



**ON Semiconductor**®

Financial Analyst Day  
Phoenix, Arizona  
March 10, 2017

# RETHINK ENERGY EFFICIENCY.



Financial Analyst Day | Phoenix, Arizona | March 10, 2017

# Agenda

**Introduction** - Parag Agarwal 8:00-8:05

**Strategic Overview** - Keith Jackson 8:05-8:35

**Q&A**

**Analog Solutions Group** - Bob Klosterboer 8:50-9:20

**Image Sensor Group** - Taner Ozcelik 9:20-9:50

**Break**

**Power Solutions Group** - Bill Hall 10:05-10:35

**Q&A**

**Finance** - Bernard Gutmann 10:50-11:20

**Q&A**

**ON Semiconductor®**





# Safe Harbor Statement and Non-GAAP and Forecast Information

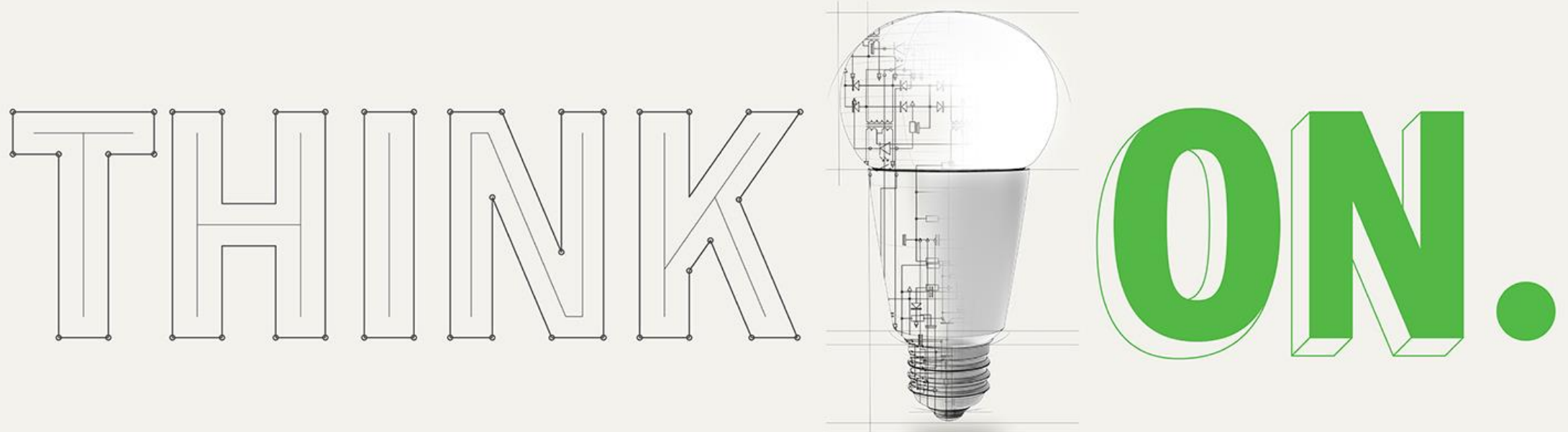
This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are often characterized by the use of words such as “believes,” “estimates,” “expects,” “projects,” “may,” “will,” “intends,” “plans,” or “anticipates,” or by discussions of strategy, plans or intentions. All forward-looking statements in this presentation are made based on our current expectations, forecasts, estimates and assumptions, and involve risks, uncertainties and other factors that could cause results or events to differ materially from those expressed in the forward-looking statements. These factors include, among others: our revenues and operating performance; economic conditions and markets (including current financial conditions): risks related to our ability to meet our expectations regarding revenue growth, margin expansion, free cash flow generation, operational efficiency and the realization of synergies from our acquisition of Fairchild; effects of exchange rate fluctuations; the cyclical and seasonal nature of the semiconductor industry; changes in demand for our products; changes in inventories at our customers and distributors; technological and product development risks; enforcement and protection of our IP rights and related risks; risks related to the security of our information systems and secured network; availability of raw materials, electricity, gas, water and other supply chain uncertainties; our ability to effectively shift production to other facilities when required in order to maintain supply continuity for our customers; variable demand and the aggressive pricing environment for semiconductor products; our ability to successfully manufacture in increasing volumes on a cost-effective basis and with acceptable quality for our current products; risks associated with acquisitions and dispositions, including our recent acquisition of Fairchild (including our ability to realize the anticipated benefits of our acquisitions and dispositions; risks that acquisitions or dispositions disrupt our current plans and operations, the risk of unexpected costs, charges or expenses resulting from acquisitions or dispositions and difficulties encountered from integrating and consolidating and timely filing financial information with the SEC for acquired businesses and accurately predicting the future financial performance of acquired businesses); competitor actions, including the adverse impact of competitor product announcements; pricing and gross profit pressures; loss of key customers; order cancellations or reduced bookings; changes in manufacturing yields; control of costs and expenses and realization of cost savings and synergies from restructurings; significant litigation; risks associated with decisions to expend cash reserves for various uses in accordance with our capital allocation policy such as debt prepayment, stock repurchases, or acquisitions rather than to retain such cash for future needs; risks associated with financing and capital markets activities; risks associated with our substantial leverage and restrictive covenants in our debt agreements that may be in place from time to time; risks associated with our worldwide operations, including foreign employment and labor matters associated with unions and collective bargaining arrangements as well as man-made and/or natural disasters affecting our operations and finances / financials; the threat or occurrence of international armed conflict and terrorist activities both in the United States and internationally; risks and costs associated with increased and new regulation of corporate governance and disclosure standards; and risks related to new legal requirements and risks involving environmental or other governmental regulation. Additional factors that could affect our future results or events are described in our Annual Report on Form 10-K for the year ended December 31, 2016 and in other filings we make with the SEC. We caution you not to place undue reliance on any forward-looking statements, which are made only as of the date of this presentation. We do not undertake or assume any obligation to update publicly any of these forward-looking statements to reflect actual results, new information or future events, changes in assumptions or changes in other factors affecting forward-looking statements.

This presentation, and the related discussion, also contain certain non-GAAP financial measures, including non-GAAP operating expenses, which should be considered only as supplemental to, and not as superior to, financial measures prepared in accordance with generally accepted accounting principles (“GAAP”). Please refer to the Appendix of this presentation for our calculation methodologies and a reconciliation of these non-GAAP financial measures to the most directly comparable financial measures prepared in accordance with GAAP.

**ON Semiconductor®**



# RETHINK ENERGY EFFICIENCY.



**Keith Jackson, President and CEO**

## **DRIVING SHAREHOLDER VALUE THROUGH STRONG EXECUTION AND FREE CASH FLOW GENERATION**



# KEY TAKEAWAYS

**1** ON has transformed itself into a provider of enabling technologies in strategic end-markets

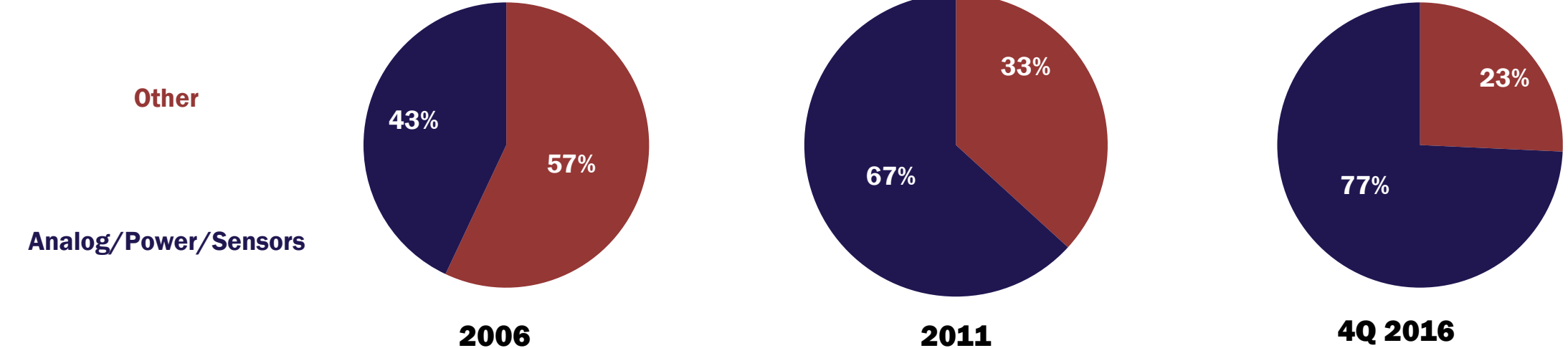
**2** Highly diversified & defensible business with high revenue visibility, & increasing exposure to Auto, Industrial, & Comm. markets

**3** Strong execution on Fairchild integration, raising synergy targets

**4** Margin expansion & accelerated Free Cash Flow<sup>1</sup> generation, even if revenue growth fails to materialize



# EVOLUTION INTO A POWER AND ANALOG PLAYER

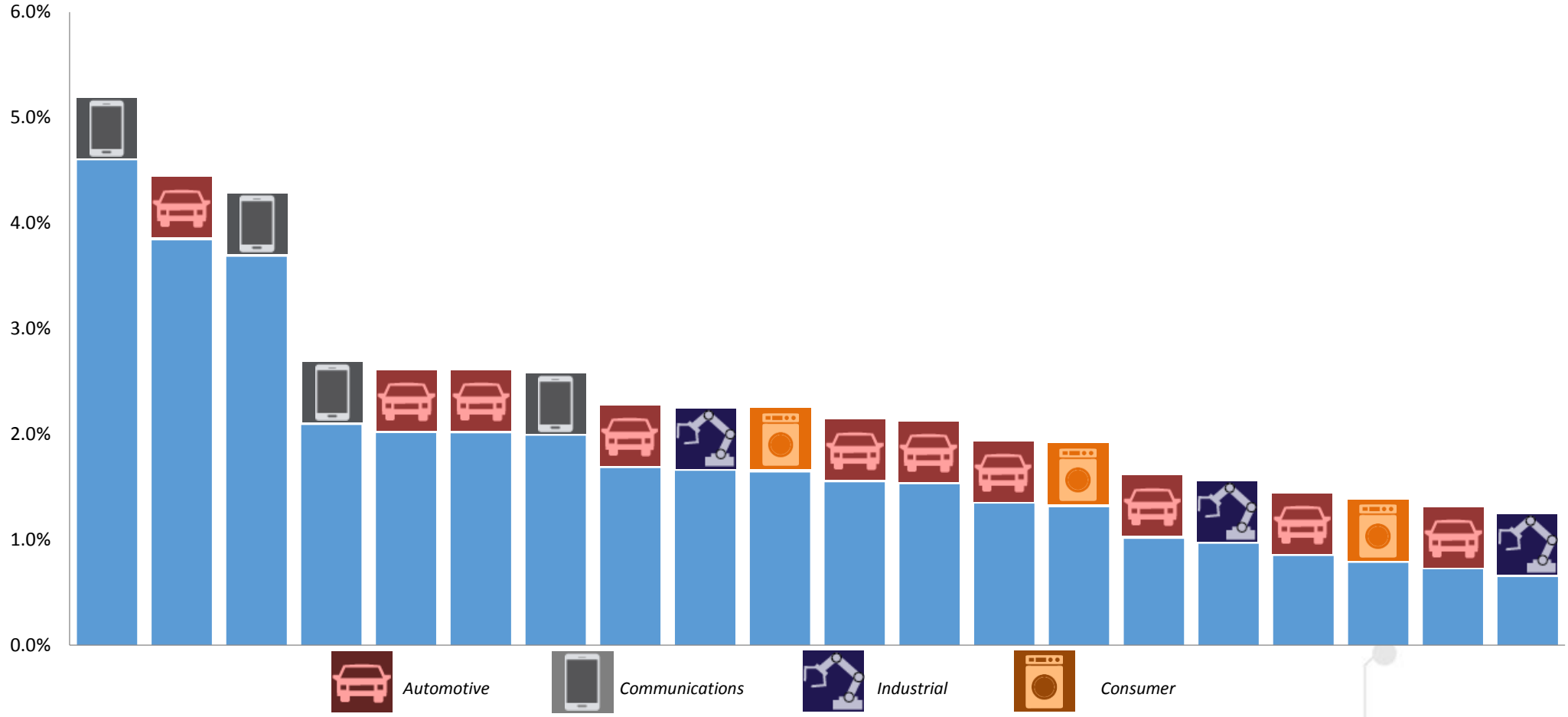


**ON Semiconductor®**





# HIGHLY DIVERSIFIED CUSTOMER BASE



**TOP 20 CUSTOMERS 36% OF 2016<sup>1</sup> REVENUE**

ON Semiconductor®



<sup>1</sup>: FY2016 represents FY16 Pro Forma ON+FCS Revenue

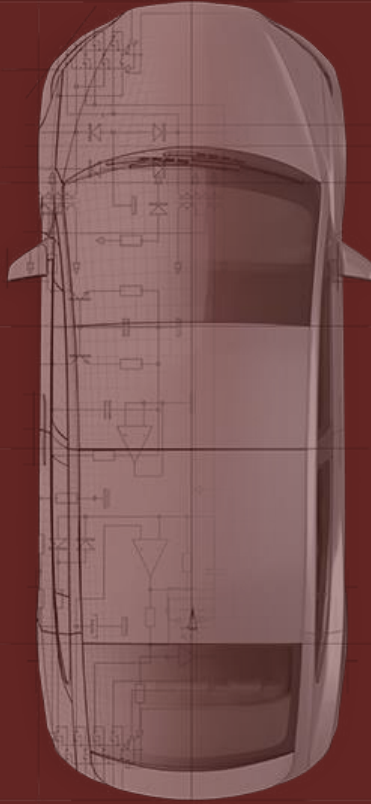
# ENABLING INNOVATION

## AUTOMOTIVE

Sensor fusion for ADAS applications

Vehicle electrification and power management for EV/HEV

Disruptive technologies, such as solutions for ring cabling



## INDUSTRIAL

GaN and SiC based power management solutions

Machine vision for industrial automation, robotics and security applications

Sensors, wireless connectivity and power management for IoT



## COMMUNICATION

High efficiency fast and wireless charging solutions

Complete solutions for USB Type C device connectivity and power delivery

Wireless infrastructure power solutions



# STRATEGIC PRIORITIES

## Growth with Profitability

Invest in markets with sustained profitability and growth:  
Auto, Industrial, Communications

Target innovative products to address power management, sensors, connectivity and other challenges

## Leverage Sales Reach and Distribution Partnerships

Cross-sell products from ON and Fairchild

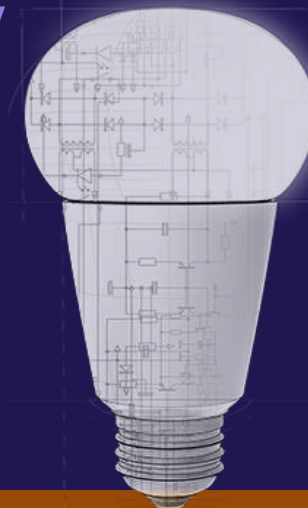
Leverage scale to drive sales through distribution channel

## Continue to Improve Industry Leading Cost Structure

Optimization of front-end production (high volume & low cost) and insourcing of back-end

Synergies from Fairchild acquisition

Sharp focus on margin improvements



# ACCELERATE FREE CASH FLOW GENERATION



# FAIRCHILD INTEGRATION UPDATE

## Exceeding Strategic and Financial Objectives

- Customer and market response better than expected
- Strong execution driving higher than expected synergies

## Solid Strength in Fairchild Revenue

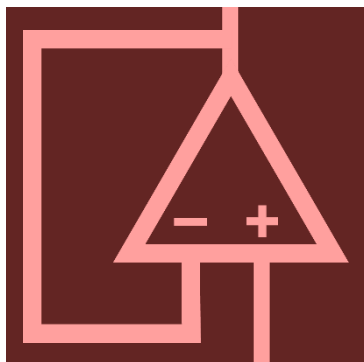
- Positive revenue synergies with Fairchild bookings up 49% year on year
- Significant cross-selling opportunities

## Gross Margin Improvement Program on Track

- Optimization of front-end facilities
- Back-end insourcing to start towards the end of 2017

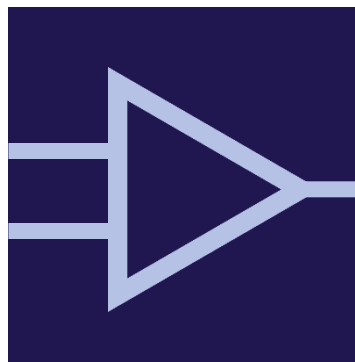


# TRANSFORMATIVE IMPACT OF FAIRCHILD



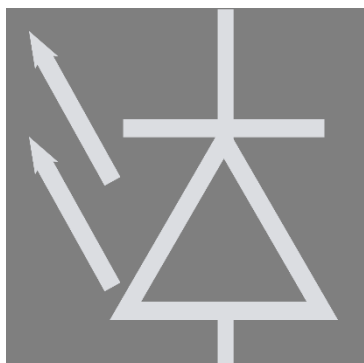
## Catapults ON to a leadership position in power market

- Customers looking for alternative to market leader
- Positions ON as one-stop shop for multiple products and technologies



## Addition of key technologies to ON's portfolio

- Fast charging, USB-C, SiC, HV and MV IGBTs and MOSFETs, Superjunction MOSFETs



## Vastly improved scale and cost structure

- Addition of highly efficient fabs to ON's network
- Operating leverage and efficiency through higher volume



## Strong Free Cash Flow Contribution

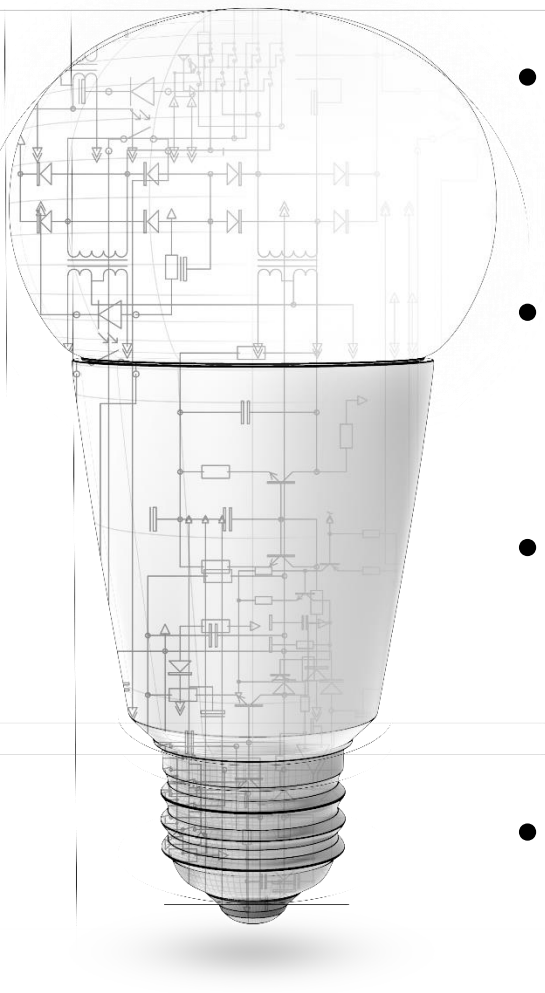
- Projected incremental FCF of \$260m by 2019
- Value creation through rapid deleveraging and capital returns

ON Semiconductor®





# THOUGHTS ON INDUSTRY CONSOLIDATION



- **Industry consolidation to continue**
  - Still too many sub-scale players
  - Significant fragmentation in Analog/Power segment
- **Scale is relative**
  - Larger players will continue to consolidate
  - Maintaining competitive cost structure is critical
- **ON will participate, but as always, in a disciplined manner**
  - Investments will be required to generate returns significantly above cost of capital
  - Focus on adding key technologies and capabilities
- **Collateral benefits**
  - Potential for share gains driven by customer consternation, especially if a foreign entity is involved



# EXTENDING COMPETITIVE ADVANTAGE

**Integrated manufacturing with unrivaled scale<sup>1</sup>**

**Enabling new technologies to address key markets**

**Highly differentiated power management, analog & sensor products**

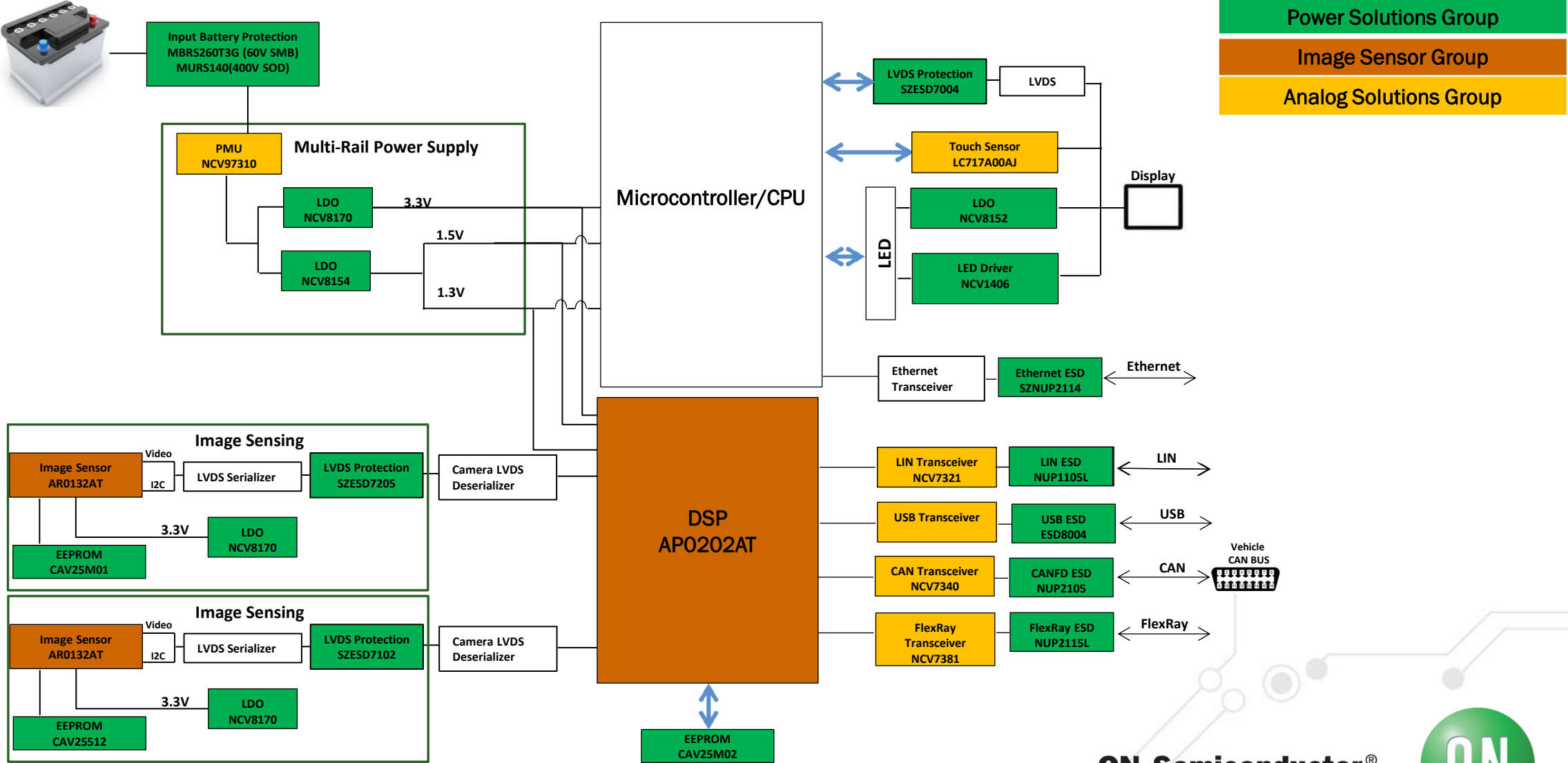
**Synergistic and broad product portfolio with 84k SKUs**

**Industry leading cost structure**

**ACCELERATING MARGIN EXPANSION**



# SYNERGISTIC PORTFOLIO EXAMPLE - ADAS



# VALUE PROPOSITION TO CUSTOMERS

**Enabler of new technologies in power, analog, sensors and connectivity for auto, industrial, and communications markets**

**Focused on providing solutions with synergistic and broad product portfolio of 84,000 SKUs**

**Reliable supplier with industry leading cost structure and operational efficiency**



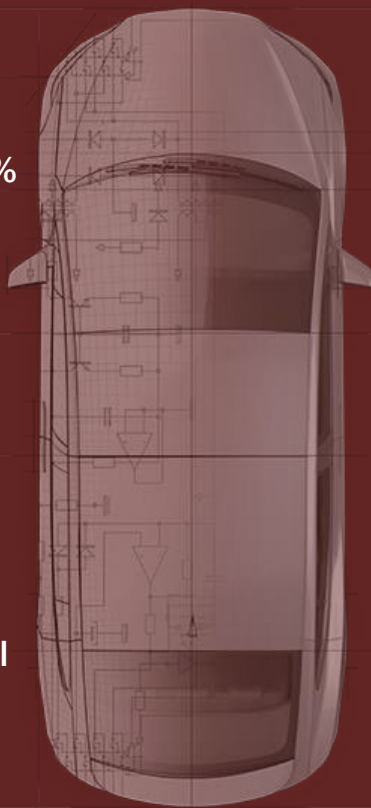
# STRATEGIC FOCUS ON KEY MARKETS

## AUTOMOTIVE

Expected 4 year revenue CAGR of 7-9%

Broad engagement with global market leading Tier-1 integrators & OEMs

Leadership in high growth applications like ADAS, LED lighting, motor control and EV/HEV powertrain

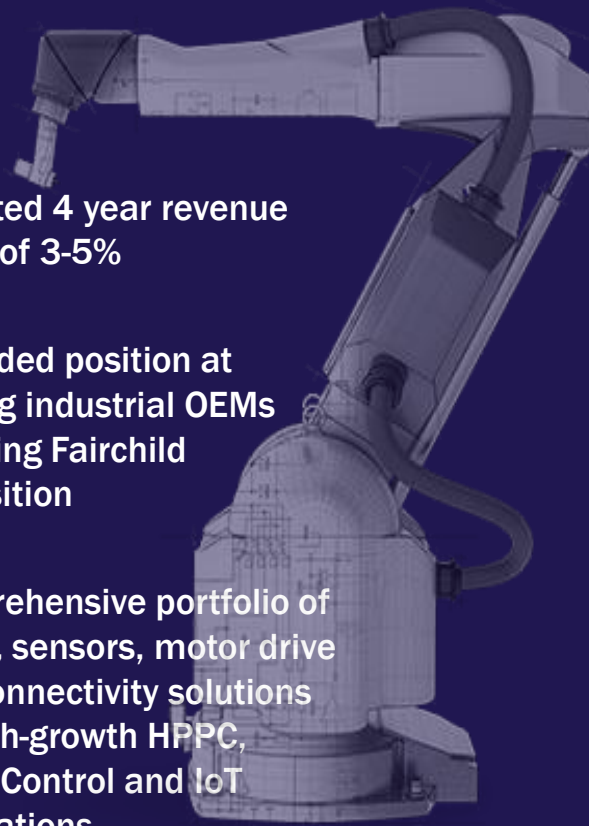


## INDUSTRIAL

Expected 4 year revenue CAGR of 3-5%

Expanded position at leading industrial OEMs following Fairchild acquisition

Comprehensive portfolio of power, sensors, motor drive and connectivity solutions for high-growth HPPC, Motor Control and IoT applications



## COMMUNICATION

Expected 4 year revenue CAGR of 2-4%

Strong position with leading domestic and Chinese OEMs

Expanded solutions portfolio to address high growth fast and wireless charging, USB Type-C and wireless infrastructure power applications



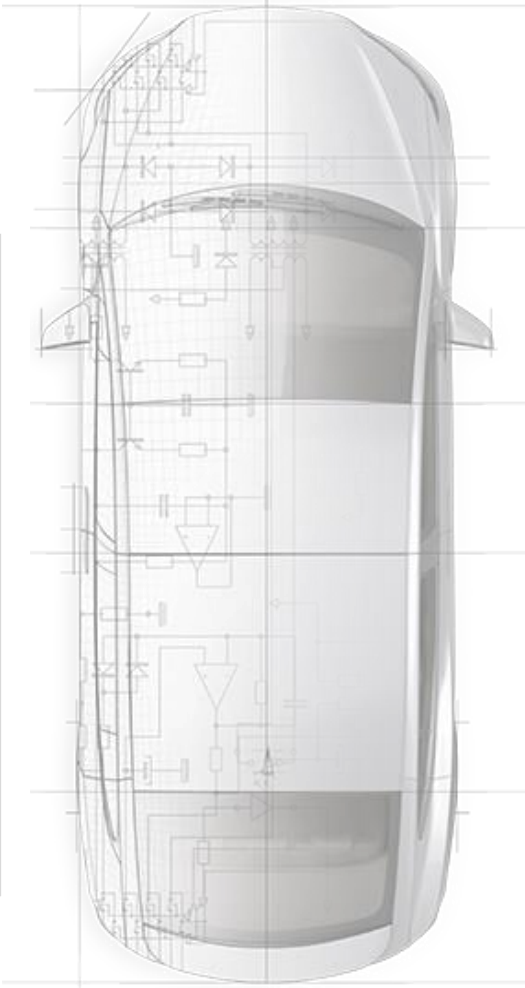
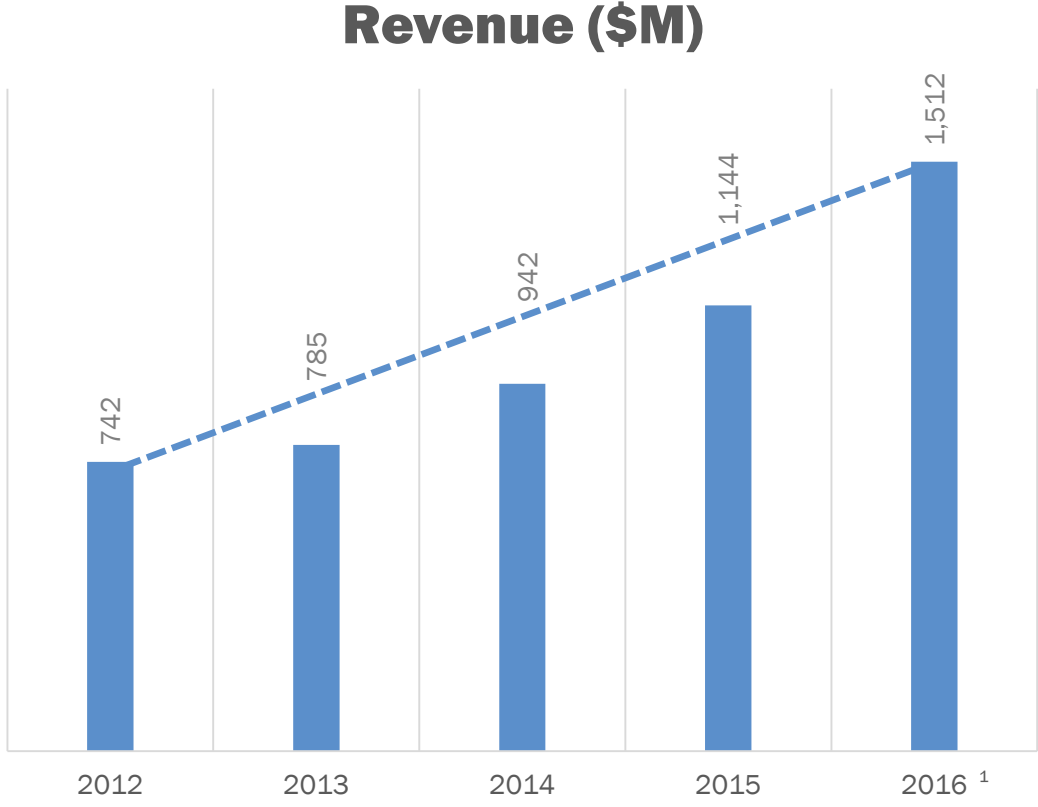
## POSITIONED TO OUTGROW THE SEMICONDUCTOR INDUSTRY






ON Semiconductor®





# AUTOMOTIVE- EXPECTED REVENUE CAGR 7-9%



-  **BODY & INTERIOR**
-  **LIGHTING**
-  **AUTONOMOUS VEHICLES**
-  **VEHICLE ELECTRIFICATION (EV/HEV)**
-  **IN-VEHICLE NETWORKING**

**ON Semiconductor®**



<sup>1</sup>: FY2016 represents 04' 16 Annualized values.

