MAA-AMET

GNSS interference in Estonia

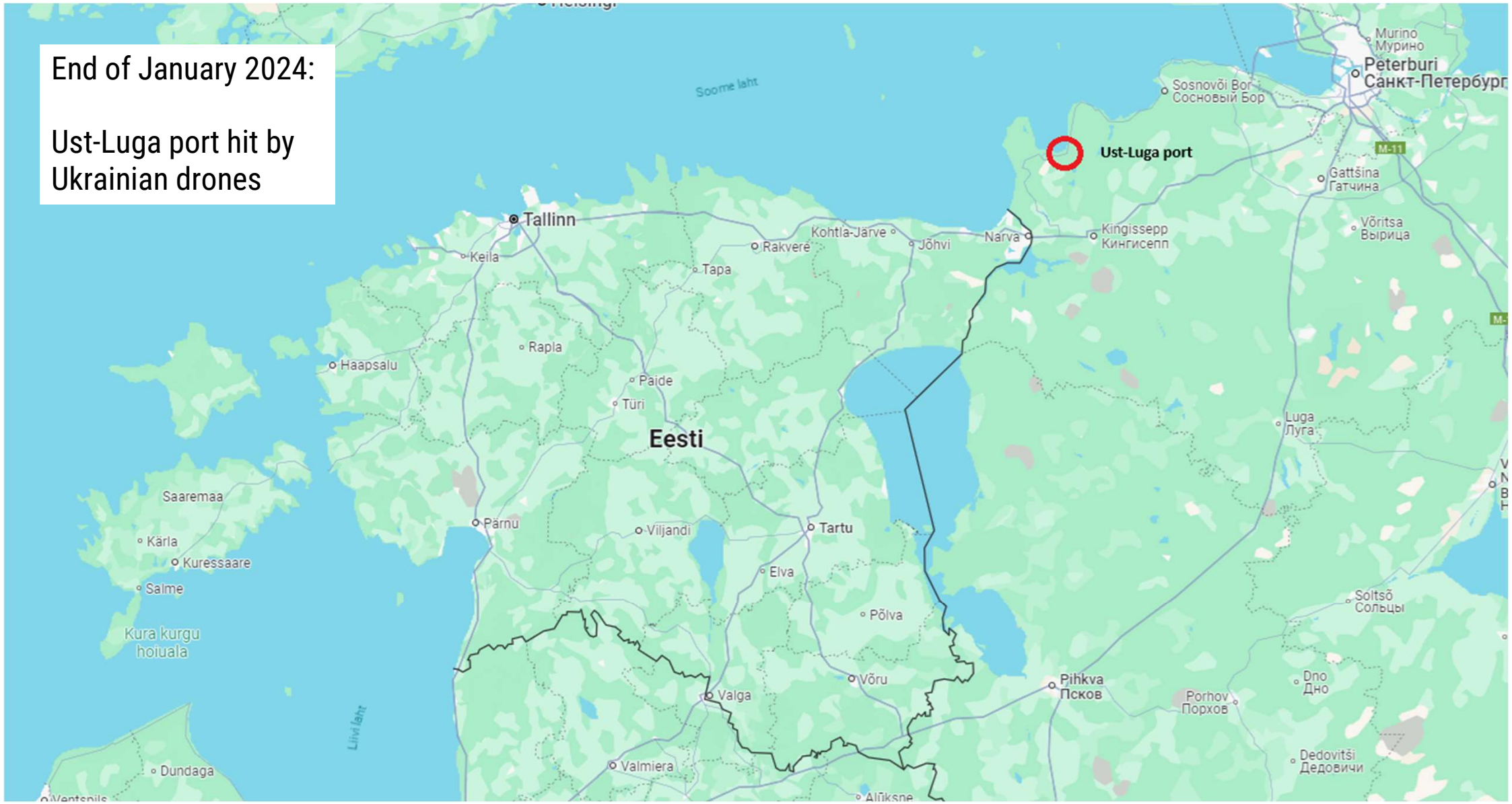
Jaanus Metsar

24.10.2024

EUPOS
European Position Determination System

End of January 2024:

