



***ALPHA & OMEGA***  
*SEMICONDUCTOR*

# JEFFERIES 2019 SEMICONDUCTOR, HARDWARE AND COMMUNICATIONS INFRASTRUCTURE SUMMIT

**August 27, 2019**

***(Nasdaq: AOSL)***



# SAFE HARBOR STATEMENT

This presentation contains forward-looking statements that are based on current expectations, estimates, forecasts and projections of future performance based on management's judgment, beliefs, current trends, and anticipated product performance. These forward looking statements include, without limitation, statements relating to projected amount of revenues, gross margin, operating income, statements regarding market segments, diversification of products and new customers; the expected trend on revenue and sales for each segment of our serviceable market; the progress of construction of manufacturing facility in our joint venture with Chongqing funds; our ability and strategy to develop new products in DMOS, PIC and Digital Power Controller, expand our sales, revenue and profitability; expectation with respect to our license agreement with STMicroelectronics; our ability to manage supply constraints and the expectation with respect to capacity limitation; the execution of our business plan; and other information regarding the future development of our business. Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those contained in this presentation. Additional information concerning these and other risk factors is contained in the Risk Factors sections of our most recently filed Forms 10-K and 10-Q. AOS undertakes no obligation and does not intend to update these forward-looking statements to reflect events or circumstances occurring after this presentation.

## **Non-GAAP Results**

Non-GAAP results referenced in this presentation contain non-GAAP financial measures because the financial community uses non-GAAP results in its analysis and comparison of historical results and projections of the Company's future operating results. These non- GAAP results exclude share-based compensation expense, Chongqing pre-production expenses and certain other expenses and benefits. Management uses these non-GAAP measures to manage and assess the profitability of the business. These non-GAAP results are also consistent with another way management internally analyzes the company's results and may be useful.



## ALPHA AND OMEGA SEMICONDUCTOR (NASDAQ: AOSL)

Emerging total solution provider in >\$40B market

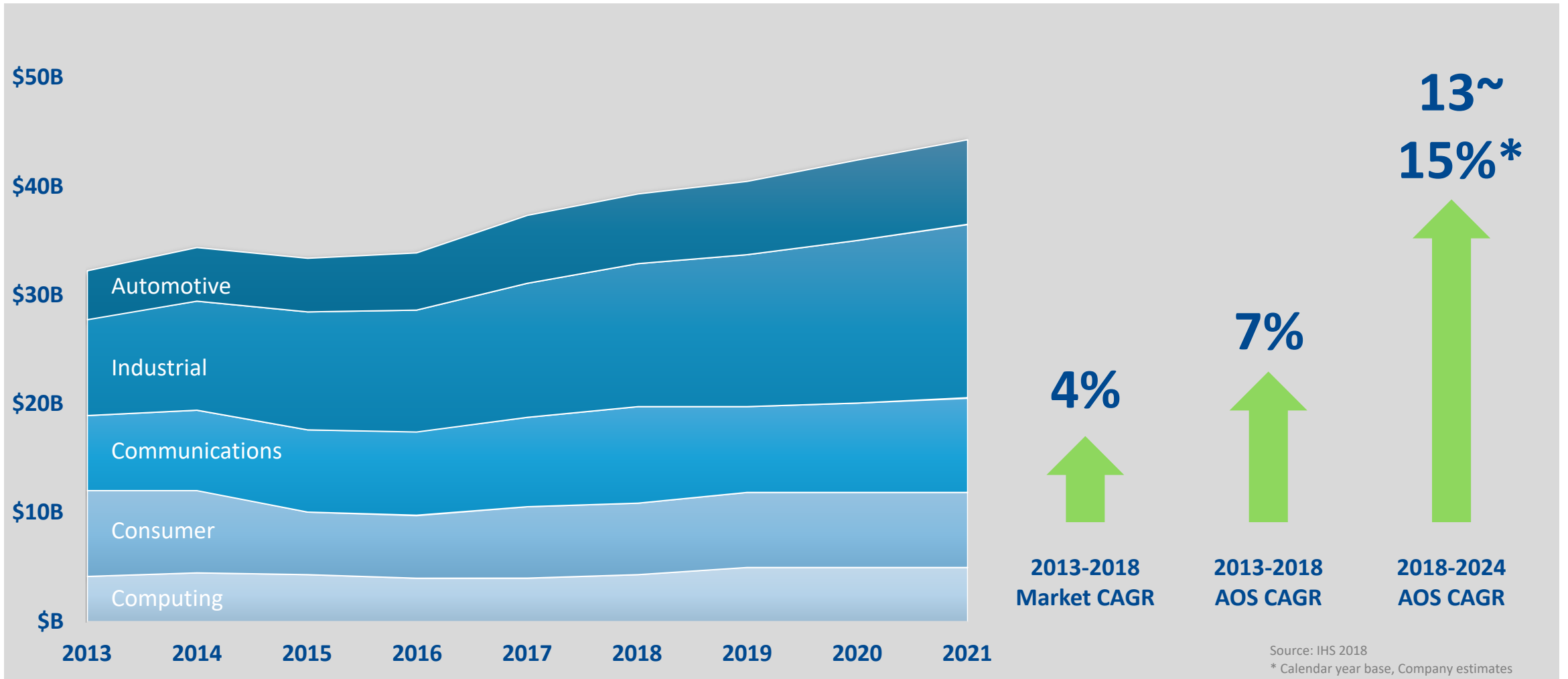
Solid foundation enabling accelerated growth

