

Wafer Cleaning Equipment Market by Equipment Type (Single-wafer Spray System, Batch Spray Cleaning System, and Scrubbers), Application, Technology, Operation Mode, Wafer Size (Less than Equals 150 mm, 200 mm, 300 mm) and Region - Global Forecast to 2028

https://marketpublishers.com/r/W114484E84BEN.html

Date: September 2023

Pages: 236

Price: US\$ 4,950.00 (Single User License)

ID: W114484E84BEN

Abstracts

The wafer cleaning equipment market is projected to reach USD 16.5 billion by 2028 from USD 10.1 billion in 2023, at a CAGR of 10.4% from 2023 to 2028.

200 mm wafer size is expected to grow at the second highest growth rate in wafer market during the forecast period

Wafers with a diameter of 200 mm come in two variations: single side polished (SSP) and double side polished (DSP). These wafers find predominant use in various applications including memory, RF devices, and LEDs. The market for 200 mm wafers is projected to experience substantial growth, largely driven by their advantageous cost-effectiveness. The demand for these 200 mm wafers is expected to surge notably due to their expanding utility in a wide spectrum of applications such as power devices, ICs, LEDs, MEMS, and numerous other semiconductor and electronic devices.

US is expected to hold the highest market share in North America during the forecast period

In the North America region, it is anticipated that the United States will maintain its dominant position in the wafer cleaning equipment market throughout the forecast period. This can be attributed to the notable presence of major manufacturing



powerhouses such as Intel Inc. (US), Global Foundries (US), and Maxim Integrated (US) within the nation. These industry leaders primarily engage in wafer processing to fabricate microprocessors, MEMS, and integrated circuits (ICs).

The prevalence of local industry players in the United States, coupled with the export of semiconductor equipment to countries like Germany and France, serves as a driving force for market growth in the US. Among the noteworthy contenders in this sector within the country are Applied Materials, LAM Research, and Novellus Systems, Inc. These entities consistently prioritize the adoption of cutting-edge technology, aiming to deliver innovative and superior products tailored for application within the semiconductor industry.

The break-up of profile of primary participants in the Wafer cleaning equipment market-

By Company Type: Tier 1 – 30%, Tier 2 – 50%, Tier 3 – 20%

By Designation Type: C Level – 25%, Director Level – 35%, Others – 40%

By Region Type: North America – 35%, Europe – 30%, Asia Pacific – 25%, and RoW – 10%

The major players of Wafer cleaning equipment market are SCREEN Holdings Co., Ltd. (Japan), Tokyo Electron Limited (Japan), Applied Materials (US), LAM Research Corporation (US), Shibaura Mechatronics Corporation (Japan), PVA TePLA AG (Germany), Entregris Inc., (US), SEMES (US), Modutek.com (Japan), Veeco Instruments Inc. (US), Toho Technology (US), ULTRON SYSTEMS, INC. (US), Akrion Technologies (US), Axus Technology (US), SHIBAURA MECHATRONICS CORPORATION (Japan), etc.

Research Coverage

The report segments the wafer cleaning equipment market and forecasts its size based on equipment type, wafer size, application, and region. The report also provides a comprehensive review of drivers, restraints, opportunities, and challenges influencing the market growth. The report also covers qualitative aspects in addition to the quantitative aspects of the market.

Reasons to buy the report:



The report will help the market leaders/new entrants in this market with information on the closest approximate revenues for the overall wafer cleaning equipment market and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of key drivers, opportunities, restaints, and challenges influencing the growth of the wafer cleaning equipment market

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the wafer cleaning equipment market

Market Development: Comprehensive information about lucrative markets – the report analyses the wafer cleaning equipment market across varied regions

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the Wafer cleaning equipment market

Competitive Assessment: In-depth assessment of market shares, growth strategies and product offerings of leading players like SCREEN Holdings Co., Ltd. (Japan), Tokyo Electron Limited (Japan), Applied Materials (US), LAM Research Corporation (US), and Entregris Inc., (US).



Contents

1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 MARKET DEFINITION
- 1.3 STUDY SCOPE
 - 1.3.1 INCLUSIONS AND EXCLUSIONS
 - 1.3.2 MARKETS COVERED
 - 1.3.3 REGIONAL SCOPE
 - 1.3.4 YEARS CONSIDERED
- 1.4 CURRENCY CONSIDERED
- 1.5 PACKAGE SIZE
- 1.6 LIMITATIONS
- 1.7 STAKEHOLDERS
- 1.8 SUMMARY OF CHANGES
- 1.9 RECESSION IMPACT

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 1 WAFER CLEANING EQUIPMENT MARKET: RESEARCH DESIGN

- 2.1.1 SECONDARY DATA
 - 2.1.1.1 Key data from secondary sources
 - 2.1.1.2 Key secondary sources
- 2.1.2 PRIMARY DATA
 - 2.1.2.1 Key data from primary sources
 - 2.1.2.2 Primary research participants across supply side
 - 2.1.2.3 Breakdown of primary interviews
 - 2.1.2.4 Key industry insights
- 2.1.3 SECONDARY AND PRIMARY RESEARCH
- 2.2 MARKET SIZE ESTIMATION

