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COVER NOTE

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COMMISSION STAFF WORKING DOCUMENT

Ex-post evaluation of Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system

{SWD(2018) 227 final}

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Glossary

Term or acronym	Meaning or definition
AIB	Accident Investigation Body
AIS	Automatic Information System
CISE	Common Information-Sharing Environment
COLREG	Convention on International Regulations for Preventing Collisions at Sea
EMCIP	European Marine Casualty Information Database
EMSA	European Maritime Safety Agency
III Code	IMO Implementation of International Instruments Code
IMO	International Maritime Organisation
HAZMAT	Hazardous materials and dangerous goods
HLSG	High Level Steering Group on the Governance of the Digital Maritime System and Service
LL	International Convention on Load Lines
LRIT	Long Range Identification and Tracking system
MARPOL	International Convention for the Prevention of Pollution from Ships
NIR	New Inspection Regime (port State control)
NSW	National Single Window
MRS	Mandatory Reporting Systems
PCS	Port community systems
PMoU	Paris Memorandum of Understanding on port State control
QMS	Quality Management System
RFD	Reporting Formalities Directive
RO	Recognised organisation

SOLAS	International Convention for the Safety of Life at Sea
SSN	Union Maritime Information and Exchange System (SafeSeaNet)
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
UNCLOS	United Nations Convention on the Law of the Sea
VIMSAS	Voluntary IMO audit scheme
VTMIS	Vessel Traffic Monitoring and Information Exchange System
VTS	Vessel Traffic Services

The reasons behind EU wide Vessel Traffic Monitoring stems back to the very start of the formation of the EU maritime safety policy in the early 1990s. Information about hazardous (dangerous) goods being traded and transported carried on board vessels was first included in the HAZMAT Directive (93/75/EEC)[1]

This was replaced by the Directive establishing a Community vessel traffic monitoring and information system in 2002 (Directive 2002/59/EC, hereafter VTMIS), forming part of a legislative package of rules seeking to prevent and better address maritime incidents such as the ERIKA and PRESTIGE accidents. Coastal states have a crucial need for accurate information regarding where a vessel is and what it is carrying as well as the ability to communicate and share such info within and between concerned Member States. To do so they need to monitor traffic along their coast and be able to intervene as early as possible, saving life and mitigating any consequences.

Directive 2002/59/EC introduced a reporting obligation on the Ship (master, operator or agent). It ensured a more uniform implementation of international requirements (as established by the International Maritime Organization) on vessels to carry AIS[2] transponders and on the coastal States to invest in AIS shore based installations along their coast, to enable the monitoring.

The current version of the VTMIS Directive (amended by Directive 2009/17/EC[3]) provides the legal basis for the Union Maritime Information and Exchange System *(SafeSeaNet or SSN)*, for the purposes of achieving the core objectives in the VTMIS Directive and other relevant EU Legislation. It also introduced the provisions related to a ship in need of assistance seeking a place of refuge (PoR), learning from the accidents, by and large implementing the International (IMO) PoR Guidelines. These provisions were placed in the VTMIS Directive as traffic monitoring and sharing of information is 'key' in such situations and given the already established system that could be used and built upon, especially as regards vessel positions and hazardous material carried as good on board.

It is in this context important to recall that the Commission originally programmed revision of the VTMIS Directive in 2013, following an Impact Assessment Study[4], was put on hold at the strong request of the Member States because of their efforts and resources focussed on

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[1] Part of the Safe Seas Communication of 1993, in ensuring that the then EU MS respected their international obligations as coastal States.

[2] AIS = Automatic Information System

[3] In the framework of the 3rd maritime safety package Directive 2002/59/EC was amended by Directive 2009/17/EC, giving a clear legal status to the Union Maritime Information and Exchange System (SafeSeaNet) and sets general technical requirements for the system, codifying de facto developments.
[As reported on in the 2011 VTMIS Implementation report] The process of the development and establishment of the System has been carried out within the framework of the 'SafeSeaNet' expert group, consisting of Member States experts. Initially, this Group was chaired by the Commission. Since 2004 the Group has been chaired by EMSA and it has developed a full set of documentation, technical specifications and operational procedures for the purpose of setting up the EU-wide system. The system has been built and is operated in accordance with the technical specifications and procedures agreed in the expert group and rolled out in a uniform and harmonised manner to allow the coherent functioning of the system at both decentralised and centralised levels.

[4] https://ec.europa.eu/transport/modes/maritime/digital-services/safeseanet_en

implementing the Reporting Formalities Directive[5] and in particular the setting up of the national single windows, given the approaching deadline of 1 June 2015. In that situation the Commission decided to instead continue to support Member States in their National Single Window (NSW) implementing work and by preparing the overall system – the Union Maritime Information and Exchange system (SSN) for the changes in the reporting flow and for additional messages going into the system.

Thereafter work was limited to a revision of the Annex III to the VTMIS Directive clarifying its scope in view of also the RFD and part A of its Annex regarding reporting formalities resulting from legal acts of the Union. It also made the cross references to the RFD[6] and therefore between the two Directives clear. This is also underlined in the implementation report of the RFD in 2014[7] (as set out in the context) – '*A link has been established between the Reporting Formalities Directive and Directive 2002/59/EC [VTMIS] establishing a community vessel traffic monitoring and information system and, in particular as regards SafeSeaNet, the Union Maritime Information and Exchange system. Relevant reporting information will have to be exchanged through the SafeSeaNet system, which, apart from the safety function, allows for the exchange of additional information aiming at facilitating maritime traffic and maritime transport.*'

In line with maritime transport and maritime safety policy the logic was the use of SafeSeaNet to further facilitate the exchange and sharing of information and further facilitation and use of the system, the integrated information in the system and a platform to ensure the convergence and interoperability of maritime systems and applications, including space- based technologies (e.g. Satellite -AIS)

The system was consequently further clarified and developed in the 2014 amendment[8] of the VTMIS Directive; these changes reflected one the one hand the technological advancements that had been taken place in EMSA, in particular the integration and interoperability of various information streams into one (the so called Integrated Maritime Services, IMS), and, on the other hand, importantly, addressing the strong connotation with the expression *SafeSeaNet* to maritime safety, clarifying that it is a system not only for the VTMIS but for all other relevant Union legislation.

Directive 2014/100 further explains that *the Union Maritime Information and Exchange system, SafeSeaNet, established in accordance with Directive 2002/59/EC, apart from enhancing maritime safety, port and maritime security, environmental protection and pollution preparedness, allows for the exchange, in accordance with Union legislation, of additional information aiming at facilitating efficient maritime traffic and maritime transport.*

Annex III of the VTMIS Directive, which already through the 2009 amendment covered the Union Maritime Information and Exchange System and reference to other relevant Union legislation, was therefore made more explicit by referencing those Union acts in regard to which SafeSeaNet is and can be used, such as *(inter alia)*:

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[5] Directive 2010/65/EU

[6] Articles 5 and 6.
[7] COM(2014) 320 final of 25.6.2014
[8] Commission Directive 2014/100

- Directive 2000/59/EC on Port reception facilities for ship-generated waste and cargo residues;
- Directive 2005/35/EC on ship-source pollution;
- Directive 2009/16/EC on port State control; and,
- Directive 2010/65/EU on Reporting Formalities.

At the same time the formal cooperation with MS regarding the development of the system was updated. For its governance the Commission cooperates closely with the *European Maritime Safety Agency*, technical host of the system, and with EU/EEA Member States in the formally established High Level Steering Group on the Governance of the Digital Maritime System and Services[9].

1.1. Purpose of the evaluation

The ex-post evaluation of Directive 2002/59/EC, establishing a Community vessel traffic monitoring and information system (VTMIS) has been initiated under and forms part of a more comprehensive Maritime Fitness Check[10].

The evaluation forms part of the Commission's Regulatory Fitness and Performance Programme (REFIT) and pays particular attention to potential areas for administrative burden reduction and simplification.

The evaluation was initiated in October 2016 and finalised in October 2017. Its purpose is to assess the relevance, effectiveness, efficiency, coherence and EU added value of the VTMIS Directive and in particular the system - the Union Maritime Information and Exchange System (SafeSeaNet) - set up therein, including its interlinking with other relevant EU legislation including the national single windows (NSW), as required by Directive 2010/65/EU on Reporting Formalities (RFD) [11]. Consequently, the underlying evaluation support study[12] was done in conjunction with the inter-related RFD.

Hence, the evaluation pays particular attention to how the Directive has met its aims and objectives. How the system, established within the VTMIS, has been operated and developed in relation to the objectives in the Directive and of all relevant EU legislation; apart from enhancing maritime safety, security, environmental protection and pollution preparedness, how the system allows for the exchange and sharing of information facilitating efficient maritime transport and maritime traffic. It therefore also covers areas for administrative burden reduction and simplification for maritime transport facilitation.

Consequently there is a need to look into how the system provides cross-sector, cross-border maritime information administration-to-administration (A2A) following changes in the reporting stream business-to-administration (B2A) introduced by the RFD.

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[9] See further chapter 4.
[10] The overall justification of the maritime fitness check is to look more closely at the interaction between the concerned legislative acts and their implementation – including the supportive role the European Maritime Safety Agency (EMSA) can play – to check whether and how the objectives of competitiveness and quality shipping can be better supported and mutually reinforced, while also considering the international rules and conventions on which they are based and that they enforce.
[11] The revision of the RFD follows a separate path.
[12] https://ec.europa.eu/transport/facts-fundings/evaluations/reports-year_en

The purpose of this evaluation is therefore also to see how far this has been achieved, if there are overlaps, gaps or any unintended or unexpected effects, including the change of reporting from B2A, now made mandatory through the RFD into the National Single Windows.

1.2. Scope of the evaluation

The evaluation examines the application and impacts of the VTMIS Directive from 2009, including when the exchange system became operational, and including the changes to the system in 2014, until the 30th of June 2016 in the 24 EU[13] Member States in which it has been implemented. The scope also covers the implementation date of 1 June 2015 for the national single windows, as explained above, as regards the reporting stream of the required reporting under the VTMIS Directive and other EU legal acts.

This evaluation was supported by an evaluation study report conducted by an external contractor, and provided the Commission with an independent evidence-based assessment of the VTMIS.

Attention has been particularly paid to:

(1) the visits, carried out by the *European Maritime Safety Agency (EMSA),* to all concerned Member States to verify implementation and more particularly to certain issues which have been identified therefrom;

(2) the Horizontal analysis carried out by EMSA and discussed with MS which indicate that certain issues are repeatedly encountered and of more generic problem for MS; and,

(3) the required work of the High Level Steering Group[14] and the SSN, LRIT and IMS expert sub-groups, established thereunder.

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2. BACKGROUND TO THE INITIATIVE - CONTEXT

2.1. Context and Description of the initiative

The responsibilities of States as flag State (or state of registry), port State and coastal State are defined through a system of international instruments and regulations.

The foundation for such international instruments – i.e. the basis for laws and principles for all nations to follow concerning the sea – is established by the 1982 United Nations Convention on the Law of the Sea. This is an umbrella convention that sets the scene for the International Maritime Organisation (IMO) conventions, International Labour Organisations conventions etc.

Hence the International Conventions define the obligations of the Contracting Parties. The implementation of coastal State (and flag and port State) obligations under IMO instruments are guided by the now mandatory IMO Implementation of International Instruments Code[15] (III Code) and cover areas such as radio-communication services, search & rescue services, ship's routeing, ship reporting systems, vessels traffic services and aids to navigation.

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[13] and two maritime EEA countries
[14] See chapter 4 - *governance*
[15] IMO Resolution A.1070(28)

This evaluation does not question these international instruments, to which all EU Member States are contracting parties, but instead looks at the effective implementation and application of them under EU law.

