

# REVASUM

**10<sup>th</sup> Annual December CEO Summit**

**Rebecca Shooter-Dodd**

President, CEO and Executive Director

8 December 2021

# DISCLAIMER

This presentation has been prepared by Revasum, Inc. (ARBN: 629 268 533) (**Revasum**) and is for information purposes only. Each recipient of this presentation is deemed to have agreed to accept the qualifications, limitations and disclaimers set out below.

The information provided in this document is general and may not be suitable for the specific purposes of any user of this document. It is not financial advice or a recommendation to acquire Revasum securities (ASX: RVS). Revasum believes that the information in this document is correct (although not complete or comprehensive), but none of Revasum or its subsidiaries or their respective directors, officers, employees, advisers or representatives (**Beneficiaries**) make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information contained in this presentation, including any forecast or prospective information. Users of this document should conduct their own independent review, investigations and analysis of Revasum and of the information contained or referred to in this presentation and obtain independent professional advice as to whether an investment in Revasum is appropriate for them, having regard to their personal objectives, risk profile, financial situation and needs, before relying on this document as the basis for any investment decision. Users should also refer to Revasum's financial statements lodged with the ASX for the period to which this document relates.

Future performance - Forward looking statements, opinions and estimates provided in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements including projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. An investment in Revasum securities is subject to investment and other known and unknown risks, some of which are beyond the control of Revasum. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this presentation. To the maximum extent permitted by law, none of Revasum's employees, its directors, employees or agents, nor any other person accepts any liability, including, without limitation, any liability arising out of fault or negligence, for any loss arising from the use of the information contained in this presentation. In particular, no representation or warranty, express or implied is given as to the accuracy, completeness or correctness, likelihood of achievement or reasonableness of any forecasts, prospects or returns contained in this Presentation nor is any obligation assumed to update such information. Such forecasts, prospects or returns are by their nature subject to significant uncertainties and contingencies. Before making an investment decision, you should consider, with or without the assistance of a financial adviser, whether an investment is appropriate in light of your particular investment needs, objectives and financial circumstances.

## **Non-IFRS financial measures**

Revasum uses certain measures to manage and report on its business that are not recognised under Australian Accounting Standards or IFRS. These measures are collectively referred to in this document as 'non-IFRS financial measures' under Regulatory Guide 230 'Disclosing non-IFRS financial information' published by ASIC. Management uses these non-IFRS financial measures to evaluate the performance and profitability of the overall business. The principal non-IFRS financial measures that are referred to in this document is EBITDA. EBITDA is earnings before interest, tax, depreciation and amortisation and significant items. Management uses EBITDA to evaluate the operating performance of the business prior to the impact of significant items, the non-cash impact of depreciation and amortisation and interest and tax charges.

Although Revasum believes that these measures provide useful information about the financial performance of Revasum, they should be considered as supplements to the income statement measures that have been presented in accordance with the Australia Accounting Standards and IFRS and not as a replacement for them.

## Financial Data

All dollar values are in US dollars (US\$) unless otherwise presented.

# REVASUM

## FULLY-AUTOMATED SINGLE-WAFER GRINDING & POLISHING SOLUTIONS FOR SILICON CARBIDE

Revasum **designs and manufactures capital equipment** for substrate conditioning and device manufacturing in the global semiconductor industry with a strategic focus on the **Silicon Carbide (SiC) Market** and wafer sizes  $\leq 200\text{mm}$ . The Company's manufacturing and R&D is based in San Luis Obispo, California, USA.



# REVASUM AT A GLANCE

## COMPANY OVERVIEW

80+

Patents for CMP,  
Grind & Polish

600+

Worldwide Active  
Tool Install Base

100%

R&D and Manufacturing  
In the US

\$15.4M

FY20 Total Revenue

70+

Employees

SiC

Experts in SiC Processing

## STOCK SNAPSHOT\*

ASX:RVS

Stock Ticker

A\$55.6M

Market Capitalization



A\$0.53

Stock Price 1 December '21

## HIGHLIGHTS

\$9.0M

**Total Confirmed  
Sales Order Backlog  
As of December 4, 2021**

\$6.1M

**Q321 Total Revenue  
117% q/o/q Increase**

6EZ

**PO Received for 2 x 6EZs  
First Unit Shipped,  
Installed & Accepted**

\$13.3M- \$15.6M \$25M-\$35M

**Forecast FY21  
Total Revenue**

**Forecast FY22  
Total Revenue  
60% - 125% y/o/y Increase**

# CORPORATE LEADERSHIP

## MANAGEMENT TEAM



**Rebecca Shooter-Dodd**  
President & CEO and  
Executive Director



**Karey Holland**  
CTO



**Bill Kalenian**  
VP of Engineering



**Chris Sloan**  
VP of Worldwide Sales &  
Marketing

## BOARD OF DIRECTORS

**Kevin Landis** | Chairman & Non-Executive Director



**Rebecca Shooter-Dodd** | Executive Director



**Ryan Benton** | Independent Non-Executive Director



**Paul Mirabelle** | Independent Non-Executive Director



# OVERVIEW

## MARKET LEADER FOR SiC SINGLE-WAFER PROCESSING SOLUTIONS

PRODUCT OFFERING OF FULLY-  
AUTOMATED SINGLE-WAFER TOOLSET  
**7AF-HMG SiC GRINDER & 6EZ SiC POLISHER**

**6EZ SiC POLISHER COMMERCIALIZED**  
DURING FY21, THE FIRST TOOL HAS BEEN  
SHIPPED, INSTALLED AND ACCEPTED

**OVER !5 YEARS EXPERIENCE**  
PROCESSING SILICON CARBIDE

**CONTINUED PROCESS DEVELOPMENT**  
ALONGSIDE LEADING MARKET  
PARTICIPANTS

## POSITIONED FOR LONG TERM SUSTAINABLE GROWTH

REVENUE GUIDANCE FOR FY22  
**US\$25M – US\$35M**  
**60%-125% y/o/y increase**

EXPECT TO BE  
**FREE CASH FLOW POSITIVE IN FY22**

GROSS MARGINS CONTINUE TO  
INCREASE WITH **FY21 YTD\* MARGIN**  
**OF 35.4%** (FY20: 31.8%)

