

# MHUB

## ANNUAL REPORT 2024







## **BUILDING WHAT THE WORLD NEEDS NEXT**

mHUB is where the tangible future gets built. It's more than visionary ideas — it's the circuitry, materials, prototypes, and people solving real-world problems in real-time. mHUB connects the minds, machines, and momentum needed to turn raw possibility into scaled impact. It's the engine room of innovation, where progress is engineered, not imagined.

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# ABOUT mHUB

## MISSION & VALUES

mHUB exists to help people and companies build what the world actually needs — faster, smarter, and more thoughtfully.

From a purpose-built facility on the West Side of Chicago, mHUB is proving that the Midwest is ground zero for manufacturing innovation. At mHUB, brilliant minds, advanced prototyping tools, flexible microfactories, capital, and industry come together to lower the cost and risk of commercializing the technologies that fuel US industry, workforce, and economy. Whether you're a startup on the verge of your first build or a legacy manufacturer rethinking a process, mHUB is a space to act, adapt, and scale with intention.

### MISSION:

Enable U.S. hardtech innovation and commercialization by fueling collaboration and providing an accessible, hyper-resourced environment to develop, fund, and accelerate energy, health, and manufacturing entrepreneurship.

### VISION:

Be the leading commercialization center advancing hardtech solutions that impact humanity.

### OUTCOMES:

Through the commercialization of new technology, mHUB does more than develop products that shape our reality. It supports business and job creation, wealth creation, workforce and talent development, and the growth of US-based manufacturers and supply chains.



# A WORD FROM OUR CEO

As I reflect on 2024, I'm proud of the bold steps our community has taken to honor progress, deepen collaboration, and reimagine America's leadership in manufacturing. At mHUB, we believe in advancing technologies that improve lives and solve complex societal challenges and see the greatest opportunities in our physical world, where tangible products and solutions are reshaping industries and making emerging technologies possible.

In 2024, over 280 companies supported by mHUB launched 92 new products and generated more than \$525 million in economic activity. These outcomes represent jobs created, supply chains activated, and domestic production strengthened.

A defining feature of 2024 was mHUB's deepened commitment to collaborative problem-solving. New initiatives like the Pilot Launchpad and Grainger Foundation Grant helped startups access capital, technical assistance, pilot opportunities, and supplier networks—closing the gap between prototype and deployment. Through partnerships with the Greater Englewood Chamber of Commerce, Wells Fargo Innovation Incubator, Heartland Climate Tech Partnership, Illinois Manufacturers' Association, and Illinois Manufacturing Excellence Center over 70 energy tech startups were connected with regional manufacturers to scale locally.

Our Accelerator programs continued to push the boundaries of possibility. We graduated 10 energy startups in the spring and welcomed 8 MedTech teams in the fall supported by industry partners Baxter, Endeavor Health, and GE Healthcare. With its most recent MedTech accelerator, mHUB Ventures completed the construction of its first portfolio making 54 investments across 32 states and 3 countries, further positioning Chicago and the Midwest as a leader in product innovation and manufacturing entrepreneurship.



We also prioritized community and convening, from the HardTech Summit to our first Community BBQ on Fulton Street. We gathered entrepreneurs, manufacturers, and policymakers to tackle big questions: How do we take breakthroughs from lab to market? How can America lead AI and quantum innovation? And most of all—how do we ensure the Midwest is central to the next era of industrial innovation?

The answer lies in doubling down on the region's strengths: our central location, skilled workforce, world-class institutions, and legacy of making real things. Mobilizing capital, scaling infrastructure, and de-risking ideas from prototype to production will be essential to the region's future growth, and mHUB remains committed to fueling the engine of innovation.

Thank you to our founders, partners, investors, and community. Now, more than ever, we need collaboration between industry and innovators and real access to risk capital to ensure that what's built next is built right here.

