In 2007, a group of like-minded stakeholders in Michigan decided the state needed an organization to be a convener and voice for its signature industry. MICHauto was formed that year to promote, retain, and grow the industry right here in Michigan.

Today, MICHauto remains a unique leader, voice, and advocate for the automotive and mobility industry, which has transformed and now entwines with the tech and new energy economy sectors. The change that has occurred in the last decade, as well as the changes that lie ahead, will be immense.

Michigan must seize this strategic inflection point driven by sustainability and digitalization. Michigan must develop, retain, and attract the talent to grow for the future. Companies must evolve in an increasingly competitive global industry.

MICHauto has worked with the Granholm, Snyder, and now Whitmer administrations. All have embraced and come to understand the industry’s economic importance due in large part to MICHauto’s work. The MICHauto team intends to continue its mission and work for Michigan’s future.

MICHauto is a voice for the industry on policy, focused on developing talent from the Industry 4.0 factory and the connected vehicle to the Cloud. It is a champion for the growth and innovation that will ensure the state’s prosperous economic future.

This report is all about the numbers, assets, and initiatives that make Michigan the most unique ecosystem for mobility development and advanced manufacturing in the world. This is undeniably who we Michiganders are. And thanks to investors’ support, the MICHauto community will continue to carry the mission long into the future of the Great Lakes State.

Michigan’s people, ideas, and determination put the world on wheels and are leading in the next generation of mobility. Michigan is an ideal place where young minds, new thinking, and new ideas come to grow.

I hope you will find this information valuable, and always know that MICHauto is at work and focused on its mission for you.

GLENN STEVENS JR.
Executive Director, MICHauto
Vice President, Automotive and Mobility Initiatives, Detroit Regional Chamber
Global Impact

- #1 exporter of transportation equipment in the U.S.
- #1 northern international border crossing
- $61 B in exports in Michigan in 2022, up 37% compared to 2020

Testing and Deployments

- #1 for operational U.S. Department of Transportation-funded connected vehicle deployments with 16 projects

Entrepreneurial Network

- $1.2 B in total venture capital deals in 2022
- 23rd in venture capital deals among states

Technology Assets

- 1 of only 5 U.S. Patent and Trademark Offices (USPTO) in the nation is located in Detroit for business-funded automotive and mobility R&D, making up 67% of the nation’s shares with $13 billion in funding
Michigan has a large presence of OEMs with headquarters, R&D facilities, or technical centers in the state, significantly contributing to the state’s economy and employment opportunities.

26
OEMs located in Michigan

98 of the top 100 automotive suppliers to North America have a presence in Michigan, with 65 headquartered here.

Michigan Manufacturing

#1 in the Nation
for vehicle production, producing over 1 million more vehicles in 2022 than the next highest state, Indiana. In 2022, over 2.1 million vehicles were assembled in Michigan, a 7% increase compared to 2018.

Michigan Plants Accounted for:

- more than 15% of all North American production.
- more than 21% of all U.S. automotive production, more than any state in the nation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Michigan Total Production</th>
<th>% of U.S. Production</th>
<th>% of N.A. Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>2.0M</td>
<td>17.8%</td>
<td>11.8%</td>
</tr>
<tr>
<td>2019</td>
<td>1.9M</td>
<td>17.4%</td>
<td>11.6%</td>
</tr>
<tr>
<td>2020</td>
<td>1.6M</td>
<td>17.8%</td>
<td>11.8%</td>
</tr>
<tr>
<td>2021</td>
<td>1.8M</td>
<td>20.4%</td>
<td>14.0%</td>
</tr>
<tr>
<td>2022</td>
<td>2.1M</td>
<td>21.1%</td>
<td>14.6%</td>
</tr>
</tbody>
</table>

Source: Automotive News Research & Data Center
GLOBAL IMPACT

Michigan’s shared international border with Canada is one of the largest export markets in the world, making Michigan one of the most globally connected states.