BUSINESS STRATEGY TO  
**GROW RECURRING REVENUE**  
**STREAMS**

## EQUIPMENT DEMAND DRIVEN BY HIGH-GROWTH END MARKETS

BATTERY ELECTRIC VEHICLE (BEV)  
**MARKET GROWING EXPONENTIALLY**

**BEV MARKET TO GROW TO 11.8**  
MILLION UNIT SALES BY 2026, A  
**CAGR OF 40%** FROM 2019

**SiC TECHNOLOGY SIGNIFICANTLY**  
**ENHANCES EV PERFORMANCE**

SiC INVERTERS ARE LIGHTER,  
SMALLER AND MORE EFFICIENT,  
WITH AN ESTIMATED  
**5-10% INCREASE IN VEHICLE RANGE**

# Market Update

REVASUM

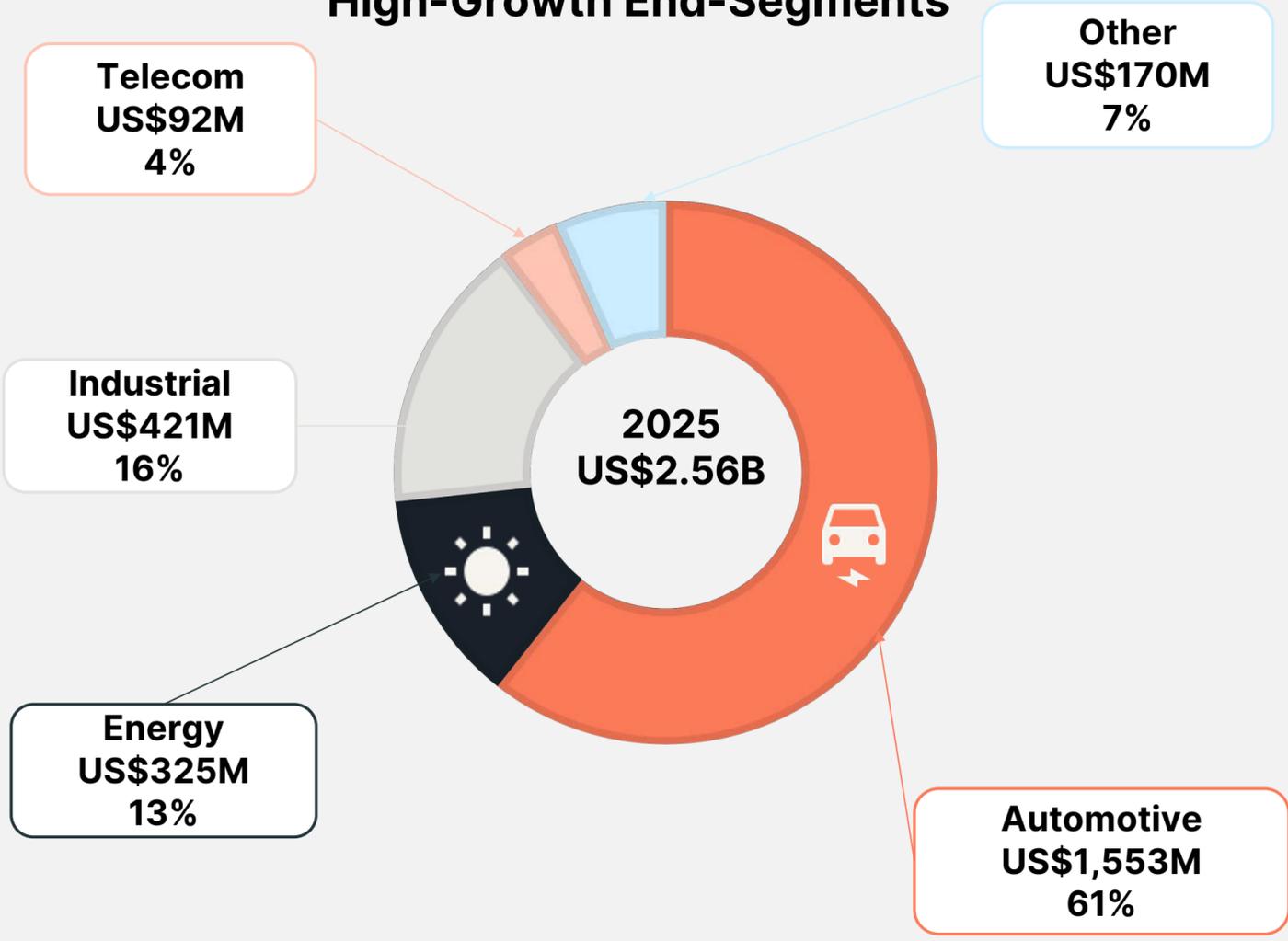
# POWER SiC DEVICE MARKET

For personal use only

### Worldwide SiC Device Market SAM



### Worldwide SiC Device Market by High-Growth End-Segments



# ELECTRIC VEHICLES DRIVING THE DEMAND FOR SiC

## SiC TECHNOLOGY SIGNIFICANTLY ENHANCES EV PERFORMANCE

- SiC-based power semis can drive lower energy losses, reduce heat dissipation and operate at higher temperatures vs Si-based ones.
- SiC products address driver 'Range Anxiety' – fear of an EV battery losing power before the driver reaches their destination or suitable charging point, with SiC delivering an estimated 20% increase in battery range compared to Si.

## FAST-CHARGING TECHNOLOGY – CURING “RANGE ANXIETY”

- Fast-charging stations are powered by SiC
- Worldwide fast charger deployments predicted to be 3.3M units in 2024
- Silicon Carbide will represent a portion of this market share
- SiC content per charger varies based on charger capacity (100kW to 300 kW)

## SiC – THE TECHNOLOGY OF CHOICE FOR CHARGING BOTH ON & OFF THE CAR

- SiC creates lower-cost, energy-efficient fast chargers
- High power conversion capabilities
- Faster switching speeds
- Improved thermal performance
- Reduces the size of battery needed



# DOES SILICON CARBIDE REALLY SAVE ENERGY FOR CARS?

## ENERGY SAVED PER CAR USING SILICON CARBIDE

Equivalent of 5.5 barrels of oil saved per sedan



Owners save over \$233\* of electricity



Lifetime GHG emissions reduced by 690 kg CO<sub>2,eq</sub>, equal to the CO<sub>2</sub> in 77 gallons of gasoline



**In 2030, if 35M BEVs use Silicon Carbide, the lifetime savings for that 1 model year would be:**

Equivalent of **192M** barrels of oil

**\$8.2B** of electricity

Lifetime GHG emissions equivalent to **2.7B** gallons of gasoline

\*Assumes US average residential electricity price: \$0.1371/kWh

**SOURCE: WOLFSPEED INVESTOR DAY 2021 PRESENTATION**

[https://assets.wolfspeed.com/uploads/2021/11/wolfspeed\\_investor\\_day\\_2021\\_presentation.pdf](https://assets.wolfspeed.com/uploads/2021/11/wolfspeed_investor_day_2021_presentation.pdf)

Wolfspeed recently conducted a study on the energy saved per car using SiC MOSFET as opposed to traditional Si IGBT.

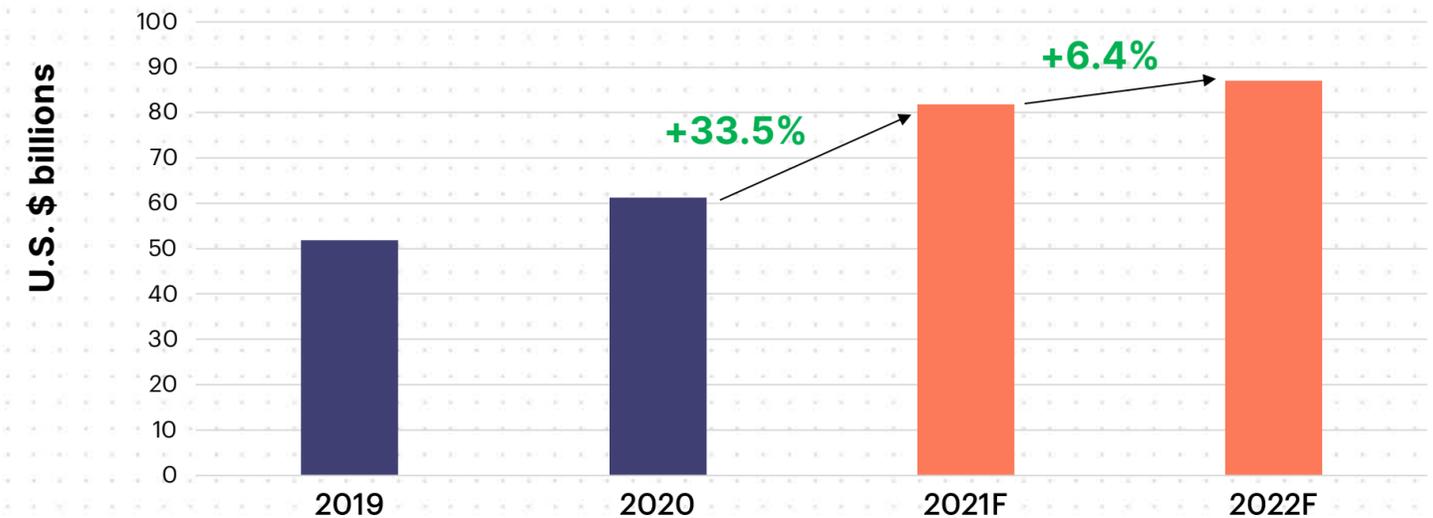
They accounted for all energy required to manufacture SiC MOSFETs.

