Leica GNSS Spider
Professional Business Solutions for GNSS Networks

Leica
SPIDER

- when it has to be **right**

Leica
Geosystems

Leica GNSS Spider
Scalable Infrastructure Solution

GNSS Spider is an integrated software suite for centrally controlling and operating GNSS reference stations and networks. GNSS Spider is modular and scalable and can be tailored to suit various GNSS surveying, seismic and strucutural monitoring applications.

The advanced SpiderNET solution provides long-range high-accuracy Network RTK and centralized data distribution. The Spider Business Center portal provides powerful and secure access management.

Professional service providers' world-wide count on using the best infrastructure solution for their needs – Join them in using Leica GNSS Spider solutions.

**Efficient –**
Easy to Setup & Configure
Use the setup wizard or simple drag & drop to create new sites and configure networks. With just a few clicks you can create products and services for RINEX logging with quality control and FTP distribution. Likewise, comfortably add real time data services with choice of a variety of communication channels, data formats and authentication methods.

Reliable –
Continuous & Automatic
Once configured and started, all services run automatically and autonomously integrated within the operating system – fail-safe for highest reliability. Data for post processing is continuously archived, monitored and distributed. Rovers connect to various Network RTK or DGPS services for real time positioning using a variety of flexible methods, automatically receiving the best available solution.
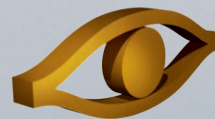
Secure –
Control & Audit
Monitor and control your system locally or from a remote location with no additional tools needed. Control and view online who accesses your services. Receive automatic event Email and messaging on system status any time and any where.

Your Benefits

- Efficient & secure, allowing you to focus on your strengths
- Convenient to use local or remote
- Reduces infrastructure and maintenance costs
- Upgradeable and expandable solution to protect initial investment

Build to your needs now – Be ready for the future

With GNSS Spider you only invest in what is necessary for your current needs. As requirements change and demand grows, it is easy to add stations extending your network coverage or add extra capabilities enhancing your scope of services.

Network RTK Services

Positioning Services

Business Center

Web Portal

SpiderNET – Network RTK
Technology to the MAX

Using GNSS Spider with SpiderNET for continuous network processing provides consistent high accuracy and improved RTK performance over the entire network region. This allows for even larger distances between your reference stations thus covering large areas with a minimum number of stations. Leica MAX Master Auxiliary corrections and other methods, deliver customized services in a wide range of formats with the performance and reliability you need – it's the ideal "Win-Win" situation.

**How it works –
Smart performance and MAX productivity**
The SpiderNET state-of-the-art processing kernel applies the latest in zero-difference processing algorithms and the proven Leica SmartCheck technology to deliver outstanding reliability and performance. The entire process runs continuously and automatically to provide high quality RTK & DGPS corrections in order to maximize productivity in the field. A redundant system as backup or for reconfiguration is easy to setup for ensuring continuous availability without any downtimes.

Network corrections can be provided using the newest standard RTCM V3.1 Master Auxiliary network corrections, as well as a variety of other methods and formats to suit a wide range of rover systems. Using Leica SmartStation, even a Total Station can benefit from the latest in Network RTK technology. Whichever method is used, whatever application you have, SpiderNET offers longer range, consistent accuracy, higher reliability and faster RTK initialization times that will increase your productivity.
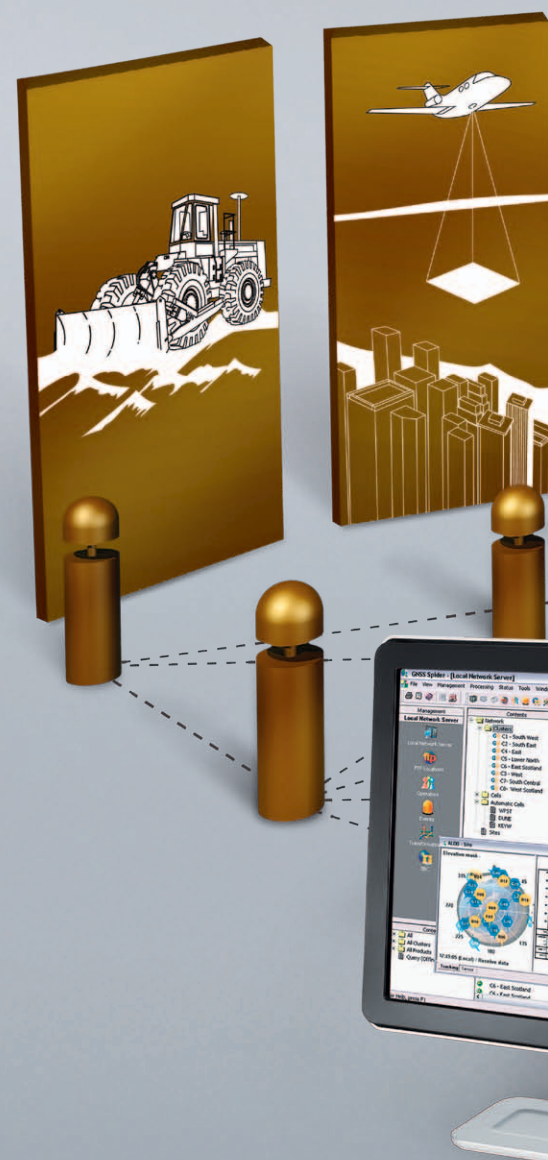
Your Benefits

