

## **GaN Semiconductor Devices Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

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### **Report description:**

The GaN semiconductor devices market valued at USD 977.21 million in 2019, and is expected to reach USD 2534.61 million by 2025, registering a CAGR of 17.21% over the forecast period of 2020-2025. Growing demand for radio frequency in the semiconductor market, and a prospering consumer electronics industry, particularly in LED-based lighting and displays and rise in electric vehicles, power delivery, and photovoltaic inverters are some of the major market driving factors for the GaN semiconductor devices market.

### **Key Highlights**

The various benefits of GaN, such as its cost-effective nature and elimination of cooling requirements have propelled its reach as compared to its contemporaries like silicon and gallium arsenide. The increasing adoption is also reinforced by the increase in demand for energy-efficient semiconductor devices in recent years.

Increasing demand for smartphones, gaming devices, laptops, and TVs is expected to drive the GaN semiconductor devices market in the consumer electronics sector.

With the introduction of the 5G standard, there is an increase in demand for high-power transistors and base stations, which is augmenting the demand for GaN power semiconductors in the ICT segment.

### **GaN Semiconductor Devices Market Trends**

Consumer Electronic Segment is Expected to Hold Largest Market Share

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With the decrease in the price of GaN semiconductor technologies owing to increasing innovations, the rate of adoption of GaN is expected to increase over the years.

The data consumption rate, number of applications installed on a device, faster processors, improved RAM/ROM, robust displays consume battery more than what earlier specifications would use. With such technological advancements, the ability of batteries needs to increase. GaN semiconductors are revolutionizing the charging technologies in the existing electronic devices. The semiconductors are being employed in wireless charging, fast charging, etc.

Wider applications of GaN semiconductor device are ranging to other computer parts as well, for instance, switching mode power supply, an efficient energy converter.

With 5G wireless communication on its way, the usage of electronic devices would increase multifold, thereby growing demand for GaN semiconductors.

#### Asia-Pacific Region is Expected to Witness the Fastest Growth Rate

Increasing production and export of consumer electronics and automobiles from China, Japan, and India are driving the GaN market in Asia-Pacific.

Low labour and production costs in the region are essential factors fuelling the growth of the market.

China has 330,000 public charging points, compared with 67,500 in the United States, according to the MIT study. Shenzhen City has a 100 % electric fleet of 16,000 buses and is switching its 22,000 taxis to EVs. The resort island of Hainan plans for 100 % adoption of EVs by 2030.

On 7 March 2019, the Indian government officially announced a 15% import subsidy on lithium. This indicates the ease of electric vehicle production in the country. Policy negotiations between the Prime Minister's Office and the Department of Heavy Industry (DHI), the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles scheme, was passed to make India ride on the path to electric mobility.

Various state governments in India, are pushing for mass adoption of electric buses. For instance, Mahindra and Tata are signing tenders with government bodies like Energy Efficiency Services Limited to provide EVs for government use.

#### GaN Semiconductor Devices Market Competitor Analysis

This industry is dominated by the giants in the semiconductor industry. The competitive rivalry is high with the presence of companies like Panasonic Corporation, NXP Semiconductors NV, and Toshiba Corporation among others.

In 2019, Panasonic used its patented X-GaN technology to produce GaN-based transistors in a number of applications, including power converters with an efficiency of up to 99% and replacements for transistors in motor configurations.

In the consumer electronics segment, RAVPower introduced a new line of 45W GaN PD wall chargers in 2018 for faster charging.

At IMS 2018, NXP Semiconductors NV introduced new RF GaN wideband power transistors and also expanding its Airfast third-generation Si-LDMOS portfolio of macro and outdoor small cell solutions for 5G.

#### Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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