Input paper: [[1]](#footnote-1) VTS49-9.3.3 (VTS48-9.3.3)

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) 9.3

Technical Domain / Task Number 2 Technology/2.3.1(Develop a Product Specification under the S-100 framework for VTS)

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VTS Digital Information Service Product Specification

# Summary

This document is a report of the activities undertaken and gives the status of the draft product specifications that has resulted from these efforts. The Annex 1 (VTS48-n.n.n) is the draft product specification that has been developed.

## Purpose of the document

For the advancement of the VTS Digital Information Service Product Specification (S-212), Request the opinion of VTS Expert.

## Related documents

VTS46-13.3.1 - Maritime Service Portfolios: Digitising Maritime Services

VTS46-13.3.1.1 - Appendix 1 MS 1-3\_merged revised WG 1 VTS46

VTS46-13.3.8 - Develop a Data Model for Digital Information Services for VTS

VTS46-13.3.9 - Annex A - VTS Digital Services

VTS47-3.1.16 VTS-INS product specification

VTS47-3.1.16.1 VTS-INS product specification Annex 1 - VTS-INS product specification

VTS47-13.3.2 WP VTS product specification v060

VTS47-13.3.2.1 WP ANNEX A - VTS-INS Product Specification\_final

VTS47-13.3.2.2 WP ANNEX B - description\_VTS-INS v0.5.2

VTS47-13.3.2.3 WP WG1-WG2 Joint Session Notes about VTS Product Specification version 0.6.0

# Background

The previous VTS 47 Committee Task 2.3.1 (Develop a Product Specification under the S-100 framework for VTS) defined the scope of the VTS INS product specification as VTS all service.

The Korean Register revised the scenarios and data of this product specification based on the VTS Guideline (IALA G1089).

# Discussion

KR has revised the product specification as the scope of the VTS Digital Information Service Product Specification was changed to the entire VTS.

The revision work was carried out as shown in the table below, and the detailed work carried out in each step is described in a separate chapter.

The VTS 48th Committee invites VTS experts to comment and discuss revised product specification.

Table 1 S-212 revision process

|  |  |
| --- | --- |
| **Process** | **Detail** |
| Analysis NAS, TOS | Analysis NAS, TOS based on IALA Guideline(G1089) |
| Requirement Analysis | Analysis service scenario, data requirement and information requirement |
| Scenario Revision | Adapting NAS, TOS requirement to product specification scenario |
| Data & Information Revision | Adapting NAS, TOS requirement to product specification data & information |
| Discussion with VTS Expert | Discussion and Requirement analysis with VTS Expert |

## Analysis Requirement VTS based on G1089

Based on IALA G1089, eight items that need to be reflected in the VTS product specification were identified.

Table 2 G1089 Analysis Result

|  |  |
| --- | --- |
| **Information related to VTS** | **Examples** |
| Request and Identification | availability of NAS, start and end of NAS;  - request for ship identification such as position, course made good and speed over the ground;  - status of ship's equipment; etc. |
| Navigational information (including position and  course information) | Examples provided to an individual vessel:  - provide range and bearing from fixed objects, fairway/channel or way‐points;  proximity to navigational hazards, etc.  - provide information related to navigating into a channel/fairway/lane (i.e. track is parallel / diverging / converging with/from/to reference line); etc. |
| Advice (or instruction) | - advise (or instruct) a ship to alter the course, speed;  - advise (or instruct) to keep clear from area/position, close up/drop back on/from vessels; etc. |
| Warning | Diverging from the recommended track towards dangerous wrecks, obstacles not otherwise promulgated; diving operations; vessels not under command; etc. |
| Traffic clearance | - a VTS sailing plan before entering a VTS area;  - report position at determined reporting point/line/pilot station;  - use a second fairway in case of bad visibility/weather;  - lock and bridge passage planning;  - use a tug boat in case of strong wind;  - dredging or compass swing in confined waterway. |
| Anchorage | - organizing the movements to/from an anchorage position/area;  - assignment of an anchorage position;  - assisting vessels into anchorage position. |
| Enforcement | - speed limits;  - adherence to rules regarding traffic routing measures;  - pilotage requirements;  - other traffic regulations and possibly local by-laws |
| Waterway management  (sea, channels and fairway) | - organizing the traffic concerning vessel dimensions in comparison to fairway restrictions;  - instruct vessels when overtaking is not permitted;  - establish and organise ship safety zones in case of particular operations;  - establish and organise exclusion zones;  - instruct vessels to keep clear from special areas/positions; |

## Requirement Analysis VTS and PS

The requirements identified through IALA G1089 were identified as items that were previously included in the VTS PS and whether they can be reflected only by the information described in G1089.

