



**Board of Regents
Committee on Economic Development and Technology Commercialization**

October 26, 2022

Virtual (public listen only access at 443-353-0686, Conference ID: 929164086)

Committee Members will be sent Zoom information

Materials can be found here: <https://www.usmd.edu/regents/agendas/>

Public Session Agenda

USM Office of the Vice Chancellor for Research and Economic Development Update (Information Item)

- a. Goals for OVCERD in the USM
- b. Focus areas for OVCERD in the USM
- c. Measuring and tracking success
- d. Tracking Venture Development
- e. Introducing Mike Ravenscroft, MBA, Managing Director of the Momentum Fund
- f. Ongoing Program and Project Updates



BOARD OF REGENTS

SUMMARY OF ITEM FOR INFORMATION

TOPIC: Office of Research and Economic Development Update

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Wednesday, October 26, 2022

SUMMARY:

Dr. Michele Masucci, USM Vice Chancellor for Research and Economic Development, will provide an update including the topics below:

- a. Goals for OVCERD in the USM
- b. Focus areas for OVCERD in the USM
- c. Measuring and tracking success
- d. Tracking Venture Development
- e. Introducing Mike Ravenscroft, MBA, Managing Director of the Momentum Fund
- f. Ongoing Program and Project Updates

FISCAL IMPACT: This item is for information purposes.

CHANCELLOR'S RECOMMENDATION: n/a

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Michele Masucci 410-409-2236

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Office of the Vice Chancellor for Research and Economic Development

Board of Regents Committee on
Economic Development and Technology
Commercialization

Update

October 26, 2022





Agenda

1. Goals for OVCRED in the USM
2. Focus areas for OVCRED in the USM
3. Measuring and tracking success
4. Tracking Venture Development
5. Introducing Mike Ravenscroft, MBA, Managing Director of the Momentum Fund
6. Ongoing Program and Project Updates
7. Discussion

1. Goals for OVCRED



2. Focus areas for OVCRED in the USM

- Recognizing excellence in research, creative activities, and innovation
- Align USM strengths in strategic areas of excellence
- Support the development of centers of excellence in programmatic research and innovation areas
- Provide Technical Assistance to support and sustain growth in R&D
- Promote relationships with mission-specific funders in government, industry, and philanthropy

Continued

- Build alliances across the USM and with other institutions
- Enhance the environment for the development of intellectual property that can be protected and advanced
- Support workforce development
- Advance knowledge transfer and supercharge the knowledge economy
- Maximize societal benefits

3. Measuring and tracking success

Metrics for success

- Grant submissions and expenditures
- IP Disclosures
- Patents
- Income
- Companies formed and jobs created
- Research engagement by students and trainees

System Capacity Building

- Collaboration and partnership
- Multiplying successes
- Powering Maryland's economy
- Positioning institutions for optimization

Reputation

- Rankings
- Citations
- Institutional classification
- Affiliations
- Preeminence of faculty, students, and alumni

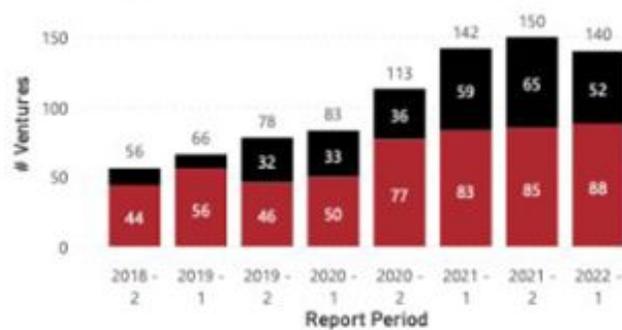
Current Metrics

- \$1.3 Billion Research Expenditures
- \$10.4 Billion Economic Impacts
- 57,505 Jobs
- 344 inventions per year
- 85 patents per year
- 19 IP based Startups per year
- \$4.6 M revenue per year
- 850+ Marketed Technologies

