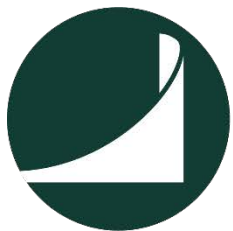


2022 ANNUAL REPORT



MICHIGAN STATE UNIVERSITY

RESEARCH FOUNDATION



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Letter from the Executive Director

Dear Friends of the Michigan State University Research Foundation,

We are pleased to present our FY 2022 Report for the Michigan State University Research Foundation.

You may have noticed we added the word “**Research**” to our name to become the **Michigan State University Research Foundation**. We believe this is a better reflection of who we are and what we do while eliminating the misconceptions that we are the fundraising and endowment management arm of Michigan State University.



Like many of you, we have been operating in the wake of the pandemic and remain convinced that our work funding research, cultivating innovation, driving venture creation, and helping Michigan State University achieve their goals will stand the test of time.

In collaboration with Michigan State University which recently published its strategic plan “MSU 2030”, so too has the MSU Research Foundation created our roadmap on how we will assist the University during this time.

Our mission to enhance research, encourage innovation and facilitate economic development through modern commercialization practices, venture creation activity and innovation partnerships across the state remains strong. We do this through:

- Prudent management of the MSU Research Foundation Investment Portfolio and trust services in collaboration with University Advancement
- Providing an annual Grant to MSU earmarked for research, student entrepreneurship, tech commercialization, faculty recruitment and special projects
- Driving an innovation ecosystem across the State of Michigan by operating programs, partnerships, and physical assets that catalyze technology commercialization, increase new venture development and investments that bring technologies to market and investing in select real estate assets that bring partners close to campus

The overlap of our programs and investments are aligned with the strategic plan of Michigan State University and we look forward to partnering with you!

David Washburn
Executive Director
October 2022



About the MSU Research Foundation

The Michigan State University Research Foundation (MSU Research Foundation) is a non-profit foundation formed in April of 1973 focused on technology commercialization and economic development.

The MSU Research Foundation manages an endowment built from decades of intellectual property licensing revenue and provides over \$10 million in research funding to MSU annually. Additionally, the MSU Research Foundation operates several subsidiary organizations focused on launching and funding new startup companies. Finally, the MSU Research Foundation holds and develops select real estate assets important for entrepreneurs and MSU's corporate relationships.

- Spartan Innovations (SI) is a venture studio that focuses on intellectual property best commercialized via a new start-up company, acceleration programming, and mentorship of early-stage ventures.
- Red Cedar Ventures (RCV) is a pre-seed fund providing early and follow-on capital for start-up companies that are part of the SI ecosystem.
- Michigan Rise Pre-Seed III Fund was established in August 2020 and is a collaboration between the MSU Research Foundation and the Michigan Economic Development Corporation (MEDC). The \$23M venture fund invests in early-stage technology ventures from across the State of Michigan.

The MSU Research Foundation also holds real estate and oversees the University Health Park (home of McLaren Greater Lansing), two incubator facilities, and over 200,000 sq.ft. of office space for new start-up companies and existing corporate partners.

Vision

Provide for and partner with Michigan State University to achieve preeminence through its MSU 2030 Empowering Excellence, Advancing Equity and Expanding Impact strategic plan.

Mission

To enhance research, encourage innovation, and facilitate all relevant aspects of economic development through modern commercialization practices, venture creation activity and innovation partnerships.

MSU Research Foundation Strategic Pillars

- 1) Collaborate with and serve Michigan State University
- 2) Prudent endowment management; professional trust services; impactful grant program
- 3) Continued Program Investments that enhance and drive the MSU Innovation Network
- 4) Team, Culture, DEI, and Talent
- 5) Communicate our impact to drive further engagement and collaboration.

Grant Program

Since 1974, the Michigan State University Research Foundation has provided over \$380M in funding to Michigan State University. The MSU Research Foundation contributed \$10.2M to research at MSU for the 2021-22 academic year.

