



**MICHIGAN
MOBILITY
INSTITUTE**

ACCELERATING THE FUTURE OF

MOBILITY

Preparing Talent for the Future of Mobility Careers

MOBILITY



The Michigan Mobility Institute accelerates mobility workforce development, upskilling programs, and post-secondary degrees by bringing industry and education partners together. We merge the historic excellence of engineering, design, and supply chain in Michigan with deep insight into the global hiring needs of next-generation mobility disruptors.





Collaborative Partners

Employment Partners

Bosch
Ford Motor Company
May Mobility
Integral.io

Community Partners

SHRM – Society for Human Resource Management
Montage Diversity
Dense Networks
SMASH Youth Programming
CADIA - Center for Automotive Advancement
Inclusion & Diversity
Boys and Girls Clubs of Southeast Michigan
Wayne State University
MICHAuto
Henry Ford College

PlanetM - Michigan Economic Development Corporation
City of Detroit, Grow Detroit's Young Talent
Michigan Alliance for Greater Mobility Advancement (MAGMA)
City of Detroit, Growing Detroit's Young Talent
Metro Strategies
The Henry Ford
Right Management
Dykema
Plante Moran
Eastern Michigan University
Western Michigan University

Supporting Partners

Department of Labor and Economic Opportunity - Workforce Development
SAE Detroit Section
U.S. Chamber of Commerce, Talent Pipeline Management and TPM Academy



Convening Institutions

- College for Creative Studies
- Eastern Michigan University
- Henry Ford Community College
- Macomb Community College
- Michigan Tech University
- Michigan State University
- University of Michigan
- Wayne State University
- Washtenaw Community College
- Western Michigan University

The Credential



**MOBILITY
READY**

Elements of the Training Credential

#MobilityReady

Instruction Model

Educators + Industry Leaders
Single Instructor
Panel

Outcome

Certificate of mobility
knowledge readiness

Preferred Learning Method(s)

Synchronous + Asynchronous

Preferred Subjects

1. Intro to Mobility
2. Embedded System Design
3. Wireless Mobile
Communication
4. Computer Vision:
Autonomous Vehicle
Perceptions
5. Real Time Systems
6. Other

Elements of the Training Credential

#MobilityReady

Mobility Fundamentals

Industry entry-level knowledge of mobility, its technologies, and how it is directly acquainted and integrated to roles within the automotive industry.
(i.e., Principles of Autonomy, etc.)

Job Skills

Deep knowledge of career function specific to industry priority.

- 1 – Software Engineer
- 2 – Technicians (I.T. Techs, Personal Vehicle Techs, Support Techs, etc.)

Soft Skills

Soft skills knowledge to support current and future hires to have the interpersonal tools to help their work become more sustainable and impactful. (i.e., Project Management Fundamentals, Technical Leadership, People Management, etc.).



Review of Jobs

Priority Jobs of the Collaborative

- Software Engineer
- Senior Software Engineer
- Hardware Engineer
- Embedded Systems Engineer
- Robotics Engineer
- Field Autonomy Engineer
- UX Strategist
- Test Equipment Engineer
- Test Engineer
- Senior Product Manager

Current Industry Threats to the Pipeline

Readiness

1. Technical education scope is limited to single skill disciplines vs. multiskilled.
2. Development for workplace practices is essentially non-existent in some environments.
 - (e.g., safety practice, visual workplace organization, lean practices, problem solving)
3. Work values/professional behavior development is often low and inconsistent.
 - (e.g., attendance, initiative, diligence, teamwork, communication)
4. The lack of “power skills” or “critical skills” is the newest threat to U.S. worker capability.

Industry Threats to the Pipeline

Aging Technical Workforce

1. Current workforce age distribution is significantly unbalanced.
2. Mature, experienced, highly capable workers are retiring in increasing numbers.

The Solution

- A collaborative of employers that work together with an organizing partner, schools, colleges and universities to develop global-best, entry-level talent.
- A learning credential that is built to target the gaps in mobility professional's development – mobility fundamentals, job skills, and soft skills.





