TOPCON NEWS
No 14

Topcon Imaging Station combines digital imaging robotics and scanning

One instrument, limitless applications!

CAPTURE REALITY

Robotic Total Station, Scanner and Digital Cameras. The new Topcon Imaging Station has it all! The newest addition to Topcon's robotic total station series – the Topcon Imaging Station – now offers the added productivity and versatility of integrated digital imaging, a world's first technology Topcon introduced in 2005 with its GPT-7000i total station.

IS IMAGING STATION

Its integrated through the lens, dual digital camera imaging technology captures reality with wide angle and 30x optical zoom capabilities and when used in conjunction with the built-in scanning feature, it provides a dynamic system that offers the automation of a much-higher priced laser scanner and the versatility of a robotic Total Station. The Topcon IS is ideal for topographic survey, mining, construction, as-built survey or many other applications. Based on a Windows environment, so it is easy to get started and integration with the office is seamless.

■ **Compact and versatile**
With the digital imaging software you can combine multiple job site photos and create 3D models and point clouds. The Topcon IS Imaging station combines robotic survey, 3D scanning and video technologies in one compact versatile easy to operate instrument. Packed with unique technology and features, the Imaging Station offers a wide range of possibilities, unseen before.

■ **Longest range and highest speed available**
The Topcon Imaging Station provides unique precise reflectorless measurement up to 2,000 m, the longest in the industry, and the highest speed with up to 20 points per second. This means it can easily measure on difficult targets like power lines. The Topcon IS simply sets a new standard for robotic total stations. Topcon was the first manufacturer to combine digital imaging with reflectorless total stations several years ago. With the new IS we have expanded the applications and productivity of our users substantially.

■ **Wide angle and telescopic imaging:**
The unique integrated dual digital camera offers wide angle and telescopic view capabilities for maximum ease of use and versatility. The unique 30x optimal zoom guarantees the best possible accuracy.

■ **3D modelling:**
Advanced 3D image modelling capabilities allow for instant 3D model creation with image integration and volume measurements.

■ **Topo trace® feature detection:**
Intelligent feature measurement allows for accurate point recording based on simply tapping the screen and even automatic detection of points to be measured is included. A world's first for Intelligent Feature Detection.

■ **Built in scanning and video feed:**
Offers the dynamics of a scanner, robotic total station and video capabilities into one single instrument. Up to 20 points per second is possible.

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The new Scanner-technology from Topcon *page 3*

It's magic

It's time.

Determining the top with centimetre precision

Topcon on the highest mountain top

Last July 2007 an expedition to the Mont Blanc was organized by a team of six people made up of alpine guides and technicians from the Studio topografico di Bisaccia (AV), in collaboration with GEOTOP Srl and TOPCON Europe Positioning BV, in order to determine with centimetre precision the top of the highest European mountain.

The Mont Blanc, with its height of over 4.800 meters, is the highest mountain in Europe. It is a rugged mountain full of spires and crests, engraved by deep valleys where a large number of glaciers flow. It is situated in the Alps mountain range, on the watershed between the Italian Val d'Aosta (Val Veny and Val Ferret) and the French Savoia area (Chamonix valley).

Three hours measuring

On July 25th 2007, the survey was carried out in static mode, with a data rate of 5 seconds, by using both the GPS and the GLONASS satellite constellation tracking. The measuring session started at 13:48 and ended at 17:00, thus lasting 3h 12'', with a total of 2304 epoques. In order to calculate the mountain top height, four known coordinate points were used of which three were IGM 95, one of which is also IGN (French). The Topcon HiPer PRO GPS+GLONASS receiver was used in the 4 apex of the known coordinate points, while for the mountain top point the latest Topcon GR-3 GPS+GLONASS+GALILEO was used.

Provide accurate data

The materialization of the point was not easy to get, considering both the height and the adverse environment, was performed by inserting a 2 m long 18 mm steel bar in the ice, for a total length of 2 meters, a 5/8 screw was inserted at the rod's peak, in order to directly screw on the GPS antenna. This way the use of the tripod was avoided which could cause a positioning error. The above-described installation, should it last during the years with subsequent measures, could indeed provide accurate data to monitor the mountain top.

Results in October

The height of the Mont Blanc top, of in total 4.808,75 meters, according to the latest official measurements obtained in December 2005, will be compared to the one obtained by the new calculations.

The final data elaboration will be performed in cooperation with the University "POLITECNICO di TORINO". The calculation results will be published in October on the website: www.geotop.it

Topcon At Work

U&W uses Topcon equipment on road project

The German company Umwelttechnik & Wasserbau is building a long stretch of road from Hoym to Aschersleben West. Included in the project are a bridge and a special crossing for local wildlife. The B6n as it is called is part of a much larger project concerning a new, four-lane section of the B6 federal highway, with a total value of 450 million Eurosis expected to be completed in 2007.

On the 95 kilometer long road more than 100 new bridges and special safe crossings for the local wildlife will be laid. Replacing the old Federal highway 6 with this new highway. In Aschersleben the three federal highways B6, B180 and B185 cross. In the past this, especially during rush hour, led to substantial traffic problems.

In the meantime Aschersleben possesses a partial Northern bypass road; part of the federal highway B6n. The company Umwelttechnik und Wasserbau GmbH has been working on several parts of this important road since 2004.

U&W mainly works in eastern Germany, having offices in Leipzig, Ermsleben, Jena and Magdeburg. It also has branch offices in Berlin, Brandenburg, Dessau, Dresden, Frankfurt/Main, Halberstadt, Halle, Kronach, Schkeuditz, Stendal, Torgau, Wernigerode and Zwickau.

The group employs more than 800 employees and carries out building works of a value of EUR 80 million per year. The main focus is on clients from the public sector, but the company also works on buildings for the industry and private customers.

