



Investor Relations Presentation

November 2019

Any statements set forth herein that are not historical facts are forward-looking statements that involve risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. Such forward-looking statements include, but are not limited to, statements regarding updates to Diodes Incorporated's fourth quarter 2019 business outlook as of November 4, 2019, which include the following: expect revenue to be approximately \$300 million, plus or minus 2.0 percent, which at the mid-point represents annual growth of 2.8 percent even in the overall weak market environment and continued outperformance of our served market; expect GAAP gross margin to be 36.5 percent, plus or minus 1 percent; non-GAAP operating expenses, which are GAAP operating expenses adjusted for amortization of acquisition-related intangible assets, are expected to be approximately 22.0 percent of revenue, plus or minus 1 percent; expect net interest expense to be approximately \$2.0 million; expect tax rate to be 21 percent, plus or minus 3 percent; shares used to calculate diluted EPS for the second quarter are anticipated to be approximately 52.5 million; purchase accounting adjustments for Pericom and previous acquisitions of \$3.7 million after tax are not included in these non-GAAP estimates; and other statements identified by words such as "estimates," "expects," "projects," "plans," "will," and similar expressions.

Potential risks and uncertainties include, but are not limited to, such factors as: the risk that such expectations may not be met; the risk that the expected benefits of acquisitions may not be realized or that integration of acquired businesses may not continue as rapidly as we anticipate; the risk that we may not be able to maintain our current growth strategy or continue to maintain our current performance, costs, and loadings in our manufacturing facilities; the risk that we may not be able to increase our automotive, industrial, or other revenue and market share; risks of domestic and foreign operations, including excessive operation costs, labor shortages, higher tax rates, and our joint venture prospects; the risk that we may not continue our share repurchase program; the risks of cyclical downturns in the semiconductor industry and of changes in end-market demand or product mix that may affect gross margin or render inventory obsolete; the risk of unfavorable currency exchange rates; the risk that our future outlook or guidance may be incorrect; the risks of global economic weakness or instability in global financial markets; the risks of trade restrictions, tariffs, or embargoes; the risk of breaches of our information technology systems; and other information, including the "Risk Factors" detailed from time to time in Diodes' filings with the United States Securities and Exchange Commission.

This presentation also contains non-GAAP measures. See the Company's press release on November 4, 2019 titled, "Diodes Incorporated Reports Third Quarter Financial Results" for detailed information related to the Company's non-GAAP measures and a reconciliation of GAAP net income to non-GAAP net income.

Dr. Keh-Shew Lu

President and CEO

Diodes Incorporated

Texas Instruments

Since 2005

27 years



Experience:

- Senior Vice President of TI Worldwide Analog and Logic
- President of Texas Instruments – Asia

Education:

- Master's Degree and Doctorate in Electrical Engineering
Texas Tech University
- Bachelor's Degree in Engineering
National Cheng Kung University - Taiwan

Laura Mehrl (冯蓉媞)

**Company spokesperson,
Director of Investor Relations**

Since May 2010

Experience:

- Director of Investor Relations, Diodes Incorporated, Plano, Texas
- Senior Business Development Manager, STMicroelectronics, Carrollton, Texas
- Sales Director for Analog Devices Inc., Shanghai, China
- Product Marketing Manager at Texas Instruments (TI), Dallas, Texas
- Senior Engineer at Lattice Semiconductor Inc., Hillsboro, Oregon
- Wafer fab design engineer and product engineer at TI, Lubbock, Texas

Education:

- MBA with concentration in International Marketing, Texas Tech University
- BS in Electrical and Computer Engineering, University of Iowa

A leading global manufacturer and supplier of high-quality **application specific, standard products** within the broad discrete, logic, analog and mixed-signal markets, serving the **Automotive, Industrial, Consumer, Communications, and Computing** segments.



Global Operations and World-class Manufacturing & Packaging

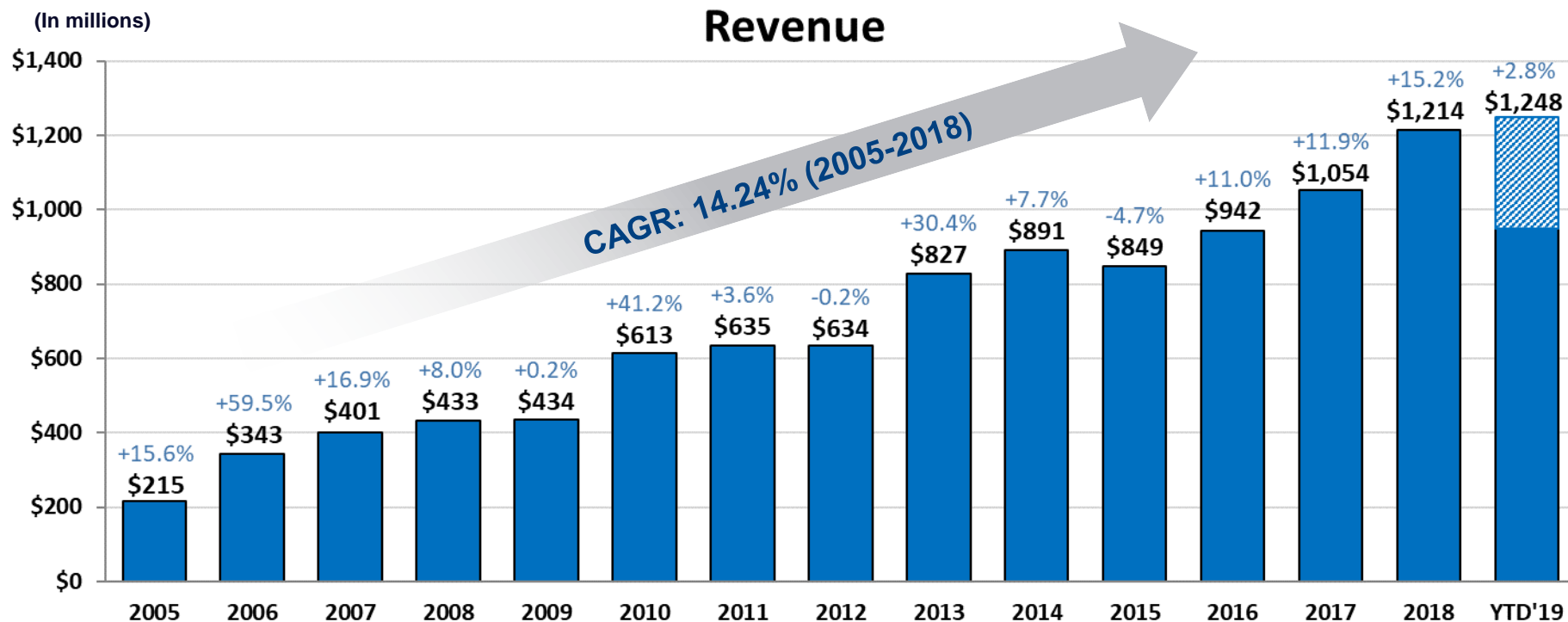
- NASDAQ: DIOD
- Founded in 1959
- Headquartered in Plano, TX; 21 locations globally
- Manufacturing in UK, Germany, China, and Taiwan
- ISO9001:2008 Certified / TS16949:2009 Certified
ISO14001 Certified
- Key acquisitions:
 - Anachip Corporation, Taiwan Jan. 2006
 - Advanced Power Devices Nov. 2006
 - Zetex June 2008
 - Power Analog Microelectronics (PAM) Oct. 2012
 - BCD Semiconductor Mar. 2013
 - Pericom Semiconductor Nov. 2015
 - TI Greenock fab April 2019
 - Lite-On Semiconductor – *expected to close April 2020*
- Over 7700 employees worldwide
- 27 consecutive years of profitability





Track Record of Consistent Growth

Record Annual Revenue in 2018; Projected to Achieve New Record in 2019



*YTD'19 based on mid-point of 4Q19 guidance as provided on November 4, 2019

Vision: Create Shareholder Value

Page 9

- **Goal 1: \$1B Market Cap**
- **Goal 2: \$1B Annual Revenue**
- **Goal 3: \$1B Gross Profit**
- **Goal 4: \$1B Profit Before Tax**

✓ 2010

✓ 2017

● \$1B PBT

● \$1B Gross Profit

✓ \$1B Revenue

✓ \$1B Market Cap

Mission:

Profitability growth to
expand shareholder value

Strategy:

Grow Revenue to \$2.5B
at 40% Gross Margin

Goal:

