

SPRING
2020



CMP CONSUMABLES: SLURRY, PADS AND CONDITIONING DISK MARKETS

FOR SEMI-CONDUCTOR APPLICATIONS

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TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	10
1.1	CMP CONSUMABLES BUSINESS GROWTH OVERVIEW	10
1.2	CMP CONSUMABLES MARKET TRENDS	11
1.3	CMP CONSUMABLES TECHNOLOGY TRENDS	11
1.4	COMPETITIVE LANDSCAPE	12
1.5	EHS ISSUES/CONCERNS	13
1.6	ANALYST ASSESSMENT	13
2	SCOPE, PURPOSE AND METHODOLOGY	15
2.1	SCOPE	15
2.2	PURPOSE	15
2.3	METHODOLOGY	16
2.4	OVERVIEW OF OTHER TECHCET CMR™ REPORTS.....	16
3	SEMICONDUCTOR INDUSTRY MARKET OUTLOOK.....	17
3.1	WORLDWIDE ECONOMY	19
3.1.1	SEMICONDUCTOR INDUSTRIES TIES TO THE GLOBAL ECONOMY	21
3.2	ELECTRONIC GOODS MARKET.....	22
3.2.1	SMARTPHONES	23
3.2.2	AUTOMOTIVE	24
3.2.3	SERVERS / IT	28
3.2.4	PCs / TABLETS.....	29
3.3	SEMICONDUCTOR INDUSTRY OUTLOOK	31
3.3.1	EQUIPMENT SPENDING AND FAB AND CAPITAL INVESTMENTS.....	32
3.3.2	OVERALL CHINA MARKET NEWS AND TRENDS.....	35
3.3.3	WAFER START FORECAST.....	36
3.4	SEMICONDUCTOR MARKET OVERVIEW SUMMARY	40
4	CMP CONSUMABLES MARKET DRIVERS & DYNAMICS	42
4.1	FAB MATERIAL SUPPLY/DEMAND	42
4.2	MATERIAL SHORTAGES AND SUPPLY CHAIN CONSTRAINTS	42
4.3	TECHNICAL DRIVERS / MATERIAL CHANGES AND TRANSITIONS.....	43

4.3.1	TECHNICAL TRENDS IN SIC	43
4.4	COMMENT ON REGIONAL TRENDS/DRIVERS	48
4.5	EHS AND LOGISTIC ISSUES.....	49
5	CMP SLURRY SUPPLIER MARKET LANDSCAPE.....	50
5.1	M&A ACTIVITY	50
5.2	EXPANSIONS OR NEW PLANTS OF EXISTING SUPPLIERS	51
5.3	PLANT CLOSURES AND PRODUCT DISCONTINUATIONS	52
5.4	NEW ENTRANTS.....	52
5.5	SUPPLIERS OR PARTS/PRODUCT LINE THAT ARE AT RISK OF DISCONTINUATIONS.....	52
5.6	PRICING TRENDS.....	52
5.7	MARKET SIZE AND FORECAST	53
5.7.1	OXIDE (CERIA) SLURRIES	58
5.7.2	HKMG SLURRIES	59
5.7.3	POLYSILICON SLURRIES	61
5.7.4	OXIDE (SILICA) SLURRIES.....	63
5.7.5	TUNGSTEN SLURRIES.....	64
5.7.6	COBALT SLURRIES.....	65
5.7.7	COPPER BULK SLURRIES.....	66
5.7.8	COPPER BARRIER SLURRIES	68
5.8	SUPPLIER MARKET SHARES.....	69
5.9	TEHCET ANALYST ASSESSMENT AND SLURRY SUMMARY.....	70
6	SUB TIER MATERIAL SUPPLY CHAIN -ABRASIVES	74
6.1	RAW MATERIAL SOURCES	74
6.2	RAW MATERIAL SUPPLY CHAIN DISRUPTIONS AND LOGISTICS ISSUES.....	75
6.3	M&A ACTIVITY	75
6.4	RAW MATERIAL EHS ISSUES.....	76
6.5	NEW ENTRANTS.....	76
6.6	NEW PLANTS OR EXPANSIONS.....	76
6.7	PLANT CLOSURES	76
6.8	PRODUCTS AT RISK OF DISCONTINUATION.....	76
6.9	RAW MATERIAL PRICING TRENDS	76

