Michigan Connected and Automated Vehicle Working Group Meeting Packet

December 16, 2013

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4. Presentations

MICHIGAN CONNECTED AND AUTOMATED VEHICLE WORKING GROUP

Monday, December 16, 2013

Automation Alley Headquarters
2675 Bellingham Drive
Troy, MI 48083-2044

MEETING AGENDA

1:00 PM Introductions, Richard Wallace, CAR

1:10 PM Welcome from and Overview of Automation Alley, Cynthia Hutchinson, Director, Member Relations

1:20 PM Update on Planning for the 2014 ITS World Congress, Richard Wallace on behalf of Jim Barbaresso, HNTB and Chair, 2014 ITS World Congress

1:35 PM Update on Automated Driving Legislation in Michigan, Matt Smith, Statewide ITS Program Manager, MDOT

1:55 PM NETWORKING BREAK

2:15 PM Preview of Michigan Automotive Strategy, Eric Shreffler, Managing Director, Automotive Office, Michigan Economic Development Corporation

3:00 PM Feedback on Michigan Automotive Strategy (moderated discussion with Eric Shreffler and Nigel Francis, Senior Vice-President, Automotive Office, MEDC)

3:45 PM Adjourn

MICHIGAN CONNECTED AND AUTOMATED VEHICLE WORKING GROUP

The December 2013 meeting of the Michigan Connected and Automated Vehicle Working Group was held at Automation Alley in Troy, Michigan on December 16, 2013.

MEETING NOTES

Richard Wallace of the Center for Automotive Research (CAR) gave a brief welcome and began introductions around the room. He then invited Cynthia Hutchinson, Director of Member Relations at Automation Alley, to speak about her organization. Cynthia gave an overview of Automation Alley's history and scope. Automation Alley is a technology organization and business accelerator dedicated to growing the economy of Southeast Michigan. When Automation Alley was developed, Southeast Michigan was the third largest producer of university graduates in the areas of engineering and technology. The organization seeks to leverage that knowledge asset to enhance the region's reputation and position it as a world class source of innovation on par with Silicon Valley and Boston.

Following Cynthia's overview, Richard covered several topics of interest to attendees, including the working group's mission and upcoming CAV events. In addition to those items, several members mentioned other upcoming events. The Consumer Electronics Show (CES) will run from January 7th-10th in Las Vegas, and the day before the show opens, the Consumer Telematics Show will be held at the Rio Hotel in Las Vegas. Mohammad Poorsartep mentioned that the SAE 2014 Government/Industry Meeting will be held on January 22nd-24th in Washington, D.C. Stephanie Schliffski promoted the Valeo Innovation Challenge; for this challenge, Valeo invites college students to submit innovation ideas to build smarter and more intuitive cars by 2030. She distributed flyers for the competition and noted that entries for the challenge must be submitted by mid-February (see https://valeoinnovationchallenge.valeo.com/rules for more information). Neil Gudsen provided information about a connected vehicle security event taking place at Washtenaw Community College on January 9th at 6:30 pm (see http://www.meetup.com/connectedcar/ for more information).

On behalf of Jim Barbaresso, Richard Wallace gave an update on planning for the 2014 ITS World Congress and called on Michele Mueller of the Michigan Department of Transportation (MDOT) to discuss some of the event details, especially those associated with the Technology Showcase. Richard opened with a video on the reinvention of Detroit that highlights some of the features of the city and automotive technology (the video can be found here http://vimeo.com/77729320). The event will be held from September 7-11, 2014 at the Cobo Center. Michele spoke about the TMC of the Future and test tracks that will be setup inside Cobo, as well as the demonstrations that will take place on Belle Isle. Richard discussed the technical tours and special events that will occur, as well as opportunities for event sponsorship and exhibition.

Following the 2014 ITS World Congress update, Matt Smith of MDOT discussed the current state of automated vehicle legislation in Michigan. He noted that the legislative process picked up this past fall and that legislation has been passed by both houses and awaits Governor Snyder's signature. Matt described Senate Bills 169 (general bill on testing and modifying vehicles, opens up M plate testing to other entities) and 663 (addresses liability protection for automakers and technology firms). Matt also compared Michigan's strategy to that of California, Nevada, and Florida.

After a networking break, Eric Shreffler, the Managing Director of the Michigan Economic Development Corporation (MEDC) Automotive Office, gave a preview of the State of Michigan Automotive Strategic Plan. The vision of the plan is to leverage Michigan's strengths and assets for sustained intellectual and manufacturing global leadership. The plan is based on assessments of the current situation and opportunities for Michigan, which were done by several consulting companies in partnership with MEDC. The automotive office will help develop and maintain Michigan's automotive technology, talent, and capital assets. Eric noted that Michigan's success is really going to be driven by large-scale collaboration between stakeholders. After Eric's presentation, Nigel Francis, the Senior Vice President of the MEDC Automotive Office arrived, solicited feedback on the Michigan Automotive Strategy, and responded to comments and questions. Nigel indicated that he and Eric, both jointly and separately, will be seeking input from many industry leaders over the next few months, culminating with a final release of the plan in conjunction with the SAE World Congress.

