



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

June 7, 2023

Virtual (public listen only access at 443-353-0686, Conference ID: 190 497 591)

Committee Members will be sent Zoom information

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

Public Session Agenda

- (1) Current activities of the Office of the Vice Chancellor for Research and Economic Development (Information Item)
 - a. Research and Economic Development Strategic Planning Update
 - b. USM Launch Fund Updates
 - c. Commercialization Outcomes Update



BOARD OF REGENTS

**SUMMARY OF ITEM FOR
INFORMATION**

TOPIC: Current activities of the Office of the Vice Chancellor for Research and Economic Development

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Wednesday, June 7, 2023

SUMMARY:

Vice Chancellor Dr. Masucci will brief the Committee on the activities of the Office of the Vice Chancellor for Research and Economic Development, including an update on research and economic development strategic planning; the USM Launch Fund; and an update regarding commercialization outcomes.

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

mmasucci@usmd.edu

Office of the Vice Chancellor for Research and Economic Development

Board of Regents Committee on Economic Development
and Technology Commercialization

Update

June 7, 2023



Agenda

- 1. Research and Economic Development Strategic Planning Update**
- 2. USM Launch Fund Updates**
- 3. Commercialization Outcomes Update for USM**
- 4. Q and A**



1. USM Strategic Planning: From Excellence to Preeminence



Focus on Research

1. Alignment

Align areas of USM Research Strengths with National Priorities

2. Environmental Science

Advance our leadership in environmental sciences and deepen our international reputation for climate change and sustainability research

3. Community Research

Expand community-based research to strengthen the neighborhoods, towns, and cities where our universities are based

4. Collaborative Research

Grow the number of cross-institutional, interdisciplinary, and interprofessional research collaborations among USM institutions and Centers

5. Strategic Partnerships

Grow the number of research partnerships with industry, agencies, NGOs, and academic institutions, domestically and internationally.

6. Funding Diversification

Diversify and expand our research portfolio, attracting private-sector investment for basic research.

7. Research for Social Good

Develop a nationally significant research initiative on diversity, equity, and justice; globalization; and sustainability, examining the role that race, identity, and systemic racism may play in them.



Strategic Goals and Achievements



1. Alignment

Strategic strengths of USM

- Robust Research Infrastructure
- Collaboration and Partnerships across USM and with Government, Industry, and Academic Institutions
- Healthcare and Life Sciences Scope and Scale
- Extensive Technology and Entrepreneurship Ecosystem
- Proximity to Federal Agencies

Strategic strengths in USM R and D Focus Areas

- Biomedical and Health Sciences
- Climate Change and Environmental Sciences
- Cyber Security and Information Technology, Quantum Science
- Data Science and Artificial Intelligence
- Advanced Materials and Engineering
- Growth potential in Sustainable Energy and Renewable Resources

Pursue New, Advantageous Federal Funding Programs: NSF TIPS, ARPA-H, ARPA-I, CHIPS, Cross-Agency Workforce Foci, Cross-Agency Sustainability Science Foci

Strategic Goals and Achievements



2. Environmental Science

Strategic strengths of USM

- Chesapeake Bay and Coastal Ecosystems (CBC)
- Climate Change and Resilience (CCR)
- Environmental Policy, Governance, and Communication (EPGC)
- Sustainable Agriculture and Food Systems (SAFS)
- Environmental Technology, Engineering, and Environmental Remediation (ETEER)

USM Alignment	Federal Research Priorities	Federal Funding for Priorities
CCR, ETEER	Climate Change and Mitigation	NASA, NSF, NOAA, EPA, DOE, USGS
CBC, SAFS	Biodiversity, Ecosystem Conservation	NSF, USFWS, NOAA, USGS, USDA
CCR, ETEER	Water Resources Management	USACE, EPA, USDA
EPGC, CCR, SAFS	Environmental Health and Pollution Control	EPA, NIH, CDC
All Areas	Environmental Justice	EPA, NIH, HUD, DOJ

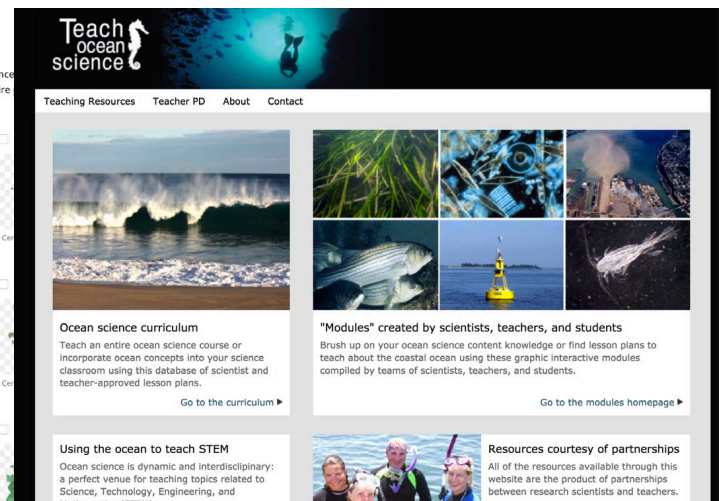
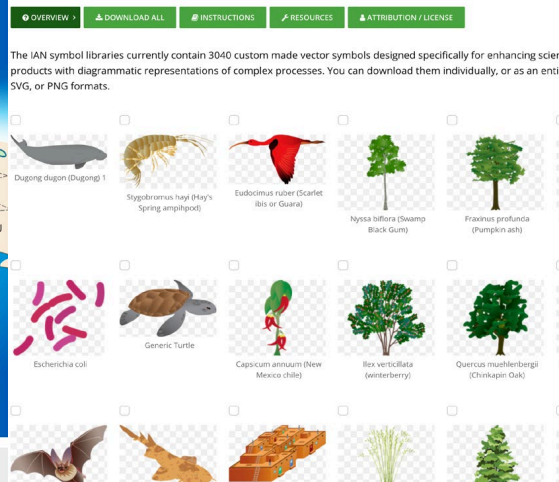
Strategic Goals and Achievements



