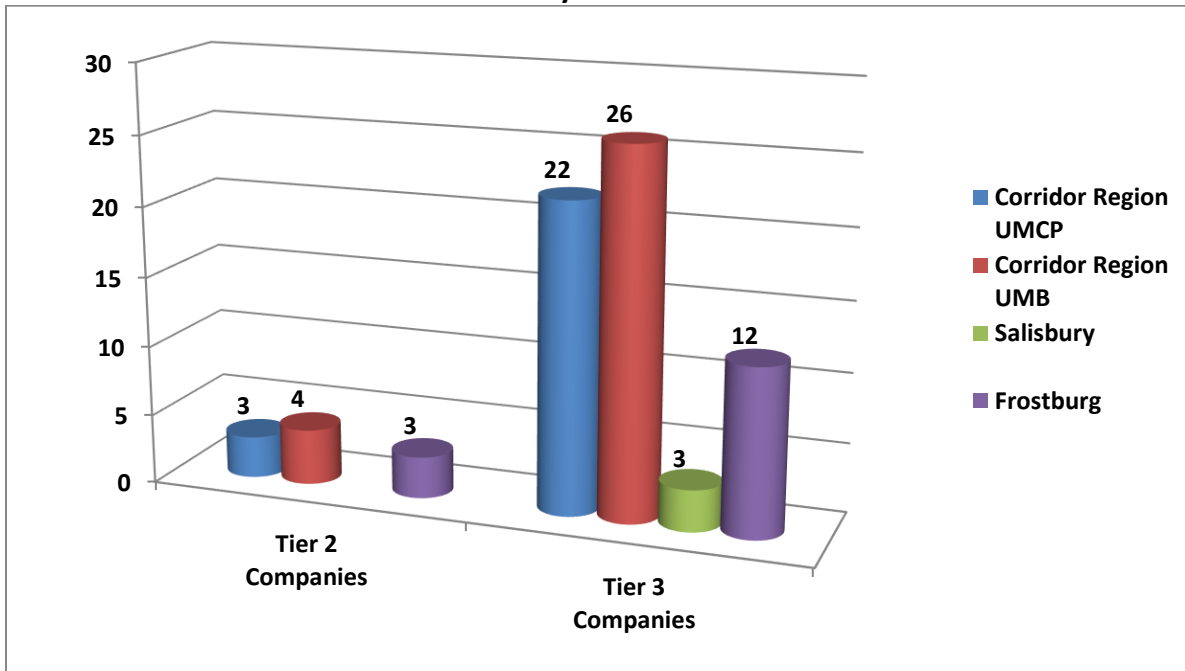
July 1, 2016 – December 31, 2016

## New Companies Facilitated by USM Institutions (excluding SBDCs)



Note: The scale for the Y-axis is logarithmic.