First Binational EV Corridor

Michigan and Canada’s first-of-its-kind binational EV corridor will stretch from Kalamazoo to Quebec City, Quebec, and feature direct current (DC) fast chargers approximately every 50 miles, letting drivers travel and charge worry-free. This 860-mile corridor will also create good-paying jobs and strengthen trade and manufacturing between the U.S. and Canada. This $110 million-investment in Michigan's charging infrastructure was made possible by the Bipartisan Infrastructure Law.

From left to right: Canadian Minister of Transport Omar Alghabra, Gov. Gretchen Whitmer, Bill Baisden Jr. of Dynamic Electrical Group Inc., and U.S. Secretary of Transportation Pete Buttigieg during the announcement of the first U.S.-Canada EV corridor in May 2023

Source: U.S. Department of Transportation and International Trade Administration, U.S. Department of Commerce
Mobility is the production and distribution of goods and the provision of services that support any movement of people and products. As the industry leader over the past century, Michigan is at the helm of the shift to a more diverse mobility-focused, tech-forward industry.

Emerging Mobility Sectors

Outdoor Recreation
- Shophouse Park in Marquette is an outdoor recreation incubator, R&D center, and technology park.
- Polaris Inc., Electric Outdoors, and Snowbotix will establish a first-of-its-kind network of charging stations for electric off-road vehicles, solar-powered off-grid battery storage platforms, and all-electric, multi-utility robots for dangerous outdoor maintenance tasks.

Maritime
- Michigan will have the first freshwater electric boat charging network in the U.S. through AQUA superPower rapid chargers.
- Fresh Coast Maritime Challenge is a first-in-the-U.S. program to help companies electrify and decarbonize Michigan marines and watercraft.
- A zero-emission, electric-powered Mackinac Island passenger ferry is in development.

Defense
- The U.S. Army Ground Vehicle Systems Center (GVSC) in Warren connects with organizations throughout Michigan.
- Michigan State University and GVSC launched a $9 million mobility research initiative to advance autonomous ground vehicle research with Central Michigan University and the University of Michigan.
- For three decades, GVSC has been involved with the annual Intelligent Ground Vehicle Competition at Oakland University.

Climate + Sustainability

The Michigan Department of Environment, Great Lakes, and Energy’s (EGLE) Office of Climate and Energy developed the MI Healthy Climate Plan to pursue carbon neutrality, ensure economic competitiveness, and improve quality of life. Highlights include:

- Building infrastructure to support 2 million EVs on Michigan roads by 2030 and increase access to clean transportation options by 15% each year.
- Deploy new, cleaner manufacturing technologies and conduct R&D to reduce emissions from hard-to-decarbonize industries.
Powered by Michigan's historic automotive culture and manufacturing strength, the state continues to lead in the transition to electrification. Michigan’s commitment to ensuring a skilled workforce and securing investments in EV and battery development is shaping the electric future.

**Electrification**

- **$20 B+** wireless public in-road EV charging system, located at Michigan Central
- **4** EV models produced in Michigan, with 10+ EV models projected by 2025
- **33,100** EVs registered in Michigan in 2022, up 688% from 4,200 in 2018
- **35** laws and incentives in Michigan related to alternative fuels and advanced vehicles

**MICHIGAN EV INVESTMENTS**

**Major EV and Battery Investments Across Michigan Since 2020**

- **Ford’s Blue Oval Battery Park**
  - $3.5 Billion | Marshall | 2,500 Jobs
- **General Motors and LGES Ultium Cells**
  - $2.6 Billion | Lansing | 1,700 Jobs
- **Gotion**
  - $2.3 Billion | Big Rapids | 2,350 Jobs
- **LG Energy Solution (LGES)**
  - $1.7 Billion | Holland | 1,200 Jobs
- **Our Next Energy (ONE) Battery Manufacturing Campus**
  - $1.6 Billion | Van Buren Township | 2,112 Jobs
- **Toyota’s R&D Battery Lab**
  - $50 Million | York Township
- **UL Solutions N.A. Battery Lab**
  - $72 Million | Auburn Hills | 61 Jobs