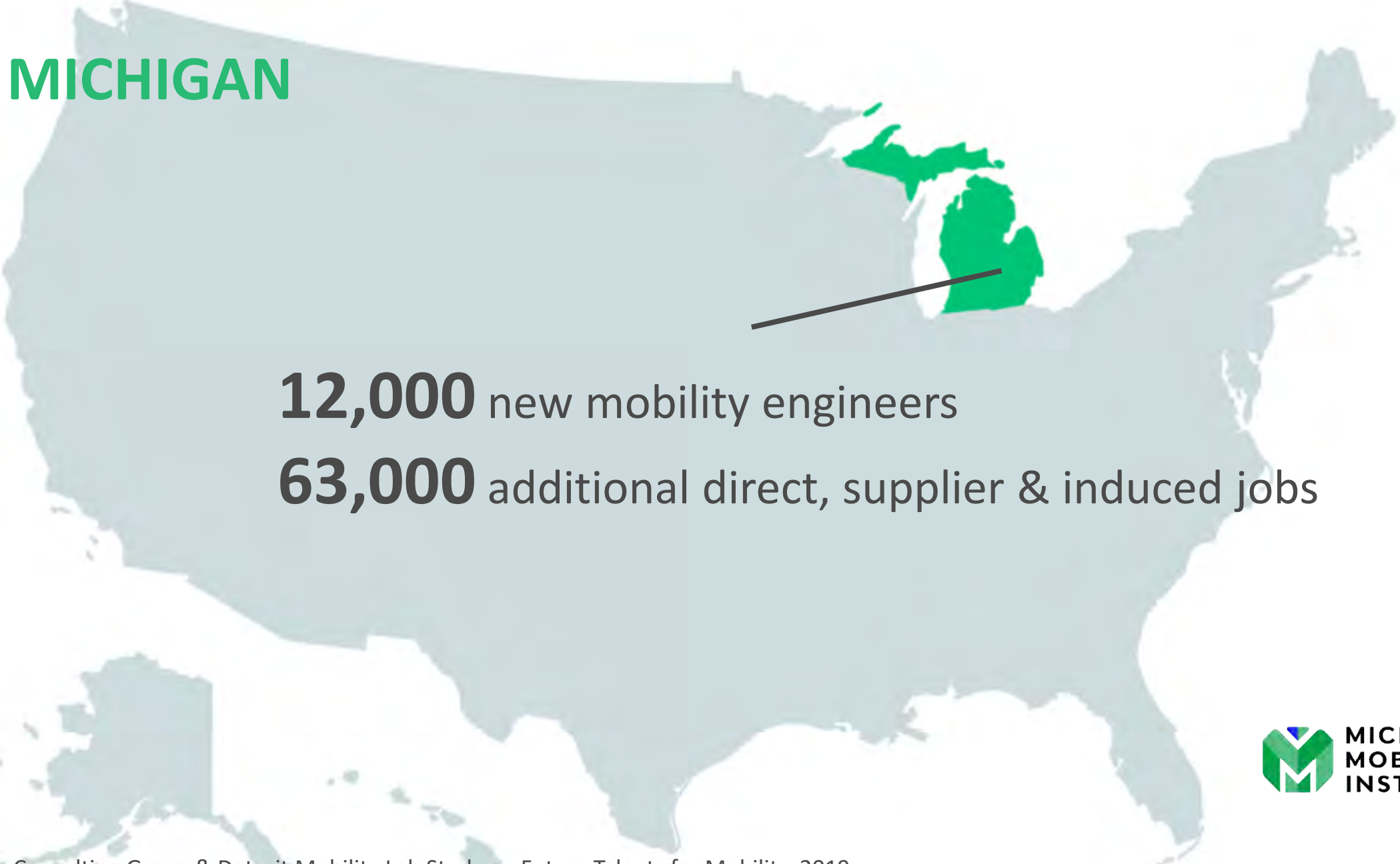
Mobility Talent Needs In Numbers

IN THE NEXT DECADE...

45,000 new mobility engineers

70,000 new skilled trade workers

FOR MICHIGAN



12,000 new mobility engineers

63,000 additional direct, supplier & induced jobs





ACCELERATING THE FUTURE OF

Mobility Education Survey Outcomes

Survey Results

Mobility Learning – Participation in a Credential

Would your institution be interested in its learning products being associated with a State certified mobility credential for greater impact?

57%
affirmative

43% need more information to commit.

0% were not interest in participation.