## New Companies Created through the Small Business Development Centers (SBDCs) By Institution

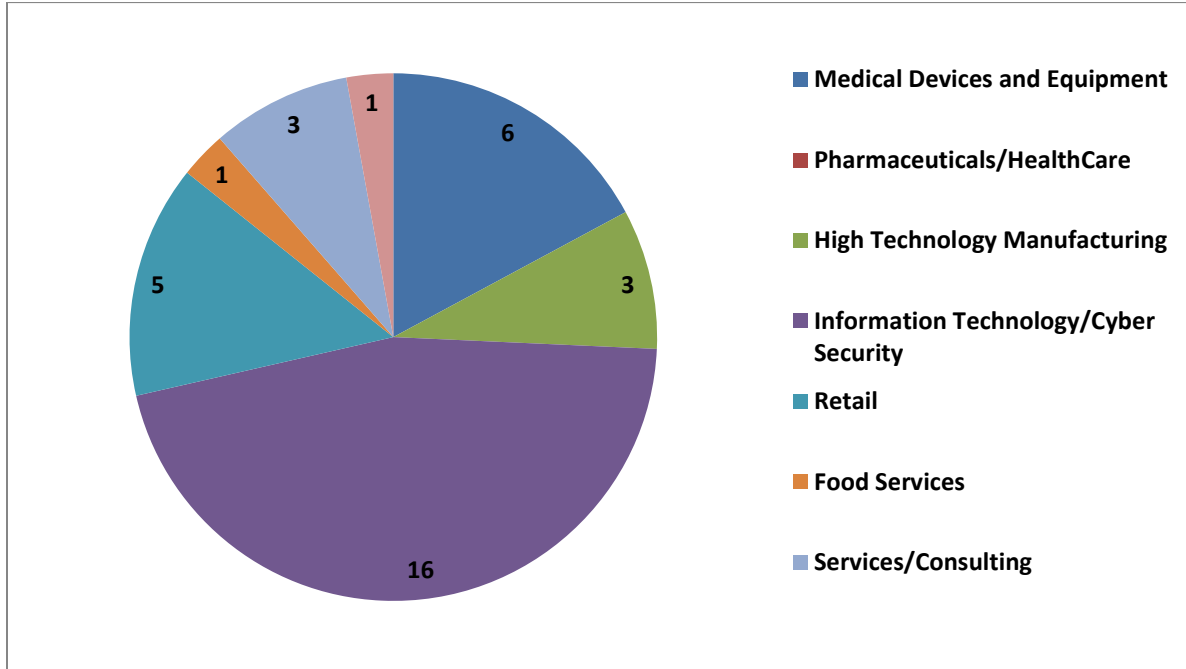


# University System of Maryland

## New Company Formation

July 1, 2016 – December 31, 2016

### New Companies Classified by Industry Tiers 1 & 2 (excluding SBDC companies)



#### Examples of New Companies:

##### **Medical Device and Equipment**

SurgiGyn, Inc. (UMB) – Developing innovative minimally invasive surgical devices for total laparoscopic hysterectomy.

##### **High Technology Manufacturing**

Mobile Comfort (UMCP) – Licensed the RoCo personalized air conditioning technology, which is a battery powered personal air conditioning system that provides supreme personal thermal management for people in unconditioned environments by storing its waste heat internally, obviating the need for fixed ventilation.

##### **IT/Technology**

Robot Training Academy (UMCP) – Developing a suite of machine learning software, which allows robotic systems to “learn” how to perform tasks primarily by “watching” video inputs.

##### **Retail**

Mind the Current, LLC (SU) – Creating uplifting decals for chemotherapy bags.

## **University System of Maryland**

### **New Company Formation**

July 1, 2016 – December 31, 2016

#### **Food Services**

FroDoh (UMCP) – Provides frozen hand-crafted gourmet desserts.

#### **Services/Consulting**

ePATHUSA, Inc. (UMBC) – Provides strategic consulting and managed services to commercial, not-for-profit, as well as federal and state entities.

#### **Sustainability**

PaverGuide (UMCP) – Manufactures a structural base for paving systems made from recycled plastic.

