Wireless Congress 2018 – Happy Birthday!

We would like to welcome you to the 15th Wireless Congress: Systems & Applications. You can look forward to two days of exciting lectures and discussions.

The Wireless Congress plays an important role in bringing participants up to date on **innovations and developments** in the areas of Internet of Things, machine-to-machine communication, standards, RF technologies, security aspects and measuring technology know-how. At the same time, however, the lectures also address **challenges and trends of the future**. The growing number of participants in recent years shows how important the Wireless Congress is within the electronics industry.

With the 15th congress program we continue to provide information on novel wireless technologies. The Wireless Congress 2018 will give a comprehensive overview of current wireless standards, protocols and applications, safety and security aspects, system design tips, technology enhancements, standardization and market opportunities. There will be **57 presentations, 6 keynotes**, and **8 tutorials** in **2 days**.

Meet **renowned experts** from the field of **5G technology** and listen to their keynote-talks on site:

Dr. Joseph Eichinger, Huawei
5G Development for Vertical Industries

Prof. Dr. Gerhard Fettweis, TU Dresden/Vodafone
5G – the Door Opener to 6G?

Len Jelinek, IHS Markit
LTE Cat-NB1 and M1 Pave the Way for 5G-IoT

Afif Osseiran, PhD, Ericsson
The Potential of 5G for Industry 4.0

We are very much looking forward to meet you in Munich for the Wireless Congress 2018 and celebrate its 15th anniversary.

Sincerely

**Prof. Dr.-Ing. Dipl.-Ing.
Dipl. Wirt.-Ing. Axel Sikora,**
Hochschule Offenburg /
Hahn-Schickard
Scientific Advisor

Angela Marten,
Project Manager electronica

Christoph Stoppok,
Head of ZVEI Components, Mobility and Systems Sector Managing Director of the ZVEI divisions Electronic Components and Systems as well as PCB and Electronic Systems

Wireless Congress 2018: Systems & Applications

Congress Fees*	by Sep 27	after Sep 27
One-Day (Nov 14 **or** 15, 2018)	690,– €	990,– €
Full Congress (Nov 14 **and** 15, 2018)	870,– €	1,190,– €

* All prices excluded VAT.

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The Wireless Congress 2018: Systems & Applications takes place at the ICM - International Congress Center Munich, located directly next to the New Munich Trade Fair Center (in parallel to electronica trade fair).

ICM - International Congress Center Munich
Messegelände
81823 Munich, Germany

Organizers:

Organized by **Elektronik** in co-operation with **electronica** and **ZVEI: Die Elektroindustrie**

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LoRa Alliance Wide Area Networks for IoT

