

RFID Market by Offering (Tags, Readers, Software & Services), Tag Type (Active, Passive), Wafer Size, Frequency (Low Frequency, High Frequency, Ultra-high Frequency), Form Factor, Material, Application and Region - Global Forecast to 2032

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Abstracts

The RFID market is projected to reach USD 40.9 billion by 2032 from USD 15.8 billion in 2023; it is expected to grow at a CAGR of 11.1% from 2023 to 2032.

Increase in hybrid solutions to drive the growth of RFID market

The RFID market is experiencing an increased demand for hybrid solutions, which have been developed to address the limitations of single-technology RFID systems. Hybrid solutions offer a means to not only enable RFID technology deployment in areas with poor coverage but also reduce the need for additional infrastructure by leveraging existing technologies like Wi-Fi or GPS. RFID-based IoT solutions are gaining traction due to various factors propelling their adoption, including the decreasing cost of RFID tags, the widespread use of IP networks, and emerging business opportunities. These solutions facilitate the tracking of physical assets to enhance operational processes and cost-effectiveness across numerous industries and government entities.

The 8 Inch wafer size segment is holds the highest market in 2022

The 8-inch wafer size segment dominated the market share in 2022 as it represents the most widely produced wafers, measuring 8 inches or 200 mm in diameter. Among the market leaders, including Alien Technology, LLC, Impinj, Inc., and NXP Semiconductors, all utilize 8-inch wafers for their chip manufacturing processes. Many industry participants are hesitant to transition to 12-inch wafers due to the substantial

equipment investment required. However, the market for other wafer sizes is anticipated to expand in the coming years, particularly with the expected reduction in the prices of 12-inch wafers. This price decrease is poised to bridge the gap between 8-inch and 12-inch wafers, facilitating a smoother transition for the industry towards the use of 12-inch wafers.

The Ultra-high Frequency segment, of RFID tags market by frequency is expected to grow at highest CAGR during the forecast period

Ultra-high frequency (UHF) tags can be categorized into two types based on their frequency range: passive tags and active tags. UHF passive RFID tags offer the greatest read range and highest reading speed among all passive tags. These tags operate within a frequency range of 860-960 MHz, often referred to as 900 or 915 MHz for simplicity. Typically, UHF passive tags can be read from an average distance of approximately 5-6 meters, with larger UHF passive tags capable of reading over 30 meters under ideal conditions. UHF passive tags find utility in applications that demand a read range exceeding 1 meter, such as asset tracking, asset counting, inventory management, supply chain management, vehicle tagging, and tagging in manufacturing equipment and product components. On the other hand, UHF active tags outperform passive UHF tags in terms of reading range, the number of concurrently connected tags, and continuous monitoring. However, they come at a significantly higher cost compared to passive UHF tags. This cost disparity stands as the primary reason why customers tend to favor passive UHF tags. Some companies offer semi-passive UHF tags that incorporate a battery, thereby extending the read range of passive UHF tags while remaining more cost-effective than active UHF tags. This development is anticipated to drive the RFID market for UHF passive tags.

North America region to hold largest market share in the RFID market in 2022

Factors such as increased adoption in diverse industries, compliance requirements, and the need for real-time data analytics are driving this expansion. RFID technology is being utilized for enhanced supply chain management, inventory control, and asset tracking, making it a valuable tool for businesses. Continuous innovation, a skilled workforce, and advanced infrastructure in North America further bolster the region's position as a center for RFID research and development. This favorable environment creates lucrative prospects for companies in the RFID market, both established players and newcomers. Major players in the market such as Zebra Technologies Corp. (US), Alien Technology, LLC (US), Impinj, Inc. (US), Avery Dennison Corporation (US), Honeywell International Inc. (US), GAO Group (Canada), HID Global Corporation (US),

ORBCOMM Inc. (US), GlobeRanger (US), Mojix (US), Checkpoint Systems, Inc. (US), Identiv, Inc., Inc. (US), Jadak (US) are based in this region.