Among the eight items, 1. Request and Identification, 2. Navigational Information, and 3. Warning items were identified as items included in the existing PS.

*Table 3 Requirement of VTS*

|  |  |  |  |
| --- | --- | --- | --- |
| **MS** | **Information** | **Included in VTS-PS** | **Detail** |
| NAS | Request and Identification | O | - VTS-PS include identifiers in all message  - Information on ship’s position and motion is organized in the model |
| Navigational information (including position and  course information) | O | - Navigational information items are included in S-124 |
| Advice (or instruction) | X | - |
| Warning | O | - Warning items are included in VTS center provide information scenario |
| TOS | Traffic clearance | △ | - Some items are included in Movement report, Entering report |
| Anchorage | △ | - Some items are included in Movement report |
| Enforcement | X | - |
| Waterway management  (sea, channels and fairway) | △ | - Some items are included in Navigational Information / Warning  - Items for VTS operations cannot be included in the data model |

The possibility of reflection in the product standard was analyzed for the remaining four items except for the Waterway management item, which was not expressible in the product standard.

Anchorage items could be implemented using only data contained in the existing VTS product standard and information contained in G1089, but other items (Advice, Traffic clearance, Enforcement) require additional requirements (VTS Expert's opinion).

*Table 4 Compare result*

|  |  |  |  |
| --- | --- | --- | --- |
| **MS** | **Information** | **Can be reflected** | **Detail** |
| NAS | Advice (or instruction) | △ | - Advice message transmission using Message Marker made in the existing model  - Need more requirement about advice message contents |
| TOS | Traffic clearance | △ | - Need more Requirements |
| Anchorage | O | - Apply Assignment within Arrival scenario |
| Enforcement | △ | - Need more Requirements |

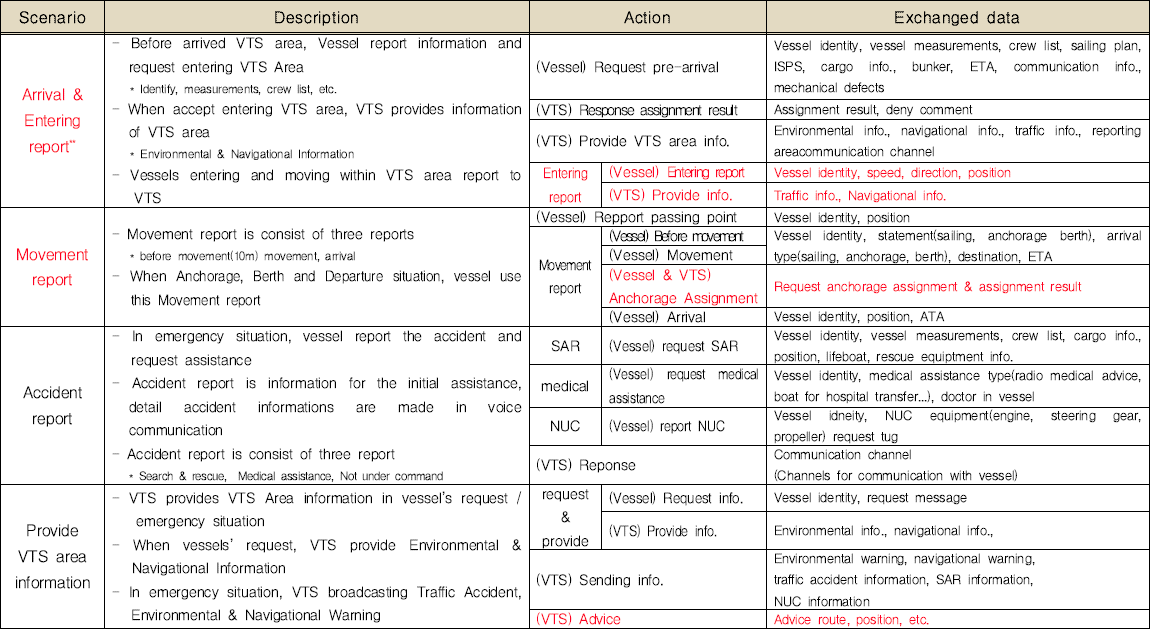
## Revision Result

Scenarios and data models that reflect requirements (3.2).

