



# Advanced Wet-Cleaning Tools for Leading Edge IC Fabs

March 2021



**Market Data.** Information presented below under “Who is ACM Research?” and “Investment Highlights” concerning ACM Research’s total addressable market presents a forecast based on information provided by Gartner, Inc. in its report “Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 4Q20 Update” (December 22, 2020). You are cautioned not to rely on or give undue weight to this information. The Gartner report represents research opinions or viewpoints that are published, as part of a syndicated subscription service, by Gartner and are not representations of fact. The Gartner report speaks as of its original publication date (and not as of the date of this presentation), and the opinions expressed in the Gartner report are subject to change without notice. While ACM Research is not aware of any misstatements regarding the information provided in the Gartner report, it has not independently verified the accuracy or completeness of that information, which involves numerous assumptions and is subject to risks and uncertainties, as well as change based on various factors, that could cause results to differ materially from the forecast presented. The industry in which ACM Research operates is subject to a high degree of uncertainty and risk due to variety of factors, including those described in ACM Research’s public filings with the Securities and Exchange Commission, as described above.

**Note Regarding Presentation of Non-GAAP Financial Measures.** Information presented below under “Q4 and 2020 Highlights,” “2020 Financial Results”, Q4 2020 Financial Results” and “GAAP to Non-GAAP Reconciliation” includes certain “non-GAAP financial measures” as defined in Regulation G under the Securities Exchange Act of 1934, including non-GAAP adjusted gross profit, adjusted gross margin, adjusted operating income, adjusted operating margin, adjusted net income and adjusted EBITDA. These supplemental measures exclude the impact of stock-based compensation and change in fair value of financial liability, which ACM Research does not believe are indicative of its core operating results. A reconciliation of each non-GAAP financial measure to the most directly comparable GAAP financial measure is included under “GAAP to Non-GAAP Reconciliation.”

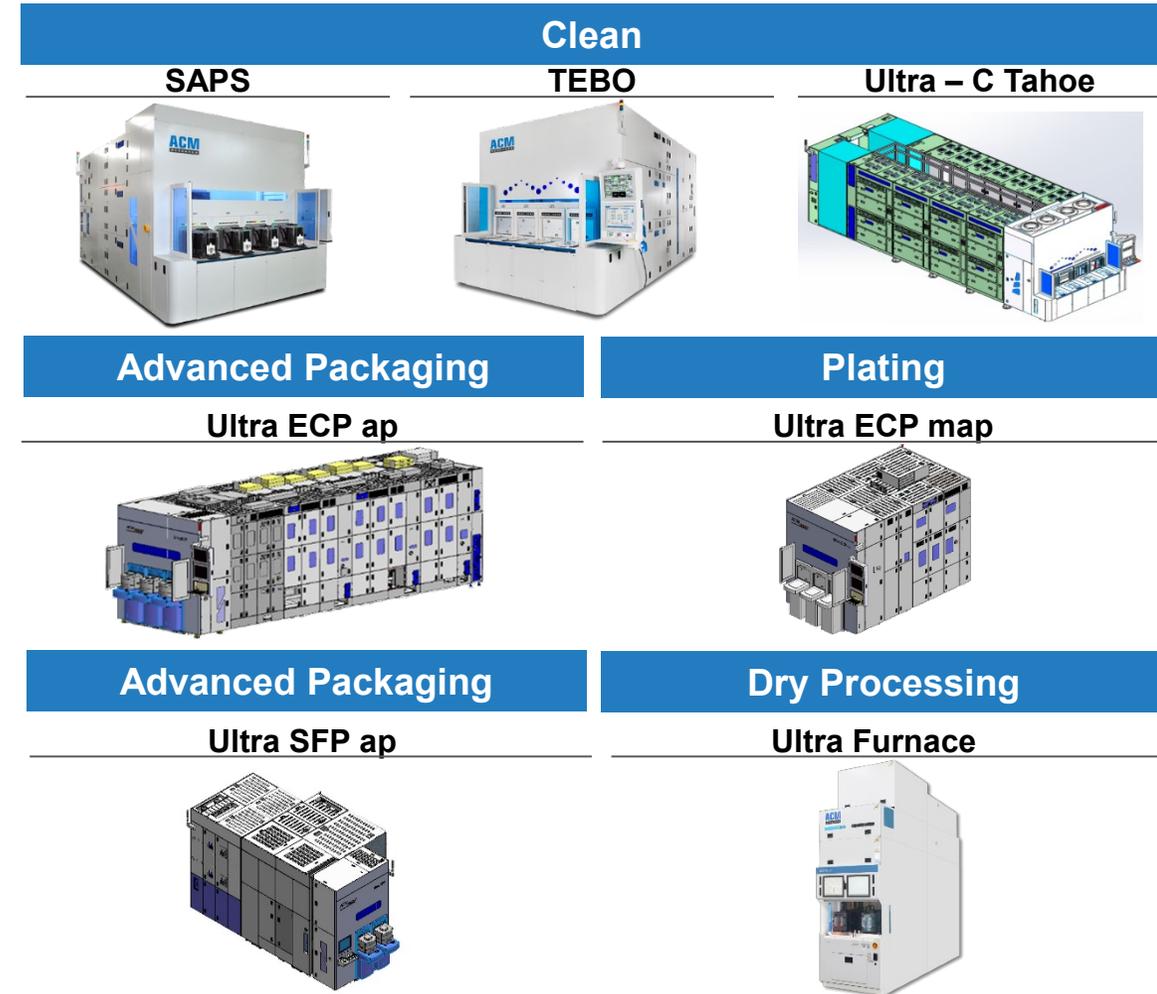
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# Who is ACM Research?