4. Tracking Venture Development

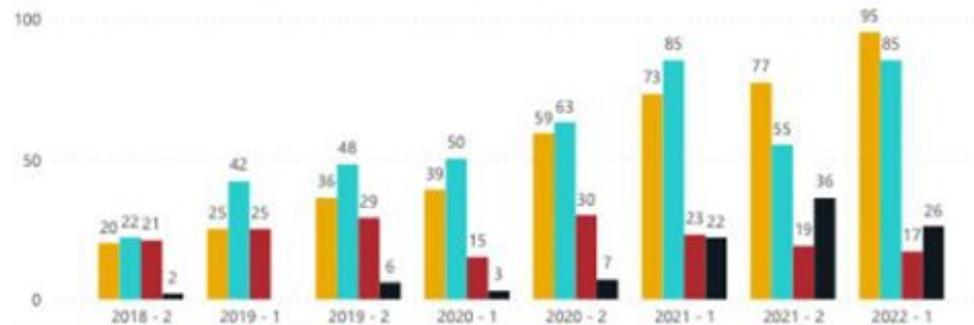
Ventures Supported

USM Status ● NEW TO USM ● RE-ENGAGED



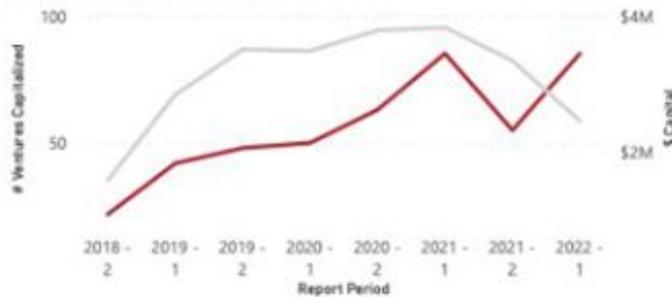
Support by Type

● Programming & Mentoring ● Capital (In-Kind and Cash) ● Incubator and/or Physical Space ● Talent Assistance



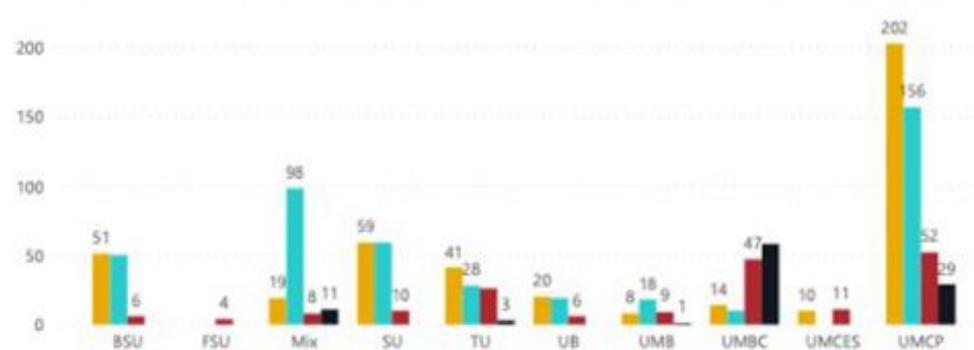
Capital Support

● # Ventures Capitalized ● \$ Capital



Support by Type and Institution (All-Time)

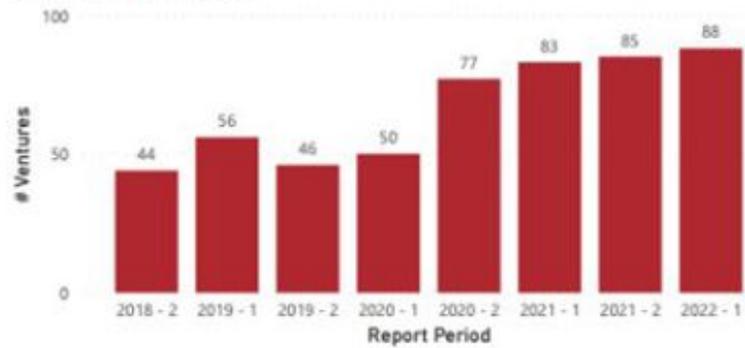
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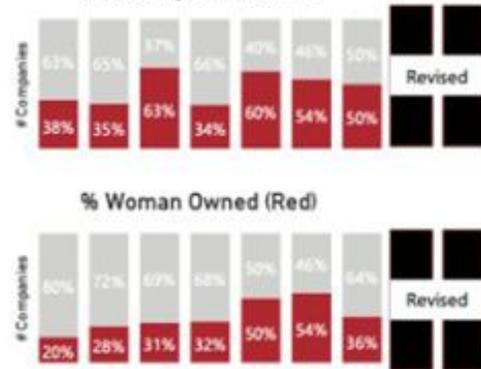
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Ventures Supported

USM Status ● NEW TO USM



% Minority Owned (Red)



USM Founders (Red)



% Woman Owned (Red)



