



A GLOBAL VIEW OF VESSEL TRAFFIC SERVICES

Preliminary
Results from the IALA VTS Questionnaire
August 2016

Acknowledgements

The development of the Questionnaire and preparation of this document was possible through the efforts of:

- Members of the IALA VTS Committee
- Michael Trainor (IT Consultant / Questionnaire Website Administrator)
- Kerrie Abercrombie (Data analysis)

Foreword

This publication has been prepared by the IALA VTS Committee and is based on responses to a web based Questionnaire to collect information on VTS throughout the world.

Key responsibilities of the Committee include:

- Undertaking the approved Work Programme relating to the preparation of Recommendations and Guidelines concerning the planning, implementation and operation of vessel traffic services and ship reporting systems;
- Monitoring appropriate technologies as set out in the approved Work Programme for the Committee;
- Reviewing the IALA VTS Manual and if necessary prepare revisions for consideration by the Council at least six months before each VTS Symposium;
- Drafting and updating IALA Recommendations and Guidelines, as and when necessary, on matters related to vessel traffic services, vessel traffic management and ship reporting systems;
- Monitoring developments of vessel traffic services and ship reporting systems and recommend actions which IALA could take to:
 - Promote VTS and increase the effectiveness of such services;
 - Improve co-operation and standardization among its Member Authorities;

Established in 1957 IALA now has over 266 members, representing 83 maritime authorities, 127 industrial members and 56 associate members, including regional organisations.

In developing its 2014-18 work programme the Committee identified the need to collect information from individual countries as a means to obtaining statistical information and knowledge on VTS globally.

Thirty countries responded to the Questionnaire, comprising 155 individual VTSs from 113 VTS Authorities and 30 Competent Authorities.

IALA welcomes feedback about this publication. Readers are invited to send comments or suggestions, which will be taken into account when considering the publication of the next edition.

Francis Zachariae
Secretary General

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1. EXECUTIVE SUMMARY

IALA released the VTS Questionnaire in April 2016 as a web based application and notified National Members and VTS Committee members by correspondence.

Thirty countries responded to the Questionnaire, providing information from:

- 155 VTSs¹
- 113 VTS Authorities; and
- 31 Competent Authorities

The countries responding to the Questionnaire include:

Argentina	Australia	Azerbaijan	Belgium	Belize	Brazil	Bulgaria
Canada	Chile	Denmark	Estonia	Finland	France	Gibraltar
Hong Kong	Indonesia	Ireland	Italy	Japan	Latvia	Malaysia
Netherlands	Norway	Portugal	Romania	Singapore	South Africa	Sweden
Turkey	Ukraine	United Kingdom				

The Questionnaire successfully achieved its aim of gathering information:

- To gain a common understanding of the delivery of VTS worldwide.
- To harmonise service quality, training and operating procedures worldwide.
- To contribute to the improvement of VTS related IALA documentation.

The information gathered through the Questionnaire will greatly assist IALA and its members develop VTS related guidance in both the current 2014-18 and future Work Programmes and contribute to the safety and efficiency of navigation through the operation of VTS. In particular, the information will facilitate achieving greater global understanding and consistency in the establishment and operation of VTS in accordance with internationally approved guidelines as provided by:

- The International Convention on the Safety of Life at Sea 74/78 (SOLAS) Chapter V (Safety of Navigation) Regulation 12 Vessel Traffic Services;
- IMO Resolution A.857(20) Guidelines for Vessel Traffic Services; and
- IALA Recommendations and Guidelines.

In summary, the key outcomes from the Questionnaire include:

- The majority of Competent Authorities are embracing the guidance provided by IMO Resolution A.857(20) and IALA Recommendations and Guidelines in the establishment and operation of VTS. In particular, this includes:
 - Appointment of the Competent Authority by national legislation.
 - Accreditation of training organisations.
- The majority of VTS Authorities are embracing the guidance provided by IMO Resolution A.857(20) and IALA Recommendations and Guidelines in the establishment and operation of VTS. In particular, this includes:
 - Training, Personnel and Certification.
 - Operational and Technical Performance of VTS Systems.
 - Procedures.
 - Promulgation of VTS Information.
 - Quality Management.

1 Note: 187 VTS were nominated by the Competent Authority respondents but only 155 had completed the questionnaire at the time the analysis was undertaken.

2. BACKGROUND

The Questionnaire comprised two main components:

1. **Competent Authority component** - In this component the Competent Authorities completed two parts:

Part 1: Questionnaire - Questions asked in this part were related to the appointment of Competent Authorities and VTS Authorities in their country, qualifications and training and service quality.

Part 2: VTS Survey - In this component Competent Authorities completed a survey to identify the VTS Authorities, Centres and VTS's in their country.
2. **VTS Authority component** – In this component VTS Authorities identified by the Competent Authorities responded to questions relating to the obligations of VTS authorities, including aspects such as the types of services, training, personnel and certification, service quality, equipment, information management and staffing

In summary:

- Thirty-four (34) Competent Authorities registered for the Questionnaire, representing 34 Countries.
- Thirty-one (31) of the Competent Authorities completed Part 1 of their component of the Questionnaire.
 - That is, responses to questions relating to the appointment of Competent Authorities and VTS Authorities in their country, qualifications and training and service quality the Questionnaire
- Twenty-six (26) of the Competent Authorities completed Part 2 of their component of the Questionnaire.
 - That is, completed a survey to identify the VTS Authorities, Centres and VTS's in their country.
- One hundred and thirteen (113) VTS Authorities completed their component of the Questionnaire, providing information for 155 individual VTSs.

3. RESPONSES FROM COMPETENT AUTHORITIES

Responses to the Questionnaire were received from 34 Competent Authorities, identifying:

- 155 VTS's;
- 113 VTS Authorities; and

The Competent Authority component of the Questionnaire comprised two parts:

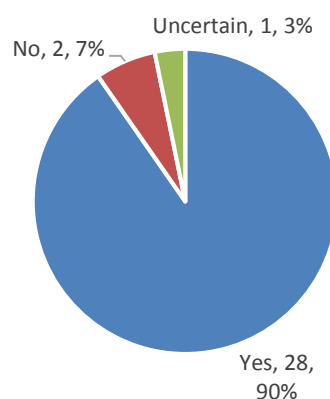
- **Part 1: Questionnaire** - The questions asked in this part were related to the appointment of Competent Authorities and VTS Authorities in their country, qualifications and training and service quality.
- **Part 2: VTS Survey** - In this component Competent Authorities completed a survey to identify the VTS Authorities, Centres and VTS's in their country.

3.1 Part 1: Questionnaire

3.1.1 Is the Competent Authority appointed by national legislation?

Ninety percent (90%) of the Competent Authority respondents indicated they are appointed by national legislation.

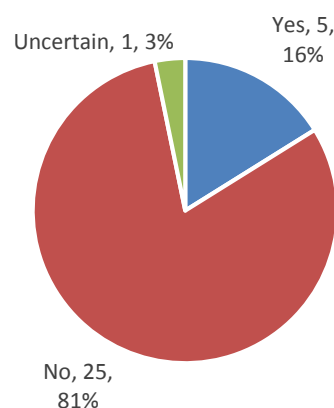
Seven percent (7%) of the respondents indicated that the Competent Authority is not appointed by national legislation in their country and 3% were uncertain.



3.1.2 Is there more than one Competent Authority for VTS in your country?

Eighty-one percent (81%) of the Competent Authority respondents indicated there is only one (1) competent authority for VTS in their country.

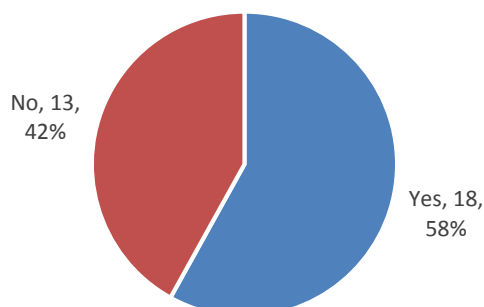
Sixteen percent (16%) indicated there was more than one competent authority for VTS in their country and 3% were uncertain.



3.1.3 Do you appoint VTS Authorities?

Fifty-eight percent (58%) of the Competent Authority respondents indicated they appoint VTS Authorities in their country.

Forty-two percent (42%) responded they do not appoint VTS Authorities.



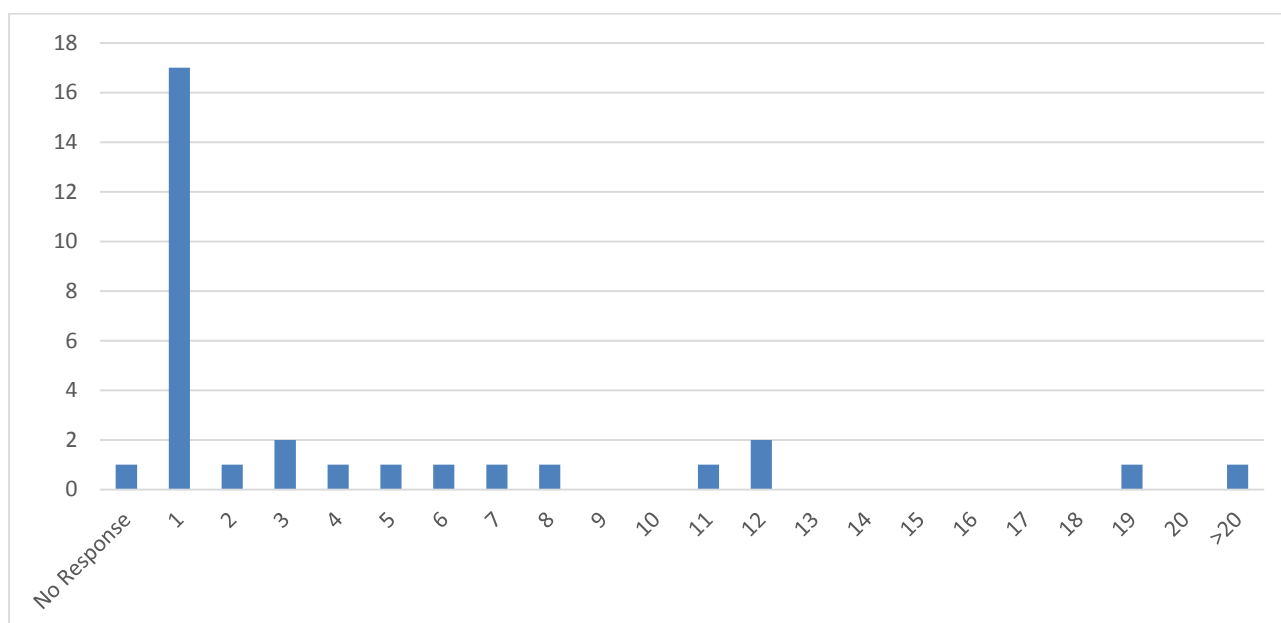
3.1.4 If no, who appoints the VTS Authority?

Responses included:

- The government or company responsible for private terminals
- A previously political decision
- Government through legislation
- Another Government Department
- A Government Minister/s
- No one appoints the VTS Authority

3.1.5 How many VTS Authorities are there?

Fifty-five percent (55%) of the Competent Authority respondents indicated that there is one appointed VTS Authority in their country.

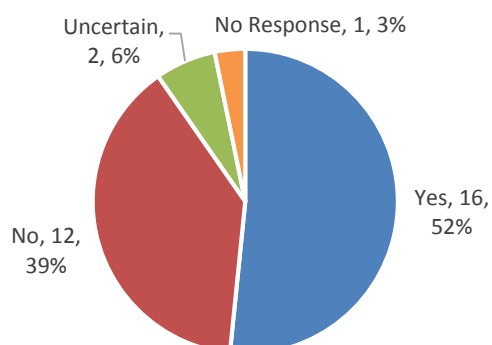


3.2 TRAINING, PERSONNEL AND CERTIFICATION

3.2.1 Are your VTS Training Organisations accredited in accordance with IALA Guideline 1014 on the Accreditation and Approval Process for VTS Training?

Fifty-two percent (52%) of the Competent Authority respondents indicated that VTS Training Organisations are accredited in accordance with IALA Guideline 1014 on the Accreditation and Approval Process for VTS Training.

Thirty-nine percent (39%) indicated that VTS Training Organisations are not accredited in accordance with IALA Guideline 1014, 6% were uncertain and 3% did not respond to the question.



