

Finland

National Land Survey of Finland

Safeguarding resilient positioning in Finland with activities strengthening the global geodesy supply chain

“We are relying on resilient positioning allowing us to navigate and create reliable spatial data to fuel innovation and growth. To maintain this, we need to tackle the hidden risks in the global geodesy supply chain and find solutions to alert and mitigate GNSS jamming and spoofing. This is crucial for ensuring a secure and resilient future.”

Pasi Patrikainen
Director General,
National Land Survey
of Finland

Modernisation and research activities in Finland are strengthening the global geodesy supply chain to ensure a precise and stable coordinate reference frame for satellite positioning, navigation, and Earth observation satellites.

The initiatives being delivered by the National Land Survey (NLS) of Finland support the United Nations (UN) resolution for a global geodetic reference frame for sustainable development. They are also part of NLS's contribution to the work of the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) and the UN Global Geodetic Centre of Excellence.

Modernisation of the Metsähovi Geodetic Research Station ensures the on-going link between international and national systems. The Station is part of the global network of geodetic core stations and also the core station for the national GNSS network, FinnRef.

In addition, Finland is taking a leading role in research with the Finnish Geospatial Research Institute of NLS seeking innovative solutions for resilient positioning such as open source multi GNSS software receiver and decoders for Open Service Navigation Message Authentication (OSNMA) and the Galileo High Accuracy Service (HAS).

Software tools allowing the implementation of Galileo's services in GNSS receivers are already available at <https://github.com/nlsfi/HASlib>. These include Galileo OSNMA and Galileo HAS which have been designed for improved protection against spoofing and improved positioning accuracy. NLS also runs GNSS-Finland, a real-time alerting system for GNSS signal anomalies.



To find out more about the research, contact
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More information:
<https://github.com/nlsfi/>



Benefits

- Strengthens the global geodesy supply chain.
- Delivers tools for developing GNSS jamming and spoofing mitigation methods to improve the receiver resilience.
- Provides tools for testing and using the new European Galileo services.
- Enables maximum benefit through the use of open-source solutions.