

Internet of Things (IoT) Market Assessment, By Component [Hardware, Software, Services], By Application [Smart Home, Smart Cities, Smart Wearables, Smart Agriculture, Smart Vehicles, Smart Healthcare, Smart Enterprise Solutions, Others], By Distribution Channel [Online, Offline], By End-user [IT & Telecom, Automotive & Transportation, BFSI, Retail, Healthcare, Government, Energy & Utilities, Others], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

Global Internet of Things (IoT) Market size was valued at USD 520.19 billion in 2022 which is expected to reach USD 1508.1 billion in 2030 with a CAGR of 14.23% during the forecasted period between 2023 and 2030. The global Internet of Things (IoT) market refers to the network of interconnected devices, sensors, and systems that enable the exchange of data and communication over the internet. These devices can range from everyday objects like smartphones and smartwatches to industrial machinery, vehicles, and home appliances. The market is being driven by various factors, such as increasing adoption of IoT technologies across industries, advancements in wireless networking technologies, growing demand for automation and efficiency, and the proliferation of connected devices.

In terms of regional markets, North America and Europe are leading in terms of IoT adoption due to well-established infrastructure, strong technology ecosystem, and supportive government initiatives. However, emerging economies in Asia-Pacific, Latin America, and the Middle East are also witnessing significant growth in IoT adoption as they embraced digital transformation and invested in smart city projects and industrial

automation. China is growing as a global IoT powerhouse, not just as a center of industry and a source of technology but also as a final consumer for the creation of value. China has the potential to produce around 26% of the IoT market value globally by 2030, which is more than the combined potential of all emerging markets.

Rise in Adoption of Smart Solutions in Smart City, Transportation and Smart Vehicles

The adoption of smart solutions in smart cities, transportation, and smart vehicles has been on the rise, leveraging IoT technologies to create more efficient, sustainable, and connected environments. Smart cities are deploying IoT-enabled solutions to enhance citizen services. These include smart kiosks, mobile applications, and digital platforms for seamless access to government services, real-time information, and citizen engagement. IoT technologies facilitate smart governance, efficient service delivery, and improved quality of life for residents. IoT-based solutions are being used to improve urban transportation systems. Smart traffic management systems, intelligent parking solutions, and real-time public transportation tracking enable better traffic flow, reduced congestion, and improved commuter experience. Additionally, smart street lighting systems use sensors and connectivity to adjust lighting levels based on traffic and pedestrian activity, improving safety and energy efficiency.

For instance, in March 2023, Siemens Smart Infrastructure released Connect Box, an open and user-friendly Internet of Things solution to manage small to medium-sized buildings. Connect Box, the newest device in the Siemens Xcelerator product line, is a user-friendly approach for measuring building performance. It has the potential to improve energy efficiency by up to 30% while also dramatically improving indoor air quality in small to medium-sized buildings such as schools, retail establishments, flats, or small workplaces.

Moreover, Copenhagen, a city in Denmark, installed 380 automated traffic lights that prioritize buses and bikes in addition to clearing clogged streets after particular events like football matches. Depending on the circumstances, a traffic light's green phase may be prolonged for up to 30 seconds. The city chose to fully implement this new system after testing 10 of the new smart traffic signals in one area of the city and realizing how beneficial it is.

Big Data and Analytics Fueling Exponential Growth

The IoT market generates an enormous volume and variety of data from connected devices, sensors, and systems. Big data technologies provide the infrastructure and

capabilities to store, process, and analyze this massive amount of data. With analytics, organizations can extract valuable insights and make data-driven decisions based on this diverse collection of data. Real-time analytics allows for immediate insights and actions based on up-to-date information, facilitating faster response times and proactive measures. Predictive analytics leverages historical and real-time data to forecast future trends, anomalies, and events, empowering organizations to make predictions and take preventive actions in areas such as predictive maintenance, supply chain optimization, and risk management.