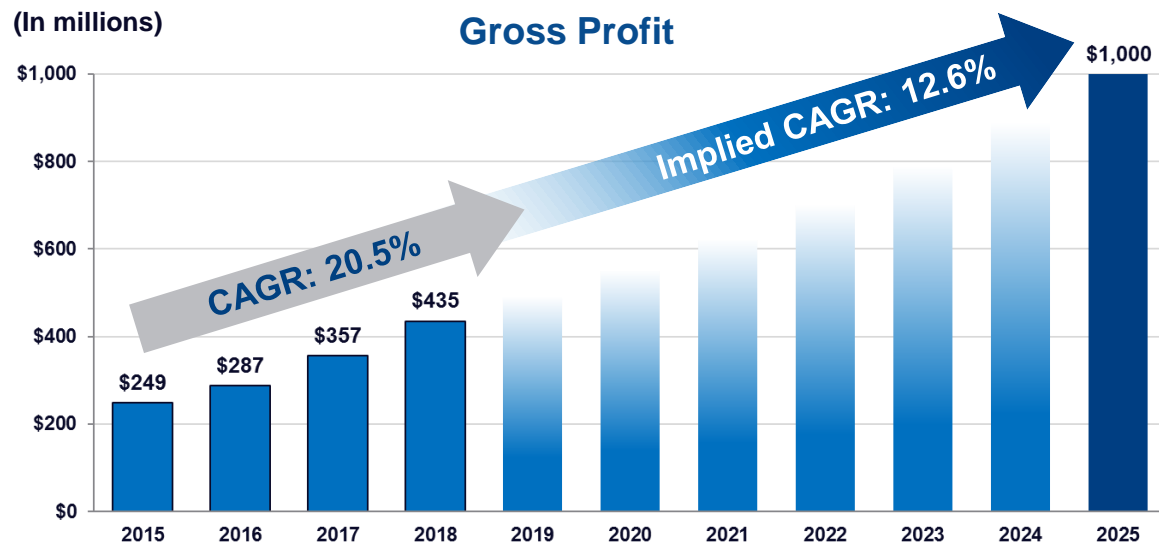
\$1B Gross Profit by 2025



	2018		2025	Implied CAGR
Revenue	\$1.2B	→	2.5B	10.9%
Gross Margin	35%	→	40%	
Gross Profit	\$435M	→	\$1B	12.6%
R&D%	5%	→	7%	
SG&A%	15%	→	13%	
Op. Profit	15%	→	20%	



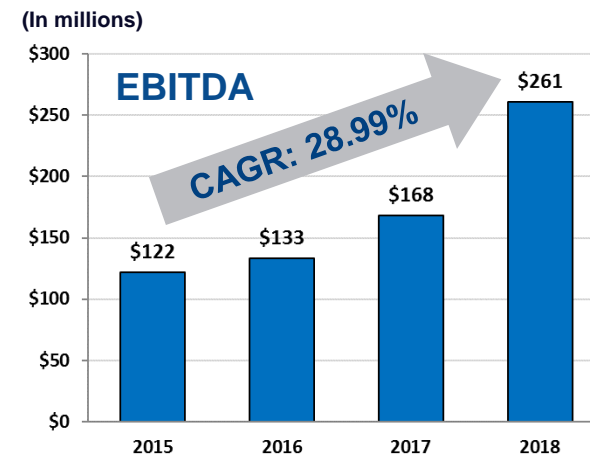
Gross Profit Target of \$1B in 2025

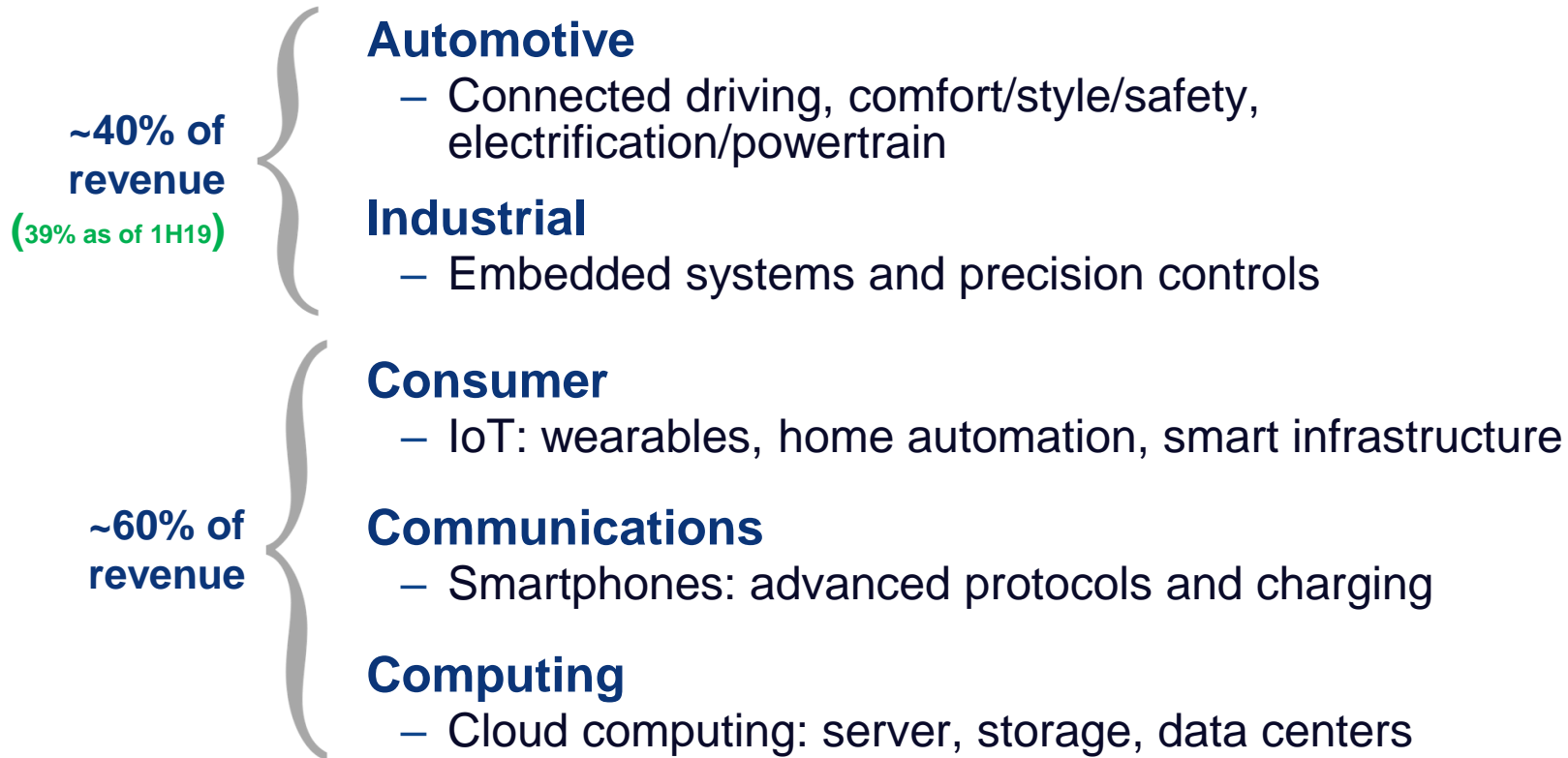


- 3rd consecutive year of record Gross Profit

Solid Operating Leverage:

- Managing OpEx to target model of 20% of revenue
- CapEx remains within target model of 5-9% of revenue
- Generating record earnings and cash flow





Focus Applications:

Connected Driving

- **ADAS** (Advanced Driver Assistance Systems)
- **Telematics**
- **Infotainment Systems**

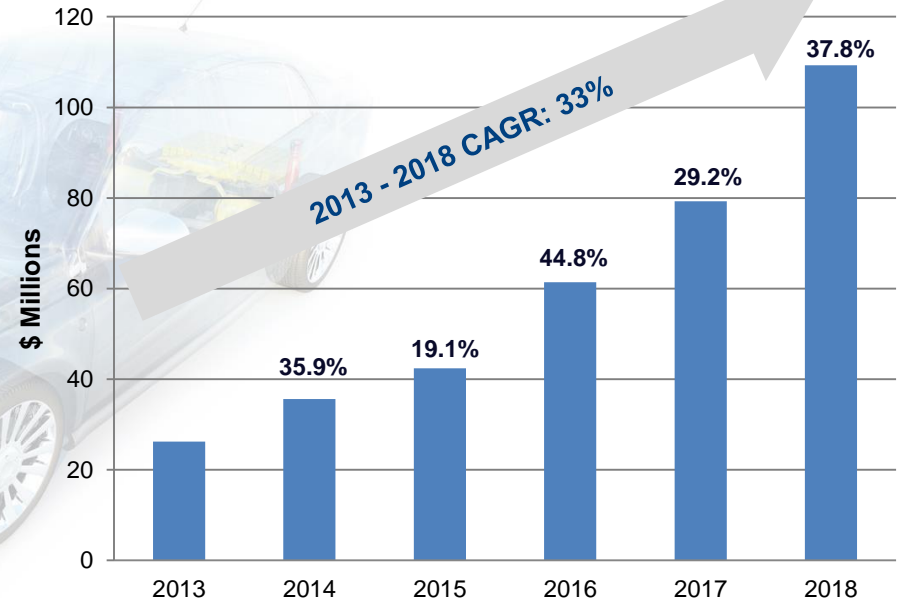
Comfort, Style and Safety

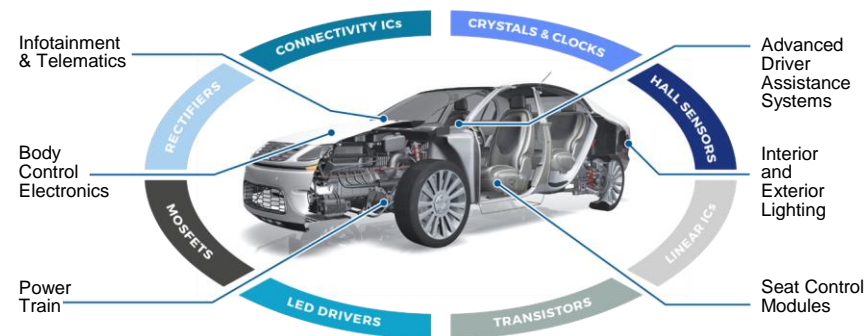
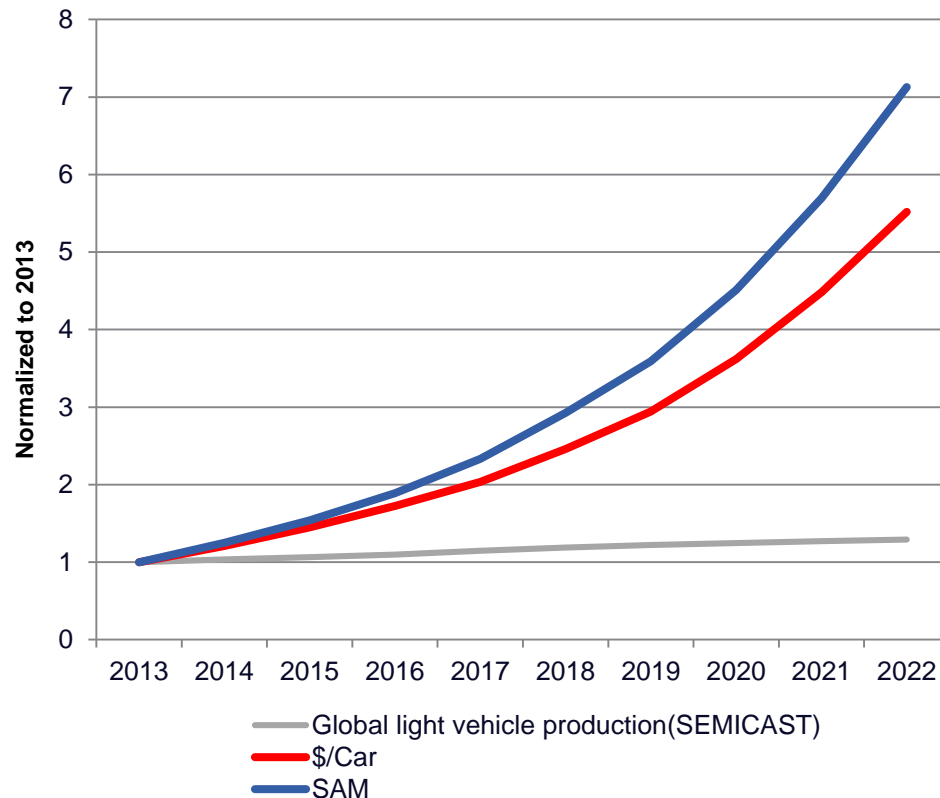
- **Lighting**
 - Migration to LED and intelligent illumination
- **BLDC motor control**
 - Migration from Brushed to Brushless DC Motors

Electrification/Powertrain

- **Conventional Powertrain → Hybrid → Electrification**
- **Battery management**
 - Move to 48V battery

Diodes Automotive Revenue



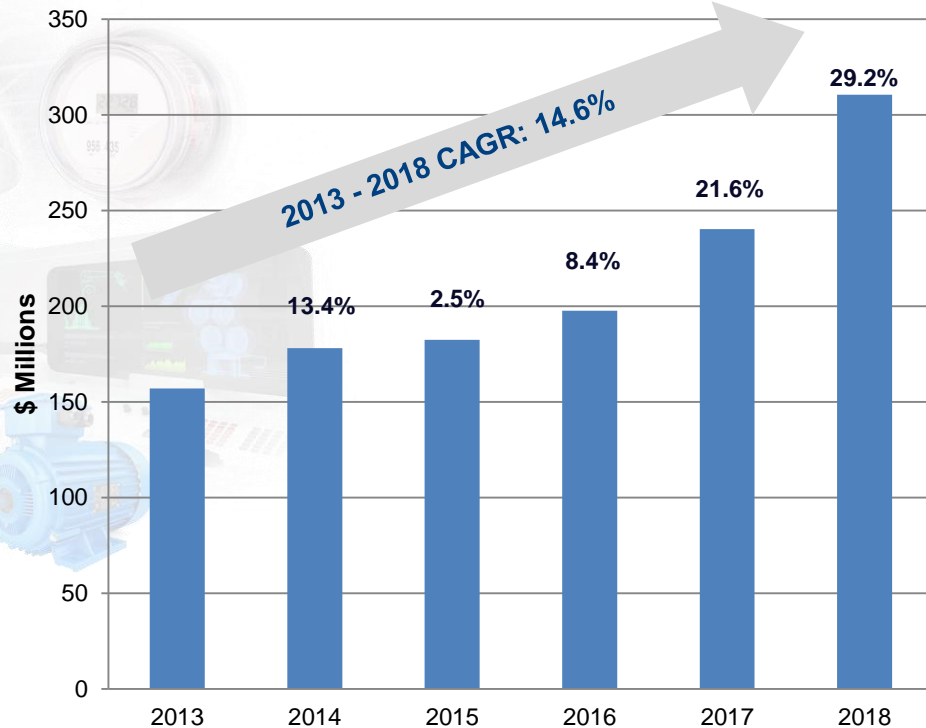


Potential Revenue in Automotive	\$ / Car
Brushless DC (BLDC) Motors	\$37.25
Connected Driving	\$25.82
Powertrain and Battery Management	\$14.72
Lighting – Moving to LED	\$7.53
Total	\$85.32

- Increasing IC content in embedded systems
- Switching and signal path for networked systems and automation
- Signal conditioning and timing for precision controls
- Motor controls, sensors and power management for smart meters

For the 1H2019, 29% of total revenue is from Industrial market

Industrial Revenue



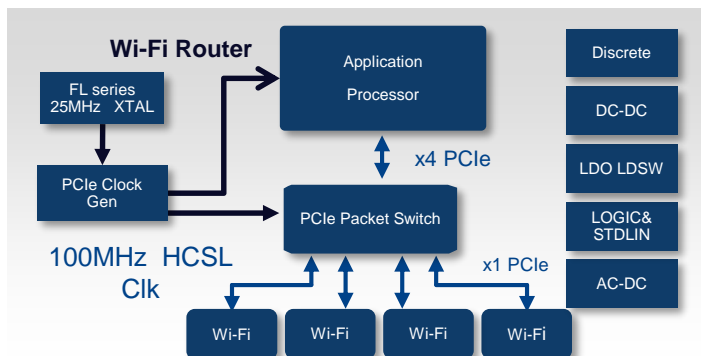
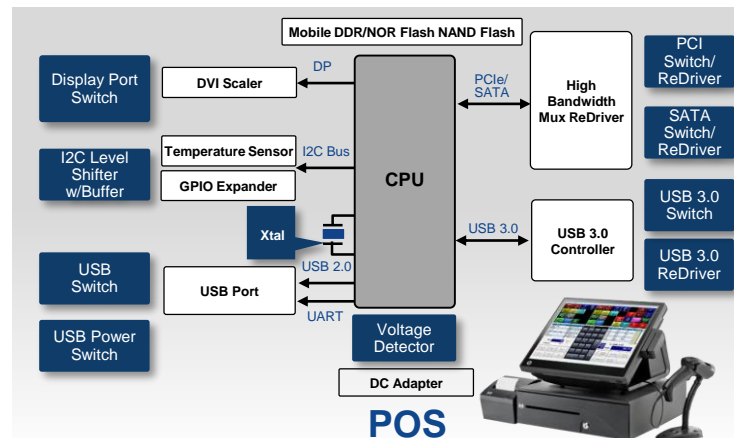
- **M2M – Dominated by short range technology**
 - 73% are short range, mostly Wi-Fi
- **2017: connections @ 750 million**
- **2023: connections @ 2600 million**

M2M – By Product

- IoT and M2M Modems
- Routers
- POS
- Wireless beacons

M2M – By Application

- Smart Infrastructure
- POS
- Manufacturing / Industrial



Growth Opportunities

- Power
- XTAL and clock
- Packet switch

Diodes Key Products	\$ / Device
Analog	\$0.20
Power Management	\$1.30
MOS/BJT	\$3.39
Diodes and Rectifiers	\$2.99
Timing and Connectivity	\$3.50
Total	\$11.38