For the last four years U&W has been working together with official Topcon dealer, – Geotek Vermessungssysteme – and has been using the following Topcon equipment on their many road construction projects:
Four 3D-GPS on Liebherr 724 and 734 dozers, two 3D-GPS on excavators, one base, 20 km, for 3 years, several Topcon GPT-8000 Total Stations and several Topcon GPS-rovers.

Topcon's Laser Scanner GLS-1000

Surveyors' dream! Topcon's GLS-1000

CAPTURE REALITY

Topcon Europe Positioning is proud to present its new laser scanner to the surveying and civil engineering community. The Topcon GLS-1000 handles like a total station but delivers a total scanning solution. At an affordable price it takes the pain out of investing in a laser scanner, offers reliable measurements and opens a whole new area of possibilities. The Topcon GLS-1000 simply gives its users new opportunities to increase their productivity and market possibilities.

The GLS-1000 scanner is easy to use and functions and operates stand-alone without the headaches of computers, cables and heavy batteries. It was developed by Topcon and specifically designed for site use.

Thus it can also work in harsh or bright jobsites because no PC is required, thanks to the internal memory and batteries.

The GLS-1000 scanner has been made surveyor friendly: it's like handling a total station and comes in a single box, guaranteeing easy transportation. You can quickly and easily collect point cloud data in many environments.

From architects to civil engineers, to CAD professionals or contractors. All across the field, jobsites will benefit from using Topcon's GLS-1000.

Easy to use and portable

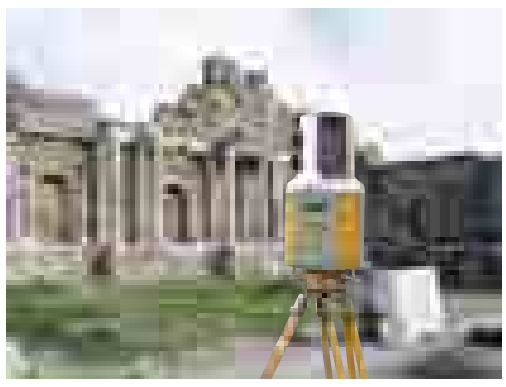
You can specify the scan area with jog shuttles control, work with an on board control panel and store data in the easy accessible SD card. Just like you would on any ordinary Total Station. The handy SD card also allows you to transfer and check the data on a PC while in the field if required. The inbuilt Wi-Fi allows PC connection if more detailed control or checking is required while scanning. The GLS-1000 was designed for use on site. In contrary to many laser scanners which require external batteries and PC or a controller to operate the scanner from outside, the GLS-1000 is equipped with exchangeable internal batteries and a control panel. It can be operated by itself and moved any where without hassle.

The GLS-1000 at a glance:

- Creates 3D models from point clouds
- Connectivity with application software
- Supports industry standard export formats.
- Image integration with built in camera
- Display for simple scanning control and data storage.
- Internal battery for optimal portability
- Set up and use like a total station for easy registration

The advantages:

Reduction in size and weight for easy carrying in a single box from one jobsite to another. Workable in harsh jobsites, because no PC is required. Simple operation, like using a Total Station.



Researching global warming from inside the ice

Topcon receiver withstands global warming

In the Briksdalsbreen glacier in Norway a team of British researchers are looking for answers to the problem of global warming... from inside the ice. Kirk Martinez is Senior Lecturer at the School of Electronics and Computer Science at the University of Southampton, UK and leads a team of researchers which carries out groundbreaking research on the melting of glaciers.

We use two Topcon Legacy receivers to precisely measure the location of a base station which permanently lives on the ice. The base station is responsible for gathering data from special probes that are embedded deep inside the glacier. Six times a day these probes record environmental observations such as temperature, tilt and pressure. The base station transmits this data, either via radio down the valley or by mobile-phone text messages.

"A special tripod was designed to hold the antennas and sensors of the base station; this was anchored to the ice (15m down a borehole) and rocks on the base. The glacier and foreland were mapped beforehand with Topcon GPS. This way we could pick the study sites on the glacier and see exactly where they were in relation to the previous years' on a FC-100 handheld field computer."

"After the summer of 2006 we received an email that the base had fallen down a deep crack in the glacier. In November the base was seen floating in the lake at the foot of the glacier. The whole ice front and the base station had fallen into the lake. A BBC News film crew even came along on the rescue mission. In the end we found it, but the ripping off of cables had damaged connectors on the case so water got in.

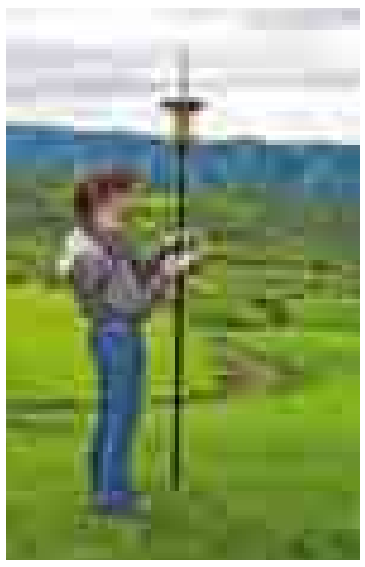
Amazingly the compact flash card in the computer was intact (after a night over the log fire!). And so was the Topcon GPS receiver. So we could still recover and use all the important data about global warming."

GPS + GLONASS + GALILEO

The GR-3 receiver: The next generation in GNSS

Topcon Europe Positioning pioneered the application of GNSS tracking and for many years has been the industry's single source for dual-constellation operation with its GPS+ technology. G3 was our next groundbreaking invention: The first technology to combine all three satellite positioning systems – GPS, GLONASS and the European Galileo system …

Now we have combined all the innovative power of the G3 tracking technology in a small, rugged field receiver. Topcon Europe Positioning is proud to announce a new addition to the GR-3 family: the next generation in GPS+ receiver technology, now also compatible with Satel radios. The new Topcon GR-3 receiver truly sets new standards for performance, accuracy and innovative receiver design.



