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| From: WG1, Sub Group on VTS Strategy | VTS37-14.2.1.2 Task21\_WP1\_v4 |
| To: VTS Committee |  |

IALA VTS Strategy Paper addressing the delivery of VTS in a rapidly changing world

# Introduction

The IALA Council at its 53rd session approved the proposed task (*VTS34/output/8*) to develop a strategy paper addressing the delivery of VTS in a rapidly changing world.

This Task includes the following actions:

1. Develop an IALA VTS Strategy with regards to the delivery of VTS in a rapidly changing world;
2. Identification of possible implications for IMO Resolution A.857(20) Guidelines for Vessel Traffic Services.
   1. Identify and document:
      1. the strengths and weaknesses of IMO Resolution A.857(20) in setting the framework for the delivery of VTS;
      2. developments in VTS since the existing Resolution was agreed and emerging trends that may be anticipated over the next 10-20 years;
      3. possible limitations to addressing the emerging needs and developments for VTS within the existing provisions of IMO Resolution A.857(20).
3. Provide a draft IALA VTS Strategy Paper outline and requisite Policy Objectives for the development of VTS to meet the emerging needs and developments over the next 10-20 years.

# Background

IALA, through the VTS Committee, deals with all aspects of VTS, including the expanding role of vessel monitoring for maritime safety, environmental protection and security. The Committee aims to develop and review VTS related IALA documentation on issues such as the training of VTS personnel, operational procedures, equipment requirements, the impact on the provision of services, responsibilities, the impact of new technologies and the role of VTS in security and global traffic monitoring systems.

The IALA VTS Manual 2012 (Section 0312) states:

*‘IALA recognises that the trends in maritime operations towards enhanced safety, security, efficiency, accountability and environmental responsibility, together with anticipated technical advances, will result in significant future change. As a consequence and where appropriate, IALA will initiate and lead developments, influence debate, and produce relevant recommendations and guidelines that may impact on the use or management of aids to navigation, including VTS.’*

In progressing Task 10 (Produce Guidelines on the provision of VTS Types of Service) and Task 3 (Review/update/provide input to IMO on Resolution A.857(20) - Guidelines for Vessel Traffic Services) possible shortcomings and differing interpretations in the delivery of VTS in a rapidly changing world were highlighted.

Furthermore the Committee identified the compelling need for a high-level policy document describing the objectives for VTS to meet the emerging needs and developments and the adequacy of the existing international framework for VTS.

# General Principles

To develop the vision for the future delivery of VTS in the next 10 – 20 years, the following principles shall be applied in a VTS Strategy paper

* the development of the Strategy on VTS should fit under the umbrella of the overall IALA Strategy 2014-2026 (approved by Council, December 2013);
* establish a mission statement for VTS based on IALA’s mission statement;
* establish a vision on the future delivery of VTS consistent with IALA’s VTS/overall mission statement;
* establish and define the goals to achieve the vision;
* as the Strategy on VTS follows the vision identify the tasks to achieve the goals;
* the Strategy will focus on “what does the maritime domain expects VTS to deliver and what does VTS deliver now”;
* a strategic approach will be developed for understanding, acceptance and support of IALA’s Strategy for the future delivery of VTS

# 4 Proposed Mission statement and policy objectives for VTS

Based on IALA Constitution(Article 2) and its approved strategy the following VTS Mission Statement has been developed:

*“IALA’s mission for VTS is to foster the safe, economic and efficient movement of vessels and the protection of the marine environment, through improvement and harmonization of the delivery of VTS worldwide in a rapidly changing maritime environment, for the benefit of the maritime community and in support of other services*.”