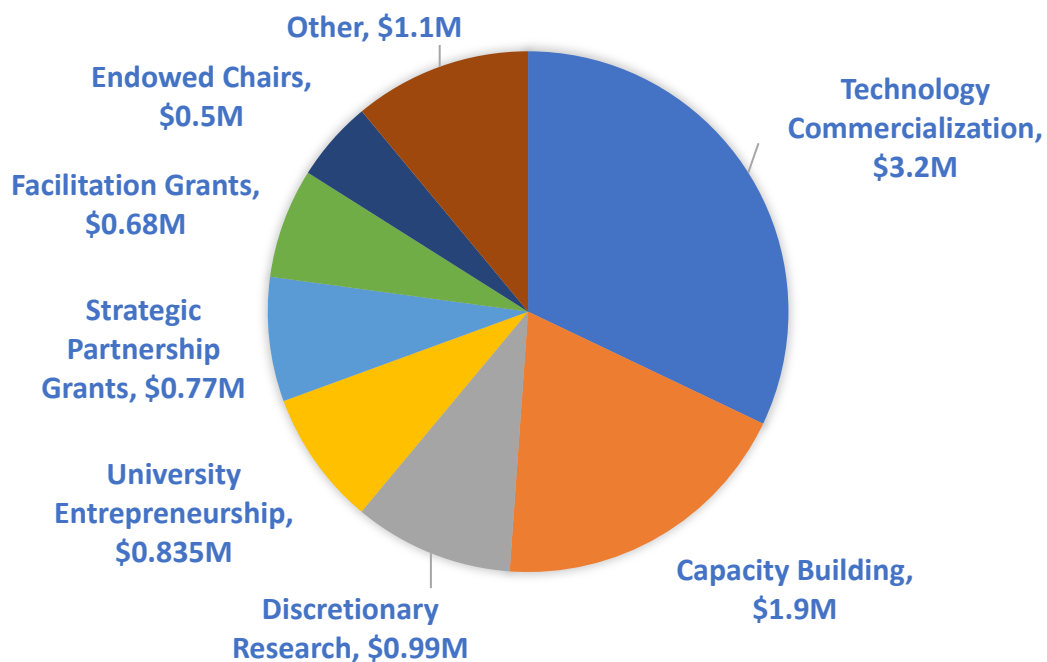
“Our annual grant is a core tenant of our mission at the MSU Research Foundation,” said Research Foundation Executive Director **David Washburn**, “Providing resources that enable MSU serves that mission more than anything we do.”

Whether it’s supporting specific programs within the university like graduate research or faculty recruitment, the annual grants given to MSU by the MSU Research Foundation have been used to bolster MSU’s reputation as a world-class institution.

“The MSU Research Foundation’s ongoing investment at MSU reaches all corners of the campus,” continued Washburn, “and this flexible resource provides support to focus on new opportunities to create, learn and grow.”

The resources are spread across campus and are generally in line with strategic initiatives agreed upon by MSU executives and the MSU Research Foundation Board of Directors and include technology commercialization, entrepreneurship, faculty recruiting, faculty retention, strategic partnership grants and more.

GRANTS TO MICHIGAN STATE UNIVERSITY



MSU Research Foundation announces 2022 Strategic Partnership Grants

The 2022 Strategic Partnership Grant Program (SPG Program), funded jointly by the MSU Research Foundation and Michigan State University, was awarded to:

Dr. Ranjan Mukherjee, Department of Mechanical Engineering and his colleagues for their proposal entitled ***Empowering Individuals with Disability in Employment Settings: An Ability-First Human-Centric Approach***; and

Dr. George H. Berghorn, School of Planning, Design and Construction and his colleagues for their proposal entitled ***Strengthening Mass Timber Scholarship at Michigan State University***

Dr. Mukherjee’s proposal is to form the *Ability Innovation Research Lab* (AIRL) featuring multidisciplinary expertise and collaborations with an industry partner in Peckham and a rehabilitation network partner in SourceAmerica.

“People with disabilities are one of the largest minority groups in the U.S., yet they suffer from one of the highest unemployment rates,” Farnoosh Khodakarami, assistant professor of marketing and co-PI for the grant, said. “We hope this conference will serve as a platform to discuss opportunities for fostering a more inclusive work environment for people with disabilities.”



Farnoosh Khodakarami, assistant professor of marketing

The teams will include members with expertise in vocational rehabilitation, kinesiology, robotics, augmented reality, assistive technologies, and operations and process management. Peckham, as a large

community rehabilitation organization, will provide a real-world testing lab for technological solutions and SourceAmerica will assist in scaling the implementation of the developed solutions.

Dr. Berghorn and his collaborators from the College of Agriculture and Natural Resources, the College of Engineering, and the Broad College of Business will focus on strengthening *Mass Timber Scholarship* at Michigan State University.

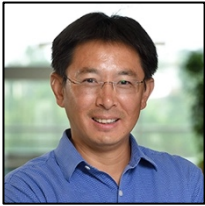
In the past five years, mass timber has grown as a construction material and technique that is displacing conventional steel and reinforced concrete structures in the United States.

Despite its relatively new entry into the domestic construction industry, mass timber is beginning to account for a significant amount of new construction, with nearly 1,200 mass timber building projects constructed or in design as of June 2021. Mass timber construction is expected to account for \$2.3 billion of the US construction industry (\$1.4 trillion total value) by 2026.



Six named as MSU Research Foundation Professors in 2022

The title of MSU Research Foundation Professor is awarded to exceptionally accomplished current and incoming faculty members who are recommended for the honor by the dean of their college. These talented researchers are leaders in their disciplines, advancing specific areas of scholarly need, disciplinary development, or research or creative emphasis at MSU. Joining over 50 MSU Research Foundation Professors, the following were named MSU Research Foundation Professors in 2022:



Honglei Chen

is a professor in the College of Human Medicine's Department of Epidemiology and Biostatistics and has been named a Michigan State University Research Foundation Professor in recognition of his outstanding research into the epidemiology of aging and neurodegenerative diseases, including Parkinson's Disease.