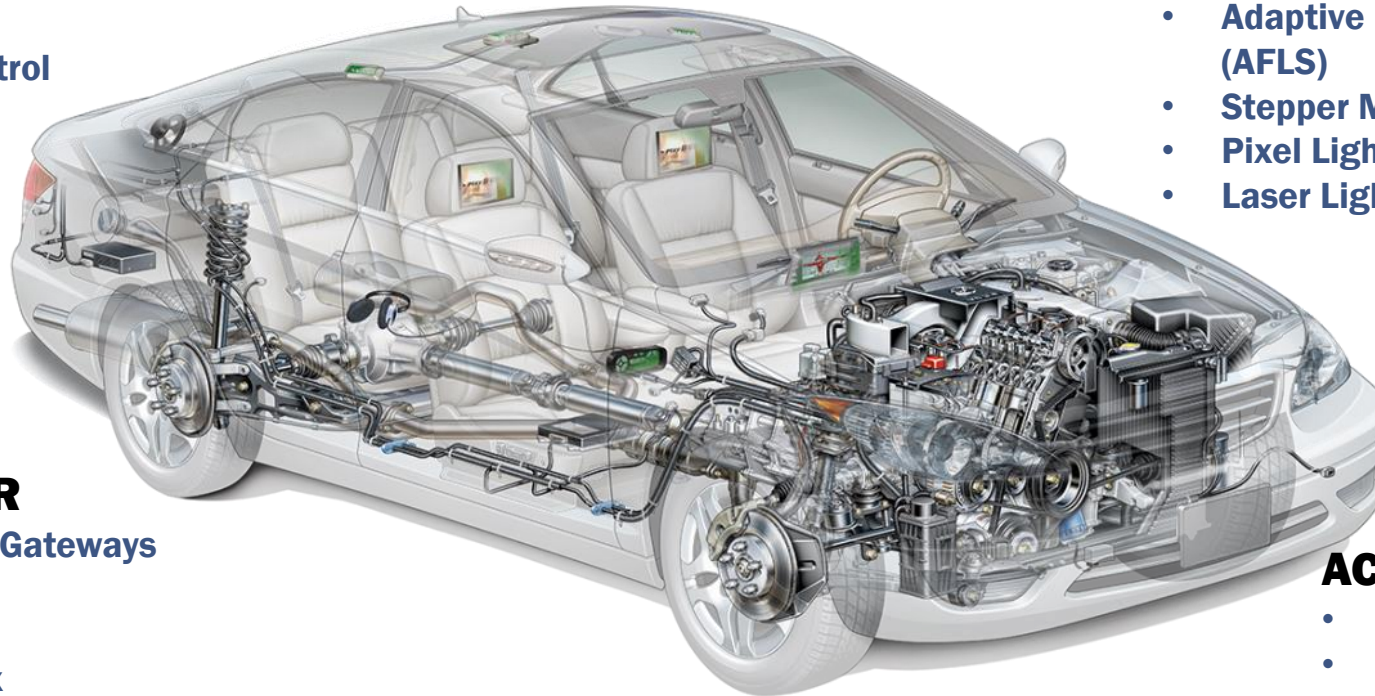
# ADDRESSABLE CONTENT OF \$200-\$400<sup>1</sup> IN AUTOS

## POWERTRAIN

- Engine Control
- Transmission Control
- Ignition
- Throttle Control
- Start-Stop
- 48 V System
- Electrification
- Charging

## BODY & INTERIOR

- Body Computers & Gateways
- HVAC
- Door & Seat
- Smart-Junction Box
- Instrument Clusters
- Infotainment
- Connectivity
- Wireless Charging



## IN-VEHICLE NETWORKING

- LIN/CAN, SBC, FlexRay & Ethernet

## LIGHTING

- LED Exterior
- LED Interior
- Adaptive Front Lighting System (AFLS)
- Stepper Motor Control
- Pixel Lighting
- Laser Lighting

## ACTIVE SAFETY

- Rear View Camera
- Surround View Camera
- Park Assist
- Forward-Looking ADAS
- In-Cabin ADAS
- E-Mirror

ON Semiconductor®



# A LEADER IN VEHICLE ELECTRIFICATION

## ON-BOARD CHARGER

650 V SJ MOSFETs  
650 V Si/SiC Rectifiers/FETs  
Automotive HV modules  
Gate drivers

650 V IGBTs

650 V GaN transistors  
Op-amps & current sense  
DC-DC, LDO, IVN, ASIC

## BATTERY MANAGEMENT

40 V FETs (lowest RDS(on))

## MAIN DRIVE

650/1200 V Rectifiers  
1200 V SiC Rectifiers/FETs

650/1200 V IGBTs

650 V GaN transistors  
Op-amps & current sense  
DC-DC, LDO, IVN, ASIC

## 12V 48V DC-DC

80/100 V FETs  
Half-bridge drivers (high speed)

40 V FETs  
Op-amps & current sense  
DC-DC, LDO, IVN, ASICs

## HV LOADS

650 V SJ MOSFETs  
650 V Si/SiC Rectifiers/FETs

650 V IGBTs  
Half-bridge drivers  
P-channel MOSFETs

650 V GaN transistors  
Automotive modules  
Op-amps & current sense  
DC-DC, LDO, IVN, ASICs

FAIRCHILD

ON

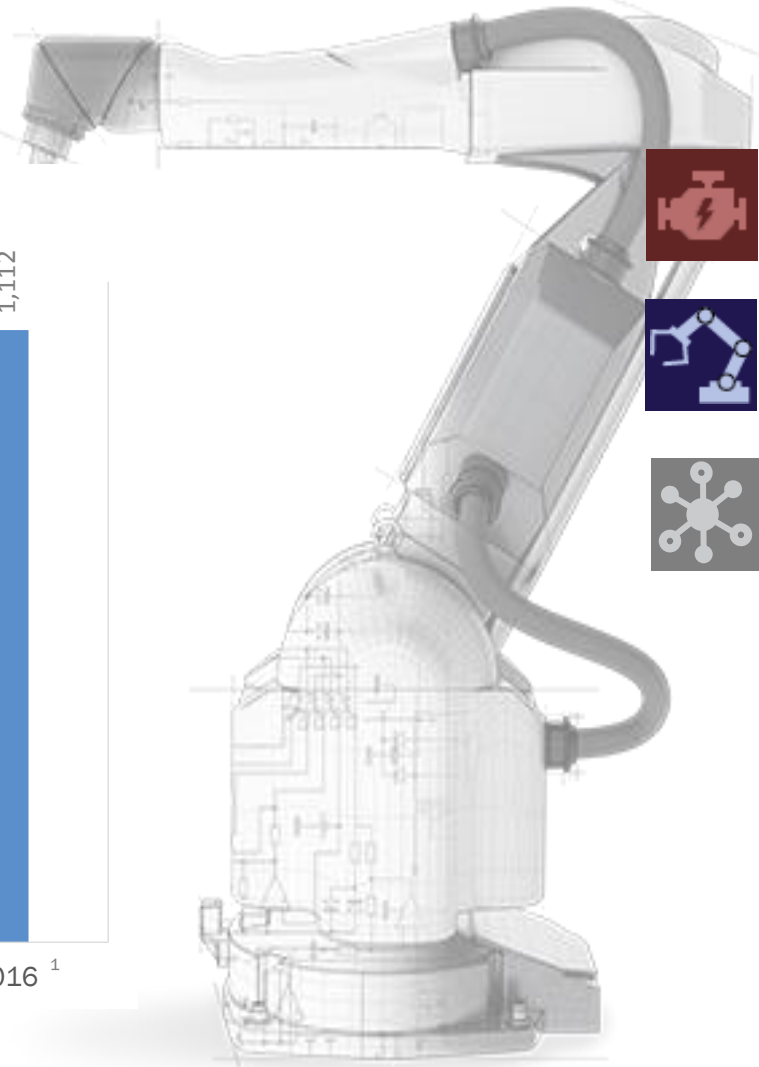
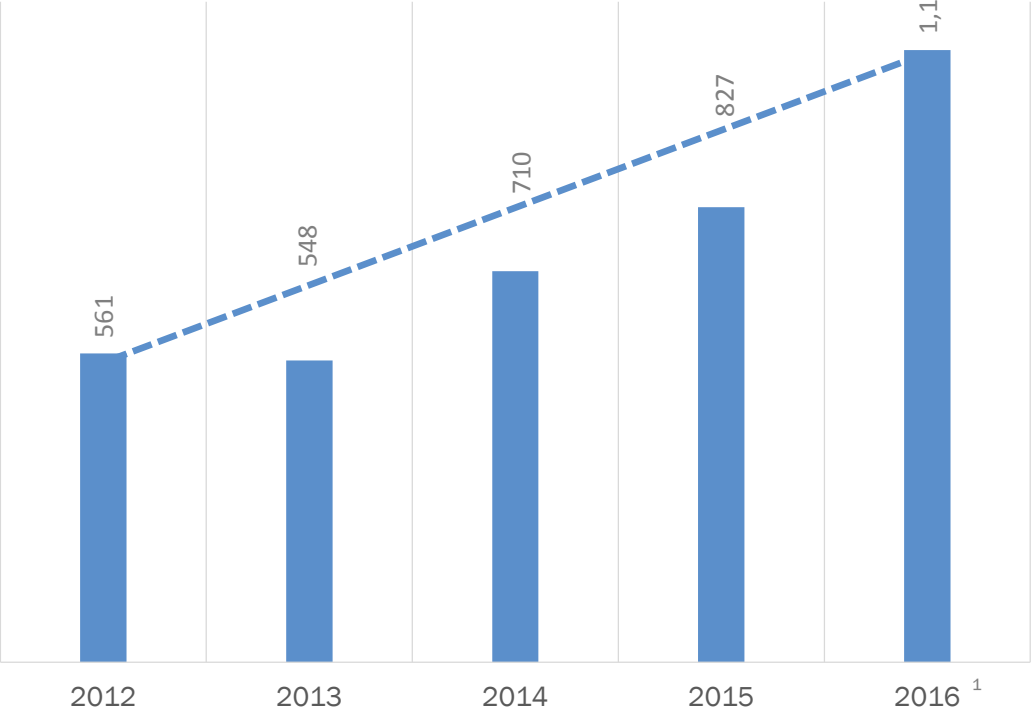
Shared  
Portfolio

ON Semiconductor®

ON

# INDUSTRIALS- EXPECTED REVENUE CAGR 3-5%

Revenue (\$M)



**HIGH PERFORMANCE POWER CONVERSION**



**INDUSTRIAL AUTOMATION**



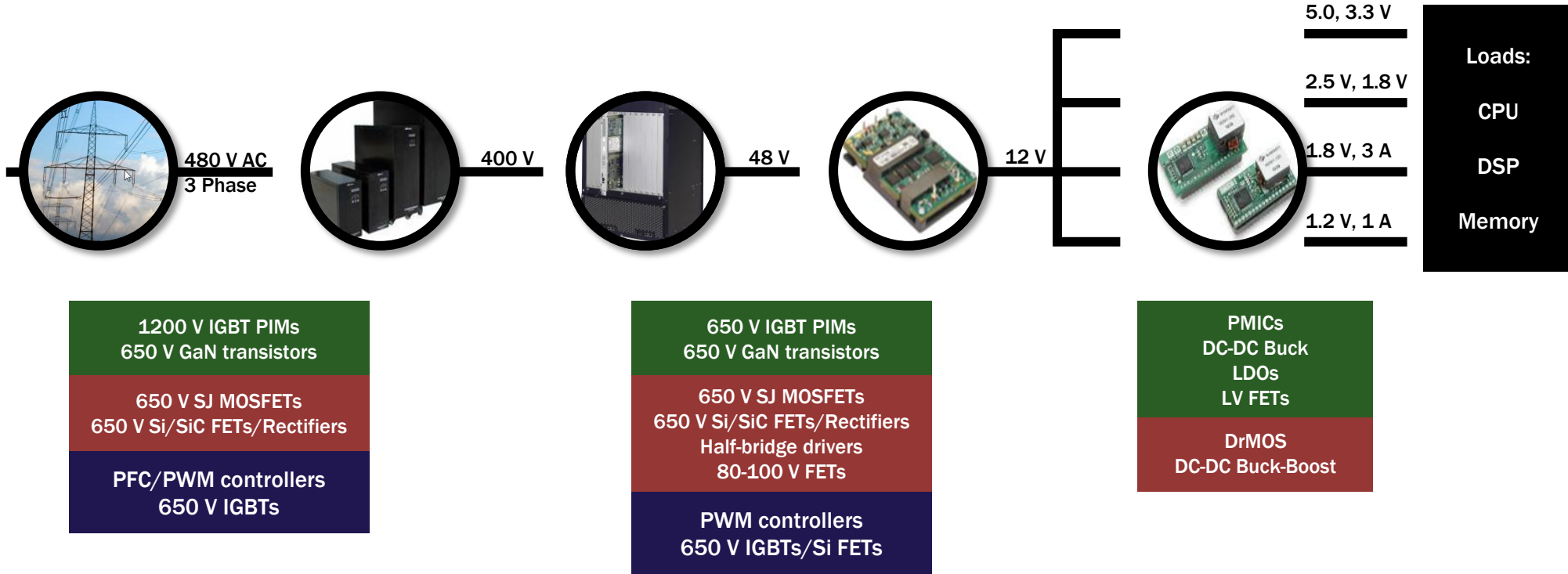
**INTERNET OF THINGS**

**ON Semiconductor®**



<sup>1</sup>: FY2016 represents 04' 16 Annualized values.

# A LEADER IN HIGH PERFORMANCE POWER CONVERSION

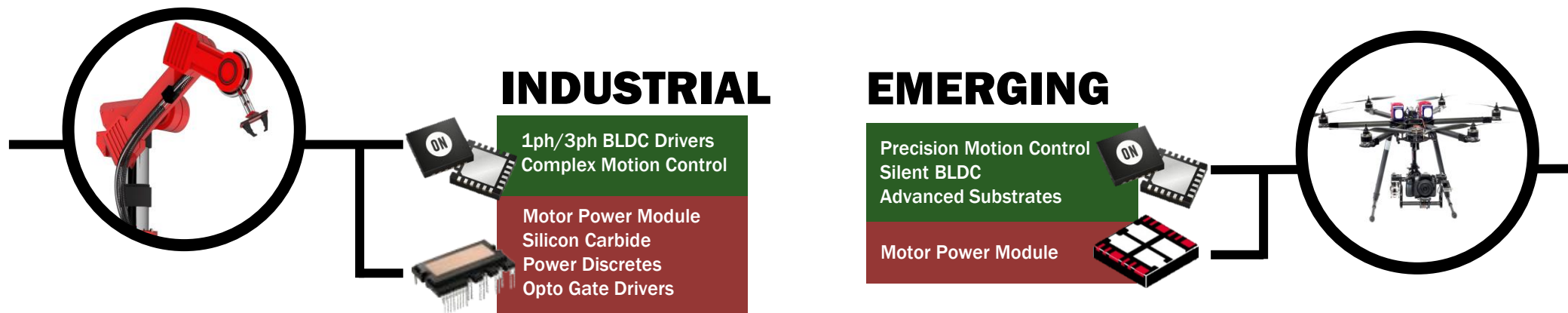


ON Semiconductor®





# A LEADER IN MOTOR CONTROL

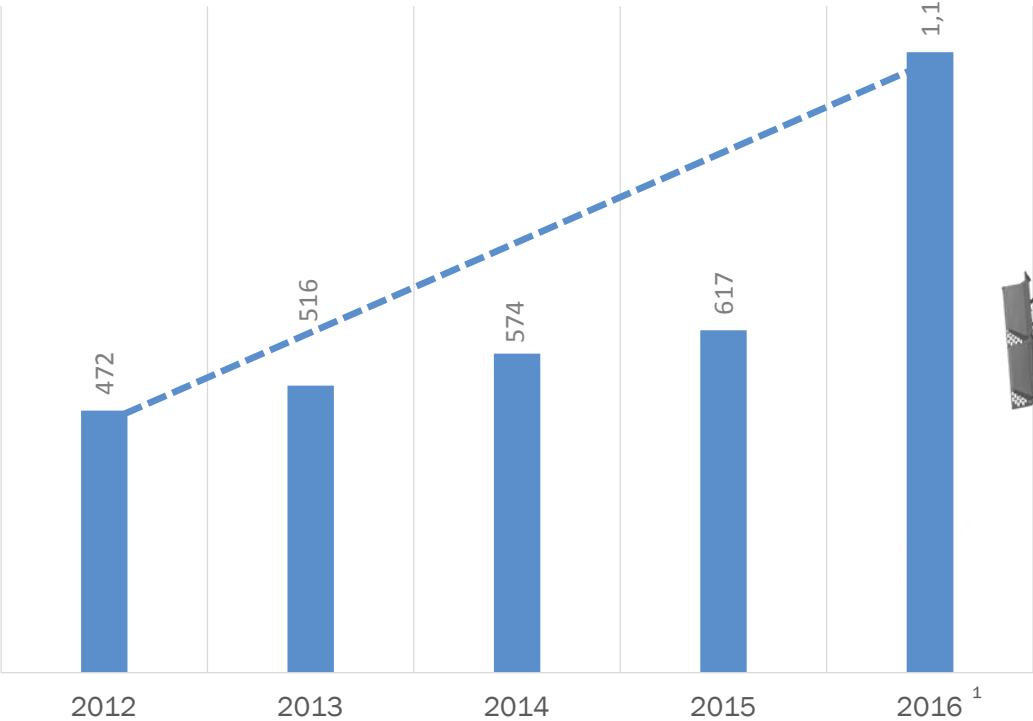


ON Semiconductor®



# COMMUNICATIONS - EXPECTED REVENUE CAGR 2-4%

Revenue (\$M)



**USB TYPE C**



**FAST & WIRELESS CHARGING**

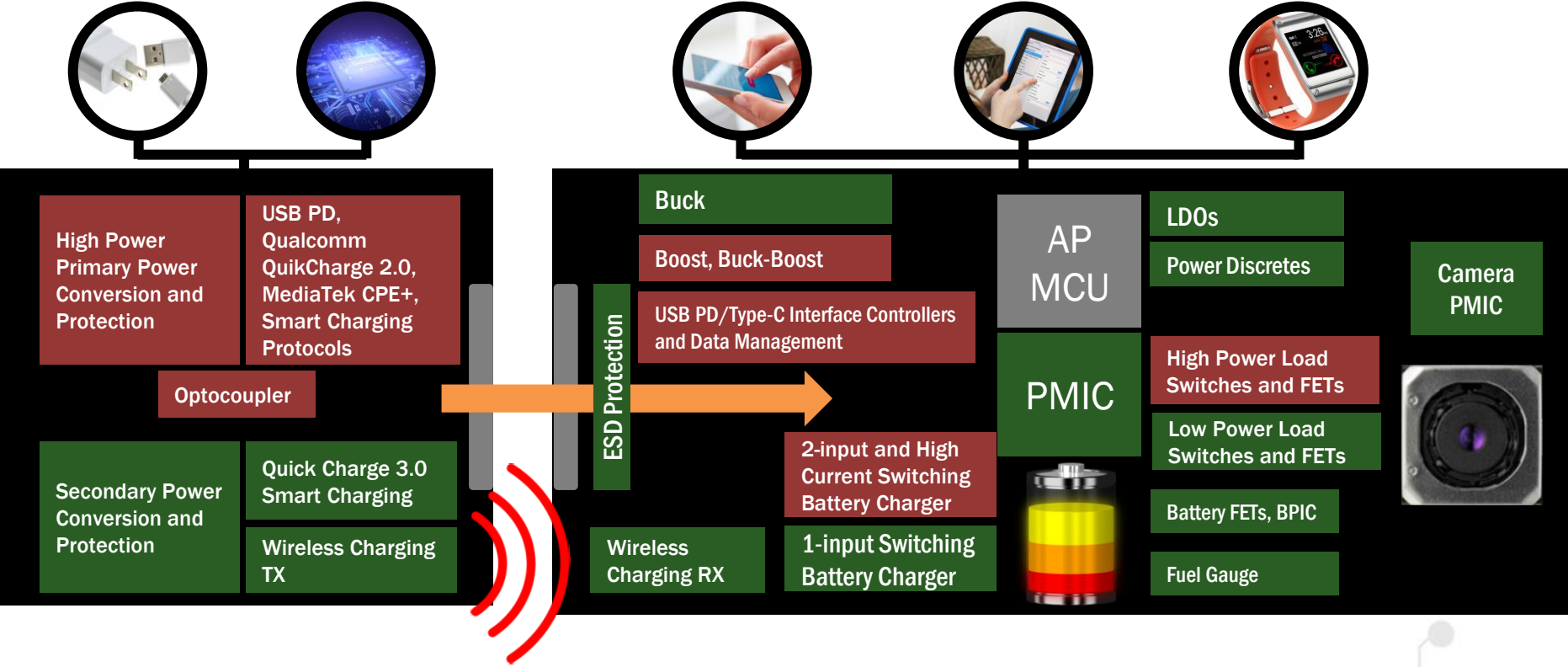


**WIRELESS INFRASTRUCTURE POWER**



<sup>1</sup>: FY2016 represents 04' 16 Annualized values.

# ADDRESSABLE CONTENT OF \$9 IN SMARTPHONES



ON Semiconductor®



# SUMMARY

**1 ON HAS TRANSFORMED ITSELF AS PROVIDER OF ENABLING TECHNOLOGIES FOR ITS STRATEGIC END-MARKETS – AUTOMOTIVE, INDUSTRIAL, AND COMMUNICATIONS**

**2 FOCUS ON ACCELERATING FREE CASH FLOW AND EXPANDING MARGINS THROUGH OPERATIONAL IMPROVEMENTS AND SYNERGIES**

**3 FAIRCHILD INTEGRATION AHEAD OF SCHEDULE – RAISING SYNERGIES TARGETS**



# Questions & Answers





# ANALOG SOLUTIONS GROUP



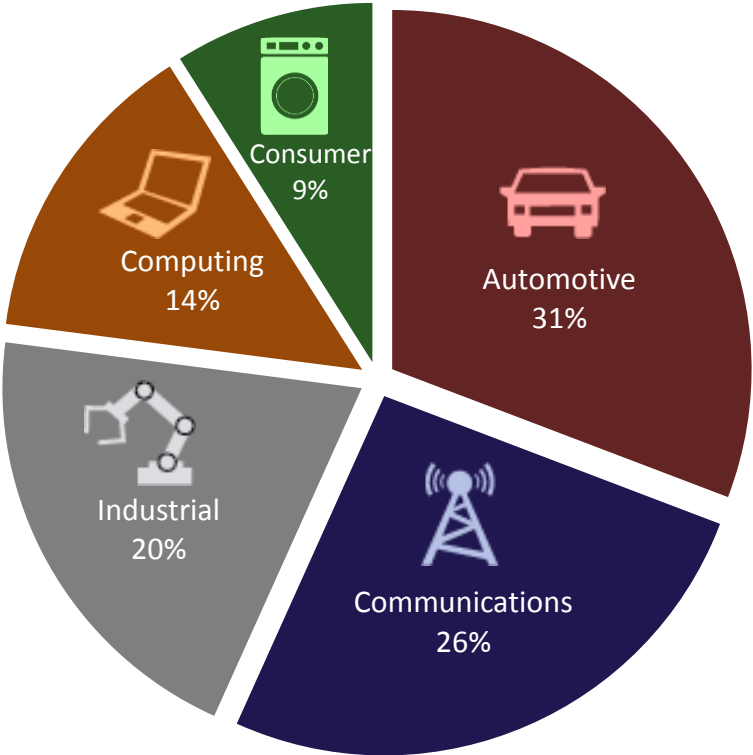
**Bob Klosterboer, Executive Vice President**

## **ENERGY EFFICIENT ANALOG SOLUTIONS FOR AUTOMOTIVE, INDUSTRIAL & COMMUNICATIONS**



# ANALOG SOLUTIONS GROUP (ASG)

## 4Q16 REVENUE BY MARKET



### AUTOMOTIVE

Leader in automotive power management, LED lighting control, & sensor interface ICs. Growth driver - ADAS power



### COMMUNICATIONS

Leader in wall to battery charging solutions and power management. Growth drivers - USB-C & intelligent charging



### INDUSTRIAL

Leader in ASICs and motor control. Growth drivers - IoT communication and mobile medical

**ANNUALIZED 2016<sup>1</sup> REVENUE \$1.9B**

**GROSS MARGIN 39%**

**ON Semiconductor®**



1: Annualized 2016 results based on 4Q16 actual results

# KEY TAKEAWAYS

**1** Continue to drive growth in key strategic markets – automotive, industrial, and communications

**2** Sharp focus on margin expansion through cost reduction and portfolio management

**3** Innovative and disruptive products and technologies for IoT Edge devices

**4** Expanding beyond ICs to providing complete solutions, including modules and software



# ASG STRATEGIC INTENT AND GOALS

**1 MARKET LEADERSHIP IN ANALOG POWER MANAGEMENT MARKET**

**2 CONTINUE TO GROW AT RATE TWICE THAT OF MARKET THROUGH TARGETING INNOVATIVE PRODUCTS FOR RAPIDLY GROWING APPLICATIONS**

**3 DIFFERENTIATION THROUGH INTEGRATION AND POWER EFFICIENCY**

**4 EXPAND MARGINS THROUGH OPERATION IMPROVEMENTS AND OPEX RATIONALIZATION**

**5 2020 TARGET MODEL - REVENUE \$2.1B, NON-GAAP GROSS MARGIN 45%**

ON Semiconductor®



# FAIRCHILD ADDS TO STRENGTH

**1** +\$300M OF MOBILE BUSINESS WITH MARKET LEADING CUSTOMERS

**2** COMPLETE AND ROBUST PORTFOLIO OF USB TYPE-C AND POWER DELIVERY SOLUTIONS

**3** NEW CUSTOMERS AND APPLICATIONS IN INDUSTRIAL OFF LINE POWER CONVERSION

**4** ALIGNED CLOUD COMPUTING CAPABILITY AND ROADMAP WITH ON COMPUTING BUSINESS

ON Semiconductor®

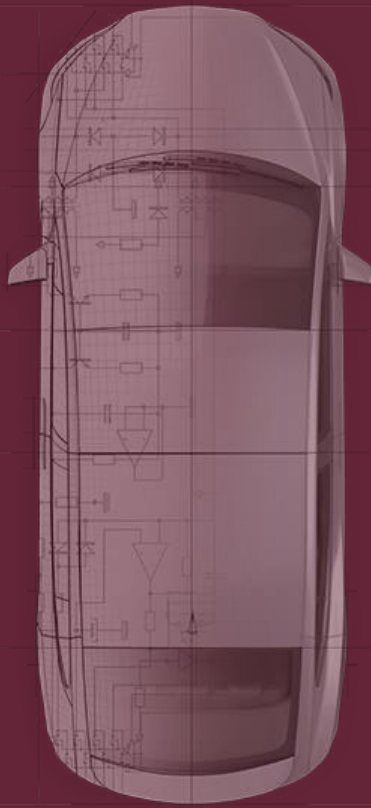


# ASG GROWTH OPPORTUNITIES IN STRATEGIC MARKETS

## AUTOMOTIVE

31% of revenue

Key Applications  
ADAS, Lighting, Body,  
Safety, Infotainment,  
Powertrain



## INDUSTRIAL

20% of revenue

Key Applications  
Building Control,  
Industrial Motor,  
Cloud Power,  
Industrial IOT,  
Robotics, Medical