The European satellite positioning system (Galileo) is in the early stages of implementation; when operational, this system will add yet an even higher level of productivity to field GNSS systems. In addition to adding the Galileo system to Topcon's industry leading GPS+GLONASS technology, the new G3 chip technology incorporates all the planned modernization of the GPS and GLONASS satellite systems.

All satellites, all signals
The GR-3 was the world's first production model that could receive the Galileo test signal; it is designed to pick up all signals available now and all signals planned for the foreseeable future. To put it simply: it's future proof. The GR-3 has 72 universal channels that can track up to 36 satellites simultaneously… all positioning satellites, generating any signal, any time, 24/7.

Designed to fit your needs
Besides offering universal satellite tracking – GPS, GLONASS and Galileo – Topcon recently added the world's first UHF digital radio option for a GNSS-receiver. The digital radio design provides a significant technology increase over older analog radio system designs. The modern digital design provides improved performance and reliability, and at the same time, the maximum level of flexibility for system customization.

The GR-3 also has an optional cellular communication system with an easily accessible cell phone card slot. This capability extends the range beyond normal radio limits and provides increased functionality with RTK networks. Additionally, the unit is equipped with Bluetooth™ wireless technology for a completely cable-free operation with Windows CE field controllers and other compatible devices.

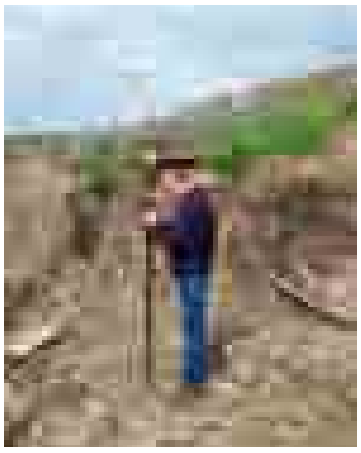
Rugged and durable
The unit not only sets new standards for performance and accuracy, but also sets the standard for rugged construction and unparalleled durability: GR-3 is designed to withstand a two-meter pole drop and comes with a "bulletproof" warranty to back it up. The GR-3 brings several handy innovations. Like the multi-use intelligent "Power Pack" multiple charging system that doubles as both a charging station and, when deployed out in the field, can be used as an additional power supply.

Quick Snap
The GR-3 has a built-in handle, making the handling of the instrument easy. Another clever innovation is the new Quick-SNAP™ release system developed by Topcon. This new system allows the user to quickly attach or detach the GR-3 from another Topcon SNAP mount.

Maximum uptime
To provide the maximum job site performance and flexibility, the GR-3 offers dual, hot-swappable batteries. This ensures that you can change batteries without ever having to shut down the system and restart. With the maximum uptime for the customer in mind, Topcon has also created the first alkaline battery kit available for dual frequency systems, with this option you will have the added flexibility to plug in alkaline (AA) batteries for those rare occasions that the standard rechargeable batteries are out of power while in the field.

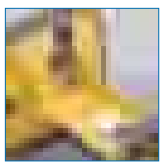
Completely cable-free
The GR-3 boasts a completely integrated, cable-free base and rover design for use in a constantly expanding range of applications. In addition to Paradigm G3 technology, the sleek and rugged unit features:

– The original GR-3 version offers an internal spread-spectrum radio, which provides reliable and interference-free RTK communication for small- to medium-range projects; the new digital UHF version expands the unit's capabilities.
– Optional internal GSM/GPRS SIM card modem for cellular connectivity.
– Ergonomic design includes a "quick-snap" pole mount, for speed and reducing the likeli hood of damage while affixing it to or removing it from the pole.



– Dual, "hot-swappable" battery packs give GR-3 all day operation.
– An additional battery pack utilizes off-the-shelf AA batteries for those emergency times.
– Dual-function design – each unit can be a base or rover.

Advanced System Design
- Hot-Swappable Batteries
- Li-ION Rechargeable or Alkaline
- Completely Cable-Free Design
- Convenient Quick-Snap pole mounting system



Memory & Communication
- Easy Access SD & SIM Cards
- Spread Spectrum or UHF Radio
- Internal GSM/GPRS
- Bluetooth Wireless Technology

Ultra Rugged Construction
- Durable magnesium housing
- I-Beam construction
- Withstands 2(m) pole drop onto concrete
- Environmentally sealed external ports

40 Masts over 22 kilometers

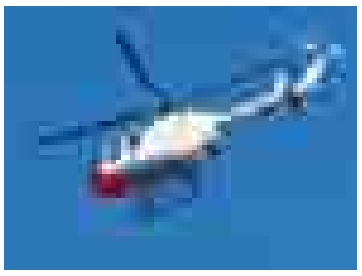
Measuring power lines in the Swiss mountains

The NOK, Nordostschweizerische Kraftwerke AG operates a 380kW power line from Bonaduz in the canton Graubünden to Breite in the canton Zürich, Switzerland. The positions of some 400 masts of this line are only vaguely known. "For negotiations for the new line-contracts these positions had to be determined as exactly as possible and at a fair price. Because the masts are partially in areas that are difficult to access or in densely wooded areas, working from the ground was not really an option", Urs Federer, director of the measurement department of the NOK states.

„Therefore I decided to use a helicopter." In September a helicopter equipped with a GPS and GLONASS Topcon HiPer receiver, flew from the airfield Mollis for a measurement test flight.

„Already on the flight to the starting position the reception of the correction data from the VRS-net was ensured."