Strong pipeline with major growth drivers

Consistent execution approaching target model



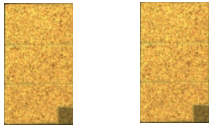
# IMMENSE MARKET FOR POWER



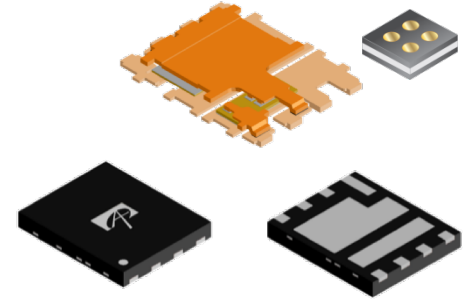




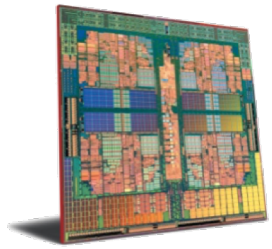
# RAPID GROWTH WITH TOTAL POWER SOLUTION



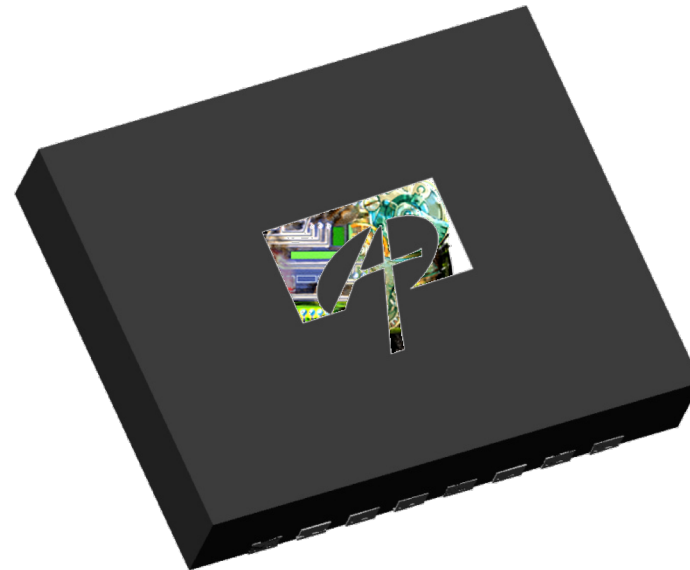
Power Discretes  
MOSFETs, IGBT, GaN



Advanced Packaging



IC Design



System Applications  
Know-How

## Total Power Solutions



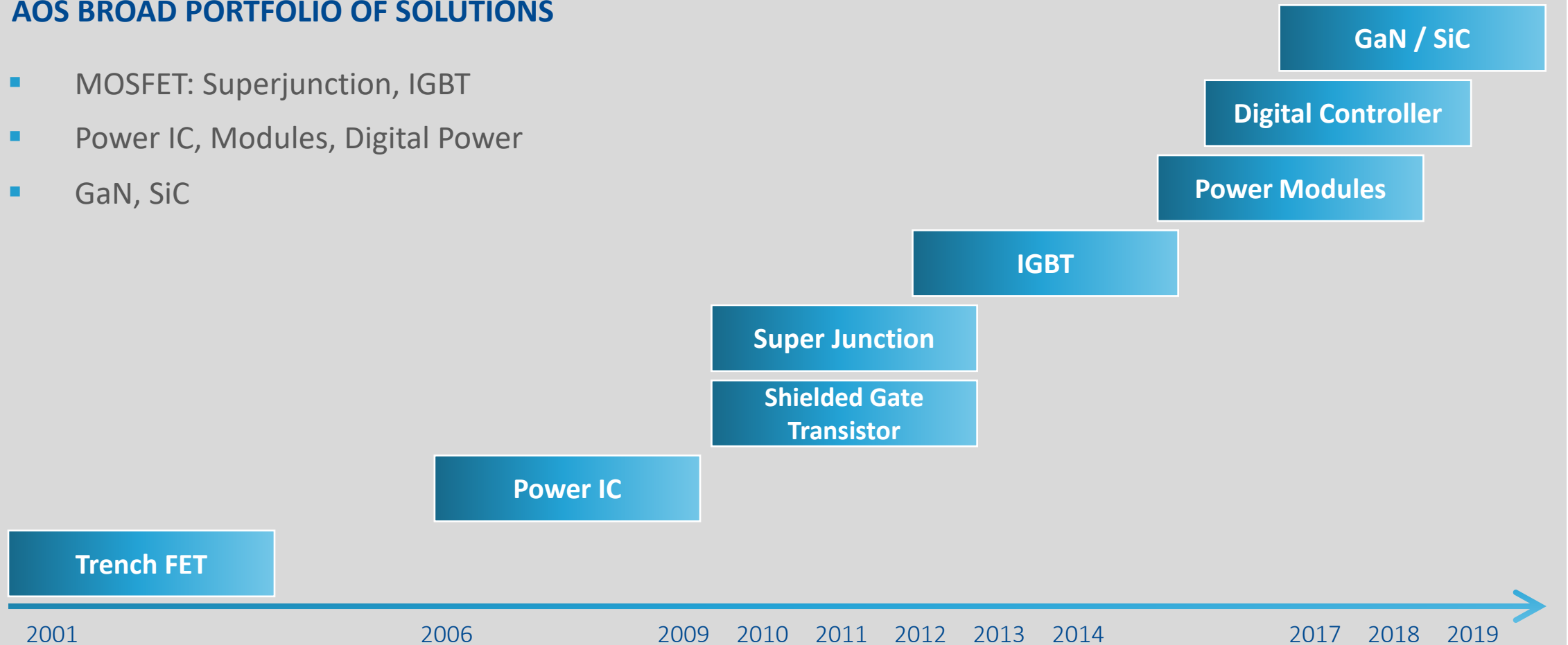
