Input paper: [[1]](#footnote-1) VTS58-9.1.1

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-2) 9.1

Technical Domain / Task Number 2 2.5.2

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Proposals on the “Service Specification for VTS - Vessel Route Exchange Edition 1.0”

# Summary

This proposal proposes revisions to *the Service Specification for VTS - Vessel Route Exchange* Edition 1.0 from the aspects of updating use cases and functional requirements.

## Purpose of the document

The purpose of this document is to provide input document for the VTS Committee to update *the Service Specification for VTS - Vessel Route Exchange* Edition 1.0.

## Related documents

[1] VTS57-6.1.1 Committees Work programme 2025-2027

[2] VTS53-6.3.2 Development of technical service specifications for digital data exchange between VTS and other entities - primarily ships

[3]VTS54-9.1.3 Proposals on the New Task of "Developing Technical Service Specifications for Digital Data Exchange between VTS and Other Entities - Primarily Ships"

[4]VTS55-9.1.1Proposals on the “Service Specification for VTS Traffic Clearance Service\_V1.0”

[5] VTS56-9.1.1 Proposal on the "Service Specification for VTS Traffic Clearance Service Edition 1.3” and "Service design"

[6]VTS57-9.1.2 Proposals on the "Service Specification for VTS Traffic Clearance Edition 1.4"

[7]VTS57-9.1.1 Proposals on the "Service Specification for VTS - Vessel Route Exchange Edition 0.3"

[8] VTS57-12.3.9 Service Specification for VTS - Vessel Route Exchange Edition 1.0.

# Background

**2.1** The IALA VTS Committee Work Plan 2023-2027 raises the task "*Development of technical service specifications for digital data exchange between VTS and other entities - primarily ships*" (task 2.5.2), and aims to finalize the pioneer technical service specifications before VTS57.*The Service Specification for VTS -Vessel Route Exchange* Edition 1.0 had been finalized at VTS57.

**2.2**  As the co-sponsor of the new work task proposal (VTS 53-6.3.2) at VTS53, China MSA continued to submit "*Proposals on the New Work Task of Developing Technical Service Specifications for Digital Data Exchange between VTS and Other Entities* (VTS54 9.1.3) " at VTS54, "*Proposals on the Service Specification for VTS Traffic Clearance Service\_V1.0*" (VTS55-9.1.1) at VTS55,"*Proposals on the Service Specification for VTS Traffic Clearance Service\_V1.3 and Service design*" (VTS56-9.1.1) at VTS56 , "*Proposals on the Service Specification for VTS Traffic Clearance Edition 1.4*"(VTS57-9.1.2 ) and "*Proposals on the Service Specification for VTS -Vessel Route Exchange Edition 0.3*"(VTS57-9.1.1 ).

# Discussion

## Proposals on updating use cases

For example:

User Case 2- VTS gives route recommendation to vessel within a geographically defined area, which is recommended to consider but not limited to:

* 1. How to handle the situation when potential conflicting recommended routes are recommended by multiple VTSs?
  2. Whether it is necessary to mandate that the status of a route must be "planned" for cases such as a specific route segment of a long-distance route or one or more of the more VTS feeding back beyond the specified time limit, and whether only VTS related to the geographically defined area associated with the waypoints or action points of the current route should be concerned?

Use Case 3 - VTS requests route updates from vessel is proposed to be changed to VTS subscribes route updates from vessel to incorporate the behaviour of proactively sending a route or requesting a new recommended route after a vessel's route changed and, as in User case 2, it is not appropriate to make the status of a route mandatory to be "planned" in this case.

User Case 4 - Vessel´s route changes, it is recommended to fully consider the complexity of the processing logic caused by the unsynchronised timing of feedback from more VTS, it is recommended to consider but not limited to

* 1. Simplify to the VTS that first to sail through and has confirmed the recommended route;
  2. Clarify the initiator of route sharing in the statement "If route goes through a new VTS area, route is shared with new VTS", is the VTS subscribing first or the vessel actively sharing. Considering that vessels can not continuously actively query and thus can not determine whether they are in a new VTS area, and in cases that VTS actively subscribes to the area, the concept of timeliness can not be reflected;
  3. How to handle the situation when potential conflicting recommended routes are recommended by multiple VTSs?