The flight put high demands on the pilot and all those in the helicopter. „For the measurement, the GPS receiver, which was fastened to the right skid of the helicopter, had to be held in position as perpendicularly as possible about two meters above the top of the mast. No easy venture, as the helicopter was shaken heavily by its own down-winds."



Jack Germann of Swiss Topcon dealer Fieldwork, was also there: „My task was to observe the position accuracy and to make the measurement at the correct moment. The most difficult task however was to keep the stomach under control."

Federer continues: „Some masts which stood in very tight and deep cut valleys could not be measured. However of all 40 measured masts, over a distance of 22km, approximately 50% had an accuracy of half a meter or even better.

The remaining points were within the demanded accuracy and in four cases were scarcely over it.

The method met both the economic and accuracy requirements."

Mobile control market

Topcon enters worldwide mobile control market

For the last 75 years Topcon has been known as a leading global developer and manufacturer of positioning equipment for the survey, construction and agriculture markets. However Topcon is now expanding its business to include the rapidly growing international mobile control business.

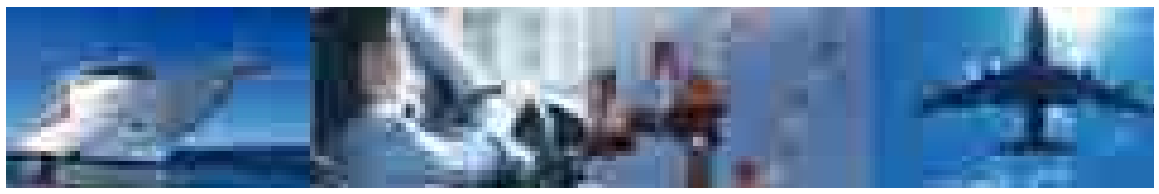
For Topcon, entering the "mobile control business is a natural extension of our basic business model," according to Fumio Ohtomo, director and managing executive officer, "which is, simply, to provide the most innovative precise positioning instruments, software and applications to global end users."

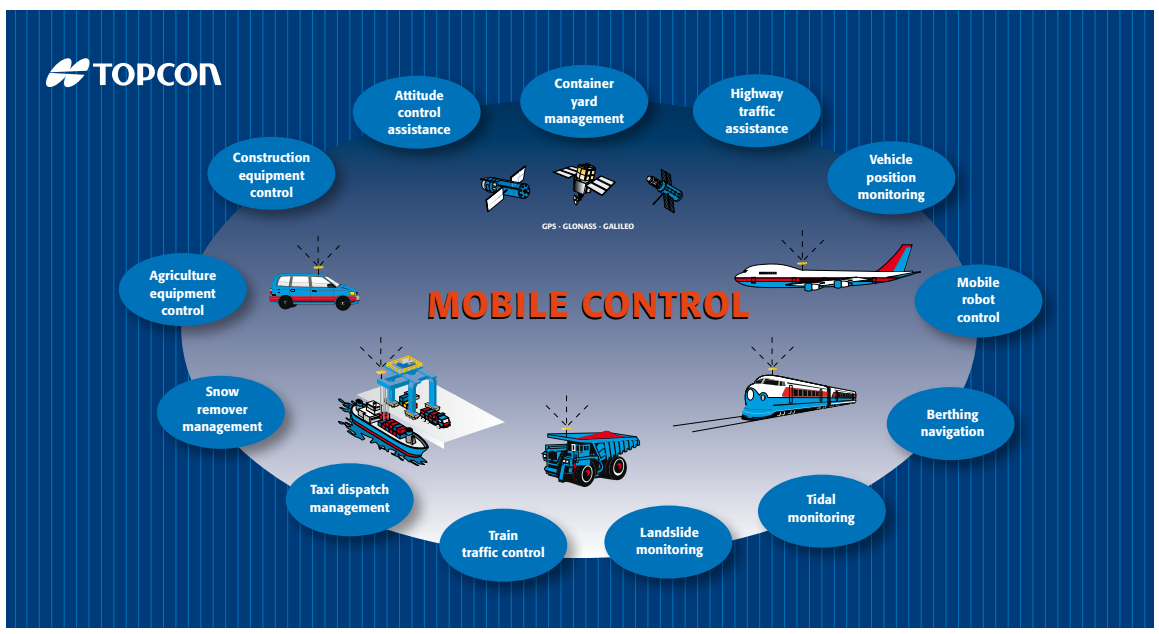
"The mobile control market is a growing market and is a perfect match for Topcon's GPS technologies and products developed over many years in the industry."

The emphasis on a new market niche will enable Topcon to become a "complete positioning business," Ohtomo said.

The new mobile business segment will focus on measuring the exact positioning of virtually any mobile object on Earth for asset management and control purposes.

The technology driving the company's expansion of its precise positioning business could also be utilized in global plate location or movement, rolling stock or material management in large plant sites, or even software-creation for video games and equipment management in amusement parks (i.e., go-carts, boats, trams).





In April 2007 Topcon announced its SiteLINK system, which uses software to record all relevant data on jobsites regardless of where in the world it is located. Ray O'Connor, president and CEO of Topcon Positioning Systems (TPS) and a member of the Topcon Positioning Business Unit (Japan) Executive Committee, said, "The new technology is based on utilization of Mesh Radio Networks built on a standard Wi-Fi environment.

A benefit unique to the industry is that Topcon creates systems that are upgradeable as Wi-Fi technology evolves, at no cost." "Moving into the mobile control market segment, which will grow exponentially over the next decade, is a natural extension of Topcon's stated goal of providing end users with the latest precise positioning and management products and applications before anyone else."

Via Internet hookup, or cell phone connection, Topcon's planned new tracking and reporting software and controller for mobile control will be able to be accessed from virtually anywhere in the world – from corporate headquarters, asset management office, remote office location… or even from designated vehicles.