MICHIGAN CONNECTED AND AUTOMATED VEHICLE WORKING GROUP

ATTENDANCE LIST

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Ken	Augustyn	SRI	kenneth.augustyn@sri.com
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Amine	Taleb	Valeo	amine.taleb@valeo.com
Steve	Underwood	U of M - Dearborn	underw@umich.edu

MICHIGAN CONNECTED AND AUTOMATED VEHICLE WORKING GROUP

PRESENTATIONS

Michigan Connected and Automated Vehicle Working Group

Automation Alley

Troy, MI

December 16, 2013

Agenda for This Afternoon

- 1:00 PM Introductions, Richard Wallace, CAR
- 1:10 PM Welcome from and Overview of Automation Alley, Cynthia Hutchinson, Director, Member Relations
- 1:20 PM Update on Planning for the 2014 ITS World Congress, Richard Wallace on behalf of Jim Barbaresso, HNTB and Chair, 2014 ITS World Congress
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Working Group Mission

- Cooperatively pursue projects and other activities that are best accomplished through partnerships between multiple agencies, companies, universities, and other organizations and that ultimately advance Michigan's leadership position in connected and automated vehicle research, deployment, and operations.
  - Benefit our state and our industry (automotive and more)
  - Enhance safety and mobility in Michigan and beyond

Noteworthy News

- GM announcement today in Flint
- USDOT V2V Notice of Regulatory Intent…
  - Still waiting
- Michigan automated vehicle legislation
  - Matt to update us momentarily

Upcoming Connected and Automated Vehicle Events

- Annual Meeting of the Transportation Research Board
  - January 12-16, 2014, Washington, D.C.
- SAE World Congress
  - Cobo Center, April 8-10, 2014, Detroit, MI
- Global Symposium on the Connected Vehicle
  - April 21-23, 2014, Ann Arbor
- Telematics Detroit
  - Suburban Showcase, June 4-5, 2014, Novi, MI
- 22nd Annual Intelligent Ground Vehicle Competition (IGVC)
  - Oakland University, June 6-9, 2014, http://www.igvc.org/
- 2014 ITS World Congress
  - Cobo Center, September 7-11, 2014, Detroit

21st World Congress on Intelligent Transportation Systems

DETROIT 2014

INTELLIGENT TRANSPORT SYSTEMS

www.worldcongress.org | #ITSWC14

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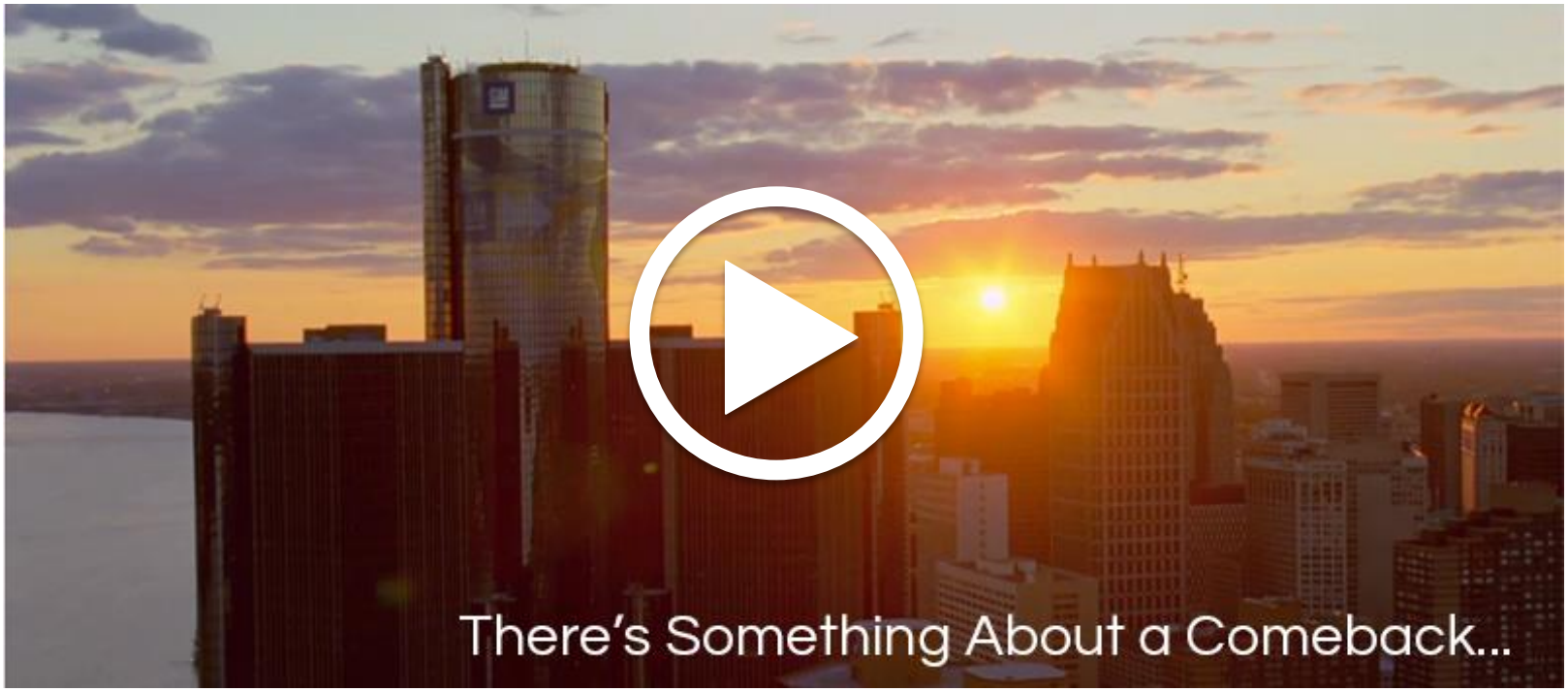
DETROIT 2014 INTELLIGENT TRANSPORT SYSTEMS

