



## **The Worldwide Semiconductor Bonding Industry is Expected to Reach \$1.05 Billion by 2026 - September 15, 2021**

Dublin, Sept. 15, 2021 (GLOBE NEWSWIRE) -- The ["Global Semiconductor Bonding Market by Type \(Die Bonder, Wafer Bonder, Flip Chip Bonder\), Application \(RF Devices, MEMS & Sensors, LED, 3D NAND, CMOS Image Sensors\), Process Type, Technology, and Region - Forecast to 2026"](#) report has been added to ResearchAndMarkets.com's offering.

The global semiconductor bonding market was valued at USD 887 million in 2021 and is anticipated to reach USD 1,059 million by 2026, growing at a CAGR of 3.6% between 2021 to 2026. The growing demand for semiconductor bonding in applications such as electric and hybrid vehicles is driving the growth of semiconductor bonding market.

The semiconductor industry plays a vital role in electric and hybrid vehicles. The key components required in electric and hybrid vehicles include power semiconductor devices such as freewheeling diodes, ICs, MEMS, voltage boost DC-DC converters, fuel cell air compressors, motor drives, insulated gate bipolar transistors (IGBTs), and low-voltage power MOSFETs. Innovations in automobiles to build energy-efficient and environment-friendly vehicles have increased the demand for semiconductor devices such as ICs and sensors. Automobile companies also focus on using system on chip (SoC), which offers faster control and secure communication.

To reduce carbon emissions, the use of electric and hybrid vehicles is expanding gradually in some countries because of government support and substantial investments from the automotive industry. Advanced electric cars provided by some of the key car manufacturers, such as Bayerische Motoren Werke AG (BMW) (Germany), Ford Motor Company (US), and Toyota Motor Corporation (Japan), and the initiatives by several countries to reduce carbon emissions have increased the use of hybrid and electric vehicles. As more semiconductor devices are used in electric vehicles, the demand for semiconductor bonding equipment is expected to increase.

According to the International Energy Agency, the adoption of electric vehicles is continuously increasing across the globe, and their demand is expected to grow rapidly in the coming years. According to the Bloomberg New Energy Finance report, the sales of electric vehicles are estimated to grow to 41 million by 2040, thereby leading to a rise in the demand for electronic components used in electric vehicles.

Advanced systems, such as idling stop systems (ISS), would result in the growth in the semiconductor content in traditional fuel-based vehicles. For instance, in 2014, ROHM Semiconductor developed high-performance microcontrollers for various automotive systems, especially in electric and hybrid vehicles. Such advancements in the automotive sector increase the demand for semiconductor devices, subsequently driving the growth of the semiconductor bonding market.

### **Growing adoption of IoT and AI in automotive sector**

The advent of Industry 4.0 and technologies such as IoT and AI in the automotive sector would contribute significantly toward the growth of the semiconductor bonding market. The increasing demand for vehicle connectivity would encourage new developments in the industry. With ongoing trends such as touch-free human-machine interfaces revolutionizing the automotive sector, there is a growing significance of connected cars.

According to a report published by the GSM Association (GSMA) in 2019, the number of IoT connections is projected to reach 24.6 billion globally by 2025. Integration of IoT in automotive safety and communication technologies is one of the major reasons for the anticipated growth of IoT connections. The introduction of technologies such as advanced driver assistance systems (ADAS), adaptive cruise control, and intelligent parking assistance systems would further drive the market growth.

Cellular IoT connectivity and AI play a vital role in automotive and transportation sectors, with major use cases being shared mobility, autonomous vehicles, connected vehicles, telematics, smart public transportation, and C-V2x vehicles. The development of smart infrastructures such as smart cities and intelligent transportation systems would accelerate the implementation of AI and IoT technologies in automotive and transportation. As per the analyst, the connected car market is expected to grow from USD 53.9 billion in 2019 to USD 166 billion by 2025; it is anticipated to register a CAGR of 25.2% during 2020-2025.

The implementation of IoT and AI technologies in automobiles is leading to the integration of a large number of intelligent sensors and actuators, as well as AI chips such as ADAS, LiDAR, and neuromorphic chips. These components do not use standard packaging, as different customers have different packaging designs. The manufacturing process of these components comprises high-precision dispensing and stamping of epoxy. Some use eutectic and ultraviolet (UV) processes. This necessitates the demand for flexible multi-die and multi-process die bonding machines with high speed and high accuracy.

Asia-Pacific is the fastest-growing region in the semiconductor bonding market

In 2020, APAC accounted for a 62.6% share of the global semiconductor bonding market. The growth of the semiconductor bonding in APAC is attributed to the presence of several OSAT players in China and Taiwan. The region also houses semiconductor fabrication facilities of a few of the major IDMs, such as Intel (US), Micron (US), NXP Semiconductors (Netherlands), SK Hynix (South Korea), Samsung (South Korea), Texas Instruments (US), ASM Pacific Technology Ltd. (Singapore), SHIBUYA CORPORATION (Japan), Kulicke & Soffa (Singapore), and Shinkawa Ltd. (Japan) are among the major players in this market that have their headquarters in APAC.

Key Topics Covered:

1 Introduction

2 Research Methodology

3 Executive Summary

4 Premium Insights

4.1 Attractive Opportunities in Semiconductor Bonding Market

4.2 Semiconductor Bonding Market, by Type

4.3 Market for Cloud Semiconductor Bonding, by Country

4.4 Semiconductor Bonding Market in APAC in 2026, by Country & Application

4.5 Semiconductor Bonding Market, by Application

5 Market Overview

5.1 Introduction

5.2 Market Dynamics

5.2.1 Drivers

5.2.1.1 Growing Demand for Miniature Electronic Components

5.2.1.2 Increasing Adoption of Stacked Die Technology in IoT Devices

5.2.1.3 Rising Demand for Electric and Hybrid Vehicles

## 5.2.2 Restraints

### 5.2.2.1 High Cost of Ownership

## 5.2.3 Opportunities

### 5.2.3.1 Increasing Demand for 3D Semiconductor Assembly and Packaging

### 5.2.3.2 Expanding IC Industry in China

### 5.2.3.3 Growing Adoption of IoT and AI in Automotive Sector

## 5.2.4 Challenges

### 5.2.4.1 Mechanical Unbalance of Moving Parts and Thin Wafers Being Volatile and Susceptible to Damage Caused by Pressure or Stress

### 5.2.4.2 Increased Complexities Related to Miniaturized Structures of Circuits

## 5.3 Value Chain Analysis

### 5.3.1 Semiconductor Bonding Value Chain

### 5.3.2 Asp Analysis

### 5.3.3 Regulations

### 5.3.4 Exports-Imports Regulations

### 5.3.5 Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE)

### 5.3.6 Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)

## 5.4 Ecosystem

## 5.5 Technology Analysis

## 5.6 Case Studies

## 5.7 Patents Analysis

## 5.8 Porter's Five Forces Analysis

## 5.9 Trends/Disruptions Impacting Customer's Business

## 5.10 Trade Analysis

## 6 Semiconductor Bonding Market, by Process Type

### 6.1 Introduction

### 6.2 Die-To-Die Bonding

#### 6.2.1 Die-To-Die Bonding Segment is Expected to Grow at 4.3% CAGR

### 6.3 Die-To-Wafer Bonding

#### 6.3.1 Several Different Die-To-Wafer Bonding Approaches are Being Considered for Heterogeneous Integration

### 6.4 Wafer-To-Wafer Bonding

#### 6.4.1 Wafer-To-Wafer is Used for Applications Such as CMOS Image Sensors and Various Memory and Logic Technologies

## 7 Semiconductor Bonding Market, by Technology

### 7.1 Introduction

### 7.2 Die Bonding

#### 7.2.1 Epoxy Die Bonding

##### 7.2.1.1 Epoxy Bonding to Account for Largest Share of Die Bonder Equipment Market due to Low Cost and Low Curing Temperature

