



GENERAL MOTORS

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**CHANGING  
THE WORLD**  
*WITH AV*



GENERAL MOTORS

# **DHIVYA SURYADEVARA**

*Vice President,  
Corporate Finance*

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*Overview*





## INFORMATION RELEVANT TO THIS PRESENTATION

**Cautionary Note on Forward-Looking Statements:** *This presentation and related comments by management may include forward-looking statements. These statements are based on current expectations about possible future events and thus are inherently uncertain. Our actual results may differ materially from forward-looking statements due to a variety of factors, including: (1) our ability to deliver new products, services and experiences that attract new, and are desired by existing, customers and to effectively compete in autonomous, ride-sharing and transportation as a service; (2) sales of full-size pick-up trucks and SUVs, which may be affected by increases in the price of oil; (3) the volatility of global sales and operations; (4) aggressive competition, including the impact of new market entrants; (5) changes in, or the introduction of novel interpretations of, laws, regulations or policies particularly those relating to free trade agreements, tax rates and vehicle safety and any government actions that may affect the production, licensing, distribution, pricing, or selling of our products; (6) our joint ventures, which we cannot operate solely for our benefit and over which we may have limited control; (7) compliance with laws and regulations applicable to our industry, including those regarding fuel economy and emissions; (8) costs and risks associated with litigation and government investigations; (9) compliance with the terms of the Deferred Prosecution Agreement; (10) our ability to maintain quality control over our vehicles and avoid recalls and the cost and effect on our reputation and products; (11) the ability of suppliers to deliver parts, systems and components without disruption and on schedule; (12) our dependence on our manufacturing facilities; (13) our ability to realize production efficiencies and cost reductions; (14) our ability to successfully restructure operations in various countries; (15) our ability to manage risks related to security breaches and other disruptions to vehicles, information technology networks and systems; (16) our ability to develop captive financing capability through GM Financial; (17) significant increases in pension expense or projected pension contributions; (18) significant changes in the economic, political, and regulatory environment, market conditions, and foreign currency exchange rates.*

*A further list and description of these risks, uncertainties and other factors can be found in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, and our subsequent filings with the Securities and Exchange Commission. GM cautions readers not to place undue reliance on forward-looking statements. GM undertakes no obligation to update publicly or otherwise revise any forward-looking statements.*





GENERAL MOTORS

# MARY BARRA

*Chairman and CEO*

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*Vision*





## GM'S WORLD VIEW

GM is committed to a future of:

**ZERO**  
*CRASHES*

**ZERO**  
*EMISSIONS*

**ZERO**  
*CONGESTION*



**TECHNOLOGY WILL  
HELP UNLOCK THIS FUTURE**



# WE ARE REDEFINING THE FUTURE OF PERSONAL MOBILITY



OWN THE CUSTOMER RELATIONSHIP BEYOND THE CAR

CORE BUSINESS

FUTURE OF PERSONAL MOBILITY

Winning  
Portfolio  
Strong Brands

Adjacent Business  
Growth

Electric Vehicles  
Connected Car/OnStar

Autonomous  
Vehicles

Shared  
Mobility

Driver/Miles  
Driven Data

FOUNDATION

People

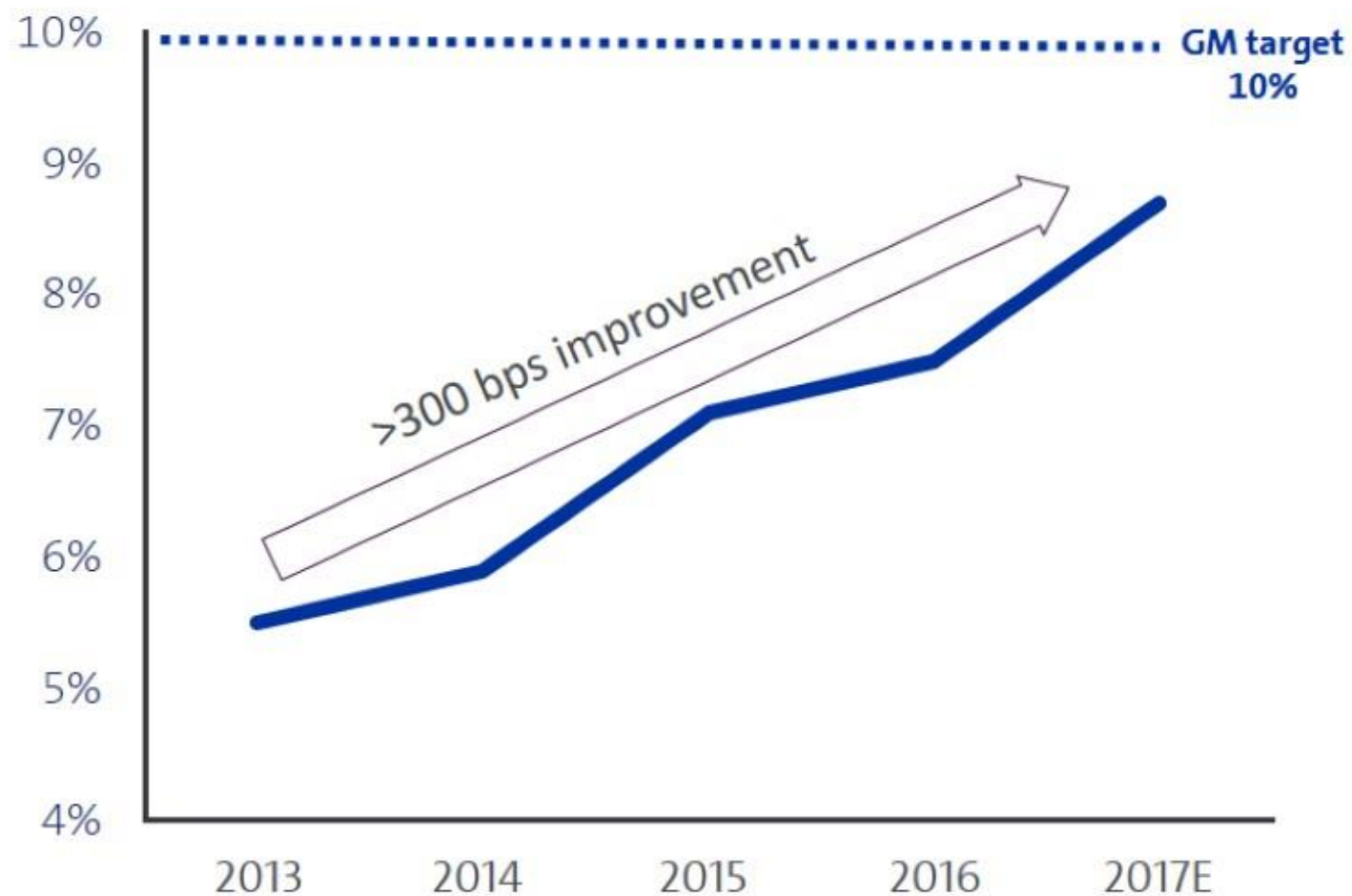
Values/Behavior

Culture

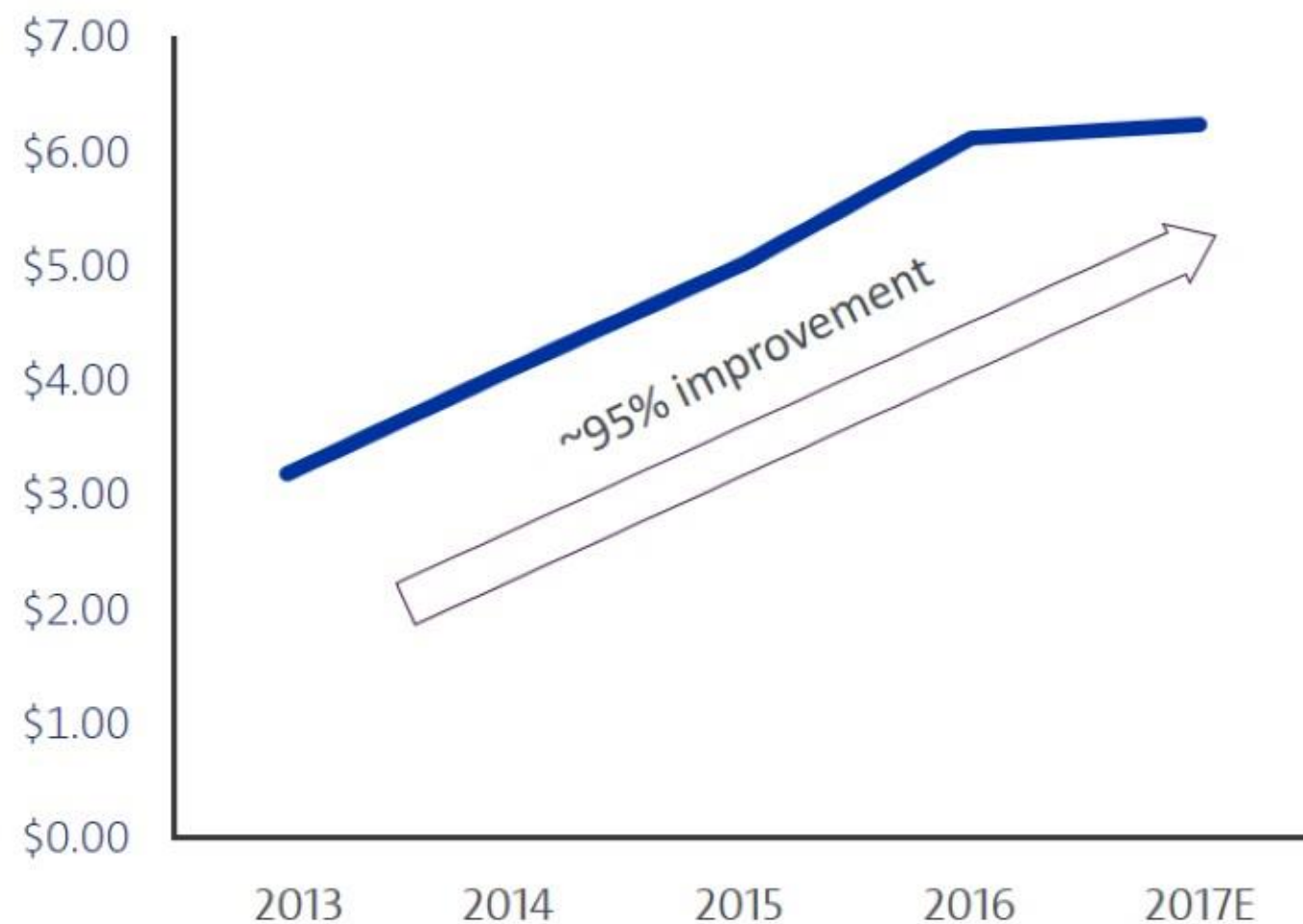


# WHILE PUTTING OURSELVES IN A LEADERSHIP POSITION IN THE FUTURE, WE REMAIN FOCUSED ON STRENGTHENING THE CORE

## EBIT-ADJUSTED MARGIN



## EPS-DILUTED-ADJUSTED





# STRONG RESULTS GENERATED SIGNIFICANT CASH RETURN TO SHAREHOLDERS

**\$25B  
RETURNED**

through dividends  
and repurchases

Repurchased

**>25% OF SHARES  
OUTSTANDING**

Returned

**>90% OF  
ADJ.-AUTOMOTIVE  
FCF**



*PROOF POINTS OF DISCIPLINED CAPITAL ALLOCATION*





## **IMPROVING THE CORE WHILE POSITIONING FOR THE FUTURE**

*GM IS COMMITTED TO A FUTURE OF  
ZERO CRASHES, ZERO EMISSIONS, AND  
ZERO CONGESTION*

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*STRONG CORE IS THE FOUNDATION FOR  
INVESTING IN THE FUTURE*

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*GM IS DELIVERING ON ITS  
COMMITMENTS*

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*FOCUSED ON DRIVING LONG-TERM  
SHAREHOLDER VALUE*





GENERAL MOTORS

## **MARK REUSS**

*Executive Vice President,  
Global Product  
Development, Purchasing  
and Supply Chain*

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*Electrification*





*OUR ELECTRIFICATION  
MISSION*

**DESIRABLE,  
OBTAINABLE, AND  
PROFITABLE VEHICLES**

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**DELIVERING OVER  
300 MILES OF RANGE**



