

Wavenis® technology platform

An optimized ultra-low-power and long-range wireless solution for M2M applications

The wireless machine-to-machine world is evolving rapidly, with ever-growing numbers of devices connected with each other in various types of industrial and domestic networks of all sizes.

Many technologies today focus on providing high-speed connections for multimedia, information, and entertainment applications. However, at the opposite end of the spectrum, there is a growing need for new breeds of smart devices based on wireless sensors that have a very different set of core requirements:

- Multiple year battery life
- Connections up to hundreds of meters
- Deployment in hard-to-reach locations
- 2-way communication for low data traffic

Wavenis wireless technology is designed to offer an optimal compromise of these key features, providing unprecedented convenience and connectivity for consumers, service operators and integrators.

Today's Wavenis ecosystem: millions of devices deployed

Wavenis technology was initially created in 2000 by wireless experts to meet the needs of the utility metering industry as well as to provide a wireless standard for other sensor-related sectors with similar cost-performance constraints. This includes home automation, security and social alarms, smart cities, healthcare, centralized building management, access control, cold-chain monitoring, plus long-range UHF RFID applications for identifying, tracking, and locating people and objects.

The Wavenis Open Standard Alliance

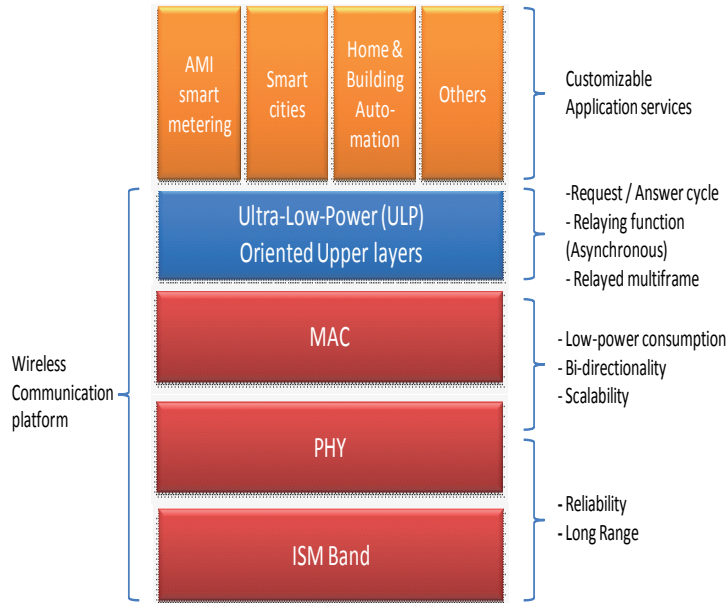
The Wavenis Open Standard Alliance (Wavenis-OA, www.wavenis-osa.org) is an independent, non-profit, technology standards organization that was created in 2008 with the mission of opening and standardizing Wavenis technology for the market. It is also responsible for managing the Wavenis technology roadmap.

Over 5 million Wavenis solutions have been deployed around the world.

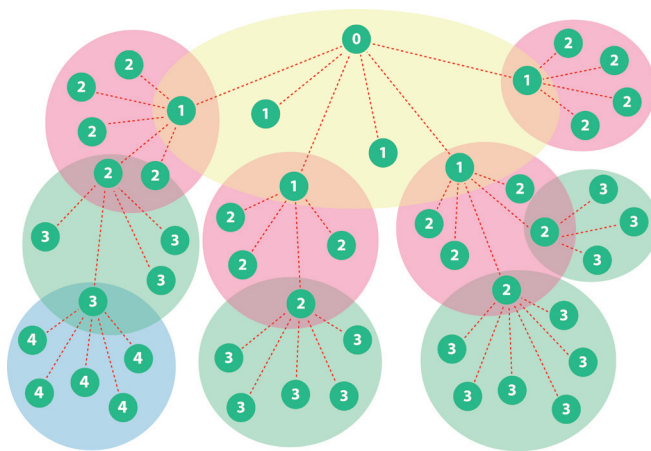


Some of the many products that use Wavenis Technology

“Wavenis enables cross-sector excellence in ultra-low-power and long-range connectivity for M2M applications and devices”



Wavenis provides a highly optimized ultra-low-power and long-range RF platform for specialized M2M applications



Wavenis architecture supports flexible machine-to-machine networks of any size

Scalable wireless mesh networking

Wavenis-enabled wireless products support mesh network configurations scalable up to any size. Data exchange can be partially or entirely automated, depending on the application. Wavenis wireless technology provides the ultra-low-power and long-range connections required by today's most demanding networked devices, including:

- Ultra-low power consumption
- Long wireless range capability
- Robustness against physical and electrical interference
- Openness to WAN and complementary wireless technologies
- Developer APIs and product development toolkit

General Wavenis features

- Ultra-low-power and long-range wireless sensor network solutions
- Multiple-year battery life
- Operates in license-free ISM 433 MHz, 868 MHz, 915 MHz frequency bands
- ETS300-220 / FCC15.247 compliant
- Fast FHSS, data interleaving, FEC
- Resistant to physical barriers and electrical interference
- Point-to-point, point-to-multipoint (broadcast, polling), and repeater modes
- Tree, star, and mesh network topologies
- Self-configuration and dynamic routing algorithm optimized for ULP networks
- Scalable wireless mesh network topologies
- Relaxed synchronization schemes
- Designed for reliability, power savings, network coexistence
- IP compatibility currently being studied