



UNIVERSITY SYSTEM
of MARYLAND

Agenda Item 3

Mtech Briefing

SUMMARY OF ITEM FOR ACTION
INFORMATION OR DISCUSSION

TOPIC: Mtech Briefing – Dr. Darryll Pines, Dean – A. James Clark School of Engineering, UMD (information item)

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: March 30, 2017

SUMMARY: The mission of the Maryland Technology Enterprise Institute (Mtech), a unit of the A. James Clark School of Engineering at the University of Maryland, is to:

- Educate the next generation of technology entrepreneurs;
- Create successful technology ventures; and
- Connect Maryland companies with university resources to help them succeed.

Mtech has built a comprehensive entrepreneurship and innovation ecosystem at the University of Maryland. Its programs arm top students from around the world with the knowledge of how to successfully launch companies and guide aspiring and existing entrepreneurs through the entire lifecycle of launching and maintaining technology-based ventures. Mtech's programs include Maryland Industrial Partnerships (MIPS), Technology Advancement Program (TAP), Master of Technology Entrepreneurship, Hinman CEOs Program and many others.

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.

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Tom Sadowski (410) 576-5742 / Suresh Balakrishnan (301) 445-2783



A. JAMES CLARK
SCHOOL OF ENGINEERING



LEARN. LAUNCH. FLY.

Maryland Technology Enterprise Institute (Mtech)

Darryll J. Pines

March 30, 2017



A. James Clark School of Engineering

DEPARTMENTS (8):

- Aerospace Engineering
- Bioengineering
- Chemical and Biomolecular Engineering
- Civil and Environmental Engineering
- Electrical Engineering
- Fire Protection Engineering
- Materials Science and Engineering
- Mechanical Engineering

INSTITUTES(4):

- **Maryland Technology Enterprise Institute (Mtech)**
- Institute for Systems Research (ISR)
- Institute for Bioscience and Biotechnology Research (IBBR)
- Institute for Research in Electronics and Applied Physics (IREAP)





Mtech Overview

Mtech's goal is to create value for the State of Maryland by:

- 1. Providing entrepreneurship education (LEARN);*
- 2. Creating new tech companies (LAUNCH); and*
- 3. Leveraging UMD resources to provide value to existing companies (FLY)*

Mtech's programs span students, faculty and staff, all Maryland public universities, local entrepreneurial and tech communities, national university cohorts and international companies.



Mtech Overview

25 programs and initiatives

33 full-time staff

Eight Locations

1. Potomac Building
2. Technology Advancement Program Building
3. South Campus Commons
4. LaPlata Hall
5. Chemical and Nuclear Engineering Building
6. Maryland International Incubator (on Route 1)
7. Technology Ventures Building (near the Metro)
8. The Universities at Shady Grove

Four incubators

**~30 classes, reaching
4,000 students per
year**

**Programs impact
300+ companies per
year**



Goals of Innovation and Entrepreneurship Organizations at Universities

Revenue Stream

- Target creating a revenue stream for the University
- Technology transfer (T2) organizations (licensing)
- Venture funds (equity)

Economic Development (Value Creation)

- Target creating value for the local, state and/or national economies
- Job creation
- Tax revenue creation
- Knowledge creation
- Equity collection (for services rendered)

Mtech is a value-creation organization

Donor Creation

- Entrepreneurial alumni



Entrepreneurship Education (LEARN)

9 programs/initiatives



4,000 enrolls per year



30 courses per year



750+ alumni from living-learning entrepreneurship programs



1 million+ enrollments in Coursera courses



Master of Technology Entrepreneurship

Online master's program, combines award-winning academics with a web-based startup incubator



Entrepreneurship & Innovation Program

Honors living-learning entrepreneurship program for freshmen and sophomores from diverse majors



Minor in Technology Entrepreneurship

15-credit technology entrepreneurship minor available to all students on campus



Hinman CEOs Program

Nation's first living-learning entrepreneurship program, serving approximately 90 upperclassmen from diverse majors



MOOC: Developing Innovative Ideas for New Companies

Free Coursera class that helps students explore how to identify and develop great ideas into great companies



Courses in Entrepreneurship and Innovation

Entrepreneurship and innovation courses for undergraduate, graduate, professional, middle and high school students



ASPIRE

ASPIRE is a grant program for undergraduate researchers working with Clark School faculty on projects with commercial potential