**The savings from both a financial and environmental perspective are compelling.**

# EQUIPMENT INDUSTRY DYNAMICS

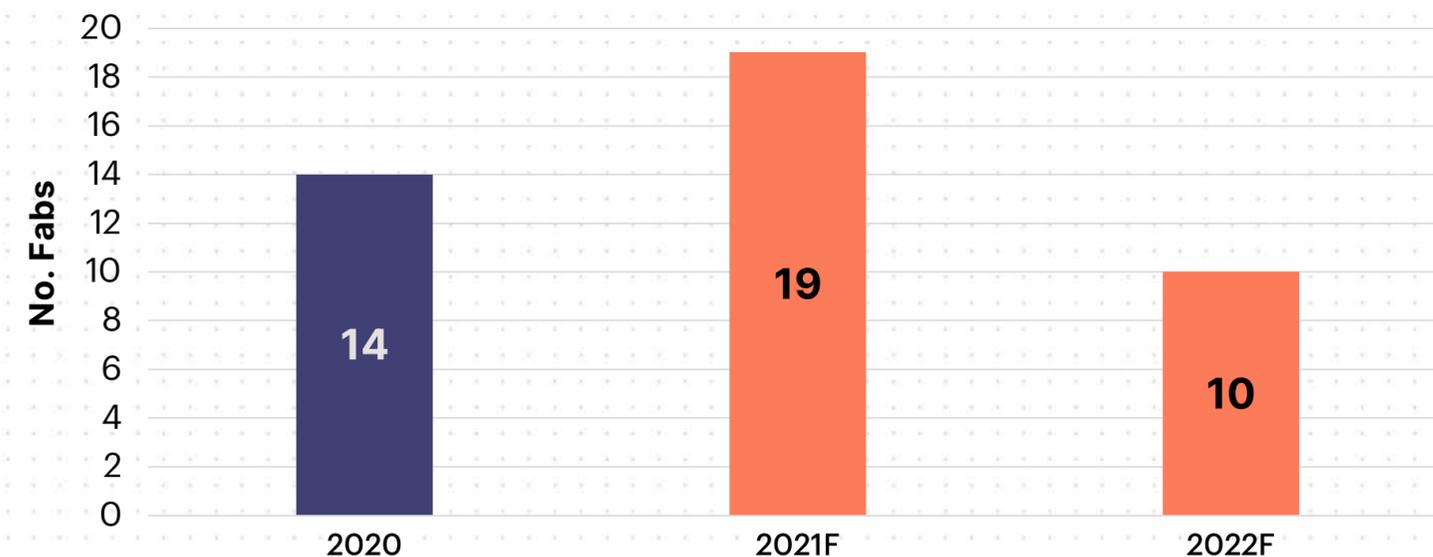
- Wafer fab semiconductor manufacturing equipment market is projected to increase by 33.5% in 2021.
- Resulting in a **new record spending on semiconductor manufacturing equipment** of US\$81.7 billion.
- Growth momentum will continue as data-driven **digital transformation propels the industry** investment to surpass US\$85 billion in 2022.
- 14 new fabs globally commenced construction in 2020, with a further 19 planned in 2021 and 10 in 2022. These fabs must be filled with new equipment.
- Global chip shortage remains a critical issue, with semiconductor supply chain constraints influencing geopolitical activity thereby increasing demand for equipment.
- In early 2021, President Biden announced plans to invest **US\$52 billion in semiconductor manufacturing and research** as part of his drive to rebuild US manufacturing under a US\$2 trillion infrastructure plan.

### Wafer Fab Equipment\* Market



\*WPE +M/R + Fab Facilities  
SEMI 2021 Mid-Year Equipment Forecast

### New Fabs Starting Construction

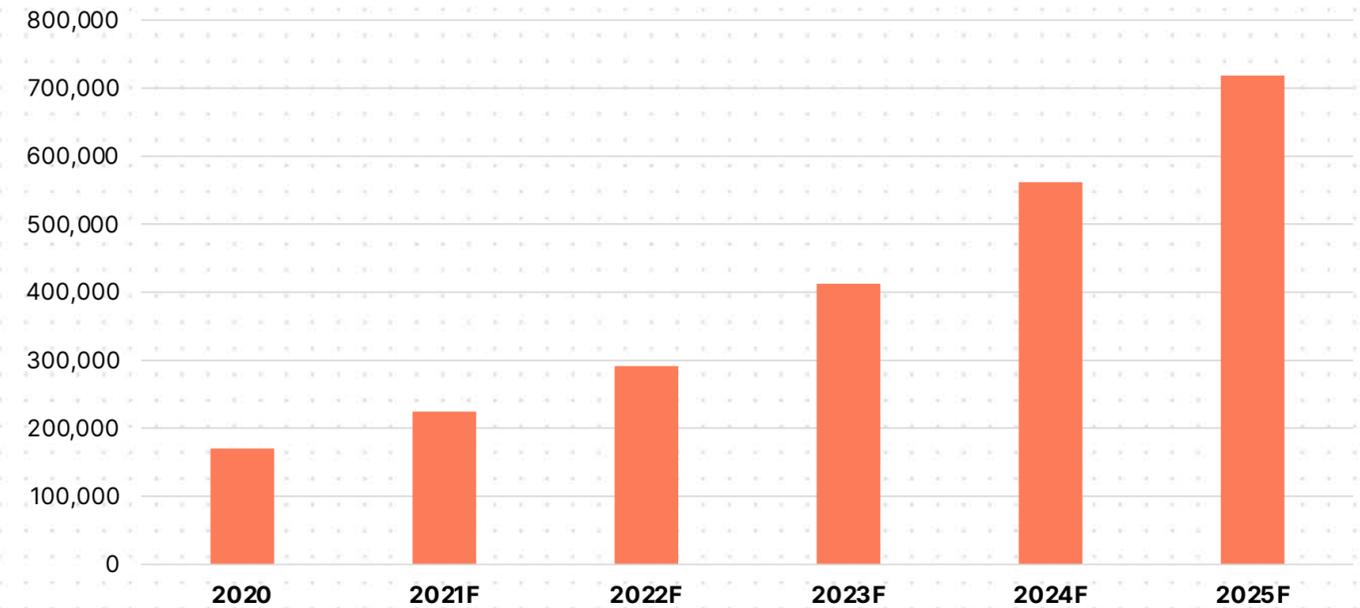


SEMI World Fab Forecast Q221 Update

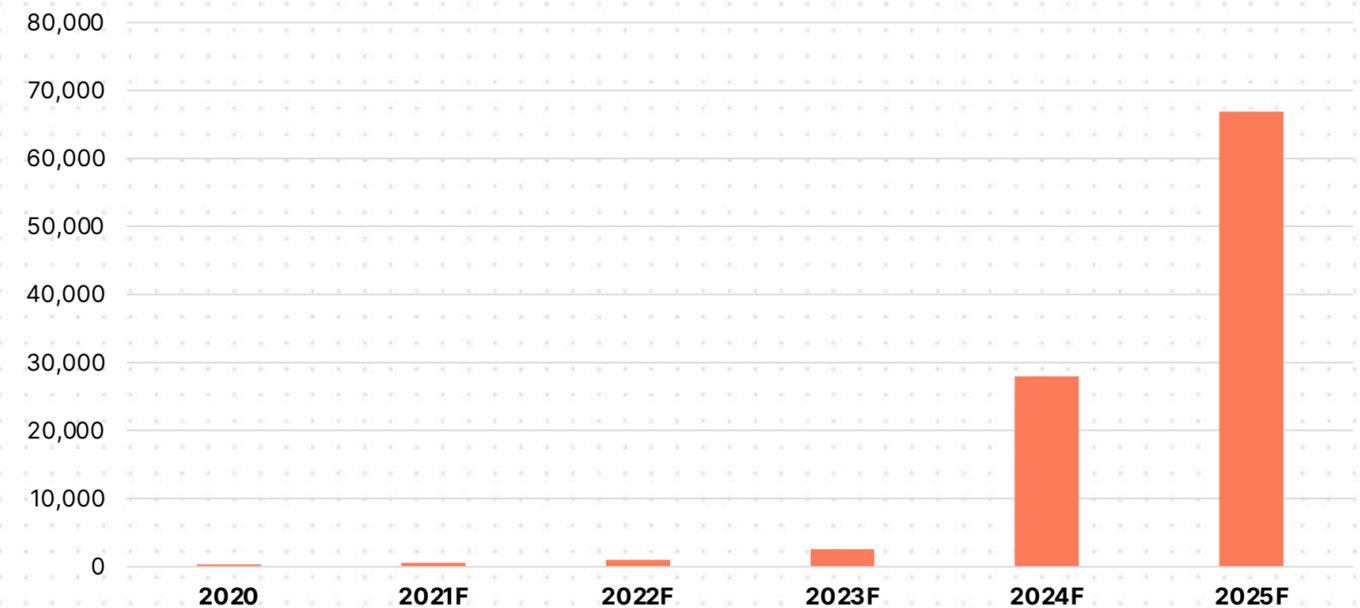
# GROWING SiC WAFER VOLUME DRIVING DEMAND

- Increased SiC wafer volume directly drives demand for SiC Wafer Fab Equipment
- Most industry participants have made the move to 6-inch SiC wafers with the volume growing rapidly, with a CAGR of 33% between 2020 and forecast for 2025
- We are seeing some industry participants, including Cree and ST Microelectronics, start to make the move to 8-inch SiC wafers
- A **CAGR of 183%** is anticipated in **8-inch wafer volume** between 2020 and forecast for 2025
- The move to 8-inch wafers is necessary to reduce the overall cost of SiC wafers
- Both the **Revasum 7AF-HMG Grinder** and the **6EZ Polisher** are **configurable for 6-inch and 8-inch SiC wafers**, with customers able to easily switch between the two configurations

6 Inch N-Type SiC Wafer Size Volume for Power SiC Applications



8 Inch N-Type SiC Wafer Size Volume for Power SiC Applications



Source: YOLE Power SiC Market & Technology Report 2020

# SiC INDUSTRY ANNOUNCEMENTS



**Durham, N.C. and Geneva,** — Cree, Inc. (Nasdaq: CREE) and STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, announced today the expansion and extension of an existing multi-year, long-term silicon carbide wafer supply agreement to more than \$500 million. The extended agreement is a doubling in value of the original agreement for the supply of Cree's advanced 150mm silicon carbide bare and epitaxial wafers to STMicroelectronics over the next several years. The increased wafer supply enables the semiconductor leaders to address the rapidly growing demand for silicon carbide power devices globally, particularly in automotive and industrial applications.