In particular a State with a coast must be in a position to monitor (and regulate as necessary) the maritime traffic and to be able to take mitigating measures should an incident or accident occur. This is particularly important when it comes to carriage of dangerous or hazardous goods (HAZMAT). The VTMIS Directive therefore forms part of the implementation of these international obligations incumbent on Member States as coastal States.

In so doing, all participating States realized from the start the gain and added value in setting up a pan-European system consisting of national systems collecting information required by the Directive and other EU Legislation enabling the exchange and share information between authorities upon request. There would otherwise have been a development where each and every act would require its own system and not necessarily linked with each other. Hence risk for duplication of systems and therefore costs as well as lack of harmonisation and simplification. Setting up of the system A2A, focussing on simplification and avoiding duplication, was also a first step in digital information sharing and inevitably involved technical standards and common procedures enabling cross-border and cross-sector communication between EU Member States.

Since the system started to become operational in 2009[16] and until 1 June 2015[17] reporting was from business into the national SSN[18] (B2A). The reporting obligation, at that time the port and dangerous goods information (messages) required by the VTMIS Directive[19], was put on the operator, agent or master of a ship. In reality, in many cases, it was the agent who inserted the relevant information into the national SSN (n-SSN). This happened de facto (out of practicality) and not due to any legal requirement[20]. In order to meet obligations, the messages reported into the n-SSN should be available to any MS at request, cross-border, where they so needed (the more detailed information about dangerous goods is not needed all the time; but crucial in a situation of a ship in need of assistance). This enabled the first monitoring of vessel traffic carrying dangerous goods to/from EU ports and along the coasts of the EU. Hence the exchange mechanism was developed at the central level and is since the start hosted and technically managed in the European Maritime Safety Agency (EMSA)[21] as one of its core tasks. This enabled the administration-to-administration exchange and sharing of information (A2A). The system is therefore both centralised and de-centralised.

After the 1 June 2015, the deadline stipulated in the RFD, the information from business-to-administration should be reported via the National Single Windows (NSW), in turn linked to the n-SSN and using the exchange mechanism enabling A2A. Hence the B2A reporting then changed from into the n-SSN instead going into the NSW.

The NSWs required by the RFD provide a single entry point for sending any messages based on reporting obligations specified in the various EU acts (implementing international

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[16] The deadline for implementation in Directive 2002/59/EC
[17] Implementation deadline for the National Single Windows in the RFD
[18] The Directive stipulates in article 4.1 that reporting can be done by the operator, agent or master of a ship.
[19] Annex 1
[20] Although the requirement introduced by the 2009 amendment of the VTMIS Directive stipulated that 'The system shall use industry standards and be able to interact with public and private systems used to create, provide or receive information within SafeSeaNet.'
[21] EU Regulation 1406/2002

reporting obligations). This was done in order to improve the situation of too many reporting requirements stemming from different pieces of EU legislation put on the ship resulting in inefficiency; several reporting of the same information but to different national authorities requiring them. The NSW instead aimed to have one point – a gateway; the national single window - where the reporting was reported once per port call and then the various authorities could get the information from that 'window'.

Like before and given the linking with the n-SSN, the exchange mechanism allowed for, apart from those stipulated in the VTMIS Directive, relevant other messages to be exchanged using the same system. This in turn allowed as far as possible the reporting once principle cross-sector and cross-border included in the VTMIS Directive. That principle is shared with the RFD.

The difference is that the reporting once principle in VTMIS refers to the messages that should use the exchange mechanism to enabling 'once' and 're-use' between MS and across sectors in different MS (currently the port and dangerous goods (so called port+), waste and security messages) while the RFD refers to all messages of parts A, B and C of the Annex of the RFD and avoiding all same messages being reported several times to different authorities at national level. Therein lays then the possibility for (reporting) burden reduction both on administrations and on industry, not only at national level but at EU level.

The Directive requires Member States and the Commission to cooperate to develop and update the Union Maritime Information and Exchange system, on the basis of the experience gained in operating the system, its potential and its functions, with a view to enhancing it, taking into account developments in information and communication technologies.

Hence, the experiences gained and technical advancements made since 2009, in particular in developing an interoperable data exchange system which can combine information from SafeSeaNet with information from the other Union monitoring and tracking systems (CleanSeaNet, the European Union Long-Range Identification and Tracking of Ships European Data Centre (EU LRIT Data Centre) and Thetis), and also from external systems (e.g. satellite AIS), enabled Integrated Maritime Services. This was codified in the 2014 amendment.

The system in its traffic monitoring aspects had been developed to provide Member States' authorities and Union bodies, comprehensive information on, for example, ship positions, dangerous cargoes, pollution, etc., as well as provide support services in areas such as coast guard functions, anti-piracy and, statistics.

This interconnected system is the cornerstone for facilitating the overall objective for the establishment of the European Maritime Transport Space without Barriers[22] which is necessary for achieving both transport facilitation[23] and as part thereof, trade facilitation and therefore greater competitiveness for (Short Sea) Shipping, still maintaining safety, security and sustainability.

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[22] COM(2009) 10 final, 21.1.2009

[23] This is also the logic followed in the international maritime context in IMO; the FAL committee, a subsidiary body of the Council, became fully institutionalised in December 2008, is there to ensure that the right balance is struck between maritime safety/security and the facilitation of international maritime trade.

2.2 Description of its objectives[24]

The main objective of the VTMIS Directive is to:

"establish in the [Union] Community a vessel traffic monitoring and information system with a view to enhancing the safety and efficiency of maritime traffic, improving the response of authorities to incidents, accidents or potentially dangerous situations at sea, including search and rescue operations, and contributing to a better prevention and detection of pollution by ships."[25]

The Directive covers four main areas:

- Ship reporting and monitoring;
- Notification of dangerous or polluting goods on board ships (HAZMAT);
- Monitoring of hazardous ships and intervention in the event of incidents and accidents at sea, including places of refuge for ships in need of assistance and support to Search & Rescue; and,
- Accompanying measures (e.g cooperation between Member States and Commission for the development of the system)

This is then relates to the vessel traffic monitoring as well as the maritime safety, security and pollution prevention aspects.

To do that, within the Directive, but importantly not limited to the VTMIS Directive alone, Annex III defines the general concept and architecture of the system to be established and used – the Union Maritime Information and Exchange System (SSN) - as a system with the objectives to:

"... [shall] enable the receipt, storage, retrieval and exchange of information for the purpose of maritime safety, port and maritime security, marine environment protection and the efficiency of maritime traffic and maritime transport."

The system hence covers and has the following objectives:

- Maritime safety;
- Port and maritime security;
- Marine environment protection (pollution response); and,
- Efficiency of **maritime traffic** (vessels monitoring) and **maritime transport** (transport facilitation for goods and passengers).

The 2014 amendment further clarified the 2009 amendments which introduced that *'Electronic messages exchanged in accordance with this Directive **and relevant Community legislation** shall be distributed through SafeSeaNet. To this end, Member States shall develop and maintain the necessary interfaces for automatic transmission of data by electronic means to the SafeSeaNet.'*

The 2014 amendment stipulates:

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[24] It is to be carefully noted that the interventions already have and share the objective of simplification and reduction of administrative burden - the 'reporting once' principle – and are inextricably linked. Hence in terms of REFIT objectives these are already inherent in the interventions as adopted by the co-legislators. So while a REFIT evaluation, it will not question those objectives (already set by the co-legislators) but more address how far they have been achieved, and if there are any gaps or unintended or unexpected effects.
[25] Article 1

*'The central SafeSeaNet shall be used for the distribution of electronic messages and data exchanged or shared in accordance with this Directive **and relevant Union legislation, inter alia** '*[26]

The amendment provides a non-exhaustive list of references to other EU legislation which use the system[27].

In addition, the Directive[28] also has the general objective to support the facilitation and establishment of the Union maritime transport space without barriers (EU internal maritime market).

The expected output is to get an indication of how the VTMIS Directive and the system set up thereunder functions, is used, in relation to the Directive objectives and other relevant EU legislation and if there are any overlaps, gaps or potential for additional enhanced use, creating synergies and reducing burden. Or for that matter any unintended or unexpected effects e.g. the link with the RFD.

The objective tree below provides a graphical representation:

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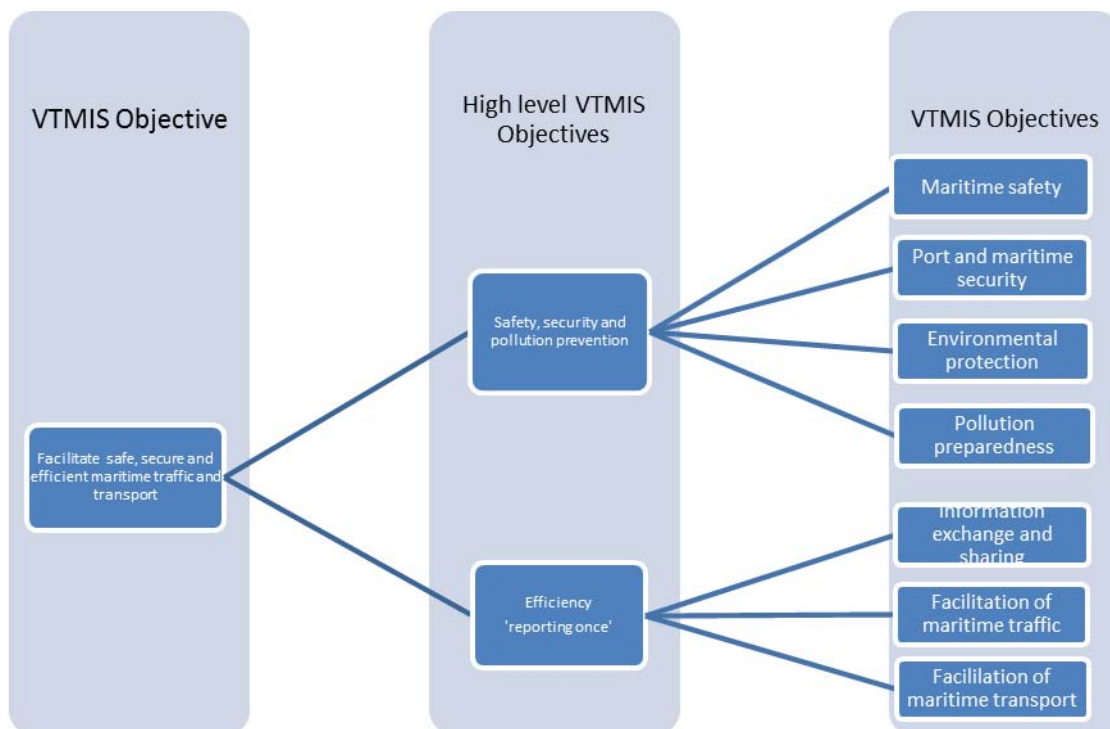
[26] Directive 2002/59/EC, Annex III point 3.

[27] Directive 2000/59/EC on Port reception facilities for ship-generated waste and cargo residues;; Directive 2005/35/EC on ship-source pollution; Directive 2009/16/EC on port State control; and, Directive 2010/65/EU on Reporting Formalities.
[28] Directive 2002/59/EC, Annex III point 3.

The purpose of the legislation is to support uniform fulfilment of international obligations as well as continuous improvement or enhancement in meeting the safety and efficiency objectives. Consequently, how support to all the various administrations and authorities having operational responsibilities use the system, including for transport facilitation but also, as part of that, trade facilitation.

What has been put in place is a system, the Union Maritime Information and Exchange System, which has supported Member States in fulfilling their obligations as coastal States. In that process, which has involved development both at de-centralised levels (national level) and at centralised level (EMSA), synergies have been seen and the system has been developed to support not only the safety, security and pollution prevention but also the efficiency of maritime transport and maritime traffic. The latter has manifested itself in the Integrated Maritime Services providing maritime situational awareness through the maritime picture. The output is a system that is capable of meeting requirements from a large number of stakeholders, in particular those with operational Coast Guard functions needs. This supports and contributes to the reduction of impact should a maritime accident happen e.g. ability to take mitigating action earlier in the case of an oil spill or, the ability to support sea boarder control and fisheries monitoring and control.

