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Technical Domain / Task Number 2 4.1.1

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FTA Testbed Intelligent Fairway Finland

# Summary

This paper describes a testbed Finnish Transport Agency will run in 2017 and 2018. In the testbed project new data services will be tested together with end users of the services.

## Purpose of the document

Committee is invited to read the document for information purposes only.

## Related documents

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# Background

Finnish Transport Agency (FTA) is planning a testbed project, which aims to develop new services for mariners and other users of maritime data such as pilots, harbour authorities and actors in the logistic chain. In the earlier phase of the development project FTA has defined and implemented methods for collecting and distributing data. In this second phase, its intention is to test how data could be utilized by end-users.

# Discussion

There are several entities of data that can be utilized to improve effectiveness of traffic and safety of navigation and even empower development of autonomous vessels.

## Weather data

Weather related data includes real-time observations and forecasts on air and sea including but not limited to wind, water level, currents, wave height and ice. In co-operation with Finnish Meteorological Institute FTA has developed methods to collect weather related data and defined interfaces to distribute data to users.

## Bathymetric model

Large amounts of survey data has been collected during the last decade using modern multibeam sonar equipment. IHO's product specification for bathymetric data models (IHO S-102) makes it possible to distribute data as product and utilize products in services. Precise bathymetric models together with real-time water level information provides combination of data which can be used by e.g. pilots when planning safe passage of the vessel.

## Remotely operated Aids to Navigation

There are more than 25 000 Aids to Navigation along Finnish waterways. Thousands of them are already equipped with data transfer devices which allow monitoring the state of the AtoN in real time. Recently new types of AtoNs with possibility to remote control has been taken into use. Remote control allows for example to adjust the power of the light to appropriate level according to weather or amount of daylight. Both remote monitored and remote controlled AtoNs can help to improve navigator's situational awareness and behaviour of the fairway and its AtoNs.

## Maritime Safety Information

Maritime Safety Information provided via AIS is a standardized method to distribute safety critical information to mariners in real time. Using AIS all information can be integrated directly to the navigation system of the vessel. Contents of the service can be for example information on weather or water level (see 3.1).

## Testbed project

In the testbed FTA aims to test and pilot services and data products mentioned in chapters 3.1 - 3.4. Testbed will last for two years (2017-2018) and it will be run in co-operation with the industry. Testing and piloting will be started in simulator and continued on board a vessel when results in simulator are satisfactory. In this project FTA will not develop new services but test how new services could be implemented by some third party and utilized by mariners and other users of the data.

Results of the testbed will be reported according to IALA document "1107 Planning and Reporting of e‐Navigation Testbeds".

## Autonomous vessels

Finland's government supports industry's initiative to establish a test area for autonomous marine traffic in Finland. e-Navigation services such as those included in FTA testbed project could provide tools and services to support also tests and operation of autonomous vessels.

# References

1. International e-Navigation Underway 2017, February 2017, Intelligent Fairway Smoothening Path for Autonomous Vessels, Jorma Timonen, Finnish Transport Agency

# Action requested of the Committee

1. This paper is for information only and requires no action by the Committee.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-2)
2. Leave open if uncertain [↑](#footnote-ref-3)