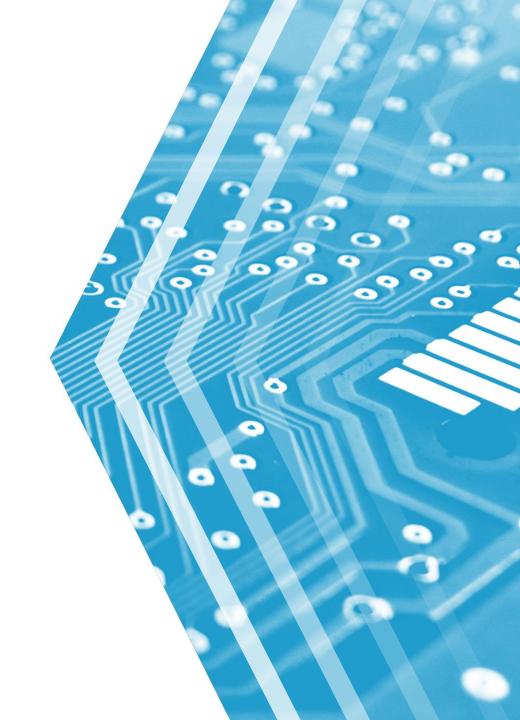


INVESTOR PRESENTATION

May 2022

(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 expected growth rate, our product portfolios, projected amount of revenue, gross margin, operating income (loss), income tax expenses, net income (loss), noncontrolling interest, and share-based compensation expenses, non-GAAP gross margin, non-GAAP operating expenses, tax expenses, and non-GAAP loss attributable to noncontrolling interest, anticipated annual revenue target, our ability and strategy to develop new products, the ability to expand our sales and market share, increase our capacity and achieve sustained growth and profitability, our ability to support global OEM and ODM customers, the expected ramp-up schedule of the 12 inch fab at the JV Company and target run rate, the development of digital power business, partnership with global brands, the relationship with key customers, business pipeline from design wins, the growth in mobile business, our ability to provide power solutions and reliable supply chains, government investigation, impact of coronavirus outbreak on our business, and other information under the section entitled "Business Outlook for Fiscal Q3 Ending March 31, 2022". 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 production ramp-up costs, 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

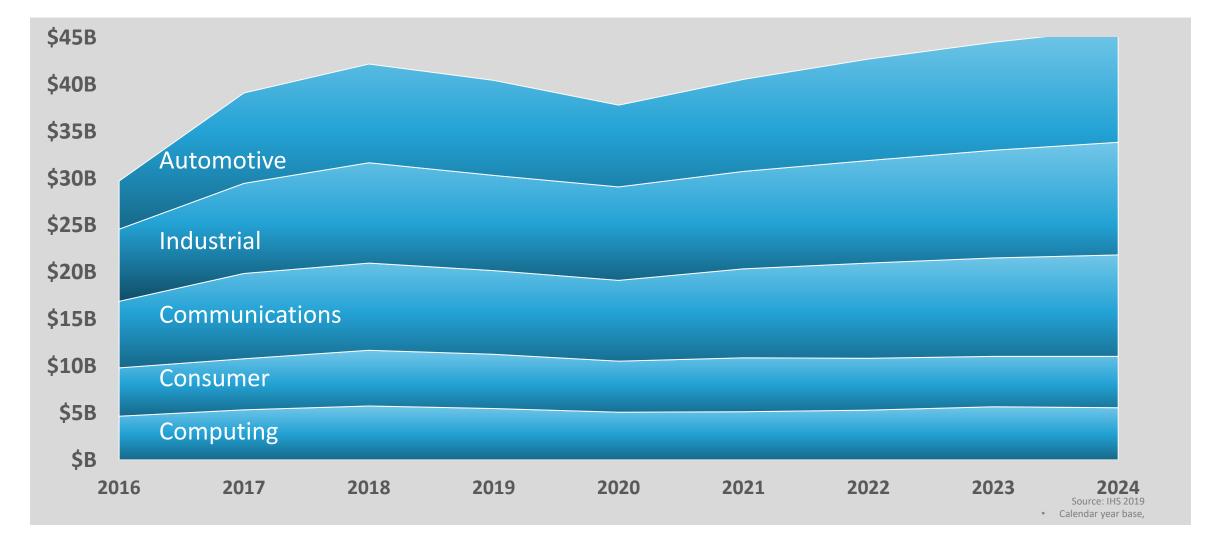
Solid foundation enabling accelerated growth

