



# EnOcean at a glance

Green. Smart. Wireless.

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Chief Marketing Officer

February 2013

# EnOcean – Green. Smart. Wireless.



## ■ **Green.**

- ■ Energy Harvesting
- ■ World-Class miniaturized Energy Harvesting Components



## ■ **Smart.**

- ■ Intelligent Sensor Networks
- ■ Connectivity
- ■ Programmable



## ■ **Wireless.**

- ■ Radio Standard
- ■ Bi-directional Communication

**...the intelligent combination enables  
maintenance free wireless sensor solutions...**

# EnOcean is the Key to Smart Buildings



SAP headquarters, Walldorf

Smart Home: Weberhaus



## Building Automation

- Top energy savings
- Reduction of operating costs (refurbishing, tenant change)
- Comfort and Security

## Wireless Radio Technology

- Key to the general success of Building Automation
- Key to flexibility in building usage
- Easy retrofit

## "No Battery" Requirement

- Maintenance-free operation
- Mandatory for larger installations
- Sustainable and eco-friendly

## Example highlights 40 % Energy Conservation





# EnOcean Inside as an Unique Enabler

**Energy Harvesting Wireless Sensor Module STM 110**

**Wireless Transceiver Module TCM 320**

**Energy Harvesting Wireless Sensor Module STM 300**

**ECO 200 & PTM 330 Energy Harvesting Wireless Sensor Module STM 320**

**Energy Harvesting Wireless Actuator STM 300 and ECT 310**

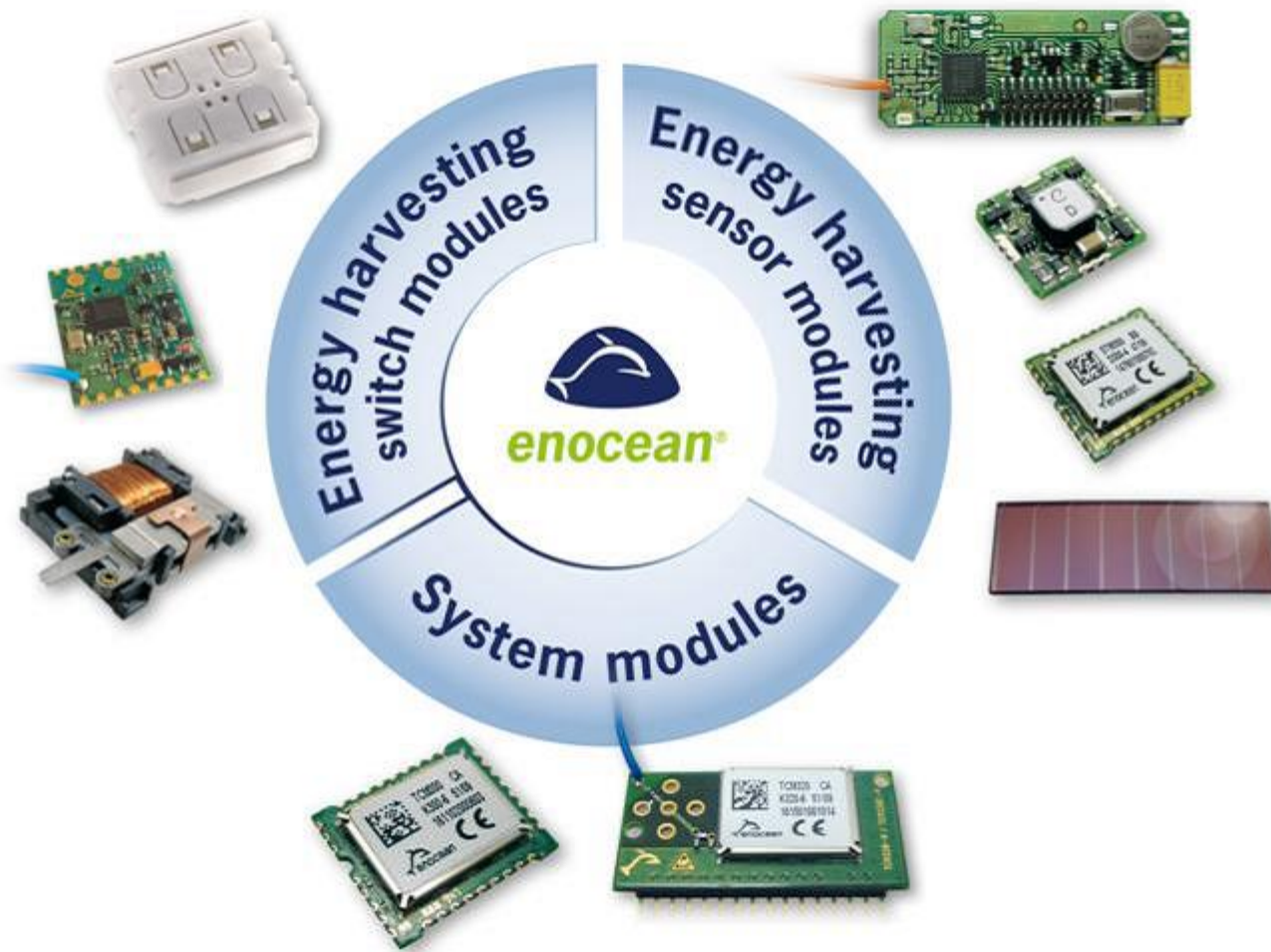
**Energy Harvesting Wireless Switch Module PTM 200**

