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When homes & buildings become smart...

Sensors and Sensing Modules for Smart Homes and Buildings 2017 report – Yole Développement – March 2017

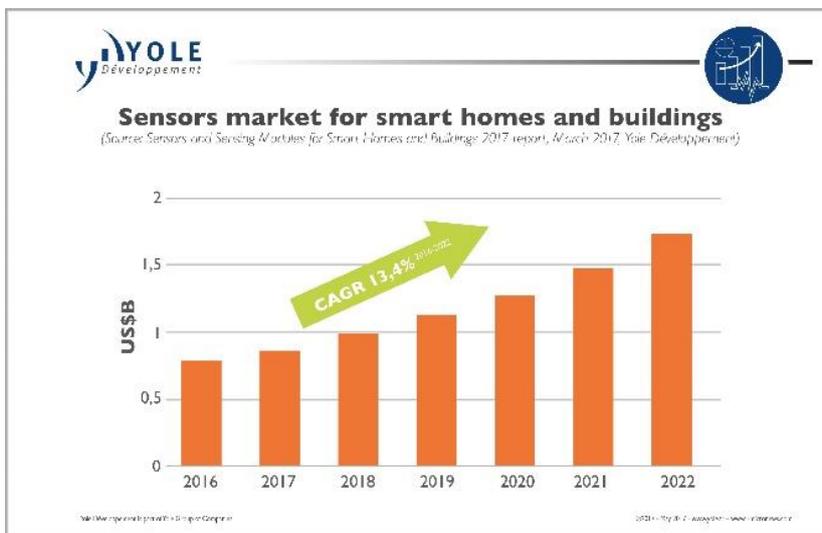
The Promising Future of Sensors in IoT¹ seminar – powered by Fraunhofer EMFT & Yole Développement

LYON, France – 30 May 2017: The smart homes and buildings market segment is ready for take-off. “We are currently at the very beginning of the smart homes and buildings adoption curve,” asserts **Dr Eric Mounier, Senior Technology & Market Analyst at Yole Développement (Yole)**. As part of the famous global IoT world, this sector is showing a lot of promise, with impressive market figures.



Yole and [Fraunhofer EMFT](#) invite you to join a seminar entitled “[The promising future of sensors in IoT](#)”. The seminar will take place in Munich, Germany, from 3 to 4 July, and will welcome leading companies to give their vision of this emerging industry during a dedicated session entitled “[Industrial IoT – building automation](#)”. First Sensor, Robert Bosch, EnOcean Alliance, eLichens and more are part of the programme. Have a look at the [agenda](#) and [register](#) today!

Sensors and related modules are critical elements for the development of smart homes and buildings for better energy management and safety, as they will collect data. Yole has identified three main areas that sensors will contribute to: comfort, energy control and security.



According to Yole’s estimations, the sensor market for smart homes and buildings will be worth US\$1.73 billion by 2022. In parallel, sensor diffusion will allow the sale of subscriptions and services, forecast to be a US\$11 billion market in 2022.²

Sensor innovation for smart home applications will also contribute to the growth of voice-activated personal assistants. For example, in

¹ IoT: Internet of Things

² Source: [Sensors and Sensor Modules for Smart Homes & Buildings report](#), Yole Développement, March 2017

2016, Amazon had already shipped 4 million Alexa systems, including 1 million just in December 2016.

Although the smart homes and buildings sector looks very promising because of our society's development, Yole's MEMS & Sensors team has identified market and technical barriers. A new technology and market report, entitled "[Sensors and Sensor Modules for Smart Homes & Buildings](#)" and produced by Yole's MEMS & Sensors team, is available today and details connected home and buildings and office applications. Yole's investigation was developed at the sensor and sensor module level, and offered a deep understanding of the value chain, infrastructure and players.

"The home and buildings market has a very complex and fragmented supply chain, from suppliers of raw materials like concrete, to software and IT companies like IBM and Cisco that are entering the game," comments Yole's Dr Mounier. Competition is particularly tough between BMS³ players and GAFAM.⁴



Building control manufacturers are traditional candidates for the adoption of sensors for smart buildings. On the other side, GAFAM and IT players bring intelligence throughout the supply chain by offering to connect software and solutions. These companies are entering the race for AI⁵ to analyse the huge amounts of data that will come from smart homes and buildings. These players are well-positioned to extract value from the data and provide new services to end customers. By selling their product to consumers via the internet, these players bypass traditional building channels.

³ BMS: Building Management System

⁴ GAFAM: Google, Apple, Facebook, Amazon and Microsoft

⁵ AI: Artificial Intelligence

Nevertheless, other companies in the supply chain will play a role as well. Although they are far from the electronics, suppliers of raw materials have started thinking about how to add intelligence to construction materials to create extra functionalities. Yole's analysts have listed energy providers (who are becoming more and more aware of home electricity, water and gas consumption), internet service providers and telecoms firms with their entry points in homes.