WEIGHTLESS

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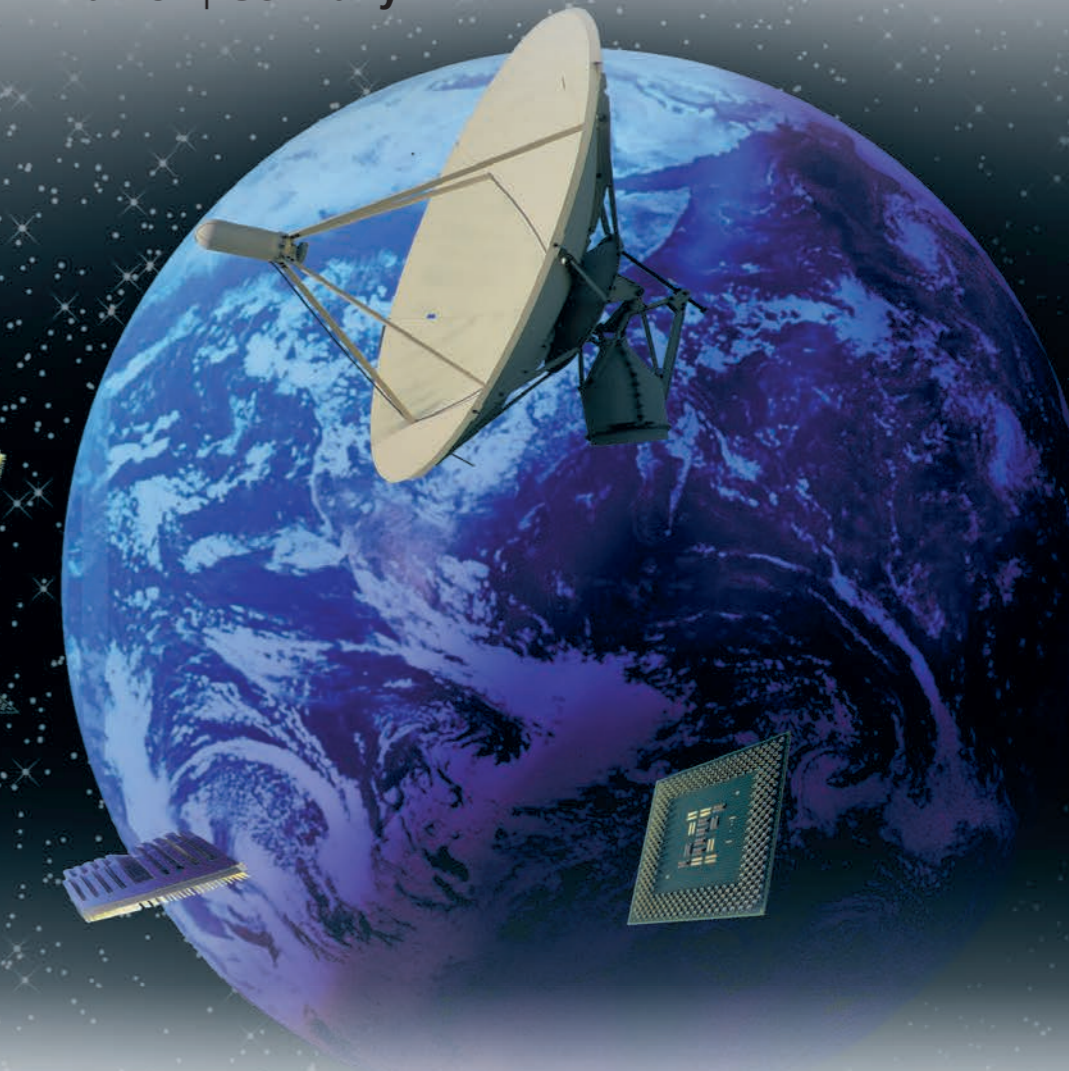## wirelessCONGRESS
systems & applications

15th anniversary

electronica

The Annual Highlight of the Wireless Community!

Wireless Congress 2018: Systems & Applications

**November | 14 - 15, 2018
Munich | Germany**

Organized by **Elektronik** in co-operation with **electronica** and **ZVEI: Die Elektroindustrie**

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wireless CONGRESS — systems & applications
15th anniversary

DAY 1 | Wednesday | November 14, 2018

Time	
09:00	**15 Years Wireless Congress – Happy Birthday: A Review and an Outlook on the Wireless World** — Prof. Dr. Axel Sikora, University of Applied Sciences Offenburg
09:30	**LTE Cat-NB1 and M1 Pave the Way for 5G-IoT** — Len Jelinek, IHS Markit
10:00	**The Potential of 5G for Industry 4.0** — Afif Osseiran, PhD, Ericsson
10:30	COFFEE & COMMUNICATION BREAK