2.3 Baseline

The benchmark is the situation before the legislation was implemented and against the objectives pursued by the legislation. Given the centralised (and de-centralised) character of the system, the benchmark must also be seen in the context of the EMSA founding Regulation aimed at providing support to the Commission and the EU MS; the former as host of the system and the latter in relation to their operational needs and tasks in fulfilling their obligations as a coastal State under international, EU and national law.

While the Directive originates from 2002, the time until 2009 was dedicated to get the necessary equipment in place and to start designing what essentially is a EU-wide IT system. Hence, since 2004, when EMSA took over the technical implementation and development, it has been dedicated to getting all parts of the system, both at central and national level in place and connected via the exchange mechanism. The process of building up all necessary equipment and shore-based installations for implementing the Directive was to be completed by the end of 2007. That was done in parallel with all ships installing the AIS on-board, in accordance with the time table set at IMO and included in the VTMIS Directive (this is the carrier requirement for it all to work). In 2009 the system then started to become operational. This was also the time when the EU-wide IT project, called SafeSeaNet, was codified through the amendment of the VTMIS Directive through Directive 2009/17/EC[29].

The relevant baseline is hence what the situation would be if the amendments introduced in 2009 and 2014 (as described above in chapter 2.1 above) would not have taken place; if they have met the needs for achieving the objectives, as described in the objective tree, based on inputs, outputs, and impacts.

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[29] OJ L 131 p. 101 of 25.5.2009

What is not covered in the evaluation is the detail of some provisions related to the measures in the event of exceptional weather (art 18) and, in the event of risks posed by ice (art 18a)[30].

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3. METHOD

The evaluation was supported by a study covering an assessment of the Directive (and the RFD) undertaken by an external contractor, who submitted its final report in October 2017[31] covering the period from 2009, when the SSN became operational, until the 30th of June 2016 in the 24 EU Member States, in which it is implemented.

Information was gathered through different data collection methods: desk study, interviews, and surveys. Information was gathered from different sources and stakeholders. The gathered information was triangulated.

Information gathering activity	
Desk research (2016)	Literature review and desk research to gather information from pre-existing studies.
Open Public Consultation (2016)	Official consultation by DG MOVE, with responses from 8 shipping companies, 9 shipping associations, 11 competent authorities, 4 port authorities, and 20 other organisations. In total, 53 responses were collected during the OPC.
Targeted Consultation (2016)	Targeted survey of 124 shipping lines, 52 ships' agents, 13 competent authorities, and 20 other authorities (port or port related).
(As part of targeted) Consultation of VTMIS/SafeSeaNet Survey of HLSG (2017)	Survey of High Level Steering Group (HLSG) members, focusing on the VTMIS Directive and SafeSeaNet. EU MS Responses (18): BE, DE, ES, FI, FR, GR, HR, IE, IT, LT, NL, RO, SE, SI, UK, BG, DK, PT. Non-EU Responses (2): NO, IS (22 Completed responses received from 20 countries[32]).
EMSA Interviews (2017)	Face-to-face interviews carried out with EMSA officials to discuss the findings of the detailed EMSA Horizontal Analysis, and to examine quantitatively the usage of the SSN system.

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[30] These requirements have been properly applied as shown in the EMSA implementation visits round. It is also to be noted that MS are supported by the integrated maritime services the system provides in monitoring such situations.

[31] Reference to the final report to be added

[32] 3 responses received from SE authorities.

It is to be noted that while there has been a certain consultation fatigue an effort has been made to try and do all consultations for both Directives in synergy, although most focus has been on the RFD given the known difficulties in its implementation. On the other hand, for the evaluation of the VTMIS Directive the available documentation is extensive. A significant volume of quantitative information exists as part of the visits to Member States to verify implementation and application of the Directive in operational terms, carried out by EMSA over the last six years. These reports as well as the horizontal analysis[33] carried out by EMSA and discussed with MS together with the minutes of meetings of the High Level Steering Group for Governance of the Digital maritime System and Services (HLSG) and the recent Impact Assessment support study[34] (2014) also backed up the qualitative analysis, based on direct stakeholder experience.

Among the surveys, the key resource is the dedicated VTMIS/SafeSeaNet survey carried out in 2017, covering members of the High Level Steering Group[35], aimed to address the more complex evaluation questions related to VTMIS 2002/59/EC, which could not be answered either from existing studies or from the OPC or the main body of Targeted Consultation responses.

22 respondents from 19 European countries i.e. most of the EU Member States with a coast, plus Norway, contributed to that survey, aimed at the key national experts managing or using the systems, participating in the HLSG for governance of the digital maritime system and services, primarily collecting qualitative information about achieved developments and applications.

The main topics covered in the questionnaire comprised the following:

- Overview questions;

- Utilisation of SSN;

- Linkage between NSWs and SSN; and,

- Further opening up of the Union Maritime Information and Exchange System (SSN).

A separate information gathering exercise was carried out with EMSA, the European agency hosting and operating the central SSN system, focusing on the outcomes of EMSA's horizontal analysis of the implementation of the VTMIS, and in obtaining quantitative data to complement the other consultation and data collection activities.

Furthermore, an Open Public Consultation (OPC) on the fitness of EU legislation for maritime transport safety and efficiency was launched on the 7th October 2016 and was closed on the 20th January 2017. The OPC was structured, designed and launched directly by the Commission as part of its wider initiative on Maritime Fitness Check. Respondents to the OPC included: Shipowners & operators, National Maritime Authorities, Port Authorities, industry associations, private companies and NGOs as well as, citizens replying in their personal capacity such as seafarers and other interested citizens.

It is widely acknowledged that maritime statistics and data are scarce, incomplete and not always comparable. All possible effort has been made to address this difficulty and to find
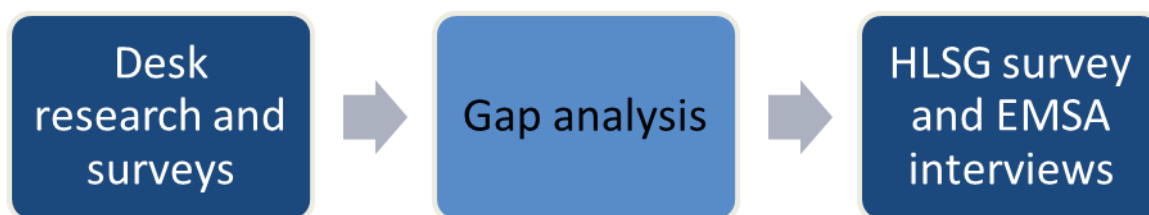
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[33] Regulation 1406/2002 Art 3.5
[34] See footnote 4
[35] The SSN/LRIT/IMS sub-groups.

and use what is available from EMSA and from other sources. Nevertheless, it is a fact that there are gaps and these are not easily overcome, as data is either not available or comparable.

Figure 1: Information gathering for VTMIS evaluation

4. IMPLEMENTATION STATE OF PLAY (RESULTS)

Since the adoption of the VTMIS Directive, the Commission, supported by the European Maritime Safety Agency (EMSA), has monitored its implementation in the EU Member States mainly through the governance body set up for that purpose, the High Level Steering Group[36] (see further Governance below).

Monitoring visits to the Member States have been carried out with the assistance of EMSA in accordance with the EMSA founding Regulation. This visits round were carried out between the years 2009-2016 covering all EU MS as regards all aspects of the VTMIS Directive, including the functioning of the system and its support to MS. Their results are summarised in Annex 3. In follow-up to the 'visits' reports, a number of EU-Pilots initiated by the Commission asking MS to take corrective action and improve as necessary, have taken place. Where the issue identified has been of a more horizontal nature affecting most of the MS it has been discussed in the HLSG and relevant sub-group (Peer review).

The visits and inspections by EMSA on behalf of the Commission are the key permanent monitoring arrangements in place.

Example box 1
An example of horizontal analysis and continuous improvement relates to the quality of the information regarding dangerous goods inputted into the system. This was identified as an issue in many MS and came to the forefront following a maritime accident – the Flaminia (see below) resulting in the development of the Common HAZMAT Database[37] (CHD) together with MS and industry stakeholders in the HLSG.

In April 2011, the Commission published an implementation report[38] as required by Article 26(2), assessing the implementation and the impact of the measures taken according to the Directive. The report is based on and reflects: i) information received from Member States regarding their implementation of the Directive, ii) the findings resulting from the EMSA

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[36] High Level Steering Group for the Governance of the Digital Maritime System and Services

[37] Kept at central level and linked to the system.
It was also followed by training sessions provided by EMSA both to MS and to Industry (as the main party responsible for inputting correct data). In those discussion MS also recognised the need to have access not only to dangerous good carried, but to all goods carried as that significantly improves the possibility to do a more accurate risk assessment (e.g. in the case of fire on board).
[38] COM(2011) 232 final

Member State visits at that time, iii) the 1st interim Horizontal Analysis[39] carried out by EMSA and iv) the periodical SSN data quality and availability checks and the analysis performed by EMSA[40] in monitoring the system.

The 2011 report concluded, in general terms, that the Directive had been implemented and was operational. There was strong indication that the Directive had the intended effect and contributed to enhanced maritime safety, security and environmental protection by providing the maritime surveillance and awareness capabilities. However, one of the key issues identified was, and still is, the perception that the system is for maritime safety only (as the VTMIS directive essentially is maritime safety legislation); possibly contributing to the underutilisation of the system, especially at national level, and therefore pointed to the need to promote its operational advantages, potential for use and services not only for maritime administrations but also other.

EU-wide Digital Maritime Services – Integrated Maritime Services – 'The Maritime Picture'

One of the implementing results best suited to describe the actions to try and address this relates to the implementation since 2009 of the Integrated Maritime Services (IMS) drawing from all systems hosted and operated in EMSA into one interoperable system able to produce synergies and therefore better services to a wide range of end-users. This has then been developed in the IMS sub-group under the HLSG together with and based on MS user demands into what today is the Maritime Surveillance Picture; a user friendly graphical interface displaying all information (varies depending on access rights) on one screen facilitating for authorities. It can also be provided system-to-system so that MS or EU agencies can get the information in their own 'environment'. This action has resulted in improved use of the system, as is evidenced (see figure 1) by the fact that more and more users request access to the Integrated Maritime Services, part of the Union Maritime Information and Exchange System under the VTMIS, for supporting their operational tasks at national or European level.

Figure 1 – IMS total users[41] per year

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[39] EMSA Regulation Article 3.5
[40] EMSA's Maritime Support Services
[41] Users can be any authority with a legitimate interest in and in need of situational awareness at sea and includes apart from Maritime administrations (Safety, Security, Search and Rescue, traffic monitoring, PSC etc) also environment, sea border control, fisheries control, navies, etc e.g. all Coast Guard Functions as well as customs (currently there are 26 users from DG OLAF and approximately 50+ users within the Member States whose organisation is linked with Customs/Taxation).

