

There is a need for access to more
robust and less vulnerable multi-
sector PNT-services

Noordwijk, The Netherlands

March 5th 2026

Terje Jørgensen, Norway

I worked with Loran-C and Eurofix in Europe for more than a decade

In 2001 it was actually closer to an end than a new beginning – unfortunately

And I left NELS

From my presentation at the 2001 International Loran Association annual meeting in 2001: “Loran-C in Europe – not the end, but a new beginning”

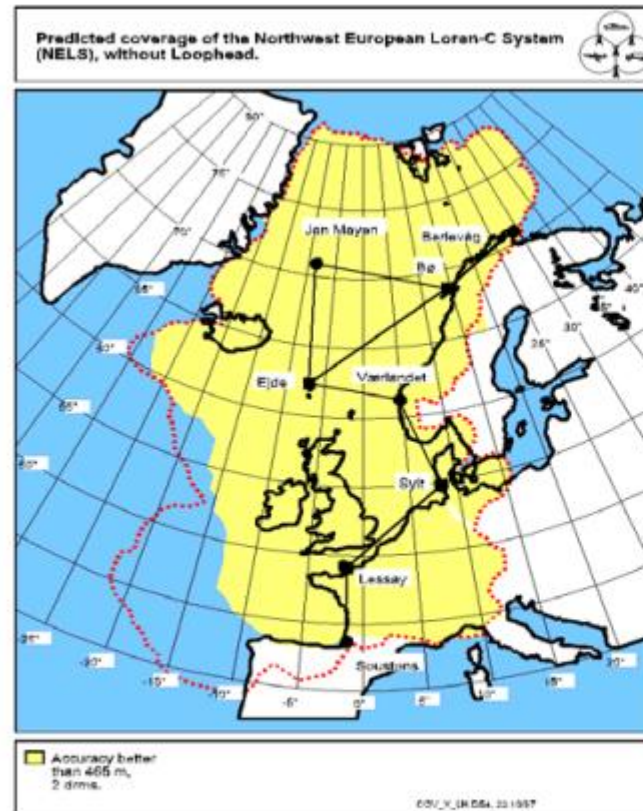


Fig 1 – Current NELS Loran-C coverage

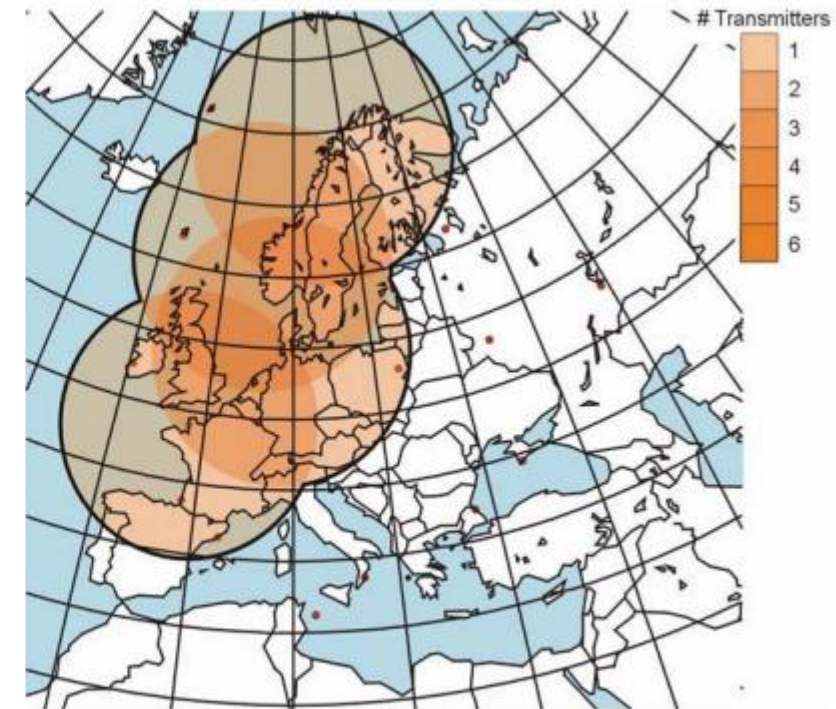


Fig 2 – Current NELS Eurofix coverage

Port director in Kirkenes

- I am responsible for the operation and development of the last Norwegian port to the Northern Sea Route and to Russian waters
- Developing the port to become a transshipment port for goods transported through the Northern Sea Route is a key current task
- A meeting with the port of Busan in the Republic of Korea has been scheduled



GNSS jamming and spoofing in Northern Norway

Pilots flying the Finnmark region see a sharp spike in disturbances of navigation caused by Russian electronic warfare units located on the Kola Peninsula.

All countries in northern Europe bordering Russia are now reporting widespread jamming that could pose a risk to both shipping and aviation.

In the far north, Norwegian Communication Authority says it has received about disturbances to the GPS navigation 44 days in 2024. That is practically every day.

Spoofing and jamming from Kola Peninsula jeopardise safety in Norway

GPS signals are distorted across Norway's East Finnmark region. "Russia intensified the use of jamming and spoofing as it started its full-scale barbaric war against Ukraine," says Barents Observer Editor Thomas Nilsen in this podcast.

Atle Staalesen

18 February 2025 - 17:34



Norway sounded the alarm after it discovered that Russia is spoofing GPS signals in the Eastern Finnmark region. The spoofing comes in addition to the jamming that for more than three years has troubled aviation and other users of satellite navigation in the



Norway Powerless Against GPS Interference - NRK



Dana A. Goward, FRIN President, Resilient Navigation and Timing Foundation



April 27, 2020

Blog Editor's Note: Norway is particularly vulnerable to GPS jamming, not only because of its proximity to Russia, but because it relies of special GPS Special Category 1 approaches to many of its airports where terrain makes an ILS impossible.

It is also vulnerable because it elected in 2015 to terminate its Loran-C network, which was used by maritime and aviation alike, despite pleas from technologists to retain it as a backstop in the event of just this kind of interference.

GPS jamming has become an everyday occurrence for SAS, causing both technicians and pilots to work overtime. Flight safety itself is in no way jeopardised. Very slow adoption of new technology in aviation means that no aircraft relies only on GPS.

Artiklen er ældre end 30 dage

From Finnmark in northern Norway, down across the Baltic Sea and the Baltics, further down along Ukraine and the Romanian and Bulgarian coast along the Black Sea, past Israel and to the right towards Syria, Iran, and Iraq. A long red belt stretches thousands of kilometres across Europe and the Middle East

Kirsten Ullbæk-Selvig

- Kirsten is a former Norwegian Ministry of Fisheries Director General responsible among other things for the Coastal directorate, national PNT-systems and all national ports
- She is nowadays a guest researcher at the Scandinavian Institute for Maritime Law at the University of Oslo
- She is engaged in arranging for
 - ✓ access to robust PNT-services across all relevant civilian sectors
 - ✓ dual military/civilian use
 - ✓ national control of critical PNT-infrastructure – also through multinational cooperation



Terje Jørgensen

- In Kirkenes, we work to identify and implement means to reduce negative effects and risks related to sole dependence on vulnerable PNT systems
- I have recently established an informal cooperation with Mrs. Kirsten Ullbæk-Selvig
- Together, we have access to a substantial national and international political and technological network that we regard as relevant
- Our goal is to contribute to a development in Norway that will reduce PNT-services risks and vulnerabilities

