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Remote Sensing Technology Market Research Report- Global Forecast 2030

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Description:

Remote Sensing Technology Market Overview

Remote Sensing Technology Market Size was valued at USD 12.5 Billion in 2022. The Remote Sensing Technology market industry is projected to grow from USD 14.4 Billion in 2023 to USD 33.3 Billion by 2030, exhibiting a compound annual growth rate (CAGR) of 12.72% during the forecast period (2023 - 2030). Expanding earth observation projects by multiple space agencies, implementation for agricultural development, and observing climate change are driving the market.

Remote Sensing Technology Market

Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Industry News Of Remote Sensing Technology Market

- On Feb.15, 2023, Al Yah Satellite Communications Company PJSC (Yahsat) announced a partnership with the Mohammed Bin Rashid Space Centre (MBRSC) to commercialize remote sensing data and EO images. The companies signed the MoU to collaborate on Yahsat's commercial & government customers, R&D, and in-country manufacturing.
- The partnership between MBRSC and Yahsat signifies the two national champions' important step forward in creating a sovereign local economy within the space sector as part of an effort to establish the UAE as a global hub for space science and technology.
- On April 22, 2022, Rendered.ai, a leading physics-based synthetic data platform, announced that the Digital Imaging & Remote Sensing (DIRS) Laboratory of the Rochester Institute of Technology (RIT) has collaborated with it to leverage its cloud-based platform to power synthetic data with high accuracy sensor simulation. The trio will develop a high-volume synthetic data generation solution, combining the physics-driven accuracy of the DIRSIG synthetic imagery model.

Remote Sensing Technology Market Trends

- Observing Climate Change leads market growth**

In the purview of this climate change analytics, consulting companies focus on geospatial images to analyze the data in real-time. Many governments have taken initiatives towards a greener economy and started looking for climate change impacts driving the remote sensing market. These images are taken in active and passive mode, and their demand has increased globally.

The impacts of climate change are interrelated among industries. Drought can harm human health and food production. Floods can spread dangerous diseases and impact infrastructure and ecosystems heavily. With the impact of climate change, humans can face health issues that result in mortality, diminishing food availability, and decreased worker productivity. However, impacts are unpredictable and can only be analyzed through satellite image data mappings.

Figure 1: Climate Change Market, 2019-2030, USD Bn

Remote Sensing Technology Market

Source: Secondary Research, Primary Research, MRFR Database and Analyst

The Climate Change market is expected to reach USD 2500 Billion by the end of 2030, showing the increased demand due to natural calamities in recent years. In 2022, the overall loss estimated due to climate change was more than USD 500 Billion. This climate change is not occurred only due to humans but also by wars and exposure of the ozone layer to harmful gases. Companies worldwide are analyzing the position of a specific area, and now it's become a part of being considered while investing too in any industry.

Remote Sensing Technology Market Segment Insight

Remote Sensing Technology by Technology Type Insights

The remote sensing technology market is segmented into active and passive based on technology type. The passive segment dominated the market with a share of 63.2% in 2022 and is expected to grow at a CAGR of 13.39% through the forecast period. Passive remote sensing technology keeps track of and examines surface features by measuring the sunlight reflected off the earth's surface. Since the technology produces high-quality satellite images, it is extensively used for various earth observation purposes. While active remote sensing is like using a camera with a built-in flash, passive remote sensing is like capturing a picture with a standard camera.

Additionally, satellite images produced by passive remote sensing technology are of high quality, which enhances their popularity for various earth observation applications. Consequently, these advantages are anticipated to fuel market expansion.

Figure 2: Remote Sensing Technology Market, by Technology Type, 2022 & 2030 (USD Billion)

Remote Sensing Technology Market

Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Active sensing technology is also projected to drive the market at a CAGR of 11.52% during the forecast period. Furthermore, radiation is emitted by an active sensor and is aimed at the object being studied. The sensor picks up and records the radiation that the object reflects. Active sensors allow measurements to be taken anytime, regardless of the time of day or season. Active sensors can better control how a target is illuminated and examine wavelengths not adequately supplied by the sun, such as microwaves.