# 5 Vision

Substantial recent and future changes in the global shipping environment have been identified, such as:

* an increase in the volume of vessel traffic;
* increasing pressure on navigable waters - especially in coastal waters, dense traffic areas and confined waters;
* increasing dependency on interconnected global supply chains - dependencies that may easily be complicated by conflicts of interest or insufficient interoperability between the many stakeholders involved - and
* the rapid development and availability of modern and more efficient technologies;

Due to the increasing role of VTS and its capabilities for information management, given the international nature of maritime transport (*boundaries do not exist anymore*) it is foreseen that:

**“Future VTS services are likely to be adopted from berth to berth to facilitate safe, efficient and economic movement of vessels and protection of the marine environment in a changing maritime domain.”**

Trends, such as globalization and the extensive use of new information and communication technologies have already provided opportunities for enhanced interaction and information sharing, not only between ships and shore-based authorities, but also with and between many other stakeholders in the maritime domain. IALA’s VTS Committee has recognized this and finalized a new Guideline no. 1102 on *VTS Interaction with Allied and Other Services* (approved by Council, December 2013).

The complexity of utilization of the manoeuvrable space for shipping is growing, threatening the “maritime commons”. As a result, safe navigation and accessibility in many sea, coastal and port approaching areas worldwide are increasingly under pressure. This also threatens the protection of the marine environment. The need for proactive management of vessel traffic in these areas is rapidly growing, as well as the need for enhancement of the interaction between ships and relevant shore based authorities.

Managing of operational space from a shipping perspective by evolving Vessel Traffic Services, supported by the capabilities of e-Navigation and its Maritime Service Portfolio developments, and in conjunction with the development of guidelines for Marine Spatial Planning (planned task for the IALA ARM Committee) are seen as a combination how to deal with the challenges ahead, in order to secure future safe and efficient navigation.

Based on the above it is expected that the current tasks and traffic management functionalities of VTS, as reflected in IMO Resolution A.857(20) and in various IALA Guidelines and Recommendations, will extend and be executed in an increasing innovative manner responding to changing user needs and public expectations.

The worldwide harmonized provision of present and future Vessel Traffic Services, their procedures and usage of technologies shall be the ultimate aim, but focus should be kept on two **basic principles**:

* the recognition that worldwide on regional, national or local level circumstances may differ due to for instance geographical circumstances, traffic density and diversity, accessibility, environmental conditions and the position and role of VTS in the maritime domain in a certain area;
* and therefore the determination and decision of which services and on what level they shall be provided to shipping and other stakeholders in their areas of responsibility will remain assigned to the relevant regional, national or local authorities.

IALA is recognized as the most important international organisation providing guidance on how to organize maritime traffic. VTS is recognized as one of the most important instruments for organizing and monitoring marine traffic in all types of areas. Therefore it is IALA’s role to:

* continue the development of all relevant aspects of future VTS, such as organizational, administrative, operational, personnel, training and technical issues;
* subsequently to develop standards on these issues and to prepare proposals for alterations in relevant legislation and rules in support of the appropriate international bodies [e.g. IMO, ITU].

# 6 Goals and Tasks for the development of future VTS

# A general overview of the Goals and IALA’s activities (Tasks) has been refined and are reflected in Annex A.

# 7 A strategic approach for acceptance and support of IALA’s Strategy for the future delivery of VTS

# In line with Article 4 of IALA’s Constitution the organisation will maintain liaison and cooperate with relevant intergovernmental, international and other organisations, offering specialised advice where appropriate.

It is envisaged that a strategy and vision on the future delivery of VTS will have an impact on current legislation, responsibilities of organizations, service provision, coverage, procedures, training and technical infrastructure and equipment.

It is also envisaged that this will affect IMO Resolution A.857(20), which probably will have to be rewritten. In time even a modification of SOLAS V, Resolutions 10, 11 and 12 may be necessary.

Taking into account the (rather conservative) positions in the maritime community, as well as the current workload in the IMO and its relevant Sub-Committees, a top-down process – SOLAS > Resolution A.857(20) > IALA Guidelines and Recommendations – is unlikely and unrealistic and will restrict VTS developments in IALA.

IALA’s role is to continue the development of all relevant aspects of future VTS, in this respect being the “preparatory policy making organization for IMO”. A role which is envisaged by the SG IMO in presenting the concept for a Sustainable Maritime Transportation System.

