5 YEAR IMPACT REPORT 2017-2022

massrobotics

FIVE YEARS AND JUST GETTING STARTED:

A Perspective from Executive Director, Tom Ryden

Impact. That's why MassRobotics was created, and today, at our five-year mark, what we've achieved. While this organization and our industry have a long way to go, that road is populated with optimism, evidence of progress and the promise of an ever-growing future.



On behalf of MassRobotics' founders, board, staff, founding and annual partners, resident startups, and all who have contributed our planning and participated in the five years since we opened our doors in Boston's Seaport Innovation District, I'm pleased share this Five-Year Impact Report, a celebration of all we have accomplished so far.

Personally, I am amazed at how far MassRobotics has come since the idea of the organization was conceived by Daniel Theobald, Fady Saad, Joyce Sidopoulos, Tye Brady and Steve Paschall. When I was asked to lead the organization—and the compelling opportunity to help grow the robotics community—I couldn't say no.

Were there early struggles and questions? Of course. We had to engage with academia, politicians and businesses. And we needed to raise money to execute our concept for a global hub for robotics. Fortunately, visionary organizations Harmonic Drive, Vecna Robotics, Amazon Robotics, iRobot, Arrow, Autodesk, CIC, Dassault Solidworks, MassTLC, BRC and IDA Ireland joined us as founding partners, and a generous donation from the Deshpande Foundation helped launch MassRobotics. The rest, as they say, is history.

During the ensuing years we have grown our innovation center space, programming, startups residents and partners. More importantly, our impact has been felt in Boston, in Massachusetts, throughout the U.S. and even across the globe.

I could not be prouder of what this team, organization, community and industry has accomplished. We should all be proud—and relentlessly drive toward what's next. That's how you make impact lasting and meaningful.

This report serves to share our impact locally and globally, establishing Boston as the hub of robotics. Our industry partners and startups have connected the needs and challenges of industry with innovative solutions that solve real-world challenges. We've built a diverse talent pipeline and encouraged students to pursue STEM and robotics as a career. And we've stayed true to our original mission:

Help enable and grow the next generation of robotics and smart connected device companies by providing entrepreneurs and innovators with the facilities and resources they need to develop, prototype, test, challenge and nurture early ideas.

As robotics continues its rapid adoption by every industry, we will continue to grow and support the ecosystem globally. That's our mission, our impact and our responsibility. I express my gratitude to all who contribute to our success and industry and look forward to a future filled with possibilities.

- Tom Ruden

CONTENTS

INTRODUCTION & HISTORY

- 01 A PERSPECTIVE FROM EXECUTIVE DIRECTOR TOM RYDEN
- 03 INTRODUCTION
- 04 MASSROBOTICS TIMELINE AND GROWTH
- 05 OUR SHORT STORY

STARTUP RESIDENTS

- 06 STARTUP GROWTH ECOSYSTEM SUPPORT
- 07 MASSROBOTICS: ATTRACTING THE ROBOTICS AND AI COMMUNITY AROUND THE GLOBE
- 09 RESIDENT STARTUP ACHIEVEMENTS

PARTNERS & COLLABORATIONS

- 11 PARTNERS
- 12 PROGRAMS AND CHALLENGES
- 13 AWARDS
- 14 COLLABORATIONS WITH THE COMMUNITY



STEM: INSPIRING THE NEXT GENERATION

15 STEM PROGRAMS

OUR FUTURE

- 17 THE NEXT 5 YEARS
- 18 FOUNDING AND ANNUAL PARTNERS

INTRODUCTION

MassRobotics is the collective work of a group of Boston-area engineers, rocket scientists, and entrepreneurs. With a shared vision to create an innovation hub and startup cluster focused on the needs of the robotics community, MassRobotics was born.





MISSION

We help create and scale the next generation of successful robotics and connected device companies by providing entrepreneurs and innovative robotics/automation startups with the workspace and resources they need to develop, prototype, test, and commercialize their products and solutions.

