

Industry news and developments | GPS | Galileo | GLONASS

» SURVEY / CONSTRUCTION

GAGAN-Enabled Mobile Computers Launched in India

A new range of rugged mobile devices is now available. Stesalit, based in India, has launched the SXtreo range for survey, industrial use, and field work under extreme conditions such as agriculture, forestry, roads, security and construction.

The devices are rated IP-68 — waterproof, dust proof, shockproof — and are coupled with built-in mobile GIS applications.

Long battery life allows GPS data collection for a full work day, without



▲ THE GAGAN-enabled SXtreo GN11.

the need for recharging. They come with full-size USB port for connecting devices.

The GAGAN-enabled GN series comes with a full keypad and 5-inch sunlight-readable screen for field data entry in large forms. These models are designed for GPS data collection and asset management, socioeconomic surveys, mapping, agriculture, logistics, forestry, public transportation, construction, and security.

The rugged SXtreo WP60 and WP61 devices have all the features

of a smartphone, with a 3.2-inch touchscreen, 1 GHz dual-core processor, 512 MB RAM, 4 GB storage, dual SIM with 3G support, Bluetooth, GPS, Wi-Fi, FM, and dual cameras.

SXtreo handheld's Android and embedded Linux-based operating systems are compatible with a range of sector-specific applications designed by Stesalit, including SXgeo, SXsurvey, SXfield, and SXagro.



▲ THE SXTREO WP61.

Leica Releases Viva GNSS Unlimited Series

The Leica Viva GNSS Unlimited Series, available in August, will allow customers to make a safe investment with future-proof GNSS receivers and smart antennas, Leica Geosystems said in announcing the new series. With a flexible design, the Viva GNSS sensors can be upgraded for maximum performance whenever needed.

The Leica Viva GNSS range fully supports the Chinese BeiDou navigation system. It can also provide BeiDou-only and GLONASS-only high-precision positioning to accommodate governmental regulations.

The unlimited series includes a future upgrade to a GNSS board with more than 500 channels and will serve users' needs beyond 2020, the company said. Outages of real-time kinematic (RTK) communication links are bridged for up to 10 minutes with SmartLink to increase centimeter position availability in areas where RTK communications links are unstable.

The series can be upgraded to the full range of GNSS signals. The sensors' future-proof design is equipped for GNSS modernization, Leica said, with a future-proof concept that includes an upgrade to a GNSS board with more than 500 channels. To guarantee future-proof GNSS, board exchanges are inevitable because any likely modifications in GNSS signals require a new GNSS ASIC (Application Specific Integrated Circuit).

Leica SmartTrack technology guarantees accurate signal tracking, while SmartCheck technology evaluates and verifies RTK measurements to ensure reliable results. Both SmartTrack and SmartCheck technologies have been extended to support BeiDou.

All Leica Viva GNSS products exceed environmental specifications, going beyond industrial standards such as IP68 to ensure flawless performance in challenging environments.



▲ LEICA VIVA GS10



▲ LEICA VIVA GS14



▲ LEICA VIVA GS15

» DEFENSE / SITUATIONAL AWARENESS

KVH Launches Inertial Nav System with Embedded GPS/GNSS

KVH Industries, Inc., has introduced TACNAV 3D, a highly accurate inertial navigation system designed for battlefield vehicles.

The TACNAV 3D system is the latest product in KVH's TACNAV line of tactical navigation systems.

The fiber-optic gyro-based TACNAV 3D inertial navigation system provides full three-dimensional navigation and an embedded GNSS. Its modular tactical design and flexible architecture allow it to function as either a stand-alone inertial navigation solution or as the core of an expandable, multi-functional battlefield management system. It is designed to provide navigation for light armored vehicles, both wheeled and tracked, medium and heavy combat vehicles, and main battle tanks.



The TACNAV 3D system is fitted with an Iridium transceiver to transmit and receive vehicle position, waypoint, and target location to or from a command center or other vehicles, and can receive messages from the battlefield management system to pass on to the command center via the Iridium short duration burst message function. TACNAV 3D can also receive and transmit Ethernet and CANbus signals, and RS-422.

It is affordable, lightweight, and

easy to integrate with numerous existing vehicles, both turreted and non-turreted, the company said. With a built-in communications option, TACNAV 3D is designed for short duration burst messaging, which can make a life or death difference to a soldier.

