

# 2020 Automotive Insights Conference



Glenn Stevens, Jr.  
January 16, 2020  
Detroit

**\$225 Billion**

**\$3 Trillion**

**\$7 Trillion**

# Auto Industry Contribution to the Michigan Economy

# \$225 Billion



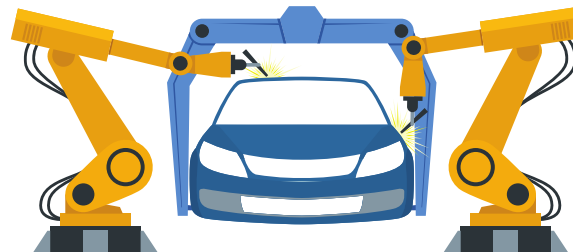
**\$48 Billion**  
in earnings and compensation



**712,000+** jobs, directly and indirectly, to the economy



**\$7.4 Billion**  
in tax payments



**83%**  
of the economic contribution attributed to the automotive manufacturing sector

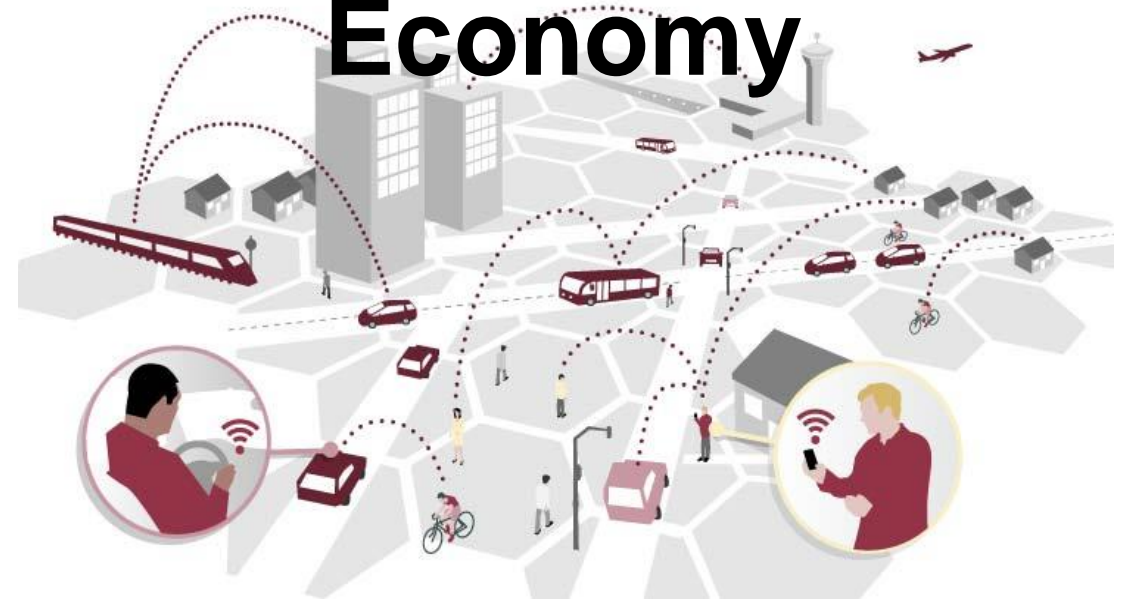
# Economic Opportunity

## Global Auto Industry



**\$3 Trillion**

## Personal Mobility in a Shared Use Economy



**\$7 Trillion**





# We Put the World on Wheels





# 21 OEMs Operating in Michigan



FIAT CHRYSLER AUTOMOBILES



TOYOTA



NISSAN



HYUNDAI



ISUZU



SUBARU



Mahindra



RIVIAN



HONDA



mitsubishi



MASERATI



GAC MOTOR



