

atomera

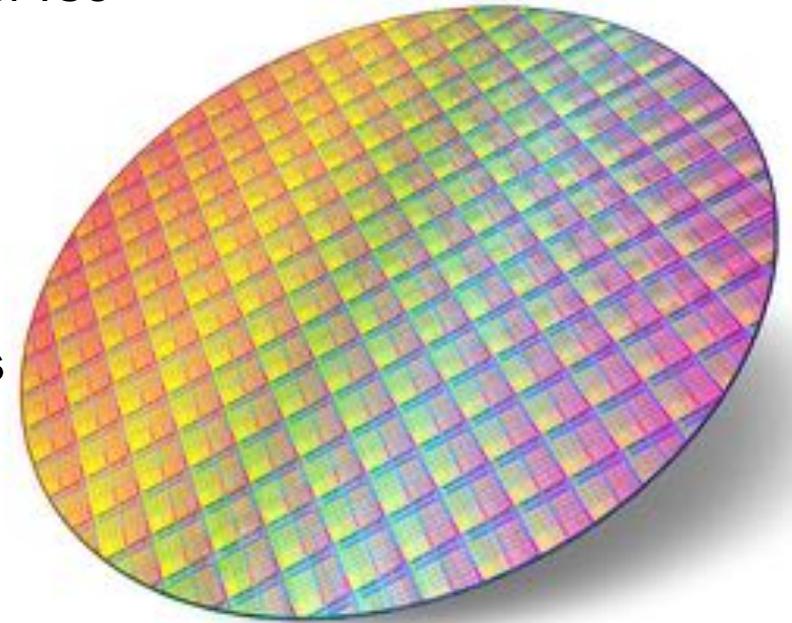
Investor Presentation

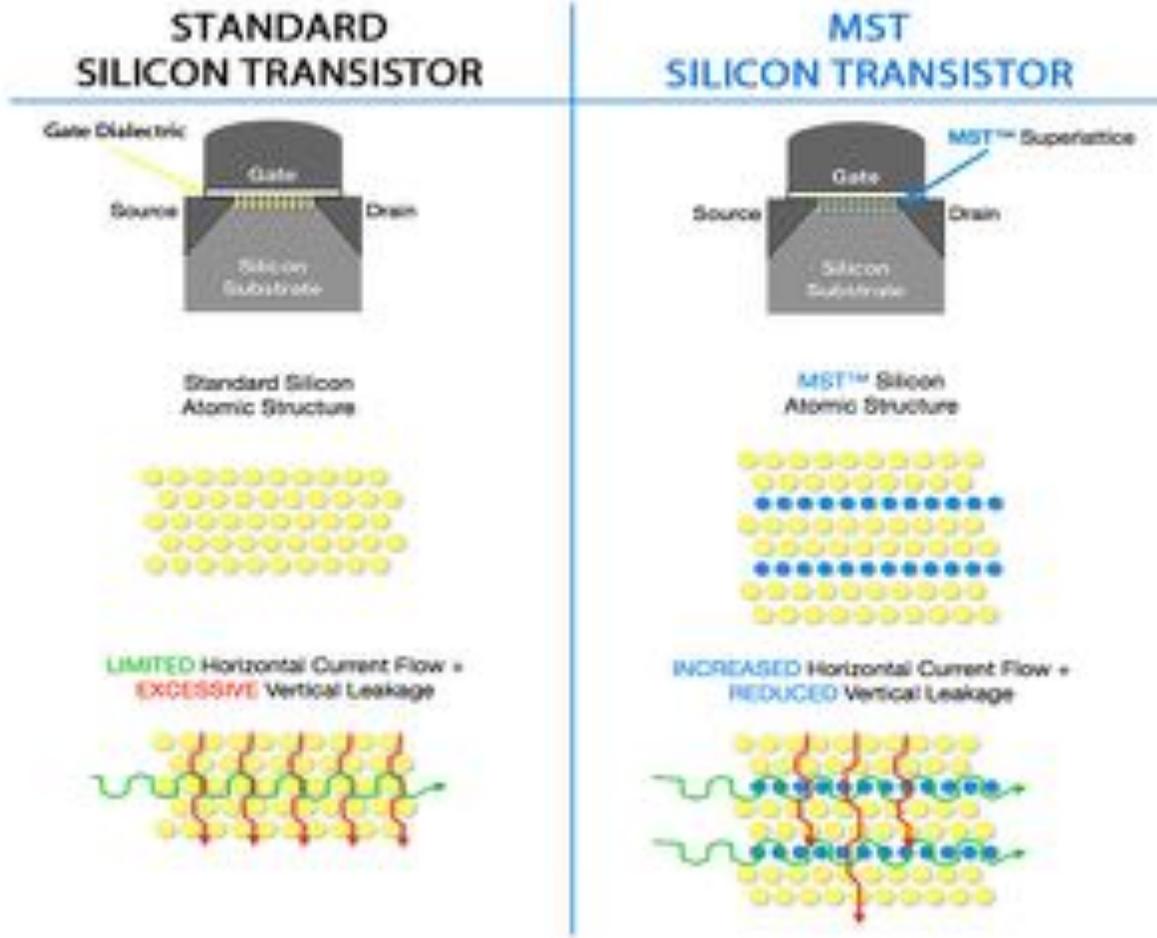
June 2022

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.

- ▶ **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**
 - Robust and growing patent portfolio
- ▶ **Engaged with 50% of world's top semiconductor makers**