The result of the revision work is as follows.

* (Arrival & Entering Report) Arrival Report is combined pre-arrival report and entering report
* (Anchorage Assignment) In vessel request anchorage situation, VTS assignment vessel’s anchorage
* (Advice) VTS center can sending advice message to vessel, advice route, position, etc.

*Table 5 S-212 Scenario*





*Figure 1 S-212 Map Scenario*



*Figure 2 S-212 Data Model*

## Request Opinion

In VTS Guideline(G1089)’s requirement is not clear using in VTS product specification.

Request opinion from the VTS Expert on the requirements.

Below is a list of items and questions that require information.

*Table 6 Information about Requirement*

|  |  |
| --- | --- |
| **Information** | **Examples** |
| Advice | (1) advise (or instruct) to keep clear from area/position, close up/drop back on/from vessels; etc. |
| Traffic clearance | (2) lock and bridge passage planning;  (3) use a tug boat in case of strong wind;  (4) dredging or compass swing in confined waterway. |
| Anchorage | (5) assisting vessels into anchorage position |
| Enforcement | (6) adherence to rules regarding traffic routing measures;  (7) Pilotage requirements;  8) other traffic regulations and possibly local by-laws |

(1) Need more requirement\* about advice message contents

\* Course, Position, Speed advise scenario and data requirement

(2) When ship report lock and bridge passage planning, need definition of required data\*

\* VTS center provide data(bridge location), ship reporting and request data(passing point, ETA and etc.)

(3, 7) Need clear information requirements\* and scenarios\*\* for pilot & tug requests

\* When request pilot & tug, Identification of data(mandatory, additional) sent to the VTS center is required

\*\* Pilot & tug request situation, ship & vts centers action

(4, 6) Opinion is needed if this item should be included within product specification