<https://www.wolfspeed.com/company/news-events/news/cree-and-stmicroelectronics-expand-and-extend-existing-silicon-carbide-wafer-supply-agreement>



**PHOENIX, AZ and HUDSON, NH – August 25, 2021 – onsemi** (Nasdaq: ON), a leading supplier of intelligent power and sensing technologies, and GT Advanced Technologies ("GTAT"), a producer of silicon carbide (SiC), today announced that they have entered into a definitive agreement under which **onsemi** will acquire GTAT for \$415 million in cash.

Transaction accelerates **onsemi's** mission to push innovation to create intelligent power and sensing technologies and build a sustainable future

Expands **onsemi's** silicon carbide capabilities & assures customer supply to meet the rapid ramp-up of the sustainable ecosystem, including electric vehicles (EVs), EV charging and energy infrastructure

Reinforces **onsemi's** commitment to make substantial investments in disruptive, high-growth technologies

<https://www.onsemi.com/company/news-media/press-announcements/en/onsemi-to-acquire-gt-advanced-technologies>



AUBURN, Mich., July 14, 2021 /PRNewswire/ -- **SK Siltron CSS**, a semiconductor wafer manufacturer, today announced plans to invest \$300 million and create up to 150 high-paying, skilled jobs in Bay County, Mich., over the next three years to provide manufacturing and R&D capabilities of advanced materials for electric vehicles. The expansion will more than double the company's Michigan employee base and add a new site in Bay City, Mich., to join its existing site in nearby Auburn, Mich.

SK Siltron CSS manufactures a specialty wafer made of silicon carbide (SiC) that can be used in the semiconductor power components of electric vehicles. SiC wafers are more efficient at handling high powers and conducting heat than normal silicon. When used in EV system components, this characteristic can allow a more efficient transfer of electricity from the battery to the motor, increasing the driving range of an EV by 5% to 10%.

<https://www.prnewswire.com/news-releases/sk-siltron-css-announces-300-million-michigan-expansion-to-support-electric-vehicle-growth-301333677.html>



Munich, Germany – 6 May 2021 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) has concluded a supply contract with the Japanese wafer manufacturer Showa Denko K.K. for an extensive range of silicon carbide material (SiC) including epitaxy. The German semiconductor manufacturer has thus secured more base material for the growing demand for SiC-based products. SiC enables highly efficient and robust power semiconductors that are used in particular in the fields of photovoltaic, industrial power supply, and charging infrastructure for electric vehicles.

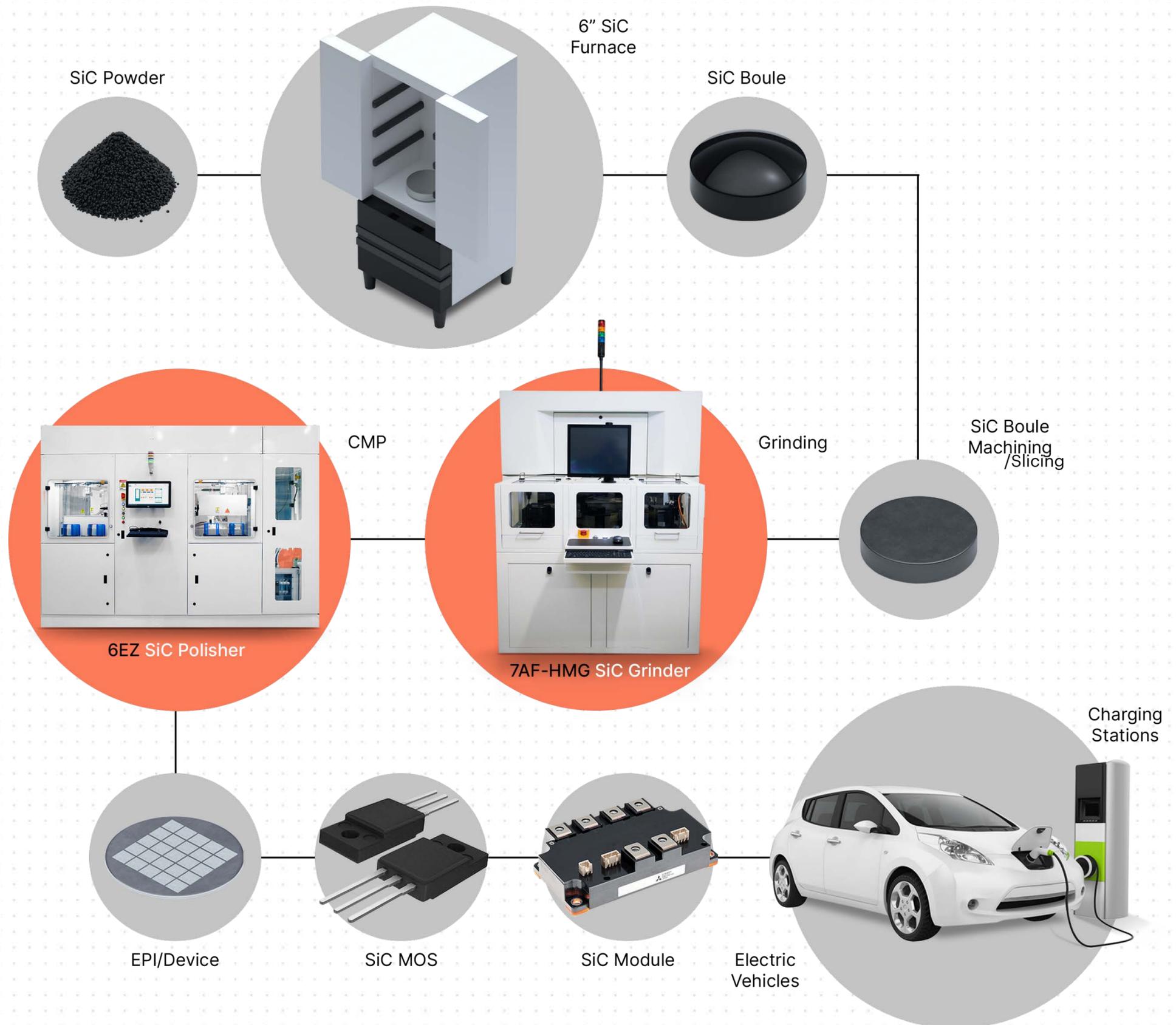
The contract between Infineon and Showa Denko K.K. has a two-year term with an extension option. Infineon has the industry's largest portfolio of SiC semiconductors for industrial applications.

<https://www.infineon.com/cms/en/about-infineon/press/press-releases/2021/INFXX202105-068.html>

# Market Leading Technology

REVASUM

# Silicon Carbide (SiC) Manufacturing Process



# REVASUM'S FULLY-AUTOMATED SINGLE-WAFER SiC TOOLSET

For personal use only



# 6EZ POLISHER EFFECT ON WAFER DEFECTIVITY

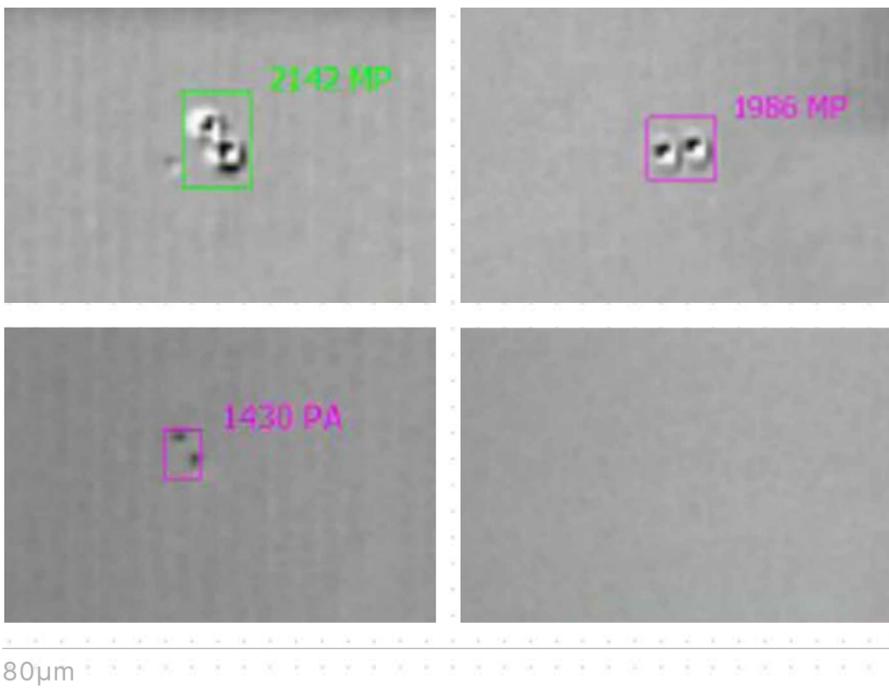
For personal use only

### Macropipe Surface Features

Majority of Micropipe surface features removed (~80%)