Reinventing Transportation in Our Connected World



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Honorary Committee

Rick Snyder, Chair
Governor, State of Michigan

Kirk Steudle, Vice Chair
Director, Michigan DOT

Michael A. Finney
President, Michigan Economic Develop. Corp.

The Honorable Mike Duggan
Mayor, City of Detroit

The Honorable Eddie Francis
Mayor of Windsor, Ontario

Dr. Mary Sue Coleman
President, University of Michigan

Michigan State Congressional Delegation

Wayne, Oakland, and Macomb County Executives

General Motors, Ford, and Chrysler, Chairs

Hyundai-Kia, Toyota, and Honda R & D Americas, Presidents

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HNTB

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Interactive Program

- More than 250 panel, roundtable, and townhall-type sessions

- Major program events: Policy Roundtable, High Level Plenaries, CTO Summit, Executive, Special and Technical Sessions, Opening and Closing Ceremonies, Special Awards

Technology Showcase

- Primary showcase will take place on Belle Isle, a 983 acre island
- Variety of additional demonstration venues, including inside Cobo Center
- More than 30 demonstrations already being considered – largest showcase in World Congress history
- Theme areas include: Electric Vehicles, Connected Vehicles, Autonomous Vehicles, Day in the Life, Goods Movement, TMC of the Future, Mileage Based User Fees

Traffic Management Center

- A multi-agency working TMC on the exhibit floor will showcase current and future TMC capabilities in Michigan

- Partners: MDOT, City of Detroit, 3 counties (Macomb, Oakland, Wayne), Michigan State Police, and private partners

Technical Tours

- Southeast Michigan Transportation Operations Center
- OnStar Call Center
- Chevy Volt Plant Tour
- Border Crossings
- Connected Vehicle TEST BED
- U.S. DOT Safety Pilot Model Deployment

Special Events

- Opening Ceremony & Reception (Sunday)
- Special Awards (throughout the World Congress)
- Exhibit Hall Ribbon Cutting (Monday)
- Exhibit Hall Networking Receptions (Monday)
- VIP Dinner (Monday)
- Youth Connections Activities (throughout the World Congress)
- Emergency Responder Day (Tuesday)
- Public Day (Tuesday)
- Taste of Michigan Showcase Event (Tuesday)
- World Congress Gala (Wednesday)
- Closing Ceremony (Thursday)

Benefits to Sponsorship

Benefits	Premier	Gold	Silver	Bronze	Partner
Logo on www.itsworldcongress.org	X	X	X	X	X
Acknowledgement at exhibit booth	X	X	X	X	X
Logo on meter boards through Cobo Center	X	X	X	X	X
Full Registration Packet	8	6	4	1	
Access to VIP lounge	X	X	X		
Priority seating at opening ceremony	X	X			
ITS TV Video Ad (60 seconds)	X	X			
Banner in exhibit hall	X	X			
Logo on front cover of program	X				
Recognition on slide in Opening Ceremony	X				
Speaking opportunity at sponsored event	X				