Silicon Technology



# TECHNOLOGY INVESTMENTS DRIVING DIVERSIFICATION

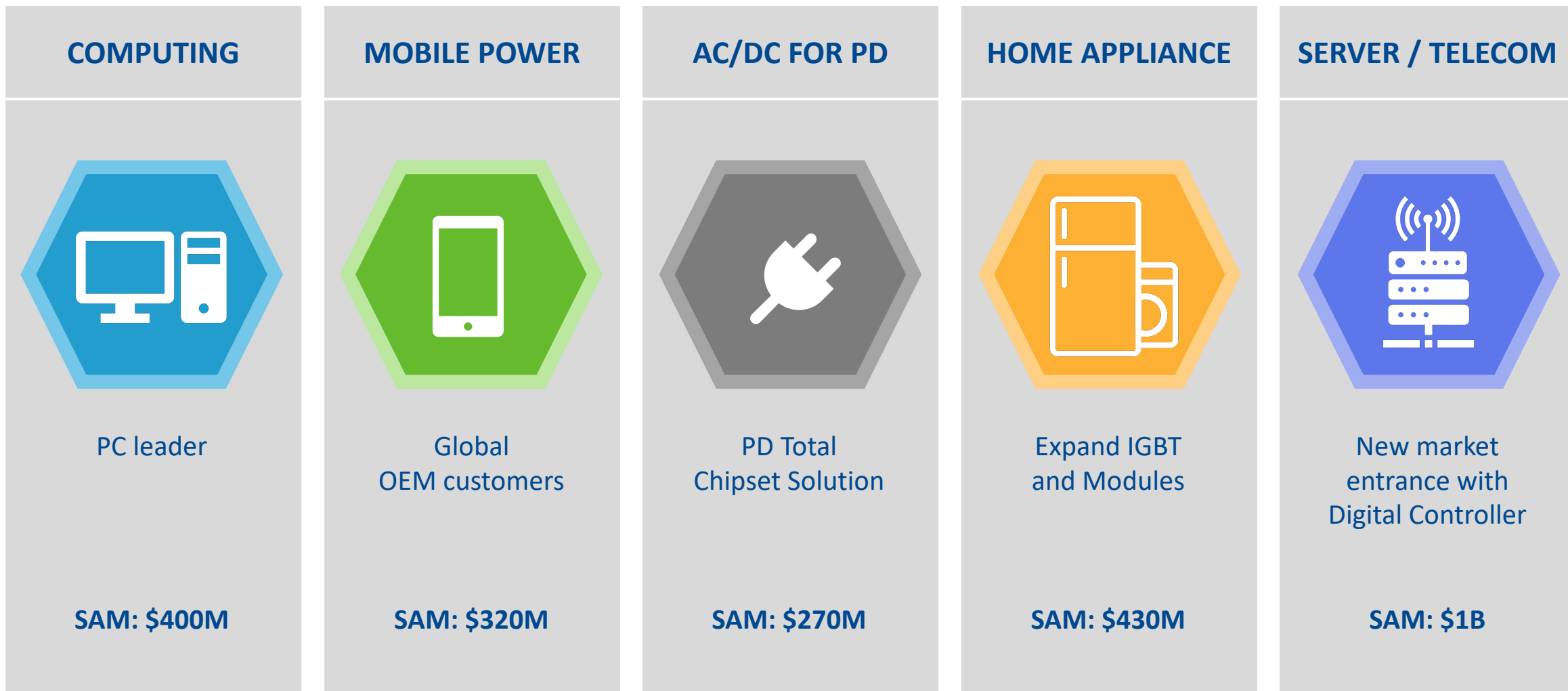
## AOS BROAD PORTFOLIO OF SOLUTIONS

- MOSFET: Superjunction, IGBT
- Power IC, Modules, Digital Power
- GaN, SiC





# MAJOR GROWTH DRIVERS FOR MULTIPLE YEARS



\*Calendar year base, Company estimates



# BUILT FOR SCALE



**Shanghai A&T**



**Oregon 8" Fab**

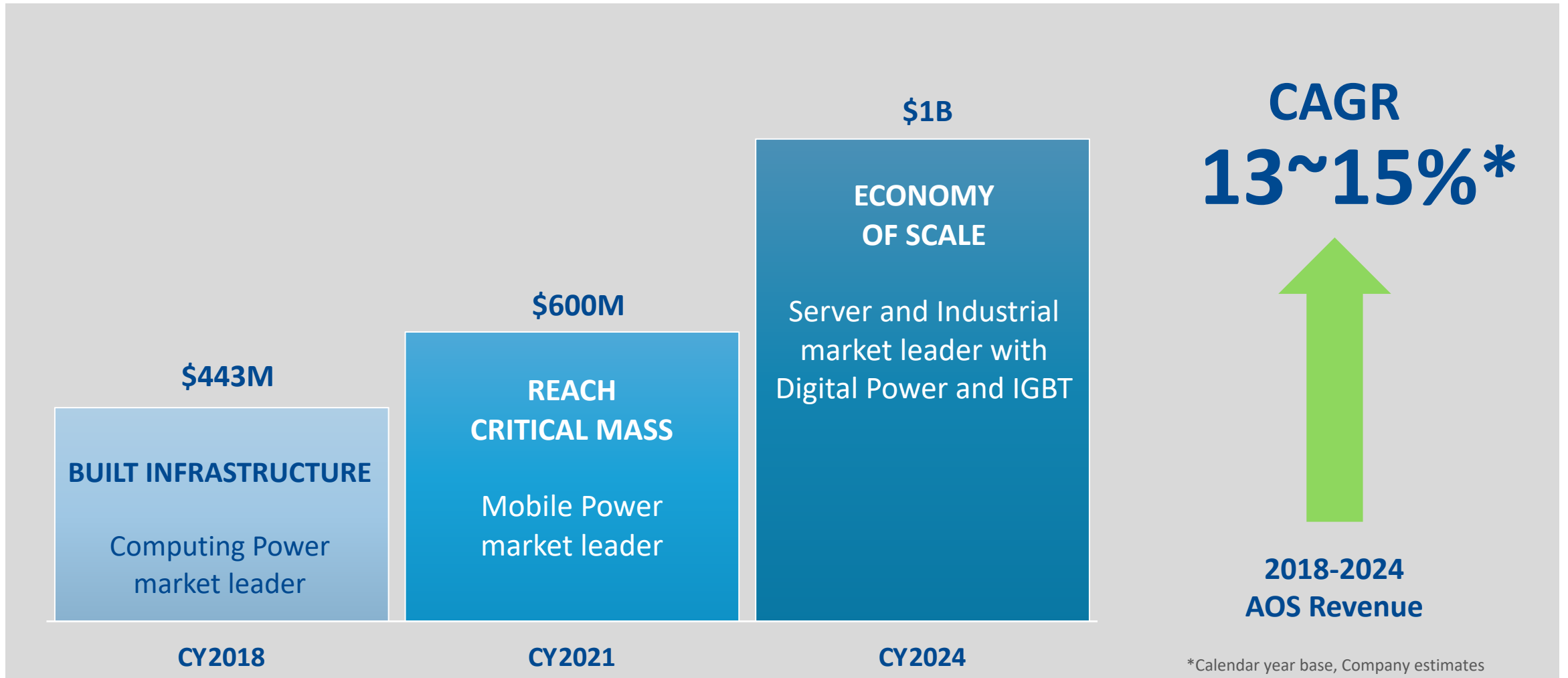


**CQ JV: 12" Fab + A&T**

AOS Confidential