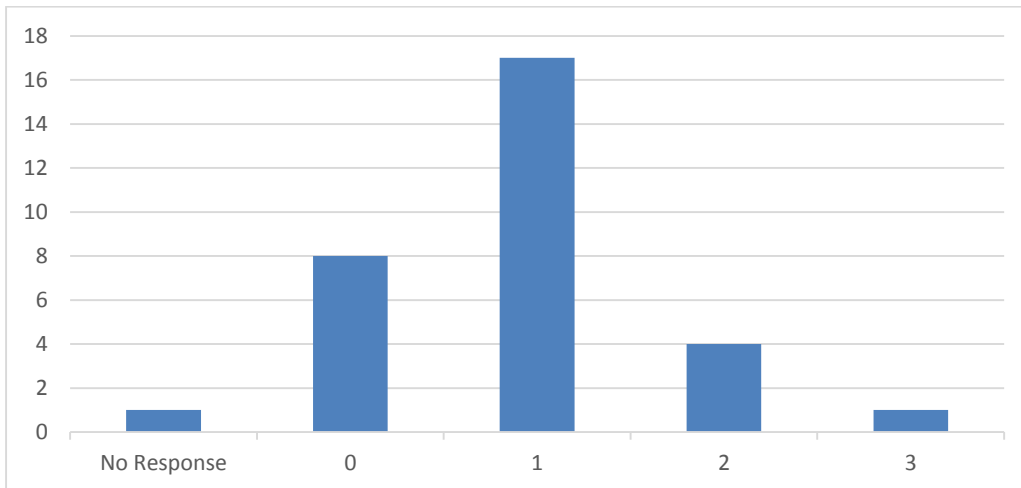
Comments provided include:

- VTS training is not provided in the country.
- There are no VTS Operator training course available in the country.
- VTS operators undergo training in other countries.

- Training organisations are not accredited but the training is accredited.
- The Competent Authority doesn't have the authority to accredit or approve VTS Training or VTS Training Organisations.

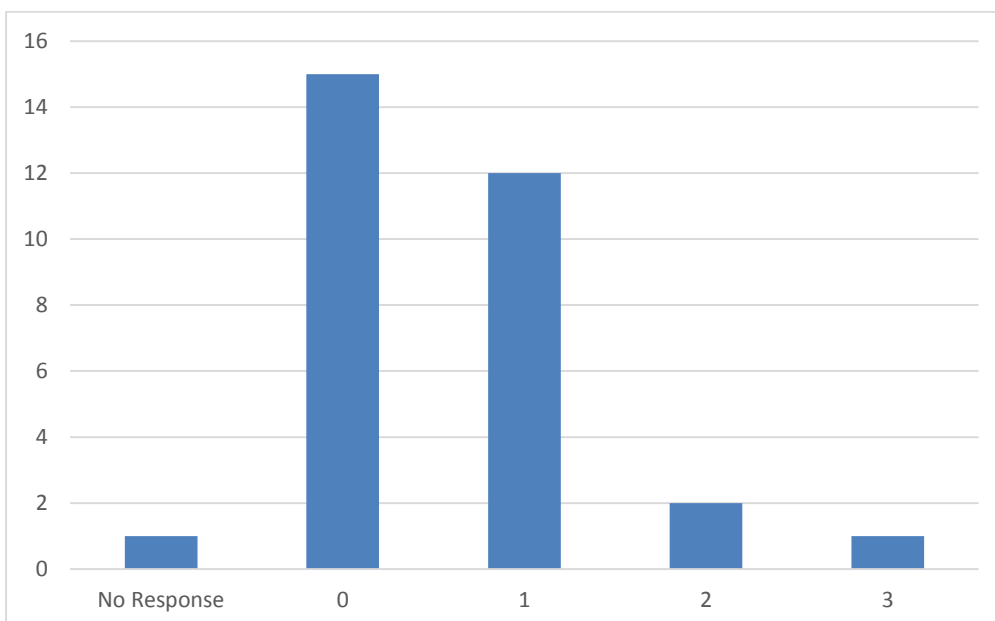
3.2.2 How many VTS Training Organisations do you have in your country?

Fifty-five percent (55%) of the Competent Authority respondents indicated that there is one VTS Training Organisations in their country.



3.2.3 How many of these have been accredited in accordance with IALA Guideline 1014 on the Accreditation and Approval Process for VTS Training?

Forty-eight percent (48%) of the Competent Authority respondents indicated that Training Organisations are not accredited in accordance with IALA Guideline 1014 on the Accreditation and Approval Process for VTS Training and 48% indicated that it was.



3.2.4 If the VTS Training Organisations are not accredited in accordance with IALA Guideline 1014 on the Accreditation and Approval Process for VTS Training please state what measures you have in place to ensure the quality of VTS training provision?

Responses included:

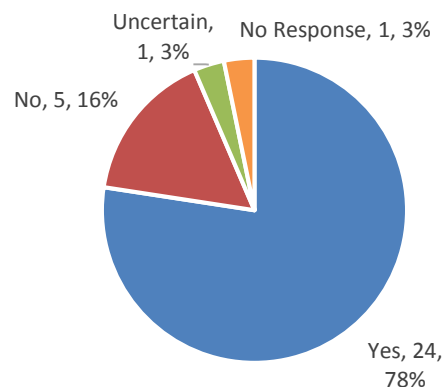
- The content of training courses are reviewed by the government’s Education and Training or similar agency.
- Training programs are approved by the Administration.
- The VTS authority ensures sufficient training according to their safety management system
- There are no VTS Operator training course available in the respondent’s country. VTS operators undergo training abroad.
- VTS training is accredited in accordance with Recommendation V-103 and the Model Courses a government agency.
- Training is provided in-house.
- The Agency acts as observer at the VTS Training.

3.2.5 Do your Training Organisations or VTS Authorities provide the following courses in compliance with IALA Recommendation V-103 on Standards for Training and Certification of VTS Personnel and the associated Model Courses:

A. V-103/1 VTS Operator Course

Seventy-eight percent (78%) of the Competent Authority respondents indicated that Training Organisations or VTS Authorities provide VTS Operator courses in compliance with IALA Recommendation V-103 on Standards for Training and Certification of VTS Personnel and associated Model Course V-103/1.

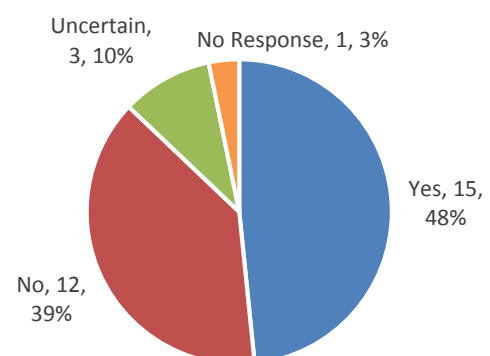
Fifteen (16%) responded they do not, 3% were uncertain and 3% did not respond to the question.



B. V-103/2 VTS Supervisor Course

Forty-eight percent (48%) of the Competent Authority respondents indicated that Training Organisations or VTS Authorities provide VTS Supervisor courses in compliance with IALA Recommendation V-103 on Standards for Training and Certification of VTS Personnel and associated Model Courses V-103/2.

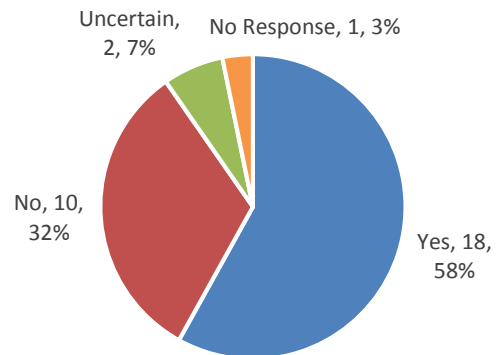
Thirty-nine percent (39%) responded they do not, 10% were uncertain and 3% did not respond to the question.



C. V-103/3 VTS On-the-Job Training

Fifty-eight percent (58%) of the Competent Authorities responded that Training Organisations or VTS Authorities provide the On-the-Job Training courses in compliance with IALA Recommendation V-103 on Standards for Training and Certification of VTS Personnel and associated Model Courses V-103/3.

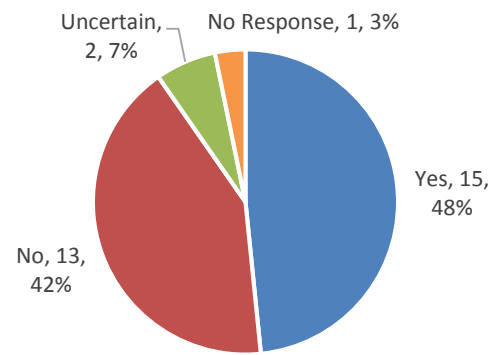
Thirty-two percent (32%) responded they do not, 7% were uncertain and 3% did not respond to the question.



D. V-103/4 VTS On-the-Job Training Instructor Course

Forty-eight percent (48%) of the Competent Authority respondents indicated that Training Organisations or VTS Authorities provide the On-the-Job Training Instructor courses in compliance with IALA Recommendation V-103 on Standards for Training and Certification of VTS Personnel and associated Model Courses V-103/4.

Forty-two percent (42%) responded they do not, 7% were uncertain and 3% did not respond to the question.

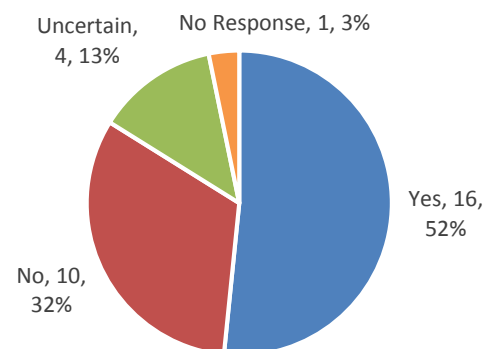


3.3 SERVICE QUALITY

3.3.1 Does the Competent Authority operate under a Quality Management System (QMS)?

Fifty-two percent (52%) of the Competent Authority respondents indicated they operate under a Quality Management System (QMS).

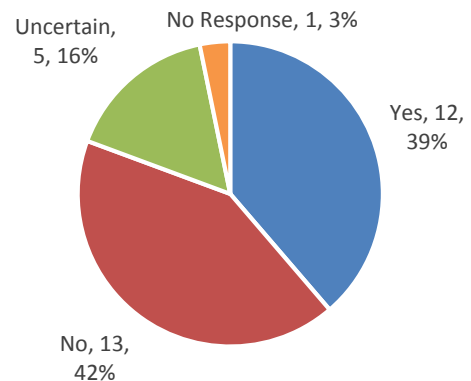
Thirty-two percent (32%) indicated they do not, 13% were uncertain and 3% did not respond to the question.



3.3.2 Does the Competent Authority operate under a Safety Management System (SMS)?

Thirty-nine percent (39%) of the Competent Authority respondents indicated they operate under a under a Safety Management System (SMS).

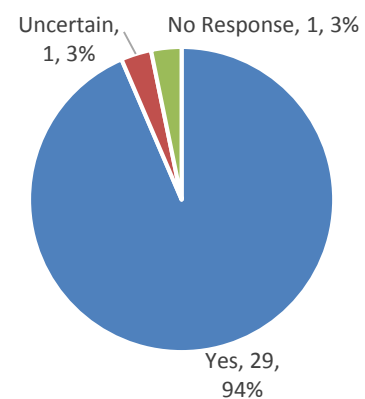
Forty-two percent (42%) responded they do not, 16% were uncertain and 3% did not respond to the question.



3.3.3 Do you require VTS related marine casualties and incidents to be reported?

Ninety-four percent (94%) of the Competent Authority respondents indicated they require VTS related marine casualties and incidents to be reported.

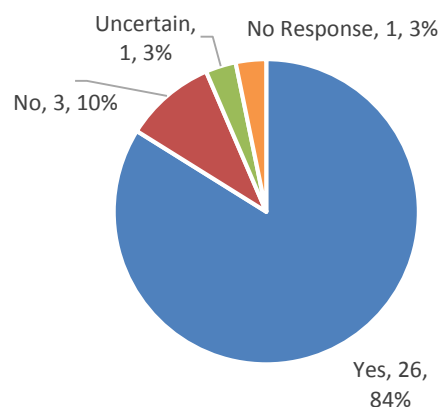
Three percent (3%) were uncertain and 3% did not respond to the question.



3.3.4 Do you analyse VTS related marine casualties and incident statistics?

Eighty-four percent (84%) of the Competent Authority respondents indicated they analyse VTS related marine casualties and incident statistics.