Strong pipeline with major growth drivers

Consistent execution approaching target model

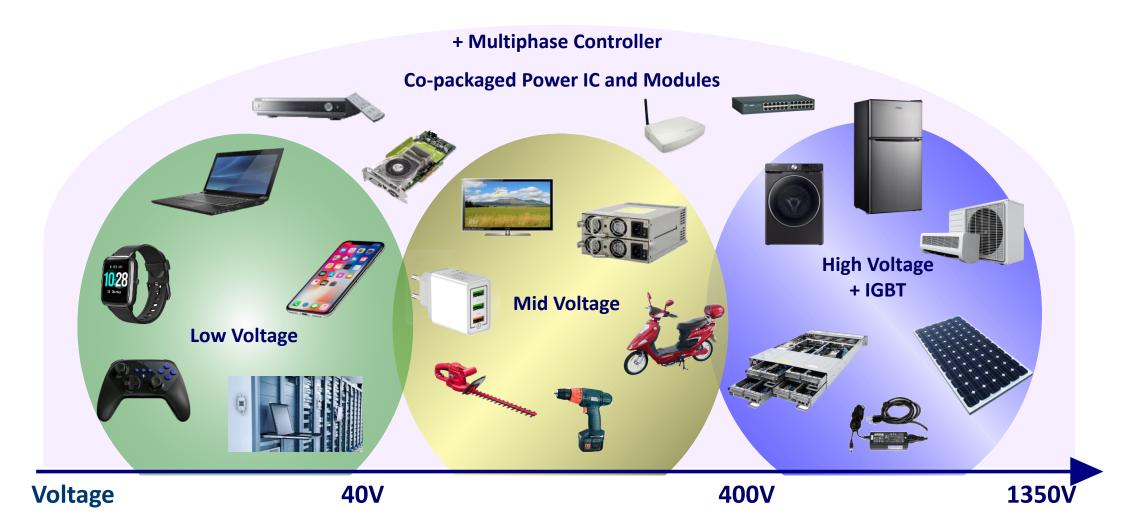


LARGE AND GROWING MARKET FOR POWER





DIVERSIFIED PRODUCT PORTFOLIO FOR POWER

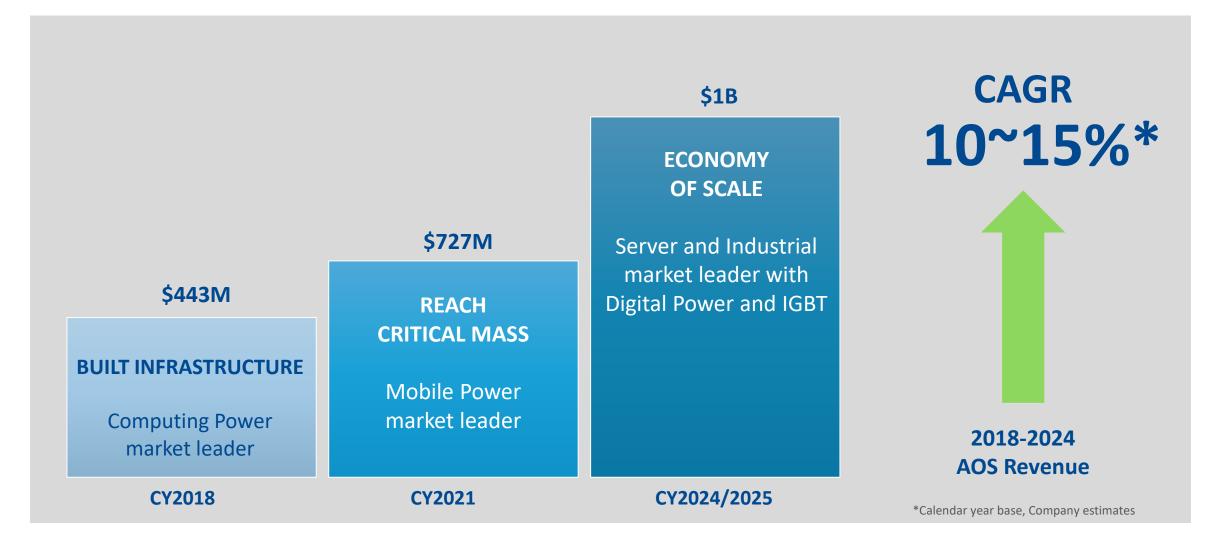


AOS Confidential

5



ACCELERATING GROWTH





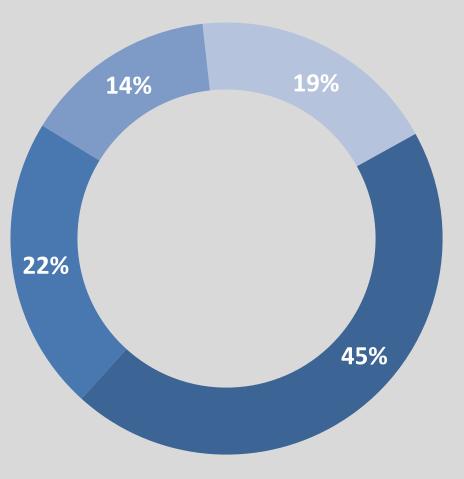
FOCUSED MARKETS (AS OF Q3 FY2022)

