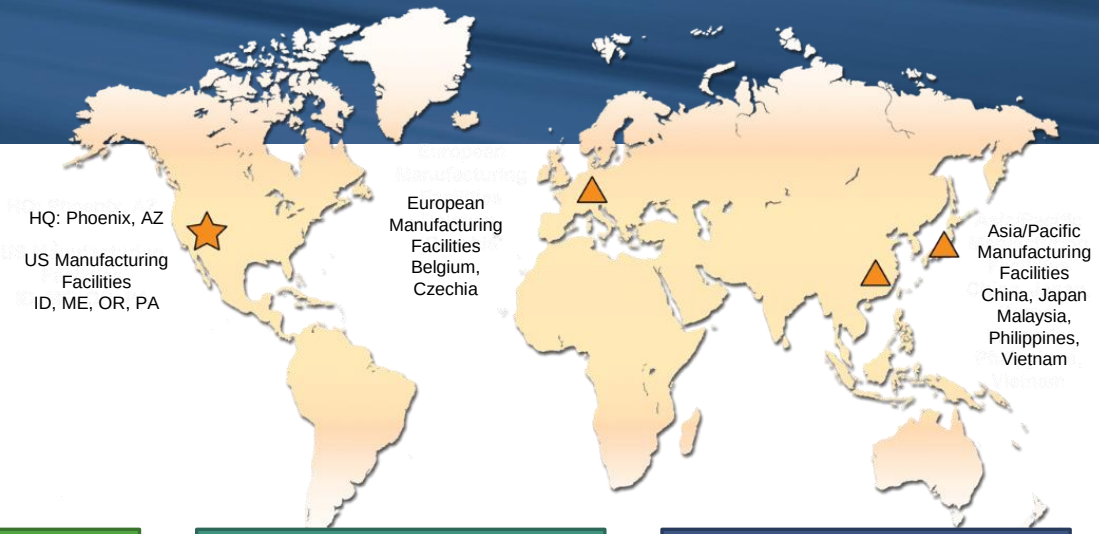


ON Semiconductor®

DHL Conference
Singapore
April 3, 2019

ON Semiconductor Today

- **Headquarters: Phoenix, AZ**
- **Employees: ~34,000 globally**
- **Revenue: ~$5.87Bn(1)**
- **Market Capitalization: ~$9.5Bn(2)**
- **Ticker: ON**
- **Founded: Spun-off from Motorola 1999, IPO 2000**



Automotive Sector (32% of Revenue)	Industrial Sector (26% of Revenue)	Communications Sector (20% of Revenue)	Consumer Sector (13% of Revenue)	Computing Sector (10% of Revenue)
• Hybrid & Electric Vehicles • Active Safety & Autonomous Driving • Body & Interior Electronics • Connectivity & Power Management • LED Lighting	• IoT Connectivity • Energy Infrastructure • Power Conversion • Cellular Base Stations • Motor Control • Sensors	• Wireless Charging • USB Type-C solutions • RF Tuning • Wall-to-Battery Power • Netcom Power	• Connectivity • Power Conversions • Audio/Video/Imaging • Motor Control • Wireless Charging	• Wireless Charging • USB Type-C Solutions • Power Conversion • AC Power Adaptor • Server Power

Product Capabilities
Custom, SoC Connectivity, Sensors, Mixed-Signal, Analog, Logic, Discrete, Optoelectronics Micro-Packages, Power Packages, Power Modules, Chip-Scale, Multi-Die, Hybrid Software, Development Kits, Reference Designs

(1) non-GAAP 2018; (2) As of 2/25/2019

ON Semi Global Manufacturing Footprint



North America

- 6 Factories
- 1,940 Employees



Europe

- 3 Factories
- 2,127 Employees



Asia

- 14 Factories
- 21,306 Employees

- Gresham - 701
- Nampa - 177
- Pocatello - 457
- S. Portland - 241
- Mountain Top - 208
- Rochester - 149

- Oudenaarde - 414
- Roznov 1712

- Leshan 2495
- Suzhou 1538
- Shenzhen 452
- Bucheon 1079
- Vietnam 2417
- Carmona 3724
- Cebu 1840
- Tarlac 1296
- ISMF 876
- Seremban 4249
- Niigata 688
- Aizu 650

