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Wi SUN Technology Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Component (Hardware, Software), By Application (Smart Metering, Smart Cities, Industrial Automation, Agricultural Monitoring, Home Automation), By End-User (Utilities, Municipalities, Industrial Sector, Agriculture, Residential Sector), By Region & Competition, 2021-2031F

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Abstracts

The Global Wi-SUN Technology Market is projected to expand from a valuation of USD 3.76 Billion in 2025 to USD 14.28 Billion by 2031, achieving a Compound Annual Growth Rate of 24.91%. Rooted in the open IEEE 802.15.4g standard, Wi-SUN technology establishes a secure, interoperable mesh networking protocol specifically engineered to support expansive industrial Internet of Things applications. The primary catalyst for this market is the intensifying demand for dependable field area networks across critical infrastructure sectors, particularly within smart city and smart utility frameworks where multi-vendor compatibility is crucial for long-term sustainability. This growth is further bolstered by the protocol's capacity to deliver high-throughput, low-latency connectivity in dense urban settings, a commitment evidenced by the Wi-SUN Alliance's 2024 membership of over 300 companies spanning 46 nations.

Despite this strong upward trajectory, the market faces a substantial obstacle due to fierce competition from alternative Low Power Wide Area Network technologies. Rival solutions such as NB-IoT and LoRaWAN offer specific benefits in low-bandwidth scenarios and utilize star topologies, which some operators consider easier to manage than mesh architectures. This competitive fragmentation often complicates the

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evaluation process for municipal planners and utility providers, potentially hindering the wider and faster adoption of Wi-SUN technology in cost-sensitive markets.

Market Driver

The rapid global rollout of Advanced Metering Infrastructure serves as the central growth engine for the Wi-SUN technology market, driven by the utility sector's preference for the self-healing capabilities and extended coverage of mesh networks. This trend is particularly prominent in emerging economies where government mandates are enforcing grid digitization to minimize transmission losses and enhance billing precision. A major regulatory breakthrough occurred in March 2024 when the Bureau of Indian Standards officially designated the Wi-SUN FAN specification as a national standard to support the deployment of roughly 250 million smart meters. This milestone highlights the protocol's scalability, which is further validated by Wi-SUN Alliance data from May 2024 indicating that the global count of deployed Wi-SUN FAN capable devices has exceeded 120 million.

Concurrently, the proliferation of Intelligent Street Lighting and Smart City initiatives is expanding the market's scope beyond conventional metering by utilizing established mesh infrastructure to connect various urban assets. Municipalities are capitalizing on Wi-SUN's high bandwidth and low latency to manage dynamic street lighting, which functions as a backbone for supplementary applications like traffic management and environmental monitoring without necessitating separate networks. Integrating these systems lowers operational expenses and improves public safety via real-time asset control, leading industry majors to scale their connected lighting portfolios. For example, Itron reported in October 2024 that it manages over 4 million smart streetlights worldwide, confirming the increasing reliance on robust mesh connectivity for modern urban infrastructure projects.

Market Challenge

The principal impediment restricting the growth of the Global Wi-SUN Technology Market is the intense rivalry from alternative Low Power Wide Area Network (LPWAN) technologies, specifically LoRaWAN and NB-IoT. These competitors utilize star network topologies, which operators often perceive as simpler to deploy and maintain compared to the mesh architecture fundamental to Wi-SUN. This basic technical divergence creates a fragmented marketplace where municipal planners and utility providers struggle to weigh the trade-offs between the simplicity of star networks and the robust interoperability of mesh systems. Consequently, the evaluation period for infrastructure

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projects is prolonged, delaying procurement decisions and stalling adoption in cost-conscious regions where initial complexity serves as a significant deterrent.

