



Bosch Sensortec collaborates with Hillcrest Labs on an Application Specific Sensor Node (ASSN) for head-mounted displays

- The BNO070, based on Bosch Sensortec's 9-axis system in package (SiP) solution, incorporates Hillcrest's SH-1 software optimized for head-mounted displays (HMDs).
- The BNO070 enables features such as motion control, step counting, compass, gesture recognition, and context awareness for augmented and virtual reality on HMDs.

[Bosch Sensortec](#) and [Hillcrest Labs](#) introduce a new sensor solution for head-mounted displays (HMDs). The new BNO070 solution includes Hillcrest's SH-1 software, optimized for HMD applications, running on Bosch Sensortec's 9-axis system in package (SiP), which features an accelerometer, gyroscope, magnetometer, and a 32-bit microcontroller in a single package.

The BNO070 extends Bosch Sensortec's family of Application Specific Sensor Nodes (ASSNs), introduced last year with the announcement of the intelligent 9-axis "Absolute Orientation Sensor" BNO055, with application specific software into the fast growing domain of HMD.

The new device enables features such as motion control, step counting, compass, gesture recognition, and context awareness for augmented and virtual reality on HMDs. The low power consumption and compact size - 5.2 x 3.8 x 1.1 mm³ - make the solution ideal for HMD's, where both power and space are limited. The pre-integrated solution eases system integration, provides faster time to market, and reduces customer development costs for adding advanced sensor-based functionality to a wide array of devices.

The combined solution vastly improves the overall user experience for augmented and virtual reality applications in HMD's by taking advantage of Hillcrest's AR/VR Stabilization (for smooth, reliable motion tracking), the high data rate ($\leq 250\text{Hz}$), and the state of the art static and dynamic accuracy ($< 2^\circ$) provided by the BNO070.

Bosch Sensortec continues to offer its own software solutions in other application domains, such as Android and Windows based platforms.

"We are confident that a broad range of head mounted products will benefit from the level of performance, range of functions, and low power utilization of the BNO070 with Hillcrest's SH-1 software," said Stefan Finkbeiner, CEO of Bosch Sensortec. "Hillcrest provides high performance software with application specific features, which together with Bosch Sensortec's world class sensors enable new markets such as HMDs."

"Applications enabled by sensors will become essential to a wide variety of consumer and industrial products," agrees Dan Simpkins, CEO of Hillcrest Labs. "This collaboration with Bosch Sensortec enables us to offer complete, scalable and high performance solutions to emerging markets such as HMDs and the next generation of wearable devices."

Meet us at Wearables DevCon

Bosch Sensortec and Hillcrest will co-present information about the new BNO070 solution at [Wearables DevCon](#) on Thursday, March 6th in San Francisco, CA, USA at 1:45-2:45 p.m. PT.

More information about Bosch Sensortec is available at: www.Bosch-Sensortec.com.
For additional information about Hillcrest, visit: www.HillcrestLabs.com.

Availability

In mid 2014, Bosch Sensortec and Hillcrest will start sampling the new sensor BNO070 to key development partners.