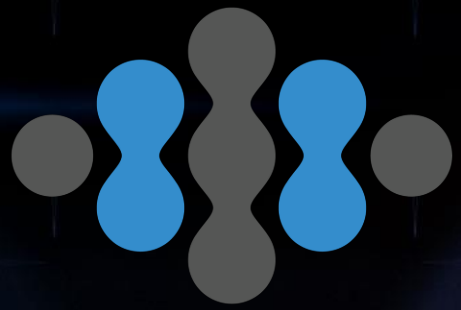

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Investor Presentation

May 2023

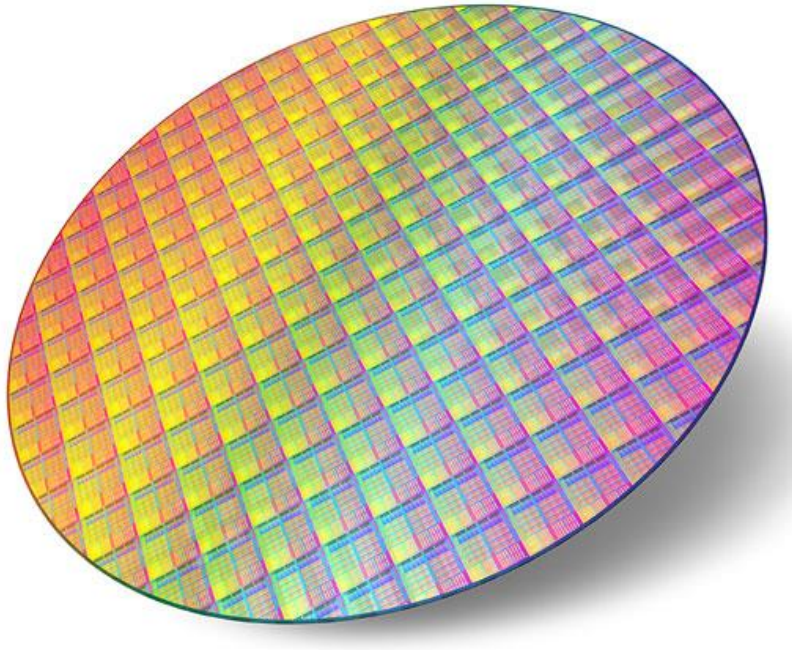
Safe Harbor

This presentation contains forward-looking statements concerning Atomera Incorporated (““Atomera,” the “Company,” “we,” “us,” and “our”). The words “believe,” “may,” “will,” “potentially,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “plan,” “expect” and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those disclosed in the section "Risk Factors" included in our Annual Report on Form 10-K filed with the SEC on February 15, 2022 . In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in our forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur.

