



THE AGENDA: Proactively grow and brand Michigan's national leadership to advance aerospace design, technology and manufacturing.

UNPRECEDENTED GROWTH IN ALL SECTORS OF THE AEROSPACE INDUSTRY



Commercial

Boeing and Airbus estimate a demand for 40,000+ new commercial aircraft over the next 20 years exceeding previous forecasts. Primes are currently challenged to meet these demands because domestic suppliers struggle with quality issues or achieving AS9100 standards.

This problem is not going away – the aerospace industry needs Michigan.

FACT:

Michigan is the fastest growing state in percentage growth of AS9100 site certifications. Aerospace in Michigan is supported by 30,000+ direct jobs and 900+ companies.



Satellite & Space

Space is the new economic frontier. Today, America is launching a new system every five days.

Both satellite and space travel technology advance quickly. This sector of aerospace needs an ecosystem of the most innovative engineers, advanced manufacturers, and a supply base to support its growth.

FACT:

Companies in Michigan already support these advancements, including vast ground communication technologies and services.



DoD

The DoD's fiscal budget in 2022 prioritizes Space and Defense Aerospace investment above \$96.4 billion. DoD seeks to develop and field innovations in aerospace, autonomy, artificial intelligence, hypersonic and emerging technologies for critical infrastructure.

FACT:

In addition to research and development, of the top 10 DoD contract recipients, 9 were aerospace companies.



Air Mobility

Michigan is launching into the Urban Air Mobility (UAM) industry. Electric vertical takeoff and landing, (e-VTOL) tilt-wing aircraft are now in the full-scale prototype stages. The market for clean, quiet and fast UAM solutions includes logistics value-chain, personal, corporate and government travelers, emergency medical services, tactical intelligence, surveillance and reconnaissance.

FACT:

The Urban Air Mobility (UAM) market was estimated at \$8.15 billion in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 24.6% from 2023 to 2035.

MAJOR AFTERMARKET MANUFACTURING DEMAND

AIAM BOARD OF DIRECTORS





AMERICA'S AEROSPACE FUTURE NEEDS MICHIGAN

MANUFACTURING & SUPPLY CHAIN

- More than 900 Michigan companies are currently providing products and services to aerospace.
- Over 140 Michigan aerospace companies, along with regional economic development organizations across the state, have formally rallied around AIAM's mission to advance aerospace. From Monroe to Keweenaw counties, AIAM has a strong reach.
- For over a century, Michigan has maintained its position and reputation as the leader in U.S. manufacturing. When OEMs and primes think of manufacturing excellence, Michigan naturally comes to mind first.
- Michigan can leverage aerospace talent and technologies to advance automotive to autonomous, specifically in electronic propulsion and mobility.
- Since WWII, Michigan has proven its ability to shift from automotive to aerospace quickly. The history of Willow Run Airport and the bomber plant reflects an incredible manufacturing and supply chain undertaking. This is where "Rosie the Riveter" came to life.
- Michigan can build major high-quality components to AS9100 standards with a high concentration of precision tooling and fabrication companies needed for aerospace.
- Michigan is already a leader in manufacturing advanced systems and commercial and defense applications such as fan blades and fuel nozzles for numerous commercial and defense aircraft engines, flight control systems, main computer systems and networks for commercial aircraft, seating for aircraft, and many other key parts for all of the commercial and defense aircraft primes.

RESEARCH, INNOVATION & TECHNOLOGY

- According to NSF, Michigan is one of America's top performing states for public R&D expenditures.
- Michigan has a significant amount of research universities engaged in both public and private aerospace programs. University of Michigan has the oldest aerospace program in the country dating back to 1914.
- University of Michigan's Space Institute is on course to be a world leader in space. From space weather to statistical mathematics, this program is advancing ideas, concepts, theories and technologies.
- Metal additive manufacturing (3D) in Michigan is already competitive and robust. Companies are actively prototyping and producing flight critical components.
- Michigan has a unique cluster of companies and universities dedicated to advancing lightweight materials. The state also has two federally funded light-weighting institutes — LIFT & IACMI in Detroit — conducting classified work in heat signaturing, representing a significant investment of \$200 to 300 million including funding from the US Department of Defense.
- Michigan's commitment to broadband and satellite is a key asset in attracting companies, business and talent to every corner of the state.