- ▶ **Licenses with five companies including two JDAs**
 - Successfully completed 1st JDA's technical objectives
- ▶ **Strong team to commercialize technology**





Potential Benefits

► Improved Efficiency

- Higher transistor performance
- Lower power consumption
- Better reliability

► Lower cost

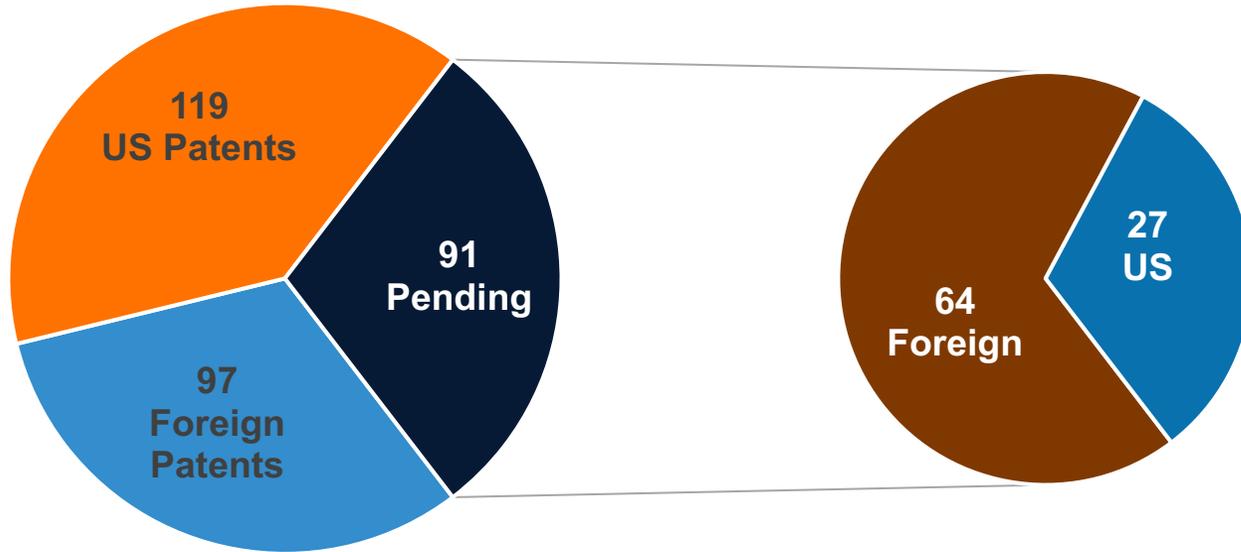
- Reduced die size
- Improved yield
- Higher throughput