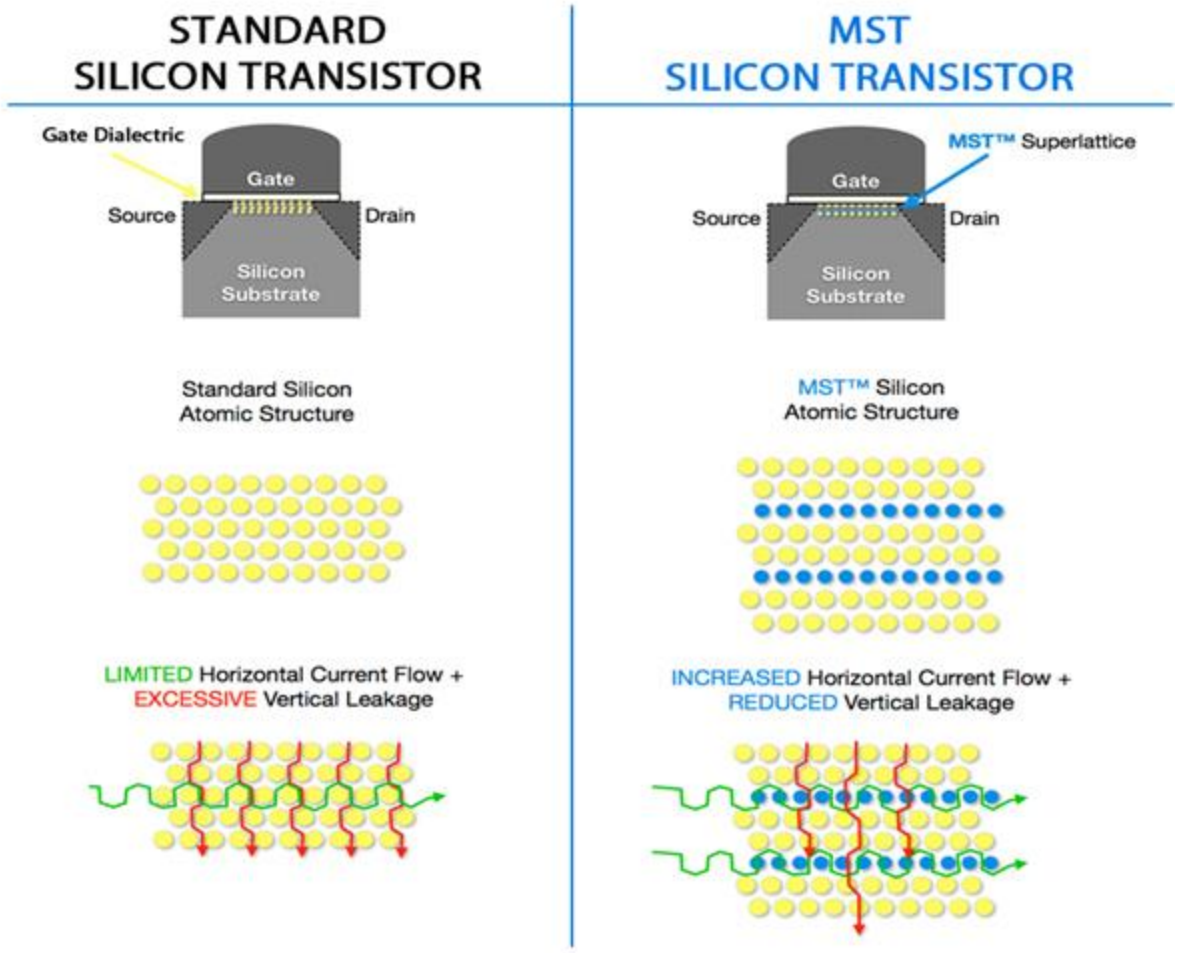
This presentation contains only basic information concerning Atomera. The Company’s filings with the Securities Exchange Commission, including the Prospectus Supplement , include more information about factors that could affect the Company’s operating and financial results. We assume no obligation to update information contained in this presentation. Although this presentation may remain available on the Company's website or elsewhere, its continued availability does not indicate that we are reaffirming or confirming any of the information contained herein.

Investment Overview

- **Mears Silicon Technology (MST®) is a thin film used to enhance semiconductors**
  - Results in higher performance, lower power, and lower costs for ICs
- **Capital-light IP and technology licensing business**
- **Engaged with 50% of world's top semiconductor makers**
- **Licenses with five companies including two JDA**
- **Strong team to commercialize technology**



MST Technology



Potential Benefits

- **Improved Efficiency**
  - Higher transistor performance
  - Lower power consumption
  - Better reliability
- **Lower cost**
  - Reduced die size
  - Improved yield
  - Higher throughput
- **Same benefits as a node shrink**

Target Customers & Partners

Integrated Device Manufacturers

SAMSUNG, Micron, TOSHIBA, intel, Texas Instruments, ST, Infineon, ON, RENESAS, NXP, AsahiKASEI, SK hynix