TACNAV 3D builds upon the success of KVH's TACNAV family of products, and incorporates the 1750 IMU, which combines three axes of KVH's compact high-accuracy DSP-1750 fiber optic gyro (FOG), with three axes of high-performance MEMS accelerometers. The TACNAV 3D system is designed to provide extremely accurate heading, dead reckoning, navigation, orientation, and 100 percent situational awareness in GNSS-denied environments.

EXTREMELY RUGGED. EXTREMELY ACCURATE GPS.

1-2M ENHANCED GPS



JUNO T41 G



YUMA 2 G

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www.TrimbleMCS.com

» PRECISION AGRICULTURE

Hexagon Acquires iLab for Smart Agriculture

Hexagon AB has acquired iLab Sistemas, a provider of planning and optimization solutions for the agro business sector, with special focus in the sugar and ethanol industries. iLab will, together with Arvus and Leica Agriculture, form the backbone of Hexagon's Smart Agriculture Solution.

According to Hexagon, iLab's offerings complement the product portfolios of Hexagon brands Leica Geosystems, Sisgraph, and Devex in areas such as fleet management, precision agriculture, automation platforms, and control room technologies.

Headquartered in Ribeirão Preto, Brazil, iLab addresses problems related to agricultural processes and production with software optimization tools for every stage of crop growth.

» OEM / PUBLIC SAFETY

Ethertronics Unveils GPS Helix Antenna for Mission-Critical Applications

Ethertronics has unveiled EtherHelix GPS, a small, stand-alone, Right Hand Circularly Polarized (RHCP) external GPS antenna. Measuring 35 mm in length, the EtherHelix GPS is 27 percent shorter than other antennas on the market with no performance trade-offs, the company said. It is designed for high-performance, mission-critical devices such as walkie-talkies, tough books, tough tablets, first responders, public safety, military applications, and more.



EtherHelix can be tuned for various satcom frequencies and various polarizations (RHCP or LHCP). EtherHelix GPS is designed using Ethertronics' patented Isolated Magnetic Dipole (IMD) technology providing high performance and efficiency in a small form factor.

EtherHelix GPS has a high tolerance to frequency shifts given the technology's high RF isolation, which is designed to resist antenna detuning that can otherwise impair reception.

EtherHelix GPS provides exceptional coverage inside buildings, vehicles or other areas where weak signals and signal reflection occur, the company said.

GPS capabilities are critical for first responders and military applications, and the antennas used in their devices need to be high-performance, small and rugged. Given its reduced weight and size — 11.8 g and 35 mm long by 15 mm in diameter — manufacturers benefit from simpler

integration for an array of GPS devices, Ethertronics said.

The new GPS antenna's capabilities include high selectivity, which minimizes the need for additional filters. Its ruggedized design includes IP-68 protection from dust and water, as well as a standard SMA male connector for easy integration.

It is the first in a series of antennas that Ethertronics is designing for mission-critical applications.

» SURVEY / GIS

Trimble Adds Automation to Office Suite

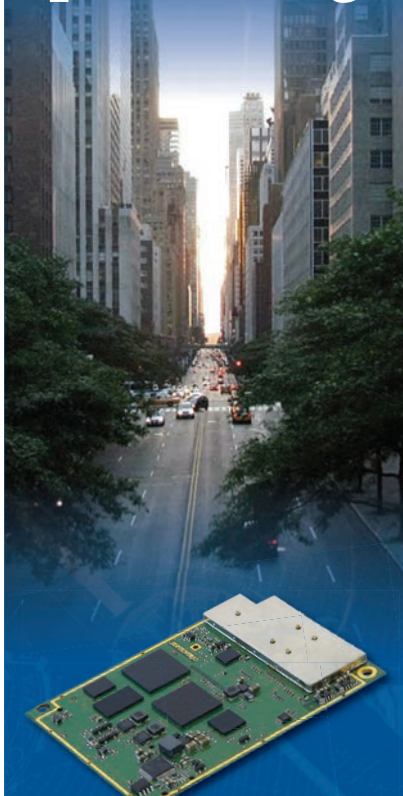
Trimble has introduced a new version of its office software suite used by surveyors and geospatial professionals for processing and analyzing geospatial data. Trimble Business Center Version 3.21 introduces new coordinate reference systems and a specialized Advanced Drafting module, which enables faster project turnaround and better decision making.