## Mission Statement: To Become a Leading Global Provider of Semiconductor Capital Equipment

- **Best-in-class semiconductor wafer cleaning tools** providing higher yields and better efficiency at advanced fabs than conventional wafer cleaning tools
- **Differentiated megasonic technology** delivers highly effective single-wafer wet cleaning for flat and patterned wafer surfaces (SAPS) and damage-free cleaning for 2D and advanced 3D patterned wafers (TEBO)
- **ACM estimates full product line addresses \$5 billion market opportunity**, including cleaning products, ECP, SFP, and Furnace <sup>(1)</sup>
- **More than 350 patents** issued in the U.S., China, Japan, South Korea, Singapore and Taiwan as of 12/31/20
- 136,000 sq. ft. across **two production facilities in Shanghai and long-term plans for Lingang Facility** offers significant capacity for growth
- **Headquartered in Fremont, CA** with more than 540 employees globally.

(1) Source: Gartner. See "Market Data" on page 2, Wall Street Analyst Reports, ACM Estimates.



# Tier One Customer Base

## Front-End Customers



- Major new entrant into NAND flash and DRAM industry
- Expanding capacity with construction of \$24B production facility in Wuhan<sup>(1)</sup>
- Proprietary Xtacking architecture used to produce 3D NAND products<sup>(2)</sup>
- ACM 2020 Revenue %: 27% (primarily 3D NAND)



- Leading advanced foundry in China
- Manages first fully automated 300mm wafer production line in mainland China<sup>(3)</sup>
- Production capacity for 35,000 wafers per month<sup>(3)</sup>
- ACM 2020 Revenue %: 37% (primarily Foundry / Logic)



- Global market leader in memory (DRAM & NAND) semiconductor products
- ACM's first major customer
- Expected to spend \$107B in the coming years to build four new memory chip plants<sup>(4)</sup>
- ACM 2020 Revenue %: <10% (primarily DRAM)

## Back-End Customers



- Largest bumping house in China and leading WLCSP production base
- Subsidiary of OSAT company JCET
- Owns one of the most advanced packaging technology R&D service platforms<sup>(5)</sup>
- Global customer base with exposure to the U.S., Western Europe and Asia



- Mainland China's largest foundry
- Tier-one customers include Qualcomm, Broadcom and Texas Instruments
- Six strategically located fabs in China and Western Europe
- ACM 2020 Revenue %: 12%



- New China-based entrant to DRAM industry
- Ordered 12-Chamber SAPS-V tool for evaluation
- ACM delivered first tool in Q4 2019

### Two New Analog/Power IC Manufacturing Customers

- Hangzhou Silan Microelectronics and an unnamed China-based customer
- Ordered a range of semi-critical tools including the scrubber, wet etch, and backside wafer etching tool, auto wet bench, SAPS-II cleaning tool and Cu interconnect ECP map tool.
- ACM delivered first tools in 2H' 2020.



- Leading OSAT provider – #7 globally<sup>(6)</sup> and top 3 in China<sup>(7)</sup>
- Fastest growing OSAT provider globally with 32% year-over-year revenue growth<sup>(6)</sup>
- Six production facilities serving more than half of the top ten global semiconductor manufacturers<sup>(7)</sup>

(1) Source: Nikkei Asian Review. (2) Source: YMTC Press Release. (3) Source: HLMC Press Release. (4) Source: Reuters. (5) Source: JCAP Company Profile. (6) Source: Electronics Weekly. (7) Source: TFME website.

# ACM Flagship Cleaning Products

Innovative, patent-protected tools address critical challenges in leading edge IC manufacturing

## SAPS



*Megasonic Cleaning for Flat and Patterned Wafer Surfaces*

- ✓ High efficiency with enhanced process flexibility
- ✓ Uniform and consistent results
- ✓ Customizable specifications

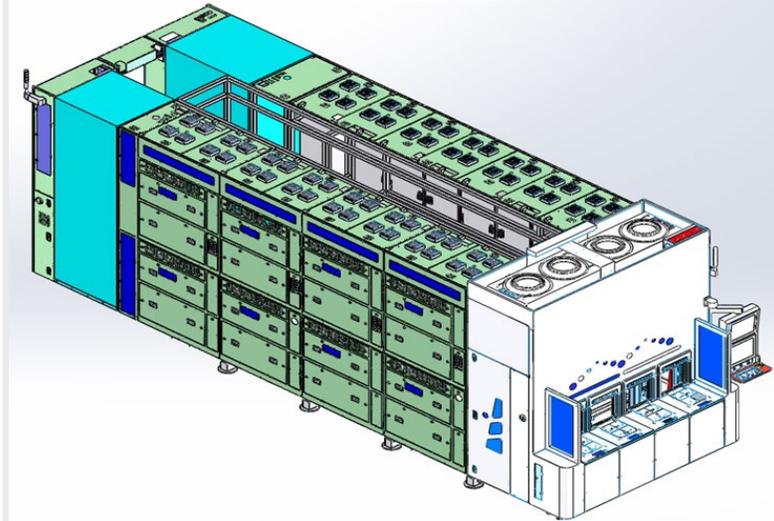
## TEBO



*Bubble Oscillation Cleaning for Patterned Wafers at Advanced Process Nodes*

- ✓ Highly effective, damage-free solution for small and fragile features
- ✓ Multi-parameter bubble cavitation control

