Supplemental Investor Presentation
Earnings Release – First Quarter 2020

May 7, 2020

Forward-Looking Statements. Information presented below under “2020 Outlook” with respect to revenue projected to be generated in 2020 is a forward-looking statement for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Actual results may vary significantly from ACM Research’s expectations based on a number of risks and uncertainties, including but not limited to the following, any of which could be exacerbated even further by the continuing COVID-19 outbreak in China and globally: anticipated customer orders or identified market opportunities may not grow or develop as anticipated; customer orders already received may be postponed or canceled; suppliers may not be able to meet ACM Research’s demands on a timely basis; volatile global economic, market, industry and other conditions could result in sharply lower demand for products containing semiconductors and for ACM Research's products and in disruption of capital and credit markets; ACM Research’s failure to successfully manage its operations; and trade regulations, currency fluctuations, political instability and war may materially adversely affect ACM Research due to its substantial non-U.S. customer and supplier base and its substantial non-U.S. manufacturing operations. ACM Research cannot guarantee any future results, levels of activity, performance or achievements. 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, including its Annual Report on Form 10-K for the fiscal year ended December 31, 2019 for a more complete discussion of these factors and other risks, particularly under the heading “Risk Factors.” ACM Research expressly disclaims any obligation to update forward-looking statements after the date of this presentation.

Market Data. Information presented below under “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 Manufacturing Equipment (Including Wafer-Level Packaging), Worldwide, 2Q19 Update” (July 2019). 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 “Q1 2020 Highlights,” and “Q1’20 Financial Results” includes certain “non-GAAP financial measures” as defined in Regulation G under the Securities Exchange Act of 1934, including non-GAAP gross margin, non-GAAP operating margin, non-GAAP gross profit and non-GAAP operating profit. These supplemental measures exclude the impact of stock-based compensation, which ACM Research does not believe is indicative of its core operating results. A reconciliation of each non-GAAP financial measure to the most directly comparable GAAP financial measure is included in ACM Research’s first quarter 2020 earnings release dated May 6, 2020, which (a) has been filed with the Securities and Exchange Commission and can be viewed at https://www.sec.gov/Archives/edgar/data/1680062/000114036120010858/ex99_01.htm and (b) has been posted at, and can be downloaded from, the “Investors” content area at ACM Research’s website, http://ir.acmrcsh.com/news-releases/news-release-details/acm-research-reports-first-quarter-2020-results.

Q1 2020 Highlights

- **Solid Q1 Results:**
  - Revenue and shipments were impacted by COVID-19 related shutdowns
  - $24.3 million revenue, up 19% from Q1 2019; Total shipments of $12 million
  - 42.0% GAAP gross margin and 5.0% GAAP operating margin
  - 42.2% non-GAAP gross margin and 7.8% non-GAAP operating margin
  - $3.8 million cash flow from operations

- **Key Operational Progress:**
  - First tool acceptance and repeat order for Ultra-C Tahoe at lead customer
  - Introduced family of Ultra-C Wet Cleaning Tools to expand wet-cleaning opportunity
  - Entered dry cleaning market with introduction of the Ultra Furnace Platform
  - Appointed industry veteran as new VP of Sales for North America

- **Strategic Update:**
  - Expect to finalize agreement for land rights for proposed R&D and production facility in Lingang region of Shanghai in near future
  - On track to submit application for STAR Market IPO in mid-2020

- **Ended Q1 with $52 million of cash**
  - Additional $59 million in proceeds from ACM Shanghai held as restricted cash pending STAR Market application

Single-Wafer Wet Cleaning Products

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

SAPS

Megasonic Cleaning for Flat and Patterned Wafer Surfaces

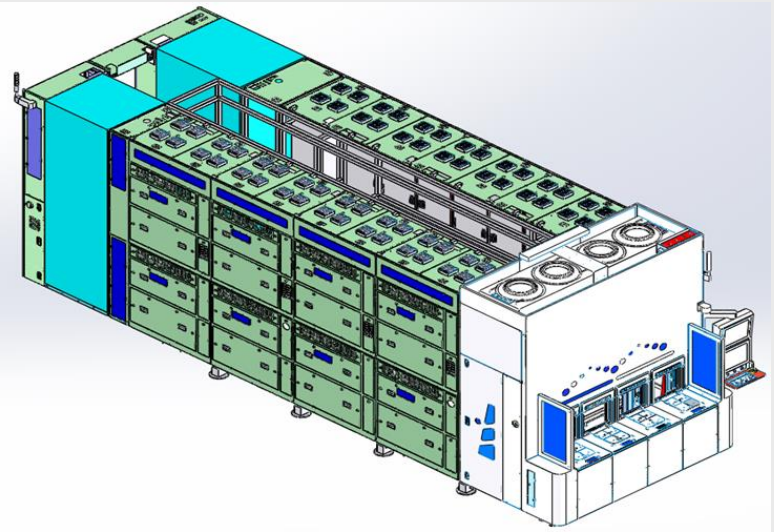
- ✓ High efficiency with enhanced process flexibility
- ✓ Uniform and consistent results
- ✓ Customizable specifications