Additionally, Topcon will use its positioning technologies to "enter into the Intelligent Transport Systems (ITS) market," O'Connor said. "Topcon is the industry leader in capturing and utilizing GPS plus GLONASS satellite signals (and any signals from other constellations available in the future). That experience in accurately measuring any point on Earth is invaluable in developing and establishing a true ITS or AHS system (Advanced Cruise-assisted Highway System) in order to reduce accidents and traffic jams."

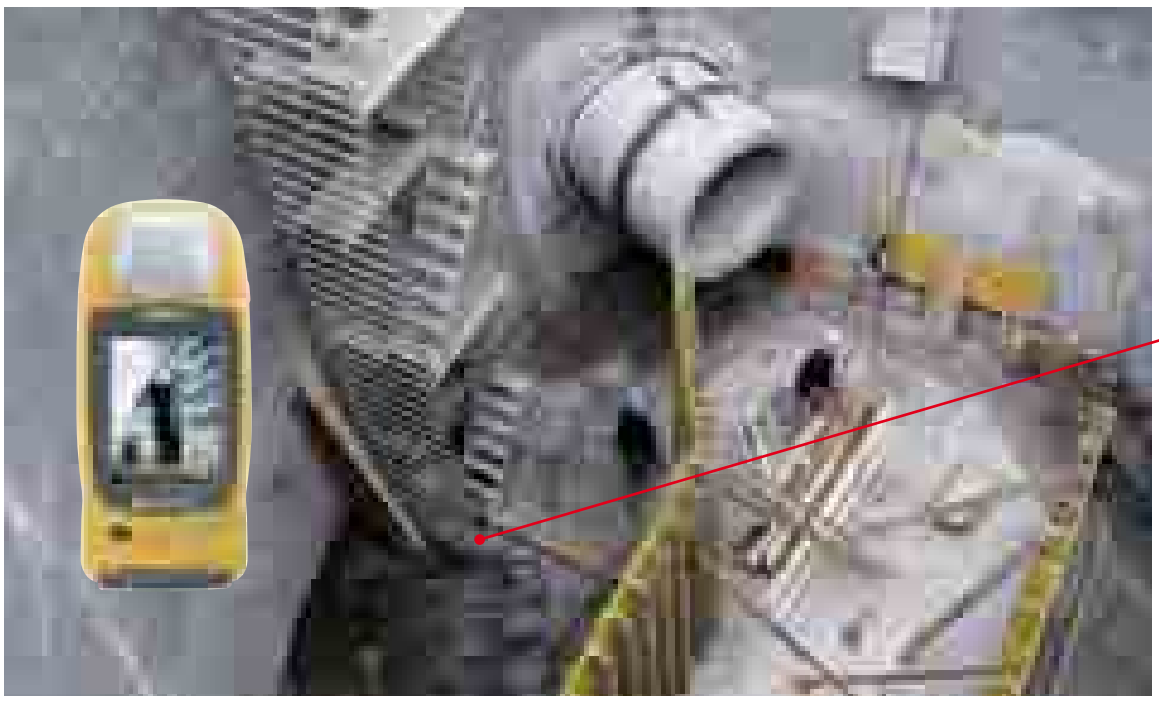
Target markets for this new Topcon business segment include:

Dynamic positioning (DP) of oil platforms and vessels, as well as facilities and offshore services, including container positioning and locations, berthing navigation, as well as equipment used in natural resource exploration; Vehicle management, including fleet logistics for taxis, trains, buses, trucks, rental vehicles, and even golf carts, and; Environmental research, including disaster prevention and meteorological research and data collection.

GMS-2 pro - hand-held GNSS receiver

The new GMS-2 Pro is here!

Topcon broke new barriers in GIS applications by incorporating our industry leading dual-constellation satellite tracking into a small hand-held GNSS receiver, the GMS-2. An integrated electronic compass and digital camera powered by Topcon's revolutionary imaging technology meant endless new possibilities. The powerful combination of dual-constellation satellite performance and digital imaging technology has set a new standard for GIS field mapping. Now we have taken this concept one step further: with GMS-2 PRO.



For this we have taken the well known advantages of the GMS-2 and took them to a new level. The GMS-2 Pro offers an integrated distance meter, offset measurement, a unique image height/width measurement and a high level of mobility in the well known handy format of the GMS-2.

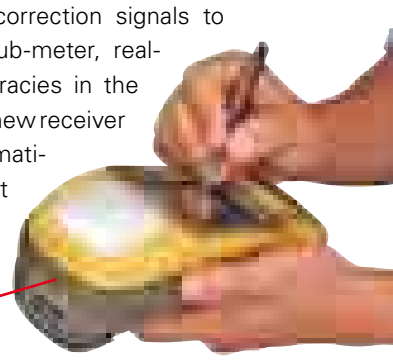
It's all about the accuracy
The digital camera offers two mega pixels of sharp images. The integrated compass offers +/– 4 degree accuracy and the distance meter offers a range of 50 meters with an accuracy of +/– 10 millimeter. Take it outside and use the GMS-2 Pro in Agriculture and Forestry, Geology and Archeology, Environment, Energy, Utility or use it as a controller for Robotic and RTK GNSS and much more.

Height & width measurement
What really makes the GMS-2 Pro stand out however is its groundbreaking, easy height and width image measurement. Just one shot and two taps and you get a target's height or width. It really is that easy! To measure the height or width of the target, you simply aim at the target by using the easy to read image screen. Then you can simply measure the distance and capture the image at the same time. This is realized by combining distance measurement with innovative Image capturing technology. On the screen, when you tap two points, you get the distance, height and widths. This makes the GMS-2 Pro ideal for difficult measurements. Imagine the savings in time you will realize!