Survey Results

Mobility Learning – Active Learning Courses

1. Mobility Concepts
2. Design Theory
3. Mobility Design Studios
4. Human Factors/Ergonomics
5. Digital Modeling and Visualization
6. IxD and Systems Design Thinking
7. Automotive Systems
8. Automotive Electrical 1, 2, & 3
9. Connected, Automated, & Intelligent Vehicles
10. Hybrid and Alternative Fuel Vehicles
11. Light Weight Materials for Automotive
12. Automotive High Voltage Safety Training
13. Automotive Drivability & Diagnostics
14. Motors for Electric Vehicles
15. Digital Electronics
16. AC/DC Electrical Systems
17. Microcontroller programming
18. Test Equipment and Troubleshooting
19. Vehicle Experimental Testing
20. Instrumentation & Transducer Theory 1 & 2
21. LabVIEW 1 & 2
Introduction to Information Systems
22. Automotive Embedded C programming
23. C# programming
24. C++ programming 1 & 2
25. JAVA 1 & 2
26. Scripting for Security professionals
27. Penetration Testing and Analysis
28. Information Security Policies & Risk management
29. Ethical Hacker
30. Principles of Networking
31. Wireless networking
Foundations of Mobility
32. Connected and Autonomous Vehicles
33. Autonomous Vehicles
34. CET 374 Sensors
35. Control & Data Acquisition

Survey Results

Mobility Learning – Non Degreed, Undergraduate, Graduate

Enrolled in Non-degreed Mobility Learning Programs	Enrolled in Undergraduate Mobility Learning Programs	Enrolled in Graduate Mobility Learning Programs
1 - 0	1 - 140	1 - 20
2 - TBD	2 - TBD	2 - TBD
3 - TBD	3 - 5,000	3 - 0
4 - 250	4 - 350+ (2 year program)	4 - TBD
5 - 0	5 - 50	5 - 0
6 - 50 – 100	6 – 0	6 – 0
7 - 100	7 – 2,000	7 - 500

Survey Results

Mobility Learning – Cost of Courses

What is your institution's current price structure for a mobility course or short course?

1 - \$1539 per credit hour, and most classes are three credits in a 15 week semester.

2 - TBD

3 - \$300 - \$2,000

4 - \$30 - \$37 per contact hour for non-credit; \$102 per credit hour (for credit programs that lead to Certificate, AA, or AS degree)

5 - \$450/credit plus fees for UG course. Short course are typically \$800-\$1,100 for a 24 hour class