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 that uses 1/10 of the sulfuric acid used by conventional tools
- ✓ High cleaning performance at low cost

Ultra C Wet Cleaning Tools for Advanced IC, Power Device, Advanced WLP Markets

Latest Suite of Ultra C Wet Cleaning Tools for Front and Backside Processes

Ultra C b

Backside Clean

- ✓ Backside metal removal or RCA clean
- ✓ Backside silicon etching and film removal
- ✓ 200mm or 300mm ultra-thin wafers and bonding wafers

Ultra C wb

Automated Wet Bench

- ✓ Batch cleaning of up to 50 wafers
- ✓ Modular design and small footprint
- ✓ Environmentally friendly
- ✓ Low cost of ownership

Ultra C s

Scrubber

- ✓ Advanced dual-fluid (gas and liquid) spray cleaning technique
- ✓ Eight chambers for 300mm IC applications
- ✓ Flexibility, small footprint and high throughput

Ultra Furnace Platform Targets LPCVD, Oxidation, Annealing and ALD

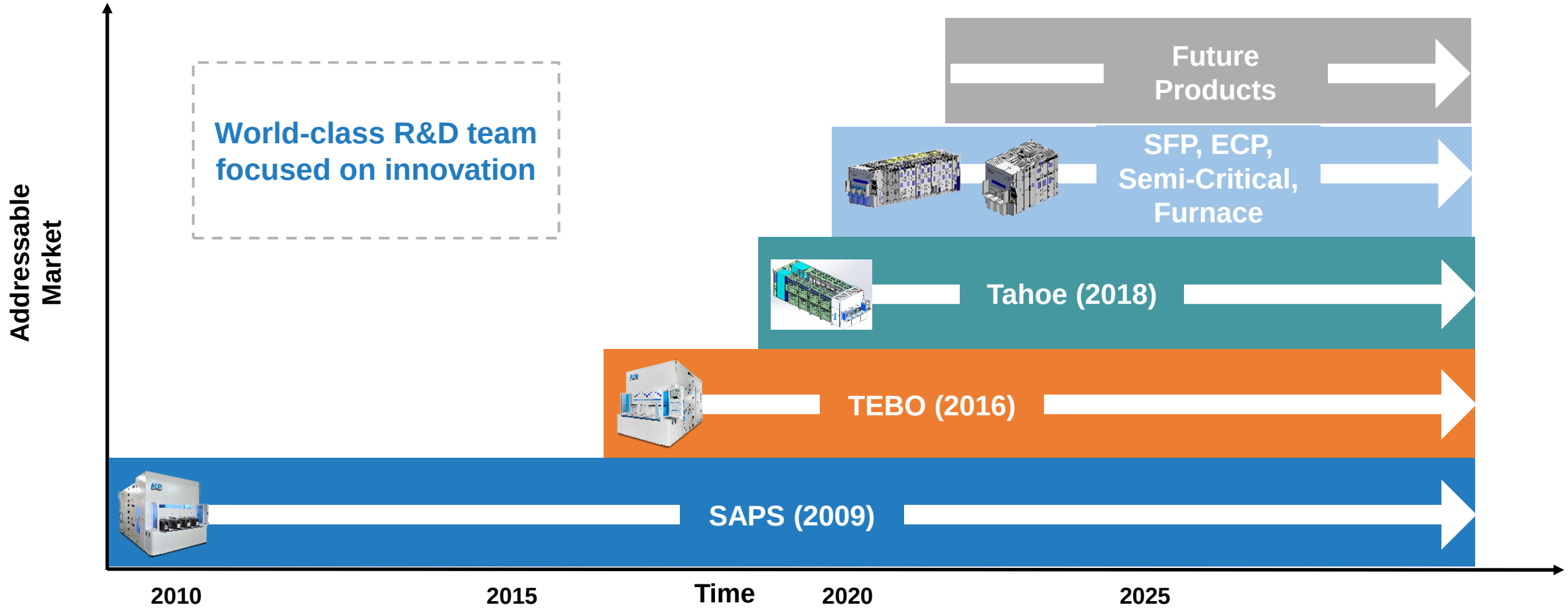
The innovative system design combines newly developed hardware that improves durability, with proven software technology and a proprietary control system and algorithm.

