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Radar Market Assessment, By Platform [Airborne, Naval, Ground, Space], By Range [Short-Range, Medium-Range, Long-Range], By Application [Military, Law Enforcement, Space, Remote Sensing of Environment, Aircraft Navigation, Ship Navigation, Air Traffic Controller], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

Global Radar Market has experienced significant growth in recent years and is expected to maintain a strong pace of expansion in the coming years. With projected revenue of approximately USD 31.7 billion in 2022, the market is forecasted to reach a value of USD 55.7 billion by 2030, displaying a robust CAGR of 7.3% from 2023 to 2030.

Radar provides various advantages, such as greater safety through improved object recognition, tracking, and collision avoidance. It assists defense, weather monitoring, and aviation applications, enhancing national security and public safety. Radar technology allows breakthroughs in driverless cars, robots, and surveillance systems, fostering innovation and economic progress.

The Radar Market is expanding rapidly, owing to rising demand for advanced driver assistance systems (ADAS) in vehicles, accelerating radar adoption. Also, the adoption of radar systems for greater connectivity and communication is fueled by the growth of 5G networks. Moreover, increased security and surveillance concerns boost radar applications in military and border control, propelling the radar market growth.

ADAS propels the global radar market by increasing collision avoidance and safety systems demand. Radar technology is essential to ADAS, making it a critical driver of

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radar market growth, particularly in the automobile sector. ADAS provides considerable safety benefits. Radar-based ADAS includes forward collision prevention, lane keeping, blind zone detection, pedestrian impact avoidance, and backing collision avoidance, and has the potential to impact 3.59 million crashes per year, preventing 20,841 deaths, mitigating 1.69 million injuries and reducing damage to 4.60 million vehicles, driving radar adoption despite gradual integration into the existing vehicle fleet.

For instance, in September 2022, Volvo's innovative interior radar technology detects minute movements throughout the vehicle, including the trunk, to avoid heat-related mishaps in children or pets left behind in parked automobiles .

Age of Industrial Automation Driving the Radar Market

The implementation of radar sensors into industrial automation has greatly aided the growth of the radar market. These sensors help revolutionize production processes by improving efficiency and safety. Radar sensors are perfect for robotics and automated machines as they provide exact object recognition, distance measuring, and speed monitoring. Their capacity to function in various environmental conditions, including dust, smoke, and poor vision, guarantees that automated operations run smoothly. As businesses embrace automation for increased productivity and worker safety, demand for radar sensors rises, preparing the global radar market for further growth and innovation across industrial sectors.

For instance, in August 2022, Navtech Radar's sensor technology integrated into Redvision's X-Series™ PTZ rugged cameras, offering accurate 360° surveillance for mission-critical sites in all conditions, with low false alarms and high-quality imaging.

Transformation of Smart Cities Fueling the Market

Including radar technology in smart city infrastructure is critical to the growth of the global radar market. Radar applications perform a variety of roles in improving urban living. They allow for accurate traffic control by delivering real-time data on vehicle flow and congestion, lowering traffic congestion and fuel usage. Radar sensors lead cars to available parking places, decreasing search time and pollution. Furthermore, radar-based security surveillance improves public safety by identifying and tracking intruders or suspicious activity. As cities worldwide try to become smarter and more efficient, the demand for radar technology in various applications grows, fueling the radar market's development across smart city efforts.

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For instance, in September 2023, Raytheon, an RTX company, provided the first B-52 AESA radar to Boeing for the United States Air Force's Radar Modernization Program, which improved navigation, targeting, and situational awareness capabilities.

Dominance of Military in Radar Market

The military's dominance in the radar market is partly due to its considerable demand for improved radar equipment. Radar is critical in military operations since it provides surveillance, target recognition, missile guidance, and combat situational awareness capabilities. The requirement for cutting-edge technology to preserve security and strategic advantage means that radar innovation is in constant demand. Furthermore, enormous defense budgets and continuing modernization initiatives add to the military's major influence, allowing it to shape radar technological improvements and market growth.

For instance, in December 2022, Northrop Grumman tested RAPTR and Mini-CNI systems on a UH-60 Black Hawk, expanding capabilities and decreasing deployment time and cost for the US Army's FVL platforms during JADC2.

North America Dominates Radar Market

Several compelling factors underpin North America's dominance in the global radar market. The presence of globally renowned radar technology manufacturers and defense industry leaders, such as Raytheon, Lockheed Martin, and Northrop Grumman, fosters an environment of innovation and technological excellence. Additionally, the region boasts a robust defense sector with substantial defense budgets, instigating a sustained demand for radar systems. Furthermore, North America's leadership in aerospace and aviation necessitates a heavy reliance on radar technology for air traffic control and navigation. Lastly, the region's steadfast commitment to research and development ensures continuous technological advancements, reinforcing its dominant position in the global radar market.