## Ultra – C Tahoe

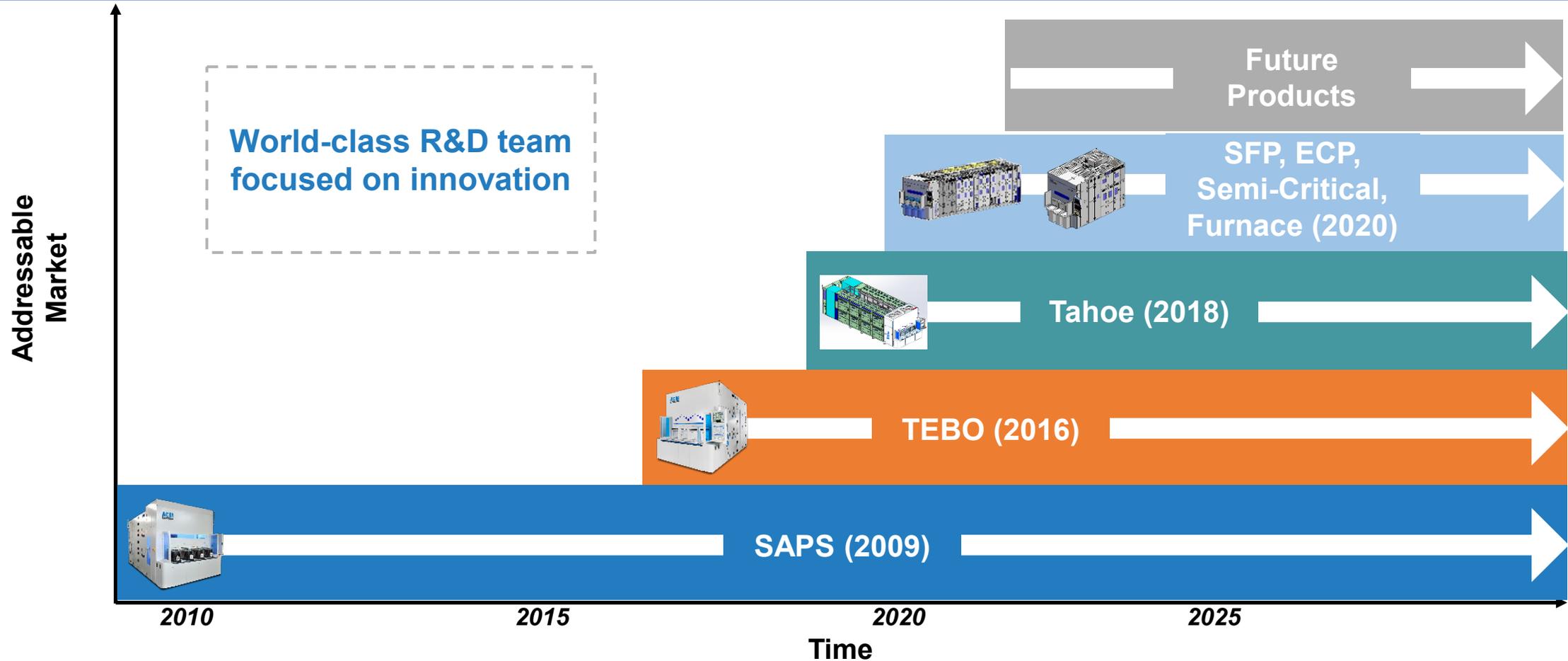


*Hybrid Wafer Cleaning With Significant Cost & Environmental Benefits*

- ✓ Environmentally friendly – uses 10% of the sulfuric acid used than conventional tools
- ✓ High cleaning performance at low cost

# Innovation and Product Introductions Expanding Addressable Market

ACM estimates that its current product offerings address a \$5 billion market opportunity



# Shanghai Manufacturing Facilities – Existing and Planned

## Factory #1 (Shanghai HQ)



- Original ACM factory
- 36,000 sq. ft. facility
- 8,000 sq. ft. of class 10,000 clean room space for product assembly and testing
- 800 sq. ft. of class 1 clean room space for product demonstration purposes
- Co-located with ACM Shanghai Headquarters and China R&D Center

## Facility #2



- Second factory; opened in September 2018
- 100,000 sq. ft. facility
- Shifting large portion of future production to this facility
- Additional dedicated space for product sub-assembly, component inventory and manufacturing related offices
- Added 2nd floor production in Q2 2020

## Lingang Under Construction



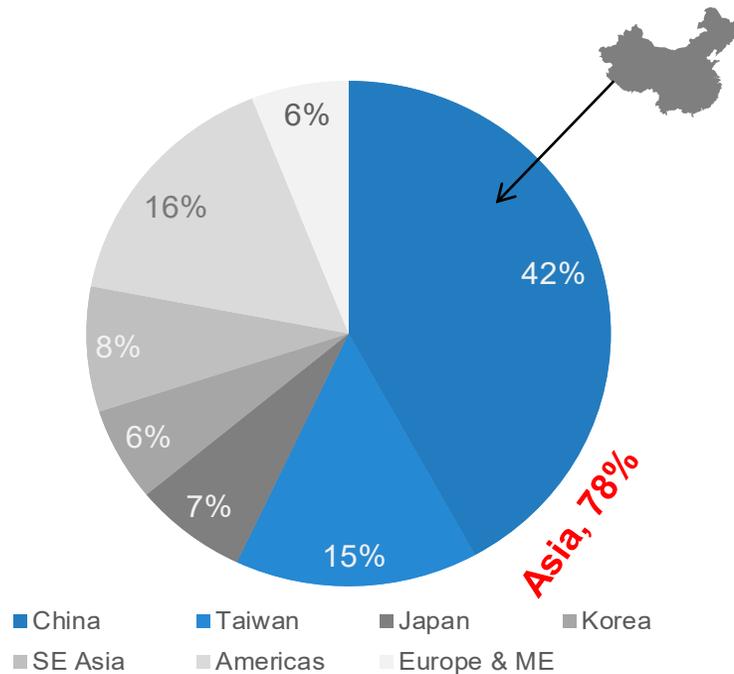
- Broke ground on the new R&D and production facilities in Lingang region of Shanghai in July 2020
- The site is approximately 30 miles from ACM Shanghai's HQ in Zhangjiang.
- 1 million square feet
- Expects initial production activities to commence in late 2022.