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IMS: TOTAL NUMBER OF USERS PER YEAR — EMSA
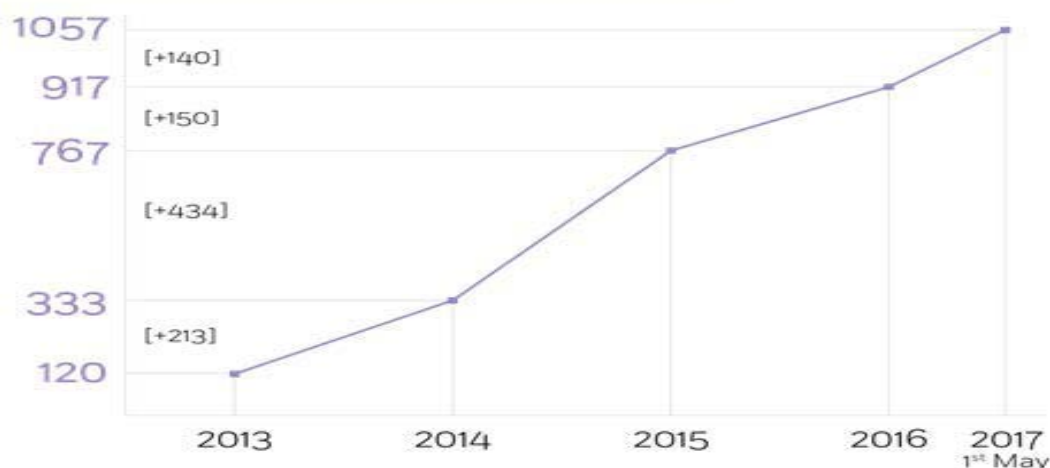
Ships in need of assistance

Article 20.3 in the VTMIS specifically requires the MSs and the Commission to cooperate regarding the functioning of the rules and how to effectively deal with ships in need of assistance seeking a place of refuge.

Work has been carried out by Member States with the support of the Commission and EMSA, since 2013, in consultation with concerned industry, within the HLSG sub-group on Places of Refuge[42], in the wake of the *'MSC Flaminia'* incident[43]. This work aims, in particular, at meeting, in operational terms, the requirements[44] on international coordination and decision-making (Articles 20a 2(f)) and on concerted plans (Article 23 (d)). In 2015, EU Operational Guidelines[45] on Places of Refuge were finalised and agreed. Effectively this demonstrates the process in using a real incident and learn from it and improve operational aspects related to the VTMIS objectives, in particular safety, traffic monitoring and effective information sharing, in fulfilling the legal requirements in turn based on the IMO PoR Guidelines, in a harmonised way. One key aspect of the EU Operational Guidelines is therefore the use of the Union Maritime Information and Exchange System, in particular HAZMAT information[46], in such situations. It enables all involved to have the same 'picture', support each other in risk assessment and, following a request for a place of refuge, taking the vessel safely to a safe place minimising loss of life and impact on the environment. Another key aspect is that the process has brought all actors involved from authorities and industry together focussing on the issue at hand.

This approach and work has been recognised internationally by Authorities and Industry alike.

Example Box 2 - Award-winning[47] work on EU operational guidelines for Places of Refuge
As an example of putting the guidelines to the test was the Modern Express incident where for the first time the

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[42] A sub-group established under the HLSG
[43] MSC Flaminia - a container ship which caught fire on 14 July 2012, occurring on international waters, involving finding a place of refuge.
[44] As well as the Commission Directive 2001/15/EC
[45] See footnote 4
[46] and is why the Places of Refuge provisions are included in the VTMIS Directive
[47] The Commission on behalf of all involved was awarded the Industry Innovation award at the international Conference on Wreck & Salvage in December 2016.

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EU PoR Guidelines were used in a real situation. The incident, successfully resolved, involved the vessel Modern Express, who having lost power was drifting towards the coast of the bay of Biscay with the risk of causing pollution. In using the procedures and process agreed in the EU Guidelines, ensuring efficient cooperation and coordination, a decision on place of refuge was reached by the parties involved and the vessel taken to safety avoiding any pollution. See https://www.youtube.com/watch?v=tJmO7ohBkhM for a short video of the incident made by the involved internationally acclaimed salvage company.

Dynamism and continuous improvement through cooperation for enhanced implementation and application (Governance)

The VTMIS Directive is not 'static', rather quite dynamic. It requires cooperation between Member States and the Commission/EMSA with the objective of extending the cover of the system, and/or updating it, with a view to enhanced identification and monitoring of ships, taking into account developments in information and communication technologies (Article 23).

To achieve this the Directive is so structured that there is a formal governance body – the High Level Steering Group (HLSG) - put in place for the continuous improvement in the technical implementation of the Directive, learning form experience with the operation of the system in both its de-centralised and centralised parts.

The Commission Decision setting up the group provides rules for the management, operation, development and maintenance of the system. The Commission is responsible for the management, development and oversight of the system at policy level, in cooperation with Member States. EMSA is responsible for the technical implementation of the system in cooperation with Member States and the Commission.

This is coupled with the tasks for the HLSG to look at current and future developments of the overall system, including its contribution to maritime surveillance from a holistic perspective.

To meet this, Commission Decision 2016/566 on establishing the High level Steering Group for Governance of the Digital Maritime System and Services effectively merged the thereto existing two governance bodies (the 2009 SSN HLSG[48] and the 2012 eMS[49]) into one. The purpose is to have one fully synchronised governance body composed by high level representatives of the Member States and chaired by the Commission, further integrating and streamlining the work carried out for the reporting formalities, the harmonised eManifest and the system and exchange mechanism.

The objective is to avoid duplication and instead create synergies and further efficiency and coherence between the different existing groups, the technical support from EMSA and the participation of Member States experts, under one governance structure to ensure the harmonised further operation and development of the system as a whole.

The work done[50] for the development of the system and the experience gained in operating and using it was the basis for both the amendments in 2009 and 2014. This illustrates the

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[48] COM decision 2009/584/EC establishing the SSN HLSG (now repealed and replaced by COM decision (EU) 2016/566)

[49] eMS is the informal group set up under the RFD to discuss the technical implementation of in particular the NSWs

[50] The process is such that at the HLSG meetings, EMSA is asked to investigate internally the feasibility for a technical solution to an identified common issue and draw up a proposal on how to address it. This is then discussed in the HLSG and MS are invited to participate in the work on a pilot project basis, until it is agreed in the HLSG, in line with its mandate, and rolled out for all MS following a uniform

dynamism and how the VTMIS Directive implementation and operation is done with the full involvement of the MS at all levels, as well as industry stakeholders, taking a step wise approach, providing continuous improvements and progress. This means that harmonisation, simplification and digitalisation as well as a certain standardisation has taken place since 2009, creating the desired uniformity for the system to work and for its refinement to meet end-user operational needs.

An overview of actions taken by the HLSG resulting in constant development and of increasing added value is EMSA maritime monitoring and information activities and the various systems and databases that the Agency hosts and manages (see annex 4), supporting effective maritime monitoring and situational awareness at sea.

5. ANSWERS TO THE EVALUATION QUESTIONS

5.1. Relevance

5.2.1 Question 1: To what extent are the objectives of the act still relevant today?

The evaluation finds that the core objective of establishing a common information system for vessel tracking and monitoring to enhance safety and efficiency of maritime traffic and maritime transport, remain highly relevant and needed.
This is also reflected in the high priority currently given to the digitalisation of transport. Using state of the art technology is providing enhanced possibilities for end users; reflecting the continued relevance of the objectives originally set out. Digitalisation of transport is a way to reduce costs, improve utilisation of capacity, improve environmental efficiency and contribute to safety.

The actions of the VTMIS stakeholder groups, the regular HLSG meetings, the technical progression of the SSN system, the development of value added services – Integrated Maritime Services (IMS), the 2009 and 2014 amendments to the Directive, all indicate continued relevance of the system, and pressure to adapt to changing needs.

Also supporting relevance is the fact that, the integrated maritime services are used by other EU Agencies, especially in the context of Coast Guard functions cooperation e.g. providing operational services in the areas of anti-piracy, fisheries monitoring and Sea border control on behalf of EU-NAVFOR, EFCA and FRONTEX, respectively. It is also supporting the objectives of MAOC-N and OLAF in the fight against illicit drug trafficking by sea.

Figure 2 shows that the majority of stakeholders in each stakeholder group were of the view that the objectives of the VTMIS Directive are still relevant – in particular eight out of ten National Competent Authorities felt that the objectives of the VTMIS Directive are relevant to a great extent.

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time-table. This is how SSN V.3 and V.4 are implemented. These versions include the necessary technical changes for the A2A at both national and central level, required by the RFD and for the exchange of more information (e.g. waste and security information) between MS.

Figure 2 - To what extent are the objectives of the VTMIS Directive still relevant today?
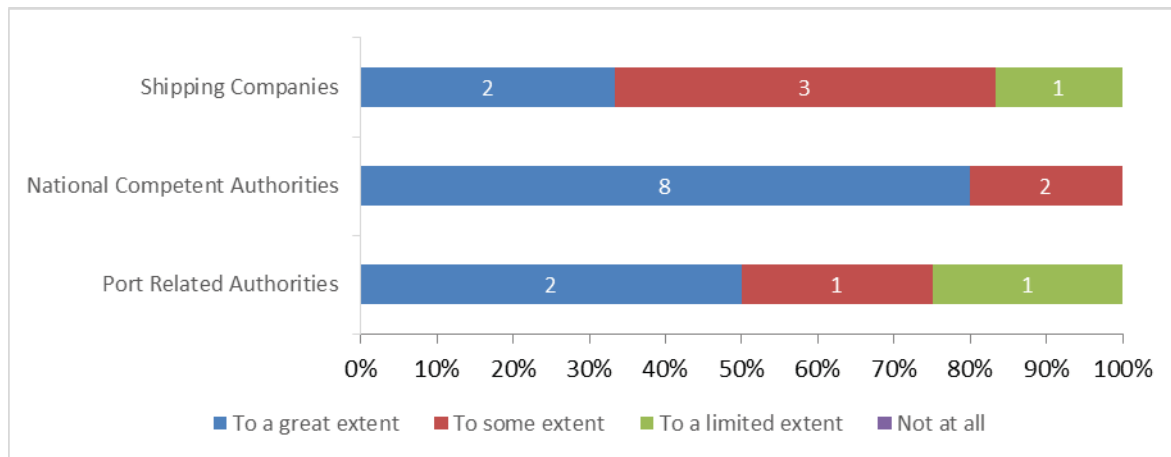
In relation to the specific question regarding an ongoing need for a system, in which a network of nSSNs are connected and communicate information via a central exchange mechanism, all of the national authorities from the HLSG stated that there was still a need, and that the method chosen, using a central information exchange mechanism, although capable of improvement, was seen as a good practical and operational structure. HR argued that to be informed on-time and with correct data is a 'must' for maritime administrations across the EU. In the OPC, this position was echoed.

It can be concluded that the VTMIS Directive and the system are still relevant both in terms of own objectives and wider EU objectives (e.g. digitalisation of transport). The evolving nature of the legislation indicates that it is being adapted to maintain relevance. SSN has been evolving from a "niche" system to a more comprehensive tool that has the capability to support not only the VTMIS itself but all relevant EU legislation (among them the RFD) and therefore basically users with a legitimate interest in the maritime domain, particularly authorities with Coast Guard functions, as shown also by the increased request for access to the IMS. The changes introduced through the 2009 and 2014 amendments are needed and relevant.

5.2. Effectiveness

The VTMIS objectives as explained above is twofold, concerning safety, security and pollution prevention on one hand, and enhanced efficiency, through information sharing and transport facilitation, on the other. Within those are then the objectives for the system.

5.2.1 Question 2: To what extent have the objectives of the Directive been achieved?

Since the start of the system in 2009, the VTMIS Directive has evolved during its implementation. The system supports information sharing, as required by the efficiency aim and this aspect is being strengthened through its revised Annex III in 2014 to allow greater sharing potential for non-safety related maritime information, in support of among others the RFD.

Results from the HLSG survey show that authorities involved are essentially in agreement in stating that the Directive has met or contributed to a considerable extent towards its objectives

in terms of building an information system for safety and pollution control, and especially with regard to emergency procedures (UK). They point to aspects such as the ability to trace a ship's past record for pollution incidents (RO), the way that the system has led to centralisation of all relevant information (FR,LT), the ability to have a global view for monitoring traffic (FI,FR,IT), the establishment of common and transparent (HR) EU procedures (EL). Some however pointed out that it is hard to judge the extent to which the reporting of information directly reduces accidents, but it supports authorities to act appropriately after an incident had occurred (SE), and serve to raise awareness about the transportation of dangerous goods (NL).

