Input paper: [[1]](#footnote-2) VTS57-9.1.5

Input paper for the following Committee(s): check as appropriate Purpose of paper:

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

**□** ENAV **X** VTS **□** Information

Agenda item [[2]](#footnote-3) 9.1

Technical Domain / Task Number 2 Tasks 2.5.2 and 2.8.1, subtask 2.5.2.b

Author(s) / Submitter(s) Intersessional Group 2.5.2 and 2.8.1

Input from WG2 Intersessional Meeting on Technical Service Specification for VTS Route Exchange Service

# Summary

Technical Working Group (WG2) decided during VTS56 that joint Task Group 2.5.2 and 2.8.1 should work intersessional on Service Specification for VTS Route Exchange Service. Joint intersessional group had an online intersessional 9th December 2024 and face to face meeting in Helsinki 29-30 January 2025.

This input paper describes the work done in intersessional meetings and the identified remaining actions needed to finalise the specification. This input paper includes an updated draft of the Service Specification as output from the intersessional meetings.

## Purpose of the document

The joint intersessional task group requests that the VTS Committee notes the intersessional outcomes as specified in this input paper and take action as specified in Chapter 4 of the document.

## Related documents

The outcome of the intersessional meeting was a new draft of the Service Specification for VTS Route Exchange Service. The draft version 0.7 is Annex A of this input paper.

Other related documents:

Draft Guideline of VTS Digital Communications

IEC 63173-1 “Maritime navigation and radiocommunication equipment and systems - Data interfaces - Part 1: S-421 route plan based on S-100”

IEC 63173-2 “Maritime navigation and radiocommunication equipment and systems - Data interfaces - Part 2: Secure communication between ship and shore (SECOM)”

IEC working paper “Guidance for Route Plan Exchange in S-421 format, Supporting document for mariners”

# Background

During VTS56 Technical Working Group discussed the importance to work on Task 2.5.2.b and develop the Technical Service Specification for VTS Route Exchange towards finalised version promptly. The aim of joint tasks 2.5.2 and 2.8.1 is to complete the first version of the Service Specification during VTS57. It was decided that intersessional meetings were needed to elaborate the draft Service Specification towards more finalised version. One online intersessional for preparation of document and a face-to-face meeting was held on 9th December 2024. The face-to-face intersessional meeting was held in Helsinki from 29th to 30th January 2025 hosted by Fintraffic VTS.

The agenda of the face-to-face meeting included first a short session to discuss Route Exchange data format S-421 related issues as well as proceedings in IEC TC 80, which develops S-421 data model and related ECDIS standards. The remainder of the meeting was dedicated to reviewing the Service Specification and discussing the issues identified within it.

The participants of the face-to-face intersessional meeting are presented in the Appendix 1.

# Discussion

The first day of face-to-face intersessional meeting started with updates and discussions on S-421 Route Exchange data model standard (63173-1). The intersessional group heard updates from participants of IEC working and maintenance groups under IEC TC 80, especially WG17 and MT8. Also, current version of IEC TC 80 WG17’s IEC supporting document Guidance for Mariners (for Route Plan Exchange) was presented by John-Morten Klingsheim from Kystverket.

The intersessional group noted that IEC TC80 has not sent response to IALA VTS Committee liaison note from VTS56 (VTS56-12.3.5 Liaison note to IEC on VTS use cases). Based on information from last IEC TC80 WG 17 meeting in September 2024 the change proposals in the liaison note were mostly rejected by WG 17.

The feedback to the Committee’s liaison note from IEC TC 80 WG 17 meeting can be concluded as follows (IALA liaison note proposal topic in parentheses):

* (Including wheel over point into ActionPointRequiredAction) The wheel over point is calculated approximately but not exactly and can change without changing the route itself. So it is not proper to define the wheel over point in route plan exchange format. The IALA proposal was not accepted in the WG17.
* (Exchanging only changed elements, delta) Sending only changed elements is a visualisation issue and not the route plan issue. The IALA proposal was not agreed in the WG17.
* (Send only suggested route schedule) It is needed to link route and route schedule. It is not possible to send only suggested route schedule. The IALA proposal was not agreed in the WG17.
* (routeWaypointTurnRadius is optional) Because of the safety issues, the routeWaypointTurnRadius shall be specified. The IALA proposal was not accepted in the WG17.
* (Actual time of departure/arrival) Route plan is for planning purpose and IMO ECDIS performance standard only mandates the estimated time, but doesn’t mandate actual time. ATA/ATD is for the reporting purpose. This shall be done with other standards such as ISO 28005 series. The IALA proposal was not accepted in the WG17.
* (Proposal to change XML schema) The schema will be updated and provided with next version of IEC 63171-1. The IALA proposal was welcomed in the WG17.

Most important news from the IEC domain was that IEC TC80 is most likely to prepare new version of 63173-1 (S-421) and 63173-2 (SECOM) for publication during 2025. The participants from IEC TC80 working and maintenance groups emphasised that IEC TC80 would appreciate to see official output from IALA for route-based shore services in order to align the ship-side standards with emerging technical route exchange services. All published documents related to route exchange or technical services from IALA are likely to affect the planned updates of various standards that are under maintenance in IEC TC80 (S-421, SECOM and various ECDIS standards).