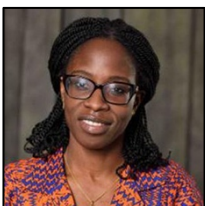
Jerlando F. L. Jackson

was named Dean of the MSU College of Education, effective July 1, 2022 and holds the title of MSU Research Foundation Professor of Education. Jackson held both the Ruppel-Bascom Professor of Education and Vilas Distinguished Professor of Higher Education at the University of Wisconsin-Madison, where he has spent more than two decades of his career. (Photo by Althea Dotzour / UW-Madison)



Deborah Johnson

explores racially and culturally related development, parental racial socialization and coping, cultural adjustment from early childhood through emerging adulthood, in both domestic and international children and youth. Debra Johnson also works with the Diversity Research Network (DRN), a faculty serving entity meant to address scholarly support and facilitate community building and collaboration among scholars of color and researchers interested in diversity populations.



Saweda Liverpool-Tasie

is an MSU Research Foundation Professor in the department of Agricultural, Food, and Resource Economics. Her current research focuses on emergent issues related to smallholder productivity and welfare within dynamic and transforming food markets in sub-Saharan Africa and alongside poorly functioning markets in the region.



Christopher P. Long

is a Professor of Philosophy and serves as Dean of the College of Arts & Letters and Dean of the Honors College at Michigan State University. Dean Long is committed to expanding the transformative power of liberal arts research and teaching by enriching graduate and undergraduate education, deepening our commitment to equity, recruiting and retaining world-class faculty.



Dr. Cameron G. Thies

was named Dean of James Madison College, on July 1, 2021. Dr. Thies previously served as professor of international relations in the School of Politics and Global Studies at Arizona State University, and as chairperson of the Department of Political Science at University of Iowa.

Foundation Adds Beauchamp to Board

The Michigan State University Research Foundation board of directors approved the creation of a new seat on the Research Foundation board reserved for MSU Executive Vice President of Health Sciences.

“After the health colleges were restructured, having representation from the health sciences on our board further aligns our mission to serve the university” said Randolph Cowen, Chair of MSU Research Foundation.

Dr. Norman J. Beauchamp Jr. M.D., M.H.S., Executive Vice President for Health Sciences at MSU, was appointed to this seat by MSU President Samuel L. Stanley Jr., MD.



Figure 1 Dr. Norman E. Beauchamp, Jr. MD

“Our mission at MSU to provide health, hope and healing to all, is abundantly evident through the legacy of cisplatin and carboplatin.” said Beauchamp. “Collaborating with the MSU Research Foundation to build upon a legacy of treatment that has impacted millions in their fight against cancer is a charge I take very seriously.”

In addition to overseeing medical education, research, and clinical care through MSU Health Care, Beauchamp also spearheads Michigan State’s strategic health science partnerships with major health care providers across the state.

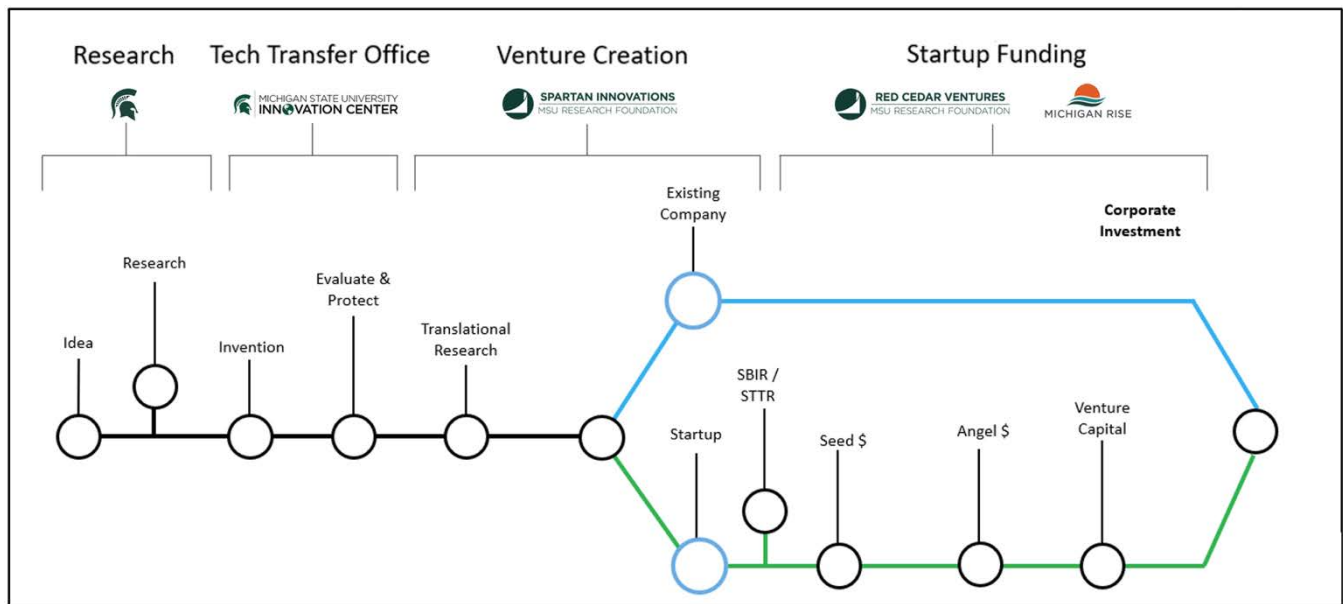
“Norm has been a great collaborator with our organization” said David Washburn, Executive Director of the MSU Research Foundation. “In addition to his background as an MD and his

leadership roles, he has a creative and entrepreneurial mindset, a proven track record of developing and expanding key healthcare partnerships on campus and across the state of Michigan.”