7	CMP PAD SUPPLY CHAIN	77
7.1	M&A ACTIVITY	77
7.2	PLANTS AND NEW ENTRANTS.....	77
7.3	PLANT CLOSURES	77
7.4	NEW ENTRANTS.....	77
7.5	SUPPLIERS OR PRODUCTS AT RISK OF DISCONTINUANCE	79
7.6	CMP PAD MARKET SIZE AND FORECAST.....	79
7.7	CMP PAD MARKET SHARE.....	82
7.8	INFORMATION ON OTHER MARKETS THAT SHARE SUPPLY-CHAIN	83
7.9	ANALYST ASSESSMENT	84
7.10	MANUFACTURING COST DRIVERS.....	85
8	CMP CONDITIONING DISK SUPPLY CHAIN	89
8.1	M&A ACTIVITY	89
8.2	NEW PLANTS AND NEW ENTRANTS	89
8.3	PLANT CLOSURES	89
8.4	NEW ENTRANTS.....	89
8.5	SUPPLIERS OR PRODUCTS THAT ARE AT RISK OF DISCONTINUANCE.....	89
8.6	CMP PAD CONDITIONING DISK MARKET SIZE AND FORECAST.....	89
8.7	SUPPLIER MARKET SHARE	92
8.8	INFORMATION ON OTHER MARKETS THAT SHARE SUPPLY-CHAIN	93
8.9	ANALYST ASSESSMENT	93
8.10	MANUFACTURING COST DRIVERS.....	95
9	SUPPLIER PROFILES	96
10	HISTORICAL REFERENCES FOR THE READHISTORICAL SUMMARY OF COMPANY MERGERS AND REFERENCES FOR THE READER:.....	305

TABLE OF FIGURES

Figure 1.1: 2020 Consumables the Triad.....	10
Figure 1.2: Overall Slurry Market Share by Supplier	12

Figure 1.3: CMP Pad Market Share	13
Figure 1.4: Pad Conditioning Disk Market Share	13
Figure 3.1: IMF World Economic Outlook	20
Figure 3.2: Global Economy and the Electronics Supply Chain (2019)	21
Figure 3.3: Worldwide Semiconductor Sales	22
Figure 3.4: Mobile Phone Shipments WW Estimates.....	24
Figure 3.5: Oil Price per Barrel US WTI.....	26
Figure 3.6: 2020 Auto Industry Growth Impact Factors	26
Figure 3.7: Semiconductor Spend per Vehicle Type	27
Figure 3.8: Semiconductor Content by Automotive Application.....	28
Figure 3.9: Semiconductor Revenue Growth Forecasts (as of April 19, 2020).....	31
Figure 3.10: Semiconductor Units History and Forecast	32
Figure 3.11: 200 mm Fab Capacity Outlook to 2022	37
Figure 3.12: TECHCET Wafer Starts by Technology Node and Device Type.....	39
Figure 5.1: CMP Slurry Revenue by Application 2018-2024.....	54
Figure 5.2: Slurry Revenue % by Application (pie chart).....	55
Figure 5.3: Estimated Slurry Volume at Point of Use (POU) by Application for 2018-2024.....	56
Figure 5.4: Oxide (ceria) Slurry Market Shares	59
Figure 5.5: HKMG/front-end Slurry Market Shares	61
Figure 5.6: MEMS CMP Cross Section.....	62
Figure 5.7: Polysilicon Slurry Market Shares.....	63
Figure 5.8: Oxide Slurry Market Shares.....	64
Figure 5.9: Tungsten Slurry Market Shares.....	65
Figure 5.10: Cobalt Slurry Market Shares	66
Figure 5.11: Cu-Bulk Slurry Market Shares	67
Figure 5.12: Cu-Barrier CMP Slurry Market Share	69
Figure 5.13: Overall Slurry Market Shares by Supplier	70