# **Committee on Economic Development and Technology Commercialization**

**New Company Formation  
July to December 2016**

June 2017

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# Context

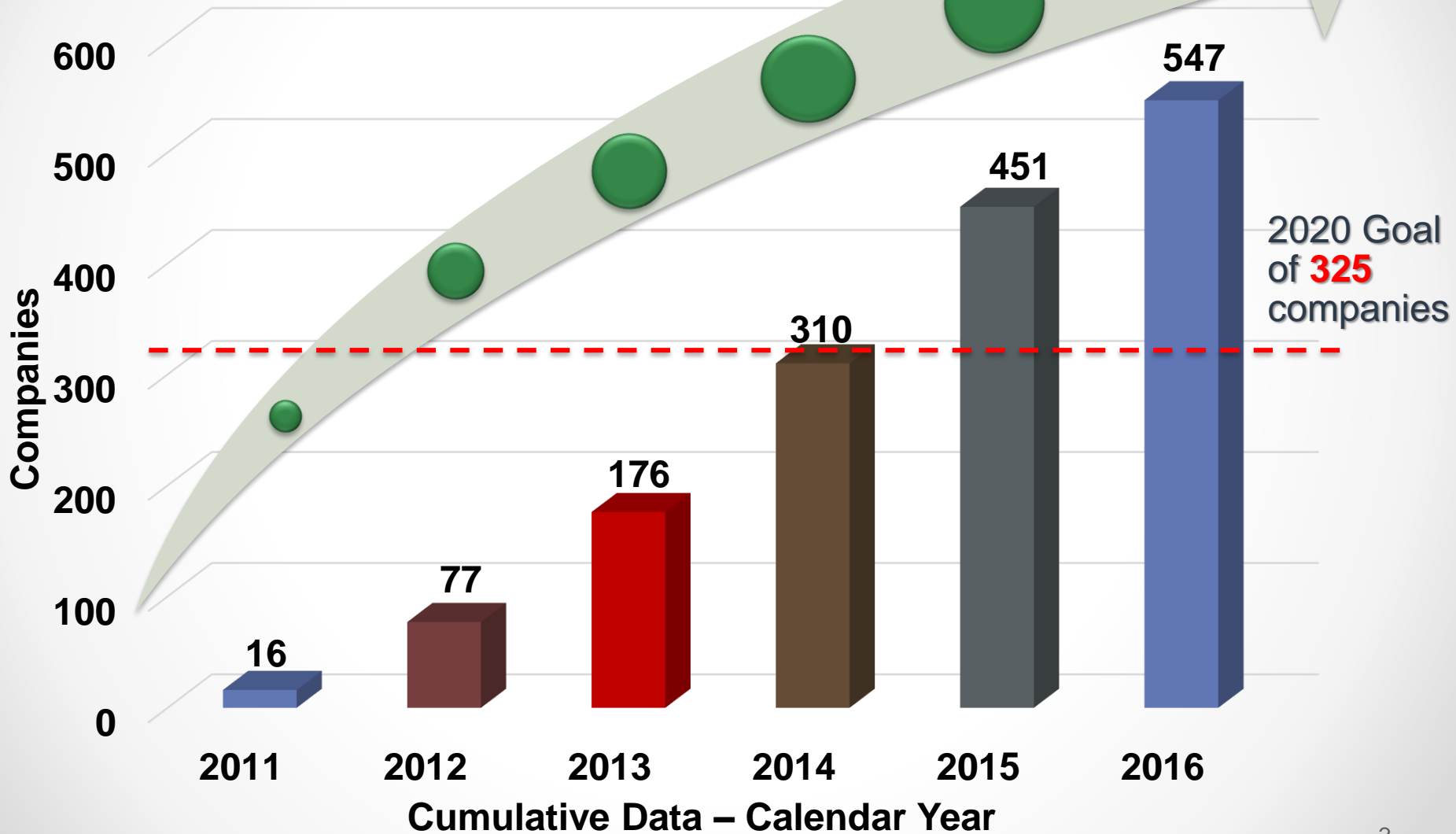
- **Strategic Goal: USM institutions will facilitate the creation of 325 companies over 10 years**
- **Several USM institutions are actively engaged**
- **Numerous resources are dedicated to facilitating the creation of start-ups**