Changing field surveying
An example from the world of forestry will clarify how truly groundbreaking the easy height and width measurement of the GMS-2 Pro is. You can measure area and density of trees and many other objects; you can measure the height and even measure the width. Measuring the total volume of wood in the forest for example is now easier and no longer requires time consuming manual measurements. With the GMS-2 Pro the current DGNSS field survey will be changed. Forever.

Real-time correction signals
The GMS-2 Pro also has an option that increases real-time correction capabilities of the GMS-2 Pro handheld receiver– the addition of a BR-1 beacon receiver. The GMS-2 Pro GIS mobile GNSS receiver can utilize the new BR-1 to receive sub-meter differential correction signals from the beacon system in real-time for data collection and navigation. Now, with this additional receiver option, real-time correction reception becomes possible in areas where it might not have been previously. In addition, by connecting to a Bluetooth, mobile phone network DGNSS corrections can also be received.

Not easily interrupted
The beacon is a free, land-based radio signal that is not easily interrupted by obstructions – trees, buildings and natural terrain obstacles. The BR-1 has the unique feature of four channels and provides users with up to four consistently available correction signals to achieve sub-meter, real-time accuracies in the field. The new receiver will automatically select the best



correction of the four signals available to send to the Topcon GMS-2 Pro, a function making the BR-1 a smart correction option for the GMS-2 Pro.

Uses of GMS-2 Pro:
- All aspects of GIS collection
- Control point survey
- City development mapping
- Cadastral investigation
- Land use investigation
- Hydrographic survey
- Environmental research
- Natural resource investigation
- Soil investigation
- Agricultural investigation
- Oil drilling investigation
- Utility management
- Forest investigation
- Accident investigation
- Disaster investigation
- Crime violation investigation
- Public property management
- Archeological investigation
- Field controller with offset measurement

Imaging offers us evidence

Added value of photogrammetry is obvious

Bureau Prisma from Nijkerk is one of the larger land surveying offices in the Netherlands. With a specialization in large-scale construction projects like the HSL-line, the North/South underground line and the Stationseiland in Amsterdam, they have become a well known bureau in the Netherlands. Peter Bijlsma, managing director of Bureau Prisma, talks about the added value of the innovative photogrammetry technique.

Two years ago I first saw the Topcon GPT-7000i Total Station. To me it was obvious that this instrument would deliver added value to our company. Captured images provide us a way to give evidence of our measurements. It is obvious that you measured a point as you can show the actual photo of the measurement. Combined with photo optimization software I think it is an application that can be used in many areas. Certainly for our special customers who are in the yacht building business, but also for contractors who need 'as-built' images. We can show what we have done and measured before we compute the measurements, this way it offers an extra check.

Currently, we are working on an orbital road around Eindhoven. With the GPT-7000i we measure the structures over the highway. We can show the Ministry of Transport, Public Works and Water management: This is what we have measured. With that we deliver added value.

"But it also saves time. If you do this kind of work with a laser scanner you will miss your goal because you get too much information: just to measure the height of a structure does not mean you have to measure the entire bridge. With Topcon's instrument you stake out the general lines, measure the points of interest above the road

(like traffic signs) and automatically record an image, with sketches unnecessary. The costs are down and so is the time it takes." Besides all the imaging advantages it is still a good instrument to do measurements. I am working on a project right now where I have to measure the front of the Sportfondsenbad Oost in Amsterdam (a public swimming pool). It is an old swimming pool from the 1930's and the front has to be visualized. It will be renovated and turned into a modern fitness and health centre.

With the Topcon Imaging Total Station this is a breeze. I can do this entire project by myself: I go there alone and measure it all efficiently.

Not only have all my measurements been registered, the instruments gives me a result that would not have been possible some years ago."

Intelligent software systems for project controllers and infrastructure managers

RIB unveils new solutions at the Intergeo

LEIPZIG, GERMANY. This year's Intergeo congress and trade show for geodesy, geoinformation and land management will again have as its theme "Knowledge and Action for Planet Earth". The international trade show will be opening its doors to the general public in Leipzig, the City of Culture, from 25-27 September. Stuttgart-based company RIB will be among the exhibitors with innovative solutions for infrastructure managers, architects and planners.

The software maker from Stuttgart will be presenting at this leading trade show the latest versions of its software solutions. A major new product is the office and project management solution RIB office, which is designed specially for civil engineers, architects and planners. RIB introduced this new solution for structural planners at the start of the year.

Finally, the software house will be demonstrating optimized versions of the STRATIS® and ARRIBA®CA3D system solutions which have the capability to recognize surfaces and lines from pdf and HPGL formats, thereby enabling easy further processing.

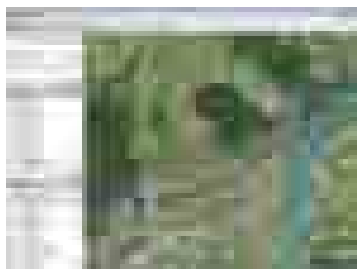
STRATIS®, the software solution for road builders, civil engineers and infrastructure managers, is available at the Intergeo in German and now also in English. The new Version 12 also enables planning data to be mapped to Google Earth. The entirely new interfaces in dwg, dxf and dwf formats allow the software solution to be linked to Autodesk, making it state of the art. The Stuttgart software engineers have enhanced the infrastructure management solution to include the ISYBAU 2006 xml output format specially for the sewer construction / engineering sector. Based on European Standard 13508, the software meets the needs of international projects. A further new feature is a function that allows cross-section designs to be influenced by mathematical/logical conditions.

New converters were implemented directly into the RIB software for the supply of data to Topcon Machine Control systems enabling control data to be managed easily.

With a database interface to Microsoft SQL Server, the current STRATIS® version meets all the requirements for infrastructure management. A new plan management system allows plans to be designed even better and in a more meaningful manner.