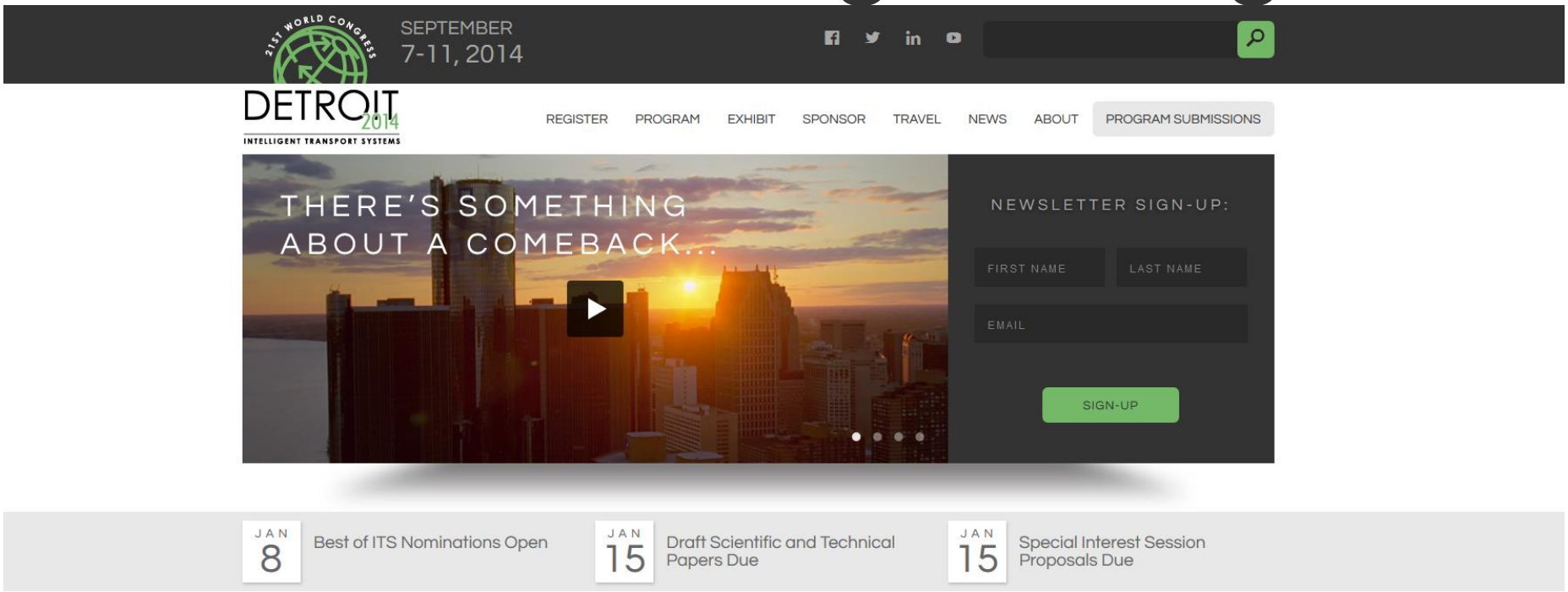
Exhibitor Opportunities

- Sales are underway, and slots are filling up fast
- More than 300,000 sq. ft of exhibit space
- Working TMC on exhibit floor
- Entrepreneurial Village
- Youth Connections
- Exclusive sponsorship deals
- Membership rates available

Benefits to Exhibiting

- Registration List
- Exhibitor Staff Badges
- Exhibitor Hall Passes
- Preliminary Program
- Virtual Trade Show
- Networking Events
- Media Exposure
- Final Program and Exhibitor Directory

Explore
www.itsworldcongress.org



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State of Michigan Automotive Strategic Plan

(Draft for Discussion with Stakeholders)

Nigel Francis
State of Michigan, Automotive Office
7 January 2014

PURE MICHIGAN®

Vision

"We will leverage the strengths and assets of Michigan's automotive industry for sustained intellectual and manufacturing global leadership. Our vision is that every significant entity in the global automotive industry has a strong presence in the State of Michigan"

Mission

A Mandate from the Governor of the State of Michigan

"To implement and execute a comprehensive strategic plan to drive Michigan's automotive industry forward to remain as the global center of the automotive industry and to foster sustainable growth within the industry in Michigan"

Michigan is Automotive!

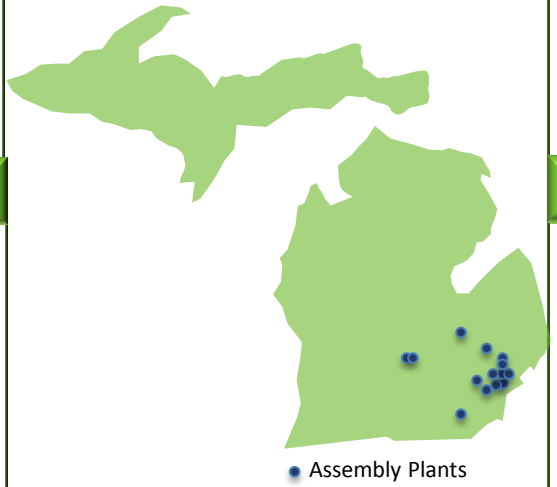
Jobs

- Auto supports **513,300** jobs in Michigan[1]
- **14.6%** of Michigan's workforce is employed in automotive[3]
- **22.1%** of all direct auto jobs in the United States are in Michigan[3]

Industry Presence

- Michigan is home to **61** of the top **100** North American automotive suppliers[4]
- Michigan produces **23%** of the vehicles in the nation, more than any other state[1]
- Michigan leads U.S powertrain production with **31%** of engine and **26%** of transmission output[1]

Michigan has 12 assembly plants & 35 automaker parts & component plants



Sources: 1) Center for Automotive Research, 2) U.S. Census Bureau, 3) U.S. Department of Labor, 4) Automotive News, 5) MEDC, 6) NSF

State Revenue

- The auto industry generates **$2.8 Billion** in direct taxes and fees to Michigan's Treasury in 2010[1]
- Direct automotive jobs generate **$14.5** Billion in personal income in Michigan[2]

Technology & Talent

- Michigan is the automotive R&D hub with **370** R&D centers and more than **70%** of all U.S. automotive R&D spending[6]
- Michigan ranks **#1** nationally in concentration of engineers, with **65,000** industrial, mechanical, and electrical engineers[3]
- Michigan has **650** automotive education programs offered at **91** institutions[1]

Strategic Plan Development Team
Global Vision "Think Globally, Act Locally"

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Automotive Technology Expertise

PURE MICHIGAN

Plan Leadership

Scenaria,
A Member of the AVL Group

Powertrain Expertise

INTER|SECTION

Future Vehicles/Design Expertise

IHS

Market and Demographics Expertise

P3 group

Manufacturing Expertise

Three Key Dimensions to the Strategic Plan

Grow the technologies, talents and infrastructure necessary to lead the ***Global*** automotive market of the future