Foundry

tsmc, GLOBAL FOUNDRIES, UMC, SMIC, HHGrace, DB HiTek, TOWERJAZZ, MagnaChip

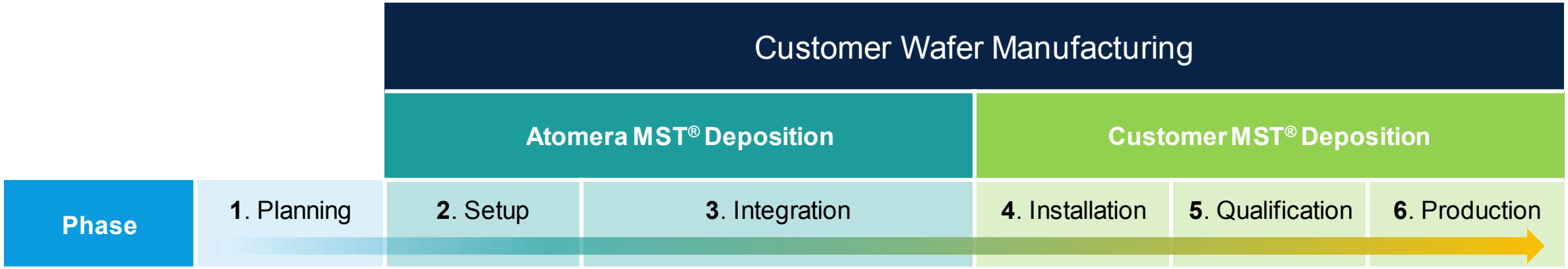
Fabless

BROADCOM, MARVELL, maxim integrated, MICROCHIP, SKYWORKS, QUALCOMM, XILINX, qorvo

Tool Suppliers (Partners)

