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| From: VTS Committee | VTS44-12.1.2 |
| To: ARM Committee | 29 September 2017 |

LIAISON NOTE

Update of NAVGUIDE

# NAVGUIDE UPDATE

The coordinators appointed by the VTS Committee have now completed their review of the VTS related section within the NAVGUIDE. There have been editorial corrections to reflect new and amended Recommendations, Guidelines and Model Courses that have been issued since the last edition of the NAVGUIDE was published.

A word copy of the revisions has been attached as an annex to this Liaison Note. The VTS section on the IALA Wiki has also been updated.

# ACTION REQUESTED

The ARM Committee is requested to:

1. Note and incorporate the changes to the VTS section of the NAVGUIDE

ANNEX

Navguide: Chapter 5 - Vessel Traffic Services (VTS)

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5.12 Summary5.1 Introduction[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=1)]

This chapter provides a first point of reference, basic information and guidance on where more detailed guidance related to Vessel Traffic Services may be obtained.

5.2 Purpose[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=2)]

SOLAS Chapter V Regulation 12 (Vessel Traffic Services) states, inter alia, that:

Vessel Traffic Services (VTS) contribute to safety of life at sea, safety and efficiency of navigation and protection of the marine environment, adjacent shore areas, work sites and offshore installations from possible adverse effects of maritime traffic.

Contracting Governments undertake to arrange for the establishment of VTS where, in their opinion, the volume of traffic or the degree of risk justifies such services. Contracting Governments planning and implementing VTS shall, wherever possible, follow the guidelines developed by the Organization (IMO Resolution A857(20), Guidelines for Vessel Traffic Services (VTS)).

5.3 Definition[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=3)]

A VTS, as defined by IMO Resolution A857(20), Guidelines for Vessel Traffic Services, is:

*“A service implemented by a competent authority, designed to improve the safety and efficiency of vessel traffic and to protect the environment. The service should have the capability to interact with the traffic and respond to traffic situations developing in the VTS area.”*

5.4 IALA VTS Manual[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=4)]

The IALA VTS Manual is acknowledged by the VTS community as being the most comprehensive guide to VTS as well as a point of reference for further detailed study.

The contents are aimed at a wide readership to encompass all who are in any way involved with the policy for provision, operation and effectiveness of VTS, including those with management responsibility at national level and those who deliver services to the mariner.

5.5 Objectives[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=5)]

The purpose of vessel traffic services is to improve the safety and efficiency of navigation, safety of life at sea and the protection of the marine environment and/or the adjacent shore area, worksites and offshore installations from possible adverse effects of maritime traffic.

A clear distinction may need to be made between a Port or Harbour VTS and a Coastal VTS. A Port VTS is mainly concerned with vessel traffic to and from a port or harbour or harbours, while a Coastal VTS is mainly concerned with vessel traffic passing through the area. A VTS could also be a combination of both types. The type and level of service or services rendered could differ between both types of VTS; in a Port or Harbour VTS a navigational assistance service and/or a traffic organization service is usually provided for, while in a Coastal VTS usually only an information service is rendered.

The benefits of implementing a VTS are that it allows identification and monitoring of vessels, strategic planning of vessel movements and provision of navigational information and assistance. It can also assist in prevention of pollution and co-ordination of pollution response.

The efficiency of a VTS will depend on the reliability and continuity of communications and on the ability to provide good and unambiguous information. The quality of accident prevention measures will depend on the system's capability of detecting a developing dangerous situation and on the ability to give timely warning of such dangers.

The precise objective of any vessel traffic service will depend upon the particular circumstances in the VTS area and the volume and character of maritime traffic

5.6 Functions[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=6)]

VTS functions can be subdivided into internal and external functions. Internal functions are the preparatory activities that have to be performed to enable a VTS to operate. These include data collection, data evaluation and decision making. External functions are activities executed with the purpose of influencing the traffic characteristics by means of active traffic management strategies including the provision of information, advice, warnings and instruction.

Amongst the most important functions that a VTS may carry out are those related to, contributing to and thereby enhancing:

* Safety of life at sea;
* Safety of navigation;
* Efficiency of vessel traffic movement;
* Protection of the marine environment;
* Supporting maritime security;
* Supporting law enforcement;
* Supporting allied and other services;
* Protection of adjacent communities and infrastructure.