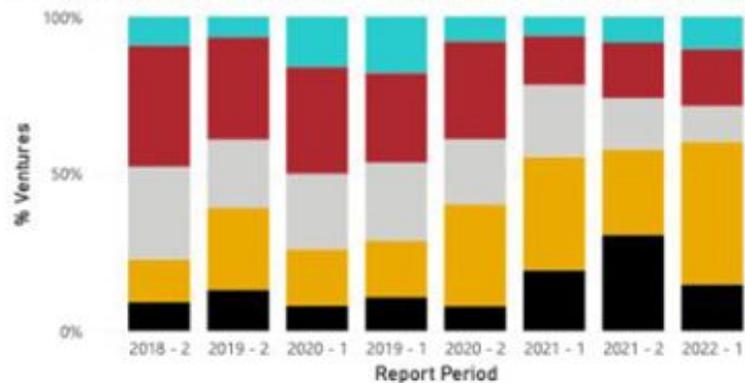
Student Founders (Red)



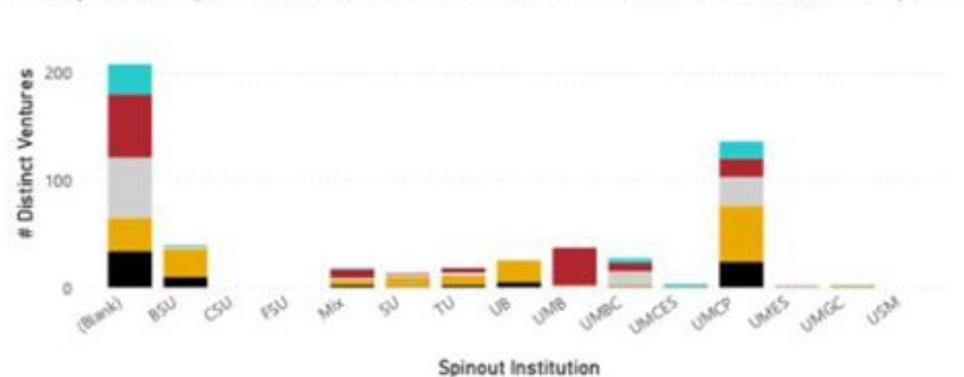
USM IP (Red)



Industry ● Consulting & ... ● Consumer ... ● Information ... ● Life Science ● Sustainabili...



Industry ● Consulting & Other ● Consumer & Food ● Information Techno... ● Life Science ● Sustainability & ...



Continued

Additional State-Wide Venture Support



MARYLAND TECHNOLOGY INTERNSHIP PROGRAM YEAR IN REVIEW(2021-2022)

EMPLOYER PARTICIPANTS

81 Organizations within 10 Maryland counties|
214 Internships Funded

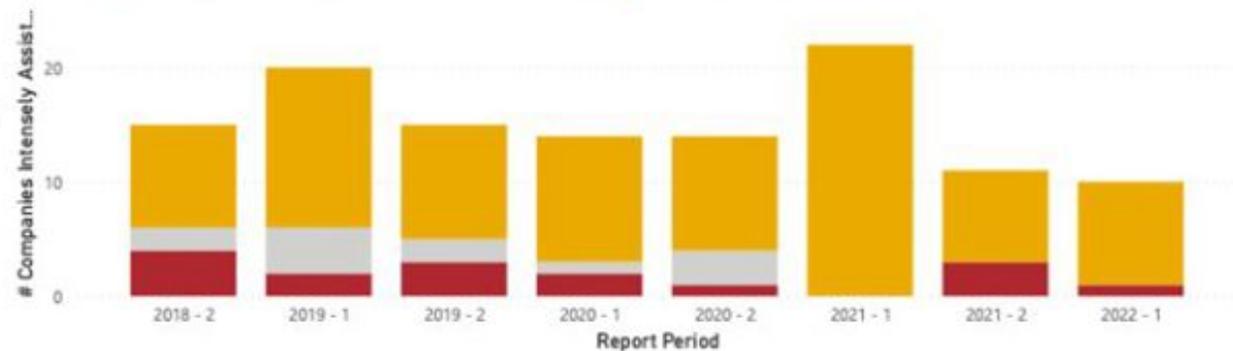
- 50% of employers reported that MTIP provided the financial incentive to create a new internship program.
- 94% of participants are small businesses less than 150 employees.



The Maryland Small Business Development Center (SBDC) is a public-private partnership between the U.S. Small Business Administration, the State of Maryland and UMCP. The Maryland network hosts entrepreneurial assistance programs at a number of USM institutions.