# Well-Positioned to Participate in Asia Fab Investments

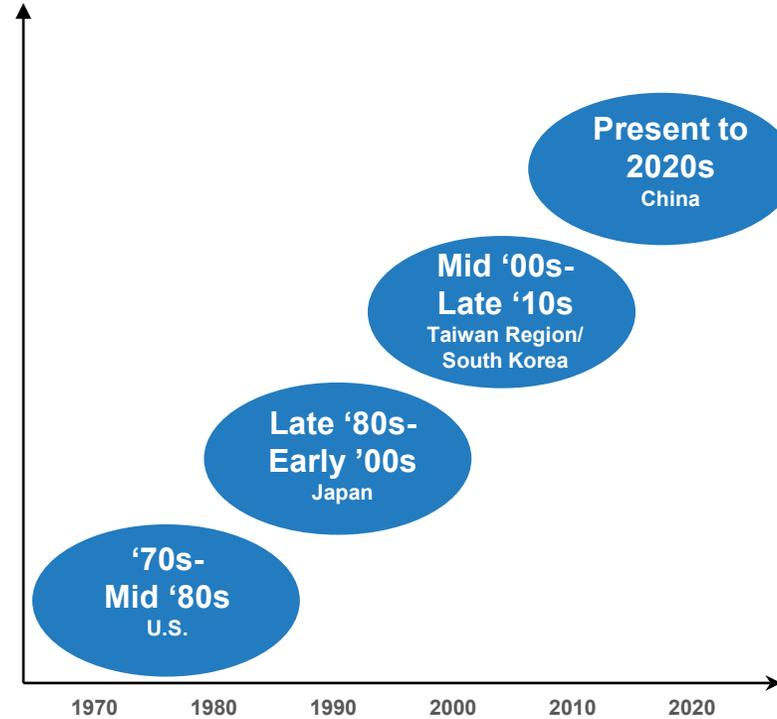
## Semiconductor Industry Development

(\$ in billions)

**New Facilities and Production Lines Starting Operation (2017-2020)<sup>(1)</sup>**



**Industry Center Shifts Through the Decades<sup>(1)</sup>**



**China is the Fastest Growing Geography<sup>(2)</sup>**

Rank	Country or Region	2020 Size	16-'20 CAGR
1	Taiwan Region	\$14.1	4%
2	China	\$13.1	19%
3	South Korea	\$11.9	11%
4	North America	\$7.7	15%
5	Japan	\$6.6	9%
	Rest of World	\$6.5	3%

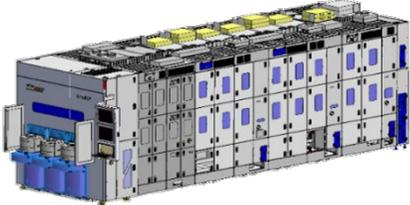


**Strong presence in Asia and close proximity to Chinese customers add to key competitive advantages.**

(1) Source: SEMI – World Fab Forecast Report. (2) Source: SEMI – 12/11/2019 Global Semiconductor Equipment Sales Forecast.

## New Product Introductions Increasing TAM

- Next generation TEBO and Tahoe products expand SAM in wafer clean
- Front- and back-end plating and semi-critical tools offer growth opportunities in adjacent process steps



## Continue to Build Scale in Asia

- Gain meaningful share by offering differentiated, leading edge technology and localized service with fast-growing Asian-based customers



## Add New Customers

- Megasonic approaches SAPS, TEBO, Tahoe and ECP a driving meaningful engagement with Global Tier 1 foundry, logic and memory companies

