

Global Reconfigurable Intelligent Surfaces (RIS) Hardware Market 2023 by Manufacturers, Regions, Type and Application, Forecast to 2029

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Abstracts

According to our (Global Info Research) latest study, the global Reconfigurable Intelligent Surfaces (RIS) Hardware market size was valued at USD million in 2022 and is forecast to a readjusted size of USD million by 2029 with a CAGR of % during review period.

Reconfigurable Intelligent Surfaces (RIS) is a relatively new and innovative technology that falls under the broader category of intelligent reflecting surfaces or metasurfaces. RIS refers to a two-dimensional array of small elements, such as passive or active antennas, sensors, or other electromagnetic components, that can be electronically reconfigured to control the propagation of radio waves, sound waves, or other forms of electromagnetic radiation.

The main idea behind RIS is to manipulate and shape the electromagnetic waves by adjusting the phase, amplitude, or polarization of the reflected or transmitted signals. This enables the RIS to adaptively modify the signal's behavior, such as focusing or redirecting it, canceling interference, enhancing signal strength, or even creating specific radiation patterns.

The advantages of RIS include its energy efficiency as it operates passively, and it can work alongside existing wireless infrastructure, making it easier to deploy in real-world scenarios. However, RIS technology is still in its early stages, and research is ongoing to further explore its potential benefits and optimize its implementation in various applications.

With 5G at last gaining commercial traction and the debate about 6G now looking at



what it might actually offer in practice (rather than just in theory) attention is turning towards how the industry can ensure that 6G, unlike some other allegedly transformational technologies, isn't a triumph of hype over reality.

Hitherto, scientists and engineers have spent decades developing ever more efficient transmitters and receivers and working out ways to mitigate the apparently inevitable signal loss at the end points of a radio channel as they turned to higher and higher frequencies to obviate bandwidth congestion. They have done brilliantly, but it is evident that we are reaching the point where transmitters and receivers are as efficient as physically possible, so the focus is now on engineering the wireless channel itself.

One of the potentially most viable approaches to 6G infrastructure is the use of reconfigurable intelligent surfaces (RIS) technology. This is an artificial planar structure – that is to say, lying in a plane, and thus, by definition, two-dimensional – with integrated electronic circuits that can be programmed dynamically to reflect, refract and manipulate incoming electromagnetic fields. RIS elements come in sizes ranging from about 100 square centimetres up to about 5 square metres or even bigger, and cost a good deal less than traditional cellular antennas. What's more, RIS products are, to all intents and purposes, passive, which means they don't need amplifiers to boost the signal and so can be powered with a simple battery and a small solar panel.

The Global Info Research report includes an overview of the development of the Reconfigurable Intelligent Surfaces (RIS) Hardware industry chain, the market status of Wireless Communications (Active RIS, Semi-passive RIS), Radar Systems (Active RIS, Semi-passive RIS), and key enterprises in developed and developing market, and analysed the cutting-edge technology, patent, hot applications and market trends of Reconfigurable Intelligent Surfaces (RIS) Hardware.

Regionally, the report analyzes the Reconfigurable Intelligent Surfaces (RIS) Hardware markets in key regions. North America and Europe are experiencing steady growth, driven by government initiatives and increasing consumer awareness. Asia-Pacific, particularly China, leads the global Reconfigurable Intelligent Surfaces (RIS) Hardware market, with robust domestic demand, supportive policies, and a strong manufacturing base.

Key Features:

The report presents comprehensive understanding of the Reconfigurable Intelligent Surfaces (RIS) Hardware market. It provides a holistic view of the industry, as well as



detailed insights into individual components and stakeholders. The report analysis market dynamics, trends, challenges, and opportunities within the Reconfigurable Intelligent Surfaces (RIS) Hardware industry.

The report involves analyzing the market at a macro level:

Market Sizing and Segmentation: Report collect data on the overall market size, including the sales quantity (Units), revenue generated, and market share of different by Type (e.g., Active RIS, Semi-passive RIS).