CHANGAN

DAIMLER



HINO

SERES

SAIC



BOLLINGER MOTORS

MICHauto by Category

Entire Map of Michigan

OEM Headquarters - R&D

OEM Assembly Plants

Mobility Assets

Top Suppliers



1 Bollinger Motors



2 Changan US R&D Center



3 DAIMLER- R&D Center North America, Inc



4 FCA US LLC Headquarters and...



5 Ford Motor Co. Research and Innovation Center



6 Ford Motor Company World Headquarters



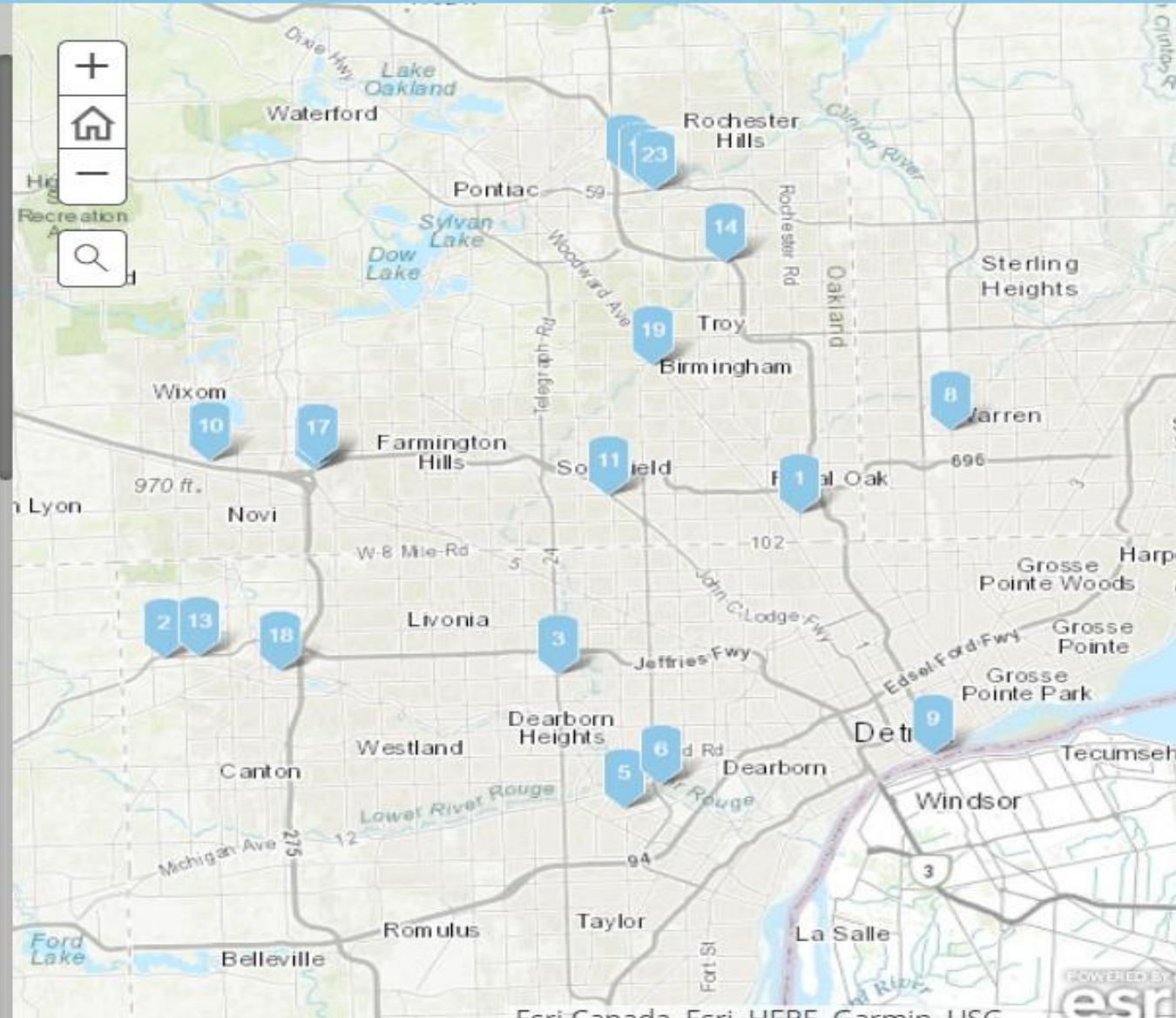
7 GAC Research and Development Center



8 General Motors Co. Technical Center



9 General Motors Co. World Headquarters



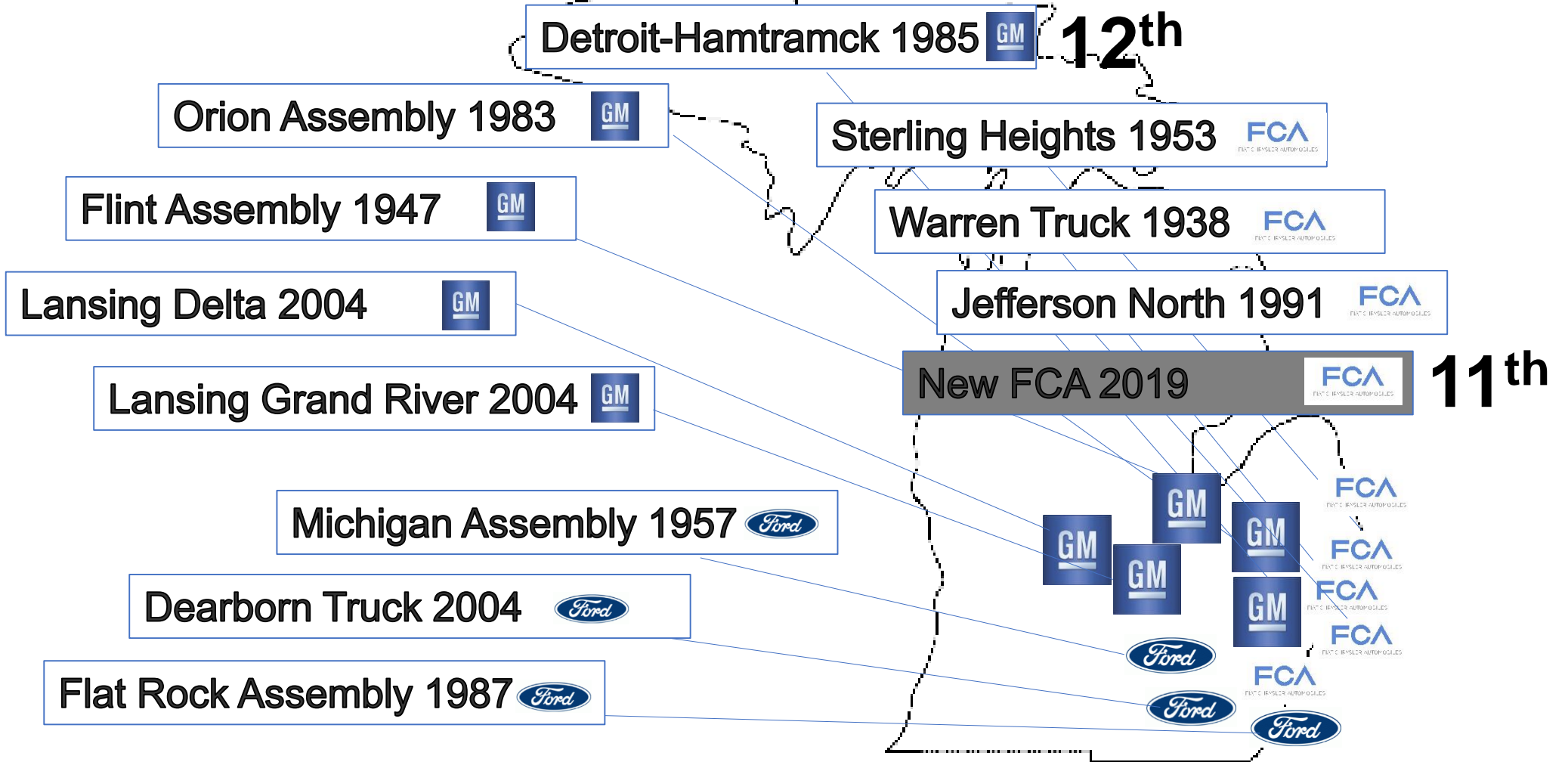


# 10 Assembly Plants

↓  
12

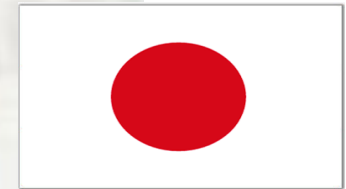
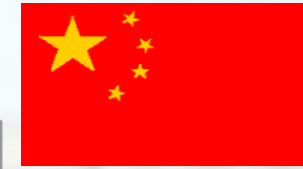
Michigan Vehicle Production  
North American Share

12.5% 2017  
10.9% 2018



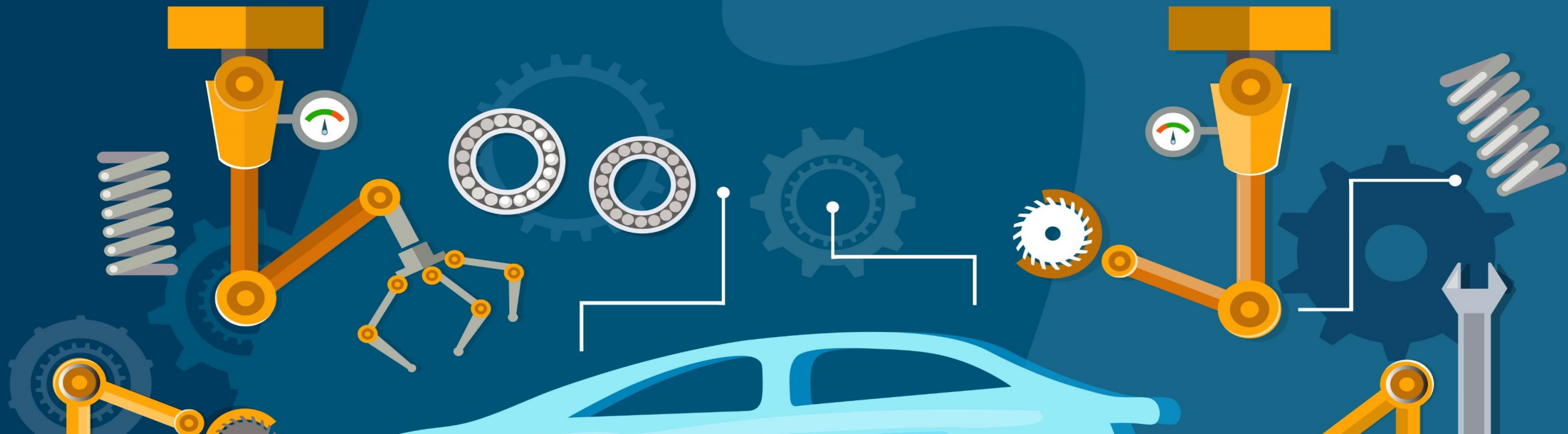
# 96 of the top 100 automotive suppliers to North America