**OEM and Supplier Announced Investments, 2018-2023**

<table>
<thead>
<tr>
<th>Top 3 State for announcements</th>
<th>USD, Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI</td>
<td>$28.0B</td>
</tr>
<tr>
<td>GA</td>
<td>$19.9B</td>
</tr>
<tr>
<td>AL</td>
<td>$12.2B</td>
</tr>
</tbody>
</table>

**Source:** Center for Automotive Research, CAR Book of Deals, July 2023, National Renewable Energy Laboratory, U.S. Department of Energy

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State to lead EV battery manufacturing by 2030, with 97-136 GWh of EV battery capacity to be produced in Michigan, supporting 10 to 13M EVs per year

**40+** companies involved in the EV battery supply chain in Michigan
EV Charging Stations by Region

Michigan has witnessed an 89% increase in EV charging stations between 2018 and 2022, up 38% since 2021. To better facilitate the transition, Michigan aims to develop 100,000 EV chargers, supporting 2 million EVs on Michigan roads, by 2030.


MICHIGAN VOTER POLL: ELECTRIFICATION

The Chamber has partnered with premier research firm Glengariff Group, Inc. on an ongoing series of statewide polls with registered Michigan voters. The March 2023 poll revealed disparate views on electrification and provided a preliminary opportunity to track future EV sentiment.

Shift From Gas-Powered to Electric Vehicles

46.4% of voters SUPPORT the shift

In addition, 57.9% of Michigan voters support investment in charging station infrastructure for EVs

44.4% of voters OPPOSE the shift

When asked why,

19.6% do not believe that the electric grid can handle it

18.4% say it is too expensive

13.3% do not believe Michigan has the infrastructure for it
EV Infrastructure Programs

Charge Up Michigan
A grant-funded EV charger placement project to build DC fast-charging stations across Michigan to ensure feasible long-distance trips to neighboring states and Canada.

DTE Charging Forward and Consumers Energy Power MI Fleet
Utility programs that encourage and facilitate EV adoption through rebates and incentives for business, commercial, and residential customers.

Lake Michigan EV Circuit Tour
A partnership between Michigan, Indiana, Illinois, and Wisconsin that will build a network of EV chargers along 1,100 miles of Lake Michigan’s drivable shoreline.

National Electric Vehicle Infrastructure (NEVI) Formula Program
Michigan will receive $110 million through the Bipartisan Infrastructure Law to build EV charging infrastructure through 2026 along Michigan’s designated Alternative Fuel Corridors (EV Corridors).

MICHIGAN EV TALENT LANDSCAPE

Chamber EV Talent Programs
MICHauto leads several high-tech talent attraction and retention efforts including the Chamber’s Detroit Drives Degrees Community College Collaborative, a cross-sector initiative that elevates community colleges’ role in improving the Region’s talent pipeline.

Another is Let’s Detroit, which attracts and retains young talent in the Region and cultivates an innovative, engaged, and culture-focused business community.

Other Industry EV Talent Programs
The EV Jobs Academy is an employer-led collaborative of over 100 partners working together to strengthen and upskill Michigan’s EV and mobility workforce, including the Southeast Michigan Mobility Talent Collaborative led by the Detroit Regional Chamber and MICHauto.

Global Epicenter of Mobility (GEM) is a coalition led by the Detroit Regional Partnership Foundation that will support six projects designed to accelerate economic growth by building on the Region’s mobility assets.

Supported by $52.2 million from the U.S. Economic Development Administration’s Build Back Better Regional Challenge

The Michigan Economic Development Corporation’s (MEDC) Talent Action Teams coordinate with Michigan employers, education leaders, and training providers to make the state a leader in talent solutions and growth.
Michigan's mobility industry totaled an economic output of $304 billion in 2019. More than 1.1 million jobs are tied to the industry, representing almost 20% of Michigan employment.