5.7 Types of Service in VTS[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=7)]

IMO Resolution A.857(20) states that a VTS should comprise of at least an Information Service and may also include others, such as a Navigational Assistance Service or a Traffic Organisation Service, or both.

**5.7.1 Information Service**[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=8)]

An Information Service (INS) provides essential and timely information to assist the on-board decision-making process. An Information Service involves maintaining a traffic image and allows interaction with traffic and response to developing traffic situations. An Information Service should provide essential and timely information to assist the on board decision-making process.

**5.7.2 Traffic Organization Service**[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=9)]

A Traffic Organization Service (TOS) is a service to prevent the development of dangerous maritime traffic situations and to provide for the safe and efficient movement of vessel traffic within the VTS area. A Traffic Organization Service provides essential and timely information to assist the on-board decision-making process and may advise, instruct or exercise authority to direct movements. It concerns the operational management of traffic and the planning of vessel movements and is particularly relevant in times of high traffic density or when vessel movements may affect the traffic flow. A Traffic Organization Service should be responsible for separating traffic in the interest of safety. This separation could be defined in space, time and/or distance.

**5.7.3 Navigational Assistance Service**[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=10)]

A Navigational Assistance Service (NAS) may be provided in addition to an Information Service and/or Traffic Organization Service. It is a service to assist in the on-board navigational decisionmaking process and is provided at the request of a vessel, or when deemed necessary by the VTS. It is a service that provides essential and timely navigational information to assist in the on-board navigational decision-making process and to monitor its effects. It may also involve the provision of information, warning, navigational advice and/or instruction.

The Navigational Assistance Service is especially important in difficult navigational or meteorological circumstances or in case of defects or deficiencies. A Navigational Assistance Service is an important supplement to the provision of other navigational services, such as pilotage. Navigational Assistance Service may be provided at the request of a vessel, irrespective of whether a pilot is on board, or when a navigational situation is observed and intervention by the VTS is deemed necessary.

5.8 Surveillance Requirements[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=11)]

The extent of the VTS area, amongst other factors, should be taken into account with regard to determining the operational requirements for surveillance equipment. The operational requirements for surveillance should be determined by a needs analysis as described in IALA Recommendation V-119. This analysis should take into account variations in weather and general local conditions and any impact they might have on the performance of surveillance equipment. Most VTS use VHF for communication, and obtain a traffic image through use of a combination of Radar,AIS and CCTV in some areas.

5.9 Equipment Requirements[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=12)]

IALA Recommendation V-128 and IALA Guideline 1111 provide guidance on the preparation of operational and technical performance for VTS systems.

VTS Equipment may be defined as the individual items of hardware and software which make up the VTS System. The VTS System is considered to be the hardware, software and their behaviour as a coherent entity. This excludes personnel and procedures.

Traffic density and structure, navigation hazards, local climate, topography, environmental requirements, commercial aspects and the extent of a VTS area sets the requirements for VTS equipment and these factors will have substantial impact on life cycle costs of a VTS and the acquisition of VTS equipment. Equipment examples include:

* Communications (VHF; Telephone; Satellite telephone; Mobile telephone; E-mail; AIS messaging);
* Radar System;
* Automatic Identification System (AIS);
* Electro Optical Systems (EOS);
* Radio Direction Finders (RDF);
* Hydrometeo Equipment;
* VTS Data System;
* Recording and replay systems;
* Data Processing;
* Decision Support;
* External Information Exchange.

5.10 Personnel[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=13)]

VTS personnel, masters, bridge watchkeeping personnel, pilots and all other stakeholders share a responsibility for good communications, effective co-ordination and understanding of each other’s role for the safe conduct of vessels in VTS areas. They are all part of a team and share the same objective with respect to the safe movement of vessel traffic.

Depending on the size and complexity of the VTS area, service type provided, as well as traffic volumes and densities, a VTS centre may include VTS Operators, VTS Supervisors, VTS On-the-Job Training Instructors and a VTS Manager. It is for the Competent/VTS Authority to determine the appropriate types of service, operational procedures and equipment in order to meet its obligations and to ensure that appropriately trained and qualified personnel are available.

IALA Recommendation R0103 provides guidance on the standards for the recruitment, training and certification of VTS personnel. There are currently five model courses related to VTS:

* V-103/1 VTS Operator;
* V-103/2 VTS Supervisor;
* V-103/3 VTS On-the-Job Training;
* V-103/4 VTS On-the-Job Training Instructor;
* V-103/5 VTS The revalidation process for VTS qualification and certification.