Young Scholars Discovery

Three-week "Designing Your Own Business" summer course for middle school students



Impact Seed Fund

\$25,000 seed fund for students in the Hinman CEOs, EIP, and Hillman Entrepreneurs programs



Entrepreneurship Education

Middle School	<ul style="list-style-type: none">• Young Scholars Discovery summer program for 7th - 8th grade• 1 non-credit course for middle school students
High School	<ul style="list-style-type: none">• Young Scholars Program for 9th - 12th grade (now just bio)
UMD Freshmen and Sophomores	<ul style="list-style-type: none">• Entrepreneurship and Innovation Program (EIP)• Minor in Technology Entrepreneurship• 9 courses at the 100- and 200-levels
UMD Juniors and Seniors	<ul style="list-style-type: none">• Hinman CEOs living-learning program• Impact Seed Fund• 9 courses at the 400-level• BioE Capstone class connected to UMB
Graduate Students and Professionals	<ul style="list-style-type: none">• 8 MOOCs with Coursera in entrepreneurship and innovation• Online Master's of Professional Studies in Technology Entrepreneurship



Hinman CEOs Program

- Residential entrepreneurship program for 90 junior and senior students to *live, learn, and launch* new ventures
- 12-credit academic track + coaching and mentoring + incubator space
- Highly competitive application process yields the top students on campus with 1/3 business, 1/3 engineering, and 1/3 arts & sciences



Founded by Hinman
CEOs alumnus
Anthony Casalena





Entrepreneurship Education (LEARN)

Entrepreneurship and Innovation Program



- Joint initiative between Honors College and Mtech, based on the Hinman CEOs Program, and designed to meet the growing demand for entrepreneurship studies, sooner. Many students go on to Hinman after EIP.
- Residential entrepreneurship program for 150 junior and senior honors students to *live, learn, and launch* new ventures
- 15-credit academic track + coaching and mentoring + incubator space + experiential learning + team projects + legal services + seed funding
- **45% engineering** and 30% business students
- Features annual Terp Tank business competition, Global Entrepreneurship Semester, and in-program case competition.

Identify, Analyze, and Launch Your Startup

Build your skills to develop great ideas into great companies

Business Strategy

About this Specialization

Courses

Creators

FAQ

Entrepreneurship:
Launching an
Innovative
Business
Specialization

Enroll

Starts Feb 06

Financial Aid is available for learners who cannot afford the fee. [Learn more and apply.](#)

About This Specialization

Develop your entrepreneurial mindset and skill sets, learn how to bring innovations to market, and craft a business model to successfully launch your new business.

The Entrepreneurship Specialization examines the entrepreneurial mindset and skill sets, indicators of innovation opportunities, critical steps to bring innovations to the marketplace, and innovation strategies to establish and maintain a competitive advantage. Fundamentals of new venture financing are explored with attention to capital structures for new ventures, term sheets and how to negotiate them, and the differences between early-stage versus later-stage financing. You will develop an understanding of how to develop winning investor pitches, who and when to pitch, how to avoid common mistakes, and how to 'get to the close'. In the final Capstone Project, you will apply the tools and concepts from the specialization courses by crafting a comprehensive, customer-validated business model, and creating a business plan and investor pitch.

Coursera: two four-course series in entrepreneurship and corporate entrepreneurship

- #1 entrepreneurship course for some time
- 1 million+ enrolls since 2013



2017 Forbes 30 Under 30 “Game Changers”



Four UMD alumni affiliated with Mtech were named to the 2017 Forbes 30 Under 30 list of “game changers who are under 30 years old.”

- Mackenzie Burnett, 23, and Dan Gillespie, 23, were cited for their startup, Redspread, which was recently acquired by CoreOS. Mckenzie and Dan come from the Startup Shell.
- Adam Behrens, 28, was cited for his work in the lab of serial biotech entrepreneur Robert Langer, where he is taking on germs in the developing world. Adam was a Citrin Fellow.
- Evan Lutz, 24, made the list for founding the company Hungry Harvest, now located in Mtech’s space in City Garage.