► Same benefits as a node shrink

Strong and Defensible IP Portfolio



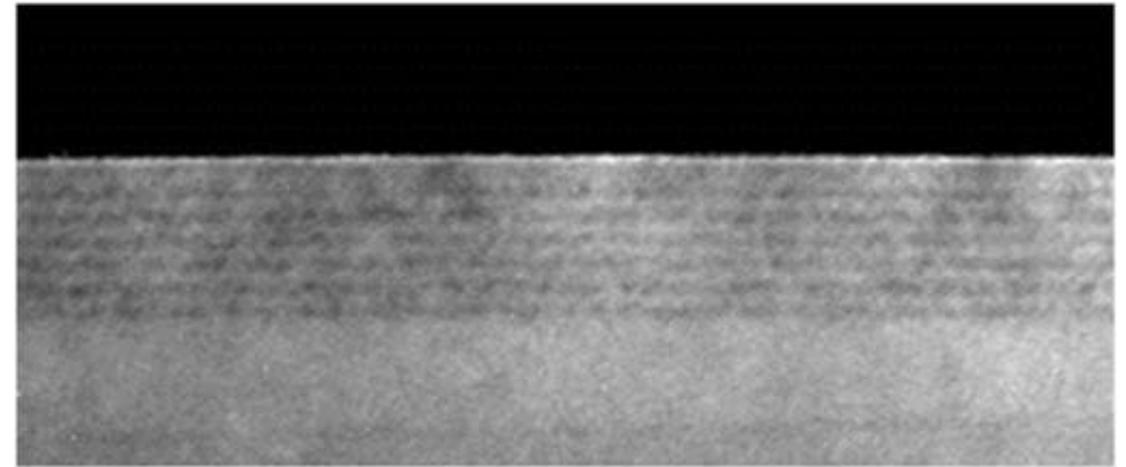
307 Patents Issued and Pending



Core MST Method and Device
MST Enabled Devices/Architecture
Next-Gen Architectures using MST