Smart Infrastructure



Consumer & Home



Wearables



DIODES
INCORPORATED

Asset Tracking



Retail

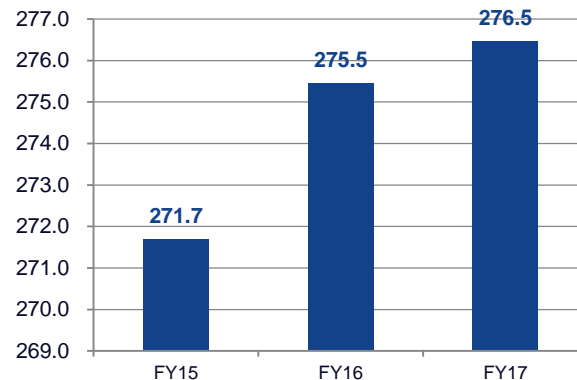


Enterprise



Security & Surveillance

Consumer (\$M)



Diodes Key Products	\$ / Box
Analog	>\$0.20
Power Management	>\$1.30
MOS/BJT	>\$10.00
Diodes and Rectifiers	>\$5.00
Timing and Connectivity	\$3.50
Total	\$20.00

Smart Home – up to 477Mu

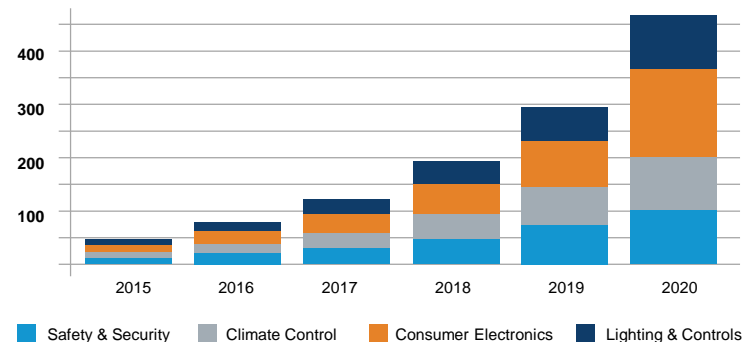
- Safety and Security
- Climate Control
- Consumer Electronics
- Lighting control

Growth Opportunities

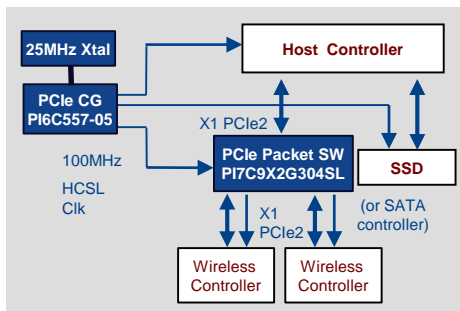
- Power
- LED driver
- Xtal and clock
- Packet switch

Diodes Key Products	\$ / Box
Analog	\$0.25 ~ \$0.40
Power Management	\$1.80
MOS/BJT	\$1.10
Diodes and Rectifiers	\$0.50
Timing and Connectivity	\$3.50
Total	\$7.30

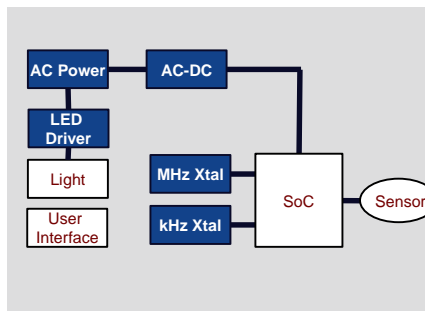
World market for connected home devices
(excluding energy and controls) Unit Shipments, 2015 - 2020



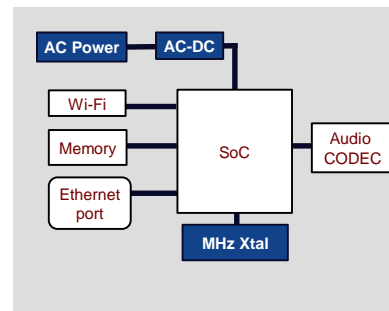
Smart Home Gateway



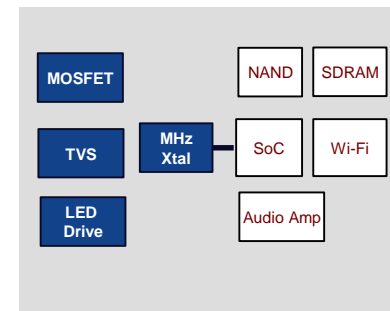
Smart Lighting



Smart Speaker



Digital Assistant



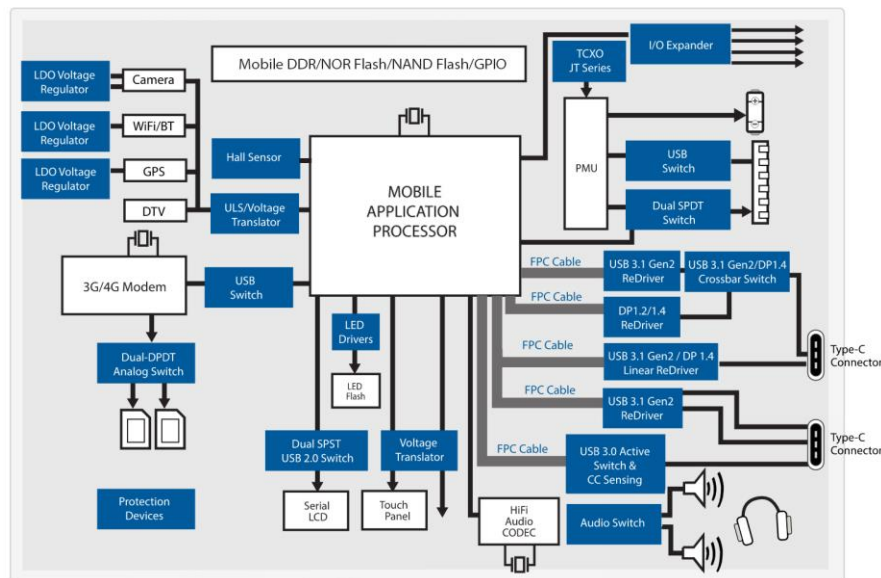
Driving Smartphone Growth

- Smart speaker/IoT rising
- AR / VR
- Foldable screens
- 5G
- Smartwatches

Growth Opportunities

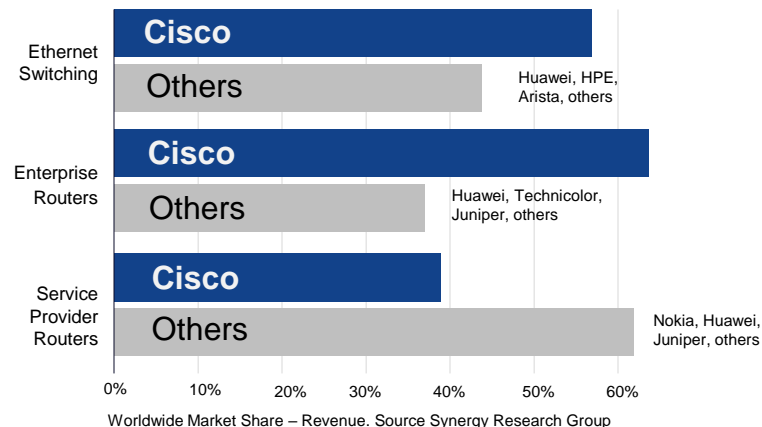
- Type-C
- MUX
- MOSFET
- LDO, OVP LDSW, Audio, DCDC, LED/OLED Driver, ACDC

Diodes Key Products	\$ / Phone
Analog	\$0.55
Power Management	\$1.50
MOS/BJT	\$0.33
Diodes and Rectifiers	\$0.42
Timing and Connectivity	\$3.00
Total	\$5.80



- WW enterprise and service provider router market grew 4% in 2017 to \$12.5B
- Continues to exhibit healthy growth, driven by network refreshes and investments in the fast-growing campus and datacenter segments

Switching & Router Market Leaders



Growth Opportunities

- Power
- Xtal XO, and clock
- Packet switch
- ReDriver



Diodes Key Products	\$ / Router
Analog	\$0.20
Power Management	\$0.30
MOS/BJT	\$3.70
Diodes and Rectifiers	\$2.10
Timing and Connectivity	\$13.00
Total	\$19.30

- ReDriver support for USB connectivity
- Wide range of signal protocols: PCIe, SAS, SATA, GbE, USB
- MUX products for high capacity solid state storage
- Crystal oscillators for increasing clocking speeds