# ACCELERATING GROWTH







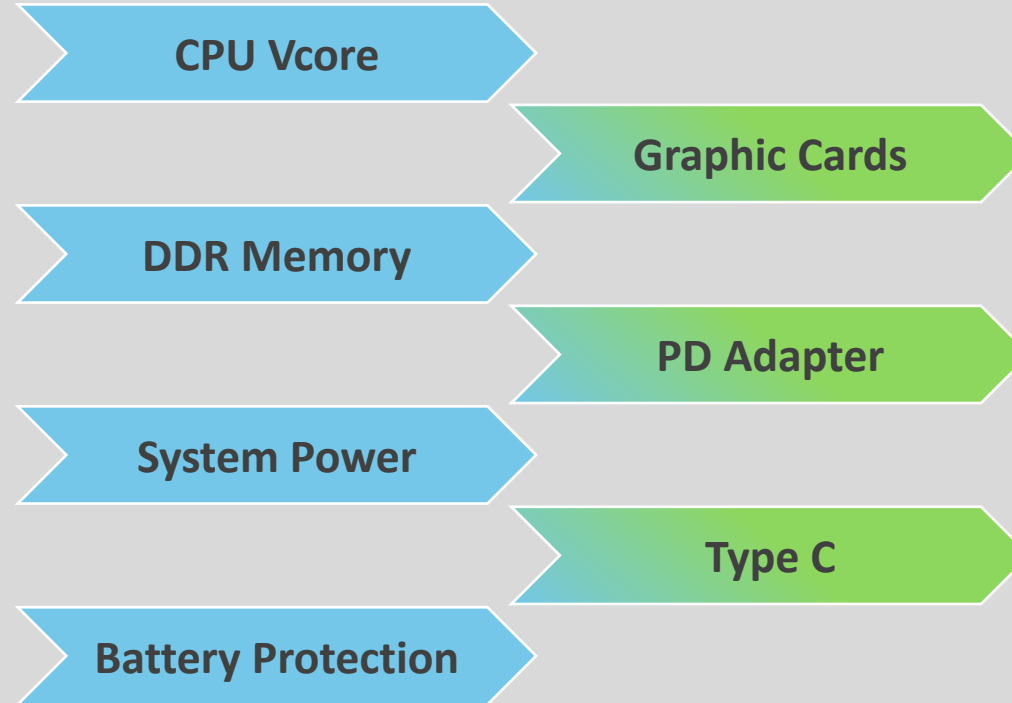
# PC: SHARE GAINS, HIGH VALUE MIGRATION

## COMPUTING



SAM: \$400M

## EXPANDING BOM



- Market leader
- High performance MOSFET and PIC
- Expanding BOM





# STRATEGIC ALIGNMENT WITH GLOBAL OEMS

## MOBILE POWER



**SAM: \$320M**

Supply all major  
smartphone  
vendors

## BATTERY PROTECTION



- Safe operation
- Longer battery life
- Robust performance

## QUICK CHARGER



- AOS 1st to support QC
  - 10W → 18W+
- High performance MV FET