Ten (10%) responded they do not, 3% were uncertain and 3% did not respond to the question.



3.3.5 Do you have any suggestion for how IALA can improve the VTS related documents?

Comments included:

- The minimum requirements for training programs and competence of VTS operators to be included in an international regulations.
- Although English is the official language for the IALA activities, due to the great amount of Spanish speaking countries in the American continent, it is suggested to evaluate the feasibility that the documents can also be issued in Spanish.

- Yearly audit by IALA expert team.
- The document currently under development for incident reporting may highly contribute to pro-active, active and re-active development of measures which have to be taken for high-level operation of VTS in future.
- The documents should have the same status as the ones from IMO.
- I think IALA is doing great job in preparing Guidelines and Recommendations. With IALA going towards IGO, it will be more effective as there will a top tier of documents i.e. Standards.

3.4 Part 2: VTS Survey

Part 2 of the Competent Authority component of the Questionnaire was a survey to identify the VTS Authorities, Centres and VTS's in their country.

The competent authorities responding to the Questionnaire identified:

- 155 VTSs; and
- 113 VTS Authorities

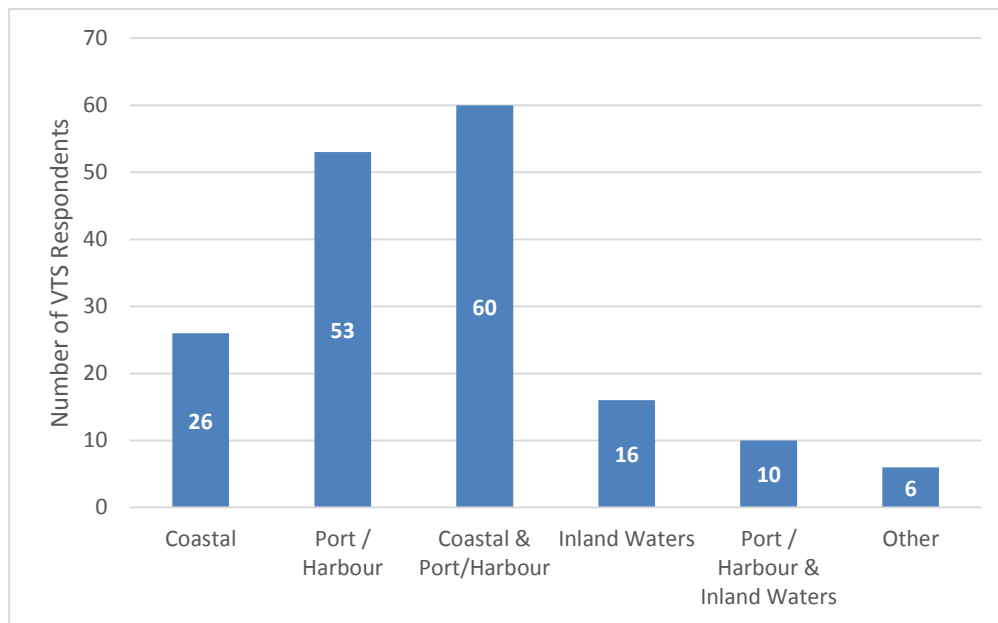
4. RESPONSES FROM VTS AUTHORITIES

One hundred and fifty five² (155) VTSs responded to the Questionnaire, representing 113 VTS Authorities.

4.1 GENERAL

4.1.1 What type of VTS do you operate?

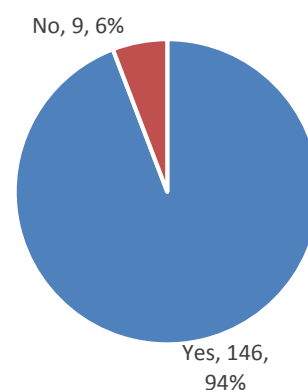
The majority of VTS respondents indicated they operate either a Coastal & Port/Harbour VTS or Port/Harbour.



4.1.2 Is participation in the VTS mandatory for specified vessels (eg. vessels over 70m)?

Ninety-four percent (94%) of the VTS respondents indicated that participation in the VTS is mandatory for specified vessels.

Six percent (6%) responded that participation in the VTS is not mandatory for specified vessels.

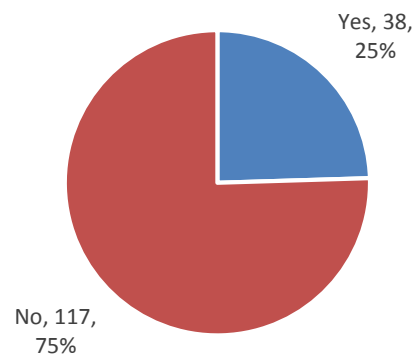


2 Note – 187 VTS were nominated by the Competent Authority respondents but only 155 had completed the questionnaire at the time the analysis was undertaken. The information from these and any new respondents will be included in the next release.

4.1.3 Does the VTS extend beyond the territorial seas?

Seventy-five percent (75%) VTS respondents indicated that the VTS does not extend beyond the territorial sea.

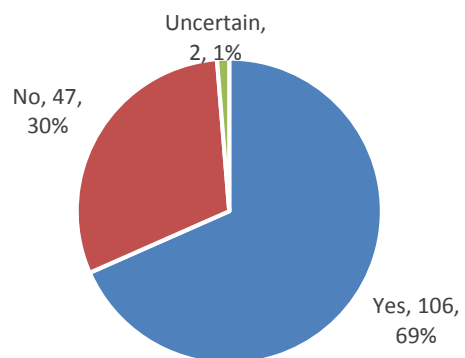
Twenty-five percent (25%) that the VTS does extend beyond the territorial sea.



4.1.4 Does the VTS also operate/contribute to a Ship Reporting System (SRS)?

Sixty-nine percent (69%) of VTS respondents indicated that the VTS also operates/contributes to a Ship Reporting System (SRS).

Thirty percent (30%) indicated that their VTS do not operate/contribute to an SRS and 1% were uncertain.

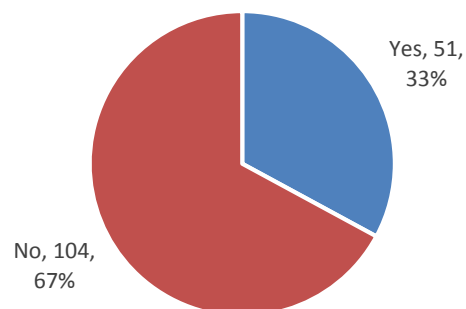


4.1.5 Fill in the categorization code for the VTS area / sector (see annex A)

The categorization codes are being collated by the VTS Committee with a view to being presented in a future release of the report.

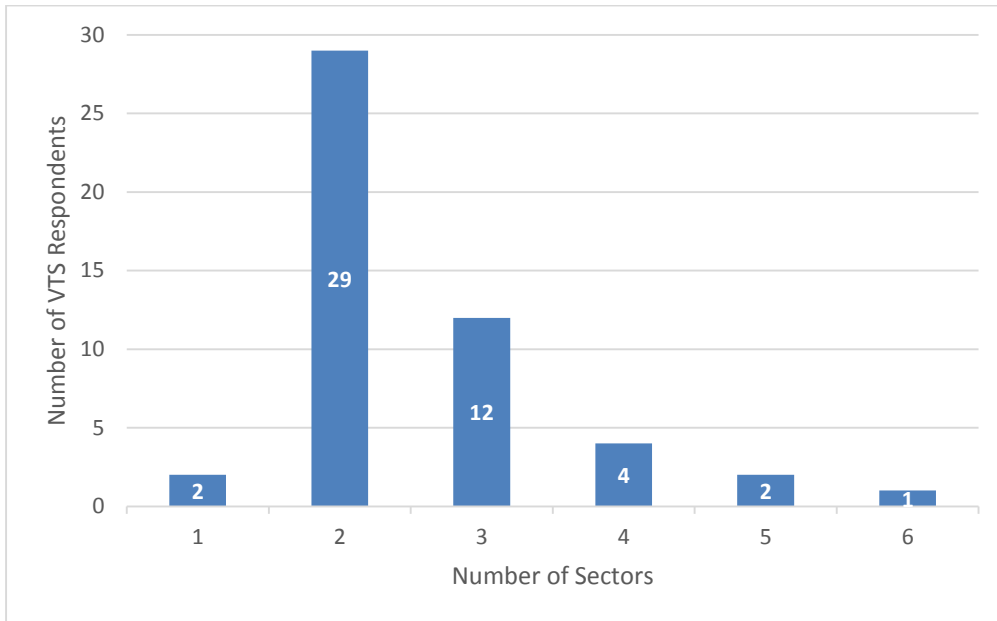
4.1.6 Is your VTS area divided into sectors?

Sixty-seven percent (67%) of VTS respondents indicated that the VTS area is not divided into sectors and 33% indicated their VTS area was divided into sectors.



4.1.7 If, Yes, How Many?

Fifty-seven percent (57%) of VTS respondents whose VTS area is divided into sectors indicated that there are two sectors.

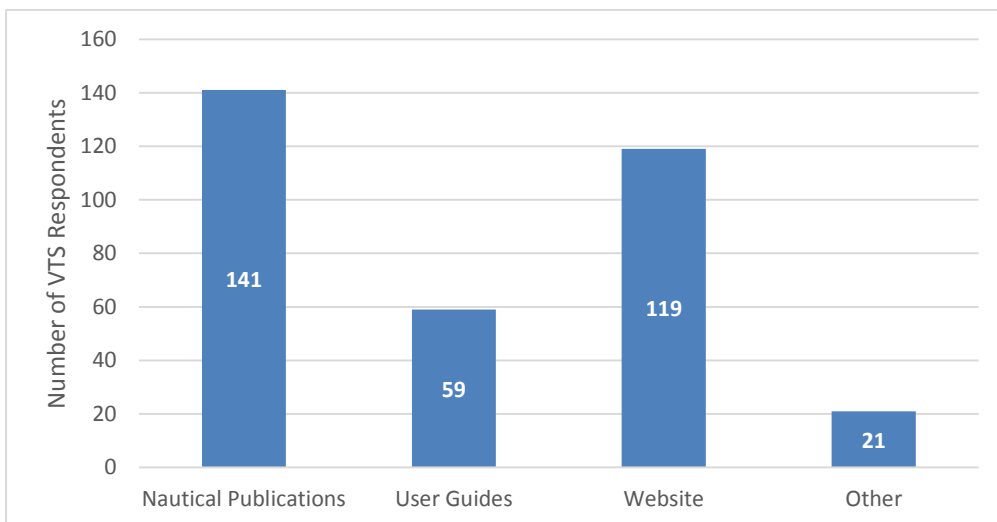


4.1.8 What is the name identifier for the VTS in accordance with IALA Guideline 1083 on Standard Nomenclature to identify and refer to VTS centres?

The name identifiers for the VTSs are being collated by the VTS Committee with a view to being presented in a future release of the report.

4.1.9 How is VTS information promulgated?

Ninety-one percent (91%) of VTS respondents indicated they promulgate their VTS information in nautical publications, 77% indicated they use a website and 38% publish a User Guide.

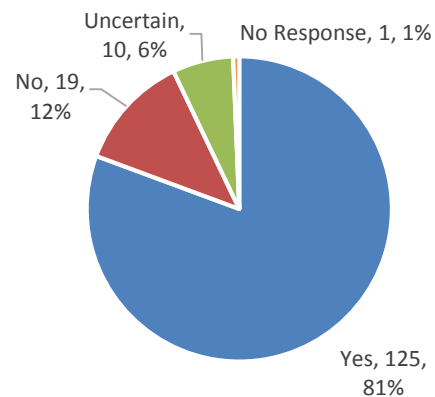


4.2 EQUIPMENT

4.2.1 Did you refer to IALA Recommendation V-128 on Operational and Technical Performance of VTS Systems when considering your VTS equipment?

Eighty-one percent (81%) of VTS respondents indicated they refer to IALA Recommendation V-128 on Operational and Technical Performance of VTS Systems when considering their VTS equipment.

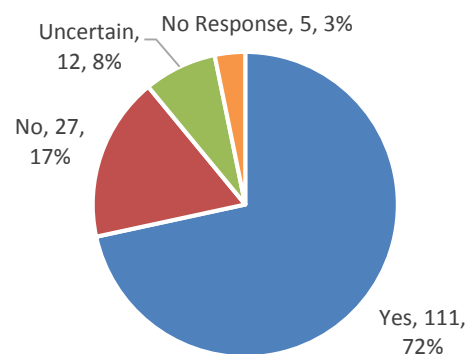
Twelve percent (12%) indicated they do not refer to IALA Recommendation V-128, 6% were uncertain and 1% did not respond to the question.



