First ISO/IEC wireless standard optimised for energy harvesting

ECN Europe

The International Electrotechnical Commission (IEC) has ratified a new standard – ISO/IEC 14543-3-10 – for wireless applications with ultra-low power consumption. It is the first and only wireless standard that is also optimised for energy harvesting solutions and, therefore, for EnOcean [1]'s self-powered wireless technology. Together with the EnOcean Equipment Profiles (EEPs) drawn up by the EnOcean Alliance, this international standard lays the foundation for fully interoperable, open wireless technology comparable to standards such as Bluetooth and WiFi.

The standard covers OSI (Open Systems Interconnection) layers 1-3, being the physical, data link and networking layers. The full title of the standard is: ISO/IEC 14543-3-10 Information technology — Home Electronic Systems (HES) — Part 3-10: Wireless Short-Packet (WSP) protocol optimised for energy harvesting — Architecture and lower layer protocols.

The new standard is geared to wireless sensors and wireless sensor networks with ultra-low power consumption. It also includes sensor networks that utilise energy harvesting technology to draw energy from their surroundings – for example from motion, light or temperature differences. This principle enables electronic control systems to be used that work independently of an external power supply. EnOcean has been producing and marketing maintenance-free wireless sensor solutions for use in building and industrial automation for more than ten years.

International standardisation will accelerate the development and implementation of energy-optimised wireless sensors and wireless sensor networks. It will also open up new markets and areas of application for energy harvesting solutions. In addition to the already established markets for home and building technology, there will be further uses ranging from the smart home, smart metering and the smart grid to solutions for industry, logistics and transport.

"EnOcean supported the development of the new standard from day one. The ratification is a milestone in our company history and validates the success and the potential of energy harvesting technology. Standardisation will boost the demand for energy harvesting sensors and wireless modules and step up their implementation. At the same time, we anticipate the development of even more efficient energy harvesting solutions that use a wide range of energy sources," says Laurent Giai-Miniet, CEO of EnOcean.

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[1] http://www.enocean.com