WHAT WE DO

- Build a strong and vibrant ecosystem to attract companies and investments in the robotics industry.
- Offer best-in-class infrastructure, business support and prototyping facilities to enable the unfettered development of robotic/automation systems.
- Anticipate needs and roadblocks for entrepreneurs in order to provide the smoothest possible path to growth.

- Provide innovation and investment back to the high tech community through acquisition opportunities, technology licensing, and facilitated innovation sabbaticals.
- Develop common-need technology services (i.e. sensors, support, and standards) for the robotics community.
- Inspire the next generation of innovators and builders through inhouse, hands-on STEM collaboration and initiatives.

5 YEAR IMPACT REPORT 2022

MASSROBOTICS TIMELINE AND GROWTH

2016 · Shared MassRobotics' vision with city of Boston's Mayor Walsh in March **1 STARTUP** · Raised seed funding from 11 founding • Worked with Boston on securing space 2017 **18 STARTUPS** Held Ribbon Cutting in February Held first Robot Block Party 2018 Began planning for expansion of facilities · Worked with architects to design purpose-built **35 STARTUPS** · Secured support from state through the MassWorks grant program Construction of new space began



partners

space

40 STARTUPS

2020 (COVID)

- · Held Ribbon Cutting with Mayor and Governor in January
- Transitioned to virtual events
- Due to COVID, closed facility to all but 4 essential companies

FEBRUARY 2022 **60+ STARTUPS**

TODAY

• Incorporated in 2015

- Opened our 15,000 sq. ft. "alpha" space
- 1st resident American Robotics moved in



2019

- Completed construction of 25,000 sq.ft. expansion
- Began Signature Series events around focused industries
- Held high school pilot STEM Drone Camp

55 STARTUPS





- · Installed tools and technologies to operate a COVIDsafe workspace
- Reopened in full capacity in July
- Held RoboBoston expanded 4th Annual Block Party
- Started girls high school STEM Jumpstart Program

PAGE 04 | TIMELINE & GROWTH



5 YEAR IMPACT REPORT 2022

OUR SHORT HISTORY





How did MassRobotics start?

MassTLC established the Massachusetts Robotics Cluster in 2004 to bring together companies, institutions, and individuals engaged in robotics research, education, product design, and commercialization. During these cluster meetings, industry leaders discussed breakthrough ideas one of which was developing an innovation hub and co-working space focused on robotics. Cluster members worked together to develop a business plan and organization that would accelerate and escalate robotics technology and adoption. In 2015, those ideas came to fruition, and MassRobotics was formed as a non-profit with a mission to support the growing robotics ecosystem.





Number of entrepreneurs at MassRobotics

Our powerful ecosystem of support companies includes local manufacturers and suppliers, strong venture capital community partners, and a high density of technical academic institutions producing a vibrant talent pipeline and experienced mentors.





Raised by MassRobotics startups

Employee count across all our startups today

This is what our residents are saying about us ())

"Finding a home for a hardware venture is not that easy. After looking long and hard we settled on MR. Why? An involved, energetic and results oriented leadership team that really cares, a willingness to go bat for resources to support the needs of our venture and a level of support that is truly exceptional." Founder, International Fabric Machine

"MassRobotics is an incredible hub full of intelligent and passionate founders, that gives its residents access to world-class mentorship, talent, and prototyping facilities. It's the perfect place for startups to innovate, grow, and create amazing products." CTO, Cleo Robotics

MASSROBOTICS: ATTRACTING THE ROBOTICS AND AI COMMUNITY FROM AROUND THE GLOBE

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Delegations & Visitors



OUR RESIDENT STARTUP ACHIEVEMENTS

We at MassRobotics believe the greatest measure of our success is the success of the startups we support. Whether they are growing their team, advancing to manufacturing, landing investors, or impacting their customers, we are proud of their achievements.