Breakdown of profiles of primary participants:

By Company Type: Tier 1 = 30%, Tier 2 = 50%, and Tier 3 = 20%

By Designation: C-level Executives = 25%, Directors = 35%, and Others = 40%

By Region: North America = 35%, Europe = 30%, Asia Pacific = 25%, and Rest of the World = 10%

Major players profiled in this report:

The RFID market is dominated by established players such as Zebra Technologies Corp. (US), Alien Technology, LLC (US), CAEN RFID S.r.L. (Italy), Impinj, Inc. (US), Avery Dennison Corporation (US), Honeywell International Inc. (US), NXP Semiconductors (Netherlands), GAO Group (Canada), HID Global Corporation (US), Invengo Information Technology Co., Ltd. (China), Infotek Software & Systems (P) Ltd (i-TEK) (India), Bartronics India Ltd. (India), Bartech Data Systems Pvt. Ltd., ORBCOMM Inc. (US), GlobeRanger (US), Mojix (US), SAG Securitag Assembly Group Co., Ltd. (SAG) (Taiwan), Linxens (France), Checkpoint Systems, Inc. (US), Identiv, Inc., Inc. (US), Confidex (Finland), Datalogic S.p.A. (Italy), Nedap N.V. (Netherlands), Jadak (US).

Research coverage

This report offers detailed insights into the RFID market based on Offering (Tags, Readers, Software & Services), by Tag (Tag Type {Active, Passive}, Wafer Size {8 inches, 12 inches, Other Wafer Sizes}, Frequency {Low Frequency, High Frequency, Ultra-high Frequency}, Form Factor {Label, Key Fob, Band, Card, Implant, Paper Ticket, Other Form Factors}, Material {Paper, Glass, Plastic, Other Materials}), Application (Agriculture, Commercial, Transportation, Healthcare, Food, Apparel, Automotive, Aerospace, Defense, Logistics & Supply Chain, Security & Access Control, Retail, Sports, Animal Tracking, Ticketing), and Region (North America, Europe, Asia Pacific, and Rest of the World)- Global Forecast to 2032

The report also comprehensively reviews market drivers, restraints, opportunities, and

challenges in the RFID market. The report also covers qualitative aspects in addition to the quantitative aspects of these markets.

Reasons to buy the report:

The report will help the leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall market and the sub-segments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the RFID market's pulse and provides information on key market drivers, restraints, challenges, and opportunities. This report includes statistics pertaining to the RFID market based on offering, tag type, wafer size, frequency, form factor, material, application, and region. Major drivers, restraints, opportunities, and challenges for the RFID market have been provided in detail in this report. The report includes illustrative segmentation, analysis, and forecast for the RFID market based on its segments.

The report provides insights on the following pointers:

Analysis of key drivers (Increasing need for RFID systems in manufacturing units for improving productivity, Availability of cost-effective RFID solutions and high returns on investments, Rising need for improving inventory management, Increasing government initiatives and regulations for safety and security, Increasing use of RFID solutions in healthcare organizations, Increasing adoption of RFID in retail sector, Surge in demand for RFID in electronic toll collection, Growing use of RFID solutions in banking), restraints (High initial cost associated with installation of RFID systems, Concerns regarding data security and privacy, Regulatory and legal challenges), opportunities (Increasing demand for hybrid RFID solutions Rising adoption of RFID tags for IoT and smart manufacturing, Developing regions creating opportunities for RFID market, Reduction in tag costs to create growth opportunities for RFID market) and challenges (Lack of backup for large volumes of data, Technical limitations with RFID integrated systems, Complexities related to RFID systems).

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the RFID market

Market Development: Comprehensive information about lucrative markets – the report analyses the RFID market across varied regions

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the RFID market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players like Zebra Technologies Corp. (US), Alien Technology, LLC (US), CAEN RFID S.r.L. (Italy), Impinj, Inc. (US), Avery Dennison Corporation (US), Honeywell International Inc. (US), NXP Semiconductors (Netherlands), GAO Group (Canada), HID Global Corporation (US), Invengo Information Technology Co., Ltd. (China), Infotek Software & Systems (P) Ltd (i-TEK) (India), Bartronics India Ltd. (India), Bartech Data Systems Pvt. Ltd., ORBCOMM Inc. (US), GlobeRanger (US), Mojix (US), SAG Securitag Assembly Group Co., Ltd. (SAG) (Taiwan), Linxens (France), Checkpoint Systems, Inc. (US), Identiv, Inc., Inc. (US), Confidex (Finland), Datalogic S.p.A. (Italy), Nedap N.V. (Netherlands), Jadak (US).

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Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, MnM view (Key strengths/Right to win, Strategic choices made, Weakness/competitive threats) might not be captured in case of unlisted companies.

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