Beauchamp received his Bachelor of Science degree from Michigan State University, his medical degree from the MSU College of Human Medicine and his Master of Health Science degree from Johns Hopkins School of Public Health. He completed his residency and two fellowships at Johns Hopkins School of Medicine before joining the faculty in 1996. He is on the Executive Committee of Grand Action II, the Right Place, the Governor’s Commission for Health Information Technology and was the co-founding chair of the Greater Lansing Medtech Advisory Group. He chairs the Henry Ford Health /MSU Health Sciences Board and MSU Healthcare Inc.

Spartan Innovations – The Path to Venture Creation

Spartan Innovations is our venture studio and provides business development services around MSU intellectual property best commercialized via a new startup company. The map below shows the general path to venture creation and the system of resources that have been put into place to support the development of new enterprises to commercialize technology.



Highlights of emphasis over the past 12 months include:

- We recently launched a new **MedTech Accelerator** program in the Greater Lansing region in collaboration with the **Lansing Economic Area Partnership (LEAP)**. The funding provided by LEAP to Spartan Innovations will allow us to operate 2 accelerators, one in 2022 and one in 2023 and coach teams how to pursue non-dilutive funding via the Federal SBIR/STTR programs.
- We continue to work actively with **MSU Health Sciences** and regional health systems across the state to develop MedTech innovations.