## COMMUNICATION

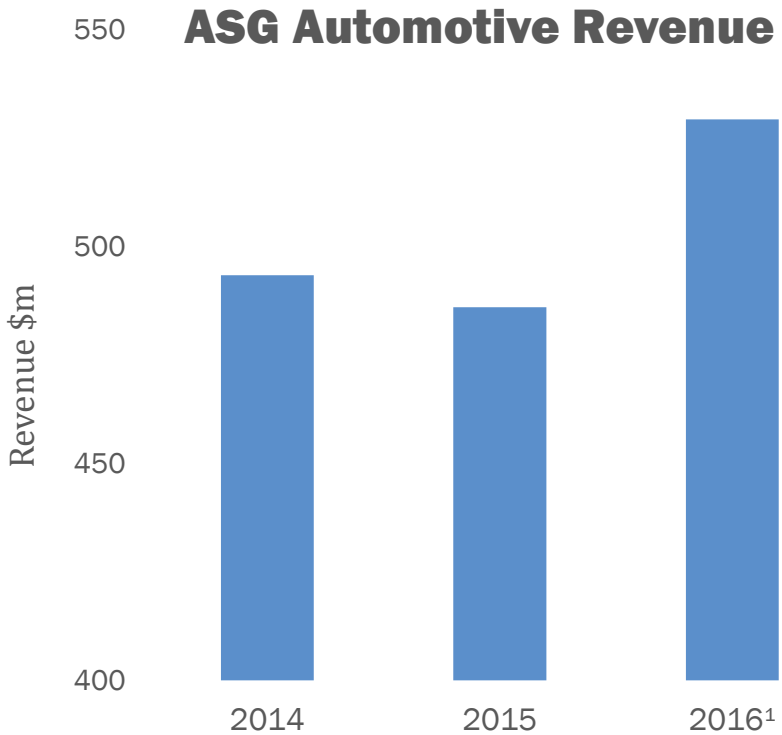
26% of revenue

Key Applications  
Smartphone, Tablet,  
Adaptors, Wearables,  
Netcom

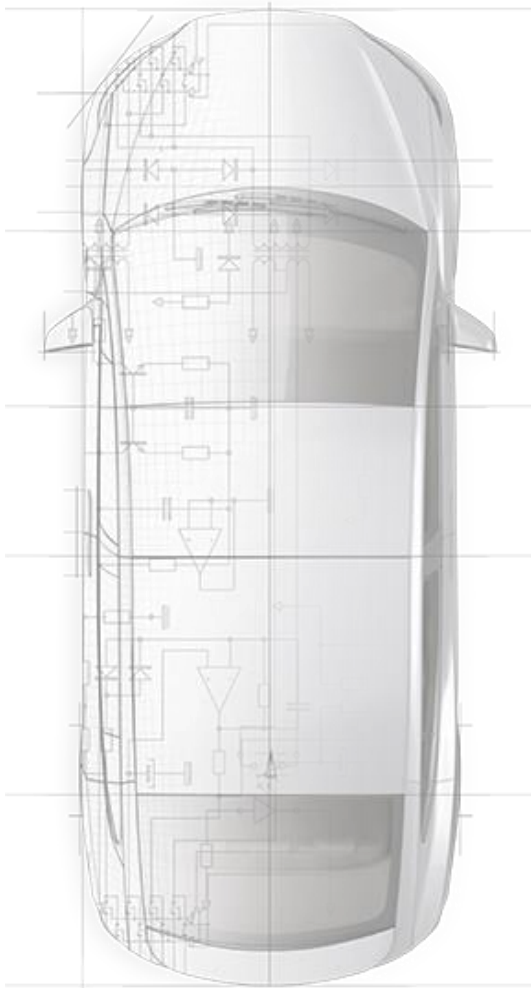









# ASG CURRENT AUTOMOTIVE MARKET



**#1 IN LIGHTING SOLUTIONS**



## ADDRESSABLE CONTENT PER LIGHT VEHICLE: \$90

-  **POWERTRAIN**
-  **BODY/LIGHTING**
-  **SAFETY/ADAS**
-  **INFOTAINMENT**
-  **IN-VEHICLE COMMUNICATION**

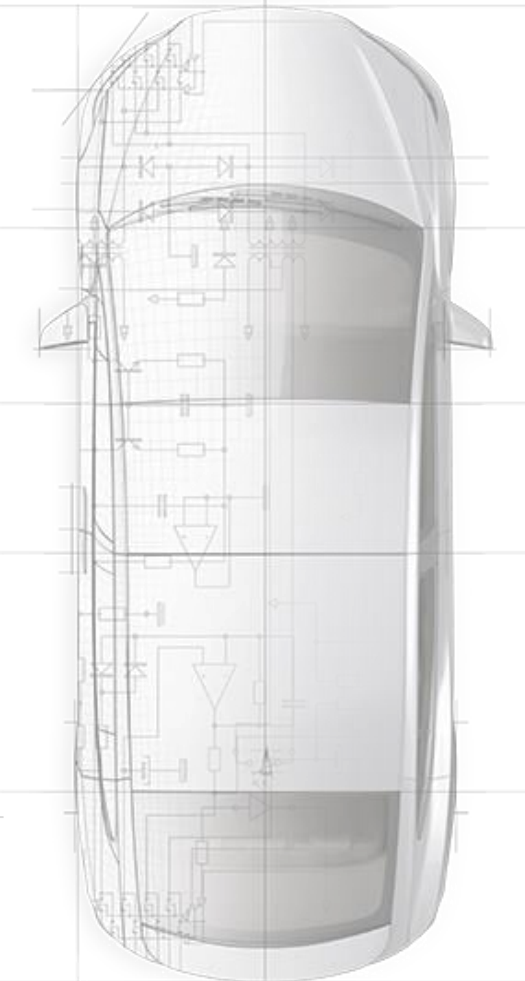
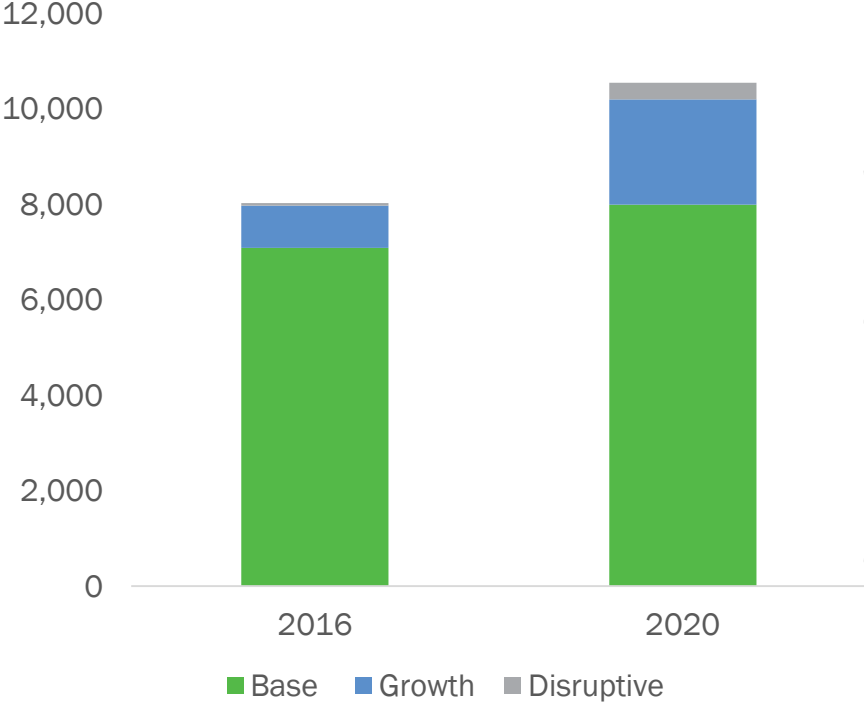
**ON Semiconductor®**



Source: Strategic Analytics 01 2017 – Power, Linear, Small Signal. 1: FY2016 revenue represents 04' 16 Annualized values.

# ASG KEY AUTOMOTIVE GROWTH DRIVERS

**Automotive TAM (\$M)**



- POWER MANAGEMENT**  
More computing power
- SENSOR INTERFACE**  
Driver assistance
- LVDS, FLEXRAY**  
Higher speed data
- SMART FETS**  
Central control

**ON Semiconductor®**



Source: Strategic Analytics

# AUTOMOTIVE “Expanding content and capabilities”

## ADAS

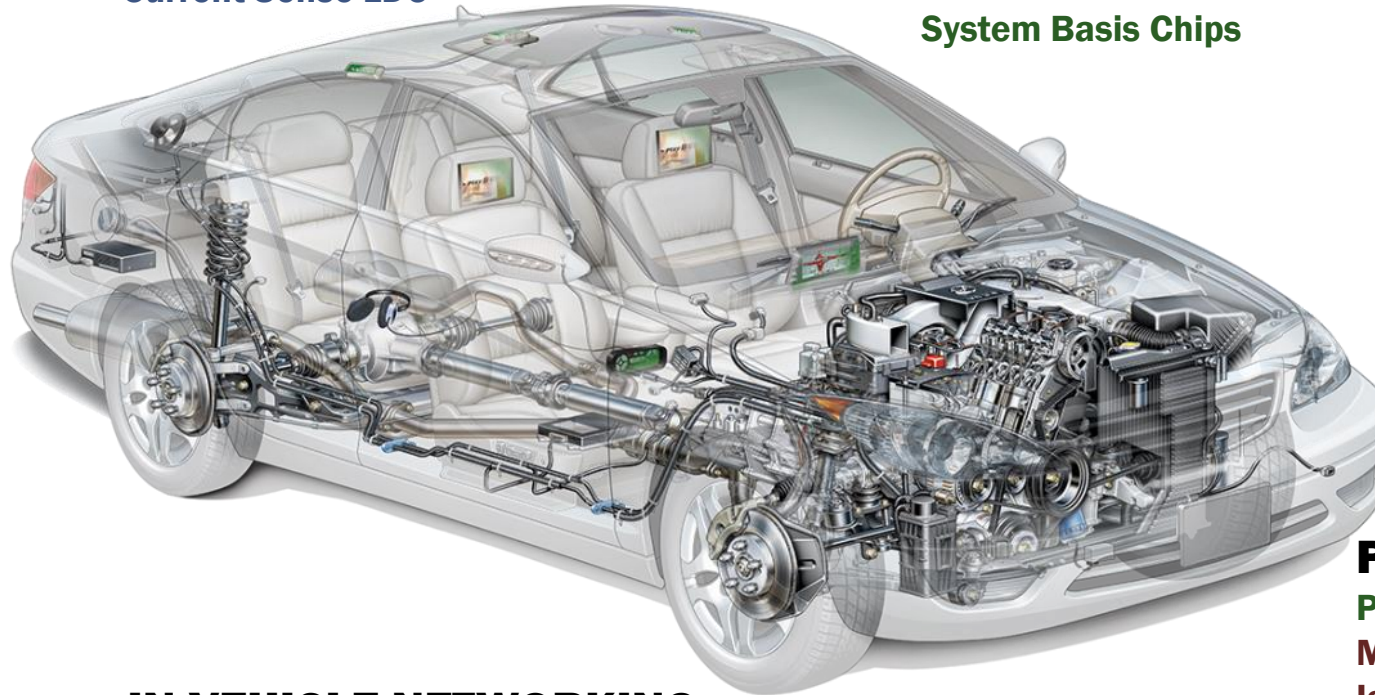
Power Supplies  
System Basis Chips  
Motor Control  
Smart FETs  
Ultrasonic Sensor I/F  
Image Sensor support

## ELECTRIFICATION

Inductive Sensor I/F IP  
Start-Stop – ASIC/ASSP  
Power Supplies  
System Basis Chips  
Current Sense LDOs  
Battery Monitoring

## ACTIVE SAFETY

ASIC  
Power Supplies  
Current Sense LDO



## INSTRUMENT CLUSTERS

LED Backlight  
Power Supplies  
Smart FETs  
System Basis Chips

## LIGHTING

Full LED AFS  
LIN RGB  
SMPS  
SBC  
Motor Control  
Backlighting  
Smart FETs HS  
Pixel Lighting

## IN-VEHICLE NETWORKING

System Basis Chips (SBC)  
FlexRay  
Ethernet  
CAN Partial Network  
LIN relay

## POWERTRAIN

Pressure Sensor I/F IP  
Multi-Spark IGBT  
Igniters  
Transmission Control  
Knock Sensor Interface

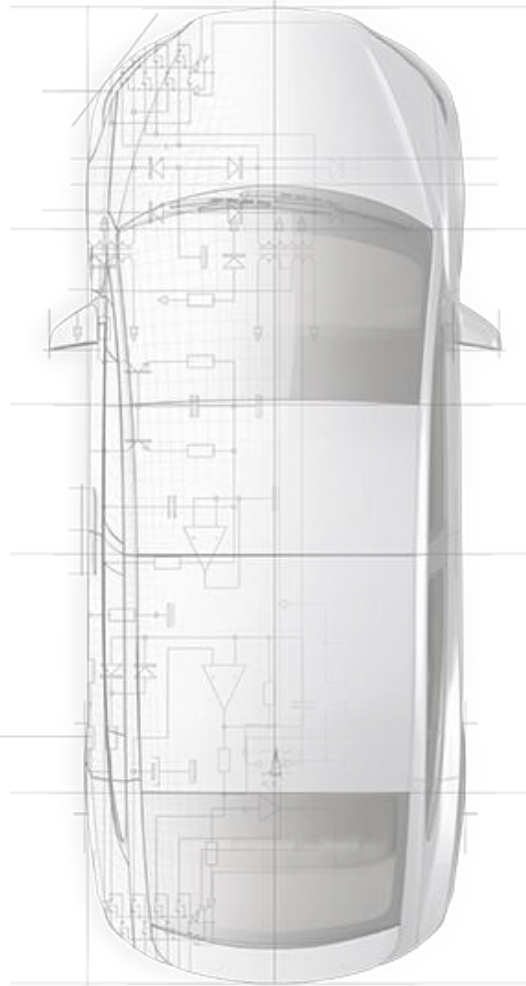
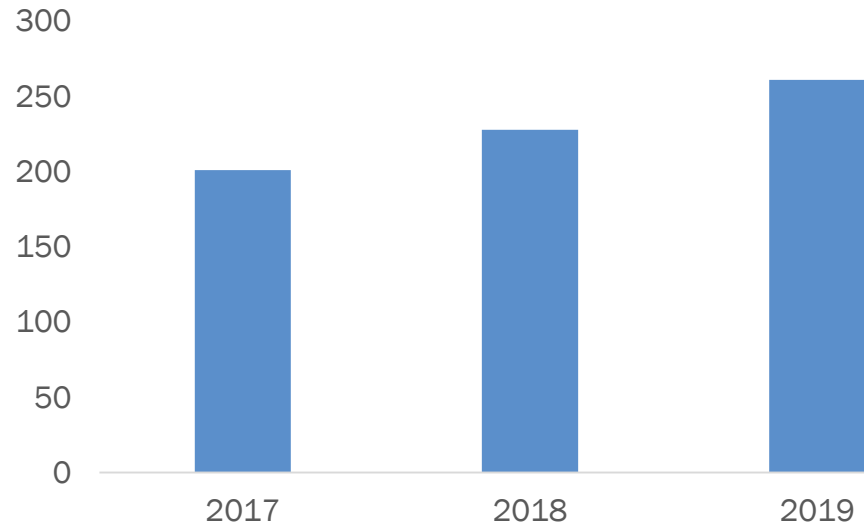
Strong Offering  
Major Investment  
Fairchild Additions

ON Semiconductor®



# LEADERSHIP IN AUTOMOTIVE LED LIGHTING

Auto LED Lighting SAM (\$M)



**#1 IN AUTOMOTIVE LIGHTING MOTION CONTROL**



**#2 IN AUTOMOTIVE LED POWER**



**FRONT LIGHTING CONTENT PER CAR UP TO \$16**



**REAR AND INTERIOR LIGHTING CONTROL**



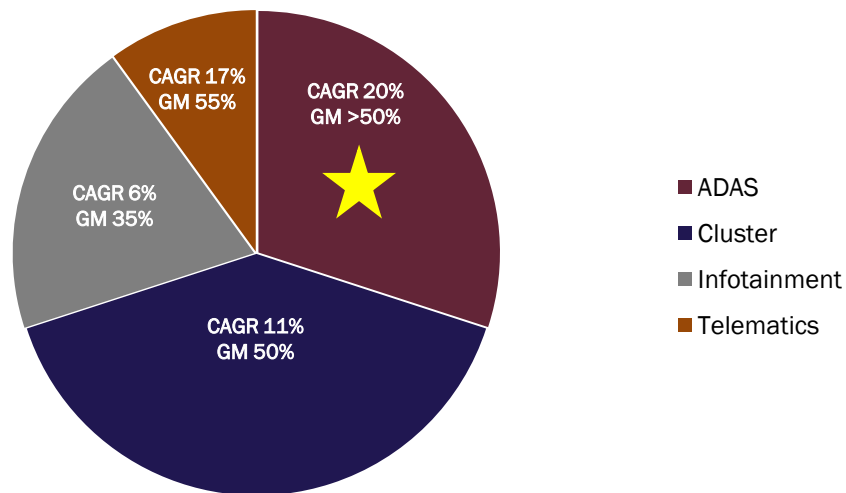
**WINNING:**  
CONTINENTAL, HELLA, MAGNETI-MARELLI,  
OSRAM, LEAR, VALEO, KEBODA, MELCO, ZKW

**ON Semiconductor®**



# EXTENDING POWER OPPORTUNITY IN ADAS

## 2015 High Growth Applications \$500M



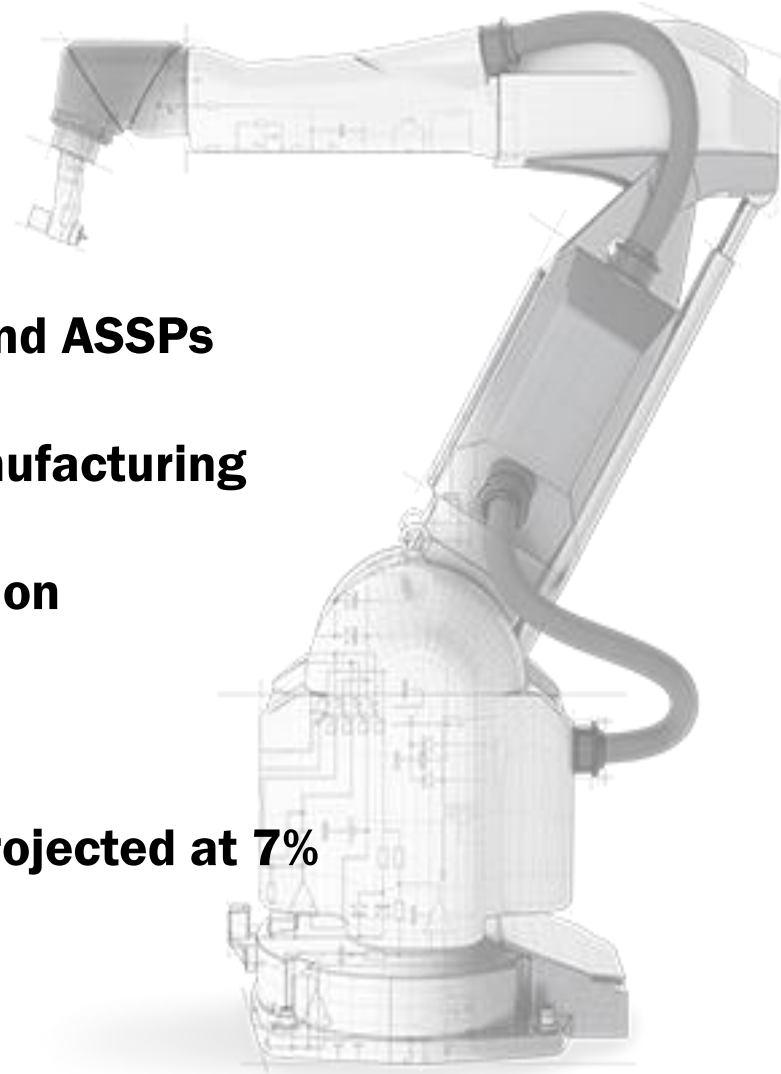
## Power Supply Content per Vehicle

			ASIL Level
<b>VCM</b> (Vision Control Module)	1 / Vehicle	\$8	D
<b>RADAR/LIDAR</b> (24, 77 and 79GHz)	6 to 10 / Vehicle	\$12 - \$20	B/C
<b>CAMERAS</b> (Rear & surround view)	5 to 12 / Vehicle	\$5 - \$12	A/B
<b>ULTRASONIC</b>	5 to 15 / Vehicle	\$2 - \$6	A/NA






ON Semiconductor®



# ASG CURRENT INDUSTRIAL MARKET



- **#1 in Industrial ASICs and ASSPs**
- **Trusted Design and manufacturing**
- **Efficient power conversion**
- **Long product lifecycles**
- **2016 to 2020 growth projected at 7%**

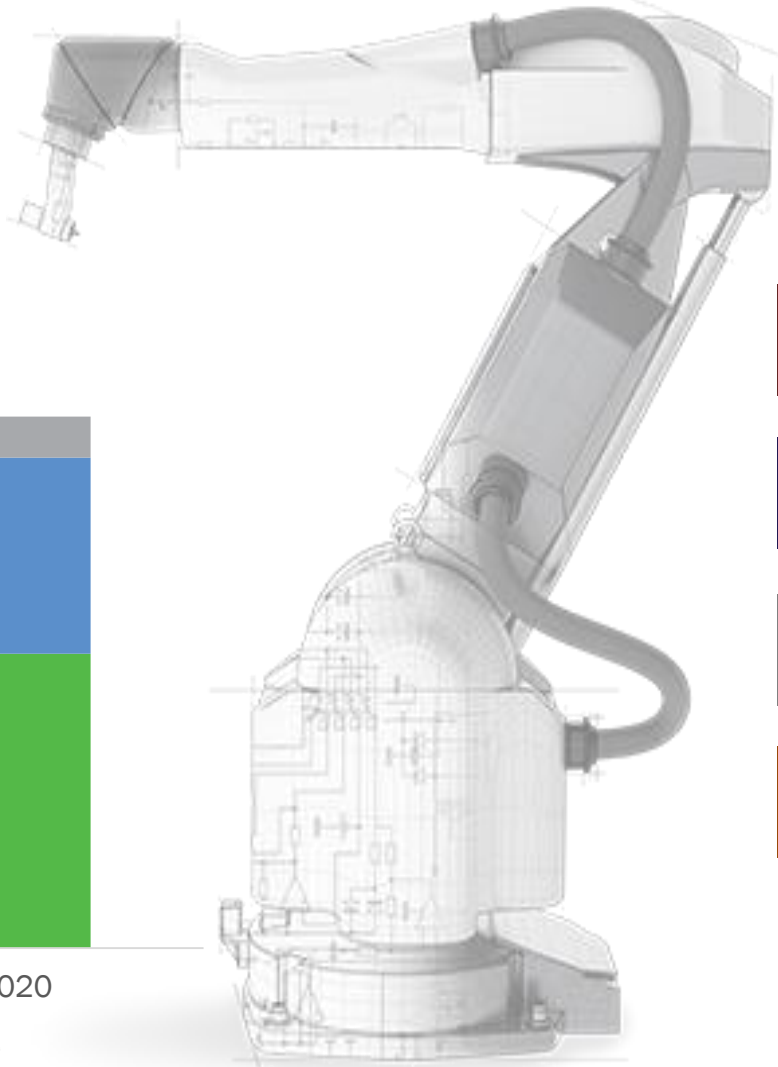
-  **Medical Imaging**  
**FASTER WITH HIGHER QUALITY**
-  **IoT Edge Node**  
**STANDARDS BASED COMMUNICATION**
-  **Circuit Breaking**  
**INTELLIGENT SWITCHING**
-  **LED Lighting**  
**CONNECTED HIGH EFFICIENCY**
-  **Motor Control**  
**PRECISION**

ON Semiconductor®

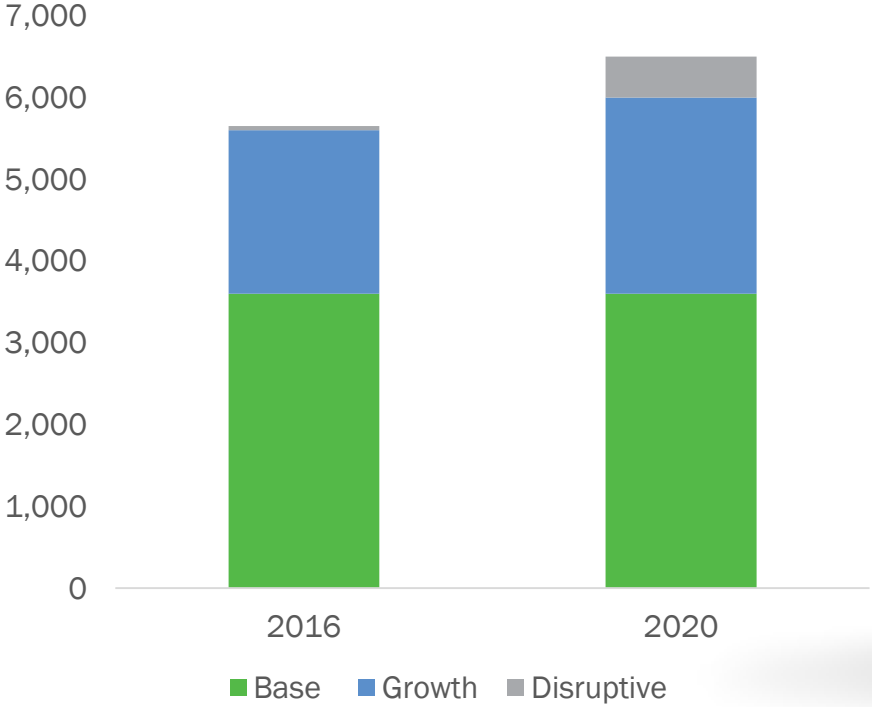








# ASG KEY INDUSTRIAL GROWTH DRIVERS



**Industrial TAM (\$M)**



-  **Mobile Medical**  
**ULTRA LOW POWER BLE 5.0**
-  **Connected Sensing and Control**  
**ZIGBEE | THREAD | SIGFOX**
-  **Robotics**  
**PRECISION MOTOR CONTROL**
-  **Safety and Security**  
**SMART BREAKERS**

**ON Semiconductor®**

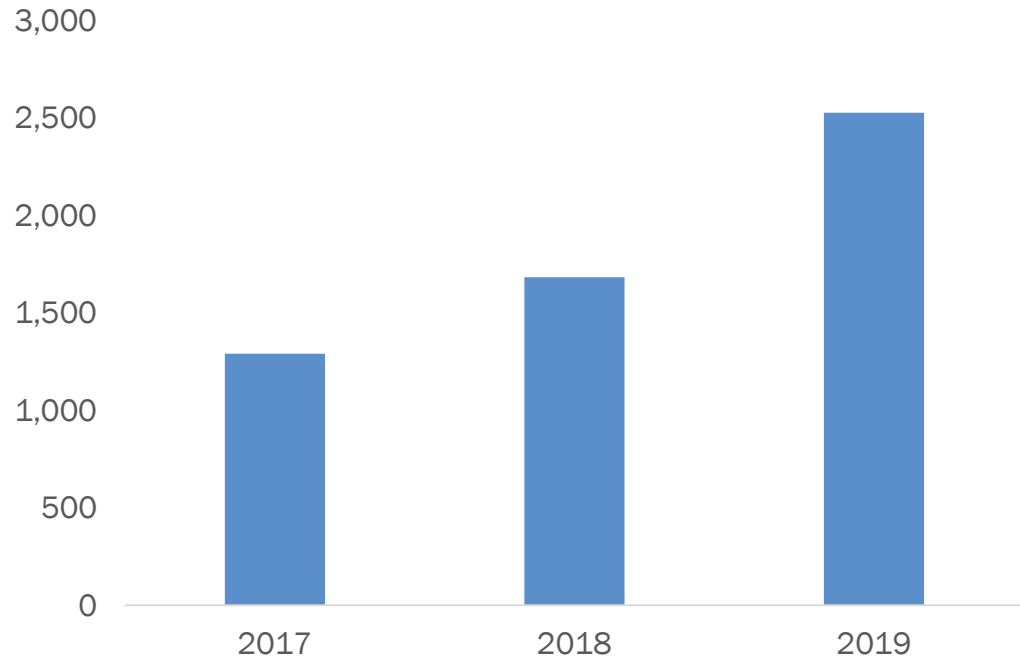


Source: Strategic Analytics



# INTELLIGENT CHARGING

Intelligent Charging SAM (\$M)