In 2022, 1 million people across the state were skilled trades workers, including over 108,000 highly skilled assemblers and fabricators producing the world’s most complex and highly technical mobility products.

### Michigan Ranks: #1

<table>
<thead>
<tr>
<th>Employment</th>
<th>Michigan Rank</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Manufacturing Jobs</td>
<td>176,769</td>
<td>6x higher than the national average</td>
</tr>
</tbody>
</table>

In the nation for automotive manufacturing jobs

**Source:** Lightcast

### Michigan Ranks #1 in the Nation for Concentration of Engineers

<table>
<thead>
<tr>
<th>Engineers</th>
<th>Michigan Rank</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineers</td>
<td>31,950</td>
<td>4x</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>26,410</td>
<td>3x</td>
</tr>
<tr>
<td>Tool and Die Makers</td>
<td>9,610</td>
<td>5x</td>
</tr>
<tr>
<td>Mechanical Engineering Technologists and Technicians</td>
<td>7,970</td>
<td>7x</td>
</tr>
<tr>
<td>Model Makers, Metals, and Plastics</td>
<td>870</td>
<td>9x</td>
</tr>
</tbody>
</table>

97,210 engineers in Michigan’s workforce

**Source:** U.S. Bureau of Labor Statistics and Lightcast
Michigan’s High-Demand and High-Wage Occupations by 2030

Michigan’s EV shift may create up to 300,000 new, high-paying jobs by 2030. According to Michigan’s “Hot 50 Job Outlook,” these examples closely impact the automotive industry.

Talent and Education

Microsoft’s EV shift may create up to 300,000 new, high-paying jobs by 2030. According to Michigan’s “Hot 50 Job Outlook,” these examples closely impact the automotive industry.

<table>
<thead>
<tr>
<th>In-Demand Mobility-Related Occupations</th>
<th>Projected Annual Job Openings</th>
<th>Typical Education Required</th>
<th>Hourly Wage Range</th>
<th>Growth 2020 - 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers</td>
<td>7,635</td>
<td>Postsecondary Certificate or Training</td>
<td>$19 - $29</td>
<td>12.7%</td>
</tr>
<tr>
<td>Software Developers</td>
<td>3,965</td>
<td>Bachelor’s Degree or Higher</td>
<td>$37 - $58</td>
<td>22.8%</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>2,920</td>
<td>Bachelor’s Degree or Higher</td>
<td>$37 - $49</td>
<td>10.1%</td>
</tr>
<tr>
<td>Industrial Machinery Mechanics</td>
<td>2,650</td>
<td>Associate and/or Training</td>
<td>$23 - $30</td>
<td>28.2%</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>2,280</td>
<td>Bachelor’s Degree or Higher</td>
<td>$30 - $48</td>
<td>20.4%</td>
</tr>
<tr>
<td>Tool and Die Makers</td>
<td>1,045</td>
<td>Associate and/or Training</td>
<td>$23 - $37</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management, and Budget, Lightcast, Lumina Foundation, U.S. Census Bureau

Talent Programs

Detroit Reconnect provides adults ages 25-64 free institution-neutral college and career navigation and wrap-around support to and throughout college. Part of the Chamber’s Detroit Drives Degrees program, Detroit Reconnect has served over 300 adults since 2019.

Michigan Reconnect allows adult learners to pursue an associate degree or skill certification at any Michigan public community college through free in-district tuition or a sizeable discount for out-of-district. There have been 116,362 Michigan Reconnect applicants since May 2023.

The Going PRO Talent Fund creates awards for employers to train, develop, and retain current and newly hired employees. In 2022, $36.5 million was awarded to 1,114 employers who trained 14,448 new hires and upskilled 12,188 workers.

TalentFirst is a catalyst of over 100 chief executive officers attracting, developing, and retaining talent by highlighting gaps and implementing leading practices within 13 West Michigan counties.
TALENT DIVERSITY

Michigan’s automotive manufacturing workforce is relatively diverse compared to the total workforce demographics, but certain occupations closely associated with the industry lack representation.