3. Community Research

- Foster a culture of community engagement as a basis for establishing projects
- Identify and strengthen institutional and system support and resources to enhance existing projects and build new ones
- Develop partnerships with community organizations
- Build Capacity and training that community groups value and can be a basis for co-design of projects and identifying research needs
- Identify and expand community-based research into the curriculum
- Support knowledge translation and dissemination
- Communicate outcomes in non-traditional forums for information exchange
- Evaluate and measure the impacts of community research programs

Spotlight on UMCES Integration and Application Network



Strategic Goals and Achievements



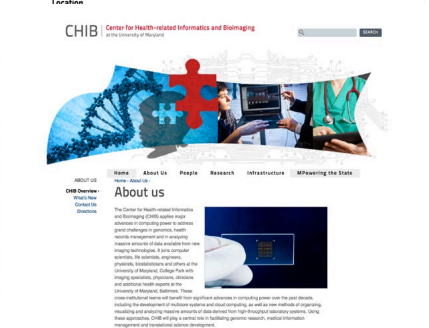
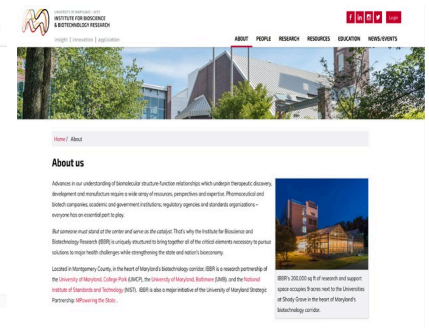
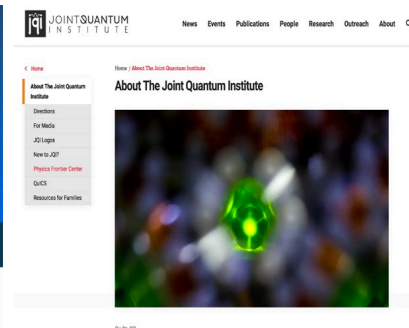
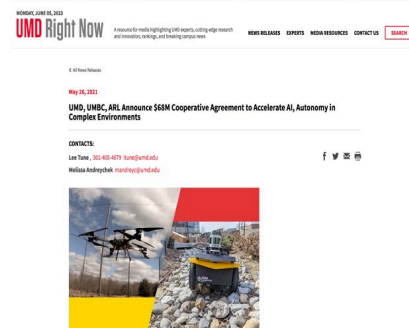
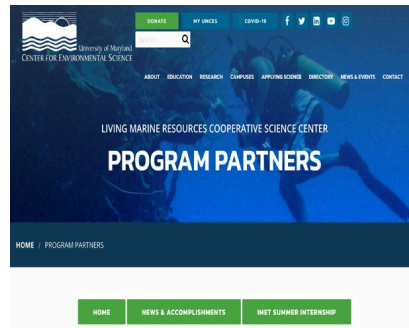
4. Collaborative Research

USM Strengths

- USM Institutions excel at Inter-Institutional, Interdisciplinary, Cross-Cutting Research and Development, and diversity of Institutions
- USM Institutions benefit from a strong ecosystem for supporting continuum of research to commercialization activities
- Institutions collaborate on impactful programs for the benefit of the system and Maryland residents and communities

Highlighting Collaboration:

- IMET Cooperative Science Program
- UMBC UMD ARL Cooperative Agreement
- Joint Quantum Institute
- MPower Big Data Partnership
- IBBR – UMB, UMD, NIST
- CHIB – Center for Health-related Imaging and Bioinformatics