SPARTAN INNOVATIONS

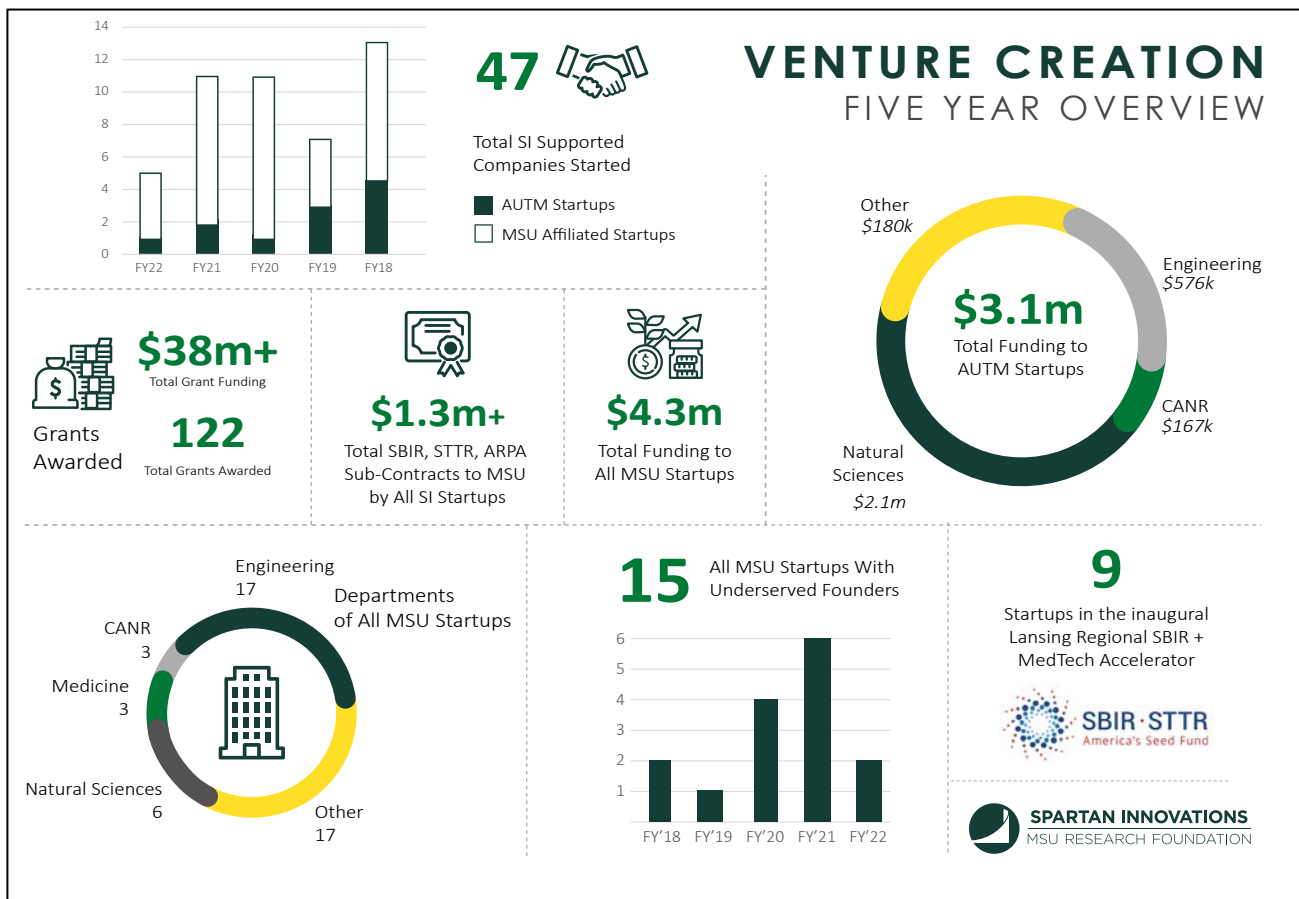
MSU RESEARCH FOUNDATION

- In collaboration with online education company **Michigan Virtual** and MSU's **Burgess Institute of Entrepreneurship and Innovation**, we created **Education Acceleration** through a statewide education challenge based in Greater Lansing. The first challenge drew 23 teams to participate, and 3 teams received \$20,000 in awards. These top winners have been connected to MSU researchers to further their technologies.
- Our **Conquer Accelerator** program in East Lansing has just completed its 6th cohort, and our **CADE Program** completed its 3rd cohort.



Meknology

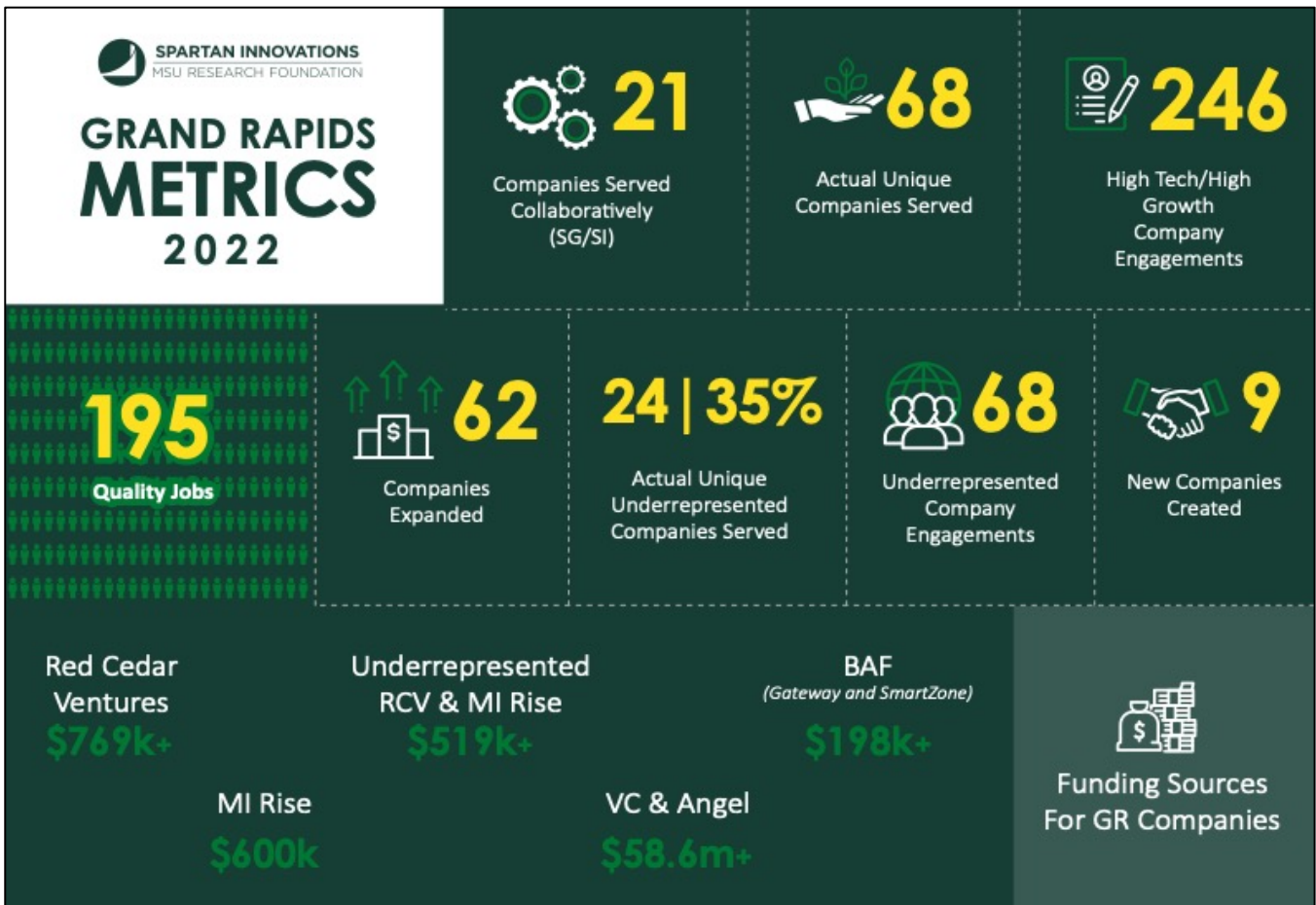
- Spartan Innovations has assisted in getting \$38 million in total grant funding over 122 separate awards and \$1.3 million in subcontracts to MSU. Spartan Innovations has started over 47 companies, 15 with underrepresented founders and funding (via Red Cedar Ventures) \$4.3M to MSU startups.