Corporate Strategy

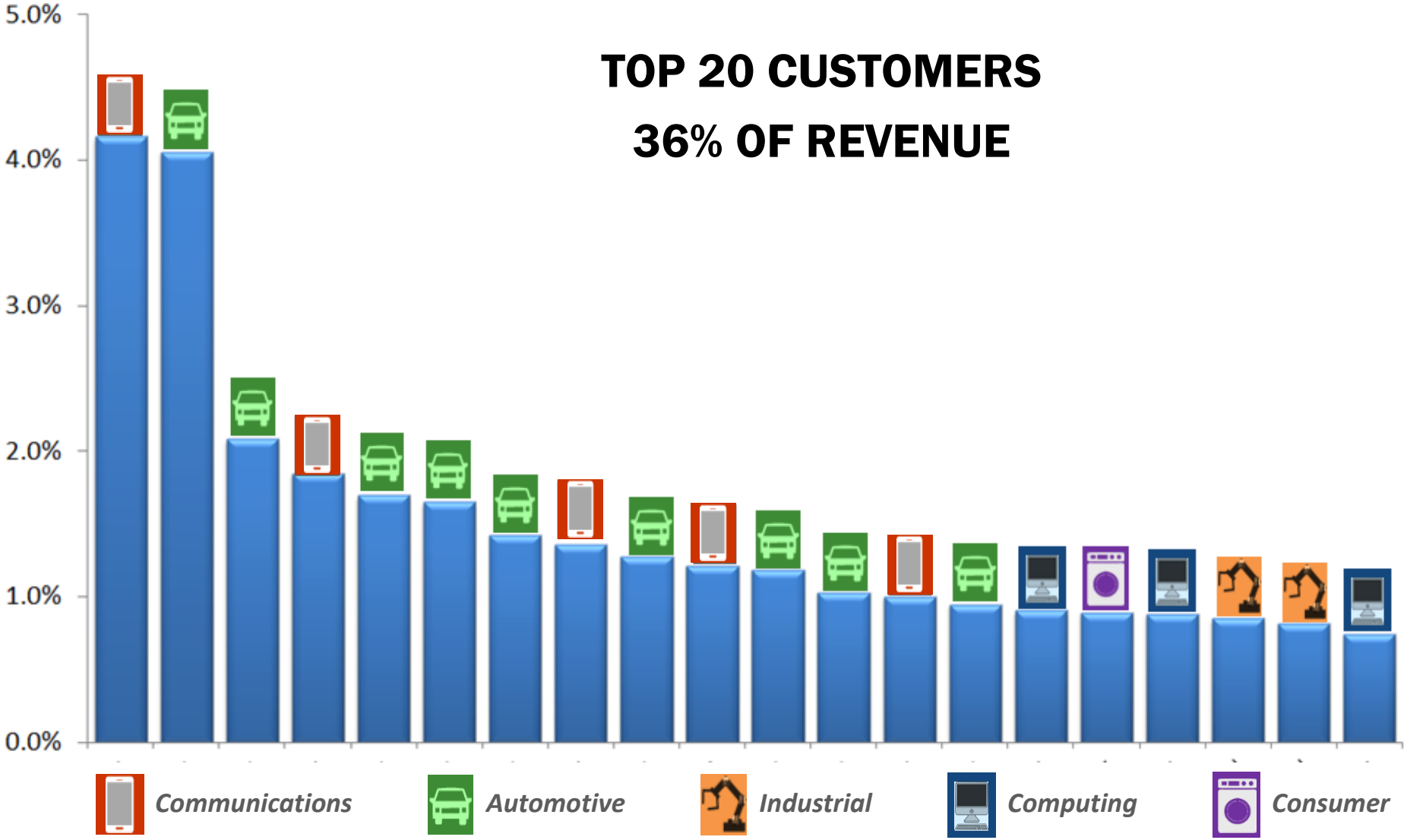
Deliver Sustained and Profitable Growth Two Times the Peer Semiconductor Market by:

- Investing resources to win in strategic growth markets: Automotive, Industrial, Communications
- Maintaining leadership position in mature markets: Computing, Consumer
- Delivering innovative products and solutions to customers
- Maximizing global manufacturing and supply chain network efficiency