# WHY WE WILL SUCCEED

## **20 YEARS OF EXPERIENCE**

with EV development

## **ALL-NEW PLATFORM**

will accommodate multiple  
segments and vehicles

## **STRONG**

Chevrolet Bolt EV  
performance

## **OPTIMIZED AND FLEXIBLE BATTERY PACK**

to lower cost

## **COMMITMENT**

to promote EV adoption and infrastructure

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***WELL-POSITIONED TO LEAD IN ELECTRIFICATION***



# LEVERAGING EXISTING BEV ARCHITECTURE TO EXPAND IN NEAR TERM



**Chevrolet Bolt EV**  
over 17k sold

**MAVEN**

**Maven Car Sharing**  
in 13 cities



**GM Autonomous Vehicle**  
180 Cruise test vehicles

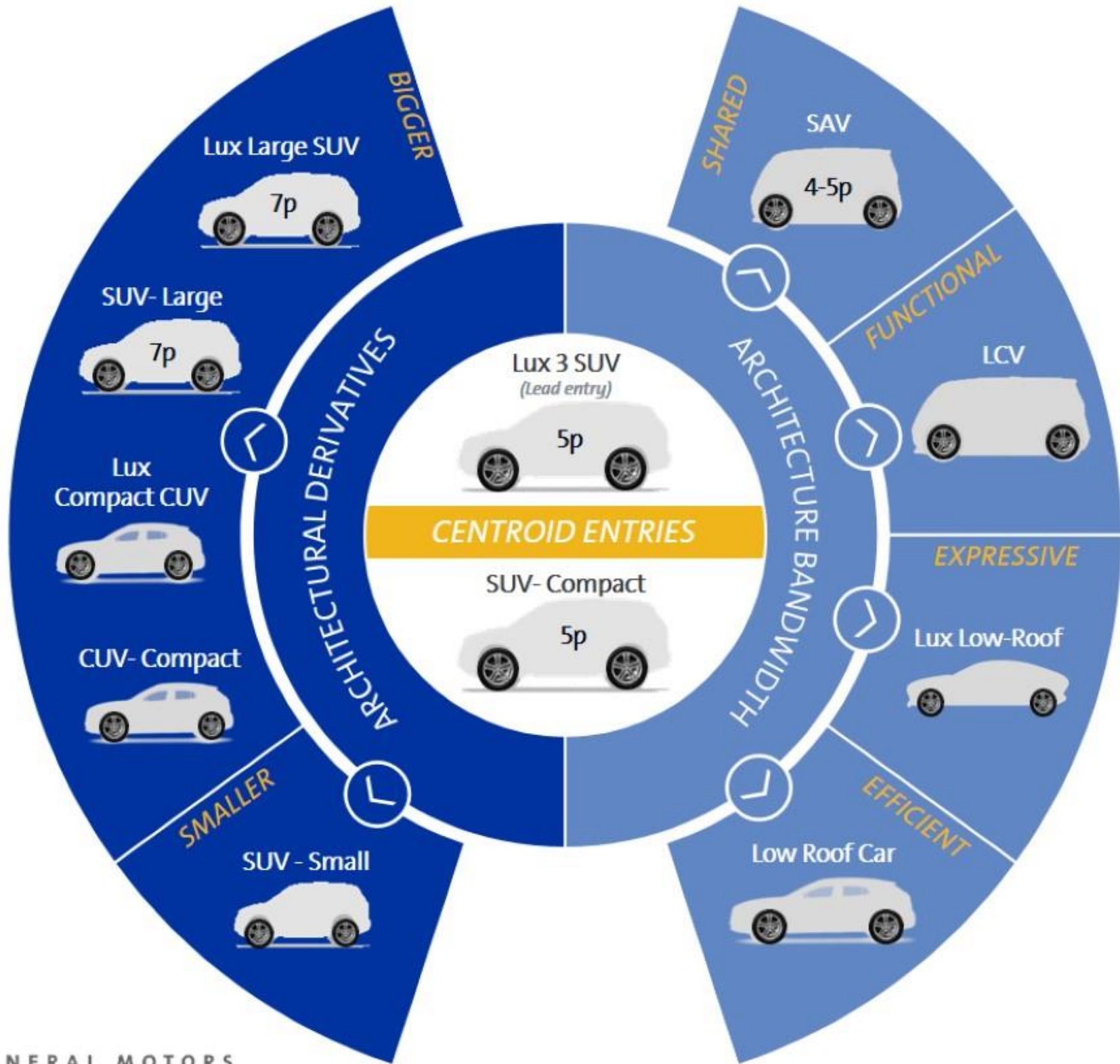


**New CUV entries**  
two entries by 2020



***EXISTING ARCHITECTURE PROVIDES STRONG FOUNDATION***





## FUTURE ELECTRIFICATION BANDWIDTH

MODULAR ARCHITECTURE TO FACILITATE QUICK AND COST EFFECTIVE SEGMENT ENTRIES



# STATE OF THE ART EME 1.0 BATTERY ARCHITECTURE

BOLT BATTERY

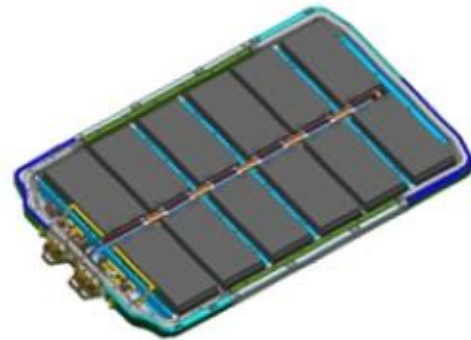


ALL-NEW BATTERY SYSTEM

SIGNIFICANT IMPROVEMENTS



Cell Cost  
**\$145/kWhr**



Cell Cost  
**\$<\$100/kWhr**

>30% cost reduction

Higher energy density

Larger footprint, lower height

Flexible, modular design

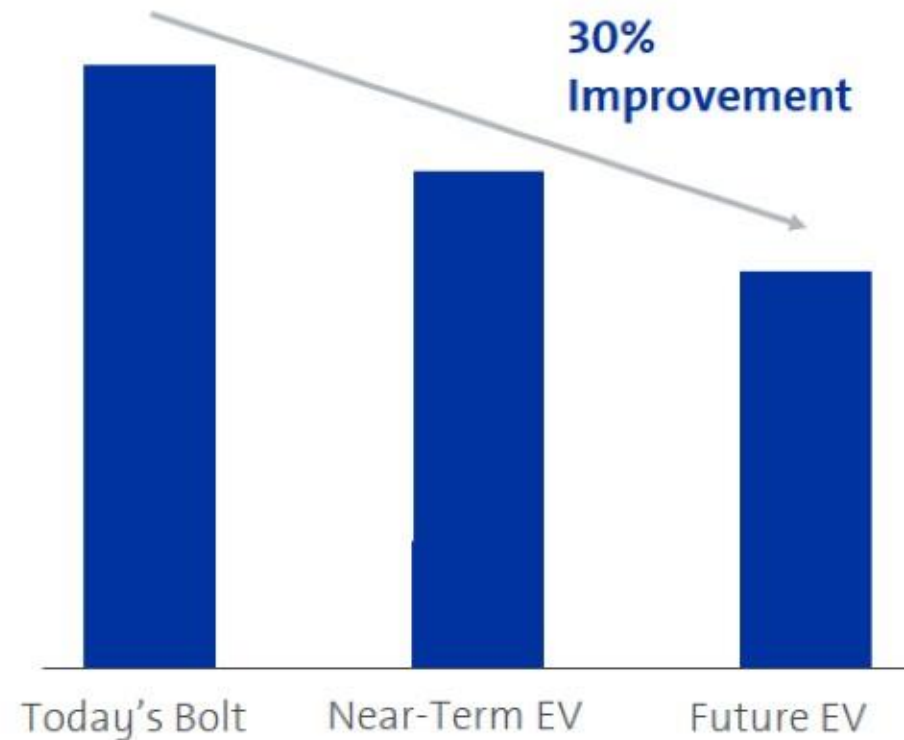
Improved DC Fast Charge

*ALL-NEW EME 1.0 BATTERY PLATFORM PROVIDES FLEXIBLE PACK CONFIGURATIONS AT LOWER COST*



# PATH TO PROFITABILITY

## Total Enterprise Cost \$/Unit



## Profitability Improvement Opportunities

- Industry growth
- Platform for multiple segments
- Range options for customer
- Leverage China market
- Global scale, common architecture
- Manufacturing efficiency with less complexity

*DELIVERING A PROFITABLE PORTFOLIO OFF ALL-NEW PLATFORM*



# EV IS THE FOUNDATION FOR AUTONOMOUS VEHICLES

*LEVERAGES GM ASSETS*

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*SIMPLER INTEGRATION OF TECHNOLOGIES*

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*OPTIMAL FOR URBAN ENVIRONMENT*

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**SUPPORTS OUR ZERO  
EMISSIONS FUTURE  
WORLD VIEW**





GENERAL MOTORS

**DAN  
AMMANN**

*President*

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*AV Strategy*





**94%**

*OF ALL  
TRAFFIC FATALITIES  
ARE CAUSED BY  
HUMAN ERROR*

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\* Source NHTSA,  
Fatal Accident Reporting System (FARS).



*COMMUTERS*  
**WASTE A  
FULL WEEK**  
*OF THEIR LIVES IN  
TRAFFIC EACH YEAR*

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\* Source: Auto Insurance Center

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THE U.S. HAS  
**3 NON-RESIDENTIAL  
PARKING  
SPACES**

FOR EVERY CAR  
ON THE ROAD

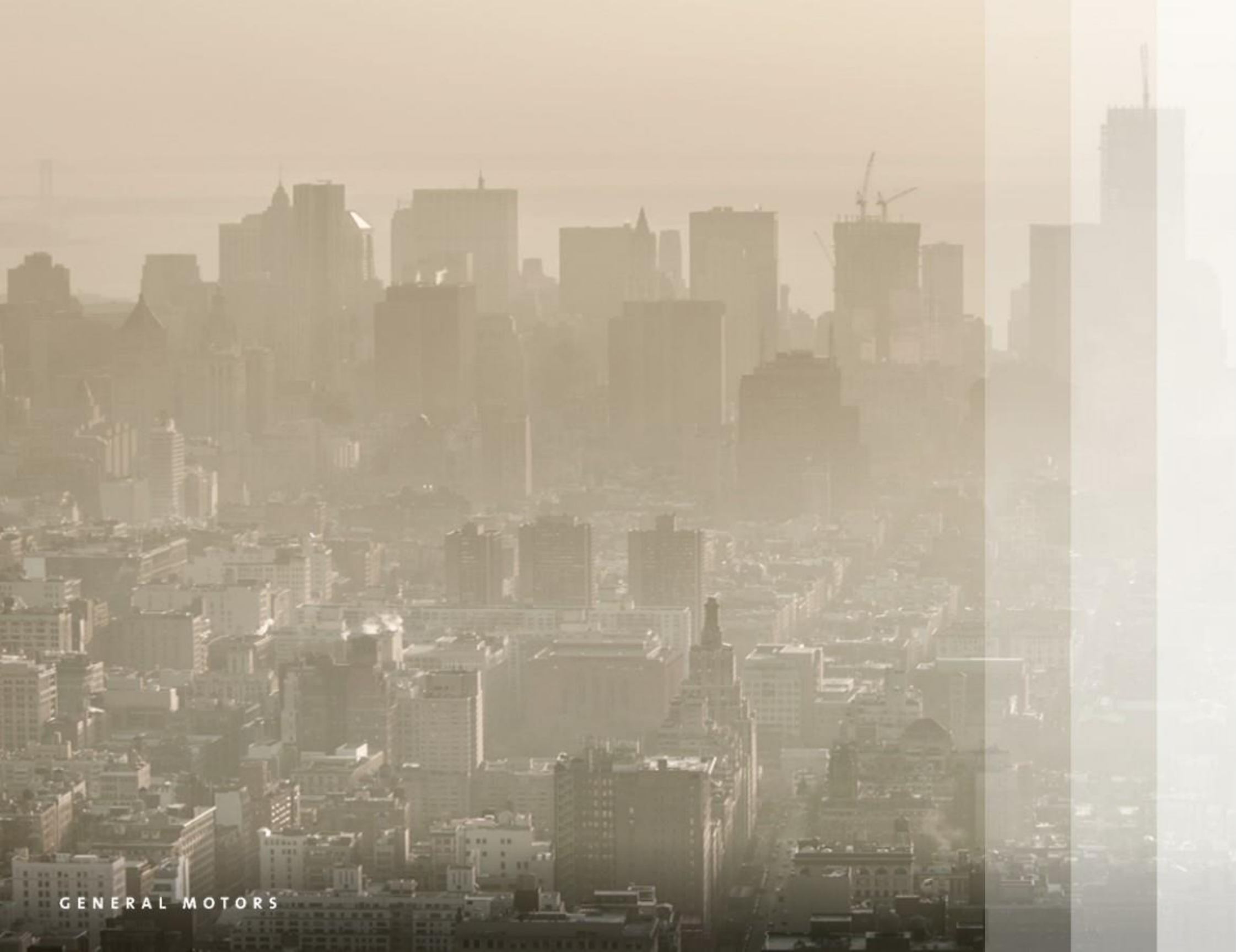
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\* Source: NY Times, Eran Ben-Joseph

GENERAL MOTORS







*WE BELIEVE*  
**ALL AVs**  
**MUST BE EVs**

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# AV WILL CHANGE THE WORLD

## Customer Experience

Saves lives

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Creates time and freedom

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Saves money

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Changes everyday life

## Broader Disruption

Resets physical landscape

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Reshapes entire industries

## Business Opportunity

Biggest business opportunity since the creation of the internet

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Multi-trillion dollar Total Addressable Market (TAM)