Strategic Goals and Achievements

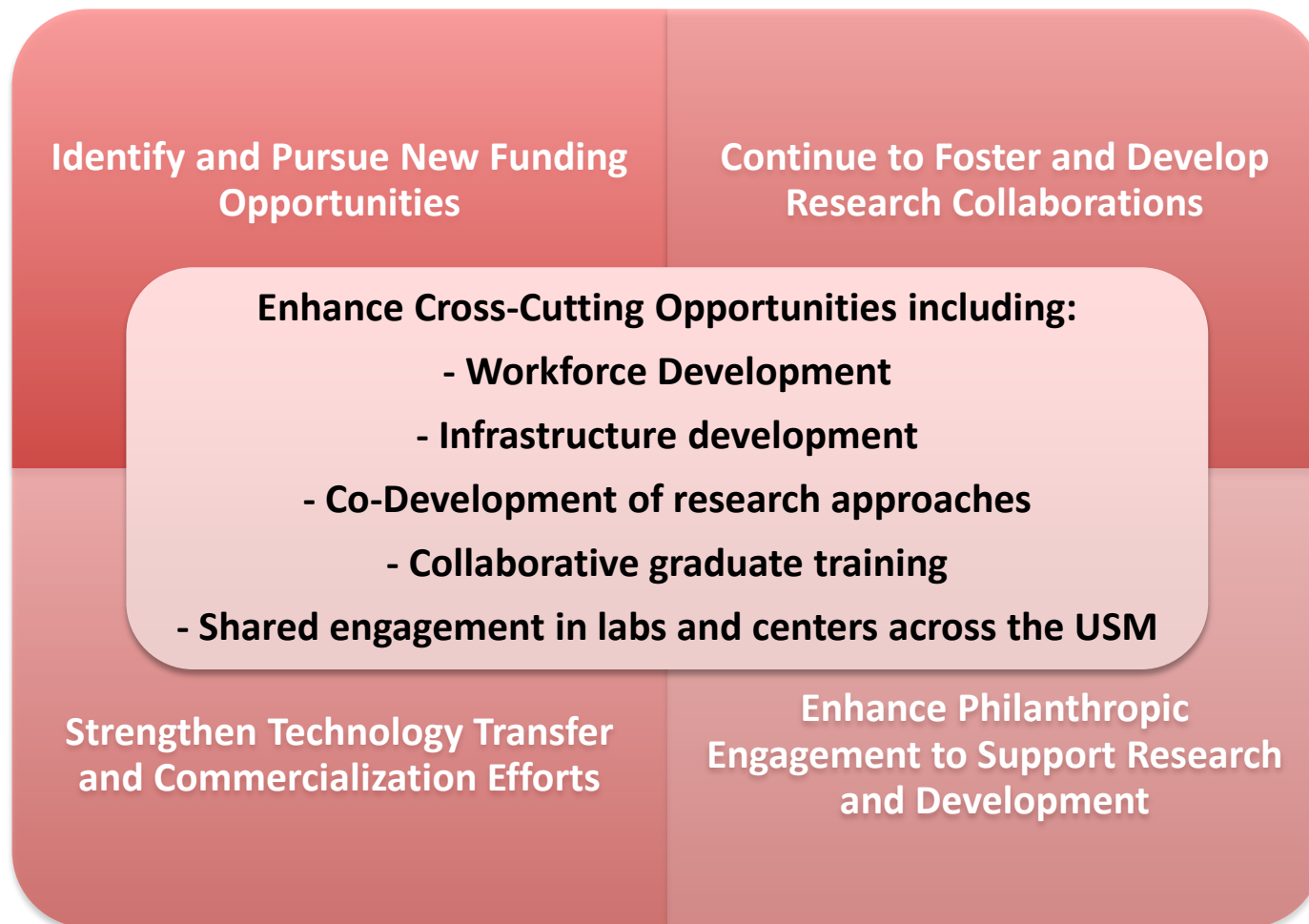


5. Strategic Partnerships

- Direct partnerships with federal funding agencies, like NIH, NASA, NIST and DoD
- Industry collaborations for research, workforce development, and entrepreneurship across USM institutions, such as:
 - ✓ UMD – Lockheed
 - ✓ UBalt – Transamerica
 - ✓ UMES – Perdue Farms
 - ✓ Towson – McCormick & Company
 - ✓ Frostburg – Beitzel
 - ✓ UMBC – Northrop Grumman
- Support from economic development partners, including:
 - ✓ Research parks and districts co-located with USM campuses
 - ✓ Investment funds sponsored by Maryland, the USM, and its institutions
 - ✓ Private investors and entrepreneurs to support commercialization and business development
- Engagement with thought leaders across the landscape of higher education, such as:
 - ✓ National Academy of Inventors
 - ✓ National Academies of Science, Engineering, and Medicine
 - ✓ The Association of Public and Land Grant Universities
 - ✓ The National Association of System Heads

6. Funding Diversification

Support Growth in Research and Development through Diversification of Funding Sources, collaboration approaches, and stakeholder engagement