Industry Analysis: Report analyse the broader industry trends, such as government policies and regulations, technological advancements, consumer preferences, and market dynamics. This analysis helps in understanding the key drivers and challenges influencing the Reconfigurable Intelligent Surfaces (RIS) Hardware market.

Regional Analysis: The report involves examining the Reconfigurable Intelligent Surfaces (RIS) Hardware market at a regional or national level. Report analyses regional factors such as government incentives, infrastructure development, economic conditions, and consumer behaviour to identify variations and opportunities within different markets.

Market Projections: Report covers the gathered data and analysis to make future projections and forecasts for the Reconfigurable Intelligent Surfaces (RIS) Hardware market. This may include estimating market growth rates, predicting market demand, and identifying emerging trends.

The report also involves a more granular approach to Reconfigurable Intelligent Surfaces (RIS) Hardware:

Company Analysis: Report covers individual Reconfigurable Intelligent Surfaces (RIS) Hardware manufacturers, suppliers, and other relevant industry players. This analysis includes studying their financial performance, market positioning, product portfolios, partnerships, and strategies.

Consumer Analysis: Report covers data on consumer behaviour, preferences, and attitudes towards Reconfigurable Intelligent Surfaces (RIS) Hardware This may involve surveys, interviews, and analysis of consumer reviews and feedback from different by Application (Wireless Communications, Radar Systems).



Technology Analysis: Report covers specific technologies relevant to Reconfigurable Intelligent Surfaces (RIS) Hardware. It assesses the current state, advancements, and potential future developments in Reconfigurable Intelligent Surfaces (RIS) Hardware areas.

Competitive Landscape: By analyzing individual companies, suppliers, and consumers, the report present insights into the competitive landscape of the Reconfigurable Intelligent Surfaces (RIS) Hardware market. This analysis helps understand market share, competitive advantages, and potential areas for differentiation among industry players.

Market Validation: The report involves validating findings and projections through primary research, such as surveys, interviews, and focus groups.

Market Segmentation

Reconfigurable Intelligent Surfaces (RIS) Hardware market is split by Type and by Application. For the period 2018-2029, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value.

Market segment by Type

Active RIS

Semi-passive RIS

Passive RIS

Market segment by Application

Wireless Communications

Radar Systems

Satellite Communications

Indoor Positioning



Energy Harvesting

Major players covered	
AGC	
NTT	
ZTE????	
Orange Belgium	
SK Telecom	
Greenerwave	
Fractal Antenna Systems	
Kymeta	
Metamaterial	
Metacept Systems	
Metawave	
Pivotal Commware	
SensorMetrix	
Market segment by region, regional analysis covers	
North America (United States, Canada and Mexico)	
Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)	



Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Reconfigurable Intelligent Surfaces (RIS) Hardware product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Reconfigurable Intelligent Surfaces (RIS) Hardware, with price, sales, revenue and global market share of Reconfigurable Intelligent Surfaces (RIS) Hardware from 2018 to 2023.

Chapter 3, the Reconfigurable Intelligent Surfaces (RIS) Hardware competitive situation, sales quantity, revenue and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Reconfigurable Intelligent Surfaces (RIS) Hardware breakdown data are shown at the regional level, to show the sales quantity, consumption value and growth by regions, from 2018 to 2029.

Chapter 5 and 6, to segment the sales by Type and application, with sales market share and growth rate by type, application, from 2018 to 2029.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value and market share for key countries in the world, from 2017 to 2022.and Reconfigurable Intelligent Surfaces (RIS) Hardware market forecast, by regions, type and application, with sales and revenue, from 2024 to 2029.

Chapter 12, market dynamics, drivers, restraints, trends, Porters Five Forces analysis, and Influence of COVID-19 and Russia-Ukraine War.

Chapter 13, the key raw materials and key suppliers, and industry chain of Reconfigurable Intelligent Surfaces (RIS) Hardware.



Chapter 14 and 15, to describe Reconfigurable Intelligent Surfaces (RIS) Hardware sales channel, distributors, customers, research findings and conclusion.