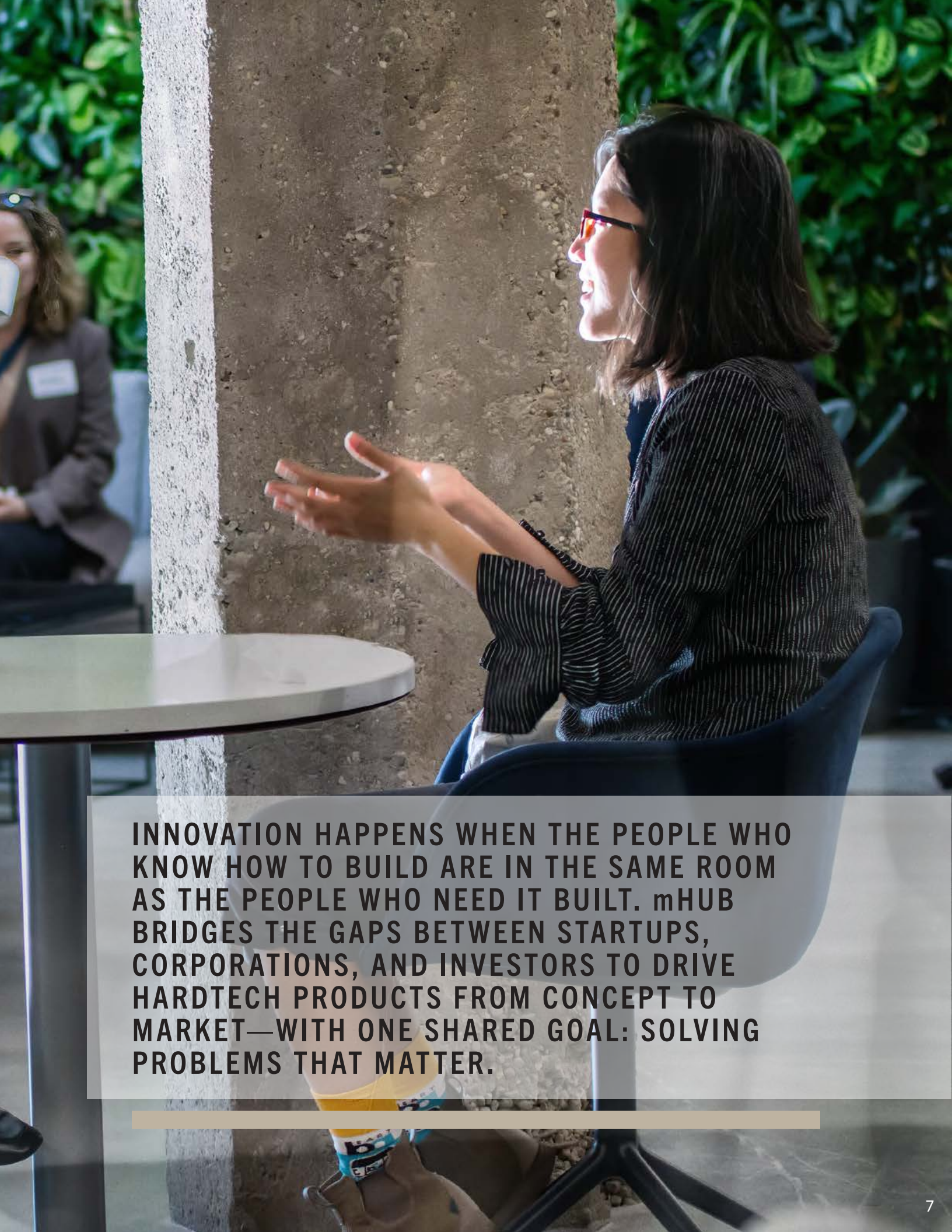
Haven Allen, CEO





# COMMUNITY- IMPACT



A woman with dark hair and glasses, wearing a black and white striped blazer, is seated at a round white table. She is gesturing with her hands as if in conversation. In the background, another woman is partially visible, wearing a brown blazer and a white face mask. The setting appears to be an indoor space with a textured concrete pillar and a green living wall.