Strategic Goals and Achievements

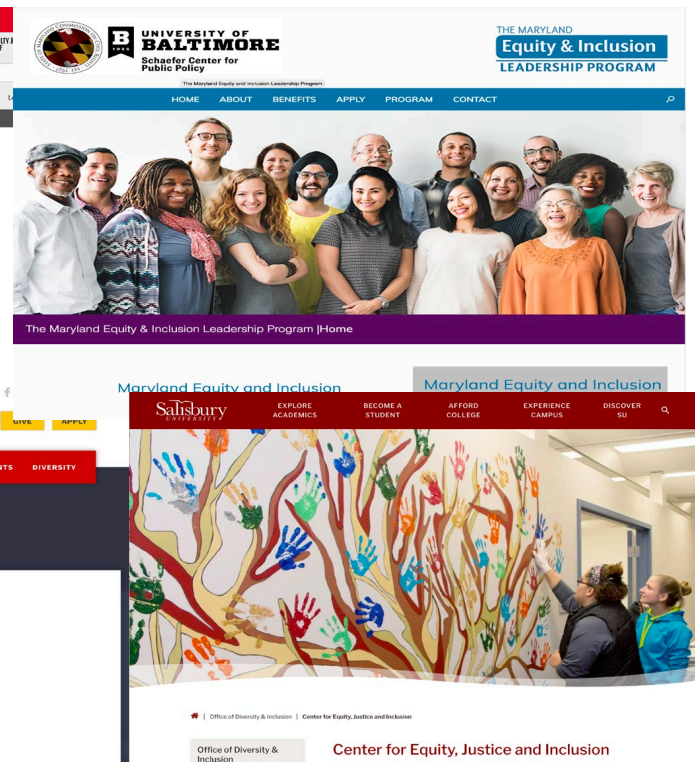
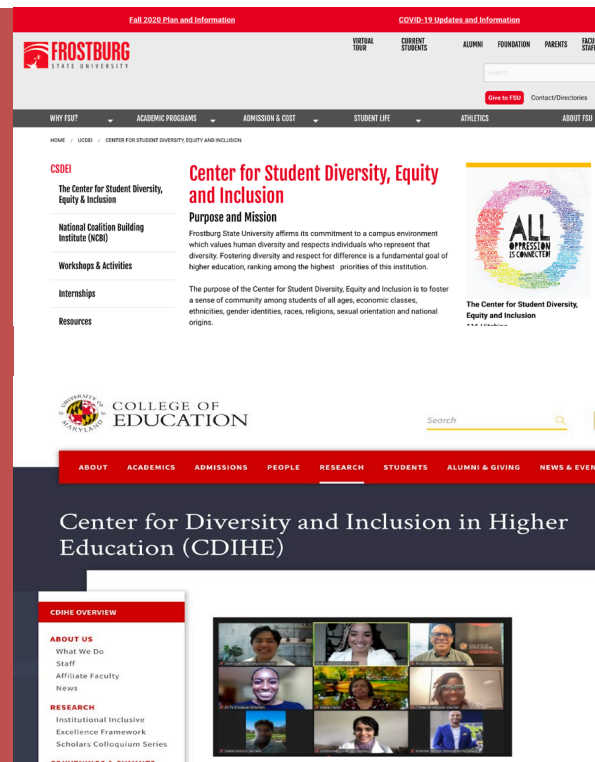


7. Research for Social Good

- Identify and support existing research, economic development, and workforce programs that focus on Diversity, Equity, and Inclusion
- Identify funding partners for developing new programs and supporting current programs to flourish in scope and scale
- Leverage partnerships to enhance impact of programs
- Disseminate findings and best practices to enhance impacts of programs

Building on existing student facing programs to enhance capacity for DEI Research:

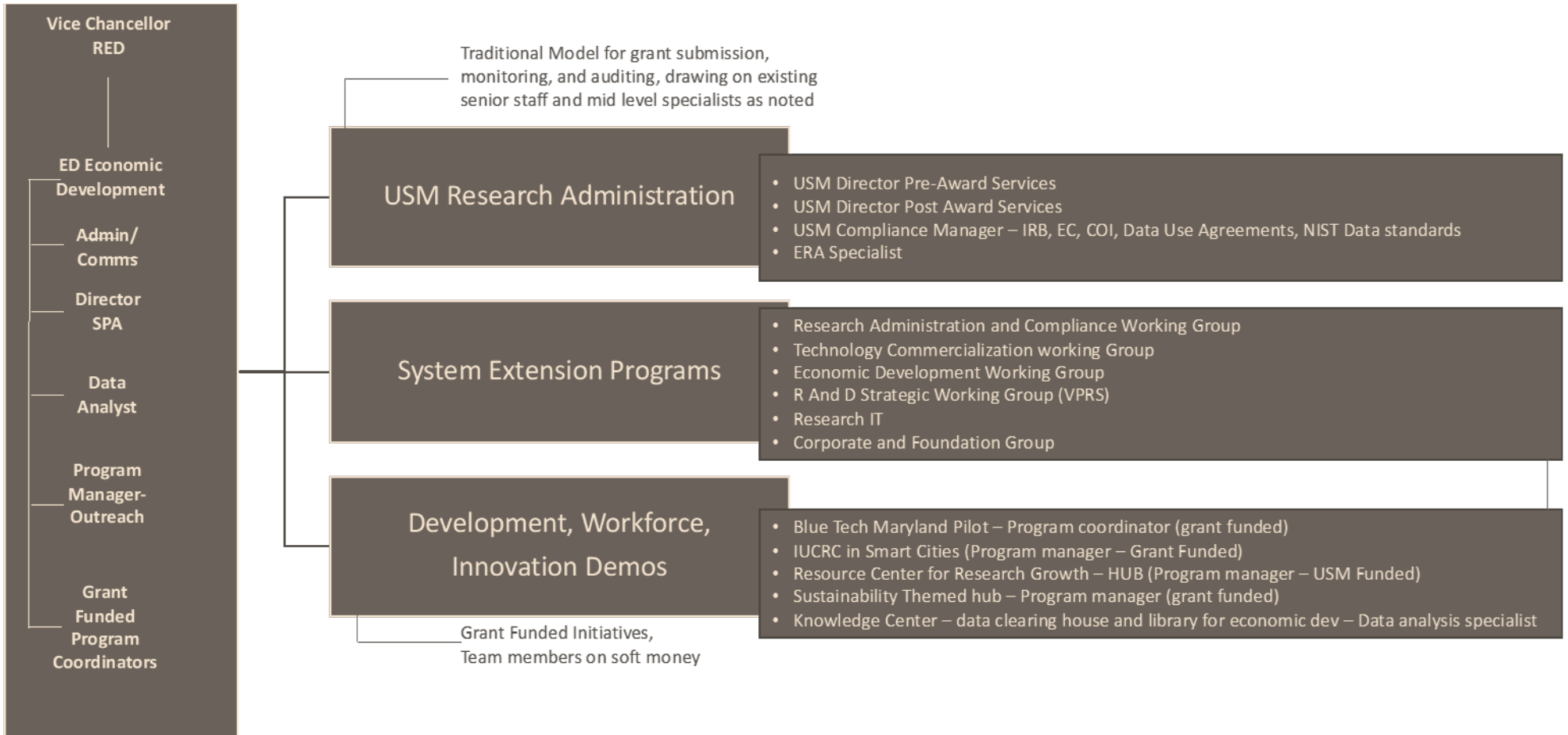
- Frostburg – Center for Student Diversity, Equity and Inclusion
- UMD – Center for Diversity and Inclusion in Higher Education
- Salisbury – Center for equity, Justice and Inclusion
- University of Baltimore – Maryland Equity and Inclusion Leadership Program



