



Navigation-guided landing

Your success in GNSS Solutions for processing GNSS Data for Positioning, Navigation and Timing (PNT) applications.

Navigation services

For users of GNSS Data

Being involved in the Satellite Navigation business for more than 20 years, we have gained a widely spread portfolio to serve the navigation community.

Satellite Navigation has a tremendous impact on businesses as well as on leisure markets. A multi-constellation GNSS will provide numerous benefits to a huge spectrum of users and will also rise new challenges to system and application developing companies.

Since 1999, we have been involved in carrying out initial market and feasibility studies as well as many significant activities related to the design, verification and validation, deployment and operations of the Galileo system. Based on this heritage, we developed valuable capabilities which will support you to master the challenges on your path towards your success in GNSS.

GNSS PERFORMANCE SIMULATION AND ANALYSIS

For developers of powerful applications requiring navigation signal processing - You want to verify that your application works under various conditions and environments. We reproduce the functional and performance behaviour of GNSS, simulate GNSS service volume and generate simulated GNSS raw data. A variety of deviations from nominal signal propagation can be taken into account, e.g. orbit perturbation models, various grades of satellite clock errors, ionosphere anomalies at defined space and time coordinates and also free space and troposphere effects.

GNSS MULTI-CONSTELLATION AND MULTI-FREQUENCY (MCMF) TESTBED

For developers of GNSS receivers - The Telespazio VEGA GNSS Testbed serves the system level as well as the signal-in-space, the receiver and the end user level. It provides an environment for synthesis of GNSS signals and subsequent signal processing by the receiver. Assessments of multipath mitigation and of application performance with MCMF are only a part of the complete spectrum of our testbed.

YOUR SUCCESS IN GNSS

NAVIGATION SERVICES

FOR USERS OF GNSS DATA

MODELLING AND EVALUATION OF IONOSPHERE EFFECTS

For accurate PNT applications - The physics of the ionosphere has an impact on navigation signals and hence the accuracy of all PNT applications. With our expertise, we evaluate ionosphere effects for your GNSS application and empower you to take these impacts into account. Both the application performance and the end users will benefit from it.



Watch out, accuracy threatened!

INTEGRITY ANALYSIS AND VERIFICATION

For safety-critical solutions - Telespazio VEGA assesses the overall navigation performance of systems by analysing the service availability and integrity. These systems are based on RAIM / ARAIM or differential GNSS systems like GBAS or SBAS. In addition, analyses can be performed on integrity monitoring subsystems.

TEST DATA GENERATION

For system performance studies - Telespazio VEGA provides GNSS raw data (Rinex Observation & Ephemerides files) for tailored scenarios. These enable users to work more easily with challenges in system performance evaluations, such as:

- Enhancements from single constellations to new constellations
- Switch from single-frequency to multiple signal types and multiple frequencies.

Simulated raw data for tailored scenarios are important to gather information and to perform analysis in the case where deploying real receivers is challenging.

A BOOST TO YOUR INNOVATION

For start-ups - Innovation often comes from individuals and start-up companies. Telespazio VEGA is one of two private shareholders of the Centre for Satellite Navigation Hesse (cesah) which has been established to support start-up companies for their market entry. Telespazio VEGA has executive responsibility for cesah, which operates ESA's Business Incubator in Darmstadt, and is currently home to around 20 start-up companies.



**business
incubation
centre**

Darmstadt
managed by cesah