Highly Diversified Customer Base

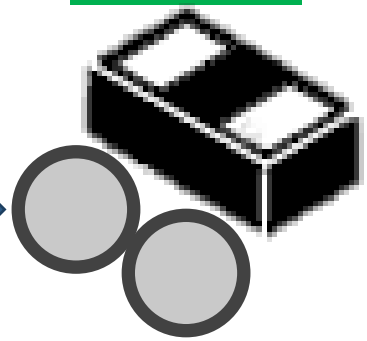


Wide Range of Product Sizes



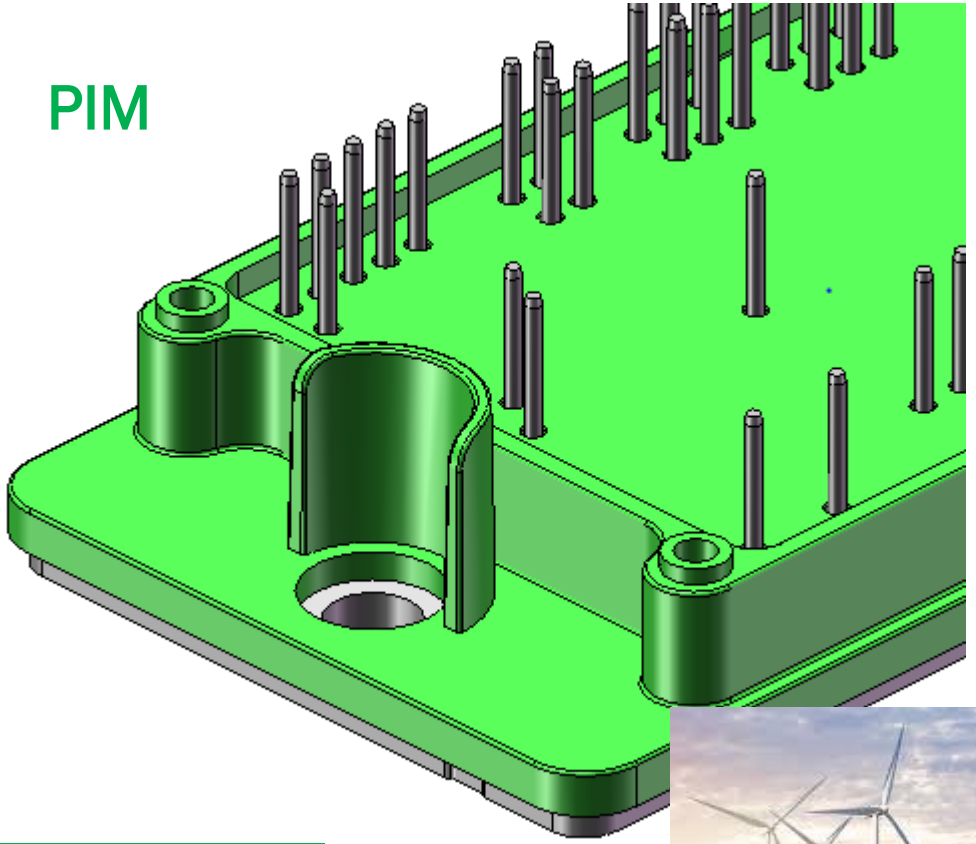
*Human Hair 181 microns **

X4DFN





PIM

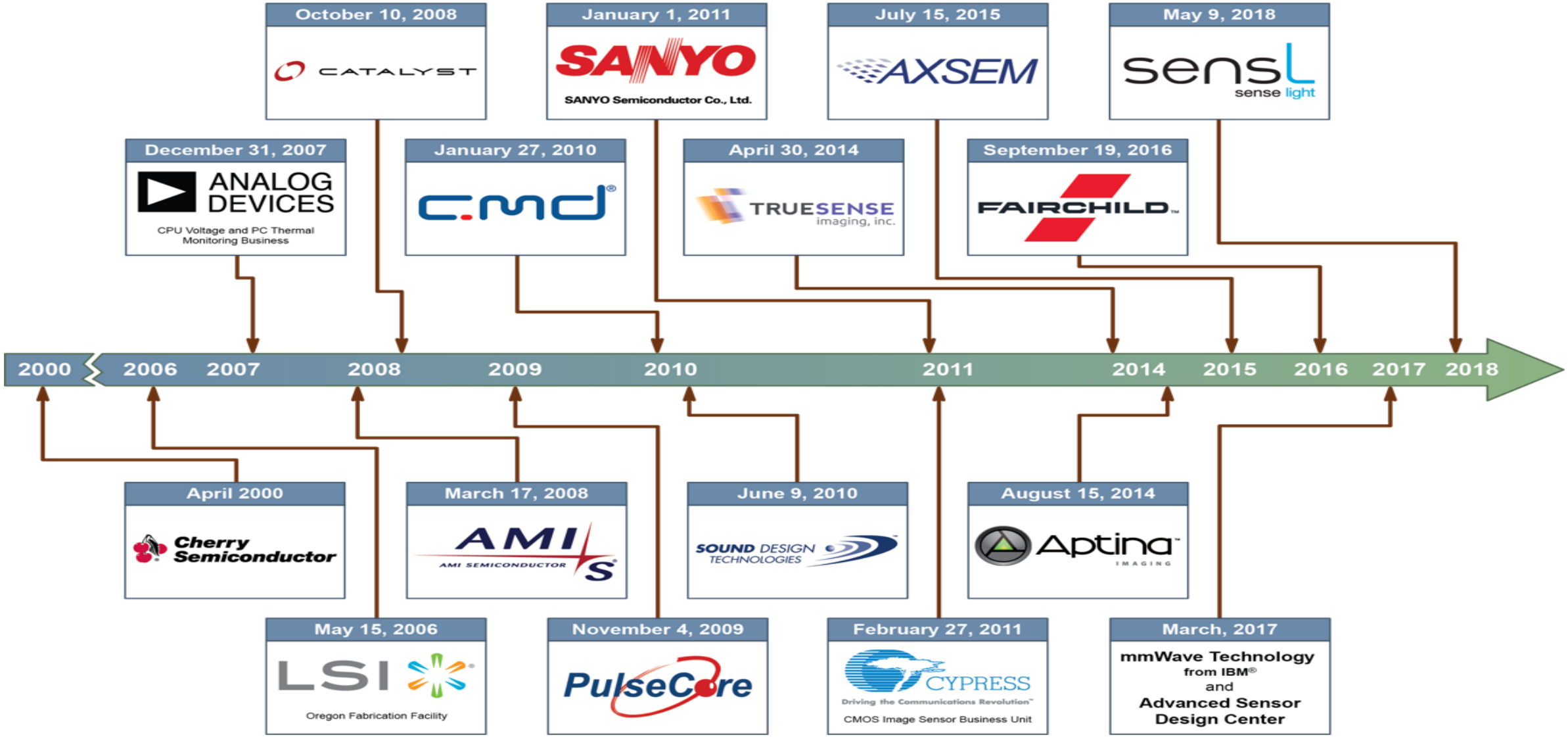


25MU of X4DFN can fit in the volume of 1 Q2Pack module.