Spartan Innovations in Grand Rapids

In partnership with the MSU College of Human Medicine in Grand Rapids, our collaboration with the City of Grand Rapids, Start Garden and the community continues to gain traction.





Red Cedar Ventures Investments Review in 2022

Created in 2015, Red Cedar Ventures is a direct venture investment subsidiary of the Michigan State University Research Foundation and has had an active year of deploying early-stage funds to promising startup companies associated with Michigan State University since then.

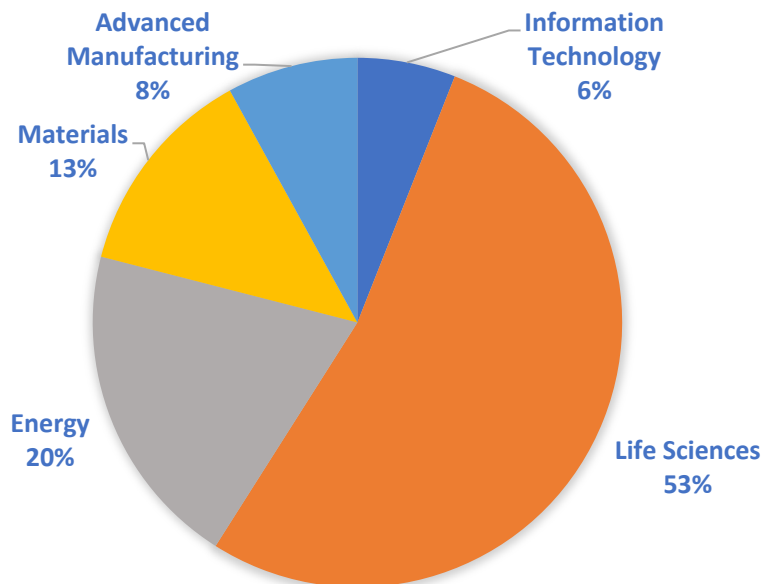
Red Cedar Ventures has two main funds: The **RCV Pre-Seed Fund** and **RCV Opportunity Fund I**.

In FY2022:

- RCV Pre-Seed Fund deployed just over \$700K in 24 companies. This number includes the companies in the Conquer Accelerator program.
- RCV Opportunity Fund deployed just under \$2M in 9 companies that have received significant traction with outside investor groups.

2022 RCV Pre-Seed Fund Investments by Sector

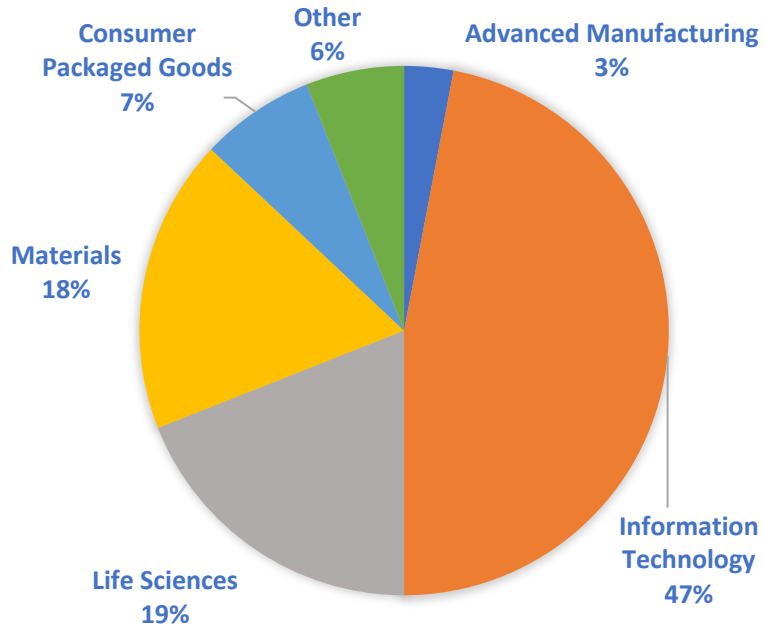
The chart below provides an overview of industry sectors in our Pre-Seed portfolio at Red Cedar Ventures. Through FY2022, there are 78 active companies in the RCV Pre-Seed portfolio.





2022 RCV Opportunity Fund Investments by Sector

The chart below provides an overview of industry sectors in our Opportunity Fund portfolio at Red Cedar Ventures. Through FY2022, there are 16 active companies in the RCV Opportunity Fund portfolio that have been able to raise over \$450M in outside funding.



