2022 CRITICAL MATERIALS REPORT
WAFER LEVEL METAL PLATING CHEMICALS

FOR FRONT END SEMICONDUCTOR MANUFACTURING AND ADVANCED PACKAGING APPLICATIONS 2022

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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.

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.
Karey Holland, Ph.D. is TECHCET’s Chief Strategist & Sr. Technical Analyst and is a co-founder of TECHCET. Dr. Holland has led advances in interconnect technologies, CMP, photolithography, vacuum technology, reactive ion etch, metrology, and metals and dielectric depositions for over 35 years. She specialized in advanced semiconductor transistor fabrication evolutions for the next 10 years. She was previously CTO of Revasum, a SiC polish process and equipment supplier. Before joining Revasum, she was Global Market Sector Manager Semiconductor Process Technology at Edwards Vacuum, VP Process Technology at Mega Fluid Systems, Senior Manager Technology Roadmap at FEI, CTO of NexPlanar, member of the Board of Directors at Nova Measuring Instruments, VP Technology at Thomas West, and CTO and VP of Process Technology IPEC-Westech / SpeedFam-IPEC. Her career began in process engineering at IBM where she managed the first 248nm DUV lithography technology development team, and also developed interconnect integration for 4 and 16 Mb DRAMs which were the first chips in the world to use CMP for all interconnect dielectrics. Dr. Holland holds a Ph.D. in electro-analytical chemistry from Pennsylvania State University, a M.S. in analytical chemistry from Purdue University, and a B.A. in chemistry from Albion College.
# Table of Contents

## 1 Executive Summary
1.1 Executive Summary ............................ 8
1.2 Advanced Packaging Per Wafer Starts ...... 9
1.3 Device Demand Drivers - Logic .......... 10
1.4 Cu Plating Forecast for Damascene (FE) and Advanced Packaging ......... 11
1.5 Market Shares ................................ 12
1.6 Supplier Activities – Various Announcements ...... 13
1.7 Risk Factors .................................. 14
1.8 Analyst Assessment ......................... 15

## 2 Scope, Purpose and Methodology
2.1 Scope ........................................ 16
2.2 Purpose ...................................... 17
2.3 Methodology ................................ 18
2.4 Overview of Other TECHCET CMR™ Reports ...... 19

## 3 Semiconductor Industry Market Status & Outlook
3.1 Worldwide Economy ....................... 20
3.1.1 Semiconductor Industries Ties to the Global Economy .......... 21
3.1.2 Semiconductor Sales Growth .......... 22
3.1.3 Taiwan Monthly Sales Trends ......... 23
3.1.4 Uncertainty Abounds Especially for 2023 – SLOWER TO NEGATIVE SEMI REVENUE GROWTH EXPECTED .... 24
3.2 Electronic Goods Market ................. 25
3.2.1 Smartphones ............................ 26
3.2.2 PC Unit Shipments ................. 27
3.2.2.1 Electric Vehicle (EV) Market Trends ......... 28

## 4 Metal Chemicals Market by Segment
4.1 Definitions ................................ 29
4.2 Metal Plating Chemicals Market Overview ...... 30
4.2.1 Overview - Advanced Packaging and Damascene Metallization .......... 31
4.2.2 Overview - Plating Market Transitional Trends ...... 32

## 5 Risk Factors
5.1 Semiconductor Fab Expansion Announcement Summary ........... 33
5.2 WW Fab Expansion Driving Growth .......... 34
5.3 Equipment Spending Trends ................ 35
5.4 Technology Roadmaps ..................... 36
5.5 Fab Investment Assessment ............... 37
5.6 Policy & Trade Trends and Impact ...... 38
5.7 Analyst Assessment ......................... 39

