

EnOcean Alliance at ISH 2017: Growing ecosystem combines intelligent buildings with the Internet of Things

The organization demonstrates professional automation technology ranging from functional buildings to the smart home, based on energy harvesting wireless technology and, in new partnership with others, builds bridges to a global network in the IoT.

San Ramon, CA/Frankfurt am Main, 14 February 2017 – “Energy efficiency and comfort in buildings” is the guiding theme of the ISH 2017 (14 to 18 March, Frankfurt, Germany). At Booth B69 in Hall 10.3, the EnOcean Alliance, along with 14 of its members, presents energy harvesting wireless solutions for building automation and the smart home. The self-powered switches and sensors based on EnOcean technology offer flexibility in terms of positioning, can be expanded at any time and are maintenance-free. In addition, the EnOcean Alliance also offers the advantages of an extensive and established ecosystem of interoperable energy harvesting wireless sensor solutions that are available to intelligent buildings worldwide. These solutions help optimize the utilization of buildings, create new service models and make buildings more flexible, energy-efficient and altogether more cost-effective. With IBM and Vertuoz by ENGIE as new promoter members, the ecosystem of the EnOcean Alliance continues to grow and promotes the standardization of intelligent building solutions for the Internet of Things.

The following 14 companies will be exhibiting at the community stand of the EnOcean Alliance: AFRISO, BSC Computer, Decelect, Digital Concepts, Dolphin by EnOcean, EiMSIG, Micropelt, PEHA by Honeywell, PM DM Precision Motors Deutsche Minebea, Pressac Communications, Thermokon Sensortechnik, Ubiant, Vertuoz by ENGIE and ViCOS. In addition, more than 40 other exhibitors will also be showcasing EnOcean-based solutions at the trade show.

The EnOcean Alliance, which has more than 400 members, is one of the most successful alliances in the area of intelligent building control. The non-profit organization has defined standardized application profiles as one of its main objectives, so that EnOcean-based products of different manufacturers can work together seamlessly. Users can thus network systems and disciplines more easily and add applications at any time.

EnOcean Alliance connects building automation with the IoT

Through the partnership with **IBM**, the EnOcean Alliance has significantly strengthened its program for building automation and the Internet of Things. Together, IBM and the EnOcean Alliance will provide sensor information in the Cloud and develop energy harvesting solutions as the open standard for maintenance-free wireless solutions to be used in cognitive buildings. These solutions can be used for various applications such as asset management, ambient assisted living projects, insurance or hotel and campus projects, offering maintenance-free wireless switches and sensors based on EnOcean technology.

In addition, the EnOcean Alliance is also expanding the principle of interoperability beyond the limits of its own ecosystem. To this end, it is working closely with the organization **Open Connectivity Foundation**, which defines uniform platforms for global connectivity across providers (Internet of Things or IoT).

Technology and Design-in-Support for the EnOcean wireless standard

Dolphin by EnOcean – Self-powered wireless sensor solutions for global applications

Dolphin is the EnOcean product family that consists of modules and components for energy harvesting wireless technology, and that allows product manufacturers to develop reliable and maintenance-free wireless sensor solutions for global use in building automation, smart homes, LED light control and industrial applications. With its extensive range of wireless modules, end products for product manufacturers and advisory services for building automation, EnOcean is the ideal partner for self-powered sensor solutions. This is the first time that EnOcean will be presenting the newest generation of line-powered transceiver modules at ISH 2017: the TCM 515, which on the basis of increased computing power, lower power consumption and smaller form factor enables new applications for the EnOcean wireless standard and continues to strengthen the extensive EnOcean eco-system.

ViCOS – Design-in for self-powered wireless solutions in buildings

At the ISH 2017, **ViCOS** presents its product platform ViACT for EnOcean actuator systems (switches and actuators in one product), ViNET, the routing functionality for EnOcean messages, and its ConfigTool. These products are aimed at OEM companies that would like to launch EnOcean-based solutions in the market under their own names or integrate them into their own systems. ViACT provides intelligent control of lighting, shading and ventilation, and a Smartphone app or central management system can be added. ViNET implements the secure and reliable routing of EnOcean messages, and therefore ensures continuous EnOcean wireless coverage. The ViCOS ConfigTool looks after the configuration of the ViNET routing and ViACT actuators, and also supports other devices with the remote commissioning function.

