

Global 3D IC Market Size study & Forecast, by Type (Stacked 3D, Monolithic 3D), by Component (Through-Silicon Via (TSV), Through Glass Via (TGV), Silicon Interposer), by Application (Logic, Imaging & optoelectronics, Memory, MEMS/Sensors, LED, Others), by End User (Consumer Electronics, Telecommunication, Automotive, Others) and Regional Analysis, 2023-2030

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Abstracts

Global 3D IC Market is valued at approximately USD 12.05 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 20% over the forecast period 2023-2030. 3D IC, or 3D Integrated Circuit, refers to a technology in which multiple semiconductor chips, also known as Integrated Circuits (ICs), are stacked vertically on top of each other to create a three-dimensional structure. This technology is employed in the field of microelectronics and integrated circuit design to overcome some of the limitations of traditional 2D integrated circuits. The 3D IC Market is expanding because of factors such as increasing demand for consumer electronics and growing demand for connected wearable devices. As a result, the demand for 3D IC has progressively increased in the international market during the forecast period 2023-2030.

Consumer electronics, such as smartphones, tablets, and gaming consoles, are continuously striving for improved performance. 3D IC technology allows for faster data transfer, reduced signal delays, and better power efficiency. As consumers demand faster, more powerful, and more energy-efficient devices, manufacturers turn to 3D ICs to meet these requirements. According to Statista, in 2023, the Consumer Electronics

market is expected to be worth USD 602.50 billion and estimated to reach up to USD 950.30 billion by 2027 in between 2023-2027 at a rate of 12.07%. Furthermore, in 2023, consumer electronics retail sales in the United States account for USD 485 billion. Another important factor that drives the 3D IC Market is the increasing demand for connected wearable devices. Wearable devices are becoming more sophisticated and capable of performing complex tasks, such as health monitoring, fitness tracking, navigation, and communication. The demand for increased processing power in wearables is met by 3D ICs, which provide a way to integrate powerful processors and memory in a small space. In addition, as per Statista, in 2022, the global number of connected wearable devices increased substantially and reached up to 1.1 billion in number as compared to 929 million a year before. Moreover, the rising integration of 3D IC in smart home appliances and the growing adoption of IoT technology is anticipated to create lucrative growth opportunities for the market over the forecast period. However, high costs associated with 3D IC technology and technical complexity are going to impede overall market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global 3D IC Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the increased demand for integrated circuits due to technological advancements in the region. The region's dominant performance is anticipated to propel the overall demand for 3D IC. Furthermore, Asia Pacific is expected to grow fastest over the forecast period, owing to factors such as increased focus on technological upgradations and growing demand for smart devices in the region. The growing demand for smart devices has driven investments in improved wireless and broadband networks, ensuring that these devices can function seamlessly and efficiently.

Major market player included in this report are:

Advanced Semiconductor Engineering, Inc

Amkor Technology, Inc

Samsung Electronics Co., Ltd.

United Microelectronics Corporation

STMicroelectronics N.V.

Toshiba Corporation

Intel Corporation

Micron Technology, Inc

Taiwan Semiconductor Manufacturing Company Limited

Xilinx Inc

Recent Developments in the Market:

In October 2023, During the TSMC 2023 OIP Ecosystem Forum, Taiwan Semiconductor Manufacturing Co. Ltd unveiled the new 3Dblox 2.0 open standard and highlighted important achievements within its Open Innovation Platform (OIP) 3DFabric Alliance. 3Dblox 2.0 features sophisticated 3D IC design tools that are intended to considerably improve design efficiency. Simultaneously, the 3DFabric Alliance continues to promote integration across memory, substrate, testing, manufacturing, and packaging. TSMC stays at the forefront of 3D IC innovation, bringing its vast 3D silicon stacking and superior packaging capabilities to a wider variety of customers.

Global 3D IC Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Type, Component, Application, End User, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Type

Stacked 3D

Monolithic 3D

By Component

Through-Silicon Via (TSV)

Through Glass Via (TGV)
Silicon Interposer

By Application

Logic
Imaging & optoelectronics
Memory
MEMS/Sensors
LED
Others

By End User

Consumer Electronics
Telecommunication
Automotive
Military & Aerospace
Medical Devices
Industrial
Others

By Region:

North America

U.S.
Canada

Europe

UK
Germany
France
Spain
Italy
ROE

Asia Pacific

China
India
Japan
Australia

South Korea
RoAPAC

Latin America
Brazil
Mexico

Middle East & Africa
Saudi Arabia
South Africa
Rest of Middle East & Africa

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