For example, the share of Black or African American workers in engineering occupations is notably lower (5%) compared to the overall automotive manufacturing industry (22%). Black or African American workers are overrepresented in assembler and fabricator occupations, with an average salary of $37,357 compared to the median engineer salary of $101,067.

OVER A THIRD

of automotive manufacturing jobs are fulfilled by racially diverse workers, compared to less than a quarter of the jobs across the total workforce.

Women Make Up a Third of the Automotive Industry

Despite representing half of Michigan’s overall workforce, women are underrepresented in the automotive industry, at only 29% of its workforce.

The Center for Automotive Diversity, Inclusion, and Advancement (CADIA) promotes diversity and inclusion in the automotive industry by providing tools, networks, and insights to companies.

CEO COALITION FOR CHANGE

Formed in 2020 and currently led by MICHauto, CADIA, and NDIA, the Coalition is a cross-industry executive group focused on growing diversity, equity, and inclusion initiatives and metrics across the state.

A student attends MiCareerQuest, a career exploration experience for middle and high school students.
**Top 10 Engineering Institutions**

<table>
<thead>
<tr>
<th>Institution</th>
<th>City</th>
<th>Degrees Awarded (2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Michigan</td>
<td>Ann Arbor</td>
<td>2,787</td>
</tr>
<tr>
<td>Michigan Technological University</td>
<td>Houghton</td>
<td>988</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>Lansing</td>
<td>965</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>Dearborn</td>
<td>645</td>
</tr>
<tr>
<td>Wayne State University</td>
<td>Detroit</td>
<td>530</td>
</tr>
<tr>
<td>Oakland University</td>
<td>Rochester</td>
<td>517</td>
</tr>
<tr>
<td>Kettering University</td>
<td>Flint</td>
<td>385</td>
</tr>
<tr>
<td>Western Michigan University</td>
<td>Kalamazoo</td>
<td>382</td>
</tr>
<tr>
<td>Lawrence Technological University</td>
<td>Southfield</td>
<td>279</td>
</tr>
<tr>
<td>Grand Valley State University</td>
<td>Allendale</td>
<td>171</td>
</tr>
</tbody>
</table>

Source: The Integrated Postsecondary Education Data System

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**Michigan's University Research Corridor (URC) is one of the nation’s top academic research clusters and is a leading force in the state for talent production, academic research, and economic revitalization. The URC is an alliance of Michigan State University, the University of Michigan, and Wayne State University — Michigan's three leading research institutions.**

- **$2.7 B** in annual higher education R&D, ranking 11th in the nation
- **$1.5 M** URC alumni worldwide with 712,000 graduates residing in Michigan
- **$20.6 B** URC total economic impact with 139,600 students enrolled and $1.3 billion in research spending in 2021
- **$451 M** or 17% of Michigan's higher education R&D is dedicated to engineering
- **$542.2 M** spent on R&D at URC institutions since 2015
- **#1 in the U.S.** for undergraduate degrees in high-demand mobility fields; URC granted over 14,800 in 2020

Source: National Science Foundation's National Center for Science and Engineering Statistics, 2021

Source: University Research Corridor Economic Impact Report, 2022
Kettering University GM Mobility Research Center’s autonomous vehicle testing track is the only one of its kind on a college campus in the country. The outdoor lab space and proving grounds enhance autonomous vehicle R&D, vehicle safety standards, and EV technology.

Michigan Tech advances new technology and sustainability solutions on campus at the Keweenaw Research Center, Great Lakes Research Center, Freshwater Research and Innovation Center, and the Michigan Tech Research Institute in Ann Arbor. They received $8 million from the U.S. Department of Energy to advance technologies to reuse and recycle EV batteries.

The Rockwell Automation/McNaughton-McKay Electric Co. I4.0 Robotics and Industrial Automation Laboratory uses the Internet of Things to reshape manufacturing. The Lawrence Tech Transportation Institute finds cost-effective and resource-efficient ways to maintain national transportation infrastructure.