The system has contributed significantly to the systematic monitoring of maritime traffic, faster and more reliable data exchange and processing as well as uniform and transparent administrative procedures in maritime ports (HR).

Desk research carried out on effectiveness and EMSA's horizontal analysis on the implementation of the Directive shows that all MS use their national SSN systems, but points towards sub-optimal use of the central SSN system as an exchange mechanism, with relatively low numbers of data requests being made to it, limited use of exemptions, issues regarding data completeness and correctness, and lack of experience with the latest versions of SSN. The use of the system for exchanging information on dangerous goods is not constant, and in most cases only triggered when there is a situation developing at sea with the vessel that could lead to an accident. There have also been initial quality issues with the reported information form business into the system. This is however a standing item for discussion in the Governance group, with continuing improvements being made.

This suggests that while having met the objective of setting-up and into operation an EU-wide system, it has developed to meet the safety, security and pollution prevention objectives as well as, through the codification of the integration of data through the 2014 amendment into the Integrated Maritime Services, the traffic monitoring and surveillance objectives. There are some indications that more can be done as part of the continuous improvements, as it has not reached its full potential in terms of optimising the practice of reporting once and re-use of information in the system between Member States. Data sharing, e.g. a ships reported data on departure from a port is as far as possible re-used as the next port's arrival data, is necessary in order to achieve the reporting once provision set in the VTMIS and shared with the RFD. Effective re-use of information already in the system, and which has not changed from port call to port call, can achieve reduction of the reporting burden for shipping and supports transport facilitation.

Data quality analysis (see chapter 6.4 under question 9) also shows that there are, to a certain extent, deficiencies in data completeness and data correctness across the system as a whole, especially for the 'new' data requirements related to security and waste. This carries the risk that if one Member State cannot be confident of or easily interpret the quality of information requested from another, this undermines the principle of data sharing, and encourages the national administration to rely upon new information gathered directly from the ship on arrival, even if the same information has recently been reported to the system by a neighbouring administration.

However, certain Member States such as BE and PL achieved significantly higher quality than the average, indicating that it is possible within the current framework to reduce the number of errors significantly. The horizontal analyses show positive trends in terms of

quality control, and indeed show that the monitoring procedures and governance provisions are being effective.

5.2.2 Question 3: Which main factors (e.g. implementation by Member States, action by stakeholders) have contributed to or stood in the way of achieving these objectives?

In the OPC survey, all stakeholders were of the view that the system facilitates (contributing factor) the monitoring of maritime transport and maritime traffic, but to varying degrees.

Figure 3: To what extent does SSN facilitate the monitoring of maritime transport and maritime traffic?
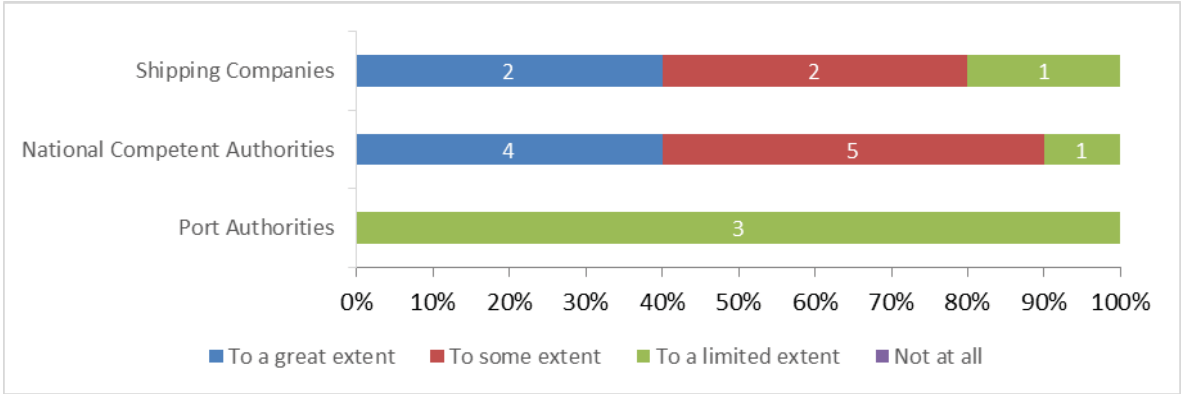
Source: PwC elaboration on OPC results (2017)

The majority of Shipping Companies responding (four out of five) and National Competent Authorities (nine out of ten) were of the view that the system facilitates monitoring of maritime traffic to a great extent or to some extent. In contrast, all three Port-related Authorities were of the view that this was only to a limited extent.

Regarding the question of whether the VTMIS Directive has been effective in achieving its efficiency objective, stakeholders were generally more cautious, and there were different points of view concerning the interpretation of this objective, whether it relates to efficiency within the administrative process as well as efficiency in terms of removing unnecessary administrative burden. Within the HLSG survey, several administrations pointed out that maritime efficiency objectives have not been fully realised, and that there is still untapped potential. BE raised the point that inconsistent data quality of exchanged information is still a barrier. IT also observed that greater integration between the NSW and SSN would help to generate efficiencies for industry[51]. Others e.g. BG, PT and NO felt that improved information flow to the authorities contributed to reducing time spent in port, and in general towards increased efficiency during ship calls (transport facilitation).

In the OPC, the responses in relation to the achievement of the efficiency objectives were varied across the different stakeholder groups.

Figure 4: To what extent has SSN contributed to promoting efficient and competitive maritime transport in the EU?

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[51] to this end they are testing a functionality in the NSW that enables the data provider to re-use data retrieved from SSN.
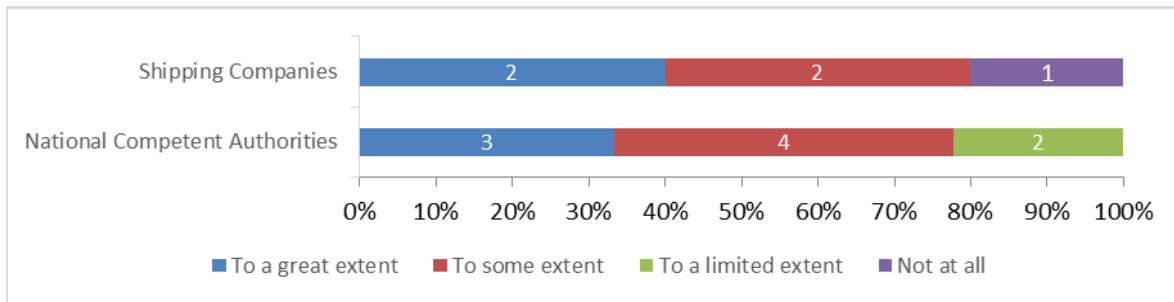
Source: PwC elaboration on OPC results (2017)

Four out of five Shipping Companies were of the view that the system contributed either greatly or to some extent towards promoting efficient and competitive maritime transport, while only one was of the view that it did not contribute to the objective at all.

National Competent Authorities shared this sentiment with seven out of nine reporting that the objective was achieved either to some or a great extent. Only two Port-related Authorities responded to this question.

In the Targeted Consultation of National Competent Authorities and Other Authorities, overall, the responses to the question of whether sharing information through SSN has improved efficiency, were generally positive.

Figure 5: Has sharing information via SSN improved efficiency of maritime activities (National Competent Authorities)?
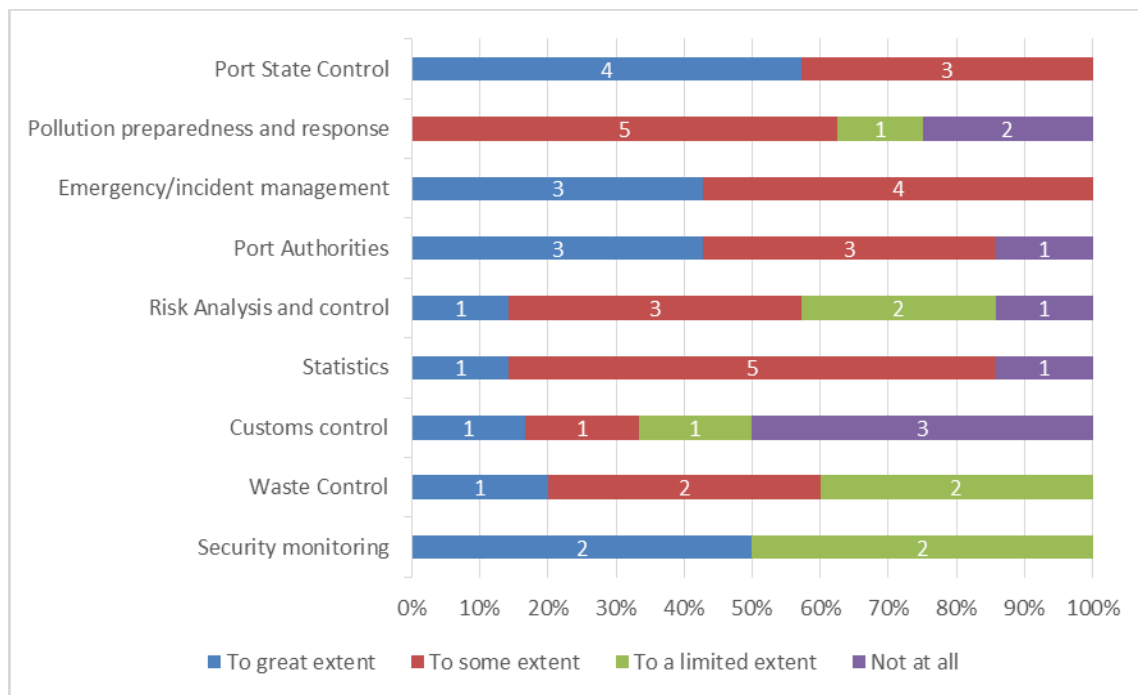
Source: PwC elaboration on targeted survey results (2017)

For most of the activities listed in the survey, National Competent Authorities were of the view that there had been gains in efficiency due to the sharing of data through SSN. These

NCA stakeholders were generally more likely to indicate that benefits were to 'some' or to a 'great' extent than the Other (port-related) Authorities.

Figure 6: Has sharing information via SSN improved efficiency of maritime activities (Other Competent Authorities)?
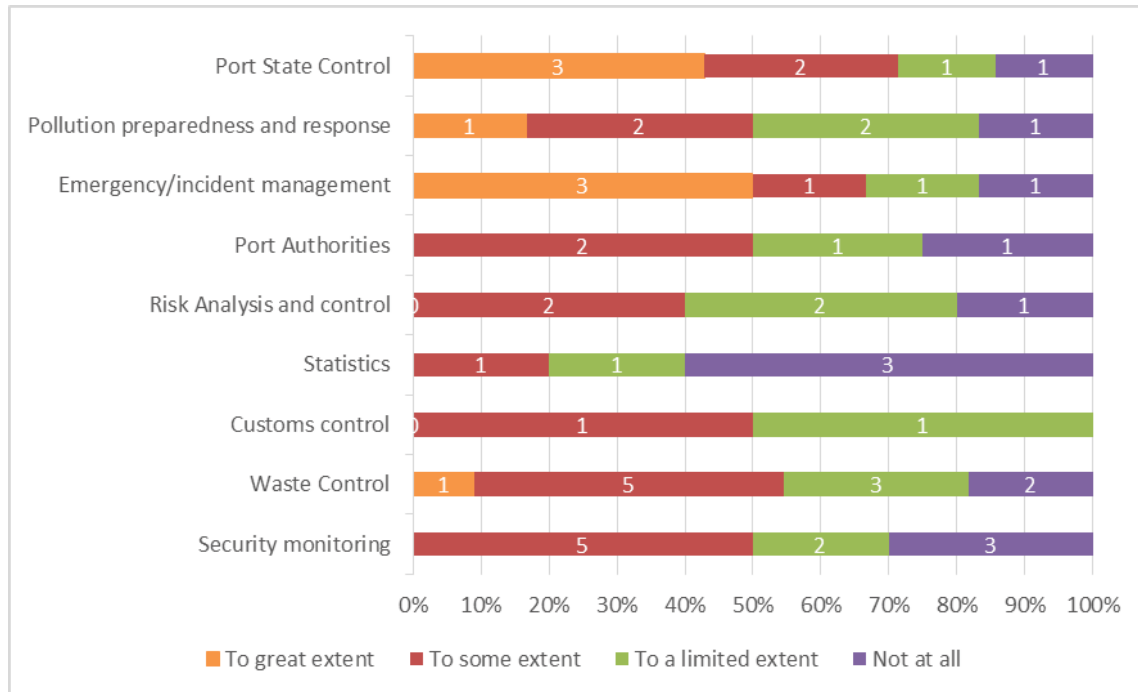
Source: PwC elaboration on targeted survey results (2017)

Overall, the main factor contributing to achieving to objectives has been the development, continuously, and use of the EU-wide system. The core objectives related to safety, security and pollution prevention are well served by the system and supports not only the VTMIS directive, but a number of relates maritime directives. This enables e.g. better and earlier response to accidents involving oil-pollutants.

