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COVER STORY



40 An Airborne Experimental Test Platform

From Theory to Flight: Part 2

Adhika Lie, Hamid Mokhtarzadeh, Paul Freeman, Jordan Larson, Trevor Layh, Bin Hu, Brian Taylor, Demoz Gebre-Egziabher, Peter Seiler, Gary Balas

Small UAVs can be used as a cost-effective platform for avionics development and testing. In the last issue, a research team based at the University of Minnesota–Twin Cities described their lab operations and how they use small UAVs to make aircraft safer and more fuel efficient. In this second part, they describe UAV test platforms for developing, testing and certifying new avionics and GNC algorithms for safety-critical systems.

Cover photo courtesy of AeroVironment, Inc.

TECHNICAL ARTICLE

48 Location Authentication

Enabling New Smartphone Apps
Antonio Pujante Cuadrapaní

With the integration of payment systems in the smartphones, location information could be used as a key authentication factor, relating user location with purchase events and helping to reduce fraud.

HUMAN ENGINEERING

34 Michel Monnerat

Out of Africa – GNSS
Peter Gutierrez



Straddling two continents, French-born Michel Monnerat grew up in Togo, loving math and science and playing soccer before sunrise. He grew up to become an expert in Galileo signal design and a top engineer for Thales Alenia Space.

COLUMNS

22 Washington View

DoD Condenses Acquisition Strategy to Speed M-Code Units
Dee Ann Divis

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Real-Time Accuracy...
*without a base station***



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Collective Detection of Multi-GNSS Signals – How Vector Acquisition
Could Improve Sensitivity and Reliability

Paulo Esteves, Mohamed Sahmoudi, and Lionel Ries

Vector acquisition collects all of the signals in a particular place, sorts out the weak ones, and identifies the best ones for navigation and positioning. This discussion describes a new methodology and implementation algorithm that uses multiple GNSS signals more effectively in signal-challenged environments.

32 Thought Leadership Series

Sponsored Feature – GNSS in Military Affairs, with Doug Taggart

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