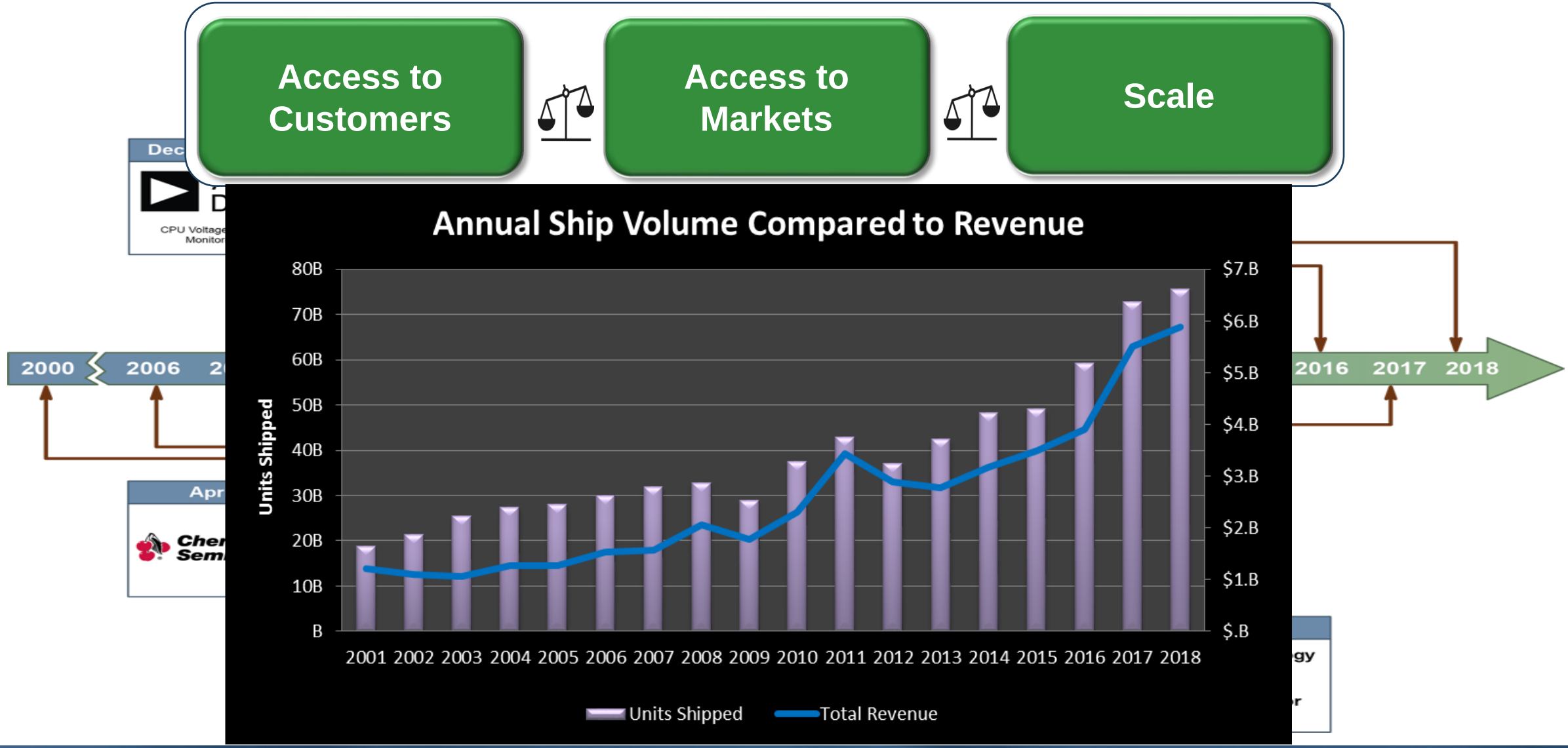
* The Physics Fact book

Acquisitions Over Time

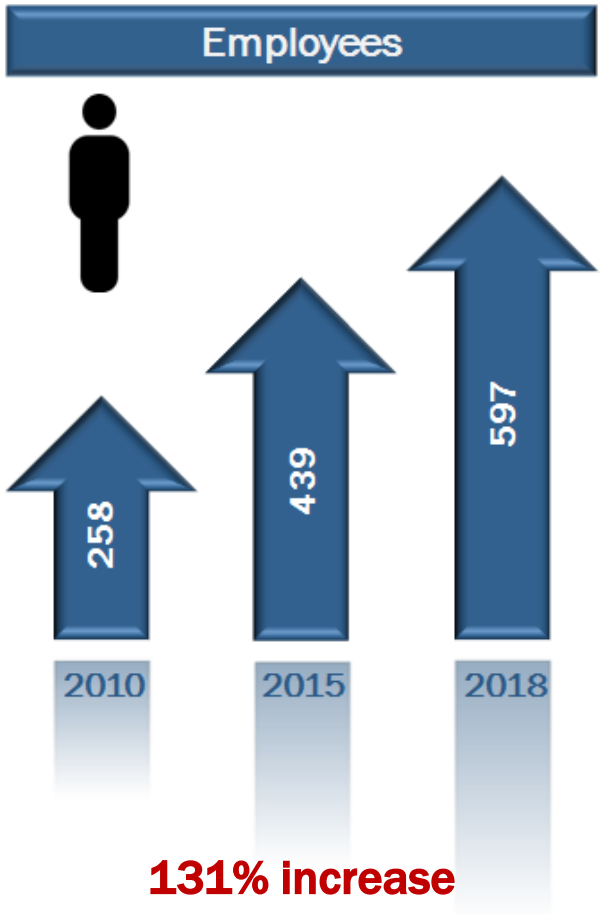


