STMicroelectronics announces winners of 2012 iNEMO Design Contest in China

STMicroelectronics

Beijing, China, December 3, 2012 - STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications and the world's top manufacturer of MEMS (Micro-Electro-Mechanical Systems)[1] announced Dragon Dance Team from Xidian University as the winner of the 2012 iNEMO Design Contest in China. The open competition for students and young engineers in China to design innovative applications around ST's award-winning[2] iNEMO™ smart multi-sensor technology began on May 25 and ran until November 28 with the aim to promote MEMS design innovation among university students in China.

During a six-month run, nearly 500 students and young engineers from 44 universities in China submitted 117 designs to the 2012 iNEMO contest, representing a 200% increase in the number of entries over last year. Entries were judged based on a combination of function and practicality, implementation, innovation and creativity, as well as commercial potential and applicability. Contest winners were revealed during an award ceremony held in Beijing last week.

The champion of this year's iNEMO Contest, Dragon Dance Team, comprised a group of students from Xidian University in Xian, China, who utilized the iNEMO evaluation board and 10 degrees of freedom to develop a snake-shaped robot for subaqueous environment detection. Using the STM32 microcontroller as the core control board, the snake-shaped robot acquires data from the accelerometer, the gyroscope and the magnetometer on the iNEMO board and performs sensor data fusion using an extended Kalman filtering algorithm. This operates a 16-node steering-gear controller, on a closed-loop principle, to maintain the stability of the snake-shaped robot's joints in a complex water environment. In addition, the pressure sensor on the iNEMO board measures the seals of the robot.

The flexible control and reliable performance of the iNEMO-based snake-shaped robot can be deployed to inspect complex ocean environments, detect mineral resources, inspect oil pipelines and dams, perform underwater repairs of drilling platforms, test underwater cables, and investigate archaeological sites.

"Participants in this year's design contest have demonstrated outstanding results in creatively integrating ST's leading MEMS technology into next-generation applications that will enrich people's life and user experiences," said Patrick Boulaud, STMicroelectronics Regional Vice President, Analog, MEMS and Sensors, Greater China and South Asia Region. "Our iNEMO Design Contest initiative is the best evidence of ST's continuous commitment to driving the MEMS industry growth with its innovation capabilities hand in hand with developing and cultivating talent among university students and young engineers around the world."

In addition to the first place winner (RMB 20,000), the judges selected one second place winner (RMB 10,000), two third place winners, and granted two special awards for Best Market Potential and Most Creative Design (RMB 8,000 each).

ST's iNEMO is a unique evaluation and development tool that offers up to 10 degrees of freedom, combining 3-axis linear acceleration, 3-axis angular rate and 3-axis motion sensing through a magnetic field, together with barometric/altitude readings, managed by an STM32 32-bit microcontroller. The integration of multiple sensors with processing capabilities, dedicated software and wireless connectivity in a single platform enables leaps in functionality and performance in a wide variety of applications, including Gaming, Human Machine Interface, Robotics, Portable Navigation Devices, and Patient Monitoring.

Further information at http://2012inemo.eccn.com [1]

[1] IHS iSuppli: MEMS Competitive Analysis 2012
2 iNEMO has received a Wall Street Journal Technology Innovation Award and a Computerworld Honors recognition

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