4.2.2 Did you refer to IALA Recommendation V-125 on the use and presentation of symbology at a VTS Centre when considering your traffic image display?

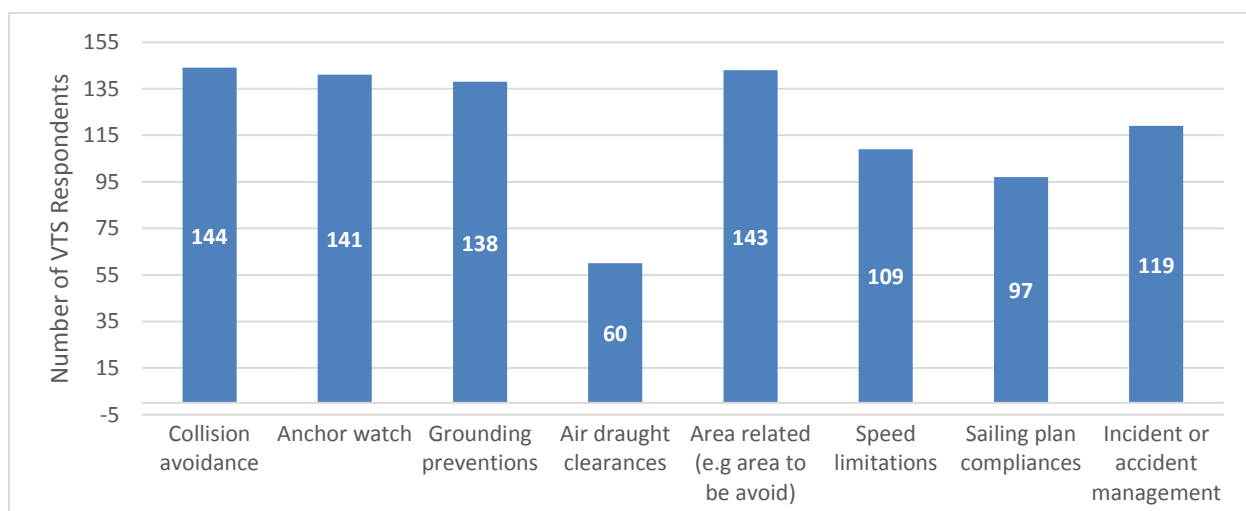
Seventy-two percent (72%) of VTS respondents indicated they refer to IALA Recommendation V-125 on the use and presentation of symbology when considering their traffic image display.

Seventeen percent (17%) indicated they do not refer to IALA Recommendation V-125, 8% were uncertain and 3% did not respond to the question.



4.2.3 Do you use Decision Support Tools (DST) to assist in the monitoring/management of:

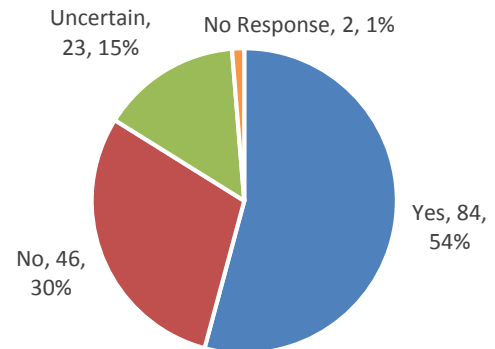
The majority of VTSs indicated they use Decision Support Tools. The main purposes for which DST's are used for is described below.



4.2.4 Did you refer to IALA Guideline 1110 on the Use of Decision Support Tools for VTS Personnel when considering the use of Decision Support Tools?

Fifty-four percent (54%) of VTS respondents indicated they referred to IALA Guideline 1110 on the Use of Decision Support Tools for VTS Personnel when considering the use of Decision Support Tools.

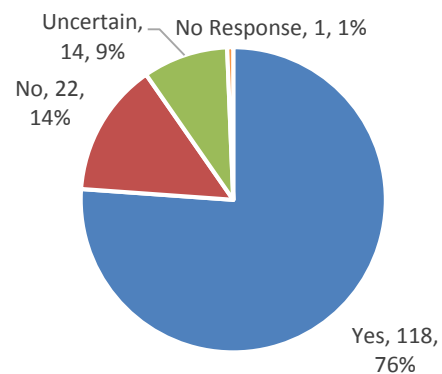
Thirty percent (30%) indicated they do not refer to IALA Guideline 1110, 15% were uncertain and 1% did not respond to the question.



4.2.5 Are traffic planning tools available for the forward planning of traffic (eg scheduling)?

Seventy-six percent (76%) of VTS respondents indicated that traffic planning tools are available for the forward planning of traffic (eg scheduling).

Fourteen percent (14%) indicated that traffic planning tools are not available for the forward planning of traffic, 9% were uncertain and 1% did not respond to the question.

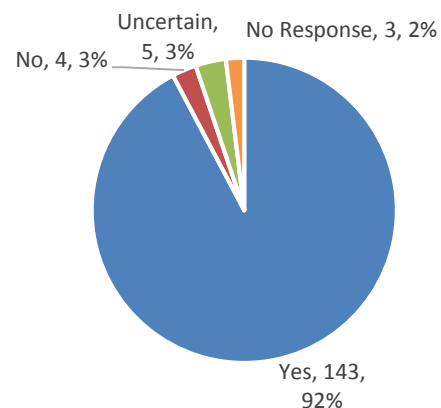


4.3 SERVICES

4.3.1 Do your Operational Procedures conform with IALA Recommendation V-127 on Operational Procedures for Vessel Traffic Services?

Ninety-two percent (92%) of VTS respondents indicated that their Operational Procedures conform to IALA Recommendation V-127 on Operational Procedures for Vessel Traffic Services.

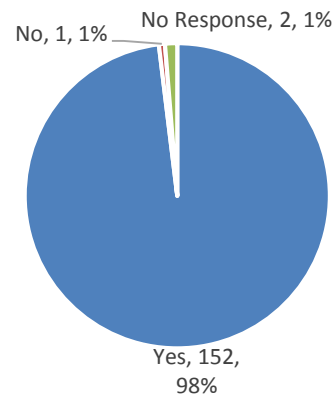
Three percent (3%) indicated they do not refer to IALA Recommendation V-127, 3% were uncertain and 2% did not respond to the question.



4.3.2 Do you provide an Information Service (INS)

Ninety-eight percent (98%) of VTS respondents indicated they provide an Information Service (INS).

One percent (1%) indicated they do not provide an INS and 1% did not respond to the question.

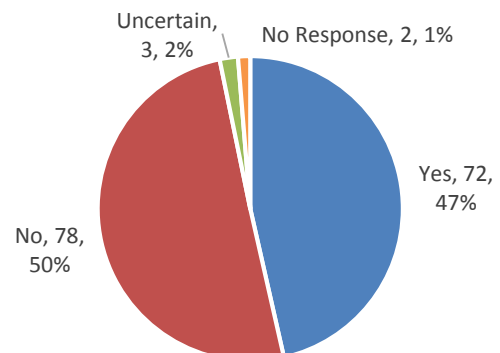


Types of information Provided as part of INS	Yes	No	Uncertain
Navigational situations (including traffic and route information)	151		1
Navigational warnings (e.g. wrecks, obstacles not otherwise promulgated, diving operations)	152		
Meteorological/hydrological information (e.g. strong wind, restricted visibility, tidal information, currents)	151		1
Navigational aids (e.g. status of AtoN, electronic AtoN, DGPS.)	138	13	1

4.3.3 Does your VTS provide instruction to vessels under INS?

Fifty percent (50%) of VTS respondents indicated they do not provide instruction under INS.

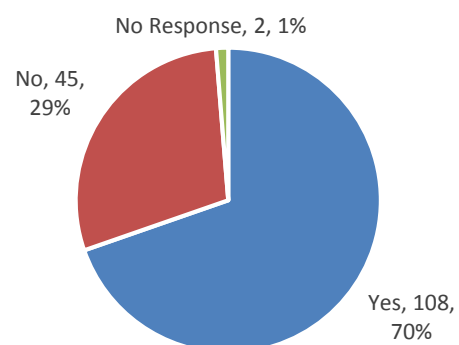
Forty-seven percent (47%) indicated they do provide instruction under INS, 2% were uncertain and 1% did not respond to the question



4.3.4 Do you provide a Traffic Organizational Service (TOS)

Seventy percent (70%) of VTS respondents indicated they provide a Traffic Organisation Service (TOS).

Twenty-nine percent (29%) indicated they do not provide a TOS and 1% did not respond to the question.

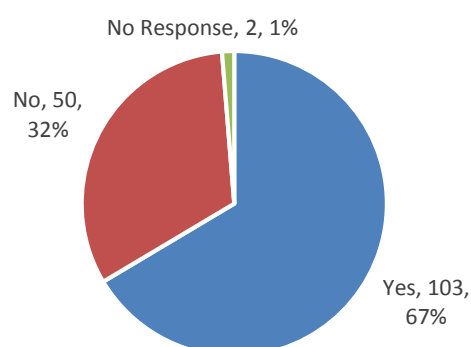


Services provided as part of TOS	Yes	No	Uncertain
Traffic clearances (e.g. departing from a berth, entering into a fairway within a VTS area)	103	5	
Anchorage (e.g. assignment of an anchorage position, organizing the movements to/from an anchorage position/area)	98	10	
Enforcement (e.g. adherence to traffic rules, speed limitations, pilotage requirements)	108		
Waterway management (e.g. slot management to allocate ships in a time windows, organizing traffic concerning vessel dimensions in comparison to fairway restrictions.)	105	2	1

4.3.5 Does your VTS provide instruction to vessels under TOS?

Sixty-seven percent (67%) of VTS respondents indicated they provide instruction to vessels under TOS.

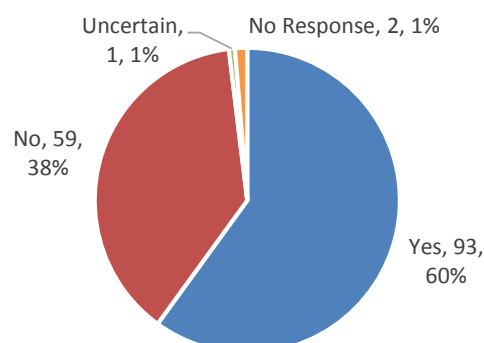
Thirty-two percent (32%) indicated they do not provide instruction under TOS and 1% did not respond to the question.



4.3.6 Do you provide a Navigational Assistance Service (NAS)?

Sixty percent (60%) of VTS respondents indicated they provide a Navigational Assistance Service (NAS).

Thirty-eight percent (38%) indicated they do not provide NAS, 1% were uncertain and 1% did not respond to the question.



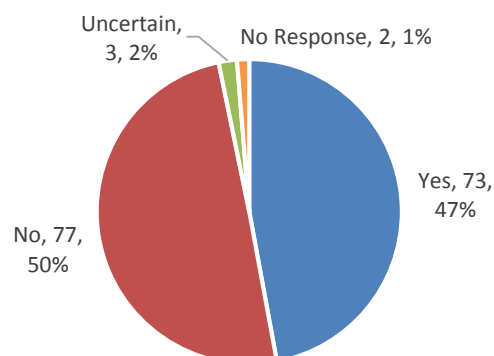
Types of navigational information, advice and/or instruction does your VTS provide to assist the on-board decision-making process and to monitor its effects?	Yes	No	Uncertain
Request and identification (e.g. availability of NAS, request for ship identification such as position, course made good, speed, etc)	90	3	
Navigational information including position and course (e.g. provide range and bearing from fixed object, provide information related to navigating into a channel/fairway/lane, etc)	89	4	

Types of navigational information, advice and/or instruction does your VTS provide to assist the on-board decision-making process and to monitor its effects?	Yes	No	Uncertain
Advice (e.g. advise a ship to alter its course and/or speed, to keep clear from area/position, etc.)	89	3	
Warning (e.g. diverging from recommended track, dangerous obstacles, vessel NUC, etc)	92	1	

4.3.7 Does your VTS provide instruction to vessels under NAS?

Fifty percent (50%) indicated they do not provide instruction under NAS.