The University of Michigan Electric Vehicle Center will boost public and private R&D, train workers, and develop EV batteries and pilot technology with automakers, suppliers, and startups. This new center will join other research facilities like Mcity, Battery Lab, and the Transportation Research Institute.

MSU Mobility has conducted $75 million in autonomous and connected vehicle R&D in the past five years, with nearly 50 experts and researchers working across seven MSU colleges designing integrated communication and control systems for automated vehicles.

The WSU Connected and Autonomous Driving Lab (CAR Lab) realizes the vision of connected and autonomous driving by designing and implementing technologies like edge computing, communication systems, data analytics, privacy-preserving models, and more.

Community College Mobility Centers

Michigan community colleges and universities offer alternative fuels and hybrid EV courses.

Transportation Design Program

The College for Creative Studies is a globally recognized design institution with STEM-designated transportation design programs. Graduates work on industry-leading and mobility-forward design while applying skills related to forms and materials, functionality, and engineering.
Discover Auto, a talent attraction program led by MICHauto, in partnership with Square One Education Network and Project Lead the Way, connects high school students with automotive and mobility companies to learn about industry job opportunities.

- **8** participating automotive-led companies
- **300+** students engaged since launch

National MFG Day introduces students to in-demand careers in modern manufacturing and skilled trades.

- **15,000+** students have participated in Macomb County's Manufacturing Day since 2014, with 50 host sites offering tours in 2022
- **6,400 students, 25 local manufacturers, and six postsecondary institutions** in Monroe and Wayne counties engaged in tours and presentations in 2021

FIRST® prepares young people for the future through inclusive, team-based robotics programs. FIRST® Robotics Competition combines STEM learning with the fun and competition of traditional sports while promoting skills in engineering.

- **2,000+** students participating in Michigan
- **Michigan ranked #1** among states for the number of FIRST® robotics competition teams

The Square One Education Network provides STEM learning opportunities for the students and teachers of Square One Nation and builds the high-tech talent supply chain for postsecondary industry partners.

- **743** completed challenges
- **85** schools involved
MICHAuto partnered with Lambert, a Michigan-headquartered public relations agency, to conduct a study of youth and their adult influencers to capture their perceptions of the automotive and mobility industry.

**KEY TAKEAWAYS**

**Youth**

**MICHIGAN YOUTH ARE 3X MORE LIKELY**
- to highly consider a career in the automotive and mobility industry than youth surveyed overall

2 OUT OF 3
- youth rate the automotive and mobility industry as better than most or excellent in salary

71% of youth consider work-life balance a challenge for the industry

**Adult Influencers**

7 OUT OF 10
- adult influencers believe it is an attractive career field for young adults entering the workforce, compared to 5 out of 10 youth

**EVs**

Michigan and Detroit are behind California as the perceived leader in developing electric vehicles among youth but slightly ahead among adult influencers

39% of youth perceive Michigan as leading the national EV development race

56% of adult influencers consider Michigan the leader

See the results at michauto.org or scan the QR code.
Detroit Named the Top Emerging Startup Ecosystem in the World

Through its vast network of accelerators and venture capital firms, Michigan’s well-developed startup community ensures the technologies solving the world’s mobility-related challenges are being created and developed in the state.

Startup Genome’s Global Startup Ecosystem Report named Detroit the top emerging startup ecosystem globally, jumping 13 spots from the previous year.

$1.2 B in total venture capital deals in 2022 – the highest funding in the past 10 years

193 venture capital deals in 2022

23rd in venture capital deal value among states

7 angel investors helped fund mobility startups

24 venture capital firms funded mobility technology startups

66 university partners and economic development organizations provide support for mobility startups

Innovation Collaboration

Mobility Meetups
Hosted by MICHauto, the MEDC Office of Future Mobility and Electrification (OFME), and Plug and Play Detroit, Mobility Meetups are designed to bring together dynamic startups in the automotive technology space with industry stakeholders to connect, share, and collaborate.