Therefore a strategic approach has been explored and developed for understanding, acceptance and support of IALA’s Strategy for the future delivery of VTS. This so-called “*gradual* *bottom-up*” approach, reflected in Annex B, may also be used as the main skeleton for a Communication Plan to be developed.

**ANNEX B**

**A strategic approach for acceptance and support of IALA’s Strategy   
for the future delivery of VTS**

As indicated in chapter 10 it is unlikely and unrealistic to expect that, given the circumstances, a top-down process in the IMO – proposed modification of SOLAS >> rewriting Resolution A.857(20) >> development or modification of IALA Guidelines and Recommendations –will lead to success in the years ahead. Such a slow process will restrict VTS developments in IALA.

For tactical reasons a strategic approach has been explored and developed for understanding, acceptance and support of IALA’s Strategy for the future delivery of VTS. This so-called **“*gradual bottom-up*”** approach is reflected in the high-level scheme below.

|  |  |  |  |  |  |  |
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|  |  | After approval in IMO/NCSR proposed modifications SOLAS V to MSC for final approval |  | 2020 | ***IALA Activities*** | |
|  |  | After Council approval document with proposals for modifications SOLAS V to be sent to IMO/NCSR (supported by member states) with the aim for approval | Mar 2019 |  | On-going process of development of new Guidelines and Recommendations or review of existing ones |
|  |
|  |  | After approval in IMO/NCSR “new” Resolution A.857(20) to MSC for final approval | Jun 2018 | Preparation of document with proposals for eventual modifications SOLAS V |
|  |  | Draft “new” Resolution A.857(20) after Council approval to be sent to IMO/NCSR with the aim for approval | Sep 2017 |  |
|  | Inform IMO/NCSR via INF-paper about   the progress and results | | 2017 | Modification or rewriting Resolution A.857(20) based on the developed vision and relevant new or modified IALA Guidelines and Recommendations |
|  |  | Inform IMO/NCSR through the approved INF-paper on the VTS activities and intentions of IALA | 2016 |  |
|  | . | VTS Strategy Paper finalized and approved by Council, also INF-paper to IMO/NCSR finalized and approved | Sep  2015   2014 | Identification of all relevant VTS issues, task overview finalized April 2015 (VTS39), start review process |
| **Start** |  | 2013 | | | VTS Committee started development VTS Strategy Paper |  |

Note: ref Timeschedule - slow decision process in IMO taken into account

**ANNEX C**

**Detailed identification of IALA tasks and deliverables**

= further to be developed =

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| **IALA’s Strategy Goals 2014-2026** | **Relevant VTS Strategies** | **Tasks Work Programme VTS Committee 2014-2018** | **Strategic Goals resulting from IALA Strategy Future VTS** | **Deliverable(s)** | **Delivery** |
| G1 | S1 | T.. - | SG .. - | *Guideline* | *VTS-42* |
| SG .. - | *Recommendation* | *VTS48* |
| SG .. - | *Review Guideline* | *VTS43* |
| SG .. - |  |  |
| T.. - |  |  |  |
| T.. - |  |  |  |
| T.. - |  |  |  |
| S2 |  |  |  |  |
| S3 |  |  |  |  |
| G2 | S1 |  |  |  |  |
| S2 |  |  |  |  |
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Note: based on discussions in Sub-Working Group, using the developed matrix, the above shown new matrix could incorporate all necessary information.

Columns 1 and 2 don’t need further explanation as this is already worked out in chapter 4. In column 3 the agreed WP 2014-2018 for the Committee can be reflected. In column 5 the strategic actions as a result of the development of the IALA Strategy for future VTS can be inserted (e.g. a translation of the issues mentioned in Chapter 7 and others). Deliverables can be a new Guideline, Recommendation, Review of documents etc. The Column Delivery will indicate when the deliverable is expected to be finalized. = **the text in red in the last two columns are just examples** =