Server Platform Solution

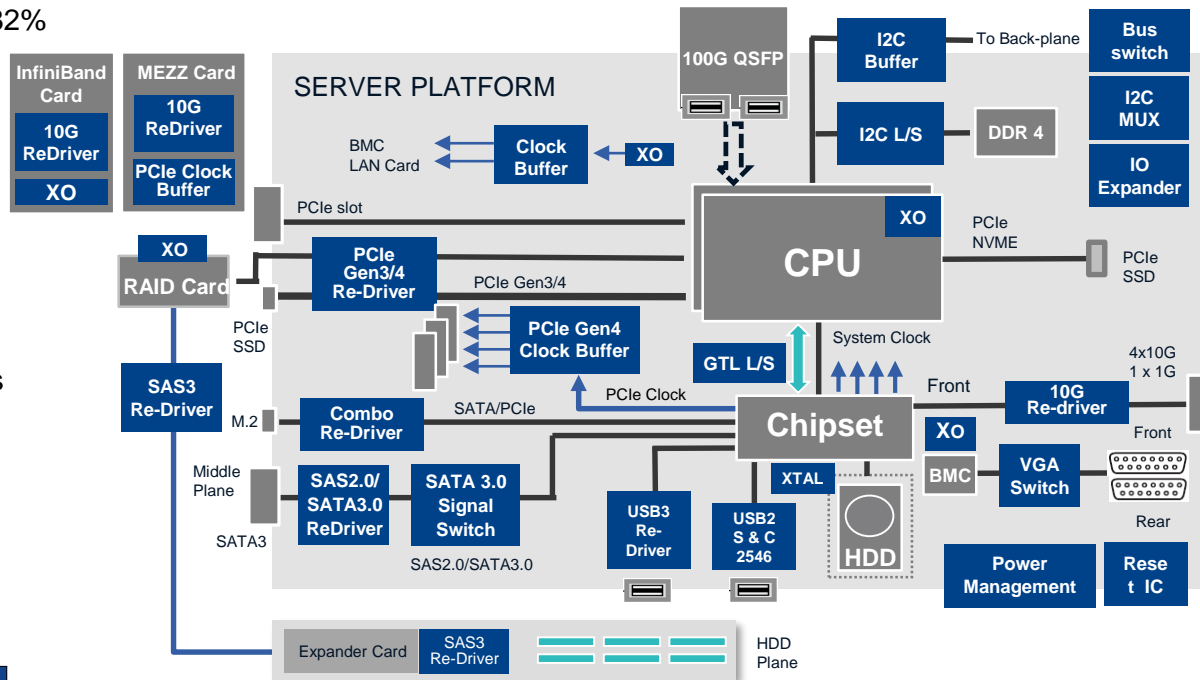
- Total unit shipment Growth (CAGR) = 3.82%
- Almost all of Server vendors are our existing customers
- ODM direct has the highest volume – mainly in TW
- Diodes products are well positioned in this segment
 - Connectivity, Signal Integrity, Timing, Standard Linear, Power Management, Power Switches and Protection devices

WW Server total shipments (Mu)



Source: IDC, Diodes Marketing

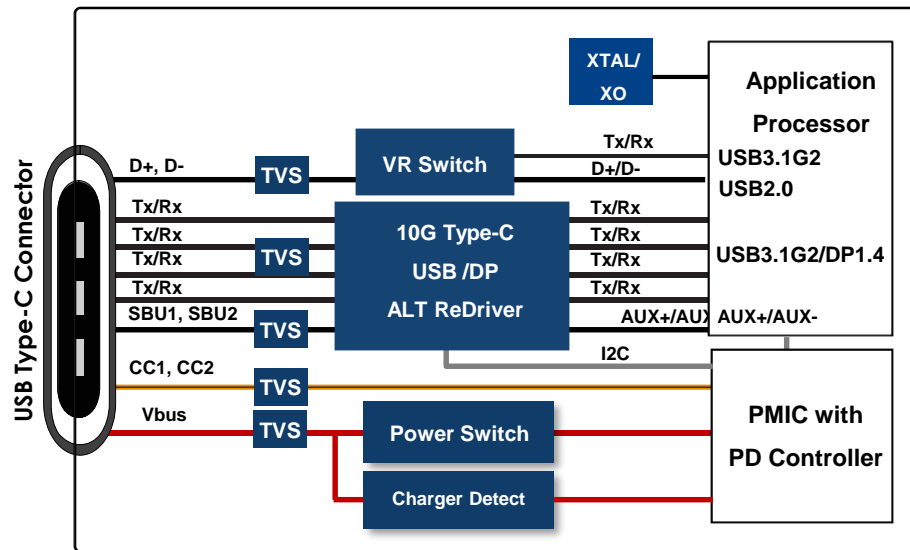
Diodes Key Products	\$ / Server
Analog	\$23.26
Discrete	\$5.71
Total	\$28.97



Data speed, flexibility, and simplicity of use are key drivers

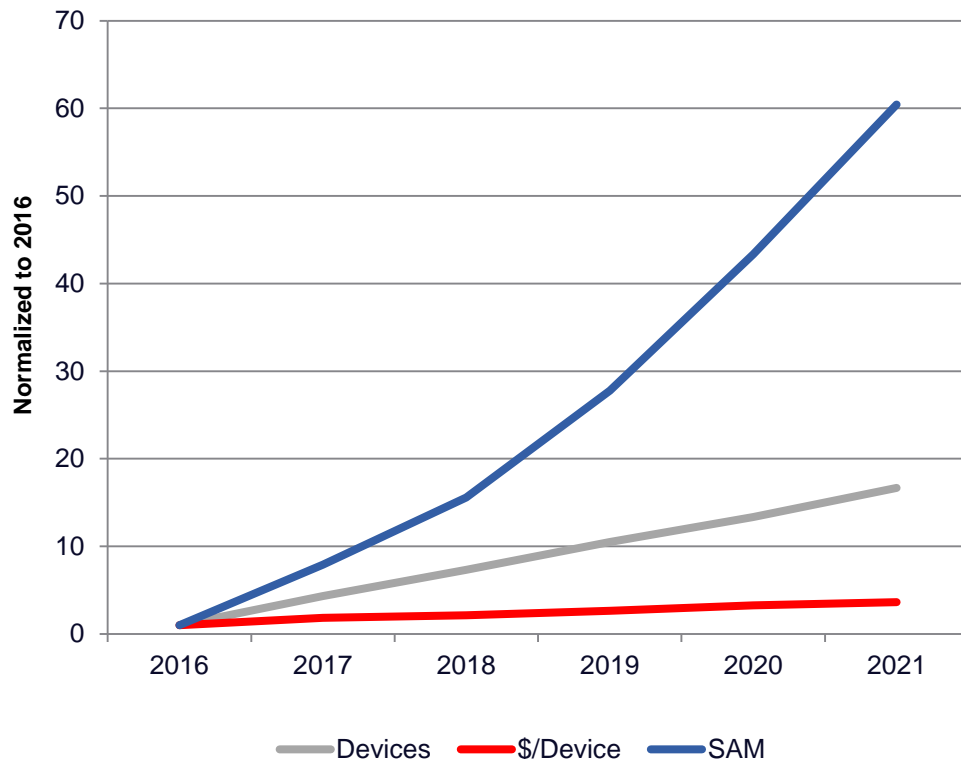
Focus Applications

- Smartphone, Tablet
- NB/DT/WS/AIO, PC, Server
- CE Appliance
- PC Peripheral/Monitor
- Inflight Entertainment
- Automotive - Infotainment
- Robotics
- Chargers



Supports data, video, and power





Diodes Key Products	\$ / System
Connectivity, Signal Integrity and Timing	\$3.25
Analog (DCDC, LDO, Sleep Mode Charger etc)	\$0.89
Power Management Switch	\$0.40
MOSFET/BJT	\$0.25
Diodes, Rectifiers and TVS	\$0.50
Total (per USB-C port)	\$5.29

- **USB-C adoption to grow from 300M (2016) to 5B units (2021)**

- IHS Dec 2017

5G Applications Driving Growth

Focus Applications:

Cloud Computing

- Data Center Server

Gateway

- Internet Gateway
- Fiber network

Core Network, Cell Stations

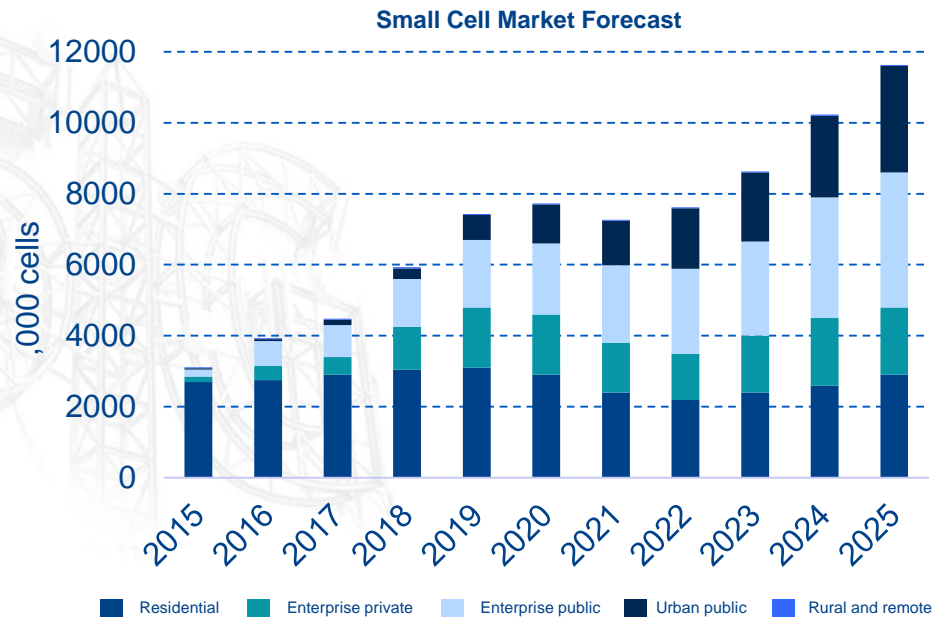
- Small Cells
- Base Station
- Edge Computing Server
- Smart antenna
- Fiber network