For the system provider:
- Continuous service even during maintenance periods
- Best reliability with Leica Smart-Check
- Dependable with data processing redundancy
- Live audit of field rovers in map views

For the rover users:
- Increased coverage and availability
- Faster rover initializations
- Higher productivity
- Consistent high accuracy

MAX – Moving with the Standard

Leica MAX network corrections provide superior performance over all other existing known methods for Network RTK, especially when combined with rovers using Leica SmartRTK technology. This method is ideally suitable for bi-directional as well as broadcast only services. Leica MAX uses the only fully industry-approved RTCM V3.1 Network RTK message format – a standard jointly driven by Leica Geosystems – the leader in GNSS Surveying.

i-MAX – Individualized MAX

Leica i-MAX provides individually network corrected RTK data to the rover based on a nearest station in various message formats and is ideal for supporting legacy GNSS receivers. Results are always traceable to a true physical reference station.

Virtual Reference Station

The "Virtual Reference Station" method applies network corrections and transforms the reference data and location to a virtual station near the rover. With a variety of message formats it is suitable for rover systems that support this method.

FKP – Flächen-Korrektur-Parameter

FKP or "Area Correction Parameters" work in both broadcast and two-way communication modes and are suitable for compatible rover systems.

Spider Business Center
Innovative GNSS Service Web Portal

The Spider Business Center web portal is the integrated secure solution for online subscription and management of all GNSS network services. It smoothly integrates GNSS Spider and SpiderWeb services and allows you to complement them with your own value adding benefits.

The Spider Business Center provides you and your clients with tools to view, register and manage real time and post-processing services. It is designed to monitor service usage, to enable exchange of data, to view online network and rover status and assist with support & accounting.
It reduces the time required for administration, thus lowering your operational and maintenance costs. With using the Spider Business Center you can fully focus on growing your business and achieve the best return on your investment (ROI).

Your Benefits
**One solution for all GNSS network services**

- Centralized, convenient and secure internet portal to access and manage your complete service portfolio
- For network RTK, post processing and custom network services

SPIDER
BUSINESS CENTER

- Web based interface enables flexible access at any time from anywhere for both customers and system administrators
- Full transparency for you and your clients regarding current subscriptions and their status

Compose unique Packages
Tailor your individual service offerings into unique value added packages that best match your capabilities, business model and local market needs.

- Use all GNSS Spider & SpiderWeb services
- Add time or geographic attributes to be applied automatically by the authorization mechanisms
- Complement packages with your own benefits
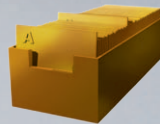
Capture the information that you need
Customer information, including access credentials and service usage information are valuable for your business. The customizable registration form allows you to capture the information from your clients that you require to operate and grow your business. With the Spider Business Center being an integral part of the whole solution, all this information is securely managed in one central location.

Secure & Adaptable
The Spider Business Center portal is based on the proven secure GNSS Spider proxy client-server technology and can be smoothly integrated into existing web portals.

