

# Leica SmartNet Commercial RTK Network Solution for Great Britain



- when it has to be **right**

**Leica**  
Geosystems

# One person, one GPS receiver, one precise network solution.

## Work Smart, choose Leica SmartNet

Leica SmartNet is the first commercial RTK Network for Great Britain. Leica SmartNet provides an RTK and DGPS correction service for all, not just to Leica Geosystems customers but to anyone with any make of GPS receiver that can accept RTK or DGPS corrections broadcast by GSM or GPRS. So whether you own a Leica Geosystems or other make of GPS receiver you will have equal access to the service.

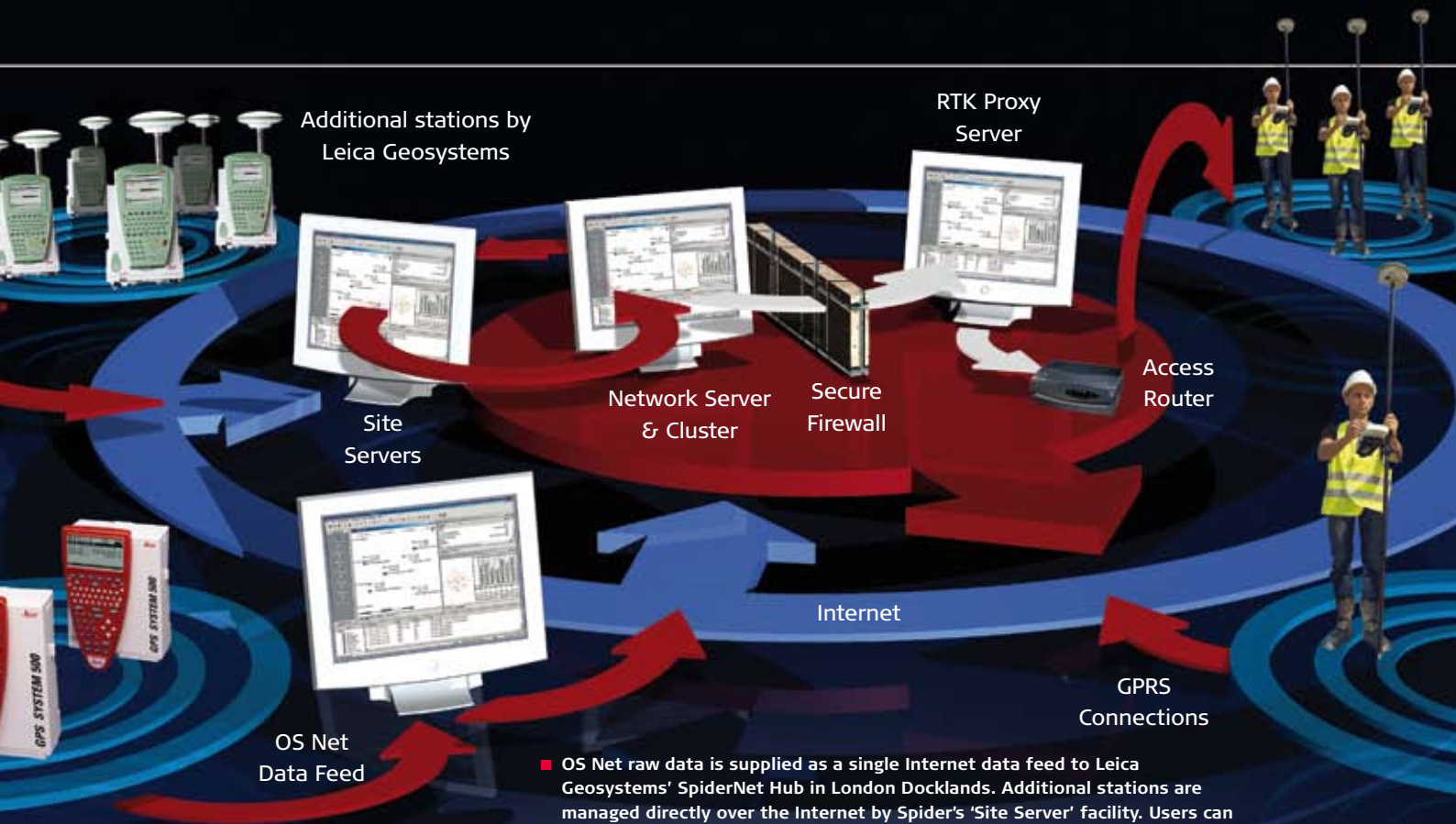
With Leica SmartNet there is no setting-up time for a local reference station, no security issues in leaving the reference station, no transformations needed - and all this without the costs of a reference station and an employee to ensure security. Now, you can perform construction stakeout, topographic surveying, precision GIS data collection and machine control without the stress. Arrive on site, switch on and start working!