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Very significant moats

# AV BUSINESS WILL SCALE AS A MAJOR TECHNOLOGY PLATFORM



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*WE ARE WORKING FIRST ON PRODUCT – THE MOST DIFFICULT PROBLEM*



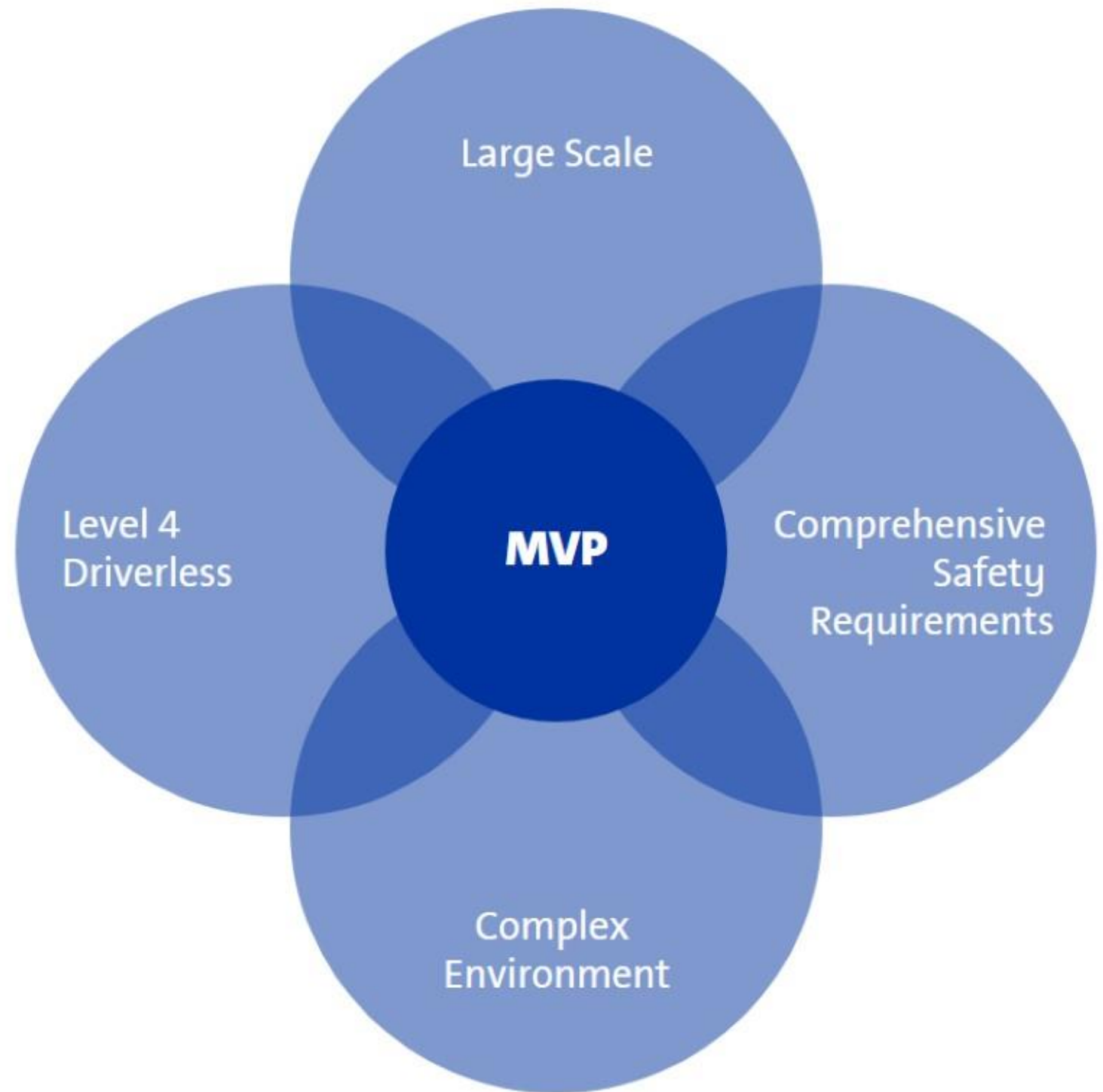
# AV BUSINESS WILL SCALE AS A MAJOR TECHNOLOGY PLATFORM



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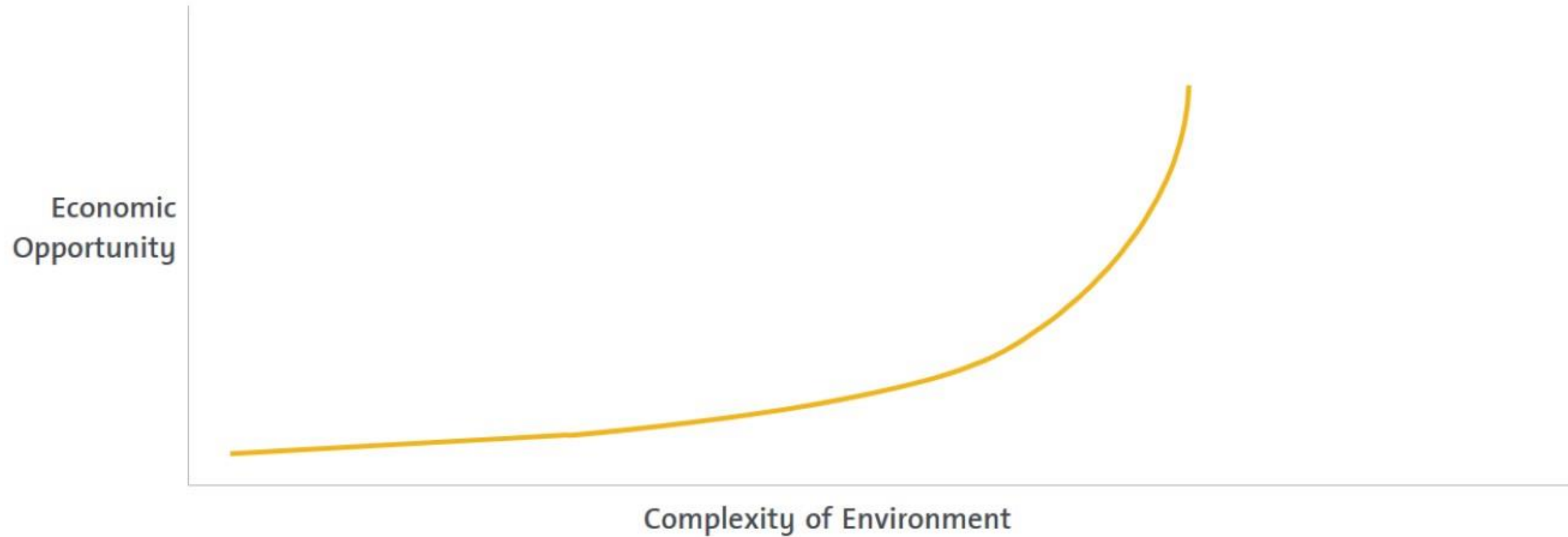
*WE ARE WORKING FIRST ON PRODUCT – THE MOST DIFFICULT PROBLEM*

*PRODUCT:*  
**OUR DEFINITION OF  
MINIMUM VIABLE  
PRODUCT (MVP)**





*PRODUCT:*  
**COMPLEX ENVIRONMENT = BIGGEST OPPORTUNITY**



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*CRITICAL TO SOLVE THE MOST COMPLEX PROBLEMS TO UNLOCK TAM*

*PRODUCT:*  
**THE MINIMUM VIABLE PRODUCT (MVP) BAR IS *VERY* HIGH**

**GM is the *only* company parallel iterating a *totally integrated* solution**

Self-driving software "brain"

Deep simulation capability

HD Mapping and Routing

Proprietary AV sensors

AV-specific redundant hardware systems

Core EV platform

Automotive safety and durability validation

Cyber-security and electrical architecture

Vehicle connectivity and data collection

AV-specific vehicle design

Operations infrastructure

Large scale production readiness

UX interfaces (in car & app)

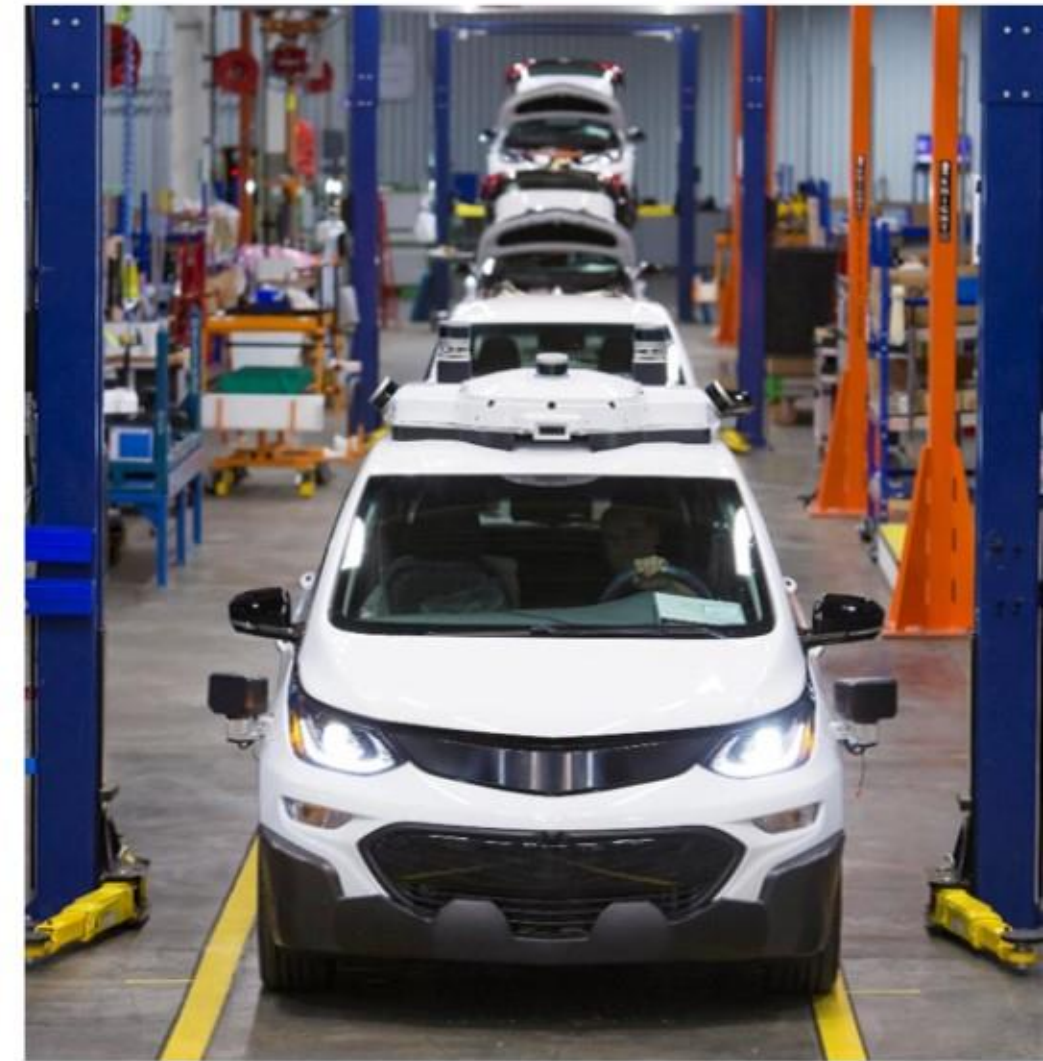
Customer support & remote assistance (OnStar)

