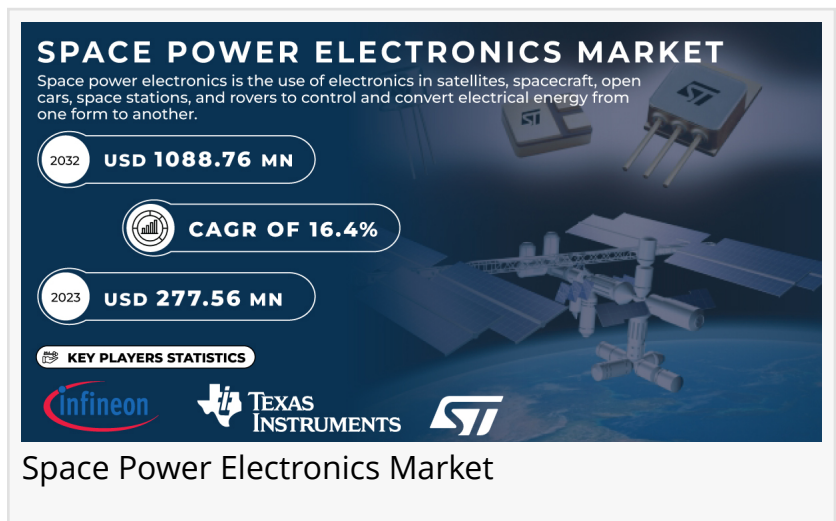


# Future of Space Power Electronics Market is projected to High USD 1088.76 million Growth Predicted by 2032

*"The Space Power Electronics Market Set for Significant Expansion, Driven by Technological Advances and Rising Space Missions."*

AUSTIN, TX, UNITED STATES, November 12, 2024 /EINPresswire.com/ -- The [Space Power Electronics Market](#) size was valued at USD 277.56 million in 2023 and is projected to reach USD 1088.76 million by 2032, with an anticipated CAGR of 16.4% over the forecast period of 2024 to 2032.



## Space Power Electronics: Ensuring Efficient and Reliable Energy Conversion for Advanced Space Missions

Space power electronics are specialized electronic systems used in satellites, spacecraft, rovers, space stations, and other spacecraft vehicles for power conversion and control of electrical energy. They play a high level in dealing with high-voltage and high currents to sustain the various energy needs of spacecraft components. According to NASA, space power systems commonly consist of modular power electronic subsystems, which connect a power source to electrical loads through input and output power modules. Advanced semiconductor devices consisting of MOSFETs, IGBTs, MCTs, and GTOs play an important role in space power electronics technology and the current-day technology of power converters. This high-efficiency power converter is developmentally very important for successful reliable energy distribution in aerospace applications where conditions are mostly harsh, and energy is always paramount.

Book Your Sample Report @ <https://www.snsinsider.com/sample-request/1167>

## Advancements in Wide Bandgap Semiconductors and Compact Converters Propel Space Power Electronics Market

Advances in semiconductor materials are the real driver for the space power electronics market. For more than the past few decades, semiconductor technology has emerged, but especially for

wide bandgap semiconductors, a prerequisite for high-temperature and high-frequency applications. Silicon carbide (SiC) and gallium nitride (GaN) are at the forefront of this revolution. Wide bandgap semiconductors, however, can work at much higher temperatures, sometimes up to 200°C, hence more suitable for the space environment requiring high thermal resistance. Opportunities Presently, compact power converters with high efficiencies are being sought by space satellite manufacturers to adhere to the miniaturization trend in space technology. DC-DC converters are being optimized for maximum efficiency with the least noise and widest possible operating temperature range. These improvements allow higher frequency switching and added reliability, freeing up more scope for options in design concerning performance and integration for space electronics designers.

#### Key Players:

- Infineon Technologies
- Texas Instrument Incorporated
- STMicroelectronics
- Bonkemi
- Renesas Electronics Corporation

Ask For Enquiry @ <https://www.snsinsider.com/enquiry/1167>

#### Segment Analysis

##### By Application

The largest market share is captured by satellite applications, driven by its usage in most of the operating requirements, including communications, navigation, and Earth observation, where power electronics play a pivotal role. Spacecraft and launch vehicles follow closely for power electronics to drive efficient power solutions in space conditions.

##### By Platform Type

The Power platform segment is typically the most dominant in the space power electronics market. This is because power systems are critical for the operation of all spacecraft components. They involve converting raw power from solar panels or batteries into usable energy for various subsystems, including communication, propulsion, and thermal control.

##### By Device Type

- Power Discrete
- Power Module
- Power IC

##### By Application

- Satellite
- Spacecraft & Launch Vehicle
- Rovers
- Space stations

### By Platform type

- Power
- Command and data handling
- ADCS
- Propulsion
- TT&C
- Structure
- Thermal System

### By Voltage

- Low Voltage
- Medium Voltage
- High Voltage

### By Current

- Upto 25A
- 25-50A
- Over 50A

### Key Regional Development

North America is predicted to be the dominant region in the global space power electronics market from 2024 to 2032 and was a major contributor. The U.S. government has been keenly interested in major investment into advanced space power electronics, thus driving forward satellite communication, deep space exploration, and national security. Within this context, the use of satellite technology to enhance defense and surveillance capabilities, modernize military communication platforms, and strengthen critical infrastructure has become significantly important for the U.S. Department of Defense and other such agencies. The most coveted applications lately have included, among many others, radiation-tolerant DC-DC converters used for example in Boeing's O3b mPOWER satellites, demonstrating the degree to which reliable power conversion technology can support advanced U.S. space initiatives.

Ask For Buy @ <https://www.snsinsider.com/checkout/1167>

### Recent Developments

- In May 2024, Infineon Technologies AG expanded its CoolGaN transistor line to include high- and medium-voltage GaN transistors ranging from 40V up to 700V. These, made on the proprietary 8-inch process in Malaysia and Austria, help digitalization and decarbonization efforts. This development of GaN devices will be critical to making more space-power electronics available and resilient for a variety of missions that will work better under conditions demanding more performance.
- In July 2024, Microchip Technology released new space-grade processors optimized for AI

applications to enhance reliability in extreme space conditions. They are designed for application in advanced AI-driven tasks of space power electronics to boost satellite and spacecraft performance through robust processing power and radiation resistance.

#### About Us:

SNS Insider is one of the leading market research and consulting agencies that dominates the market research industry globally. Our company's aim is to give clients the knowledge they require in order to function in changing circumstances. In order to give you current, accurate market data, consumer insights, and opinions so that you can make decisions with confidence, we employ a variety of techniques, including surveys, video talks, and focus groups around the world.

Our staff is dedicated to giving our clients reliable information, and with expertise working in the majority of industrial sectors, we're proud to be recognized as one of the world's top market research firms. We can quickly design and implement pertinent research programs, including surveys and focus groups, and we have the resources and competence to deal with clients in practically any company sector.

Office No.305-B, Arissa Avenue, Fountain Road, Kharadi, Pune, Maharashtra 411014

Akash Anand

SNS Insider | Strategy and Stats

+1 415-230-0044

[email us here](#)

Visit us on social media:

[Facebook](#)

[X](#)

[LinkedIn](#)

[Instagram](#)

[YouTube](#)

---

This press release can be viewed online at: <https://www.einpresswire.com/article/759870479>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2024 Newsmatics Inc. All Right Reserved.