

Middle East & Africa Gallium Nitride Semiconductor Devices Market: Current Analysis and Forecast (2025-2033)

<https://marketpublishers.com/r/MA612BE4116EEN.html>

Date: March 2026

Pages: 100

Price: US\$ 3,999.00 (Single User License)

ID: MA612BE4116EEN

Abstracts

The Middle East & Africa Gallium Nitride Semiconductor Devices market was valued at USD 530 million in 2024 and is expected to grow at a strong CAGR of around 16.50% during the forecast period (2025- 2033F). Rising Investment in Telecom and Digital Infrastructure, and the growth of Renewable Energy and Power Systems are some of the key drivers supporting the market rise.

Middle East & Africa Gallium Nitride Semiconductor Devices Market Analysis

The Market of Gallium Nitride (GaN) Semiconductor Devices in the Middle East and Africa (MEA) is in a process of stable growth, with the major driving force of the expansion of telecommunications, defense systems, and renewable energy applications in the region. The growing demands of high-efficiency power electronics, high-frequency equipment, and miniature RF components are driving the usage in several industries. Member states of the Gulf Cooperation Council (GCC) are investing in smart grids, 5G networks, and electric mobility, while African countries are gradually upgrading their industrial and power infrastructure. Also, the high performance of the GaN device compared to the performance of the traditional silicon-based semiconductors, especially under high power and high temperature circumstances, makes them a choice for next-generation electronic solutions.

The government of Egypt announced to invest USD 565 million in the FY 2025 to upgrade and expand its national electricity transmission network, under which the adoption of smart grids and renewable energy infrastructure is a key focus.

Middle East & Africa Gallium Nitride Semiconductor Devices Market Trends

This section discusses the key market trends that are influencing the various segments of the Middle East & Africa Gallium Nitride Semiconductor Devices market, as found by our team of research experts.

Transition Toward Advanced Semiconductor Materials:

The Middle East and Africa semiconductor market is slowly changing its silicon-based semiconductor and wide bandgap technologies like Gallium Nitride (GaN) and other wide bandgap semiconductors. This is due to the existence of efficiency, thermal performance, and power handling issues that are required to increase in the present electronic applications. GaN specifically is very useful in high-speed and high-power conditions, so it is gaining importance in industries like telecommunication, energy related to renewable energy, and industrial power plants. With the ever-increasing performance requirement, industries are focusing more on materials that can facilitate compact design and energy savings. Moreover, it can be noted that the development of world technology and falling prices of GaN technology are also spurring its uptake in the MEA region. This continuous material migration is a surge of the industry cycle towards next-generation semiconductors to support the better performance of the system and the efficiency of operation in the future.

Key Market Segmentation:

This section provides an analysis of the key trends in each segment of the Middle East & Africa Gallium Nitride Semiconductor Devices market, along with forecasts at the country and regional levels for 2025-2033.

The Transistor Category has shown promising growth in the Gallium Nitride Semiconductor Devices Market.

The Middle East and Africa market under Gallium Nitride Semiconductor Devices is classified into Transistor, Diode, Rectifier, Power IC, Supply and Inverter, Lighting, Laser, and others. Among them, one such segment that has had a large market share is the transistor category. The factors that have contributed to the increase can be said to be the growing number of high-frequency RF applications, growth in the number of applications that require efficient conversion of power in the telecommunication infrastructure, and the increasing use of GaN-based transistors in defense and radar systems. They are also very suitable in the more complex electronic systems because of their capability to work under the higher voltages, temperatures, and switching rates

of other silicon-based counterparts. The increased deployment of 5G infrastructure, renewable energy, and electric vehicle recharge infrastructure is also driving the need for GaN transistors in the area even more rapidly.

The GaN Radio Frequency Devices category held a significant share of the Middle East & Africa Gallium Nitride Semiconductor Devices Market.

The market of Middle East & Africa Gallium Nitride Semiconductor Devices is divided, based on the product, into GaN Radio Frequency Devices, Opto-semiconductors, and Power Semiconductors. Among them, the Radio Frequency Devices segment of the GaN Radio Frequency Devices has had a large market share. The major contributor to this domination is the use of sophisticated telecommunications infrastructure that is especially 5G-based networks built in the area. GaN RF devices have high power density, efficiency, and frequency performance, and are ideal when used in the base station, satellite communications, and defense. There is also an increasing trend in investments in radar systems and wireless communication technologies, which are contributing to the expansion of the demand for GaN RF solutions in the MEA market.

The UAE is expected to grow at a considerable rate during the forecast period.

The UAE gallium nitride (GaN) semiconductor devices market has been identified as one of the most promising and rapidly developing markets in the Middle East and Africa region. It is also bolstering growth through robust investments made in 5G infrastructure, renewable energy, electric mobility, smart cities, and highly industrialized systems. The trend in the country, favoring digital transformation and economic diversification that is driven by technology, is generating positive demand for high-efficiency semiconductor solutions. GaN devices are also becoming a focus of research due to their high-power density, thermal conductivity, and small size, which is suitable for RF and power applications. As the activity of innovation increases, the UAE is increasing its presence as a regional hub of GaN growth.

Middle East & Africa Gallium Nitride Semiconductor Devices Industry Competitive Landscape:

The Middle East & Africa Gallium Nitride Semiconductor Devices market is competitive, with several global and international market players. The key players are adopting different growth strategies to enhance their market presence, such as partnerships, agreements, collaborations, new product launches, geographical expansions, and mergers and acquisitions.