Total cost optimization

***COMMERCIALLY READY MVP IS ~10,000x MORE DIFFICULT THAN AN AV DEMO***

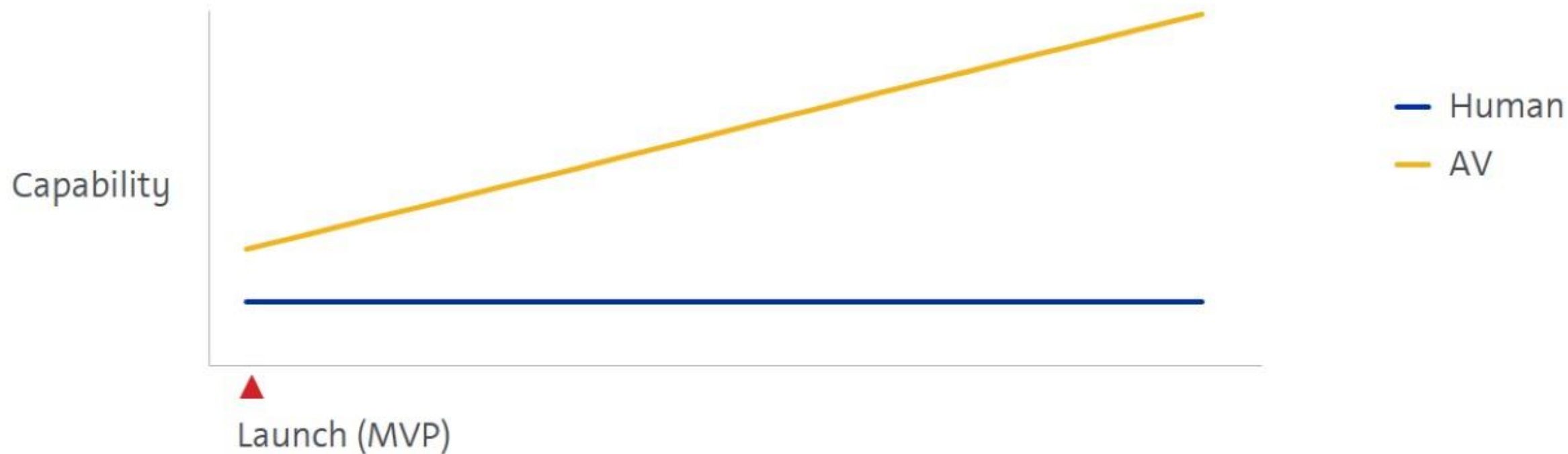


*PRODUCT:*  
**GM IS *ONLY* COMPANY BUILDING AVs IN AN ASSEMBLY PLANT**



# PRODUCT: AV VS. HUMAN DRIVER CAPABILITY

## Safety

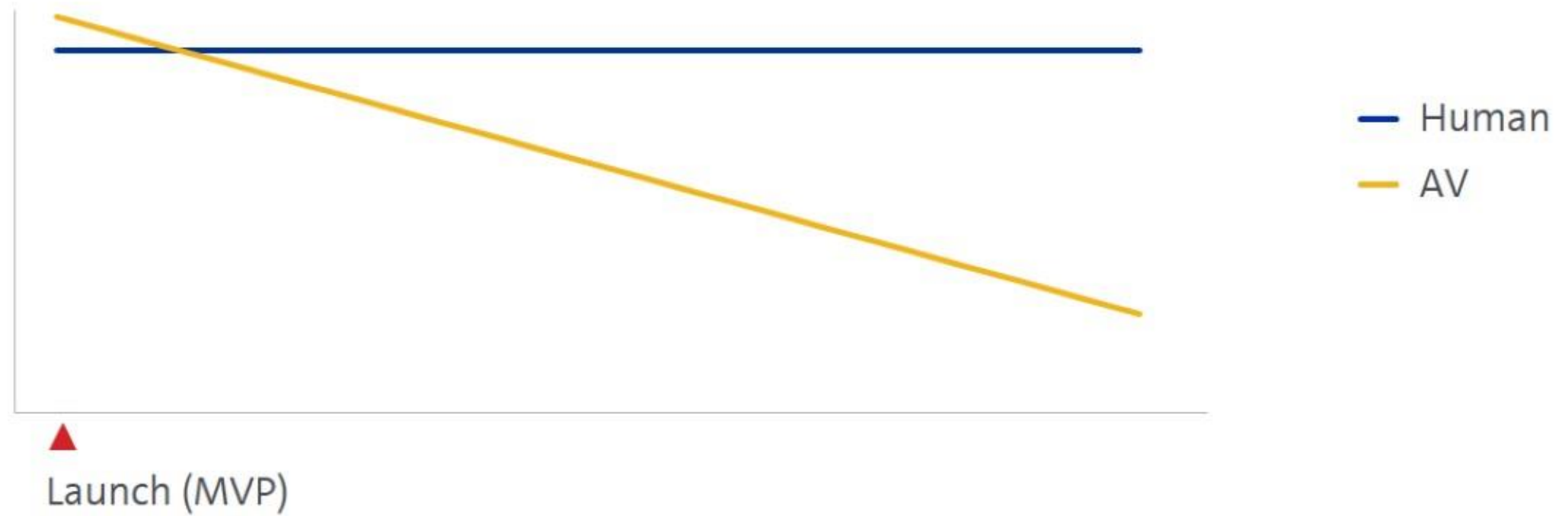


*FOCUSED ON MAKING AV SAFER THAN A HUMAN*



*PRODUCT:*  
**AV VS. HUMAN DRIVER CAPABILITY**

**Cost**



***SIGNIFICANTLY CHEAPER THAN A HUMAN***

*PRODUCT:*  
**AV VS. HUMAN DRIVER CAPABILITY**

**User Experience**

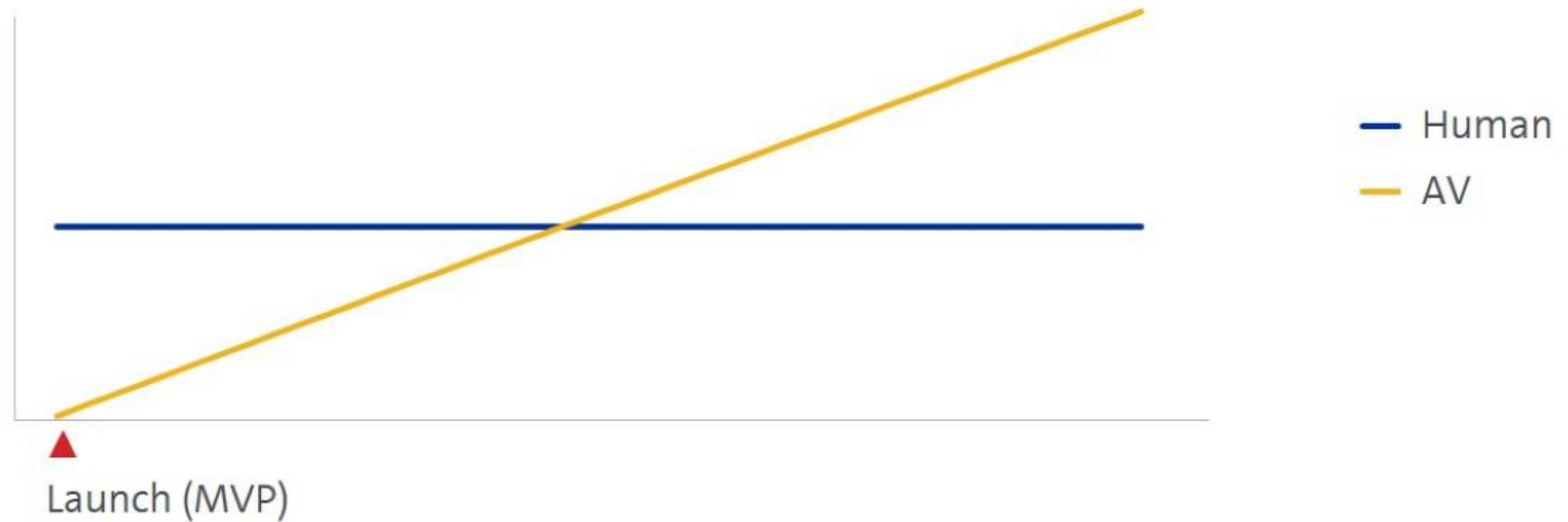


***AN IMPROVED USER EXPERIENCE AT REDUCED COST DRIVES DEMAND***



*PRODUCT:*  
**AV VS. HUMAN DRIVER CAPABILITY**

**Domain Capability**



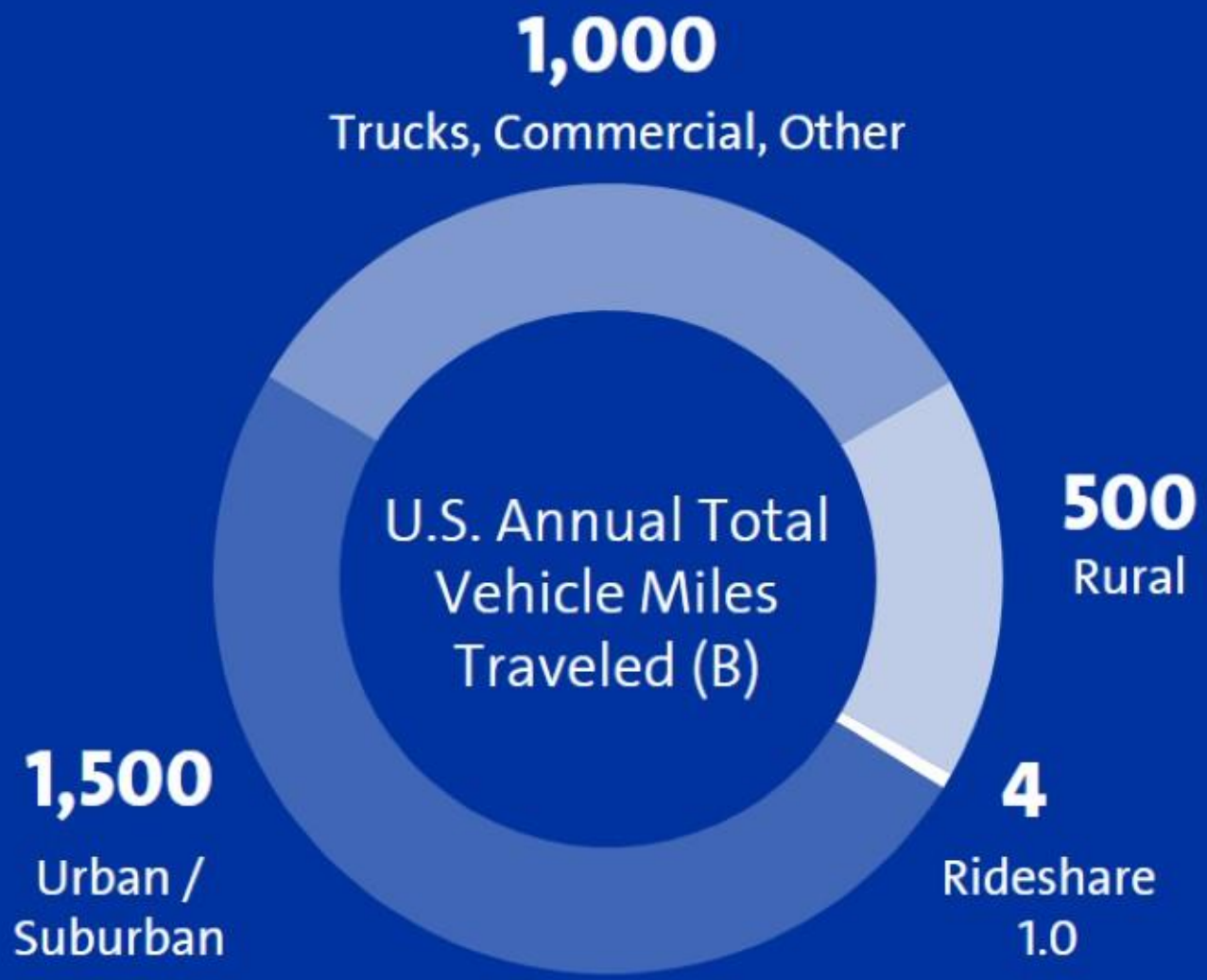
***OVERALL AV CAPABILITY WILL IMPROVE AT ~MOORE'S LAW***

# AV BUSINESS WILL SCALE AS A MAJOR TECHNOLOGY PLATFORM



***BUILDING THE FIRST AV NETWORK AT SCALE CREATES A CRUCIAL MOAT***





*NETWORK:*  
**TRANSPORTATION AS A SERVICE (TAAS) PENETRATION IS AT VERY EARLY STAGES**

*Rideshare 1.0 only*  
**~0.1%**  
*OF U.S. MILES DRIVEN*

# NETWORK: FUTURE AV COST CURVE WILL UNLOCK MASSIVE TAM

## U.S. Passenger Rideshare Example

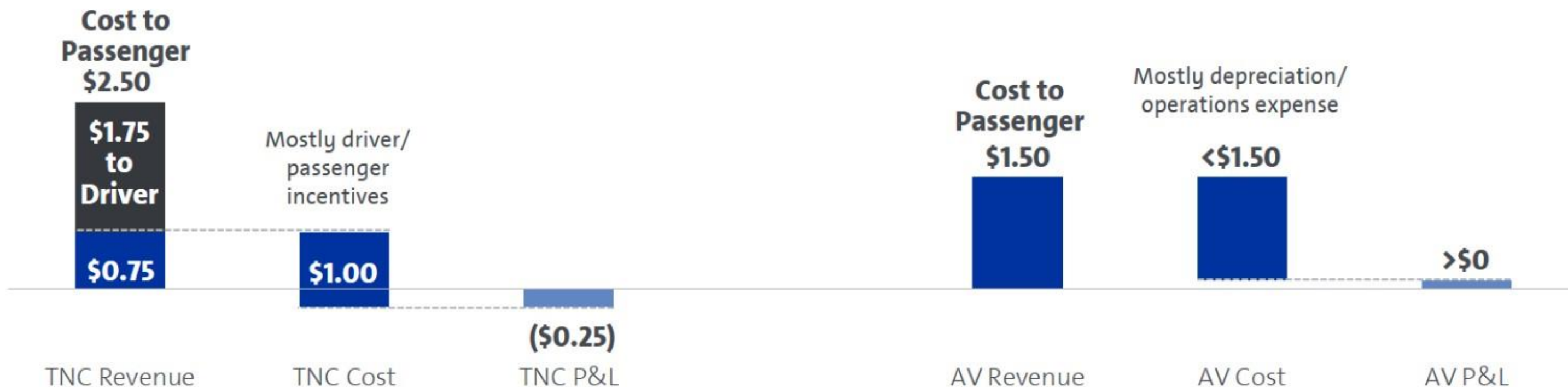




*PRODUCT:*  
**INDICATIVE PER MILE UNIT ECONOMICS COMPARISON**

**Rideshare 1.0 (San Francisco)**

**AV early stage (San Francisco)**



***EARLY AV ALLOWS 40% DISCOUNT TO CUSTOMER WITH BETTER P&L***

## NETWORK: DRIVERS OF COST REDUCTION



### Vehicle Cost

Decrease LIDAR by  
**99%**

Significant reductions in  
compute platform cost

Battery cell cost  
**<\$100/kWh**



### Vehicle Useful Life

Increase by  
**~3x-4x**

Aircraft maintenance,  
repair, overhaul model



### Utilization

Increase by  
**~2x-3x**

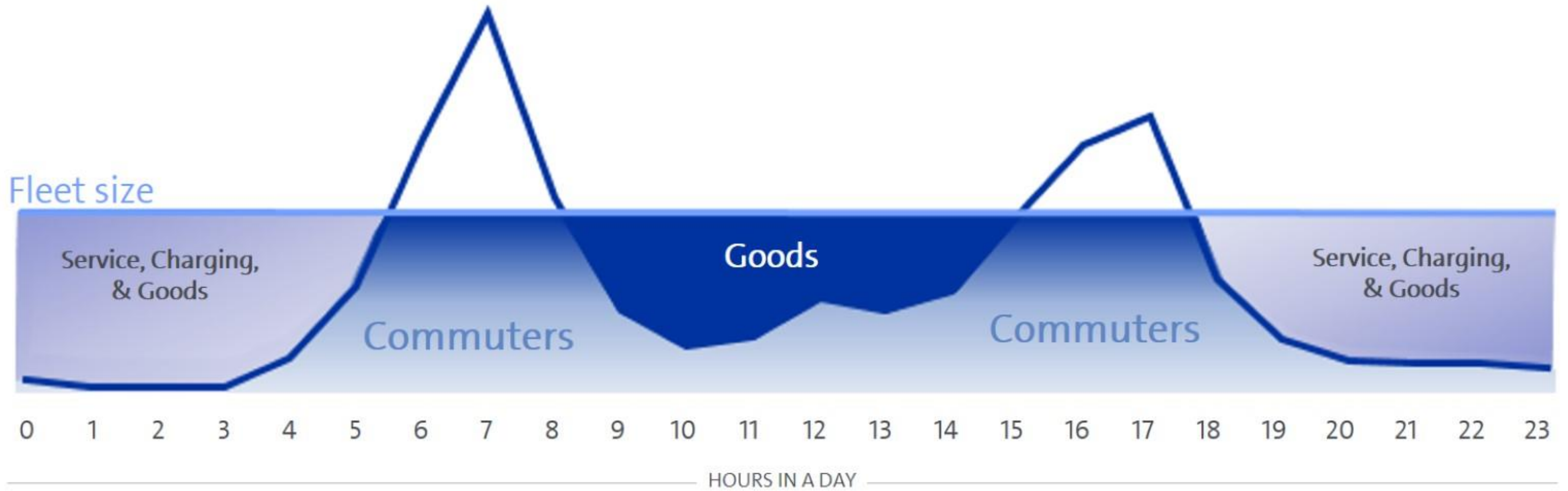
from initial to optimal

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*A PATH TO WELL UNDER \$1 PER MILE COST BY 2025*



# NETWORK: MAXIMIZING UTILIZATION



**UTILIZATION MAXIMIZED BY MULTIPLE USE CASES**

*NETWORK:*  
**A DIFFERENT KIND OF NETWORK EFFECT**

**Rideshare 1.0 is not winner takes all**

Undifferentiated and static product

Common pool of supply across networks

Low customer and driver switching costs

Static cost model

**Rideshare 2.0 is a totally different dynamic**

Differentiated and continuously improving product with closed feedback loop

Full control over supply

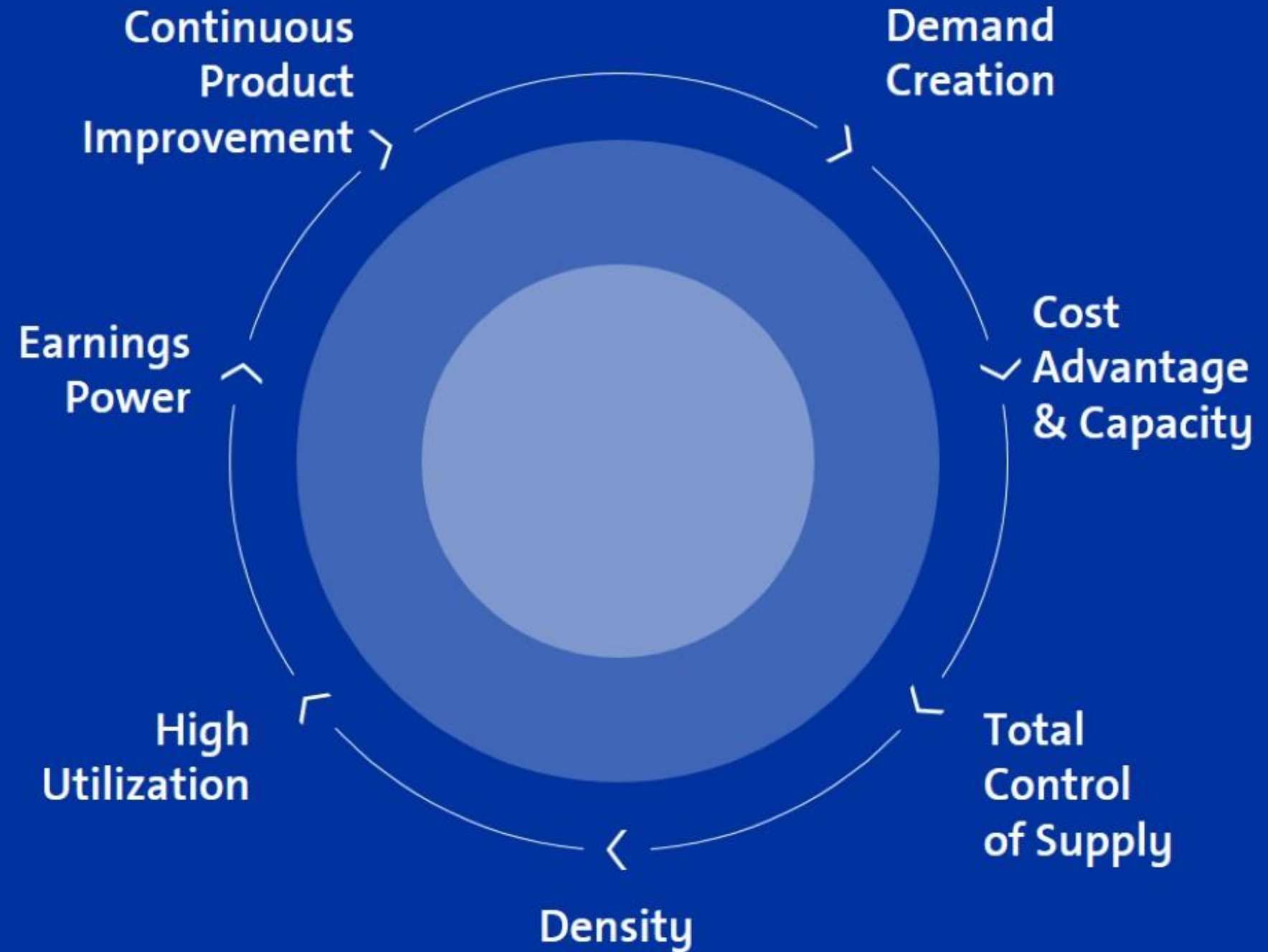
Very high barriers to commercially ready product at scale