Research and Economic Development Organization for the System



Model for Providing Technical Support for Accomplishing USM R and D Strategic Goals



USM LAUNCH FUND UPDATE

Lindsay Ryan
Executive Director of Economic Development
University System of Maryland

June 7, 2023



LAUNCH FUND: BACKGROUND

Began as a recommendation from an EDTC-charged study involving USM and non-USM personnel --- an “Early Capital Pilot”. Built as a flexible tool to deploy flexible capital that can fill gaps in the existing landscape of capital and non-capital resources across USM and the Maryland ecosystem (not compete with them).

- **Capital:** Grants and (dilutive) investments ranging from less than \$2,000 up to \$50,000. This small, foundational capital is currently a key gap experienced by many individuals getting started.
- **Goal:** Help address societal and structural barriers to obtaining foundational capital and disparities even across USM.
- **Values:** Diversity, equity, and inclusion; transparency; value back to all participants, applicants, awardees, and institutional partners.
- **More Information:** <https://www.usmd.edu/launch/>

LAUNCH FUND: GREAT POTENTIAL ACROSS USM AND STATE

- All 12 institutions and 1 RHEC represented in applications
- **Awarded 1st Round of Microgrants to 4 Institutions**
 - Augmenting and following on to student competitions
 - Supporting students, faculty, and staff in participation in new entrepreneurial training programs
- **Over 90 Applications for Startup Funding**
 - Incredible diversity in venture industries; founder identities and previous entrepreneurial experience
 - Primarily alum (50%), students (30%), research parks (15%), fewer for intellectual property and place-based
 - Primarily for-profit entities
 - 11 counties represented



Launch Fund Apps



USM Institutions

TOUGH DECISIONS AHEAD

- **Next Steps**
 - 36 experts are reviewing applications for fundability, competitiveness
 - Additional diligence for investments and high dollar value grants
 - Executive Committee (1 rep per USM inst.) makes final decisions
- **Budget = only approximately \$200k for over \$3M in requests:**
 - Mostly split between \$10-25k and \$25k and over
 - A small percentage under \$10k
 - Most grants; some investments
- **As expected, there will likely not be enough funding in the pilot to fund all applications that should be funded; however:**
 - The goal of the pilot is to demonstrate feasibility and impact
 - The Launch Fund is built for more than simply responsibly disbursing a small amount of capital!

PROVIDING VALUE TO ALL APPLICANTS

One of the core values of the Launch Fund is providing value to all applicants

- Helpful feedback and resource recommendations from reviewers, Launch Fund staff, USM personnel
- Connections to peer applicants (pilot)
- Connections to mentors (pilot)
- For competitive and highly competitive applications that could not be funded, help identifying and/or recommending to other potential funders
- *More to come...*

Many thanks to the community of reviewers and the Executive Committee for their embracing of the overall mission to better support early-stage entrepreneurs!

USM COMMERCIALIZATION OUTCOMES REPORT

Lindsay Ryan
Executive Director of Economic Development
University System of Maryland