Discoverable

These distinctive layers are visible on products using MST



Extensive know-how

Extends life and value of patents

Target Customers & Partners



Integrated Device Manufacturers



Foundry



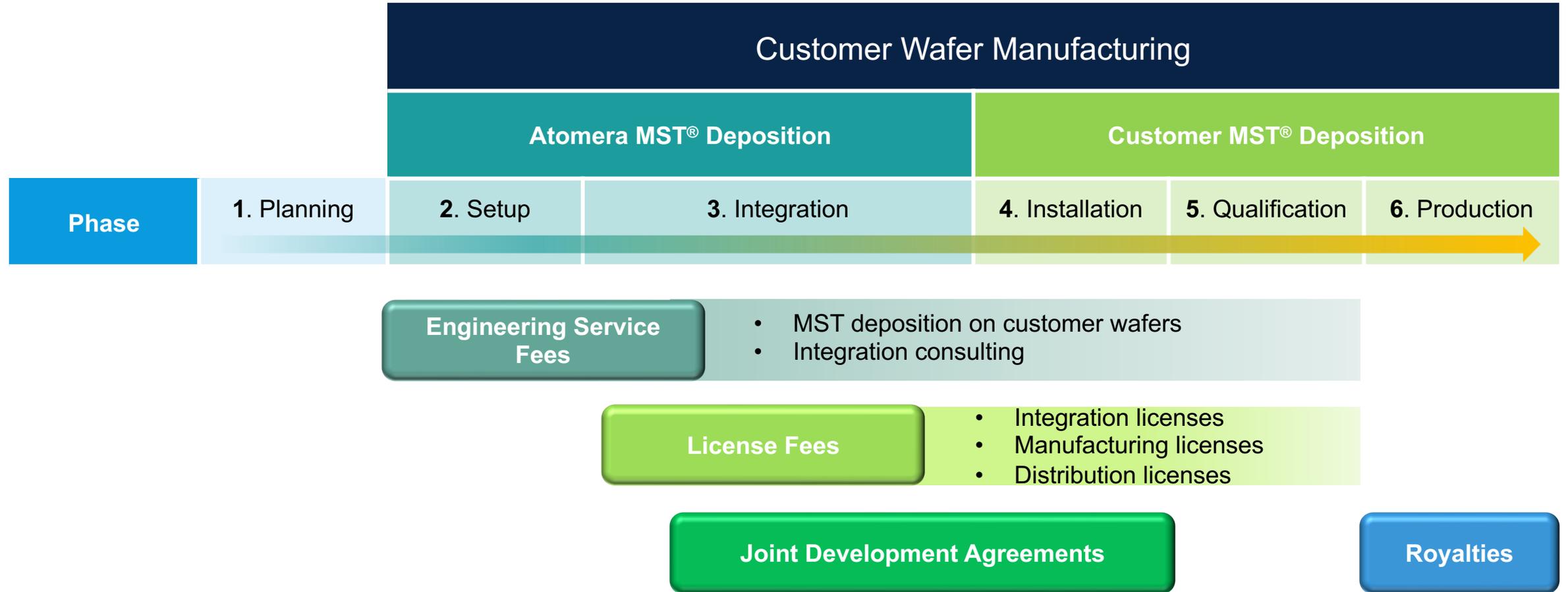
Fabless



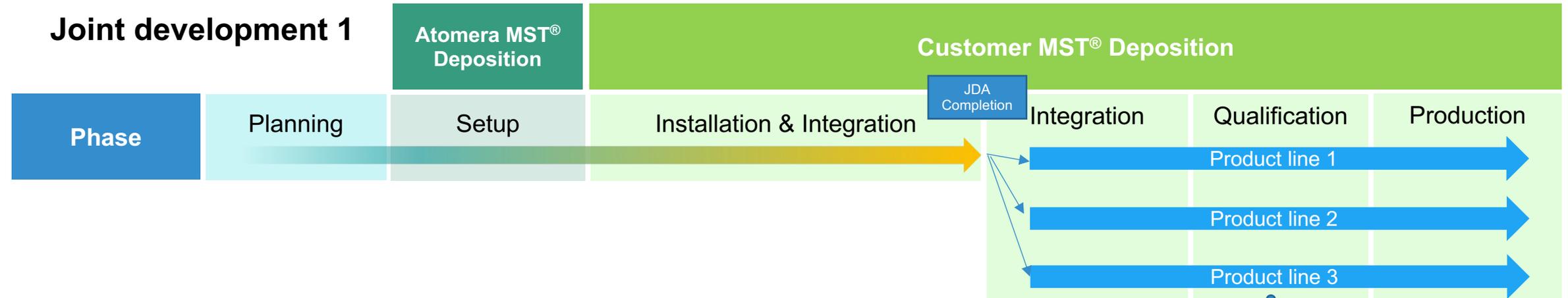
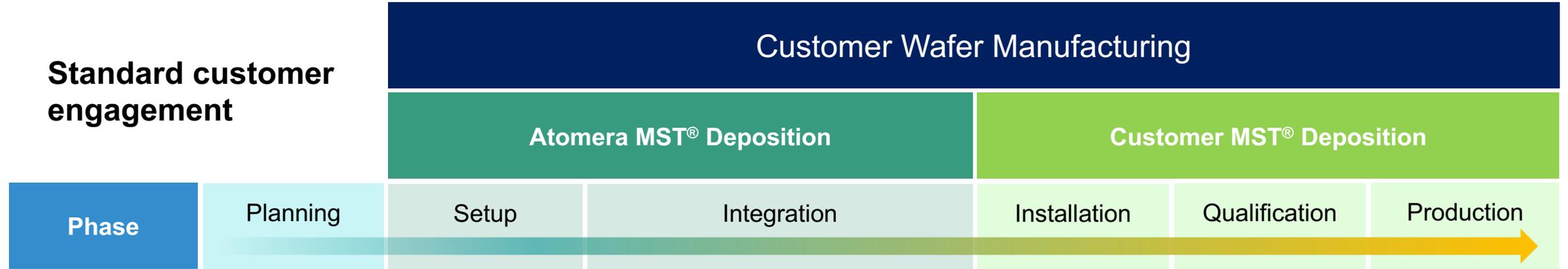
Tool Suppliers (Partners)