ASM, APPLIED MATERIALS, KOKUSAI SEMICONDUCTOR EQUIPMENT CORPORATION, SYNOPSYS

Customer Engagement & Revenue Model



Engineering Service Fees

- MST deposition on customer wafers
- Integration consulting

License Fees

- Integration licenses
- Manufacturing licenses
- Distribution licenses

Joint Development Agreements

Royalties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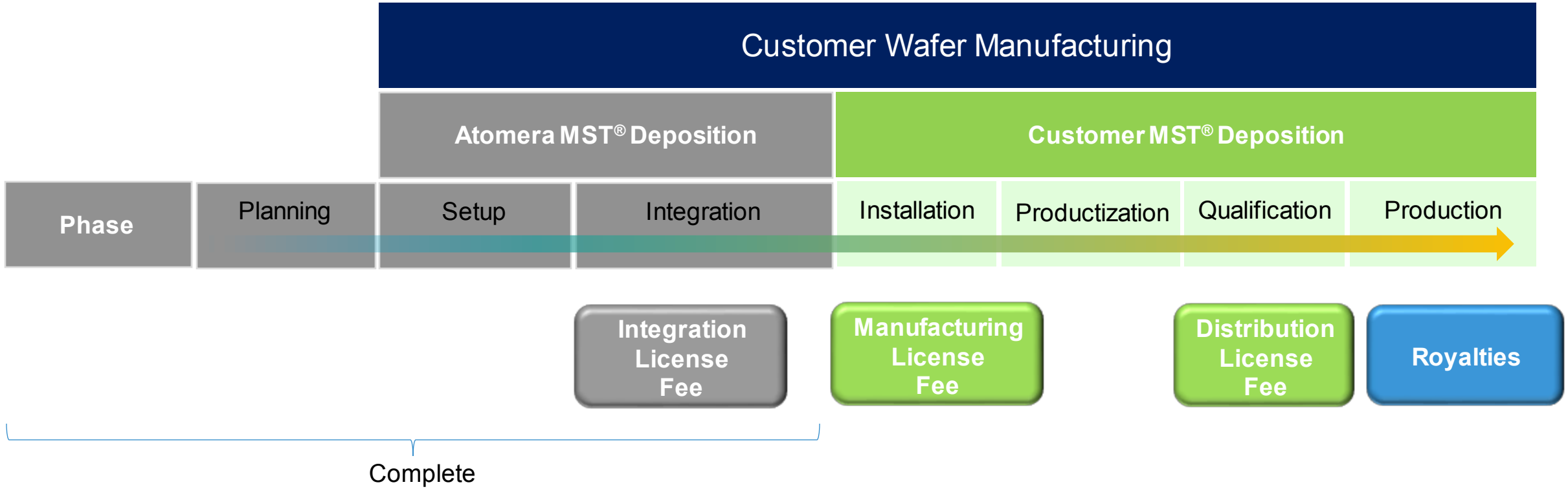
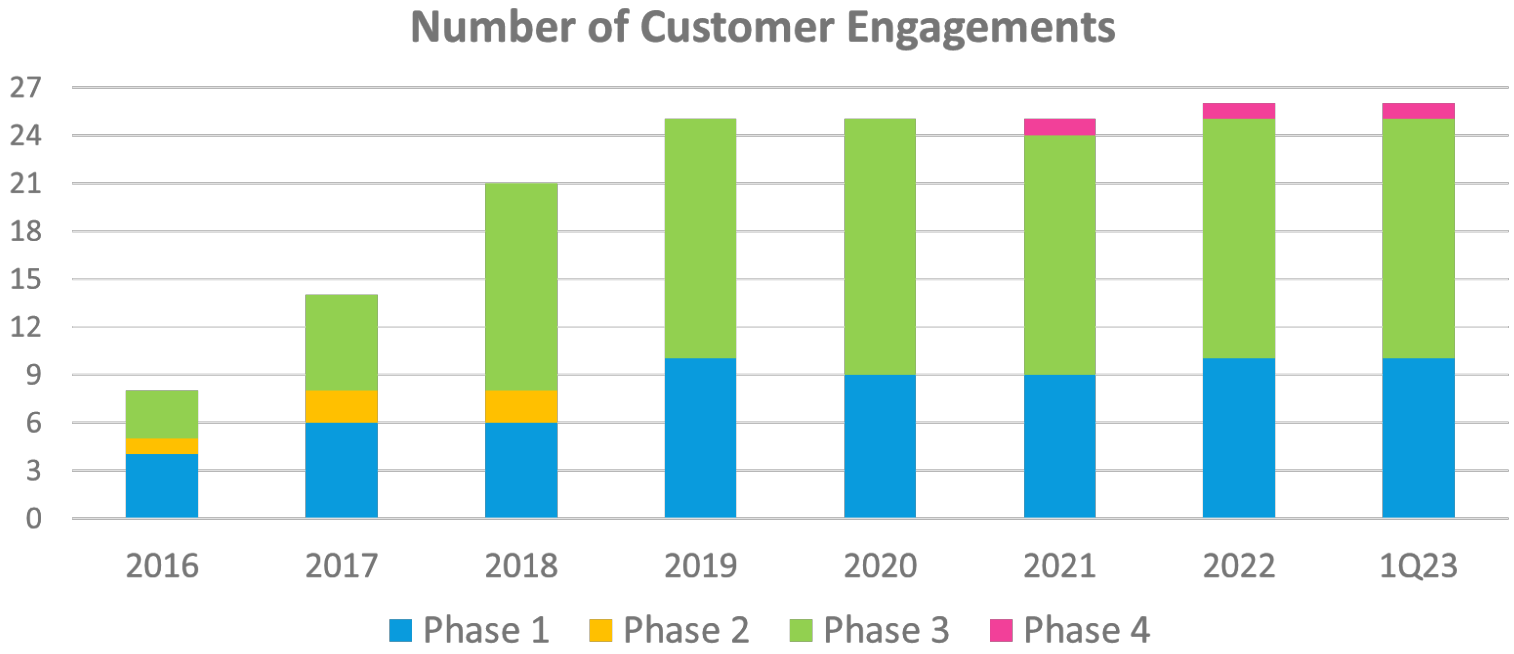
ST Path to Production



Customer Pipeline

		Customer Wafer Manufacturing				
		Atomera MST® Deposition		Customer MST® Deposition		
Phase	**1**. Planning	**2**. Setup	**3**. Integration	**4**. Installation	**5**. Qualification	**6**. Production



- 20 customers, 26 engagements
- Working with 50% of the world's top semiconductor makers*

- 10 of the top 20 (IC Insights, McClean Report 2022)

^ End of year engagement count

MST Key Benefits Across Nodes

	180nm	130nm	90nm	65nm	40nm	28nm	22nm	16/14nm	10nm	7nm	5nm	2nm
Mobility	8%			20%		25%		10%				15+%
Dopant Engineering	20%			15%		15%		15%				20%
Reliability (TDDB/BTI)				25%		25%		25%				25%