Contents

1 MARKET OVERVIEW

- 1.1 Product Overview and Scope of Reconfigurable Intelligent Surfaces (RIS) Hardware
- 1.2 Market Estimation Caveats and Base Year
- 1.3 Market Analysis by Type
 - 1.3.1 Overview: Global Reconfigurable Intelligent Surfaces (RIS) Hardware

Consumption Value by Type: 2018 Versus 2022 Versus 2029

- 1.3.2 Active RIS
- 1.3.3 Semi-passive RIS
- 1.3.4 Passive RIS
- 1.4 Market Analysis by Application
 - 1.4.1 Overview: Global Reconfigurable Intelligent Surfaces (RIS) Hardware

Consumption Value by Application: 2018 Versus 2022 Versus 2029

- 1.4.2 Wireless Communications
- 1.4.3 Radar Systems
- 1.4.4 Satellite Communications
- 1.4.5 Indoor Positioning
- 1.4.6 Energy Harvesting
- 1.5 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size & Forecast
- 1.5.1 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018 & 2022 & 2029)
- 1.5.2 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (2018-2029)
- 1.5.3 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price (2018-2029)

2 MANUFACTURERS PROFILES

- 2.1 AGC
 - 2.1.1 AGC Details
 - 2.1.2 AGC Major Business
 - 2.1.3 AGC Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
 - 2.1.4 AGC Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity,

Average Price, Revenue, Gross Margin and Market Share (2018-2023)

- 2.1.5 AGC Recent Developments/Updates
- 2.2 NTT
- 2.2.1 NTT Details



- 2.2.2 NTT Major Business
- 2.2.3 NTT Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.2.4 NTT Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity,

Average Price, Revenue, Gross Margin and Market Share (2018-2023)

- 2.2.5 NTT Recent Developments/Updates
- 2.3 ZTE????
 - 2.3.1 ZTE???? Details
 - 2.3.2 ZTE???? Major Business
- 2.3.3 ZTE???? Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.3.4 ZTE???? Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
- 2.3.5 ZTE???? Recent Developments/Updates
- 2.4 Orange Belgium
 - 2.4.1 Orange Belgium Details
 - 2.4.2 Orange Belgium Major Business
- 2.4.3 Orange Belgium Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.4.4 Orange Belgium Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.4.5 Orange Belgium Recent Developments/Updates
- 2.5 SK Telecom
 - 2.5.1 SK Telecom Details
 - 2.5.2 SK Telecom Major Business
- 2.5.3 SK Telecom Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.5.4 SK Telecom Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.5.5 SK Telecom Recent Developments/Updates
- 2.6 Greenerwave
 - 2.6.1 Greenerwave Details
 - 2.6.2 Greenerwave Major Business
- 2.6.3 Greenerwave Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.6.4 Greenerwave Reconfigurable Intelligent Surfaces (RIS) Hardware Sales
- Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.6.5 Greenerwave Recent Developments/Updates
- 2.7 Fractal Antenna Systems
- 2.7.1 Fractal Antenna Systems Details



- 2.7.2 Fractal Antenna Systems Major Business
- 2.7.3 Fractal Antenna Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.7.4 Fractal Antenna Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
- 2.7.5 Fractal Antenna Systems Recent Developments/Updates
- 2.8 Kymeta
 - 2.8.1 Kymeta Details
 - 2.8.2 Kymeta Major Business
- 2.8.3 Kymeta Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.8.4 Kymeta Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
- 2.8.5 Kymeta Recent Developments/Updates
- 2.9 Metamaterial
 - 2.9.1 Metamaterial Details
 - 2.9.2 Metamaterial Major Business
- 2.9.3 Metamaterial Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.9.4 Metamaterial Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.9.5 Metamaterial Recent Developments/Updates
- 2.10 Metacept Systems
 - 2.10.1 Metacept Systems Details
 - 2.10.2 Metacept Systems Major Business
- 2.10.3 Metacept Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.10.4 Metacept Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.10.5 Metacept Systems Recent Developments/Updates
- 2.11 Metawave
 - 2.11.1 Metawave Details
 - 2.11.2 Metawave Major Business
- 2.11.3 Metawave Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.11.4 Metawave Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.11.5 Metawave Recent Developments/Updates
- 2.12 Pivotal Commware