End Products

- Portables: Smartphone, Tablet
- Smart Car
- Consumer: VR/AR, Drone, IoTs
- Telecom: 5G CPEs
- Embedded/Industrial

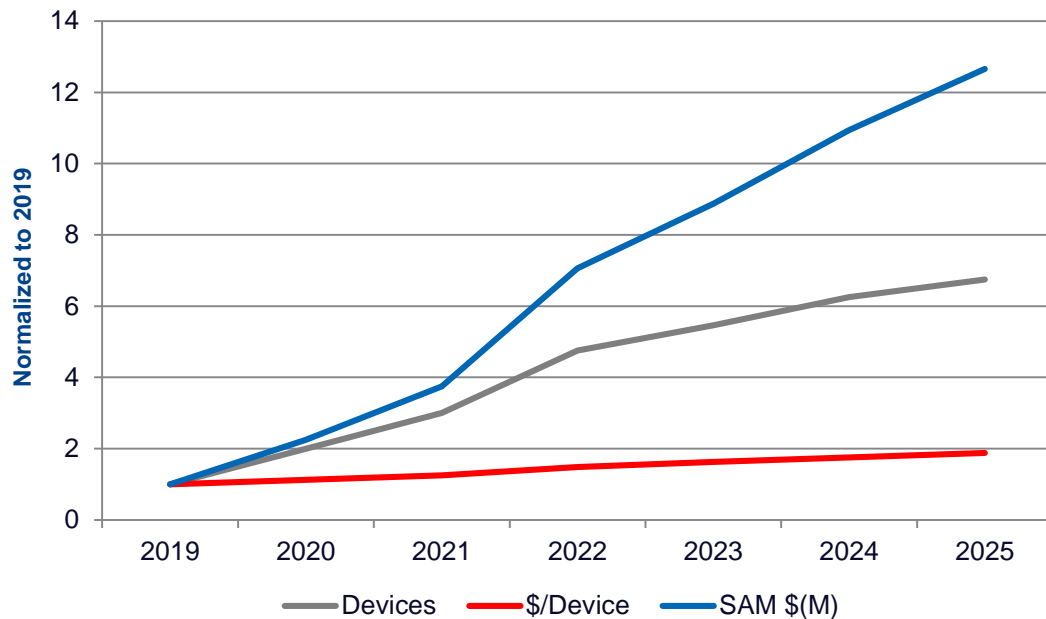
5G – Dominated by small cell and data center

- 50% increase in small cells between 2018 and 2020



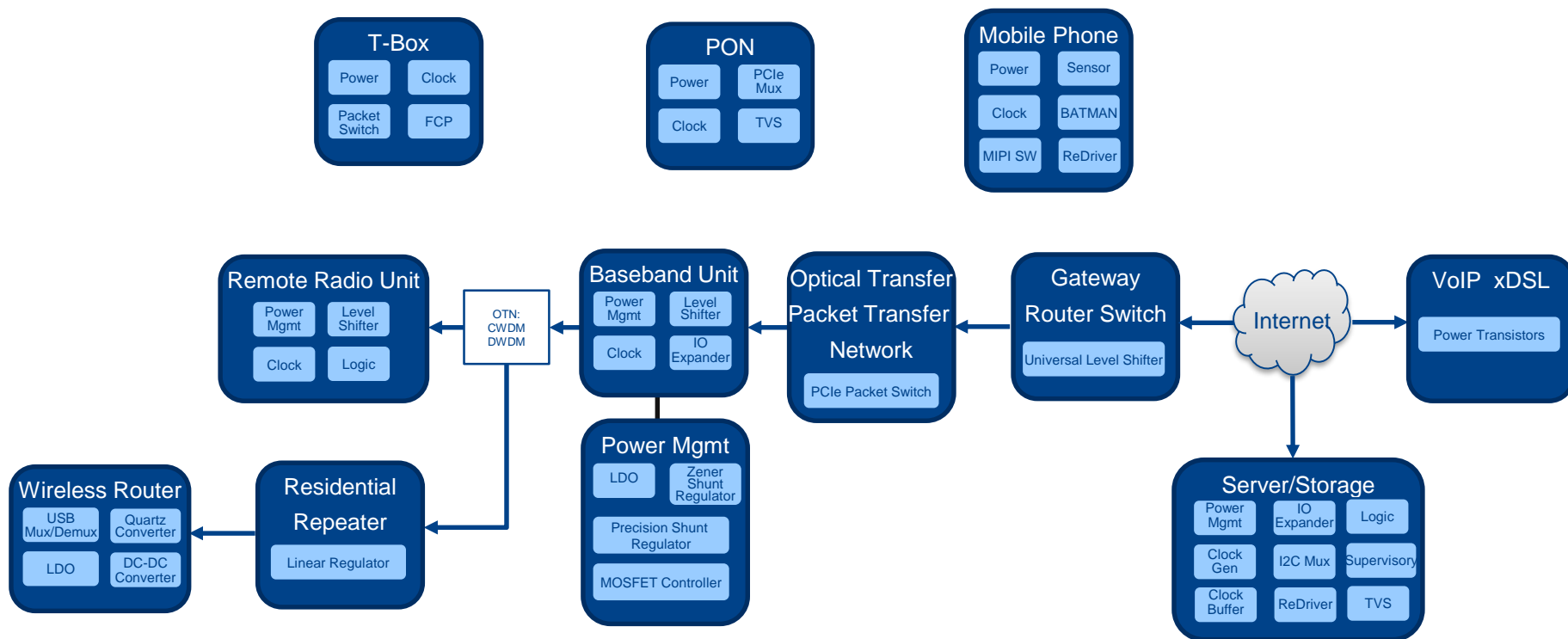
<https://www.rcwireless.com/20171212/network-infrastructure/report-finds-major-increase-in-small-cell-deployments-tag17>