**#1 IN TRAVEL ADAPTOR**



**FIRST TO MARKET WITH A4WP SOLUTIONS**



**INTELLIGENT CHARGING SOLUTIONS ARE A KEY GROWTH DRIVER: CAGR 34%**



**1ST TRUE MULTI-MODE SOLUTIONS SUPPORTING ALL STANDARDS**



**INTELLIGENT CHARGING ADDS UP TO \$0.20 PER DEVICE**

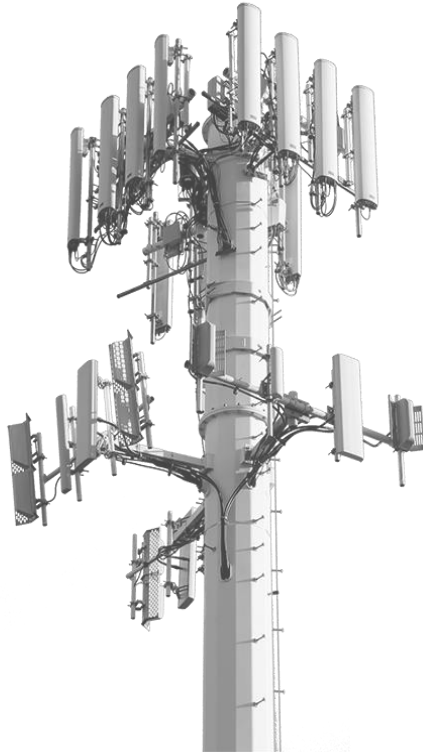
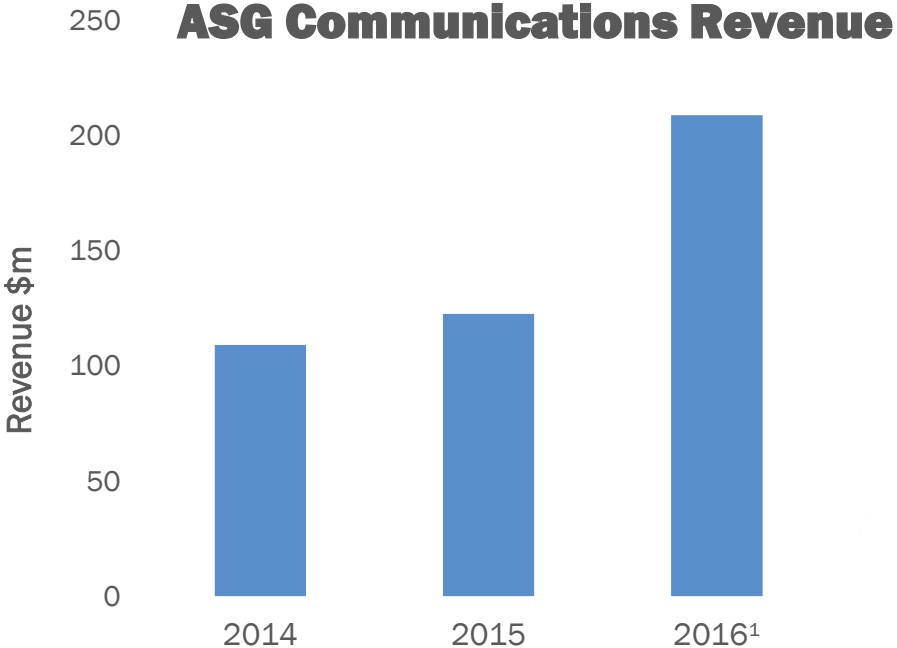


**WIRELESS CHARGING CONTENT PER PHONE UP TO \$1**

**ON Semiconductor®**



# ASG COMMUNICATIONS MARKET



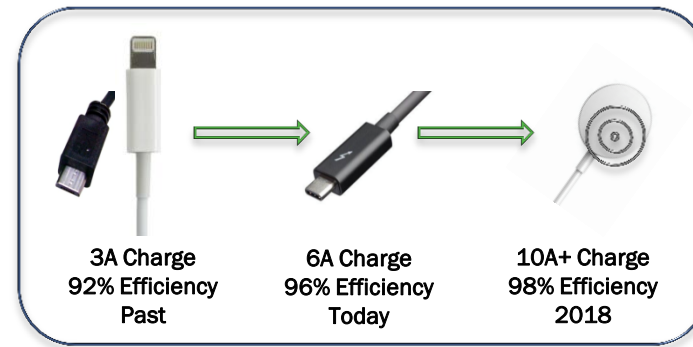
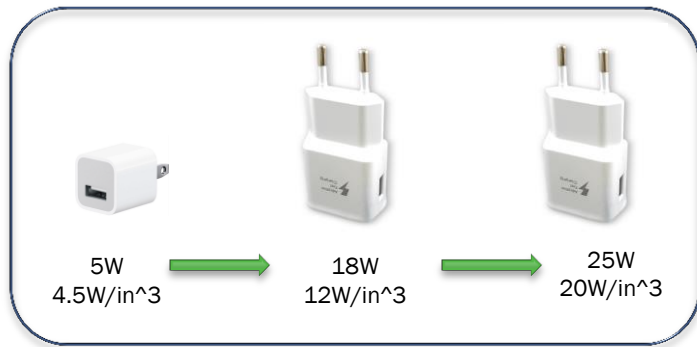
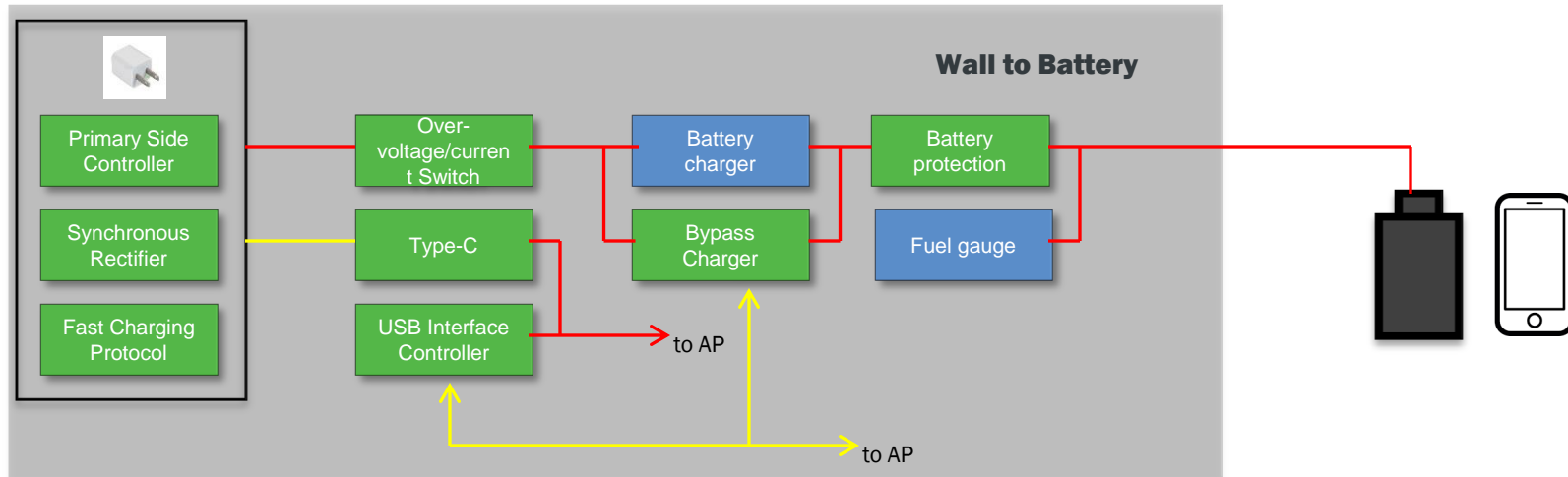
- POWER MANAGEMENT**  
Bigger Smarter Phone
- FASTER CHARGING**  
Complete wall to battery charging solutions
- RF TUNING**  
Better reception

ON Semiconductor®



Source: Strategic Analytics Q1 2017 – Power, Linear, Small Signal. <sup>1</sup>: FY2016 represents Q4' 16 Annualized values.

# MOBILE SOLUTIONS - WALL TO BATTERY SOLUTION

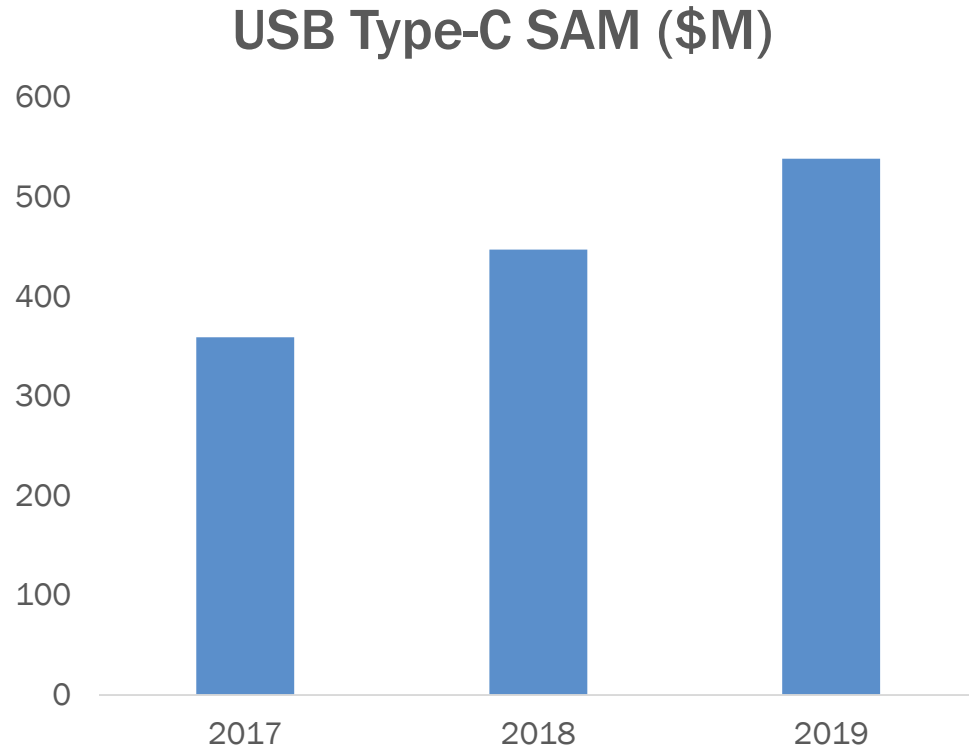


**Faster charge times + higher density + higher efficiency = increased content**

**ON Semiconductor®**



# LEADERSHIP IN USB TYPE-C



**1ST TO MARKET WITH A CERTIFIED 10GHZ SUPERSPEED SOLUTION ADDING \$0.75 PER PORT**

**ON USB CONTENT PER PHONE UP TO \$1.50**

**USB TYPE-C AND AUDIO MULTIPLEXING ADDING \$0.35 PER PORT**

**ACTIVE CABLES WILL PROVIDE \$40M OF NEW SAM IN 2017 - CAGR >60%**

**WINNING :  
HUAWEI, ASUS, LG, BBK, LENOVO/MOTOROLA,  
HTC, MEIZU, GOPRO, SAMSUNG, SONY, ZIMI,  
COOPER**


ON Semiconductor®



# ASG LEVERAGING COMPUTING STRENGTH INTO GROWTH


**COMPUTING**

- Interface
- Clocking
- Dr.MOS
- Sky Lake Content Notebook: \$2.65



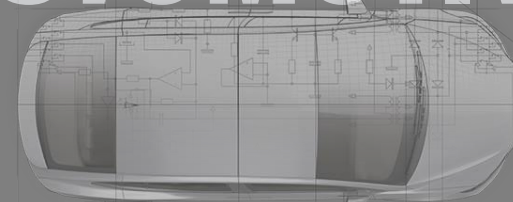
**CLOUD**

- Interface
- Clocking
- Dr.MOS
- Purley Content 2P System: ~\$50




**AUTOMOTIVE**

- #1 Position in VCORE
- Interface
- Clocking
- Dr.MOS
- ADAS Vcore Content Intel "Brain": \$8.00



**MOBILE**

- Interface
- Clocking
- Dr.MOS
- Multiphase Content High End: \$2.20



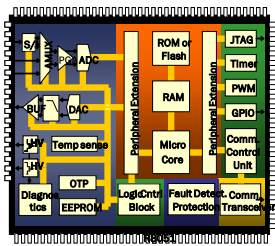
# TOTAL SOLUTION ECOSYSTEM



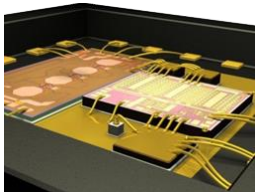
Standard Products



ASSPs



Full Custom Solutions



Multi-chip Solutions

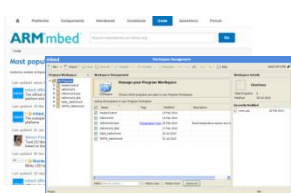
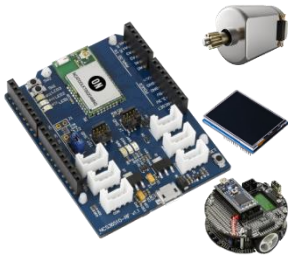


Devices

Modules & SIPs

Development Hardware

Development Software



ON Semiconductor®



# ASG MARGIN IMPROVEMENT PLANS

## GROSS MARGIN IMPROVEMENT OPPORTUNITIES

- Insourcing of Fairchild assembly and test
- Innovative test strategies
- Portfolio management
- Scrap reduction
- Factory rationalization

## OPERATING MARGIN IMPROVEMENT OPPORTUNITIES

- Fairchild Synergies
- Eliminate redundant R&D activities
- Allocate headcount to higher growth markets
- Direct headcount growth to low cost development centers
- Innovative prototyping to reduce high cost tooling
- Closer customer collaboration to improve R&D yield

**600 BPS OF GROSS MARGIN IMPROVEMENT<sup>1</sup>**

ON Semiconductor®



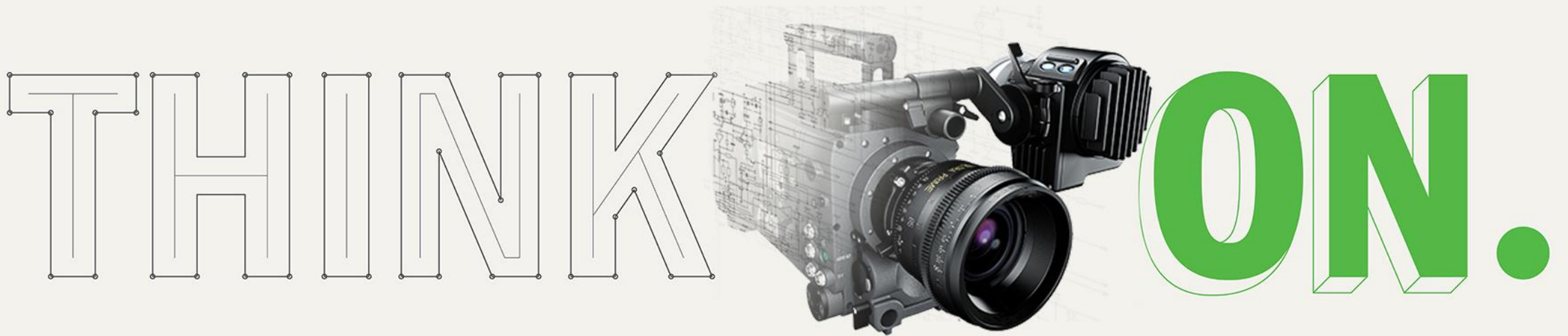


# SUMMARY

- 1 DRIVING GROWTH IN AUTOMOTIVE AND INDUSTRIAL**
- 2 REUSING TECHNOLOGIES AND IP TO ADDRESS FAST GROWING MARKETS**
- 3 DISRUPTIVE TECHNOLOGIES IN INTELLIGENT CHARGING & IOT CONNECTIVITY**
- 4 EXECUTING ON MARGIN EXPANSION ROADMAP**
- 5 SYNERGISTIC PORTFOLIO WITH OTHER BUSINESS GROUPS**



# IMAGE SENSOR GROUP



**Taner Ozcelik, Senior Vice President**

# INNOVATING VISION BEYOND THE HUMAN EYE



# KEY TAKEAWAYS

1

Leader in fast growing automotive image sensor market, which is expected to grow 24% annually for next 5 years

2

Optimized portfolio with approximately 80% exposure to automotive and industrial markets

3

Margin expansion through mix improvement, new high margin products for industrial market, supplier diversification, yield improvements and COGS reduction

4

Driving growth through innovation and extending ADAS portfolio to include radar for autonomous driving



# #1 IN MISSION CRITICAL APPLICATIONS

## AUTOMOTIVE

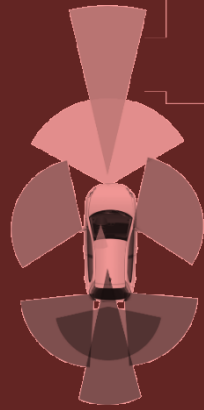
ADAS

Surround View

Mirror Replacement

Driver Monitor

AR<sup>1</sup>



## INDUSTRIAL



Inspection systems

Security

Flat Panel Inspection

Machine Vision

Traffic cameras

## SPACE



Planet Labs

Satellites

WorldView-4  
Satellite

Star Trackers

Mars Curiosity Rover

Juno Orbiter

## MEDICAL

Portable Diagnostics

Digital Radiography

Disposable Endoscopy

Endoscopy

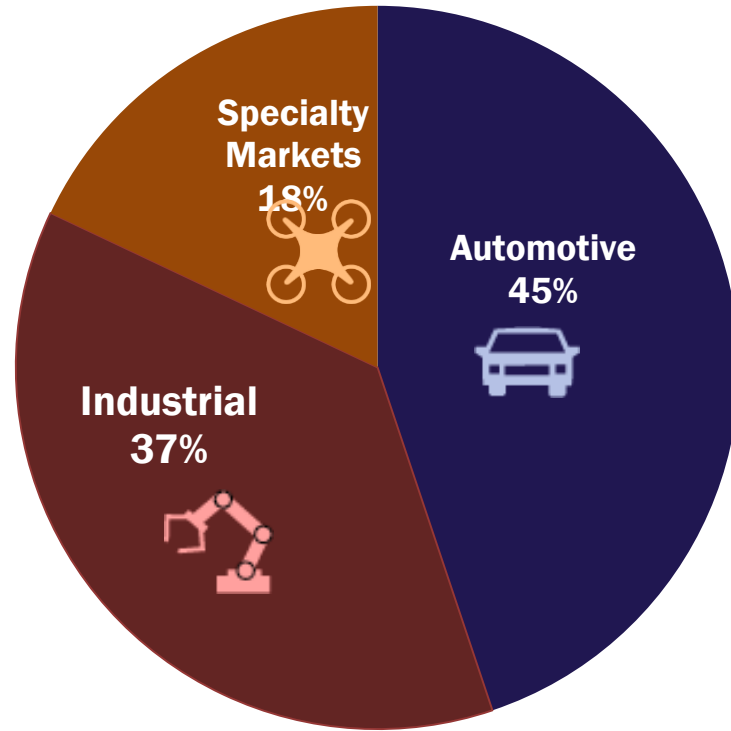
X-ray

Pill Cam

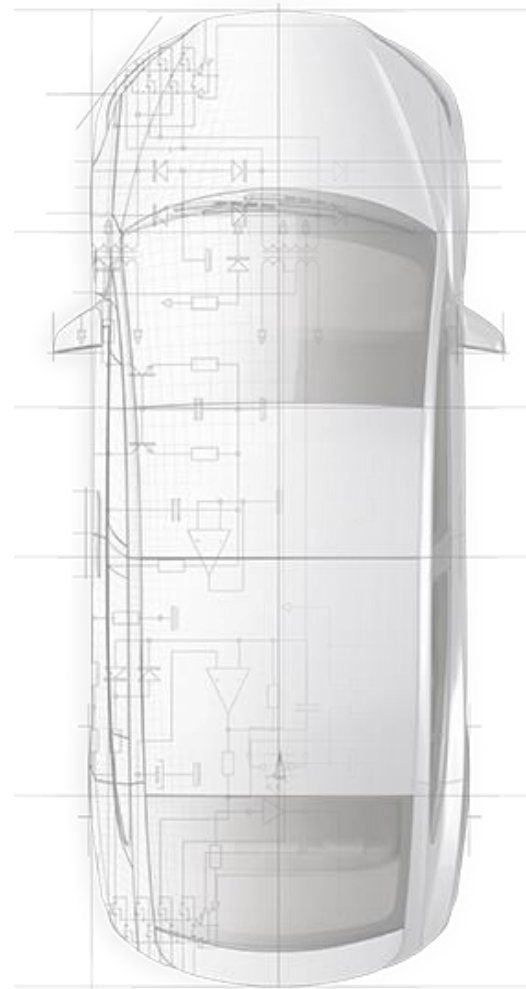


# IMAGE SENSOR GROUP (ISG)

## 4Q16 REVENUE BY MARKET



**ANNUALIZED 2016<sup>1</sup> REVENUE \$685M**  
**GROSS MARGIN 33%**



**AUTOMOTIVE**  
Market and technology leadership  
Industry's broadest product and customer portfolio

**INDUSTRIAL**  
Market leadership: Machine Vision, Scanning, Specialty Industrial, Medical, IP Security  
Technology leadership : High speed CMOS, EMCCD, TEC Packaging

**SPECIALTY**  
Market focus: AR/VR, Drones, IoT  
Technology leadership: Global shutter image sensors

**ON Semiconductor®**





# ISG STRATEGIC INTENT AND GOALS

**1 EXTEND LEADERSHIP IN MISSION CRITICAL APPLICATIONS FOR AUTOMOTIVE AND INDUSTRIAL MARKETS**

**2 ADD RADAR CAPABILITIES AND ENABLE SENSOR FUSION FOR ADAS IN AUTOMOTIVE**

**3 EXPAND MARGINS THROUGH OPERATIONAL IMPROVEMENTS AND OPEX RATIONALIZATION**

**4 2020 TARGET MODEL – REVENUE \$850M, NON-GAAP GROSS MARGIN 42%**

ON Semiconductor®



# SIGNIFICANT GROWTH OPPORTUNITIES IN STRATEGIC MARKETS

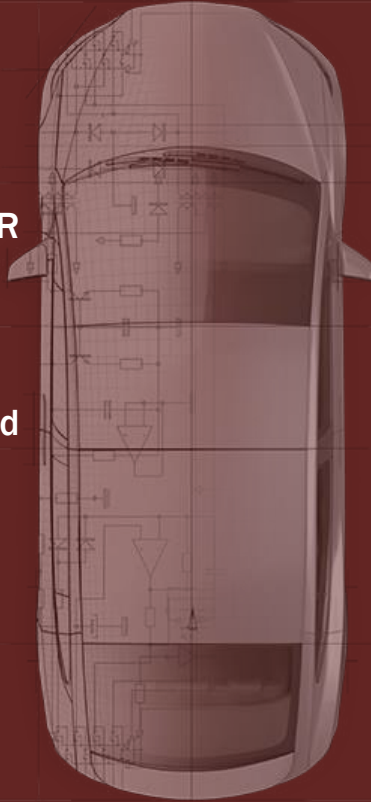
## AUTOMOTIVE

45% of revenue

2016-20 Market CAGR of 24%

Growth from ADAS, NCAP<sup>1</sup> and Automated Driving

#1 in ADAS and Viewing Cameras



## INDUSTRIAL

37% of revenue

IoT, security, automation key drivers

Broadest portfolio in the market

#1 in IP cameras and scanning



## SPECIALTY

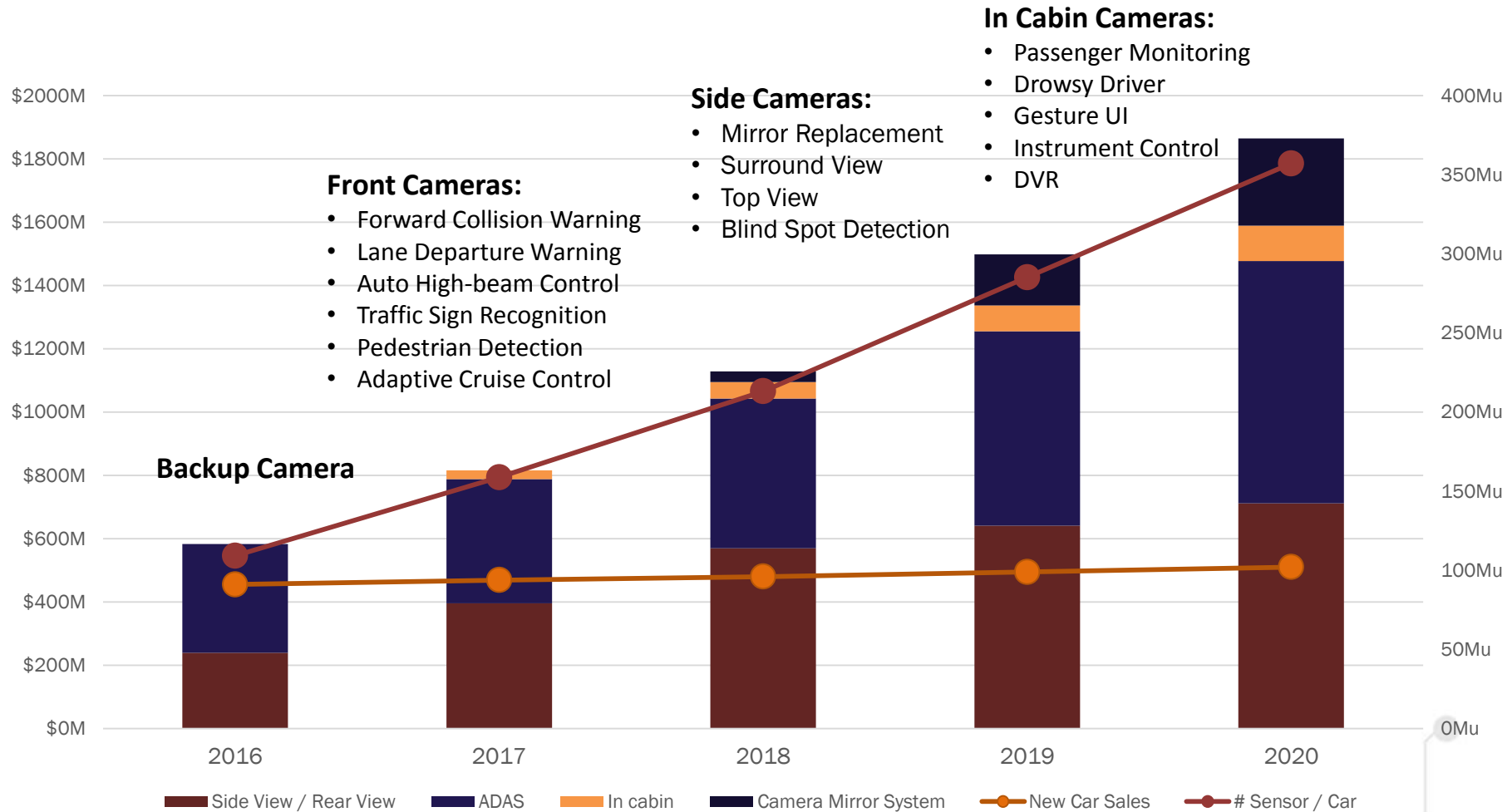
18% of Revenue

Select segments with differentiated technology, such as Global Shutter

Drones, AR/VR, 360, IOT



# AUTOMOTIVE IMAGE SENSORS - FAST GROWING MARKET



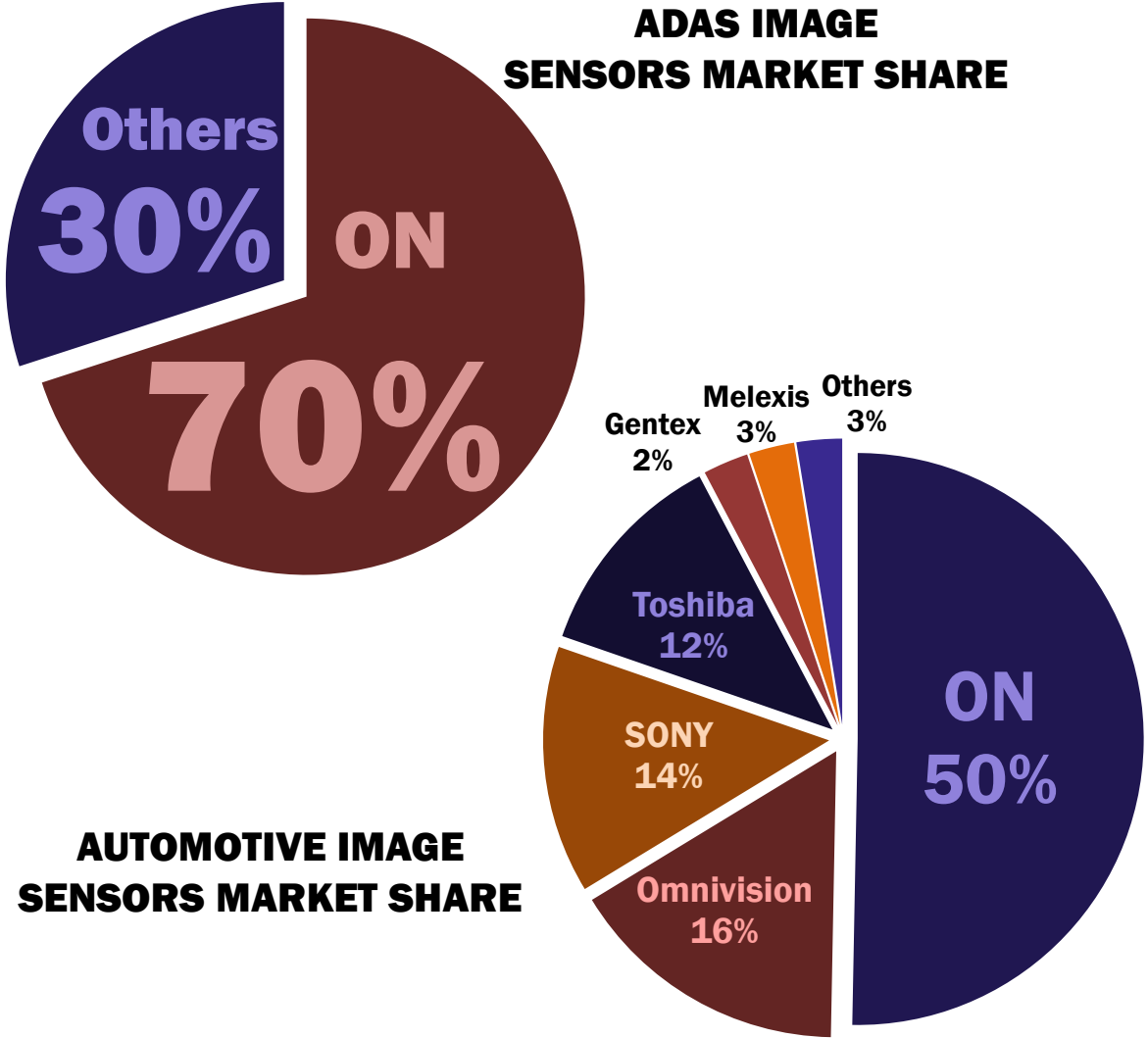
**2016-20 INDUSTRY REVENUE CAGR OF 24%**