- 2.12.1 Pivotal Commware Details
- 2.12.2 Pivotal Commware Major Business
- 2.12.3 Pivotal Commware Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.12.4 Pivotal Commware Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.12.5 Pivotal Commware Recent Developments/Updates
- 2.13 SensorMetrix
 - 2.13.1 SensorMetrix Details
 - 2.13.2 SensorMetrix Major Business
- 2.13.3 SensorMetrix Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- 2.13.4 SensorMetrix Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity, Average Price, Revenue, Gross Margin and Market Share (2018-2023)
 - 2.13.5 SensorMetrix Recent Developments/Updates

3 COMPETITIVE ENVIRONMENT: RECONFIGURABLE INTELLIGENT SURFACES (RIS) HARDWARE BY MANUFACTURER

- 3.1 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Manufacturer (2018-2023)
- 3.2 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Revenue by Manufacturer (2018-2023)
- 3.3 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Manufacturer (2018-2023)
- 3.4 Market Share Analysis (2022)
- 3.4.1 Producer Shipments of Reconfigurable Intelligent Surfaces (RIS) Hardware by Manufacturer Revenue (\$MM) and Market Share (%): 2022
- 3.4.2 Top 3 Reconfigurable Intelligent Surfaces (RIS) Hardware Manufacturer Market Share in 2022
- 3.4.2 Top 6 Reconfigurable Intelligent Surfaces (RIS) Hardware Manufacturer Market Share in 2022
- 3.5 Reconfigurable Intelligent Surfaces (RIS) Hardware Market: Overall Company Footprint Analysis
 - 3.5.1 Reconfigurable Intelligent Surfaces (RIS) Hardware Market: Region Footprint
- 3.5.2 Reconfigurable Intelligent Surfaces (RIS) Hardware Market: Company Product Type Footprint
- 3.5.3 Reconfigurable Intelligent Surfaces (RIS) Hardware Market: Company Product Application Footprint



- 3.6 New Market Entrants and Barriers to Market Entry
- 3.7 Mergers, Acquisition, Agreements, and Collaborations

4 CONSUMPTION ANALYSIS BY REGION

- 4.1 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size by Region
- 4.1.1 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Region (2018-2029)
- 4.1.2 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Region (2018-2029)
- 4.1.3 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Region (2018-2029)
- 4.2 North America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029)
- 4.3 Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029)
- 4.4 Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029)
- 4.5 South America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029)
- 4.6 Middle East and Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029)

5 MARKET SEGMENT BY TYPE

- 5.1 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2029)
- 5.2 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Type (2018-2029)
- 5.3 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Type (2018-2029)

6 MARKET SEGMENT BY APPLICATION

- 6.1 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2029)
- 6.2 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Application (2018-2029)
- 6.3 Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by



Application (2018-2029)

7 NORTH AMERICA

- 7.1 North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2029)
- 7.2 North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2029)
- 7.3 North America Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size by Country
- 7.3.1 North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2018-2029)
- 7.3.2 North America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2018-2029)
 - 7.3.3 United States Market Size and Forecast (2018-2029)
 - 7.3.4 Canada Market Size and Forecast (2018-2029)
 - 7.3.5 Mexico Market Size and Forecast (2018-2029)

8 EUROPE

- 8.1 Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2029)
- 8.2 Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2029)
- 8.3 Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size by Country
- 8.3.1 Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2018-2029)
- 8.3.2 Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2018-2029)
 - 8.3.3 Germany Market Size and Forecast (2018-2029)
 - 8.3.4 France Market Size and Forecast (2018-2029)
 - 8.3.5 United Kingdom Market Size and Forecast (2018-2029)
 - 8.3.6 Russia Market Size and Forecast (2018-2029)
 - 8.3.7 Italy Market Size and Forecast (2018-2029)

9 ASIA-PACIFIC

9.1 Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2029)