*An International Community*



# 2,200+

facilities in Michigan conduct automotive research,  
design, engineering, testing and validation



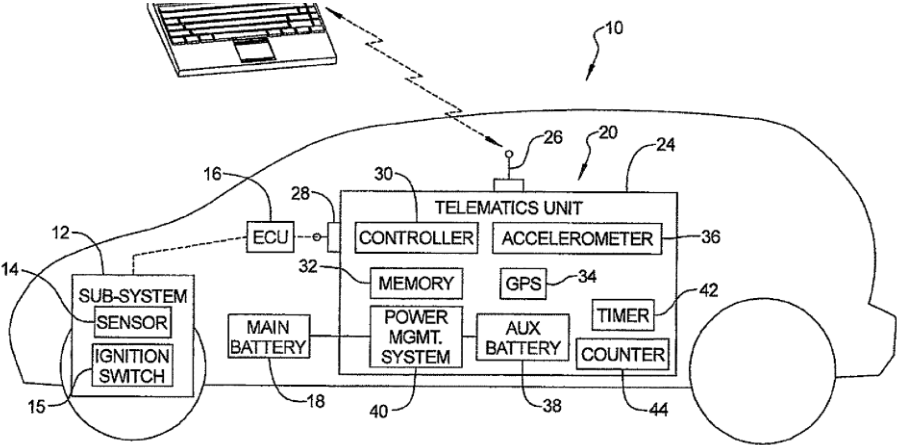


# Michigan: Research and Development

## U.S. Patent Office - Detroit

76% U.S.  
R&D

automotive in Michigan



# Michigan: Defense - Cyber - Aerospace



**VELOCITY**

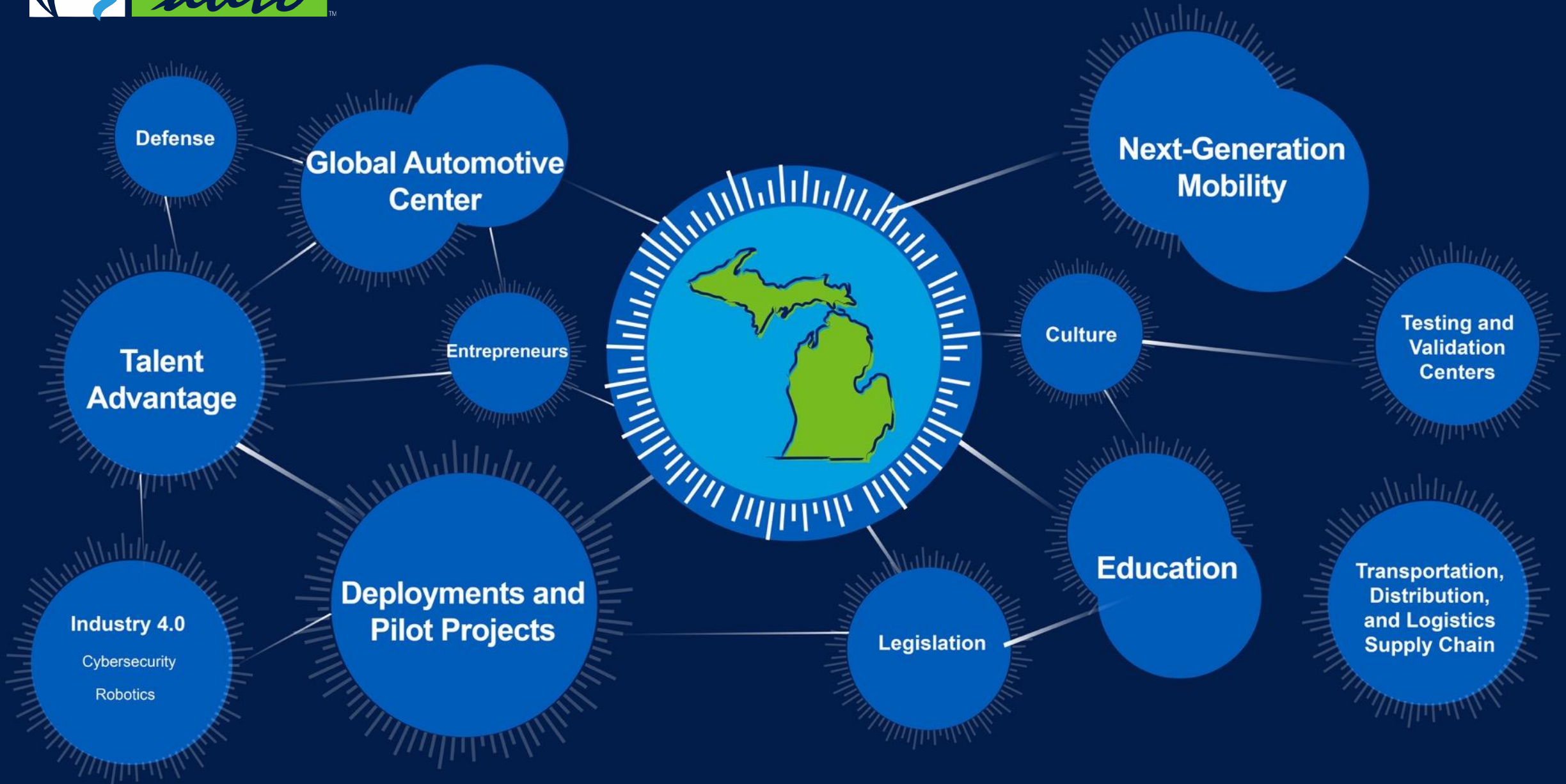
The Merit Network  
**+3800 miles**



**SELFRIDGE**



# Michigan's Automobility Ecosystem







# **Our Industry & Transportation**

THE WORLD IS **CHANGING**



The Jetsons cartoon characters are shown inside a green flying saucer. From left to right: Jane Jetson with her red hair and purple dress, a young boy with blonde hair, a grey dog, a yellow man with a red hat, and a blue robot with a crown. The saucer is flying in a futuristic city with tall buildings and flying cars. The title "THE Jetsons" is written in large, yellow, stylized letters at the bottom.