FIGURE 2 MARKET SIZE ESTIMATION METHODOLOGY: APPROACH 1 (SUPPLY

SIDE): REVENUE GENERATED BY KEY PLAYERS IN WAFER CLEANING

EQUIPMENT MARKET

FIGURE 3 MARKET SIZE ESTIMATION METHODOLOGY: APPROACH 2 (SUPPLY

SIDE): ILLUSTRATION OF REVENUE ESTIMATION OF KEY PLAYERS IN WAFER

CLEANING EQUIPMENT MARKET

FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: APPROACH 3 (DEMAND



SIDE) –BOTTOM-UP APPROACH TO ESTIMATE WAFER CLEANING EQUIPMENT MARKET SIZE BASED ON REGION

- 2.2.1 BOTTOM-UP APPROACH
- 2.2.1.1 Estimation of market size using bottom-up approach

FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH 2.2.2 TOP-DOWN APPROACH

2.2.2.1 Estimation of market size using top-down approach

FIGURE 6 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

- 2.3 MARKET SHARE CALCULATION
- 2.4 DATA TRIANGULATION

FIGURE 7 DATA TRIANGULATION

2.5 RISK ASSESSMENT

TABLE 1 RISK FACTOR ANALYSIS

- 2.5.1 IMPACT OF RECESSION ON GDP
- 2.6 RESEARCH ASSUMPTIONS AND LIMITATIONS
 - 2.6.1 RESEARCH ASSUMPTIONS
 - 2.6.2 RESEARCH LIMITATIONS

3 EXECUTIVE SUMMARY

FIGURE 8 WAFER CLEANING EQUIPMENT MARKET, 2019–2028
FIGURE 9 BATCH SPRAY CLEANING SYSTEMS TO ACCOUNT FOR LARGEST
SHARE OF WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, IN
2028

FIGURE 10 300 MM WAFERS TO DOMINATE WAFER MARKET DURING FORECAST PERIOD

FIGURE 11 MEMORY DEVICES TO LEAD WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, DURING FORECAST PERIOD FIGURE 12 ASIA PACIFIC TO RECORD HIGHEST CAGR IN GLOBAL WAFER CLEANING EQUIPMENT MARKET FROM 2023 TO 2028

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN WAFER CLEANING EQUIPMENT MARKET

FIGURE 13 GROWING POPULARITY OF 3D ICS TO BOOST DEMAND FOR WAFER CLEANING EQUIPMENT IN COMING YEARS

4.2 WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE FIGURE 14 BATCH SPRAY CLEANING SYSTEMS TO CAPTURE LARGEST SHARE



OF WAFER CLEANING EQUIPMENT MARKET IN 2023

4.3 WAFER MARKET, BY WAFER SIZE

FIGURE 15 300 MM WAFERS TO ACCOUNT FOR LARGEST MARKET SHARE IN 2023

4.4 WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION FIGURE 16 MEMORY DEVICES TO CAPTURE LARGEST SHARE OF WAFER CLEANING EQUIPMENT MARKET IN 2023

4.5 WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY APPLICATION AND COUNTRY

FIGURE 17 MEMORY DEVICES AND CHINA HELD LARGEST SHARE OF WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY APPLICATION AND COUNTRY, RESPECTIVELY, IN 2022

5 MARKET OVERVIEW

- 5.1 INTRODUCTION
- 5.2 MARKET DYNAMICS

FIGURE 18 MARKET DYNAMICS: WAFER CLEANING EQUIPMENT MARKET 5.2.1 DRIVERS

- 5.2.1.1 Increasing adoption of MEMS technology across various industries
- 5.2.1.2 Growing demand for memory devices with exceptional speed and accuracy from Al-based servers
 - 5.2.1.3 Increasing use of electric vehicles

FIGURE 19 ELECTRIC CAR SALES DATA, 2019–2023 (MILLION UNITS)

5.2.1.4 Surging adoption of 5G technology

FIGURE 20 5G MOBILE SUBSCRIPTIONS, 2019–2028 (MILLION UNITS)

FIGURE 21 IMPACT ANALYSIS OF DRIVERS ON WAFER CLEANING EQUIPMENT MARKET

- 5.2.2 RESTRAINTS
- 5.2.2.1 Environmental concerns owing to emission of hazardous chemicals during wafer cleaning

FIGURE 22 IMPACT ANALYSIS OF RESTRAINTS ON WAFER CLEANING MARKET 5.2.3 OPPORTUNITIES

- 5.2.3.1 Growing popularity of 3D ICs
- 5.2.3.2 Rising adoption of technologically advanced semiconductor devices
- 5.2.3.3 Increasing adoption of silicon-based semiconductor devices in IoT applications