Customer Engagement & Revenue Model



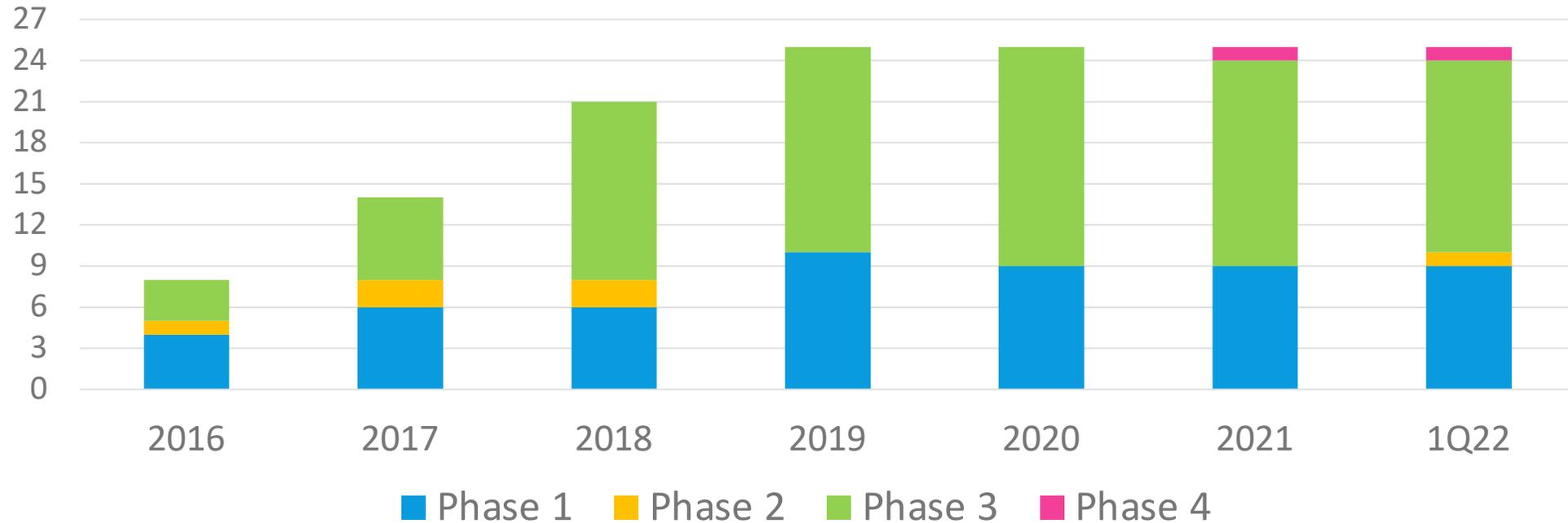
Customer Engagement Model



Customer Pipeline



Number of Customer Engagements

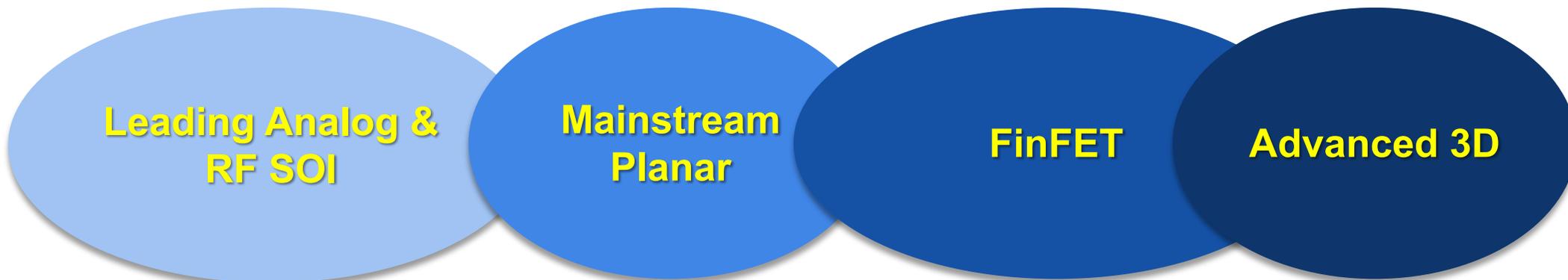


- 19 customers, 25 engagements
- Working with 50% of the world's top semiconductor makers*