**THE** *Jetsons*

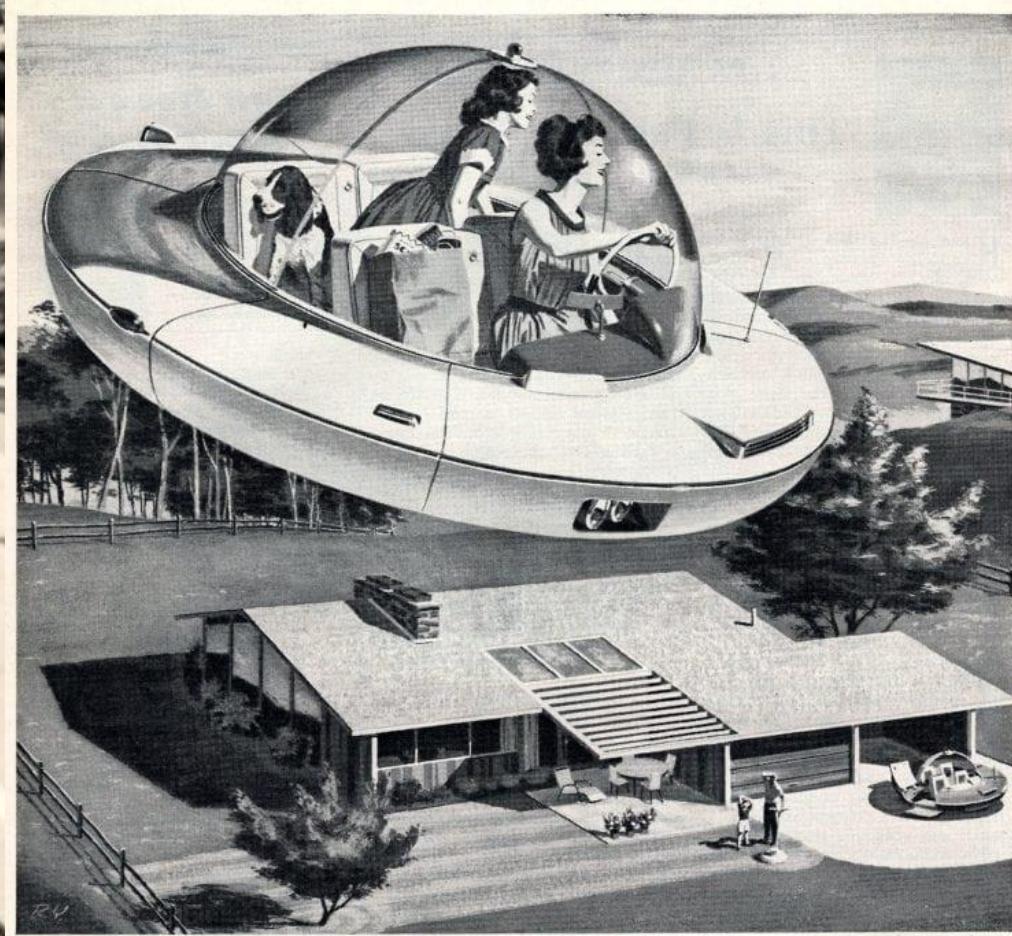


**POWER COMPANIES BUILD FOR YOUR NEW ELECTRIC LIVING**

Electricity may be the driver. One day your car may speed along an electric super-highway, its speed and steering automatically controlled by electricity. Highways will be made safe—by electricity! No traffic jams... no collisions... no driver's licenses embedded in the road. Travel will be more enjoyable.

Your air conditioner, television and other appliances are just the beginning of a new electric age. Your food will cook in seconds instead of hours. Electricity will close your windows at the first drop of rain. Lamps will cut on and off

companies are planning and building to have twice as much electricity for you by 1965. These companies can have this power ready when you need it because they don't have to wait for an act of Congress—or for a cent of tax money—to build the plants.



**YOUR PERSONAL "FLYING CARPET"** Step into it, press a button, and off you go to market, to a friend's home, or to your job. Take off and land anywhere; no parking problems. Plug in to any electric outlet for recharging. They're working on it!

## MORE POWER TO YOU!

*America's independent light and power companies build for your new electric living*

Tomorrow's higher standard of living will put electricity to work for you in ways still unheard of!

The time isn't too far off, the experts say, when you'll wash your dishes without soap or water—ultrasonic waves will do the job. Your beds will be made at the touch of a button. The kids' homework will be made interesting and even exciting when they are able to dial a library book, a lecture or a classroom demonstration right into your home—with sound. (Some of this is happening already.)

To enjoy all this, you'll want a lot more electric power, and the independent electric companies of America are already building new plants and facilities to provide it. Right now these companies are building at the rate of \$5,000,000,000 a year, and planning to double the nation's supply of electricity in less than 10 years.

America has always had the best electric power service in the world. And the independent electric companies are resolved to keep it that way.



BROUGHT TO YOU BY  
**AMERICA'S INDEPENDENT ELECTRIC LIGHT AND POWER COMPANIES**

CLICKAMERICANA.COM

*Company names on request through this magazine*















**Ford offers access to 35,000 charging stations in advance of 'Mustang-inspired' SUV**







14%  
Dashboard

Power 1

Power 2

Energy1

Energy2

VOICE RECOGNITION

Waiting For Command...

Dashboard

Driver

P  
R  
N  
D  
2  
L

# Auto+Tech



Security

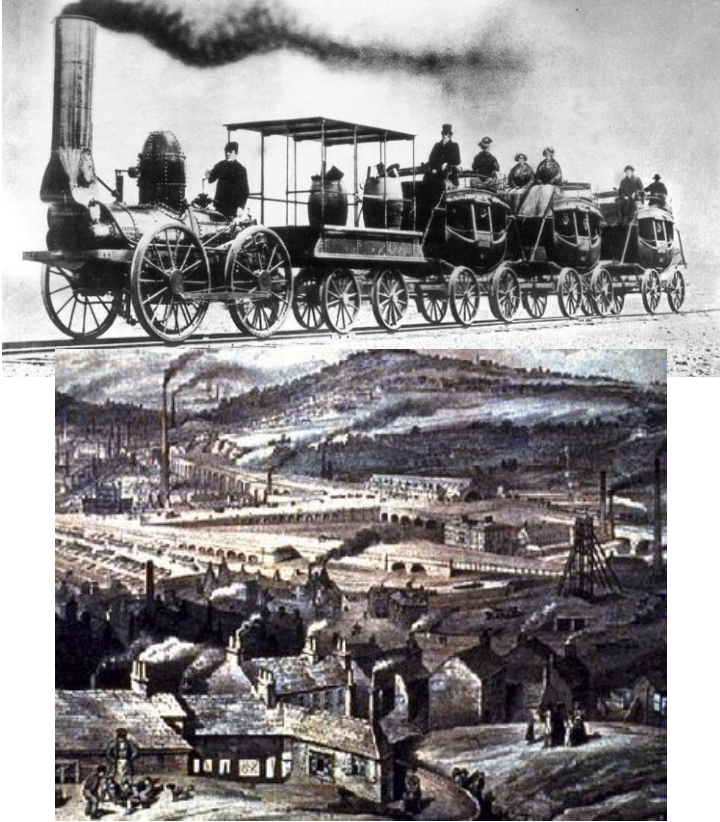




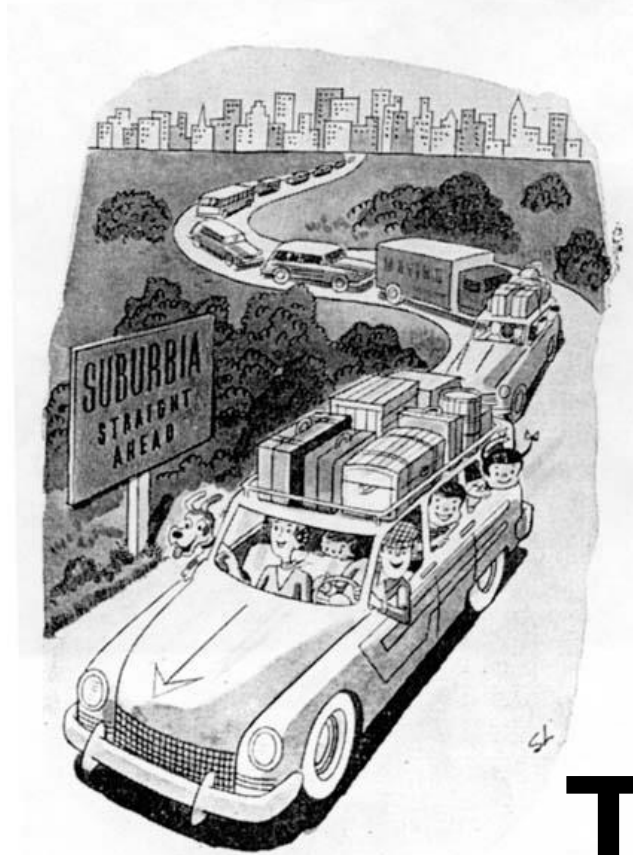
The world's most valuable resource is now DATA