Figure 5.14: Slurry Revenue (% of TAM) by Application.....	70
Figure 7.1: 2020 CMP Pad Forecast	80
Figure 7.2: 2020 CMP Pad Revenue Forecast by wafer size	81
Figure 7.3: 2020 300 mm CMP Pad forecast y process.....	81
Figure 7.4: 2020 200 mm CMP Pad forecast by process	82
Figure 7.5: 2020 CMP Pad Supplier Market Share	83
Figure 7.6: IC1000 like Pad Cross-Section.....	87
Figure 7.7: IC1000 SEM Cross-Section	87
Figure 7.8: Pad Cost Structure	88
Figure 8.1: 2020 CMP Pad Conditioning Disk Forecast	91
Figure 8.2: 2020 Pad Conditioner Market by Number of Units	91
Figure 8.3: CMP Conditioning Disk Market Share	93

TABLES

Table 2.1 2019 TECHCET Critical Material Reports.....	16
Table 3.1 Lockdown & Restrictions by Country	18
Table 3.2 Global GDP and Semiconductor Revenues (Source: IMF and WSTS)	19
Table 3.3 Semiconductor Chip Applications.....	23
Table 3.4: Data Center Systems and Communication Services Forecast 2020	28
Table 3.5: Worldwide Device Shipments by Device Type, 2020-2022 (Jan 2020)	30
Table 3.6: 2019 Investment Plans for Selected Device Companies (as of March 2020)	33
Table 3.7: 2020/ 2019 Growth Estimates for 3DNAN, DRAM and Logic Devices (advanced nodes and leading edge)	38
Table 4.1: Increasing Impact of Materials Innovation on Chip Performance (Source: Semico Research).....	43
Table 4.2: Physical and Electrical Property Comparison of Si and SiC	44
Table 5.1: 2020 Q2 Slurry Forecast.....	54

Table 5.2: 2020 Slurry TAM by Application	57
Table 5.3: Table of 2020 Slurry Suppliers.....	72
Table 6.1: Table of 2020 Abrasive Suppliers	74
Table 7.1: 2020 CMP Pad Forecast by process type (US\$ millions)	79
Table 7.2: 2019 CMP Pad Suppliers	83
Table 8.1: CMP Established Conditioning Disk Suppliers	92

SUPPLIER PROFILES

SLURRIES.....	99
1 ACE NANO CHEM	99
2 ANJI MICRO SHANGHAI.....	102
3 ASAHI GLASS	107
4 BASF	112
5 CABOT MICROELECTRONICS	120
6 DUPONT	125
7 EMINESS TECHNOLOGIES, INC.	126
8 FERRO	128
9 FUJIFILM PLANAR SOLUTIONS	134
10 FUJIMI CORP.	139
11 HITACHI CHEMICAL.....	143
12 JSR CORPORATION	153
13 KC TECH COMPANY.....	159
14 NALCO COMPANY (ECOLAB).....	163
15 NITTA DUPONT INCORPORATED (NITA-HAAS)	169
16 SINMAT	172
17 VERSUM (MERCK KGAA/EMD/AZ).....	174
DISKS.....	177
1 3M COMPANY -SEE PAD SUPPLIER.....	177
2 ABRASIVE TECHNOLOGY	177
3 EHWA DIAMOND	180
4 KINIK	182
5 MORGAN ADVANCED MATERIALS	186
6 SAESOL DIAMOND.....	189
7 SHINHAN DIAMOND INDUSTRIAL CO.	191
PADS	194
1 3M	194
2 CABOT ELECTRONIC MATERIALS (SEE SLURRY SUPPLIERS)	197
3 DUPONT	198