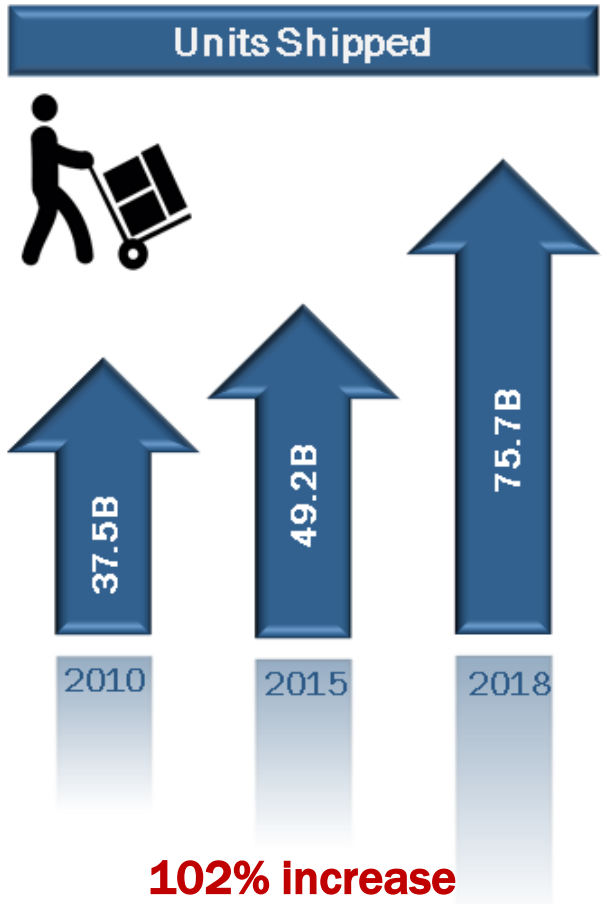
Acquisitions Over Time

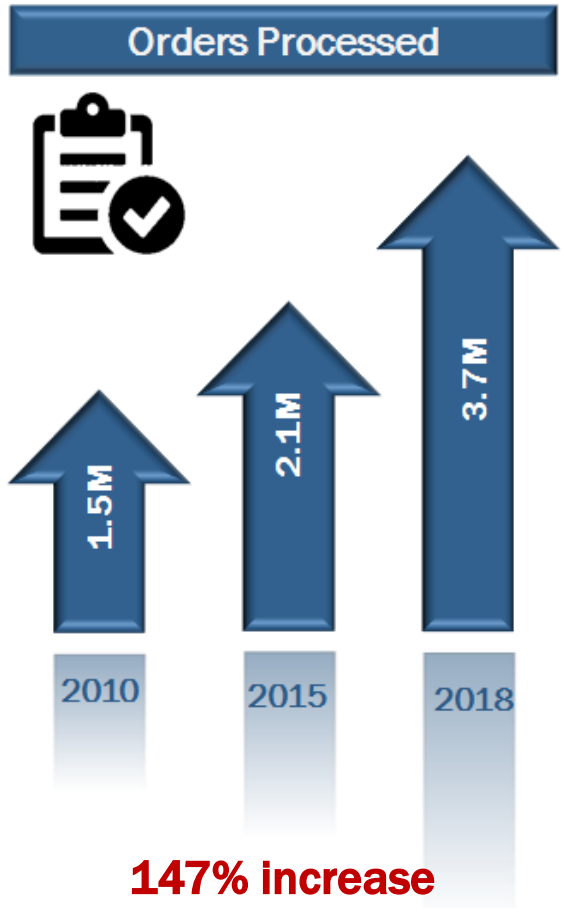
Access to Customers | **Access to Markets** | **Scale**

