

Semiconductor Wireless Sensor Internet of Things (IoT): Market Shares, Strategies, and Forecasts, Worldwide, 2014 to 2020

<https://marketpublishers.com/r/SE90A3694F7EN.html>

Date: February 2014

Pages: 492

Price: US\$ 3,900.00 (Single User License)

ID: SE90A3694F7EN

Abstracts

This is the 586th report in a series of primary market research reports that provide forecasts in 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.

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 2010. With 2010 and several years prior to that as a baseline, market projections were developed for 2014 through 2020. 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.

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About

WinterGreen Research announces that it has published a new study *Wireless Sensor Network Market Shares, Strategy, and Forecasts, Worldwide, 2014 to 2020*. The 2014 study has 640 pages, 266 tables and figures. Worldwide markets are poised to achieve significant growth as the Semiconductor Wireless Sensor Network is used to implement the Internet of things and to monitor pipelines, oil wells, and healthcare patients to illustrate the variety of projects supported by these networks.

Semiconductor wireless sensor networks are used for bridge monitoring, implementing the smart grid, implementing the Internet of things, and monitoring for security implementation. The systems are used to implement energy savings in homes and commercial buildings, almost anything can be monitored with sensors and tracked on a smart phone. Projects are ongoing.

With 9 billion devices connected to the Internet in 2014, phenomenal growth is likely to occur when that number rises to 100 billion by 2020. Businesses control devices with sensors and wireless sensor networks (WSNs).

The sensors connected to the Internet promise to bring a big data explosion. Much of the data will be discarded, as users get simply overwhelmed by vast volumes. Analytics will become popular inside the wireless sensor networks so that alerts are generated at the point of collection of data.

The issue is how to embed analytics into the wireless sensor network control units so that only the alert data needed is transmitted. Users of information need to be able to find, control, manage, and secure the information coming from sensors onto the network. Users need to analyze and exploit the information coming from sensors.

Advanced technologies for wireless sensor networks are associated with emerging ways of interconnecting devices that have never been connected before. Networking is based on leveraging the feasibility of making sensors work independently in groups to accomplish insight not otherwise available.

Advanced storage devices are emerging simultaneously with the energy harvesting devices that are economical, making sensor networks feasible. Storage devices can leverage the power captured by energy harvesting when sensors and devices are interconnected as a network.

Data storage technologies connected to the sensors are permitting far better control of the world around us, implementing vastly improved energy efficiency as lights and heating are turned on and off just as needed. Wireless sensor networks implement cost-effective systems.

Wireless sensor networks are developing a market presence. They are set to power wireless sensor network proliferation. Independent sensor devices located almost anywhere have attained workable levels of efficiency.

The proliferation of apps on smart phones will drive growth of semiconductor wireless sensor networks markets because the sensors work directly as they are installed without excess labor and wiring that has been necessary previously, making the systems more convenient to install and run.

Healthy lifestyle choices can increase the length of DNA sequences found at the end of a person's chromosomes and reverse aging. This discovery is likely to increase interest in monitoring and testing DNA sequences and looking at the ends of the chromosomes. This discovery is likely to increase a shift toward wellness initiatives. It has stimulated the need for better communication between clinicians and patients. New sensor technology creates the opportunity for monitoring and testing. Wireless sensor network devices can be used to send alerts to at risk people who are exercising.

Wireless sensor networking is set to grow as sensors are freed from the grid and networks implement connectivity that is mesh architecture based. Converting ambient energy to useable electrical energy harvesting (EH) systems creates the opportunity to implement wireless sensor networks. These networks interconnect an inexpensive and compact group of devices and sensors. The networks use wireless capability to power portable electrical devices.

According to Susan Eustis, lead author of the WinterGreen Research team that prepared the semiconductor wireless sensor network market research study, "Semiconductor wireless sensor network markets are evolving as smart phone devices and technology find more uses throughout the landscape of the Internet of Things. Sensors can provide monitoring that has not previously been available.

Differential diagnostic tools support provide differential information that helps manage our daily lives from traffic patterns to crime detections, to medical treatment."

"The decision process take into account clinical findings from the home monitoring

devices and from symptoms verbally communicated in a clinical services setting. Improved economics of healthcare delivery implementation is facilitated by wireless sensor networks. This is true across the spectrum of things that can be monitored by sensors”.

Semiconductor Wireless Sensor Networks Markets at \$2.7 billion in 2013 are forecast to reach \$12 billion Worldwide by 2020. Wild growth, frequently measured as penetration rates is a result of the change out of wired sensor networks for wireless ones. In addition, the wireless networks have a broader reach than the wired ones did, spurring market extensions in a variety of applications, some not even thought of so far.

Market growth is dependent on emerging technology. As the wireless technology, the solid state battery, the sensor technology, smart phone technology and the energy harvesting technology all become commercialized, these devices will be used to implement wireless sensor networks. The semiconductor wireless sensor networks markets will be driven by the adoption of 9 billion smart phones by 2020, creating demand for apps that depend on sensor networks.

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