FIGURE 23 IMPACT ANALYSIS OF OPPORTUNITIES ON WAFER CLEANING EQUIPMENT MARKET



5.2.4 CHALLENGES

5.2.4.1 Possibility of water shortage in semiconductor fab facilities globally

5.2.4.2 Longer construction timelines associated with new semiconductor fabs in US due to stringent regulations

FIGURE 24 IMPACT ANALYSIS OF CHALLENGES ON WAFER CLEANING EQUIPMENT MARKET

5.3 SUPPLY CHAIN ANALYSIS

FIGURE 25 WAFER CLEANING EQUIPMENT SUPPLY CHAIN ANALYSIS

TABLE 2 PARTICIPANTS AND THEIR ROLE IN ECOSYSTEM

5.4 ECOSYSTEM MAPPING

5.4.1 WAFER CLEANING EQUIPMENT ECOSYSTEM ANALYSIS

FIGURE 26 WAFER CLEANING EQUIPMENT ECOSYSTEM

5.4.2 WAFER CLEANING STEPS (RCA CLEAN PROCESS)

5.4.2.1 First step (SC-1): Organic and particle cleaning

5.4.2.2 Second step: Oxide stripping

5.4.2.3 Third step (SC-2): Ionic cleaning

5.4.2.4 Rinsing and drying (optional process)

FIGURE 27 WAFER CLEANING OBJECTIVES

TABLE 3 SOLUTIONS/MIXTURES/COMPOUNDS USED IN WAFER CLEANING APPLICATIONS

5.5 TECHNOLOGY TRENDS

5.5.1 PIRANHA ETCH CLEANING

5.5.2 MEGASONIC CLEANING

5.5.3 OZONE CLEANING

5.6 INDICATIVE PRICE ANALYSIS

TABLE 4 INDICATIVE PRICE OF SINGLE-WAFER SPRAY SYSTEMS

TABLE 5 INDICATIVE PRICE OF CHEMICALS USED IN WAFER CLEANING 5.7 PATENT ANALYSIS

TABLE 6 PATENTS FILED AND GRANTED, JANUARY 2012–DECEMBER 2022 FIGURE 28 NUMBER OF PATENTS GRANTED FOR WAFER CLEANING EQUIPMENT, 2012–2022

FIGURE 29 TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS, JANUARY 2012–DECEMBER 2022

TABLE 7 TOP 20 PATENT OWNERS, JANUARY 2012–DECEMBER 2022 5.8 PORTER'S FIVE FORCES ANALYSIS

FIGURE 30 WAFER CLEANING EQUIPMENT MARKET: PORTER'S FIVE FORCES ANALYSIS, 2022

FIGURE 31 IMPACT ANALYSIS OF PORTER'S FIVE FORCES ON WAFER CLEANING EQUIPMENT MARKET, 2022



TABLE 8 WAFER CLEANING EQUIPMENT MARKET: PORTER'S FIVE FORCES ANALYSIS, 2022

5.8.1 THREAT OF NEW ENTRANTS

5.8.2 THREAT OF SUBSTITUTES

5.8.3 BARGAINING POWER OF SUPPLIERS

5.8.4 BARGAINING POWER OF BUYERS

5.8.5 INTENSITY OF COMPETITIVE RIVALRY

5.9 KEY STAKEHOLDERS AND BUYING CRITERIA

5.9.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 32 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS OF WAFER CLEANING EQUIPMENT, BY WAFER SIZE

TABLE 9 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS OF WAFER CLEANING EQUIPMENT, BY WAFER SIZE (%)

5.9.2 BUYING CRITERIA

FIGURE 33 KEY BUYING CRITERIA FOR WAFER CLEANING EQUIPMENT, BY WAFER SIZE

TABLE 10 KEY BUYING CRITERIA FOR WAFER CLEANING EQUIPMENT, BY WAFER SIZE

5.10 CASE STUDIES

5.10.1 ECO-SNOW SYSTEMS COLLABORATES WITH OWENS DESIGN TO DEVELOP 300 MM WAFER CLEANING PLATFORM TO REMOVE IMPURITIES 5.10.2 LEADING PROVIDER OF WAFER CLEANING EQUIPMENT COLLABORATES WITH TISMO TECHNOLOGY SOLUTIONS TO DEVELOP HMI SYSTEM FOR PLASMA CLEANING

5.11 TRADE DATA ANALYSIS

TABLE 11 EXPORT DATA FOR SEMICONDUCTOR MANUFACTURING MACHINES IN MAJOR COUNTRIES, 2018–2022 (USD MILLION)

FIGURE 34 EXPORT VALUES FOR SEMICONDUCTOR MANUFACTURING MACHINES IN MAJOR COUNTRIES, 2018–2022

TABLE 12 IMPORT DATA FOR SEMICONDUCTOR MANUFACTURING MACHINES IN MAJOR COUNTRIES, 2018–2022 (USD MILLION)

FIGURE 35 IMPORT VALUES FOR SEMICONDUCTOR MANUFACTURING MACHINES IN MAJOR COUNTRIES, 2018–2022

5.12 TARIFF AND REGULATORY LANDSCAPE

5.12.1 TARIFFS

TABLE 13 MFN TARIFFS FOR SEMICONDUCTOR MANUFACTURING EQUIPMENT EXPORTED BY US

5.12.2 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS



- 5.12.2.1 North America
- 5.12.2.2 Europe
- 5.12.2.3 Asia Pacific
- 5.12.2.4 RoW
- 5.12.3 REGULATIONS
- 5.12.4 STANDARDS
- 5.13 TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS FIGURE 36 REVENUE SHIFT AND NEW REVENUE POCKETS FOR WAFER CLEANING EQUIPMENT MARKET

