

# **Thin Film Semiconductor Deposition Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2024 – 2032**

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## **Abstracts**

The Global Thin Film Semiconductor Deposition Market, valued at USD 23.5 billion in 2023, is projected to grow at 15% CAGR from 2024 to 2032. This growth is largely driven by the growing demand for advanced electronics, including smartphones, tablets, and wearable technology, which require high-performance semiconductor components. The rise of technologies such as 5G, AI, and the Internet of Things (IoT) is intensifying the need for more efficient and compact semiconductor solutions. Additionally, the growing investments in renewable energy and electric vehicles (EVs), which rely heavily on thin-film technologies, further contribute to market expansion. Innovations in deposition methods that enhance manufacturing efficiency and lower production costs also play a crucial role in this growth trajectory.

Among these, the chemical vapor deposition segment is anticipated to reach over USD 30 billion by 2032. CVD technology is favored for its ability to produce thin films with exceptional uniformity and precision, vital for high-performance electronic devices and integrated circuits. Its extensive application across industries such as microelectronics, photovoltaics, and sensors makes it an essential technology for mass-producing advanced components, aligning with the growing requirements for consumer electronics, 5G applications, and IoT devices. In terms of end-use industries, the thin film semiconductor deposition market spans various sectors, including electronics, aerospace, defense, automotive, IT and telecom, and energy and power. The automotive sector is the fastest-growing segment, with an expected CAGR of over 18% from 2024 to 2032. The transition towards electric vehicles significantly drives the demand for sophisticated semiconductor components, where thin film deposition methods are crucial.

EVs depend on advanced power electronics for critical functions such as battery management, motor control, and energy efficiency, which necessitate compact, high-performance semiconductors. North America accounted for over 30% of the thin film semiconductor deposition market share. The robust growth in this region is largely attributed to the presence of leading technology companies and research institutions that spearhead innovation in semiconductor manufacturing. With considerable investments in research and development, these entities continually advance materials and deposition techniques, thereby broadening the capabilities and applications of thin films across multiple sectors, including electronics, healthcare, and aerospace.

## Contents

### Report Content

#### **CHAPTER 1 METHODOLOGY & SCOPE**

- 1.1 Market scope & definitions
- 1.2 Base estimates & calculations
- 1.3 Forecast calculations
- 1.4 Data sources
  - 1.4.1 Primary
  - 1.4.2 Secondary
    - 1.4.2.1 Paid sources
    - 1.4.2.2 Public sources

#### **CHAPTER 2 EXECUTIVE SUMMARY**

- 2.1 Industry synopsis, 2021-2032

#### **CHAPTER 3 INDUSTRY INSIGHTS**

- 3.1 Industry ecosystem analysis
  - 3.1.1 Factor affecting the value chain
  - 3.1.2 Disruptions
  - 3.1.3 Future outlook
  - 3.1.4 Manufacturers
  - 3.1.5 Distributors
- 3.2 Profit margin analysis
- 3.3 Key news & initiatives
- 3.4 Regulatory landscape
- 3.5 Impact forces
  - 3.5.1 Growth drivers
    - 3.5.1.1 Rising demand for advanced electronics
    - 3.5.1.2 Expansion of 5G and IoT technologies
    - 3.5.1.3 Advancements in renewable energy and EVs
    - 3.5.1.4 Innovation in deposition techniques
  - 3.5.2 Industry pitfalls & challenges
    - 3.5.2.1 High initial capital investment
    - 3.5.2.2 Technical complexities in deposition processes

3.6 Growth potential analysis

3.7 Porter's analysis

3.8 PESTEL analysis

## **CHAPTER 4 COMPETITIVE LANDSCAPE, 2023**

4.1 Introduction

4.2 Company market share analysis

4.3 Competitive positioning matrix

4.4 Strategic outlook matrix

## **CHAPTER 5 MARKET ESTIMATES & FORECAST, BY TECHNOLOGY, 2021-2032 (USD MILLION)**

5.1 Key trends

5.2 Chemical vapor deposition (CVD)

5.3 Physical vapor deposition (PVD)

5.4 Atomic layer deposition (ALD)

5.5 Others

## **CHAPTER 6 MARKET ESTIMATES & FORECAST, BY END USE INDUSTRY, 2021-2032 (USD MILLION)**

6.1 Key trends

6.2 Electronics

6.3 Automotive

6.4 Aerospace & defense

6.5 IT & telecom

6.6 Energy & power

6.7 Others

## **CHAPTER 7 MARKET ESTIMATES & FORECAST, BY REGION, 2021-2032 (USD MILLION)**

7.1 Key trends

7.2 North America

7.2.1 U.S.

7.2.2 Canada

7.3 Europe

- 7.3.1 UK
- 7.3.2 Germany
- 7.3.3 France
- 7.3.4 Italy
- 7.3.5 Spain
- 7.3.6 Russia
- 7.4 Asia Pacific
  - 7.4.1 China
  - 7.4.2 India
  - 7.4.3 Japan
  - 7.4.4 South Korea
  - 7.4.5 Australia
- 7.5 Latin America
  - 7.5.1 Brazil
  - 7.5.2 Mexico
- 7.6 MEA
  - 7.6.1 South Africa
  - 7.6.2 Saudi Arabia
  - 7.6.3 UAE

## **CHAPTER 8 COMPANY PROFILES**

- 8.1 Advanced Micro-Fabrication Equipment
- 8.2 Aixtron
- 8.3 Applied Materials
- 8.4 ASM International
- 8.5 ASML Holding
- 8.6 Canon Anelva
- 8.7 CVD Equipment
- 8.8 Denton Vacuum
- 8.9 KLA
- 8.10 Kokusai Electric
- 8.11 Kurt J. Lesker
- 8.12 Lam Research
- 8.13 Oxford Instruments
- 8.14 Plasma-Therm
- 8.15 SAMCO
- 8.16 Tokyo Electron
- 8.17 ULVAC

## 8.18 Veeco Instruments

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