Ust-Luga port hit by Ukrainian drones



End of April 2024:

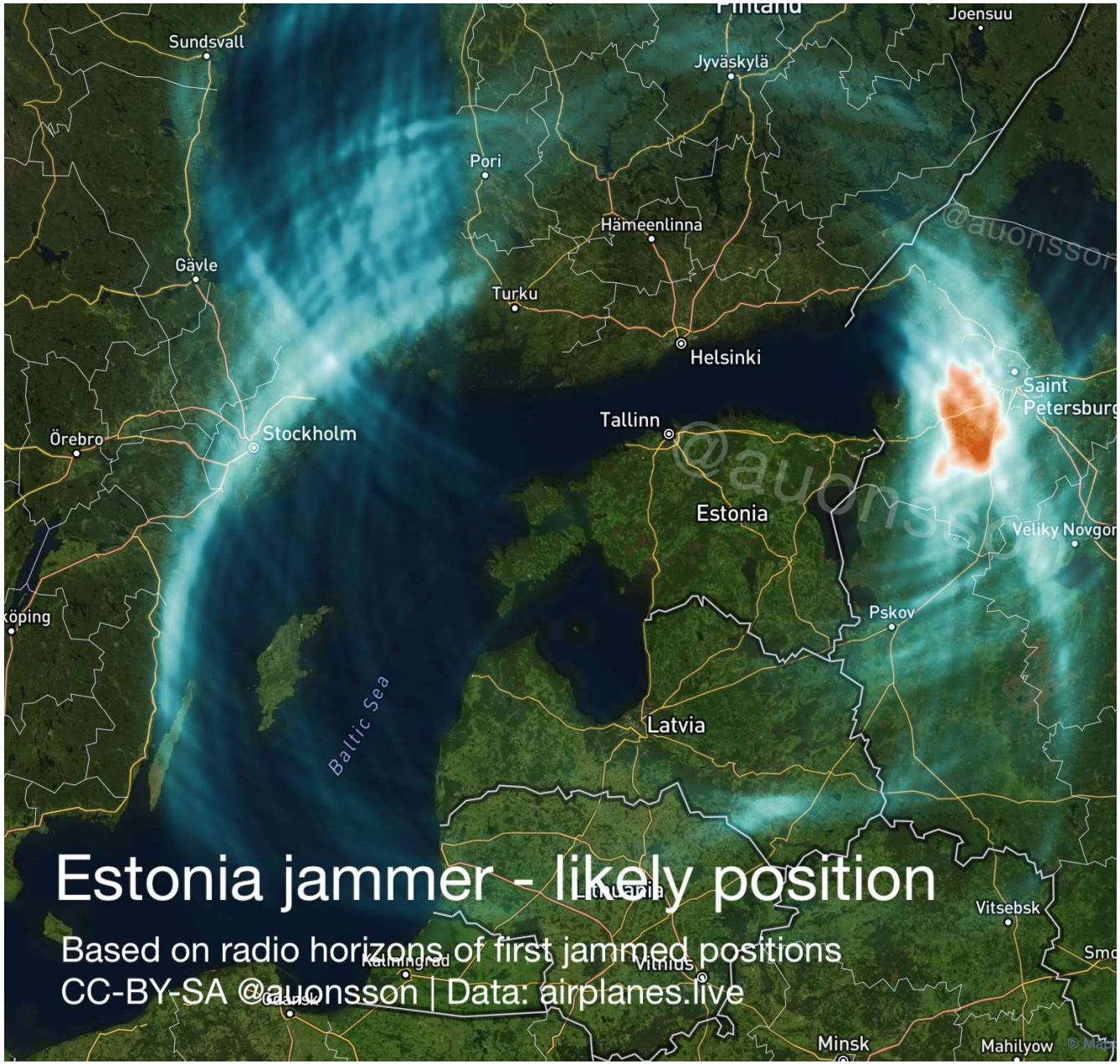
Heavy GNSS jamming detected in Estonian and Finnish airspace