**ON Semiconductor®**

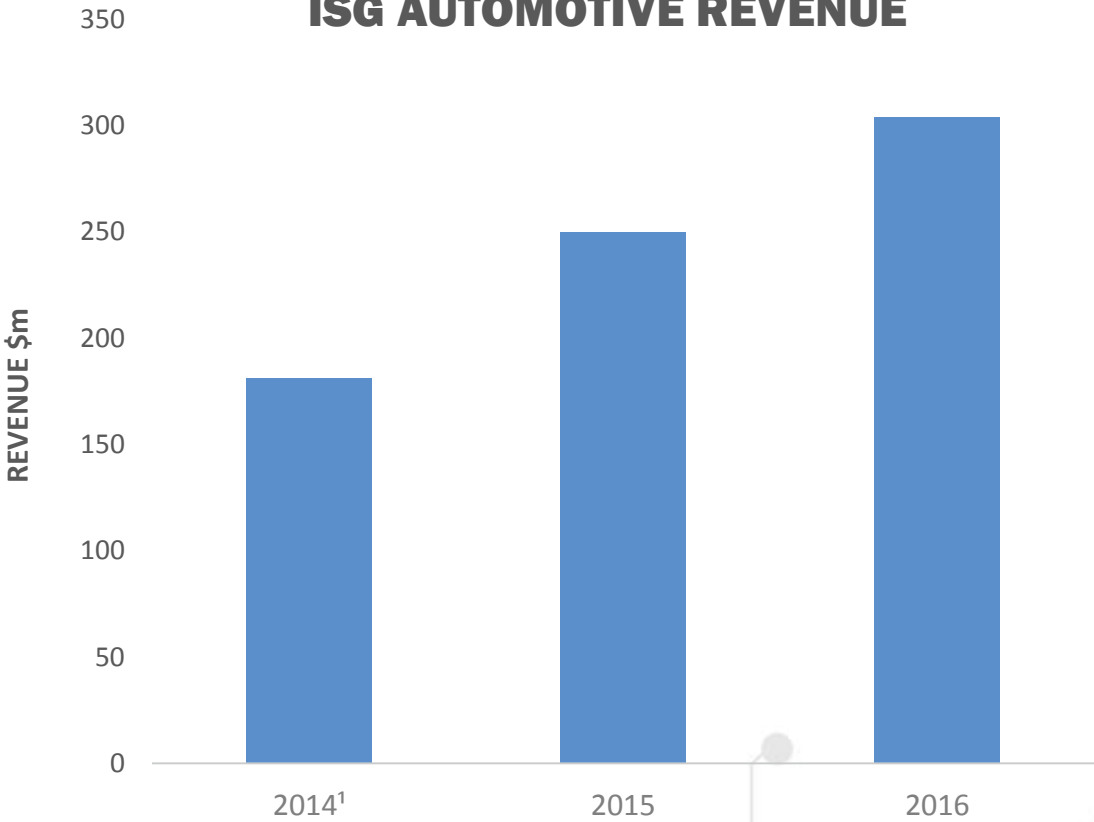


# AUTOMOTIVE GROWTH DRIVERS - #1 MARKET SHARE AND GROWING

**ADAS IMAGE SENSORS MARKET SHARE**

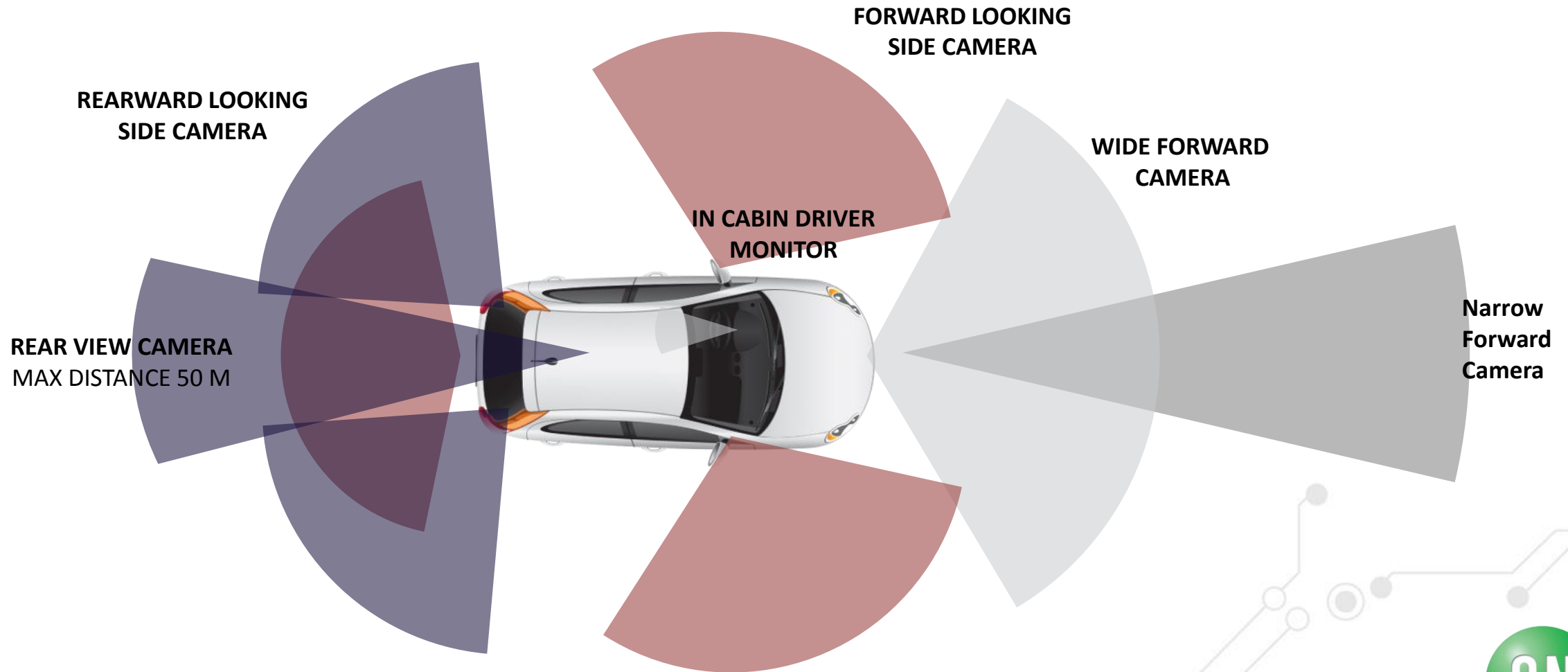


**ISG AUTOMOTIVE REVENUE**



<sup>1</sup>: FY2014 revenue includes full year Aptina revenue. Source: TSR, IHS, Gartner and ON Semiconductor

# LEADING EV HAS 9 ON IMAGE SENSORS IN LATEST MODEL



**ON Semiconductor**<sup>®</sup>

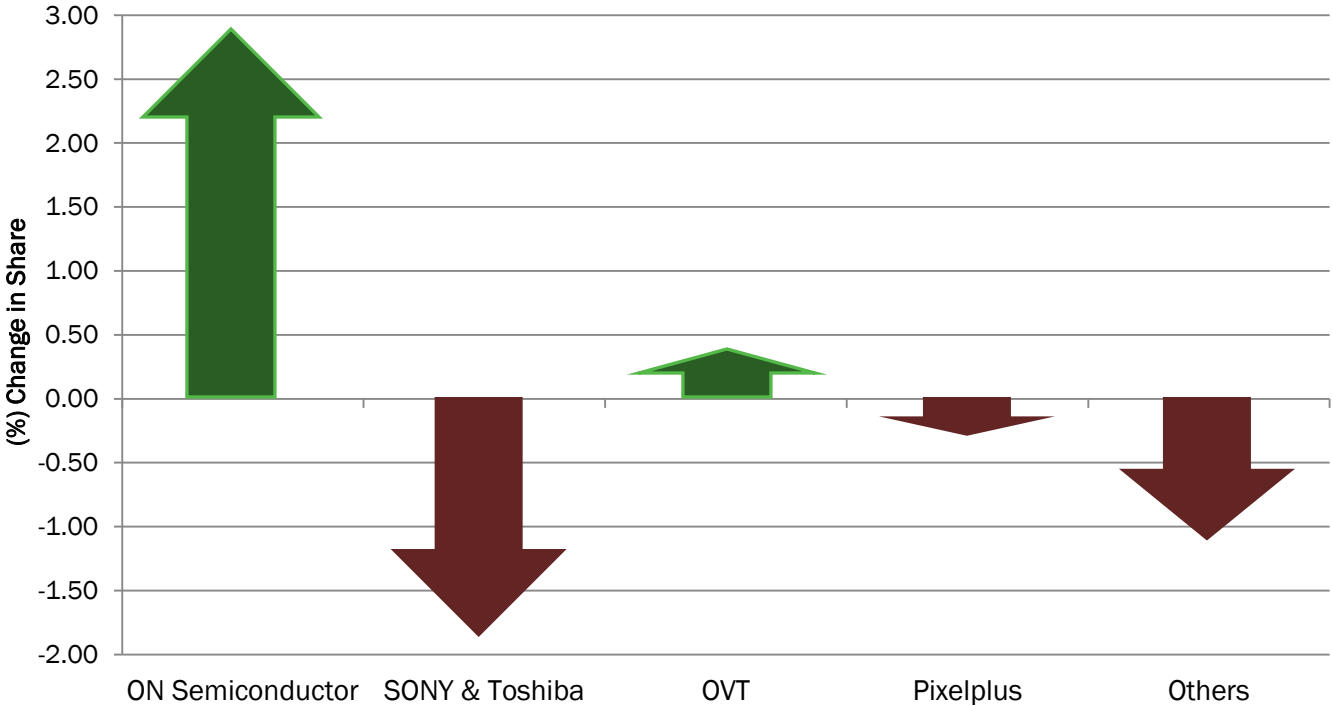


# MARQUEE AUTOMOTIVE CUSTOMER LIST



# CONTINUING TO GAIN MARKET SHARE

### Automotive Market Share Growth 2015-2017F



ON Semiconductor®





# THE MOST COMPLETE CAMERA MODULE PORTFOLIO

Segment	Device	ON	SONY	Omnivision
IMAGE SENSOR, IC & STORAGE	Image Sensor	★	★	★
	Image Signal Processor	★	✓	★
	EEPROM	★	-	-
	LIN Transceiver	★	-	-
	Microcontroller	✓	-	-
	In-Vehicle Networking	✓	-	-
POWER	Voltage regulator	★	-	-
	LDO	★	-	-
	LV & HV FET	★	-	-
	Rectifier	★	-	-
SIGNAL & PROTECTION	Std. Logic	★	-	-
	ESD/EMI	★	-	-
	Diodes	★	-	-
	eFuse/Current Prot.	★	-	-
	TVS	★	-	-

★ Leading Capability

✓ Competency

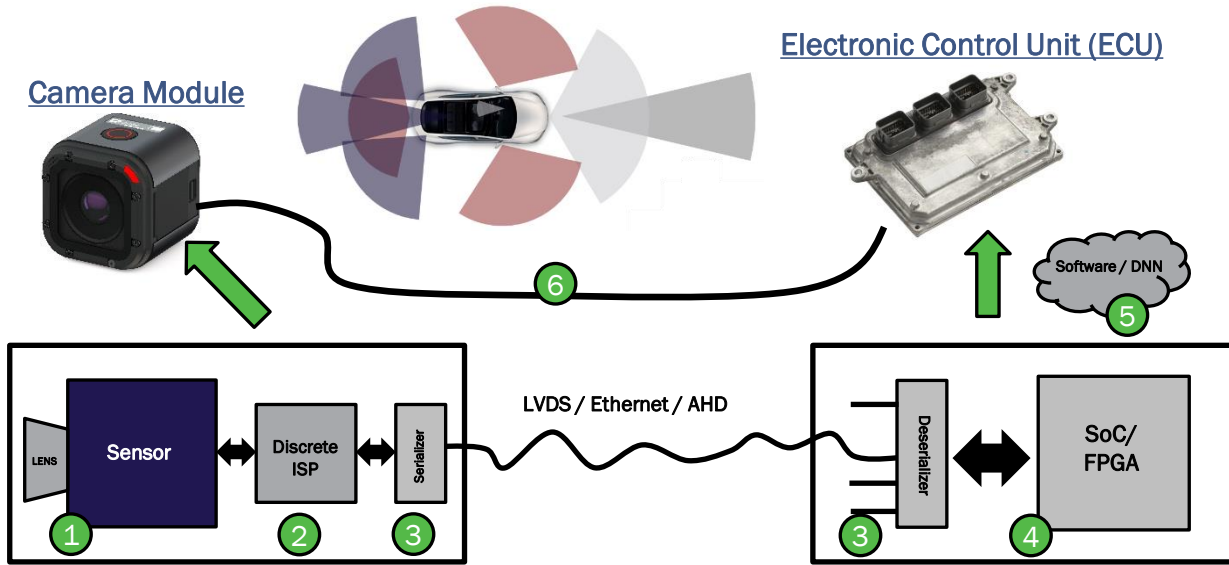
- Lacking Capability

## SYNERGISTIC PRODUCTS FOR AUTOMOTIVE IMAGING

ON Semiconductor®



# MASTERS OF AUTOMOTIVE ECOSYSTEM



- |  |  |   |   |  |
|--|--|---|---|--|
| <p><b>1. Lens</b></p> <ul style="list-style-type: none"> <li>SUNNY OPTICAL TECHNOLOGY</li> <li><b>Sunex</b></li> <li><b>EVETAR®</b></li> <li><b>SEKONIX</b></li> <li>联创光学 LCE-Optics</li> <li><b>SANKYO</b></li> </ul> | <p><b>2. Discrete ISP</b></p> <ul style="list-style-type: none"> <li>GEO Semiconductor</li> <li><b>nextchip</b></li> <li>Ambarella™</li> <li><b>BROADCOM.</b></li> </ul> | <p><b>3. SerDes/IF</b></p> <ul style="list-style-type: none"> <li>maxim integrated..</li> <li><b>ti</b></li> <li><b>THine</b></li> <li><b>BROADCOM.</b></li> <li><b>alhua</b> TECHNOLOGY</li> <li><b>Techpoint</b></li> </ul> | <p><b>4. SoC/FPGA</b></p> <ul style="list-style-type: none"> <li><b>MOBILEYE</b></li> <li><b>ti</b></li> <li><b>NVIDIA.</b></li> <li><b>RENESAS</b></li> <li><b>intel</b></li> <li><b>NXP</b></li> <li><b>QUALCOMM</b></li> <li>Ambarella™</li> <li><b>XILINX.</b></li> </ul> | <p><b>5. ISVs</b></p> <ul style="list-style-type: none"> <li><b>eyeSight™</b></li> <li>seeingmachines</li> <li><b>smarteye</b></li> <li>Zong Mu</li> <li><b>drive.ai</b></li> <li>Imagination</li> <li><b>apical</b></li> <li>Holla Agnitio</li> </ul> |
|--|--|---|---|--|

**ON Semiconductor®**

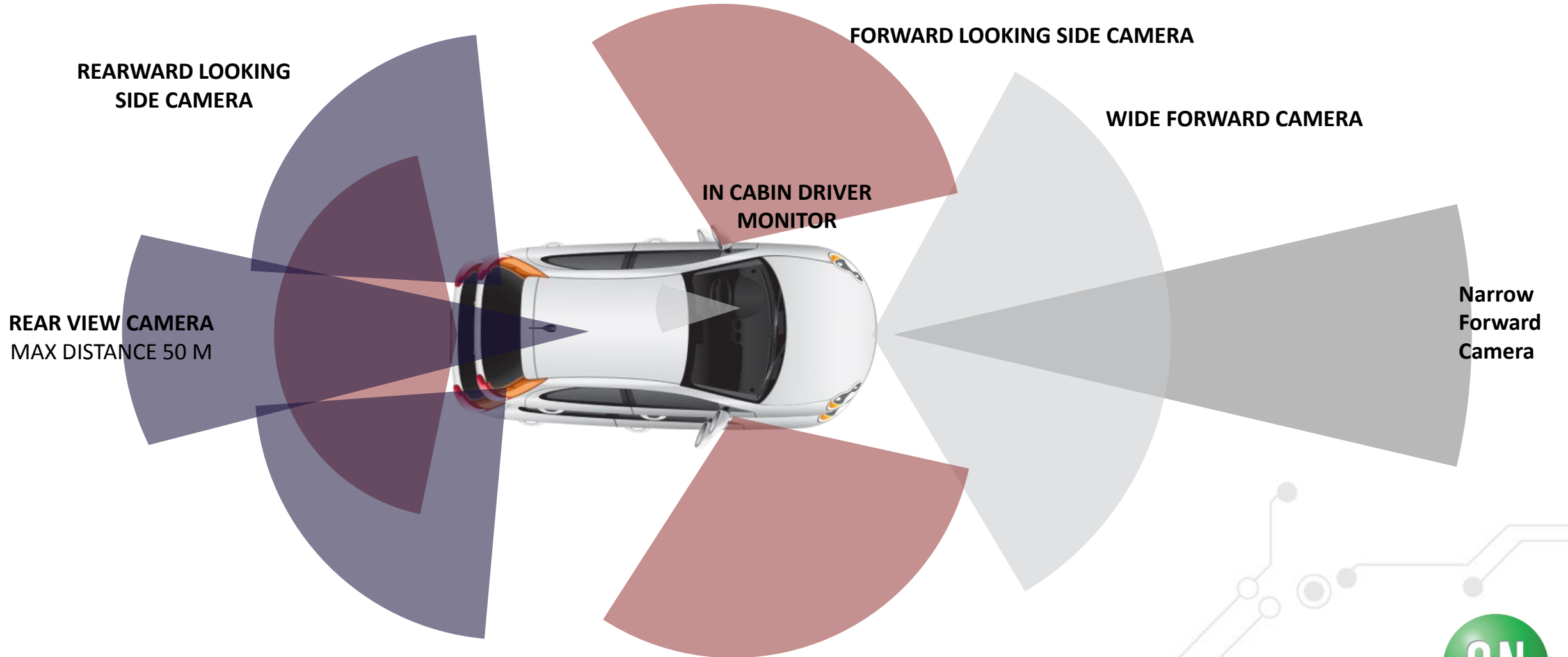




**ON Semiconductor®**



# LEADING EV HAS 9 ON IMAGE SENSORS IN LATEST MODEL

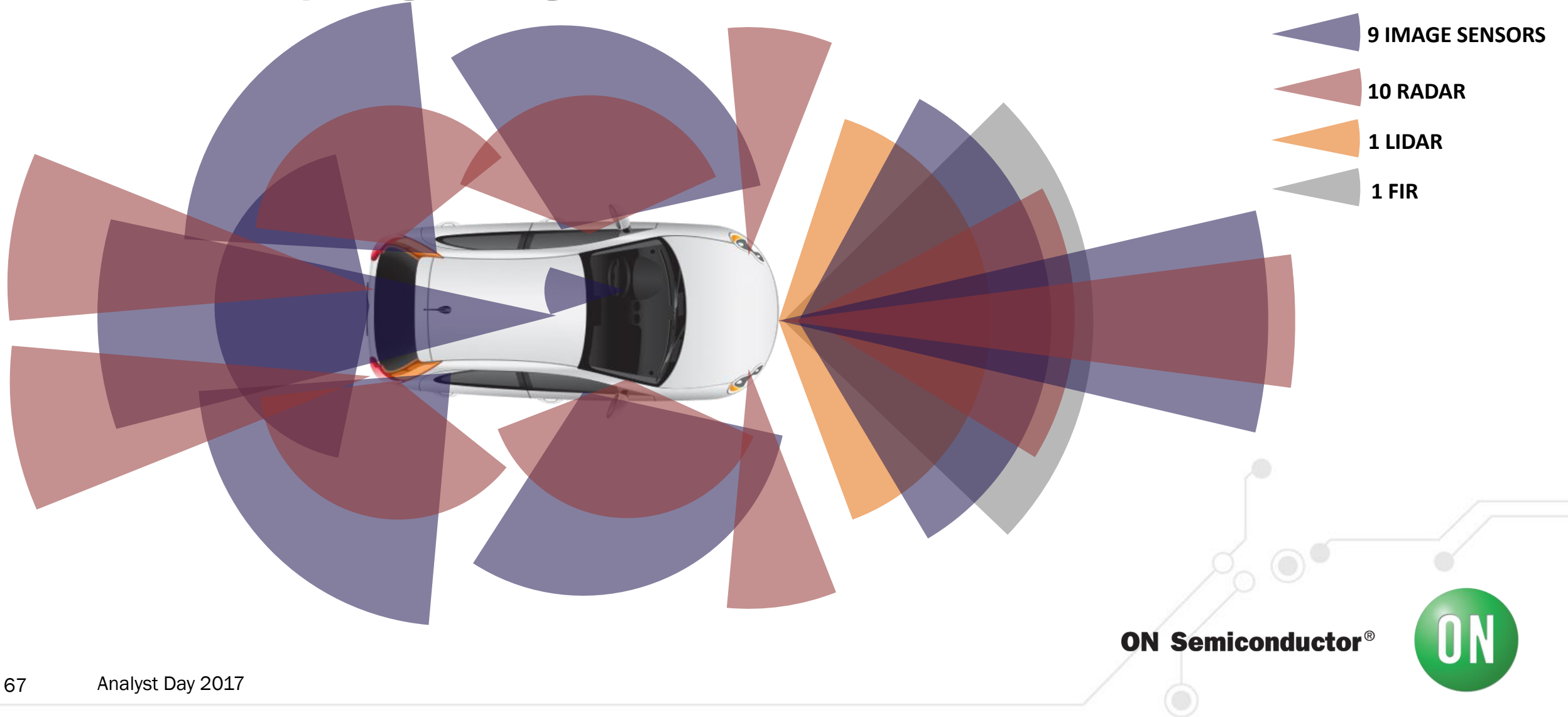


**ON Semiconductor®**



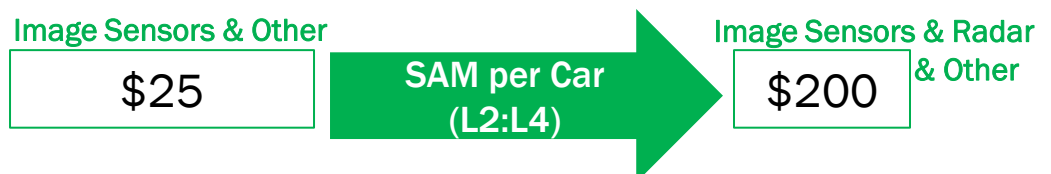
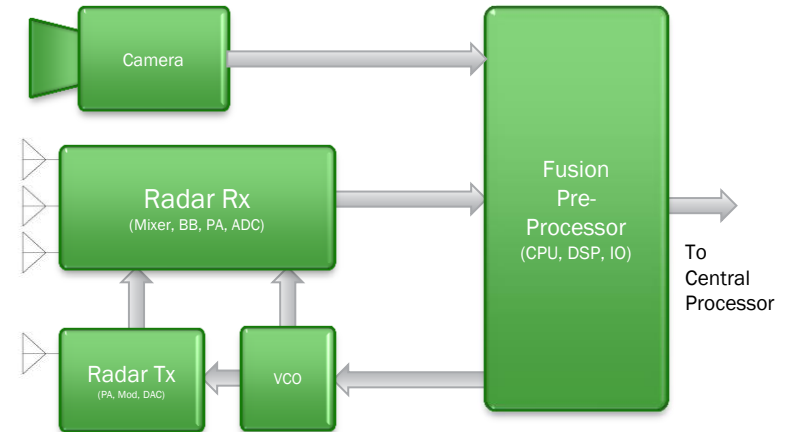
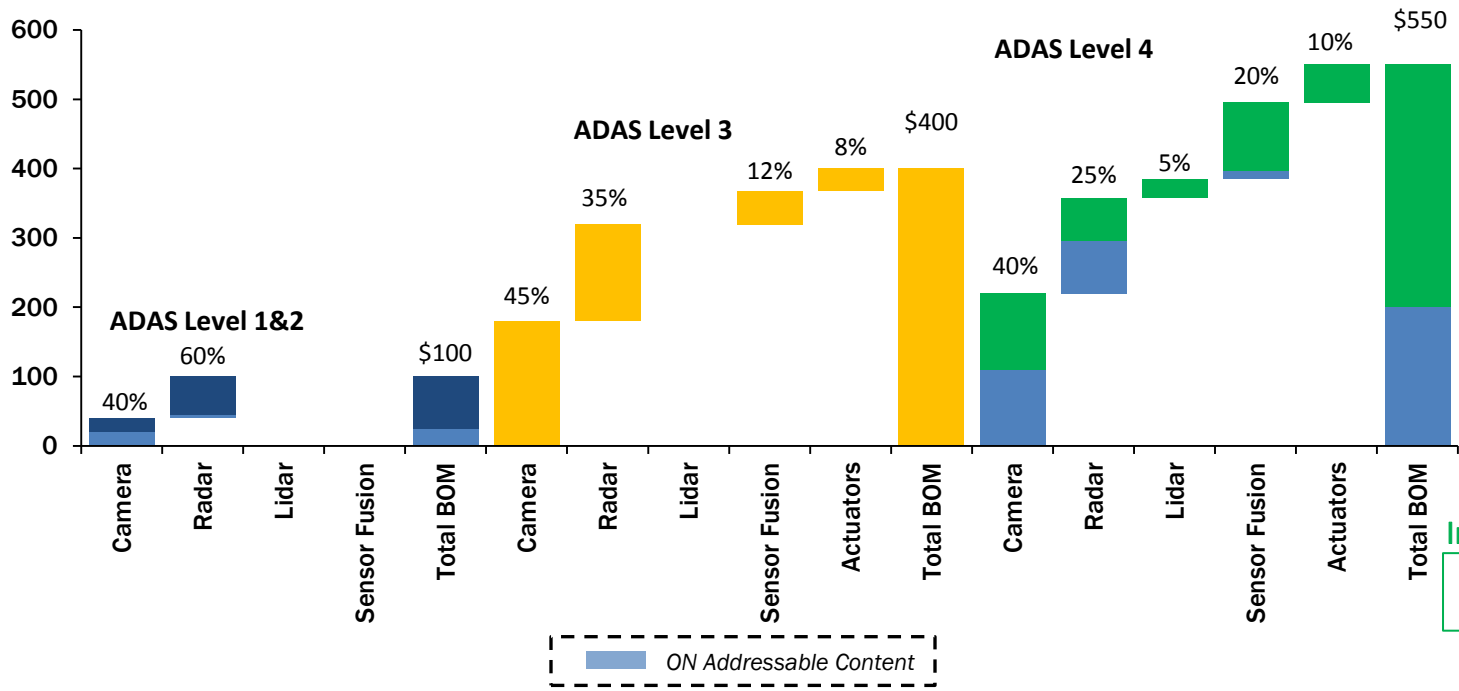
# IMAGING + RADAR FUSION

## Customers Requiring 9 Imagers and 10 Radar Transceivers



# AUTONOMOUS DRIVING PORTFOLIO EXPANSION

## Radar & Image Sensor Fusion – SAM growth of ~10x



- Energy Efficiency: 1 sensor pre-processor vs. 2
- Size & Weight Reduction: 1 cable to central processor
- Better Sensing: Improved imaging by using radar data

ON Semiconductor®



# ISG BEST IN CLASS TECHNOLOGIES

**LARGEST IMAGE SENSOR AND PROCESSING PATENT PORTFOLIO WITH 2000 + PATENTS**

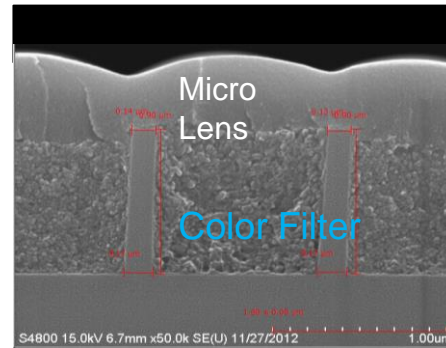
## Best Automotive Pixel Technology



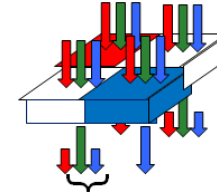
## LED Processing



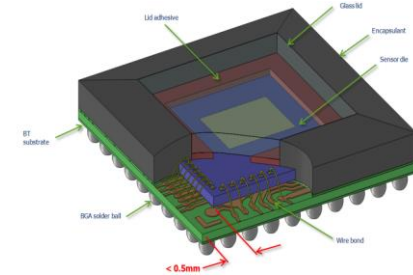
## Own CFA & Micro Lens Manufacturing



## Image Processing



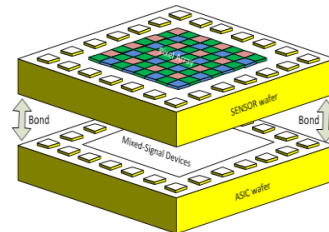
## Packaging



## Highest Dynamic Range



## Stacking



## Global Shutter



## ON-Sensor Safety & Cyber Security



**ON Semiconductor®**





# SUSTAINABLE COMPETITIVE ADVANTAGE IN AUTOMOTIVE

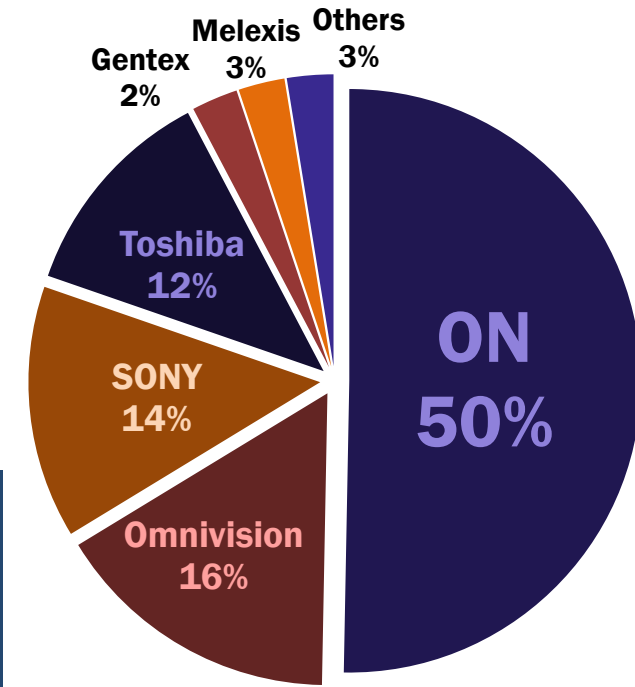
**1 STRONG DESIGN PIPELINE**  
Automotive design win pipeline of more than \$1B with visibility of at least three years

