

TECHCET

Electronics Materials Information



2022 TECHCET CRITICAL MATERIALS REPORT™

CMP CONSUMABLES – SLURRY and PAD MARKETS

Prepared By:

Sarah Okada, Sr. Market Analyst

Reviewed By:

Dan Tracy, Ph.D., Sr. Director

TECHCET CA LLC

11622 El Camino Real #100

San Diego, CA 92130

www.TECHCET.com

info@TECHCET.com

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

- Sarah Okada joined TECHCET as a senior market analyst in January 2021
- Ms. Okada has worked in leadership roles in the semiconductor industry for over 25 years focusing on product management, marketing and technical sales of substrate and device manufacturing equipment.
- Ms. Okada started in the semiconductor industry in 1995 in the applications development group at Strasbaugh, a supplier of CMP and grinding equipment.
- In 2013, she was promoted to director of sales and marketing for Strasbaugh where she incorporated marketing and sales best practices to develop a new brand for Strasbaugh and launched a successful new HVM grinding product.
- Ms. Okada was key in the acquisition of Strasbaugh's technology for Revasum in 2016, where she served as VP of marketing and product management and launched the industry's first fully automated SiC substrate polisher.
- Since joining Nova in November 2020, Ms. Okada has been leading work on the SIMS-based METRION platform and was recently promoted to product marketing director
- Ms Okada holds a bachelor's degree in Marketing and Finance from the University of Oregon.

Sarah Okada, Sr. Market Analyst



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ANJI MICRO SHANGHAI			
ASASHI GLASS			
BASF			
CABOT MICROELECTRONICS			
DUPONT			
EMINISS TECHNOLOGIES, INC.(PUREON)			
FERRO			
FUJIFILM PLANAR SOLUTIONS			
FUJIMI CORP.			
...and many more			

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SCOPE AND METHODOLOGY

2.1 SCOPE

- This report covers the CMP Consumables market and supply-chain for the CMP Slurries and Pads 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>
- CMP slurries and pads are a critical in semiconductor manufacturing as process integration requires the fabrication of thin and uniformly flat layers to build up device structures across the semiconductor wafers. The number of CMP process steps continue to increase with each generation of new device technology.
- New device technology is characterized by more layers, new materials, tighter process control requirements, and new techniques for advanced packaging. These manufacturing challenges require new developments in CMP slurries and pads.
- The device shortage resulted in rapid expansion in the semiconductor industry and high demand for CMP Consumables, despite COVID and supply chain constraints.
- This report looks at the market drivers, slurry and pad forecasts by application, market shares, abrasive suppliers, and includes a special focus on advanced packaging and silicon carbide.

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.

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:

	Critical Materials Reports™
1	CMP Pads and Slurry
2	Electronic Gases
3	Photoresist
4	Precursors - Dielectric Precursors
5	Precursors - Hi K / ALD CVD Metal Precursors
6	Silicon Wafers
7	Specialty Cleaning Chems / Wet Chems
8	Metal Chemicals
9	Targets
10	Equipment Components – Quartz
11	Equipment Components – Ceramics/SiC
12	Equipment Components- Si parts
	Special Reports
13	Impact of US Chip Expansions
14	Impact of European Chip Expansions