Jammer believed to be near Ust-Luga port

Location confirmed by Estonian and Finnish authorities

Jamming ongoing

All L1 frequency GNSS singnals affected

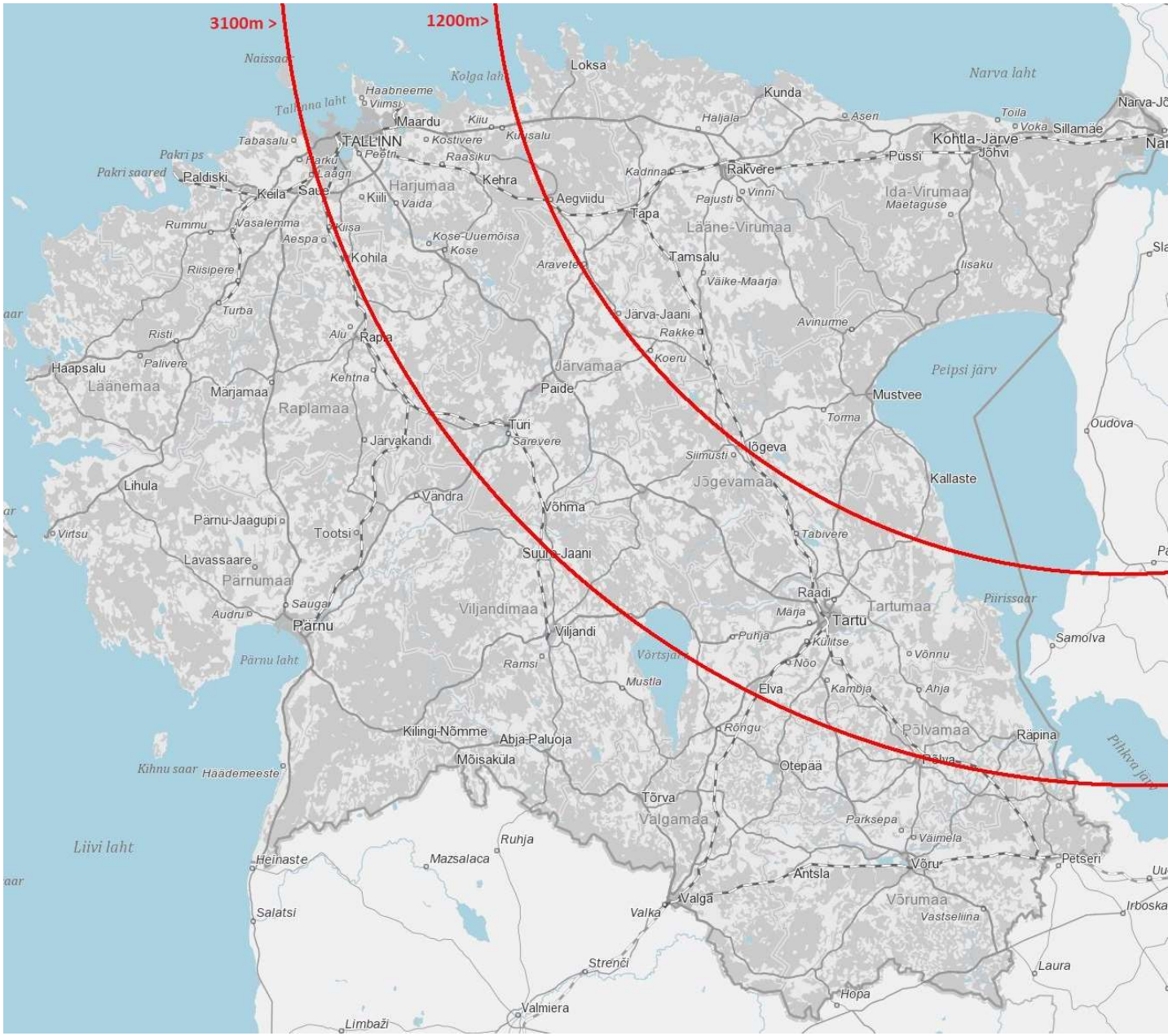


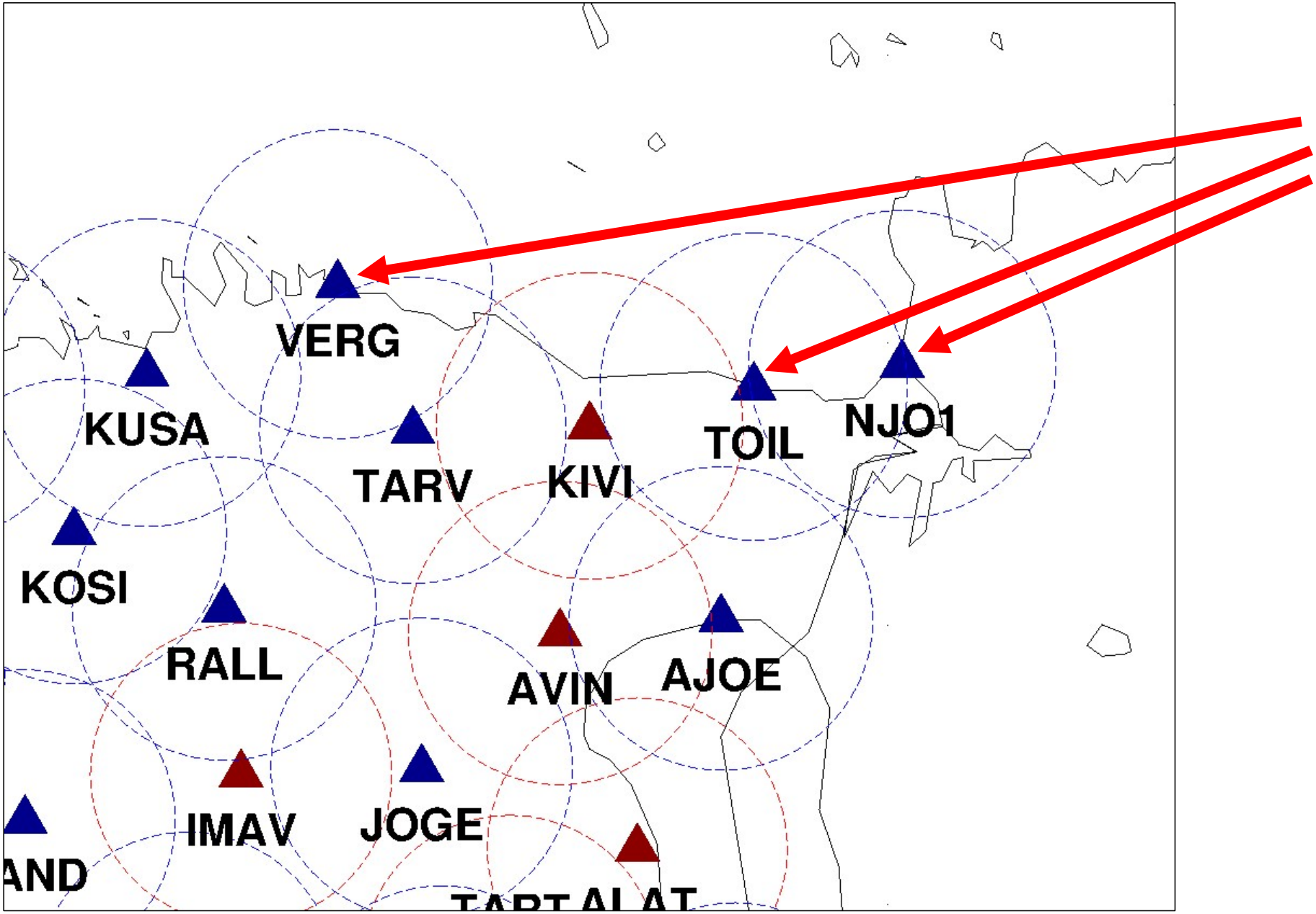
In the spring of 2024 ELB planned to do aerial surveying mostly in the North-Eastern part of Estonia

