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UK speeds ahead with rollout of eLoran stations to backup vulnerable GPS

Department for Transport approves implementation of seven differential eLoran stations along the UK coastline

The UK's pursuit of technology to counter the threat of GPS jamming has achieved a significant milestone, and is setting the benchmark across the globe.

It was announced today that seven differential eLoran stations will be installed along the South and East coast 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 is the first in the world to deploy this technology for shipping companies operating both passenger and cargo services. The rollout, 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.

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 for as little as £30 capable of causing complete outages across all receivers currently on the market.

Martin Bransby, Research & Radionavigation Manager at the GLAs, commented, "Demands on marine navigation continue to increase and awareness of the vulnerability of GPS is growing, yet electronic systems at sea have not evolved at a sufficient pace to meet these challenges. Today's announcement is a significant step towards improving safety at sea, but few vessels currently have receivers to take advantage of the new stations. We hope that the maritime industry will respond proactively to the new stations rollout by installing eLoran receivers on more vessels."

Commenting on the announcement, Stephen Hammond, Minister for Shipping, said: "The deployment of seven eLoran stations follows the successful demonstration of eLoran as a resilient PNT technology and puts the UK at the forefront of developments to improve navigational safety. I applaud the General Lighthouse Authorities on this initiative and am keen to see how it benefits mariners when in use up and down the country."

Charles Schue, President and CEO of UrsaNav, commented, "We are very proud to be working with the General Lighthouse Authorities on this project, which is the most advanced of its kind in the world. The number of enquiries we receive about eLoran and other resilient PNT technology continues to increase and we are now approached for further information on a daily basis. Much of this is testament to the example being set in the UK, raising awareness of the need for a robust backup to GPS."

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 28th February and 1st March this year.

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

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