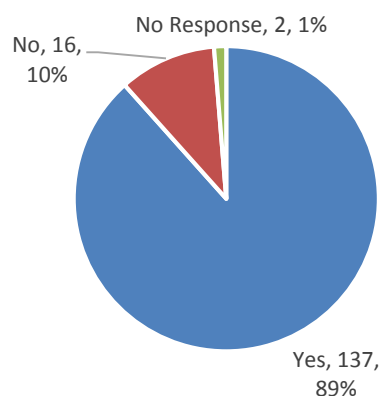
Forty-seven percent (47%) indicated they do provide instruction to vessels under NAS, 2% were uncertain and 1% did not respond to the question.



4.3.8 In communicating / interacting with vessels, do you use IMO Resolution A.918(22) Standard Marine Communication Phrases (SMCP)?

Eighty-nine (89%) of VTS respondents indicated they use IMO Resolution A.918(22) Standard Marine Communication Phrases (SMCP) In communicating / interacting with vessels.

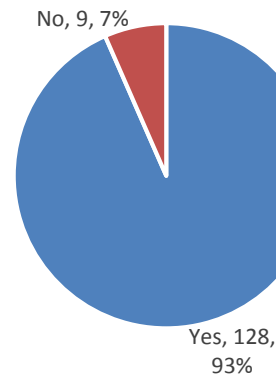
Ten percent (10%) indicated that they do not use IMO Resolution A.918(22) and 1% did not respond to the question.



4.3.9 If yes, is the use of Message Markers standard procedure in routine communications?

Ninety-three (93%) of VTS respondents indicated that the use Message Markers is standard procedure in routine communications.

Seven percent (7%) indicated that the use Message Markers is not standard procedure in routine communications.



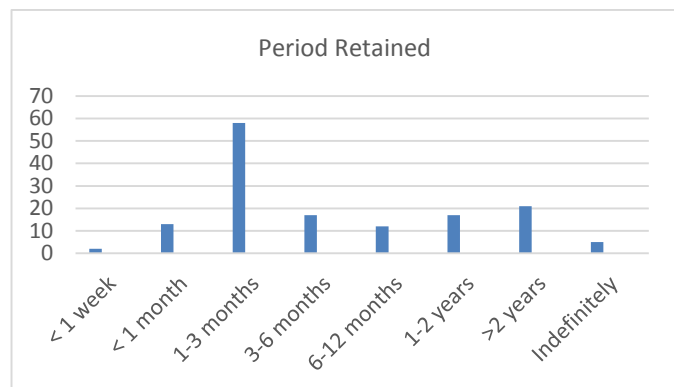
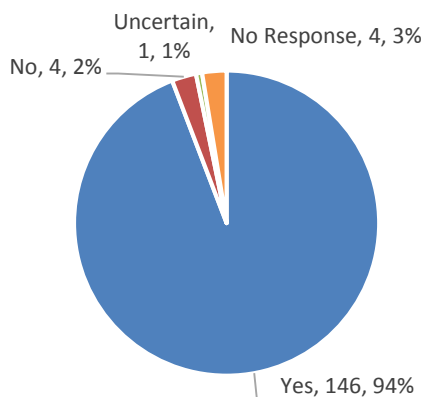
4.4 INFORMATION MANAGEMENT

4.4.1 What information does your VTS record and for what period is it retained?

A. Voice communications (Radio)

Ninety-four percent (94%) of VTS respondents indicated they record voice communications (Radio).

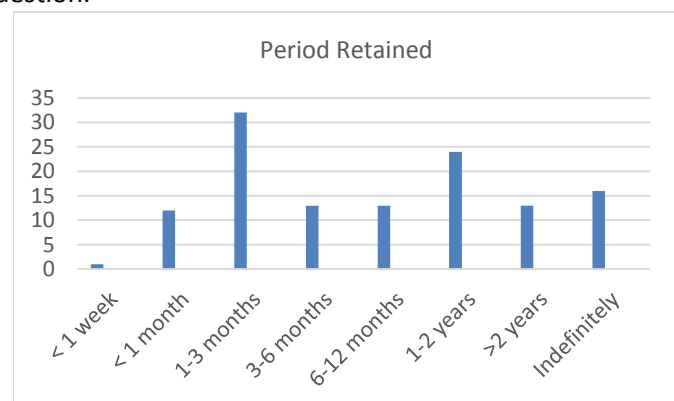
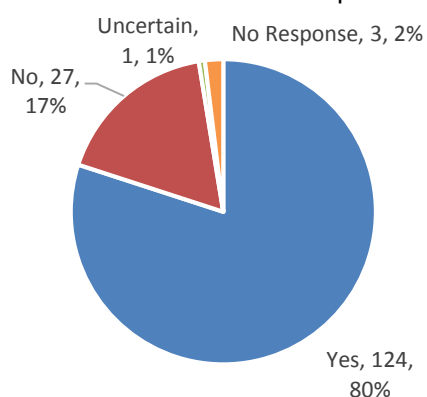
Two percent (2%) indicated they do not record voice communications (Radio), 1% were uncertain and 3% did not respond to the question.



B. Voice communications (Phone)

Eighty percent (80%) of VTS respondents indicated they record voice communications (Phone).

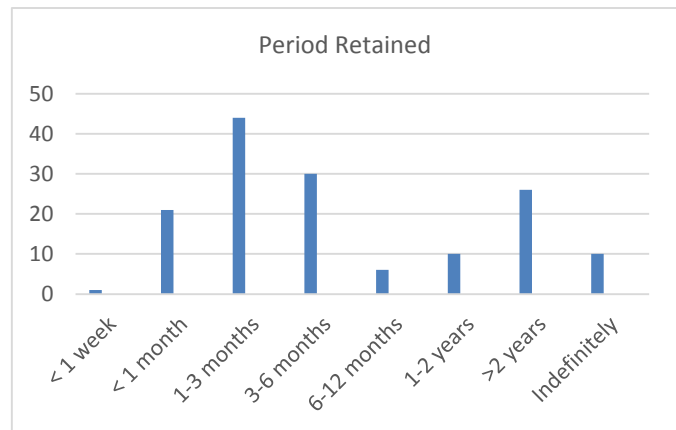
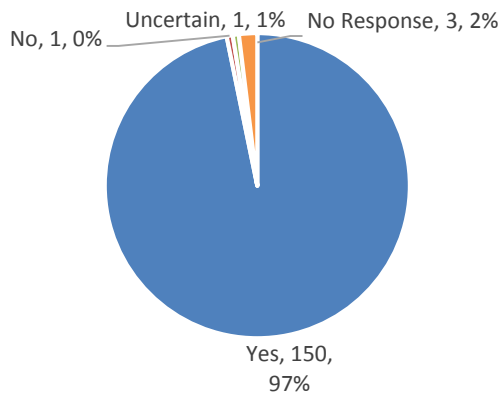
Fourteen percent (17%) indicated they do not record voice communications (Phone), 1% were uncertain and 3% did not respond to the question.



C. Radar/AIS/Vessel position/tracks

Ninety-seven percent (97%) of VTS respondents indicated they record Radar/AIS/Vessel position/tracks.

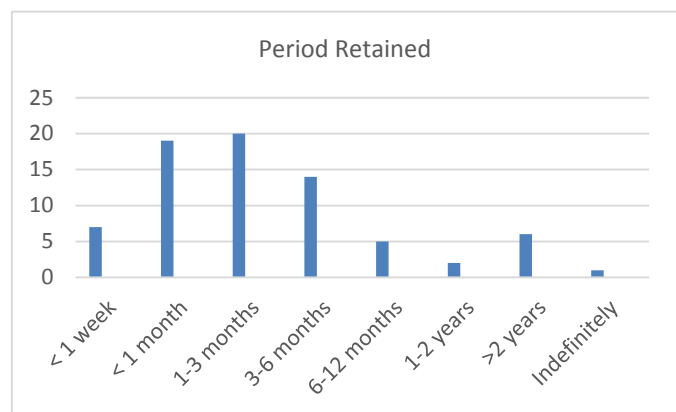
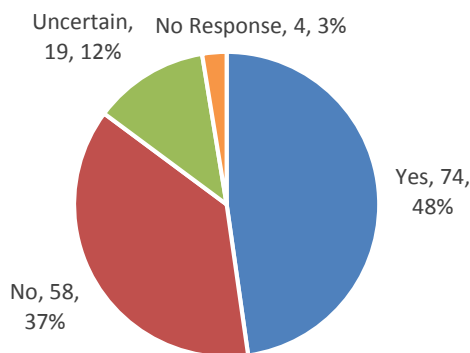
Less than one percent (<1%) indicated they do not record Radar/AIS/Vessel position/tracks, < 1% were uncertain and 2% did not respond to the question.



D. CCTV images

Forty-eight percent (48%) of VTS respondents indicated they record CCTV images.

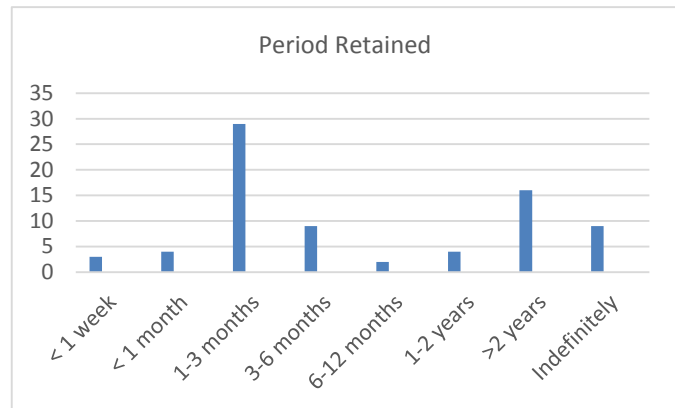
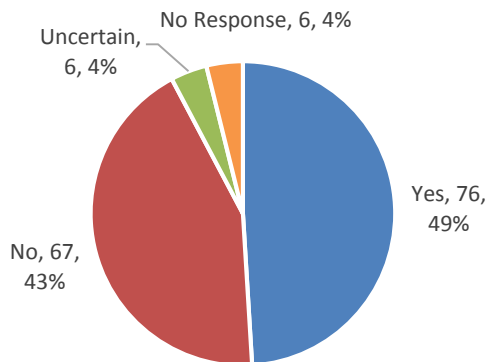
Thirty-seven percent (37%) indicated they do not record CCTV images, 12% were uncertain and 3% did not respond to the question.



E. Met/Ocean data

Forty-nine percent (49%) of VTS respondents indicated they record Met/Ocean data.

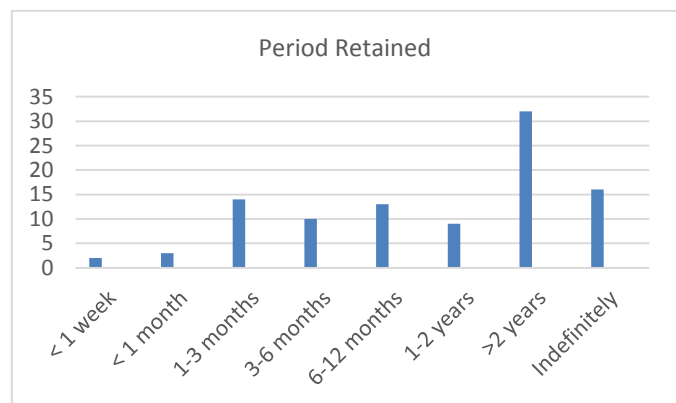
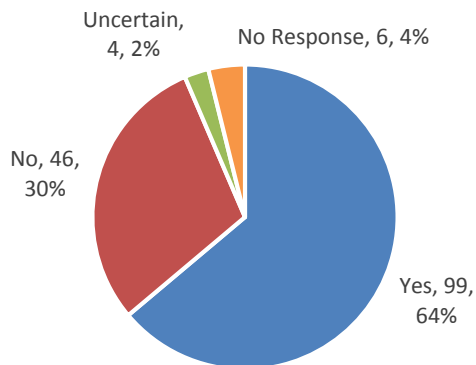
Forty-three percent (43%) indicated they do not record Met/Ocean data, 4% were uncertain and 4% did not respond to the question.



F. Hydrographic data

Sixty-four percent (64%) of VTS respondents indicated they record Hydrographic data.