Integrated building automation

Thermokon – design-oriented, customized building control

Thermokon has stood for the development and manufacture of sensors and sensor systems for building automation and HVAC technology for 30 years. At the ISH 2017, Thermokon will present the wireless and self-powered EasySens[®] wireless system for flexible and energy-efficient building automation. The company's portfolio highlight is the EasySens[®] Tool Box. EasySens[®] includes airScan, a field strength measuring system for planning and implementing building projects without complications, as well as airConfig, a tool that allows for parameterization without direct interaction with the particular device from the EasySens[®] family. Other highlights presented at the trade show are design-oriented room operating units that can be used as multi-functional control panels to control lights, temperature setpoints, blinds, etc. The company will also exhibit many sensor solutions that supply a wide range of values such as temperature, humidity, CO₂, pressure, flow, brightness or motion (also at booth A39 in Hall 10.3).

PEHA by Honeywell – bi-directional communication

Using the bi-directional Easyclick in-wall receivers from **PEHA by Honeywell**, status feedback regarding the functions that have been completed can be directly visualized, for example on the Easyclick comfort hand transmitter. Using the remote management function of the comfort hand transmitter, users can also train other transmitters without pressing the training button on the receiver.

Pressac Communications – Building parameters and energy at a glance

Pressac Communications presents Pressac Sensing, its innovative product series of self-powered wireless sensors for intelligent energy monitoring and sustainable building operations. Special highlights include a solar-powered, wireless CO₂, temperature and humidity sensor, the only one of its kind on the market, and a series of wireless current transducer (CT) clamps. The latter use induction as the energy source and can be easily clamped around any AC cable to measure the instantaneous current flow. The Pressac Sensing portfolio also contains an IP gateway, a mini temperature and humidity sensor and smart relays.

Decelect – System house with almost 50 years of experience

Decelect develops and produces customized components for energy, security and data applications for OEM customers. At the trade show, Decelect will present solutions for house automation all the way to IoT systems.

Smart Home and connected IoT

BSC Computer – IoT made in Germany

BSC Computer will present its portfolio of OEM solutions for comprehensive connectivity in the smart home, building automation and M2M orientation. These include individually scalable gateways based on the flexible BSC API. They connect self-powered wireless sensors and actuators to each other and to the Internet for the central control of heating/air-conditioning/ventilation, lights and other smart home applications. The BSC API also enables manufacturers to develop individual apps for running functions from a Smartphone or tablet. To ensure maximum reliability and comprehensive data security, BSC uses the latest embedded hardware from Intel for its gateways, together with the associated operating system based on the Intel Industrial Solutions System Consolidation Series. The hardware thus runs only those programs that are authorized under the BSC certificate. This is also the first time ever that the EnOcean chip is integrated directly in the motherboard.

Another highlight is the first EnOcean IP camera, which acts as a universal interface and handles communication between the existing Internet connection and the sensors and actuators. Residents can thus monitor their home with an app when they are away. No additional hardware or smart home server is needed.

Digital Concepts – IoT to IP with EnOcean

Digital Concepts develops individual control concepts for the smart home (control of all building services) and Smart Business (control of conference systems as well as building control technology for commercial applications), including the corresponding hardware and software. The solutions

build a bridge between different standards and technologies for the integrated connectivity of disciplines and optimum comfort and functionality. One component is the Smart EnOcean Gateway, which connects the world of self-powered wireless technology with IP and thus integrates energy harvesting wireless solutions with the EnOcean wireless standards in expanded, scalable IoT systems, such as IBM Watson, Homekit or the Open Connectivity Foundation. As the highlight at the ISH 2017, Digital Concepts will demonstrate the connection between self-powered EnOcean devices and the IBM Watson, to show how Siri[®] and Alexa work together to manage the smart home control system.

AFRISO – using AFRISO Smart Home solution to achieve intelligent buildings

AFRISO presents its product range AFRISO Smart Home for building protection, comfort and room climate. The overall solution includes different sensors and actuators as well as the multi-protocol AFRISOhome Gateway, which seamlessly connects energy harvesting wireless solutions with other building standards. The new interior room siren AIS 10 and the smoke detector ASD 10 complete the system and provide effective all-round protection for break-in and hazard detection. With AFRISO Smart Home, users can easily enter the connected world of building automation and security technology, plan these systems individually and add more modules to them as desired – even improving energy efficiency and creating a pleasant living and working environment. The free AFRISOhome app (iOS and Android) enables users to display sensor data, switch actuators and individually automate functions motion (also at booth B25 in Hall 10.2).