NewLab and Michigan Central
Catalyzed by a $950 million investment by Ford Motor Company, Newlab’s partnership with Michigan Central will accelerate the development, scale, and adoption of critical technologies while connecting entrepreneurs and engineers with industry and government.

Michigan SmartZones
Twenty SmartZones throughout the state provide collaboration hubs between university institutions, municipalities, community organizations, and companies to promote innovation and increase jobs and investment in technology-based businesses.

Plug and Play Detroit powered by AmplifyD
In partnership with Stellantis, the Michigan Minority Supplier Development Council, MEDC, and BorgWarner, this innovation hub involves businesses directly with startup technologies to generate pilot projects, proofs of concept, and strategic partnerships.

Plug and Play Detroit has accelerated over 60 startups and over 13 innovation partners

Source: Michigan Venture Capital Association, PitchBook-NVCA Venture Monitor
Michigan’s assets, like original equipment manufacturers, assembly plants, supply chains, proving grounds, and transportation hubs, provide a conducive testing, development, and innovation ecosystem for electrification and emerging mobility sectors like aerial, outdoor, and maritime.

**MOBILITY FUNDING PROGRAMS**

**Michigan Mobility Funding Platform**
Accelerates investments that create safer, more equitable, and environmentally conscious transportation for Michigan residents and companies.

**Michigan Mobility Wallet Challenge**
The Michigan Department of Transportation (MDOT) and the Office of Future Mobility and Electrification (OFME) aims to increase the interoperability of transit services and create greater access and equity to personal mobility for Michigan residents.

**Fresh Coast Maritime Challenge**
This first-of-its-kind program allows companies to apply for grant assistance to decarbonize and electrify marinas and watercraft statewide creating a blueprint for ports and harbors across North America.
Michigan’s automotive and mobility industry encompasses more than just major automakers. The MICHauto Automobility Asset Map highlights over 300 locations and businesses that are active contributors to the industry, including OEMs, assembly plants, suppliers, proving grounds, entrepreneur resources, universities, deployments, and electrification assets.

300+ assets that are active contributors to the automobility industry

98 of the 100 top automotive suppliers to North America

16 U.S. Department of Transportation-funded deployment projects

10 deployments focused on aerial and maritime mobility

40+ EV battery supply chain companies

14 proving grounds

26 OEMs

55+ public and private deployment partnerships

Source: U.S. Department of Transportation, Office of Future Mobility and Electrification, National Renewable Energy Laboratory, Michigan Department of Transportation
The Norwegian hydrogen company will invest $400 million and create 500 clean energy manufacturing jobs in a new automated gigawatt electrolyser manufacturing facility in Michigan.

Eagle Mine, the only operating nickel mine in the U.S., and Michigan Tech received $8.1 million from the U.S. Department of Energy to research technologies that develop sustainable processes to supply critical minerals for EV battery manufacturing. Another $2.5 million was awarded to help mines achieve net zero emissions while extracting critical minerals from mine tailings, the by-product of mining.
Michigan's manufacturers are revolutionizing manufacturing, new technologies, and product distribution, including advanced robotics, AI and machine learning, additive manufacturing (3D), and smart sensors.

### Additive Manufacturing (3D)

The U.S. Army opened the Advanced Manufacturing Commercialization Center in Sterling Heights to house the Army’s Jointless Hull subsection tool, a hybrid metal additive manufacturing machine used for engineering development and production.

### Robotics

Michigan is home to global leaders in the robotics industry, including headquarters for KUKA Systems North America, FANUC U.S., and ABB North American Robotics.

The Automate Conference in Detroit, hosted by Michigan’s Association for Advancing Automation, set record attendance in 2023, with more than 30,000 registrants and 750 exhibitors.