These Benefits are ADDITIVE & COMPLEMENTARY to other enhancement technologies

MST technology focus areas

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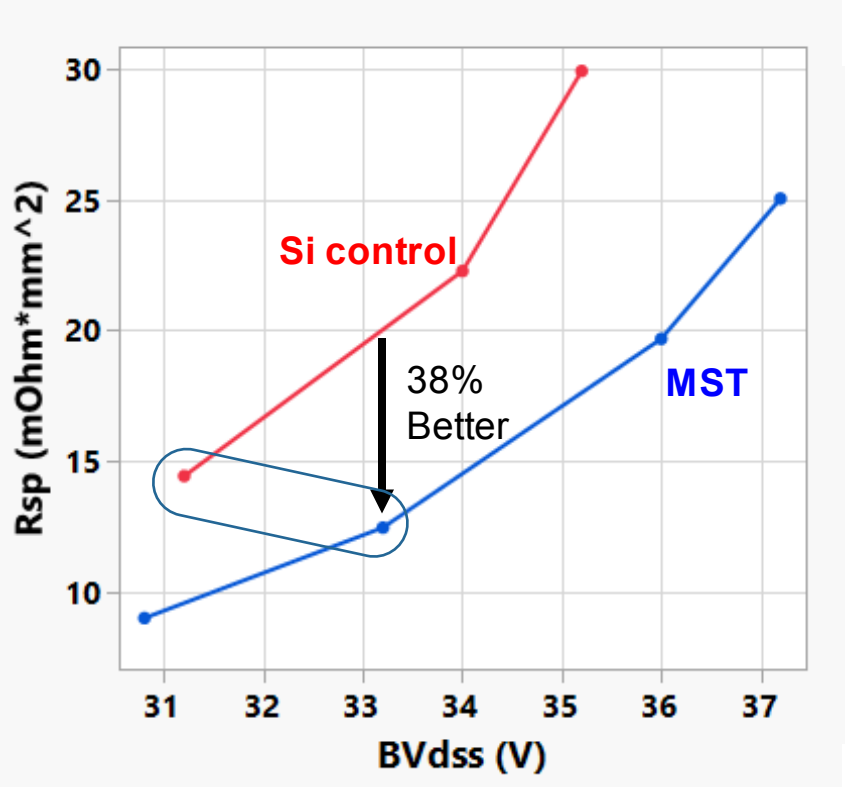
MST-SP

MST for RF-SOI

MST for Advanced Nodes

MST-SPX targeting power devices

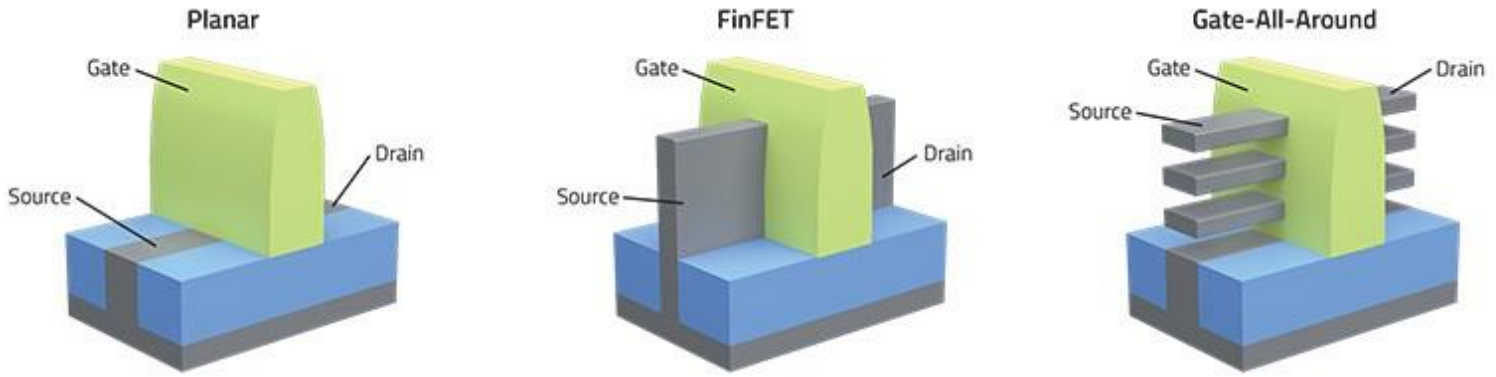
- **Targets higher voltage (5-40V) product area**
- **Strong customer demand for solutions**
- **MST brings significant improvement**
  - Early results showing gains in many areas
  - Allows manufacturers to shrink designs, cut product costs
- **Early stages of customer rollout**