For instance, in August 2023, The US Army granted a contract to MAG Aerospace and L3Harris Technologies to deliver two improved intelligence, surveillance, and reconnaissance (ISR) aircraft for the ATHENA-R program, which will improve long-range precision munitions and counter near-peer threats.

Government Initiatives

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Government actions are critical to propelling the radar market forward. Funding initiatives, research collaborations, and regulatory assistance aid Radar technology development and adoption. In the United States, institutions such as the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), and the Department of Defense devote significant resources to advancing radar technology. These efforts drive innovation in the military, weather monitoring, and aviation, eventually boosting economic growth and improving national security and public safety through enhanced radar capabilities.

For instance, in June 2023, The National Science Foundation of the United States invested USD 91.8 million in the Airborne Phased Array Radar (APAR) project to better weather forecasting, storm monitoring, and climate research for more resilient communities.

Impact of COVID-19

The COVID-19 pandemic initially caused supply chain problems and project delays in the radar market. It, however, emphasized the use of radar technology in crisis management. Following the pandemic, the market has recovered owing to increasing demand for surveillance, security, and healthcare applications. Radar systems are being used for social distancing monitoring, temperature screening, and contactless sensing, resulting in market growth and innovation. The pandemic highlighted radar technology's adaptability and endurance in tackling emergent difficulties, leading to sustained growth.

Impact of Russia-Ukraine War

The Russia and Ukraine war considerably influences the global radar market, particularly in Eastern Europe. Ukraine, home to innovative radar technology companies like UkrSpecexsport and Radionix, has experienced manufacturing and supply chain difficulties during the war. Furthermore, the war raised regional security concerns, increasing demand for radar systems for surveillance, border control, and military applications in Ukraine and adjacent countries. Concerned about security, NATO nations in Eastern Europe also invested in radar technology. As a result, the region's radar market faced both problems and opportunities, with increased demand for defense and security applications due to geopolitical concerns.

Key Players Landscape and Outlook

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Northrop Grumman Systems Corporation, RTX Corporation, Inc., Lockheed Martin Corporation, L3Harris Technologies, Inc., and NXP Semiconductors N.V. dominate the global radar market. These business leaders are at the forefront of radar technology research in various industries, ranging from defense and aerospace to automotive and consumer electronics. Continuous innovation, research, and development contribute to their significant market position. The market forecast for these companies remains positive, owing to rising demand for radar systems in military, security, autonomous cars, and smart city applications. They are well-positioned to capitalize on upcoming possibilities and sustain their leadership in the developing radar market.

For example, Raytheon, an RTX company, provided Boeing the first B-52 AESA radar for the United States Air Force's Radar Modernization Program, improving navigation, targeting, and situational awareness capabilities.

For example, Saab opened a new radar production plant in Fareham, UK, as part of its expansion strategy. This factory will employ 100-150 people and specialize in radar manufacture and integration.

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Contents

1. RESEARCH METHODOLOGY

2. PROJECT SCOPE & DEFINITIONS

3. IMPACT OF COVID-19 ON THE GLOBAL RADAR MARKET

4. IMPACT OF RUSSIA-UKRAINE WAR

5. EXECUTIVE SUMMARY

6. VOICE OF CUSTOMER

6.1. Product and Market Intelligence
6.2. Mode of Brand Awareness
6.3. Factors Considered in Purchase Decisions
  6.3.1. Features and other value-added service
  6.3.2. IT Infrastructure Compatibility
  6.3.3. Efficiency of Solutions
  6.3.4. After-Sales Support
6.4. Consideration of Privacy & Safety Regulations

7. GLOBAL RADAR MARKET OUTLOOK, 2016-2030F

7.1. Market Size & Forecast
  7.1.1. By Value
  7.1.2. By Volume
7.2. By Platform
  7.2.1. Airborne
  7.2.2. Naval
  7.2.3. Ground
  7.2.4. Space
7.3. By Range
  7.3.1. Short-Range
  7.3.2. Medium-Range
  7.3.3. Long-Range
7.4. By Application
  7.4.1. Military

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7.4.2. Law Enforcement
7.4.3. Space
7.4.4. Remote Sensing of Environment
7.4.5. Aircraft Navigation
7.4.6. Ship Navigation
7.4.7. Air Traffic Controller
7.5. By Region
7.5.1. North America
7.5.2. Europe
7.5.3. Asia-Pacific
7.5.4. South America
7.5.5. Middle East and Africa
7.6. By Company Market Share (%), 2022