5G Ecosystem Growth Potential

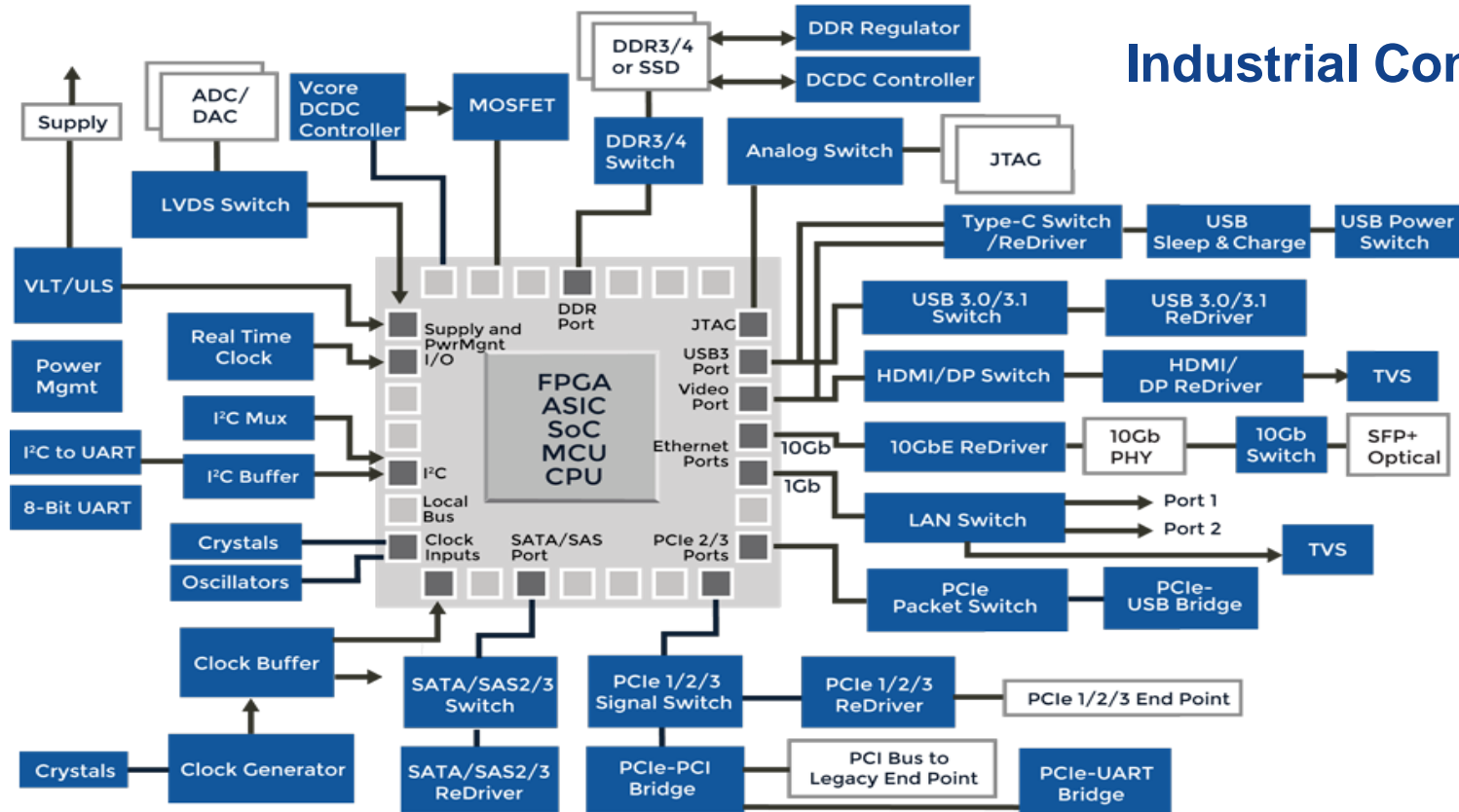


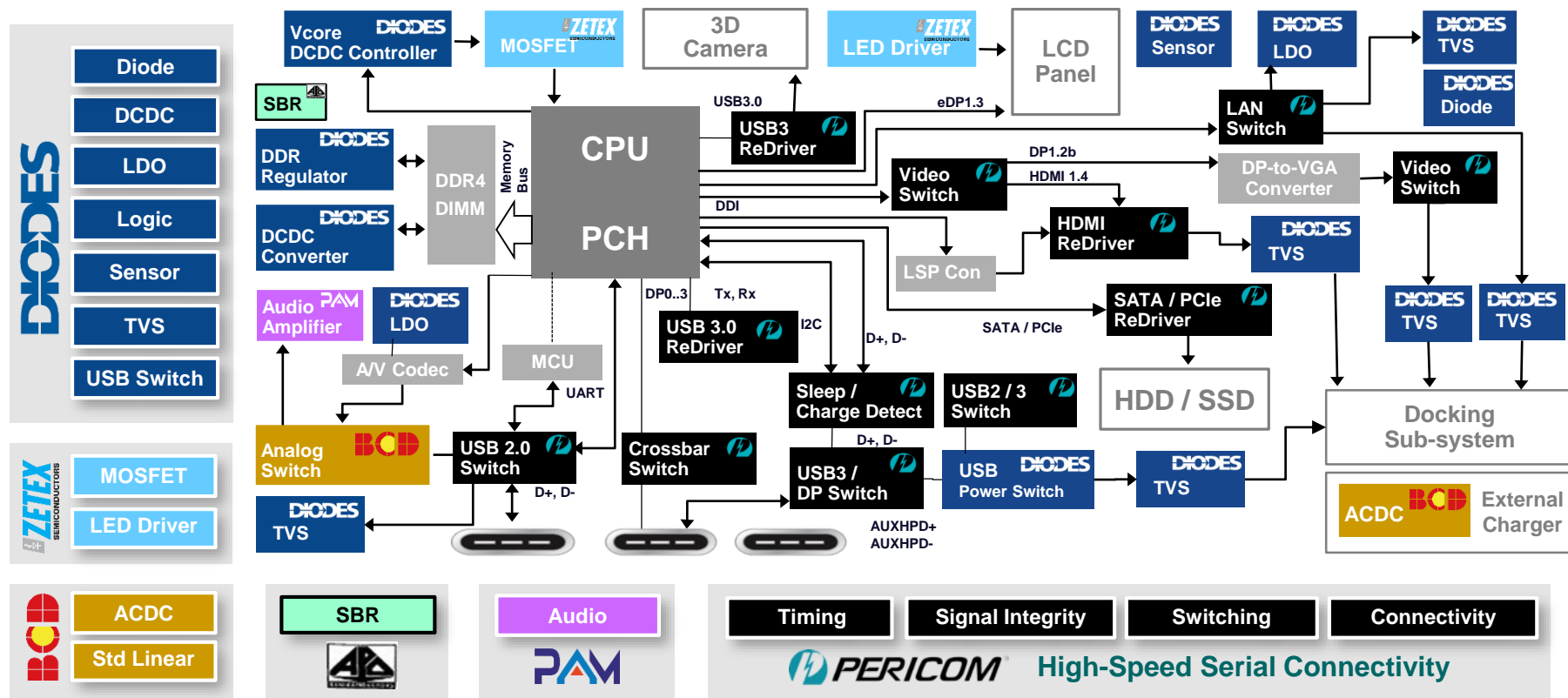
Diodes Key Products	\$ / System
Precision Timing & Connectivity	\$5.00 ~ \$10.00
Discrete	\$2.03 ~ \$2.50
Analog	\$9.00 ~ \$11.28
Total	\$16.03 ~ \$23.78

5G System Opportunities



Industrial Controls





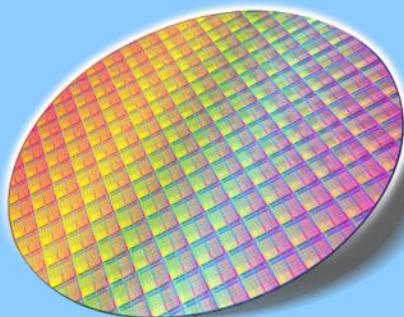
Products



- 20Gbps ReDrivers and Switches
- Automotive Packet Switch for Telematics / ADAS
- Complete USB Type-C™ Signal Switching
- High speed clocking for cloud computing
- Ultra low power and low noise LDOs for IoT
- Low C_j TVS for signal integrity
- Lowest $r_{DS(on)}$ LDMOS for battery efficiency

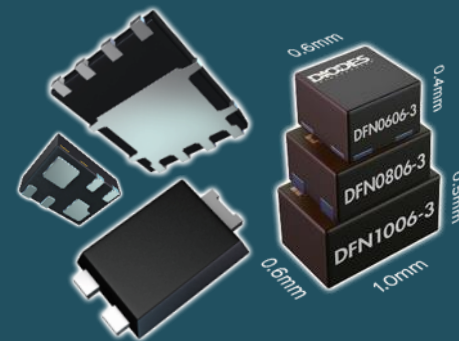
Wafer Fab

- High performance 8" MOSFET trench technology
- Advanced Epi bipolar transistor processes
- Proprietary rectifier technology
- Rugged automotive grade NMOS and PMOS



Assembly/Test

- Compact QFN and DFN
- Power density PowerDI
- Chip scale packaging and plating capability
- Extensive multi-chip package technology



Focus: Miniaturization and Power Efficiency



~ 2018

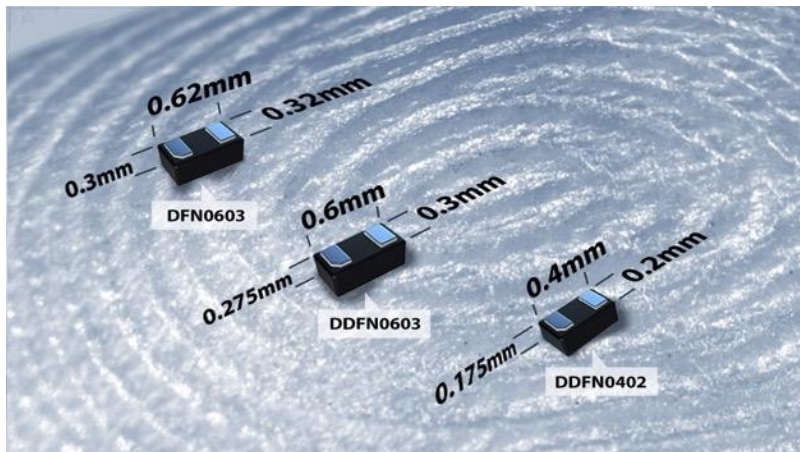
2019 ~

Miniaturization and Multi-Chip Packaging

Miniaturization

DDFN0402

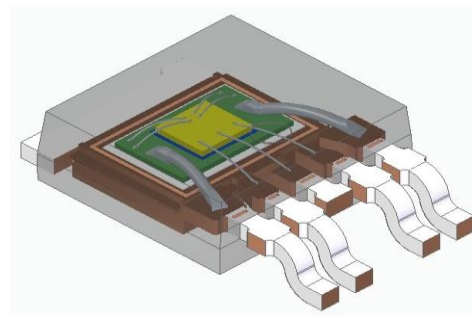
the smallest discrete
semiconductor package