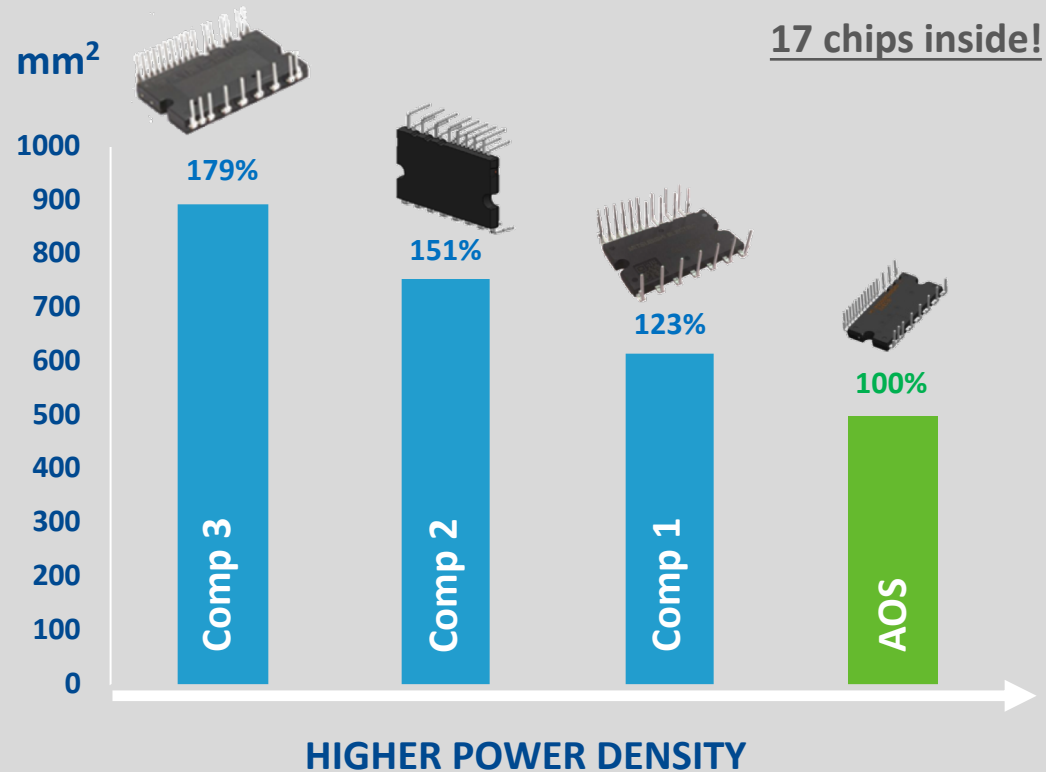
# INTELLIGENT MODULES FOR HOME APPLIANCE

## HOME APPLIANCE



SAM: \$430M

## SIZE COMPARISON



## AOS IPM Solution with IGBT offers:

- **Smaller** Footprint
- **Better** Efficiency
- **Higher** ESD and Reliability

## Refrigerators, Washers / Dryers, Air-con Fans





# >\$1 BILLION NEW SAM WITH DIGITAL POWER

## SERVER / TELECOM



**SAM: \$1B**

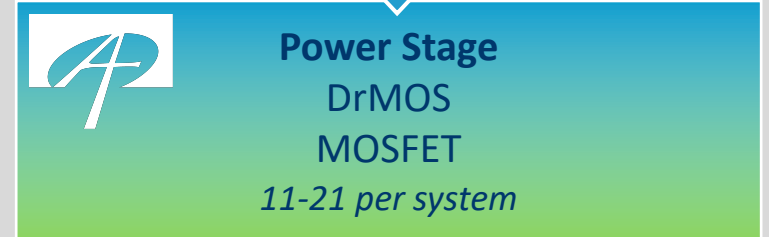
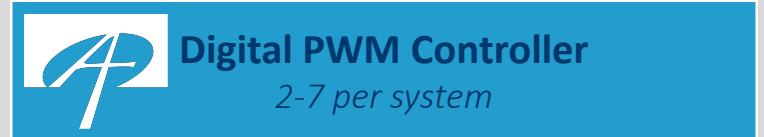
## 5G BASE STATION