5.11 Promulgation of information[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=14)]

Information on VTS areas and procedures can be found in internationally recognised marine publications and individual websites.

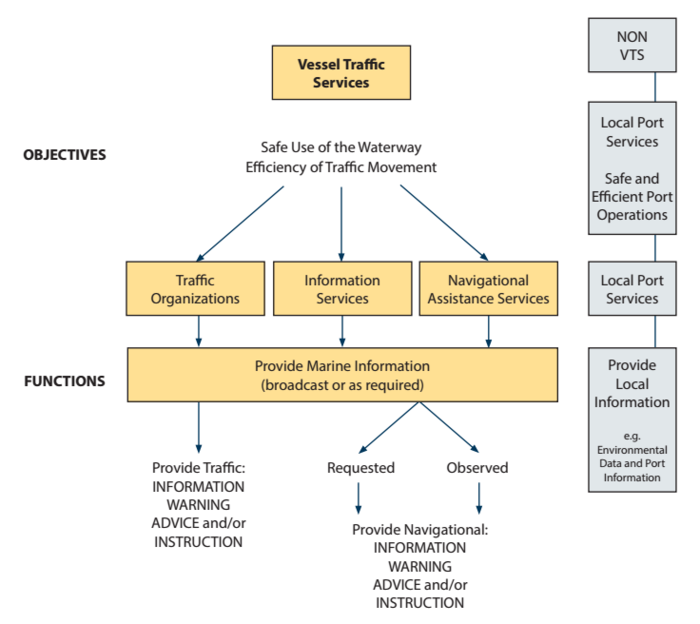
[](http://www.iala-aism.org/wiki/ialawiki/index.php/File:Navguide_5-11_Figure28_Overview_of_Types_of_VTS_Services_and_Functions.png)

Figure 28 - Overview of Types of VTS Services and Functions

5.12 Summary[[edit](http://www.iala-aism.org/wiki/ialawiki/index.php?title=Navguide:_Chapter_5_-_Vessel_Traffic_Services_(VTS)&action=edit&section=15)]

Readers are encouraged to refer to the:

* IALA VTS Manual

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| Refer to IALA publications:   * Recommendation V-102 on the Application of “User pays” principle to Vessel Traffic Services; * Recommendation R0103 (V-103) on the Standards for Training and Certification of VTS personnel; * Recommendation V-119 on the Implementation of Vessel Traffic Services; * Recommendation V-120 on Vessel Traffic Services in Inland Waters; * Recommendation V-125 on the use and presentation of symbology at a VTS Centre; * Recommendation V-127 on the Operational Procedures for Vessel Traffic Services; * Recommendation V-128 on the Operational and Technical Performance Requirements for VTS Equipment; * Recommendation V-145 on the Inter-VTS Exchange Format (IVEF) Service; * Recommendation A-123 on the Provision of Shore Based AIS; * Recommendation A-124 on the AIS Service; * Recommendation A-126 on the Use of AIS in Marine Aids to Navigation; * Guideline 1014 on the Accreditation and Approval process for VTS Training; * Guideline 1017 on the Assessment of training requirements for existing VTS Personnel, Candidate Operators and the Revalidation of VTS Operator Certificates; * Guideline 1018 on Risk Management; * Guideline 1026 on AIS as a VTS Tool; * Guideline 1027 on Designing and Implementing Simulation in VTS Training; * Guideline 1045 on Staffing Levels at VTS Centres; * Guideline 1071 on establishment of a Vessel Traffic Service beyond territorial seas; * Guideline 1082 an overview of AIS; * Guideline 1089 on Provision of VTS types of service; * Guideline 1101 on Auditing and Assessing VTS; * Guideline 1105 on shoreside portrayal ensuring harmonisation with e-Navigation related information; * Guideline 1111 on Preparation of Operational and Technical Performance Requirements for VTS Systems; * Guideline 1115 on Preparing for an IMO Member State Audit Scheme (IMSAS) on VTS; * Guideline 1118 on Marine casualty / incident reporting and recording including near-miss situations as it relates to VTS; * Model Course V-103/1 VTS Operator; * Model Course V-103/2 VTS Supervisor; * Model Course V-103/3 VTS On-the-Job Training; * Model Course V-103/4 VTS On-the-Job Training; * Model Course V-103/5 The Revalidation Process for VTS Qualification and Certification. |