Sharply declining cost curve

***RIDESHARE 2.0 IS NOT SIMPLY AN EXTENSION OF RIDESHARE 1.0***



# POWERFUL FIRST MOVER ADVANTAGE



## *NETWORK:* **REGULATORY ENVIRONMENT**

### **FEDERAL**

Federal legislation and regulations for Automated Driving Systems (ADS) 2.0 are focused on encouraging safe deployment of AVs

### **STATE**

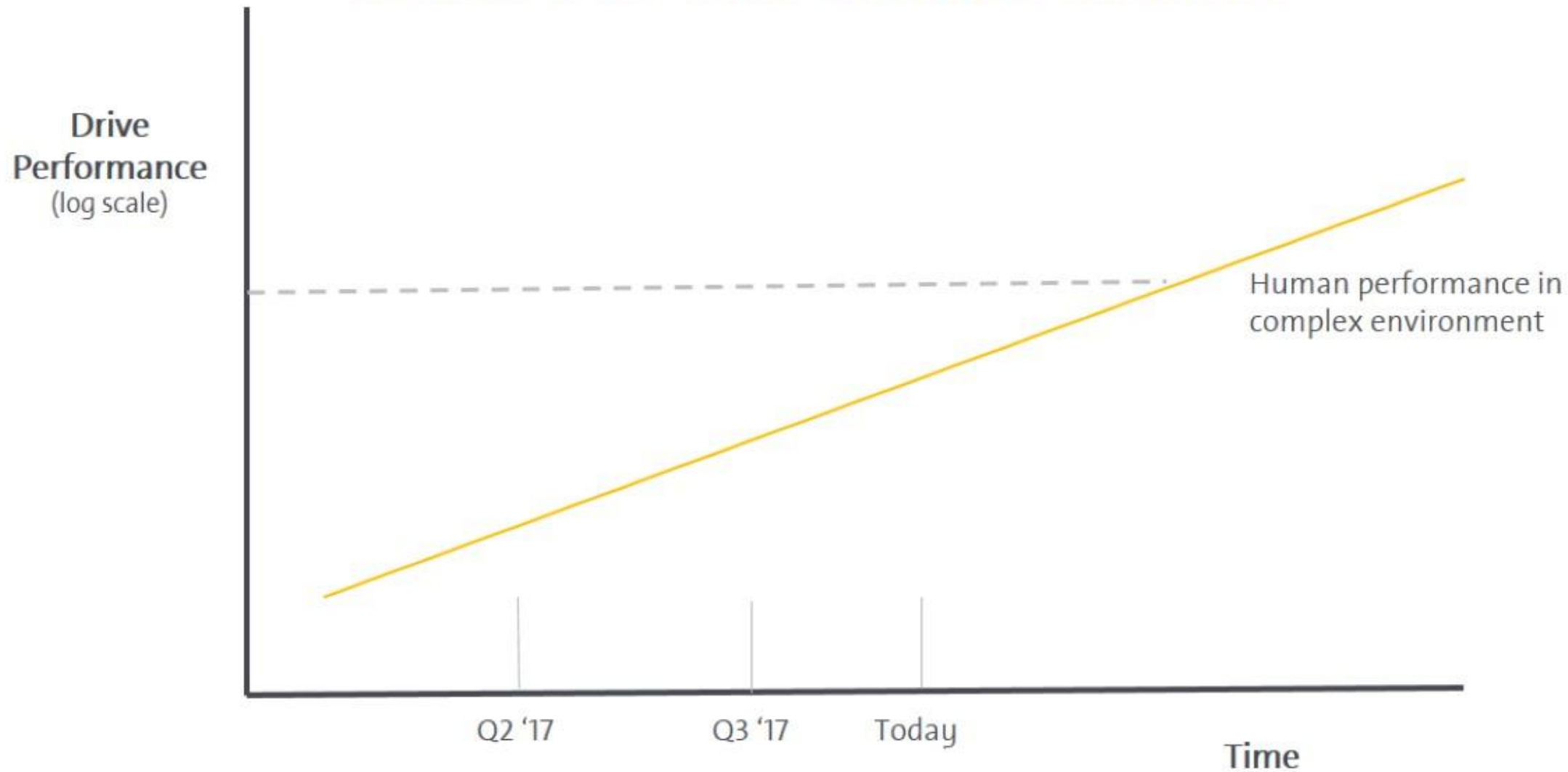
21 states enacted legislation and Governors in five states have issued executive orders related to AVs. Eight states already allow driverless AVs, and other states are considering steps to facilitate commercial development of driverless AVs

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***GM BELIEVES REGULATIONS WILL SUPPORT SAFE DEPLOYMENT OF AVs***



# NETWORK: SAFETY IS THE GATING METRIC



***BASED ON OUR CURRENT RATE OF CHANGE, WE EXPECT COMMERCIAL LAUNCH  
AT SCALE IN DENSE URBAN ENVIRONMENTS IN 2019***

# AV BUSINESS WILL SCALE AS A MAJOR TECHNOLOGY PLATFORM



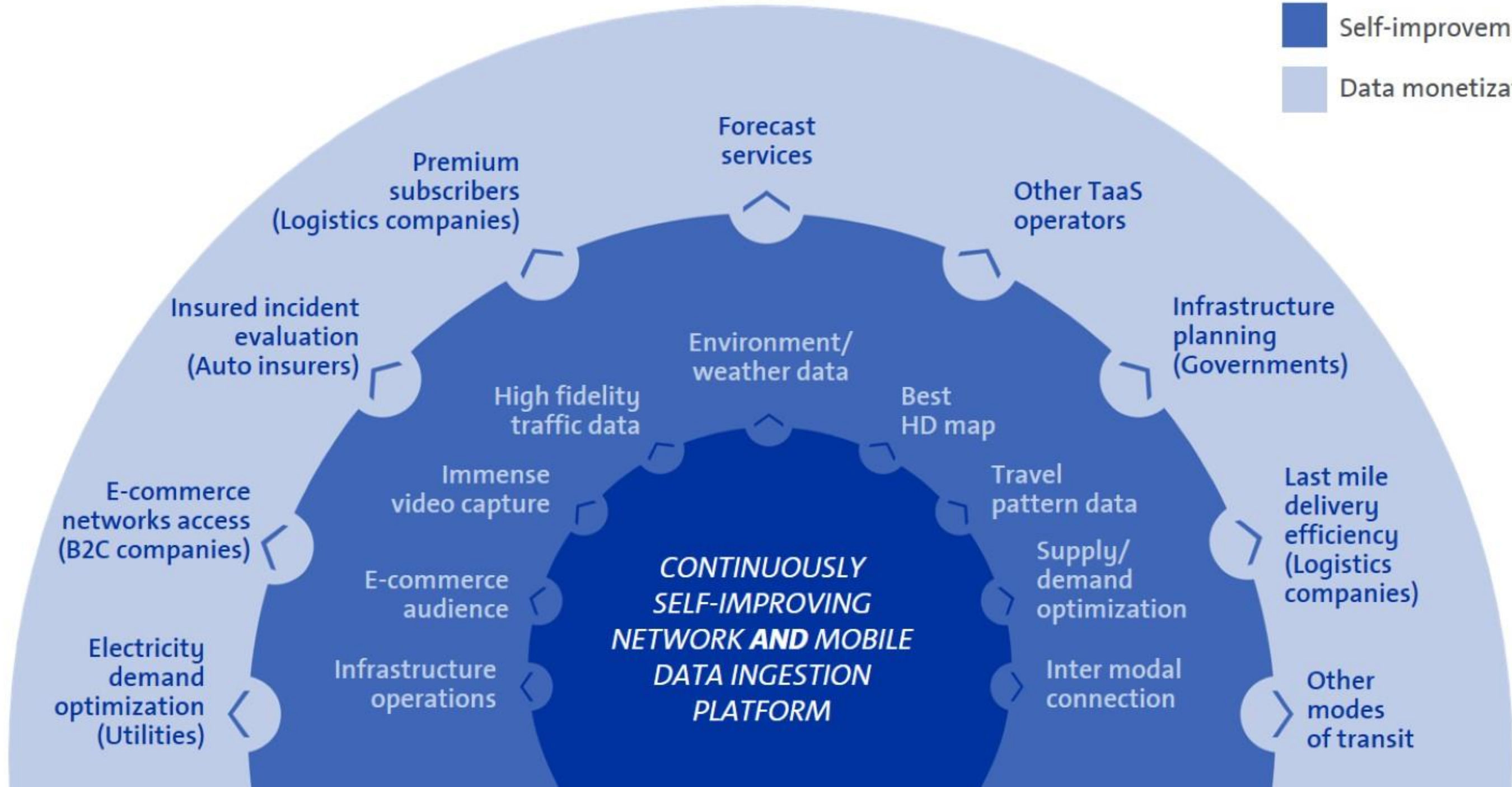
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*THE FIRST MOVER ADVANTAGE OPENS OPPORTUNITY TO BECOME A PLATFORM*



# NETWORK CAN BECOME WORLD'S LARGEST INTERNET OF THINGS PLATFORM

- Self-improvement
- Data monetization







## **OUR UNIQUE APPROACH**

**ONLY FULLY INTEGRATED DEVELOPER  
OF AVs WITH TRUE SCALE CAPABILITY**

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**TOTALLY FOCUSED ON ACHIEVING SAFE  
FULLY DRIVERLESS DEPLOYMENT AS  
SOON AS POSSIBLE IN A COMPLEX  
URBAN ENVIRONMENT**

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**POSITIONED TO DEPLOY AT SCALE  
IMMEDIATELY THEREAFTER**

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**SIGNIFICANT MOAT AND FIRST MOVER  
ADVANTAGE POST SCALE DEPLOYMENT**

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**GM IS IN THE LEAD**





GENERAL MOTORS

**KYLE VOGT**

*CEO,  
Cruise Automation*

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*Execution*



# AV TECHNOLOGY: PHILOSOPHY

*ACCELERATE TIMELINE TO FIRST  
MAJOR DRIVERLESS DEPLOYMENT*

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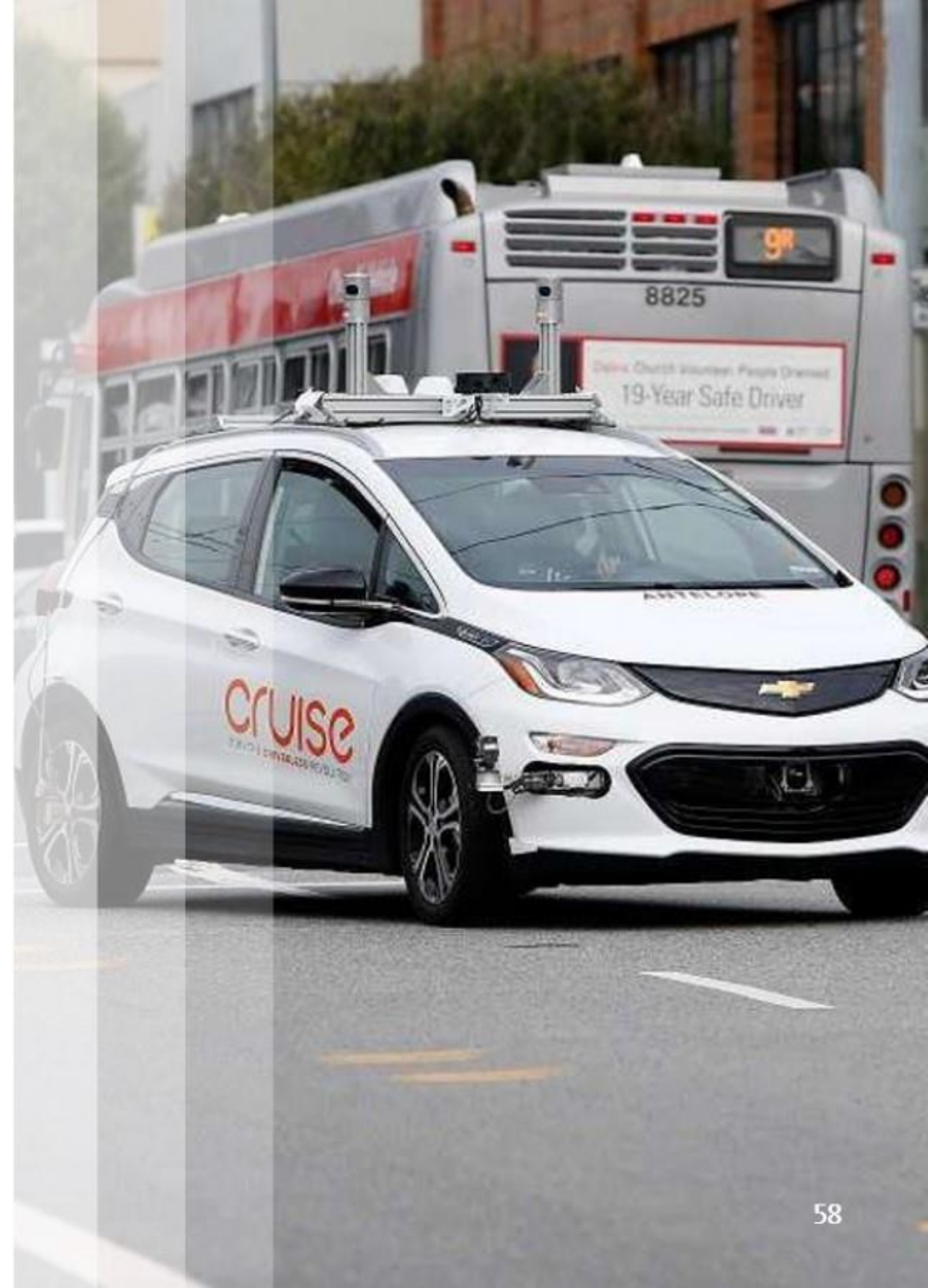
*DEPLOY IN KEY MAJOR METRO-AREAS TO DISRUPT  
INCUMBENTS AND DEVELOP COMPETITIVE MOATS*

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*SCALE TO DRIVE DOWN COSTS AND  
RAPIDLY DEPLOY IN ADDITIONAL MARKETS*

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*CONTEMPORANEOUSLY, BUILD THE WORLD'S BEST  
ENGINEERING TEAM AND CONTINUOUSLY IMPROVE  
PRODUCT AT UNMATCHABLE RATE*