## SERVER



## DIGITAL POWER TOTAL SOLUTION





# EVERYONE NEEDS POWER

## WORLD CLASS OEMS / ODMS

FUJITSU COMPUTERS  
SIEMENS

nsn

PACE

PHILIPS

SagemCOM

sky

solar edge

Blueway

BYD

CHANGHONG 长虹

dji

Haier

Hisense

HUAWEI

Lenovo

乐视

oppo

PCPartner

Salecomp

SKYWORTH

SUNWODA 欣旺达

TCL

vivo

mi

ZTE

ARRIS

BLACK+DECKER

DELL

EMERSON

ENPHASE

GE

GE Power

hp

intel

Lexmark

Microsoft

SUPERMICR

WD Western Digital

Nidec

Nintendo

Panasonic

SANYO

SHARP

SONY

TOSHIBA

acer

AOC

Chicony

COMPAL

DELTA

FOXCONN 鸿海科技集团

GIGABYTE

Inventec

LITEON

PEGATRON

Quanta Computer

wistron

## KEY DISTRIBUTORS

FRONTEK Technology Corporation

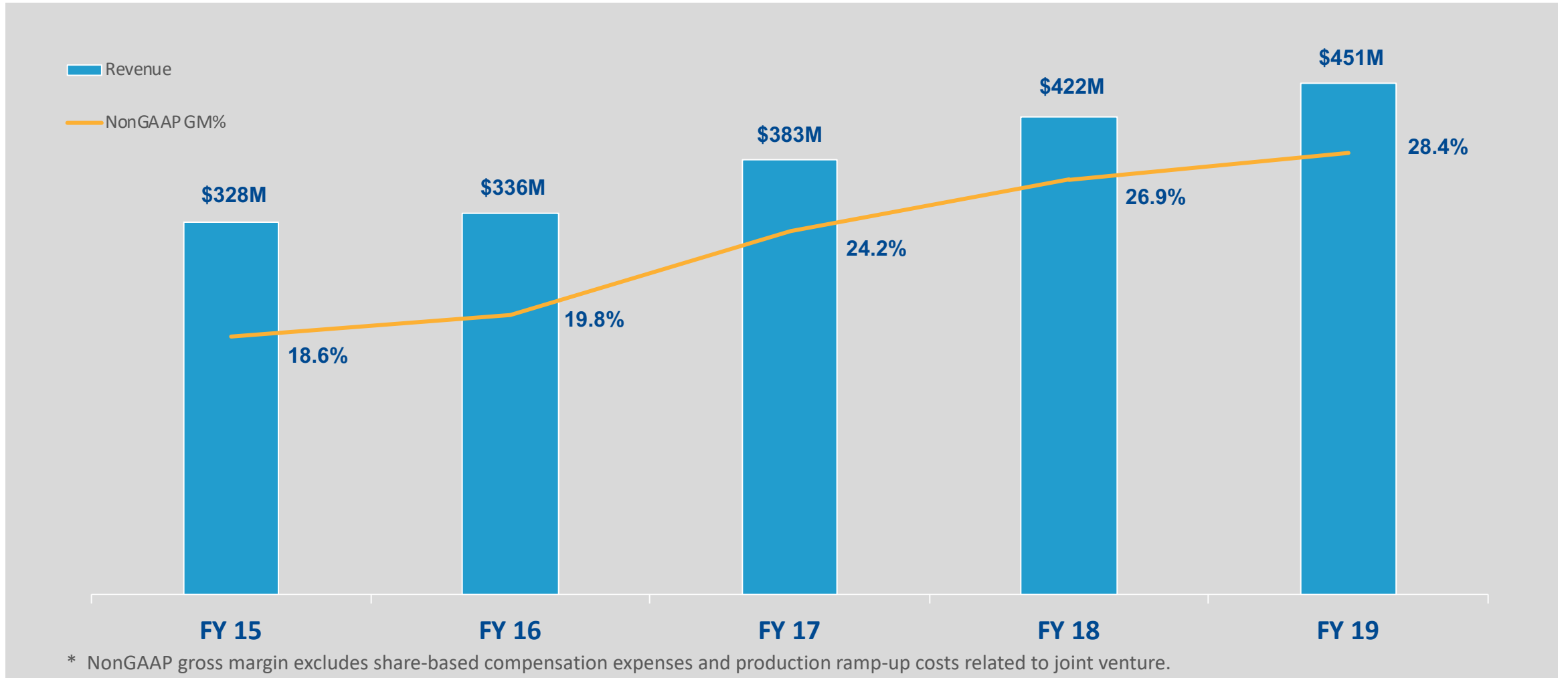
(a member of)

wpg WPG Holdings

PROMATE<sup>®</sup>  
Innovation and Excellence



# SOLID GROWTH IN REVENUE AND GM

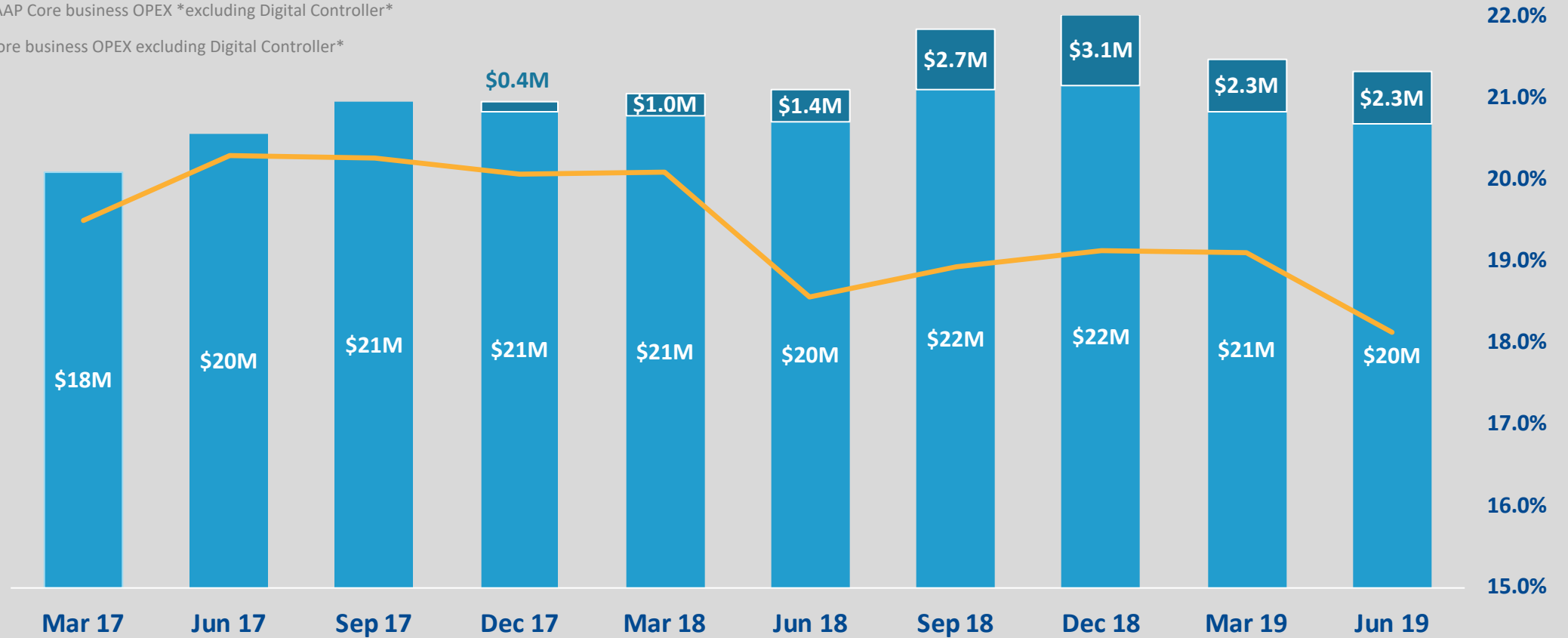




# DISCIPLINED OPERATING EXPENSES

(in \$ millions)

- Digital Controller Expenses
- NonGAAP Core business OPEX \*excluding Digital Controller\*
- % of Core business OPEX excluding Digital Controller\*



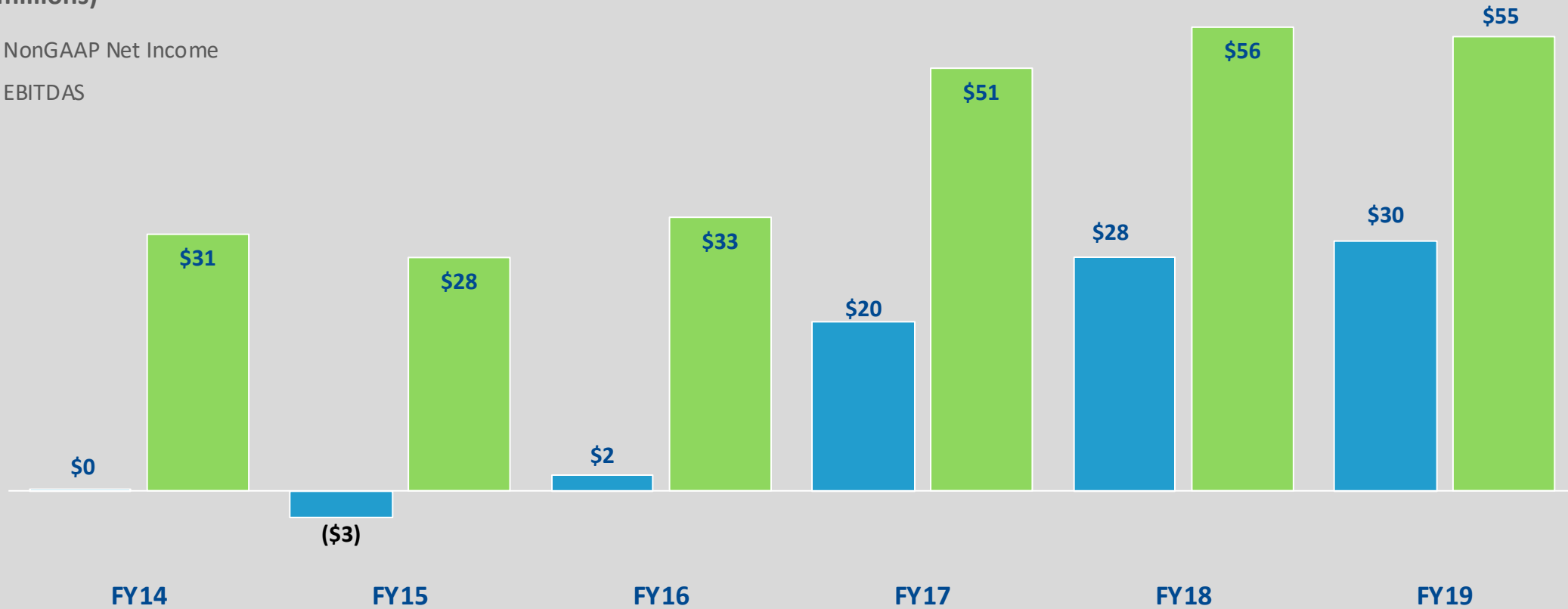
\* NonGAAP Operating Expense excludes share-based compensation expenses and pre-production costs related to joint venture.



# HEALTHY EBITDAS

(\$millions)

■ NonGAAP Net Income  
■ EBITDAS



\* Excludes share-based compensation expenses, production ramp up costs and pre-production costs related to joint venture.



# JV ON TRACK TO ALLEVIATE CAPACITY CONSTRAINTS

## CHONGQING JV \$379M Total Capitalization

### AOS (51%)

\$35M cash  
+ Existing equipment  
+ Certain Mfg IP

### CHONGQING (49%)

\$186M cash  
contribution

- 12" fab ramp up in 2H CY2019
- Completed 20 customer audits
- Phase 1 supports ~\$150M additional AOS revenue





# KEY BALANCE SHEET METRICS

(IN \$ MILLIONS)	JUN 2019			MAR 2019			JUN 2018		
	AOS	CQJV	Consolidated	AOS	CQJV	Consolidated	AOS	CQJV	Consolidated
CASH	100.7	21.2	121.9	90.9	48.2	139.1	88.3	43.2	131.5
DEBT	41.0	99.9*	140.9	43.1	103.9*	147.0	30.9	60.4*	91.3
FIXED ASSETS	148.5	261.2	409.7	145.8	245.8	391.6	141.6	190.1	331.7
TOTAL ASSETS	375.0	364.4	739.4	371.5	369.2	740.7	384.4	282.7	667.0
TOTAL EQUITY	325.2	118.1	443.3	313.9	131.6	445.5	293.6	132.6	426.2
OPERATING CASH FLOW	15.2	-6.9	8.3	9.5	-17.5	-8.0	8.7	-19.5	-10.8
CAPEX PAID	4.6	17.5	22.1	8.2	15.8	24.0	13.8	41.3	55.1

\* AOS is not a guarantor of CQJV's debt.