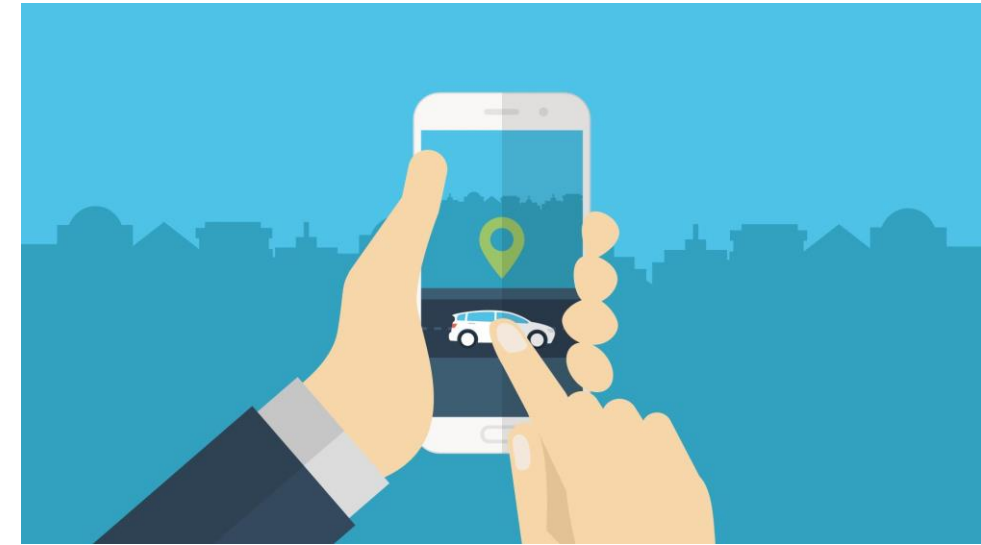
# Technology Enables Solutions



**First Industrial Revolution:**  
fixed public transportation for  
emerging cities.



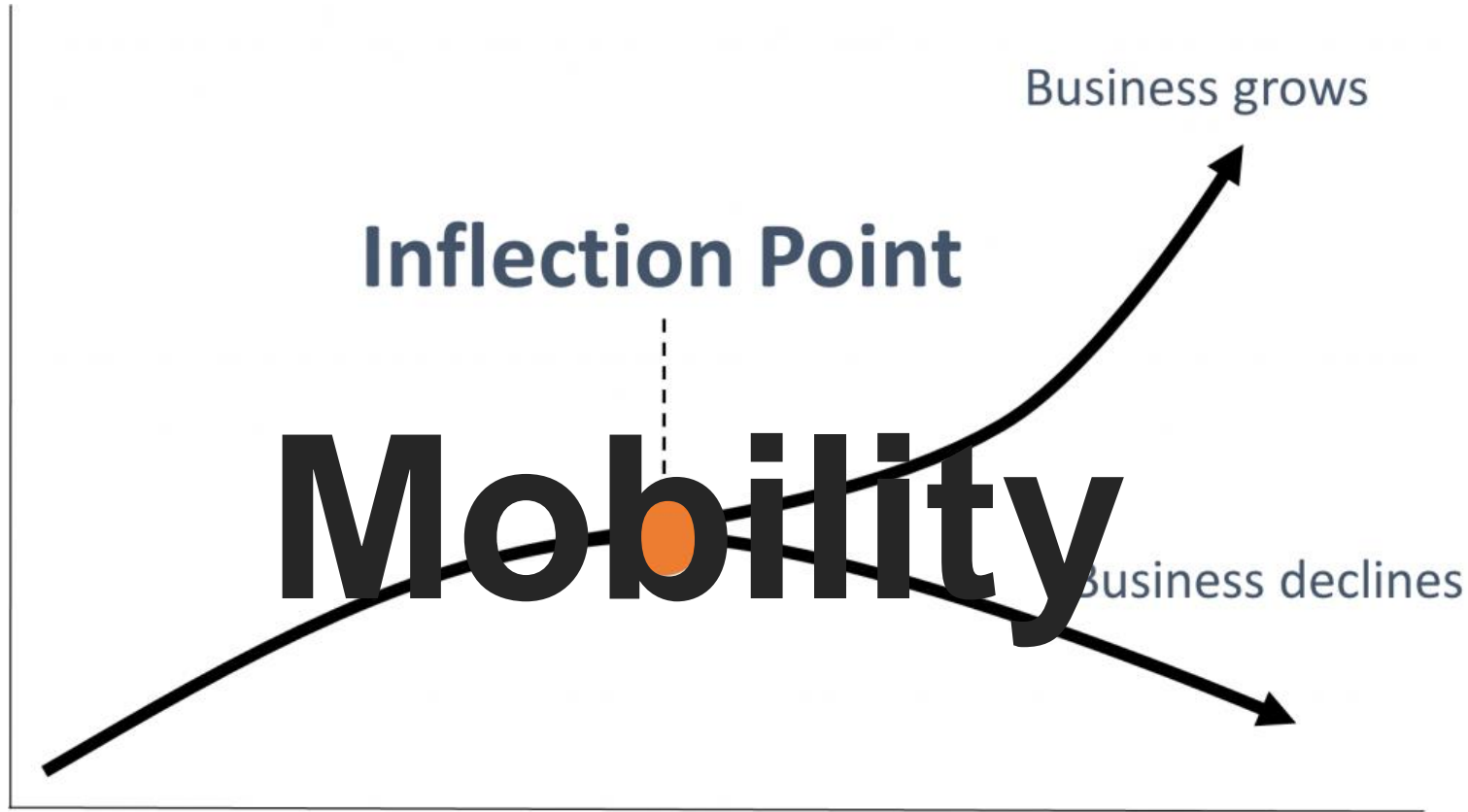
**20th Century:**  
Mass produced motor vehicles and the  
rise of suburbanization.