**INNOVATION HAPPENS WHEN THE PEOPLE WHO KNOW HOW TO BUILD ARE IN THE SAME ROOM AS THE PEOPLE WHO NEED IT BUILT. mHUB BRIDGES THE GAPS BETWEEN STARTUPS, CORPORATIONS, AND INVESTORS TO DRIVE HARDTECH PRODUCTS FROM CONCEPT TO MARKET—WITH ONE SHARED GOAL: SOLVING PROBLEMS THAT MATTER.**

# THE POWER OF A BUILDER ECONOMY

## MEMBER COMMUNITY BY THE NUMBERS

mHUB supported 280 startups in 2024, from the earliest stages of ideation to connecting with industry for supply chain and pilots. mHUB meets

entrepreneurs where they are and shortens the path to market. Here’s a glimpse, in numbers, of what the mHUB startup community achieved in 2024.

## ECONOMIC IMPACT

### REVENUE GENERATED

In 2024

**\$389.4M**

Lifetime

**\$1.96B**

### CAPITAL RAISED

In 2024

**\$135.6M**

Lifetime

**\$2.02B**

### SPENT ON DOMESTIC MFG

In 2024

**\$7.4M**

Lifetime

**\$76.3M**

### EMPLOYEES HIRED

In 2024

**395**

Lifetime

**6,809**

### PRODUCTS LAUNCHED

In 2024

**92**

Lifetime

**1,702**

### PATENTS AWARDED

In 2024

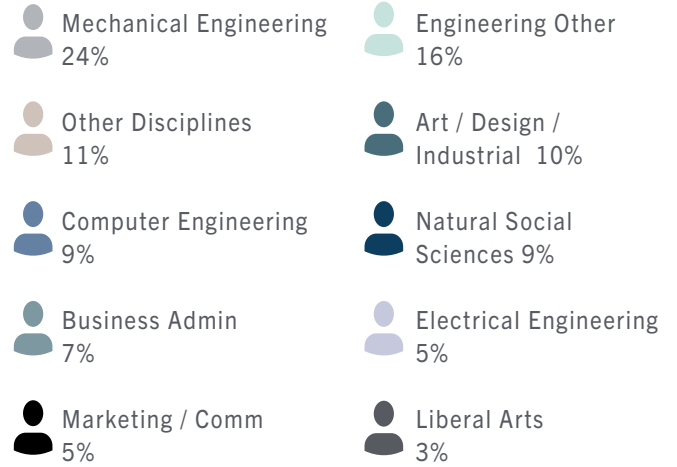
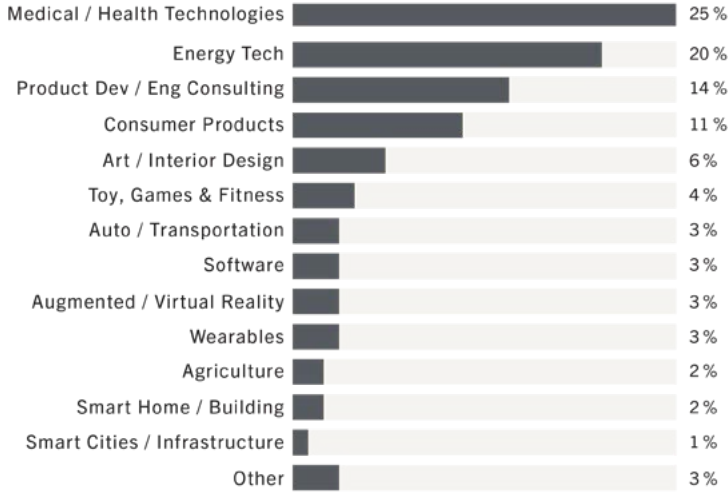
**32**