Venture Creation (LAUNCH)

12 programs/initiatives



50+ companies in
Mtech's incubators



\$3.6B acquired by
Mtech Ventures
companies,
current and
graduated, since
1985



\$52 million acquired
by current Mtech
Ventures companies
since 2008



Startup Shell at University of Maryland

Student-run, co-working space and incubator at the University of Maryland that fosters entrepreneurship through collaboration



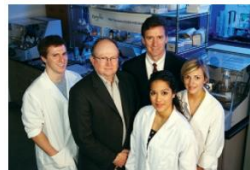
Technology Advancement Program (TAP)

State's first technology company incubator, located on the UMD campus, with premier lab and office space and expert advisors



Free, Open Entrepreneur Office Hours

Office hours for regional entrepreneurs with bio- or tech-based startups or ideas, held in College Park and Baltimore each month



VentureAccelerator Program

Intensive, hands-on mentoring program that guides UMD inventors in launching successful ventures



DC I-Corps

Real-world, hands-on training on how to successfully incorporate innovations into successful products and licensing opportunities



Maryland Intellectual Property Legal Resource Center

Free legal services on intellectual property and related matters for emerging technology companies in Maryland



Chesapeake Bay Seed Capital Fund

DNR-backed venture fund for MD startups with innovative technology addressing Chesapeake Bay pollution



DC I-Corps Accelerator

Continued support for DC I-Corps teams completing the initial program; includes customer discovery, prototype and testing, fund-raising and company-building assistance



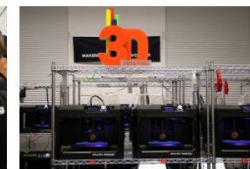
National Capital Consortium for Pediatric Device Innovation

FDA consortia, supports pediatric device development with business, regulatory, legal, scientific, engineering, and clinical resources



Rapid Prototyping Center

Home to three higher-end machines, electronics prototyping equipment, several high-powered desktop workstations for CAD, and high-accuracy measurement equipment



MakerBot Innovation Center

Centralized, scalable 3D printing space that empowers everyone to invent, innovate, iterate, and replicate



Startup Village

Affordable house near the university enabling University of Maryland student and alumni entrepreneurs to pursue their companies full time



Venture Creation (End-to-End Entrepreneurship Ecosystem)

- Entrepreneur Office Hours
- Maryland Intellectual Property Legal Resource Center
- DC I-Corps (NSF) – with GWU and VT
- Venture Accelerator
- First and Second Stage Incubators
- Start-up Shell

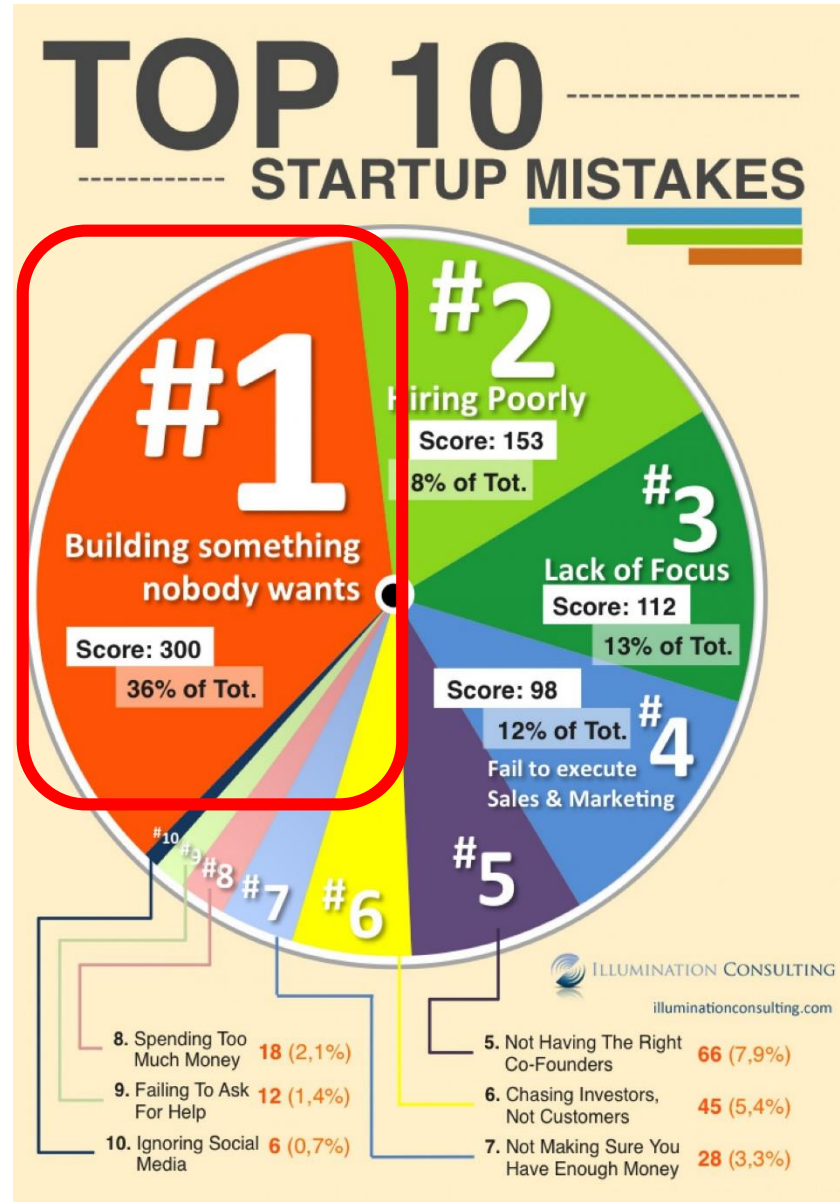
Mtech has unique venture creation experience and resources that it provides to faculty, staff and students (and we are actively disseminating this outside of the university)