June 7, 2023



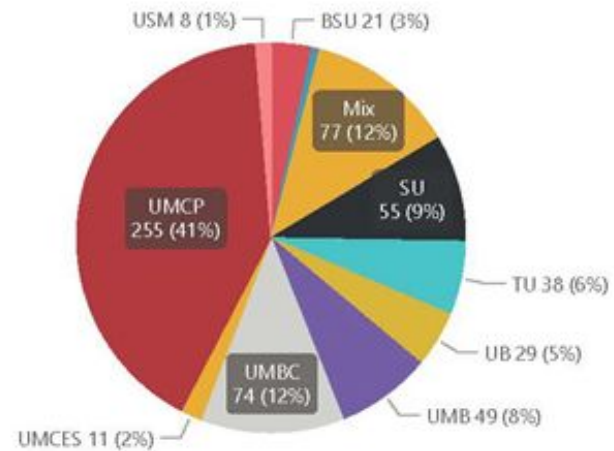


Ventures *Newly* Supported

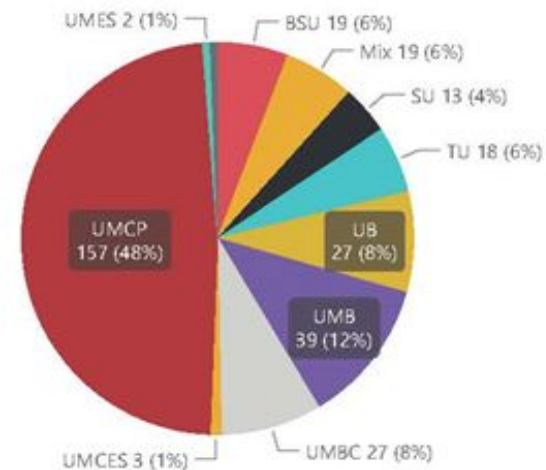
June 2018 through
December 2022

563
Distinct Ventures

Ventures Newly Assisted - By Supporting Institution



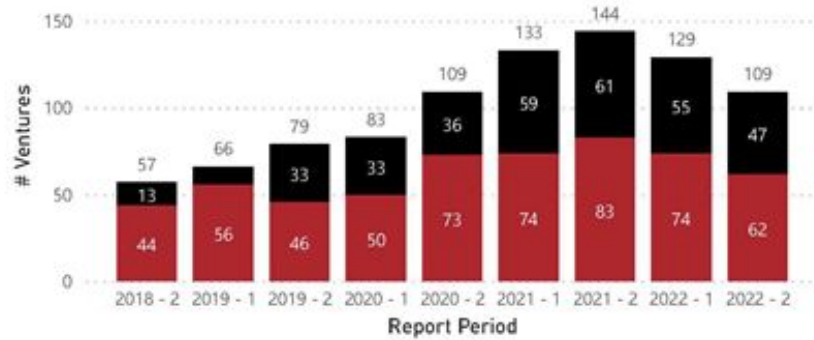
"Spinout" Ventures Newly Assisted - By Spinout Institution



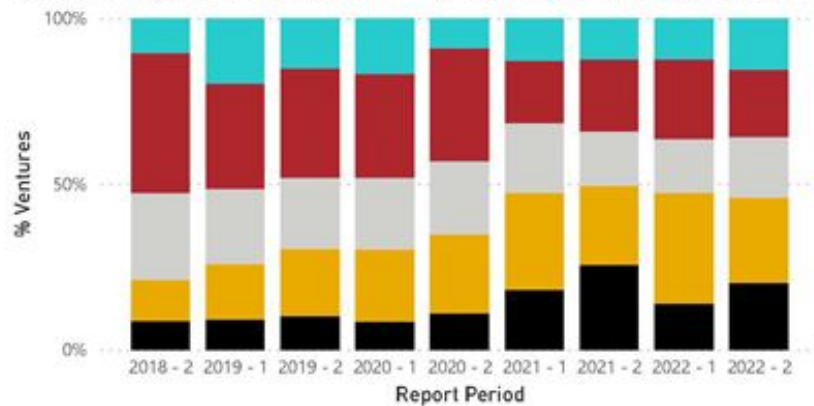


VENTURES SUPPORTED OVER TIME

USM Status ● NEW TO USM ● RE-ENGAGED



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



USM Founders (Red)



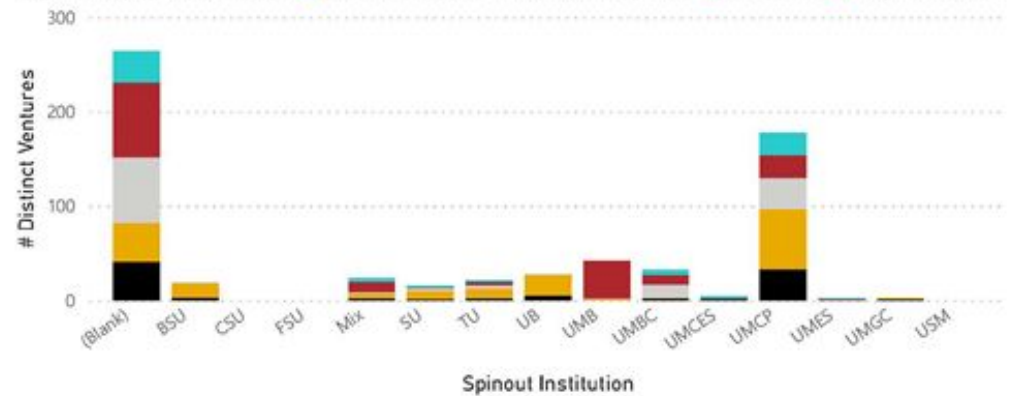
Student Founders (Red)



USM IP (Red)

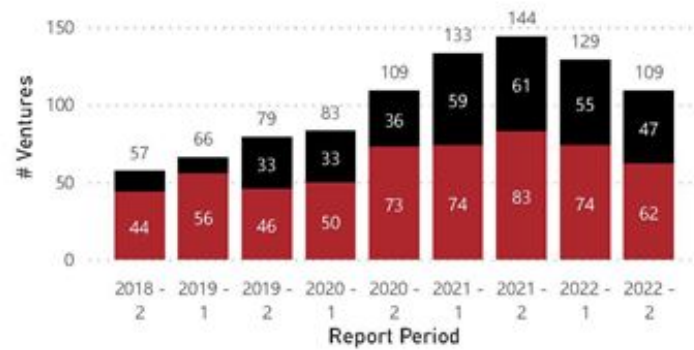


Industry ● Consulting & Other ● Consumer & Food ● Information Technol... ● Life Science ● Sustainability & ...