- 9.2 Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2029)
- 9.3 Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size by Region
- 9.3.1 Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Region (2018-2029)
- 9.3.2 Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Region (2018-2029)
 - 9.3.3 China Market Size and Forecast (2018-2029)
 - 9.3.4 Japan Market Size and Forecast (2018-2029)
 - 9.3.5 Korea Market Size and Forecast (2018-2029)
 - 9.3.6 India Market Size and Forecast (2018-2029)
 - 9.3.7 Southeast Asia Market Size and Forecast (2018-2029)
 - 9.3.8 Australia Market Size and Forecast (2018-2029)

10 SOUTH AMERICA

- 10.1 South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2029)
- 10.2 South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2029)
- 10.3 South America Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size by Country
- 10.3.1 South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2018-2029)
- 10.3.2 South America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2018-2029)
 - 10.3.3 Brazil Market Size and Forecast (2018-2029)
 - 10.3.4 Argentina Market Size and Forecast (2018-2029)

11 MIDDLE EAST & AFRICA

- 11.1 Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2029)
- 11.2 Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2029)
- 11.3 Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Market Size by Country
- 11.3.1 Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales



Quantity by Country (2018-2029)

- 11.3.2 Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2018-2029)
 - 11.3.3 Turkey Market Size and Forecast (2018-2029)
 - 11.3.4 Egypt Market Size and Forecast (2018-2029)
 - 11.3.5 Saudi Arabia Market Size and Forecast (2018-2029)
 - 11.3.6 South Africa Market Size and Forecast (2018-2029)

12 MARKET DYNAMICS

- 12.1 Reconfigurable Intelligent Surfaces (RIS) Hardware Market Drivers
- 12.2 Reconfigurable Intelligent Surfaces (RIS) Hardware Market Restraints
- 12.3 Reconfigurable Intelligent Surfaces (RIS) Hardware Trends Analysis
- 12.4 Porters Five Forces Analysis
 - 12.4.1 Threat of New Entrants
 - 12.4.2 Bargaining Power of Suppliers
 - 12.4.3 Bargaining Power of Buyers
 - 12.4.4 Threat of Substitutes
 - 12.4.5 Competitive Rivalry
- 12.5 Influence of COVID-19 and Russia-Ukraine War
 - 12.5.1 Influence of COVID-19
 - 12.5.2 Influence of Russia-Ukraine War

13 RAW MATERIAL AND INDUSTRY CHAIN

- 13.1 Raw Material of Reconfigurable Intelligent Surfaces (RIS) Hardware and Key Manufacturers
- 13.2 Manufacturing Costs Percentage of Reconfigurable Intelligent Surfaces (RIS) Hardware
- 13.3 Reconfigurable Intelligent Surfaces (RIS) Hardware Production Process
- 13.4 Reconfigurable Intelligent Surfaces (RIS) Hardware Industrial Chain

14 SHIPMENTS BY DISTRIBUTION CHANNEL

- 14.1 Sales Channel
 - 14.1.1 Direct to End-User
 - 14.1.2 Distributors
- 14.2 Reconfigurable Intelligent Surfaces (RIS) Hardware Typical Distributors
- 14.3 Reconfigurable Intelligent Surfaces (RIS) Hardware Typical Customers



15 RESEARCH FINDINGS AND CONCLUSION

16 APPENDIX

- 16.1 Methodology
- 16.2 Research Process and Data Source
- 16.3 Disclaimer



List Of Tables

LIST OF TABLES

Table 1. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Type, (USD Million), 2018 & 2022 & 2029

Table 2. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Application, (USD Million), 2018 & 2022 & 2029

Table 3. AGC Basic Information, Manufacturing Base and Competitors

Table 4. AGC Major Business

Table 5. AGC Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services

Table 6. AGC Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity

(Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)

Table 7. AGC Recent Developments/Updates

Table 8. NTT Basic Information, Manufacturing Base and Competitors

Table 9. NTT Major Business

Table 10. NTT Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services

Table 11. NTT Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)

Table 12. NTT Recent Developments/Updates

Table 13. ZTE???? Basic Information, Manufacturing Base and Competitors

Table 14. ZTE???? Major Business

Table 15. ZTE???? Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services

Table 16. ZTE???? Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)

