

# Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 2Q22 Update

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Initiatives: [Technology Market Essentials](#)

WFE revenue will increase by 19% in 2022, to reach \$109.8B, with investment in leading edge logic and memory. Inflation and slow consumer demand will make chipmakers conservative, lowering WFE revenue by 9% and 4% in 2023 and 2024, respectively, before growth resumes in 2025.

## Table of Contents

1 The Big Picture

2 Fab Capacity, Worldwide and China

3 Semiconductor Capital Spending

4 Semiconductor Wafer Fab Equipment Forecast

5 Worldwide Semiconductor Wafer Fab Equipment Forecast by Major Segment

6 Exchange Rates

7 Glossary of Terms

## List of Tables

1-1 The Big Picture

1-2 The Big Picture: Comparison of Revenue to Prior Quarter's Forecast

2-1 Semiconductor Wafer Capacity, Worldwide and China

2-2 China Wafer Fab Capacity

3-1 Worldwide Semiconductor Capital Spending Estimates – Top 20 Spenders, Comparison of 2020, 2021 and 2022 (Millions of U.S. Dollars)

3-2 Forecast Worldwide Capital Spending by Region, 2020-2026 (Millions of U.S. Dollars)

3-3 Capital Spending by Manufacturing Type (Millions of U.S. Dollars)

3-4 Capital Spending by Device Application (Millions of U.S. Dollars)

3-5 Regional Investment Patterns of Semiconductor Manufacturers in 2021-2022 (Millions of U.S. Dollars)

4-1 Quarterly Semiconductor Wafer Fab Equipment Forecast Scenarios (Millions of U.S. Dollars)

4-2 Semiconductor Wafer Fab Equipment by Region (Millions of U.S. Dollars)

4-3 Worldwide Semiconductor Wafer Fab Equipment Shipped by Linewidth

4-4 Worldwide Semiconductor Wafer Fab Equipment by Wafer Size

5-1 Worldwide Semiconductor Wafer Fab Equipment Forecast by Major Segment: Sales Revenue (Millions of U.S. Dollars)

5-2 Worldwide Semiconductor Wafer Fab Equipment Forecast by Major Segment: Annual Growth (Percent)

5-3 Stepper Unit Forecast by Technology (Units)

6-1 Current U.S. Dollar Exchange Rates Used in Creating This Report

7-1 Glossary

## List of Figures

2-1 Total Wafer Fab Capacity by Devices 2-2 Total Memory Fab Capacity

2-3 China: Wafer Fab Capacity by Devices 2-4 China: Foundry Wafer Fab Capacity by Wafer Size 2-5 China: Memory Fab Capacity

4-1 Quarterly Semiconductor Wafer Fab Equipment Forecast Scenarios (Millions of U.S. Dollars)

## Overview

Our latest semiconductor forecast projects semiconductor revenue growth, continuing the strength of 2020 and 2021, with 2022 revenue up by 7.4%, before declining by 2.5% in 2023. In general, COVID-19 era shortages have been resolved in much of the industry and demand weakness and oversupply is on the horizon as inflation and global uncertainty is raising the potential of a recession. In memory, the severe undersupply conditions for both DRAM and NAND will abate by the end of 2022, with both DRAM and NAND going into oversupply by the end of the year, resulting in a 15.7% memory revenue decline in 2023, followed by an 8.7% growth in 2024.

In terms of capital expenditure (capex), we anticipate continued high levels of capital spending for more capacity at the 7 nm and below nodes, primarily by Intel, TSMC and Samsung Electronics in 2022, before correcting in 2023. In memory, investment for new capacity will boost memory spending in 2022, before declining in 2023 as supply/demand imbalances are restored. Our 2Q22 semiconductor manufacturing forecast projects that the total capital spending will increase by 19.7% in 2022. Capital spending will then decline by 9.9% in 2023, and 3.3% in 2024, as manufacturers pull back from the elevated spending levels of prior years.