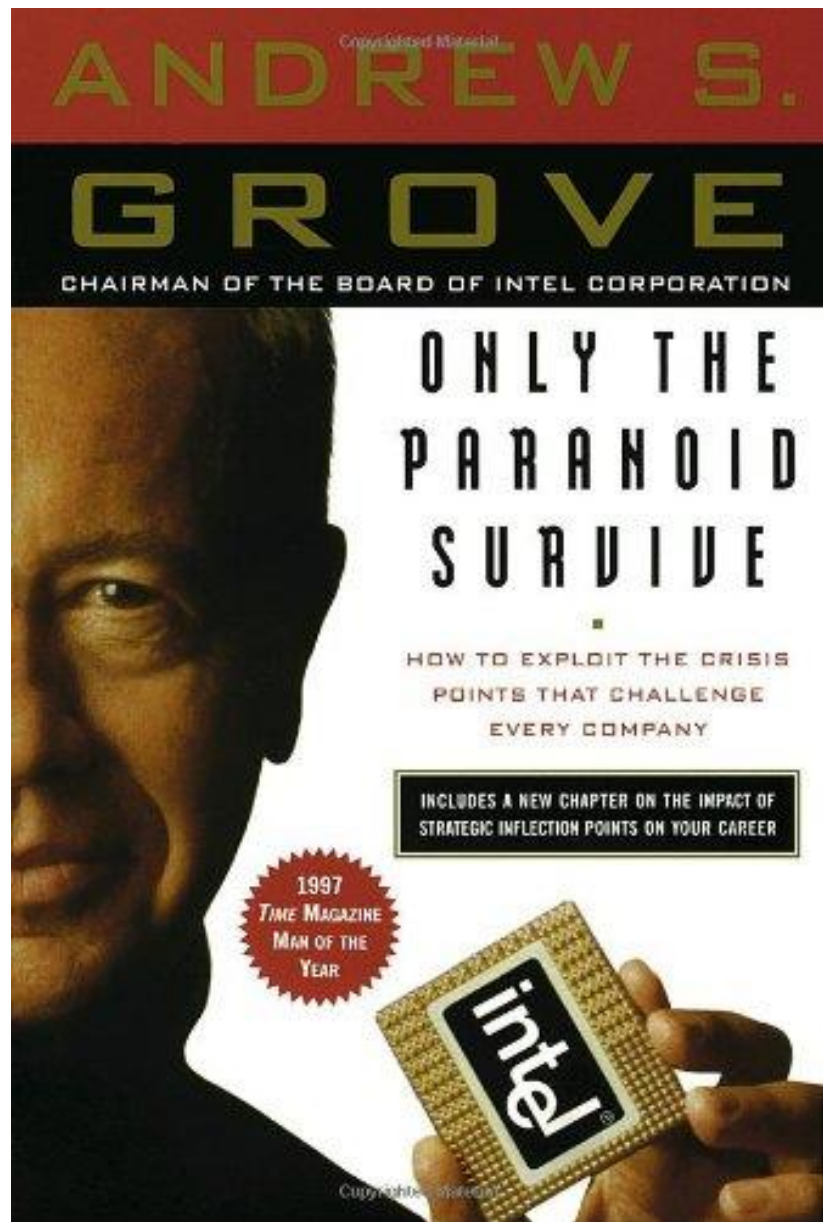
## The Digital Age:

Information is everywhere.  
Drivers have a choice.  
Transportation is about convenience.

# A Time of Significant Change



-- Only The Paranoid Survive by Andy Grove



“The person who is the star of previous era is often the last one to adapt to change, the last one to yield to logic of a strategic inflection point and tends to fall harder than most.”

Andrew S. Grove





By Barack Obama | And Moderate

**TIME**

The New 3-D Revolution  
Special 3-D section (with glasses) inside

# The Bailout Bomb

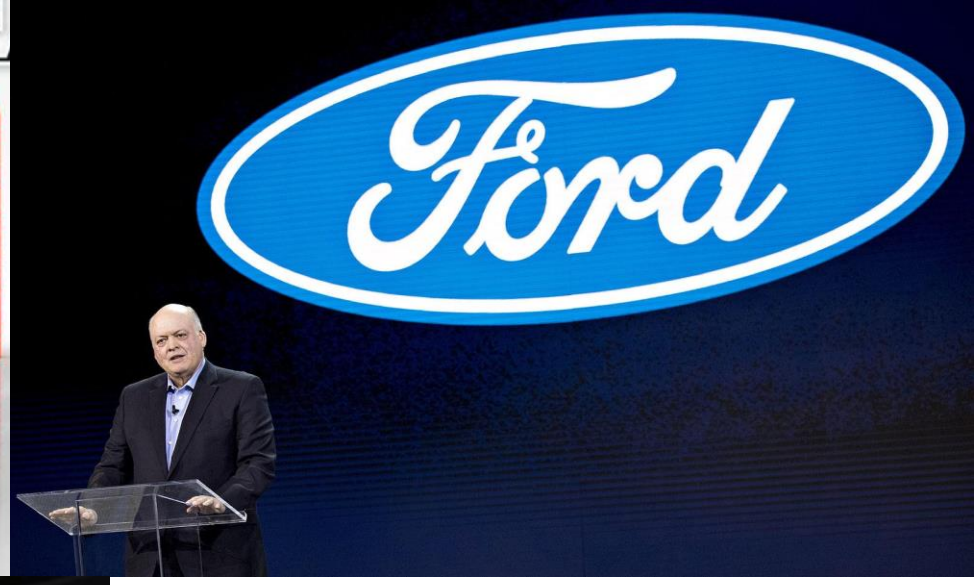
## Why AIG = WMD

Forget those bonuses. The real scandal is how AIG was allowed to become a financial weapon of mass destruction

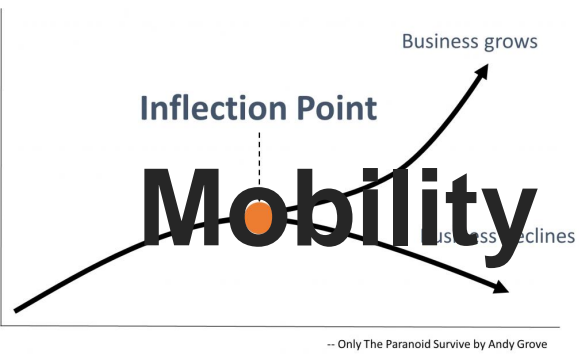
BY BILL SAVORITO





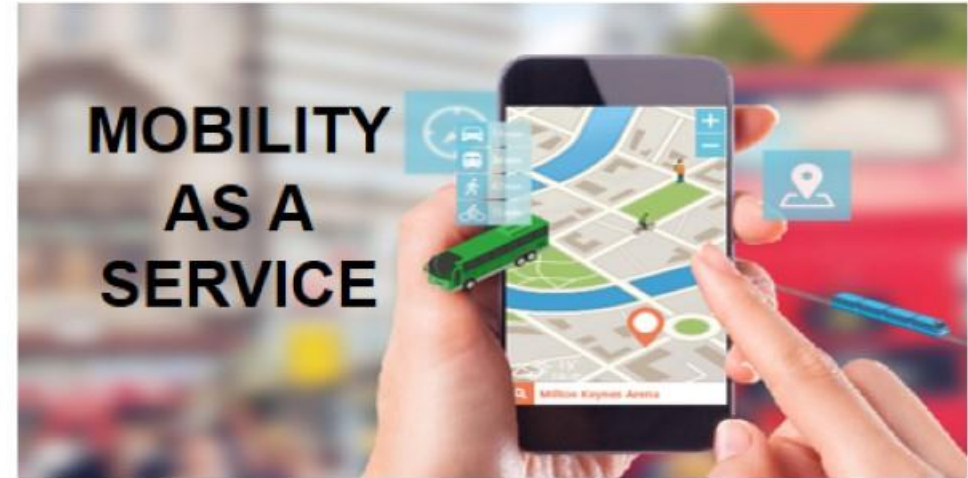






1. Societal Impact
2. Economic Opportunity

# Impact on Mobility







There are more people living inside  
this circle than outside of it.