The optional Advanced Drafting module adds highly customizable templates and simplified selection tools, which are designed to reduce

the time required to generate high-quality deliverables, such as geospatial maps and corridor cross-sections. Now, professionals working on road, pipeline, and railway projects can achieve efficiency gains through the software's new automated cross-section plotting functionality.

Also included in the new module is the ability to create 3D PDFs so that team members and clients can collaborate from any computer or mobile device using Adobe Reader software.

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Xavier Montazel, head of iXBlue Inertial Products division

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www.septentrio.com/AsteRx3

» SURVEY

Altus Offers Second-Generation GNSS RTK Rover

Altus Positioning Systems has introduced its APS-NR2 RTK surveying receiver.

The APS-NR2 includes high GNSS RTK performance, low weight (1.5 lbs), low power consumption, versatile quad-band modem, remote Web-based access and connectivity with Esri's cloud-based platform. It is designed to enhance productivity and minimize downtime in the field for a wide range of surveying and geolocation jobs.

The APS-NR2 is Altus' second-generation RTK rover, building on the APS-3 product series. It features an easily accessible on-board web interface and integrated Wi-Fi for easy remote configuration and status monitoring, as well as Bluetooth for real-time data streaming, providing cable-free operation. In parallel to RTK positioning, data can be recorded on a removable 2-GB SD memory card for post-processing.

The APS-NR2 is built around a low-power 132-channel

GPS/GLONASS L1/L2/L2C SBAS receiver, which offers robust RTK performance, as well as DGPS capability. The internal 3.5G quad-band GSM/GPRS/EDGE cellular modem supports RTK network connectivity. Dual internal cellular antennae ensure a positive signal lock and minimize disruptions due to dropped calls, according to Altus.

The APS-NR2 comes with two Li-Ion batteries. It has a built-in USB battery charger, as well as a separate two-bay external charger. The batteries are hot-swappable, allowing

uninterrupted productivity on the job.

With Altus' open-architecture philosophy, the user has a choice of data collector software from Carlson SurvCE, MicroSurvey FIELDGenius, or direct interface to Esri ArcGIS Online, as well as proprietary customer-developed software.

The rugged unit is waterproof to IP67 and has an operating temperature range of -40 to +85°C.




» TRANSPORTATION / AVIATION

Locator for Aviation Launched

A new emergency locator transmitter for aviation has received Cospas-Sarsat and FAA approvals and is now available for sale. The ELT 1000 by ACR Electronics, Inc., has electronics that maximize frequency stability and power while incorporating a new, built-in GPS navigational interface, the company said. Including GPS data in the emergency transmission allows search-and-rescue personnel to know the location within 100 meters in less than a minute. Designed to accommodate multiple installation configurations, the new ELT 1000 is a quick retrofit for obsolete 121.5 MHz ELTs, ACR Electronics said.

Built under the exacting standards of AS9100C quality certification, the ELT 1000 exceeds all government and regulatory standards.

» EVENTS

12th International Conference on Precision Agriculture

July 20–23, 2014, Sacramento, California; www.ispag.org/icpa

ICPA brings together researchers, industry, and practitioners as a premier scientific conference on precision agriculture. It includes top research papers from around the world and session chairs in precision water management, precision horticulture, unmanned aerial vehicles, precision conservation, precision livestock, remote sensing, and data standards. The program also features two poster sessions with more than 70 posters on display during the conference.

Super Mobility Week

September 9–11, Las Vegas, Nevada; www.supermobilityweek.com

Super Mobility Week is North America's largest forum for the mobile innovations that power the connected life — business, home, health, money, auto, retail, media, networks, and more. Thousands of mobile leaders, companies, and professionals will gather to connect and share leading-edge trends, discoveries, and knowledge.

ION GNSS+ 2014

September 8–12, 2014, Tampa, Florida; www.ion.org/gnss/

ION GNSS+ is the world's largest technical meeting and showcase of GNSS technology, products, and services. This year's conference will bring together international leaders in GNSS and related positioning, navigation, and timing fields to present new research, introduce new technologies, discuss current policy, demonstrate products, and exchange ideas.



▲ GPS WORLD WILL JOIN more than 16,000 visitors from 92 countries at Intergeo.