**Energy Harvesting Wireless Sensor Module STM 310**

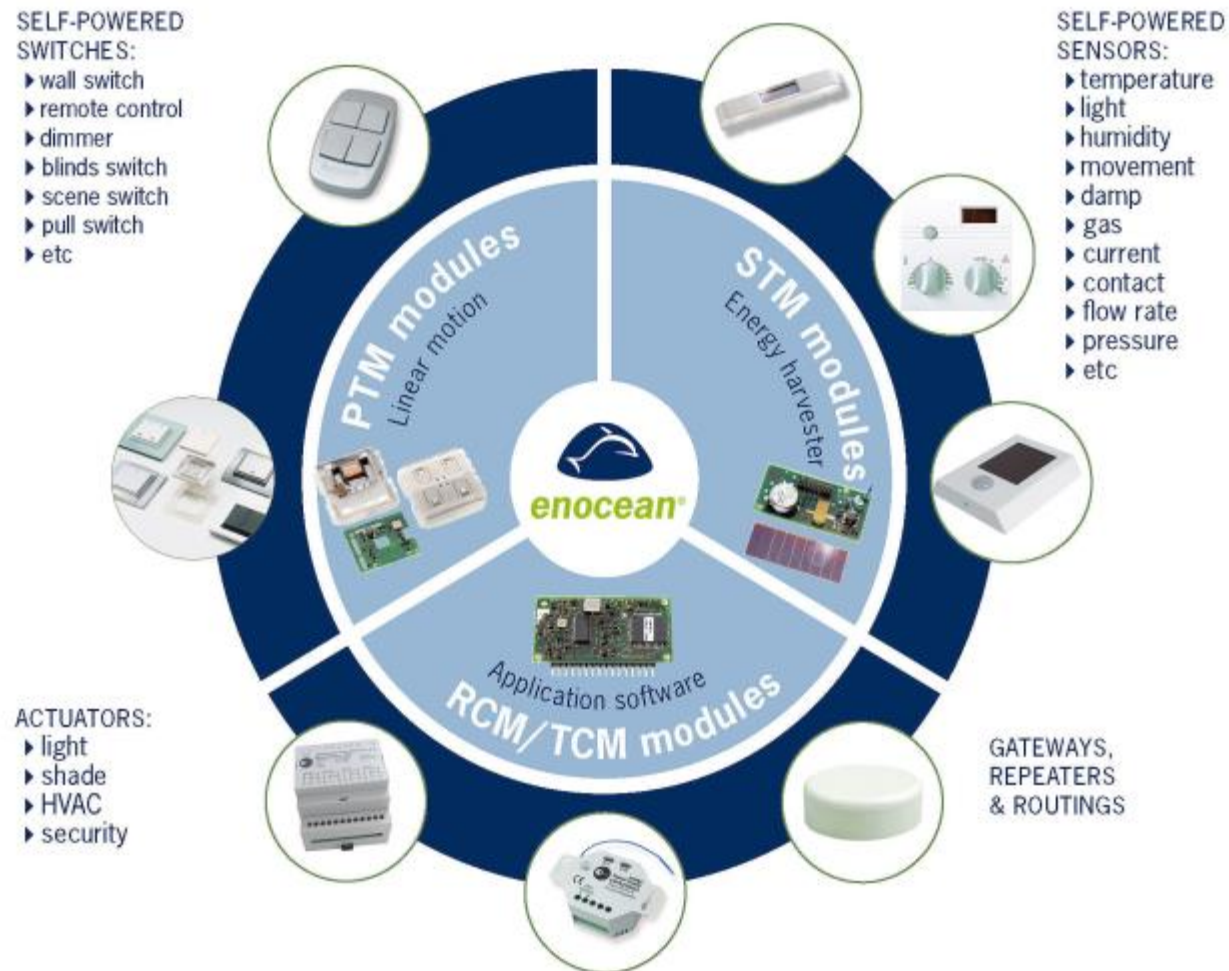
**BENEFITS FOR PRODUCT MANUFACTURERS**

- MAINTENANCE-FREE SENSOR SOLUTIONS
- EASY TO INTEGRATE
- FASTER TIME-TO-MARKET
- INTEROPERABILITY OF END-PRODUCTS

# EnOcean Technology – The Secret Ingredients



## EnOcean Modules – Easy to Integrate



## EnOcean Technology Highlights

**2001 – EnOcean founded**

**2002 – First Energy Harvesting Wireless Switch**

**2003 – World's first building commissioned with EnOcean**

**2006 – Awarded "Technology Pioneer" by World Economic Forum**

**2012 – EnOcean Wireless Standard: ISO/IEC 1454-3-10**

**2010 – 3<sup>rd</sup> Generation of EnOcean modules**

**2009 – Ratification of Interoperable Wireless Standard**

**2008 – Founding of EnOcean Alliance**



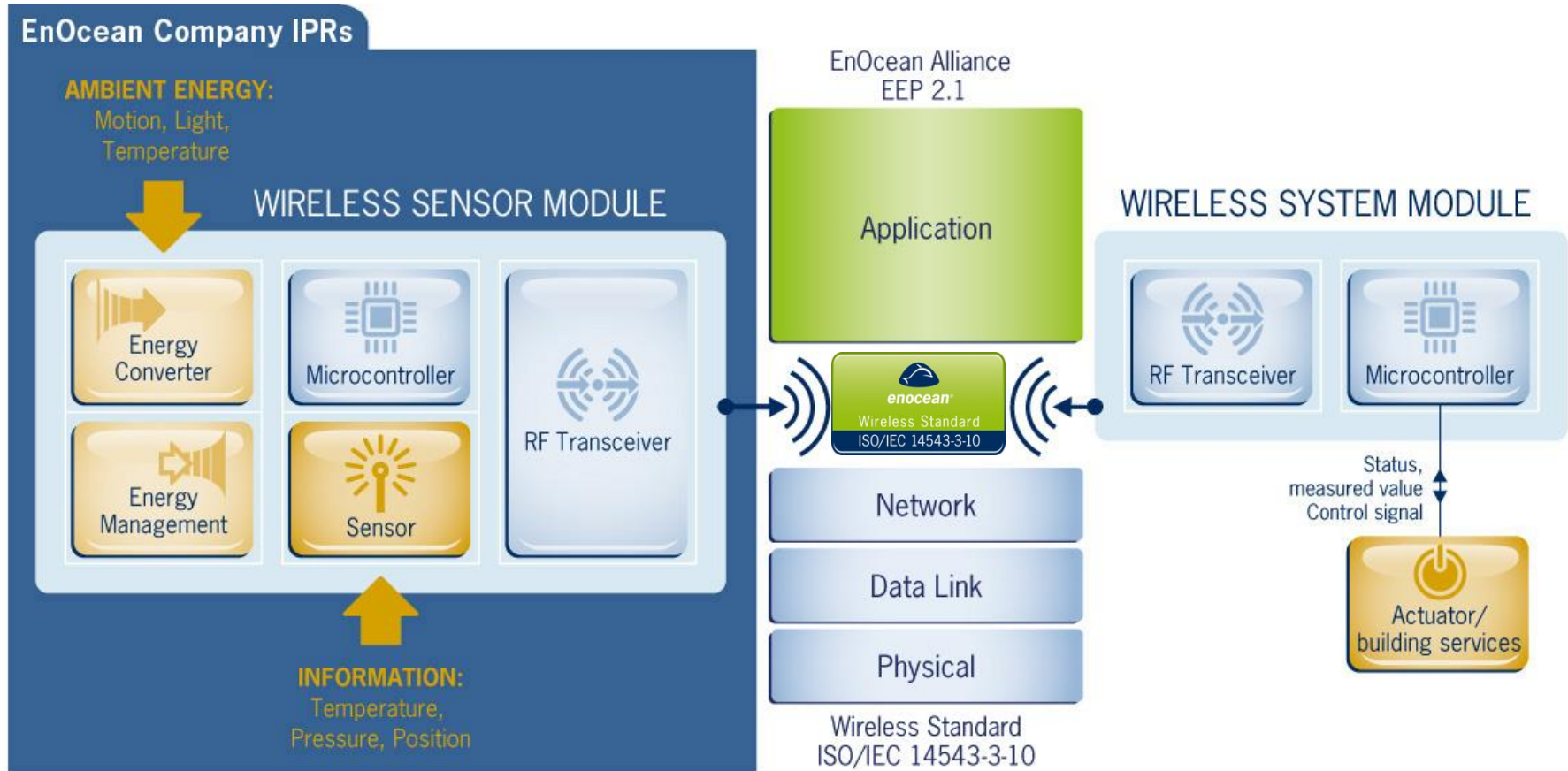


