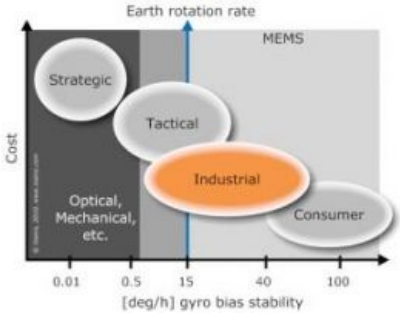
XSENS

The Industry Standard in Low-cost AHRS



Xsens , headquartered in Enschede, the Netherlands, with a subsidiary in Los Angeles, USA, is the leading innovator in 3D motion tracking technology and products, based on MEMS sensors and GPS. With a track record of over 10 years in the maritime industry, Xsens is a solid partner for manufacturers of, among other, ships, ROVs and USBLs.

< Casper Peeters, CEO and founder.

XSENS is a privately owned company founded in 2000 by two entrepreneurial engineers, Mr Casper Peeters and Mr Per Slycke who are still the CEO and CTO of Xsens. Originally intended for the measurement of human motion, the Attitude and Heading Reference Systems (AHRS, named the Xsens MTi and MTi-G) turned out to be very suitable for system integrators using them for control and stabilisation of all kinds of platforms and autonomous vehicles. With further development and innovation, the MTi's have been successfully integrated into series production, with the 10,000th MTi delivered in March 2010. In the same year, a subsidiary in Los Angeles was incorporated.

Today

The company kept moving forward, growing to 75 employees in 2012 and an increasing number of customers in various industries relying on Xsens and its MTi and MTi-G. The MTi is a 3D AHRS, providing 3D roll/ pitch/yaw, rate of turn, acceleration and magnetic field. The MTi-G also has a GPS receiver on board, adding position and velocity.

Xsens employs 50% of its staff in R&D. The focus is on innovation and using the most advanced, yet robust technologies. With several PhD holders and professors and assistant professors in the team, Xsens is recognised as being a valuable scientific environment.

Various Markets

In addition to the maritime industrial market, Xsens uses the technology of the MTi and the MTi-G in the market of human motion. Both in entertainment and movement science, motion capture solutions have successfully been deployed in the film and games industry and ergonomics/sports institutes.

Most of the industrial applications can be divided into three areas: control and stabilisation (of e.g. a VSAT antenna or an unmanned aerial vehicle); measurement correction (of e.g. acoustic imagers and pipeline inspection tools); and the navigation of e.g. ground vehicles and ROVs.

Xsens' products, accurate even down to 0.25 deg, do not require an export license, not even outside the EU. Lead times are remarkably short, delivering MTi's from stock. The flexibility of the supply chain can also be found in the flexibility of the products, especially in the brand-new product portfolio.

Although the MTi is a mature product still in high demand, there is a need and a wish to incorporate the latest technology and the latest sensors into a new generation of MTi's. The traditional market of IMUs with high-accuracy MEMS and FOGs does not allow for very low-cost and low-weight system integrations that are required for the growing competitive market of ROVs and platform stabilisation. Based on the experience of existing customers of the MTi, a new product portfolio comprising of 7 distinctive MTi's will be introduced in the summer of 2012 designed to accommodate these system integration requirements.

New Product Portfolio

The 4th generation MTi will consist of two product lines: the MTi 10-series and the MTi 100-series. The MTi 10-series is a low-cost, reliable product line, building and improving on current MTi technology. Available products are the MTi-10 IMU (Inertial Measurement Unit), the MTi-20 VRU (Vertical Reference Unit) and the MTi-30 AHRS (Attitude and Heading Reference System). The MTi 100-series is Xsens' new high-performance product line, incorporating state of the art vibration rejecting gyroscopes and a powerful multi-core processing unit.

Available as MTi-100 IMU, MTi-200 VRU and MTi-300 AHRS, the 100-series is intended to build a bridge between the low-cost MEMS AHRS and the traditional MEMS IMUs and FOGs. The MTi-G-700 GPS/INS is also part of this product line as the successor of the current MTi-G.

Forward Integration

As gyroscopes and other sensors are being integrated into all kinds of products, including consumer devices, the sensor fusion algorithms of Xsens, the Xsens Kalman Filter (XKF) and the Xsens Estimation Engine (XEE) are a profound part of the product portfolio. With these capabilities available to customers, Xsens will strengthen its position as the leading company for orientation and position.