Strengthen Michigan as the center of the ***North American*** automotive market

Retain & grow ***Michigan's*** current automotive industry base

Current Situation & Opportunities for Michigan

Current Situation

- Michigan's automakers and suppliers have stabilized and **business is robust, profitable and growing**
- Increased globalization exposes automakers to economic instability and regulatory pressure meaning **Michigan must prepare now for continuing global changes**
- Current tax and policy reforms created an **attractive environment for local and global automotive investment in Michigan**

Opportunities for Michigan

- **The pace of global change will intensify,** driven by customers, markets, regulations, technology and new global OEM and supplier entrants
- **Michigan must focus and reinforce its automotive R&D** to attain sustained growth and global leadership in new key technology areas
- **Michigan requires a comprehensive strategy focusing locally, regionally and globally to remain the center of the automotive industry of the future**

Now is the time for relentless positive action!

Industry Drivers & Future Trends

Demographics & Vehicle Market

- *Rising urbanization*
- *Vehicle segment shifts*
- *Global platforms*

Vehicle Design

- *Smaller*
- *Lightweight*
- *Connected*
- *Personalized*
- *Environmentally-friendly*

Connected & Automated Vehicles

- *Vehicle to Vehicle (V2V) and Vehicle to Infrastructure (V2I) technologies*
- *Increasing levels of automation*
- *ITS integration with connected vehicles*

Powertrain & Propulsion Technologies

- *Continuing drive for CO_2 reduction*
- *Harmonization of standards across global regions*

Material Technologies

- *Light weight*
- *Advanced mixed materials*
- *New forming technologies*
- *New joining technologies*

Manufacturing and Supply Chain

- *Hyper-efficient*
- *Sustainable*
- *Modular manufacturing*
- *Logistics/supply chain management*

Implications of Drivers & Trends for Michigan

Demographics & Vehicle Market

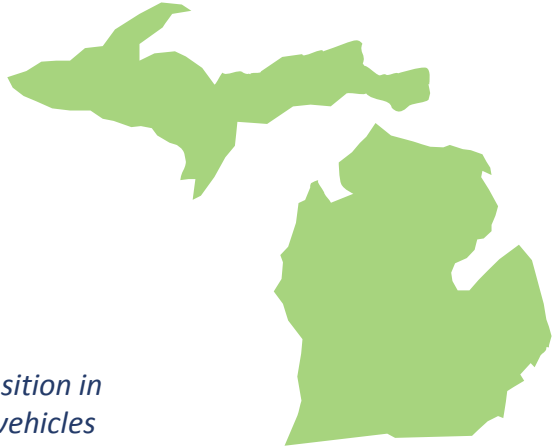
- *Adapt to shifting demographics, vehicle preferences and usage*
- *Adapt to growth drivers outside United States*

Powertrain & Propulsion Technologies

- *New R&D and manufacturing competences*
- *Transform manufacturing base and assets to support diversified powertrain portfolio*

Vehicle Design

- *Develop design capabilities for globally-relevant future vehicles*



Material Technologies

- *Requires new manufacturing, joining and supply chain competencies and scale*

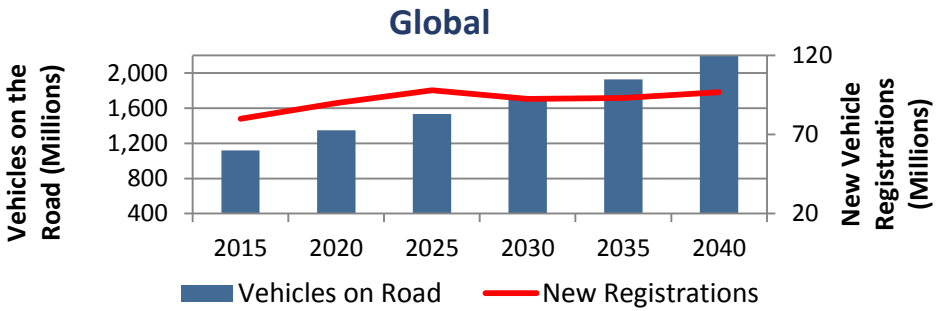
Connected & Automated Vehicles

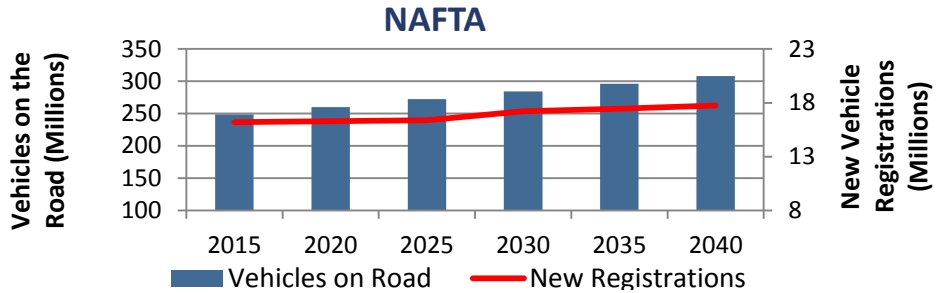
- *Must capture leadership position in connected and automated vehicles*
- *Develop and support legislation and attract federal investment*