GENERAL MOTORS

## GM'S WORLD VIEW

GM is committed to a future of:

**ZERO**  
*CRASHES*

**ZERO**  
*EMISSIONS*

**ZERO**  
*CONGESTION*



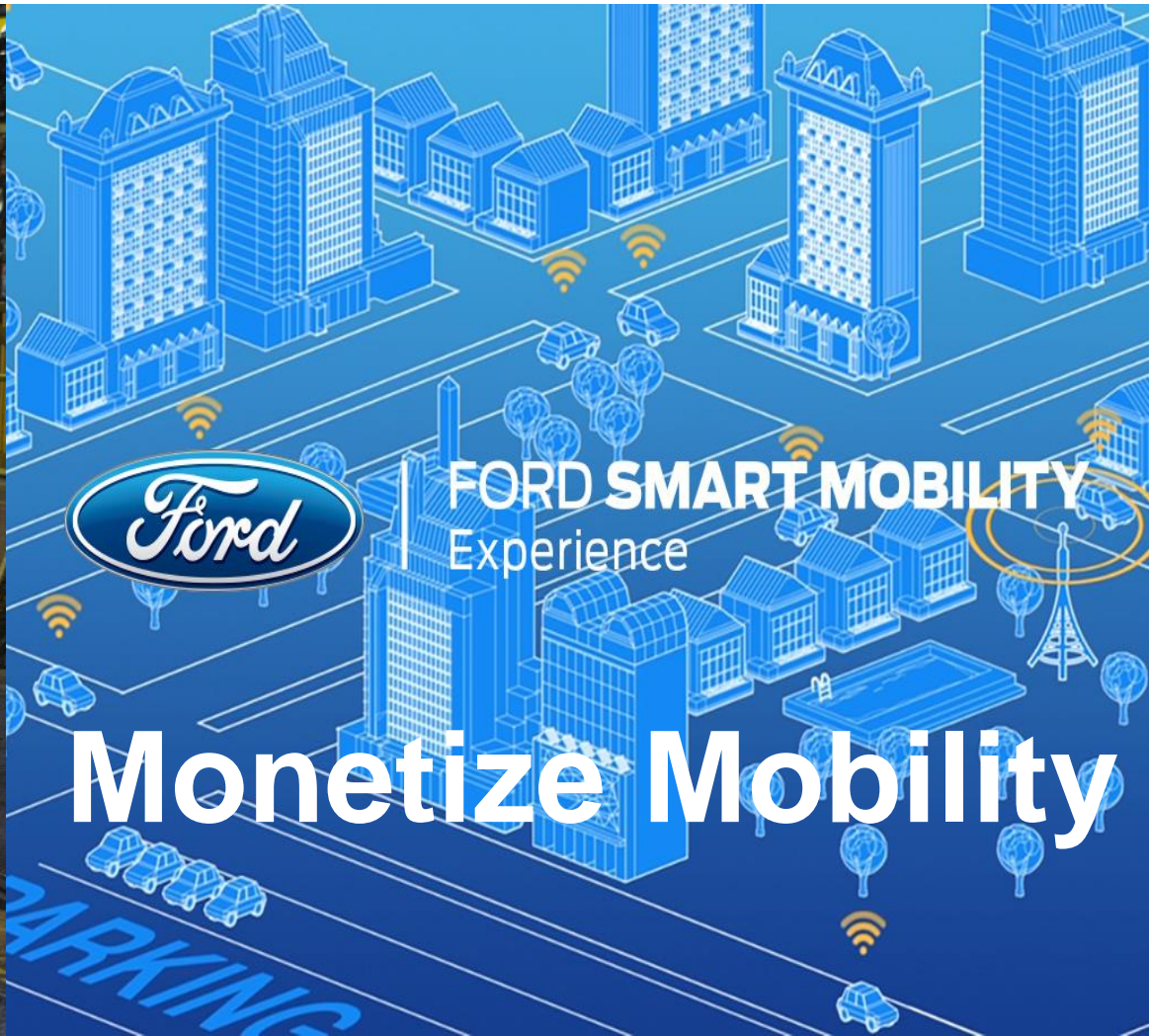
*TECHNOLOGY WILL  
HELP UNLOCK THIS FUTURE*

3





Every 53 seconds





# Investment in Tech-Auto-Mobility

# One Month in 2016



**TOYOTA**



FIAT CHRYSLER AUTOMOBILES



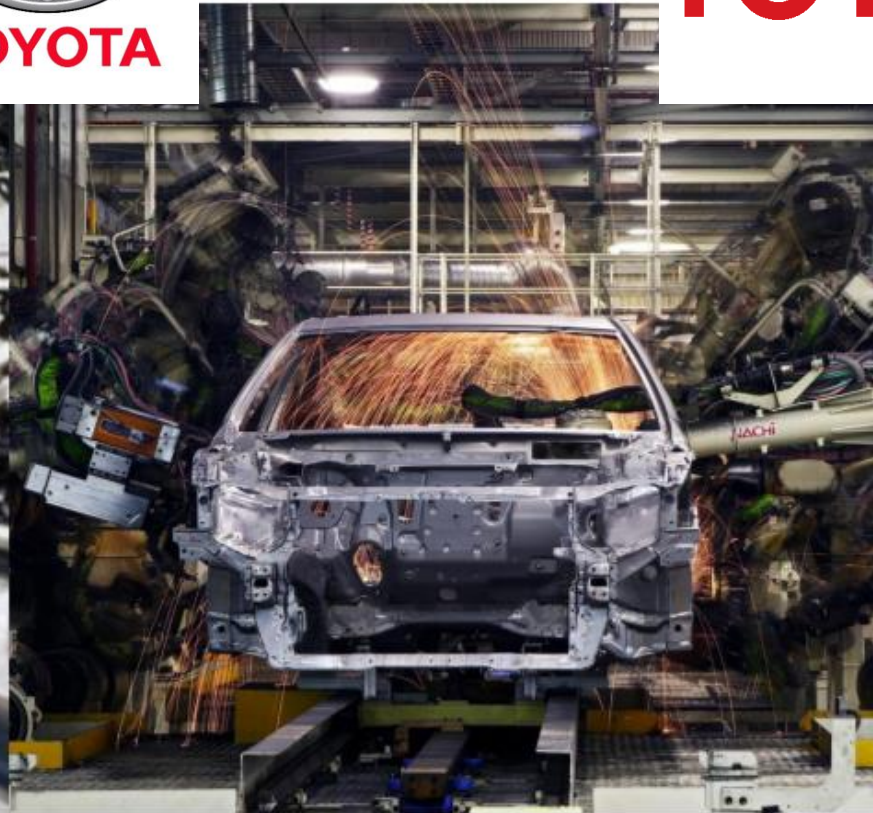


# Transformation



TOYOTA

TOYOTA MOBILITY



Loom Company → Global Automaker → Mobility Company

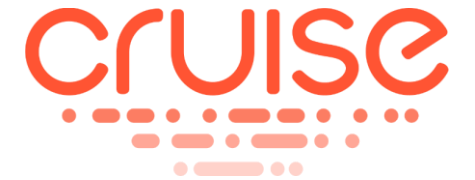


# GM's Cruise gets \$2.25B from SoftBank's Vision Fund, \$1.1B from GM

THIS WEEK IN THE FUTURE OF CARS: MONEY MONEY MONEY MONEYYY!