Before 

After 

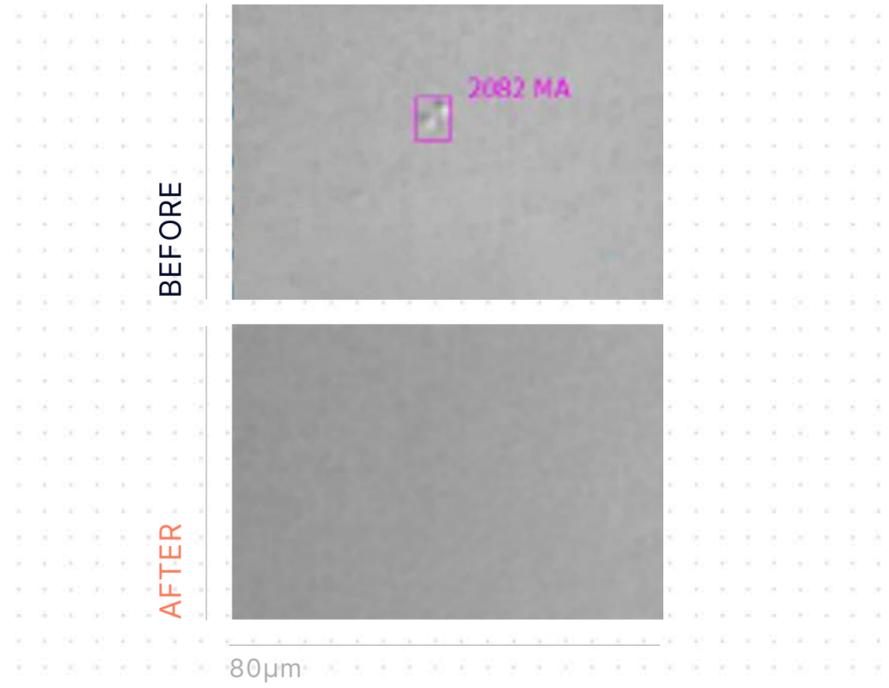


### Macropit Surface Features

Macropits reduced ~98%, & bumps and scratches eliminated

Before 

After 

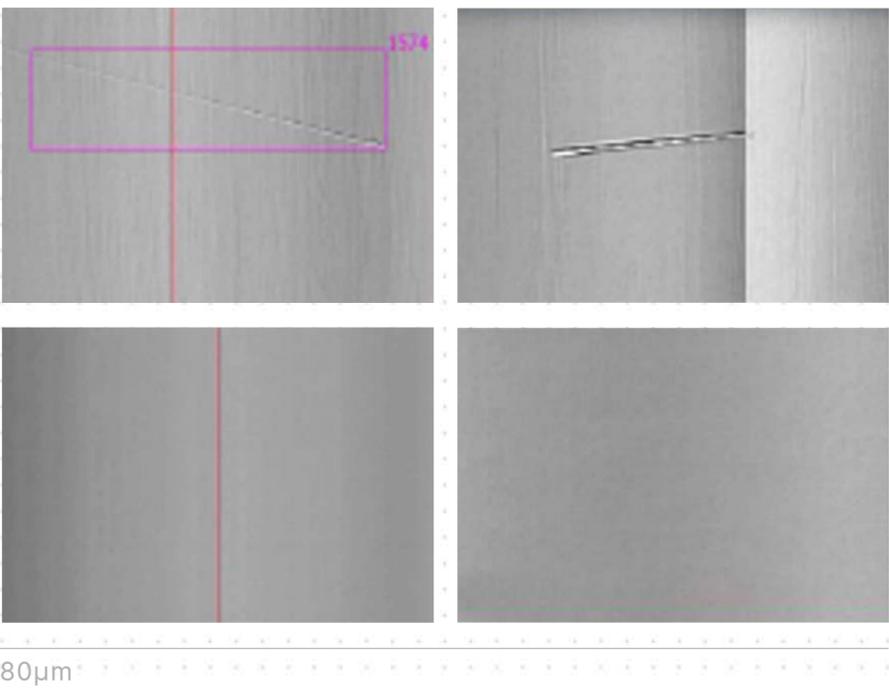


### Scratch Removal

Visible evidence of carrot and triangle defects eliminated

Before 

After 



# 6EZ SiC POLISHER – DELIVERING UNPARALLELED REPEATABILITY

For personal use only



## Summary: 12 Wafer double-side polish

C-Face Removal Rate:

13.0 µm/hr

Si-Face Removal Rate:

7.1 µm/hr

WTWNU% (C-Face):

1.4%

WTWNU% (Si-Face):