Table 17. ZTE???? Recent Developments/Updates

Table 18. Orange Belgium Basic Information, Manufacturing Base and Competitors

Table 19. Orange Belgium Major Business

Table 20. Orange Belgium Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services

Table 21. Orange Belgium Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)

Table 22. Orange Belgium Recent Developments/Updates



- Table 23. SK Telecom Basic Information, Manufacturing Base and Competitors
- Table 24. SK Telecom Major Business
- Table 25. SK Telecom Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 26. SK Telecom Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 27. SK Telecom Recent Developments/Updates
- Table 28. Greenerwave Basic Information, Manufacturing Base and Competitors
- Table 29. Greenerwave Major Business
- Table 30. Greenerwave Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 31. Greenerwave Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 32. Greenerwave Recent Developments/Updates
- Table 33. Fractal Antenna Systems Basic Information, Manufacturing Base and Competitors
- Table 34. Fractal Antenna Systems Major Business
- Table 35. Fractal Antenna Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 36. Fractal Antenna Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 37. Fractal Antenna Systems Recent Developments/Updates
- Table 38. Kymeta Basic Information, Manufacturing Base and Competitors
- Table 39. Kymeta Major Business
- Table 40. Kymeta Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 41. Kymeta Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 42. Kymeta Recent Developments/Updates
- Table 43. Metamaterial Basic Information, Manufacturing Base and Competitors
- Table 44. Metamaterial Major Business
- Table 45. Metamaterial Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 46. Metamaterial Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and



- Market Share (2018-2023)
- Table 47. Metamaterial Recent Developments/Updates
- Table 48. Metacept Systems Basic Information, Manufacturing Base and Competitors
- Table 49. Metacept Systems Major Business
- Table 50. Metacept Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 51. Metacept Systems Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 52. Metacept Systems Recent Developments/Updates
- Table 53. Metawave Basic Information, Manufacturing Base and Competitors
- Table 54. Metawave Major Business
- Table 55. Metawave Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 56. Metawave Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 57. Metawave Recent Developments/Updates
- Table 58. Pivotal Commware Basic Information, Manufacturing Base and Competitors
- Table 59. Pivotal Commware Major Business
- Table 60. Pivotal Commware Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 61. Pivotal Commware Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 62. Pivotal Commware Recent Developments/Updates
- Table 63. SensorMetrix Basic Information, Manufacturing Base and Competitors
- Table 64. SensorMetrix Major Business
- Table 65. SensorMetrix Reconfigurable Intelligent Surfaces (RIS) Hardware Product and Services
- Table 66. SensorMetrix Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity (Units), Average Price (US\$/Unit), Revenue (USD Million), Gross Margin and Market Share (2018-2023)
- Table 67. SensorMetrix Recent Developments/Updates
- Table 68. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Manufacturer (2018-2023) & (Units)
- Table 69. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Revenue by Manufacturer (2018-2023) & (USD Million)
- Table 70. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by



Manufacturer (2018-2023) & (US\$/Unit)

Table 71. Market Position of Manufacturers in Reconfigurable Intelligent Surfaces (RIS)

Hardware, (Tier 1, Tier 2, and Tier 3), Based on Consumption Value in 2022

Table 72. Head Office and Reconfigurable Intelligent Surfaces (RIS) Hardware

Production Site of Key Manufacturer

Table 73. Reconfigurable Intelligent Surfaces (RIS) Hardware Market: Company

Product Type Footprint

Table 74. Reconfigurable Intelligent Surfaces (RIS) Hardware Market: Company

Product Application Footprint

Table 75. Reconfigurable Intelligent Surfaces (RIS) Hardware New Market Entrants and

Barriers to Market Entry

Table 76. Reconfigurable Intelligent Surfaces (RIS) Hardware Mergers, Acquisition,

Agreements, and Collaborations

Table 77. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by

Region (2018-2023) & (Units)

Table 78. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by

Region (2024-2029) & (Units)

Table 79. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption

Value by Region (2018-2023) & (USD Million)

Table 80. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption

Value by Region (2024-2029) & (USD Million)

Table 81. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by

Region (2018-2023) & (US\$/Unit)

