

UK eLoran Roll-out to Back up Vulnerable GPS

Seven differential eLoran stations will be installed along the south and east coasts of the UK, following approval by the Department for Transport. The stations will provide alternative position, navigation and timing (PNT) information to ensure that ships equipped with eLoran receivers can navigate safely in the event of GPS failure in one of the busiest shipping regions in the world.

The UK claims to be the first in the world to deploy this technology for shipping companies operating both passenger and cargo services. The roll-out, led by the [General Lighthouse Authorities \(GLAs\) of the UK and Ireland](#), will replace the equipment in two prototype stations at Dover and Harwich, and five new stations will be deployed in the Medway, Humber, Middlesbrough, Firth of Forth, and Aberdeen. The GLAs have contracted UrsaNav Inc. for the deployment to deliver initial operational capability by Summer 2014.

Worldwide Attention

Several nations around the world are consulting with the GLAs to benefit from its knowledge and experience of eLoran and other resilient PNT technologies. South Korea, for example, has expressed that it wants to establish an eLoran alliance with the UK while it pursues its own rollout of differential eLoran stations, due for completion in 2015. Last year, South Korea was the victim of a 16-day GPS jamming attack by North Korea.

Today, many devices and applications rely on GPS-based information, including telecommunications, smart grids, and high frequency trading, and it plays a fundamental role in delivering the PNT data that ships rely on to ensure safe navigation. GPS signals are vulnerable to both deliberate and accidental jamming, which is causing increasing concern because of the wide availability of GPS jammers online capable of causing complete outages across all receivers currently on the market.

Longwave Radio Signals

[ELoran technology](#) is based on longwave radio signals and is independent and complementary to GPS. The General Lighthouse Authorities carried out the world's first successful demonstration of a prototype automatic resilient PNT (positioning, navigation and timing) system using eLoran, in trials completed aboard the THV *Galatea* out of Harwich on several excursions between 28 February and 1 March 2013.

Full operational capability covering all major UK ports is expected by 2019.