Time	Session 01: IOT/Networks	Session 02: Security	Session 04: Energy Harvesting	Session 05: Mobile Communication
11:00	**Why Beacons Are Not the Solution: Understanding Proximity Technologies and Using them to Your Advantage** — Michael Wolf, Wingu	**Authenticating Wireless Nodes in Building Automation: Challenges and Approaches** — Prof. Andreas Rüst, ZHAW InES	**New Developments in Advanced Security for Energy Harvesting Wireless Systems** — Marian Hoensch, EnOcean Alliance	**NB-IoT and LTE-M: What to Know before You Start Development** — Joachim Dressler, Sierra Wireless
11:30	**Making the Right Choice: Wireless Technologies for the IoT** — Anders Pettersson, Silicon Labs	**Z-Wave – How does State of the Art Wireless Security Look Like** — Prof. Dr. Christian Paetz, Z-Wave Alliance	**Energy-Harvesting in Zigbee 3.0** — Arasch Honarbacht, PhD, ubisys technologies	**The Internet of Things Becomes Mobile – Opportunities, Challenges and Solutions for IoT Devices** — Matthias Weiss, PhD, CommSolid
12:00	**Cross Analysis of Zigbee Against Other IoT Networking Stacks** — Henk Veldhuis, TÜV Rheinland	**Security Tradeoffs and Commissioning Methods for Wireless IoT Protocols** — Andreas Hennig, PhD, Fraunhofer IMS	**Electromagnetic Harvester for Self-Sufficient Wireless Current Sensors** — Andreas Hennig, PhD, Fraunhofer IMS	**NB-IoT Power Saving and Cloud Connectivity in Practice** — Lyn Sören Matten, mm1 Technology
12:30	**Comparing Zigbee, Thread and Bluetooth Mesh Performance – Who Wins?** — Matt Maupin, Silicon Labs	**Session 03: Industrial** — **Wireless Communications in Automation and Connected Industries** — Prof. Dr. Armin Dekorsy, Dr. Dirk Wübben; University of Bremen	**Energy Harvesting Shoes** — Prof. Dr. Juan-Mario Gruber, ZHAW InES	**Performance Investigation for Narrowband Internet of Things** — Zubair Amjad, University of Applied Sciences Offenburg
13:00	LUNCH BREAK			
14:00	**IQRF – Wireless Mesh Technology, Ecosystem and Alliance for Robust and Reliable IoT Solutions** — Simon Chudoba, IQRF Alliance	**Wireless Communication for Smart Cities and Buildings** — Milan Popovic, Popovic Consulting	**Mesh Without Batteries? Energy Harvesting Devices for Bluetooth** — Matthias Kassner, EnOcean	**Session 07: Bluetooth** — **Comparing the Energy Requirements of Bluetooth Smart Devices (2018)** — Prof. Dr. Marcel Meli, Manuel Brütsch, ZHAW InES
14:30	**2nd Generation Wireless Mesh Network for Reliable Communication in Unlicensed Spectrum** — Thomas Steen Halkier, Neocortec	**High-Speed, Cellular Li-Fi HotSpot for Real-Time Applications** — René Kirrbach, Fraunhofer IPMS	**Indoor Smart Gardening Based on an Energy Autonomous Wireless Network Platform** — Prof. Dr. Elke Mackensen, Sebastian Möhringer, Patrick Moser, University of Applied Sciences Offenburg	**Bluetooth Low Energy: Mesh Networking Simplified** — Brian Senese, OpenSynergy
15:00	**Session 06: DECT** — **DECT for 5G** — Daniel Hartnett, DECT Forum	**Optimizing Production Processes with Wireless Smart Sensors and Tracking** — André Hanak, Fraunhofer IIS	**Energy Harvesting Solutions for Low Power Wide Area Network** — Graham Martin, EnOcean Alliance	**How We've Built the Biggest Bluetooth Mesh Network for Lighting Applications** — Janusz Stasik, SILVAIR
15:30	**Interoperability of Wireless Technologies – ULE & IoTivity Bridging Gateway Project** — Avi Barel, ULE Alliance	**Real-Life IO-Link Wireless Performance for Industrial Application** — Pascal Gaggero, PhD, Balluff	**Harvesting Energy from Trees in Order to Power LPWAN IoT Nodes** — Prof. Dr. Marcel Meli, ZHAW InES	**Trending Near You: Advanced BLE Beacons Using Bluetooth 5** — Joe Tillison, Silicon Labs
16:00	COFFEE & COMMUNICATION BREAK			
16:30	**Tutorial 01: DECT** — **openD: Leveraging the Uniqueness of DECT and ULE for State of The Art Wireless Connectivity** — Daniel Hartnett, DECT Forum	**Tracking Forklifts in Large Indoor Spaces with Off-The-Shelf Devices** — Luen To, Thorsten Vaupel, Steffen Meyer; Fraunhofer IIS	**Tutorial 03: emb::6** — **emb::6 Workshop** — David Rahusen, Daniel Jäckle, Patrick Weber; STACKFORCE	**Tutorial 04: Li-Fi** — **From Wi-Fi to Li-Fi** — Alexander Noack, PhD, Fraunhofer IPMS
17:00		**Tutorial 02: NB-IOT** — **Make your Hands Dirty on NB-IoT Application** — Wilhelm Oelers, Triptec HL		
18:00	**Security of Things or "Never touch a running system" – Quality Assurance in Times of Internet of Things (Problems of Digitization in Live Hacking)** — Thomas Haase, T-Systems Multimedia Solutions			

