

Space Semiconductor Market to Exhibit Hyper Growth Ahead | Allied Market Research

Space Semiconductor Market By Type, By Component, By Application : Global Opportunity Analysis and Industry Forecast, 2022 - 2032.

WILMINGTON, DE, UNITED STATES, October 17, 2025 /EINPresswire.com/ -- The global [space semiconductor market size](#) generated \$2,122.9 million in 2022 and is anticipated to generate \$4,813.8 million by 2032, witnessing a CAGR of 8.8% from 2023 to 2032.

Space semiconductors include the increasing demand for satellite communication and Earth observation, advancements in satellite technology, the rise of satellite constellations, expanding space exploration initiatives, and the need for reliable and radiation-hardened components in space missions. Furthermore, the growing need for global connectivity, internet access, and data transmission drives the demand for satellite communication systems. Additionally, the rise in Earth observation applications for purposes such as weather monitoring, disaster management, agriculture, and urban planning contribute to the demand for space-based sensors and imaging systems, which rely on semiconductor components for data processing and transmission.

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The space sector is experiencing new growth as a result of the commercialization of space, which is being spearheaded by businesses like SpaceX, Blue Origin, and others. There is a need for semiconductor components for a range of space applications due to commercial satellite launches, space tourism, asteroid mining, and other commercial space endeavors. For instance, in September 2023, SpaceX launched 22 more of its Starlink internet satellites to orbit and landed the returning rocket on a ship at sea. Large satellite constellations are being deployed by businesses to offer internet connectivity throughout the world. For communication, navigation, and data processing, projects like SpaceX's Starlink, OneWeb, and Amazon's Project Kuiper



require hundreds of satellites outfitted with cutting-edge semiconductor components.

In addition, radiation hardened grade (RHG) refers to a classification of electronic components that are specifically designed and manufactured to withstand the effects of ionizing radiation present in harsh environments such as outer space. These components are engineered to maintain their functionality and reliability in the presence of radiation, which can cause damage or degradation in standard electronic devices. Furthermore, solar and cosmic ray radiation are just two of the many types of radiation that fill space. Systems in space may malfunction or completely fail as a result of these radiations' interference or damage electronic components.

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Recent Advancements in the Space Semiconductor Sector Showcase Notable Collaborations and Innovations:

In August 2021, BAE Systems joined forces with Global Foundries to fabricate a radiation-hardened single-board computer tailored for space applications. This cutting-edge computer offers Power Architecture software-compatible processing, surpassing the capabilities of the RAD750 radiation-hardened general-purpose processor while consuming lower power, enhancing spacecraft efficiency.

By October 2023, semiconductor leader Infineon Technologies had expanded its co-innovation hub in Singapore, bolstering support for startups in their product development endeavors. This collaborative effort, in conjunction with Korean SMEs and startup agencies, aims to drive innovation in decarbonization and digitalization. Infineon's expanded facility underscores its dedication to nurturing sustainable innovation for the future.

In September 2023, Northrop Grumman's U.K. division partnered with British startup Space Forge, which endeavors to manufacture semiconductors in space. This strategic alliance promises groundbreaking advancements in space-based semiconductor production.

Teledyne U.K. Limited, a subsidiary of Teledyne Technologies, announced in June 2020 the development of new space-grade semiconductor FPGAs in collaboration with Xilinx, Inc., marking a significant milestone in space electronics technology.

In April 2023, Presto Engineering teamed up with SatixFy to qualify and test radiation-hardened ASICs for deployment in space. These ASICs boast features like error-correcting codes and specialized semiconductor processes, mitigating the risk of radiation-induced errors and enhancing reliability in space missions.

On the basis of region, North America held the highest market share in terms of revenue in 2022, accounting for more than one-third of the global space semiconductor market revenue. This is attributed to the fact that the U.S. is a global leader in semiconductor technology and innovation, with a robust ecosystem of semiconductor manufacturers, research institutions, and technology companies.

North American semiconductor manufacturers are at the forefront of developing advanced semiconductor components tailored for space applications, including radiation-hardened integrated circuits, sensors, and communication chips. However, Asia-Pacific is expected to witness the fastest CAGR of 12.0% from 2023 to 2032. This is attributed to the region's expanding space programs, increasing satellite launches, growing demand for space-based services, and the rise of indigenous semiconductor manufacturing capabilities.

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Key Highlights of the Report:

The study of the space semiconductor market encompasses analysis across more than 16 countries, offering insights into each country's segment value (\$million) throughout the forecast period.

This research integrates top-notch data, expert opinions, and rigorous analysis, supplemented by significant independent perspectives. The methodology is designed to present a well-rounded view of the global market landscape, aiding stakeholders in making informed decisions to attain ambitious growth objectives.

A comprehensive review of over 3,700 product literature pieces, annual reports, industry statements, and comparable materials from leading industry players was conducted to deepen the understanding of the market dynamics.

Leading Market Players: -

BAE Systems
CASE
Honeywell International Inc.
Infineon Technologies AG
Microchip Technology Inc.
Solid State Devices
STMicroelectronics
Teledyne Technologies Incorporated
Texas Instruments Incorporated
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David Correa

Allied Market Research

+ + + + +1 800-792-5285

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