**2 ROBUST TECHNOLOGY LEAD**  
HDR<sup>1</sup>, functional safety, cyber security, sensor fusion, ISP<sup>2</sup>, uLens, packaging

**3 COMPLETE SOLUTION**  
Sensor, power management, protection, Image signal processing, In-vehicle networking

**4 FASTEST TIME TO MARKET**  
2x the products per year and largest automotive imaging team in the world

**5 SENSOR FUSION**  
Complementing leadership in image sensors with investment in automotive radar

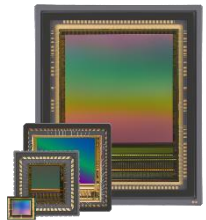
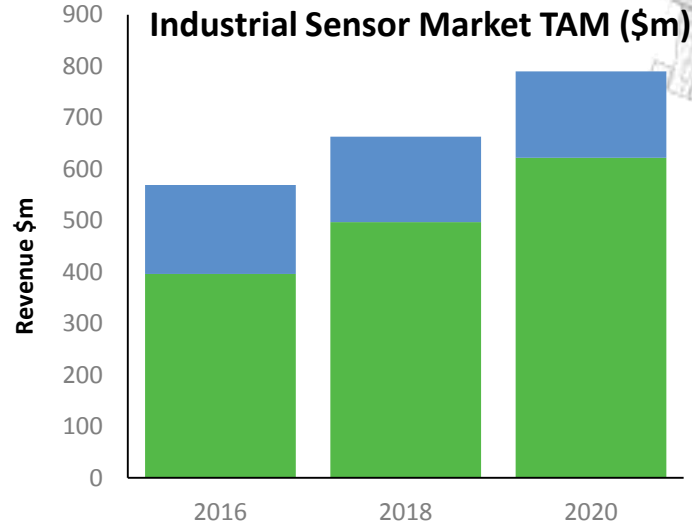


**AUTOMOTIVE IMAGE SENSORS MARKET SHARE**

ON Semiconductor®



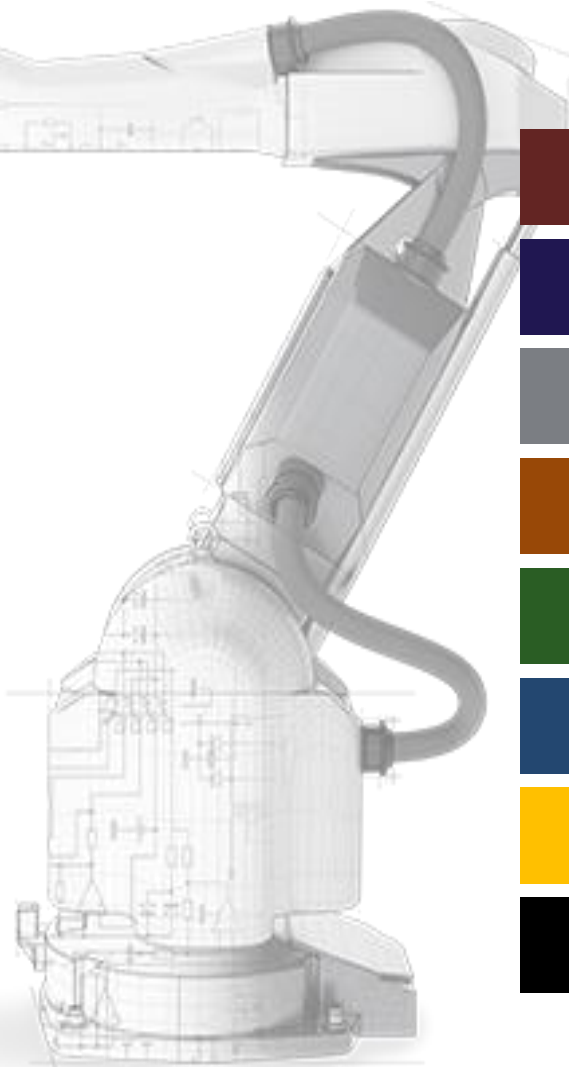
# INDUSTRIAL GROWTH DRIVERS



**PYTHON CMOS  
Image Sensor  
Family**



**Large Format  
Interline CCD**



**BARCODE SCANNING**

**WAREHOUSE AUTOMATION**

**MADE IN CHINA 2025**

**ROBOTICS**

**BIOMETRICS**

**TRAFFIC CAMERAS**

**LICENSE PLATE RECOGNITION**

**PCB INSPECTION**

**ON Semiconductor®**



# AWARD WINNING DIGITAL CINEMATOGRAPHY

## 2016 Academy Award



**ALEXA Digital  
Cinematography Camera**

ON Semiconductor®



**ALEV III Image Sensor**

*For the pioneering design and engineering of the Super 35 format ALEXA digital camera system*



**2016 Scientific and Technical Award  
Academy of Motion Picture Arts and Sciences**

*Improvements to Large Format CMOS Imagers for Use in High Definition Broadcast Video Cameras*



**2013 Technology and Engineering Emmy Award  
National Academy of Television Arts & Sciences**

### Academy Award Winners for Best Cinematography



2011

2012

2013

2014

2015

*This camera has brought us to a point where digital is simply better. In my opinion, there are now more advantages than disadvantages to digital cinematography.*

Roger Deakins, ASC, BSC

13 Academy Award Nominations for Best Cinematography  
2011 ASC Lifetime Achievement Award

**ON Semiconductor®**

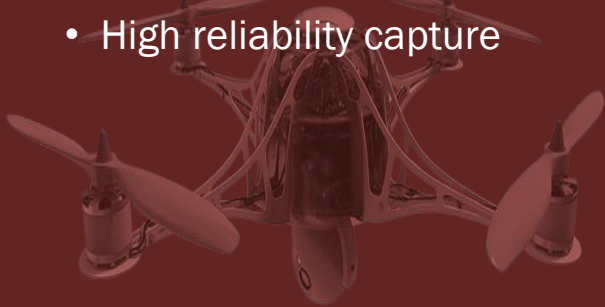


# ISG SPECIALTY IMAGING FOR GROWTH

## GLOBAL SHUTTER

### AR/VR, Drones,

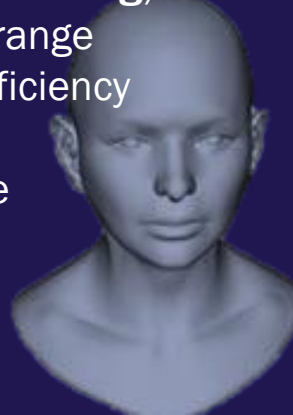
- No motion blur or distortion
- Low read noise
- High reliability capture



## 3D DEPTH MAPPING

### AR/VR, IP Cam, Gaming, IOT

- Highest depth range
- High shutter efficiency
- Low read noise
- High frame rate



**DRONES**



**CAMERAS:**

**IP, ACTION, DEPTH, 360, USB**



**VACUUM CLEANERS**



**AR / VR / MR**



**EYE GLASSES**



**IOT DEVICES**



# ISG MARGIN IMPROVEMENT PLANS

## MANUFACTURING

- Dual Source
- Transition to Lower Cost Fab & Process Nodes
- Yield Improvements (Fab Process and Binning)
- Test Time Reduction

## PRODUCT DEVELOPMENT

- Die Shrink
- BOM Cost Reductions

## OPEX

- Opex leverage and rationalization

**900 BPS OF GROSS MARGIN IMPROVEMENT<sup>1</sup>**

ON Semiconductor®



# SUMMARY

## 1 LEADERSHIP IN AUTOMOTIVE

50% market share and growing  
Technology and product portfolio leadership  
Robust design pipeline  
Broadest range of customer and partner relationships  
Investing in radar for sensor fusion

## 2 LEADERSHIP IN INDUSTRIAL IMAGING

#1 market share in several industrial segments  
Growing above market with Industry 4.0 and Made in China 2025 drivers  
Top to bottom portfolio of products  
Robust design win pipeline

## 3 MARGIN EXPANSION

42% GM by 2020 driven by mix, yield improvement and cost reduction  
Strong opex control  
Leveraging ON's vast manufacturing scale & logistics networks

ON Semiconductor®



# Intermission





# POWER SOLUTIONS GROUP



**Bill Hall, Executive Vice President**

# **NEW POWERHOUSE IN POWER SEMICONDUCTORS**



# KEY TAKEAWAYS

**1** The new powerhouse in power semiconductors, positioned to gain share and drive strong growth

**2** Industry leading cost structure and sharp focus on evolutionary & revolutionary cost reductions

**3** Rapidly expanding portfolio for automotive, industrial and communications markets

**4** Leading the charge in GaN & SiC and introducing disruptive technologies - eFuse & smart passive sensors (SPS) to address end-system technology challenges



# PSG STRATEGIC INTENT AND GOALS

**1 Market leadership in power semiconductor market**

**2 Drive growth through disruptive and innovative products and technologies**

**3 Grow industry leading cost structure through revolutionary margin improvement plans**

**4 2020 Target Model - Revenue \$2.7B, non-GAAP gross margin 38%**

ON Semiconductor®



# POWER SOLUTIONS GROUP (PSG)

## 4Q16 REVENUE BY MARKET



### **AUTOMOTIVE**

Largest end-market - over 7,000 AEC<sup>2</sup> qualified products



### **COMMUNICATIONS**

#1 supplier of power discretes to the smartphone market



### **INDUSTRIAL**

Stronger presence in industrial market with addition of Fairchild portfolio & customer base

**ANNUALIZED 2016<sup>1</sup> REVENUE \$2.5B**

**GROSS MARGIN 33%**

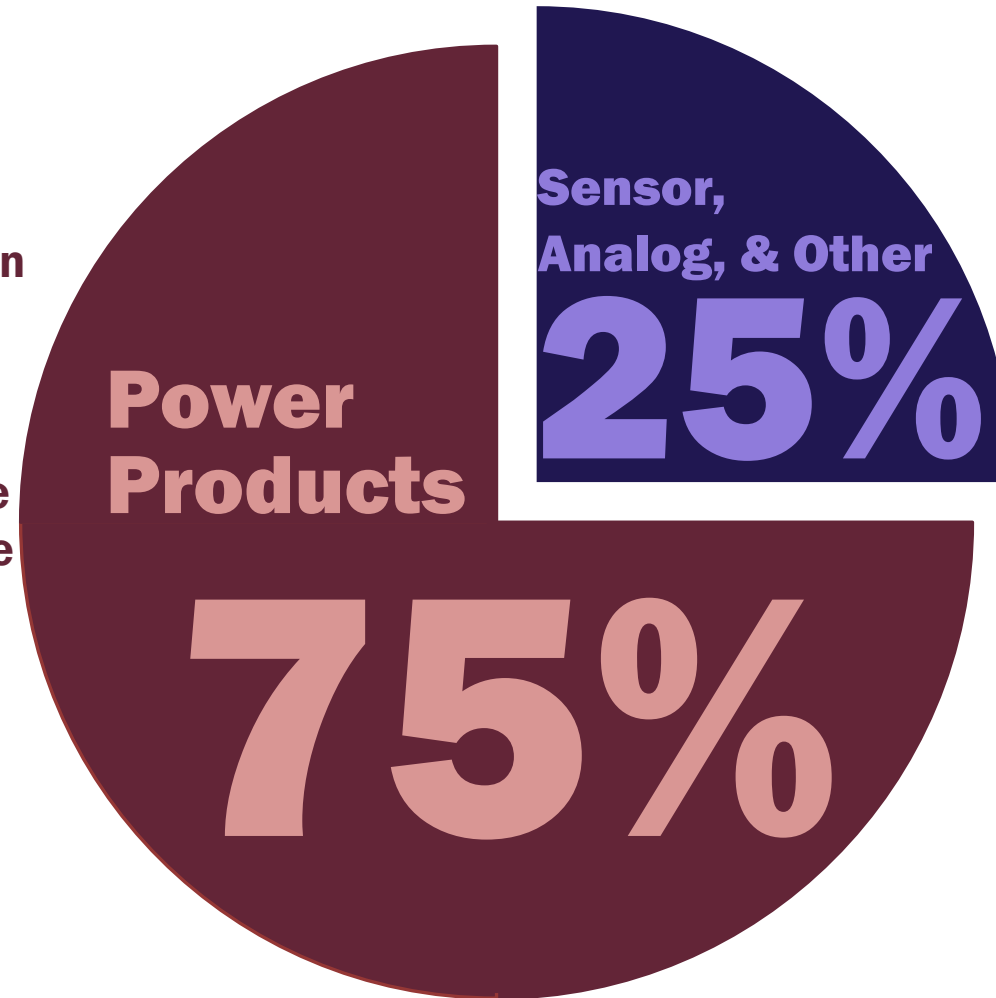
**ON Semiconductor®**



1: Annualized 2016 results based on 4Q16 actual results. 2:Automotive Electronics Council

# POWER SOLUTIONS GROUP

- Linear Regulators
- Opto
- Op-Amps
- LV, MV, HV/SuperJunction MOSFETs
- eFuse
- HV Rectifiers
- Intelligent Power Module
- Power Integrated Module
- IGBTs
- Wide Bandgap
- Automotive Power Modules
- Gate Drivers
- Automotive MOSFETs



- LED Protection
- ESD Protection
- EEPROM
- Small Signal Devices
- Standard Logic
- Smart Passive Sensors



# THE NEW POWERHOUSE IN POWER

POWER DISCRETE & MODULES	ON FAIRCHILD	IFX	Mitsubishi	STM	
	Rectifiers	★	✓	+	★
	Thyristor	✓	✓	✓	★
	LVFET	★	★	+	✓
	MVFET	★	★	+	✓
	HVFET	★	★	+	★
	SSFET	★	✓	+	✓
	Ignition	★	+	+	+
	IGBTs	★	★	+	✓
	BPT	★	★	+	✓
	FET Modules	★	+	★	+
	IPMs	★	✓	★	+
	PIMs	✓	★	★	+
	GaN Hi Voltage	★	★	+	+
	SiC	✓	★	★	✓
	Gate Dr	✓	★	★	✓

★ Leading Capability

✓ Competency

⊕ Building Capability

ON Semiconductor®





# IGBTs – NOW A PREMIER IGBT SUPPLIER

	TO-3P	TO-247	TO-247 4L	TO-220	TO-220 FullPak	D2PAK	DPAK
600V	ON	ON IFX	ON	ON IFX	ON IFX	ON IFX	ON IFX
650V	ON	ON IFX	ON IFX	IFX	ON IFX		
1200V	ON	ON IFX		IFX	IFX	ON IFX	ON IFX
1350V	ON	ON					
1500V	ON	ON					
1600V	ON	IFX					

ON Semiconductor®



# MOSFETS – SIGNIFICANTLY BROADER COVERAGE

		TO-3P	TO-247	TO-220	D2PAK	DPAK	SO-8	TO-LL	8x8	S08 DFN	S08 LFPAK
\$2B	25V					ON IFX	IFX			ON IFX	ON
	30V		IFX	ON IFX	ON IFX	ON IFX	ON IFX	IFX		ON IFX	ON
\$2B TAM	40V		IFX	ON IFX	ON IFX	ON IFX	ON IFX	ON		ON IFX	ON
	60V		IFX	ON IFX	ON IFX	ON IFX	ON IFX	ON IFX		ON IFX	ON
	80V			ON IFX	ON IFX	ON IFX	ON IFX	ON IFX		ON IFX	
	100V		ON IFX	ON IFX	ON IFX	ON IFX	ON IFX	ON IFX		ON IFX	
	150V	ON	ON IFX	ON IFX	ON IFX	ON IFX	ON IFX	ON IFX		ON IFX	
	250V		IFX	ON IFX	ON IFX	ON IFX	ON	IFX		ON IFX	
\$1B TAM	600V		ON IFX	ON IFX	ON IFX	ON IFX			ON IFX	IFX	
	800V		ON IFX	ON IFX	ON IFX	ON IFX					
	900V	ON	IFX	ON IFX	IFX	ON IFX					
	1.5kV	ON	IFX	ON	ON						
	1.7 kV	ON	IFX								

ON Semiconductor®

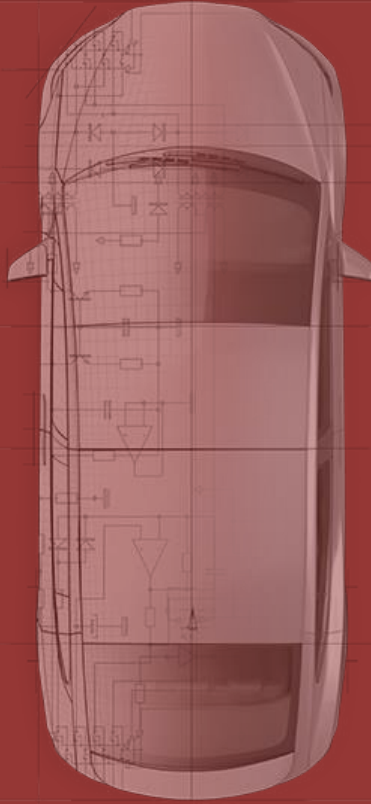


# PSG GROWTH OPPORTUNITIES IN STRATEGIC MARKETS

## AUTOMOTIVE

25% of revenue

Key Applications  
ADAS, HEV/EV, Body  
ICE/HEV/EV/Aux/  
Charger  
Safety, Infotainment



## INDUSTRIAL

20% of revenue

Key Applications  
Alternative Energy,  
Industrial Motor,  
Cloud Power, IOT,  
Smart Grid



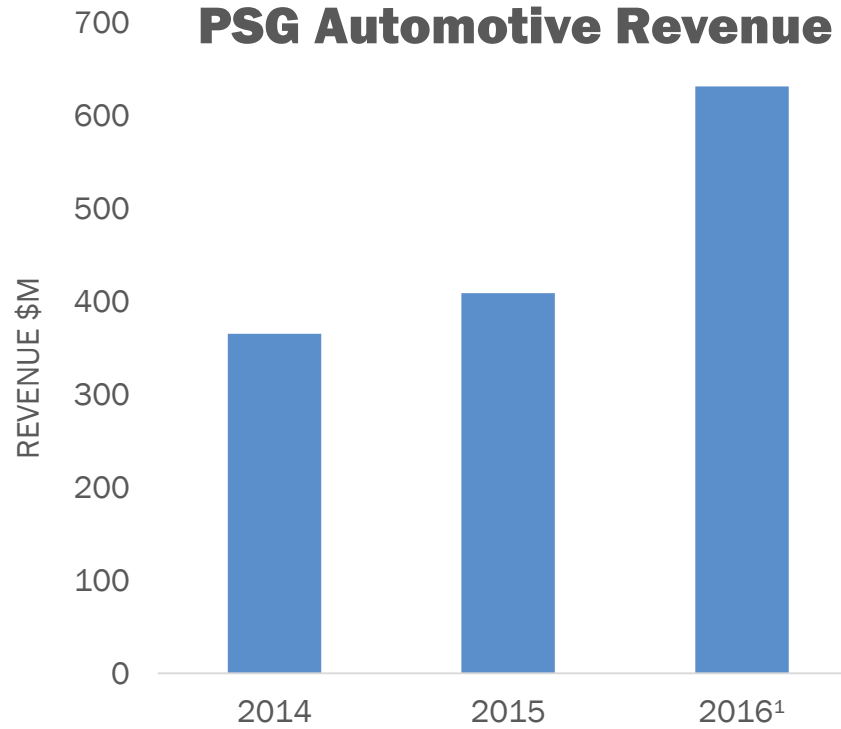
## COMMUNICATION

24% of revenue

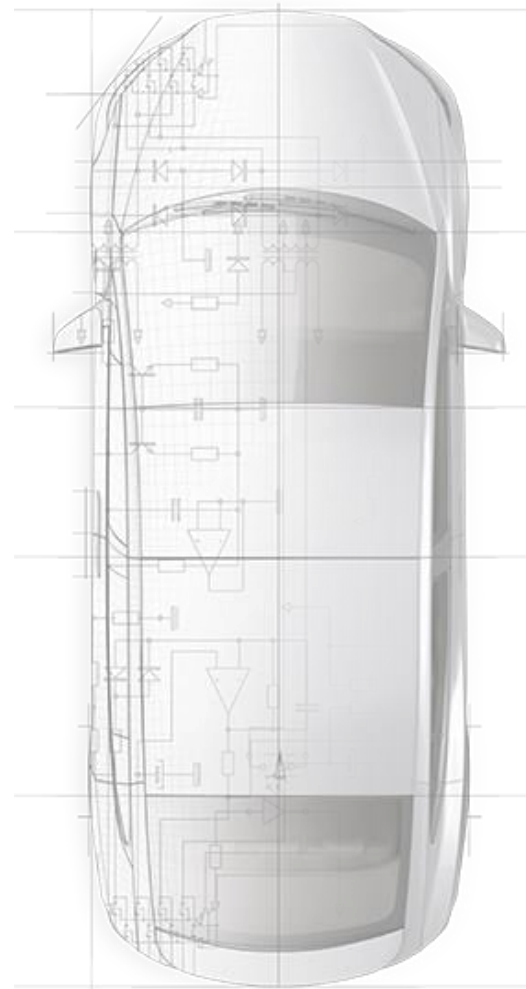
Key Applications  
Smartphone/ Tablet,  
Adaptors,  
Wireless/Wearables,  
Netcom/Datacom



# PSG AUTOMOTIVE MARKET



**11% organic growth in 2016**



- POWERTRAIN**  
HEV, EV, OBC, Aux pumps/motors, Charging Station
- BODY/LIGHTING**  
Occupant Detection, Temp Zoning, QC, Body Motors, Matrix Lighting, & Ring Architecture
- SAFETY/ADAS**  
Electric Power Steering, Cameras, Intelligent Tires
- INFOTAINMENT**  
LCD Clusters, V2V Comm, High Speed Serial Interface

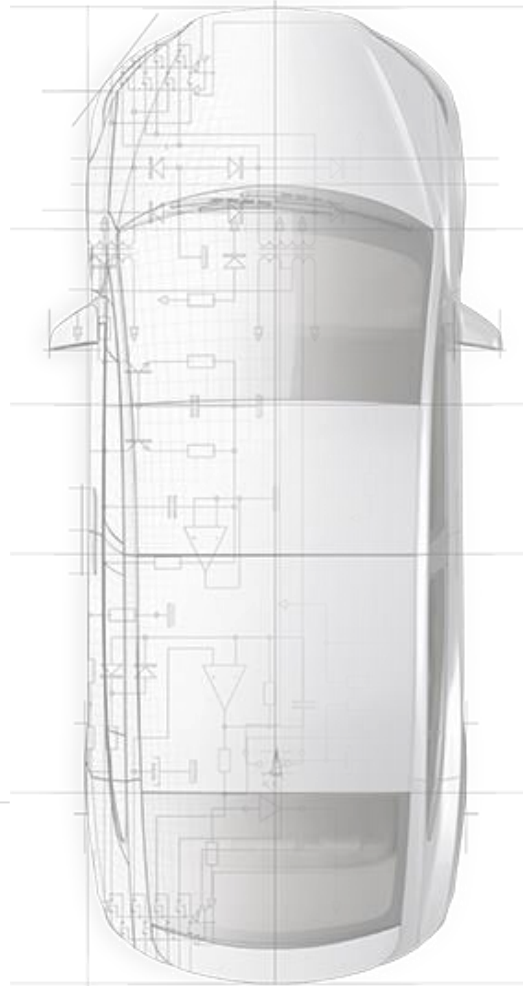
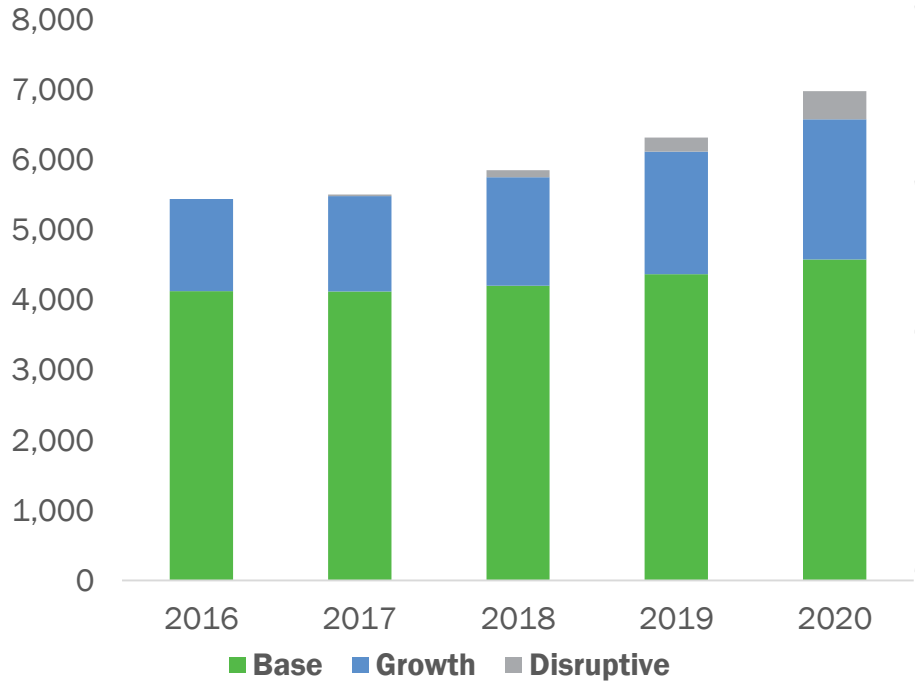
**ON Semiconductor®**



¹: FY2016 represents Q4' 16 Annualized values

# PSG KEY AUTOMOTIVE GROWTH DRIVERS

**PSG Auto TAM (\$m)**



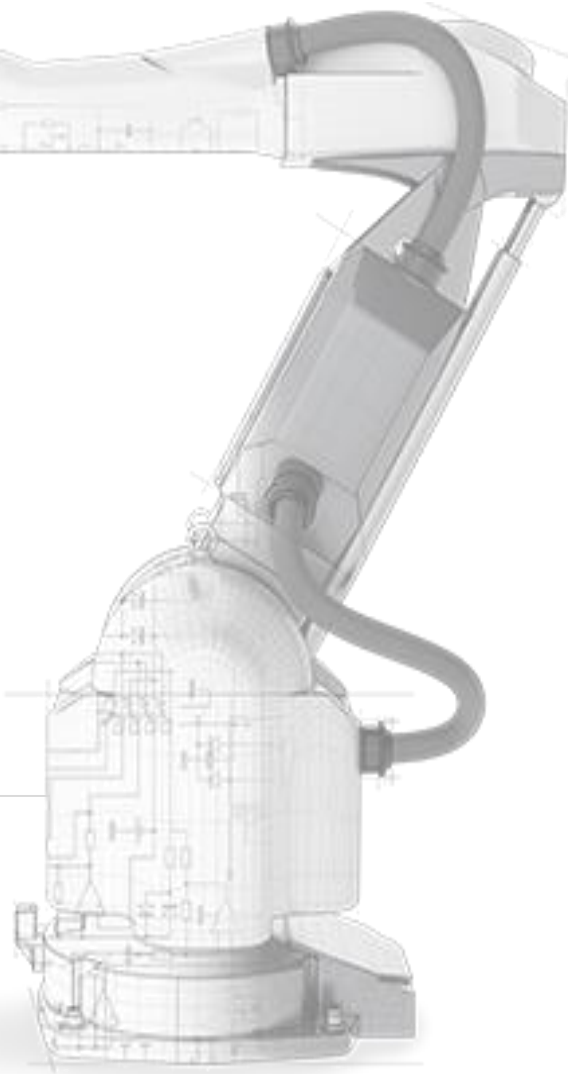
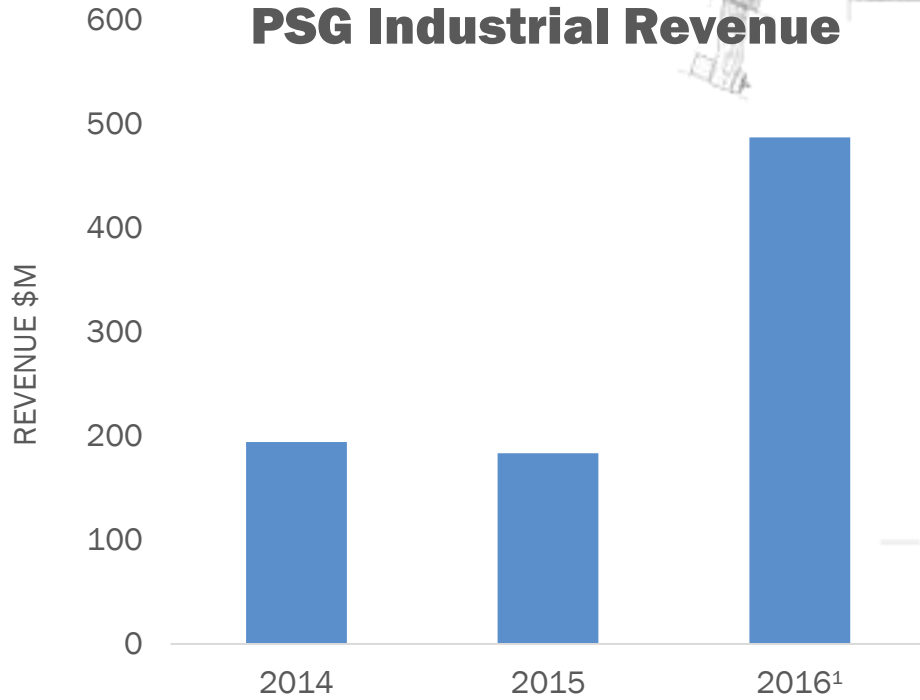
- HEV/EV (25% CAGR)**  
 Modules, SJ FET, SiC, GaN, IGBT
- AUTONOMOUS (14% CAGR)**  
 Protection, E<sup>2</sup>PROM, LDO, FET's, FET Modules, SPS\*
- 48V (56% CAGR)**  
 FET, APM, SiC, GaN, Prec. OA
- RING CABLING ARCHITECTURE (60% CAGR)**  
 eFuse\*, Modules, Smart Passive Sensors