I-Corps

UMCP is NSF's Mid-Atlantic Node Lead

- I-Corps addresses:
 - Who are your real customers?
 - Why will customers buy your products or services?
 - How will you get the product to your customers?
 - How will you make money?
 - How big is the potential market?
 - Who are your competitors?
- 3-person teams: Principal Investigator, Entrepreneurial Lead, and Industry Mentor
- Teams conduct 100+ interviews of customers/stakeholders
- DC I-Corps (UMCP-lead, GWU, VT, JHU):
 - 150+ teams trained in NSF I-Corps programs
 - 200+ teams trained in Regional/University I-Corps programs
 - 400+ teams trained in NSF and NIH SBIR and HHS programs
 - 65 international teams trained (S. Korea, Mexico, Russia)
 - 20+ certified I-Corps instructors (10 national, 10+ regional)





VentureAccelerator

Mtech's experienced team of business professionals enables faculty, research staff, or students to maintain their academic responsibilities while also furthering the development of a startup

- ➔ Very selective program for most promising tech startups
- ➔ Intensive mentoring ("high touch") and assistance on a daily basis
 - Proof of principle
 - Business plan
 - Get funded
- ➔ Mtech takes role of company management
- ➔ UM receives equity

	Business Planning	Customers & Markets	Goals & Priorities	Skills & Talent	Raising Capital
Plan Development	✓				
Financial Modeling	✓				
Market Validation		✓			
Marketing Assistance		✓			
Best Practices/Priorities			✓		
Service Providers				✓	
Recruiting Help				✓	
Grant ID & Advice					✓
VC/Angel Fundraising					✓
Other Facilities					✓





Incubators

- **TAP – First-stage incubator**
 - 24,000 ft² of company space
 - 21 current residents (>100 graduates)
 - \$300M VC funding, 2 IPOs over \$1B, 2 acquisitions over \$1B
 - Extensive prototyping labs
- **TVB – Second-stage incubator**
 - 32,000 ft² of company space
 - 13 current residents
- **MI² – International incubator**
 - 9,200 ft² of company space
 - 12 current residents (31 graduates)
- **Startup Shell – Student incubator**
 - 100% student-run incubator and collective
 - >25 student companies





Technology Advancement Program (TAP) Incubator

First incubator in Maryland, established 1985 | 19 *current* companies | 100+ graduates

