

Microelectronics & Semiconductor Device/Wafer Cleaning Equipment Market – by Equipment, Technology, Application & Geography – Forecasts (2012 – 2017)

<https://marketpublishers.com/r/M695D6706D0EN.html>

Date: October 2012

Pages: 226

Price: US\$ 5,650.00 (Single User License)

ID: M695D6706D0EN

Abstracts

The basic building blocks of almost all the electronic devices are components like semiconductor wafers, ICs, MEMS, memory devices (HDDs), PCBs, etc. The overall performance of the electronic device depends on the performance of individual components. Moreover, as these components are comparatively small, contaminants affect their performance and reliability in a big way. Hence, microelectronics cleaning is a crucial step as regards the functioning of any electronic device and the cleaning equipment market is one of the most important markets of the semiconductor industry.

Microelectronics cleaning equipment are used to clean silicon wafers, compound semiconductor device wafers, MEMS, flat panel displays, read/write heads of hard disk drives, photomasks, and printed circuit boards. The major application of microelectronics cleaning equipment is in the IC fabrication industry, where a big percentage of the fabrication process involves cleaning the wafers.

The cleaning of microelectronics involves many different challenges like removal and neutralization of the effects of multiple kinds of contaminants, defects, etc. and hence various technologies are used in the process. This includes wet chemical cleaning, dry cleaning, aqueous cleaning, and cryogenic aerosol and supercritical fluid cleaning. These cleaning technologies can be used in equipment that process wafers one-by-one, called single-wafer cleaning equipment, or in groups simultaneously, called batch-wafer cleaning.

By geography, APAC is the leading manufacturer of electronic devices with Taiwan,

South Korea, Japan, etc. leading the charts. In accordance with this, APAC is also the major contributor to the microelectronics cleaning equipment industry. North America has had a stable semiconductor device market for over the last five years with a small growth rate. This is expected to continue in the next five years as well.

The major drivers of the microelectronics cleaning equipment market include increasing demand for smartphones and tablets, growth in the semiconductor industry, and shift to single-wafer processing. The explosive growth in the smartphone and tablet market has boosted the demand for more semiconductor wafers and hence more microelectronics cleaning equipment. The performance-driven IC market has forced the transition to single-wafer processing and this is another big driver.

This report segregates the overall microelectronics cleaning equipment market into various application areas such as ICs, photomasks, PCBs, MEMS, FPDs, HDDs, and others. One of the major drivers for this market is the increasing demand for smartphones and tablets.

This report deals with all the driving factors, restraints, and opportunities for the biometric technology market, which are helpful in identifying trends and key success factors for the industry. The report also profiles companies active in the field of microelectronics cleaning equipment. This report provides the competitive landscape of the players, which covers key growth strategies; followed by all the major players. It also highlights the winning imperatives and burning issues pertaining to the microelectronics cleaning equipment industry. It also analyzes the microelectronics cleaning equipment market with the help of Porter's five-force model.

The global microelectronics cleaning equipment market is expected to reach \$5.86 billion by 2017, at a CAGR of 16.1%. As stated before, APAC leads this market.

SCOPE OF THE REPORT

The microelectronics cleaning equipment market research report categorizes the global market, based on types, equipment, and applications; it also covers the forecasted revenue of microelectronics cleaning equipment from 2012 to 2017. It describes the deployments of microelectronics cleaning equipment in various regions. The report describes the applications mapping the microelectronics cleaning equipment market with respect to the growth potential and adoption by the users.

On the basis of types

Global microelectronics cleaning equipment market is categorized into various types such as single-wafer spray systems, single-wafer cryogenic systems, batch immersion systems, batch spray systems. The market is also classified in terms of technologies like wet-chemical cleaning process, dry cleaning process, aqueous cleaning process, and cryogenic aerosols and supercritical fluid cleaning.

On the basis of application areas

Application areas of microelectronics cleaning equipment have been categorized into Integrated circuits, photomasks, MEMS, printed circuit boards, hard disk drives, and flat panel displays.

On the basis of geography

Geographical analysis covers North America, Europe, Asia-Pacific, and ROW. In this report, APAC is segregated into Taiwan, South Korea, and Japan.

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