Lifetime

**565**



# MAKEUP OF THE COMMUNITY



## TECH CONCENTRATION BY CLUSTER

## MEMBER COMPOSITION BY DISCIPLINE







# RESOURCE HIGHLIGHTS





**HARDTECH INNOVATION ISN'T A STRAIGHT PATH—IT'S A HANDS-ON JOURNEY. FROM STATE-OF-THE-ART PROTOTYPING LABS AND TECHNICAL SUPPORT TO EXPERT-LED PROGRAMMING, mHUB HELPS BUILDERS MOVE QUICKLY WITHOUT CUTTING CORNERS.**



# NOT JUST A LAB. NOT JUST A NETWORK.

The mHUB facility is designed for rapid iteration of both product and business. In 2024, mHUB installed new industrial scale equipment, conducted hundreds of technical help sessions, spent hours consulting

startups on the hard decisions, and connected startups with important pilot and supplier relationships. Here are some of the most utilized resources in 2024 and related outcomes:

**527**

Technical help sessions booked

**180+**

Equipment rentals booked each month

**35**

Fabrication jobs by mHUB for members

**1,000+**

Advising hours through Experts in Residence

**40+**

Pilots launched with industry

**70+**

Connections between startups and local manufacturers

**61**

Classes and workshops

**1**

New Keyence VHX1 digital microscope

**2**

New Intamsys 3D printers







# STARTUP PROFILES





**PROTOTYPES DON'T BUILD THEMSELVES. mHUB EQUIPS ENTREPRENEURS WITH THE LABS, MICROFACTORIES, ENGINEERING TALENT, AND INDUSTRY MENTORS THEY NEED TO TURN AMBITIOUS IDEAS INTO TANGIBLE PRODUCTS. HERE ARE STORIES FROM 2024 OF STARTUPS MAXIMIZING mHUB'S PLATFORM TO ITS FULL POTENTIAL.**





## **f FLUID**<sup>™</sup> REALITY

### **About Fluid Reality**

Fluid Reality creates high-resolution haptic hardware that allows people to touch objects in virtual reality and to feel what robots feel through teleoperation. Small fluid filled bubbles inflate to imprint shapes onto the skin at up to 160 touch pixels per hand. Their goal is to build the human interface for humanoids and other armed robots, allowing rapid deployment of the next wave of robots while bringing superpowers to workers. The company sells to leading research institutions, including Northwestern, as well as humanoid robotics companies and big tech.

Visit: <https://www.fluidreality.com/>

### **Fluid Reality @ mHUB**

Throughout 2024, Fluid Reality deepened its roots at mHUB—expanding from a single office to a larger suite and securing a dedicated garage in the prototyping labs. The company now assembles its entire product line on-site at mHUB, leveraging the community and resources to scale both R&D and manufacturing. Founder Joe Mullenbach actively taps into the mHUB talent network, working with member consultants and hiring a full-time mechanical engineer he met at the 2024 HardTech Summit.



# PherDal

FERTILITY SCIENCE, INC.

## About Pherdal

Designed by a scientist who turned her own fertility challenges into a game-changing solution, PherDal offers a clinically validated, cost-effective alternative to invasive conception procedures. With patented sterility and IVF-grade materials, PherDal ensures safety, efficacy, and accessibility, delivering measurable impact in the fertility space. In December 2023, PherDal became the only sterile at-home fertility kit awarded FDA clearance and started selling direct to consumers. In 2024, PherDal was named a TIME's 2024 Best Invention and founder Dr. Jennifer Hintzsche was named an Inc. Female Founders 500 Honoree. Visit: <https://pherdal.com/>

## Pherdal @ mHUB

PherDal joined the mHUB community in 2024 through the Landis Family Fellowship that supports technical founders by providing a basic income stream on research and development projects while they validate their business ideas. Dr. Jennifer Hintzsche worked closely with mHUB's Experts in Residence to build on PherDal's direct-to-consumer model as a healthcare integrated solution.