• 10 of the top 20 (IC Insights, McClean Report 2021)

^ End of year engagement count, plus CY quarters

MST Key Benefits Across Nodes



Mobility	8%	25%	10%	<5%								
Dopant Engineering MST-SP	20%	15%	15%	20%								
TDDB/BTI (enables overdrive) PNO & HKMG gate stacks		25%	25%	25%								
	180nm	130nm	90nm	65nm	40nm	28nm	22nm	16nm	14nm	10nm	7nm	5nm

These Benefits are ADDITIVE & COMPLEMENTARY to other enhancement technologies



MST technology focus areas



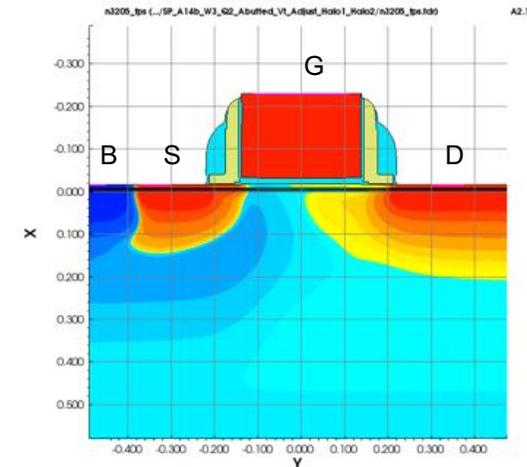
MST-SP

MST for
Advanced
Nodes

MST for
RF-SOI



- ▶ **MST-SP is a highly-engineered asymmetric power device**
 - Uses MST to enhance I_{dlin} and precisely control dopant profiles
- ▶ **Improves 5V power devices**
 - Lower R_{SP}
 - Can be traded for up to 20% smaller area
- ▶ **Targeted for rapidly-growing PMIC market**



5V Transistors – Critical and Growing Market



- ▶ **Targeted at rapidly-growing PMIC (Power Management IC) market**
 - Power devices can be up to 80% of PMIC die area
- ▶ **All ICs need stable, regulated power**
 - Across battery charge level, lifetime degradation, and load
 - Across usage modes – DVS (Dynamic Voltage Scaling), sleep, others
- ▶ **5V transistor required to deliver IC power from any source**
 - Battery-powered, USB, wall connected
- ▶ **5V devices do not scale with Moore’s Law**
- ▶ **MST SP allows significant scaling of gate length, and a performance boost**

THE WALL STREET JOURNAL.

“A typical 5G smartphone can hold as many as eight power-management chips, compared with two to three in a 4G phone, according to Hui He, an analyst at research firm Omdia.”