The IoT seminar, powered by Fraunhofer EMFT and Yole, is a unique opportunity to discuss technology innovations and business development. The participants include:

- **Kerstin Bergmann, Programme Director for Consumer IoT at Robert Bosch**, who will highlight the numerous opportunities in the IoT and Industry 4.0 at the sensor level. *“Sensors will play a key role in Industry 4.0 as well. They will be the “sensory organs” of machines and work pieces, detecting condition and properties,”* she says. *“For intelligent control in a connected production infrastructure, sensors must be able to collect and process big amounts of data in real time.”*
- **Yanis Caritu, eLichen's CTO**, who will focus his presentation on the development of optical gas sensors for air quality services. He says: *“The trend for cities and buildings to continue to host tens of billions of connected devices is constantly increasing. Those devices embed a growing number of sensors to improve digital context knowledge and to make effective and efficient decisions.”*
- **Graham Martin, EnOcean Alliance's Chairman & CEO**, who will propose a closer look at technologies behind smart homes and buildings innovations.
- **Peter Krause, Vice-President of First Sensor**, who will present an overview of the market demand for sensors embedded in intelligent systems.
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The 2017 edition of the IoT seminar will gather together a lot of key players who are strongly involved in the development of innovative solutions to make our buildings and homes smarter. Make sure you will be there to debate with them and identify business opportunities. Register today: [IoT Seminar](#).

For more information about the seminar and sponsorship opportunities, please contact Clotilde Fabre (fabre@yole.fr).



About [Sensors and Sensing Modules for Smart Homes and Buildings 2017 report](#)

Turning homes and buildings into sensitive machines for living in.

▪ Author:

Dr. Eric Mounier has a PhD in microelectronics from the INPG in Grenoble. He previously worked at CEA LETI R&D lab in Grenoble, France in marketing dept. Since 1998 he is a cofounder of Yole Développement, a market research company based in France. At Yole Développement, Dr. Eric Mounier is in charge of market analysis for MEMS & Sensors, visible and IR imagers (CIS, microbolometers), semiconductors, printed electronics and photonics (e.g. Silicon photonics). He has contributed to more than 200 marketing & technological analysis and 100 reports. Eric is also an expert at the OMNT (“Observatoire des Micro & Nanotechnologies”) for Optics.

▪ Companies cited in the report:

ABB, Air-mentor, Amazon, ams, Birdi, Bosch, Canary, Cisco, CubeSensors, EcoBee, Elgato Eve, Enerbee, eQ-3, Excelitas, Facebook, Fibaro, Figaro, FLIR, Foobot, Google, GSS, Haier, Hive, Honeywell, IBM, Intel, Johnson Control, Knowles, Leo, Legrand, Leviton, LG, Microsoft, Murata, Nest, Netatmo, nvidia, NXP, Omron, Origins, Osram, Panasonic, Philips, Pranus, Qualcomm, Roost, Samsung, Schneider, Sensirion, Sensology, SGX Sensortech, Siemens, Smarthings, Somfy, Speck Sensors, STM, Uhoo, Ulis, Vesper, Withings – and many more...



About Yole Développement – www.yole.fr

Founded in 1998, Yole Développement has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole Développement group has expanded to include more than 50 collaborators worldwide covering MEMS, Compound Semiconductors, RF Electronics, LED, Displays, Image Sensors, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics and Batteries & Energy Management.

The “More than Moore” company Yole, along with its partners System Plus Consulting, PISEO, Blumorpho and KnowMade, support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business.

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About Fraunhofer EMFT - <https://www.emft.fraunhofer.de/en.html>

Fraunhofer EMFT stands for applied research into sensors and actuators for people and the environment.

The following competences form the basis of the research work at Fraunhofer EMFT: Functional Molecules, Silicon Technologies, Devices and 3D Integration, Foil Technologies, Micropumps and Design, Test & System Integration. Each of these competences in its own right allows new kinds of sensors and actuators to be created. But the real strength of Fraunhofer EMFT lies in the interaction between these areas: after all, innovations often emerge where technologies reach their limits and begin to cross-fertilize.

In defining its research fields, Fraunhofer EMFT always attaches priority to practical application. The institution gets together with customers to assess areas, which are important for the market and where Fraunhofer EMFT can make a significant contribution with its expertise.

Due to the long history of Fraunhofer EMFT its staff possesses a broad background and long-term experience, allowing the employees for an excellent knowledge of the world of microelectronics and microsystem technology. Their high level of motivation and the satisfaction they derive from their work result in exceptional commitment and dedication, ultimately producing good results.

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