## 6 Market Shares
6.1 Suppliers Activities – Various Announcements ...... 40

## 7 Market Demand Drivers
7.1 Device Demand Drivers - Logic .......... 41

## 8 Analyst Assessment
8.1 Analyst Assessment ......................... 42

## 9 Market Forecast
9.1 TechCET Wafer Starts Forecast Through 2026 ......... 43

## 10 Market Forecast Methodology
10.1 TechCET Wafer Start Modeling Methodology .......... 44

## 11 Market Forecast

## 12 Market Forecast
12.1 Continued Logistics Issues Plague the Western World .......... 46

## 13 Market Forecast
13.1 TechCET Wafer Starts Forecast Through 2026 .......... 47

## 14 Market Forecast
14.1 TechCET’s Material Forecast .......... 48

## 15 Market Forecast
15.1 Value Chain – Market Drivers .......... 49

## 16 Market Forecast
16.1 Value Chain – Market Drivers .......... 50

## 17 Market Forecast
17.1 Value Chain – Market Drivers .......... 51

## 18 Market Forecast
18.1 Value Chain – Market Drivers .......... 52

## 19 Market Forecast
19.1 Value Chain – Market Drivers .......... 53

## 20 Market Forecast
20.1 Value Chain – Market Drivers .......... 54

## 21 Market Forecast
21.1 Value Chain – Market Drivers .......... 55
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3.1 ADVANCED PACKAGING - ADDITIVES FOR CU PLATING REVENUE</td>
<td>56</td>
</tr>
<tr>
<td>4.3.2 ADVANCED PACKAGING – COPPER CHEMICALS REVENUE</td>
<td>57</td>
</tr>
<tr>
<td>4.3.3 ADVANCED PACKAGING ADDITIVE VOLUMES</td>
<td>58</td>
</tr>
<tr>
<td>4.3.4 OTHER PLATING MATERIALS FOR ADVANCED PACKAGING</td>
<td>59</td>
</tr>
<tr>
<td>4.3.5 SN / SNAG PLATING</td>
<td>60</td>
</tr>
<tr>
<td>4.3.5.1 WW NI PLATING MARKET FORECAST</td>
<td>61</td>
</tr>
<tr>
<td>4.4 DAMASCENE GROWTH TRENDS</td>
<td>62</td>
</tr>
<tr>
<td>4.4.1 DAMASCENE GROWTH DRIVERS</td>
<td>63</td>
</tr>
<tr>
<td>4.4.2 DAMASCENE CU PLATING REVENUES</td>
<td>64</td>
</tr>
<tr>
<td>4.4.3 DAMASCENE ADDITIVE VOLUMES</td>
<td>65</td>
</tr>
<tr>
<td>5 TECHNICAL TRENDS</td>
<td>66</td>
</tr>
<tr>
<td>5.1 PACKAGING TECH TRENDS</td>
<td>67</td>
</tr>
<tr>
<td>5.1.1 PACKAGING TECHNICAL CHALLENGES</td>
<td>68</td>
</tr>
<tr>
<td>5.2 TECH TRENDS</td>
<td>69</td>
</tr>
<tr>
<td>5.2.1 MARKET DRIVES TECHNOLOGY TRENDS</td>
<td>70</td>
</tr>
<tr>
<td>5.2.2 ADV LOGIC INTERCONNECT WIRING TECHNOLOGY EVOLUTION</td>
<td>71</td>
</tr>
<tr>
<td>5.2.2.1 TRENDS - MOL AND BEOL IRDS ROADMAP</td>
<td>72</td>
</tr>
<tr>
<td>5.2.3 CU DAMASCENE QUALIFICATION REQUIREMENTS</td>
<td>73</td>
</tr>
<tr>
<td>5.2.4 LOGIC METALLIZATION ROADMAP</td>
<td>74</td>
</tr>
<tr>
<td>5.2.4.1 INTERCONNECT FOR ADVANCED LOGIC</td>
<td>75</td>
</tr>
<tr>
<td>5.2.5 ADV LOGIC BURIED POWER RAIL</td>
<td>76</td>
</tr>
<tr>
<td>5.2.6 TECHNOLOGY ROADMAP: DRAM WITH MO OR RU</td>
<td>77</td>
</tr>
<tr>
<td>5.2.6.1 GENERAL PROCESS FLOW ADVANCED DRAM</td>
<td>78</td>
</tr>
<tr>
<td>5.2.7 PRECURSOR TECHNOLOGY ROADMAP: 3D NAND USING MO OR RU</td>
<td>79</td>
</tr>
<tr>
<td>5.2.7.1 3D-NAND GENERATIONS 2020 -2025</td>
<td>80</td>
</tr>
<tr>
<td>5.2.8 EXAMPLE OF LOGIC PROCESS FLOW 20 NM TO 32 NM LOGIC PVD</td>
<td>81</td>
</tr>
<tr>
<td>5.2.8 TECHNICAL REQUIREMENTS SUMMARY 1/2</td>
<td>82</td>
</tr>
<tr>
<td>5.2.8.1 TECHNICAL REQUIREMENTS SUMMARY 2/2</td>
<td>83</td>
</tr>
<tr>
<td>6 COMPETITIVE LANDSCAPE</td>
<td>84</td>
</tr>
<tr>
<td>6.1 TOTAL ADVANCED PACKAGING AND DAMASCENE MARKET SHARES</td>
<td>85</td>
</tr>
<tr>
<td>6.2 OEM MARKET SHARE– PLATING EQUIPMENT</td>
<td>86</td>
</tr>
<tr>
<td>6.3 MARKET SHARE BY APPLICATION – CU PLATING FOR ADVANCED PACKAGING</td>
<td>87</td>
</tr>
<tr>
<td>6.4 REGIONAL PLAYERS AND OTHERS</td>
<td>88</td>
</tr>
<tr>
<td>6.5 M&amp;A ACTIVITY</td>
<td>89</td>
</tr>
<tr>
<td>7 ANALYST ASSESSMENT</td>
<td>90</td>
</tr>
<tr>
<td>7.1 ADVANCED METAL PLATING APPLICATIONS MARKET ASSESSMENT</td>
<td>91</td>
</tr>
<tr>
<td>8 SUPPLIER PROFILES</td>
<td>90</td>
</tr>
<tr>
<td>BASF</td>
<td></td>
</tr>
<tr>
<td>DUPONT</td>
<td></td>
</tr>
<tr>
<td>CHANG CHUN GROUP</td>
<td></td>
</tr>
<tr>
<td>INCHEON CHEMICAL COMPANY</td>
<td></td>
</tr>
<tr>
<td>ISHIHARA CHEMICAL/UNICON JX NIPPON</td>
<td></td>
</tr>
<tr>
<td>MINING AND METALS AND MORE...</td>
<td></td>
</tr>
<tr>
<td>9 APPENDIX A: PACKAGING TECH TRENDS</td>
<td>152</td>
</tr>
</tbody>
</table>