What makes Leica SmartNet so smart? Leica Geosystems has become the first company to acquire the raw data stream from Ordnance Survey's 'OS Net', a network of some 90 reference stations around Great Britain, each streaming raw data, second by second, to Ordnance Survey's HQ in Southampton. OS Net is exclusively for use by Ordnance Survey's own surveyors, but as third-party partners, Leica Geosystems takes the raw data stream and calculates its own correction services for widespread commercial use. To add further to the network, Leica Geosystems has joined forces with The Survey Association and other professional partners, and additional reference stations are being installed at key locations, helping to swell the network to a target of up to 150 stations. The extra stations will be used to give greater density and to provide redundancy and the opportunity to use some stations as Quality Assurance monitoring sites.

- **New to GPS? Thinking of purchasing a new GPS receiver? With Leica SmartNet you can now perform RTK operations with the purchase of just one rover. Your investment to implement RTK into your company has just been cut in half.**
- **Leica SmartNet will immediately increase productivity and provide all customers with a strategic advantage to complete projects more efficiently than ever before.**
- **Work Smart - choose Leica SmartNet**

OS Net  
Reference  
Stations





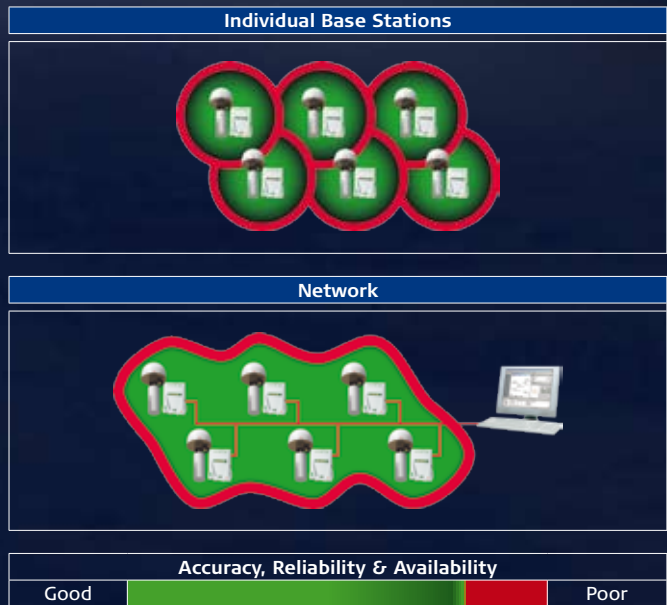
■ OS Net raw data is supplied as a single Internet data feed to Leica Geosystems' SpiderNet Hub in London Docklands. Additional stations are managed directly over the Internet by Spider's 'Site Server' facility. Users can connect to the correction service either by GPRS via the Internet, or directly by GSM comms. SpiderNet's strategic firewall protection keeps the data safe.

## Leica SpiderNet

Leica SmartNet is driven by Leica Geosystems own network software, SpiderNet. SpiderNet's advanced algorithms have the ability to calculate RTK corrections for all types of (RTK) receiver, old or new. The most recent developments in Networks thinking are at the heart of SpiderNet. Traditionally, corrections have been sent out in manufacturer-specific formats, which make a universal correction service impossible. The alternative industry standard 'RTCM' corrections tend to be unwieldy due to the size of each message. Leica Geosystems' developers have been at the forefront of developing a new standard, adopted by the RTCM commission in its version 3 form. RTCM version 3 supports Leica's MAX and i-MAX protocols, which are unique in combining the best correction algorithms in a form that fully satisfies the RTCM principles.

SpiderNet also supplies data in RTCM version 2 to support legacy receivers eg. Leica SR530 receivers.

The result? A correction service of high speed and integrity, delivered by GPRS or GSM phone with equal facility, for use by any RTK receiver capable of picking up its corrections by these transmission media.



