Press release

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Bosch launches high-performance IMU for drone and robotics applications at CES 2018

MEMS sensor BMI088 improves the flying and navigation experience

- Excellent vibration robustness and suppression
- Stable to large temperature changes
- Automotive-proven low drift gyroscope and superior accelerometer performance
- Bosch booth at CES: Las Vegas Convention Center, Central Hall, #14028

Las Vegas – At the 2018 Consumer Electronics Show (CES) in Las Vegas, USA, Bosch Sensortec launches the MEMS sensor BMI088, a high-performance Inertial Measurement Unit (IMU) with outstanding vibration robustness, specifically designed for drone and robotics applications.

BMI088 features an extremely stable gyroscope derived from Bosch's proven automotive technology. The IMU delivers low noise and low drift despite fluctuating temperatures.

Ideal for drones and robotics

"Challenging applications, such as drones and robotics, demand extremely stable and high-performance IMUs," says Dr. Stefan Finkbeiner, CEO of Bosch Sensortec. "Today, the BMI088 joins Bosch Sensortec's extensive portfolio of MEMS sensors ideally suited for applications in high-vibration environments."

The performance, vibration robustness and temperature stability of the BMI088 greatly enhance the drone flying experience by making accurate steering easier even in naturally high-vibration environments. This new IMU is compatible for use with other Bosch sensors, including the BMP38x barometric pressure sensor series for altitude measurement and the BMM150 geomagnetic sensor for heading. Customers benefit from a comprehensive sensor offering that is a perfect match to drone applications – a complete solution from Bosch.

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The BMI088 is also a great choice for robotics applications, including industrial robots, domestic appliances such as vacuum cleaners and social robots, as well as e.g. hoverboards. To achieve consistent and reliable navigation accuracy, BMI088 suppresses the vibrations coming for example from rough terrain and built-in motors.

Automotive-proven gyroscope and low-TCO accelerometer

The BMI088 consists of a triaxial 16-bit acceleration sensor and a triaxial 16-bit gyroscope. With this IMU, Bosch has combined automotive-proven gyroscope technology with a new low-TCO accelerometer design. The BMI088 is pin-to-pin compatible with the BMI055, thus simplifying integration into existing designs, and is housed in a compact 3.0 x 4.5 x 0.95 mm^3 package.

The automotive-proven gyroscope of the BMI088 has an unmatched bias stability of less than 2°/h and a low temperature coefficient of offset (TCO) below 15 mdps/K. The accelerometer also features a low TCO of 0.2 mg/K and low spectral noise of only 230 µg/√Hz in the widest measurement range of ± 24 *g*.

Availability

The BMI088 will be available for OEMs and distributors starting in May 2018.

Bosch at CES 2018:

- **PRESS CONFERENCE:** In Ballrooms B, C, and D, Mandalay Bay Hotel, Las Vegas **South Convention Center, Level 2**, from **8:00 to 8:45 a.m. local time on Monday, January 8, 2018.**
- **BOOTH: Tuesday to Friday, January 9–12, 2018**, in the Central Hall, booth #14028
- **FOLLOW** the Bosch CES 2018 highlights on Twitter: **#BoschCES**
- **PANELS WITH BOSCH EXPERTS:**
  - **Tuesday, January 9, 1:30 – 3:15 p.m.** (local time)
    "Connect2Car: Next-Gen Automobility" session with Kay Stepper, Vice President of Bosch in North America, head of driver assistance and automated driving,
    Las Vegas, Convention Center, North Hall, N256
  - **Wednesday, January 10, 2018, 1:45–2:30 p.m.** (local time)
    "Connected Vehicles in Connected Ecosystems" session with Mike Mansuetti, President Bosch North America,
    Smart Cities Conference, Westgate.
  - **Thursday, January 11, 2018, 11:30 a.m to 12:30 p.m.** (local time)
    "The Future of Robots at Work and Home" session with Phil Roan, Senior

Engineer Robotics, BSH Hausgeräte GmbH,
Las Vegas Convention Center, North Hall, N258

Press photos: #1252955, #1252956, #1252957

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Bosch Sensortec GmbH, a fully owned subsidiary of Robert Bosch GmbH, develops and markets a wide portfolio of microelectromechanical systems (MEMS) sensors and solutions tailored for smartphones, tablets, wearable devices and IoT (Internet of Things) applications. The product portfolio includes 3-axis acceleration, gyroscope and geomagnetic sensors, integrated 6- and 9-axis sensors, environmental sensors, optical microsystems and a comprehensive software portfolio. Since its foundation in 2005, Bosch Sensortec has emerged as the MEMS technology leader in the markets it addresses. Bosch has been both a pioneer and a global market leader in the MEMS sensor segment since 1995 and has, to date, sold more than 9 billion MEMS sensors. More than every second smartphone worldwide uses a Bosch Sensortec sensor.

For more information, please visit www.bosch-sensortec.com, twitter.com/boschMEMS

The Bosch Group is a leading global supplier of technology and services. It employs roughly 390,000 associates worldwide (as of December 31, 2016). The company generated sales of 73.1 billion euros in 2016. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiaries and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 120 locations across the globe, Bosch employs some 59,000 associates in research and development.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPresse.