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Technical Domain / Task Number 2 TD 2 - e-Navigation communications

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Cognitive Networked HF Radio

A secure complement to satellite communications for challenging environments

# Summary

The Cognitive Networked HF (CNHF) radio system developed by a Finnish company KNL Networks [1] is a complete, infrastructure independent, mesh radio network operating in the HF spectrum. The key features of the system include:

* Cognitive radio engine – the system automatically adapts to changing propagation and frequency usage conditions, thereby achieving unprecedented levels of reliability and resistance to jamming;
* Node-to-node communications range of several thousand kilometres;
* Data rates: 700 bit/s to 153,000 bit/s.
* IP-based communications architecture;
* Built-in cellular, WiFi and LAN connections for providing IP-connectivity to other networks;
* Built-in location tracking capability;
* Security - all data, including system information, is encrypted;
* Ease of use and maintenance – Ethernet interface for connecting to a user terminal (PC); remote control and management;

Further details about the solution and contact information are provided in the attached flyer.

It is considered that CNHF could provide data exchange capability beyond the range of coastal VHF Data Exchange System (VDES) stations and in challenging and remote environments such as in the Polar Regions.

## Purpose of the document

The Committee is requested to:

Note the contents of this document and consider the potential of the CNHF technology to meet selected e-Navigation communication requirements.

## Related documents

* *KNL Networks CNHF Flyer*:  
  

# References

[1] KNL Networks, “KNL Networks Home Page,” Sep-2015. [Online]. Available: http://www.kyynel.net/.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)