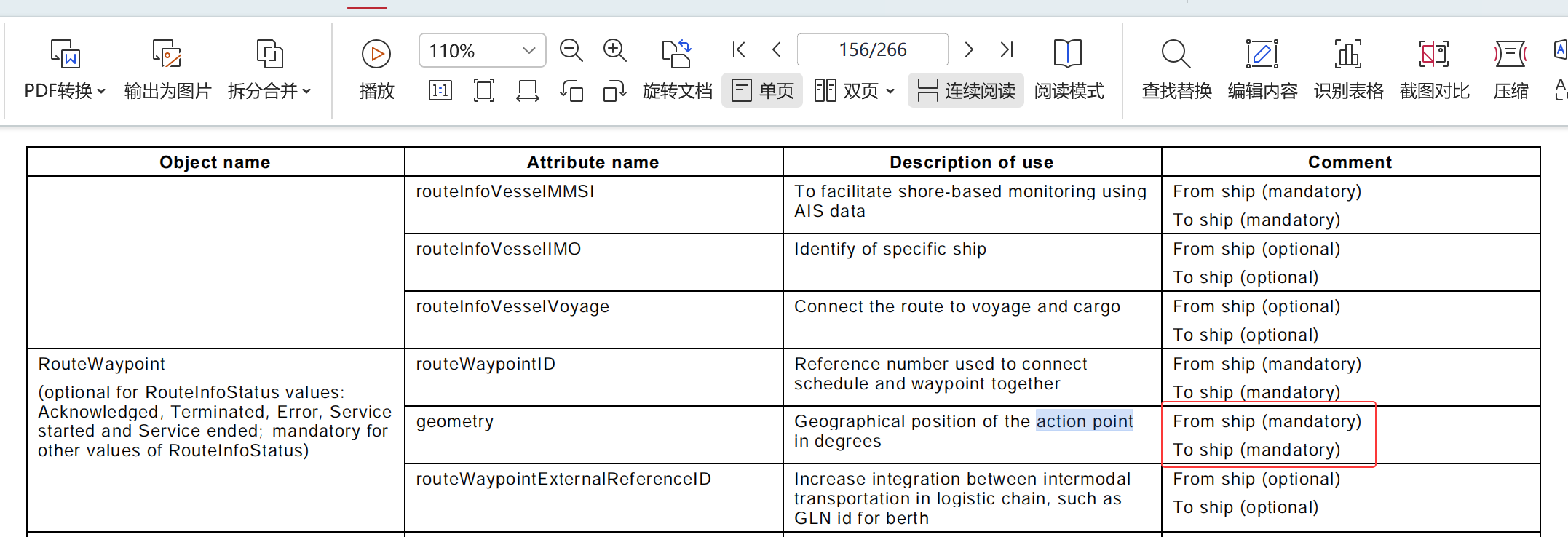
In summary, considering the differences in vessel routes, voyages, and sails, as well as the complexity of long-distance voyages divided into several routes segments, it is recommended that a joint WG (Task 1.3.1 & 2.5.2) comprehensively review and reasonably optimize the user cases, taking into account potential conflicts among recommended routes from multiple VTSs and asynchronous feedback timings.

## Proposals on updating functional requirements

**3.2.1 The evaluation criteria for "VTS area of interest"**

RESF005 repeatedly mentions the determination of whether a route change affects the VTS area of interest. Considering that S-421 does not yet have specific requirements for route and area spatial analysis, it is recommended that the important parameters and application details of the VTS area of interest be clearly specified in RESF004 or other appropriate functional requirements, such as considering the turning radius, a route change affects the VTS area of interest or not is based on whether the route waypoints or action points are within the VTS area of interest, or the line connecting consecutive waypoints or action points plus the turning radius is within the VTS area of interest. Additionally, if the determination is based on the spatial relationship between lines and areas, it is necessary to interpolate and refine the time schedule for the route within the VTS area of interest, which involves complex algorithmic processing logic. It is recommended to conduct a comprehensive analysis and provide a clear, actionable conclusion.

**3.2.2 Action points**

It is recommended to add requirements related to “action point” in RESF007. Firstly, in S-421, “the geographical position of the action point in degrees from/to the ship” is a mandatory requirement. Secondly, this aligns better with the statement of RESF012 regarding route changes: "When the vessel is underway, the route shared must include the waypoint preceding the current leg and all remaining waypoints and action points". 

Add the following statement to RESF008 "The action point is dependent on many factors,many of which may not be known to VTS. Thus it is important to clear the action points for all waypoints that have been created or changed by VTS to require a check and resetting by the vessel. "

**3.2.3 Time rules in RESF012**

It is suggested to update the time rules in RESF012 as follows to avoid ambiguity:

* 1. 6 hours if ETA is between 72 and 168 hours;
  2. 2 hours if ETA is between 24 and 72 hours;
  3. 1 hour if ETA is between 12 and 24 hours;
  4. 0.5 hours if ETA is between 6 and 12 hours.

# Action requested of the Committee

The Committee is requested to consider the proposals in this document and take actions as appropriate.

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