# New Company Formation

For the past 6 calendar years, from 2011

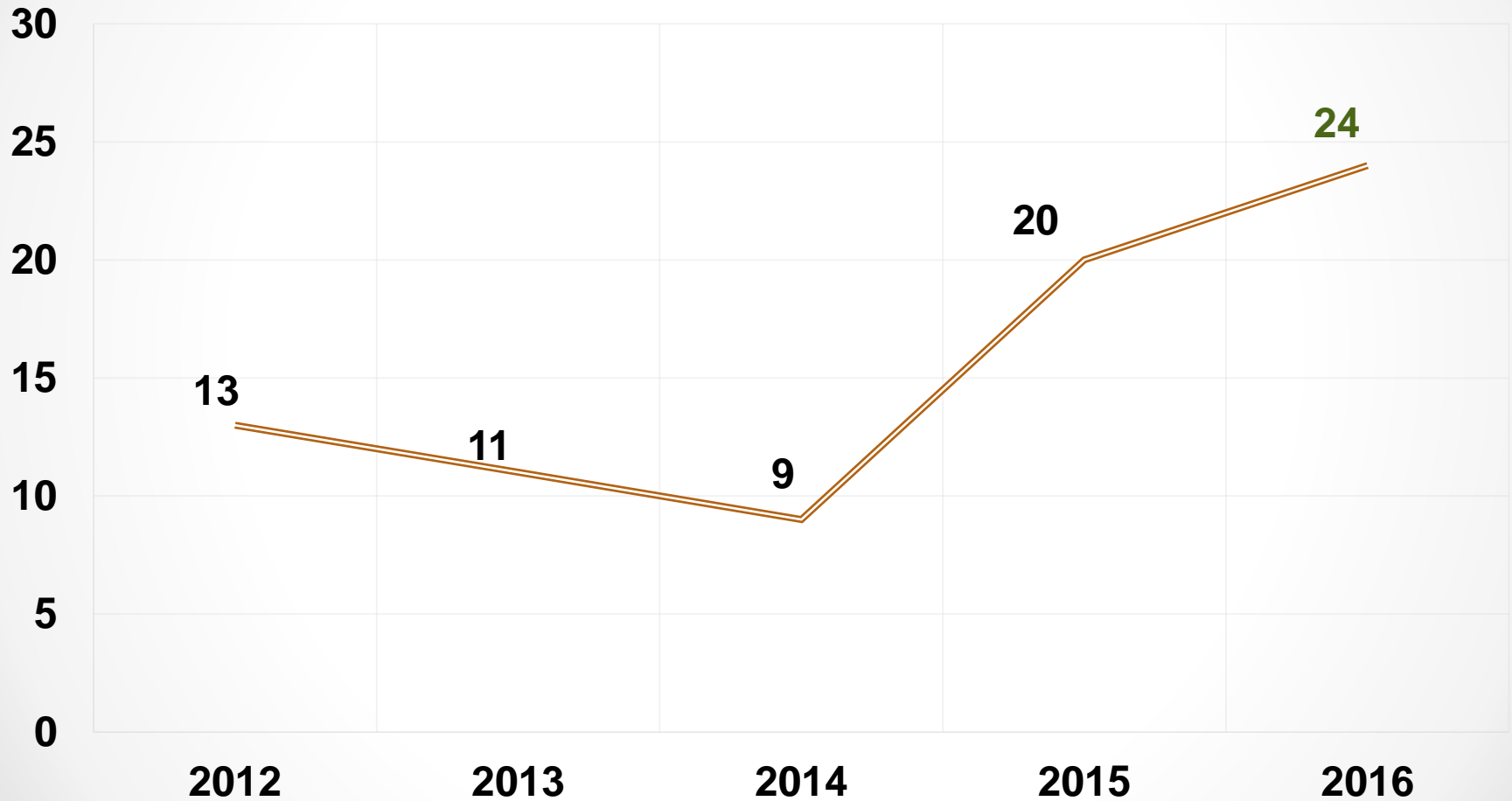
Cumulative Data, including SBDC Companies