With over 100,000 installations worldwide, RIB is one of the world's leading providers of project management software solutions. The name RIB is synonymous with successful project implementation and customized solutions.

For over 45 years the Stuttgart-based company has been developing innovative software for the construction sector, plant engineering and infrastructure management. RIB solutions are marketed all around the globe through sales offices and service points in Europe, the USA, the Middle East and Asia.

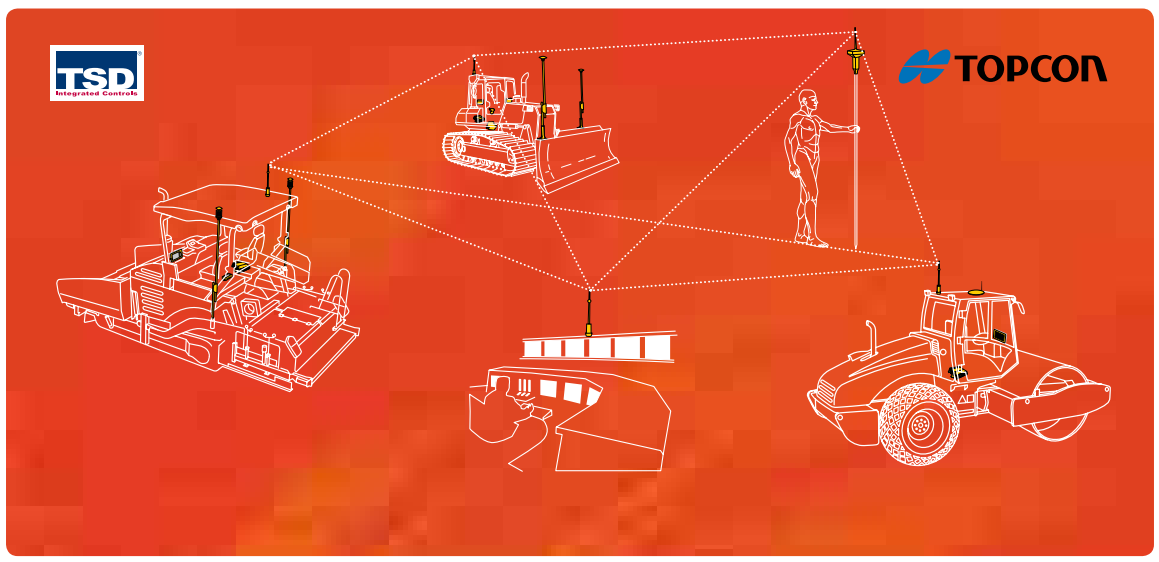


Intelligent software systems for project controllers and infrastructure managers

Connect your world – siteLink®

Topcon offers a glimpse of the jobsite of the near future. A jobsite where communication is the key word. Where information from all instruments and people is centrally stored and accessible for all that are working on site, and where updates are provided and shared in real-time. Instant communication at the touch of a button. And where cost-efficiency is not just a buzz word, but reality.

All signals, all instruments
With the introduction of SiteLink™, Topcon expands its highly advanced products and technologies to bring communications and data network availability to jobsites around the globe.
But it's not just connecting your site, SiteLink™ connects the world! SiteLink is the first to provide complete data control, asset management, theft control, machine tracking and a reporting system in one. Due to its unique wireless mesh radio networking solution, the range and number of users are virtually unlimited, allowing you real-time access and control over all instruments, all progress and all communications on all your sites!

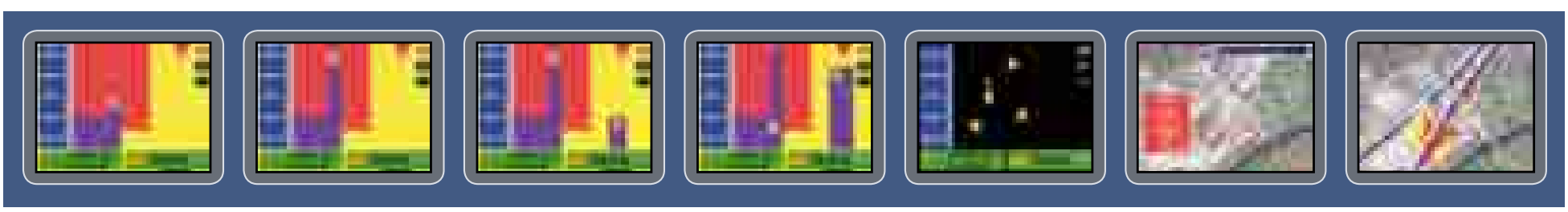


A vast range of possibilities
For each operational unit, different sets of specific information can be programmed and continuously provided to a central database. All this info can then be shared with all those on the jobsite, allowing real-time updates on 'as-builts', proximity information and general machine management tools. In addition the system provides direct text messaging and other communication possibilities and even can serve as a realtime correction provider (GNSS corrections).

Communication capabilities
In addition to processing power, the new SiteLink™ controller offers unlimited communication capabilities via radio mesh networking and by providing Wireless communication such as Wi-Fi, USB, Ethernet and cell phone connections.

Where it all comes together
Combine all information across the line for up to date information on the progress of a project. Share it throughout the process, connect all your assets.

From the very beginning of a project to its finish, over multiple jobsites, you will be on top of progress and manage the result. All job data, all production data Communication to and from surveyors to central control sitelink offers complete site management power.



The Top of the Americas

Resolving a feud over the tallest mountain in the Americas

What does it take for man and machine to measure up to the tallest volcano in the world? Or the tallest mountain in the Americas? In March of 2007 a team of mountaineers and engineers set out to determine within centimetre accuracy the tallest mountain in the Americas and the tallest volcano in the world.