■ A network solution gives consistent quality of solution within and beyond the boundary of individual stations acting in isolation



## Leica SmartNet Benefits

### QUALITY

- Same accuracy as a local base station
- High-speed initialisation for RTK solutions
- Redundancy – multiple reference stations, not just one
- Reliability – full mirroring of network services
- Quality assurance -Network integrity monitoring by University of Nottingham

### PRODUCTIVITY

- Perform cm accuracy RTK surveys with one rover
- Eliminates daily base station set-up & potential errors
- Reduces dependency on ground control monuments
- Far exceeds range of conventional RTK systems
- Convert your existing base station into a productive rover

### AVAILABILITY

- "Always on" & 24 /7 monitored service
- Allows subscribers to easily work in various locations

### COST

- Halve the capital investment – no base station!
- Eliminates paying an employee to guard base station against theft
- Reduced insurance costs – less risk

### JUST REGISTER A SIM CARD AND YOU'RE AWAY!

- Just register a SIM card and you're away!  
To take out an annual subscription, all you have to do is register a SIM card with Leica SmartNet, then you can begin real-time precision RTK GPS survey.

## The SpiderNet Docklands hub

The SpiderNet Docklands hub is housed in a Managed infrastructure, permanently manned by support technicians. London Docklands was chosen for its proven reputation as the UK centre for high-speed, high integrity, Internet communications - the first pan-European Internet Peering Point (IPP) is situated here. The site features:

- Security and Surveillance 24/7
- Uninterruptible power supply with on-site diesel generator backup
- Emergency power for three days
- Dedicated, air-conditioned halls for server cabinets
- Redundant Internet connectivity with dedicated dual fibre ring operating at Gigabit Ethernet speeds
- Fire detection system with automated inert gas extinguisher system on each floor.

Surveying the Leica SmartNet way is easy. Step out onto site and start collecting data at survey grade accuracy in no time, working in the coordinate system of choice. The corrections are sent already configured for OS grid, yet any local grid can be defined.

Leica SmartNet is the latest addition to the Smart family of high accuracy solutions provided by Leica Geosystems. The range of smart products work seamlessly with the Leica SmartNet RTK correction service.

## SmartStation



**SmartStation – Total Station with integrated GPS.**

A world first, TPS and GPS perfectly combined! High performance total station with powerful GPS receiver. No need for control points, long traverses or resections. Just set up SmartStation and let GPS determine the position. You survey easier, quicker and with fewer set ups.

SmartStation position coordinates at the touch of a key. With SmartStation you don't need to worry about control points, traverses and resections. Just set up wherever it's convenient, touch the GPS key and let the SmartAntenna do the rest. By dialling-in to Leica SmartNet, a TPS user can have access to OS (and local) control without the knowledge of how to operate GPS, because there is no reference station to set up, and no post processing to do.

RTK determines the position to centimetre accuracy within a few seconds, and at ranges up to 50 km from a reference station, or anywhere within the Leica SpiderNet Network.

## SmartRover



**Cable free, exceptionally lightweight and fully compatible with Leica SmartStation and Leica SmartNet.**

The new RTK GPS Leica SmartRover presents itself as the ideal tool for modern surveying utilising the Leica SmartNet solution.

SmartRover is the lightest cable-free RTK GPS system in the world and is fully compatible with Leica SmartStation, the world's first total station with integrated GPS. Use SmartStation to position your total station and then transfer the SmartAntenna and continue RTK GPS surveying with the SmartRover. Enjoy outstanding performance at a fraction of the weight of current all-on-the-pole systems. Reduce operator fatigue and maximize productivity.

The new Leica RX1250 Controller includes Windows CE and Bluetooth™ wireless technologies. This facilitates direct contact to the office via the Internet to upload/download data to enhance survey productivity. With its integrated CF-card, data can be seamlessly exchanged with Leica System 1200 instruments to provide full X-Function compatibility. Furthermore, Leica SmartRover includes the proven SmartTrack and SmartCheck technologies that deliver the best GPS results with speed and reliability. Leica SmartRover is the perfect companion for demanding tasks.

## System 1200



**Leica System 1200 receivers provide all the flexibility, power and performance needed for every type of GPS application.**

Built to the toughest MIL specifications, they withstand extreme temperatures, the worst weather and the roughest site conditions. Ideally suited for use with the 'always on' SmartNet RTK solution service. To acquire Leica SmartNet corrections, all variants of System 1200 GPS can use a dedicated, Leica MIL spec telephone modem. Alternatively, the user can dial in from their personal mobile phone, be it GSM or GPRS, via cable or Bluetooth.

Whether providing corrections from just a single reference station, or an extensive range of services from a nationwide RTK network – innovative reference station solutions from Leica Geosystems offer tailor-made yet scalable systems, designed for minimum operator interaction whilst providing maximum user benefit. In full compliance with international standards, Leica Geosystems' proven and reliable solutions are based on the latest technology.

Precision, value, and service from Leica Geosystems.

**When it has to be right.**

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