Smart Wearables Influencing Growth

Smart wearables have a significant impact on the IoT market, contributing to its growth and driving innovation. Smart wearables, such as fitness trackers, smartwatches, and health monitoring devices, generate a vast amount of data about individuals' health, activities, and behavior. This data includes heart rate, sleep patterns, steps taken, calories burnt, among others. The proliferation of smart wearables leads to a substantial increase in data generated within the IoT ecosystem. By analyzing this data, IoT systems can offer personalized experiences and recommendations tailored to users' needs.

For instance, in May 2023, Samsung launched Galaxy Watch 5 series highlighting features of health fitness tracking and sleep monitoring with some useful functions to forecast stress level. When a person is overly anxious, stress sensitivity is identified, and the person is reminded of breathing techniques or mind-calming meditations. Furthermore, Bellabeat Leaf Urban pendant is an activity tracker and a sleep monitor with some useful functions to forecast stress level. When a person is overly anxious, stress sensitivity is identified, and the person is reminded of breathing techniques or mind-calming meditations. Another function is menstrual cycle tracking, which allows one to keep track of her cycle and be ready for it. Additionally, it can be used to monitor the days and months of pregnancy cycle.

IT & Telecom Sector Contributing Major Growth

The IT and Telecom sector provides the necessary infrastructure for IoT connectivity. Telecom companies are continuously expanding and improving their networks to accommodate the increasing number of IoT devices. They are investing in technologies like 5G, which offer faster speeds, lower latency, and higher device capacity, making them ideal for supporting IoT applications. Also, this sector plays a crucial role in managing the networks and data associated with IoT deployments. Telecom companies

provide services for network provisioning, data routing, and device management, ensuring smooth communication between IoT devices and the cloud or edge platforms. They also handle data storage and processing, enabling efficient handling of the massive amounts of data generated by IoT devices.

For instance, in November 2022, Sateliot the U.S.-based first nanosatellite telecommunications company offered 5G connectivity worldwide with the launch of SpaceX Falcon 9 rockets. Sateliot's 5G satellite network solves the connectivity issue by enabling anyone with an intelligent standard IoT device to contact their space network and receive a strong, clear cellular signal. Marine researchers can now monitor diminishing populations, such as blue whales, more affordably and successfully, aiding in the preservation of these endangered species. Furthermore, Sateliot's technology may be able to double the efficiency of aggrotech, increasing the production of precision agriculture from 250 billion USD to 500 billion USD by 2030. Other uses could result in energy cost reductions of up to 15%, train maintenance savings of 20%, and an increase in logistical savings of 5-8%.

Impact of Covid-19

The pandemic highlighted the need for remote monitoring and automation solutions to minimize human contact and ensure business continuity. Industries such as healthcare, manufacturing, logistics, and utilities relied heavily on IoT technologies to monitor equipment, track inventory, enable remote operations, and ensure worker safety. This led to an increased demand for IoT devices, sensors, and connectivity solutions. The healthcare sector experienced a surge in IoT adoption during the pandemic.

IoT-enabled medical devices, remote patient monitoring systems, and telemedicine solutions became vital in managing patient care, reducing hospital visits, and monitoring critical health data remotely. This accelerated the growth of healthcare IoT and highlighted its potential in delivering remote healthcare services. The rise in IoT adoption brings a heightened focus on cybersecurity. As more devices connect to the internet, there is an increased risk of cyber threats and data breaches. Post-COVID-19, the IoT market had witnessed a greater emphasis on cybersecurity measures, including device authentication, encryption, and security analytics, to protect IoT deployments.

Impact of Russia-Ukraine War

Infrastructure damage caused by the conflict, such as the destruction of communication networks, power grids, and data centers, have impacted the connectivity and

functionality of IoT devices. IoT relies on a robust and reliable infrastructure to transmit and process data, and any damage to the infrastructure can hinder IoT deployments and operations. Geopolitical conflicts often create economic and market uncertainties. Businesses adopted a cautious approach when making investment decisions, including IoT deployments. Uncertainty can lead to delays or a slowdown in IoT projects as companies prioritize risk management and assess the potential impact of the conflict on their operations.

Key Players Landscape and Outlook

The Global Internet of Things (IoT) marketplace is extremely competitive and remains highly concentrated in the current day. Market participants in the IoT market are attempting to increase their market share by various business methods such as collaborations, agreements, and acquisitions and mergers of various players across the value chain. Additionally, companies are giving close attention to item quality as well as efficient service giving, and they are constantly developing new products to meet client demand.