5.14 KEY CONFERENCES AND EVENTS, 2023-2024

TABLE 14 WAFER CLEANING EQUIPMENT MARKET: LIST OF CONFERENCES AND EVENTS

6 OPERATING MODES OF WAFER CLEANING EQUIPMENT

- 6.1 INTRODUCTION
- **6.2 AUTOMATIC**
- 6.3 SEMIAUTOMATIC
- 6.4 MANUAL

7 TECHNOLOGIES AND PROCESSES USED IN WAFER CLEANING

- 7.1 INTRODUCTION
- 7.2 WET CHEMICAL CLEANING
- FIGURE 37 WET CHEMICAL CLEANING PROCESS
- 7.2.1 USE OF HF ACID SOLUTION IN WET CLEANING PROCESS
- 7.2.2 USE OF SULFURIC ACID IN WET CLEANING PROCESS
- 7.2.3 RCA CLEANING PROCESS
- 7.2.4 ALTERNATIVE CLEANING PROCESSES
- 7.3 VAPOR DRY CLEANING
 - 7.3.1 VAPOR PHASE CLEANING
 - 7.3.2 PLASMA STRIPPING CLEANING
- 7.4 AQUEOUS CLEANING
- FIGURE 38 STANDARD WAFER CLEANING PROCESS
 - 7.4.1 AQUEOUS FEOL CLEANING
 - 7.4.2 AQUEOUS BEOL CLEANING
- 7.5 CRYOGENIC AEROSOLS AND SUPER-CRITICAL FLUID CLEANING
- 7.6 EMERGING TECHNOLOGIES
 - 7.6.1 LASER CLEANING TECHNOLOGIES



- 7.6.1.1 Dry laser cleaning
- 7.6.1.2 Steam laser cleaning
- 7.6.2 AQUEOUS-BASED EMERGING TECHNOLOGIES
 - 7.6.2.1 Foam/bubble cleaning
 - 7.6.2.2 Immersion pressure pulsation cleaning
- 7.6.2.3 Spray pressure pulsation cleaning
- 7.6.3 CHEMICAL-BASED EMERGING TECHNOLOGIES
- 7.6.4 DRY PARTICLE REMOVING TECHNOLOGIES
 - 7.6.4.1 Liquid clusters
 - 7.6.4.2 Nonoprobe cleaning

8 ANALYSIS OF IMPURITIES IN WAFER CLEANING PROCESSES AND EQUIPMENT

8.1 INTRODUCTION

TABLE 15 IMPACT OF IMPURITIES ON WAFERS, BY CONTAMINANT TYPE

- 8.2 METALS
- 8.3 PARTICULATES
- 8.4 CHEMICALS

9 WAFER MARKET, BY WAFER SIZE

9.1 INTRODUCTION

FIGURE 39 300 MM WAFERS TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 16 WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 17 WAFER MARKET, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

9.2 ?150 MM

9.2.1 EMERGENCE OF WAFERS WITH LARGER DIAMETERS TO ADVERSELY IMPACT ADOPTION OF SMALLER DIAMETER WAFERS

TABLE 18 ?150 MM: WAFER MARKET, BY APPLICATION, 2019–2022 (MILLION SQUARE INCHES)

TABLE 19 ?150 MM: WAFER MARKET, BY APPLICATION, 2023–2028 (MILLION SQUARE INCHES)

9.3 200 MM

9.3.1 RISING ADOPTION OF 200 MM WAFERS TO BALANCE PRODUCTION EFFICIENCY AND YIELD RATES TO DRIVE MARKET



TABLE 20 200 MM: WAFER MARKET, BY APPLICATION, 2019–2022 (MILLION SQUARE INCHES)

TABLE 21 200 MM: WAFER MARKET, BY APPLICATION, 2023–2028 (MILLION SQUARE INCHES)

9.4 300 MM

9.4.1 ABILITY OF 300 MM WAFERS TO FACILITATE ADVANCED FABRICATION TECHNIQUES TO DRIVE ADOPTION IN MEMORY CHIPS AND ICS FIGURE 40 MEMORY DEVICES TO HOLD LARGEST SHARE OF 300 MM WAFER MARKET IN 2028

TABLE 22 300 MM: WAFER MARKET, BY APPLICATION, 2019–2022 (MILLION SQUARE INCHES)

TABLE 23 300 MM: WAFER MARKET, BY APPLICATION, 2023–2028 (MILLION SQUARE INCHES)

10 WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE

10.1 INTRODUCTION

TABLE 24 WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 41 BATCH SPRAY CLEANING SYSTEMS TO HOLD LARGEST SHARE OF WAFER CLEANING EQUIPMENT MARKET IN 2028

TABLE 25 WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

10.2 SINGLE-WAFER CLEANING SYSTEMS

10.2.1 ABILITY OF SINGLE-WAFER CLEANING SYSTEMS TO EFFICIENTLY CLEAN WAFER WITH MINIMAL DAMAGE TO DRIVE MARKET

TABLE 26 SINGLE-WAFER SPRAY SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

FIGURE 42 MEMORY DEVICES TO CAPTURE LARGEST SHARE OF SINGLE-WAFER SPRAY SYSTEM MARKET THROUGHOUT FORECAST PERIOD TABLE 27 SINGLE-WAFER SPRAY SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

10.3 SINGLE-WAFER CRYOGENIC SYSTEMS

10.3.1 POTENTIAL TO REMOVE CONTAMINANTS AT ULTRA-LOW TEMPERATURE TO BOOST ADOPTION OF SINGLE-WAFER CRYOGENIC SYSTEMS

TABLE 28 SINGLE-WAFER CRYOGENIC SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION) FIGURE 43 MEMORY DEVICES TO DOMINATE SINGLE-WAFER CRYOGENIC