## Interoperable Standard leads to Sustainable Growth

**EnOcean Technology is THE enabling technology for  
self-powered wireless solutions**



# EnOcean Wireless Standard



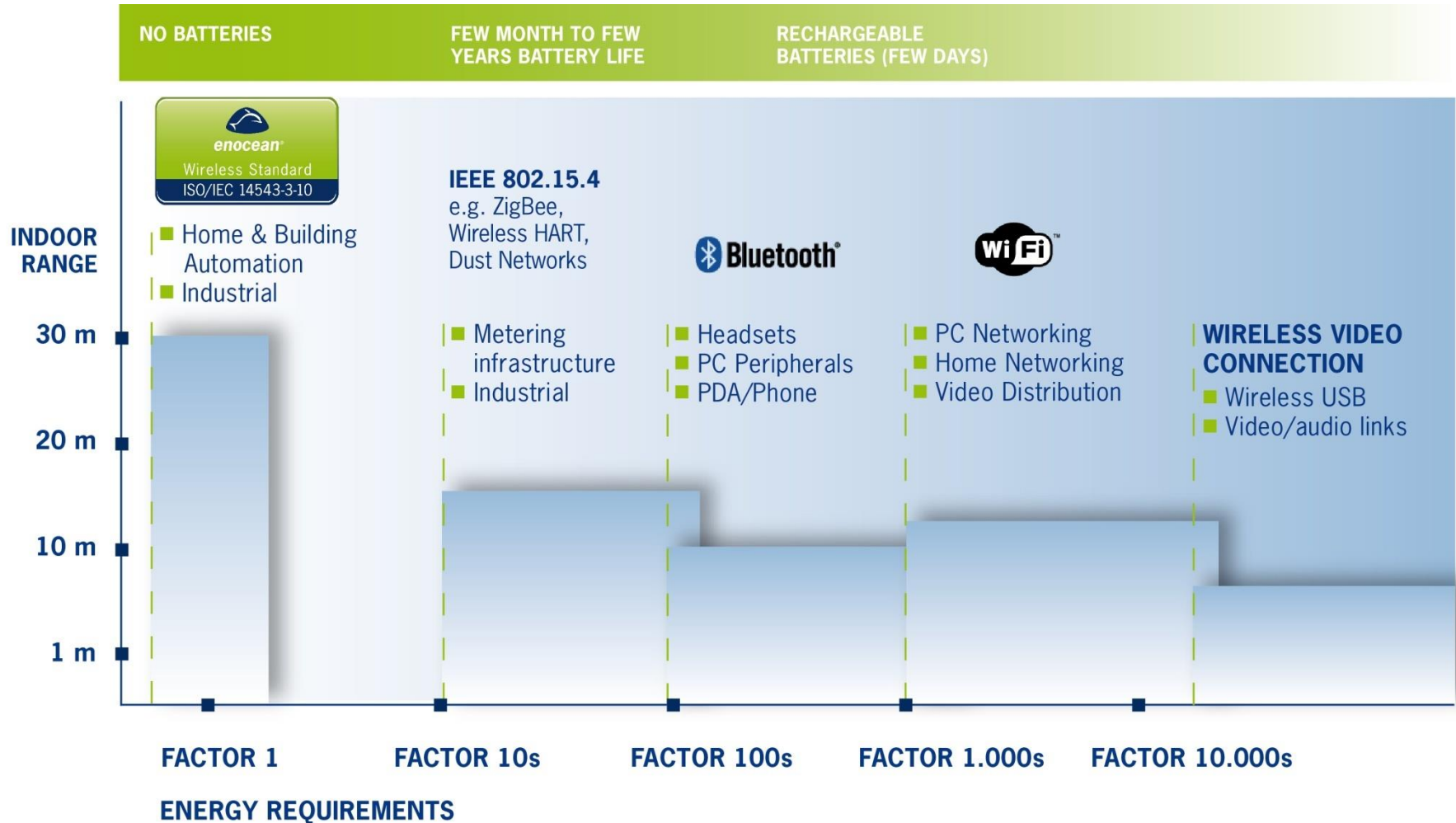
IPR: Intellectual Property Rights

IEC: International Electrotechnical Commission (formal standards body, global)

EEP: EnOcean Equipment Profiles

RF: Radio Frequency

# Sole standard suited for Energy Harvesting Wireless



PROMOTERS							
							
							
PARTICIPANTS							
							
							
							
							
							
							
							
							
							
							
							
							
							
							

... AND MORE THAN 150 ASSOCIATE MEMBERS

- **> 300 Companies supporting**
- **> 1.000 Interoperable products**