Communications

- Smartphone
- Telecom

Consumer

- Home Appliance
- Gaming
- TV



Power Supply / Industrial

- Quick Chargers / PD
 - Power Tools
 - AC/DC

Computing

- Notebook / PC
- Graphics Card
 - Server / Al

Chart excludes 'Service and Others' of 2%



PC: SHARE GAINS, HIGH VALUE MIGRATION

COMPUTING



SAM: \$700M

EXPANDING BOM CPU Vcore Graphic Cards DDR Memory PD Adapter System Power Type C **Battery Protection**

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





STRATEGIC ALIGNMENT WITH GLOBAL OEMS

MOBILE POWER



SAM: \$320M

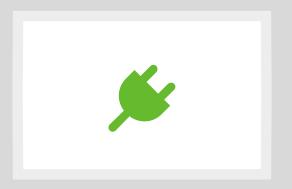
Supply all major smartphone vendors

BATTERY PROTECTION



- Safe operation
- Longer battery life
- Robust performance

QUICK CHARGER



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

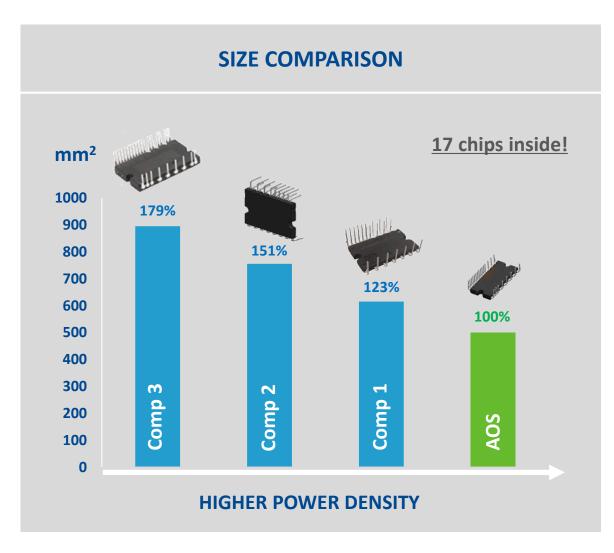


INTELLIGENT MODULES FOR HOME APPLIANCES

HOME APPLIANCE



SAM: \$2B+



AOS IPM Solution with **IGBT** offers:

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

Refrigerators, Washers / Dryers, Air-con Fans









BUILT FOR SCALE



In house Oregon 8" Fab



CQ JV: 12" Fab + A&T



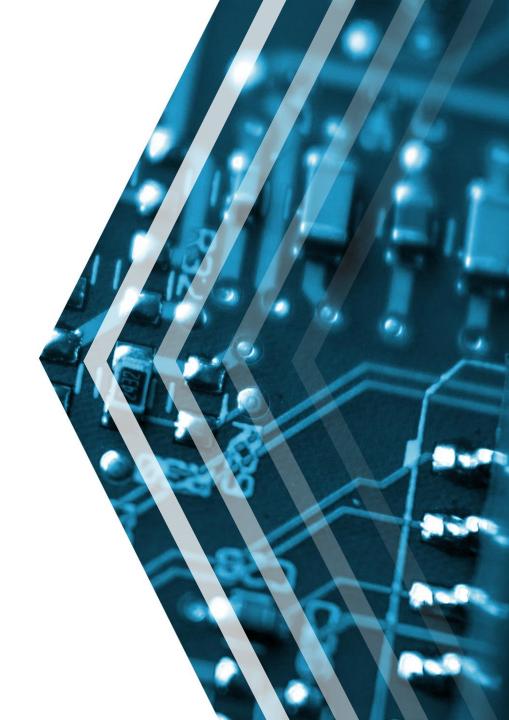
In house Shanghai A&T



Third-party Foundries & Subcons

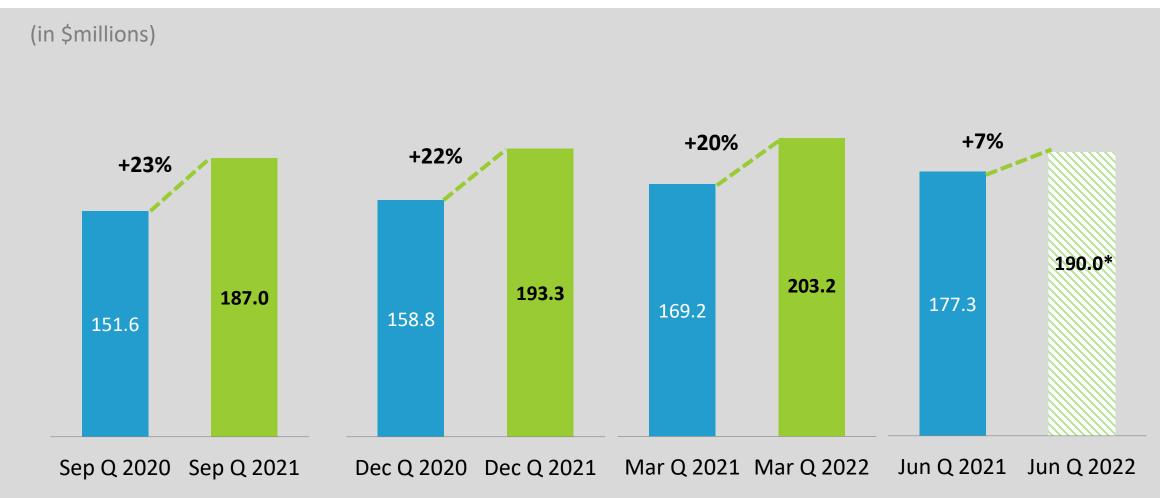


FINANCIALS





ACCELERATED GROWTH MOMENTUM – REVENUE



^{*} Mid point of revenue guidance for Jun Q 2022



ACCELERATED GROWTH MOMENTUM – NON-GAAP EPS



^{*} Current consensus for Jun Q 2022

Note: Non-GAAP EPS excludes share-based compensation expenses, production ramp up costs and pre-production costs related to joint venture, gain on deconsolidation and changes of equity interest in the JV Company, legal expenses related to investigation, income tax effect of non-GAAP adjustments, and amortization of acquired IP.



ACCELERATED GROWTH MOMENTUM – EBITDAS



Note: Non-GAAP net income excludes share-based compensation expenses, production ramp up costs and pre-production costs related to joint venture, gain on deconsolidation and changes of equity interest in the JV Company, legal expenses related to investigation, income tax effect of non-GAAP adjustments, and amortization of acquired IP.



JV: BUILD A SUPPLIER + CREATE EQUITY VALUE

CHONGQING JV

\$428M Total Capitalization

AOS (42.2%) at 1/26/2022 JV Partners and Other Investor

- Phased 1 of JV was fully ramped up in Sep
 Q 2021
- On 12/1/2021, completed a sale of 2.1% JV equity interest for \$16.9 million (>\$800 million valuation for JV),
- Started from 12/1/2021, deconsolidated
 JV financials, resulted in >\$300 million gain
- On 12/27/2021, completed a sale of 1.1% JV equity interest for \$9.4 million
- On 01/26/2022, the JV Company completed an equity financing transaction of \$80 million, representing approximately 7.82% of post-transaction outstanding equity of the JV Company, which further diluted our equity interest to 42.2%.



KEY FINANCIAL ITEMS BREAKDOWN

(in \$ millions)	JUN 2020		JUN 2021			MAR 2022	
	AOS	CQJV	Consolidated	AOS	CQJV	Consolidated	AOS
CASH	110.3	48.2	158.5	164.9	37.5	202.4	323.1
DEBT	32.6	139.4*	172.0	24.3	141.1*	165.4	69.9
INVENTORY	97.6	37.9	135.5	100.2	54.1	154.3	143.5
FIXED ASSETS	162.8	249.5	412.3	174.5	262.5	437.0	245.8
OPERATING CASH FLOW	20.2	20.1	40.3	32.6	11.6	44.2	61.8
CAPEX PAID	9.0	4.2	13.2	25.1	7.1	32.2	43.4
EBITDAS	12.0	1.1**	14.9	33.6	7.8**	40.9	48.4

^{*} AOS is not a guarantor of CQJV's debt.

^{**} CQJV EBITDAS includes amounts attributable to noncontrolling interest.



APPROACHING TARGET MODEL

NON-GAAP MODEL	CY2021	CY2024/2025		
REVENUE	\$727 MILLION	\$1 BILLION		
GROSS MARGIN*	34.8%	>35%		
OPERATING EXPENSE**	18.2%	~20%		

Target model is subject to general and overall market conditions.