**ON Semiconductor®**



# PSG INDUSTRIAL MARKET

**PSG Industrial Revenue**



- SOLAR (50KW)**  
Carbon emissions
- CLOUD POWER (1KW)**  
Power density, hot swap, power protection
- INDUSTRIAL MOTORS (5KW)**  
Efficiency & control
- LED LIGHTING**  
Smart lighting, LED protection
- SURVEILLANCE & SECURITY**  
Cameras & IOT

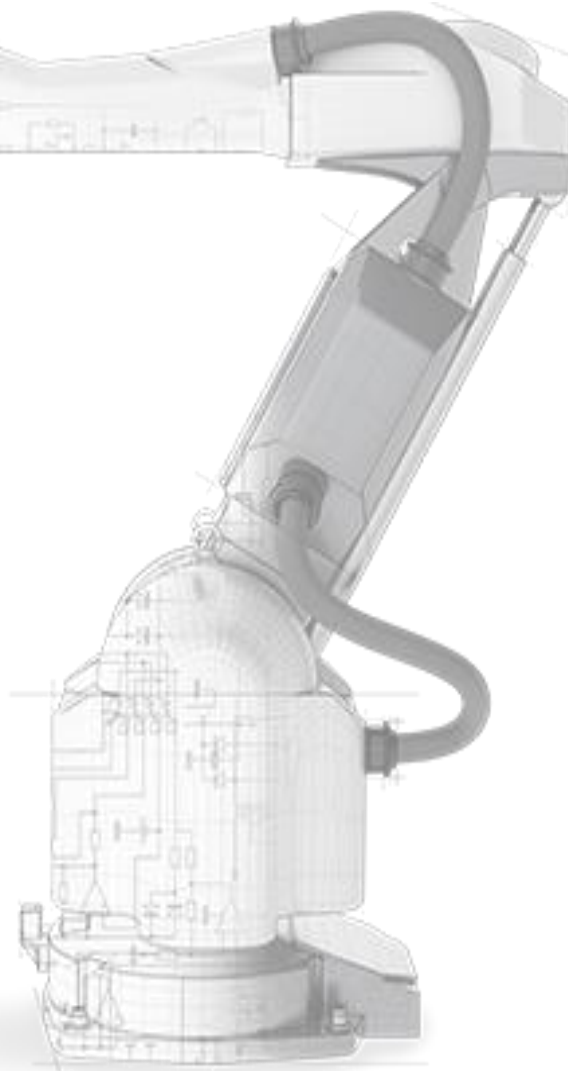
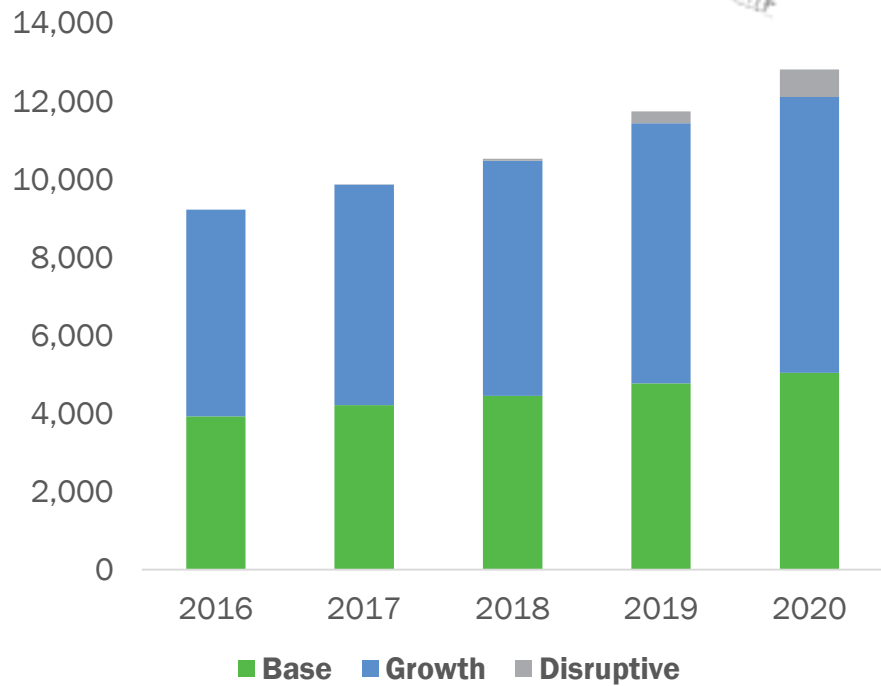
**ON Semiconductor®**



¹: FY2016 represents Q4' 16 Annualized values.

# PSG KEY INDUSTRIAL GROWTH DRIVERS

## PSG Industrial TAM (\$m)



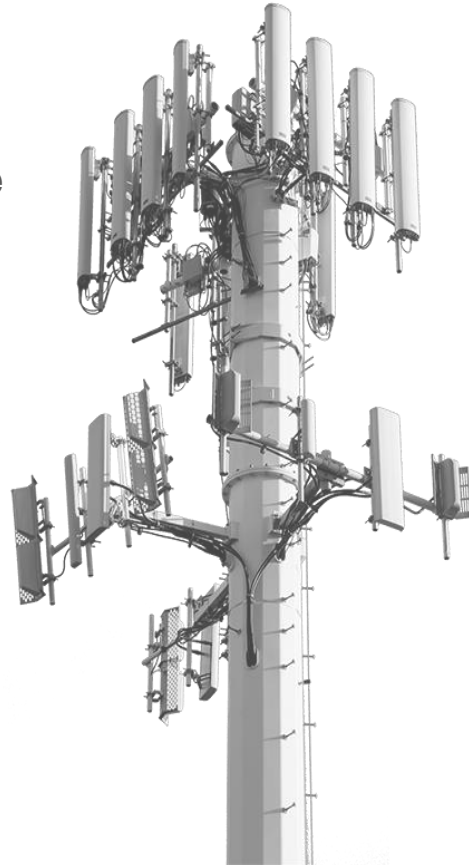
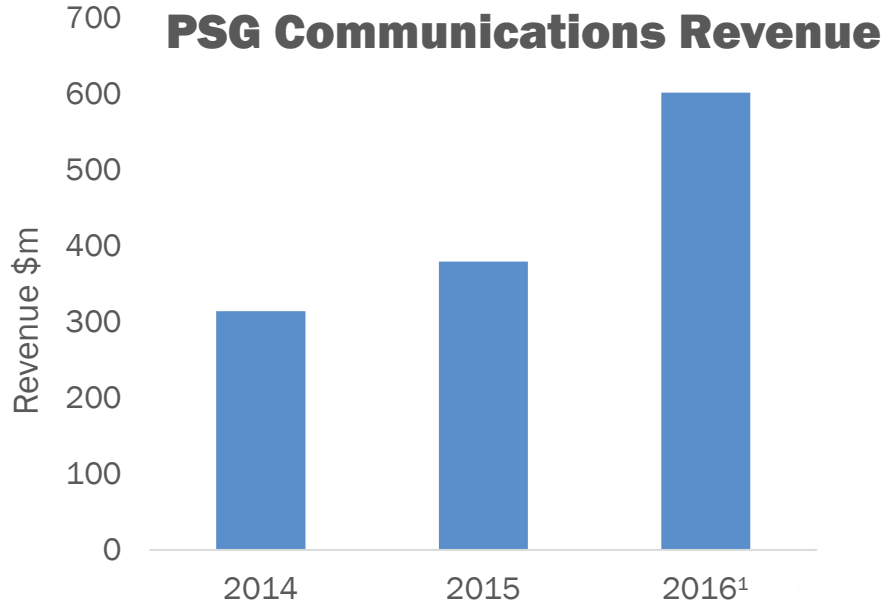
- SOLAR (12% CAGR)**  
PIMs, IGBTs, SiC/GaN, Hi Perf Analog, HV Gate Drivers
- CLOUD POWER (12% CAGR)**  
LV/MV FET, SJ FETs, IGBTs, GaN and SiC, High Performance Analog, eFuse
- INDUSTRIAL MOTOR (9% CAGR)**  
MV / SJ FETs, IGBTs, Power Modules, PIMs, GaN and SiC, E2PROM
- IOT (10% CAGR)**  
Smart Passive Sensors, Hi Perf Analog, E<sup>2</sup>PROM, LC-ESD

ON Semiconductor®





# PSG COMMUNICATIONS MARKET



**SMART PHONE**  
Cameras, biometrics, HSSI, battery life, clean power

**WEARABLES**  
Size, sensing & efficiency/battery life

**CHARGING**  
Fast Charging, Wireless Charging, Smaller Form Factor, Efficiency, built in batteries

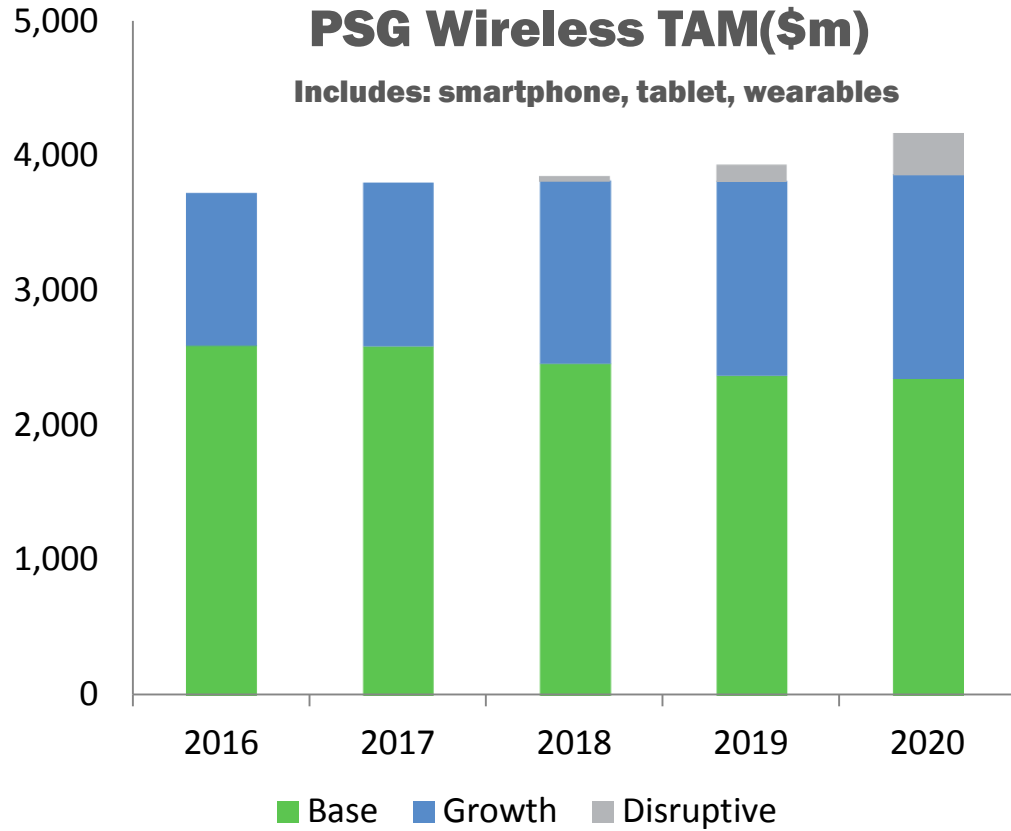
**11% ORGANIC GROWTH IN 2016**

**ON Semiconductor®**



<sup>1</sup>: FY2016 represents Q4' 16 Annualized values.

# PSG KEY WIRELESS GROWTH DRIVERS

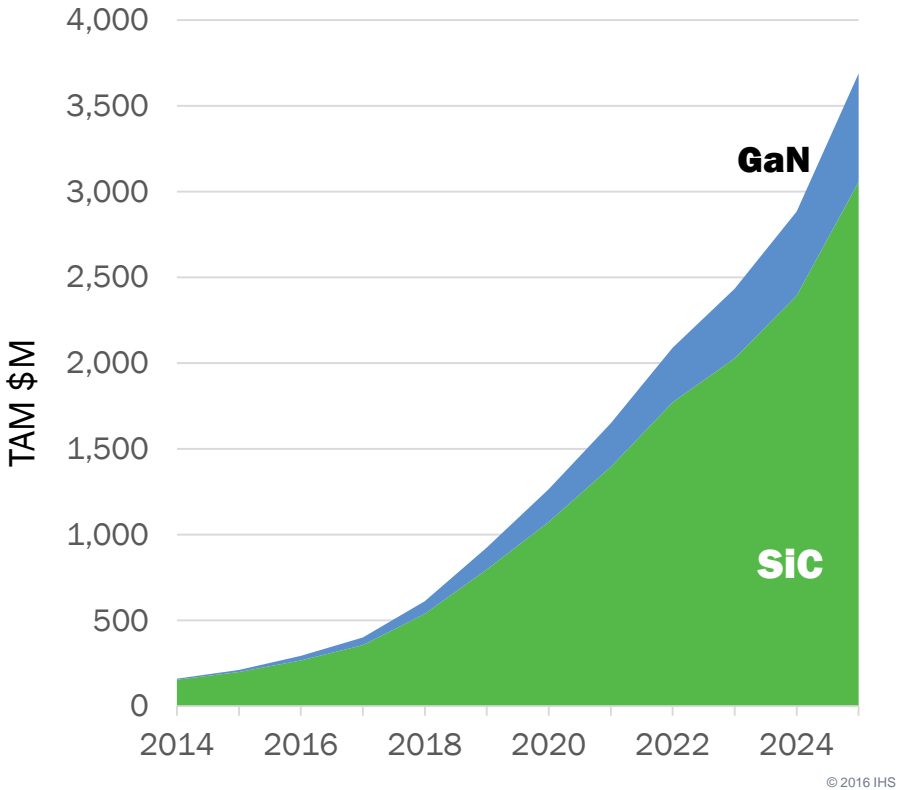


- CAMERA MODULE (11% CAGR)**  
 LDO, E<sup>2</sup>PROM, Translator, LC-ESD
- CHARGING (26% CAGR)**  
 LV/MVFETs, SiC/GaN, Schottky Diode, Hi PSRR LDO, E2PROM+Temp, Battery FET
- SMALLER FORM FACTORS**  
 CSP &  $\mu Pkg$ , SiC & GaN, Plasma Die Singulation, Capless LDO

**ON Semiconductor®**



# PSG GaN AND SiC PROGRAMS



**Currently producing and sampling all SiC & GaN power technologies**



### KEY SiC & GaN BENEFITS

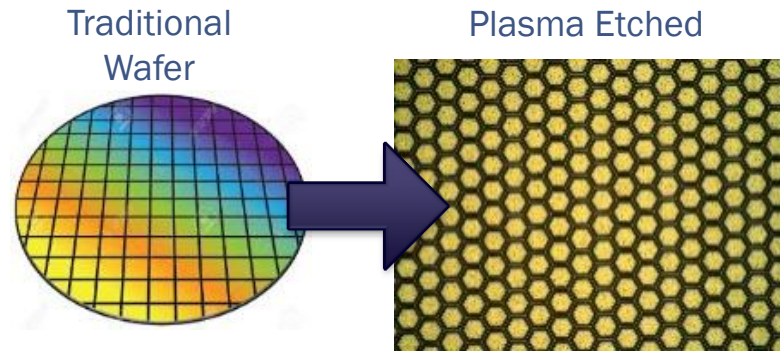
- Power Supplies: smaller form factor
- Automotive EV: no liquid cooling → reduced weight
- Auto On Board Charging: faster charge time
- Solar Energy: higher power efficiency



**ON Semiconductor®**



# REVOLUTIONARY MARGIN IMPROVEMENT PLANS



## Plasma Die Singulation

- Irregular shape die
- Narrow scribe streets
- More die per wafer
- Cleaner edge/high quality

## REVOLUTIONARY

- High Density Lead Frames
- Rapid Test Metallization
- Bond Pad Over Active Silicon
- Plasma Die Singulation (Etched)

## EVOLUTIONARY

- Larger Wafers/Bigger Fabs
- Die Shrinks
- BOM Change
- Test Time Reduction

**500 BPS OF GROSS MARGIN IMPROVEMENT<sup>1</sup>**

ON Semiconductor®



# SUMMARY

**1 PSG NOW A LEADER IN POWER SEMICONDUCTOR MARKET**

**2 MARGIN EXPANSION THROUGH REVOLUTIONARY TECHNOLOGIES**

**3 STRONG INVESTMENT IN HV(SJ) FETS, IGBTs, POWER MODULES & WBG TECHNOLOGIES**

**4 DISRUPTIVE TECHNOLOGIES: MICRO-PACKAGING, EFUSE, & SMART PASSIVE SENSORS**

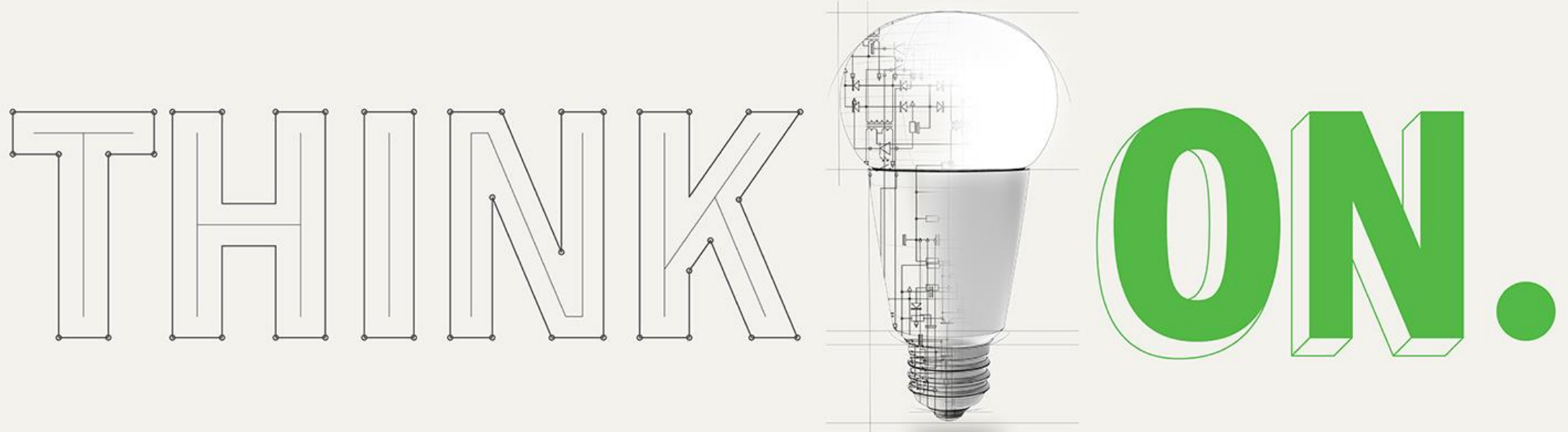
**5 STRONG ATTACH RATE WITH OTHER ON SEMI HIGH END PRODUCTS**



# Questions & Answers



# RETHINK ENERGY EFFICIENCY.



**Bernard Gutmann, Chief Financial Officer**

## DRIVING OPERATING LEVERAGE AND FREE CASH FLOW GROWTH





# KEY TAKEAWAYS

## 1 Target Model for 2020:

40% gross margin, 21% opex intensity,  
and 19% operating margin

## 2 FCF Growth and Margin Expansion

Synergies, operational improvements & operating leverage to drive FCF growth & margin expansion – revenue growth not a prerequisite for margin, EPS & FCF growth

## 3 Raising Fairchild Synergy Targets

Integration progressing ahead of schedule

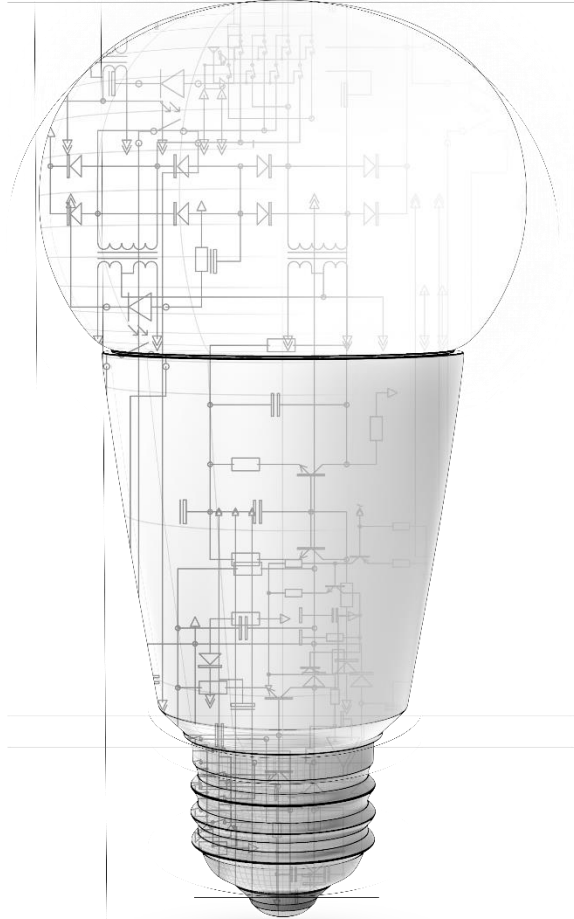
## 4 Efficient Deployment of Capital

Aggressive deleveraging followed by capital returns

# ACCELERATED FCF GROWTH: \$900M<sup>1</sup> BY 2020



# AGENDA

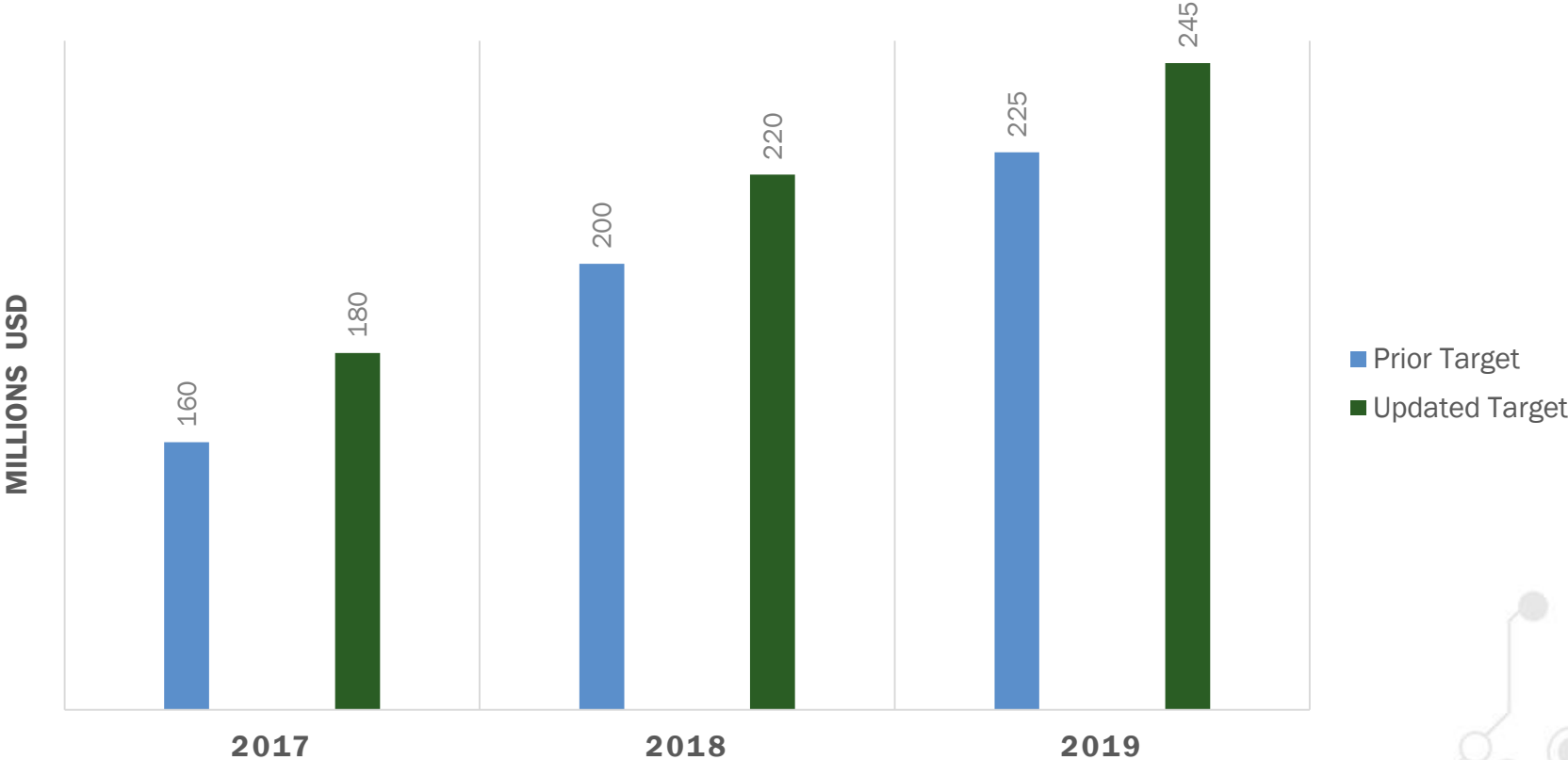


- **Fairchild Synergies Update**
- **Target Financial Model**
- **Path to Target Model**
- **FCF Model**
- **Capital Allocation**



# RAISING FAIRCHILD SYNERGIES TARGET

## YEAR-END ANNUALIZED SYNERGIES RUN-RATE



ON Semiconductor®



Synergy targets based on Fairchild's 2015 results

# TARGET MODEL 2020

**1 REVENUE - \$5.6 BILLION**

**2 GROSS MARGIN 40%**

**3 OPERATING EXPENSES 21%**

**4 OPERATING MARGIN 19%**

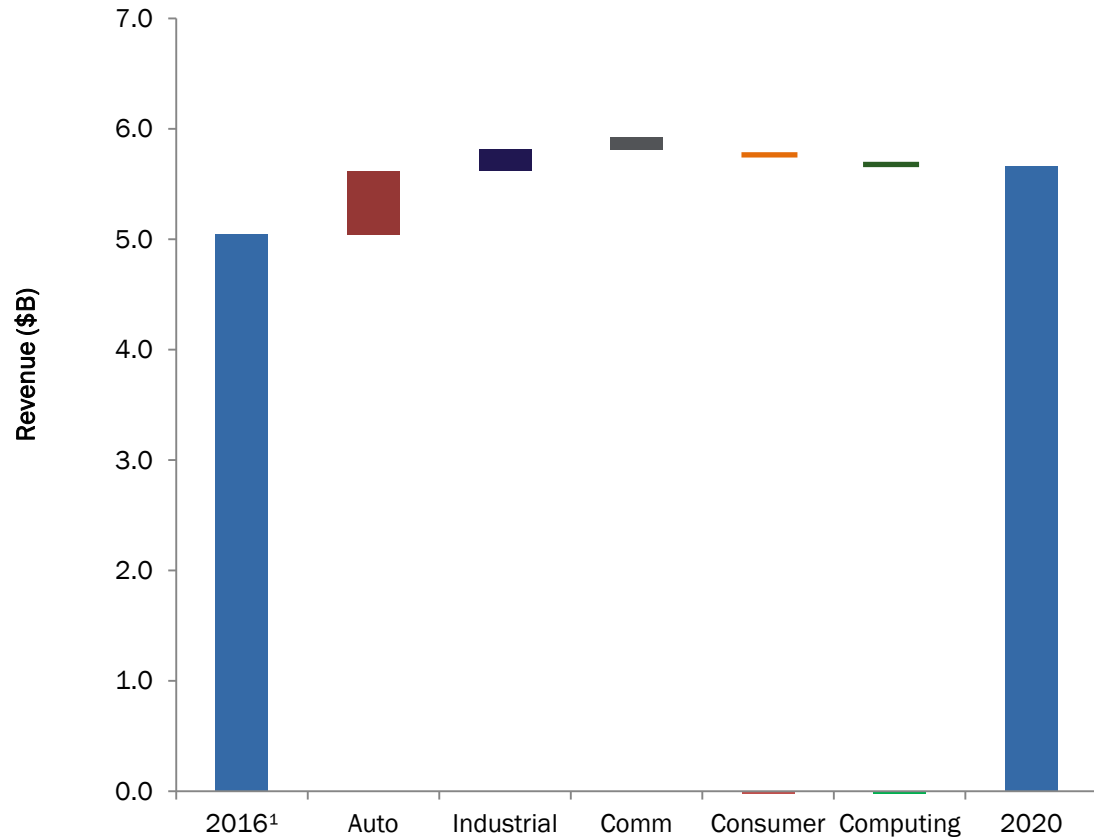
**5 PROFIT BEFORE TAX \$950 MILLION**

**6 CASH TAX RATE 12 PERCENT**

**7 NON-GAAP EPS OF \$2.00**

**8 FREE CASH FLOW - \$900 MILLION**

# PATH TO 2020 TARGET MODEL - REVENUE



**AUTOMOTIVE CAGR 7 TO 9%**



**INDUSTRIALS CAGR 3 TO 5%**



**COMMUNICATIONS CAGR 2 TO 4%**



**CONSUMER CAGR -5% TO -7%**



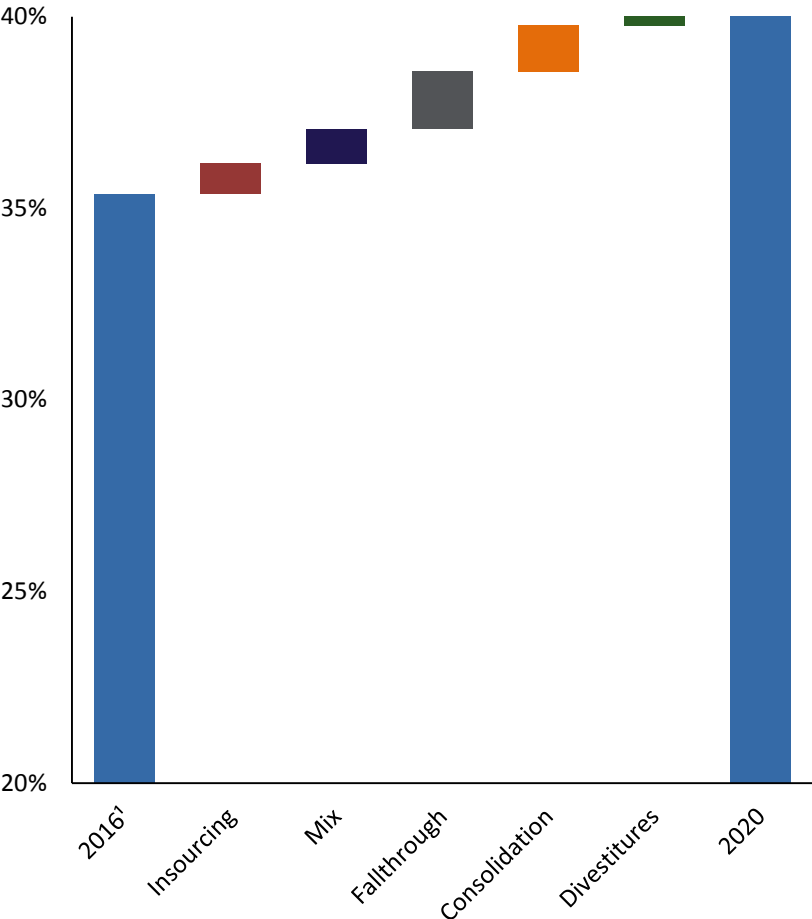
**COMPUTING CAGR -6% TO -4%**

**REVENUE CAGR OF 3%, ASSUMING INDUSTRY CAGR OF 1.5-2%**

**ON Semiconductor®**



# PATH TO 2020 TARGET MODEL – GROSS MARGIN



- MANUFACTURING EFFICIENCIES – 80 BPS**  
Insourcing of back-end production
- MIX – 90 BPS**  
Improving mix of automotive, industrial and communications
- FALLTHROUGH – 150 BPS**  
50% fall through on incremental revenue
- MANUFACTURING CONSOLIDATION – 120 BPS**  
Front-end manufacturing consolidation
- DIVESTITURES – 40 BPS**  
Divestiture of non-core businesses

ON Semiconductor®



<sup>1</sup>: FY2016 represents Q4' 16 Annualized values.