Two \$1 billion+
graduates

MARTEK
life enriched.™

DIGENE

Industry-leading patents, sold
for \$20 million+, and future
industries

PAICE
Hyperdrive System

DSCS
DATASTREAM CONTENT SOLUTIONS, LLC*

pixelligent
THE CLEAR SOLUTION

NEURALSTEM INC

1. AccuStrata
2. Adheron Corp.
3. AIRS, Inc.
4. Alan Penn Associates, Inc.
5. Animal Genetics Systems, Inc.
6. AnthroTronix, Inc.
7. Applied Media Analysis*
8. AscentGene, Inc.
9. Assay Research, Inc.
10. **Astrapi Corporation**
11. ATEC, Inc.*
12. Beacon Corp.
13. Behavheuristics, Inc.
14. Bioavailability Systems, Inc.
15. Bioelectronics Corp.
16. Bioserve Biotechnologies, Ltd.
17. Biospace International Corp.
18. Bioelectronics Corp.
19. BioSurface Engineering Technologies, Inc.
20. Bypass Systems, Inc.
21. BWI Distributions
22. Bypass Systems, Inc.
23. Celadon Labs, Inc.
24. Chesapeake PERL, Inc.
25. ClaraGen, Inc.
26. **CoolCAD Electronics, LLC**
27. Cordex
28. Cornell Technical Services
29. CosmoSID
30. Custom Command Systems, Inc.
31. Customer Insites/e-Satisfy, Inc.
32. Cutting Edge Technologies, Inc.
33. CytImmune Sci.
34. Custom Command Systems, Inc.
35. Cytonix Corporation
36. DataStream Content Solutions
37. Digene Corp. [NASDAQ: DIGE]
38. Dovetail Technologies
39. Eastern Analytical, Inc.
40. EBTech/HallCloset Comm, Inc.
41. EchoDynamics, Inc.
42. Energy Dense Power Systems
43. Environmental Comm. Consultant
44. ERS, Inc.
45. eSatisfy.com, Inc.
46. FlexEI LLC*
47. Freewing Aircraft Corp.
48. GeoQwest International, Inc.
49. Global Outpost, Inc.
50. Goozex
51. EB Tech/HallCloset Communications, Inc.
52. Health Care Futures, Inc.
53. Homequest Network
54. Horizon Resources, Inc.
55. Hydrodyne, Inc.
56. ICOW, LLC
57. **IGI Technologies, Inc.**
58. Innovative Biosensors
59. Lean Power, Inc.
60. Lifetime Pharmaceuticals, Inc.
61. Litetrends Co., Inc.
62. Lum
63. Macronetics
64. Marketplace TV, Inc.
65. Martek, Corp. [NASDAQ: MATK]
66. **Maryland Energy and Sensor Technologies LLC***
67. Med-Q Corporation
68. **MedSense***
69. Medtest Systems, Inc.
70. Micronet Software Corp.
71. **MiMo Cloud, Inc.**
72. Molecular Toxicology, Inc.
73. myeCab
74. Namian Labs, Inc.
75. Neocera, Inc.
76. NetInterests, Inc.
77. Neuralstem, Inc.
78. NovaScreen Bio. Corp. [acquired by Caliper NASDAQ: CALP in 2005]
79. **OmniSpeech, LLC***
80. Oncolmmunin, Inc.
81. Operant Systems
82. Optical Communications, Corp.
83. PAICE Corp.
84. Particle Technology, Inc.
85. Physical Dynamics, Inc.
86. Pixelligent Technologies*
87. Potomac Photonics, Inc.
88. Powerize.com [acquired by Hoovers]
89. **Prasidlux**
90. Prognosys, LLC
91. ProteinOne, Inc.
92. **Redox Power Systems**
93. **Relativity Sciences**
94. **Remedium Technologies Inc.***
95. **Renova Life Inc.**
96. **Resensys LLC**
97. **SD Nanosciences, LLC***
98. **Security Do**
99. SiReverse
100. SLS Industries Inc.
101. Spessard Manufacturing*
102. StreamCenter
103. **Subject 7**
104. TAP Multimedia LLC
105. Telemechanics, Inc.
106. TeraStore, Inc.
107. Thermal Analysis Partners
108. Top Orchids, Inc.
109. Trufina
110. TRX Systems
111. Vibrant Technologies, Inc.
112. **VisiSonics Corporation***
113. Viteq Corp.
114. Xenotran Corp.
115. Zone Therapeutics, Inc.
116. **Zymetis***

*company has licensed UMD IP



Redox Power Systems: Founded by UMERC Director Eric Wachsman

- Solid oxide fuel cells that electrochemically convert carbon fuels (s/a natural gas) into electricity
- \$5 million ARPA grant with Microsoft



Startup Shell

- 100% student-run incubator and collective that cultivates entrepreneurship through collaboration
- ~25 student companies
- Sponsor several on-campus programs: Bitcamp, Technica, RECESS, TEDxUMD