SYSTEM MARKET IN 2028

TABLE 29 SINGLE-WAFER CRYOGENIC SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION) 10.4 BATCH IMMERSION CLEANING SYSTEMS

10.4.1 PROFICIENCY IN CLEANING MULTIPLE WAFERS SIMULTANEOUSLY TO FUEL DEPLOYMENT OF BATCH IMMERSION CLEANING SYSTEMS
TABLE 30 BATCH IMMERSION CLEANING SYSTEMS: WAFER CLEANING
EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)
FIGURE 44 MEMS DEVICES TO EXHIBIT HIGHEST CAGR IN BATCH IMMERSION SYSTEM MARKET DURING FORECAST PERIOD

TABLE 31 BATCH IMMERSION CLEANING SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION) 10.5 BATCH SPRAY CLEANING SYSTEMS

10.5.1 COMPETENCY IN HANDLING LARGE BATCHES WITH HIGH THROUGHPUT TO INCREASE IMPLEMENTATION OF BATCH SPRAY CLEANING SYSTEMS

TABLE 32 BATCH SPRAY CLEANING SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

FIGURE 45 LEDS TO EXHIBIT SECOND-HIGHEST CAGR IN BATCH SPRAY CLEANING SYSTEM MARKET DURING FORECAST PERIOD

TABLE 33 BATCH SPRAY CLEANING SYSTEMS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)
10.6 SCRUBBERS

10.6.1 CAPABILITY TO REMOVE TINY PARTICLES ON WAFERS TO DRIVE DEMAND FOR SCRUBBERS

TABLE 34 SCRUBBERS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

FIGURE 46 MEMS DEVICES TO RECORD HIGHEST CAGAR IN SCRUBBER MARKET DURING FORECAST PERIOD

TABLE 35 SCRUBBERS: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

11 WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION

11.1 INTRODUCTION

TABLE 36 WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

FIGURE 47 MEMORY DEVICES TO DOMINATE WAFER CLEANING EQUIPMENT MARKET THROUGHOUT FORECAST PERIOD



TABLE 37 WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 38 WAFER MARKET, BY APPLICATION, 2019–2022 (MILLION SQUARE INCH)

TABLE 39 WAFER MARKET, BY APPLICATION, 2023–2028 (MILLION SQUARE INCH)

11.2 COMPETITOR ANALYSIS

11.3 MEMS DEVICES

11.3.1 HIGH DEMAND FOR MEMS DEVICES FROM CONSUMER ELECTRONICS MANUFACTURERS TO DRIVE MARKET

TABLE 40 MEMS DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 41 MEMS DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 42 MEMS DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 43 MEMS DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 44 MEMS DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 48 SINGLE-WAFER SPRAY SYSTEMS TO LEAD WAFER CLEANING EQUIPMENT MARKET FOR MEMS APPLICATIONS DURING FORECAST PERIOD TABLE 45 MEMS DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 46 MEMS DEVICES: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 47 MEMS DEVICES: WAFER MARKET, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

11.4 CIS

11.4.1 RISING ADOPTION OF CMOS IMAGE SENSORS IN AEROSPACE AND MEDICAL IMAGING APPLICATIONS TO BOOST DEMAND FOR WAFER CLEANING EQUIPMENT

TABLE 48 CIS: WAFER CLEANING EQUIPMENT, BY REGION, 2019–2022 (USD MILLION)

TABLE 49 CIS: WAFER CLEANING EQUIPMENT, BY REGION, 2023–2028 (USD MILLION)

TABLE 50 CIS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 51 CIS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY



COUNTRY, 2023-2028 (USD MILLION)

TABLE 52 CIS: WAFER CLEANING EQUIPMENT MARKET EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 49 BATCH SPRAY CLEANING SYSTEMS TO ACCOUNT FOR LARGEST SHARE OF WAFER CLEANING EQUIPMENT MARKET FOR CIS APPLICATIONS IN 2030

TABLE 53 CIS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 54 CIS: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 55 CIS: WAFER MARKET, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

11.5 MEMORY DEVICES

11.5.1 INCREASING DEPLOYMENT OF NAND FLASH MEMORY CHIPS IN CONSUMER ELECTRONICS TO SUPPORT MARKET GROWTH

TABLE 56 MEMORY DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 57 MEMORY DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 58 MEMORY DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 59 MEMORY DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 60 MEMORY DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 50 SINGLE-WAFER SPRAY SYSTEMS TO COMMAND WAFER CLEANING EQUIPMENT MARKET FOR MEMORY DEVICES FROM 2023 TO 2028

TABLE 61 MEMORY DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 62 MEMORY DEVICES: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 63 MEMORY DEVICES: WAFER, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

11.6 RF DEVICES

11.6.1 RISING INTEGRATION OF RF DEVICES INTO SMARTPHONES TO CONTRIBUTE TO MARKET GROWTH

TABLE 64 RF DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 65 RF DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION,



2023-2028 (USD MILLION)

TABLE 66 RF DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA

PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 67 RF DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA

PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 68 RF DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY

EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 51 BATCH IMMERSION CLEANING SYSTEMS TO HOLD LARGEST SHARE

OF WAFER CLEANING EQUIPMENT MARKET FOR RF DEVICES IN 2028

TABLE 69 RF DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY

EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 70 RF DEVICES: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 71 RF DEVICES: WAFER MARKET, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

11.7 LEDS

11.7.1 INCREASING USE OF LEDS IN SMART LIGHTING SYSTEMS TO BOOST DEMAND FOR WAFER CLEANING EQUIPMENT

TABLE 72 LEDS: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 73 LEDS: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 74 LEDS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 75 LEDS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 76 LEDS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 52 BATCH SPRAY CLEANING SYSTEMS TO CAPTURE MAJORITY OF WAFER CLEANING EQUIPMENT MARKET SHARE FOR LEDS IN 2028

TABLE 77 LEDS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 78 LEDS: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 79 LEDS: WAFER MARKET, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

11.8 INTERPOSERS

11.8.1 SURGING DEMAND FOR ADVANCED PACKAGING SOLUTIONS TO DRIVE SEGMENTAL GROWTH



TABLE 80 INTERPOSERS: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 81 INTERPOSERS: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 82 INTERPOSERS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 83 INTERPOSERS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 84 INTERPOSERS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 53 BATCH SPRAY CLEANING SYSTEMS TO ACCOUNT FOR LARGEST MARKET SHARE FOR INTERPOSERS IN 2028

TABLE 85 INTERPOSERS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 86 INTERPOSERS: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 87 INTERPOSERS: WAFER MARKET, BY WAFER SIZE, 2023–2028 (MILLION SQUARE INCHES)

11.9 LOGIC DEVICES

11.9.1 GROWING DEPLOYMENT OF LOGIC DEVICES IN MICROPROCESSORS, MICROCONTROLLERS, AND GRAPHIC CHIPS TO ACCELERATE MARKET GROWTH

TABLE 88 LOGIC DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 89 LOGIC DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 90 LOGIC DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 91 LOGIC DEVICES: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 92 LOGIC DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2019–2022 (USD MILLION)

FIGURE 54 BATCH SPRAY CLEANING SYSTEMS TO CAPTURE LARGEST SHARE OF WAFER CLEANING EQUIPMENT MARKET FOR LOGIC DEVICES IN 2028 TABLE 93 LOGIC DEVICES: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT TYPE, 2023–2028 (USD MILLION)

TABLE 94 LOGIC DEVICES: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION SQUARE INCHES)

TABLE 95 LOGIC DEVICES: WAFER MARKET, BY WAFER SIZE, 2023–2028



(MILLION SQUARE INCHES)

11.10 OTHERS

TABLE 96 OTHERS: WAFER CLEANING EQUIPMENT MARKET, BY REGION,

2019-2022 (USD MILLION)

TABLE 97 OTHERS: WAFER CLEANING EQUIPMENT MARKET, BY REGION,

2023-2028 (USD MILLION)

TABLE 98 OTHERS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC,

BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 99 OTHERS: WAFER CLEANING EQUIPMENT MARKET IN ASIA PACIFIC,

BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 100 OTHERS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT

TYPE, 2019–2022 (USD MILLION)

FIGURE 55 BATCH SPRAY CLEANING SYSTEMS TO DOMINATE WAFER

CLEANING EQUIPMENT MARKET FOR OTHER APPLICATIONS FROM 2023 TO

2028

TABLE 101 OTHERS: WAFER CLEANING EQUIPMENT MARKET, BY EQUIPMENT

TYPE, 2023–2028 (USD MILLION)

TABLE 102 OTHERS: WAFER MARKET, BY WAFER SIZE, 2019–2022 (MILLION

SQUARE INCHES)

TABLE 103 OTHERS: WAFER MARKET, BY WAFER SIZE, 2023-2028 (MILLION

SQUARE INCHES)

12 WAFER CLEANING EQUIPMENT MARKET, BY REGION

12.1 INTRODUCTION

FIGURE 56 CHINA TO EXHIBIT HIGHEST CAGR IN GLOBAL WAFER CLEANING EQUIPMENT MARKET FROM 2023 TO 2028

TABLE 104 WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 105 WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

12.2 NORTH AMERICA

FIGURE 57 NORTH AMERICA: REGION SNAPSHOT

TABLE 106 NORTH AMERICA: WAFER CLEANING EQUIPMENT MARKET, BY

APPLICATION, 2019–2022 (USD MILLION)

TABLE 107 NORTH AMERICA: WAFER CLEANING EQUIPMENT MARKET, BY

APPLICATION, 2023–2028 (USD MILLION)

TABLE 108 NORTH AMERICA: WAFER CLEANING EQUIPMENT MARKET, BY

COUNTRY, 2019–2022 (USD MILLION)



TABLE 109 NORTH AMERICA: WAFER CLEANING EQUIPMENT MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

12.2.1 NORTH AMERICA: RECESSION IMPACT

12.2.2 US

12.2.2.1 Presence of manufacturing giants such as Intel and Global Foundries to drive market growth

12.2.3 CANADA

12.2.3.1 Government-led initiatives promoting use of electric vehicles to support market growth

12.2.4 MEXICO

12.2.4.1 Thriving telecommunications and energy sectors to fuel market growth 12.3 EUROPE

FIGURE 58 EUROPE: REGION SNAPSHOT

TABLE 110 EUROPE: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 111 EUROPE: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 112 EUROPE: WAFER CLEANING EQUIPMENT MARKET, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 113 EUROPE: WAFER CLEANING EQUIPMENT MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