## GANANCE

### About Ganance

Ganance turns any timepiece into a smartwatch, specializing in wearable technology to enhance both style and function. Their Ganance Heir product seamlessly attaches to any wristwatch, adding health tracking, notifications, and smart control while preserving the look and feel of a classic watch. Ganance kicked-off 2024 at CES and quickly launched event partnerships with the PGA, WSJ Future of Everything, and the Windup Watch Fair. They launched their first collaboration with major watch brand Breitling alongside the launch of a beta program with its first 100 customers. Visit: <https://ganance.com/>

### Ganance @ mHUB

In 2024, Ganance made the decision to pivot from a strictly B2B model and break into direct to consumer. This essential move unlocked additional revenue that allowed the company to fund its first production run. Ganance founder, Alex Ocampo, worked with mHUB's Experts in Residence to design a D2C strategy and manage the pivot. Ganance also tapped into mHUB's supplier network to find a supplier and worked with contractors in the community to design sustainable, high-end packaging for its discerning customers.



### About Wave Therapeutics

Wave Therapeutics has developed the first affordable and effective soft robotics cushioning technology to help solve a multi-billion-dollar problem for long term care facilities and hospitals. The technology has medical applications for the prevention and treatment of pressure injuries (bedsores), as well as consumer and military applications. In 2024 Wave began limited manufacturing for testing. Early results show promising improvements in tissue oxygenation levels and during pressure mapping. Wave has recently secured funding from Purdue Strategic Ventures, Nurse Capital, and The Illinois Innovation Venture Fund.

Visit: <https://wavetherapeuticsinc.com/>

### Wave Therapeutics @ mHUB

Wave Therapeutics completed the mHUB MedTech Accelerator in 2023, securing investment from mHUB Ventures through the program. The startup also received investment from NorthShore – Edward-Elmhurst Health (now part of Endeavor Health), one of the program's industry partners. In 2024 Wave Therapeutics worked with mHUB's HardTech Development Services team through a Grainger Foundation grant to evolve the prototype's mechanical form factor for commercial applications to be presented at CES 2025, where the startup went on to raised 10k as the winner of the Army's XTECH pitch competition.





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Revolutionizing  
The Maritime  
Industry

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# mHUB VENTURES





**WHETHER DESIGNING TOMORROW'S ENERGY SOLUTIONS, ADVANCING MEDTECH, OR REIMAGINING MANUFACTURING, mHUB VENTURES INVESTS IN THE EARLY-STAGE STARTUPS SOLVING HUMANITY'S HARDEST CHALLENGES THROUGH HARDTECH.**



# MHUB VENTURES

mHUB launched mHUB Ventures in 2021 to be a leading force in advancing early-stage hardtech startups, with a focus on energy, MedTech, and smart manufacturing solutions. Investment comes with more than a check. It comes with a launchpad: access to labs, equipment, talent, pilot partners, and the momentum of mHUB's proven commercialization engine.

mHUB Ventures has invested in 54 companies, including 8 startups that were selected into the mHUB Accelerator program in 2024, completing the sixth, and final, cohort supported by fund one. Impressively, 89% of its portfolio companies have secured follow-on funding, collectively raising \$6 for every \$1 invested by mHUB. Additionally, 61% of these companies hail from out of state, with 24.3% establishing roots in Illinois after participating in the accelerator.

mHUB Ventures completed the construction of its first fund in 2024 and has begun fundraising for its second fund: a \$20M fund to support an additional 8 cohorts of the mHUB Accelerator.