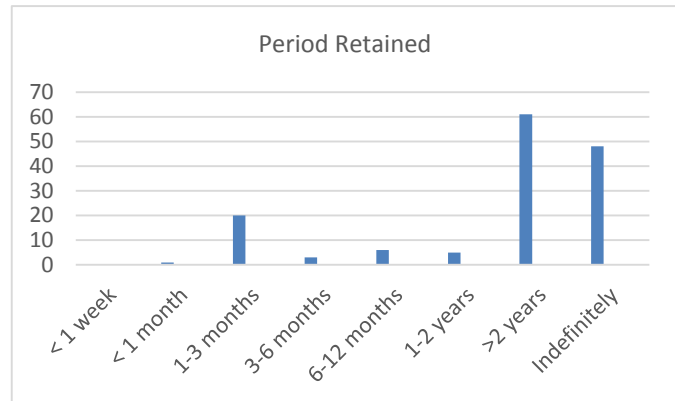
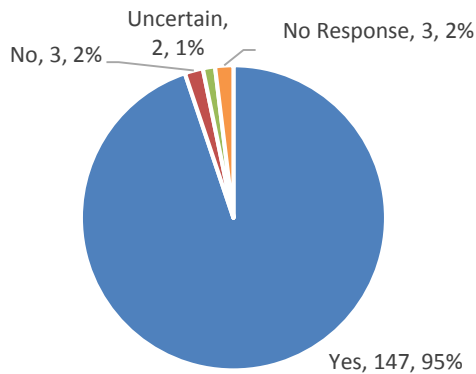
Thirty percent (30%) indicated they do not record Hydrographic data, 2% were uncertain and 4% did not respond to the question.



G. Ship details

Ninety-five percent (95%) of VTS respondents indicated they record Ship details.

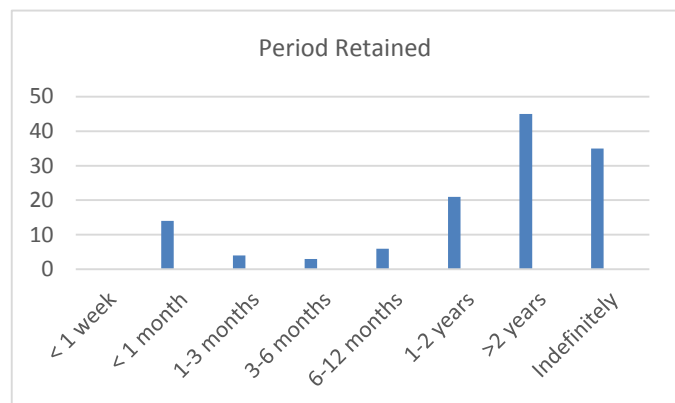
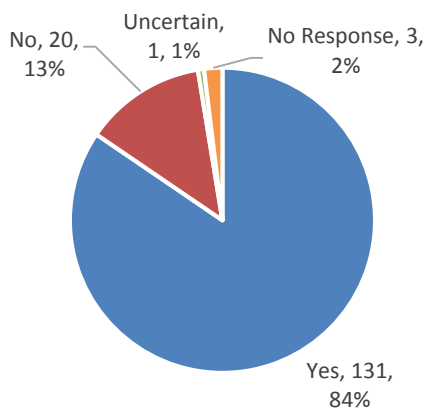
Two percent (2%) indicated they do not record Ship details, 1% were uncertain and 3% did not respond to the question.



H. Voyage details

Eighty-four percent (84%) of VTS respondents indicated they record Voyage details.

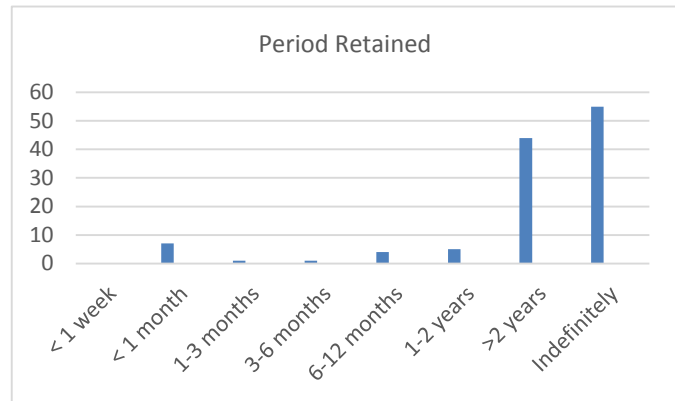
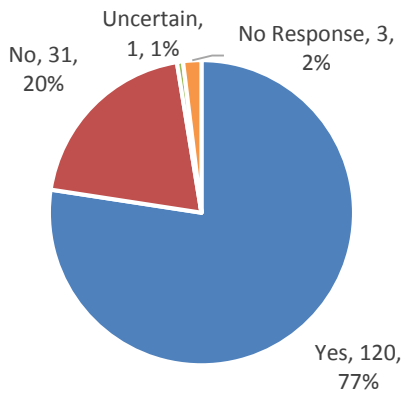
Thirteen percent (13%) indicated they do not record Voyage details, 1% were uncertain and 2% did not respond to the question.



I. Agent details

Seventy-seven percent (77%) of VTS respondents indicated they record agent details.

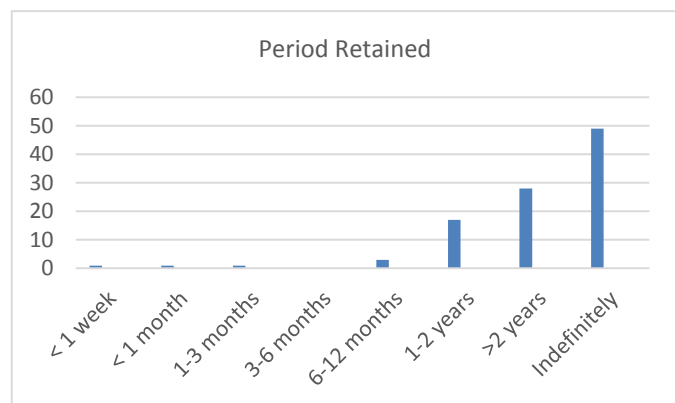
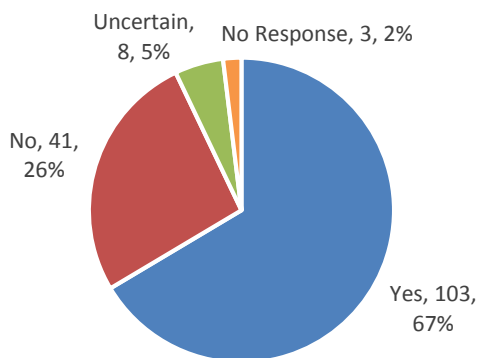
Twenty percent (20%) responded they do not record agent details, 1% were uncertain and 2% did not respond to the question.



J. Allied Services details

Sixty-seven percent (67%) of VTSs responded indicated they record allied services details.

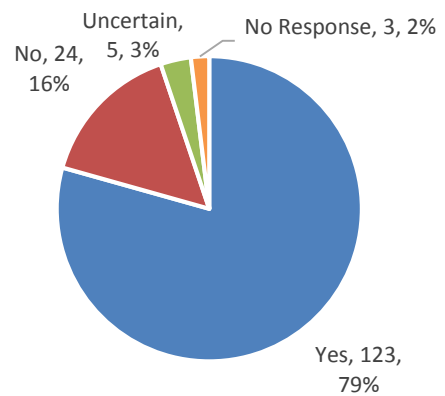
Twenty-six percent (26%) responded they do not record allied services details, 5% were uncertain and 2% did not respond to the question.



4.4.2 Are you required by legislation to store and archive information?

Seventy-nine percent (79%) of VTS respondents indicated they are required by legislation to store and archive information.

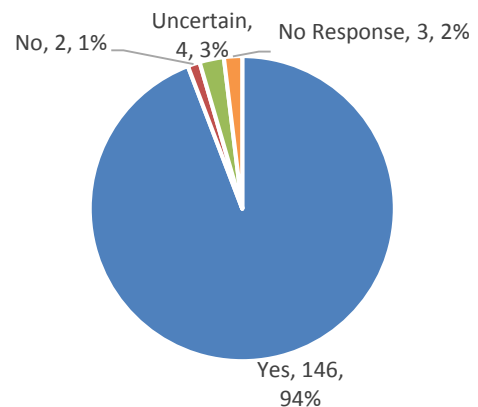
Fifteen percent (16%) responded they are not required by legislation to store and archive information, 3% were uncertain and 2% did not respond to the question.



4.4.3 Do you have the ability to retrieve and analyse historical data for either planning purposes or legal action?

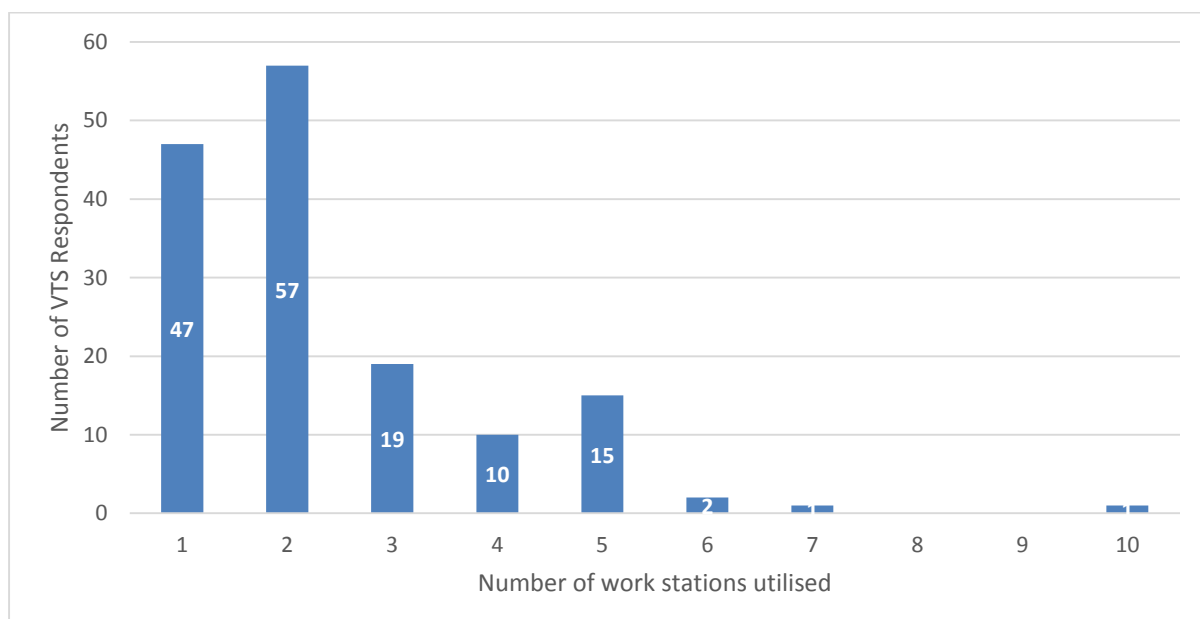
Ninety-four percent (94%) of VTS respondents indicated they have the ability to retrieve and analyse historical data for either planning purposes or legal action.

One percent (1%) responded they do not have the ability to retrieve and analyse historical data for either planning purposes or legal action, 3% were uncertain or 2% did not respond to the question.



