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**□** ARM **□** ENG **□** PAP **□** Input

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Technical Domain / Task Number 2 …………………………………

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**ENSI-project, test-bed for the exchange of route plans in the Gulf of Finland**

# Summary

The Finnish Transport Agency, in co-operation with other stakeholders in the Finnish maritime industry, is testing a service where vessels can share their electronic route plans with the maritime authorities. The test bed is also used for demonstrating means for improved communication of the VTS service portfolio.

Currently the Finnish Transport Agency is running the test-bed in the coastal VTS centres in co-operation with several shipping companies which have regular traffic to Finnish ports.

## Purpose of the document

This paper is submitted to inform the ENAV committee about the on-going test-bed in the Gulf of Finland.

# Background

The ENSI (Enhanced Navigation Support Information) project is a test bed for a two-way electronic navigation service to increase vessel traffic safety.

Development of the service started as a result of an accident in the Gulf of Finland. In this accident that occurred outside of VTS areas, a large crude oil carrier with a draft over 15 meters hit a 13 meter shallow. Accident investigation revealed that the vessel was following its planned route on its ECDIS, but the safety of the route wasn't thoroughly ensured. Although the making a voyage plan is mandatory, detailed information about the plan is only available on board. Distributing this information to the maritime authorities in advance would help to ensure the safety of the plans.

In the ENSI service the vessel's tactical route plan is sent out to the maritime authorities. The safety of the route plan will thus be automatically re-checked. All anomalies or defects in the plan can be observed already at an early stage and the vessel will be notified. The aim is to reduce the risk of human errors made during the route planning.

# Discussion

When using the service, vessels plan their route with ECDIS as usual, and using a simple chart application, they can send the route plan to the VTS centre. Using the same application, they can also submit the information that is required in the report for the mandatory Ship Reporting System in the Gulf of Finland, GOFREP. The aim is to reduce the administrative burden on board and the need for VHF voice communication when vessels enter the area. Ordering a pilot for Finnish ports can be done at the same time.

An automatic safety check of the route will be done when the route plan is received ashore, similarly as should be done on ECDIS by the mariners. The safety check will use the largest scale enc's available from the area. To make sure that the chart material has the most recent information, the system uses automated chart updates.

Several accident investigations have shown that results from the on-board ECDIS safety check can be misunderstood or neglected. The ENSI service provides an additional external safety check done by maritime authorities. The safety of the route is observed and all possible hazards along the planned route will be communicated to the navigator.

The same information is also given to VTS operators. If needed VTSO's will contact the vessel well in advance to make sure that the navigator has taken the observations into account. Parameters used for the safety check have been optimised for the area and may thus differ from the ones that mariners have set on their ECDIS. This will make sure that sufficient under-keel clearance and cross track corridor values are used.

After navigators have sent their route plan, they will be able to easily see if the route plan is safe or if there is a need for altering the route. At the same time navigators can choose other information that will be displayed on the chart. This includes information on weather and ice conditions, ice waypoints, navigational warnings and other information about hazards or anomalies along the planned route. Information provided to navigators can be considered as part of VTS's Information service.

Route plans received from vessels are also incorporated in the VTS centres’ real time traffic image. Detailed information about vessels’ plans helps to detect possible traffic congestions and hazardous situations in advance. VTS operators will also monitor vessels movements along the planned route. Automatic alarms will help the VTS operators focus their attention on areas where it will be needed (e.g. vessel is deviating from the planned route).

The technology used for information exchange between vessels and shore services is developing rapidly. Experiences from the current ENSI test-bed will be used for further development of the route exchange and other e-navigation services, in co-operation with other test-beds in the Baltic Sea area.

# References

1. IALA Strategy Paper on the future delivery of VTS in a rapidly changing domain (approved C60)
2. IMO Strategic Implementation Plan (SIP) for e-navigation

# Action requested of the Committee

The Committee is requested to:

1. take note on this information

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