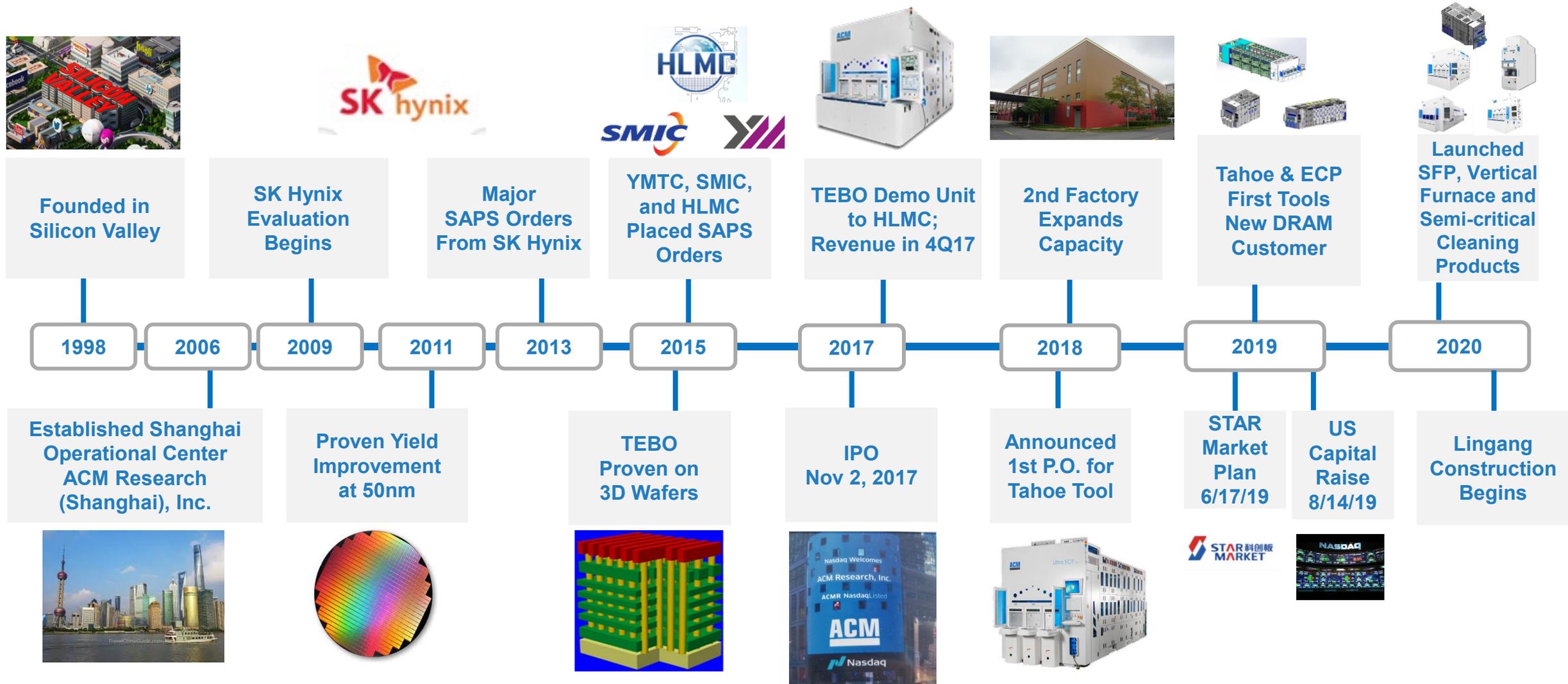


## Selective Acquisitions

- Use M&A to broaden product portfolio, add complementary technologies and increase access to the global market



# History of Innovation & Customer Adoption



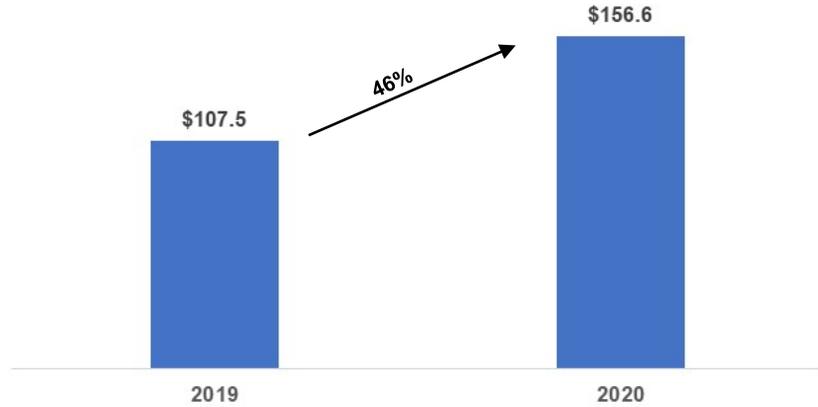
# Q4 and 2020 Highlights

- **2020 Financial Highlights:**
  - \$156.6 million revenue, up 45.7% from 2019
  - 44.4% GAAP gross margin and 13.7% GAAP operating margin
  - 44.5% non-GAAP gross margin and 17.3% non-GAAP operating margin
  - Ended 2020 with \$72 million of cash, and an additional \$28 million reflecting the value of strategic security investment
- **Total shipments of \$182 million in 2020 vs. \$115 million in 2019**
  - \$67 million in Q4 2020 vs. \$59 million in Q3 2020 and \$25 million in Q4 2019
- **Key Operational and Strategic Progress:**
  - Expanded customer base to include 2 analog and power IC manufacturers
  - Actively engaged with potential new customers in North America and Taiwan
  - Strengthened product portfolio
  - Opened second floor for production at second factory
  - Completed a deposit for employee housing at Lingang facility
  - Remain confident in STAR Market Listing of ACM Research (Shanghai)

