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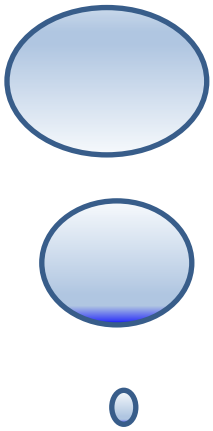
Small Cells:

Market Shares, Strategies, and Forecasts,

Worldwide, 2018 to 2024



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Small Cells: Disruptive Technology that Extends Broadband into the Corners of the Earth, Implements 5G

CHECK OUT THESE KEY TOPICS

Small Cells Virtualization Cloud Edge Functional splits. LTE Small Cell 5G Network Densification Hybrid Ethernet Based DAS DAS	In Building Wireless Broadband Traffic In Air Interface Solutions Outdoor and Stadium Deployments Heterogeneous Network Hung On Aerial Coax, Fiber, Or Electricity Cables Distributed business Enterprise	End-To-End Integrated Small Cells Metro Cell Solution Signal Transmission ADRF Positioning Bandwidth Allocation Across enterprise boundaries

Small Cells: Technology Evolves To Provide Better Management of Transactions in the Real Time Digital Economy

Description: WinterGreen Research provides deep insight into telco and the unfolding of small cells as they are used to implement the digital economy. Smart devices, smart cities, smart drones, smart agriculture, self-driving cars all have a need for more dense wireless transport infrastructure. Small cell address that need

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Small Cells: Market Shares, Strategies, and Forecasts, Worldwide, 2018-2024

LEXINGTON, Massachusetts (January 29, 2018) – WinterGreen Research announces that it has published a new study Small Cells: Market Shares, Strategy, and Forecasts, Worldwide, 2018 to 2024. The 2018 study has 248 pages, 135 tables and figures. The leading vendors in the small cell market have invested in high-quality technology and processes to develop leading edge monitoring and digital triggering activation capability.

Small Cell markets encompass virtualization, cloud, edge, and functional splits. 5G requires increasing sophistication from mobile operators. The challenge is to bring together a growing number of LTE and 5G radio access technologies. A range of connectivity services are needed. Associated APIs are needed in each small cell to manage connectivity to a number of customer segments.

Figure 1. Small Cell Market Driving Forces

- Need for enabling evolution of local communications network
- Availability of fully virtualized, distributed, ultra-reliable software
- Effective software for controlling agile infrastructure
- Automation facilitates large-scale low-cost network densification
- Lowers cost by implementing network through third-party deployments
- Effective integration of base small cell technologies
- Systems integration achieved with open and interoperable standards
- Open and interoperable standards needed to ensure competition
- open and interoperable standards needed to ensure economies of scale
- Adoption of these 5G Era technologies will require culture shifts in processes

Source: WinterGreen Research, Inc.

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Small cells need infrastructure across a broad range of commercial and governmental organizations. Each have a part to play in making small cells work along with tower infrastructure to create a broadband commercial network. Service providers are focused on densification. Small cells are a critical part of the infrastructure for several key 5G Era deployment scenarios:

Figure 2. Small Cell Infrastructure Critical Issues

- Service providers are focused on densification
- Small cells are a critical part of the infrastructure for key 5G implementations
- 5G deployment needs small cells
- >6GHz spectrum propagation limits cell sizes
- Shared and license-exempt spectrum mandates lower power
- Areas of hyper-dense broadband traffic need small cells
- Small cells meet demand in cities, stadia, transport hubs
- Scalable deployment
- Low-cost deployment
- Using a low-skilled, third-party, or end-user workforce
- Small/medium enterprises requiring self-deployed indoor coverage
- Coverage extension in rural, remote, moving and temporary deployment
- Scenarios with equipment size, weight or power constraints.

Source: WinterGreen Research, Inc.

The total value of the small cell market is $12.5 billion in 2017, up from $10.35 billion in 2016. Markets grow to $58.7 billion in 2024. Growth is a result of the implementation of the tremendous amount of digital content from video on smart phones, from the digital economy, IoT, robots, drones, self-driving cars, and artificial intelligence. The digital economy rides on the back of small cells 5G signal transmission which is a 10x improvement in capacity over existing broadband. This is the new world aspect, everything is monitored and activated digitally.

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The digital economy, self-driving cars, drones, traffic lights, and smart things all need more wireless coverage. According to Susan Eustis, leader of the team that prepared the research, "Small cell suppliers have a focus on broadband improvement. Power and performance are being improved. Small cells improve the transmission coverage and density."

This 5G coverage is needed as IoT, the Internet of things and smart phone video increase transmission needs. "Everything will be connected," said SoftBank Chief Executive Masayoshi Son, announcing a ARM processor deal in London. "Cows will be connected, chickens will be connected, the sheep will be connected."