Startup Shell

Student-run co-working space and incubator supporting 50+ student companies



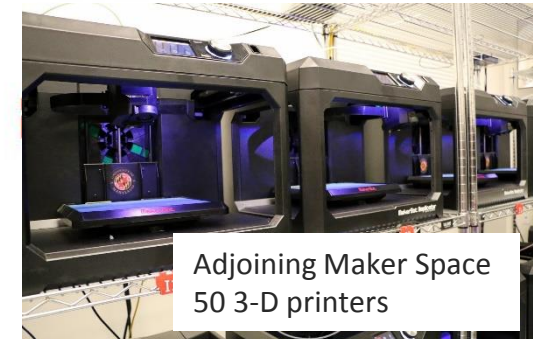
Used in major motion picture



150 colleges and universities in 36 states



Raised \$3M Kickstarter fund in 2014



Adjoining Maker Space
50 3-D printers



Partnerships (LAUNCH)

5 programs/initiatives *



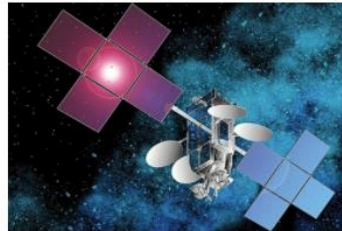
\$30.3 billion in company revenues through products benefitting from MIPS projects



6,600 jobs created in companies with MIPS projects



63% of all startups receiving MIPS funding since 1987 are still in business today



Maryland Industrial Partnerships (MIPS)

Funding for tech product development projects teaming Maryland-based companies with University System of Maryland faculty



Biotechnology Research and Education Program

Low-cost, expert bioprocessing and biopharmaceutical production facilities, training and education



Maryland International Incubator

Co-working space and incubator that helps international companies establish a presence in Maryland by offering a broad array of business services



Mtech Baltimore

Brings Mtech's programs and capabilities to entrepreneurs in Baltimore, in addition to facilitating partnerships between UMD and UMB, especially in the area of biomedicine.

* Technology Ventures Building is not promoted



Mtech Partnerships Programs

- Maryland Industrial Partnerships (MIPS)
- International Incubator (MI²)
- Biotech Research and Education Program (BREP)
- Mtech Baltimore (“bioentrepreneurship”)

Mtech has a 25+ year history connecting Maryland industry to USM faculty and resources through MIPS, which has resulted in significant economic (>\$27B) development and job creation (>7000)



Maryland Industrial Partnerships (MIPS)

Funding collaborative R&D projects between Maryland industry and University System of Maryland faculty to accelerate product commercialization

- Maryland companies submit proposals in collaboration with faculty and staff from Maryland public universities (USM + Morgan State & St. Mary's)
- Proposals are evaluated on technical merit and economic development potential
 - **Primary criterion: Likelihood of long-term job creation in Maryland resulting from the proposed R&D project**
- Projects are jointly funded by MIPS and companies
- All funding goes to university researchers

6,600

Direct jobs created through the MIPS program, impacts created 15,000 jobs

\$30 billion

Revenue generated from MIPS products

87%

Five-year survival rate for startups receiving MIPS funding

35:1

ROI on MIPS funding

\$87 million

Annual state tax revenue

\$70 million

Annual county tax revenue

63%

Startups still in business that received MIPS funding since 1987



Maryland Industrial Partnerships (MIPS)

\$30.3 billion of industry-leading products were developed with the help of MIPS funding

Synagis, by MedImmune (Gaithersburg)

Prevents a serious respiratory disease in infants



\$13.6 billion

Life's DHA, by Martek (Columbia)

Nutritional oils, especially DHA, found in 90% of infant formulas, many other foods



\$2.9 billion

HughesNet, by Hughes Network Systems (Germantown)

World's leading provider of satellite broadband for home and office



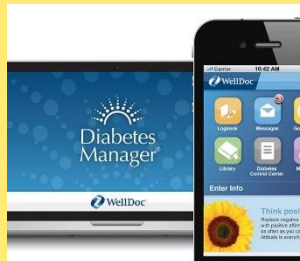
\$13.7 billion



Under Armour:
running shoes



WeatherBug: energy management for consumers, utilities



WellDoc: mobile diabetes management platform



CSA Medical: cryo spray for pre- and cancer treatment



Fleetpro: mass maintenance for vehicle fleets



Manta Biofuel: efficient, inexpensive crude oil from algae

\$30.3

KU_CPRedevelopment.pdf
billion in company
revenues through
products benefitting
from MIPS projects