Manufacturing and Supply Chain

- *Michigan should target 'R&D and pilot plant' strategy*
- *R&D and manufacturing increasingly shifts to the suppliers*

Demographic Trends Reveal Challenges for Michigan



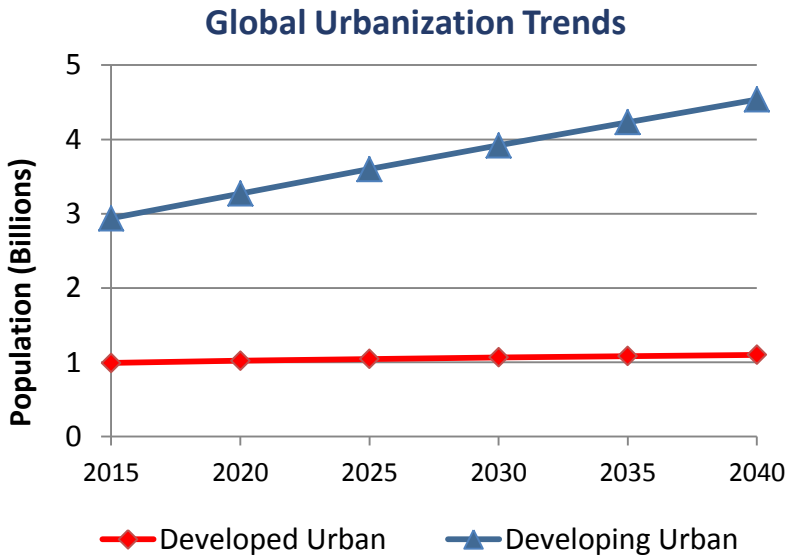


Growth in Driving Age Population Creates Demand:

- **Strong global growth driven by developing markets** (21% increase in annual global new vehicle registrations between 2015 and 2040; 96% growth number of in vehicles on the road in this period)
- **U.S. grows at a slower rate** (10% increase in U.S. new vehicle registrations between 2015 and 2040)
- U.S. registrations cap out at roughly 18 million units around 2030, as vehicle cost, traffic congestion and changing driver demographics slow overall growth
- **By 2040, Millennials and post-Millennials will make up the bulk of the U.S. driving population**

New vehicle market growth will predominately take place outside North America

Pace of Urbanization in Developing Nations Accelerates; Urbanization in Developed Nations Grows Modestly



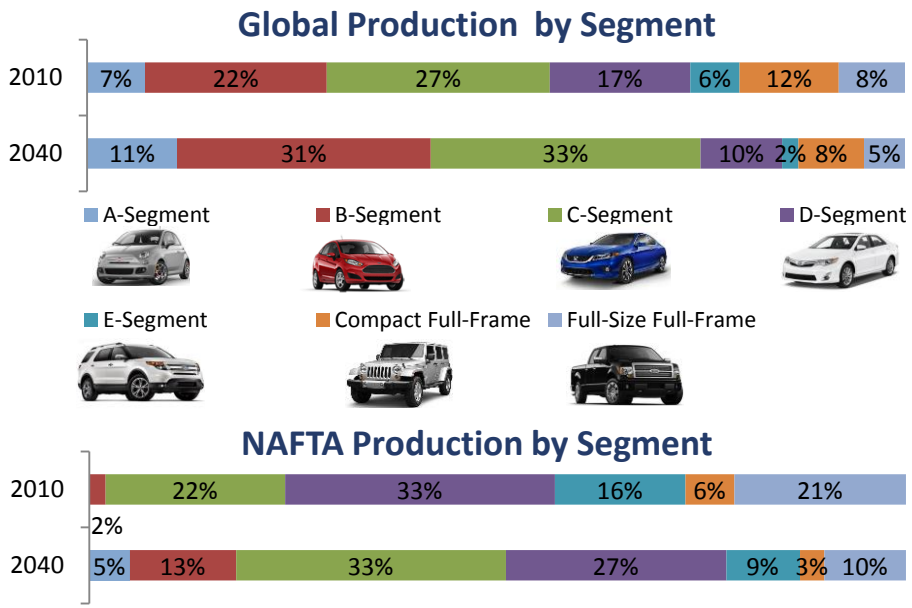
Source: United Nations

Urbanization is More Significant in BRIC

- Share of "urban" population in developing markets will grow from 49% to 60% between 2015 and 2040
- U.S. urbanization share is already high, and growth will be modest, increasing from 85% to 89% between 2015 and 2040
- **Increasing global urbanization will shift personal mobility choices toward:**
  - **Smaller, lower-emission vehicles**
  - **Subscription service rather than ownership**

Growth in urbanization will predominately take place outside North America

Global Production Shifts to Smaller Vehicles, but NAFTA Continues to Produce Predominately Midsize & Larger Vehicles



Forecasts Show a General Shift Toward Smaller Vehicle Segments

- More than half of Michigan's vehicle output will be based on global platforms by 2018
- Global production will be dominated by B/C segments while NAFTA focus remains in C/D segments
- **The United States will remain among the most lucrative vehicle markets in the world based on higher profit margins in larger vehicle segments**