While the same system is also continuously developed, it is supporting enhanced efficiency. This takes its form in transport facilitation e.g. use of actual time of arrival information for the purposes of timely preparation of port State control inspections. But it has not been put to use for trade facilitation as that type of data is currently not exchanged using the SSN system.

Given the incomplete implementation of the National Single Windows, it was also not always possible to achieve the interlinking between the National Single Window and the national SafeSeaNet system. This hampered data exchange from administration to administration for transport and traffic facilitation.

5.3.   Efficiency

5.3.1   Question 5: Do the costs of the measures adopted in the Directives to achieve the aforementioned objectives remain reasonable and proportionate in relation to the benefits?

With regard to VTMIS, the Impact Assessment support study[52] (2014) analysed the costs associated with the implementation of the Directive. It shows that there were collective development costs of €203 million, shared between the EU and Member States, plus ongoing reporting and administrative costs of €51 million per annum. The ongoing annual costs are mainly incurred by users, i.e. shipping lines reporting the information. Costs per ship call were estimated to be approximately €50 per call.

Annual costs incurred by the national administrations are often difficult to estimate precisely because operational systems may be multi-functional and staff may combine different roles. Costs quoted within the HLSG survey range from around €50,000 per annum, per administration, to around €650,000 per annum.

These costs are considered reasonable and proportionate in relation to the benefits, i.e. better enforcement of safety regulation, and avoidance of maritime accidents. One National Competent Authority (UK) noted that the annual costs of running the nSSN are similar to the costs that any major port would incur for maintaining a Port Community System (PCS) at an individual port level. With regard to the central exchange mechanism, another (ES) pointed out that it is more efficient to have a central exchange mechanism than to have to organise data exchanges on a direct basis between Member States.

Clean-up costs from major incidents such as the ERIKA (France 1999) are estimated to range from tens to hundreds of millions of Euros per case (€350 million in the case of the *Erika[53]* and considerably more in the case of Prestige).

 The majority of National Competent Authorities stated in the survey that the implementation of VTMIS has been effective in achieving its objectives in supporting the area of maritime safety and pollution prevention. One authority (FR) added that SSN is the only ready system by which to exchange information in cases of emergencies at sea. So while it is impossible to ascribe a financial benefit to the prevention of accidents as a direct result of the legislation, there are clear indications that stakeholders see no realistic alternative, a continuing need for SSN, and continuing benefits in its maritime safety role.

Continuous improvement; Building on the existing; avoiding duplication

All 22 respondents in the HLSG survey agreed that there was an ongoing need for an information system in which Member States are able to communicate through a central exchange mechanism. To be informed on-time and with accurate data was seen as essential, and it was seen as efficient to organise this across a system in which Member States are connected.

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[52] See footnote 4

[53] *Factors Affecting the Cost of Oil Spills* (2002), by Dr Ian White http://www.itopf.com/fileadmin/data/Documents/Papers/costs02.PDF

The alternative would have been to build systems for each operational aspect or per EU legislation. That would likely result in duplication of systems and duplication of costs each time a system were to be set up, but with no added value. There would even be costs to interlink various systems to achieve any type of EU-wide coverage, at the same time making it more complex and difficult to manage.

In the OPC, the results showed support for the view that there would be great merit in continuing to build on the existing SSN investments to maximise benefits/minimise costs, as well as to facilitate simplification and digitalisation.

Figure 7:   Is there merit in continuing to build on the existing investment in the system/platform and develop it to achieve the objectives of simplification and digitisation?
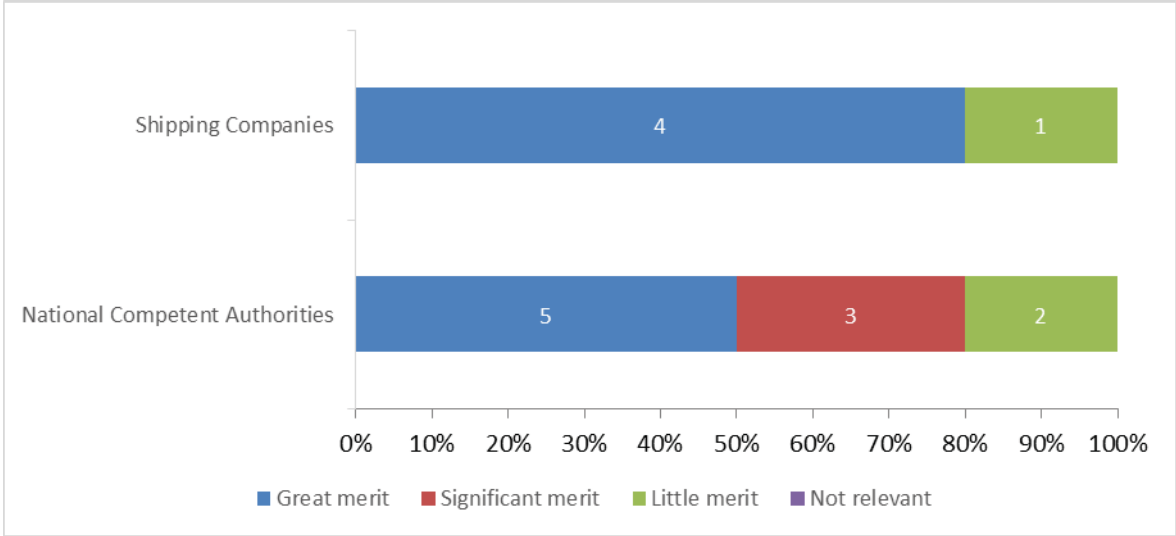
Four out of five Shipping Companies and eight out of ten National Competent Authorities responded that building on the investments would result in great or significant merit, while no stakeholders felt that it would be not relevant at all (see figure above). This suggests that there is a high degree of consensus on the importance of the continued investment in the system to maximise benefits/minimise costs, as well as in order to facilitate simplification and digitisation.

The importance of a system that is both de-centralised (national) and centralised (EU), allowing exchange of relevant information, was realised early on by MS. The development has therefore benefitted from this bottom-up support and the legislation has to a large extent codified demands from MS to ensure the legality, financial support and structure of the system and therefore its longevity. In addition to this, the involvement of EMSA as from 2004 with developing and operating the system, as one of its core tasks is a significant change. It meant a dedication and expertise not seen before and has contributed in drawing all necessary technical and operational expertise together, using, as intended, EMSA as a platform for discussing and agreeing what technical steps to take at both levels, providing a simultaneous and harmonised development ensuring that the system remains operational in all its aspects, even when being upgraded.

Question 6: What, if any, specific provisions in these instruments can be identified that make a cost-effective implementation more difficult and hamper the maximisation of the benefits? In particular, what is the (unnecessary/cumulative) regulatory burden identified?

There is nothing identified indicating that specific legal provisions within VTMIS hamper the full realisation of benefits, or that the concrete developments continuing to build on the existing SSN investments to maximise benefits/minimise costs, as well as to facilitate simplification and digitalisation, would do so. The hampering of benefits and therefore maximisation of use instead relates to 'cultural' and 'mind set' issues There are a combination of factors relating to perception of non-VTMIS users that the system is for maritime safety purposes only, while at the same time the VTMIS-users tend to be 'protective' of the system. There are also technical and administrative set up and coordination issues at national level that hamper maximisation of benefits, in the sense that there is a lack of awareness or understanding and therefore coordination in providing access to the system . These are being tackled by other means, such as visits by EMSA to national authorities, training initiatives and, the developments taking place in the context of the HLSG.

Conversely, the absence of an EU initiative formalising the system would most likely have constituted a burden that would not have been cost-effective. Each MS would have developed their own system in a non-harmonised way which would have hampered the maximisation of EU-wide benefits, now identified. There would have been a risk of uncoordinated technical and operational development not leading to harmonisation.

5.4. Coherence

5.4.1 *Question 7: To what extent does the Directive fit in well within the framework of the EU maritime transport policy and, more specifically, within the Union's approach to reduce administrative burden? Are there any overlaps, gaps or inconsistencies?*

Overall the Directive and its objective fit well within the framework of the EU maritime policy, including transport and as part thereof safety policy and the Union's approach for burden reduction.

The system supports the MS in fulfilling their international obligations by providing the tools for effective and enhanced maritime traffic surveillance enabling monitoring of vessels. At the same time the system includes the information of what the vessel carries on board (dangerous goods) should an incident or accident happen, The provisions regarding ships in need of assistance seeking a place of refuge has been included (and tested) and are fully coherent. These relate to the safety, security and pollution prevention objectives in the VTMIS.

The EU maritime policy then also covers other aspects laid down in EU law such as ship generated waste, maritime security, inspection obligations of MS as flag or port States, and in relation to the policy of competitiveness which in this context means giving quality operators in EU waters an advantage and focus MS efforts and resources more on non-quality (substandard) operators. This then covers facilitation, especially transport facilitation and within that trade facilitation (but the latter is then covered in the RFD SWD).

Examples of coherence between the various acts making up the overall transport policy relates to the continuous development and use of the system, as clarified in the 2014 amendment, for other relevant Union legislation. By using the formal governance body – the HLSG – discussions have resulted in the system being used for transport facilitation *inter alia* in the field of Port reception facilitates, passenger (ship) registration requirements and port State control.

Example Box 3 – Synergy and coherence with the Port Reception Facilities Directive

For port reception facilities (Directive 2000/59) there is a requirement to set up a monitoring and information system. Instead of setting up a separate such system at extra cost, the requirements and needs have been catered for in the existing system, creating synergies and avoiding duplication. It also allows transport facilitation as relevant authorities will be able to plan better for receiving the ship generated waste in port as they will know in the system exactly when she is coming and the volumes she wants to deliver.

Example Box 4 – Synergy and coherence with the Port State Control Directive

For port State control there are the legal requirements for the system to 'push' information on actual time of arrival and actual time of departure to the authority responsible for PSC enabling them to plan their inspection more effectively. The system and its link to the port State control inspection database (THETIS) also allow the inspectors to gather most of the relevant information before the vessel arrives and in preparation for where to focus their resources and efforts in inspecting while onboard the ship. Actually as most inspections required under the port reception facilities Directive are done by PSC officers, there is another synergy and facilitation aspect; no need to go twice to the same ship.

There are also further developments for transport facilitation e.g. how statutory certificates (issued by the flag State) related to a vessel could become available at central level[54] and therefore could be used by authorities involved in inspecting ships in port, already at a preparatory stage and therefore reducing the time spent on board. Similar developments have taken place for the previously mentioned Central HAZMAT database (See example box 1, as well as Annex 4).