548

Maryland companies
have participated in
MIPS projects



415

University of System
of Maryland faculty
have participated in
MIPS projects



Earth Networks

[Connected Savings](#) energy
management and demand
response product



FlexEl

thin film and [advanced
battery technologies](#)



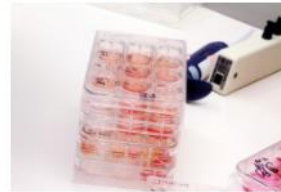
Under Armour

womens' running shoe
technologies



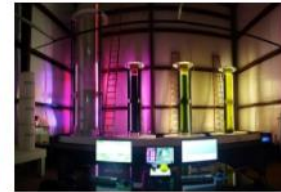
United Therapeutics

broad-spectrum antiviral
drug against West Nile virus



A&G Pharmaceutical

biomarker for breast cancer



HY-TEK Bio

bioreactor system that
[scrubs greenhouse gases](#)
from smoke stacks



Hughes Network Systems

#1 choice in the U.S. for
[satellite Internet](#)



Alertus Technologies

[emergency alert system](#) for
campuses, military bases,



Genovation

plug-in [hybrid electric vehicle](#)



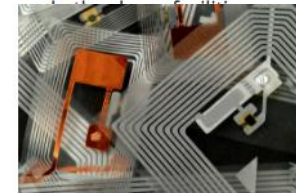
TRX Systems

[tracking system](#) for indoor,
underground, and dense
urban areas



MedImmune

[Synagis](#), a therapeutic that
helps prevent a serious lung
disease in children



Matric Technology Systems

antenna designs for RFID
readers and tags



CSA Medical

[spray cryotherapy device](#) for
treating precancerous and
cancerous diseases of the
esophagus



WellDoc

mobile [diabetes
management platform](#)



Quantum Sail Design Group

new sail design for high-
performance, racing, off-
wind sails



Northrop Grumman

weight measuring subsystem
for automated mail and
document processing

6,600

jobs created in
companies with
MIPS projects
(impacts created
15,000 jobs)



Mack Trucks

improved powertrain
reliability



AviHome

chicken house flooring
system that reduces
ammonia emissions



AnthroTronix

JesterBot (now CosmoBot), a
[therapeutic tool](#) for children
with speech, learning or
physical disabilities



Hoopers Island Oyster Aquaculture

oyster sorting and grading
machine

63%

of all startups
receiving MIPS
funding since 1987
are still in business
today



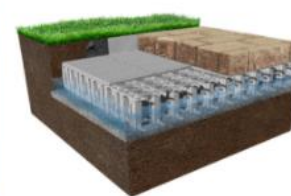
Pavement Corporation

construction specs/quality
assurance process an
infrared asphalt repair
process



Lockheed Martin

stability of photochromic
compounds; quality
assessment of shape
memory alloys; coupled
cavity lasers



PaverGuide

phosphorous removal in
permeable paving



Fyodor Biotechnologies

[treatment](#) for malaria

\$87

million in annual
state and \$70
million in county tax
revenues from
participating MIPS
companies;



Redox Power Systems

solid oxide [fuel cells](#) and
systems



Diagnostic anSERS

narcotics [sensor](#) for law
enforcement



gel-e Life Sciences

hemostatic foam that stops
severe bleeding



Pixelligent Technologies

nanocrystal additives for
increased resolution in
photolithography



Maryland International Incubator (MI²)

International incubator, serves as a “soft landing” site for international companies to gain a foothold in the United States/Maryland.

Maryland International Incubator Companies

Signed MOU with the
Ministry of Science
and Technology in
China

Canon

CANON U.S. LIFE SCIENCES, INC.