Table 82. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by

Region (2024-2029) & (US\$/Unit)

Table 83. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by

Type (2018-2023) & (Units)

Table 84. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by

Type (2024-2029) & (Units)

Table 85. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption

Value by Type (2018-2023) & (USD Million)

Table 86. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption

Value by Type (2024-2029) & (USD Million)

Table 87. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by

Type (2018-2023) & (US\$/Unit)

Table 88. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by

Type (2024-2029) & (US\$/Unit)

Table 89. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by

Application (2018-2023) & (Units)



Table 90. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2024-2029) & (Units)

Table 91. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Application (2018-2023) & (USD Million)

Table 92. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Application (2024-2029) & (USD Million)

Table 93. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Application (2018-2023) & (US\$/Unit)

Table 94. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Application (2024-2029) & (US\$/Unit)

Table 95. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2023) & (Units)

Table 96. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2024-2029) & (Units)

Table 97. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2023) & (Units)

Table 98. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2024-2029) & (Units)

Table 99. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2018-2023) & (Units)

Table 100. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2024-2029) & (Units)

Table 101. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2018-2023) & (USD Million)

Table 102. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2024-2029) & (USD Million)

Table 103. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2023) & (Units)

Table 104. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2024-2029) & (Units)

Table 105. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2023) & (Units)

Table 106. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2024-2029) & (Units)

Table 107. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2018-2023) & (Units)

Table 108. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2024-2029) & (Units)

Table 109. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption



Value by Country (2018-2023) & (USD Million)

Table 110. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2024-2029) & (USD Million)

Table 111. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2023) & (Units)

Table 112. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2024-2029) & (Units)

Table 113. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2023) & (Units)

Table 114. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2024-2029) & (Units)

Table 115. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Region (2018-2023) & (Units)

Table 116. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Region (2024-2029) & (Units)

Table 117. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Region (2018-2023) & (USD Million)

Table 118. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Region (2024-2029) & (USD Million)

Table 119. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2023) & (Units)

Table 120. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2024-2029) & (Units)

Table 121. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2023) & (Units)

Table 122. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2024-2029) & (Units)

Table 123. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2018-2023) & (Units)

Table 124. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Country (2024-2029) & (Units)

Table 125. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2018-2023) & (USD Million)

Table 126. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Country (2024-2029) & (USD Million)

Table 127. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2018-2023) & (Units)

Table 128. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Type (2024-2029) & (Units)



Table 129. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2018-2023) & (Units)

Table 130. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Application (2024-2029) & (Units)

Table 131. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Region (2018-2023) & (Units)

Table 132. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity by Region (2024-2029) & (Units)

Table 133. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Region (2018-2023) & (USD Million)

Table 134. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value by Region (2024-2029) & (USD Million)

Table 135. Reconfigurable Intelligent Surfaces (RIS) Hardware Raw Material

Table 136. Key Manufacturers of Reconfigurable Intelligent Surfaces (RIS) Hardware Raw Materials

Table 137. Reconfigurable Intelligent Surfaces (RIS) Hardware Typical Distributors