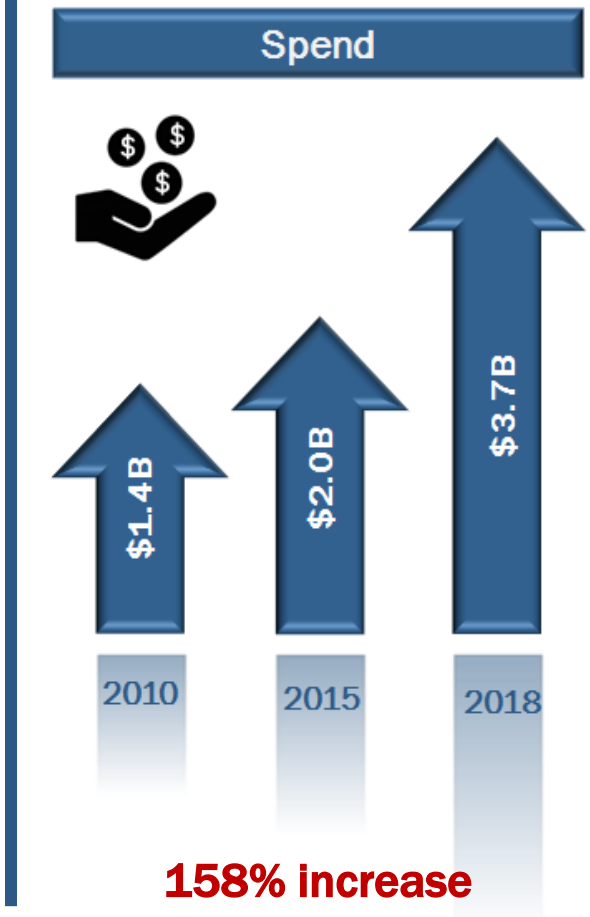


ON Semiconductor Global Supply Chain Growth

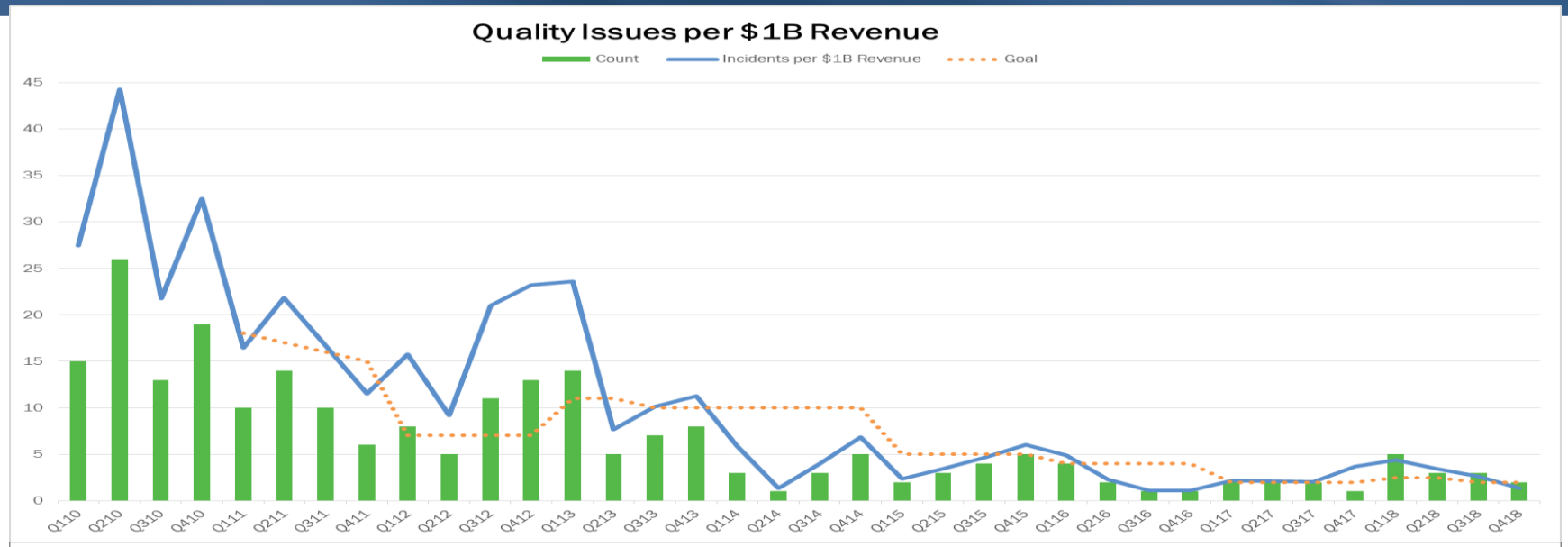




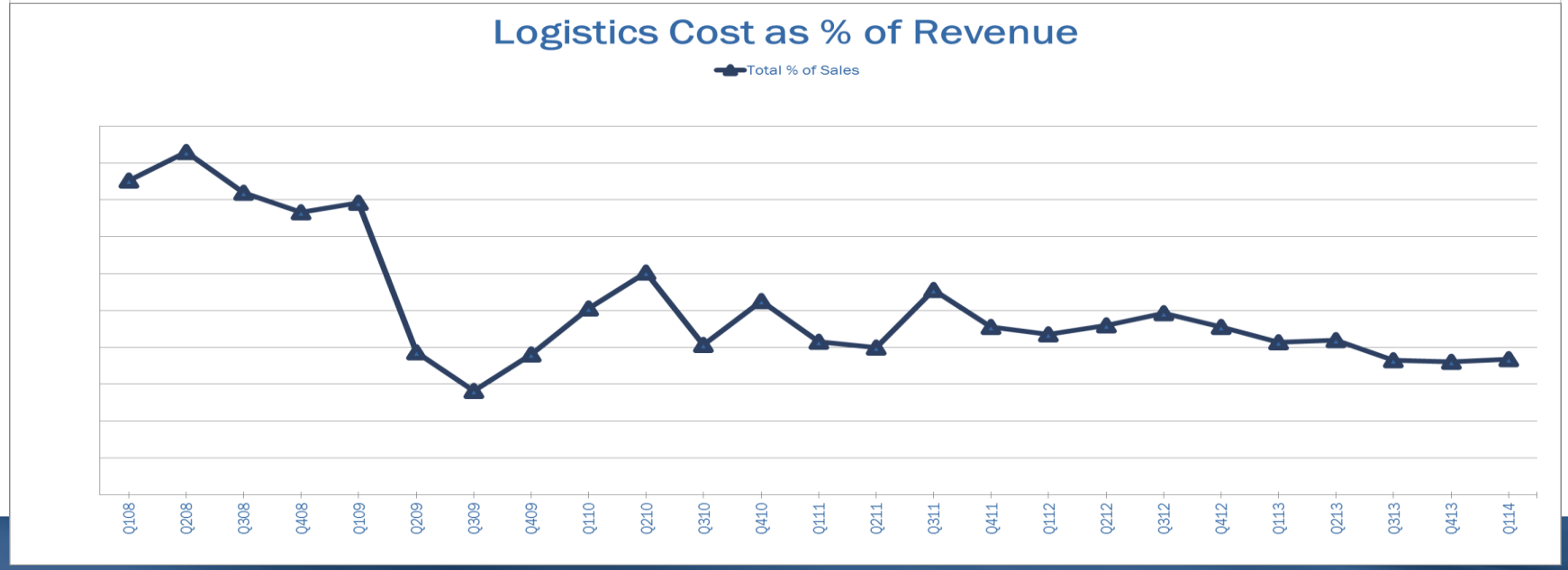




Logistics Network



20X reduction



30.3% reduction

Market Conversions

Megatrends		ON Semiconductor Solutions
Automotive AV & EV		➢ Intelligent sensors, sensor fusion, power management & IVN for automated driving ➢ Leadership power discrete and module portfolio for 48V & vehicle electrification ➢ Reference designs to simplify and accelerate customer development ➢ On board computing power and connectivity for car to car communications
5G & Cloud Power		➢ Leadership high power discrete and module portfolio for industrial power ➢ Smart power solutions for datacenter and enterprise servers ➢ Energy Efficient power solutions for 5G infrastructure ➢ High efficiency WBG discrete devices and modules
Internet of Things (IoT)		➢ Ultra-low power intelligent sensors, connectivity, processing & power management ➢ Leadership vision and audio solutions for machine vision and natural HMI ➢ End-to-end secure connectivity supporting major cloud service providers ➢ Complete reference designs and software to simplify customer development

Internal Use Only


Intelligent
Sensing
ON
prime
amazon

Automotive – From combustion to electric

Reducing Pollution & Dependency on Fossil Fuels

Old Solution

I.C.E.