DealBook / Business & Policy

*SoftBank Fund Puts \$2.25 Billion in G.M.'s Driverless Unit*



**\$1 Billion**



The Softbank Vision Fund is investing \$2.35 billion in GM's self-driving subsidiary, Cruise.



A G.M. autonomous car driving through San Francisco last year. Jim Wilson/The New York Times



**\$11 Billion**



**SAMSUNG**



**HARMAN**



**\$8 Billion**



**\$1 Billion**



**\$15 Billion**

\$1.2 Billion



\$500 Million



amazon

\$700 Million







LINCOLN RIVIAN



# BorgWarner Forms Cascadia Motion LLC, Makes Acquisitions



# CASCADIA MOTION



# THE WALL STREET JOURNAL.

July 8, 2014

“The Future of the  
Car is in  
Silicon Valley”

# For Michigan

1. Continue to lead, evolve and compete with our advanced industries
2. Lead in the development and manufacturing of next-gen mobility



# SILICON valley

2015



# “Metal Benders”



# Michigan Mobility Initiative 2015

**Projects**

**Positioning**



**People**

**Policy**



# Michigan as a Mobility Center

CV Infras  
Deployment Plan

350+

Miles of equipped  
freeway and  
major arterial by  
2019





# Startup Innovation Ecosystem

# PLUG AND PLAY



LEAN ROCKET  
LAB



Powered by **Detroit Regional Chamber**

# FERRIS WHEEL

FLINT, MI

START  
GARDEN



INVENT@NMU



mb-OU  
INCubator

# SPARK @nn arbor usa



# “Metal Benders” And The Brains

INDUSTRY 4.0







Google

**ROUSH**®

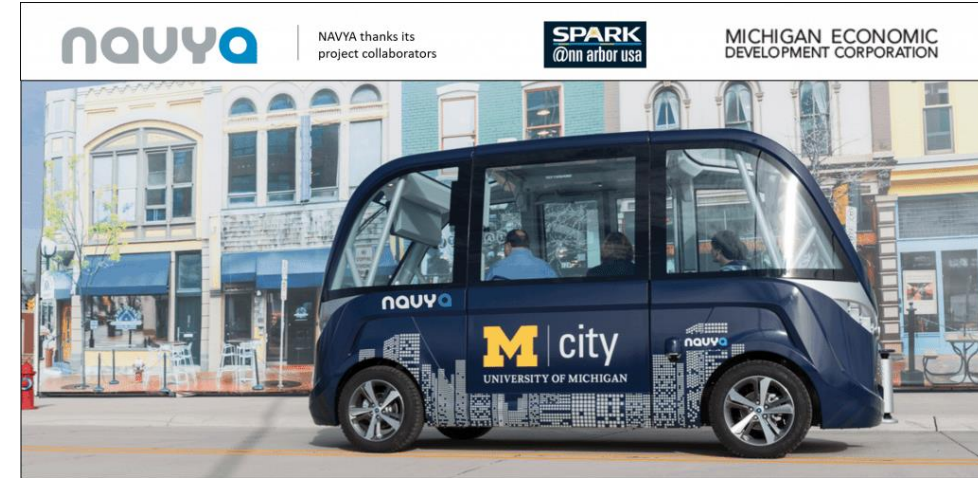
Livonia, Mich.



CRUISE



Lake Orion, Mich.



**NAVYA**

Saline, Mich.

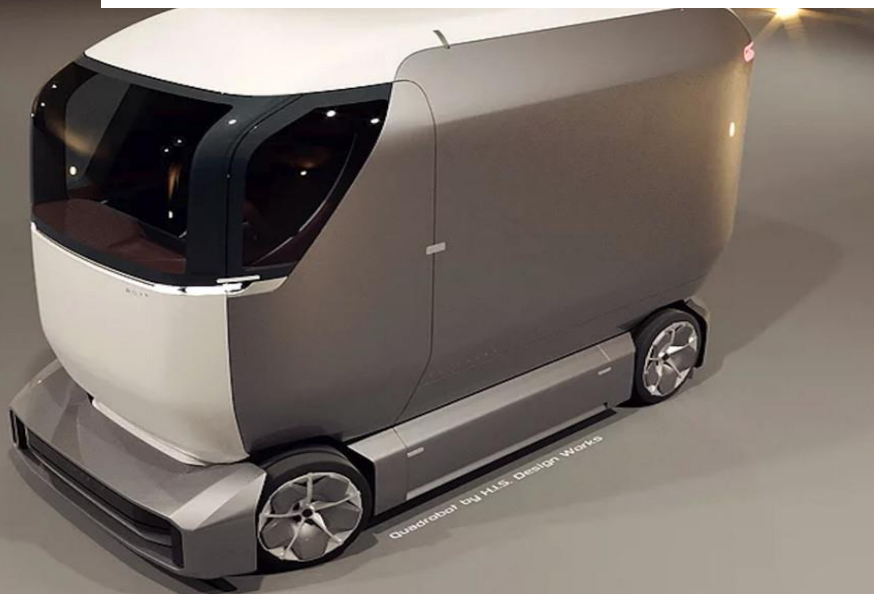


# Waymo will build self-driving cars in Michigan

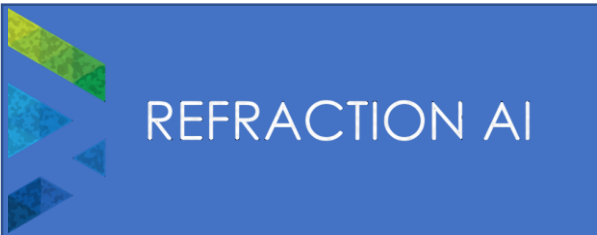
It received approval for the first all-autonomous factory in the world.



Q U A D R O B O T



BEDESTRIAN



# Changing the Narrative

BloombergTechnology

Silicon Valley Decides It's Just Too Hard to Build a Car

## Silicon Valley Decides It's Just Too Hard to Build a Car

### Detroit schools Silicon Valley on the future of transportation

TIEN TZUO, ZUORA | OCTOBER 1, 2016 5:00 PM

TAGS: FORD, SELF-DRIVING CARS, TIEN TZUO



The  
New York  
Times

## Michigan's New Motor City: Ann Arbor as a Driverless-Car Hub

Home > Blogs > Jim Motavalli > Reviving the Rust Belt: Detroit Comes Back, With Self-Driving Cars

## Reviving the Rust Belt: Detroit Comes Back, With Self-Driving Cars

Jim Motavalli | Sep 08, 2017



Like 5

DETROIT—I am standing in downtown Detroit, on a block that a decade ago was populated mostly by empty buildings and ghosts. But that was then—today, the Midwest is back, and Detroit is a big part of that.





May Mobility raises \$50 million in Series B round led by Toyota



Magna partners with May Mobility to develop self-driving shuttles