# USM Tier 1 Startups Calendar Years 2012 to 2016

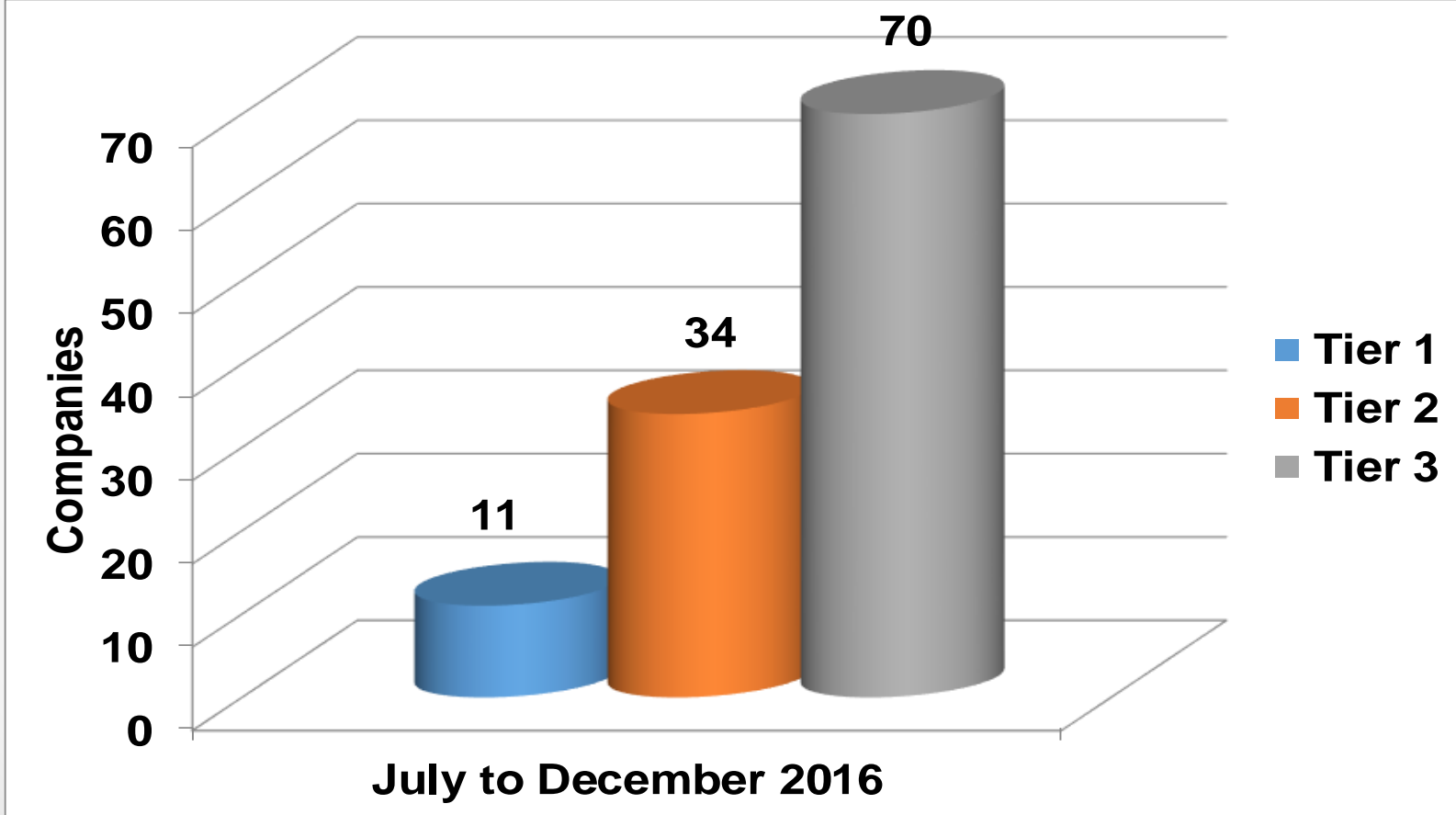
## IP-BASED STARTUPS



# New Company Formation by Tier for the past period – July to December 2016

Consolidated Data, including SBDC Companies