Equivalent CO2:
11,436 lbs/yr

Noise @ Idle:
47 dBA

Fossil Fuels:
Fully Dependent



New Solution

HEV/EV



Equivalent CO2:
4,815 lbs/Yr

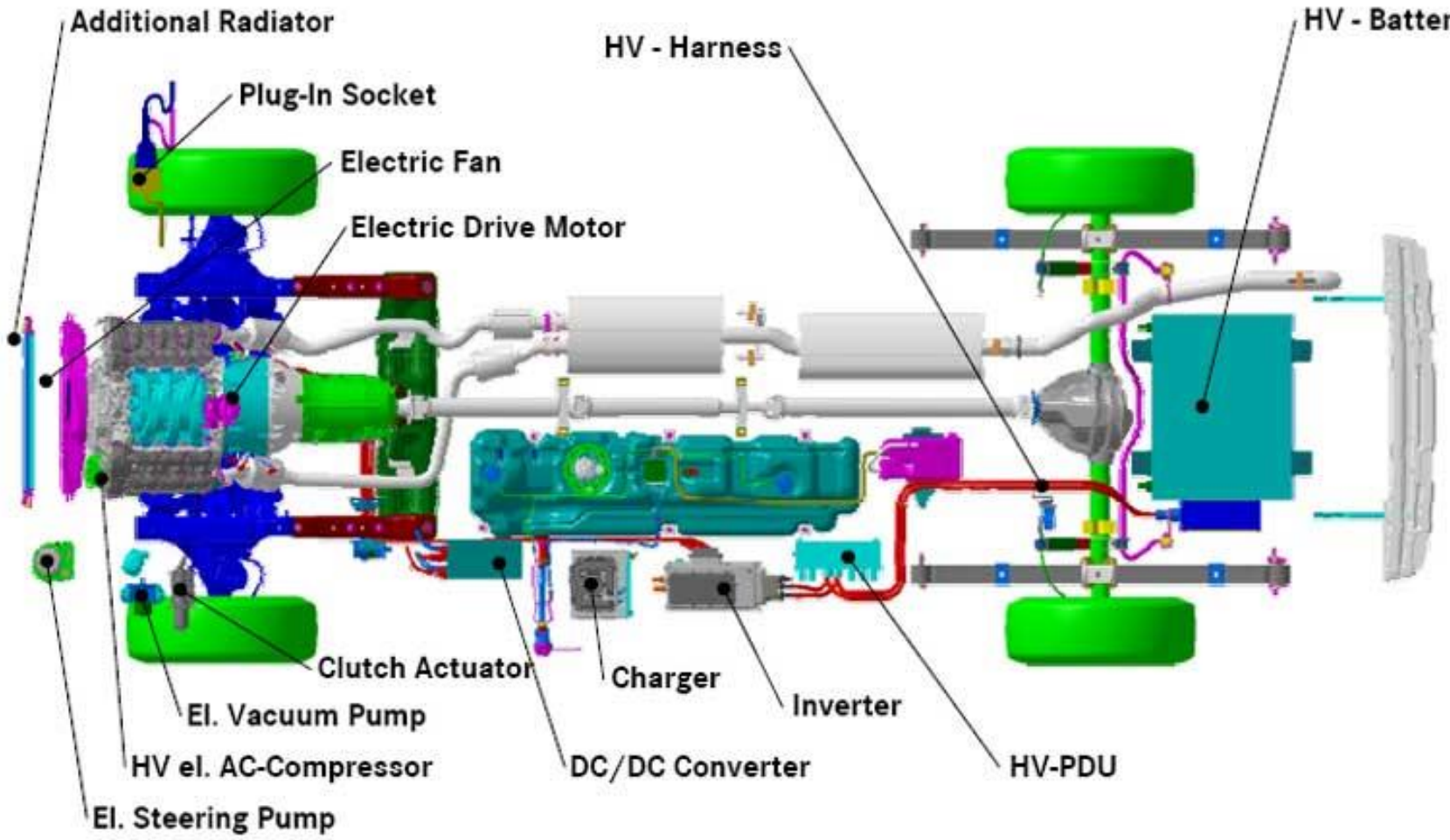
Noise @ Idle:
29 dBA

Fossil Fuels:
Can Be Zero

Internal Use Only

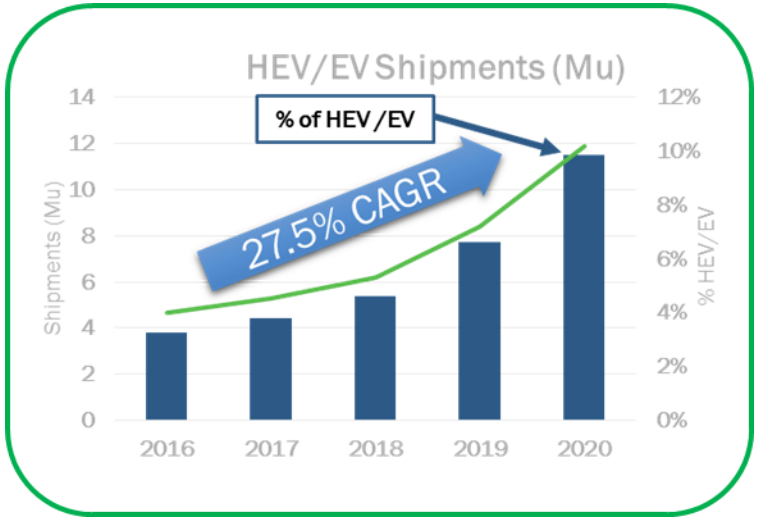
Power Semiconductors in Electric Vehicles

>10X Semiconductor Dollar content versus Internal Combustion Engine



Key ON Products

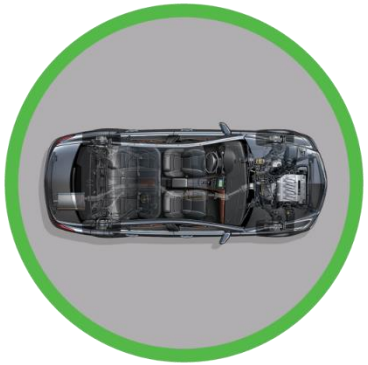
- *IGBTs,*
- *SJ MosFets*
- *Gate drivers*
- *Power Modules*
- *SiC MosFETs and diodes*
- *DC to DC*



AUTOMATED DRIVING

Level 0

Passive Safety (Seat Belt & Airbags)

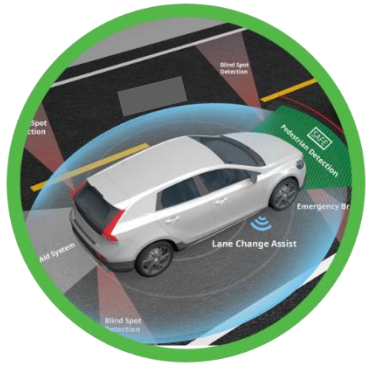


ON Content

Up to $10

Level 2

Limited Autonomy (ADAS, Viewing, ACC, LDWS, Auto-Braking)