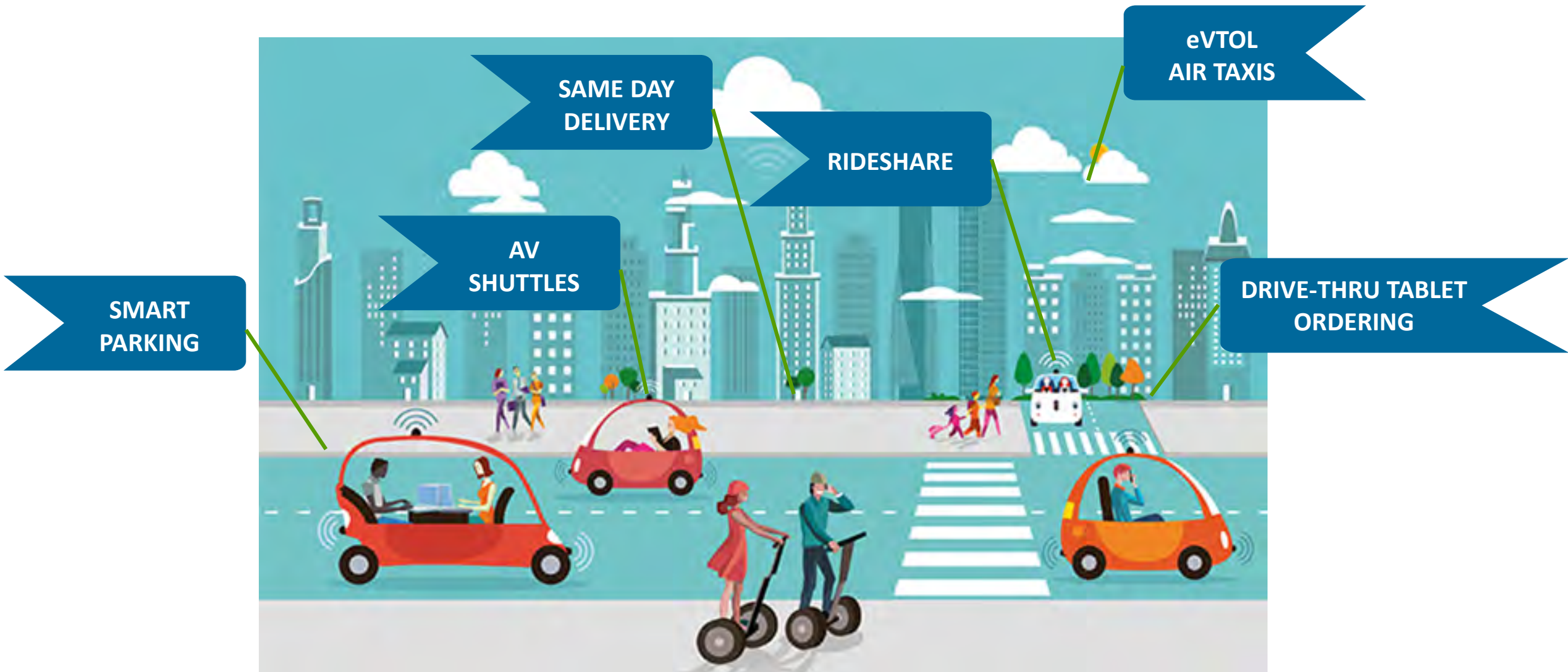
6 - Varies

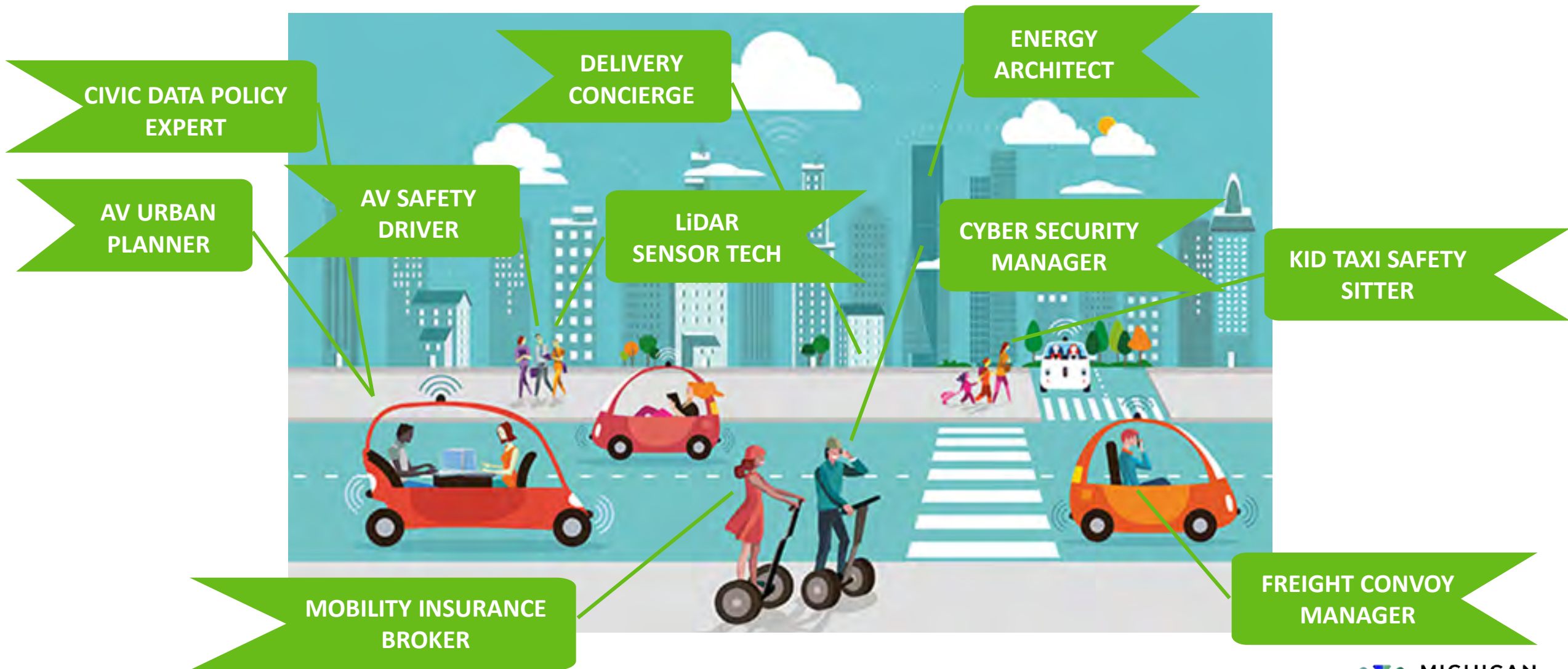
7 - TBD

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Ready to start with us?

FEEL FREE TO CONTACT US.

THANK YOU

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