In March 2023, the Sidewalk network initiative, which Amazon announced covered 90% of the US population as of early 2020 and is available to developers to test, build, and create new IoT applications. The integration of Sidewalk networks with AWS IoT core was also announced by AWS, allowing partner devices that support Sidewalk to quickly provision, onboard, and monitor Sidewalk devices at scale. Developers can utilize the AWS IoT core for Amazon Sidewalk for free, and the service is now only available in the US.

Contents

1. RESEARCH METHODOLOGY

2. PROJECT SCOPE & DEFINITIONS

3. IMPACT OF COVID-19 ON INTERNET OF THINGS MARKET

4. IMPACT OF RUSSIA-UKRAINE WAR ON INTERNET OF THINGS MARKET

5. EXECUTIVE SUMMARY

6. VOICE OF CUSTOMER

6.1. Demographics (Age, Geography, Income, etc.)

6.2. Market Awareness and Product Information

6.3. Brand Awareness and Loyalty

6.4. Factors Considered in Purchase Decision

6.4.1. Brand Loyalty

6.4.2. Pricing

6.4.3. Customisation Options

6.4.4. Offers & Discounts

6.5. Purpose of Purchase

6.6. Frequency of Purchase

6.7. Medium of Purchase

6.8. Role of Brand Ambassador or Influencer Marketing on Product/Brand Absorption

7. GLOBAL INTERNET OF THINGS MARKET OUTLOOK, 2016-2030F

7.1. Market Size & Forecast

7.1.1. By Value

7.2. By Component

7.2.1. Hardware

7.2.1.1. Sensors

7.2.1.2. Microcontrollers

7.2.1.3. Actuators

7.2.1.4. Others

7.2.2. Software

7.2.2.1. Data Collection

- 7.2.2.2. Data Integration
- 7.2.2.3. Real-Time Analytics
- 7.2.2.4. Application and Process Extension
- 7.2.3. Services
 - 7.2.3.1. Professional Services
 - 7.2.3.2. Managed Services
- 7.3. By Application
 - 7.3.1. Smart Home
 - 7.3.2. Smart Cities
 - 7.3.3. Smart Wearables
 - 7.3.4. Smart Agriculture
 - 7.3.5. Smart Vehicles
 - 7.3.6. Smart Healthcare
 - 7.3.7. Smart Enterprise Solutions
 - 7.3.8. Others
- 7.4. By Distribution Channel
 - 7.4.1. Online
 - 7.4.2. Offline
 - 7.4.2.1. Authorized Distributor
 - 7.4.2.2. 3rd Party Vendor
 - 7.4.2.3. Brand Stores
 - 7.4.2.4. Others
- 7.5. By End-user
 - 7.5.1. IT & Telecom
 - 7.5.2. Automotive & Transportation
 - 7.5.3. BFSI
 - 7.5.4. Retail
 - 7.5.5. Healthcare
 - 7.5.6. Government
 - 7.5.7. Energy & Utilities
 - 7.5.8. Others
- 7.6. By Region
 - 7.6.1. North America
 - 7.6.2. Europe
 - 7.6.3. South America
 - 7.6.4. Asia-Pacific
 - 7.6.5. Middle East and Africa
- 7.7. By Company Market Share (%), 2022