- Web services can be accessed publicly
- All data and authentication services are securely operated inside your LAN
- A central database allows efficient and secure archiving of all your valuable business information
- Flexibly integrate the Spider Business Center into your own website or integrated it with SpiderWeb.
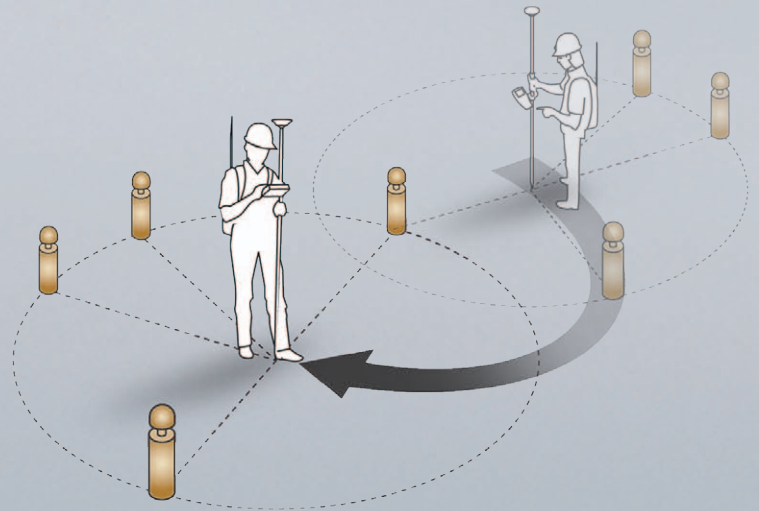
Spider Services
Flexible & customizable
to suit your Application

GNSS Spider provides a highly customizable platform for GNSS infrastructure. It supports applications like surveying and GIS, machine construction, precision farming, hydrographic survey and others with high accuracy corrections in real time or post processing. GNSS Spider can also manage large seismic networks and provide high speed real time monitoring of critical infrastructure such as buildings, bridges, mines and airports. With a modular architecture it can be easily scaled to suit your application and budget, large or small.

SpiderNET RTK Services – Innovation that counts

With GNSS Spider you can provide the correction data using the method, format and communication channel that best matches your customers (rovers) needs and thus allows serving a broad customer community. It supports various industry standard formats like RTCM and technologies such as Ntrip to ensure best compatibility with your client's systems.

**Automatic &
Advanced RTK services**
- GNSS Spider can automatically determine the best station or network cell to suit each rover. Knowing the rover location, the optimum solution is guaranteed even while roaming around the network.
- Always be up to date with RTCM text messaging that provides instant automatic feedback from the network/operator to users in the field.
- Coordinate datum and geoid information is centrally managed and distributed online to rovers. This makes the setup easy for field teams, assists with data consistency and increases productivity in the field.
- GNSS Spider supports an unmatched range of RTK service offerings with a variety of methods, formats, communication technologies and authentication methods.

SpiderWeb – World-Wide-Web-Services

Leica SpiderWeb is an advanced solution for the convenient presentation of your network and comprehensive post-processing data services over the internet.

Value added services – Securely managed
SpiderWeb integrates smoothly with the Spider Business Center for secure registration and login to access its value added services.
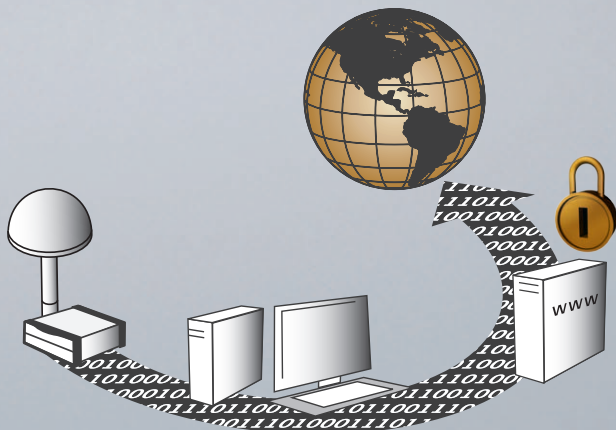
RINEX Jobs Service
Powerful job management functions assist with convenient access and automated data request for longer-term applications.

Virtual RINEX Service
Based on SpiderNET advanced technology, Virtual RINEX allows your clients to benefit from network corrections also in post-processing applications.

Coordinate Computation Service
The automatic coordinate computation service with coordinate adjustment delivers accurate positions based on data uploaded by the client. Results are sent comfortably by email in WGS84 or local datum coordinates.

