

# INTERGEO 2017 UPDATE

## GNSS AND COPERNICUS – NEWS FROM SPACE

AS GLOBAL SATELLITE NAVIGATION SYSTEMS AND EUROPE'S COPERNICUS ENVIRONMENTAL MONITORING PROGRAMME BECOME EVER MORE SOPHISTICATED, DANIEL KATZER LOOKS AT WHAT LATEST DEVELOPMENTS WILL BE ON THE AGENDA AT THIS YEAR'S INTERGEO EXPO



photos: Hinte GmbH



Europe's Galileo Navigation Satellite System (GNSS) has finally started to make real progress in terms of positioning technology. However, Galileo is not the only thing forging ahead – the growing number of satellites and the interplay between the four major global satellite navigation systems (GPS, GLONASS, Galileo and Beidou) are also ushering in decisive improvements.

### Highlighting the potential

As Professor Volker Schwieger from the Institute of Engineering Geodesy at the University of Stuttgart knows only too well, the main benefit is not so much improved precision, rather the availability, reliability and accuracy of data.

Professor Schweiger is responsible for the GNSS slot at the INTERGEO conference and quick to point out that the third transmission frequency from Galileo is bringing something new to geodesy. Although existing GNSS systems already support high-precision measurements, the new frequency means that these now reach surveyors even faster than before.

To demonstrate the potential of Galileo and other GNSS systems, Schwieger is presenting a telematics pilot project that aims to make motorists not only aware of their bad road behaviour but also warn

drivers of nearby vehicles. In fact, the autonomous driving of the future will make satellite navigation even more important.

### Copernicus rising

Europe's Copernicus (formerly GMES) satellite-based environmental monitoring programme is also growing apace. Each satellite added to the Copernicus constellation boosts the diversity of applications supported, and official surveying bodies have recognised the opportunities that high-resolution image and radar data present.

As part of a pilot project being conducted by North Rhine-Westphalia's surveying authority, Dr. Jens Riecken is using data from the Sentinel-1 radar satellites to compile a large-scale ground movement register. The first results from the pilot in 2016 reveal the huge potential of remote surveying, as Dr. Riecken explains:

"Copernicus data helps us gather information for large areas with a temporal and spatial precision that we've never had before." This means scientists can identify the kind of ground movements that could previously only be mapped by buying-in expensive levelling services.

Given the extremely high demands of official surveying bodies in terms of reliability

and quality standards, Copernicus represents a major step forward towards creating an expansive ground movement register.

### Eye in the sky

However, that's not the only aspect of Copernicus being covered at INTERGEO. As part of the German Federal Government's sustainability strategy, Sentinel data is currently helping to monitor how much land is being consumed for residential and transport infrastructure developments.

The government's aim is to reduce land consumption from its current rate of 66 hectares per day to less than 30 hectares per day. The Sentinels act as an incorruptible eye in the sky.

**More information about GNSS and Copernicus will be presented at the INTERGEO exhibition and the INTERGEO CONFERENCE from 26 – 28 September 2017 in Berlin ([www.intergeo.de](http://www.intergeo.de))**



**Daniel Katzer** is

Director Trade Fairs and Conferences and project manager of INTERGEO with HINTE GmbH ([www.hinte-messe.de](http://www.hinte-messe.de))

# INTERGEO®

GLOBAL HUB OF THE  
GEOSPATIAL COMMUNITY

BERLIN

2017

26 – 28 SEPTEMBER



**GEOSPATIAL 4.0**

**OPEN**

**GOVERNMENT**

**DIGITAL**

**BUILDING**

**SMART CITIES**

Reserve your stand space  
on UK Pavilion – Only £3150 + VAT

Contact: Mai Ward  
[maiward@geoconnexion.com](mailto:maiward@geoconnexion.com)  
Tel: +44 (0) 1223 279151

**DVW**

Host: DVW e.V.  
Conference organiser: DVW GmbH  
Trade fair organiser: HINTE GmbH

SPONSORS:



HEXAGON



Trimble