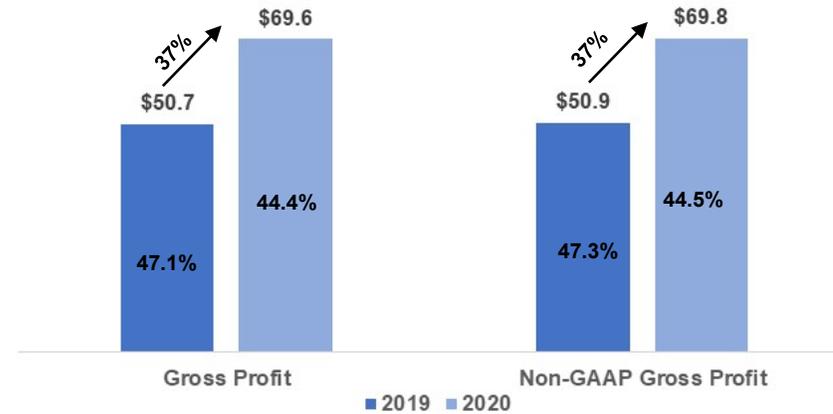
# 2020 Financial Results

\$ Millions

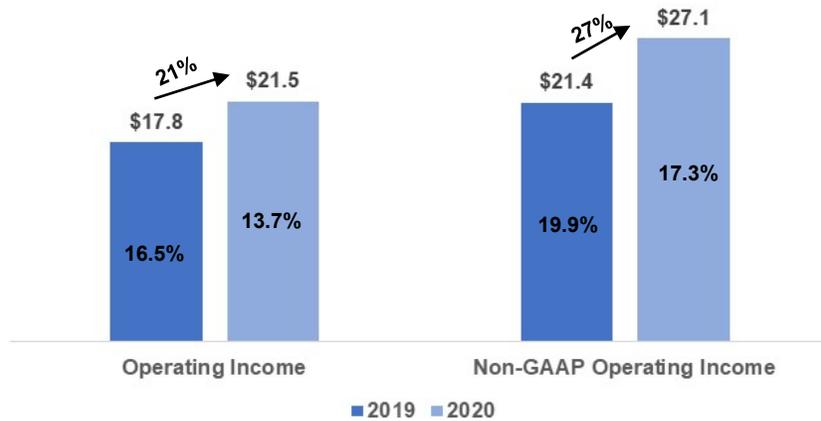
## Revenue



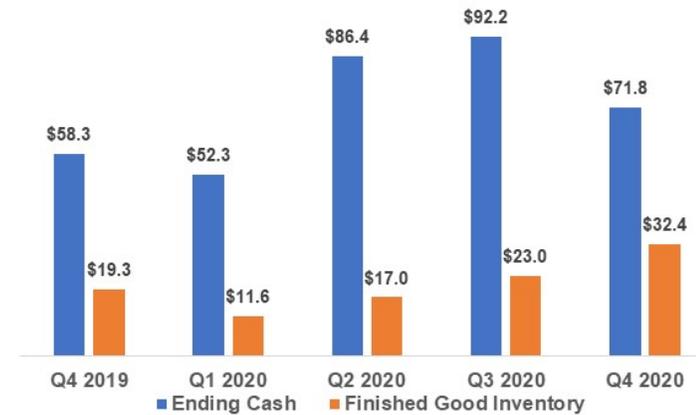
## Gross Profit



## Operating Income



## Balance Sheet Data\*

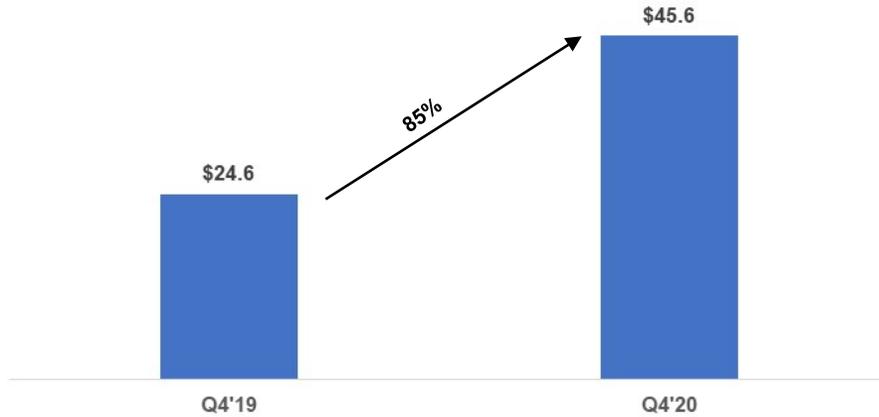


\* Finished goods inventory represents 'demo-to-sales' product which have been delivered to customers for evaluation. These products are carried at cost until ownership is transferred.

