



ITS 2023, Lisbon

- Prof. Sanna Kaasalainen, Finnish Geospatial Research Institute: Navigation research at the FGI-NLS

GNSS and sensors for autonomous vehicle situational awareness



This project has received funding from the European Union Agency for the Space Programme under the European Union's Horizon 2020 Research and innovation programme under grant agreement No 101004181.



The content of this presentation reflects only the author's view. Neither the European Commission nor the EUSPA is responsible for any use that may be made of the information it contains.



Project Overview

EGNSS-enabled Smart Road Infrastructure Usage and Maintenance for increased energy efficiency and safety on European road networks.

ESRIUM in numbers

3M

EU contribution

5

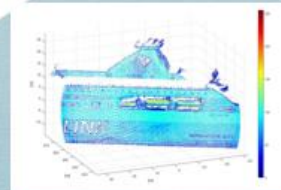
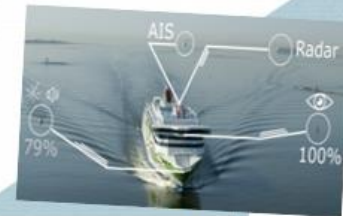
Countries

9

Partners

Resilient positioning for smart mobility

- **Sea:** Autonomous maritime navigation & situational awareness: GNSS + sensors
- **Land:** Positioning for autonomous vehicles, EGNSS-Enabled Smart Road Infrastructure
- **Air:** impact of cyber threats in aviation: detection, mitigation, and localization of threats
- **Pedestrian:** collaborative positioning, sensor fusion



EGNSS-enabled Receiver

CAMERAS

MICROPHONES



FGI-Navi & Galileo

- **Galileo PRS:** FGI-Navi helps Traficom in commissioning PRS in Finland
- **Galileo-HAS:** HASlib decoder - PPP suitable corrections enabling 20cm accuracy
<https://github.com/nlsfi/HASlib>
- **Galileo OSNMA:** FGI-OSNMA - implementation & testing in intelligent transport scenario:
<https://esrium.eu>
- **FGI-GSRx** multi-GNSS software receiver:
 - Jamming detection and mitigation
 - Data fusion with sensor positioning
 - Open-source version: <https://github.com/nlsfi/FGI-GSRx>







May 2023, ITS Lisbon

Thank you!

- Sanna.Kaasalainen@nls.fi





ESRIUM

SAFE AND EFFICIENT ROADS



@Esrium_H2020



Esrium group
Esrium page: @ESRIUM



www.esrium.eu