Rijkswaterstaat
Ministry of Infrastructure and Water Management

CFNS
Connectivity Fieldlab North Sea

Digital communication in the North Sea at present is mostly a matter of improvising, as suitable connectivity is limited. This hampers maritime users in their functioning, poses risks and slows down economic and ecological development, as well as the application of technological innovations. As such, it widens the digital divide between land and sea based operations and poses a serious threat to the digital transformation of the North Sea.

Rijkswaterstaat (RWS) initiated the Connectivity Fieldlab North Sea (CFNS) to drive the development of digital connectivity at sea. So that by 2030, people and devices everywhere on the Dutch part of the North Sea will be able to communicate with each other and are properly connected to the internet.

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DIGITAL CONNECTIVITY

More than half of the current 150 oil and gas platforms on the Dutch Continental Shelf will be dismantled in the next decade, eliminating installation points for sensors at sea and the associated communication infrastructure. There is also a growing need for data aquisition, information sharing and edge computing facilities in more and more locations at sea where a suitable digital infrastructure is unavailable now. New solutions and infrastructure must be planned and set up to enable offshore digitalization.

In the meantime, technological developments are going very fast. For example, 5G is now being rolled out on land. But full coverage with 4/5G in the 12-mile zone and beyond is lacking, although technically not a problem. Also, large numbers of satellites are now being launched for global constellations, that will lead to broadband connectivity everywhere.

BASIS FOR INNOVATION

In the fieldlab, governments, companies and knowledge & research institutions work together to investigate and trial new maritime communication possibilities. Through challenges, pilots and proof-of-concepts they investigate which combinations of network technologies are suitable for offshore use and how and where the associated hardware and software can be installed at fixed or floating sites, forming an optimal grid.

MISSION-DRIVEN INNOVATION

The CFNS functions as a mission-driven and open innovation program. With the Offshore Expertise Center of RWS (OEC) as its home base, it aims to develop into a knowledge community and build an ecosystem for all stakeholders that want and are able to contribute to better digital connectivity at sea. Policy makers, techies, students, researchers, start-ups, as well as large and small companies that wants to share their knowledge and experience are welcome to join in validating connectivity solutions in the maritime environment.

At this moment, several studies and pilots are in progress and planned, such as maritime unmanned navigation and beyond visual line of sight (BVLoS) drone flights to open sea, offshore deployment of LTE450 (LTE-M in the 450 MHz band), neutral host Open RAN, private 5G and integrating terrestrial and non-terrestrial communication technologies for mission critical applications.

(INTER)NATIONAL COOPERATION

The Ministry of Infrastructure and Water Management (I&W) bears the coordinating responsibility for the North Sea. That is why we are developing into a public-private partnership to tackle these challenges and contribute to the growing EU Blue Economy.

We invite all stakeholders to find and test the best solutions together. The unique position of our Dutch Continental Shelf implicates cooperation with the neighboring maritime countries. With such a viable ecosystem, the CFNS aims to put the Netherlands on the map as a maritime nation, also for telecom!

DO YOU JOIN US, OR WANT MORE INFO?

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