Intergeo 2014

October 7–9, Berlin, Germany; www.intergeo.de

The 2014 Intergeo Conference and Trade Fair for Geodesy, Geoinformation and Land Management will take place at Messe Berlin. With more than 16,000 visitors from 80 countries, it is a key platform for industry dialogue, covering surveying, geoinformation, remote sensing, and photogrammetry.

ISGNSS 2014 (in conjunction with KGS Conference)

October 21–24, Jeju Island, Korea; isgnss2014.org

“Cloud-PNT: PNT in IoT” is the theme of ISGNSS 2014, and the program will be organized to emphasize this trend.

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Mobile Computing Special



RTK Bridge-X with Wi-Fi

The Intuicom RTK Bridge-X provides reliable access to RTK corrections along with a Wi-Fi hotspot. Users can connect other Wi-Fi devices such as laptops, tablets, and smartphones, and access the Internet via the RTK Bridge-X's cellular connection.

Wireless connection can be accessed through any web browser. Users can then read email, send files, and perform other Internet-based tasks. With Remote Access, the RTK Bridge-X can be reached over the Internet from anywhere.

The RTK Bridge-X comes with internal GPS. Users can choose among an internal license-free 900-MHz radio, industry-standard UHF radio, or no radio.

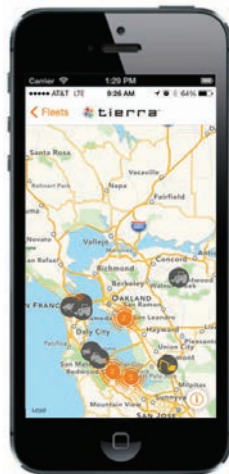
The front panel has a real-time cellular signal strength indicator and an Ethernet port that can be used for configuration or Internet connectivity. A numerical LED display shows which of the four configurable profiles is active and which radio channel is selected. Bluetooth connections are also supported.

Intuicom, www.intuicom.com

Rugged PDA for Total Station Control

The Leica iCON CC55 handheld controller is a versatile and rugged PDA with a 3.5-inch color display. The handheld controller, as well as the larger seven-inch Tablet PC iCON CC65/66 field controller, are both fully integrated into Leica Geosystems' iCON portfolio of hardware and software solutions. It runs the Leica iCON build or site software to display and connect measured points for as-built data capturing or to lay out points and construction lines directly from the digital construction plan. The controller provides flexible options for data communication and an extensive data storage.

The Leica iCON CC55 can be used to control the Leica iCON robot total stations, enabling one-person operation, saving time and increasing productivity for construction layout tasks and as-built checks, the company said. Optional Long-Range Bluetooth allows communication with the iCON robot 50 at distances of more than 1,150 feet. Alternatively, the iCON CC55 can be used as a data logger with the Leica Builder manual total station. Together with the Leica iCON gps 60 SmartAntenna, the iCON CC55 creates a compact and light-weight GPS rover system. **Leica Geosystems**, www.leica-geosystems.com



Mobile Apps for Job Sites

Topcon Tierra and Sitelink3D are mobile apps designed to offer on-the-go remote connections to equipment and job sites.

Topcon Tierra lets customers track equipment fleets from an iPhone or iPad. Users can check on their fleets, fences, productivity reports, and get alerts. The Topcon Tierra mobile app is available to download at no charge.

Customers can also manage and monitor job sites with the Topcon Sitelink3D mobile app, which lets users visualize real-time project management information on their iPhone or iPad with their existing Sitelink3D logins. The Sitelink3D mobile app is available for purchase on the Apple App Store.

Topcon Positioning Group, www.topcon.com

GIS Mapper for the Field

The MobileMapper 20 GIS handheld offers enhanced capabilities over the MobileMapper 10: a bright VGA color touchscreen display, a 5-MP camera for higher resolution images, doubled memory capacity, and 3.5G cellular performance.

MobileMapper 20 provides real-time GPS accuracy of better than 2 meters and post-processed accuracy of a half-meter using MobileMapper Office software. Mapping professionals can also use Spectra Precision's optional MobileMapper Field software for data collection, maintenance, and inspection.

MobileMapper 20 incorporates Bluetooth, Wi-Fi, and a 3.5 G cellular modem to keep mobile workers connected and more efficient while in the field. It runs Windows Embedded Handheld 6.5 and offers the flexibility to support a broad range of third-party software applications.