- Started at MassRobotics in 2017
- Raised \$33M
- Expanded to Japan in 2021
- Grown to 75 employees



- MassRobotics 1st resident
- Raised \$10M in early funding
- Acquired by Ondas Holdings for \$71M in 2021
- Grown to 45 employees



- MassRobotics' 2nd resident
- Raised \$32M in funding
- Secured major contract with ExxonMobile
- Grown to 25 employees
- 50+ hazardous tanks inspected



- Secured first SBIR in 2018
- Raised \$12M in funding
- Transition to products and awarded \$21M in DoD contracts
- Grown to 42 employees

"MassRobotics is one of the most useful and valuable partners Pison has. Their network and connections to customers, partner companies, and government have been instrumental to our growth" Founder, Pison



- Founded and became Resident in 2019
- Dozen design wins in Al
- Acquired by LMI Technologies in 2021

ACTIV SURGICAL

- Raised \$77M
- FDA 510(k) Clearance for ActivSight™
- 2 Patents related to ActivSight™ imaging module
- Grown to 56 employees



- Founded in 2015
- Raised \$27M
- Currently in 30+ U.S. cities, 50+ projects
- Multiple strategic partners including IKEA and Marriott
- Grown to 20 employees

UTONODYNE

- Grew and moved to offsite facility in 2018
- Bootstrapped through Initial customer contract
- 85% revenue from US DoD
- Grown to 38 employees

"MassRobotics is the best gateway to the very rich robotics ecosystem in Boston" CEO, Target Arm

"MassRobotics has helped us in myriad ways. Pointing us to funding opportunities, work partnerships, creating the Jumpstart program, sharing fabrication facilities. I can't pick just one way" COO, GreenSight

> PAGE 10 | OUR RESIDENT STARTUP ACHIEVEMENTS

PARTNERS

The support of our 11 founding partners was critical to kick off our success.

We have grown to include partners from around the world in the many industries that robotics technology impacts. We also have many social and innovation ecosystem partners that make up our vibrant community.

Our partners provide unique resources and thought leadership in their industries' verticals to help impact startups, support the ecosystem and grow the community in many ways.





PROGRAMS WITH OUR PARTNERS



One of the most impactful things we do for our startups is to expose them to real challenges in the market. We have worked with a number of our partners to host tech challenges, engagement programs and catalyst programs.

"MassRobotics has proven to be an ideal place to introduce Mitsubishi Electric to engage with the Robotics community and startup companies in the North America market." Development Manager, Mitsubishi Electric

"MITRE is thrilled to be a part of the most robust, thriving innovation ecosystem in the country for robotics and autonomous systems created and lead by MassRobotics." Director of Bridging Innovation, MITRE



SEPTEMBER 2019 - MAY 2020

Analog Devices Real Time Sensor Fusion Challenge

This challenge brought together several of our partners to participate in a search in looking for innovation teams and startups to demonstrate enhanced real-time context awareness (using two or more sensors) in Automation (factory or building), Mobility (ground or air vehicles), Healthcare, and Open category (other kinds of sensor fusion Cyber-Physical Systems). This challenge included the following partners: Mitsubishi Electric, Festo, SolidWorks, Arrow, Sick.

SEPTEMBER 2019 - JUNE 2020

Panasonic Prototype 3D LiDAR Challenge

Panasonic

The Panasonic Prototype 3D LiDAR Challenge provided the opportunity for Panasonic to find unique use cases for its new sensor. University teams provided cases including: point cloud for interaction with robot arms, mobile robotics, combination sensor object detection systems, object scanning, security systems and autonomous vehicle systems.

JUNE 2020 - NOVEMBER 2020

GM Gripper Challenge

The GM Gripper Challenge sought startups, academia and integrators to develop a proofof-concept universal end effector capable of grasping and holding a variety of sheet metal components for purpose of precise robotic assembly. GM selected 3 concepts and worked closely with them on a Proof of Concepts (PoCs) for three months.

