Inertial measurement unit integrated into autopilot

Unmanned Innovation announced that it has partnered with VectorNav Technologies to integrate VectorNav's VN-100 inertial measurement unit (IMU [1]) into its os-Series Autopilots. Unmanned Innovation's os-Series Autopilots offer a customizable solution that enables rapid prototyping and cost-effective production of fixed-wing, helicopter, multi-rotor, and custom configuration UAS. Unmanned Innovation has integrated VectorNav's VN-100 miniature, calibrated MEMS-based, surface-mount IMU to provide customers the option of a fully calibrated and thoroughly tested IMU.

Unmanned Innovation's os-Series Autopilots, made commercially available for the first time in November 2012, combine modular hardware with an open architecture, making each autopilot a Development Platform. The os-Series Autopilots are offered in multiple form factors with features tailored for various vehicles, payloads, and applications. Each os-Series Autopilot [2] is a complete integrated solution and contains an INS/GPS with air data incorporating the VectorNav VN-100, a datalink radio, payload interfaces, and a Linux computer within one miniature package; starting at just 32 grams. The os-Series Autopilots come with professionally written flight control and mission software which Unmanned Innovation provides under a royalty-free license that allows for easy modification, extension, and inclusion in proprietary products.

The partnership between the two companies began during AUVSI's Unmanned Systems North America 2012 conference in August, where Unmanned Innovation was introduced to VectorNav's VN-100 and recognized it as an attractive alternative to their existing inertial measurement sensors due to its small form factor, low-cost, and high-precision calibration. Unmanned Innovation's flexible architecture allowed

for quick integration of the VN-100 and VectorNav provided custom firmware with a faster update rate to make the IMU compatible with Unmanned Innovation's requirements. The VN-100 IMU, calibrated for bias, scale factor and misalignment errors at room temperature or over the entire thermal operating range of the sensor increased the accuracy of the os-Series Autopilot navigation solution. After a short development cycle, testing and verification, VectorNav's VN-100 IMUs are now fully integrated within Unmanned Innovation's os-Series Autopilots. The complete os-Series product line is currently shipping to customers in the USA and abroad and is free of ITAR restrictions.

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