8. GLOBAL INTERNET OF THINGS MARKET OUTLOOK, BY REGION, 2016-2030F

8.1. North America*

8.2. By Component

8.2.1. Hardware

8.2.1.1. Sensors

8.2.1.2. Microcontrollers

8.2.1.3. Actuators

8.2.1.4. Others

8.2.2. Software

8.2.2.1. Data Collection

8.2.2.2. Data Integration

8.2.2.3. Real-Time Analytics

8.2.2.4. Application and Process Extension

8.2.3. Services

8.2.3.1. Professional Services

8.2.3.2. Managed Services

8.3. By Application

8.3.1. Smart Home

8.3.2. Smart Cities

8.3.3. Smart Wearables

8.3.4. Smart Agriculture

8.3.5. Smart Vehicles

8.3.6. Smart Healthcare

8.3.7. Smart Enterprise Solutions

8.3.8. Others

8.4. By Distribution Channel

8.4.1. Online

8.4.2. Offline

8.4.2.1. Authorized Distributor

8.4.2.2. 3rd Party Vendor

8.4.2.3. Brand Stores

8.4.2.4. Others

8.5. By End-user

8.5.1. IT & Telecom

8.5.2. Automotive & Transportation

8.5.3. BFSI

8.5.4. Retail

8.5.5. Healthcare

- 8.5.6. Government
- 8.5.7. Energy & Utilities
- 8.5.8. Others
- 8.6. United States*
 - 8.6.1. By Component
 - 8.6.1.1. Hardware
 - 8.6.1.1.1. Sensors
 - 8.6.1.1.2. Microcontrollers
 - 8.6.1.1.3. Actuators
 - 8.6.1.1.4. Others
 - 8.6.1.2. Software
 - 8.6.1.2.1. Data Collection
 - 8.6.1.2.2. Data Integration
 - 8.6.1.2.3. Real-Time Analytics
 - 8.6.1.2.4. Application and Process Extension
 - 8.6.1.3. Services
 - 8.6.1.3.1. Professional Services
 - 8.6.1.3.2. Managed Services
 - 8.6.2. By Application
 - 8.6.2.1. Smart Home
 - 8.6.2.2. Smart Cities
 - 8.6.2.3. Smart Wearables
 - 8.6.2.4. Smart Agriculture
 - 8.6.2.5. Smart Vehicles
 - 8.6.2.6. Smart Healthcare
 - 8.6.2.7. Smart Enterprise Solutions
 - 8.6.2.8. Others
 - 8.6.3. By Distribution Channel
 - 8.6.3.1. Online
 - 8.6.3.2. Offline
 - 8.6.3.2.1. Authorized Distributor
 - 8.6.3.2.2. 3rd Party Vendor
 - 8.6.3.2.3. Brand Stores
 - 8.6.3.2.4. Others
 - 8.6.4. By End-user
 - 8.6.4.1. IT & Telecom
 - 8.6.4.2. Automotive & Transportation
 - 8.6.4.3. BFSI
 - 8.6.4.4. Retail

8.6.4.5. Healthcare

8.6.4.6. Government

8.6.4.7. Energy & Utilities

8.6.4.8. Others

8.6.5. Canada

8.6.6. Mexico

*All segments will be provided for all regions and countries covered

8.7. Europe

8.7.1. Germany

8.7.2. France

8.7.3. Italy

8.7.4. United Kingdom

8.7.5. Russia

8.7.6. Netherlands

8.7.7. Spain

8.7.8. Turkey

8.7.9. Poland

8.8. South America

8.8.1. Brazil

8.8.2. Argentina

8.9. Asia-Pacific

8.9.1. India

8.9.2. China

8.9.3. Japan

8.9.4. Australia

8.9.5. Vietnam

8.9.6. South Korea

8.9.7. Indonesia

8.9.8. Philippines

8.10. Middle East & Africa

8.10.1. Saudi Arabia

8.10.2. UAE

8.10.3. South Africa

9. MARKET MAPPING, 2022

9.1. By Component

9.2. By Application

9.3. By Distribution Channel

9.4. By End-user

9.5. By Region

10. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

10.1. Supply Demand 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

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. PRICING ANALYSIS

14. CASE STUDIES

15. KEY PLAYERS OUTLOOK

15.1. Intel Corporation

15.1.1. Company Details

15.1.2. Key Management Personnel

15.1.3. Products & Services

15.1.4. Financials (As reported)

15.1.5. Key Market Focus & Geographical Presence

15.1.6. Recent Developments

15.2. Cisco Systems, Inc.

15.3. Microsoft Corporation

15.4. International Business Machines Corp. (IBM)

15.5. SAP SE

15.6. Amazon Web Services, Inc.

15.7. Google LLC

15.8. Oracle Corporation

15.9. Siemens AG

15.10. Robert Bosch GmbH

*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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