# MANUFACTURING CONSOLIDATION

## Front End-Manufacturing

- 9 major fabs worldwide – Four 8 inch and five 6 inch
- Transition production to 8 inch network
- Consolidation of 6 inch network
- Potential cost savings of \$60 million annually starting in 2019

## Back-end manufacturing

- Most efficient back-end operation in the world
- ~50% of Fairchild back-end production outsourced
- Insourcing on track to begin in late 2017
- Potential cost savings of \$20 million annually

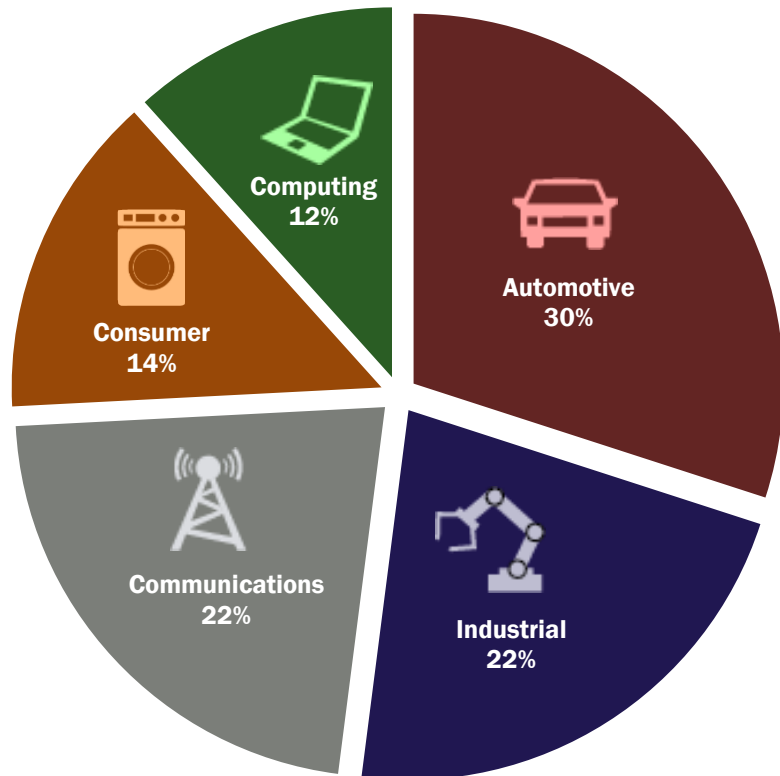
**CAPEX. INTENSITY TO REMAIN AT 6-7%**

ON Semiconductor®

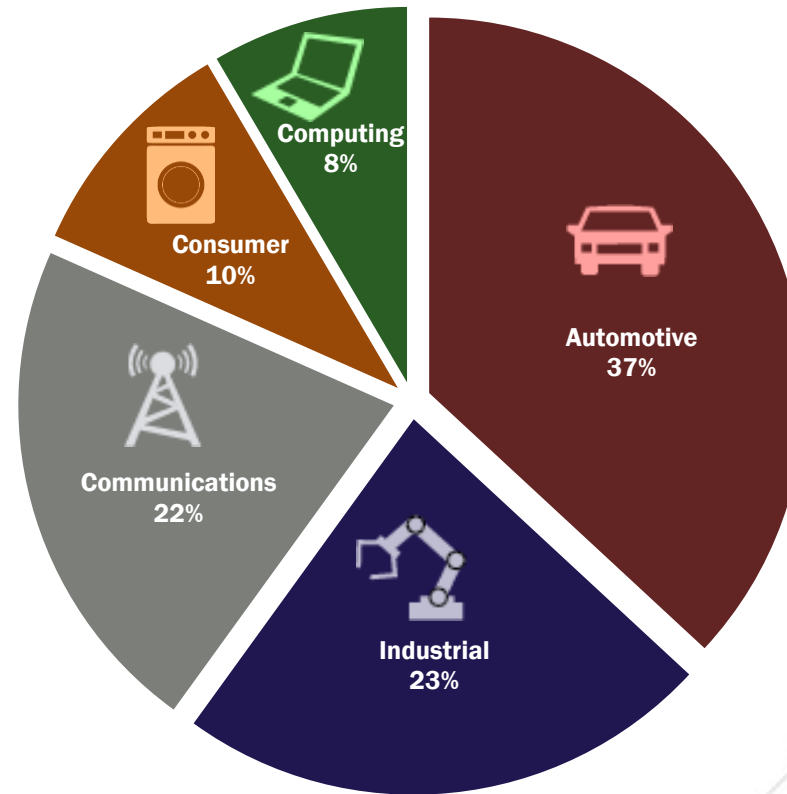


# CHANGE IN MIX 2016 TO 2020

## 4Q16



## 2020

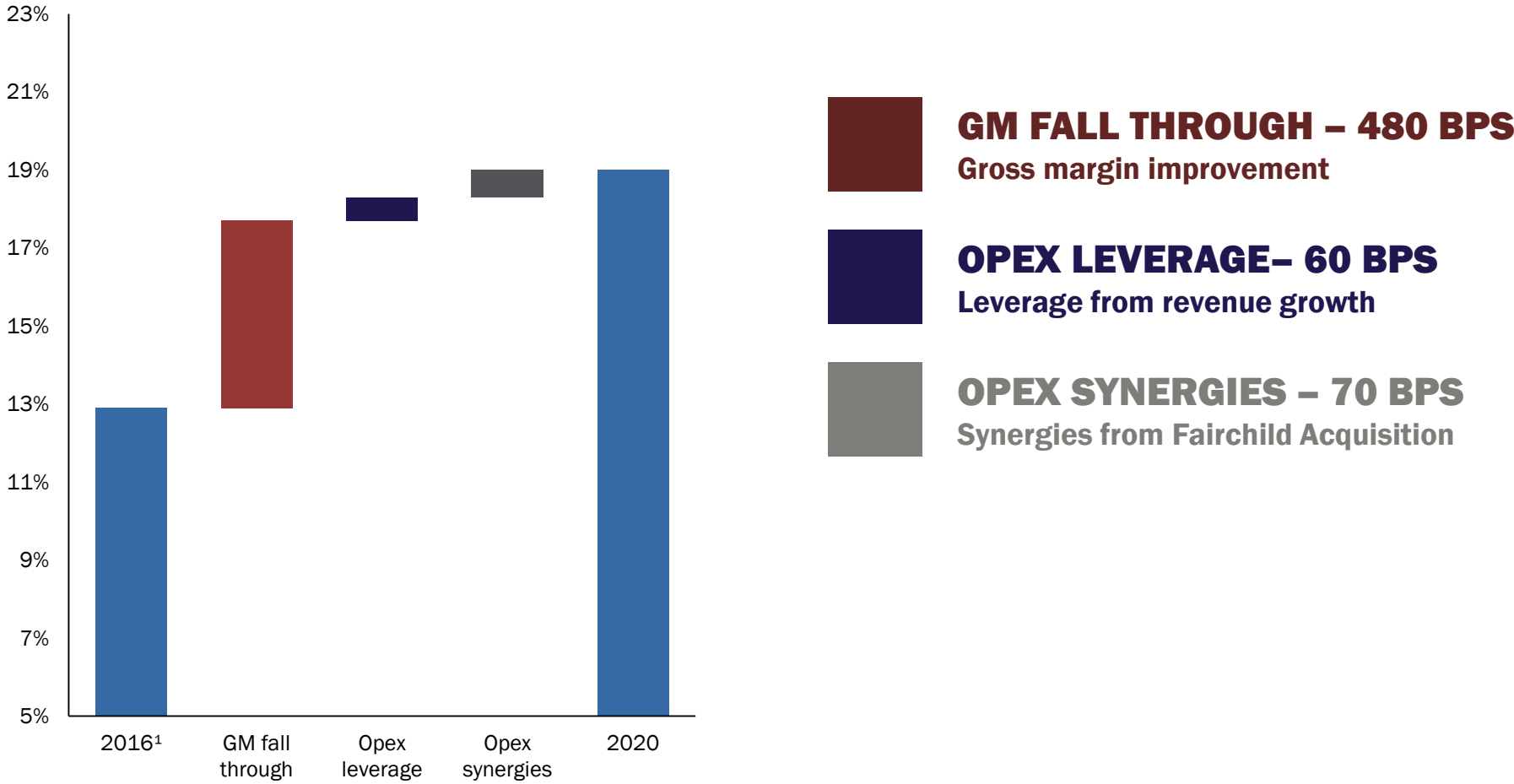


ON Semiconductor®





# PATH TO 2020 TARGET MODEL – OPERATING MARGIN

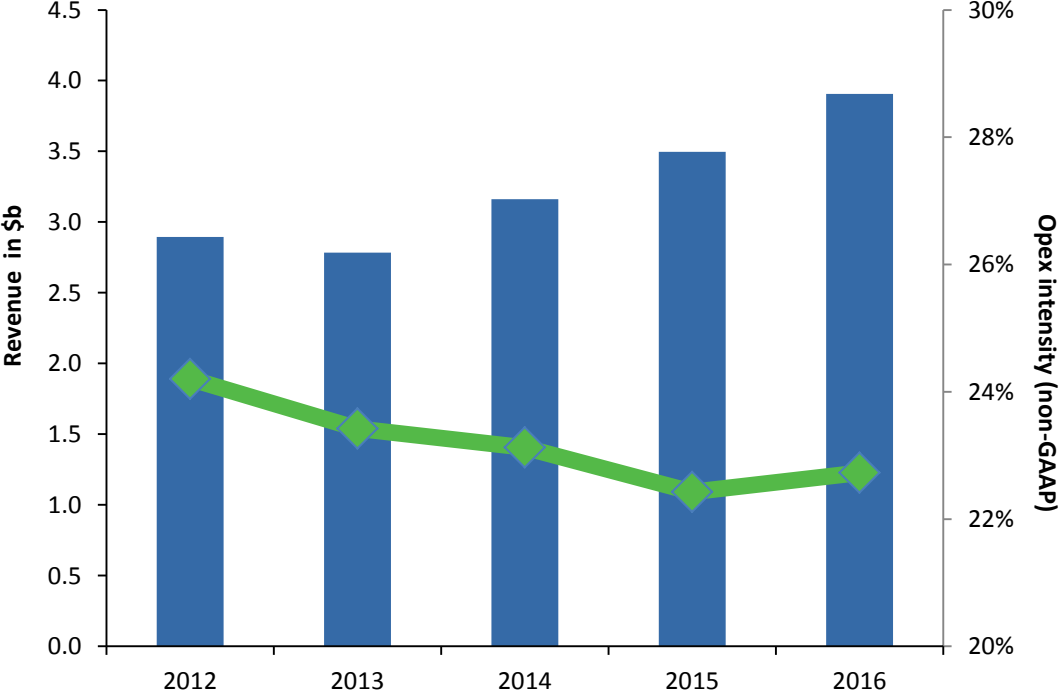


ON Semiconductor®



<sup>1</sup>: FY2016 represents Q4' 16 Annualized values.

# OPERATING EXPENSES



## OPEX INTENSITY TO SUBSIDE

-  **SYNERGIES FROM FAIRCHILD**
-  **OPEX TO GROW AT RATE HALF OF REVENUE GROWTH**
-  **STRONG TRACK RECORD OF GENERATING OPEX LEVERAGE**

ON Semiconductor®



# PATH TO 2020 TARGET MODEL – FCF

**1 OPERATING CASH FLOW – 21-23% OF REVENUE**

**2 NET CASH INTEREST - \$100-110 MILLION**

**3 CASH TAXES - 12% OF PRETAX INCOME**

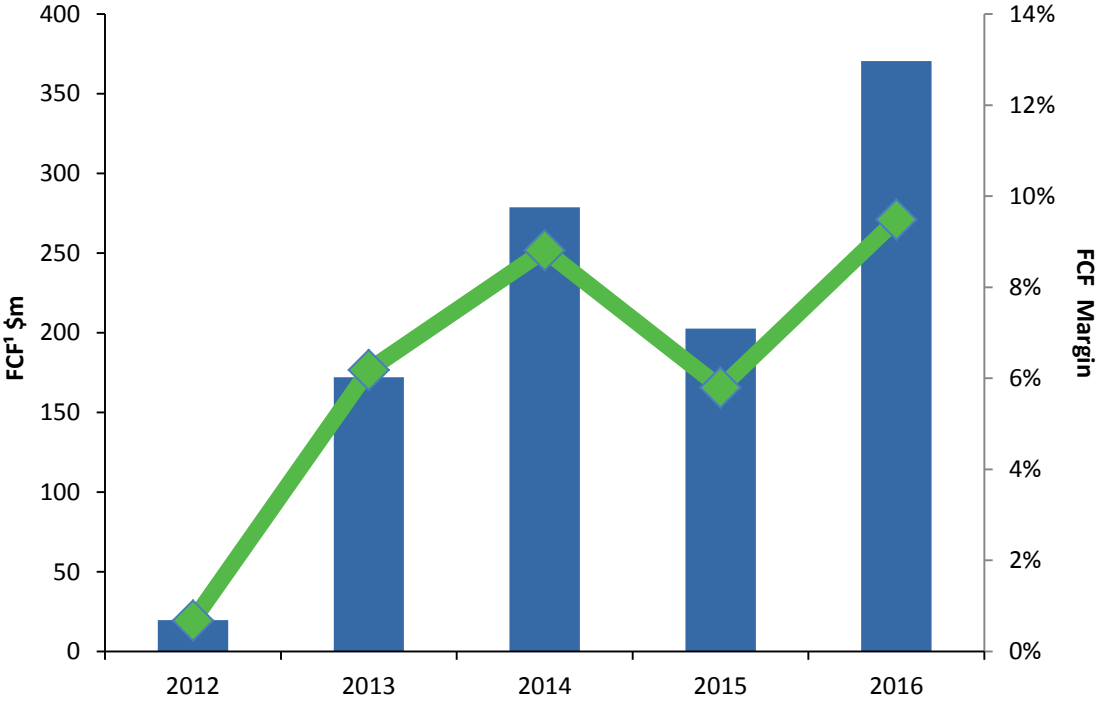
**4 DEPRECIATION & AMORTIZATION – 6-7% OF REVENUE**

**5 CAPITAL EXPENDITURE – 6-7% OF REVENUE**

**6 FREE CASH FLOW – 15-17% OF REVENUE**



# ON TRACK TO GENERATE \$900M IN ANNUAL FREE CASH FLOW



## KEY CASH FLOW CONTRIBUTORS

-  **SYNERGIES FROM FAIRCHILD**
-  **OPERATING LEVERAGE**
-  **OPERATIONAL IMPROVEMENTS**
-  **DISCIPLINED CAPITAL SPENDING**

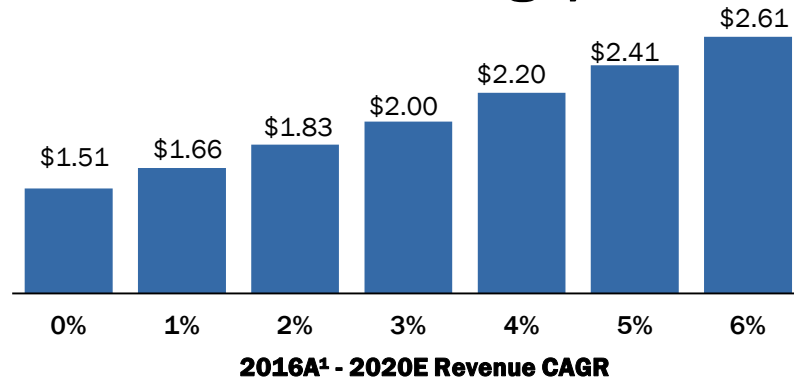
ON Semiconductor®



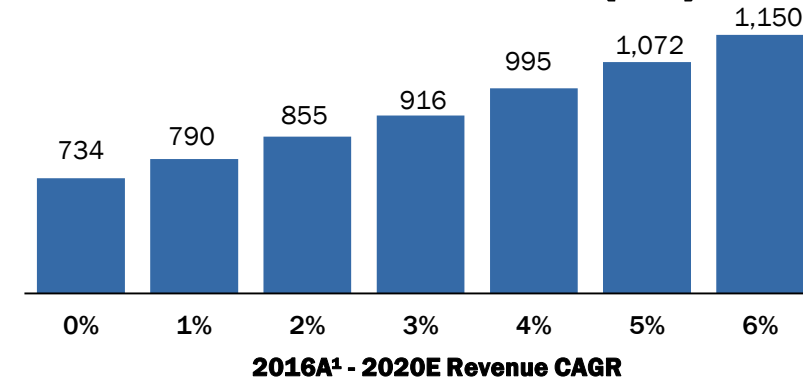
<sup>1</sup>: FCF defined as Operating Cash Flow less Capex.

# REVENUE SENSITIVITY TO 2020 TARGET MODEL

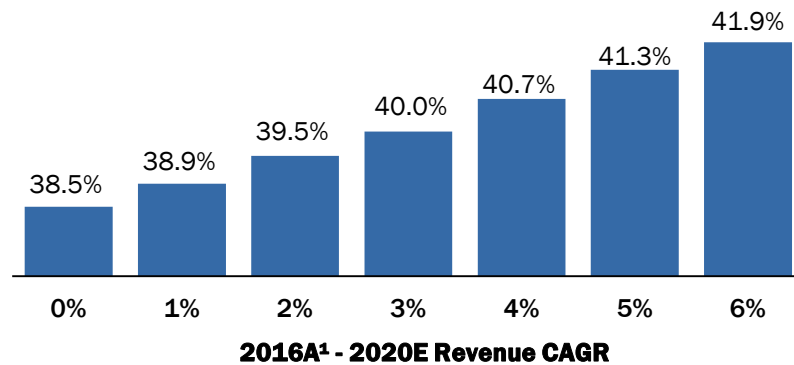
## Non-GAAP Earnings / Share



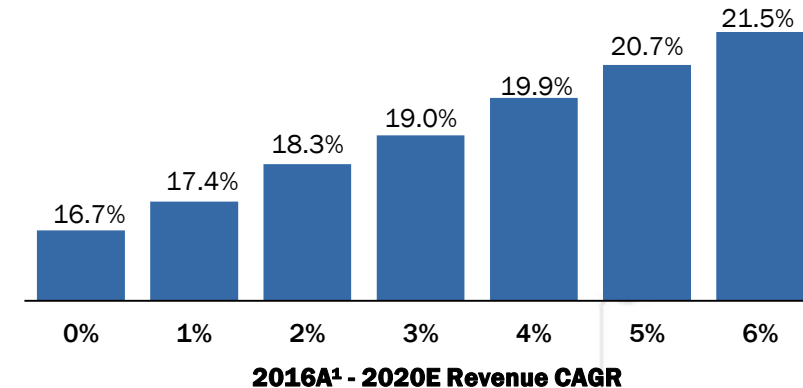
## Free Cash Flow (\$m)



## Gross Margin



## Operating Margin

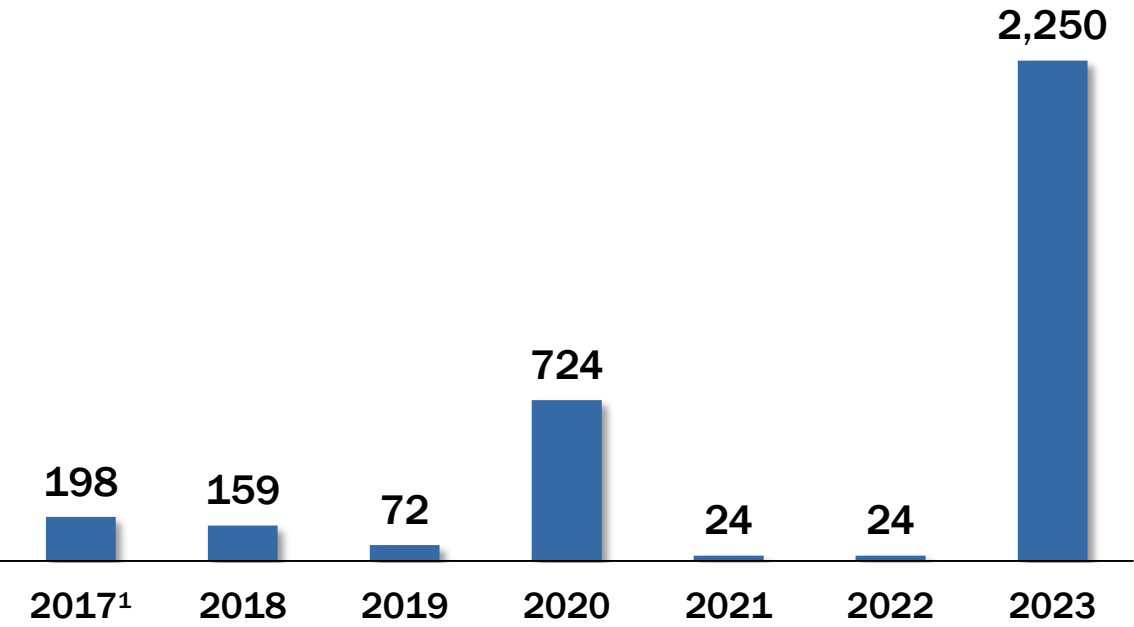


## MARGIN, EPS & FCF GROWTH WITHOUT REVENUE GROWTH

ON Semiconductor®



# AGGRESSIVE DELEVERAGING



**Debt amortization schedule<sup>1</sup>**

- TARGET NET LEVERAGE RATIO OF 2X BEFORE END OF 2018**
- PROACTIVE AND AGGRESSIVE MANAGEMENT OF INTEREST RATE RISK**
- \$600M UNTAPPED REVOLVER IN PLACE FOR UNEXPECTED CASH NEEDS**
- \$500M OF CASH NEEDED TO OPERATE THE BUSINESS**

**ON Semiconductor<sup>®</sup>**



1: Convert redeemed in 1Q2017. Term loan B & convertible notes at par value

# CAPITAL DEPLOYMENT

**1** Achieve 2x net leverage before end of 2018

**2** 80% of FCF cash return to shareholders after achieving 2x leverage

**3** Acquisitions will need to return high RoIC

**4** Sufficient access to domestic cash





# TAXES

## 1 Tax Rate

**Non-GAAP cash tax of ~10% in 2017, and 11-12% in 2018-20 of non-GAAP pre-tax income**

## 2 Cash Repatriation

**\$1.8 billion of offshore cash can be repatriated to the U.S. without incurring U.S. federal cash tax**

## 3 Position on US Tax Reform

**Given our substantial US based front-end operations, we supports comprehensive US tax reform that lowers the corporate tax rate, adopts a territorial tax system, and allows the US to compete effectively with countries that have VAT systems**

ON Semiconductor®



# SUMMARY

**1 STEEP ACCELERATION IN FREE CASH FLOW GENERATION**

**2 MARGIN EXPANSION THROUGH SYNERGIES AND OPERATIONAL IMPROVEMENTS**

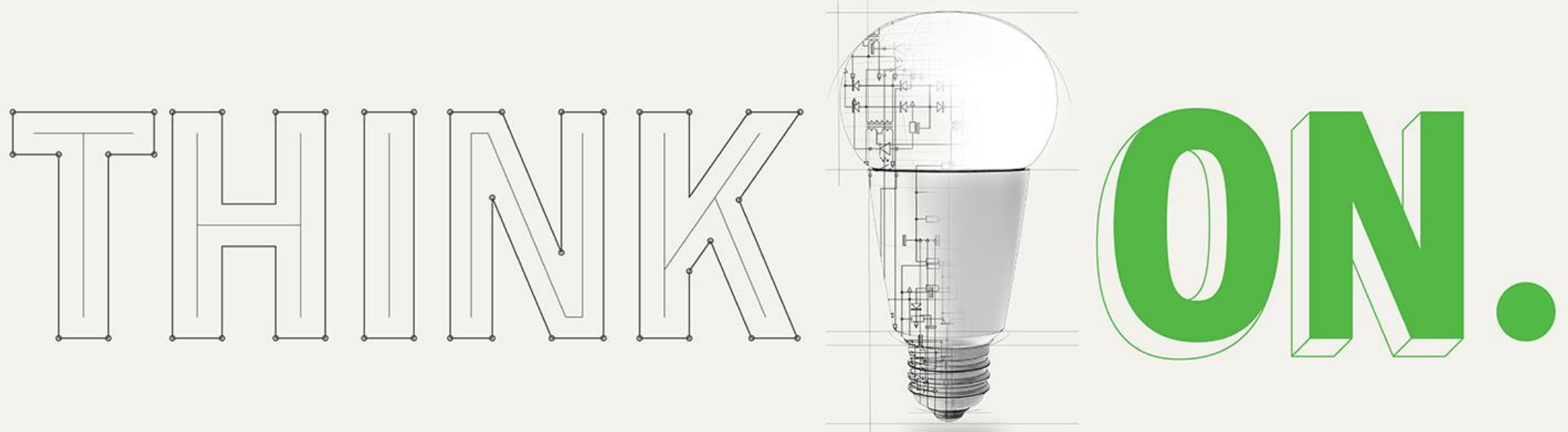
**3 REVENUE GROWTH NOT A PREREQUISITE FOR MARGIN EXPANSION**

**4 RAISING FAIRCHILD SYNERGIES TARGET**

**5 AGGRESSIVE DELEVERAGING FOLLOWED BY CAPITAL RETURNS TO SHAREHOLDERS**



# QUESTIONS & ANSWERS



**Financial Analyst Day | March 10, 2017**

# Appendix: Non-GAAP Definitions and Reconciliations

Some data in this presentation includes non-GAAP financial measures. Following is the reconciliations of non-GAAP financial measures used in this presentation to the most directly comparable measures under GAAP.

	Year Ended				
	December 31, 2016	December 31, 2015	December 31, 2014	December 31, 2013	December 31, 2012
<b>Reconciliation of GAAP operating expenses to non-GAAP operating expenses:</b>					
GAAP operating expenses	\$ 1,060.8	\$ 932.1	\$ 850.5	\$ 720.2	\$ 968.2
Special items:					
a) Amortization of acquisition related intangible assets	(104.8)	(135.7)	(68.4)	(33.1)	(44.4)
b) Actuarial gains (losses) on pension plans and other pension benefits	(6.8)	4.2	(8.4)	(2.2)	(8.5)
c) Restructuring, asset impairments and other, net	(33.2)	(9.3)	(30.0)	(33.2)	(165.3)
d) Goodwill and intangible asset impairments	(2.2)	(3.8)	(4.6)	-	(49.5)
e) Third party acquisition related costs	(25.8)	(3.5)	(8.1)	-	-
Total special items	(172.8)	(148.1)	(119.5)	(68.5)	(267.7)
Non-GAAP operating expenses	\$ 888.0	\$ 784.0	\$ 731.0	\$ 651.7	\$ 700.5

ON Semiconductor®



# ON Semiconductor

**FOR ADDITIONAL INFORMATION VISIT THE  
ON SEMICONDUCTOR CORPORATE WEBSITE**

**[WWW.ONSEMI.COM](http://WWW.ONSEMI.COM)**

**OR**

**FOR OFFICIAL FILINGS VISIT THE SEC WEBSITE**

**[WWW.SEC.GOV](http://WWW.SEC.GOV)**

ON Semiconductor®