Multi-Chip Packaging

Dual-Flat No-Lead (DFN) DDFN
(Encapsulated CSP) Chip-Scale
Package (CSP)

HS IntelliFET: ZXMS3001



Packaging

- Shanghai-based packaging with capacity over 34 billion units
- Chengdu facility has potential capacity 3X of Shanghai
- Additional facilities in Neuhaus, Germany and Chengdu, China



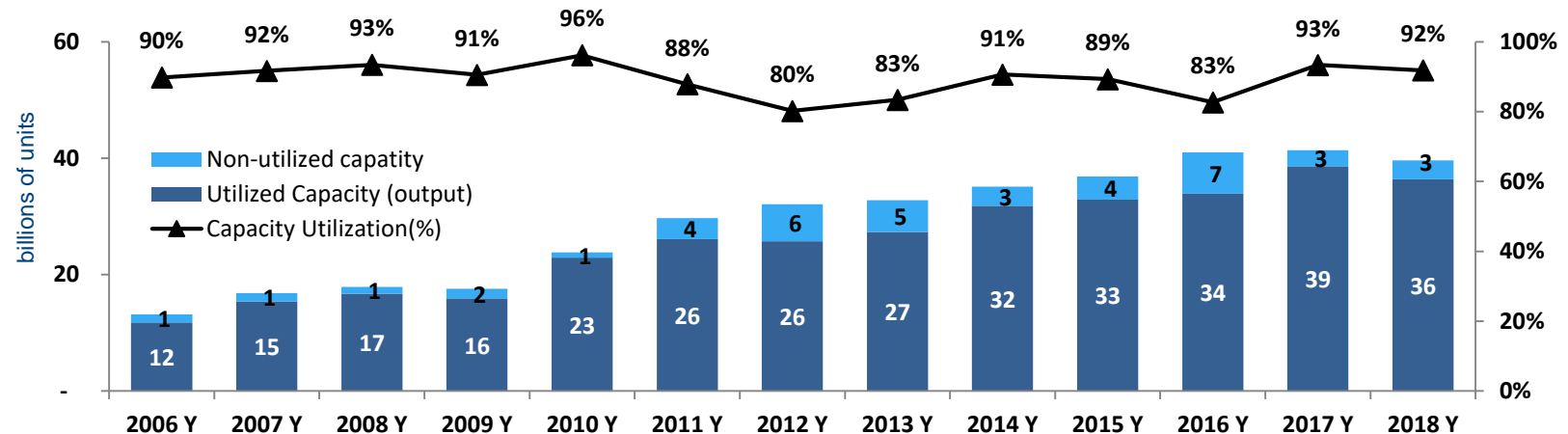
Wafer Fabs

- Two fabs in Shanghai (6" and 8"), one fab in Greenock, UK (8"), one discrete fab in Oldham, UK (6")
- Bipolar, BiCMOS, CMOS and BCD process
- Strong engineering capabilities



Economies of Scale: Package Capacity & Loading Percentage in SAT & CAT

*CapEx Model = 5% - 9% of Revenue

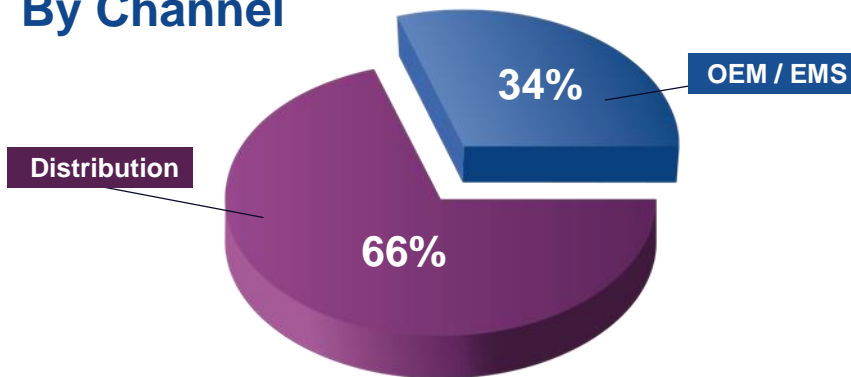


Third Quarter 2019 Financial Performance

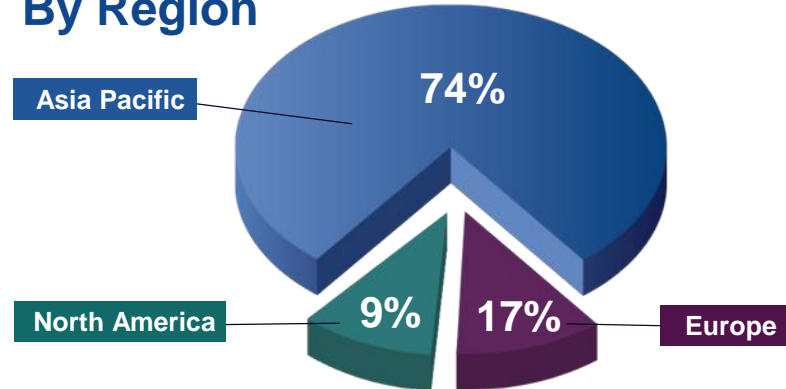
In millions, except per share	3Q18	2Q19	3Q19	YoY
Revenue	\$320.9	\$322.0	\$323.7	0.8%
Gross Profit (GAAP)	\$115.2	\$122.0	\$122.0	5.9%
Gross Profit Margin % (GAAP)	35.9%	37.9%	37.7%	+180bp
Net Income (GAAP)	\$30.9	\$36.3	\$38.1	
Net Income (non-GAAP)	\$34.5	\$40.0	\$41.9	22.0%
EPS (non-GAAP)	\$0.68	\$0.77	\$0.81	19.1%
Cash Flow from Operations	\$35.5	\$40.6	\$67.2	
EBITDA (non-GAAP)	\$72.0	\$77.1	\$78.3	8.8%

In millions	Dec 31, 2017	Dec 31, 2018	Sept 30, 2019
Cash	\$204	\$241	\$218.4
Short-term Investments	\$5	\$7.5	\$7.9
Inventory	\$217	\$215	\$231
Current Assets	\$662	\$735	\$763
Total Assets	\$1489	\$1526	\$1610
Long-term Debt (including the current portion)	\$247	\$213.8	\$119.0
Total Liabilities	\$615	\$549	\$533
Total Equity	\$874	\$977	\$1077

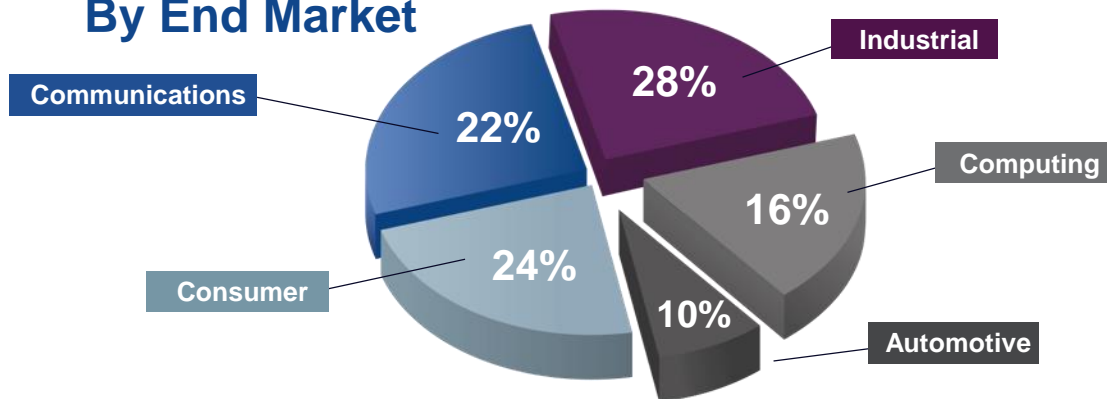
By Channel



By Region



By End Market



- Revenue to be approximately \$300 million, +/- 2.0%, which at the mid-point represents annual growth of 2.8 percent even in the overall weak market environment and continued outperformance of our served market
- GAAP gross margin to be 36.5%, +/- 1%
- Non-GAAP operating expenses, which are GAAP operating expenses adjusted for amortization of acquisition-related intangible assets, are expected to be approximately 22.0% of revenue, +/- 1%
- Interest expense to be approximately \$2.0 million, and income tax rate is expected to be 21.0%, +/- 3%
- Shares used to calculate diluted EPS approximately 52.5 million
- Purchase accounting adjustments of \$3.7 million, after tax, for Pericom and previous acquisition are not included in these non-GAAP estimates

**Guidance as provided on November 4, 2019*

- **Vision: Expand shareholder value**
- **Mission: Profitability growth to drive 20% operating profit**
- **Next Strategic Goal: \$1B gross profit**
- **Tactics:**
 - Increased focus on high-margin Automotive, Industrial and Pericom products
 - Investment for technology leadership in target products, fab processes, and advanced packaging
 - System solutions to drive business expansion



Thank you