WinterGreen Research is an independent research organization funded by the sale of market research studies all over the world and by the implementation of ROI models that are used to calculate the total cost of ownership of equipment, services, and software. The company has 35 distributors worldwide, including Global Information Info Shop, Market Research.com, Research and Markets, electronics.ca, and Thompson Financial. WinterGreen Research is positioned to help customers facing challenges that define the modern enterprises.

The increasingly global nature of science, technology and engineering is a reflection of the implementation of the globally integrated enterprise. Customers trust wintergreen research to work alongside them to ensure the success of the participation in a particular market segment.

WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

Key words: Small Cells, Virtualization, Cloud, Edge, Functional splits. , LTE Small Cell, 5G, Network Densification, Hybrid Ethernet Based DAS, DAS, In Building Wireless, Broadband Traffic, In Air Interface Solutions, Outdoor and Stadium Deployments, Heterogeneous Network, Hung On Aerial Coax, Fiber, Or Electricity Cables, Distributed business, Enterprise, End-To-End Integrated Small Cells, Metro Cell Solution Signal Transmission, ADRF Positioning, Bandwidth Allocation, Across enterprise boundaries,

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Corning Spidercloud
ip.access
NTSI
Optimos
Qualcomm
Signal Booster.com
Small Cell Forum
Solid Technologies
Zouk Capital / ip.access

Small Cells: Market Shares, Strategies, and Forecasts, Worldwide, 2018 to 2024

Report Methodology

This is the 732nd report in a series of primary market research reports that provide forecasts in robpts, communications, telecommunications, the Internet, computer, software, telephone equipment, health equipment, and energy. Automated process and significant growth potential are priorities in topic selection. The project leaders take direct responsibility for writing and preparing each report. They have significant experience preparing industry studies. Forecasts are based on primary research and proprietary data bases.

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This Small Cells study is based on tracking integration software and dynamic processing that provides significant insight into the technology of Systems. Experience implementing broadband networking and mobile systems for different technologies using the Systems has been evaluated in many different contexts. Evaluation of the changes brought to the supply chain and transaction processing by the Internet are among factors that contribute to development of triangulation regarding market forecasts for the sector.

The primary research is conducted by talking to customers, distributors and companies. The survey data is not enough to make accurate assessment of market size, so WinterGreen Research looks at the value of shipments and the average price to achieve market assessments. Our track record in achieving accuracy is unsurpassed in the industry. We are known for being able to develop accurate market shares and projections. This is our specialty.

The analyst process is concentrated on getting good market numbers. This process involves looking at the markets from several different perspectives, including vendor shipments. The interview process is an essential aspect as well. We do have a lot of granular analysis of the different shipments by vendor in the study and addenda prepared after the study was published if that is appropriate.

Forecasts reflect analysis of the market trends in the segment and related segments. Unit and dollar shipments are analyzed through consideration of dollar volume of each market participant in the segment. Installed base analysis and unit analysis is based on interviews and an information search. Market share analysis includes conversations with key customers of products, industry segment leaders, marketing directors, distributors, leading market participants, opinion leaders, and companies seeking to develop measurable market share.

Over 200 in depth interviews are conducted for each report with a broad range of key participants and industry leaders in the market segment. We establish accurate market forecasts based on economic and market conditions as a base. Use input/output ratios, flow charts, and other economic methods to quantify data. Use in-house analysts who meet stringent quality standards.

Interviewing key industry participants, experts and end-users is a central part of the study. Our research includes access to large proprietary databases. Literature search includes analysis of trade publications, government reports, and corporate literature.

Findings and conclusions of this report are based on information gathered from industry sources, including manufacturers, distributors, partners, opinion leaders, and users. Interview data was combined with information gathered through an extensive review of internet and printed sources such as trade publications, trade associations, company literature, and online databases. The projections contained in this report are checked from top down and bottom up analysis to be sure there is congruence from that perspective.

The base year for analysis and projection is 2017. With 2017 and several years prior to that as a baseline, market projections were developed for 2018 through 2024. These projections are based on a combination of a consensus among the opinion leader contacts interviewed combined with understanding of the key market drivers and their impact from a historical and analytical perspective. The analytical methodologies used to generate the market estimates are based on penetration analyses, similar market analyses, and delta calculations to supplement independent and dependent variable analysis. All analyses are displaying selected descriptions of products and services.

This research includes reference to an ROI model that is part of a series that provides IT systems financial planners access to information that supports analysis of all the numbers that impact management of a product launch or large and complex data center. The methodology used in the models relates to having a sophisticated analytical technique for understanding the impact of workload on processor consumption and cost.