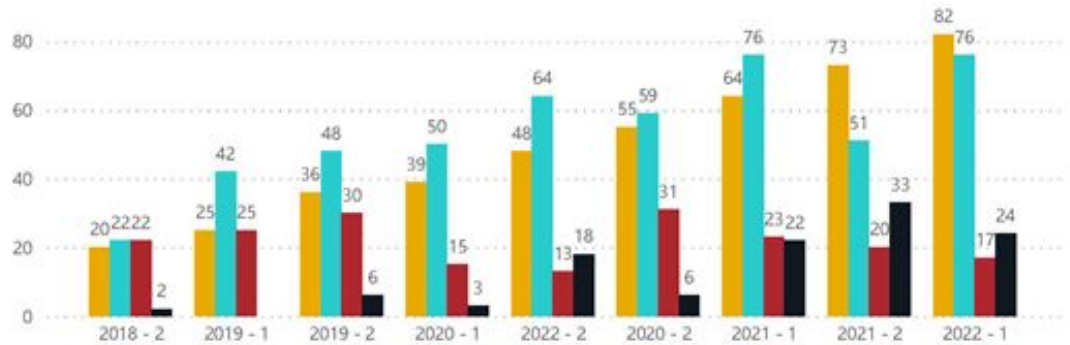
SUPPORT BY TYPE

USM Status ● NEW TO USM ● RE-ENGAGED



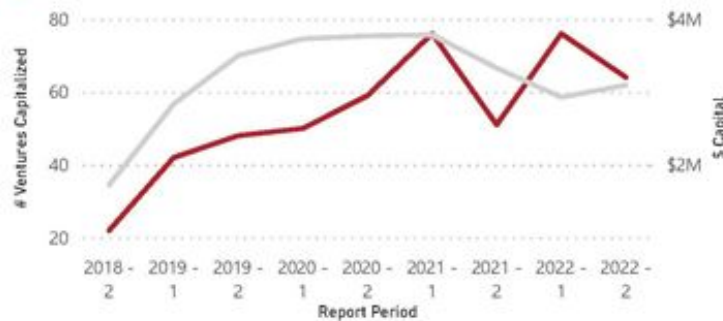
Support by Type

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



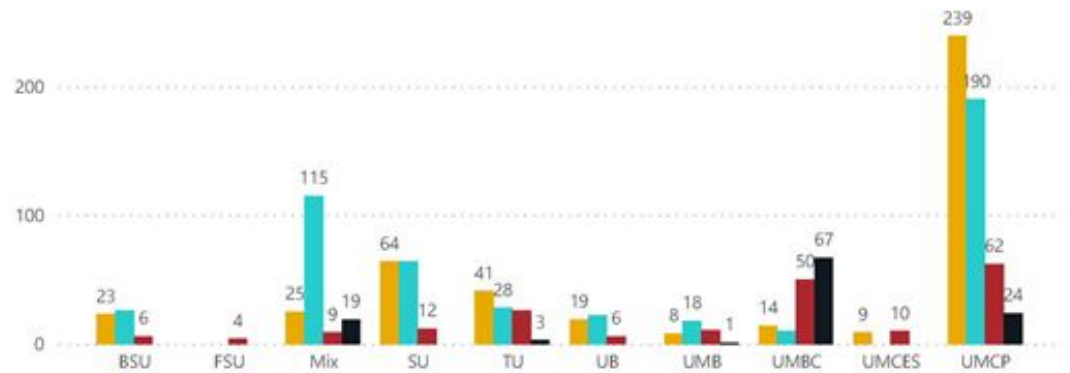
Capital Support

● # Ventures Capitalized ● \$ Capital



Support by Type and Institution (All-Time)

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





Additional State-Wide Venture Support



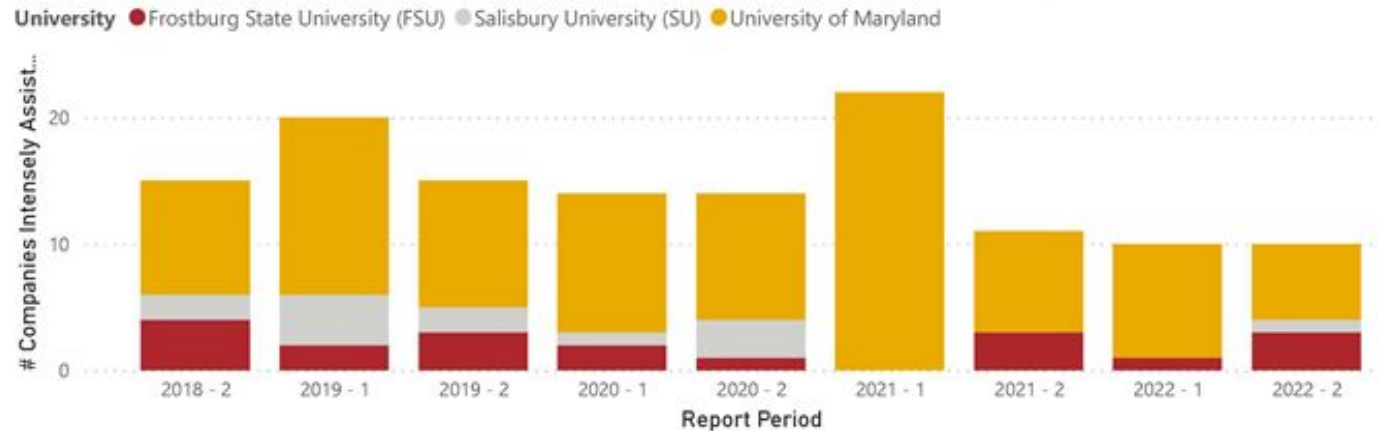
Helps Maryland retain top tech talent by increasing the number of paid technical internships offered in the state. Administered by UMBC and funded by the State of Maryland, the program offers financial assistance to technology-based businesses, as well as state and local agencies, to hire more interns (mtip.umbc.edu).