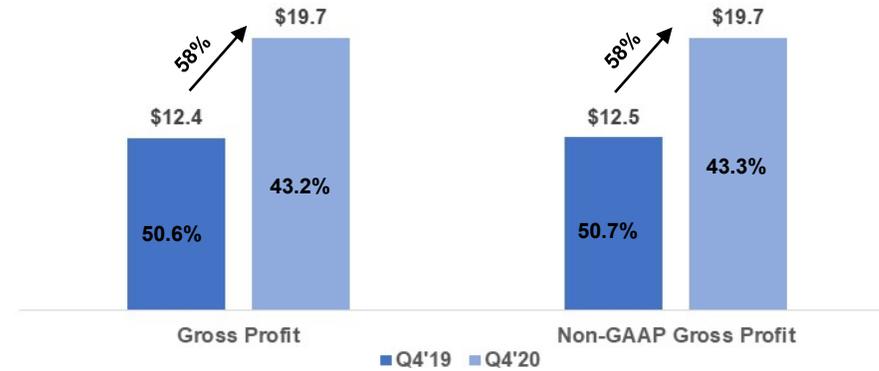
# Q4 2020 Financial Results

\$ Millions

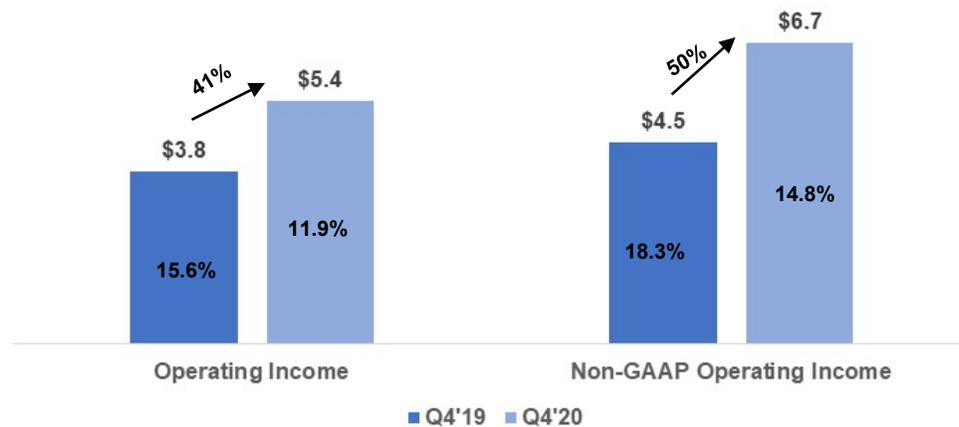
## Revenue



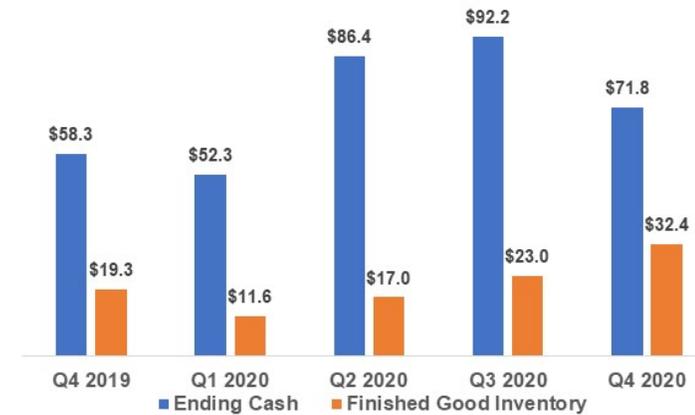
## Gross Profit



## Operating Income

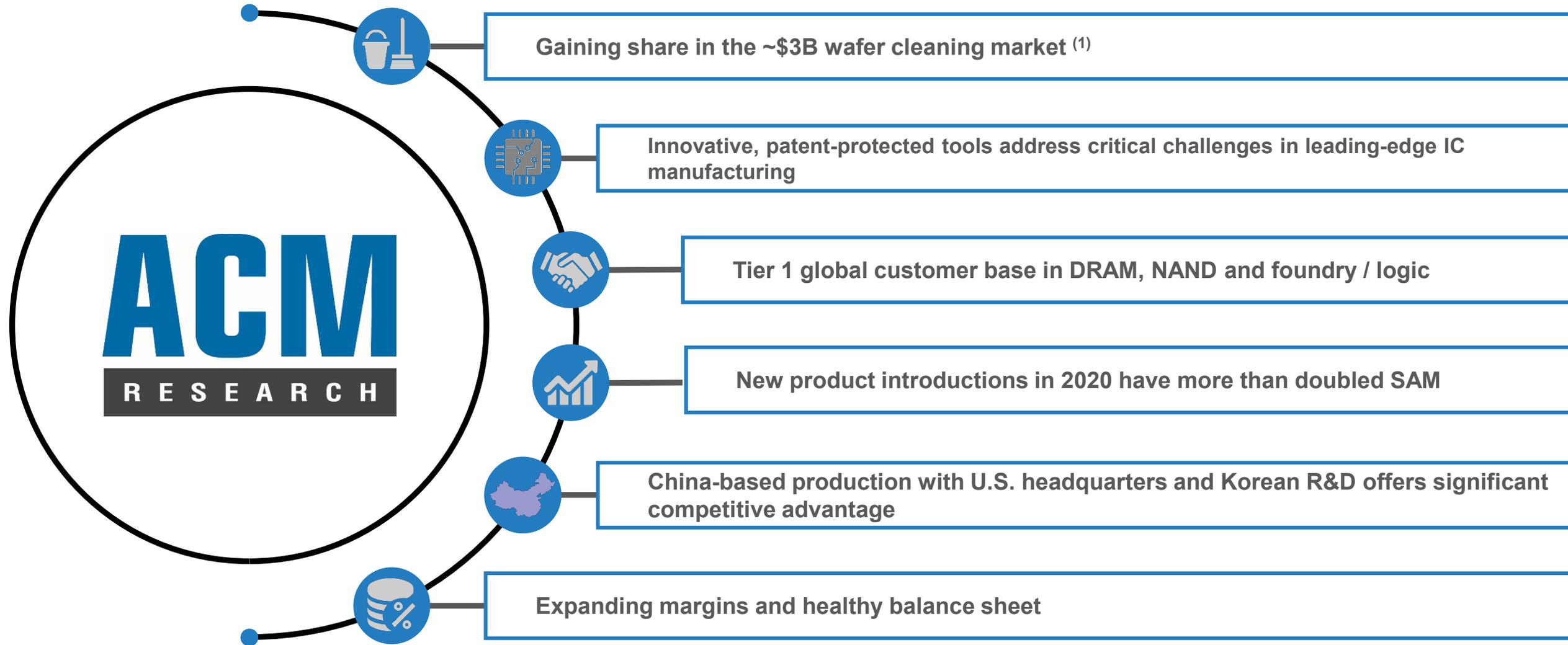


## Balance Sheet Data\*



\* Finished goods inventory represents 'demo-to-sales' product which have been delivered to customers for evaluation. These products are carried at cost until ownership is transferred.

# Investment Highlights



(1) Source: Gartner. See "Market Data" on page 2.

# GAAP to Non-GAAP Reconciliation (1)

(\$ in millions)

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
GAAP Income from Operations	\$0.7	\$6.5	\$17.8	\$21.5
Plus: Stock-based Compensation	\$1.6	\$3.4	\$3.6	\$5.6
<b>Adjusted Income from Operations</b>	<b>\$2.3</b>	<b>\$9.8</b>	<b>\$21.4</b>	<b>\$27.1</b>
GAAP Net Income (Loss)	(\$0.3)	\$6.6	\$19.5	\$21.7
Plus: Interest Expense (Income), Net	\$0.3	\$0.5	\$0.4	\$0.1
Plus: Income Tax Expense	\$0.5	\$0.8	(\$0.5)	(\$2.4)
Plus: Depreciation and Amortization	\$0.3	\$0.4	\$0.8	\$1.1
Plus: Stock-based Compensation	\$1.6	\$3.4	\$3.6	\$5.6
Plus: Change in fair value of financial liability	-	-	-	\$12.0
Plus: Unrealized gain on trade securities	-	-	-	(\$12.6)
<b>Adjusted EBITDA</b>	<b>\$2.4</b>	<b>\$11.6</b>	<b>\$23.7</b>	<b>\$25.5</b>
GAAP Net Income (Loss)	(\$0.3)	\$6.6	\$19.5	\$21.7
Plus: Change in fair value of financial liability	-	-	-	\$12.0
Plus: Stock-based Compensation	\$1.6	\$3.4	\$3.6	\$5.6
Plus: Unrealized gain on trade securities	-	-	-	(\$12.6)
<b>Adjusted Net Income</b>	<b>\$1.3</b>	<b>\$9.9</b>	<b>\$23.0</b>	<b>\$26.7</b>