Top Middle East & Africa Gallium Nitride Semiconductor Devices Companies

Some of the major players in the market are Infineon Technologies AG, Wolfspeed Inc., Qorvo Inc., Navitas Semiconductor, Renesas Electronics Corporation, Transphorm Inc., STMicroelectronics, NXP Semiconductors, Texas Instruments Incorporated, and Mitsubishi Electric Corporation.

Frequently Asked Questions (FAQ)

Q1: What is the Middle East & Africa Gallium Nitride Semiconductor Devices market's current market size and growth potential?

Ans: The Middle East & Africa Gallium Nitride Semiconductor Devices market was valued at 530 million in 2024 and is expected to grow at a CAGR of 16.50% during the forecast period (2025-2033).

Q2: Which segment has the largest share of the Middle East & Africa Gallium Nitride Semiconductor Devices market by Component?

Ans: The growing number of high-frequency RF applications, growth in the number of applications that require efficient conversion of power in the telecommunication infrastructure, and the increasing use of GaN-based transistors in defense and radar systems have promoted the market share of GaN-based transistors.

Q3: What are the driving factors for the growth of the Middle East & Africa Gallium Nitride Semiconductor Devices market?

Ans:

Rising investment in telecom and digital infrastructure: Expanding 5G deployment, data centers, satellite communications, and digital connectivity projects across the Middle East and Africa are increasing demand for high-performance semiconductor devices. GaN technology is gaining traction in these applications because of its high-frequency performance, power efficiency, and reliability.

Growth of renewable energy and power systems: Increasing investments in solar energy, energy storage, grid modernization, and electric vehicle charging

infrastructure are supporting the adoption of GaN semiconductor devices. Their ability to deliver high power efficiency, reduced energy losses, and better thermal management makes them suitable for modern power conversion systems.

Q4: What are the emerging technologies and trends in the Middle East & Africa Gallium Nitride Semiconductor Devices market?

Ans:

Transition toward advanced semiconductor materials: The regional semiconductor market is gradually shifting from traditional silicon-based technologies toward advanced materials such as gallium nitride. This transition is being driven by the need for higher efficiency, improved thermal performance, and better power handling in next-generation electronic applications.

Expanding use in RF and power applications: GaN devices are seeing broader adoption in radio frequency and power electronics applications, including telecom infrastructure, defense systems, renewable energy equipment, data centers, and fast-charging solutions. Their ability to operate efficiently at high frequencies, voltages, and temperatures is strengthening their role in modern electronic systems.

Q5: What are the key challenges in the Middle East & Africa Gallium Nitride Semiconductor Devices market?

Ans:

Continued preference for conventional silicon technologies: Despite the performance advantages of GaN, many end users and manufacturers in the region continue to rely on silicon-based semiconductor technologies due to their established supply base, lower cost, and broader market familiarity. This slows the pace of transition toward GaN adoption.

Dependence on external supply chains: The Middle East and Africa region still depend heavily on imported semiconductor components, wafers, packaging, and manufacturing technologies. This external dependence can create disruptions,

cost pressures, and longer lead times, which may restrict the faster development of the regional GaN semiconductor market.

Q6: Which country dominates the Middle East & Africa Gallium Nitride Semiconductor Devices market?

Ans: The market of Gallium Nitride (GaN) Semiconductor Devices in Saudi Arabia is starting to pick up a good momentum due to the strategic interests exhibited in the country on technology and economic diversification, as outlined by Vision 2030.

Q7: Who are the key players in the Middle East & Africa Gallium Nitride Semiconductor Devices market?

Ans: Some of the top Gallium Nitride Semiconductor Devices companies in the Middle East & Africa include:

Infineon Technologies AG

Wolfspeed Inc.

Qorvo Inc.

Navitas Semiconductor

Renesas Electronics Corporation

Transphorm Inc.

STMicroelectronics

NXP Semiconductors

Texas Instruments Incorporated

Mitsubishi Electric Corporation

Q8: What are the opportunities for companies within the Middle East & Africa Gallium

Nitride Semiconductor Devices market?

Ans:

Expansion of defense, satellite, and communication systems: Rising investment in defense electronics, satellite networks, and advanced communication infrastructure is creating strong growth opportunities for GaN semiconductor devices. Their high-frequency performance, power efficiency, and reliability make them well-suited for these critical applications.

Development of electric mobility and charging infrastructure: The growing focus on electric vehicles and charging networks is opening new opportunities for GaN devices in the region. Their ability to support fast charging, compact designs, and efficient power conversion makes them increasingly valuable in modern mobility systems.

Q9: How are consumer preferences shaping product development in the Middle East & Africa Gallium Nitride Semiconductor Devices market?

Ans: Consumer preferences for faster connectivity, energy-efficient devices, compact electronics, and reliable charging solutions are influencing product development in the Middle East and Africa GaN semiconductor devices market. Manufacturers are focusing on high-performance, thermally efficient, and miniaturized components that support advanced telecom, power electronics, consumer systems, and next-generation digital infrastructure applications.

Reasons to Buy the Middle East & Africa Gallium Nitride Semiconductor Devices Market Report:

The study includes market sizing and forecasting analysis confirmed by authenticated key industry experts.

The report briefly reviews overall industry performance at a glance.

The report covers an in-depth analysis of prominent industry peers, primarily focusing on key business financials, type portfolios, expansion strategies, and recent developments.

Detailed examination of drivers, restraints, key trends, and opportunities prevailing in the industry.

The study comprehensively covers the market across different segments.

Deep dive Country-level analysis of the industry.

Customization Options:

The Middle East & Africa Gallium Nitride Semiconductor Devices market can be customized as per requirements or any other market segment. Besides this, UnivDatos understands that you may have your own business needs; hence, feel free to contact us to get a report that completely suits your requirements.

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