Spider Positioning Services

Using continuously streamed or periodically down-loaded data, the Spider Positioning module computes station coordinates automatically and continuously in real-time or in post-processing. With proven processing algorithms tuned to monitoring applications, Spider Positioning provides excellent accuracy and reliability even with single frequency receivers.
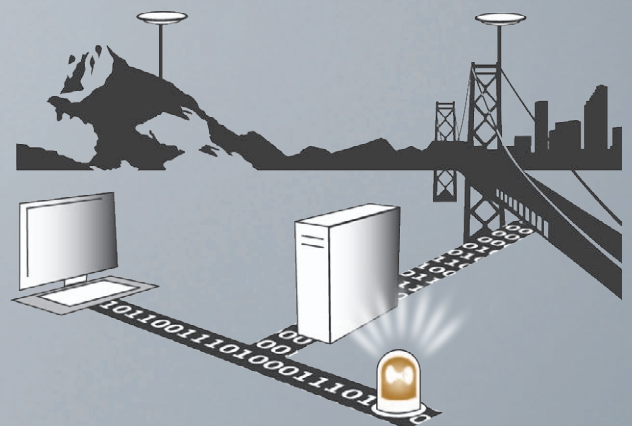
Integrated solution for monitoring applications
Spider Positioning results smoothly interface to Leica GeoMoS and/or Leica SpiderQC for further displacement analysis, integration with other sensors and notifications based on configurable limit checks.

Designed to match your application
Whatever movements you need to monitor Spider Positioning provides the optimum solution in real time or post-processing. Spider Positioning is equally applicable to reference station integrity monitoring and structural monitoring applications such as bridges, buildings, volcanoes, oil rigs, dams and more.

Leica GNSS Spider
Versatile Architecture – reliable and secure

With GNSS Spider you have the flexibility and power to make your infrastructure the way it should be. For RTK networks IT infrastructure is rarely built from scratch. Therefore GNSS Spider is designed to blend into your existing IT environment with minimum installation and configuration effort. Security is crucial for systems exposed to the Internet, and was a key focus when developing GNSS Spider. Thus, GNSS Spider will lower your total cost of ownership (TCO), but not your security.

GNSS Spider – Key Components

* SBC = Spider Business Center
= SQL Database

SpiderQC

SBC* Central Server

Network Server

Firewall

SBC* Web Proxy
SpiderWeb/FTP

Site
Server(s)

Cluster Server(s)
(Network processing)

Flexibility counts
GNSS Spider's modular server architecture allows for compact centralized as well as highly distributed installations with maximum reliability and redundancy. With the stand-alone graphical user interface application supervisors can work at distant locations, even at home, as well as at the main control center. It's easy to arrange a friendly duty schedule that suits everybody perfectly.

Security is fundamental
The unique GNSS Spider proxy server technology provides maximum security for RTK/DGNSS data distribution, as well as for the Spider Business Center and SpiderWeb internet portal services. Secure firewalls can protect the core systems and data, whilst the services are easily accessible from the internet.

Web Service Access

Remote Access

Internet

Firewall

RTK Users

RTK Proxy Server

Access Router

Leica SPIDER

Integrated Solution

Leica GNSS Spider is fully integrated into the Leica Reference Network Solution and the Leica Monitoring Solution.

It works seamlessy with Leica GR10, GRX1200+ series and GMX900 series as well as a range of legacy and third-party GNSS receivers.

Leica GNSS Spider smoothly interfaces to other Leica software solutions such as Leica SpiderWeb for web publishing services as well as Leica GeoMoS and Leica SpiderQC for monitoring and quality control applications.

Software

Antennas
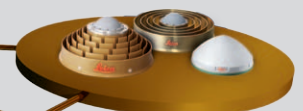
Receivers

Reliability is essential

GNSS Spider servers run as services within the operating system. They are started automatically when the computer is (re-)booted without the user logging in. GNSS Spider architecture supports setups with redundant processing configurations and the built-in watch dog monitors all threads and operations.

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.

Swiss Technology
by Leica Geosystems

TQM
ISO 9001 / ISO 14001

**Total Quality Management –
our commitment to total
customer satisfaction.**

Ask your local Leica Geosystems
dealer for more information
about our TQM program.

ACTIVE customer care

Leica Geosystems' customers benefit
from service and support that spans
time zones and geography. Our Active
Customer Care program has packages
to suit your needs, whether you use
our simplest distance measuring device
or the most sophisticated integrated
solution.

Receivers:
Leica GR10
Leica GRX1200+ Series
Leica GMX902 Series
Leica GMX901

Web Services:
Leica SpiderWeb

Quality control:
Leica SpiderQC

Services:
Leica CrossCheck

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