New Associates Join Red Cedar Ventures

Red Cedar Ventures adds three investment professionals to team - In 2022, Red Cedar Ventures added Chris McKenzie, Tommy Skinner, and John Tran to the team.



Christian McKenzie
Associate



Tommy Skinner
Associate



John Tran, PhD
Venture Analyst



TemperPack completes acquisition of KTM Industries

US-based cold chain packaging company TemperPack Technologies has acquired Holt, MI based sustainable packaging provider KTM Industries, Inc., a portfolio company of the Michigan State University Research Foundation.

KTM Industries is the producer of Green Cell Foam, a natural, environmentally friendly packaging material made from cornstarch. KTM was launched in 2002 with initial intellectual property created by four professors at Michigan State University. The company also received investments from the Michigan State University Research Foundation which helps commercialize MSU intellectual property.

BitLyft raises \$1M to supercharge its cybersecurity mission

Michigan-based BitLyft Cybersecurity announced the close of its first seed round of funding. The \$1 million infusion will expand the company’s mission to deliver automated and optimized cybersecurity solutions to small and midsize organizations.



BitLyft is focused on managed security services through the BitLyft AIR platform, an automation and optimization system designed to reduce labor intensive tasks, optimize SIEM (security information and event management), and provide more immediate value to clients.



Indapta Therapeutics Raises Over \$50 Million in Series A Financing

Red Cedar Ventures portfolio company Indapta Therapeutics, a biotechnology company developing an NK (natural killer) cell therapy platform for the treatment of blood and solid tumor cancers appointed Mark W. Frohlich, M.D., chief executive officer and raised over \$50 million in Series A financing and commitments co-led by RA Capital Management, LP, Vertex Ventures HC and Leaps by Bayer, the impact investment arm of Bayer AG. The Myeloma Investment Fund, the venture philanthropy subsidiary of the Multiple Myeloma Foundation, and Lonza also participated in the round.



The Michigan Rise Fund made its 50th startup investment since its inception in August 2020.

Through June 30, 2022, Michigan Rise Pre-Seed Fund III has invested \$5.8M across 50 investments in 38 startups across the state, including 12 follow on investments in 11 portfolio companies.

“It’s been incredibly satisfying for our team to work with Michigan’s innovative startup community and to complete our 50th investment in under two years,” said **Jeff Wesley**, Executive Director of Michigan Rise Pre-Seed Fund III. “This is not only a great accomplishment for Michigan Rise and the MSU Research Foundation, but more importantly it’s a demonstration of the continued growth of our state’s entrepreneurial ecosystem.”

WEDGE The 50th investment was in HR-focused company, [Wedge](#), which helps hiring teams better connect with the right talent and fast-track them through video resumes. Founded in 2015, Wedge gives employers the ability to attract, pitch, and fast-track the most passionate applicants.

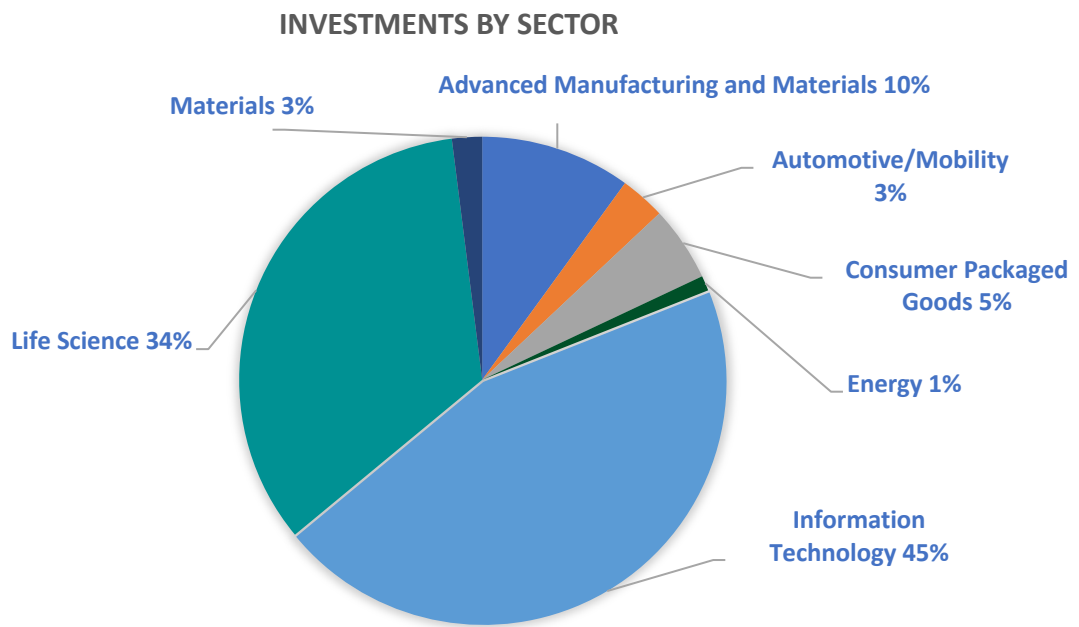
“At the Michigan Economic Development Corporation, we prioritize economic growth and development by partnering with organizations like the MSU Research Foundation and Michigan Rise,” said Fred Molnar, Senior Vice President of Entrepreneurship and Innovation at the MEDC. “Michigan Rise’s work with emerging technology companies is bolstering the state’s economic reputation and increasing entrepreneurial opportunities across all industries. We congratulate Michigan Rise on this remarkable milestone as they continue to foster growth in vibrant communities across the state.”