**DOWNLOAD mHUB  
VENTURE'S MOST RECENT  
INVESTOR REPORT HERE.**

**VIEW THE mHUB VENTURES  
PORTFOLIO ON AIRTABLE**

PORTFOLIO  
COMPANIES SECURED  
FOLLOW-ON FUNDING

**89%**

PORTFOLIO  
COMPANIES FROM  
OUTSIDE ILLINOIS

**61%**

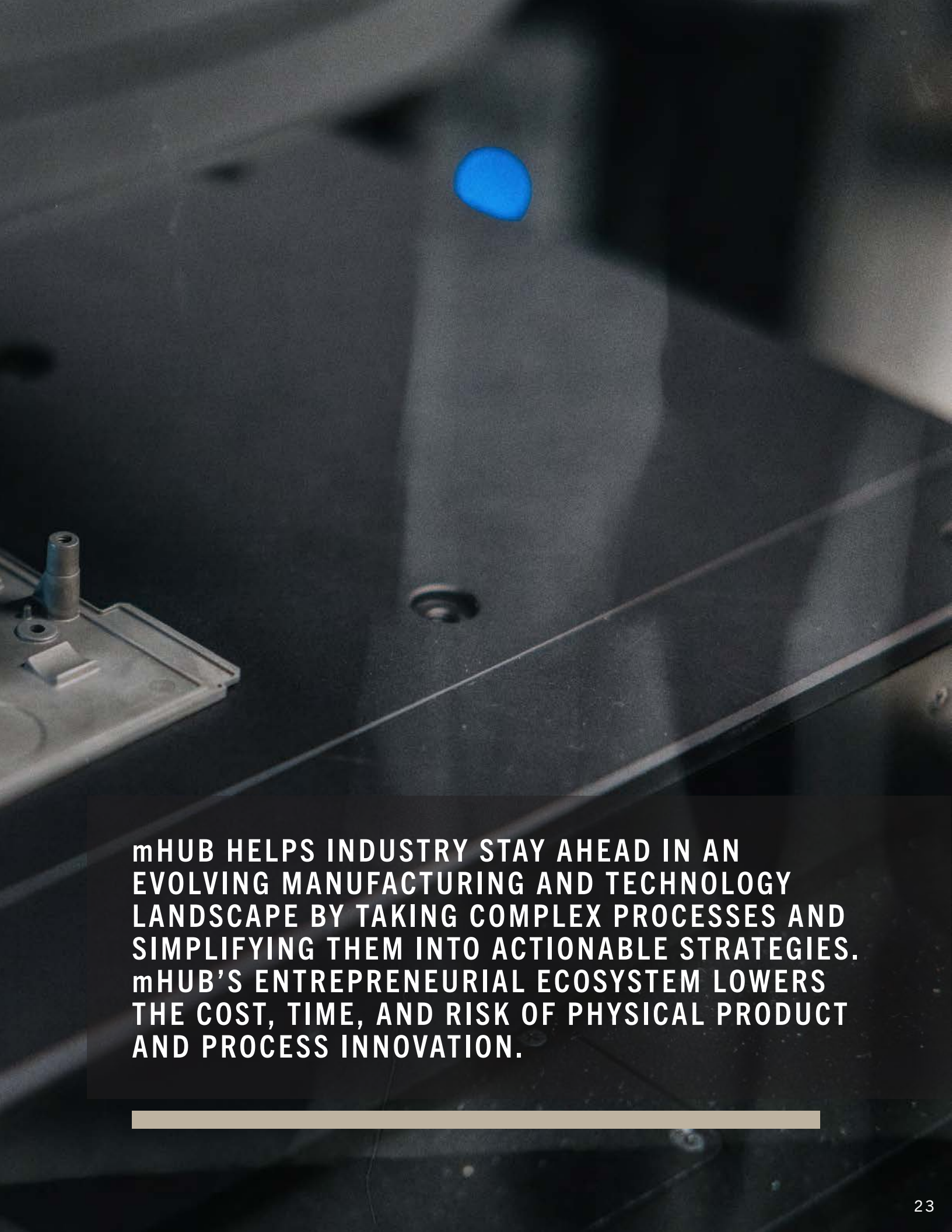
ESTABLISHING ROOTS  
IN ILLINOIS AFTER  
PARTICIPATING

**24.3%**



# PARTNER PROFILES





**mHUB HELPS INDUSTRY STAY AHEAD IN AN EVOLVING MANUFACTURING AND TECHNOLOGY LANDSCAPE BY TAKING COMPLEX PROCESSES AND SIMPLIFYING THEM INTO ACTIONABLE STRATEGIES. mHUB'S ENTREPRENEURIAL ECOSYSTEM LOWERS THE COST, TIME, AND RISK OF PHYSICAL PRODUCT AND PROCESS INNOVATION.**