ON Content

Up to $150

Level 4

High Automation (Self-driving with ability of driver to intervene)



Image Courtesy of Waymo

ON Content

Up to $1,000

Power Management

PMIC , Drivers, DC-DC, LDO, IVN

+

Power

Power MOSFETs, Discretes

+

Sensors & Fusion

Image, Radar , Lidar Ultrasonic, Processing

ADAS: Advanced driver assist system, ACC: Adaptive cruise control, LDWS: Lane departure warning system, LDO: Low dropout regulator

Telecom – From 4G to 5G



Exponential Growth in Instantaneous Data Needs

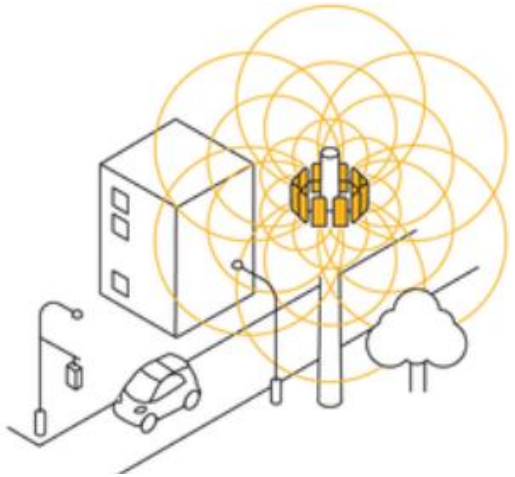
Connected Things
15B in 2015

Data Rate*:
1 GB/s

Latency:
10 ms

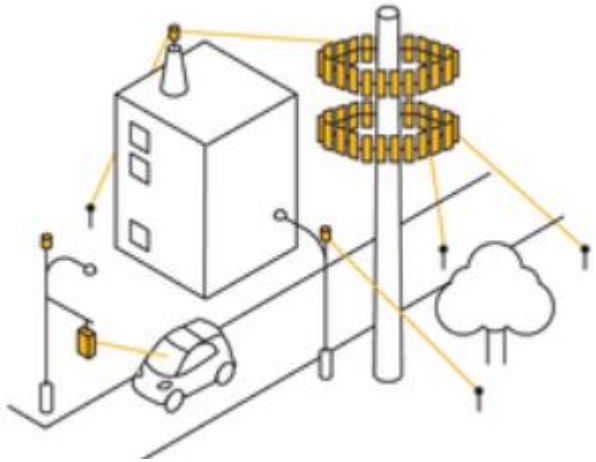
Old Solution

4G: 2x2 TxRx



New Solution

5G: mMIMO & Beamforming



Connected Things
31B in 2020

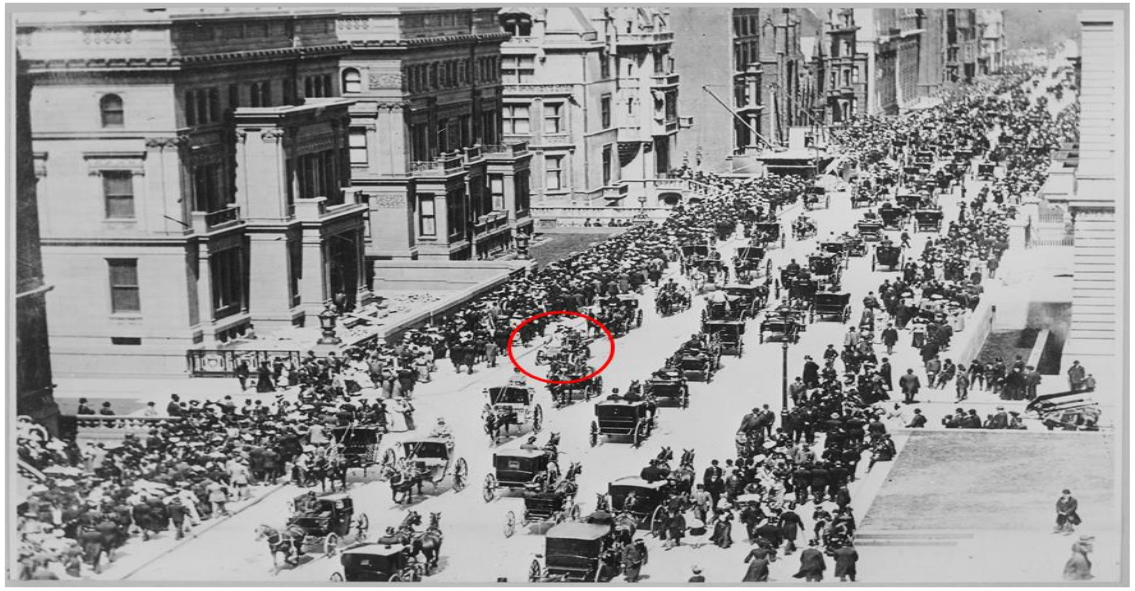
Data Rate*:
20 GB/s

Latency:
1 ms

*Theoretical Downlink Speed

Change Happens Fast

Easter Morning 1900: 5th Ave, New York City



Source: US National Archives

Easter Morning 1913: 5th Ave, New York City



Source: George Grantham Brian Collection

1900

The year the automobile was introduced in developed countries

1913

13 years for total mass adoption of the automobile

Internal Use Only

Logistics Impacts of the 5G/ AV World

- Continuous Delivery- smaller batch sizes, more frequently
- Seamless Visibility- react faster to change, change on the fly
- Parallel Processing- simultaneous operations
- Shared Resources- connected networks, vehicles, sort operations