Ultra Furnace

- ✓ **The Ultra Furnace system is intended for batch processing of up to 100 12-inch (300mm) wafers.**

Innovation and Product Introductions Expanding Addressable Market

ACM projects that SAPS, TEBO and Tahoe address more than 50% of the single-wafer wet cleaning market, and SFP, ECP, Furnace and Semi-Critical tools more than doubles our market opportunity



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[1]
- Proprietary Xtacking architecture used to produce 3D NAND products[2]
- ACM 2019 Revenue %: 28% (primarily 3D NAND)

- Leading advanced foundry in China
- Manages first fully automated 300mm wafer production line in mainland China[3]
- Production capacity for 35,000 wafers per month[3]
- ACM 2019 Revenue %: 27% (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[4]
- ACM 2019 Revenue %: 20% (primarily DRAM)

- Mainland China's largest foundry
- Tier one customer base including Qualcomm, Broadcom and Texas Instruments
- Six strategically located fabs in China and Western Europe
- Building $10B fab to produce 14nm, 10nm and 7nm chips[5]

New DRAM Customer

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

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[6]
- Global customer base with exposure to the U.S., Western Europe and Asia

TONGFU MICROELECTRONICS CO., LTD.

- Leading OSAT provider – #7 globally[7] and top 3 in China[8]
- Fastest growing OSAT provider globally with 32% year-over-year revenue growth[7]
- Six production facilities serving more than half of the top ten global semiconductor manufacturers[8]

(1) Source: Nikkei Asian Review. (2) Source: YMTC Press Release. (3) Source: HLMC Press Release. (4) Source: Reuters. (5) Source: AnandTech. (6) Source: JCAP Company Profile. (7) Source: Electronics Weekly. (8) Source: TFME website.

Update on Strategic Initiatives

- **Proposed R&D and Production Center in Shanghai's Lingang Region**
  - ACM expects to sign a definitive agreement for land rights for the site in the near future, with plans to start construction activities in late 2020, with initial production activities to commence in late 2022

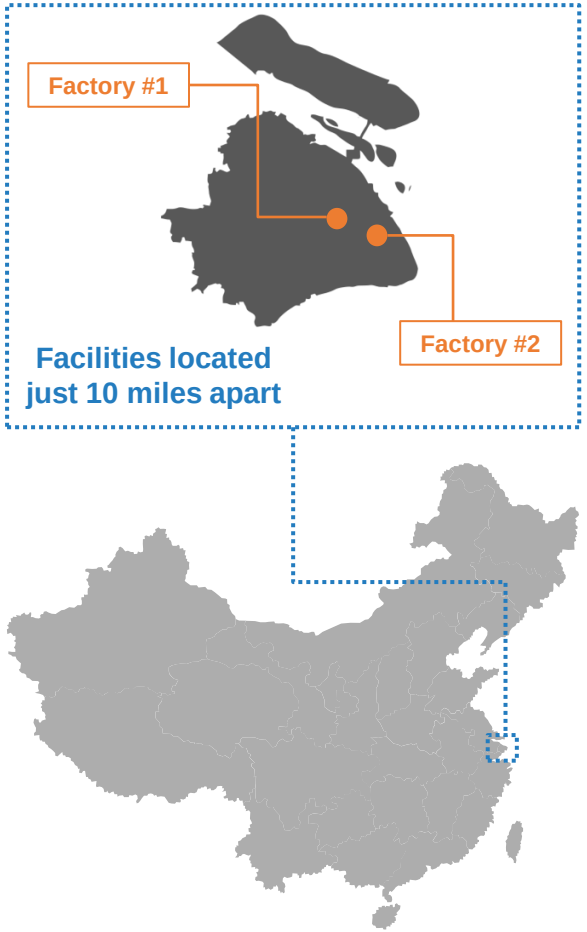
- **ACM Shanghai Pre-IPO Activities**
  - Plans remain on track to submit ACM Shanghai's application for an initial public offering of its shares on the STAR Market by mid-2020, and to price the transaction by year-end pending timely approvals.