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In 2024, Endeavor Health, one of Illinois' largest healthcare systems, again partnered with mHUB on its MedTech Accelerator program. Joining as an industry and pilot partner for the third program in a row, hospitals within the Endeavor Health system have been working with mHUB since 2022 to reshape the future of healthcare innovation. By supporting mHUB's MedTech Accelerator, Endeavor Health empowers early-stage startups to revolutionize healthcare delivery and patient outcomes. The partnership has already driven remarkable success, including patented technologies, clinical trials, and investments in solutions for drug delivery, employee safety, and therapeutics. Endeavor Health's commitment to "disrupting itself" and fostering bold new solutions ensures it remains at the forefront of medtech innovation, making a lasting impact on communities and care systems.

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The TMW Center for Early Learning + Public Health at the University of Chicago collaborated with mHUB in 2024 to develop Luet, an innovative device designed to measure young children’s language environments. Dedicated to advancing foundational brain development in children aged 0-5, the TMW Center focuses on resources and interventions that empower parents and caregivers in their role as early brain architects. Together with mHUB, and under the leadership of Dr. Dana Suskind, the TMW Center created a low-cost wearable that uses sensors and artificial intelligence to analyze a child’s learning environment, with an emphasis on quantifying the number of verbal interactions the child shares with adults each day—which is established as one of the most powerful drivers of healthy brain development. The device is paired with a smartphone app, empowering parent’s and caregivers to enhance their child’s language environment during the earliest and most impactful stages of development.

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## Google.org

In 2024, mHUB received operational funding from Google.org, Google’s philanthropic arm, to support its mission of advancing hardtech entrepreneurship and job creation in the Chicago region. The funding enhances mHUB’s capacity to foster innovation in manufacturing-based industries by providing accessible resources and opportunities for emerging entrepreneurs. Strengthening mHUB’s position as a nucleus for deploying hardtech solutions from within the historic Kinzie Industrial Corridor showcases Google.org’s commitment to cementing the region’s position as a global tech hub for manufacturing.



A woman with long brown hair, wearing a white short-sleeved top and a dark, patterned skirt, is walking away from the camera down a long aisle in a warehouse. The aisle is lined with tall, blue metal shelving units. The shelves are filled with various materials, including stacks of light-colored wood or cardboard. A sign on one of the shelves reads "DO NOT DO THIS STACK". The floor is a light-colored, polished concrete. The lighting is bright and even, typical of a large industrial space.

# PROGRAMS AND COLLABO- RATIONS



A woman with her hair in two buns, wearing a purple long-sleeved top and dark jeans, stands in a modern office hallway. She is looking at a large whiteboard that is completely blank. The hallway has a blue floor and white walls. In the background, there are office cubicles and a window. The lighting is bright and even.

**IN 2024, mHUB FORGED STRATEGIC PARTNERSHIPS THAT EXPAND ACCESS TO FUNDING, RESOURCES, AND TECHNICAL SUPPORT. BY UNITING WITH MISSION-ALIGNED ORGANIZATIONS, mHUB LAUNCHED TARGETED PROGRAMS THAT FURTHER REDUCE BARRIERS FOR STARTUPS—FUELING PRODUCT DEVELOPMENT, ACCELERATING COMMERCIALIZATION, AND NURTURING INNOVATION ECOSYSTEMS.**



Tackling pervasive problems to drive positive outcomes for our health, economies, and resilience is a team sport. mHUB is committed to advancing solutions through collaboration and is proud of the many new initiatives founded in 2024 that make the burden of entrepreneurship a little less burdensome.