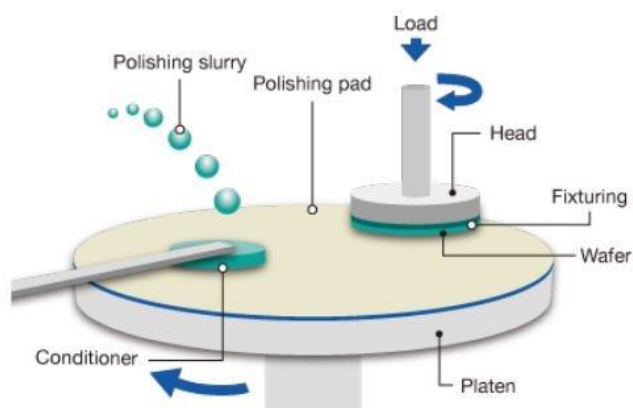
4	EMINESS TECHNOLOGIES, INC. (SEE SLURRY SUPPLIER).....	205
5	FUJIBO HOLDINGS, INC.	205
6	IV TECHNOLOGIES CO.....	208
7	ROGERS CORP	209
8	SEKISUI VOLTEK	215
9	THOMAS WEST, INC. (TWI).....	219
	PARTICLE	221
1	BAIKOWSKI.....	221
2	CABOT CORPORATION	224
3	EKA CHEMICAL/AKZO NOBEL/ NOURYON	227
4	ELCHEM ASA	233
5	EVONIK INDUSTRIES AG	238
6	FUSO CHEMICAL COMPANY.....	246
7	GENERAL ENGINEERING & RESEARCH	251
8	W.R. GRACE & COMPANY	254
9	MERCK KGAA/EMD/AZ.....	257
10	MITSUI MINING AND SMELTING CO/MITSUI KINZOKU.....	260
11	NANOPHASE TECHNOLOGIES CORPORATION	267
12	PRECISION COLLOIDS	270
13	SAINT GOBAIN	274
14	SHOWA DENKO.....	279
15	SOLVAY	287
16	UK ABRASIVES	295
17	UNIVERSAL PHOTONICS	297
18	WACKER CHEMIE AG	299

2 SCOPE, PURPOSE AND METHODOLOGY

2.1 SCOPE

This report covers the CMP consumables market for slurry, pads and conditioning disks including the supply-chain for these materials used in semiconductor device fabrication. The report contains data and analysis from TECHCET's database and Senior Analyst experience, as well as that developed from primary and secondary market research. For more information on TECHCET Critical Materials Reports™ please visit to <https://TECHCET.com>

CMP for IC manufacturing has been in development and manufacturing since the mid 1980's. The process involves several consumable materials used on a piece of polishing equipment, as shown in the figure below. The main consumable materials are; abrasive slurry, polishing pads and the conditioning disks. This triad needs to work together to “polish” the surface bumps and topology from underlying layers that can cause yield-limiting problems for the IC process. CMP has continued to be one of the critical process steps that make ultra-flat and smooth surfaces to enable advanced electronic device manufacturing.



Like all mature material markets, one of the biggest challenges in the CMP consumable markets is the balance between cost and quality as the technology demands tighten. This new decade will see CMP continue to enable processes at smaller and smaller node levels and of newer and increasingly exotic thin film materials. There is no technology that may replace CMP in the foreseeable future.

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

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 start forecast results in a viable long-term market forecast for a variety of process materials.

2.4 OVERVIEW OF OTHER TEHCET 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 2019 can be found at www.techcet.com and are listed in the table below:

Table 2.1 2019 TEHCET Critical Material Reports

2019 - 2020 TEHCET REPORTS
1. CMP Consumables (Slurry, Pads, Disks)
2. ALD/CVD Precursors (Metals & Dielectrics)
3. Equipment Components- Quartz
4. Equipment Components- Silicon, SiC, Ceramics
5. Gases- Electronic Specialty, Bulk, & Rare
6. Rare Earth Market
7. Photoresist, Ancillary, & Extensions
8. Silicon Wafers
9. Sputter Targets
10. Metal Chemicals
11. Wet Chemical
12. Roadmaps & Device Technology