February 2023: Operators' sustainability efforts are aided by methane emission detection methods using remote sensing. Sustainability in the oil and gas sector is linked to improvements in the sector's environmental and social performance. Because of this, the evaluation of such advancement is now being done using a variety of measures that might need to be more consistent throughout the industry.

February 2023: Horus 1 is a satellite Egypt launched from China for remote sensing. The Horus 1 satellite fulfills all requirements of the Egyptian state's strategic vision 2030 and prerequisites for sustainable development because it is a remote sensing satellite and has a high-resolution imaging camera on board.

Remote Sensing Technology by Application Insights

Based on application type, the remote sensing technology market includes agriculture, military, disaster management, weather, etc. The military and intelligence category held most of the market with a share of 38.3% and is also estimated to grow at a CAGR of 10.1% in the future. This results from industrialized nations increasingly using technology to keep an eye on and stop criminal and destructive activity. Additionally, nations like China and Russia are concentrating on using satellite images for security. Over the next seven years, these variables are anticipated to increase demand. Due to these sensing technologies' capacity to execute covert applications without endangering human lives, the sector has a sizable revenue share. In the military, navigation assistance and intelligence gathering are the two main applications of remote sensing technology. The market is anticipated to continue to expand steadily over the next seven years as more military units embrace technology for their operations.

The disaster management segment is expected to grow significantly at a CAGR of 13.2% through the forecast period. Information on natural disasters such as storms and volcano eruptions are available via technology. Authorities can make better decisions about evacuations and post-disaster operations thanks to the availability of continuously updated data. Also, having access to regularly updated data enables authorities to make wiser judgments on evacuations and post-disaster actions. As a result, the use of remote sensing technology in disaster management is growing.

The militaries of advanced countries, including the US, China, and Russia, have been reformed to adopt space-based technology like space-based intelligence, surveillance, and reconnaissance capabilities. Several countries are investing much money in building constellations of space-based satellites that will allow them to command and control their forces from anywhere in the world and provide them with better situational awareness to keep an eye on, track, and target enemy forces.

Remote Sensing Technology Platform Insights

Based on platform type, the remote sensing technology market is segmented into satellite and aerial systems. The aerial systems segment dominates this market with a share of 55.5% and is expected to grow at a CAGR of 11.1% during the forecast period. This is due to the increased use of unmanned aerial vehicles for aerial mapping. Drone use in field surveys lowers costs and hastens the data collection process. Furthermore, surface mapping with these instruments offers highly accurate data and surveys areas inaccessible by satellite. The segment's rapid expansion is mainly caused by the growing use of unmanned aerial vehicles for aerial mapping. Aerial mapping improves overall surveying efficiency and area coverage while lowering human error. They can also help scan places that satellite photos can't reach, which increases their usefulness. Aerial platforms are preferred for remote sensing applications due to these factors.

On the other side, the satellite segment is also expected to dominate the market at a CAGR in the upcoming years. For a variety of application needs, satellites deliver data with varying geographical, temporal, and spectral resolutions. Earth observation satellites, for instance, are used to observe the planet from space. The satellites are also employed to keep an eye on spy satellites and other satellites with a similar design for non-military uses, such as environmental monitoring. The demand is also anticipated to increase over the projected period due to an increase in the use of satellite-based pictures for weather forecasting.

While satellite and other sources of remote sensing data collecting are quickly expanding, the partnership with Rendered.ai enables DIRS & RIT to make their tested capacity available to a broader customer base; with the use of Rendered Ai's cloud capabilities, customers in the US will be able to use the DIRSIG model to collect earth observation datasets for AI training.

