Pioneers in Geospatial Technology: Leica, Trimble and Topcon

In the geospatial technology sector there is a transitive relationship between the big players such as Leica Geosystems, Trimble and Topcon, who can persistently pursue innovation, and small to medium-sized companies and start-ups that can adapt new ideas to applications. This article mentions just a selection of the new products and solutions exhibited by the main geospatial technology players at this year's Intergeo in Berlin, including an indication of their short-term strategies.

The sector benefits from a relationship where innovative ideas can be transformed into sustainable products under the roof of big players with access to large networks, and where so-called SMEs can supply tailored products and solutions for niche markets in the paved market environment. For instance, improvements in the software sector are having an increasing impact on geo-IT, enabling small companies to create their software easily for a particular system with software models and open SDKs. On the other hand, the leading companies in geospatial technology such as Leica Geosystems, Trimble and Topcon have almost parallel strategies for gathering multiple software and solutions to create a platform for sharing and collaboration which can be accessed from a single gateway, is easy to learn, is cloud-based and enables the management of geodata in the cloud.

Read on for an overview of some of the new products and solutions exhibited by the main geospatial technology players at this year's Intergeo in Berlin, including an indication of their short-term strategies.

Leica Geosystems

Leica Geosystems, with the latest award-winning minimalised BLK 360 Laser Scanner which is operated by a smartphone app to improve the democratisation of surveying, exhibited multiple innovative products and solutions such as end-to-end laser data processing software, Cyclone, rugged tablet with Zeno GIS collector easing fieldwork efforts, a tilted GNSS antenna/receiver that is resistant to magnetic disturbance for the continuous operation of surveying, the Cyclone Model VR system which provides a visual interaction in a 3D model for editing and measuring, City Mapper with visual and laser scanner capabilities, and Hexagon Smartnet which provides precise location information for multiple user categories, including agriculture.

Leica BLK360 laser scanner

Leica Geosystems continues to provide innovative solutions and products for the transportation, agriculture and construction sectors, whereas integrated Hexagon Smart Build solutions help designers to merge their imaginations with real-world construction without colliding and to create construction documentation.

Topcon

Topcon presented its latest innovative systems and products in functional categories such as construction, machine control systems, architecture, and building. They comprised a new, innovative Sokkia/Topcon GNSS antenna/receiver with minimalised sizes, V-frame drones with an extended view to be used for monitoring large vertical structures, new-generation total stations with both horizontal and vertical compensation for a rough terrain work environment, high-performance radio and Bluetooth communication among all categories of survey equipment (each one is compatible with IoT, enabling surveyors to manage everything at one location), Delta-Link which enables all types of surveying and other sensors to monitor the behaviour of structures such as rail tracks, MAGNET which provides a web platform to process, visualise and share big data, and SmoothRide which is a system of multiple sensors for modelling the resurfacing of roads.

Topcon RD-M1 scanner is part of the SmoothRide solution package.

Topcon has found the best intersection between geospatial technology and other sectors such as construction, agriculture, machine control, architecture, transportation and construction to design, and is creating integrated new solutions in the form of a mature product or as an openly shared OEM solution for use by others, based on extensive user requirements and in-house developments in the new data business environment.

Trimble

Trimble introduced innovative new products such as ‘C-Series mechanical total stations’ which improve productivity in the field, rugged tablet and Android-based field software, Catalyst for precise data collection from the field, Trimble Connect VR with holographic technology for the remote sharing of the 3D work environment, new multi-GNSS receivers for the efficiency of field work, an improved rail-track surveying system-GEDO IMS with IMU, and minimalised GNSS/INS with double IMU for precise direct georeferencing of unmanned aerial vehicles (UAVs or ‘drones’).

Trimble Catalyst is developed for precise data collection from the field.

Trimble is aiming to develop further capability in BIM and navigation and to transfer geospatial technology into other sectors such as agriculture and transportation to extend the market. The feedback and requirements from the Trimble global network of power users, the in-house research and thoughts as well as the tendencies in the global economy provide the framework for new markets and new products such as autonomous navigation.

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