

Maynooth University Opportunity

Providing high performance data links to ships at sea using the Automated Identification System



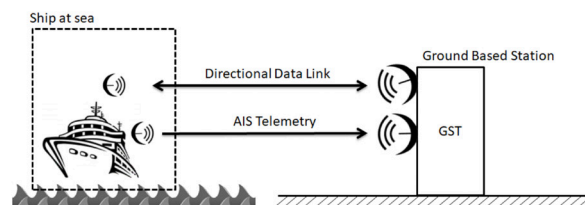
Unmet need:

With the expansion of high capacity sea passenger services there has been an increased demand for high quality high speed data services. High performance radio data links at long distances require very precise pointing (sub 1 degree). In the scenario of a mobile unit, this becomes very challenging. Existing systems are either weather dependent or expensive.

Our Solution:

We have developed a means of dynamically pointing a high-performance narrow radio beam to a moving ship that is offshore. The heart of our invention is in utilising the existing ship transmission of its location (latitude and longitude) and heading via the AIS standard and incorporating sensors to capture roll, tilt and rotation of the ship. These different telemetry feeds when combined with some signal processing algorithms can be used to point a stabilised pointing unit (a robotic unit that can rotate and tilt, stabilised means that it counteracts angular movements) to the right direction. The system allows a more rapid feedback of data via a formed link, as well as depending on the AIS system. This system uses an existing mandated system that previously was either not considered or deemed to be

unsuitable for dynamic traffic for narrow communication beams. By availing of this system, we can significantly reduce cost and complexity by utilising existing systems, enhance reliability as AIS transmissions are long range VHF signals with excellent propagation characteristics (over 30km), thus enabling the use of high gain antennas.



Development Stage:

Stage 3: Prototype demonstrated.

What is sought:

We are looking to attract potential licences to productise the technology.

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Intellectual Property:

Patent application filed (WO2020016295) and in progress. Details can be found here: https://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20200123&DB=EPODOC&locale=en_EP&CC=WO&NR=2020016295A1&KC=A1&ND=4

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Development Stages of Opportunities