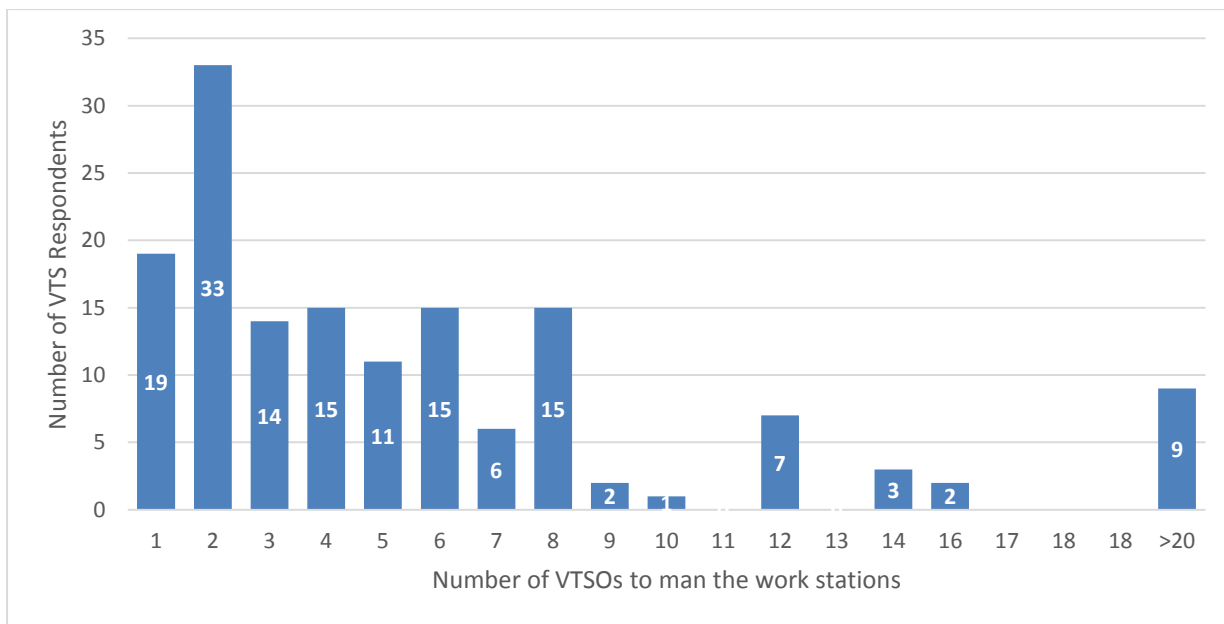
4.5 STAFFING

4.5.1 How many work stations are utilised in daily operations by the VTS?

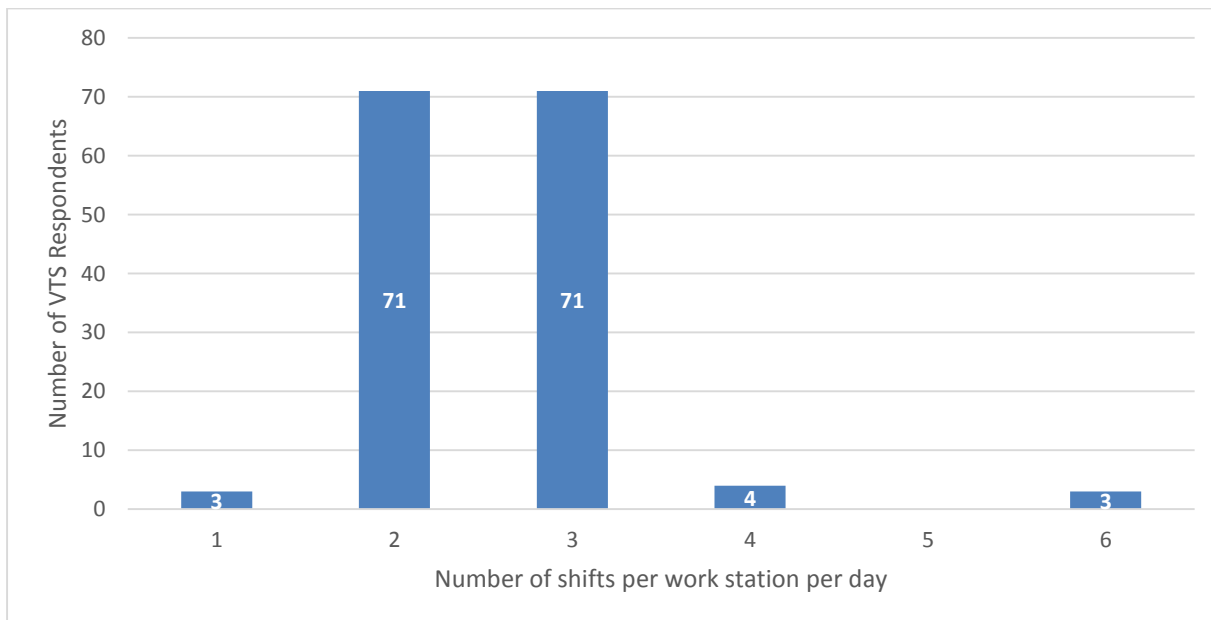


The majority of VTS respondents indicated they utilise one or two work stations in daily operations.

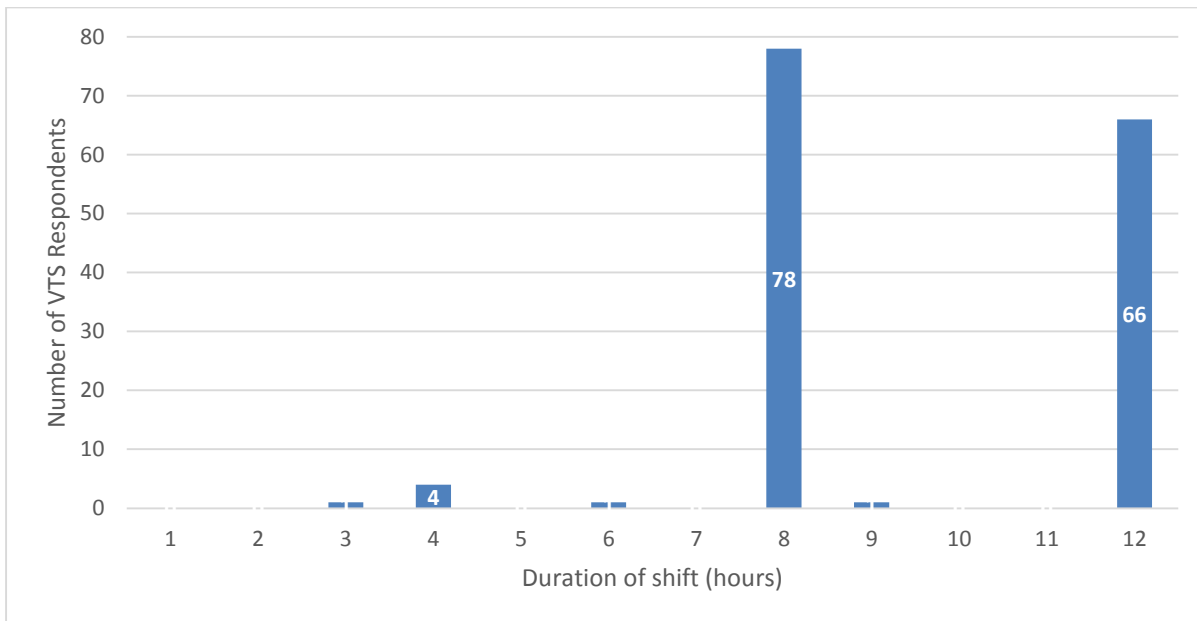
4.5.2 How many VTSOs are required to man the work stations on a daily basis?



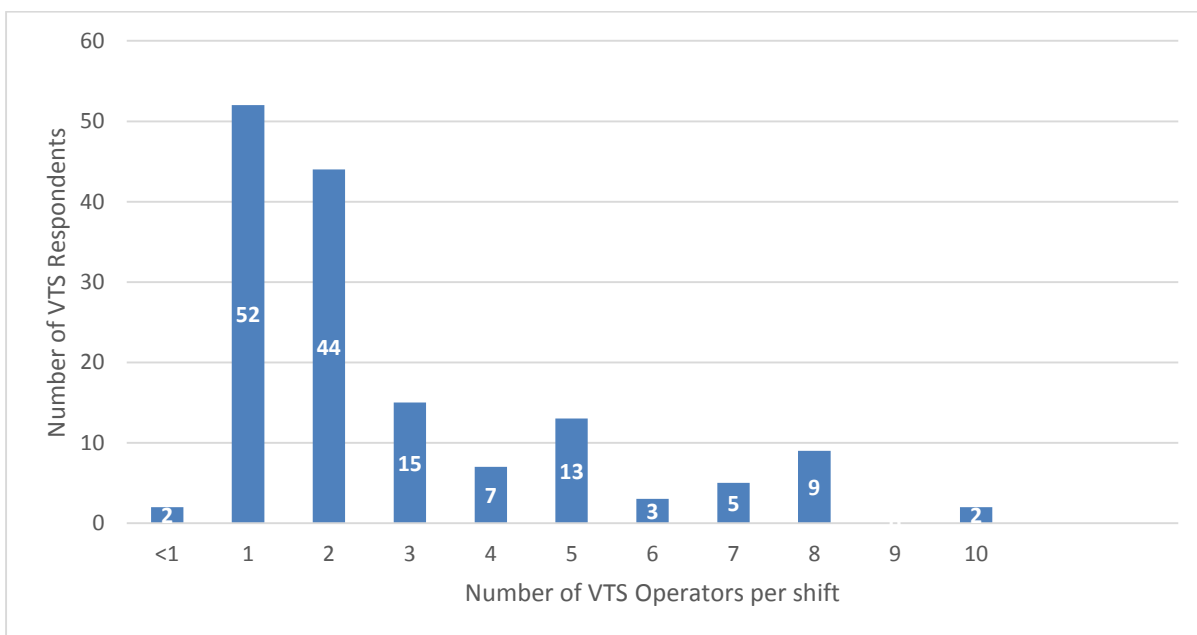
4.5.3 How many shifts do you have per work station per day for the VTS area during normal operations?



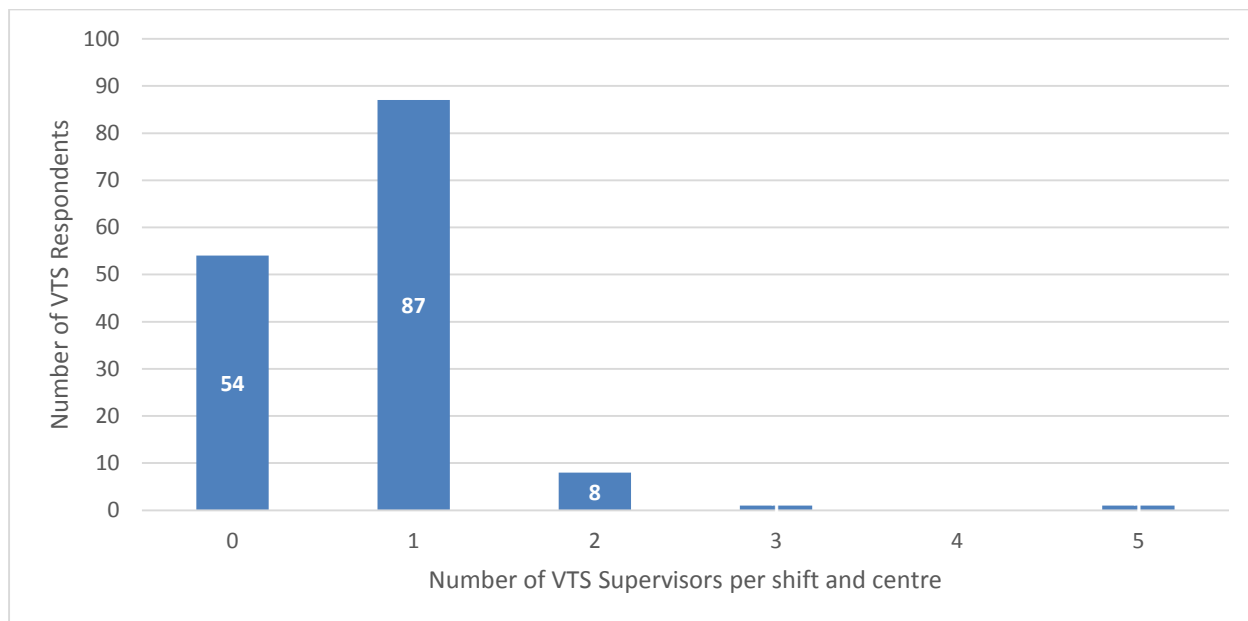
4.5.4 What is the normal duration of each shift (hours) for the VTS?



4.5.5 How many VTS Operators do you have per shift for the VTS area during normal operations?



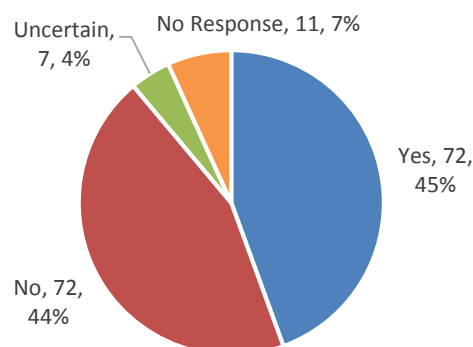
4.5.6 How many VTS Supervisors do you have per shift and centre?



4.5.7 Do you monitor fatigue and stress factors on VTSOs?

Forty-five percent (45%) of VTS respondents indicated they monitor fatigue and stress factors on VTSOs.