- **> 250,000 building projects deployed**
- **Award winning green technology**
- **ISO/IEC 14543-3-10 Wireless Standard**
- **THE ONLY WIRELESS STANDARD CAPABLE OF ENERGY HARVESTING**





## Footprint with market leaders in multiple segments

### Lighting

Leviton, Jung, Siemens,  
Honeywell MK, Masco,  
ELTAKO, ABB, vimar, OSRAM,  
Zumtobel

### HVAC

Siemens, Sauter, Titus,  
Kieback&Peter,  
Thermokon

### Door and Shades

Sommer Torantriebe

### Transportation

BMAC

### Industrial application Sensors

Balluff, steute, SEMD

### Smart Home/ Smart Meter

Telefunken

## EnOcean Wireless Standard - Proven in the field

250,000+ installations using EnOcean based  
systems



**Commercial / Offices**



**Medical / Assisted Living**



**Industrial**



**Residential**



**Hospitality**



**Historical**



**Retail**



**Schools (K-12, Universities)**

## EnOcean World-Wide & Close to Customer



### **Headquarter in Oberhaching/Munich (Germany)**

- 50 FTE in R&D, Marketing & Sales
- Application Engineering for world-wide support

### **Sales Offices in China, Japan, UK and France**

### **EnOcean Inc. in Boston (USA)**

- Sales office in Salt Lake City (Utah) with 8 FTE
- Application Engineering for local support



### **Global Distribution network**

- Future Electronics and Farnell – Worldwide Distributors
- Further specialized design-in local distributors

### **Strong Supply Chain Partner**

- Katek (Kathrein Group)



Thank you for  
your attention.

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