

# Gallium Arsenide (GaAs) Wafer Market is projected to achieve a CAGR of 14.33% to reach US\$1,003.78 million by 2029

*The gallium arsenide (GaAs) wafer market is anticipated to grow at a CAGR of 14.33% from US\$391.312 million in 2022 to US\$1,003.78 million by 2029.*



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/EINPresswire.com/ -- According to a new study published by Knowledge Sourcing Intelligence, the [gallium arsenide \(GaAs\) wafer market](#) is projected to grow at a CAGR of 14.33% between 2022 and 2029 to reach US\$1,003.78 million by 2029.

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Gallium Arsenide is a III-V direct band gap semiconductor consisting of Ga and As according to the third and fifth column of the periodic table, respectively. Gallium arsenide is used in the manufacturing of devices like [solar cells](#), laser diodes, and integrated circuits.

Devices made from gallium arsenide are used across various industries like defense, aerospace, and communication because devices are made much more efficient and faster than devices made from silicon.

Gallium Arsenide wafers have the property of heat and radiation resistance because of which it is preferred to be used in defense-related devices due to this not only good quality defense equipment are manufactured but also procured thus, contributing to the growth of gallium arsenide (GaAs) wafers market.

Some of the advantages of gallium arsenide wafers are high operating frequency, lower power consumption, and efficient performance even at high temperatures.

Increasing demand for smartphones is one of the major reasons for the demand for gallium arsenide (GaAs) wafers across the globe.

According to the data from the U.S. International Trade Commission, in 2022, U.S. imports of cellular phones have grown by \$2.8 billion thus achieving a 4.7% rise reaching \$62.6 billion. It highest ever yearly dollar volume since 2007.

Demand for gallium arsenide devices is increasing because they can operate at a much faster speed and much better efficiency compared to silicon-based devices. Its high speed is very beneficial for various critical operations thus making it making GaAs devices an essential part in the development and advancement of technologies within various industries.

Demand for gallium arsenide devices is increasing across various industries due to increasing investment and technological advancements in the technology. Advantages, like high operating frequency, improved efficiency at elevated temperatures, and reduced power consumption have made GaA devices suitable for various applications in various industries.

Many product launches and developments are taking place in the global gallium arsenide (GaAs) wafer market during the forecast period. For instance, in October 2023, Sumitomo Electric Industries, established a manufacturing subsidiary in Mexico, for the manufacturing of high-functionality electric wires and wiring materials.

In the era of high-speed communication devices gallium arsenide wafers are preferred as semiconductors for optical modulators and switches. Gallium Arsenide wafers are used in the making of high-frequency devices, photovoltaic cells, integrated circuits, sensors, and detectors. A wide range of applications helps the wider adoption of GaAs technology in modern-era electronic technologies.

Asia Pacific region is anticipated to hold the majority share of the arsenide (GaAs) wafer market because of the increasing demand latest technology devices like [laptops](#), smartphones, and various types of smart gadgets.

Technological advancements in China, Taiwan, India, and Japan are majorly contributing to the growth of the market. China dominates the electronics industry in the Asia Pacific region. High region population availability of labor at low cost also contributed to the growth of the market.

Access sample report or view details: <https://www.knowledge-sourcing.com/report/global-gallium-arsenide-gaas-wafer-market>

The global gallium arsenide (GaAs) wafer market, based on different types is categorized into single crystal GaAs wafer and polycrystalline GaAs wafer. Single crystal GaAs wafer comprises single crystals of gallium arsenide, which consist of electrical and optical properties. Single crystal GaAs wafers are made with the help of technologies like metalorganic vapor phase epitaxy (MOVPE) or molecular beam epitaxy (MBE).

Polycrystalline GaAs wafers are used in the making of infrared windows. It is also used in the

making of lower-frequency electronics and optoelectronic devices. It is also used in solar cells and across various industries.

The global gallium arsenide (GaAs) wafer market, based on different techniques is categorized into- Vertical Gradient Freeze (VGF) and Liquid Encapsulated Czochralski (LEC). Vertical Gradient Freeze is a powerful method of growing gallium arsenide crystals. This process requires high heat and is a complex process. The vertical Gradient Freeze process involves movement of the crucible and heater relative to each other. This process is used to make various advanced devices.

Liquid Encapsulated Czochralski is a modified process of the traditional Cz method. This method is commonly used for growing GaAs and InP crystals. This method is widely used for the production of bulk single crystals of a wide range of electronic and optical materials.

As a part of the report, the major players operating in the global gallium arsenide (GaAs) wafer market that have been covered are Wafer Technology Ltd, Mitsubishi Chemical, Sumitomo Electric Industries, Freiberger Compound Materials GmbH, AXT Inc., Xiamen Powerway Advanced Material Co., Ltd, Semiconductor Wafer Inc., Atecom Technology Co., Ltd, and Vital Materials Co Limited.

The market analytics report segments the global gallium arsenide (GaAs) wafer market using the following criteria:

- By Type
  - o Single Crystal GaAs Wafer
  - o Polycrystalline GaAs Wafer
- By Technique
  - o Vertical Gradient Freeze (VGF)
  - o Liquid Encapsulated Czochralski (LEC)
  - o The Bridgman-Stockbarger Technique
- By Application
  - o Consumer Electronics
  - o Communication and Technology
  - o Automotive
  - o General Lighting
  - o Aerospace and Defense
- By Geography

o North America

- USA
- Canada
- Mexico

o South America

- Brazil
- Argentina
- Others

o Europe

- Germany
- France
- UK
- Spain
- Italy
- Others

o Middle East and Africa

- Saudi Arabia
- UAE
- Israel
- Others

o Asia Pacific

- China
- Japan
- Australia
- India
- South Korea
- Indonesia
- Taiwan
- Thailand
- Others

Companies Mentioned:

- Wafer Technology Ltd
- Mitsubishi Chemical
- Sumitomo Electric Industries
- Freiburger Compound Materials GmbH
- AXT Inc.
- Xiamen Powerway Advanced Material Co., Ltd
- Semiconductor Wafer Inc.
- Atecom Technology Co., Ltd
- Vital Materials Co Limited

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