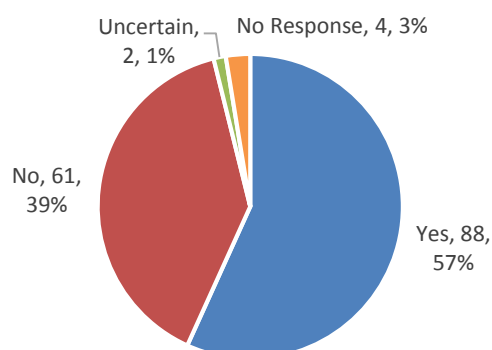
Forty-four percent (44%) indicated they do not monitor fatigue and stress factors on VTSOs, 4% were uncertain and 7% did not respond to the question.



4.5.8 As a prerequisite to VTS training, do you require previous Maritime education?

Fifty-seven percent (57%) of VTS respondents indicated they require previous Maritime education as a prerequisite to VTS training.

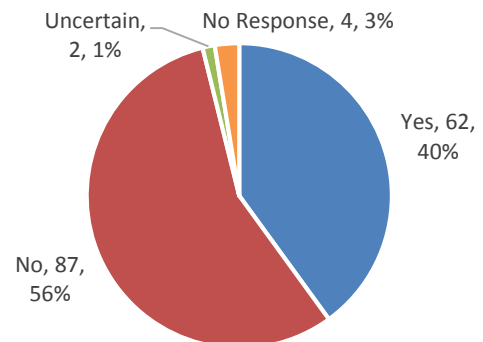
Thirty-nine percent (39%) indicated they do not require previous Maritime education as a prerequisite to VTS training, 1% were uncertain and 3% did not respond to the question.



4.5.9 As a prerequisite to VTS training, do you require previous Maritime experience?

Fifty-six percent (56%) of VTS respondents indicated they do not require previous Maritime experience as a prerequisite to VTS training.

Forty percent (40%) indicated they do require previous Maritime experience as a prerequisite to VTS training, 1% were uncertain and 3% did not respond to the question.



4.5.10 Other?

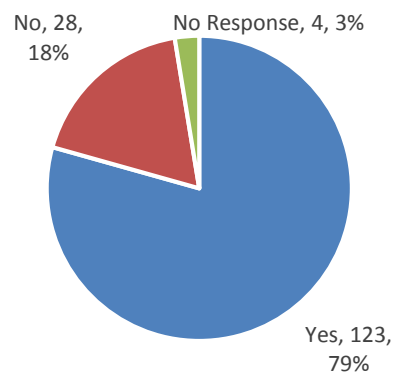
Responses included:

- A pre-degree certificate (eg. maritime, navigation and/or communication) issued by a government agency.
- Basic knowledge on dangerous cargo's.
- Deck officer with sea experience.
- Health certificate as for officer of navigational watch.
- Inland navigation experience.
- On the job training.
- Psychometric testing.

4.5.11 Do you provide a VTS Certification Log to VTS personnel?

Seventy-nine percent (79%) of VTS respondents indicated they provide a VTS Certification Log to VTS personnel.

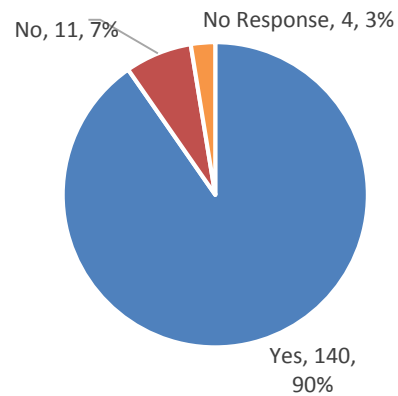
Eighteen percent (18%) indicated they do not provide a VTS Certification Log to VTS personnel and 3% did not respond to the question.



4.5.12 Do you have a process of regular assessment of the performance of VTS personnel?

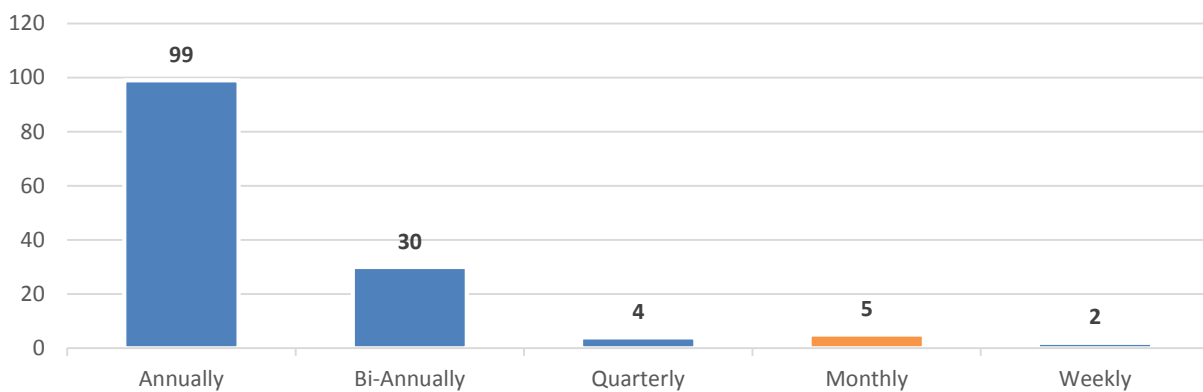
Ninety percent (90%) of VTS respondents indicated there is a process of regular assessment of the performance of VTS personnel.

Seven percent (7%) of VTSs responded they do not have a process of regular assessment of the performance of VTS personnel and 3% did not respond to the question.



If yes, please explain how often.

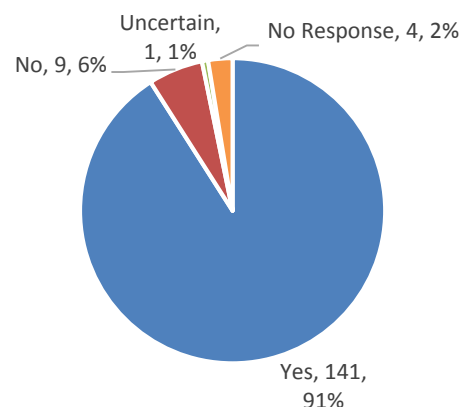
The majority of VTSs (71%) responded they assess the performance of VTS personnel annually.



4.5.13 Do you require staff to be trained to the V-103 standard before undertaking VTS duties?

Ninety-one percent (91%) of VTS respondents indicated they require staff to be trained to the V-103 standard before undertaking VTS duties.

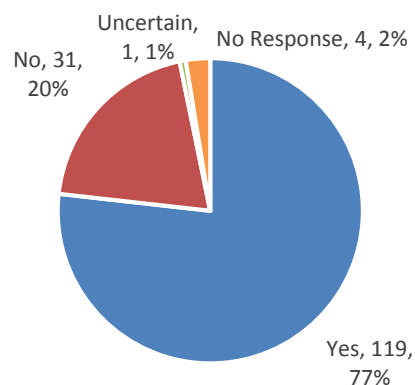
Six percent (6%) of VTSs responded they do not require staff to be trained to the V-103 standard before undertaking VTS duties, 1% were uncertain and 2% did not respond to the question.



4.5.14 Do you have a revalidation process?

Seventy-seven percent (77%) of VTS respondents indicated they have a revalidation process.

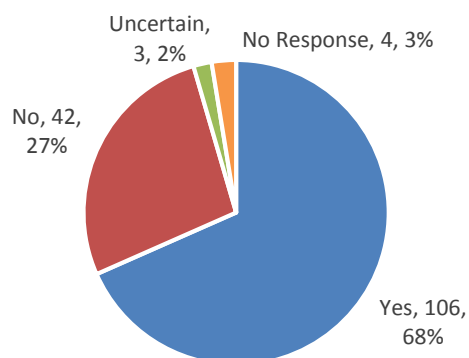
Twenty percent (20%) indicated they do not have a revalidation process, 1% were uncertain and 2% did not respond to the question.



4.5.15 Does your revalidation/refresher process require training?

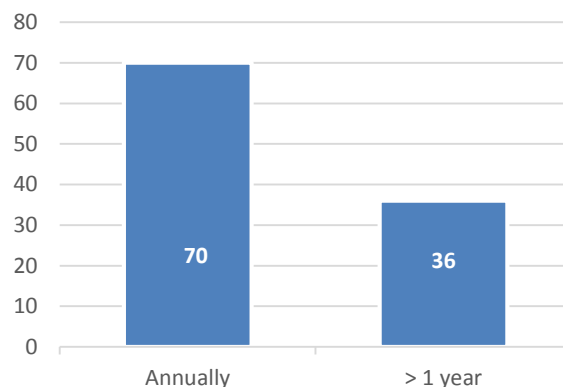
Sixty-eight (68%) of VTS respondents indicated they have a revalidation / refresher process.

Twenty-seven percent (27%) indicated they do not have a revalidation / refresher process, 2% were uncertain and 3% did not respond to the question.



If yes, please explain how often.

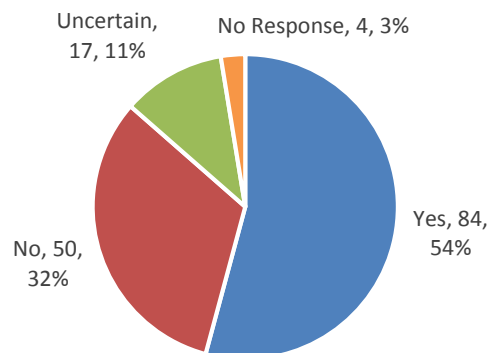
The majority of VTSs (66%) respondents indicated they undertake a revalidation/refresher process annually.



4.5.16 Do you follow IALA Guideline 1045 on Staffing Levels at VTS Centres?

Fifty-four (54%) of the VTS respondents indicated they follow IALA Guideline 1045 on Staffing Levels at VTS Centres.

Thirty-two percent (32%) indicated they do not follow IALA Guideline 1045 on Staffing Levels at VTS Centres, 11% were uncertain and 3% did not respond to the question.

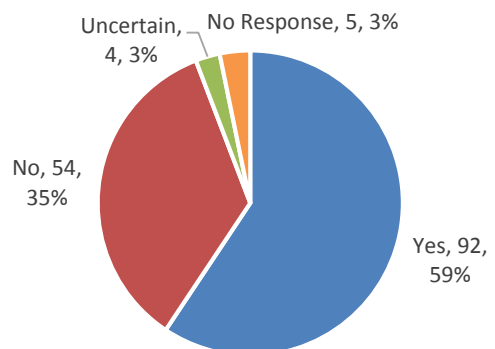


4.6 SERVICE QUALITY

4.6.1 Do you use a Quality Management System (QMS)?

Fifty-nine percent (59%) of the VTS respondents indicated they use a Quality Management System (QMS).

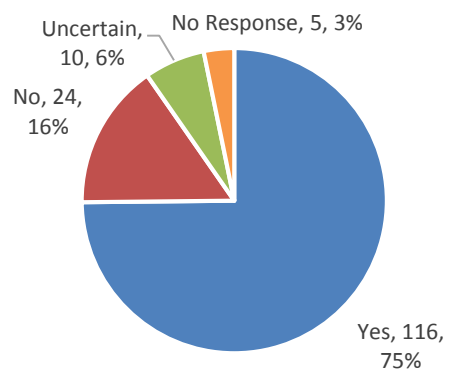
Thirty-five percent (35%) of VTSs responded they do not use a QMS, 3% were uncertain and 3% did not respond to the question.



4.6.2 Do you use a Safety Management System (SMS)?

Seventy-five percent (75%) of the VTS respondents indicated they use a Safety Management System (SMS).

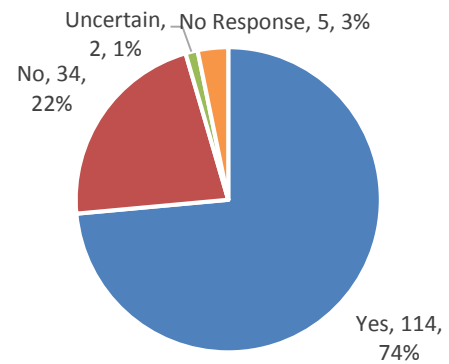
Sixteen percent (16%) indicated they do not use an SMS, 6% were uncertain and 3% did not respond to the question.



4.6.3 Do you analyse VTS related marine casualties and incident statistics?

Seventy-four percent (74%) of the VTS respondents indicated they analyse VTS related marine casualties and incident statistics.

Twenty-two percent (22%) indicated they do not analyse VTS related marine casualties and incident statistics, 1% were uncertain and 3% did not respond to the question.





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Association Internationale de Signalisation Maritime