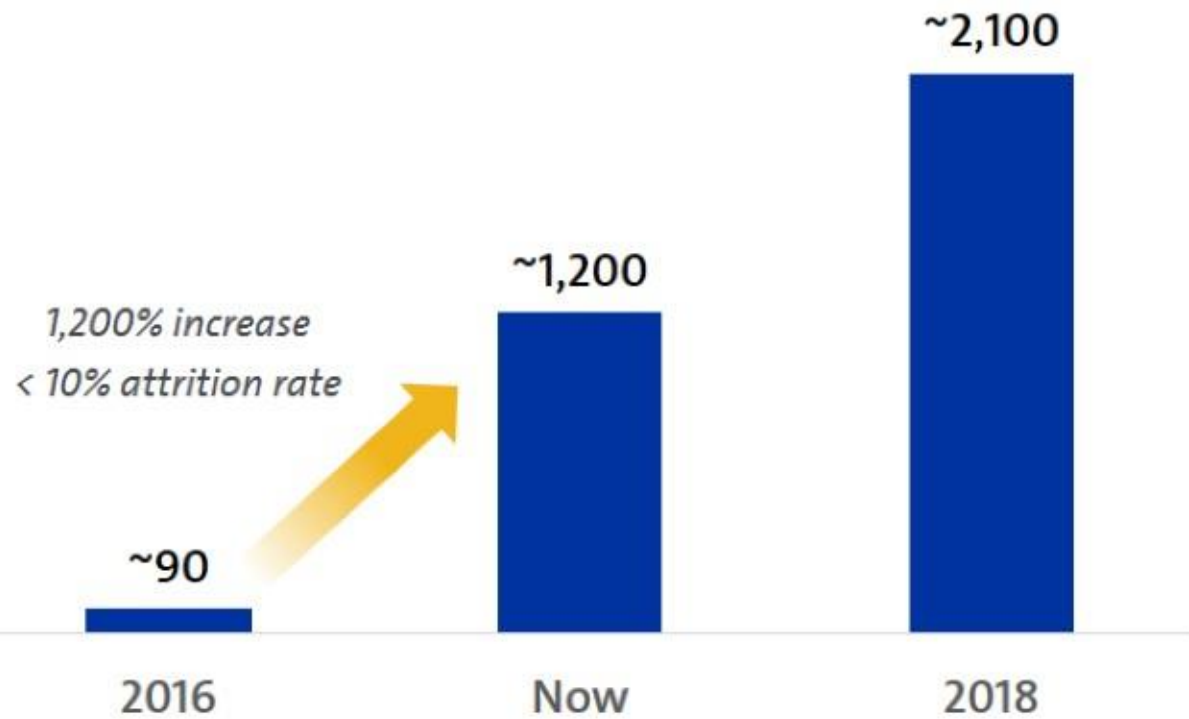




# TALENT IS THE FOUNDATION

Number of AV employees

Key recent recruits:



Chief Technology Officer – from Uber

Chief HR Officer – from Netflix

Head of Mapping Operations – from Google

The “Jeep” Hackers

**WORLD CLASS TEAM IN CRUISE, WARREN, AND ISRAEL IS DRIVING DEVELOPMENT**

# THE SELF-DRIVING HIERARCHY OF NEEDS



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*FOCUSED ON SAFELY GETTING CUSTOMERS WHERE THEY NEED TO GO*



## *PRODUCT:* **DEVELOPING THE MVP**

Self-driving software “brain”	Deep simulation capability	HD Mapping and Routing	Proprietary AV sensors	AV-specific redundant hardware systems
Core EV platform	Automotive safety and durability validation	Cyber-security and electrical architecture	Vehicle connectivity and data collection	AV-specific vehicle design
Operations infrastructure	Large scale production readiness	UX interfaces (in car & app)	Customer support & remote assistance (OnStar)	Total cost optimization



***ALL COMPONENTS NEED TO BE DEVELOPED FOR A SUCCESSFUL LAUNCH***

## SELF-DRIVING SOFTWARE "BRAIN"

### No silver bullet for AV Technology

Takes an entire ecosystem of technologies to launch a fleet of self-driving cars  
Must work flawlessly together to deliver outstanding quality, performance, and cost  
Mastery of AV requires best-in-class performance across second-tier domains

Localization

Planning

Perception

Safety

Machine Learning (ML)

Mapping

Remote Assistance

Dispatch & Routing

Behavioral Control

Controls

Networking

Simulation

Test Driving



## SELF-DRIVING SOFTWARE "BRAIN"

### Deep learning is a powerful tool but not the whole answer

ML approaches do not on their own satisfy all safety, performance, and reliability constraints

Using ML in defined and modular tasks that can be trained results in better performance over previous heuristic systems

Use ML when state-of-the-art performance is required; heuristic-based approaches to prototype

### Examples of ML Systems at Cruise

Traffic light detection

Visual classification

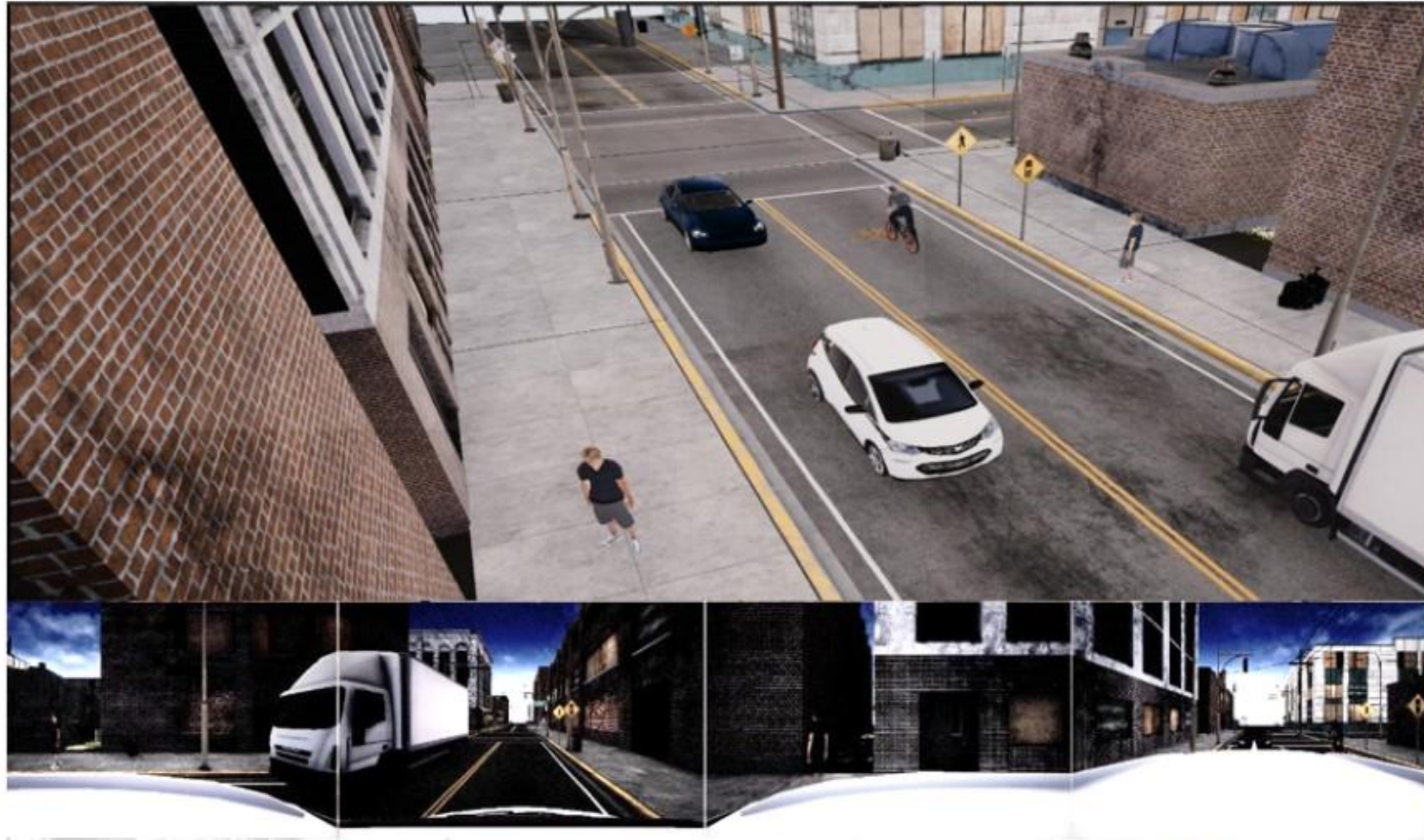
Visual vehicle orientation

LIDAR segmentation

*WE USE MACHINE LEARNING WHERE IT SAFELY PROVIDES VALUE*



## DEEP SIMULATION CAPABILITY



Three simulators for deep testing

Running 150 simulations per minute

Realistic sensor data

Empowering Machine Learning

Run ~500 simulations prior to merging

*SIMULATION ENABLES RAPID IMPROVEMENT*



# HD MAPPING AND ROUTING

## Collecting

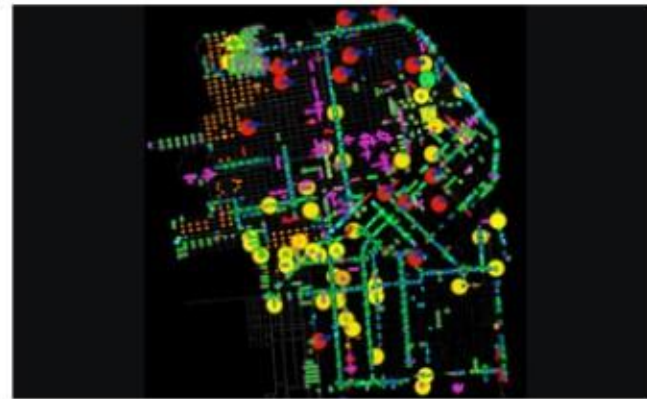


Utilize proprietary mapping vehicle

Accuracy within 3cm

Compiled using LIDAR scans, camera images, cellular coverage maps, and other sources

## Labeling



Combination of automated and manual tools to ensure high accuracy labels

Completed in cloud enabling scale

Overlays traffic signals in 3D space and lane markers

## Maintaining



AVs update the map in real time

Routes adjusted based on AV data

Accepts other data such as traffic, accident locations, construction, etc.

**A NEW CITY CAN BE MAPPED IN ~6 MONTHS**

## PROPRIETARY AV SENSORS

### Currently Available LIDAR

- Effective range: 1x
- Cost: ~\$20,000
- Quality Issues

### Next Gen LIDAR

- Expected effective range: ~1.25x
- Cost: ~\$10,000

### Strobe + GM + Cruise

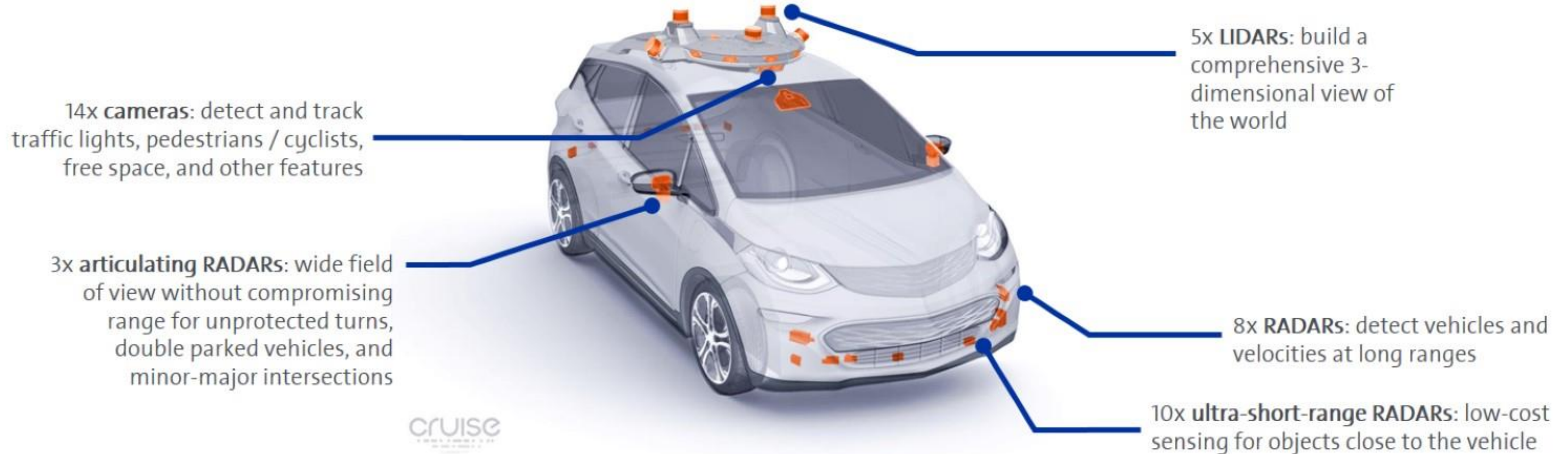
- Expected effective range: ~2.5x
- Cost: ~\$300



***STROBE ACQUISITION ENABLES SIGNIFICANT PERFORMANCE IMPROVEMENT AND COST REDUCTION***



## AV SPECIFIC REDUNDANT HARDWARE SYSTEMS



**40% OF THE CONTENT IS UNIQUE VS THE BOLT EV**

Self-driving software "brain"