Companies Assisted Through USM Small Business Development Centers

University ● Frostburg State University (FSU) ● Salisbury University (SU) ● University of Maryland





5. Introducing Mike Ravenscroft, MBA, Managing Director of the USM Momentum Fund

Maryland Momentum Fund

Board of Regents

<http://momentum.usmd.edu/>

October 26, 2020

Mike Ravenscroft
mravenscroft@usmd.edu



USM Momentum Fund

Mike Ravenscroft, MBA Managing Director

- New in the role as of 9.12.22
- Terp MBA (Class of '21)
- Experienced venture capital investor with expertise in digital health, cybersecurity, enterprise B2B SaaS
- CIT GAP Funds, MACH37, C5 Capital, Data Tribe, Dingman Center Angels Network, Dreamit Ventures
- 8+ years building entrepreneurial platforms, launching ecosystem development initiatives, investing in technology companies and supporting founders as they scale their ventures
- Father of 2, avid cyclist, crabcake enthusiast



Maryland Momentum Fund: Origin Story and Structure

- **Precedent:** UM Ventures investments and loans in FY15 of \$400,000 total in 5 startup companies. UM Ventures seeded Harpoon Medical, a minimally invasive surgical device company, which returned a \$100K investment 20-1 (\$3M back to the university in licensing fees and royalties.)
- **Hypothesis:**
 - USM attracts world class entrepreneurs who are launching venture-backable startups in Maryland.
 - There is need for an institutional fund to spur co-investment in those companies and support them with money, resources from the university, and validation from the USM network to help them scale.
 - These ventures will act as economic catalysts by generating returns for the university, hiring from within the University System, and showcasing the USM and Maryland as national leaders in critical emerging industries.
- **Establishment:** Board of Regents approved in June 2016 as \$10MM venture fund. Expenses and staff covered by Center for Maryland Advanced Ventures, housed in the Office of Research and Development at UMB. An additional up to \$2MM per year for 3 years was approved in June 2022.

Our Investment Thesis:

- Seek **strong founding teams** comprising alumni, faculty or staff, and/or leveraging university IP / office space
- Identify ventures **across emergent industries** playing a critical role in advancing Maryland's technology base
- Invest at the seed stage as a value-add co-investor
- Support with securing **co-investment (matching funds)** to mitigate risk
- **Syndicate investments** with leading well-regarded angel investors and venture funds
- Leverage **experts from industry** and USM to **inform due diligence**
- Bring **investment decisions to an advisory board** with expertise in seed stage investing
- Establish a **robust network** of angel investors, seed stage venture funds, and university economic development leadership / technology venture incubators and accelerators to **channel investable companies to the fund**

Goals of the Momentum Fund:

- Catalyze the success of USM startups
- Bring outside capital to Maryland startups and support ventures as they scale
- Generate direct financial returns to the University System
- Support economic development across the state
- Recruit and retain innovative students, staff, and faculty
- Provide avenues for students to engage with startups
- Make Maryland the best place to go to school, become an entrepreneur, launch and scale a technology venture



Four years in...

- 28 portfolio companies
- 200+ co-investors, including corporate strategics and blue-chip VCs
- 250+ jobs created as of October 2022
- Over 2/3 of portcos hire USM interns or recent graduates
- Over \$100M in matching capital raised to date (and counting)
- 12-1 ratio of outside capital to MMF deployment

28 portfolio companies showcasing the diversity of USMD's innovators



UMCP IP and Alum
Advanced wood burning stove



UMB IP, Towson Alum
Exoskeleton robot to reverse foot drop for stroke victims.



UMCP IP, Alum
Advanced pulse jet engine



UMB Alum
Anticoagulant drug, therapeutics for rare blood disorders



UMCP Alum
High caffeine tea, energy drink product



UMB IP and Faculty
Cell-based therapy for cardiovascular disease



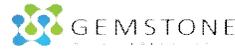
UMCP IP
Advanced semipermeable pavement system