Some flights could be done on lower altitudes or when jammer was not working

Most of the works had to be canceled

Need of an aircraft certified anti-jamming antenna



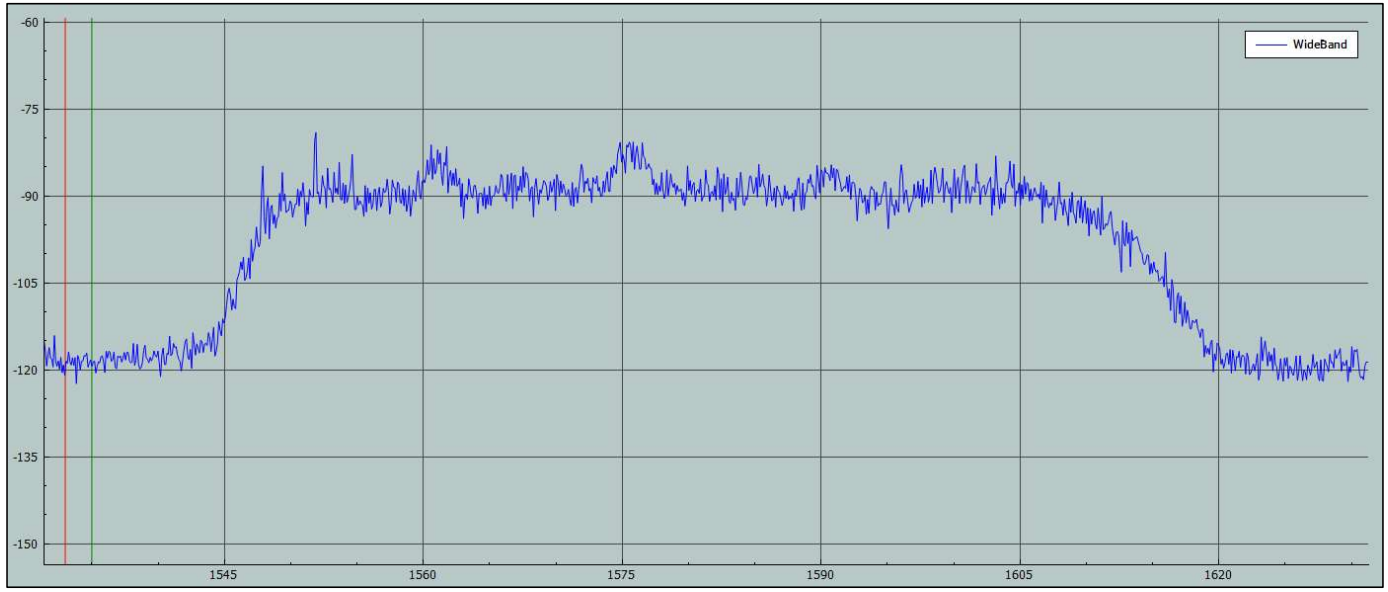

VERG
KUSA
TARV
KIVI
TOIL
NJO1
KOSI
RALL
AVIN
AJOE
IMAV
JOGE
AND

TOIL - ESTPOS
Leica

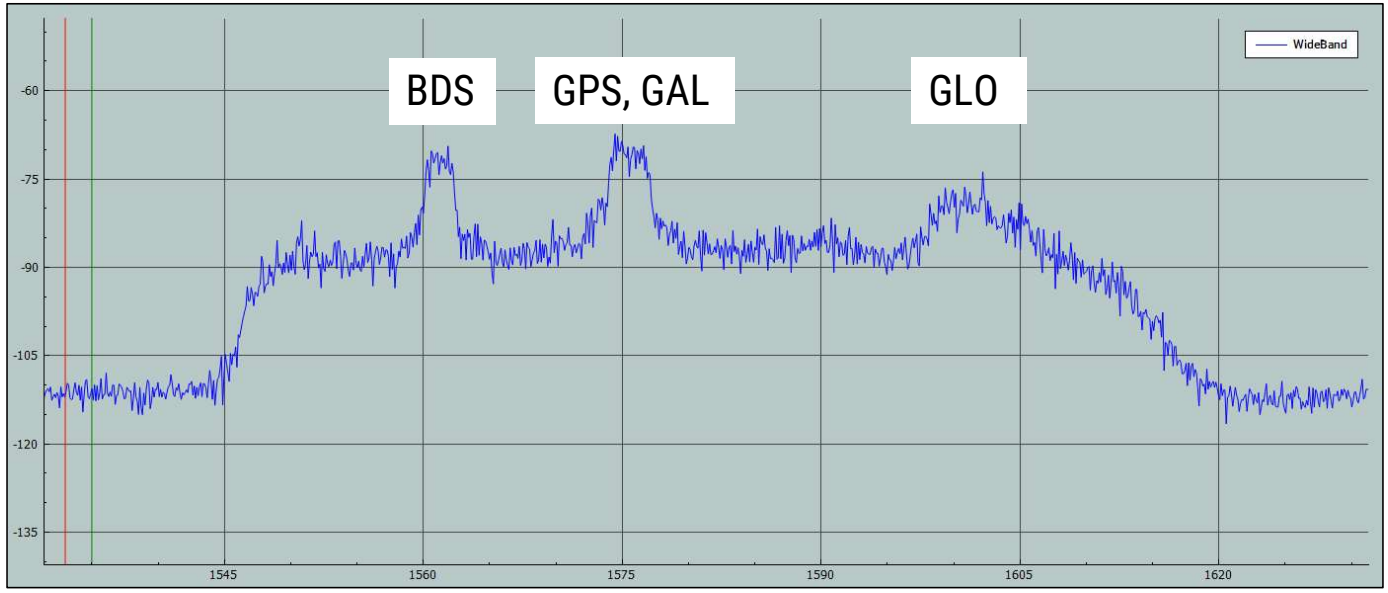
NJO1 - ESTPOS