Remote Sensing Technology Regional Insights

This market has been segmented by region into North America, Europe, Asia-Pacific, and the rest of the world. The North American region dominated this market with a significant share of 45.2% in 2022. This region is also projected to grow at a CAGR of 11.42% during the forecast period. In North America, this market share can be attributed to significant players such as Raytheon Technologies Corporation, General Dynamics Mission Systems, Inc., Esri, Lockheed Martin Corporation, and Esri. The early adoption of remote sensing technology in precision farming applications throughout the projection period is anticipated to drive market expansion in the area. Also, the National Aeronautics and Space Administration's technological breakthroughs have helped the United States become a world leader in space technology. The increased use of various satellite types for numerous purposes has led to enormous demand in the United States and, as a result, around the world.

Asia-Pacific region is expected to grow at the fastest CAGR of 16.24% through the forecast period. This results from infrastructure development using more and more earth observation apps. Nations launching satellites like India, China, and Japan are to enhance their earth observation and development assistance capacity. Ten more earth observation satellites will be launched within the next two years, according to the Indian Space Research Organization's plans.

Figure 3: Remote Sensing Technology Market, by Region Type, 2022 & 2030 (USD Billion)

Remote Sensing Technology Market

Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Growth in the economy is anticipated in the Asia-Pacific nation because of improved defense technologies and significant government expenditure. Onboard sensors capture the energy that the objects reflect on the remote sensing platform. Most microwave remote sensing employs active microwave technology. Active remote sensing technology measures the topography of the sea surface, ice, and forest structures, among other things.

Remote Sensing Technology Key Market Players & Competitive Insights

Major players in the remote sensing market, including Northrop Grumman Corporation, General Dynamics Corporation, Raytheon Corporation, Honeywell Technology Solutions Inc., Lockheed Martin Corporation, ITT Corp., Lumasense Technologies, Inc., Thales Group, Leica Geosystems Holdings AG, and others, are focusing on developing their business strategies.

Many businesses are concentrating on making significant investments in their R&D departments to create technologically superior items. Sensing technology is being adopted more widely in North America due to the growing demand for applications, including environmental monitoring, floodplain mapping, water quality monitoring, and emergency management. Furthermore, the expanding use of sensing technology in the healthcare sector is highly advantageous for the local market.

Key Companies in the Remote Sensing Technology market include

- Northrop Grumman Corporation
-

General Dynamics Corp

- Honeywell Technology Solutions Inc.
- Lockheed Martin Corporation
- ITT Corp.
- Lumasense Technologies, Inc.
- Thales Group
- Leica Geosystems Holdings AG
- DigitalGlobe
- Esri
- Hexagon AB
- Orbital Insight
- Planet Labs Inc.
- Raytheon Technologies Corporation
- Teledyne Technologies
- UrtheCast
- NASA
- Chia Tai

Remote Sensing Technology Industry Developments

February 2023 NASA has used sensing technologies in a variety of ways and has been actively investigating quantum technology's potential. In order to monitor climate change, it is now starting to explore quantum sensing technologies with help from a small quantum computing business in Virginia.

February 2023 Chia Tai and XAG have partnered to introduce autonomous agricultural drones in Thailand. This advances smart agriculture to a new level with the intention of maximizing Thai farmers' potential using cutting-edge technology and raising both productivity and quality in the agricultural industry.

Remote Sensing Technology Market Segmentation

Remote Sensing Technology Type Outlook

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Active

- Passive

Remote Sensing Technology Application Outlook

- Agriculture
- Military
- Disaster Management
- Infrastructure
- Weather
- Others

Remote Sensing Technology Platform Outlook

- Satellite
- Aerial System

Remote Sensing Technology Regional Outlook

- North America
- US
- Canada
- Europe
- Germany
- France
- UK
- Italy

- Spain
- Rest of Europe
- Asia-Pacific
 - China
 - Japan
 - India
 - Australia
 - South Korea
 - Australia
 - Rest of Asia-Pacific
- Rest of the World
 - Middle East
 - Africa
 - Latin America

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