Spectra Precision, www.spectraprecision.com



RTK Network Rover

The Getac F110 rugged tablet has an 11.6-inch HD display in a compact design. The dedicated GPS, with SiRFstar IV receiver, offers fast location positioning. Designed to be the size of a piece of paper, The device measures less than 1 inch thick (12 x 8 inches in overall size) and weighs 3 pounds. It incorporates fourth-generation Intel Core i5-4300U (1.9 GHz) or i7-4600U (2.1 GHz) processors, and features dual hot-swappable batteries allowing for endless power.

The F110 can be configured with 4G LTE WWAN and features an 8-band 3D antenna for fast download and upload speeds with fewer dropouts. Meeting MIL-STD 810G, IP65, and MIL-STD-461F standards, the tablet was engineered to be protected against drops, shocks, spills, vibration, dust, and liquid.

Getac, us.getac.com



Haul Truck Assignment System

The Topcon HT-30 haul truck module for Sitelink3D features a small, portable GPS-enabled control box that mounts into the truck cab. As the truck is

loaded, data about the load is input, such as material type, driver, and quantity. The load is then integrated into Sitelink3D and can be tracked for scheduling, rerouted if needed elsewhere, and recorded once delivery is made.

Whether the material is fill dirt, removal of overburden, select material, base course, or even asphalt, HT-30 can be quickly plugged in so management and reporting can be maintained in real-time.

Topcon Positioning Systems, topconpositioning.com.



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K501G

GPS L1/L2
GLONASS L1/L2



K500

GPS L1
GLONASS L1
BeiDou B1



ComNav Technology Ltd.

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Mobile Computing Special

Rugged Field Computer

The Nautiz X4 is a compact, lightweight rugged handheld computer optimized for efficient field data collection in tough environments. It has been designed and developed specifically for mobile workers in industries such as warehousing, logistics, transportation, utility, field service, security, and public safety.

It has an integrated u-blox GPS receiver that provides professional-grade navigation functionality. It also offers multiple connectivity options, such as high-powered 3G and Wi-Fi capability, a high-speed 1-GHz processor, 512 MB of RAM, and 1 GB of flash memory. It runs Windows Embedded Handheld 6.5.

Measuring 156 x 74 x 25.5 millimeters (6.1 x 2.9 x 1.0 inches) and weighing 330 grams (11.6 ounces), the Nautiz X4 is a thin and light ergonomic work tool. It has a high-brightness, sunlight-readable resistive touchscreen, and comes with either a high-performance 1D laser scanner or a 2D imager for fast, accurate scanning and barcoding tasks. The device also features a 5-MP camera with auto focus and LED Flash.

Handheld Group, www.handheldgroup.com



GIS Data Collector

The LT400 combines ease of use and reliable GPS for everyday GIS data collection. It is compatible with major GIS software and designed for rugged use in land management, assets mapping, utilities, oil and gas industries, mining, forestry, and agriculture.

Features include meter to sub-meter accuracy, eight-hour battery life, Windows Mobile, and an integrated GPRS modem. It uses 12 channels with GPS L1, including 2xSBAS.

Professional application software with optional DigiTerra Explore GIS field software offers industry-standard functionalities, and common precision surveying capabilities make it an effective, powerful, and versatile data-collection solution.

CHC Navigation, www.chcnv.com



RTK Network Rover

The GHX2 network rover is designed to pair with the Sokkia SA300 external antenna to provide enhanced positioning accuracy and RTK performance in demanding environments. Features include a large 5.7-inch, sunlight readable touchscreen, waterproof housing, a built-in 3.2-MP camera with 4 GB of flash storage, and Bluetooth and Wi-Fi connectivity. The system is compatible with MAGNET Field and Sokkia Receiver Utility (SRU) software.

Sokkia, us.sokkia.com

Handheld for Mobile Workers

The Forge Echo series of rugged handhelds are designed specifically for mobile professionals in utilities, transportation, oil & gas, public safety, mining, asset management, mapping and forest industries. The Forge Echo combines accurate GPS, an integrated clinometer, and patent pending echodistance technology, enabling users to measure height and distance with a single device.

The Forge series is fully ruggedized (IP67), shock-proof, dust-proof and waterproof; runs Windows Mobile 6.5; and features a 3.5-inch display, an 800 MHz processor, 512 MB SDRAM memory, 8 GB onboard storage, Bluetooth, Wi-Fi, 5 megapixel Camera, and up to 32 GB micro SD expansion slot.

F4Devices, f4devices.com