WinterGreen Research has looked at the metrics and independent research to develop assumptions that reflect the actual anticipated usage and cost of systems. Comparative analyses reflect the input of these values into models.

The variables and assumptions provided in the market research study and the ROI models are based on extensive experience in providing research to large enterprise organizations and data centers. The ROI models have lists of servers from different manufacturers, Systems z models from IBM, and labor costs by category around the world.

This information has been developed from WinterGreen research proprietary data bases constructed as a result of preparing market research studies that address the software, energy, healthcare, telecommunications, and hardware businesses.

Small Cells: Market Shares, Strategies, and Forecasts, Worldwide, 2018 to 2024

Table of Contents

Small Cells: Executive Summary

The study is designed to give a comprehensive overview of the Small Cells market segment. Research represents a selection from the mountains of data available of the most relevant and cogent market materials, with selections made by the most senior analysts. Commentary on every aspect of the market from independent analysts creates an independent perspective in the evaluation of the market. In this manner the study presents a comprehensive overview of what is going on in this market, assisting managers with designing market strategies likely to succeed.

ABOUT THE COMPANY

WinterGreen Research, research strategy relates to identifying market trends through reading and interviewing opinion leaders. By using analysis of published materials, interview material, private research, detailed research, social network materials, blogs, and electronic analytics, the market size, shares, and trends are identified. Analysis of the published materials and interviews permits WinterGreen Research senior analysts to learn a lot more about markets. Discovering, tracking, and thinking about market trends is a high priority at WinterGreen Research. As with all research, the value proposition for competitive analysis comes from intellectual input.

WinterGreen Research, founded in 1985, provides strategic market assessments in telecommunications, communications equipment, health care, Software, Internet, Energy Generation, Energy Storage, Renewable energy, and advanced computer technology.

Industry reports focus on opportunities that expand existing markets or develop major new markets. The reports access new product and service positioning strategies, new and evolving technologies, and technological impact on products, services, and markets. Innovation that drives markets is explored. Market shares are provided. Leading market participants are profiled, and their marketing strategies, acquisitions, and strategic alliances are discussed. The principals of WinterGreen Research have been involved in analysis and forecasting of international business opportunities in telecommunications and advanced computer technology markets for over 30 years.

The studies provide primary analytical insight about the market participants. By publishing material relevant to the positioning of each company, readers can look at the basis for analysis. By providing descriptions of each major participant in the market, the reader is not dependent on analyst assumptions, the information backing the assumptions is provided, permitting readers to examine the basis for the conclusions.

About The Principal Authors

Susan Eustis, President, co-founder of WinterGreen Research is a senior analyst. She has done research in communications and computer markets and applications. She holds several patents in microcomputing and parallel processing. She has the original patents in electronic voting machines where she was featured in People Magazine in 1976. She has new patent applications in format varying, mulitprocessing, and electronic voting. She is the author of recent studies of the Solar Renewable Energy, Wind Energy, Thin Film Batteries, Business Process Management marketing strategies, Internet equipment, biometrics, a study of Internet Equipment, Worldwide Telecommunications Equipment, Top Ten Telecommunications, Digital Loop Carrier, Web Hosting, Web Services, and Application Integration markets. Ms. Eustis is a graduate of Barnard College. Susan Eustis was named as top female executive of the year by Who's Who Worldwide in 2012. She was named page one of the top 100 Industry leaders in Who's Who Worldwide in 2013, 2014, 2015, and 2016. She has been twice featured on the cover of the Women of Distinction magazine. She was cited in a recent Time Magazine cover article and major media Washington Post and WSJ articles on Youth Sports market growth.

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About the WinterGreen Research Team: The WinterGreen Research Team is comprised of senior analysts that prepare the market research and analysis that is offered to the client and developed using an iterative process to achieve a final study. Typical projects include providing market/viability research. The team can look at how drones can be applied to critical infrastructures safety, including: type of market existing, Barriers, Forecast demand and competitors, SWOT and competitive advantages, Price Analysis, product design recommendations (marketing orientation).

Research is typically for many different regions or localities, for example EU countries including Spain, UK, Nordic, Germany, and France. Typical projects profile the United States and areas of Asia. It is common to three representative countries from South America, Brazil, Argentina, Chile, and Mexico. Representative countries from Asia APAC typically include Japan, China, India, and Australia.

Critical infrastructure safety, including: type of market existing, barriers to entry and to faithful execution of product provision, forecast of demand, market share, SWOT, competitive advantage of major competitors, identification of new technologies and new companies, price performance analysis, product design recommendations, and marketing considerations are typical topics covered.

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