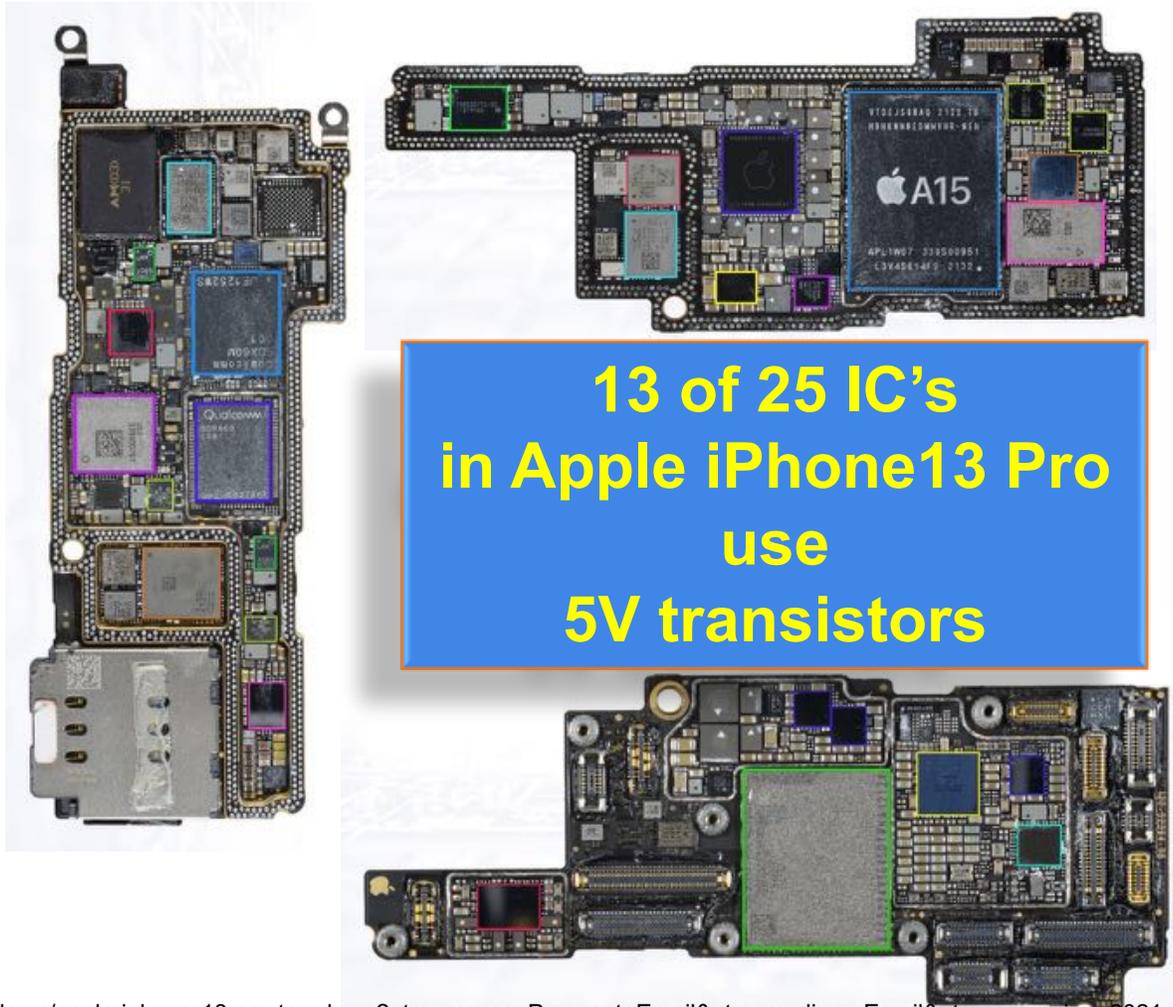
WSJ “Why the Chip Shortage is So Hard to Overcome” 4/20/2021

2018-2025F IC Market Forecast by Device Type (Analog)

Product Category	18	19	19/18 % Chng	20	20/19 % Chng	21F	21/20 % Chng	22F	22/21 % Chng	23F	23/22 % Chng	24F	24/23 % Chng	25F	25/24 % Chng	20-25 CAGR
Power Management (\$M)	14,529	14,050	-3%	14,640	4%	18,153	24%	20,332	12%	22,568	11%	23,019	2%	24,861	8%	11%
Units (M)	69,243	67,227	-3%	68,409	2%	80,788	18%	91,396	13%	102,475	12%	105,580	3%	115,178	9%	11%
ASP (\$)	\$0.21	\$0.21	0%	\$0.21	2%	\$0.22	5%	\$0.22	-1%	\$0.22	-1%	\$0.22	-1%	\$0.22	-1%	0%

Source: IC Insight’s McClean Report, June 2021

Example: Use Of 5V Transistor In Apple iPhone13



- Qualcomm Snapdragon X60 5G Modem
- Qualcomm RF Transceiver
- USI Wi-Fi/BT Wireless Combo Module
- Qualcomm PMX60 PMIC
- STMicroelectronics Secure MCU/eSIM
- Qorvo Envelope Tracker IC (2 pcs, likely)
- Qualcomm Envelope Tracker IC
- Avago Front-End Module
- Broadcom Wireless Charging Receiver IC