TALENT PIPELINE

- At 60K+ per capita, Michigan has the largest concentration of engineers of any state in the country.
- Michigan has a jumpstart on other states in its focus on STEM education and preparing students for next-gen systems.
- Michigan is dedicated to K-12 STEM with a plethora of programs across the state including the West Michigan Aviation Academy.
- 8 Educational institutions in Michigan from High Schools, Technical Schools, Community Colleges and Universities provide opportunities for students to earn industry certificates and pilot licenses through to PhD level degrees.
- Michigan has one the strongest STEM talent pipelines in the country. The state is also a leader in robotics programs, having founded the oldest program in the country. The collaboration between FIRST Robotics, the State of Michigan, the auto industry, and the Michigan school system engages students in mentor-based research and programs that help them become science and technology leaders.

PROACTIVE STRATEGIES FOR MICHIGAN

1. Aerospace R&D Tax Credit

Create a Michigan Aerospace R&D tax credit to prioritize innovation in Michigan.

An R&D credit will encourage companies to invest in the advancement of aerospace development and design, or improve processes, formulas or software. Similar to the federal and current state automotive program, the Aerospace R&D tax credit has the potential to fuel innovation, grow smaller businesses, increase Michigan's GDP and create jobs with a dollar-for-dollar tax credit to help reduce tax liability for companies that are advancing DoD and aerospace technologies and manufacturing. The tax credit would prioritize:

- companies advancing lightweight materials
- small component suppliers
- companies with R&D testing capabilities
- non-manufacturers engaged in product development (design, engineering, research)
- incentives that encourage companies to engage university researchers
- additional credits within opportunity zones to boost rural manufacturing and increase jobs

If we encourage companies to conduct their R&D in Michigan, it greatly increases the probability for them to keep production in the state.

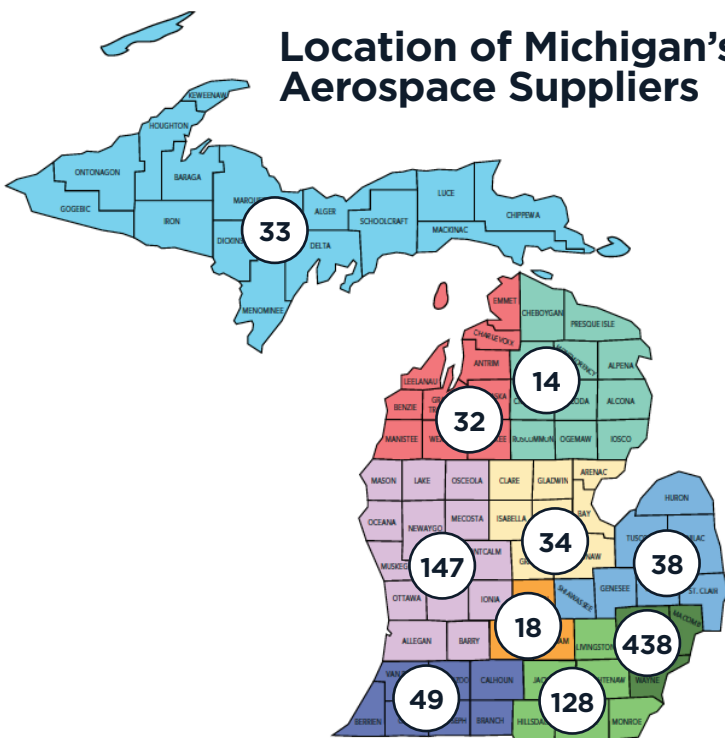
2. Grow business, attract & retain talent, promote industry

Attract skilled labor and STEM professionals to the industry by promoting Michigan's aerospace companies and universities. Strategies include:

- Campaigns targeted to other geographic aerospace clusters
- A dedicated website, integrated with Michigan Talent Connect, that features aerospace companies, regions, jobs and the industry
- Programs, grants and tax credits that encourage apprenticeships, on-the-job training and co-ops

People are leaving other states with high taxes, inflation and crime. Michigan needs to leverage this opportunity to let them know that aerospace is here with high paying jobs, careers and a lower cost of living.

Location of Michigan's Aerospace Suppliers



Industry Capabilities in Michigan

- Aircraft Production
- Engines & Critical Engine Component
- Avionics
- Fuel Systems
- Flight Controls
- Super Alloy Castings
- Machining
- Major Structural Tooling
- Automation
- Industry R&D
- Non-Destructive Testing
- Surface Treatment
- Packaging
- Engineering Services
- Electronics
- Motion Control
- Hydraulics
- Thermo Analytics
- Wire Harness
- Printed Circuit Boards
- Structural Components
- Landing Gear
- Composites
- Inventory Management
- Support Equipment
- 3D-Printing (Additive Manufacturing)
- Aircraft Interiors
- Pilot Training
- Space Technology
- Satellite Production
- Airframe & Powerplant Technician Training
- Wireless Measurement Systems
- Aftermarket Repair & Overhaul