Apart from creating synergies as there is cross-fertilisation of information in one and the same system, this re-using information as far as possible also creates reduced burden on both the administration and the industry. For administration as the information is easier at hand and for efficiently planning their relevant activates, that in turn reduce the time they actually have to spend doing the inspections and clearance, constituting a burden reduction and efficiency gain and at the same time increasing the turn-around time for the vessel (so that they can quicker continue sailing and earning money), giving the same effect to the Industry.

Hence all this amounts to transport facilitation making in particular intra-EU shipping 'smoother' and therefore more attractive in line with the efficiency objective of VTMIS and the system therein supporting the facilitation and establishment of the European Maritime Transport Space without Barriers.

These all show consistency and coherence with (a) adopted policy; (b) within the Directive and, (c) for the system, and its link to other relevant EU legislation.

Example Box 6

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[54] The HLSG in 2014 initiated a project to establish the so called Central Ship Database linked to the central SSN.

> *There are, depending on national set up, customs and border control systems at national level. There are however few operational EU-wide exchange mechanisms other than SSN, within the Union Maritime Information and Exchange System, as yet. There is also a Sea Border Control system – EUROSUR – but which is fed with the information at Agency level between EMSA and Frontex. The same for Fisheries control and monitoring system, where EMSA provides the information to EFCA for their purposes. In both cases the respective agencies share with MS through a graphical interface. This is now part of the Coast Guard Functions cooperation mandate in the revised EMSA, EFAC and Frontex EU Regulations in order to avoid duplication and increase efficiency, building on the existing and saving costs.*

Hence, further untapped potential has been identified in aligning with also other EU initiatives, such as the voluntary Common Information Sharing Environment (CISE) concept. This is currently being addressed by the HLSG as is the issue of exploring how in particular the vessel positioning data possibly can support maritime transport statistics and trade flows as well as in relation to maritime spatial planning (e.g. creating maritime traffic density maps).

The gap identified, as further elaborated under question 9, relates to the trade facilitation part in the overall transport facilitation. The 2014 amendment[55] also recognised this and cross references between the VTMIS and the RFD has been clarified - *'The Commission and the Member States shall cooperate in order to examine the feasibility and development of functionalities that as far as possible will ensure that the data providers, including masters, owners, agents, operators, shippers and relevant authorities, need to submit information only once, taking due account of the obligations in Directive 2010/65/EU and other relevant Union legislation. Member States shall ensure that the information submitted is available for use in all relevant reporting, notification, information sharing and VTMIS systems.'*

While the reporting once in the VTMIS relates to the possibility of re-using information already in the system between MS and sectors in different MS, the reporting once in the RFD more relates to the use of the information reported into the NSW and then from there used by all national authorities with a need for such information. This may need further explicit clarification to avoid confusion and possible overlap (and is dealt with in the RFD SWD[56]).

If the transport facilitation is not matched with a similar trade facilitation, meaning the customs and trade procedures, the efficiency gains for Industry in terms of reduced turn-around time risks being nullified.

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[55] VTMIS Annex III point 3.

[56] c.f. COM (2018) ….SWD on RFD

Question 8: Are the objectives of the Directives (still) coherent with the EU Transport policy, notably the White Paper on Transport and Maritime Transport Strategy and ten policy areas that are set as priorities by the current European Commission (as announced in July 2014)?

The Directive is still coherent with the 2011 White Paper on Transport,[57] and the strategic goals and recommendations for the EU's maritime transport policy until 2018[58] and the aim of establishing a European framework for the development of an efficient transport system as well as the Communication and action plan with a view to establishing a European maritime transport space without barriers.

The 2018 maritime transport policy set as a goal[59] to achieve in 2018 *' ...the capacities of the EU's maritime transport system should be strengthened by putting in place an integrated information management system to enable the **identification, monitoring, tracking and reporting** of all vessels at sea…'* This should be done by *'building on the resources currently available, such as AIS, LRIT, SafeSeaNet or CleanSeaNet, or those that are being developed, such as Galileo and GMES [today COPERNICUS], and taking into account the need to fully develop EUROSU, the EU should promote the creation of a platform to ensure the **convergence** of sea-, land- and space-based technologies, the **integrity** of applications and appropriate **management and control of information…'.***

The 2011 White Paper set the ambition[60] for the Vessel Traffic Monitoring and Information (SafeSeaNet) System to *'become the core of all relevant maritime information tools[…] and support the creation of a common maritime space [without barriers]'.*

These ambitions have guided the development and the resulting actions leading to the today available system providing maritime situational awareness for those with operational responsibilities in the maritime domain and in enabling transport facilitation. Hence, this has to a large extent been achieved already.

Hence, the VTMIS Directive (in conjunction with the RFD) and the EU wide maritime IT-system it effectively has established, form an important step within the EU maritime transport and safety policy and in relation to the Commissions priority of achieving a Digital Single Market, in which further reductions of administrative burden for shipping and further improvements in maritime safety for a competitive quality fleet remain the key priorities.

As explained above (question 7) the 2014 amendment of the VTMIS provides the basis for meeting exactly parts of those priorities set by the Juncker Commission.

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[57] European Commission, White Paper Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, COM(2011) 144 final
[58] Commission of the European communities, Strategic goals and recommendations for the EU's maritime transport policy until 2018, COM(2009) 8 final
[59] See point 4.4 – Maritime Surveillance
[60] See point 39 and action point 18.

5.4.3   Question 9: To what extent is the existing 'linking' between the VTMIS Directive and the RFD, in using the Union Maritime Information and Exchange System, coherent with the overall policy objectives? Are the instruments coherent with each other?

There are several explicit cross references in the two pieces of legislation, indicating important linkages with each other and with overall policy objectives of reducing administrative burdens, enhancing maritime safety, boosting the competitiveness of maritime transport, and as part of the digitalisation agenda.

As explained earlier, the revised VTMIS[61] states in Annex III point 3 that the Commission and Member States will cooperate in the:

"...development of functionalities that as far as possible will ensure that data providers [...] and relevant authorities, need to submit information only once[62], taking due account of the objectives and obligations in Directive 2010/65/EU".

And,

*'The central SafeSeaNet shall be used for the distribution of electronic messages and data exchanged or shared in accordance with this Directive **and relevant Union legislation**, **inter alia**: [emphasis]'*

It hence makes direct reference to the Union legislation to be supported, *inter alia,* RFD. In this way the system is clarified in its support to a broader range of information, from a wider range of maritime related activities and user categories than safety alone, and by avoiding the introduction of multiple systems.

RFD, Article 5.1, establishes the modalities for formalities to be submitted from the maritime industry to maritime authorities via a NSW when a ship arrives in or departs from a port, and simultaneously establishes a gateway for the provision of this information at a national level and towards other Member States:

"[...] This single window, linking SafeSeaNet, e-Customs and other electronic systems, shall be the place where, in accordance with this Directive, all information is reported once and made available to various competent authorities and the Member States".

Article 6.1 makes a direct reference to VTMIS, which provides for the establishment of the SSN system,

"Member States shall ensure that information received in accordance with the reporting formalities provided in a legal act of the Union is made available in their national SafeSeaNet systems and shall make relevant parts of such information available to other Member States via the SafeSeaNet system".

The legal acts of the Union are defined in the Annex[63] to the RFD.

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[61] Commission Directive 2014/100/EU of 28 October 2014 amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system
[62] Was introduced by Directive 2009/17/EC

[63] A. **Reporting formalities resulting from legal acts of the Union**

However, the RFD leaves open what *'relevant parts'* of such information to be exchanged via the system is, leading to unclear requirements both as regards the data, that not only could but should be exchanged between MS remains unclear. Therefore also the potential for re-use of the information is underutilized. Albeit, in February 2015, the informal eMS group[64] validated the so-called non-mandatory Data Mapping Report[65] identifying the 185 data elements to be collected through the NSW. Out of these 185 data elements, 111 data elements should be made available to other Member States using the exchange mechanism in the SSN system. Hence, about 60% of the data elements included in the four items of mandatory information, based on international reporting obligations, is to be exchanged via the system: arrival/departure information, dangerous goods notifications, waste notification, and security information.

The remaining +- 40%[66] concern goods and customs related information, necessary for trade facilitation.

Further underlining the linking is recital 10[67] in the RFD explaining that the SSN system should be used for the exchange

"[…] *between the information systems of Member States on maritime activity. To facilitate maritime transport and to reduce the administrative burdens for maritime transport, the SafeSeaNet system should be interoperable with other systems of the Union for reporting formalities. The SafeSeaNet system should be used for additional exchange of information for the facilitation of maritime transport. Reporting formalities regarding information for solely national purposes should not need to be introduced in the SafeSeaNet system.*"

Moreover VTMIS includes the requirement for Member States to develop and maintain the necessary technical interfaces to connect the nSSNs to the cSSN, while RFD requires that the NSWs are compatible (the underlying digital format is that as developed by the HLSG for the SSN) with the SSN systems.

This category of reporting formalities includes the information which shall be provided in accordance with the following provisions:

1. Notification for ships arriving in and departing from ports of the Member States

Article 4 of Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system

2. Border checks on persons

Article 7 of Regulation (EC) No 562/2006 establishing a Community Code on the rules governing the movement of persons across borders (Schengen Borders Code)

3. Notification of dangerous or polluting goods carried on board

Article 13 of Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system.

4. Notification of waste and residues

Article 6 of Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues

5. Notification of security information

Article 6 of Regulation (EC) No 725/2004 on enhancing ship and port facility security.

Until the adoption of a harmonised form at international level, the form set out in the Appendix to this Annex shall be used for the transmission of information required under Article 6 of Regulation (EC) No 725/2004. The form can be transmitted electronically.

6. Entry summary declaration

Article 36a of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code and Article 87 of Regulation (EC) No 450/2008.

[64] The Commission established an Expert group on maritime administrative simplification and electronic information services – established by the European Commission – with a mission to identify business processes and develop specifications for the NSWs
[65] Directive 2010/65/EU on Reporting Formalities, Data Mapping Report, European Commission (2015)
[66] There may also be national reporting requirements on arriving vessels.
[67] The SSN systems established at national and Union level should facilitate the reception, exchange and distribution of information between the information systems of Member States on maritime activity. To facilitate maritime transport and to reduce the administrative burdens for maritime transport, the SSN system should be interoperable with other systems of the Union for reporting formalities. The SSN system should be used for additional exchange of information for the facilitation of maritime transport. Reporting formalities regarding information for solely national purposes should not need to be introduced in the SSN system.

Taken together, these two Directives create an interoperable environment. This is then the cornerstone for facilitating the overall objective for the establishment of the European Maritime Transport Space without Barriers, which is necessary for achieving greater competitiveness for Short Sea Shipping (Intra-EU shipping), still maintaining safety, security and sustainability.

The RFD therefore addresses the collection of horizontal reporting obligations/notifications. Hence RFD can be regarded as the **general gateway** for reporting of information to the national systems, with the intention of reducing multiple reporting of the same information into multiple systems in the same MS. The in the VTMIS established system and exchange mechanism provides the cross-sector and cross-border information exchange platform for most of that information. Therein lays the linking and therefore the re-use, simplification, harmonisation and facilitation prospects – fulfilling the reporting once principle.

In the targeted Consultation, National Competent Authorities and Port-related Authorities were asked whether the NSW was connected to the national SSN for the exchange of information between various competent authorities and Member States.