# APPROACHING TARGET MODEL

## NON-GAAP MODEL

	CY2021	CY2024
REVENUE	\$600 MILLION	\$1 BILLION
GROSS MARGIN*	>30%	>30%
OPERATING EXPENSE**	~20%	~20%

\* NonGAAP gross margin excludes share-based compensation expenses and production ramp up costs related to joint venture.

\*\* NonGAAP Operating Expense excludes share-based compensation expenses and pre-production costs related to joint venture.



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*SEMICONDUCTOR*

Q&A



# APPENDIX

## Alpha and Omega Semiconductor Limited

### Reconciliation of Condensed Consolidated GAAP Measures to Non-GAAP

(in thousands, except percentages and per share data)

(unaudited)

	Three Months Ended			Fiscal Year Ended	
	June 30, 2019	March 31, 2019	June 30, 2018	June 30, 2019	June 30, 2018
GAAP gross profit	\$ 27,636	\$ 25,629	\$ 29,183	\$ 115,378	\$ 111,928
Share-based compensation	431	494	461	1,963	1,641
Production ramp up costs related to joint venture	2,587	3,350	—	10,570	—
Non-GAAP gross profit	\$ 30,654	\$ 29,473	\$ 29,644	\$ 127,911	\$ 113,569
<i>Non-GAAP gross margin as a % of revenue</i>	27.4 %	27 %	27 %	28.4 %	26.9 %
GAAP net income (loss) attributable to AOS	\$ 2,545	\$ (1,555 )	\$ 1,021	\$ 1,861	\$ 14,263
Share-based compensation	2,518	3,112	2,935	13,177	11,412
Pre-production expenses related to joint venture	2,413	2,215	3,643	9,748	5,258
Production ramp up costs related to joint venture	1,317	1,705	—	5,516	—
Income tax benefit from tax reform	—	—	—	—	(2,690 )
Non-GAAP net income attributable to AOS	\$ 8,793	\$ 5,477	\$ 7,599	\$ 30,302	\$ 28,243
<i>Non-GAAP net margin attributable to AOS as a % of revenue</i>	7.9 %	5 %	6.9 %	6.7 %	6.7 %
GAAP diluted net income (loss) per share attributable to AOS	\$ 0.10	\$ (0.06 )	\$ 0.04	\$ 0.08	\$ 0.57
Share-based compensation	0.10	0.12	0.12	0.53	0.46
Pre-production expenses related to joint venture	0.10	0.09	0.15	0.40	0.21
Production ramp up costs related to joint venture	0.05	0.07	—	0.22	—
Income tax benefit from tax reform	—	—	—	—	(0.10 )
Non-GAAP diluted net income per share attributable to AOS	\$ 0.35	\$ 0.22	\$ 0.31	\$ 1.23	\$ 1.14
Shares used to compute GAAP diluted net income (loss) per share	24,996	24,084	24,628	24,698	24,844
Shares used to compute Non-GAAP diluted net income per share	24,996	24,769	24,628	24,698	24,844



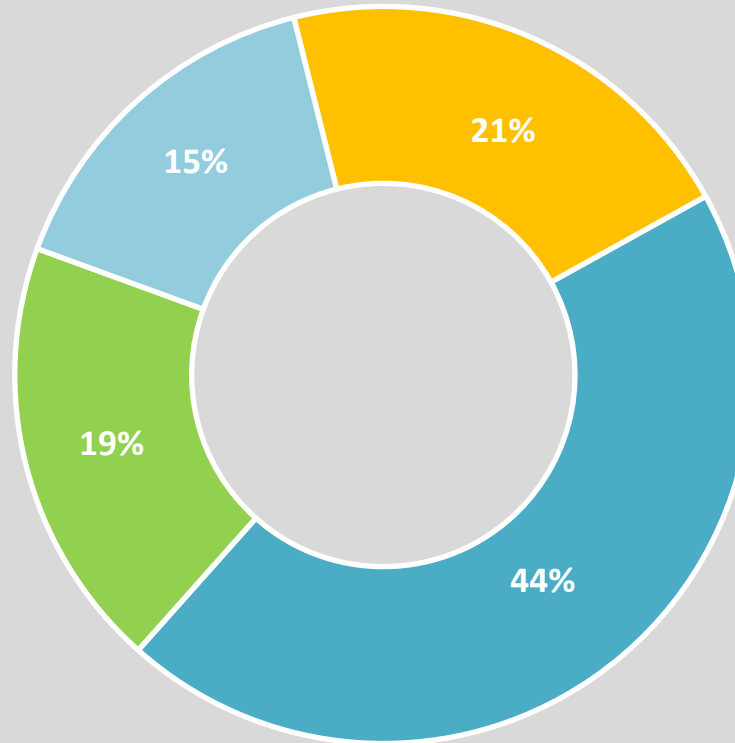
# FOCUSED MARKETS (AS OF Q4 FY2019)

## Communications

- Smartphone
- Telecom

## Consumer

- High-end TV
- Home Appliance



## Power Supply / Industrial

- Quick Chargers / PD
- Power Tools, Welding

## Computing

- Notebook / PC
- Server / AI

Chart excludes 'Service and Others' of 2%