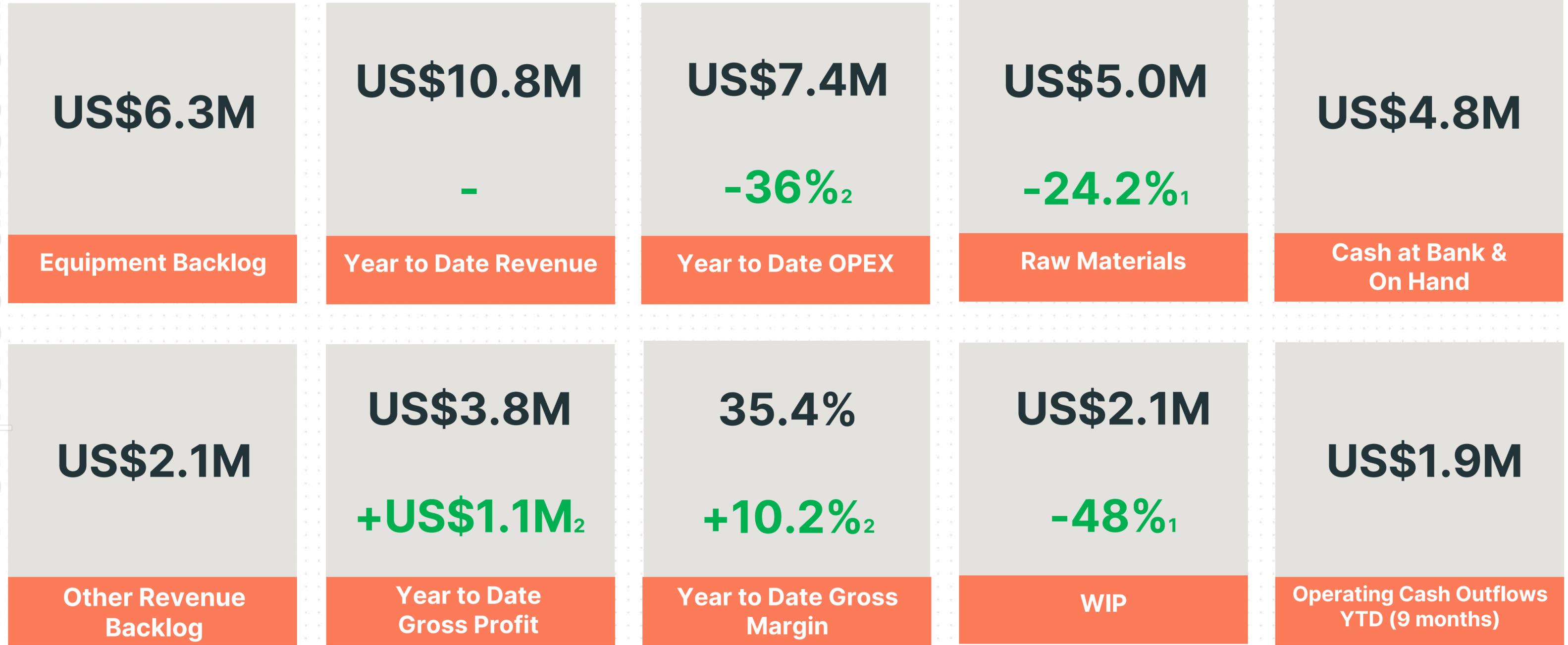
1.5%

# Financial Highlights

REVASUM

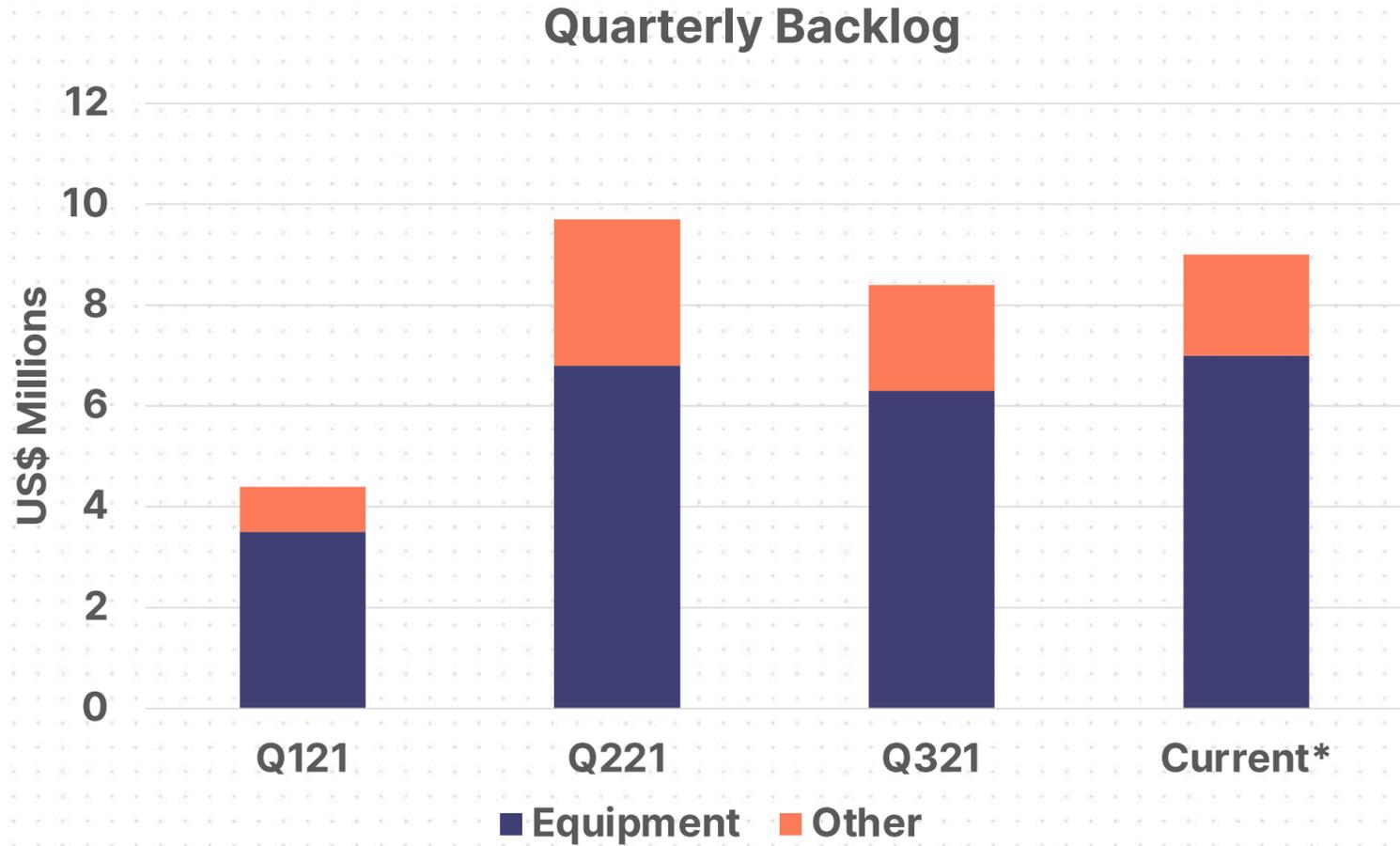
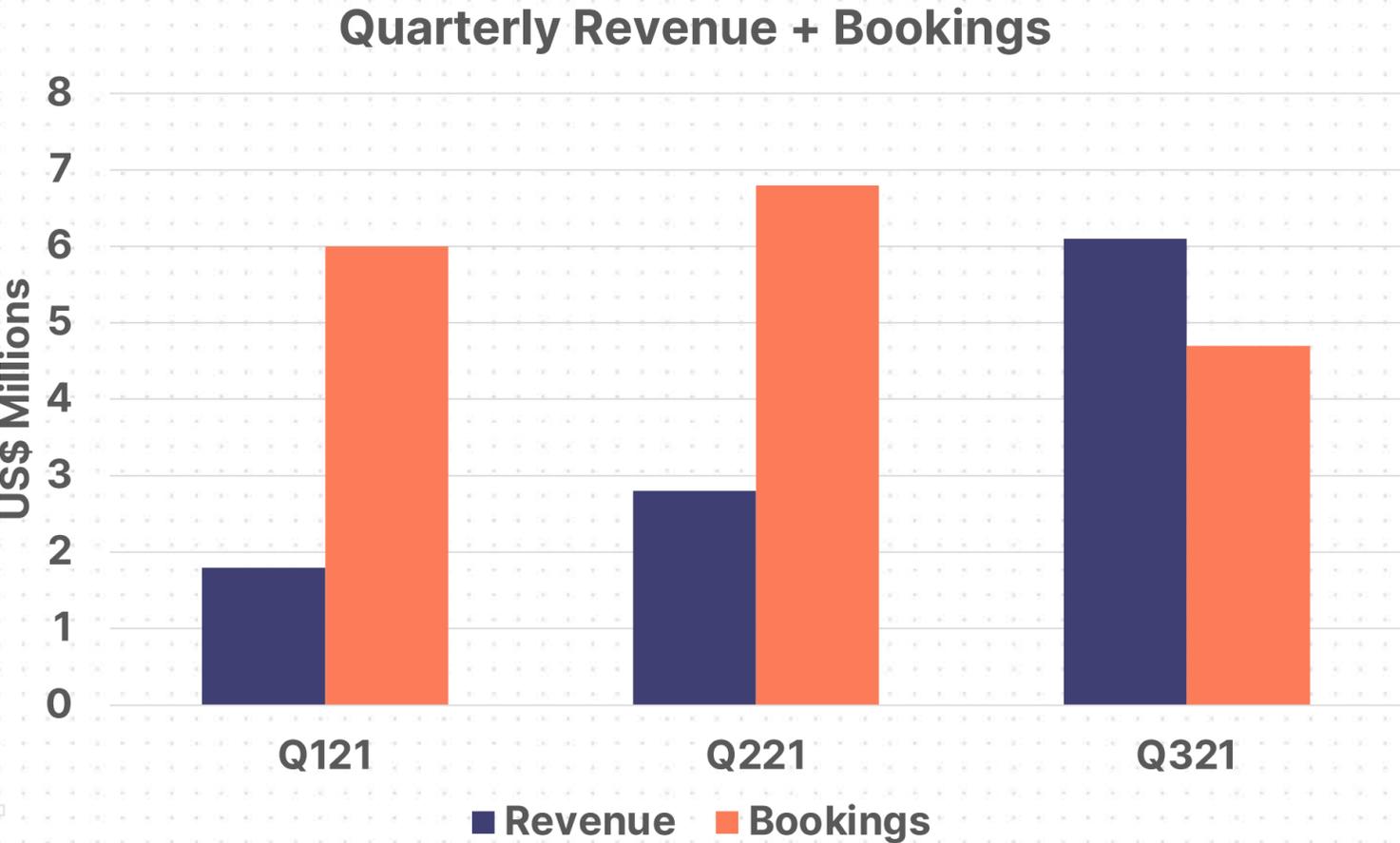
# KEY FINANCIAL METRICS – Q321 YTD