The impact of this competitive tension is amplified by the stringent requirements of modern utility infrastructure, which pull decision-makers in conflicting directions. Although the lower costs and simplicity of alternative LPWANs attract interest, the operational necessity for grid reliability creates a complex decision-making deadlock. A 2024 survey cited by the Wi-SUN Alliance noted that 41% of utility professionals rank network resilience and advanced weather prediction as their highest priorities for IoT deployments. This data underscores an internal market conflict: while the resilience provided by Wi-SUN is highly valued, the appeal of simpler, less expensive competitor solutions complicates final investment commitments, effectively slowing the technology's broader expansion.

Market Trends

The adoption of Wi-SUN FAN 1.1 is fundamentally reshaping the market by facilitating high-throughput and low-latency applications that extend beyond basic metering to include distribution automation and grid-edge intelligence. By utilizing Orthogonal Frequency Division Multiplexing (OFDM) modulations, this trend enables significantly elevated data rates, empowering utilities to process real-time analytics locally and handle complex demand-response scenarios. The shift toward these high-performance capabilities is evident in the advancements of silicon providers optimizing their portfolios for the new specification; for instance, Silicon Labs announced in April 2025 that their Wi-SUN FAN 1.1 certified EFR32FG25 SoCs can sustain data rates up to 3.6 Mbps, providing the necessary bandwidth for next-generation industrial and utility networks.

Simultaneously, a strategic emphasis on interoperable multi-vendor smart city solutions is driving market maturity, as buyers increasingly mandate certification to eliminate vendor lock-in and ensure long-term supply chain resilience. This focus encourages a diverse ecosystem where devices from different manufacturers can seamlessly communicate on a unified mesh infrastructure, a critical requirement for large-scale municipal projects. The industry's commitment to this open-standard approach was recently solidified through the formalization of rigorous testing programs. In June 2025, the Wi-SUN Alliance announced that six leading technology vendors, including Landis+Gyr and Renesas Electronics, had successfully achieved the first global certifications for the FAN 1.1 profile, validating the availability of a truly interoperable multi-vendor marketplace.

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Key Market Players

%li%Cisco Systems, Inc.

%li%Texas Instruments, Inc.

%li%Toshiba Corporation

%li%Analog Devices, Inc.

%li%Renesas Electronics Corporation

%li%Murata Manufacturing Co., Ltd.

%li%Itron, Inc.

%li%Landis+Gyr Group AG

%li%ROHM Semiconductor Co., Ltd.

%li%Trilliant Holdings, Inc.

Report Scope

In this report, the Global Wi SUN Technology Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

%li%Wi SUN Technology Market, By Component

%li%%li%Hardware

%li%%li%Software

%li%Wi SUN Technology Market, By Application

%li%%li%Smart Metering

%li%%li%Smart Cities

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%li%%li%Industrial Automation

%li%%li%Agricultural Monitoring

%li%%li%Home Automation

%li%Wi SUN Technology Market, By End-User

%li%%li%Utilities

%li%%li%Municipalities

%li%%li%Industrial Sector

%li%%li%Agriculture

%li%%li%Residential Sector

%li%Wi SUN Technology Market, By Region

%li%%li%North America

%li%%li%%li%United States

%li%%li%%li%Canada

%li%%li%%li%Mexico

%li%%li%Europe

%li%%li%%li%France

%li%%li%%li%United Kingdom

%li%%li%%li%Italy

%li%%li%%li%Germany

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%li%%li%%li%Spain

%li%%li%Asia Pacific

%li%%li%%li%China

%li%%li%%li%India

%li%%li%%li%Japan

%li%%li%%li%Australia

%li%%li%%li%South Korea

%li%%li%South America

%li%%li%%li%Brazil

%li%%li%%li%Argentina

%li%%li%%li%Colombia

%li%%li%Middle East & Africa

%li%%li%%li%South Africa

%li%%li%%li%Saudi Arabia

%li%%li%%li%UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Wi SUN Technology Market.

Available Customizations:

Global Wi SUN Technology Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following

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customization options are available for the report:

Company Information

%li%Detailed analysis and profiling of additional market players (up to five).

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