Without action, Michigan's vehicle development and output will become less globally relevant

Michigan Has Opportunities in Connected & Automated Vehicle Technologies; Must Close Talent Gaps

Key Future Drivers

- The confluence of connected and automated vehicle technologies and personalization apps create opportunities
- New vehicle ownership and business models develop
- Intelligent Transportation Systems (ITS) will become prevalent in urban areas
- Non-automotive tech firms may become players in intelligent mobility
- Emergence of ADAS and V2V/V2I safety mandates

Strategies for Michigan

- Leverage Michigan's expertise and experience to attract federal and industry investment
- Support and lead NHTSA V2V mandate implementation
- Make Michigan the center for intelligent mobility-as-a-service business model
- Attract relevant electronics, software, and systems integration firms to locate in Michigan
- Support industry investment in collaboration, testing, and certification facilities
- Expand relevant educational and training programs

Michigan Must Lead the Transformation from Mild Steel to Lightweight, Multi-Material Vehicles & Infrastructure

Key Future Drivers

- Future vehicles will require aggressive use of advanced materials to meet regulations
- The demand for light weight materials will require greater industry resources and a focus on collaboration
- Advance light weight, mixed materials will require new forming and joining technologies, advanced simulation and engineering skills
- Michigan must transform its high-volume mild steel infrastructure

Strategies for Michigan

- Collaboration center for suppliers with linkages to automakers, material suppliers, tooling, fabricators, design and testing firms
- Leverage Michigan's expertise and experience to attract federal and industry investment
- Michigan must focus and leverage current assets including density of engineering talent and concentration of tooling facilities
- Critical talent needs in materials science, simulation and modeling, system engineering and integration, and skill trades

Future Powertrains Will Be Increasingly Electrified; Michigan's Opportunities Lie in Advanced Systems Integration

Key Future Drivers

- Regulatory trends will drive a doubling in fuel economy performance by 2040
- United States, Europe and China responsible for vast majority of GHG reduction
- Regulatory targets for the United States will lag Europe and China
- The strategies to meet regulatory targets will differ by region
- Developed markets will shift toward electrification and hybrid powertrains

Strategies for Michigan

- Provide advanced system integration from powertrain to vehicle to road
- Leverage Michigan's expertise and experience to attract federal and industry investment
- Focus on preparing future automotive engineers to meet a diverse set of talent and skills needs
- Critical talent needs in electrification and hybrid technology, advanced system integration and optimization, flexible control strategies, advanced analytics and simulation

Michigan Must Leverage Its Expertise to Implement a 'R&D, Advanced Engineering & Pilot Plant' Strategy

Key Future Drivers

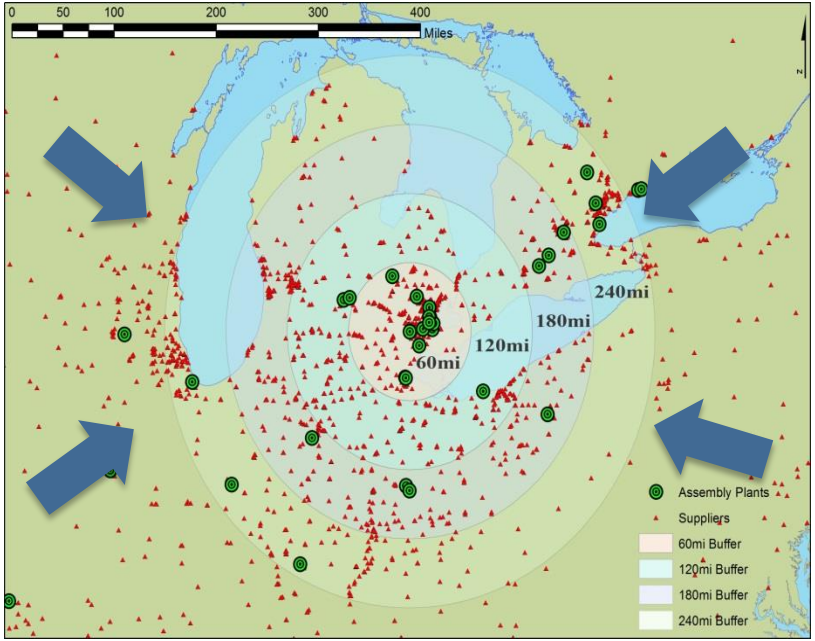
- Automakers will act as integrators, shifting greater responsibility for systems/subsystems to suppliers
- Automotive manufacturing will employ fewer, but more highly trained workers
- Global platforms will become dominant, with regional variation to meet market needs
- Greater focus on sustainability of product and manufacturing processes
- Automakers will continue to build in the markets where they sell

Strategies for Michigan

- High-tech processes refined in a Michigan R&D, advanced engineering and pilot plant environment before global deployment
- Prioritize manufacturing process R&D
- Retain and defend Michigan's current manufacturing base and strategically pursue growth opportunities
- Ability to scale advanced manufacturing processes to mass production
- Critical talent needs in automation, robotics, virtual-physical system integration and communication

Michigan Must Build on Existing Logistics & Supply Chain Assets to Support the State's Automotive Industry