For personal use only



# GROWING REVENUE, BOOKINGS & BACKLOG

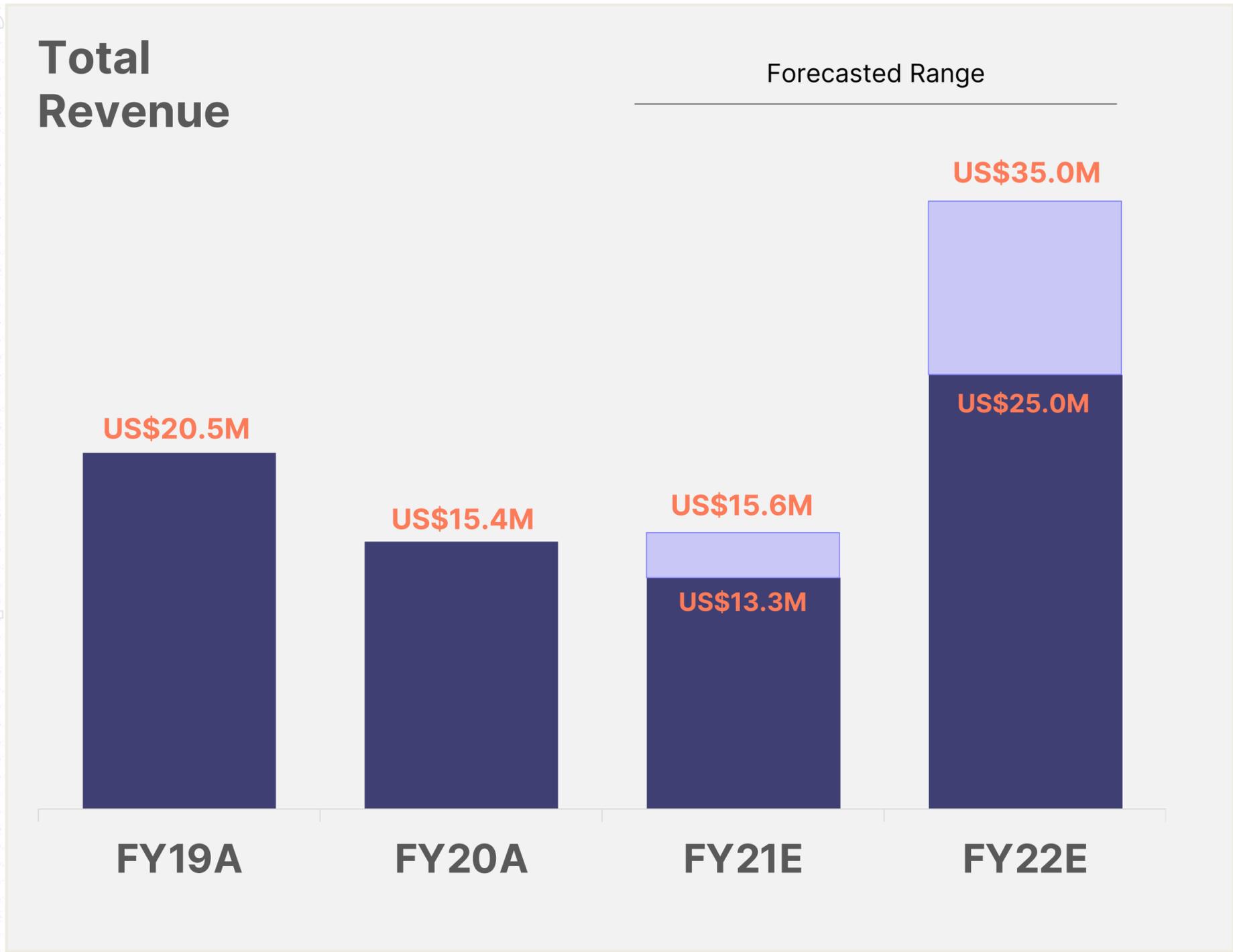
For personal use only



- Consistent revenue growth through FY2021, with 117% q/o/q increase seen in Q321
- Heading into FY22 with a solid backlog for both equipment and other revenue
- Confirmed customer purchase orders for 8 pieces of equipment as of December 4<sup>th</sup>, 2021 – including orders for the 6DZ Si Polisher, 7AF-HMG SiC Grinder and 6EZ SiC Polisher
- Strong bookings and backlog reflective of increased customer demand and the fast-growing SiC market

# FORECASTING SIGNIFICANT REVENUE GROWTH IN FY22

For personal use only



Forecasted Total Revenue of **US\$13.3M – US\$15.6M for FY21**

Forecasted Total Revenue of **US\$25.0M – US\$35.0M for FY22**

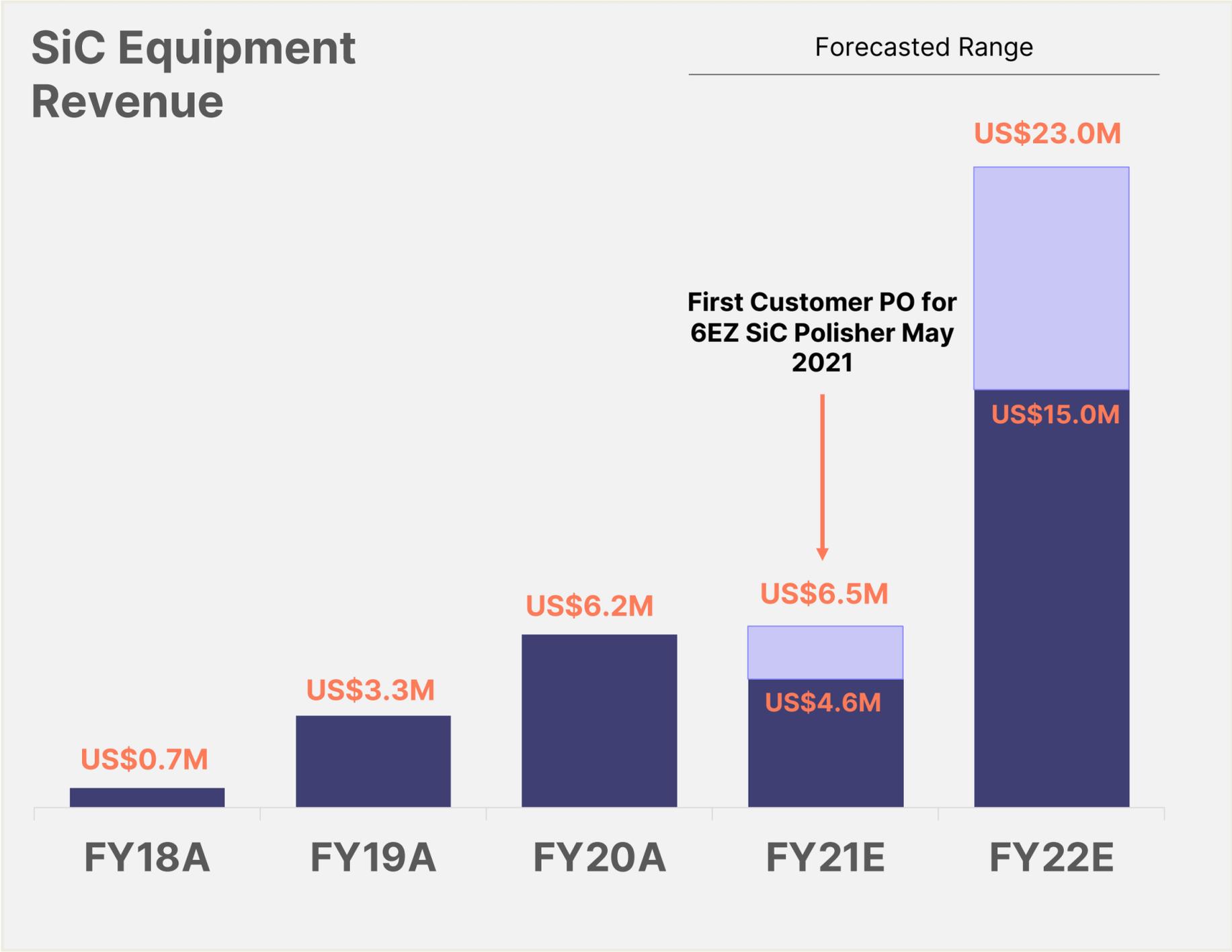
**60%-125% y/o/y Increase**  
In Total Revenue from FY21 – FY22

**Confirmed Customer Purchase Orders**  
of **US\$9.0M** as of December 4, 2021

Over FY22 and FY23 we anticipate **shipping 40 - 50 tools** based on forecasted customer demand, across all product lines.

# RAPID SiC EQUIPMENT REVENUE GROWTH

For personal use only



Company focus has shifted from sales of Legacy Silicon equipment to our **Silicon Carbide (SiC) Toolset**.