Shanghai Manufacturing Facilities

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

Shanghai Locations



Facility #2

- Second factory; opened in September 2018
- 50,000 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
- 2nd floor available for additional expansion

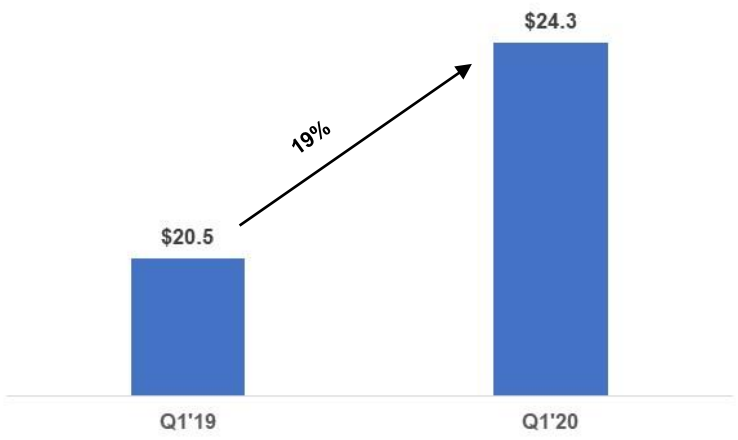
2020 Outlook

- **Q1 revenue and shipments were impacted by COVID-19 pandemic**
- **2020 revenue in the range of $130 million to $150 million**
  - 30% y/y growth at the mid-point
- **Outlook assumes:**
  - The COVID-19 situation further improves in China and stabilizes in the rest of the world
  - The low end of the revenue range assumes muted DRAM recovery, and limited revenue contribution from new customers

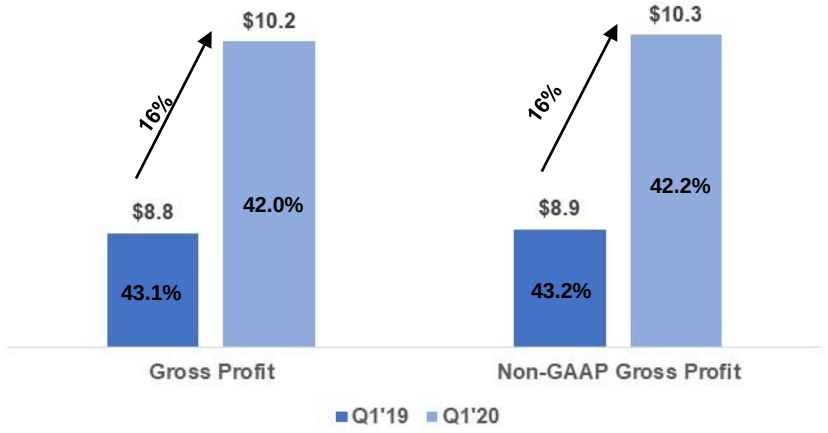
Q1’20 Financial Results

$ Millions, non-GAAP gross profit and operating profit

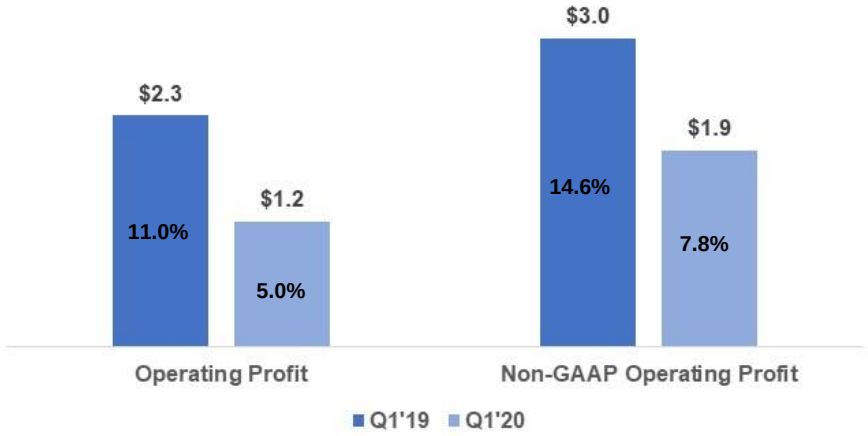
Revenue



Gross Profit



Operating Profit



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

- Gaining share in the ~$3B wafer cleaning market (1)
- Innovative, patent-protected tools address critical challenges in leading-edge IC manufacturing
- Tier 1 global customer base in DRAM, NAND and foundry / logic
- New product introductions have more than doubled SAM
- China-based production with U.S. headquarters offers significant competitive advantage
- Expanding margins and healthy balance sheet

(1) Source: Gartner – "Forecast: Semiconductor Wafer Fab Manufacturing Equipment (Including Wafer-Level Packaging), Worldwide, 2Q19 Update" (July 2019). See "Market Data" on page 2.