*Worked with UMD bioengineering
faculty on molecular diagnosis for
human genetic diseases.*

Glodon

*\$200 million+ revenue; hired
UMD graduates and offered
grants to civil engineering and
business faculty*

LOCCIONI

*\$100 million Italian company; has
adapted to the U.S. market place*

Bangladesh

- Za Za Limited

Canada

- Mina Mar Group

China

- Anji Dasol Solar Energy & Technology Co.Ltd.
- [Beijing Gloden Island Medical technology Co., Ltd.](#)
- [Beijing Glodon Company Limited](#)
- Beijing Oiltee Petroleum Technology LLC
- CellPath China,LLC
- China Zhaoshan Group
- Clear Spring Applied Technologies, LLC
- Dimetek Digital Medical Technologies, Limited
- [Dycent Biotech](#)
- Hangzhou Qingtai Packing And Printing Company
- NanJing Wanji Technologies
- Ningbo Dafengche Educational Equipment Co. Ltd.
- Sanhome Group
- Shandong Department of Science and Technology
- Shanghai Fahe International Company
- Shanxi Water Industry Investment Group Co., Ltd.
- [Signalway Antibody Biotech Company](#)
- Sino-American Venture Capital, LLC
- Sunscape (Hong Kong)
- Systek Systems, Inc.
- Totus Lightning Solutions Inc.
- US-China Training Services
- Wuxi TocaTek LLC
- [Zhejiang Wuyuan Company](#)

Great Britain

- Community DNS, Ltd.

India

- Indus Links

Israel

- [Gigaspaces](#)

Italy

- [Loccioni Group](#)

Japan

- Canon Life Sciences

Kazakhstan

- JSC National Scientific & Tech Holding Company

Romania

- Romanian Group For Investments and Consultancy

Russia

- Investment and Venture Fund of the Republic of Tatarstan
- Pulsar Innovation LLC
- Russian University of Nizhni Novgorod
- [U.S.-Russia Innovation Corridor](#)

South Korea

- Samin Sciences

Taiwan

- [Foxconn](#)



2015 Graduates of MI²

Loccioni (Italy)



- In incubator: 10/2012 to 10/2015
- Started with 2 employees (now 9 employees)
- Measurement and Test solutions (medical, automotive, rail, industrial)
- Have sold hardware (Cancer Therapy Compounding Equipment) – UMB hospital, JHU, and others
- Hired 5 student interns (1 permanent hire)



Moved to new offices in College Park in October 2015

Origin Wireless (Taiwan)



- In incubator: 12/2012 to 5/2015
- Started with 1 employee (now 12 employees)
- Video streaming products
- Hired 10+ students (3 permanent hires)



Moved to new offices in Greenbelt in May 2015



Mtech at City Garage

The Clark School's Maryland Technology Enterprise Institute (Mtech) has a new, 2,800-square-foot space in Kevin Plank's City Garage dedicated to providing entrepreneurial services and providing a gateway to the Clark School for innovative research and development collaborations.

Mtech Activities at City Garage:

- Company incubation
- Entrepreneurship education
- Co-working space
- Free legal services for tech entrepreneurs (with UMB school of law)
- Serve as a gateway to the A. James Clark School of Engineering for innovative research and development collaborations
- Connect entrepreneurs with innovation services and resources at UMD and beyond





Summary of Mtech Programs

- The comprehensive entrepreneurship/innovation ecosystem is having substantial impact on:
 - Educating the next generation of entrepreneurs
 - Creating successful tech startup companies from University research
 - Helping companies develop new products
 - \$31B Cumulative Economic Development Impact
 - 7,053 jobs created



<http://www.mtech.umd.edu>

Mtech: Home x

www.mtech.umd.edu/index.html

Apps Suggested Sites Virgin Pulse - D... US NSF - Dear ... IEC 62402 Ed. 1... www.nsf.gov/p... Day 1 Only Met...

Mtech MARYLAND TECHNOLOGY ENTERPRISE INSTITUTE

LEARN. LAUNCH. FLY.

PATHS FOR MARYLAND ENTREPRENEURS & INNOVATORS

STUDENT FACULTY COMPANY

What do you want to do?

Learn How to Start a Company Talk to Someone About My Idea Incorporate, License or Protect IP Find a Workspace Find Funding Build My Company Develop My Prototype or Product Access UMD Students, Researchers & Facilities Networking & Events

Explore your options...

TECHNOLOGY ADVANCEMENT PROGRAM

TERP STARTUP LAB

MD BUSINESS INCUBATION ASSOCIATION

MARYLAND SITE SELECTION

M SQUARE RESEARCH PARK

1776 WHERE REVOLUTIONS BEGIN

WEWORK

AFFINITY LAB

ÜBEROFFICES

MARYLAND INTERNATIONAL INCUBATOR



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