The **first purchase order for two 6EZ SiC Polishers was received in May of 2021**, with the first tool shipped in July. The tool is now fully installed at our customers facility and has successfully gone through process acceptance.

Revasum has **partnered with leading contract manufacturer Owens Design** based in Fremont, CA to ensure we can meet demand over the coming years.

# LEVERAGING OUR EXISTING INSTALL BASE

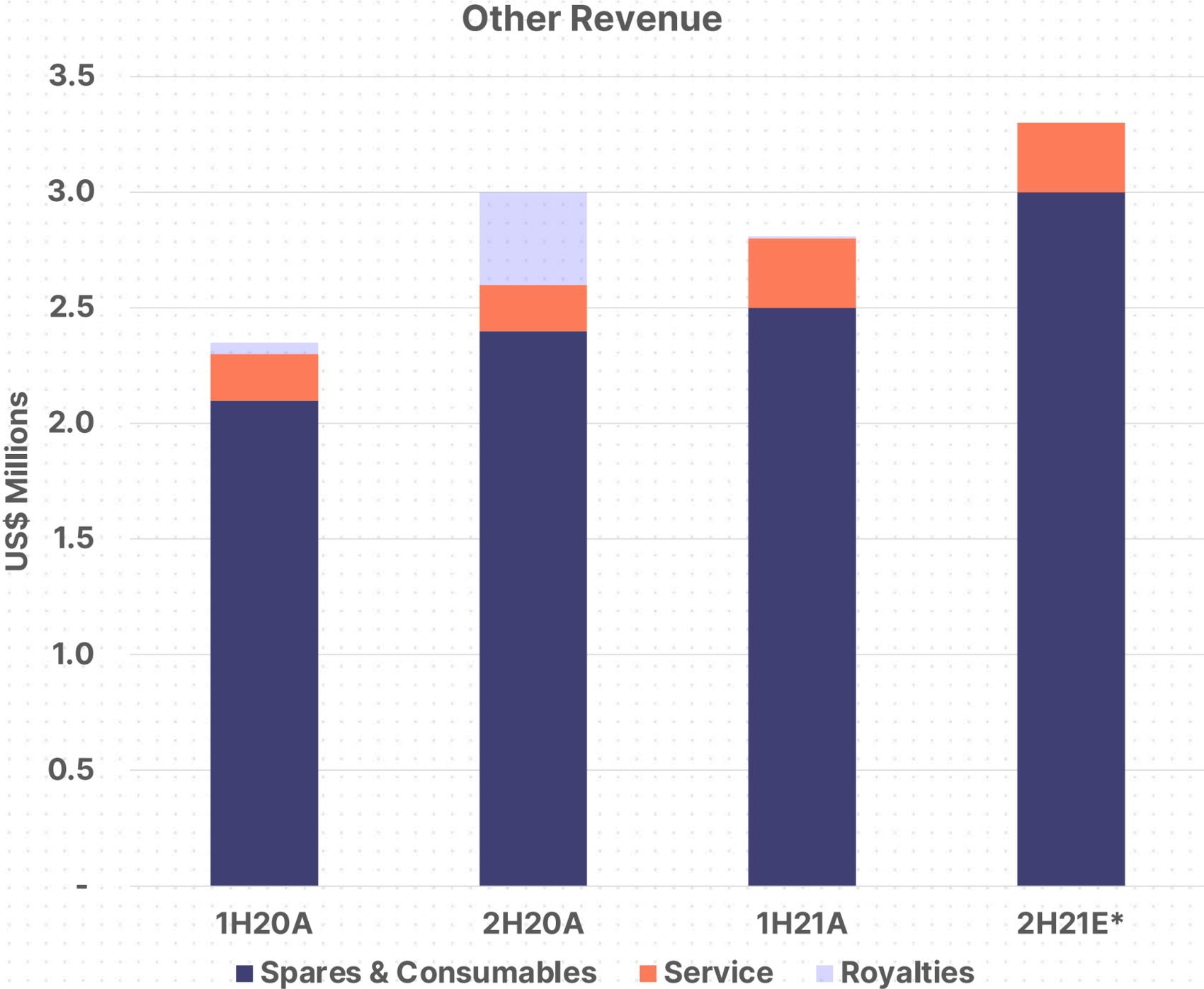
For personal use only

Revasum has a largely untapped **600+** Worldwide Active Tool Install Base

Increase of **43%** in Spares & Consumables revenue from 1H20 to 2H21\*

Focus on expanding our Spares & Consumables offering and adding other recurring revenue streams

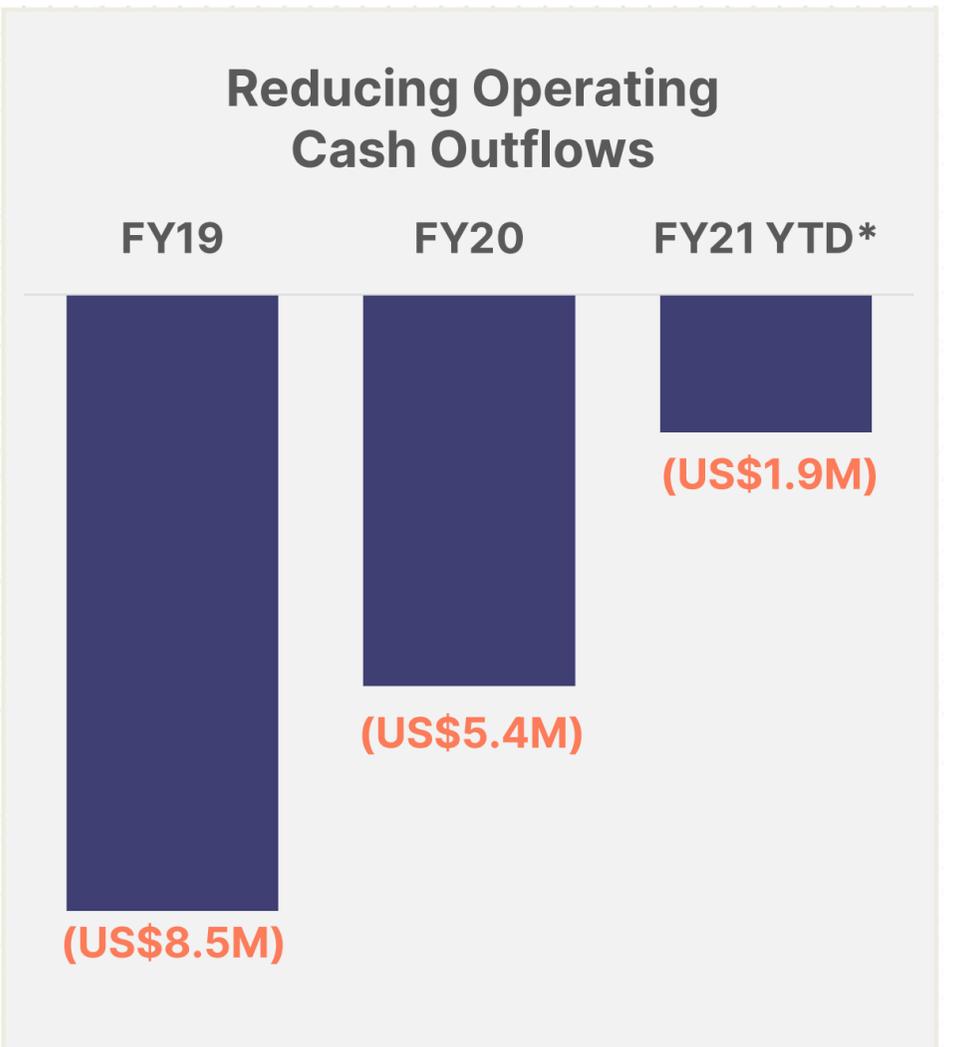
Exploring Joint Development opportunities to grow Royalties revenue stream



\*2H21 Revenue includes revenue recognized and confirmed customer purchase orders scheduled to ship in 2H21

# SUSTAINABLE GROWTH

- Disciplined management focus on growing the Company sustainably
- Gross Margin continues to improve, with an FY21 YTD\* Gross Margin of 35.4%
- Operating Cash Outflows significantly reduced, with outflows in FY21 related to building inventory to support increased customer demand & manage supply chain challenges
- Operating Expenses reduced to an appropriate level, representing 69% of revenue for FY21 YTD\*, vs 84% of revenue for FY19
- **Expect to be free cash flow positive in FY22**



# Q&A

REVASUM

For personal use only

# REVASUM

A GLOBAL LEADER IN SILICON CARBIDE SINGLE-WAFER  
PROCESSING EQUIPMENT