**Total Tiers 1 & 2: 45**

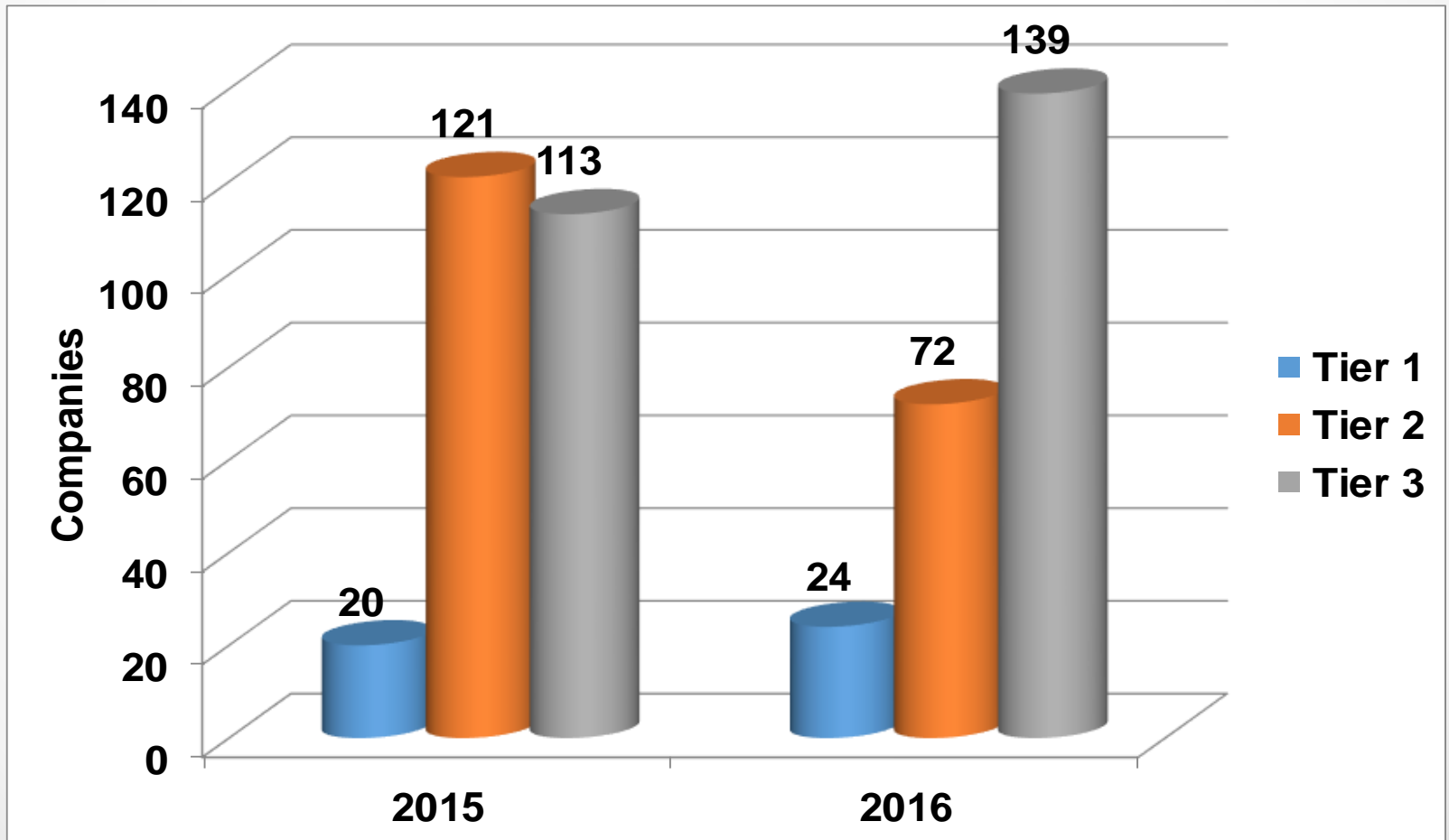


# New Company Formation by Tier for Calendar Years 2015 and 2016

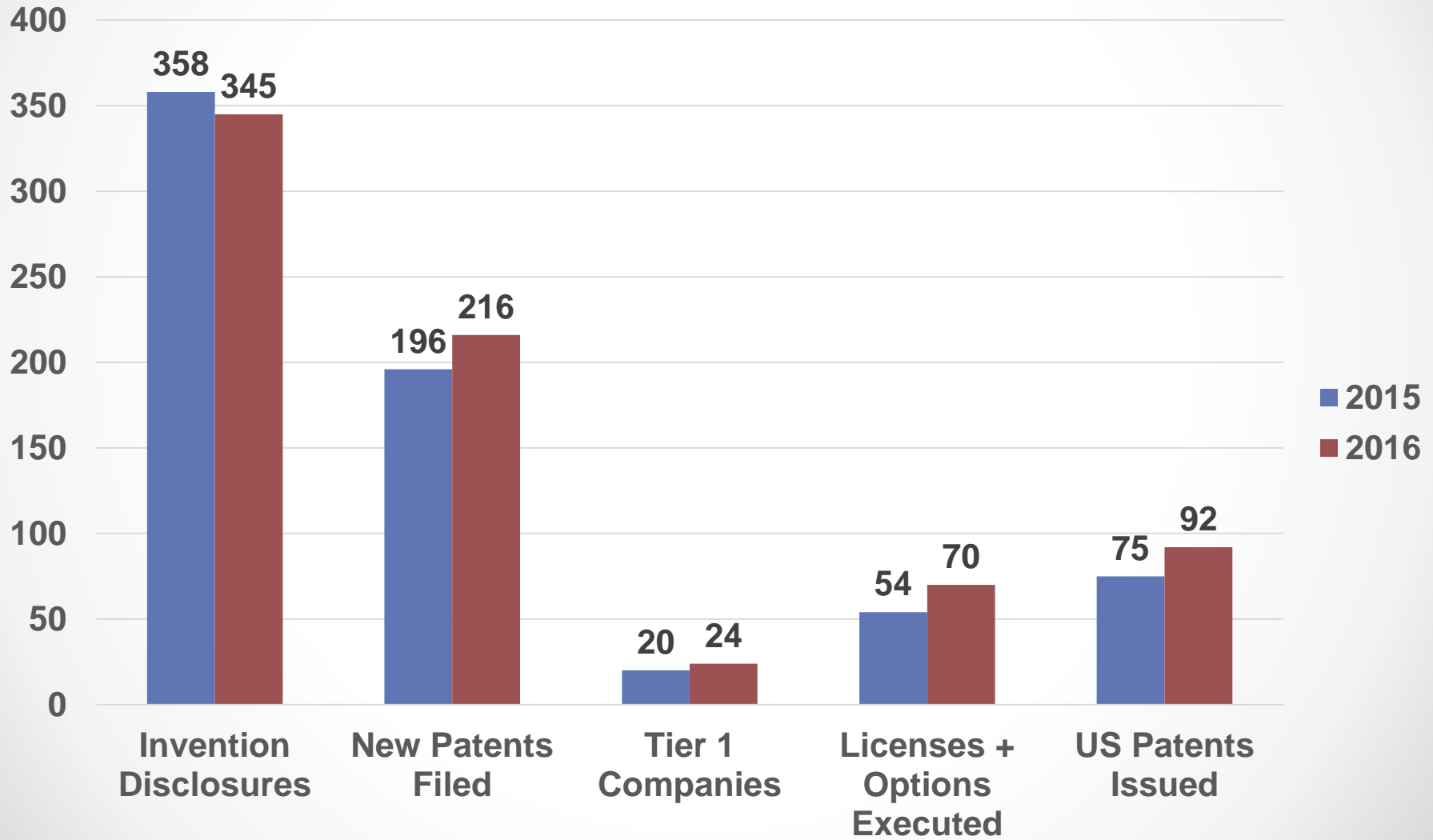
Consolidated Data, including SBDC Companies