## GRAINGER FOUNDATION

In 2024, The Grainger Foundation and mHUB partnered to launch a product development grant program aimed at supporting early-stage companies in overcoming technical feasibility challenges and advancing manufacturability in industries such as healthcare and sustainability. The program provided up to \$30,000 in matching grants to six startups for prototype development and product refinement with the mHUB HardTech Development Services team. One notable outcome was enabling HabitAware, a wearable that helps curb body-focused repetitive behaviors, to expand its market reach to Android users while laying the groundwork for Wear OS-based behavior detection and intervention.

## GREATER ENGLEWOOD CHAMBER OF COMMERCE

In 2024, mHUB and Greater Englewood Chamber of Commerce received two awards through the DOE's Community Energy Innovation Prize. Together, the organizations launched the Clean Tech Innovation Network (CTIN), to support manufacturing-based innovation, entrepreneurship, and job creation with a specific focus on energy infrastructure for grid modernization. In 2024, the program supported 13 energy startups and produced 9 new businesses. 12 manufacturers were engaged to support commercialization.



## WELLS FARGO INNOVATION INCUBATOR

In 2024, mHUB joined the Wells Fargo Innovation Incubator (IN2) as a Channel Partner member. Together, mHUB and Centrepolis Accelerator at Lawrence Technological University in Michigan were awarded a 100K grant to advance and share programmatic resources that support energy startups in manufacturing readiness. The two organizations have ties through the Heartland Climate Tech Partnership and will build upon their shared resources and referral processes for the commercialization of clean energy businesses.



## PILOT LAUNCHPAD

With support from a DOE EPIC Round 3 award, mHUB started Pilot Launchpad in 2024 that brings together industry partners, expert-led technical assistance, and funding opportunities to accelerate lab-developed technologies from prototype to market. Six startups participated in the inaugural cohort, including Kazadi Enterprises that quickly launched a successful test pilot to improve the concentration and efficiency of regenerating a spent desiccant solution.







**TOGETHER  
IS BETTER**





**mHUB ATTRACTED OVER 3,000 ATTENDEES TO ITS MAJOR BRAND AND PARTNERED EVENTS, WAS HOST TO OVER 80 THIRD-PARTY EVENTS, AND WELCOMED NEARLY 7,000 GENERAL VISITORS OVER THE COURSE OF THE YEAR. mHUB CONVENES TO FOSTER CRITICAL DIALOGUE, MAKE STRATEGIC CONNECTIONS, AND SHOWCASE EMERGING TECHNOLOGIES.**



## HARDTECH SUMMIT AND FOURTH REVOLUTION AWARDS



March 2024

850+ Attendees

Attendees heard from keynote speaker Erik Lofkofsky of Tempus, experienced 80+ startups pitches and demos, and recognized Lion Electric and the Illinois Manufacturers' Assoc. at the Fourth Revolution Awards.

Event sponsors:



## WOMEN IN MANUFACTURING



October 2024

200+ Attendees

Keynote Speaker Chris Heckle of the Argonne National Laboratory anchored the program with other panels on digitization and resilience in manufacturing. The day concluded with an interactive activity in partnership with Milwaukee Tool.

Event sponsors:



## mHUB COMMUNITY

### BBQ

July 2024

800+ Attendees

Hundreds gathered for mHUB’s first community BBQ at its new Fulton Street HQ to let the stress of the startup grid dissolve into great food, music, and company.

Event sponsors:



## INDUSTRY

### DISRUPTORS

Multiple 2024 engagements

200 average attendees

In 2024 this thought leadership series included speakers Suzanne Yoon, founder of Kinzie Capital Partners, and Jon Hirschtick, founder of OnShape and SOLIDWORKS.

Event sponsors:



## INNOVATION HOUSE

August 2024

250+ Attendees

25+ organizations came together at mHUB during the DNC to spotlight 50+ startups and initiatives driving the region’s success in building an innovation economy.

Event partners:













# MHUB

## ANNUAL REPORT 2024

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### WEBSITE

mHUB.org

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### ADDRESS

1623 W Fulton St,  
Chicago, IL 60612

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Designer:  
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