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FIGURES & TABLES

FIGURE 35: SN AND SNAG PLATING REVENUE
FIGURE 36: NICKEL PLATING REVENUE
FIGURE 37: ADVANCED LOGIC DEVICES GROWTH FORECAST
FIGURE 38: ADV LOGIC METAL PLATING WAFER PASSES
FIGURE 39: WW DAMASCENE REVENUE FORECAST ESTIMATES
FIGURE 40: DAMASCENE CU VMS VOLUME DEMAND FORECAST ESTIMATES
FIGURE 41: DAMASCENE CU PLATING ADDITIVES CHEMICAL VOLUME DEMAND FORECAST
FIGURE 42: KEY TRENDS IN ADVANCED PACKAGING
FIGURE 43: CHALLENGES OF ELECTROPLATING VIA FILL
FIGURE 44: METAL LEVELS PER LOGIC NODE
FIGURE 45: INTERCONNECT METAL COMPARISON BY RESISTIVITY
FIGURE 46: CU DAMASCENE QUALIFICATION
FIGURE 47: LEADING EDGE LOGIC POWER RAIL SCHEMES
FIGURE 48: DRAM STRUCTURE
FIGURE 49: 3D NAND STRUCTURE
FIGURE 50: TOTAL PLATING FOR ADV. PACKAGING AND SEMICONDUCTOR DEVICE MANUFACTURING 2022
FIGURE 51: PLATING EQUIPMENT OEM MARKET SHARES 2020%
FIGURE 52: PLATING CHEMICAL SUPPLIER FOR DAMASCENE AND ADVANCED PACKAGING APPLICATIONS
FIGURE 53: CLEANING COMPLEXITY
FIGURE 54: OSATS PACKAGING BUSINESS CANNIBALIZATION TREND
FIGURE 55: WAFER LEVEL PLATING
FIGURE 56: ADVANCED PACKAGING MARKET DRIVERS AND APPLICATIONS
FIGURE 57: COMPARISON WITH DAMASCENE- TYPE RDL
FIGURE 58: USE OF SILICON INTERPOSER
FIGURE 59: APPLE EXAMPLE INTERPOSERS
FIGURE 60: TSV PROCESS FLOW EXAMPLE