^{*} 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 one-time transactions.



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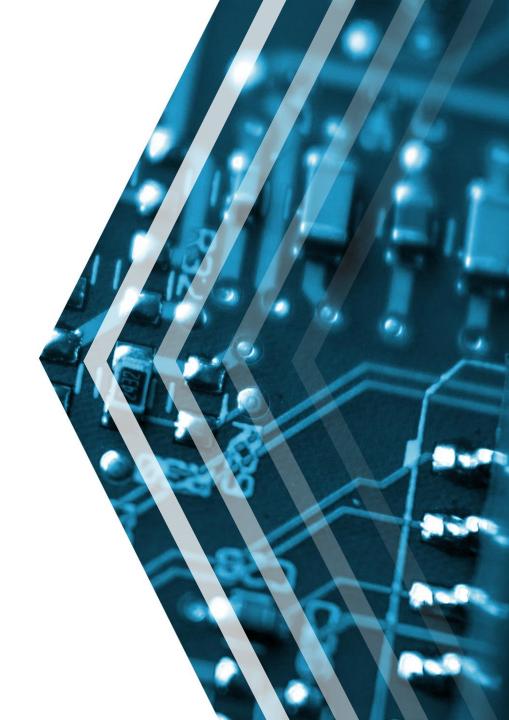
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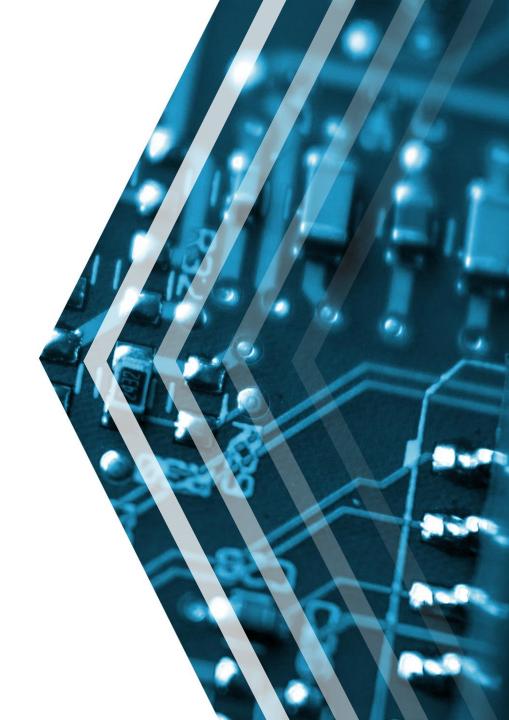


Q&A



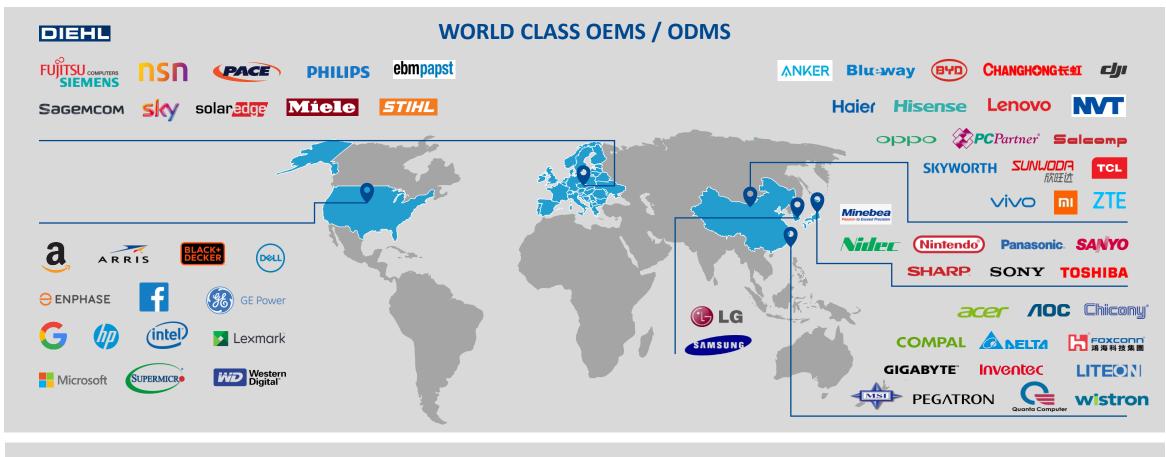


APPENDIX





EVERYONE NEEDS POWER



KEY DISTRIBUTORS



(a member of)