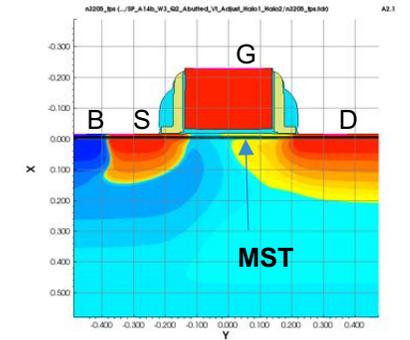
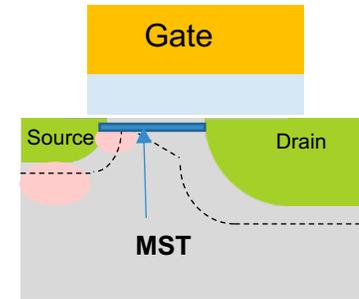
- Apple APL1W07 A15 Bionic PoP (A15 AP + SK hynix 6GB LPDDR4X SDRAM)
- Apple APL1098 PMIC
- NXP Display Port Multiplexer
- Skyworks SKY58271-19 Front-End Module
- Skyworks SKY58270-17 Front-End Module
- Apple/Dialog Semi 338S00770-B0 PMIC
- Apple/Dialog Semi 338S00762-A1 PMIC
- STMicroelectronics STB601A05 PMIC
- USI Apple U1 UWB Module
- Texas Instruments TPS65657B0 Display Power Supply
- KIOXIA 256 GB NAND Flash
- Apple/Cirrus Logic Audio Codec
- NXP SN210 NFC & Secure Element
- Apple/Cirrus Logic Audio Amplifier
- Apple/Cirrus Logic Power Conversion

- iPhone 13 Pro teardown by Tech Insights
- 5V transistor assessment by Atomera

Reference https://www.techinsights.com/blog/teardown/apple-iphone-13-pro-teardown?utm_source=Prospect+Email&utm_medium=Email&utm_campaign=2021+-+Q3+-+Teardown+-+Blog+-+Apple+iPhone+13

5V MST-SP Product – Value Proposition

- ▶ **Industry best performance at 180nm (Rsp)**
 - Based on measured silicon data
 - Scalable to smaller process nodes
- ▶ **Meets all reliability requirements**
 - Breakdown Voltage (BVDSS) > 10.5V
- ▶ **Significant cost savings, performance benefits**
 - Die area reduction up to 20%
- ▶ **Demonstrates the big advantage MST can bring to highly optimized designs**
- ▶ **Complete design package accelerates time to production**



Royalty Opportunity



- ▶ ~410 wafer fabs operating worldwide
- ▶ Adoption of MST in one fab can make Atomera profitable from royalties alone
 - 2022 non-GAAP OPEX guidance is \$15.25M - \$15.75M

Example 1 Worldwide Average Fab	
Monthly Fab Capacity ¹ (wafers/month)	46,240
Industry average wafer ASP - 2018	\$1,365
Annual Revenue Potential²	\$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 Potential²	\$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

(\$ in thousands, except per-share data)

	Three Months Ended		
	March 31, 2022	December 31, 2021	March 31, 2021
REVENUE	\$ 375	\$ -	\$ 400
Gross Profit	294	-	400
OPERATING EXPENSES			
Research & Development	2,339	2,249	2,229
General and Administration	1,648	1,508	1,513
Selling and Marketing	325	316	266
TOTAL OPERATING EXPENSES	4,312	4,073	4,008
OPERATING LOSS	(4,018)	(4,073)	(3,608)
Other Income (Expense)	(68)	(74)	2
Provision for income tax	-	18	14
NET LOSS	\$ (4,086)	\$ (4,165)	\$ (3,620)
Net Loss Per Share	\$ (0.18)	\$ (0.18)	\$ (0.16)
Weighted average shares outstanding	22,853	22,751	22,090
ADJUSTED EBITDA (NON-GAAP)	\$ (3,272)	\$ (3,414)	\$ (2,864)
ADJUSTED EBITDA PER SHARE	\$ (0.14)	\$ (0.15)	\$ (0.13)
Cash	\$ 24,451	\$ 28,699	\$ 36,738
Debt	-	-	-

Balance Sheet Information

Cash	\$ 24,451	\$ 28,699	\$ 36,738
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