



TMS

SUPERFAST COMMUNICATIONS TERMINAL FOR USE ON BOARD SHIPS AT SEA

The TMS project aims to meet the superfast communication needs of users on board ships and various installations in coastal zones covered by public or private LTE base stations (fishing boats, leisure craft, scientific vessels, wind farms, coastguard, search and rescue service, etc.) as well as in harbour zones (video transmission for crane operators, etc.).

The performance obtained by the TMS terminals during the project exceeded the targets set, with LTE connectivity being recorded and maintained up to 20 nautical miles.

The technological solution developed during the TMS project involves a comprehensive system featuring a transmitter receiver, adapted antenna systems and optional network core. These technologies are transposed from those for LTE but adapted for users at sea: mechanical resilience, resistance to humidity and salt atmosphere, etc., and the highly specific conditions associated with wave propagation above the sea surface are taken into account. For optimum communication to be maintained, the antenna systems have therefore been improved: adapting of radiation patterns, mechanical stabilisation or electronic pointing.

The TMS terminals allow users to connect to 20 MHz bandwidth LTE (around 800 MHz) and 7 MHz bandwidth (around 2.6 GHz) and thus enable communications of more than 10 Mbps for distances over 10 nautical miles.

In response to potential users' diverse needs, two terminals linked to different antenna systems have been developed: a low-cost system that responds to the expectations of the general public and a more robust system designed for marine industry professionals.

The TMS system was demonstrated at the start of the Route du Rhum ocean yacht race in October 2014, in particular for relaying video images captured of the mid-point of the race.

One of the project's partner companies, MVG, launched its own product NeptuLink at the end of October which will guarantee 4G equivalent speeds up to 20 nautical miles from the coast without the use of satellite links. MVG NeptuLink units are now being tested by the company Océane on board its passenger ferry service between the mainland and the islands of Morbihan, by Pen Ar Bed and by Ifremer.

Spin offs and future developments

2 scientific publications (MCC 2013 and EUNICE 2014)

Partners

Companies

Thales Communications & Security,
Gennevilliers [Project Developer]
Alcatel-Lucent, Brest
Déti, Brest
MVG, Brest

Research centers

Ifremer, Brest
IMT Atlantique Bretagne-Pays de la Loire,
Brest

Other partner

Marine Nationale

Funders

Fonds Unique Interministériel
Région Bretagne
Conseil général du Finistère
Brest Métropole

Labelisation

30/04/2010

Overall budget

2 588 K€

Several press articles: Usine nouvelle, Course au large, Echo Nautique, Le Mag, Les Echos, Course au Large, etc.

Participation in the “Loading the Future” awards, run by the cluster Images et Réseaux

Banexi Ventures Partners competitive prize

Grand Prix BPI France