(5) In assist case, what action needed, what informations are provided to ship

(8) Commonly required laws, identification of what is absolutely necessary

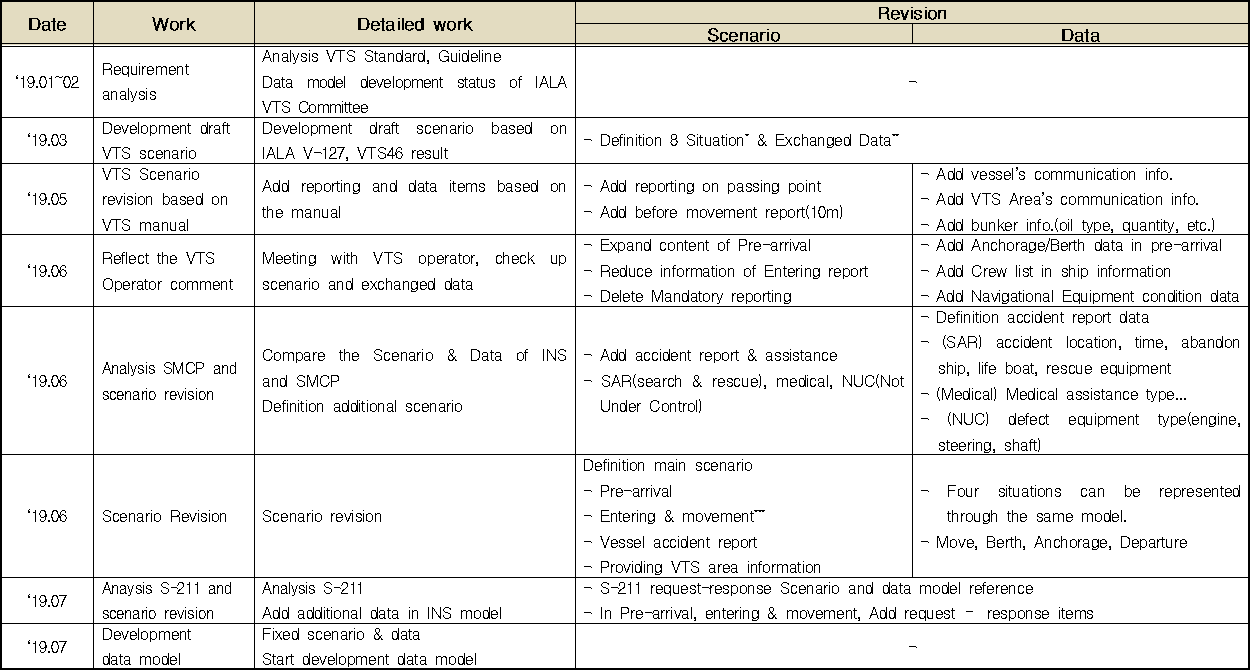
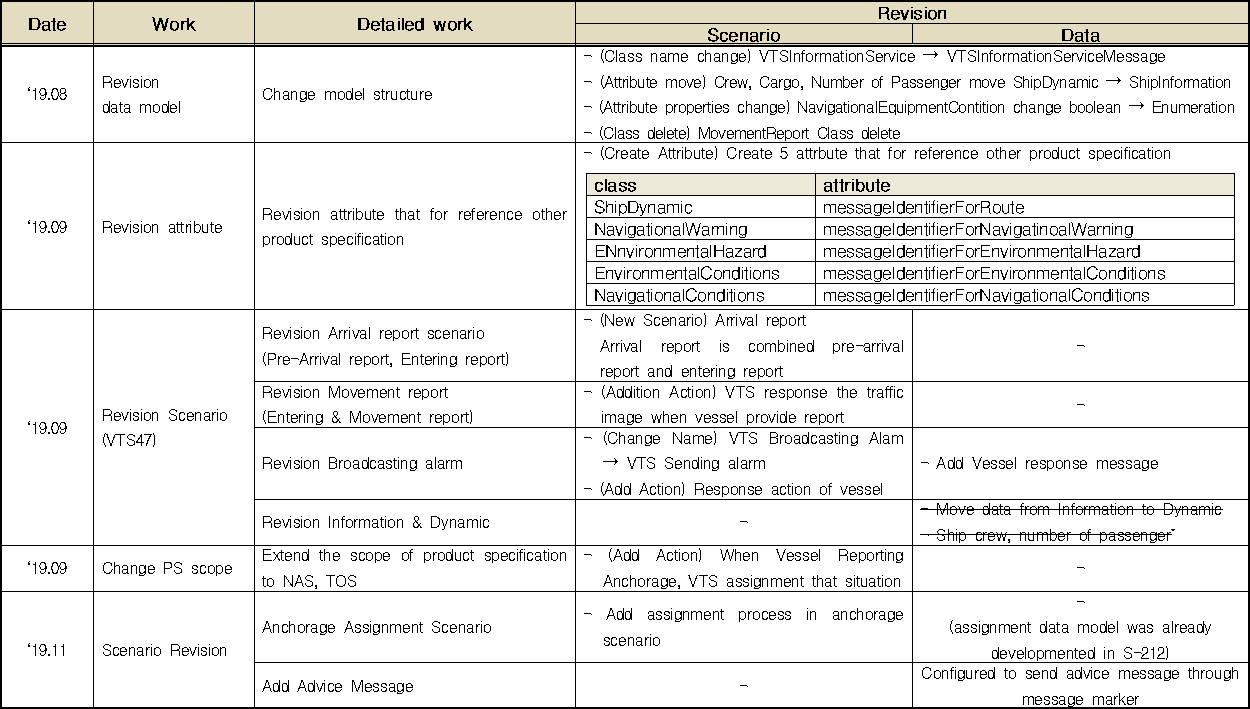
# References

1. VTS46-13.3.1 - Maritime Service Portfolios: Digitising Maritime Services
2. VTS46-13.3.1.1 - Appendix 1 MS 1-3\_merged revised WG 1 VTS46
3. VTS46-13.3.8 - Develop a Data Model for Digital Information Services for VTS
4. VTS46-13.3.9 - Annex A - VTS Digital Services
5. V‐127 - Operational Procedures for Vessel Traffic Services
6. A.918(22) IMO Standard Marine Communication Phrases
7. S-211 Port Collaborative Decision Making Edition 1.0.0
8. S-124 Navigational Warnings
9. S-412 Weather Warnings[[3]](#footnote-3)
10. S-421 Route Plan Exchange

# Action requested of the Committee

The Committee is requested to:

1. Request Comment about S-212 Product Specification
2. Request Opinion about Requirement Information
3. APPENDIX 1. Revision History

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)
3. Title is unconfirmed following a recent split of S-412 into 3 separate specifications. [↑](#footnote-ref-3)