#### 7.2.2 Eutectic Die Bonding

##### 7.2.2.1 Eutectic Die Bonding is Primarily Used for Fabrication of Electronic Components

#### 7.2.3 Flip Chip Attachment

##### 7.2.3.1 Flip Chip Attachment Method is Used for Making Electrical Connections to Chips

#### 7.2.4 Hybrid Bonding (For 3D NAND)

##### 7.2.4.1 Main Application of Hybrid Bonding is in Advanced 3D Device Stacking

### 7.3 Wafer Bonding

#### 7.3.1 Direct Wafer Bonding

##### 7.3.1.1 Direct Wafer Bonding Offers Strong Connection due to Covalent Forces

#### 7.3.2 Anodic Wafer Bonding

##### 7.3.2.1 Anodic Wafer Bonding Offers Advantage of Wide Process Window, Which Helps in MEMS Fabrication

### 7.3.3 TCB Wafer Bonding

7.3.3.1 Metals Such as AU, CU, or AL are Used for Metal Thermocompression Bonding

### 7.3.4 Hybrid Bonding

7.3.4.1 Xperi Has Developed New Version of Its Hybrid Bonding Technology

## 8 Semiconductor Bonding Market, by Type

### 8.1 Introduction

### 8.2 Die Bonder

#### 8.2.1 Manual Die Bonders

8.2.1.1 Manual Die Bonders Play Significant Role in R&D, Testing, and Prototyping Applications

#### 8.2.2 Semiautomatic Die Bonders

8.2.2.1 Semiautomatic Die Bonders are Flexible and Easy to Use

#### 8.2.3 Fully Automatic Die Bonders

8.2.3.1 Fully Automatic Die Bonders are Expected to Gain More Market Traction

### 8.3 Wafer Bonder

8.3.1 UV-Release Adhesives, Thermal-Release Adhesives, and Solvent-Release Adhesives are Used in Wafer Bonding

### 8.4 Flip Chip Bonder

8.4.1 Flip Chip Bonding Can Offer Several Advantages Over Other Interconnection Processes

## 9 Semiconductor Bonding Market, by Application

### 9.1 Introduction

### 9.2 MEMS and Sensors

9.2.1 Growth is Driven by High Demand from Consumer Electronics Manufacturers and Adoption of Patient Monitoring Solutions During COVID-19 Pandemic

### 9.3 CMOS Image Sensors (CIS)

9.3.1 Increasing Demand from Automotive Vertical is Expected to Drive Demand for CIS

### 9.4 Radiofrequency (RF) Devices

9.4.1 Increasing Demand for RF Devices for Smartphones to Drive Semiconductor Bonding Market

### 9.5 LED

9.5.1 Increasing Demand for LED Components in Home and Infrastructure Market to Augment Growth During Forecast Period

### 9.6 3D NAND

## 10 Geographic Analysis

## 11 Competitive Landscape

### 11.1 Introduction

### 11.2 Revenue Analysis

### 11.3 Market Share Analysis, 2020

### 11.4 Key Player Strategies/Right to Win

11.4.1 Overview of Strategies Deployed by Key Semiconductor Bonding Companies

### 11.5 Competitive Leadership Mapping

#### 11.5.1 Star

#### 11.5.2 Emerging Leader

#### 11.5.3 Pervasive

#### 11.5.4 Participant

#### 11.5.5 Semiconductor Bonding Market: Type Footprint

### 11.6 Competitive Situations and Trends

11.6.1 Semiconductor Bonding Market: Product Launches, January 2018 - April 2021

11.6.2 Semiconductor Bonding Market: Deals, January 2018 - April 2021

## 12 Company Profiles

### 12.1 Introduction

### 12.2 Key Players

- 12.2.1 ASM Pacific Technology
- 12.2.2 Besi
- 12.2.3 Panasonic
- 12.2.4 Fasford Technology
- 12.2.5 Shinkawa Ltd.
- 12.2.6 EV Group (EVG)
- 12.2.7 SUSS MicroTech SE
- 12.2.8 Kulicke & Soffa Industries
- 12.2.9 Palomar Technologies
- 12.2.10 Shibaura Mechatronics
- 12.3 Other Key Players
  - 12.3.1 TDK Corporation
  - 12.3.2 Tokyo Electron Limited
  - 12.3.3 Mitsubishi Heavy Industries Machine Tools
  - 12.3.4 Mycronic Group
  - 12.3.5 Intel
  - 12.3.6 Samsung
  - 12.3.7 Canon Anelva Corporation
  - 12.3.8 Finetech
  - 12.3.9 Dr. Tresky
  - 12.3.10 SET Corporation SA
  - 12.3.11 Tokyo Ohka Koygo
  - 12.3.12 BondTech
  - 12.3.13 Ayumi Industries
  - 12.3.14 Applied Microengineering Limited
  - 12.3.15 Taiwan Semiconductor Manufacturing Company (TSMC)
  - 12.3.16 Toray Engineering

## 13 Appendix

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