8. GLOBAL RADAR MARKET OUTLOOK, BY REGION, 2016-2030F

8.1. North America*
8.1.1. Market Size & Forecast
8.1.1.1. By Value
8.1.1.2. By Volume
8.1.2. By Platform
8.1.2.1. Airborne
8.1.2.2. Naval
8.1.2.3. Ground
8.1.2.4. Space
8.1.3. By Range
8.1.3.1. Short-Range
8.1.3.2. Medium-Range
8.1.3.3. Long-Range
8.1.4. By Application
8.1.4.1. Military
8.1.4.2. Law Enforcement
8.1.4.3. Space
8.1.4.4. Remote Sensing of Environment
8.1.4.5. Aircraft Navigation
8.1.4.6. Ship Navigation
8.1.4.7. Air Traffic Controller
8.1.5. United States*
8.1.5.1. Market Size & Forecast

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8.1.5.1.1. By Value
8.1.5.1.2. By Volume
8.1.5.2. By Platform
8.1.5.2.1. Airborne
8.1.5.2.2. Naval
8.1.5.2.3. Ground
8.1.5.2.4. Space
8.1.5.3. By Range
8.1.5.3.1. Short-Range
8.1.5.3.2. Medium-Range
8.1.5.3.3. Long-Range
8.1.5.4. By Application
8.1.5.4.1. Military
8.1.5.4.2. Law Enforcement
8.1.5.4.3. Space
8.1.5.4.4. Remote Sensing of Environment
8.1.5.4.5. Aircraft Navigation
8.1.5.4.6. Ship Navigation
8.1.5.4.7. Air Traffic Controller
8.1.6. Canada
8.1.7. Mexico
*All segments will be provided for all regions and countries covered
8.2. Europe
8.2.1. Germany
8.2.2. France
8.2.3. Italy
8.2.4. United Kingdom
8.2.5. Russia
8.2.6. Netherlands
8.2.7. Spain
8.2.8. Turkey
8.2.9. Poland
8.3. Asia-Pacific
8.3.1. India
8.3.2. China
8.3.3. Japan
8.3.4. Australia
8.3.5. Vietnam
8.3.6. South Korea

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8.3.7. Indonesia
8.3.8. Philippines
8.4. South America
8.4.1. Brazil
8.4.2. Argentina
8.5. Middle East & Africa
8.5.1. Saudi Arabia
8.5.2. UAE
8.5.3. South Africa

9. MARKET MAPPING, 2022

9.1. By Platform
9.2. By Range
9.3. By Application
9.4. By Region

10. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

10.1. Demand Supply Analysis
10.2. Import Export Analysis
10.3. Value Chain Analysis
10.4. PESTEL Analysis
10.4.1. Political Factors
10.4.2. Economic System
10.4.3. Social Implications
10.4.4. Technological Advancements
10.4.5. Environmental Impacts
10.4.6. Legal Compliances and Regulatory Policies (Statutory Bodies Included)
10.5. Porter’s Five Forces Analysis
10.5.1. Supplier Power
10.5.2. Buyer Power
10.5.3. Substitution Threat
10.5.4. Threat from New Entrant
10.5.5. Competitive Rivalry

11. MARKET DYNAMICS

11.1. Growth Drivers

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11.2. Growth Inhibitors (Challenges and Restraints)

12. KEY PLAYERS LANDSCAPE

12.1. Competition Matrix of Top Five Market Leaders
12.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2022)
12.3. Mergers and Acquisitions/Joint Ventures (If Applicable)
12.4. SWOT Analysis (For Five Market Players)
12.5. Patent Analysis (If Applicable)

13. CASE STUDIES

14. KEY PLAYERS OUTLOOK

14.1. Analog Devices, Inc.
  14.1.1. Company Details
  14.1.2. Key Management Personnel
  14.1.3. Products & Services
  14.1.4. Financials (As reported)
  14.1.5. Key Market Focus & Geographical Presence
  14.1.6. Recent Developments
14.2. Hensoldt AG
14.3. Infineon Technologies AG
14.4. Israel Aerospace Industries Ltd.
14.5. L3Harris Technologies, Inc.
14.6. Lockheed Martin Corporation
14.7. Northrop Grumman Systems Corporation
14.8. NXP Semiconductors N.V.
14.9. RTX Corporation
14.10. Saab AB
*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

16. STRATEGIC RECOMMENDATIONS

17. ABOUT US & DISCLAIMER

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