FEBRUARY 2020 - PRESENT

Mitsubishi Startup Engagement Program

MassRobotics helped Mitsubishi Electric find and develop PoCs and potential investment opportunities. Mitsubishi Electric sought startup companies that found creative solutions and innovative technology to enhance their Factory Automation portfolio. They continue to work with startups that represent unique opportunities and successful POCs that can be presented and demonstrated to Mitsubishi Electric executive management

JUNE 2021 - PRESENT

The Healthcare Robotics Startup Catalyst

The Healthcare Robotics Startup Catalyst program helps to advance healthcare robotics companies by providing the connections, guidance, resources they need to grow and succeed. The aim is to connect healthcare robotics startups with customers, investors, suppliers, marketing and overall support. Four companies were selected from four different countries - Singapore, Switzerland, Canada and US.

JANUARY 2022 - PRESENT

The AWS Robotics Startup Accelerator

The AWS Robotics Startup Accelerator delivered by MassRobotics is a four-week technical, business and mentorship accelerator opportunity open to robotics startups from around the globe. The program provides resources to a select cohort of startups seeking to use AWS to help them solve their robotics development, deployment and management challenges.

PAGE 12 | PROGRAMS & CHALLENGES





5 YEAR IMPACT REPORT 2022



We appreciate being recognized by the community for our work.

2019



 AFCEA International Technology Innovation Award for unique process and solution planning, creating and spearheading the world's first independent robotic innovation center



 Robotics Business Review for Business and Management Innovation -50 Innovation Awards



• BostInno Trailblazer - 50 On Fire Award

2020







2021



- Mass TLC Tech Top 50 for business accomplishments
- Startup Boston Top 3 Best Co-working Spaces

COLLABORATION WITH THE COMMUNITY

A PLACE TO WORK. A PLACE TO COLLABORATE. A PLACE TO BUILD.

Over the last five years, MassRobotics has collaborated with the Robotics community and has hosted 100+ events covering a variety of topics and industries including: Department of Defense, Manufacturing, Logistics & Supply Chain, Construction, Agriculture & Food Technology, Healthcare, STEM Education, Investor Demo Days, Robot Block Parties, Career Fairs and MORE!

We currently host critical working groups.





TTENDEES AT 100+

EVENTS

SEMI-ANNUAL INVESTOR DEMO DAYS 2017-PRESENT



4 ANNUAL ROBOT BLOCK PARTIES 2017-PRESENT



PAGE 14 | COLLABORATIONS

STEM PROGRAMS

A critical component of what we do is educating the community and inspiring the next generation.



Connecting Industry to Education

Our STEM education goal is to facilitate relationships between the robotics community and the next generation of innovators. We have hosted hundreds of students over the past 5 years for workshops and tours. In 2020 we started several programs in collaboration with our partners and residents.

Adopt a School

Industry Exposure and School Collaboration

- We aim to foster lasting relationships between school systems and the tech industry to create better learning environments and improved talent pipelines.
- In this program, our partners donate STEM kits, teacher training, scholarships, and participate in a kickoff workshop.
- In 2021, MITRE and TRI supported 4 local schools, gave thousands in scholarships, and have begun taking steps for long-term partnerships.









Drone Academy

MITRE

High-Level Tech Accessibility

- In collaboration with Amazon Robotics and Brown University, we bring a college robotics curriculum to the high school level during a week-long workshop (since 2019).
- Students take home a working quadcopter that they assemble and calibrate themselves.



Bridging the Gap for Women of Color in Tech

- This equity-focused program is dedicated to creating direct pathways for underrepresented groups in engineering.
- We created a training and internship fellowship with GreenSight to give young women in high school access to industry with the necessary skills to excel.
- In our second year we have doubled the size of the cohort and we will continue to support these promising young students.



La Fondation























We will continue to grow and support the robotics industry and network of partners!

- MassRobotics team

FOUNDING PARTNERS



ANNUAL PARTNERS & COLLABORATORS



mass robotics

PAGE 18 | FOUNDING AND ANNUAL PARTNERS



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