12.3.1 EUROPE: RECESSION IMPACT

12.3.2 GERMANY

12.3.2.1 Presence of silicon foundries and chipmakers to drive market

12.3.3 FRANCE

12.3.3.1 Growing focus on development of advanced communication network technologies to foster market growth

12.3.4 ITALY

12.3.4.1 Existence of fabrication plants and OSAT companies to support market growth

12.3.5 UK

12.3.5.1 Rising demand for electronic systems to contribute to market growth 12.3.6 REST OF EUROPE

12.4 ASIA PACIFIC

FIGURE 59 ASIA PACIFIC: REGION SNAPSHOT

TABLE 114 ASIA PACIFIC: WAFER CLEANING EQUIPMENT MARKET, BY

APPLICATION, 2019-2022 (USD MILLION)

TABLE 115 ASIA PACIFIC: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)



TABLE 116 ASIA PACIFIC: WAFER CLEANING EQUIPMENT MARKET, BY

COUNTRY, 2019-2022 (USD MILLION)

TABLE 117 ASIA PACIFIC: WAFER CLEANING EQUIPMENT MARKET, BY

COUNTRY, 2023-2028 (USD MILLION)

12.4.1 ASIA PACIFIC: RECESSION IMPACT

12.4.2 TAIWAN

12.4.2.1 Presence of several giant OSAT vendors to fuel market growth

12.4.3 CHINA

12.4.3.1 Strong focus on achieving self-reliance in memory and chip technologies to accelerate market growth

12.4.4 JAPAN

12.4.4.1 Presence of prominent wafer cleaning equipment manufacturers to fuel market growth

12.4.5 SOUTH KOREA

12.4.5.1 Government strategies to expedite growth of semiconductor industry to support market growth

12.4.6 REST OF ASIA PACIFIC

12.5 REST OF THE WORLD (ROW)

TABLE 118 ROW: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 119 ROW: WAFER CLEANING EQUIPMENT MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 120 ROW: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 121 ROW: WAFER CLEANING EQUIPMENT MARKET, BY REGION, 2023–2028 (USD MILLION)

12.5.1 ROW: RECESSION IMPACT

12.5.2 SOUTH AMERICA

12.5.2.1 Increasing demand for consumer electronics to drive market

12.5.3 MIDDLE EAST & AFRICA

12.5.3.1 Rising use of connected devices and booming automotive industry to contribute to market growth

13 COMPETITIVE LANDSCAPE

13.1 OVERVIEW

13.2 MARKET EVALUATION FRAMEWORK

FIGURE 60 KEY STRATEGIES UNDERTAKEN BY LEADING PLAYERS IN WAFER CLEANING EQUIPMENT MARKET FROM 2021 TO 2023



13.3 MARKET SHARE AND RANKING ANALYSIS

TABLE 122 WAFER CLEANING EQUIPMENT MARKET SHARE ANALYSIS, 2022 FIGURE 61 MARKET SHARE OF TOP 5 PLAYERS PROVIDING WAFER CLEANING EQUIPMENT

13.4 FIVE-YEAR COMPANY REVENUE ANALYSIS

FIGURE 62 FIVE-YEAR REVENUE ANALYSIS OF KEY COMPANIES

13.5 COMPANY EVALUATION MATRIX, 2022

FIGURE 63 WAFER CLEANING EQUIPMENT MARKET (GLOBAL): COMPANY EVALUATION MATRIX, 2022

13.5.1 STARS

13.5.2 EMERGING LEADERS

13.5.3 PERVASIVE PLAYERS

13.5.4 PARTICIPANTS

13.6 WAFER CLEANING EQUIPMENT MARKET: COMPANY FOOTPRINT

TABLE 123 OVERALL COMPANY FOOTPRINT (10 COMPANIES)

TABLE 124 APPLICATION FOOTPRINT (10 COMPANIES)

TABLE 125 REGION FOOTPRINT (10 COMPANIES)

13.7 STARTUPS/SMES EVALUATION MATRIX, 2022

FIGURE 64 WAFER CLEANING EQUIPMENT (GLOBAL): STARTUPS/SMES

EVALUATION MATRIX, 2022

13.7.1 PROGRESSIVE COMPANIES

13.7.2 RESPONSIVE COMPANIES

13.7.3 DYNAMIC COMPANIES

13.7.4 STARTING BLOCKS

13.8 COMPETITIVE BENCHMARKING

TABLE 126 WAFER CLEANING EQUIPMENT MARKET: LIST OF KEY STARTUPS/SMES

TABLE 127 WAFER CLEANING EQUIPMENT MARKET: COMPETITIVE

BENCHMARKING OF KEY STARTUPS/SMES

13.9 COMPETITIVE SCENARIO

13.9.1 PRODUCT LAUNCHES

TABLE 128 PRODUCT LAUNCHES, DECEMBER 2022-JANUARY 2023

13.9.2 DEALS

TABLE 129 DEALS, JULY 2022-JULY 2023

TABLE 130 OTHERS, NOVEMBER 2021-MAY 2023

14 COMPANY PROFILES

(Business Overview, Products/Solutions/Services Offered, Recent Developments, and



MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats))*

14.1 INTRODUCTION

14.2 KEY PLAYERS

14.2.1 SCREEN HOLDINGS CO., LTD.

TABLE 131 SCREEN HOLDINGS CO., LTD.: COMPANY OVERVIEW

FIGURE 65 SCREEN HOLDINGS CO., LTD.: COMPANY SNAPSHOT

TABLE 132 SCREEN HOLDINGS CO., LTD.: PRODUCT LAUNCHES

TABLE 133 SCREEN HOLDINGS CO., LTD.: DEALS

TABLE 134 SCREEN HOLDINGS CO., LTD.: OTHERS

14.2.2 TOKYO ELECTRON LIMITED

TABLE 135 TOKYO ELECTRON LIMITED: COMPANY OVERVIEW

FIGURE 66 TOKYO ELECTRON LIMITED: COMPANY SNAPSHOT

TABLE 136 TOKYO ELECTRON LIMITED: PRODUCT LAUNCHES

TABLE 137 TOKYO ELECTRON LIMITED: OTHERS

14.2.3 LAM RESEARCH CORPORATION

TABLE 138 LAM RESEARCH CORPORATION: COMPANY OVERVIEW

FIGURE 67 LAM RESEARCH CORPORATION: COMPANY SNAPSHOT

TABLE 139 LAM RESEARCH CORPORATION: DEALS

TABLE 140 LAM RESEARCH CORPORATION: OTHERS

14.2.4 APPLIED MATERIALS, INC.

TABLE 141 APPLIED MATERIALS, INC.: COMPANY OVERVIEW

FIGURE 68 APPLIED MATERIALS, INC.: COMPANY SNAPSHOT

TABLE 142 APPLIED MATERIALS, INC.: DEALS

14.2.5 SHIBAURA MECHATRONICS CORPORATION

TABLE 143 SHIBAURA MECHATRONICS CORPORATION: COMPANY OVERVIEW

FIGURE 69 SHIBAURA MECHATRONICS CORPORATION: COMPANY SNAPSHOT

14.2.6 AKRION TECHNOLOGIES

TABLE 144 AKRION TECHNOLOGIES: COMPANY OVERVIEW

14.2.7 MODUTEK.COM

TABLE 145 MODUTEK.COM: COMPANY OVERVIEW

14.2.8 PVA TEPLA AG

TABLE 146 PVA TEPLA AG: COMPANY OVERVIEW

FIGURE 70 PVA TEPLA AG: COMPANY SNAPSHOT

TABLE 147 PVA TEPLA AG: DEALS

14.2.9 ENTEGRIS

TABLE 148 ENTEGRIS: COMPANY OVERVIEW

FIGURE 71 ENTEGRIS: COMPANY SNAPSHOT

TABLE 149 ENTEGRIS: DEALS



TABLE 150 ENTEGRIS: OTHERS

14.2.10 ULTRON SYSTEMS, INC.

TABLE 151 ULTRON SYSTEMS, INC.: COMPANY OVERVIEW

14.2.11 S?SS MICROTEC SE

TABLE 152 S?SS MICROTEC S: COMPANY OVERVIEW

FIGURE 72 S?SS MICROTEC SE: COMPANY SNAPSHOT

14.3 OTHER PLAYERS

14.3.1 VEECO INSTRUMENTS INC.

14.3.2 SEMES

14.3.3 AXUS TECHNOLOGY

14.3.4 BEIJING TSD SEMICONDUCTOR CO., LTD.

14.3.5 TOHO KASEI CO., LTD.

14.3.6 CLEANING TECHNOLOGIES GROUP

14.3.7 SEMTEK

14.3.8 AP&S INTERNATIONAL GMBH

14.3.9 ITW

14.3.10 RENA TECHNOLOGIES GMBH

14.3.11 TDC CO., LTD.

14.3.12 ORBRAY CO., LTD.

14.3.13 DAINICHI SHOJI KK

14.3.14 ULTRA T EQUIPMENT COMPANY INC.

*Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

15 APPENDIX

- 15.1 INSIGHTS FROM INDUSTRY EXPERTS
- 15.2 DISCUSSION GUIDE
- 15.3 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL
- 15.4 CUSTOMIZATION OPTIONS
- 15.5 RELATED REPORTS
- 15.6 AUTHOR DETAILS



I would like to order

Product name: Wafer Cleaning Equipment Market by Equipment Type (Single-wafer Spray System,

Batch Spray Cleaning System, and Scrubbers), Application, Technology, Operation Mode, Wafer Size (Less than Equals 150 mm, 200 mm, 300 mm) and Region - Global

Forecast to 2028

Product link: https://marketpublishers.com/r/W114484E84BEN.html

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

Payment

First name:

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/W114484E84BEN.html

To pay by Wire Transfer, please, fill in your contact details in the form below:

Last name:	
Email:	
Company:	
Address:	
City:	
Zip code:	
Country:	
Tel:	
Fax:	
Your message:	
	**All fields are required
	Custumer signature

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at https://marketpublishers.com/docs/terms.html



To place an order via fax simply print this form, fill in the information below and fax the completed form to $+44\ 20\ 7900\ 3970$