TABLES

TABLE 1: GLOBAL GDP AND SEMICONDUCTOR REVENUES*
TABLE 2: IMF ECONOMIC OUTLOOK*
TABLE 3: DATA CENTER SYSTEMS AND COMMUNICATION SERVICES FORECAST 2021
TABLE 4: IRDS 2022 LOGIC CORE INTERCONNECT ROADMAP
TABLE 5: LOGIC DEVICE ROADMAP FOR METALS
TABLE 6: METALS REQUIRED FOR DEVICE FEATURES
TABLE 7: DRAM USE OF MO OR RU PRESENT & FUTURE
TABLE 8: GENERAL PROCESS FLOW ADVANCED DRAM
TABLE 9: 3D NAND MATERIAL CHANGES PRESENT & FUTURE
TABLE 10: NUMBER OF STACKS (S) & LAYERS (L) PER GENERATION OF 3D NAND
TABLE 11: EXAMPLE OF LOGIC PROCESS FLOW 20 NM TO 32 NM LOGIC PVD
TABLE 12: TECHNICAL REQUIREMENTS SUMMARY 1/2
TABLE 13: TECHNICAL REQUIREMENTS SUMMARY 2/2
TABLE 14: REGIONAL PLAYERS – MARKET LEADER AND “OTHERS”
TABLE 15: CU PACKAGING APPLICATIONS AND REQUIREMENTS
2 Scope, Purpose and Methodology
2.1 Scope

• This report covers the Metal Chemicals market trends and supply-chain as it applied to Advanced Packaging (wafer level) and Semiconductor Device Manufacturing (damascene process).

• Included are forecasts for copper plating and additives, market shares, technical trends, and supplier profiles. Also included in the appendix is a supplier product comparison table of publicly available information on plating products used for advanced packaging.

• 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://TECHCET.com
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

TECHCET 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>
<thead>
<tr>
<th>2022</th>
<th>CMR Report Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CMP Pads and Slurry</td>
</tr>
<tr>
<td>2</td>
<td>Electronic Gases</td>
</tr>
<tr>
<td>3</td>
<td>Photoresist</td>
</tr>
<tr>
<td>4</td>
<td>Precursors - Dielectric Precursors</td>
</tr>
<tr>
<td>5</td>
<td>Precursors - Hi K / ALD CVD Metal Precursors</td>
</tr>
<tr>
<td>6</td>
<td>Silicon Wafers</td>
</tr>
<tr>
<td>7</td>
<td>Specialty Cleaning Chems / Wet Chems</td>
</tr>
<tr>
<td>8</td>
<td>Metal Chemicals</td>
</tr>
<tr>
<td>9</td>
<td>Targets</td>
</tr>
<tr>
<td>10</td>
<td>Equipment Components – Quartz</td>
</tr>
<tr>
<td>11</td>
<td>Equipment Components – Ceramics/SIC</td>
</tr>
<tr>
<td>12</td>
<td>Equipment Components- Si parts</td>
</tr>
<tr>
<td>13</td>
<td>Impact of Fab Expansion on EU Wet Chemicals</td>
</tr>
<tr>
<td>14</td>
<td>2021 Impact of Fab Expansion on US Wet Chemicals</td>
</tr>
</tbody>
</table>