About 30% of startup participants also are USM "spinouts" or "spin-ins".



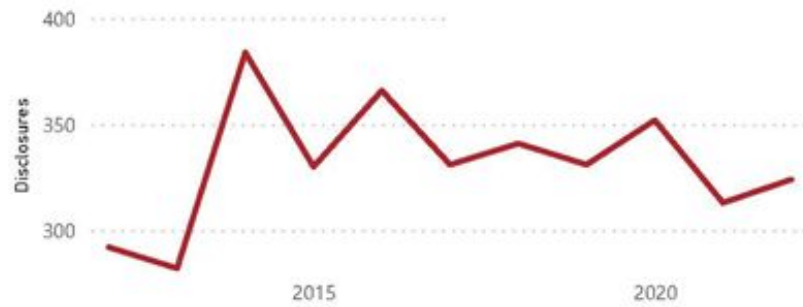
The Maryland Small Business Development Center (SBDC) is a public-private partnership between the U.S. Small Business Administration, the State of Maryland and UMCP. The Maryland network hosts entrepreneurial assistance programs at a number of USM institutions.

Companies Assisted Through USM Small Business Development Centers

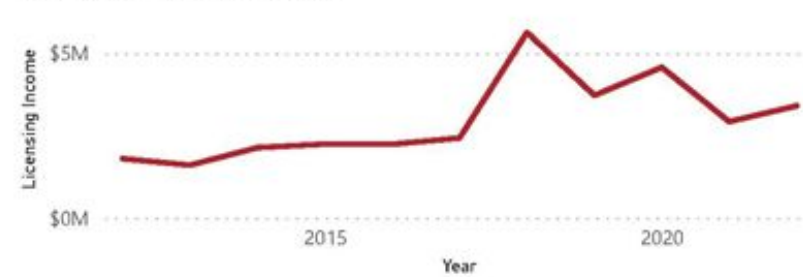


TECH TRANSFER ACTIVITY

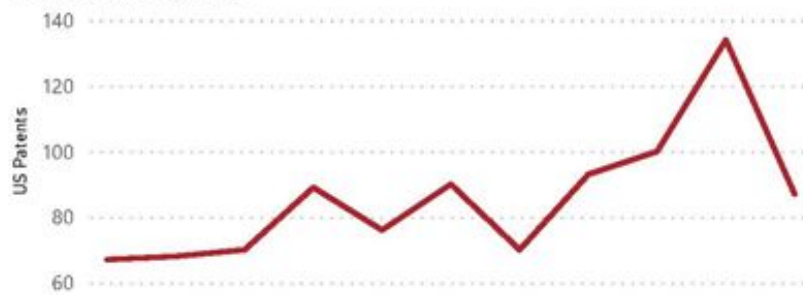
Disclosures by Year



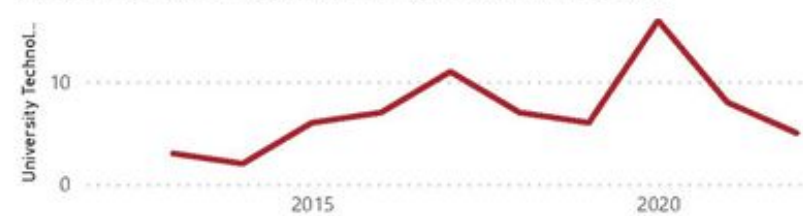
Licensing Income by Year



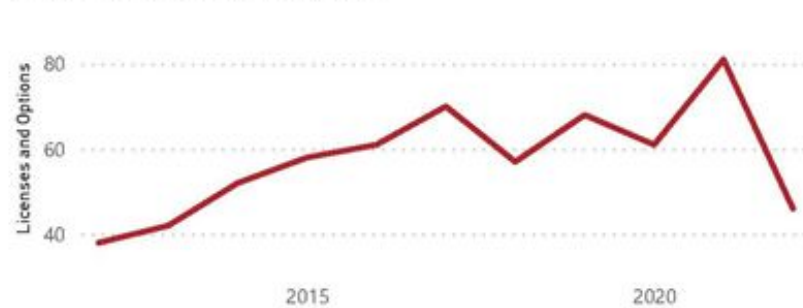
US Patents by Year



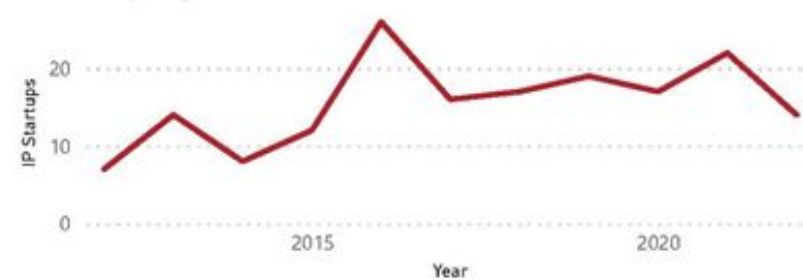
University Technologies Entering the Market by Year



Licenses and Options by Year



IP Startups by Year



TAKEAWAYS

- USM supports a wide variety of ventures through a variety of different mechanisms, including capital
- Many ventures support by USM are not “spinouts” but “spin-ins”
- A resource at any given USM institution may service ventures from other USM institutions
- Intellectual property is created, with much startup activity. However, licensing returns are more difficult to bring about.

Contact OVCREd

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