VERG - ESTPOS

L1 - normal

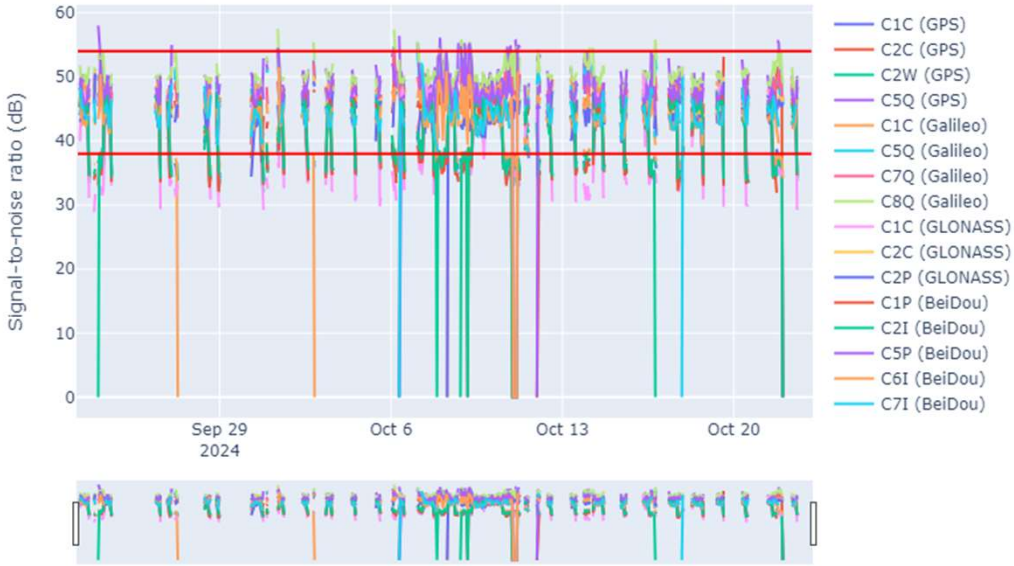


L1 - jammed



Number of observed satellites

Signal-to-noise ratio



Network RTK measurement tests in august 2024

Ca 30 km radius from TOIL station

On the ground the situation is fine

If one station is affected there should be little to no affect on network RTK corrections quality