GET-TOGETHER

DAY 2 | Thursday | November 15, 2018

Time	
09:00	**5G – the Door Opener to 6G?** — Prof. Dr. Gerhard Fettweis, Vodafone/TU Dresden
09:30	**Semiconductor Technologies for 5G Applications** — Nadine Collaert, IMEC
10:00	**5G Development for Vertical Industries** — Dr. Joseph Eichinger, Huawei
10:30	**Panel Discussion: 5G - the All-in-One Wireless Connectivity Suitable for Every (industrial) Purpose?** — Chair: Prof. Dr. Axel Sikora, University of Applied Sciences Offenburg. Panellist: Prof. Dr. Gerhard Fettweis, Vodafone/TU Dresden; Nadine Collaert, IMEC; Dr. Joseph Eichinger, Huawei
11:00	COFFEE & COMMUNICATION BREAK

Time	Session 08: WiFi	Session 09: Zigbee	Session 10: LPWAN	Session 11: Technology
11:30	**5G or .11ax, a New Battle of Standards?** — Cees Links, Qorvo	**Introduction to Zigbee 3.0: What's in the Stack?** — Arasch Honarbacht, PhD, ubisys technologies	**Evaluation of the Use of LoRaWAN and SigFox for the Transmission of Location Data of Mobile Systems** — Nicole Hirtreiter, Prof. Gerald Kupris; Deggendorf Institute of Technology	**Integrated 3-µA UHF Triband Receiver for Simultaneous Multiband Reception** — Heinrich Milosiu, PhD, Fraunhofer IIS
12:00	**Analysis of IEEE 802.11ax High Efficiency WLANs for in-Vehicle Use** — Alper Akbilek, perisens	**Zigbee Smart Energy 1.4** — Jonathon Harros, Element Materials Technology	**Universal Testbench for LPWA and NB-IoT** — Jubin Sebastian E., University of Applied Sciences Offenburg	**Maximizing the Range of Low-Current Wireless Designs** — Martin Stoehr, Maxim Integrated
12:30	**Driving Wi-Fi Based Connectivity for Low-Power IoT Applications** — Siddharth Sundar, Silicon Labs	**Dotdot – the Universal Language of the IoT** — Jonathan Harros, Element Materials Technology	**Telegram Splitting Multiple Access – a Novel Physical Layer Approach for Highly Scalable Low Power Wide Area Networks** — Josef Bernhard, Fraunhofer IIS	**Radio Scheduling in Dynamic Multiprotocol IoT Applications** — Marius Munder, Silicon Labs
13:00	LUNCH BREAK			

Time	Session 12: LoRa	Session 13: Compliance		Session 15: Antenna
14:00	**LoRaWAN – Ideal Solution for Sensor Networks** — Michael Fink, Semtech Germany	**Radio Lockdown Directive** — Sebastian Raible, European Parliament	**Deploy Highly Scalable, Low Power Wireless Systems Faster with OpenWeightless** — Michael Green, OpenWeightless CIC	**Re-Configurable Antennas for 5G** — Devin Crawford, ANSYS Germany
14:20		**The EU Radio Equipment Directive and its Consequences to Implementations** — François Ambrosini, IBIT Ambrosini		
14:30	**Solving real world IoT problems with LoRaWAN** — David Armour, Semtech Germany		**Session 14: Sigfox** — **Sigfox – Technical Characteristics and Use Cases** — Aurelius Wosylus, Sigfox Germany	**Design of IoT MIMO Antenna** — Heikki Rekonen, National Instruments
14:40			**Software Defined Radio Regulation – an SMEs View** — Guido Körber, Code Mercenaries	
15:00	**Does it Always Have to Be LoRaWAN?** — Heinz Syrzisko, IMST	**Discussion**	**Sigfox – Indoor-Performance for Smart Building and Smart Metering Installations** — Michael Muenkel, STMicroelectronics Application	**Using PIFA Technology to Secure Stable Connectivity in Mobile IoT Units** — Tommy Kärrman, Antti Silventoinen; Proant
15:30	COFFEE & COMMUNICATION BREAK			

Time	Tutorial 05: IP 500	Tutorial 06: Narrowband	Tutorial 07: Sigfox	Tutorial 08: Antenna
16:00	**IP500 Alliance Standard – Certified Wireless IoT Network for Commercial Buildings** — Helmut Adamski, IP500 Alliance	**Introduction to Narrowband-Communication** — Matthias Herlich, Salzburg Research	**Open-Source Software and Hardware Systems** — Alexander Lehmann, Sigfox Germany	**Embedded Antenna Design – Make or Buy** — Harald Naumann, tekmodul
17:00				**Tools and Methods for Efficient Antenna Development** — Roger Denker, MegiQ

Program is subject to change

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