Deep simulation capability

HD Mapping and Routing

Proprietary AV sensors

AV-specific redundant hardware systems

**Automotive safety and durability validation**

Cyber-security and electrical architecture

Vehicle connectivity and data collection

## AUTOMOTIVE SAFETY AND DURABILITY VALIDATION



*LEVERAGING GM EXPERTISE TO FULLY TEST AND VALIDATE AVs*

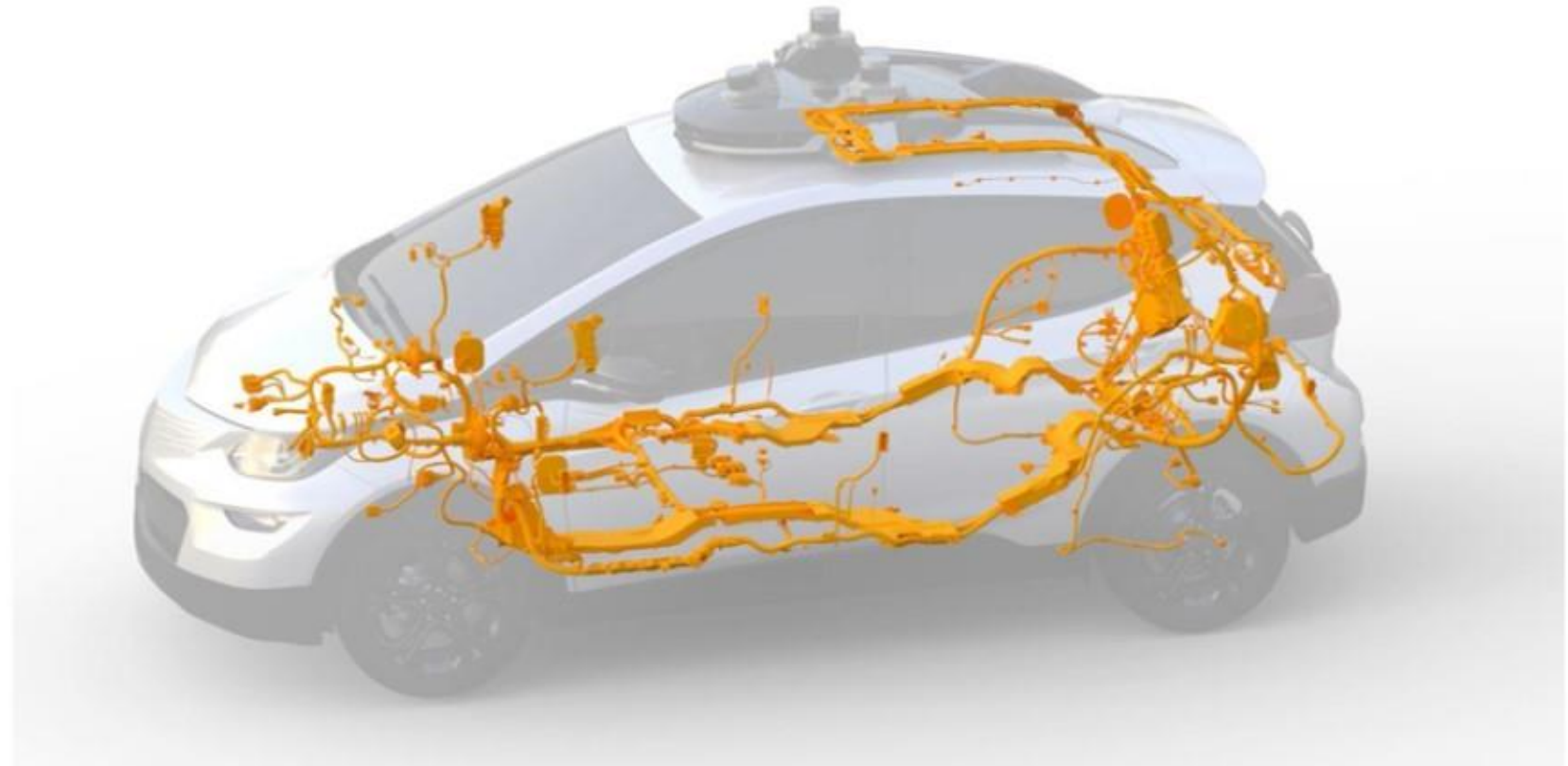


## CYBER-SECURITY AND ELECTRICAL ARCHITECTURE

Integrated AV & Electrical Architecture

More efficient  
(Mass, Cost, Manufacturing)

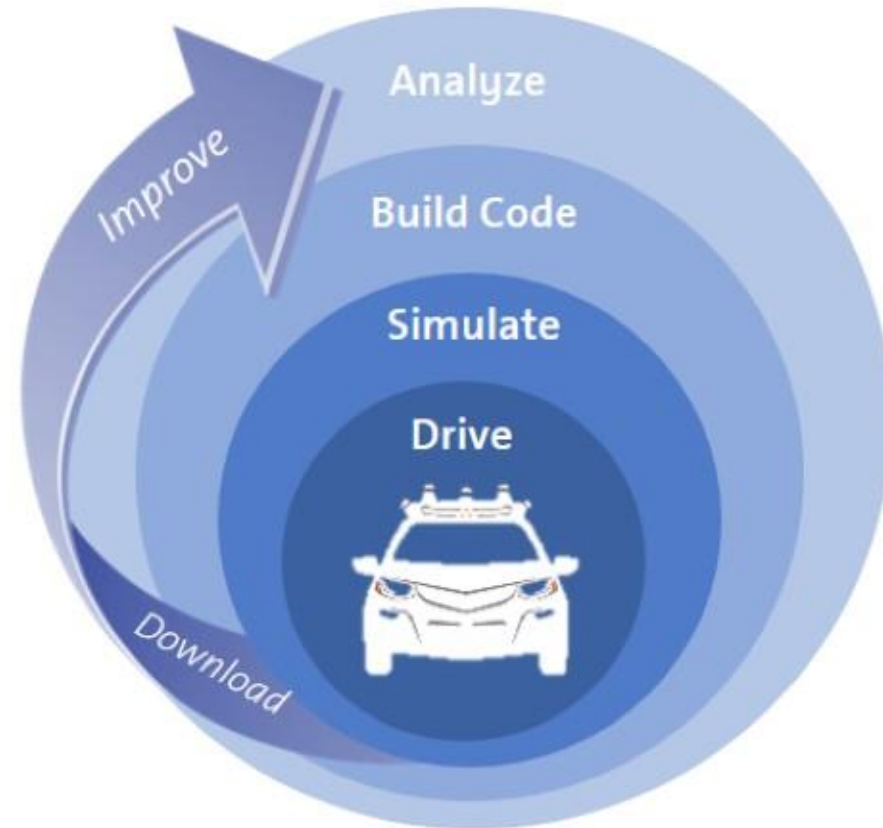
Scale, lower defect,  
higher reliability



*DEVELOPED A MORE ROBUST ELECTRICAL ARCHITECTURE  
TO MEET AV DEMANDS*

## VEHICLE CONNECTIVITY AND DATA COLLECTION

Code Development Process



Root cause analysis optimized through automated tools

Test to analysis < 24 hrs.

200MB/s - vehicle (2PB per week)

Real-time analytics from live tests

**MASSIVE DATA COLLECTION & QUICK ANALYSIS FOR RAPID CODE DEVELOPMENT**



*PRODUCT:*  
**180 CRUISE TEST VEHICLES BUILT**



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*GROWING FLEET WILL ACCUMULATE ~1 MILLION MILES PER MONTH BY EARLY 2018*

*GO TO MARKET*

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*NETWORK:*  
**FACTORS FOR LAUNCHING IN A CITY**

**Mapping  
the city**

**Establish facilities  
and infrastructure**

**Favorable regulatory  
requirements**

**Good  
weather**



***CRUISE CAN LAUNCH IN MULTIPLE CITIES SIMULTANEOUSLY***

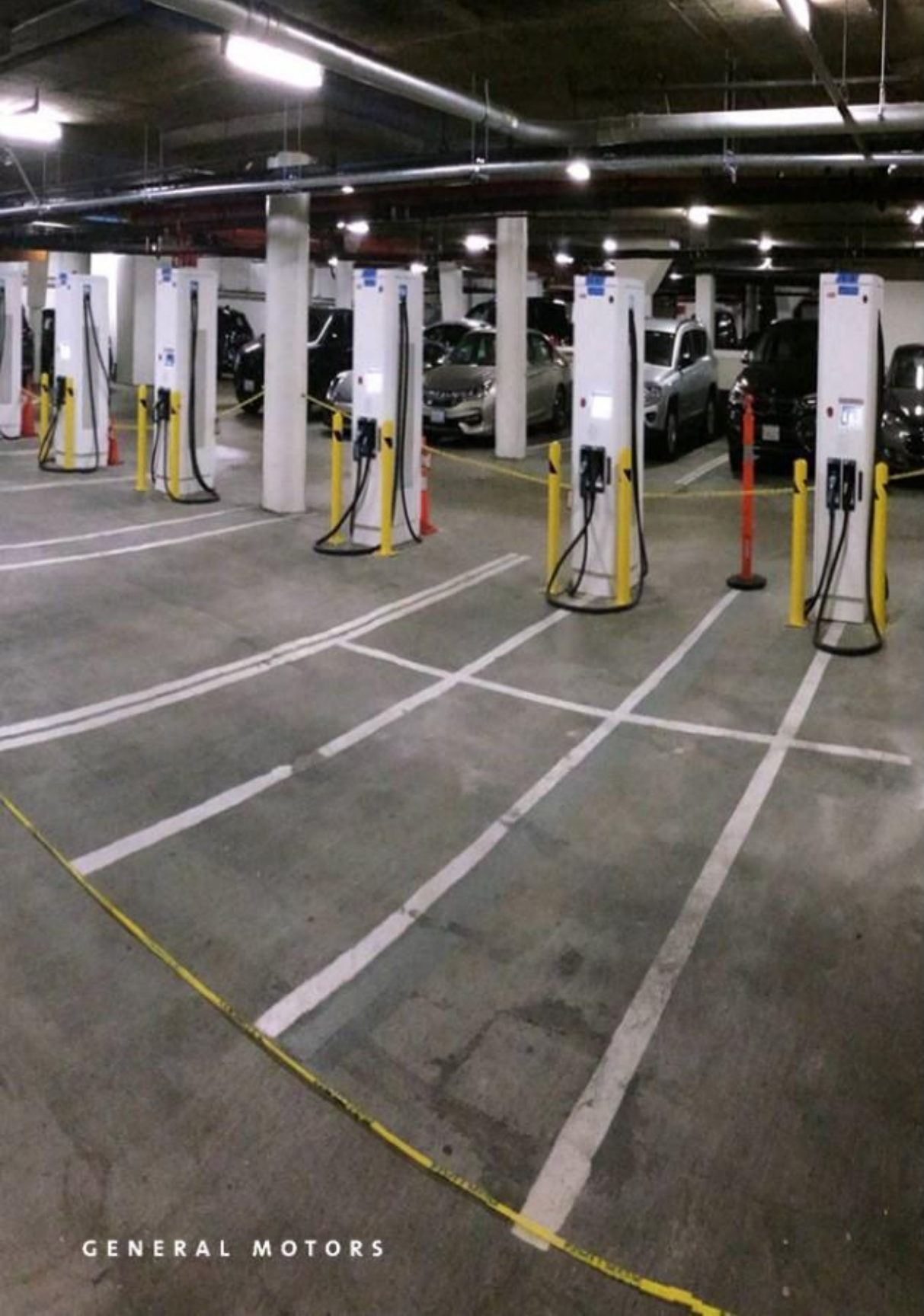
## TESTING WHERE WE WILL LAUNCH

MANEUVER / SCENARIO	SAN FRANCISCO	PHOENIX SUBURBS	RATIO
Left turn	1462	919	1.6:1
Lane change	772	143	5.4:1
Construction blocking lane	184	10	19.1:1
Pass using opposing lane	422	17	24.3:1
Construction navigation	152	4	39.4:1
Emergency vehicle	270	6	46.6:1

Instances of various maneuvers per 1,000 miles of autonomous driving. Source: Cruise internal metrics.

***OUR VEHICLES ENCOUNTER SITUATIONS UP TO 46X  
MORE OFTEN THAN OTHER SELF-DRIVING CARS***





## *NETWORK:* **SERVICE AND CHARGING INFRASTRUCTURE**

*BUILDING AND PARTNERING TO EXPEDITE CHARGING  
INFRASTRUCTURE ROLLOUT*

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*CLEANING AND MAINTENANCE SERVICES IDENTIFIED*

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*LEVERAGING DEEP INTEGRATION WITH GM AND  
MAVEN LEARNINGS FOR PROACTIVE MAINTENANCE*

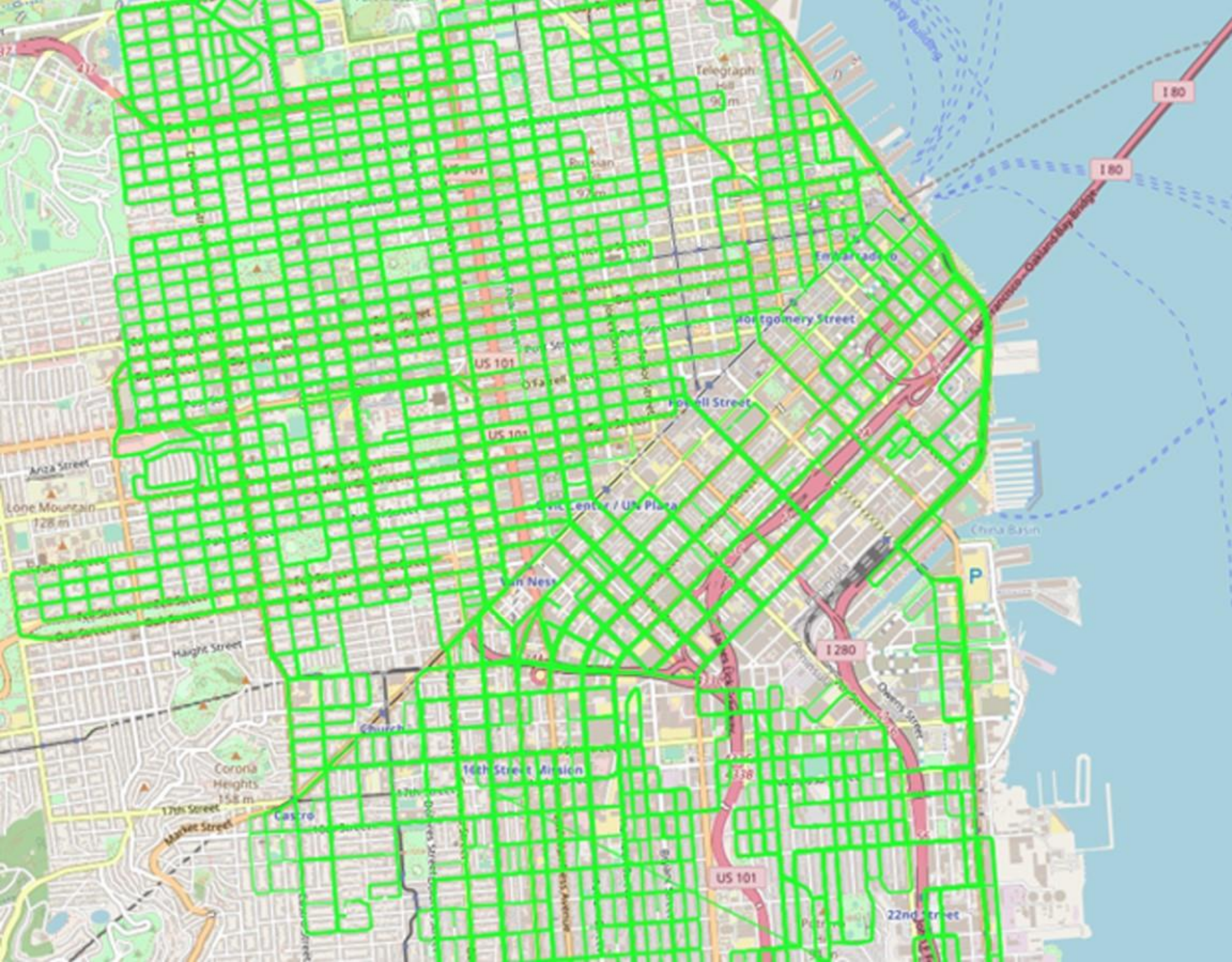
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*DEVELOPED RELATIONSHIPS WITH UTILITIES TO  
OPTIMIZE EFFICIENCY AND CHARGING TIMING*