# GAAP to Non-GAAP Reconciliation (2)

	Three Months Ended December 31,						
	2020			2019			
	Actual (GAAP)	SBC	Other non- operating adjustments	Adjusted (Non-GAAP)	Actual (GAAP)	SBC	Adjusted (Non-GAAP)
	<i>(In thousands)</i>						
Revenue	\$ 45,562	\$ -	\$ -	\$ 45,562	\$ 24,608	\$ -	\$ 24,608
Cost of revenue	(25,888)	(43)	-	(25,845)	(12,165)	(37)	(12,128)
Gross profit	19,674	(43)	-	19,717	12,443	(37)	12,480
Gross margin %	43.2%	0.1%		43.3%	50.6%	0.1%	50.7%
Operating expenses:							
Sales and marketing	(5,249)	(704)	-	(4,545)	(3,223)	(76)	(3,147)
Research and development	(5,878)	(195)	-	(5,683)	(3,302)	(154)	(3,148)
General and administrative	(3,115)	(363)	-	(2,752)	(2,069)	(386)	(1,683)
Income from operations	\$ 5,432	\$ (1,305)	\$ -	\$ 6,737	\$ 3,850	\$ (653)	\$ 4,503
Operating margin %	11.9%	2.9%		14.8%	15.6%	2.7%	18.3%
Change in fair value of financial liability	-	-	-	-	-	-	-
Unrealized gain on trading securities	3,604	-	3,604	-	-	-	-
<b>Net income attributable to ACM Research, Inc.</b>	<b>\$ 8,529</b>	<b>\$ (1,305)</b>	<b>\$ 3,604</b>	<b>\$ 6,230</b>	<b>\$ 3,944</b>	<b>\$ (653)</b>	<b>\$ 4,597</b>
Basic EPS	\$ 0.46			\$ 0.34	\$ 0.22		\$ 0.25
Diluted EPS	\$ 0.39			\$ 0.29	\$ 0.19		\$ 0.23

# GAAP to Non-GAAP Reconciliation (3)

	Year Ended December 31,						
	2020			2019			
	Actual (GAAP)	SBC	Other non- operating adjustments	Adjusted (Non-GAAP)	Actual (GAAP)	SBC	Adjusted (Non-GAAP)
	<i>(In thousands)</i>						
Revenue	\$ 156,624	\$ -	\$ -	\$ 156,624	\$ 107,524	\$ -	\$ 107,524
Cost of revenue	(87,025)	(175)	-	(86,850)	(56,870)	(250)	(56,620)
Gross profit	69,599	(175)	-	69,774	50,654	(250)	50,904
<i>Gross margin %</i>	44.4%	0.1%		44.5%	47.1%	0.2%	47.3%
Operating expenses:							
Sales and marketing	(16,773)	(1,199)	-	(15,574)	(11,902)	(328)	(11,574)
Research and development	(19,119)	(763)	-	(18,356)	(12,900)	(1,093)	(11,807)
General and administrative	(12,215)	(3,491)	-	(8,724)	(8,061)	(1,901)	(6,160)
Income from operations	\$ 21,492	\$ (5,628)	\$ -	\$ 27,120	\$ 17,791	\$ (3,572)	\$ 21,363
<i>Operating margin %</i>	13.7%	3.6%		17.3%	16.5%	3.4%	19.9%
Change in fair value of financial liability	(11,964)	-	(11,964)	-	-	-	-
Unrealized gain on trading securities	12,574	-	12,574	-	-	-	-
<b>Net income attributable to ACM Research, Inc.</b>	<b>\$ 18,780</b>	<b>\$ (5,628)</b>	<b>\$ 610</b>	<b>\$ 23,798</b>	<b>\$ 18,894</b>	<b>\$ (3,572)</b>	<b>\$ 22,466</b>
Basic EPS	\$ 1.03			\$ 1.31	\$ 1.12		\$ 1.34
Diluted EPS	\$ 0.89			\$ 1.12	\$ 0.99		\$ 1.17

# GAAP to Non-GAAP Reconciliation (4)

	Year Ended December 31,						
	2020			2019			
	Actual (GAAP)	SBC	Other non- operating adjustments	Adjusted (Non- GAAP)	Actual (GAAP)	SBC	Adjusted (Non- GAAP)
	<i>(% of revenue)</i>						
Revenue	100.0%	-	-	100.0%	100.0%	-	100.0%
Cost of revenue	(55.6%)	0.1%	-	(55.5%)	(52.9%)	0.2%	(52.7%)
Gross margin	44.4%	0.1%	-	44.5%	47.1%	0.2%	47.3%
Operating expenses:							
Sales and marketing	(10.7%)	0.8%	-	(9.9%)	(11.1%)	0.4%	(10.7%)
Research and development	(12.2%)	0.5%	-	(11.7%)	(12.0%)	1.0%	(11.0%)
General and administrative	(7.8%)	2.2%	-	(5.6%)	(7.5%)	1.8%	(5.7%)
Operating margin	13.7%	3.6%	-	17.3%	16.5%	3.4%	19.9%