- **39.5%** of manufacturing employees in Michigan are exposed to robots, the greatest share of any state
- **18.5%** of manufacturing plants have robots
- **$442M** capital expenditures for industrial robotic equipment, leading the nation

Source: U.S. Census Bureau Annual Survey of Manufactures, Experimental Data Product, 2019

### Artificial Intelligence

The University of Michigan’s Artificial-Intelligence (AI) Laboratory provides a venue for a community of AI leaders to collaborate through the AI Partners Program. The lab includes 20 core AI faculty, nearly 100 Ph.D. students, and $7 million in annual research expenditures. The annual AI Symposium brings academia and industry together to focus on real-life applications of AI.

### Cybersecurity

Automation Alley received **$2 million** from the U.S. Department of Energy’s Office of Cybersecurity, Energy Security, and Emergency Response to create a Cybersecurity Center at Oakland University to research avenues to predict, detect, and repair cyberattacks, train workforce, and partner with government and industry entities to support threat sharing.

- **16,000** cybersecurity job openings in Michigan in 2023, up from 8,700 in 2019

Source: CyberSeek

### Accelerators Advancing Adoption of i4.0 Technologies

**LEANROCKET LAB**

Jackson, Michigan

**CENTREPOLIS Accelerator**

Lawrence Technological University
Southfield, Michigan

### DEFEENSE

The organizations below support the U.S. Army’s Soldier and ground systems research and development, acquisition, contracting, logistics, and sustainment are located at the Detroit Arsenal in Michigan.

- DEVCOM Ground Vehicle Systems Center (GVSC)
- Next Generation Combat Vehicles Cross Functional Team (NGCV-CFT)
- Program Executive Office for Combat Support and Combat Service Support (PEO CS&CSS)
- Program Executive Office for Ground Combat Systems (PEO GCS)
- U.S. Army Contracting Command-Detroit Arsenal (ACC-DTA)
- U.S. Army Tank-automotive and Armaments Command (TACOM)

Michigan is also the home of defense industry primes such as AM General LLC, BAE Systems, General Dynamics Land Systems, Navistar Defense, and Rheinmetall Defense Inc., that ensure the nation’s defenders have the best and latest equipment and technology.
**MICHIGAN’S AUTOMOBILITY ECOSYSTEM**

**Culture**
- Automotive Hall of Fame
- University of Michigan
- Detroit
- GP 37

**Talent**
- #1 for automotive manufacturing jobs
- #1 for concentration of engineers

**Education**
- 8th in the nation for higher education R&D
- 125,700+ total degrees and certificates awarded annually

**Technology and Innovation**
- American Center for Mobility
- EPA
- NSF
- University of Michigan
- Wayne State University

**Electric Vehicles**
- $20B+ in EV and battery-related announced investments by OEMs and suppliers since 2018, ranking #1 in the nation
- #1 for business-funded automotive and mobility research and development
- 89% increase in EV charging stations since 2018

**Top OEMs and Suppliers**
- 26 OEMs located in Michigan
- #1 for vehicle production
**Deployments and Testing**

#1 for operational U.S. Department of Transportation-funded connected vehicle deployment with 16 projects

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**Entrepreneurial Network**

$1.2B in total venture capital deals in 2022 – the highest funding in the past 10 years

- Newlab
- Plug and Play Detroit

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**Defense**

- DEVCOM Ground Vehicle Systems Center (GVSC)
- U.S. Army Tank-automotive and Armaments Command (TACOM)
- U.S. Army Detroit Arsenal
- Selfridge Air National Guard Base

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**Legislative Priorities**

- Enhancing education and workforce opportunities
- Growing Michigan's vibrant mobility ecosystem
- Rebuilding the domestic supply chain
- Strengthening transportation infrastructure and safety
- Promoting diversity, equity, and inclusion

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**Global Impact**

1st binational EV corridor

#1 northern international border crossing

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As Michigan’s only automotive, mobility, and technology cluster association, MICHauto provides a platform for industry leaders and stakeholders to engage in advocacy, build awareness, increase access to talent, and foster next-generation mobility.

MICHauto.org

ABOUT THE COVER ARTIST

The artwork featured on this publication’s cover was created by student illustrator Allison Poth in partnership with WAYNE STATE UNIVERSITY.