Key Performance Indicators	Total FY 2014-2022
Total Companies Funded	44
Total Investments	41
Active Companies	44
Total Funding Leverage	\$200+M
Dilutive Funding	\$137M
Non-Dilutive Funding	\$41M



Michigan Rise Investments by Sector

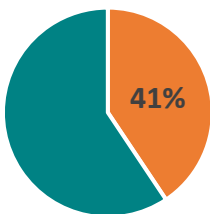
The MSU Research Foundation and Michigan Economic Development Corporation partnered in August 2020 to create the Michigan Rise Pre-Seed Fund III. The fund invests in Michigan tech startups to help commercialize innovative technologies and is administered by the Michigan State University Research Foundation through Michigan Rise, which is a wholly owned subsidiary of the Research Foundation.



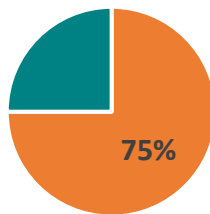
Portfolio Diversity Metrics

Minority lead businesses are on the rise in our venture portfolio, and we continue to pursue interesting venture opportunities founded by different ethnic and gender groups.

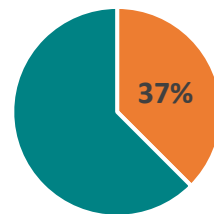
Female Founder



Underserved Founders



BIPOC Founder





REAL ESTATE

MSU RESEARCH FOUNDATION

Michigan State University Research Foundation Real Estate





McLaren Greater Lansing arrives at the University Health Park

The MSU Research Foundation congratulates McLaren Greater Lansing on the official grand opening of McLaren Hospital, located at the University Health Park.



The new health care campus is now home to a state-of-the-art acute care hospital, cancer center, medical services building, and other facilities that support health care delivery, educational opportunities, and medical research. The main hospital, McLaren Greater Lansing, as well as the Karmanos Cancer Institute, Outpatient Care Center and new emergency department welcomed patients on March 6, 2022.

It's been a great honor to partner with McLaren Greater Lansing and McLaren Health Care on this exciting project. The relationship between McLaren Greater Lansing and Michigan State University spans many decades, and this specific project marks a meaningful moment in the MSU Research Foundation's continued partnership with McLaren and MSU.



McLaren Greater Lansing President Kirk Ray (l) and Phil Incarnati CEO McLaren Health Care open new hospital in University Health Park on February 28, 2022.



UNIVERSITY HEALTH PARK
MSU RESEARCH FOUNDATION





REAL ESTATE

MSU RESEARCH FOUNDATION

TechSmith

In 2021, we broke ground on the TechSmith headquarters project. During FY2022, significant progress has been achieved and it is currently projected to be substantially completed by September 2022.



Bridge Incubator in Grand Rapids

New Incubator Facility Under Construction in Doug Meijer Medical Innovation Building in Grand Rapids

Spartan Innovations, as part of its partnership with City of Grand Rapids and Rockford Construction is supporting a new incubator facility that will be in the Doug Meijer Medical Innovation Building on the MSU Campus in Grand Rapids.

The facility, called “Bridge Incubator” is planning to open in December 2022 and will be located on the 4th floor of the building at 109 Michigan Street NW in downtown Grand Rapids on the Medical Mile. The facility will include 6 tech-enabled conference rooms with video and presentation capabilities, 3 telephone booths offering privacy, portable charging stations, a large common area with modern furniture, desks, and workstations and a Café and kitchenette.

Spartan Innovations is charged with providing all entrepreneurial programming while the space management and leasing will be handled by Rockford.



Michigan State University Research Foundation Leadership

Executive Management Team

David Washburn*, Executive Director
 Rebekah Skrzyniarz, Director of Finance
 Jeffrey Wesley, Executive Director, Venture Investing
 Jeffrey J. Smith, Director of Real Estate

Board of Directors as of 6/30/2022

Group 1 (MSU Trustees)	Group 2 (MSU Executives)	Group 3 (Outside Directors)	Group 4 (MSU President)
Melanie Foster Pat O'Keefe	Dr. Melissa Woo* Dr. Teresa Woodruff Dr. Douglas Gage Dr. Norman Beauchamp, Jr.	Randolph Cowen* Scott Eston* Bruce Leech* John Phillips* Linda Hubbard Pat Hemmingway Hall William Seifert Stan Sokolowski Jeff deGraaf Jon Braeutigam Kermit Brooks Janice Stipp Joel Wittenberg	Dr. Samuel L. Stanley, Jr.

* Executive Committee

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