L_{DEVICE} = 1.84um

MST: Solving GAA Transistor Challenges

- **Blocks source/drain dopant diffusion**
- **Provides enhanced punch-through stop layer between source and drain**
- **Lowers contact resistance**
- **Reduces HKMG stack height**
- **Improves carrier mobility, gate leakage**



Transistor Architectural Evolution

Royalty Opportunity

- **~410 wafer fabs operating worldwide**
- **Adoption of MST in one fab can make Atomera profitable from royalties alone**
  - 2023 non-GAAP OPEX guidance is $16.25M - $16.75M

Example 1 | Worldwide Average Fab	
Monthly Fab Capacity[1] *(wafers/month)*	46,240
Industry average wafer ASP - 2018	$1,365
Annual Revenue Potential[2]	**$15.1M**
Annual Revenue at 50% of ramp[2]	$7.6M

Example 2 | Leading Foundry, 28nm Fab	
Monthly Fab Capacity *(wafers/month)*	80,000
Industry average 28nm wafer ASP	$3,300
Annual Revenue Potential[2]	**$63M**
Annual Revenue at 50% of ramp[2]	$31.7M

1. Represents wafers starts per month (200mm equiv) – 227.5M starts in 410 fabs
2. Assumes 2% royalty rate

Source: IC Insights Global Wafer Capacity 2021-2025 report, McClean Report 2021, 2022

MST Customer Business Opportunity

Foundry economics

	Wafer Price	GM%	GM$ Increase	MST Royalty	Wafer Cost	
28nm HP wafer	$ 3,300	45%	$ -	$ -	$ 1,815	
28nm HP+ wafer	$ 3,450	45%	$ 68	$ -		5% higher price for +15% performance boost
28nm HP wafer **with MST**	$ 3,600	47.0%	$ 208	$ 72	$ 1,907	30% performance boost=10% higher price (+ $20 MST cost)
28nm HP wafer **with MST**	$ 3,713	48.6%	$ 318	$ 74	$ 1,909	25% die shrink=12.5% price increase (+ $20 MST cost)

- ***Gross margin increases by $200-$300 per wafer after foundry pays Atomera royalties***

Fabless semiconductor economics

	Chip sales/ wafer	GM%	GM$ Increase	Product ASP	Die/wafer	
28nm HP wafer	$ 9,233	50%	$ -	$ 4.86	2,235	Baseline business for 30mm^2 chip
28nm HP wafer with MST	$ 12,398	59%	$ 3,165	$ 4.86	3,001	Improved financials with 25% size reduction

- ***Sales and profit both increase by over $3000 per wafer for fabless manufacturer***

Everyone in the value chain benefits from MST technology

Financial Review

Income Statement	Three Months Ended		
($ in thousands, except per-share data)	**March 31, 2023**	**December 31, 2022**	**March 31, 2022**
REVENUE	**$ -**	**$ 5**	**$ 375**
Gross Profit	-	5	294
OPERATING EXPENSES			
Research & Development	3,036	2,523	2,339
General and Administration	1,742	1,559	1,648
Selling and Marketing	389	329	325
TOTAL OPERATING EXPENSES	**5,167**	**4,411**	**4,312**
OPERATING LOSS	(5,167)	(4,406)	(4,018)
Other Income (Expense)	148	134	(68)
Provision for income tax	-	-	-
NET LOSS	**$ (5,019)**	**$ (4,272)**	**$ (4,086)**
Net Loss Per Share	$ (0.21)	$ (0.18)	$ (0.18)
Weighted average shares outstanding	23,660	23,538	22,853
ADJUSTED EBITDA (NON-GAAP)	**$ (4,218)**	**$ (3,494)**	**$ (3,272)**
ADJUSTED EBITDA PER SHARE	$ (0.18)	$ (0.15)	$ (0.14)
Balance Sheet Information			
Cash, equivalents & ST investments	**$ 17,052**	**$ 21,184**	**$ 24,451**
Debt	-	-	-

Summary

- High margin, recurring revenue financial model
- Strong technology, patent position, and balance sheet
- Traction with many top industry players and growing licensee base
- Ramping commercial license revenues

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Thank You