Current Locations of Suppliers & Assembly Plants Serve as an Attractor & Accelerator for Investment



Source: Center for Automotive Research

Strategies for Michigan

- Promote the Great Lakes region as the largest North American automotive manufacturing mega-region
- Build streamlined world-class logistics systems
- Attract public/private investment to improve freight movement and logistics services
- Connect Michigan with global headquarters and tech centers
- Leverage free/foreign trade zones
- Accelerate implementation of Michigan's Logistics and Supply Chain Strategic Plan

Success will be Driven by Key Enablers, Supported by the Right Strategic Plan, Stakeholders, Resources & Processes

State of Michigan Automotive Office

Technology
"Globally Best in Class"

- Connected and automated vehicles
- Advanced light-weighting and multi-material vehicles
- Advanced powertrain and propulsion systems
- Advanced manufacturing
- Integrated and connected supply chain
- R&D, advanced engineering and pilot plant

Talent
"Attract and Retain the World-Class Talent"

- Engineering and design
- Software and coding
- Systems integration
- Skilled trades including re-training
- Creation of "master technicians"
- Technology management excellence
- Manufacturing management excellence

Capital
"The Right Capital at the Right Time"

- Federal funds
- State funds
- Government owned/contractor operated
- Industry investment
- Public-private partnerships
- Venture capital and private equity
- Foreign direct investment

State of Michigan Strategic Plan

Automotive Industry Stakeholders

Technology & Talent Will Drive the Need for Access to Capital

Govt Investment	Technology	Talent
Short-Term	❑ Expand PMBC domestically and internationally ❑ Expand programs for specialty-technology suppliers ad align investments with strategy ❑ Fund Incubators & Accelerators strategically	❑ Align education programs with strategy ❑ Expand MAT2 ❑ Create scale via retention, attraction & education
Mid-Term	❑ PPP funding of collaborative infrastructure ❑ Competitive technology start-ups ❑ Loan programs for tooling etc.	❑ Fund more core discipline programs ❑ Create new programs similar to MAT2 for other vital areas and scale
Long-Term	❑ Fund gaps in technology investments not feasible by private sector ❑ Scale up support of industry assets	❑ Invest in STEM initiatives at all levels that keep talent pipeline full
OVERALL PRIORITIES	❑ **Drive increased and strategic federal funding resources to Michigan** ❑ **Foster public private partnerships** ❑ **Increase foreign direct investment**	❑ **Accelerate, support & focus private equity and VC investment in industry** ❑ **Invest in collaborative infrastructure** ❑ **Establish industry priority in state budget**

Future Automotive Technologies Drive a Need for New Talent

Common Talent Needs for All Technology Areas Below

- **Computer software engineers, applications and systems software**
- **Systems engineering/integration**
- **Electrical engineers & technicians**
- **Chemical engineers & technicians**
- **Electronics engineers & technicians (except computer)**
- Industrial engineers
- Quality engineers
- All skilled trades
- Commercial & Industrial designers
- Database administrators and analysts
- **Project and program managers**

Connected & Automated	Powertrain & Propulsion	Advanced Materials/Lightweighting	Manufacturing, Supply Chain & Logistics
Electrical and electronics drafters	**Computer hardware engineers**	**Materials scientists**	**Mechatronic, Robotics and Automation Engineers and Technicians**
Electromechanical technicians	**Electrical and electronic engineering technicians**	Environmental engineers	**Network and computer systems administrators**
Engineering technicians, except drafters, all other	**Mechanical engineers**	**Simulation/modeling**	**Network systems and data communications analysts**
Electrical and electronics installers and repairers, motor vehicles	**Electromechanical equipment assemblers**	**Computer-controlled machine tool operators, metal & plastic**	**Supply chain analysts**
Network and computer systems administrators		**Extruding & drawing/forging/rolling /cutting/punching/press machine setters, operators & tenders, metal & plastic**	Purchasing agents
Network systems and data communications analysts		**Machinists**	**Logistics managers**
		Welders, cutters, solderers & braziers and machine setters, operators & tenders	

Sources: 1) MEDC, 2) Center for Automotive Research

Michigan occupation shortages in bold[1]; under-produced occupations in red[2]

High-Level Road Map for Enabling Michigan's Future Automotive Industry

Phase I	Phase II	Phase III	Phase IV
Coordinate & Communicate Vision	**Build Virtual Foundation**	**Build Physical Foundation**	**Expand Virtual & Physical Foundation**
❑ Rollout and align plan ❑ Market and communicate ❑ Form teams ❑ Organize assets ❑ Fund teams ❑ Retain, grow and attract firms/talent	❑ Align teams ❑ Secure major funding ❑ Direct assets ❑ Develop talent ❑ Retain, grow and attract firms/talent ❑ Support policy and legislation	❑ Focus accelerators and incubators ❑ Build collaborative Michigan automotive ecosystem ❑ Retain, grow and attract firms/talent ❑ Institutionalize strategy	❑ Evolve strategy ❑ Expand firm and talent retention, growth and attraction activities ❑ Extend industry collaboration ❑ Continuous improvement of plans

Strategic priorities will evolve and adapt to both disruptions and new opportunities

Questions & Discussion

Success will come via large scale collaboration across the industry!

Thank You for Your Support!

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