Media Backgrounder: Wi-SUN Alliance

- **Name:** Wi-SUN Alliance – www.wi-sun.org
- **Founded:** 2012
- **Who:** Global non-profit member-based association made up of industry leading companies focused on the global proliferation of interoperable wireless solutions using open standards
- **Mission:** The advancement of seamless connectivity in Smart Ubiquitous Networks for the Internet of Things (IoT), smart cities and smart grids
- **Membership:** Silicon vendors, product vendors, services providers, utilities, universities, enterprises and municipalities/local government organizations
- **Key people:** Phil Beecher, Chairman, Wi-SUN Alliance

Overview

The Wi-SUN Alliance is a global member-based industry association. Founded in 2012 by Promoter Members, including Analog, Devices Cisco, Itron, Murata NICT, Omron, Renesas, Rohm Semiconductor, Silver Spring Networks and Toshiba, Wi-SUN's goal is to drive the adoption of wireless solutions in markets serving the Internet of Things (IoT).

The Wi-SUN Alliance seeks to accelerate the implementation of smart grids, smart cities, smart utilities and large-scale outdoor IoT applications by enabling the global adoption of interoperable solutions based on open standards**.**

It creates communications layer specifications based on open standards from organisations, such as IEEE802, IETF, TIA, TTC and ETSI, and develops a robust testing and certification program guaranteeing that products that implement the Wi-SUN specification interoperate. The Alliance has certified around 80 products worldwide, including many for the connection of smart meters to home energy management systems.

Wi-SUN specifications bring Smart Ubiquitous Networks to service providers, utilities, municipalities/local government and other enterprises, by enabling interoperable, multi-service and secure wireless mesh networks. Wi-SUN can be used for large-scale outdoor IoT wireless communication networks in a wide range of applications, including:

- Smart grid – e.g. advanced metering infrastructure, Peak Load Management, control of power distribution, alternative energy, e.g. control of solar and wind farms
- Smart cities – e.g. street lighting, dynamic control of traffic lights, smart parking
- Structural health monitoring – e.g. monitoring of the integrity of bridges, buildings, etc.
- Agriculture – e.g. monitoring humidity and temperatures in greenhouses.

Wi-SUN smart cities include Copenhagen, Paris and Stockholm, while Bristol has become the first Wi-SUN-powered smart city in the UK.

Membership

With more than 150 member companies, membership is growing year on year (at least 50% have representation in the UK). Represented worldwide, including the US, India, Singapore, Japan and Europe, membership includes silicon and product vendors, services providers, utilities, universities and municipalities. All members benefit from the experience and expertise of their peers who have deployed more than 40 million nodes over the past decade.

Product vendors in particular benefit from using Wi-SUN profiles derived from open standards, as well as access to a global market and from a certification program that adds value to their products – the logo is fast becoming a recognized brand. A product with a Wi-SUN Certified logo gives the marketplace confidence that products can work together in an interoperable, multi-vendor network.

Key strengths

- ***Security*** – is a core concern for any network as compromised devices can be used to mount attacks on other networks, resulting in costly technology replacements or, worse, disrupt essential services or public safety as would be the case for critical IoT networks. Enterprise-grade security is the gold standard among IoT networks. Only Wi-SUN-based networks have achieved military-grade security, which is the equivalent to that used by banks. Wi-SUN networks also support over the air upgrades, which are essential for providing security patches and longevity for the network.
- ***Scalability*** – Wi-SUN-based mesh networks have proven themselves across a range of challenging and remote environments around the world. Tens of millions of reliably connected endpoints demonstrate that a Wi-SUN based IoT mesh network can achieve the ubiquity and scalability many IoT customers demand.
- ***Resilience*** – Wi-SUN networks offer resilience against faults and interference. For example, it is extremely difficult to disrupt a Wi-SUN network, e.g. through a denial of service attack.
- ***Adaptability*** – Wi-SUN adapts to the landscape and environment as it evolves, so a Wi-SUN network will re-route around a high-rise building or optimize routes for data transmission.

Useful industry statistics

- Gartner forecasts that endpoints of the IoT will grow at a 32.9% CAGR from 2015 through 2020, reaching an installed base of 20.4 billion units.
- According to a report by the Bank of America Merrill Lynch on smart city investment – *'21st Century Cities: Global Smart Cities Primer Picks'* – the smart technologies market is predicted to grow to $1.6 trillion by 2020.
- According to research by Rethink Technology, companies in the Wi-SUN ecosystem are set to enjoy continued growth at 20% CAGR, as mesh network technology begins to reach into new verticals, and different business models are developed.

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