Rest of the meeting intersessional group used to review and discuss the whole Service Specification for VTS Route Exchange. In the meeting the content was updated based on discussions in the group. The reviewed version including changes made by intersessional group is in Annex A. The intersessional group identified some sections that need further verification or clarification during VTS 57. These are marked in detail with Word comment tool in Annex A. Some input is needed from operational point-of-view. Intersessional group would like to highlight these issues and request feedback from Operational working group (WG1). The most crucial input needed from WG1 is listed in 3.1 to ensure that the Service Specification for VTS Route Exchange could be finalized as early as possible.

The complete working documents of the intersessional working group can be found from IALA VTS Committee NextCloud under Committees > VTS > Pre VTS57 Intersessional Task Group Meetings > TGs 2.5.2 and 2.8.1 Route Exchange Service (<https://nextcloud.iala.int/index.php/f/329992>)

## Content in the Service Specification that needs operational input

### 3 Operational context

The opening of Section “3 Operational context” in the Service Specification should reflect the intention and guidance of operational VTS experts. WG1 is asked to review current text at the beginning of Section “3 Operational context”. WG1 is encouraged to update it as needed to better highlight the operational background for this technical service.

### 3.1 Use Cases

Following use cases for route exchange in subsection “3.1 Use cases for VTS – Vessel Route Exchange” of the Service Specification need to be clarified.

Use case 2:

* Steps 5a and 5b need to be elaborated further to make the use case more unambiguous.

Use case 4:

* WG1 is requested to consider if it would prefer that when ship shares ongoing plan (monitored route) also past waypoints should be shared from ship to shore.

Use case 5:

* WG1 is requested to consider if sending the whole root is needed in step 3.

Use cases 6 and 7:

* The overall logic should be checked by WG1. Joint task group 2.5.2 and 2.8.1 should suggest updates to these use cases also from technical point of view during VTS57.

Use case 10:

* This use case would need better reasoning to make it more understandable

Use case 11:

* The name of the use case should be reviewed and updated if necessary

### 3.3.1 Requirements

Following requirement texts in subsection “3.3.1 Functional requirements” of the Service Specification need to be clarified.

Requirement RESF007 (Requirements for a valid route received from vessel)

* Fields that refer to draft/air draft are ambiguous. S-421 data model for RouteWaypointLeg contains several fields with draft values. Its is unclear which of these are relevant in the context of this requirement. For example, possible values for draft of the route leg are:
  + routeWaypointLegDraft Planned static draft, maximum
  + routeWaypointLegDraftForward Planned static draft forward
  + routeWaypointLegDraftAft Planned static draft Aft
  + routeWaypointLegDraftMax Maximum draft of the route waypoint leg for all vessels
* Same applies to fields referring to air draft. Possible attributes for this information can be for example routeInfoVesselHeight, routeInfoAirDraftMax or routeWaypointLegAirDraftMax.
* See Table 12 of IEC 63173-1 for complete description of RouteWaypointLeg object attributes for draft and air draft. In addition, the route object itself has some object attributes that contain draft / air draft information

Requirement RESF012 (Requirements for when route has changed)

* The threshold for time change must be defined. (What constitutes such a change in time that route plan should be resent?) Now the requirement has some time limits as an example. These time limits should be discussed and verified by WG1.
* The question about definition of draft for RESF007 applies also to RESF012

Requirement RESF013 (Requirements for retrying operations)

* The timings for retry operations must be defined. Intersessional group proposes 5 minute as timing threshold, but this should be verifier by WG1.

### 3.4.2 Operational Nodes

WG1 is invited to suggest descriptive text for actor or operational node ‘Mariner’ in section “3.4.2 Operational Nodes” of the Service Specification.

# Action requested of the Committee

**The Committee** is requested to:

* Note the work done during the intersessional meetings 9 December 2024 and 29-30 January 2025
* Consider that WG1 could take action during VTS57 to resolve open issues listed in section 3.1.
* Take the outcome of the intersessional group in Annex A as input to be finalised by WG2

1. Annex A

ANNEX A - Draft Technical Service Specification for route exchange 0.7

1. Participants of the intersessional meeting

Intersessional meeting on Technical Service Specification for VTS Route Exchange Service

Helsinki, 29.-30.1.2025

Participants present at the meeting were:

| **Name** | **Affiliation** |
| --- | --- |
| Richard Aase | Norwegian Coastal Administration, Norway |
| Malin Dreijer | Norwegian Coastal Administration, Norway |
| John-Morten Klingsheim | Norwegian Coastal Administration, Norway |
| Michael Strandberg | Danish Maritime Authority, Denmark |
| Lukas Kussel | Federal Waterways and Shipping Agency, Germany |
| Wim Smets | Agency for maritime and coastal services, Flemish government, Belgium |
| Minsu Jeon | IALA Secretariat |
| Per de Flon | Swedish Maritime Administration, Sweden |
| Dmitry Rostopshin | DiNav Marine Ltd., Finland |
| Ramin Miraftabi | Fintraffic Vessel Traffic Services Ltd., Finland |
| Sirpa Kannos | Fintraffic Vessel Traffic Services Ltd., Finland |
| Juho Pitkänen | Fintraffic Vessel Traffic Services Ltd., Finland |



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