EiMSIG – comfortable and intelligent window technology

EiMSIG presents its portfolio of wireless-based window sensors that offer reliable status monitoring and that are used for house security, break-in protection and energy efficiency. At the ISH 2017, EiMSIG will also present a new innovation - a universal sensor as an addition to its portfolio consisting of the window sensor and the window sensor with a detector for glass vibrations. Similar to all sensors in the product family, it recognizes the status positions "open", "closed" and "tilted", and also reliably monitors glass surfaces with respect to glass breakage. The universal sensor, which is hidden in the frame, reliably monitors the status of all building openings, and is particularly well suited for installation in house openings that are difficult to access.

Cloud services for Smart Homes and intelligent buildings

Ubiant – intelligent, self-learning building solutions

Ubiant creates innovative "ambient intelligence" solutions for buildings and connected objects, and will present its self-learning Cloud solution Hemis at the ISH 2017. The solution is based on artificial intelligence, and aims to minimize energy consumption in buildings while at the same time maximizing the comfort of residents. The core of the system consists of a Cloud platform that connects applications for lighting, HVAC or shutter controls as well as self-powered, wireless sensors and actuators. Hemis turns buildings into service platforms by drawing on a basis of 250 interoperable and Quickmove-certified objects (developed by Ubiant). The Quickmove standard allows users to install, move or remove all components of the smart home system using a NFC-compatible mobile telephone or tablet. Using the mobile MyHemis application and Luminion, an intelligent candle holder that visualizes energy consumption and compares it to the Hemis community, users can now interact with the Hemis services. At the ISH 2017, Ubiant will also

showcase the success stories of its current collaboration with partner Vertuoz by Engie and Bouygues Immobilier.

Vertuoz by Engie – Innovative services for efficient, intelligent and personal buildings

Vertuoz is a service platform that offers innovative services and technologies that go beyond simple energy management in buildings. In the context of rising energy costs, greater awareness of environmental issues and new regulations, Vertuoz collected the know-how of multiple ENGIE companies and developed a web-based solution for monitoring and analyzing the energy consumption of buildings. In order to improve the energy performance of buildings, Vertuoz uses all of the data that is collected to increase efficiency and comfort in buildings. Using an open network of partners, Vertuoz enables companies to develop innovative solutions that contribute to make buildings more efficient, intelligent and personal.

Intelligent heating control

Micropelt – energy-efficient and maintenance-free individual room control

Under the brand **Micropelt**, EH4 GmbH presents a new generation of self-powered EnOcean wireless radiator thermostats (iTRV) to control heating units and building automation. The new MVA series allows for different remote management functions, and ensures flexible planning processes with reduced installation requirements, particularly for large installations. In this way, it becomes easy to assign multiple controllers or gateways to one thermostat; this configuration can be changed at any time as required, and optionally “over the air”. In addition, users can also make a series of changes to the thermostat parameters while the system is in operation, and they can also query current and statistical status data such as temperatures.

PM DM Minebea – smart valves for intelligent and maintenance-free heating control

PM DM Precision Motors Deutsche Minebea GmbH is the largest motor development center in the international network of the Japanese company Minebea Mitsumi Inc., Tokyo. PM DM develops energy harvester systems, among other technology products. At the ISH, the company will be presenting its Smart Valve[®], which functions without batteries or power supply. The new intelligent electronic heating valve uses the thermal difference between the radiator and the room in order to extract electrical energy by using a thermoelectric generator (TEG). This enables the usage in cases where it is undesirable, expensive or impossible to regularly change batteries. PM DM’s energy harvesting systems produce electricity through vibrations, force and pressure or warmth and are controlled by EnOcean wireless technology.

(Siri is a trademark of Apple Inc., registered in the United States and other countries.)

About EnOcean Alliance

Leading companies worldwide from the building sector collected to form the EnOcean Alliance and establish innovative automation solutions for sustainable building projects – and so to make buildings more energy-efficient, more flexible and lower in cost. The core technology of the Alliance is energy harvesting wireless technology for

flexibly positioned and service-free sensor solutions. The EnOcean Alliance aims to internationalise the energy harvesting wireless technology, and is dedicated to creating interoperability between the products of OEM partners. Basis for this is the international standard ISO/IEC 14543-3-1X, which is optimised for wireless solutions with ultra-low power consumption and energy harvesting. More than 400 companies currently belong to the EnOcean Alliance. The headquarters of the non-profit organisation is located in San Ramon, California.

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