Table 138. Reconfigurable Intelligent Surfaces (RIS) Hardware Typical Customers



List Of Figures

LIST OF FIGURES

- Figure 1. Reconfigurable Intelligent Surfaces (RIS) Hardware Picture
- Figure 2. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value by Type, (USD Million), 2018 & 2022 & 2029
- Figure 3. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value Market Share by Type in 2022
- Figure 4. Active RIS Examples
- Figure 5. Semi-passive RIS Examples
- Figure 6. Passive RIS Examples
- Figure 7. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value by Application, (USD Million), 2018 & 2022 & 2029
- Figure 8. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value Market Share by Application in 2022
- Figure 9. Wireless Communications Examples
- Figure 10. Radar Systems Examples
- Figure 11. Satellite Communications Examples
- Figure 12. Indoor Positioning Examples
- Figure 13. Energy Harvesting Examples
- Figure 14. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value, (USD Million): 2018 & 2022 & 2029
- Figure 15. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value and Forecast (2018-2029) & (USD Million)
- Figure 16. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity
- (2018-2029) & (Units)
- Figure 17. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price
- (2018-2029) & (US\$/Unit)
- Figure 18. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity
- Market Share by Manufacturer in 2022
- Figure 19. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption
- Value Market Share by Manufacturer in 2022
- Figure 20. Producer Shipments of Reconfigurable Intelligent Surfaces (RIS) Hardware
- by Manufacturer Sales Quantity (\$MM) and Market Share (%): 2021
- Figure 21. Top 3 Reconfigurable Intelligent Surfaces (RIS) Hardware Manufacturer
- (Consumption Value) Market Share in 2022
- Figure 22. Top 6 Reconfigurable Intelligent Surfaces (RIS) Hardware Manufacturer
- (Consumption Value) Market Share in 2022



Figure 23. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Region (2018-2029)

Figure 24. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Region (2018-2029)

Figure 25. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029) & (USD Million)

Figure 26. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029) & (USD Million)

Figure 27. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029) & (USD Million)

Figure 28. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029) & (USD Million)

Figure 29. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value (2018-2029) & (USD Million)

Figure 30. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Type (2018-2029)

Figure 31. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Type (2018-2029)

Figure 32. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Type (2018-2029) & (US\$/Unit)

Figure 33. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Application (2018-2029)

Figure 34. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Application (2018-2029)

Figure 35. Global Reconfigurable Intelligent Surfaces (RIS) Hardware Average Price by Application (2018-2029) & (US\$/Unit)

Figure 36. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Type (2018-2029)

Figure 37. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Application (2018-2029)

Figure 38. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Country (2018-2029)

Figure 39. North America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Country (2018-2029)

Figure 40. United States Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 41. Canada Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 42. Mexico Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption



Value and Growth Rate (2018-2029) & (USD Million)

Figure 43. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Type (2018-2029)

Figure 44. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Application (2018-2029)

Figure 45. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Country (2018-2029)

Figure 46. Europe Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Country (2018-2029)

Figure 47. Germany Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 48. France Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 49. United Kingdom Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 50. Russia Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 51. Italy Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 52. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Type (2018-2029)

Figure 53. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Application (2018-2029)

Figure 54. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Region (2018-2029)

Figure 55. Asia-Pacific Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Region (2018-2029)

Figure 56. China Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 57. Japan Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 58. Korea Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 59. India Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 60. Southeast Asia Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 61. Australia Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)



Figure 62. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Type (2018-2029)

Figure 63. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Application (2018-2029)

Figure 64. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Country (2018-2029)

Figure 65. South America Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Country (2018-2029)

Figure 66. Brazil Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 67. Argentina Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 68. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Type (2018-2029)

Figure 69. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Application (2018-2029)

Figure 70. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Sales Quantity Market Share by Region (2018-2029)

Figure 71. Middle East & Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value Market Share by Region (2018-2029)

Figure 72. Turkey Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 73. Egypt Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 74. Saudi Arabia Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 75. South Africa Reconfigurable Intelligent Surfaces (RIS) Hardware Consumption Value and Growth Rate (2018-2029) & (USD Million)

Figure 76. Reconfigurable Intelligent Surfaces (RIS) Hardware Market Drivers

Figure 77. Reconfigurable Intelligent Surfaces (RIS) Hardware Market Restraints

Figure 78. Reconfigurable Intelligent Surfaces (RIS) Hardware Market Trends

Figure 79. Porters Five Forces Analysis

Figure 80. Manufacturing Cost Structure Analysis of Reconfigurable Intelligent Surfaces (RIS) Hardware in 2022

Figure 81. Manufacturing Process Analysis of Reconfigurable Intelligent Surfaces (RIS) Hardware

Figure 82. Reconfigurable Intelligent Surfaces (RIS) Hardware Industrial Chain

Figure 83. Sales Quantity Channel: Direct to End-User vs Distributors

Figure 84. Direct Channel Pros & Cons



Figure 85. Indirect Channel Pros & Cons

Figure 86. Methodology

Figure 87. Research Process and Data Source



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