UMCES Alum
Sonar to measure shrimp biomass



UMCP Alum
Agile software development management product



UMBC and UMCP Alums
Tissue regeneration via stem cells



UMCP Alum
Software platform to manage energy across buildings



UMCP IP and Faculty
Food safety testing technology



UMB/UMBC Faculty, UM BioPark Affiliate
Dried artificial red blood cell



UM BioPark Tenant
Next-gen tourniquet



Towson Alum, TU Incubator startup
Ed-tech vocabulary app



UMCP IP and Faculty
Spatial and personalized audio solutions



UMCP Alum and Faculty
Language upskilling platform



UBalt Professor
climate change modeling and action platform



UMCP Alum
RNA Therapeutics



UMCP IP and Faculty
Semiconductor sensor technology



UMCP Employee
Fireproof, lightweight insulation



UMCP Professor
More efficient lithium-ion batteries



UMCP/UMB Alum
Financial products for small commercial solar installations



UMBC BwTech
Data integrity



UMCP Alum
Data platform for construction industry



UMCP Alum
Platform to boost employee wellness programs

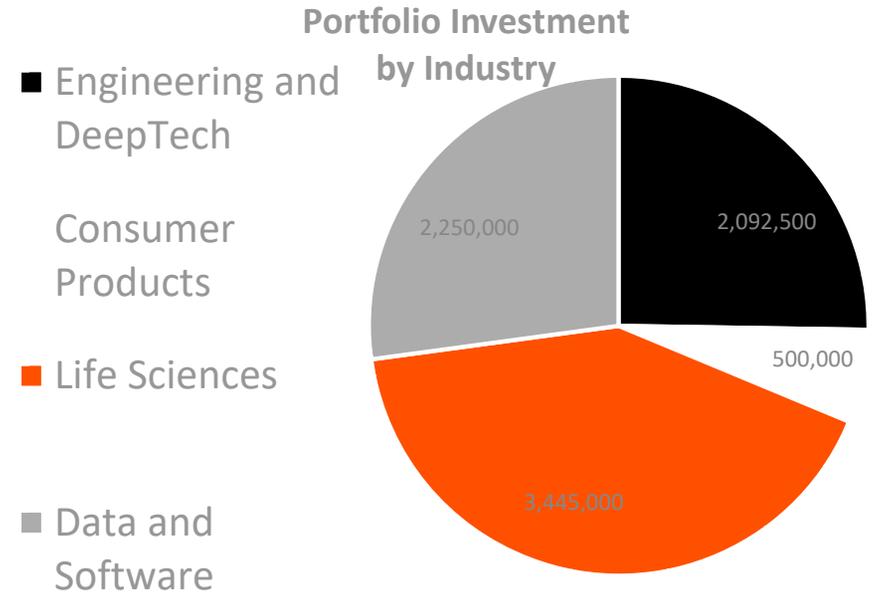
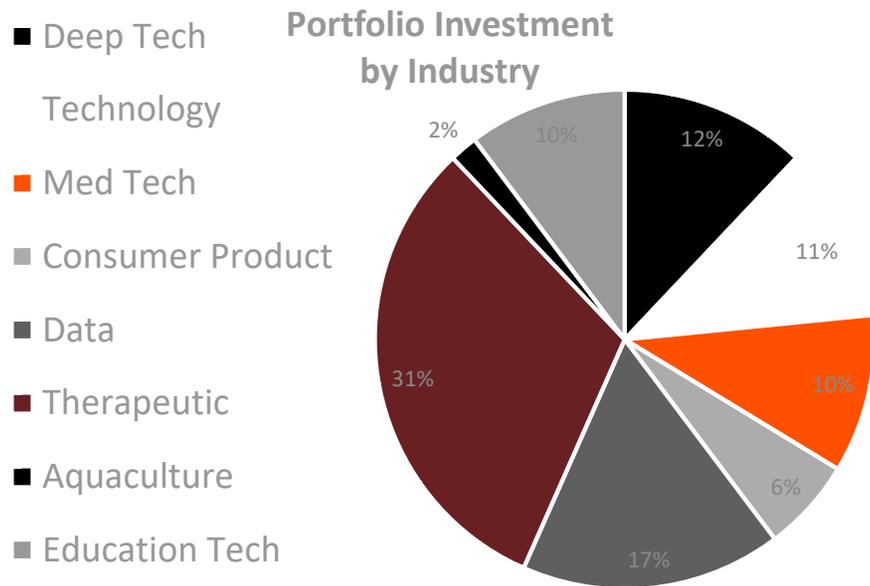


UMCP Alum
Continuous respiratory monitoring in ICU settings



MARYLAND MOMENTUM FUND

Investment across key growth industries in Maryland



USM Momentum Fund

On the horizon:

- Continue identifying world class ventures for the fund to invest in
- Getting into the community to engage with students, faculty, and staff as they look to launch their ventures
- Invest in entrepreneurs from more schools throughout the system
- Prioritize engagement with founders underrepresented in venture, including female founders
- Support portfolio companies with resources, customer connections, and raising follow-on rounds
- Connect students and alumni with Momentum Fund portfolio companies for internships and job opportunities
- In coordination with USM institutions, launch a Venture Fellows program to give USM students an on-ramp into the industry
- Continue to learn from and benchmark against other University System funds (Big Ten Venture Conference, MD research)

6. Updates

Early Capitol Pilot

NSF Engines

Strategic Planning



7. Discussion

Contact OVCRED

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UNIVERSITY SYSTEM
of MARYLAND