

# TRAFICOM

Finnish Transport and Communications Agency

## GNSS & AIS Interference in the Gulf of Finland

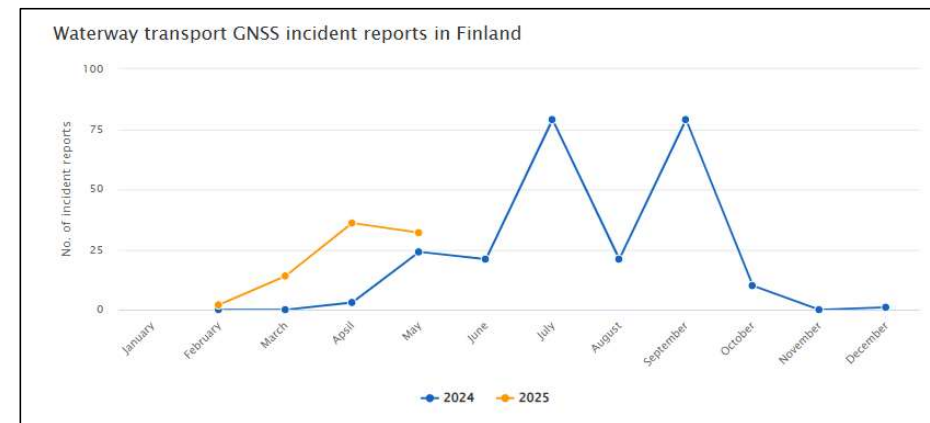
BSMSIWG7

J.Virtanen 18.6.2025



# GNSS and AIS interferences - situation

- ▶ Increasing GNSS interference in the Baltic Sea, especially Gulf of Finland
  - ▶ Recently reported also in the Åland Sea area
- ▶ Serious safety risk to maritime traffic
- ▶ Navigation errors may lead to collisions and groundings
- ▶ Most critical in narrow fairways, low-visibility conditions and winter navigation
- ▶ Several near miss situations – still accidents avoided, thanks to VTS and pilots
- ▶ Older vessels more vulnerable



<https://tieto.traficom.fi/en/statistics/satellite-navigation-service-interference-finland>

# GNSS and AIS interferences

- ▶ Many possible causes of GNSS interference; intentional jamming/spoofing, unintentional interference, atmospheric effects
- ▶ Researchers identified multi-constellation jamming affecting GPS, GLONASS, BeiDou, and Galileo systems
  - ▶ indicating the use of high-power radio equipment capable of disrupting maritime navigation.
- ▶ Also AIS signal manipulation and position spoofing occurs

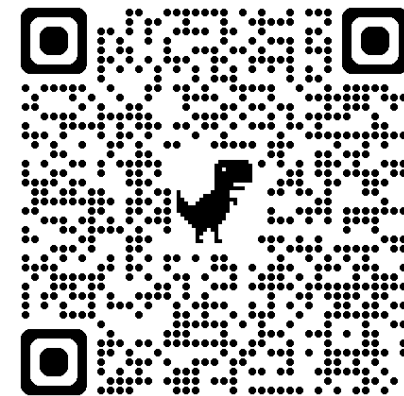
**GNSS jamming** is the jamming or blocking of signals from various GNSS constellations.

**GNSS spoofing** is the transmission of interference signals that imitate the GNSS signals.

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# GNSS and AIS interferences – actions taken to improve mariner's preparedness and awareness

- ▶ Repeated notices in NtM
- ▶ Multiple NAVTEX warnings broadcasted since 5/2024
- ▶ Joint Finland and Estonia implemented Caution Area (CTNARE) in ENC in the area of Gulf of Finland
- ▶ Shared information to stakeholders
- ▶ Shared information on website
  - ▶ Onboard preparation and actions guidelines  
(under section *Preparation and Actions Onboard in GNSS Interference Situations*)



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