

2023-2024 CMR™ SILICON WAFERS

SUPPLY-CHAIN & MARKET ANALYSIS
A CRITICAL MATERIALS REPORT™

PREPARED BY:
DANIEL TRACY

TEHCET CA LLC

11622 El Camino Real #100

San Diego, CA 92130

www.TEHCET.com

info@TEHCET.com

RESEARCH METHODOLOGY

TEHCET employs subject matter experts having first-hand experience within the industries which they analyze. Most of TEHCET's analysts have over 25 years of direct and relevant experience in their field. Our analysts survey the commercial and technical staff of IC manufacturers and their suppliers, and conduct extensive research of literature and commerce statistics to ascertain the current and future market environment and global supply risks. Combining this data with TEHCET's proprietary, quantitative wafer forecast results in a viable long-term market forecast for a variety of process materials.

READER'S NOTE

This report represents the interpretation and analysis of information generally available to the public or released by responsible agencies or individuals. Data was obtained from sources considered reliable. However, accuracy or completeness is not guaranteed.



ANALYST BIOGRAPHY

- Sr. Director of Market Research, TECHCET
- Covers silicon wafers, packaging materials, sputtering targets and deposition materials,
- Has over 20 years of experience in the electronics industry covering supply-chain topics related to semiconductor packaging, thin films, semiconductor process equipment, and semiconductor materials.
- Previously was the senior director of the Industry Research & Statistics group at SEMI.
- Worked for Rose Associates covering electronic materials, and for National Semiconductor as a Packaging Engineer.
- Holds a Ph.D. in Materials Engineering from Rensselaer Polytechnic Institute.



Dan Tracy, Ph.D

Sr. Director of Market Research

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SCOPE, PURPOSE AND METHODOLOGY

- Scope
- Purpose
- Metrology
- Overview of Other TECHCET CMR™ Reports

2.1 SCOPE

- This report covers the silicon wafer market and supply-chain for those wafers used in semiconductor device fabrication. The report contains data and analysis from TECHCET's data base and Sr. Analyst experience, as well as that developed from primary and secondary market research. For more information on TECHCET Critical materials Reports™ please go to <https://TEHCET.com>
- SOI is also covered as it is a growing portion of the overall supply-chain of semiconductor device substrates.
- SiC wafers is also included for an in-depth look at silicon carbide wafers and SiC manufacturing, we recommend the reader obtain TECHCET's Report on Silicon Carbide Wafers and Manufacturing Challenges.

2.2 PURPOSE

- This Critical Materials Report™ (CMR) provides focused information for supply-chain managers, process integration and R&D directors, as well as business development managers, and financial analysts. The report covers information about key suppliers, issues/trends in the material supply chain, estimates on supplier market share, and forecast for the material segments.
- Providing current information and actionable content is the intent of the information contained within this report and the quarterly updates.
- As important as the supply side of the equations is the demand requirements of the market in terms of the economic variables, leading edge technology requirements and the wafer start forecast.

2.3 METHODOLOGY

- TECHCET employs subject matter experts having first-hand experience within the industries which they analyze. Most of TECHCET's analysts have over 25 years of direct and relevant experience in their field. Our analysts survey the commercial and technical staff of IC manufacturers and their suppliers and conduct extensive research of literature and commerce statistics to ascertain the current and future market environment and global supply risks. Combining this data with TECHCET's proprietary, quantitative wafer forecast results in a viable long-term market forecast for a variety of process materials.

2.4 OVERVIEW OF OTHER TECHCET CMR™ REPORTS

- TEHCET produces electronic material supply chain reports each year as one of its functions for the Critical Materials Council. Reports to be published in 2022 can be found at www.techcet.com and are listed in the table below:

TEHCET's Critical Materials Reports™	
1	CMP Consumables (Pads & Slurry)
2	CMP Equipment Ancillaries (Conditioners, Filters, etc.)
3	CVD /ALD Hi K Precursors
4	CVD DIELECTRIC Precursors
5	Equipment Components – Quartz
6	Equipment Components – Silicon
7	Equipment Components – SiC/Ceramics
8	Gases - Electronic Specialty, Bulk & Rare Gases
9	Metal Plating Chemicals
10	Photoresists, Ancillaries & Extension Materials
11	Sputtering Targets
12	Wafers: Silicon, SOI
13	SiC Wafers & Manufacturing
14	Wet Chemicals / Specialty Cleans
15	Special Reports: Impact of US Expansions on Wet Chemicals Supply Chains