

Atomic Layer Deposition Equipment Market Report by Product (Metal ALD, Aluminum Oxide ALD, Plasma Enhanced ALD, Catalytic ALD, and Others), Application (Semiconductors, Solar Devices, Electronics, Medical Equipment, and Others), and Region 2024-2032

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Abstracts

The global atomic layer deposition equipment market size reached US\$ 6.6 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 22.6 Billion by 2032, exhibiting a growth rate (CAGR) of 14.5% during 2024-2032.

Atomic layer deposition (ALD) refers to a vapor phase technique that is deployed for depositing ultra-thin films on top of a substrate after getting exposed to alternating precursors. Some of the commonly used equipment includes single wafer, batch, plasma, large substrate ALD reactors, thin-film electroluminescent (TFEL) displays and other electronic components. These tools help in ensuring uniformity by controlling the thickness and improving or modifying various properties of substrates, including resistance, conductivity, and strength. On account of these properties, it is used in semiconductors, electronics, optical devices, fuel cells and thermoelectric materials. At present, atomic layer deposition equipment is commercially available in varying types, such as metal, plasma-enhanced, aluminum oxide, and catalytic.

Atomic Layer Deposition Equipment Market Trends:

The widespread adoption of ALD equipment across various research and development (R&D) facilities, healthcare, and solar sector on account of the increasing need for flexible tools to improve functionality and offer higher accuracy is primarily driving the market growth. In line with this, the rising demand for miniaturization, semiconductors,

and power management systems in electronic materials for depositing various products, including data storage, small electronic components and display devices are further contributing to the market growth. This is further supported by the utilization of atomic layer deposition equipment for manufacturing integrated circuits (IC), chips, and micro-electromechanical systems (MEMS) products, such as optical switches, sensors, and computers. In line with this, significant technological advancements have led to the introduction of spatial ALD for flexible electronics and three-dimensional (3D) printed reactors to ensure uniformity and conformity of complex 3D nanostructures, which is acting as another growth-inducing factor. Additionally, the escalating requirement for solid-state thin-film batteries due to the increasing uptake of implantable, smartwatches, smartphones and medical equipment is contributing to the market growth. Apart from this, strategic collaborations amongst key players for launching plasma-enhanced ALD are creating a positive outlook for the market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global atomic layer deposition equipment market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on product and application.

Breakup by Product:

- Metal ALD
- Aluminum Oxide ALD
- Plasma Enhanced ALD
- Catalytic ALD
- Others

Breakup by Application:

- Semiconductors
- Solar Devices
- Electronics
- Medical Equipment
- Others

Breakup by Region:

- North America

United States
Canada
Asia-Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Arradance LLC, ASM International, Beneq Oy, CVD Equipment Corporation, Forge Nano Inc., Kurt J. Lesker Company, Lam Research Corporation, Oxford Instruments plc, Picosun Oy (Applied Materials Inc.), SENTECH Instruments GmbH, Veeco Instruments Inc., Wonik IPS Co. Ltd. and Tokyo Electron Limited.

Key Questions Answered in This Report

1. What was the size of the global atomic layer deposition equipment market in 2023?
2. What is the expected growth rate of the global atomic layer deposition equipment market during 2024-2032?
3. What has been the impact of COVID-19 on the global atomic layer deposition equipment market?

4. What are the key factors driving the global atomic layer deposition equipment market?
5. What is the breakup of the global atomic layer deposition equipment market based on the product?
6. What is the breakup of the global atomic layer deposition equipment market based on the application?
7. What are the key regions in the global atomic layer deposition equipment market?
8. Who are the key players/companies in the global atomic layer deposition equipment market?

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