The above comments refer to our base-case scenario for capex and wafer fab equipment (WFE). However, many WFE suppliers are reporting supply chain issues that could lead to shipment delays, which would have the effect of reducing 2022 growth and pushing out more spending into 2023. The [Forecast Analysis: Semiconductor Capital Spending and Manufacturing Equipment, Worldwide](#) referenced below will address these various scenarios in more detail.

## Russian Invasion of Ukraine

In response to Russia's invasion of Ukraine that began on February 24, 2022 and was ongoing at the time of this publication, Gartner is suspending forecast coverage of Russia and the Eurasia region. The definition of Rest of Eastern Europe has been expanded to include Russia and the countries previously covered in the Rest of Eurasia.

## Exchange Rate Alert

In the current environment, currency exchange rate fluctuations will be more volatile. Foundational factors, such as interest rates, tariffs and economic sanctions, will change more rapidly and with less predictability throughout 2022. For the near term, expectations for exchange rates should be treated with a heightened level of caution.

## Document Revision History

Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 1Q22 Update - 22 April 2022

Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 4Q21 Update - 20 December 2021

Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 3Q21 Update - 28 September 2021

Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 2Q21 Update - 7 July 2021

Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 1Q21 Update - 19 April 2021

Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 4Q20 Update - 22 December 2020

Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 3Q20 Update - 5 October 2020

Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 2Q20 Update - 7 July 2020

Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 1Q20 Update - 27 April 2020

Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 4Q19 Update - 30 December 2019

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 3Q19 Update - 18 October 2019

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 2Q19 Update - 9 July 2019

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 1Q19 Update - 9 May 2019

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 4Q18 Update - 28 December 2018

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 3Q18 Update - 4 October 2018

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 2Q18 Update - 16 July 2018

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 1Q18 Update - 8 May 2018

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 4Q17 Update - 20 December 2017

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 3Q17 Update - 6 October 2017

Forecast: Semiconductor Wafer Fab Equipment (Including Wafer-Level Packaging), Worldwide, 2Q17 Update - 6 July 2017

Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 1Q17 Update - 13 April 2017

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 4Q16 Update - 21 December 2016

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 3Q16 Update - 6 October 2016

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 2Q16 Update - 6 July 2016

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 1Q16 Update - 14 April 2016

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 4Q15 Update - 17 December 2015

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 3Q15 Update - 6 October 2015

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 2Q15 Update - 7 July 2015

Forecast: Semiconductor Wafer-Level Manufacturing Equipment, Worldwide, 1Q15 Update - 14 April 2015

Forecast: Semiconductor Manufacturing Equipment, Worldwide, 4Q14 Update - 18 December 2014

Forecast: Semiconductor Manufacturing Equipment, Worldwide, 3Q14 Update - 7 October 2014

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 2Q14 Update - 7 July 2014](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 1Q14 Update - 22 April 2014](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 4Q13 Update - 17 December 2013](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 3Q13 Update - 17 September 2013](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 2Q13 Update - 18 June 2013](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 1Q13 Update - 5 March 2013](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 4Q12 Update - 13 December 2012](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 3Q12 Update - 13 September 2012](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 2Q12 Update - 13 June 2012](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 1Q12 Update - 8 March 2012](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 4Q11 Update - 13 December 2011](#)

[Forecast: Semiconductor Manufacturing Equipment, Worldwide, 3Q11 Update - 13 September 2011](#)

[Forecast: Semiconductor Capital Equipment, Worldwide, 2Q11 Update - 14 June 2011](#)

[Forecast: Semiconductor Capital Equipment, Worldwide, 1Q11 Update - 9 March 2011](#)

[Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 4Q10 Update - 8 December 2010](#)

[Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 3Q10 Update - 8 September 2010](#)

[Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 2Q10 Update - 8 June 2010](#)

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## Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

[Forecast: Semiconductor Foundry Revenue, Supply and Demand, Worldwide, 2Q22 Update](#)

[Forecast Analysis: Semiconductor Capital Spending and Manufacturing Equipment, Worldwide](#)

[Semiconductors and Electronics Forecast Database, Worldwide, 2Q22 Update](#)

[Market Definitions and Methodology: Semiconductor Wafer Fab Equipment](#)

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