The Andes Mountain range in South America is over 4,400 miles (7,000 km) long and 300 miles (500 km) wide in some parts. It extends from the top of the continent in Colombia through Ecuador, Bolivia and Peru, and serves as the geological border between Chile and Argentina. The Andes is also known for its many volcanoes which range from extinct to very active. With a burgeoning adventure tourism industry, a lot is at stake for the seven Andean countries in identifying and promoting the hot spots for foreign visitors.

Every school-age child in Argentina and Chile can tell you that the tallest mountain in the Western Hemisphere is El Aconcagua in Argentina and the tallest volcano in the world is Ojos del Salado in Chile.

Despite what the textbooks say, there have been bitter disagreements over the titles of "tallest." Chile has long claimed that Ojos del Salado may be taller than El Aconcagua; it is an idea supported by many mountaineers that have scaled both peaks.

Then, surprisingly, in 1996 Argentina claimed that GPS data had confirmed that another volcano, their own volcano, Monte Pissis, was taller than Ojos del Salado, a claim that would make Argentina the holder of the two coveted altitude records. There is little disagreement that El Aconcagua, in the Mendoza Province of Argentina, measures "about" 22,840 feet (6960m). The problem lies with wildly conflicting measurements of Ojos del Salado (in Atacama, Chile) and Monte Pissis (in La Rioja Province, Argentina). Is Ojos del

Salado taller than Aconcagua as some claim? Or, is Ojos del Salado actually shorter than Pissis?

With the support of Chilean Senator Baldo Prokurica, an international team was assembled to scale and measure Ojos del Salado and Pissis to settle the matter once and for all. The method chosen to measure the height of Ojos del Salado was dual-constellation signal reception and the company chosen as the centre of the mission and trusted for millimetre accuracy was Topcon. If the initial climb and measurements were successful, certain members of the team would then move on to climb Pissis in Argentina.

On the 30th of March at 16.00 hours, Omar López started recording data with the HiPer+ geodetic receiver. At the final camp before the summit, he was capturing 10 satellite GPS and GLONASS signals and measured their altitude at 17,355.643 feet (5290 m). The summit team needed to place the Topcon GB-500 receiver at the summit of Ojos del Salado for approximately two hours to assure triangulation. The cold was a concern for the expedition. Lopez, however, was confident the equipment would function properly; after all, he had previously measured 19 summits.

On 1th of April, after acclimatizing to the altitude, the team began the final push for the top of Ojos del Salado. Several team members were suffering from altitude sickness including nausea and vomiting. Outside the tents, the winds were fierce, gusting as high a 75 mph (120 kph.). The temperature had dropped to 30 degrees below zero (–20 c.) overnight. On the final ascent their water quickly froze in the insulated bottles, increasing the possibility of dehydration. Due to altitude sickness and fears of hypothermia, several members of the summit team turned back. The rest, including Schmitt, Philippe Reuter and Juárez pushed on. "This climb was much more difficult than previous expeditions to the Ojos" Reuter was quoted in Andes. It was the cold that made the difference. Even worse, the winds at the summit were so fierce that the receiver had to be jammed between several large rocks to get it out of the worst of the gusts.

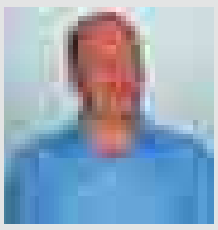
The team understood that, as Takushi Narumi, Latin America South regional manager for Topcon, stated "if it failed at the peak, the expedition would be dead." The equipment worked, and it worked faster than planned. In just 44 minutes the Topcon GB-500 that the three climbers had installed triangulated with strong signals. Finally, the operation was validated and the team could head for the relative warmth of camp. The team had completed what they set out to do.

Ojos del Salado was found to be 22,615 ft (or 6893 m; previously measured at 6934 m) and Pissis 22,280 ft (or 6791 m; previously 6833 m). The data confirmed that Argentina's Aconcagua is the highest mountain in the Western Hemisphere. Chile's Ojos del Salado was confirmed as the highest volcano in the world.

Reuter was extremely pleased that the expedition had accomplished all of its goals in spite of the unexpected difficulties of the weather on Ojos del Salado. Topcon's Narumi stated that the result was, "Better than expected. Our equipment is rugged and reliable in the harshest areas of the world.

AUTHORIZED TOPCON DEALER

NEW!



Dipl.-Ing. Carsten Voß

The company Vermessungstechnik-Nord, was founded in 2002, and has been established as a competent partner for system solutions for the business areas of civil engineering, cadastre and construction.

The team has several surveying engineers and technicians for individual support and consulting for all surveying projects.

This expertise is a guarantee for customized hard- and software solutions from only one supplier. With the start of the INTERGEO 2007 the company Vermessungstechnik-Nord is an authorized partner of TOPCON and is looking forward to a long and successful partnership.

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NEW!

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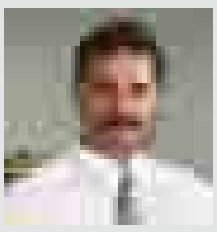

Dipl.-Ing. Gerhard Schmoock

The Schmoock GmbH was founded in July 1993 and has been established during the past 14 years as a competent partner for surveying equipment and services.
The main office is located in Kritzkow, a bit south of Rostock, close to the highway A19 in Mecklenburg-Western Pomerania.

Surveyors in the field are the first contact for all customers. In the own modern service department they service all common surveying tools from different brands. One of the core competences is also the installation and support of machine control systems. Schmoock GmbH is the general importer of paving software and instruments from Roadware in the Netherlands.
Civil engineering, survey companies and cadastre administrations are served and supported by the team with survey and GNSS solutions.

From the 1st of October 2007 the company Schmoock GmbH will be an authorized partner of Topcon and will cover the whole range of Topcon products: laser, totalstations, GNSS receivers and machine control products.

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