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*PIECES IN PLACE TO LAUNCH IN  
SAN FRANCISCO*





*NETWORK:*  
**TESTING  
THROUGHOUT  
SAN FRANCISCO**

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*NETWORK:*  
**CRUISE HAS ALREADY  
LAUNCHED EARLY BETA**





## **WE ARE MOVING FAST...**

*TOTALLY FOCUSED ON ACHIEVING SAFE FULLY  
DRIVERLESS DEPLOYMENT AS SOON AS POSSIBLE  
IN A COMPLEX URBAN ENVIRONMENT*

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*ACTION PLAN IN PLACE TO DEPLOY AT SCALE  
IN MULTIPLE CITIES QUICKLY*

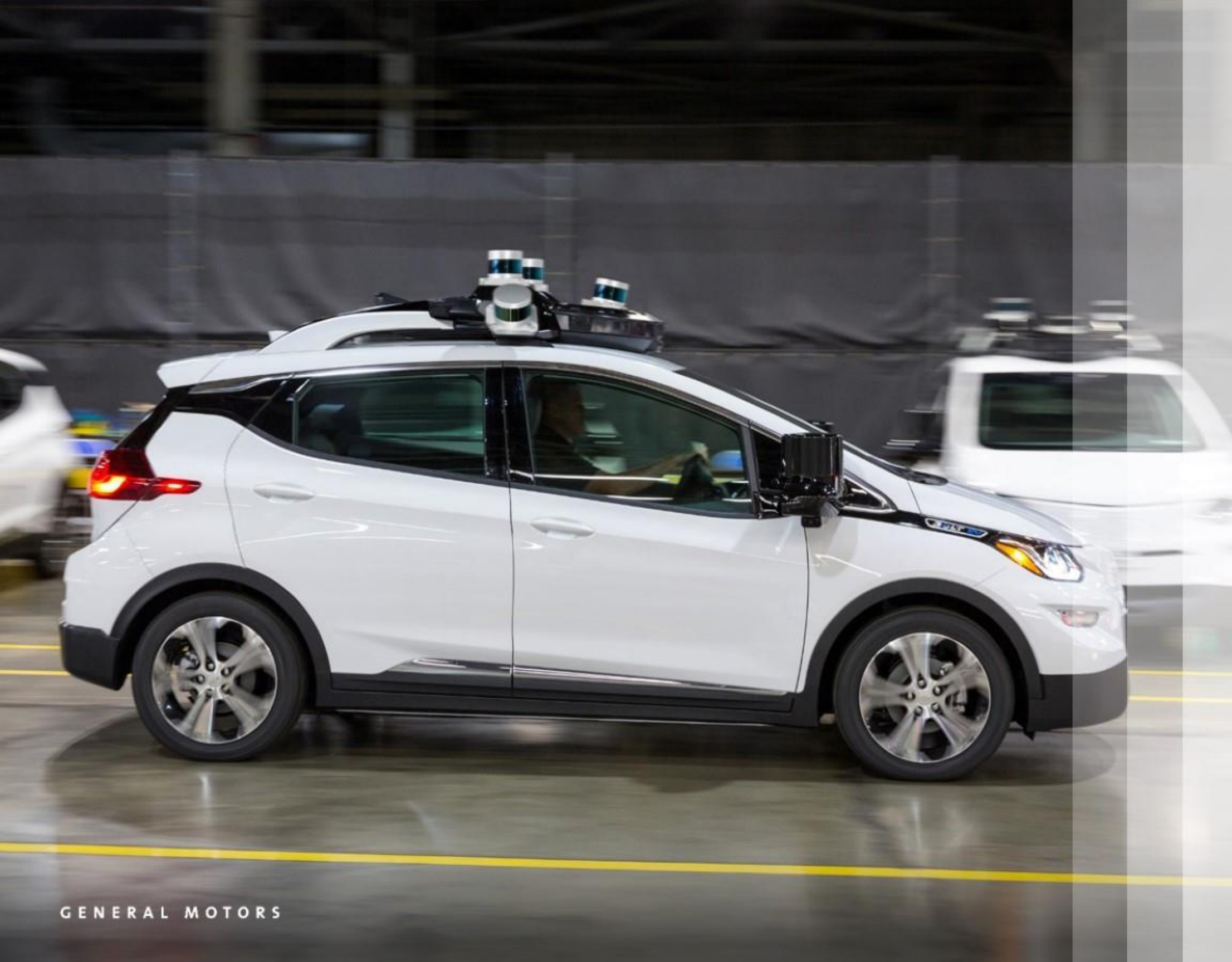
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*SIGNIFICANT ADDITIONAL OPPORTUNITIES  
IN TRANSPORTATION OF GOODS AND  
DATA MONETIZATION*

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*GM/CRUISE IS IN THE LEAD FOR AVs*





GENERAL MOTORS

## **CHUCK STEVENS**

*Executive Vice  
President & CFO*

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*Value Creation  
Opportunity*

GENERAL MOTORS

## GM IN STRONG POSITION TO GENERATE SIGNIFICANT UPSIDE VALUE...

GM's core business is strong  
& getting better



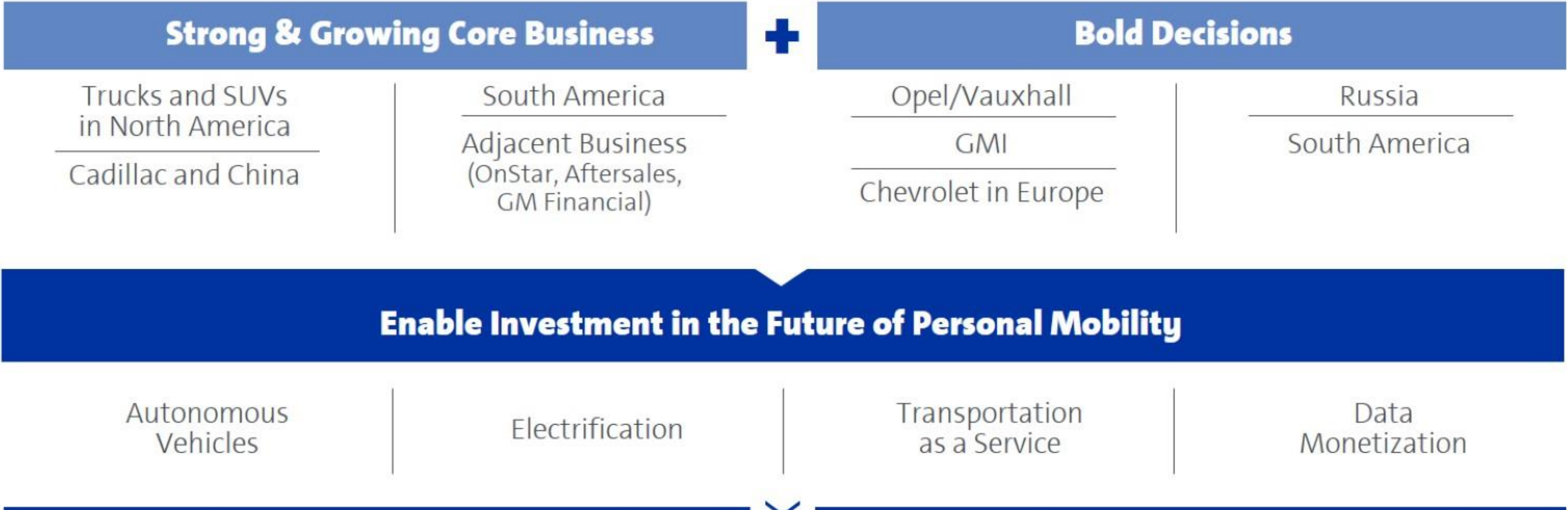
Future of personal mobility  
will be accretive  
to our core business



**Significant  
upside**



# THE GROWING CORE AND FUTURE OF PERSONAL MOBILITY PROVIDE UPSIDE VALUE OPPORTUNITIES



***BOLD DECISIONS HAVE STRENGTHENED THE BUSINESS AND ESTABLISHED THE FOUNDATION FOR GROWTH IN CORE & FUTURE OF PERSONAL MOBILITY***

## CORE BUSINESS ANCHORED BY VALUABLE FRANCHISES



*STRENGTH OF THE CORE PLUS NEW PERSONAL MOBILITY OPPORTUNITIES  
SIGNIFICANTLY INCREASES SHAREHOLDER VALUE*



# OUR ALL-NEW TRUCK AND SUV ARCHITECTURE WILL BUILD ON OUR STRONG FRANCHISE AND GENERATE STRONG RETURNS FOR YEARS TO COME

## TRUCKS

Double-digit margins

Resilient segment

Dominant SUV position

Strong loyalty

Few competitors

Last to be disrupted by TaaS/AVs

*READY TO LAUNCH ALL-NEW ARCHITECTURE*

# IN ADDITION TO STRONG TRUCK FRANCHISE, WE HAVE OTHER STRONG AND IMPROVING FRANCHISES

## CHINA

GM uniquely positioned

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Strong Equity Income

---

Market leader

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EV Epicenter

## GM FINANCIAL

Growing earnings

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Improved loyalty

---

Full captive capabilities

## REST OF THE WORLD

GMSA profitable

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GEM launch

---

GM International profitable  
by 2019

---

Aftersales/OnStar growth

---

Cadillac



# FUTURE OF PERSONAL MOBILITY IS A VERY ATTRACTIVE BUSINESS MODEL

High growth

Recurring,  
fee-based  
revenue

Significant  
Operating  
Margin Potential

Compelling ROIC

Non-cyclical



*FUTURE OF PERSONAL MOBILITY IS  
COMPLEMENTARY TO CORE BUSINESS*

## GM IN STRONG POSITION TO GENERATE SIGNIFICANT UPSIDE VALUE...

GM's core business is strong & getting better



Future of personal mobility will be accretive to our core business



**Significant upside**

Strong and resilient core business offers potential for significant multiple re-rate

Complementary future business just beginning to get recognized in market cap with significant growth coming



**RE-RATING MULTIPLES BASED ON STRENGTH OF CORE AND OPPORTUNITY IN FUTURE MOBILITY EQUALS SIGNIFICANT UPSIDE TO VALUATION**





GENERAL MOTORS

**MARY BARRA**  
**MARK REUSS**  
**DAN AMMANN**  
**KYLE VOGT**  
**CHUCK STEVENS**

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Q&A

*AV IS THE BIGGEST THING  
SINCE THE INTERNET*

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## MORE INFO

Website: [GetCruise.com](http://GetCruise.com)

YouTube: <http://bit.ly/CruiseYouTube>

Medium: [Medium.com/Cruise](http://Medium.com/Cruise)

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GENERAL MOTORS

(\$B, except Margin)	2013	2014	2015	2016
<b>Net income attributable to stockholders</b>	<b>5.3</b>	<b>3.9</b>	<b>9.7</b>	<b>9.4</b>
<b>Subtract:</b>				
Automotive Interest Expense	(0.3)	(0.4)	(0.4)	(0.6)
Automotive Interest Income	0.2	0.2	0.2	0.2
Gain (loss) on extinguishment of debt	(0.2)	0.2	0.4	—
Income Tax Benefit (Expense)	(2.1)	(0.2)	1.9	(2.4)
<b>Add Back Special Items<sup>1,2</sup>:</b>				
Goodwill impairment charges	0.4	0.1	—	—
Impairment charges of property and other assets	0.8	0.4	0.4	—
Pension settlement charges	0.1	—	—	—
Korea wage litigation	(0.6)	—	—	—
DPA financial penalty	—	—	0.9	—
Ignition switch civil litigation charges	—	—	0.7	0.3
Ignition switch recall compensation program	—	0.4	0.2	—
Recall campaign catch-up adjustment	—	0.9	—	—
Venezuela currency devaluation	0.2	0.4	0.6	—
Flood damage	—	0.1	—	—
Russia exit costs	—	—	0.4	—
Other	(0.1)	0.1	0.4	—
<b>Total Special items</b>	<b>0.8</b>	<b>2.3</b>	<b>3.2</b>	<b>0.3</b>
<b>EBIT-Adjusted</b>	<b>8.6</b>	<b>6.5</b>	<b>10.8</b>	<b>12.5</b>
Costs related to Recall		2.8 <sup>3</sup>		
<b>Core Operating Performance – consolidated operations</b>	<b>8.6</b>	<b>9.3</b>	<b>10.8</b>	<b>12.5</b>
Discontinued Operations				0.3
<b>EBIT-Adjusted – continuing operations</b>				<b>12.8</b>
Net Revenue	155	156	152	166
Discontinued Operations				(17)
<b>Net Revenue – continuing operations</b>				<b>149</b>
<b>EBIT-Adjusted Margin from Core Operations on a consolidated operations basis</b>	<b>5.5%</b>	<b>6.0%</b>	<b>7.1%</b>	<b>7.5%</b>
<i>EBIT-Adjusted Margin – consolidated operations</i>	<i>5.5%</i>	<i>4.2%</i>	<i>7.1%</i>	<i>7.5%</i>
<b>EBIT-Adjusted Margin on a continuing operations basis</b>				<b>8.6%</b>

<sup>1</sup>Included in operating income

<sup>2</sup>Additional information on adjustments available in respective 10-K

<sup>3</sup>GMNA major recall campaign expense was \$2.4B

Note: Results may not sum due to rounding

## RECONCILIATION OF EBIT-ADJUSTED ON A CONSOLIDATED OPERATIONS BASIS (FOR 2013-2016) AND ON A CONTINUING OPERATIONS BASIS (FOR 2016)



**RECONCILIATION  
OF EPS-DILUTED-ADJUSTED ON  
A CONSOLIDATED OPERATIONS  
BASIS (FOR 2013-2016) AND ON  
A CONTINUING OPERATIONS  
BASIS (FOR 2016)**

	2013	2014	2015	2016
<b>Diluted earnings per common share</b>	<b>2.38</b>	<b>1.65</b>	<b>5.91</b>	<b>6.00</b>
Adjustments <sup>2</sup>	1.11	1.73	1.68	0.19
Tax effect of adjustments	(0.03)	(0.33)	(0.13)	(0.07)
Tax adjustments	(0.28)	—	(2.43)	—
Impact of costs related to recall	—	1.07	—	—
<b>EPS-Diluted-Adjusted from Core Operations</b>	<b>3.18</b>	<b>4.12</b>	<b>5.02</b>	<b>\$6.12</b>
Diluted EPS - discontinued operations				\$0.00
<i>EPS-Diluted-Adjusted</i>	<i>3.18</i>	<i>3.05</i>	<i>5.02</i>	<i>6.12</i>

<sup>2</sup>Additional information on adjustments available in respective 10-K  
Note: Results may not sum due to rounding