

# North America Gamma Ray Spectroscopy Market Forecast to 2028 – COVID-19 Impact and Regional Analysis – by Type (Hardware, Software, and Services) and End-User (Space Research, Nuclear Facilities, and Mineral Exploration)

https://marketpublishers.com/r/N74EE48D88B1EN.html

Date: January 2023 Pages: 101 Price: US\$ 3,000.00 (Single User License) ID: N74EE48D88B1EN

# Abstracts

The North America gamma ray spectroscopy market is expected to grow from US\$ 289.14 million in 2022 to US\$ 434.81 million by 2028. It is estimated to grow at a CAGR of 7.0% from 2022 to 2028.

Rising Usage of HPGe Detectors is Driving the North America Gamma Ray Spectroscopy Market

Germanium and silicon-based detectors are a proven solution for gamma ray detection and have improved the measurement capability of gamma ray detectors. The HPGe detectors are considered one of the best solutions for gamma ray spectroscopy due to germanium's high efficiency for radiation compared to silicon. This is because germanium's atomic number is much higher than silicon and its average energy, i.e., 2.9 eV, which is necessary to create an electron hole pair, is lower than silicon, i.e., 3.6 eV. Germanium has a sensitive thickness of centimeters; thus, it can be used as a total absorption detector for gamma rays. Hence, the increased usage of HPGe detectors is contributing to the North America gamma ray spectroscopy market growth.

North America Gamma Ray Spectroscopy Market Overview

The North America gamma ray spectroscopy market is segmented into the US, Canada, and Mexico. According to the US Energy Information Administration, in 2021, there were about 55 nuclear power plants in 28 states of the US. These nuclear facilities



require gamma ray spectroscopy devices to collect information on radiation. The US Geological Survey (USGS) is a government organization for natural science. The organization conducted an aerial survey to estimate the concentrations of potassium, uranium, and thorium in rocks and soils with the gamma ray data. The Canadian Nuclear Safety Commission (CNSC) deals with information related to radiation, its effects on health, and related protection. CNSC's requirement for licensees for the radiation protection programs' implementation is covered by the radiation protection safety and control area (SCA) to ensure the radiation doses and contamination levels to employees. The US National Science Foundation, the US Department of Energy, and Consejo Nacional de Ciencia y Tecnologia (CONACYT), Mexico, are operating a High-Altitude Water Cherenkov (HAWC) observatory. It is a gamma ray astrophysics facility to detect high-energy electromagnetic radiation, and it also complements several other observatories for gamma rays around the world. Further, the region has the presence of several prominent gamma ray spectroscopy market players, including AMETEK Inc; Mirion Technologies, Inc.; and Sander Geophysics Limited.

North America Gamma Ray Spectroscopy Market Revenue and Forecast to 2028 (US\$ Million)

North America Gamma Ray Spectroscopy Market Segmentation

The North America gamma ray spectroscopy market is segmented based on type, enduser, and country.

Based on type, the North America gamma ray spectroscopy market is segmented into hardware, software, and services. The hardware segment held the largest market share in 2022.

Based on end-user, the North America gamma ray spectroscopy market is segmented into space research, nuclear facilities, and mineral exploration. The nuclear facilities segment held the largest market share in 2022.

Based on country, the North America gamma ray spectroscopy market has been categorized into the US, Canada, and Mexico. Our regional analysis states that the US dominated the market share in 2022.

AMETEK Inc.; ANTECH; ATOMTEX; CAEN S.p.A.; Geomatrix Earth Science Ltd; Linde Plc; Mirion Technologies, Inc.; NATS, Inc.; NUVIATech Instruments; and Sander



Geophysics Limited are the leading companies operating in the North America gamma ray spectroscopy market.



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