**Total Tiers 1 & 2: 141**

**Total Tiers 1 & 2: 96**



# USM Key Technology Transfer Indicators Calendar Years 2015 and 2016



# Technical.ly: “31 startups that Baltimore research institutions should be very proud of”

Company	Institution	Description
AirPhoton	UMBC	A company founded by UMBC professors that met at the Goddard Space Flight Center. The company makes aerosol sampling stations.
<b>Analytical Informatics</b>	UMB	A company that builds an application for marketplace for healthcare.
Aurora Analytics	UMBC	A company founded by UMBC professors and focuses on chemistry innovation.
Biomecite	UMB	A Glen Burnie-based company developing a platform based on the microbiome signature that was developed by a pair of UMB researchers.
<b>Breeth</b>	UMB	A BioPark-based company commercializing an “out-of-hospital” artificial lung development
<b>Harpoon Medical (\$45M Series B financing)</b>	UMB	A BioPark-based startup commercializing a UM School of Medicine device that would shorten the time and invasiveness of open heart surgery.
Lyse-it	UMBC	A UMBC startup developing a new lysing technology for bacteria, bugs and algae.



# Technical.ly: “31 startups that Baltimore research institutions should be very proud of” (contd.)

Company	Institution	Description
Manta Biofuel	UMCES	An IMET-based startup working on the process to extract oil from algae, which was invented at UMCES by CEO Ryan Powell.
Octava	UMBC	An app that delivers info to orchestral concertgoers, developed by UMBC professors.
Pataigin	UMB	A startup developing a “barcode” for infectious diseases that began with work in UMB labs.
<b>SilcsBio (\$1.3 million NIH funding)</b>	UMB	A Spark Baltimore-based startup commercializing UMB-developed technology that brings software into the drug discovery process.
Tarsier Optics	UMBC	A Spark Baltimore-based startup that licensed UMBC technology to develop a high-resolution camera system for surveying and surveillance.
VakSea	UMBC	A Spark Baltimore-based company developing a vaccine to protect fish against Viral Nervous Necrosis. The technology was developed at UMBC.





FREE ENERGY BASED LIGAND DESIGN

# Additional Examples of Successful Start-Ups

 SQUARESPACE

 ZetaBoards

 Fruitees  
SQUEEZING in the GOOD STUFF

 Lurn inc.  
where u come first!

 fdbk

 bevo media  
your internet marketing homepage

 dose spot

 OPENGOV

 GoMe

 BRAVE UX

 thumbtackd

 INVESTOURS

 HD TRADESERVICES

 JAVAZEN  
COFFEE BLEND

 CAREERPEER

 ALERTUS  
LOCALIZED EMERGENCY NOTIFICATION

 Mowing  
& More

 ZUSIN



 ONLINE Private Practices  
WEB DESIGN AND CONSULTING

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Rental.com

 triumfun

 WAIDERS

 GYMQ

 ventureboard

 OneReceipt  
keep the purchase, lose the receipt

 FN FiscalNote

 YALA

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