Figure 8 Is the NSW connected to the nSSN?
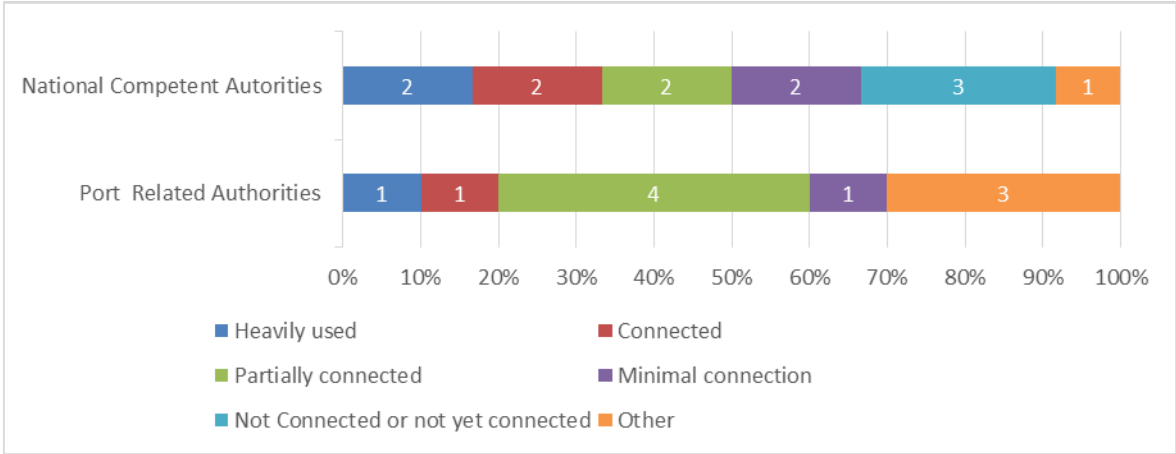
Source: PwC elaboration on Targeted Consultation results (2017)

National Competent Authorities and Port-related Authorities provided similar responses. The results are evenly spread across all categories, indicating that circumstances differ significantly between different Member States. As a general rule, the more positive responses ('heavily used', and 'connected') came from authorities located in smaller maritime countries.

This question was looked at in more detail in the HLSG survey. As the table below shows:

- all 20 maritime countries covered by the HLSG survey have a functioning National SSN (nSSN) system.

- Many (12) have built (or are planning to build) the NSW requirements into existing nSSN systems, so that the NSW and the nSSN are essentially one and the same system.

- Others have developed separate NSW systems, and of these:

- Some (4) receive input directly from vessels into centralised NSW and send SSN data to nSSN

- Some (4) receive input from PCS in ports, and relay specific information via gateways to nSSN (decentralised model).

In twelve cases the NSW and SSN are essentially the same system, or systems maintained by the same authority (e.g. IT) so all the information collected in the NSW is available in the nSSN by definition. Others have implemented messaging connections between the NSW and SSN systems, and in some cases e.g. FR, BE, NL, and DE, the NSW is also acting as an intermediary gateway between PCS and SSN. A few countries are (e.g. EL, IE, PT, UK) are either in the process implementing connections, or in the process of expanding an existing nSSN to have all the functionality of a NSW as defined in the RFD.

These findings on the degree of technical integration between NSWs and SSNs corroborate well with the January 2017 EMSA data reporting statistics. BG, HR, DK, IS, IE, NO, RO, and SI, who all have integrated SSN/NSW systems, have higher than average rates of reporting for waste and security information. The larger countries such as ES, IT, FR and DE have higher proportions of waste and security information missing. In the UK, where the NSW/SSN connection[68] is not operational, and in GR and PT, where the NSW is not operational, waste and security information is entirely or almost entirely not available to be exchanged. This also illustrates how the system is Pan-European and only as good as its weakest link.

In their comments respondents indicated that often there was only a one-way flow of data from the NSW to the nSSN, so although there was a connection, there was no additional information coming back to the respective authorities via SSN or used in that way.

In the HLSG survey, the question of whether information collected via the NSW is made available in the nSSN, and the question of whether authorities can (and do) access SSN information collected by other Member States, were examined in more detail.

Importantly, for countries in which the nSSN and the NSW are essentially the same system generally respond that all data made available in the NSW is available in the nSSN (because they are by definition, the same system). Countries which have separate NSW and nSSN systems, connected via a communication channel, e.g. SE, NL, DE, make it clear that only the mandatory SSN information (port-plus, waste, security and dangerous or polluting goods information) is sent from the NSW to the nSSN. Whereas countries for which have not fully implemented the connection between NSW or nSSN (e.g. UK, GR) indicate that the information needed for SSN, in the meantime continues to be collected directly into the nSSN.

The majority[69] of the SSN competent authorities can access information gathered by other MS. However, there are several important provisos:

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[68] At the time of drafting this SWD

[69] In the 2016 EMSA RFD survey; twelve out of 21 responding Member States reported that the nSSN is a separate system from the NSW and information is relayed between the two systems through a system interface.

- They indicated that they primarily use data collected at national level, and only request information from other MS via cSSN in more exceptional circumstances e.g. incidents or accidents.

- There are several ways in which information from cSSN can be obtained, including the direct request/response mechanism, the SSN web user interface, and the integrated maritime services interface.

- Information requests from another MS is not necessarily possible for all stakeholders in the chain. The nSSN Competent Authorities (CA) typically can request the information, but there may be no mechanism to provide this functionality all the way along the hierarchy to the NSW, and to the local administrations.

- Several countries, e.g. ES, SI, IS, and DK, indicated that although the two-way exchange mechanism was operational, it was infrequently (or never) used.

Data obtained from EMSA for January 2017 indicates that in a month where 60,462 ship calls were registered across Europe in the system, only 25,057 reported ship waste information, and 29,437 reported security information, meaning that 59% did not report waste information that month, and 51% did not report security information. Two countries, did not report any information in either category, and a few others, had high rates (>75%) of missing reports. Around half, however, had rates of missing data below 25%. While this is still in the initial phase of implementation, it demonstrates quantitatively that information collected within the NSWs related to waste and security, as required by RFD 2010/65/EU, is indeed being exchanged through SSN. The arrival/departure information and dangerous goods notifications (the so called port+ message) is the original message stemming from the VTMIS and has much better reporting percentages than the newer reporting additions even if not yet 100%.

Based on the above, one of the issues reasons identified by the support study following consultations, relate to that the required linkages between the NSW and SSN can pose technical implementation problems; the newer reporting additions are not yet producing full effect. However, this is not a problem common to all Member States' authorities, because in almost half of the countries the nSSN and the NSW is the same system.

The instruments - the two Directives - in particular with the 2014 amendment of the VTMIS, has been made coherent with each other legally via the cross references and therefore also coherent in themselves (even if there are some wording in the RFD that may be in need of further clarification, e.g. definition of "reporting only once"). They are also coherent as far as the reporting of the notifications legally required by the VTMIS, PRF and Security legislation requires, but as yet no other messages.

Hence, the linkages between the RFD and VTMIS Directives have logical coherence in the way they are developed and designed. Relevant information going into the NSW (B2A) should be made available in the national SSN to ensure the use of the exchange mechanism (A2A) at central level and thereby enable the sharing, and re-use of information avoiding duplication in reporting, saving costs, both at national level and between MS and sectors in MS.

However, the RFD promotes the concept of reporting once, but it does so without legally binding requirements. Without introducing legally binding (international) standards for reporting, harmonisation and uniformity for data providers (master, operator or agent) into the gateway – the national single windows is not ensured. This results into poor data quality or incomplete data. As a consequence, the link created in the system set up in the VTMIS to allow for coherence with the RFD is resulting in an unexpected negative effects, especially when it comes to the aspects of trade facilitation and the synergies (building on the existing system) this could offer for the stakeholders involved and in relation to the common objective of establishing a European maritime space without barriers. The improvements which were expected from aligning the two directives have not yet materialised in practice. This is mainly due to the insufficient and non-harmonised implementation of the NSW as well as the inadequate directive provisions in the RFD.

What is lacking is a binding (international) standard for the reporting of ship to shore for any message. Focus should be more on the information to be reported (message content, structure, and mandatory standardised format) and less on the information infrastructure (construction of NSW), enhancing full coherence in operational terms and therefore the possibility to exchange more relevant information, further meeting the transport facilitation objectives.

5.5. EU added value

Implementation of the VTMIS has evolved gradually and deliberately, as evidenced through the analysis of the HLSG meetings. Development has been predictable and based on demands from those with the legal/operational responsibilities. This is acknowledged by involved authorities and industry alike.

All the established services based on the system show the EU added value. The use of the system and services is, as shown in figure 1, steadily increasing.

5.5.1 Question 10: What added value compared to the international and national regimes on maritime safety has the VTMIS introduced?

Maritime safety in this context is primarily concerned with the passage of vessels in international waters around the European coastline, so there is a high degree of interdependence between Member States in being able to build up a comprehensive monitoring of maritime traffic, vessel histories, dangerous goods and so on. This is fulfilling international requirements incumbent on all States as a Coastal State. Moreover, since vessels are typically trading between Member States and internationally, it is important that there are harmonised reporting systems.

VTMIS contributes in both areas; harmonised reporting and information sharing. With the SafeSeaNet system, each Member State is connected to the central system via their national SafeSeaNet (in certain cases through the NSW), and therefore able to request and share information across a secure platform. The national SSNs connect to the cSSN using standardised interfaces (technical specifications defined jointly by EMSA and the MSs experts) so there is a high degree of compatibility and harmonisation across the EU for A2A.

A key finding is that the VTMIS Directive adds value as compared to international rules, mainly by providing a legally binding regime – which results in the commitment of the

necessary resources – that can be effectively enforced vis-à-vis Member States by the Commission. The same applies as compared to national rules only, as the system through its governance has created common ownership and therefore uniformity, simplification and digitalisation, enabling the vital possibility for sharing and exchanging EU-Wide.

As the system has evolved, links have developed towards other (non-safety related) maritime usages, as well as other public-sector domains such as trade and sea border control. VTMIS Annex III now sets out the objective of using industry standards to be able to interact with public and private systems, and a clear link to the RFD is made, together with links to, *inter alia,* legislation concerning maritime waste, maritime pollution, and port state control. The revised Annex also codifies the integration of information into the Integrated Maritime Services (IMS) allowing cross-sectoral and cross-MS support to several additional users apart from those directly involved in maritime safety, security and pollution prevention e.g. transport logistics, environmental protection, fisheries control, sea border control, general law enforcement, customs and defence. This is building on the existing system or linking to the existing system, pooling benefits, creating synergies and providing enhanced services for the benefit of more end-users.

Recent studies[70] undertaken on behalf of EMSA also show the systems potential for supporting statistical services (EUROSTAT), in particular using AIS information to calculate trade flows (based on ship type) as well as in modelling for emissions in special emissions control areas, and by and large provide the information and sharing for maritime surveillance aimed for in the voluntary Common Information Sharing Environment (CISE)[71] process.

In relation to the private sector the MS in the HLSG are exploring how companies reporting via AIS to the system could be allowed to view and reuse their own data in order to simplify their reporting to the NSW or to Mandatory Reporting Systems. There is also an ongoing discussion whether AIS positioning information should be made publicly available in full or in part (some MS already make AIS positioning data publicly available) enhancing logistical efficiency and interaction with ports as well as produce positive effects in respect of reduced air pollution from ships.

5.5.2 Question 11: What has been the EU added value of this instrument in the context of national horizontal and sector-specific regulations?

One area where European value added was to be gained is through re-use and sharing of data picked up while the ships are still at sea. The Mandatory Reporting Systems (MRS) and Vessel Traffic Services (VTS) collect data from ships in transit through designated (usually congested) waters. This data is transmitted from the ships to the national coastal authorities, and it is useful to the safety authorities because it provides an early warning of the arrival of ships with dangerous goods, i.e. before they arrive in port.

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[70] Study to assess the future evolution of SafeSeaNet to support CISE and other communities (2014) available on EMSA's web page

[71] COM(2014) 451 final: "Better situational awareness by enhanced cooperation across maritime surveillance authorities: next steps within the Common Information Sharing Environment for the EU maritime domain"

In the targeted survey of shipmasters/shipping companies and ships' agents, stakeholders were asked about the possibility of improving the linkage between the information reported by vessels to MRS or VTS and the information reported to SSN, in order to avoid duplication. Shipmasters/shipping companies and ships' agents were asked whether there is duplication between reporting to the NSW and to MRS or VTS?

Figure 9 - Duplication between reporting to NSW and MRS/VTS (SC/SA)?
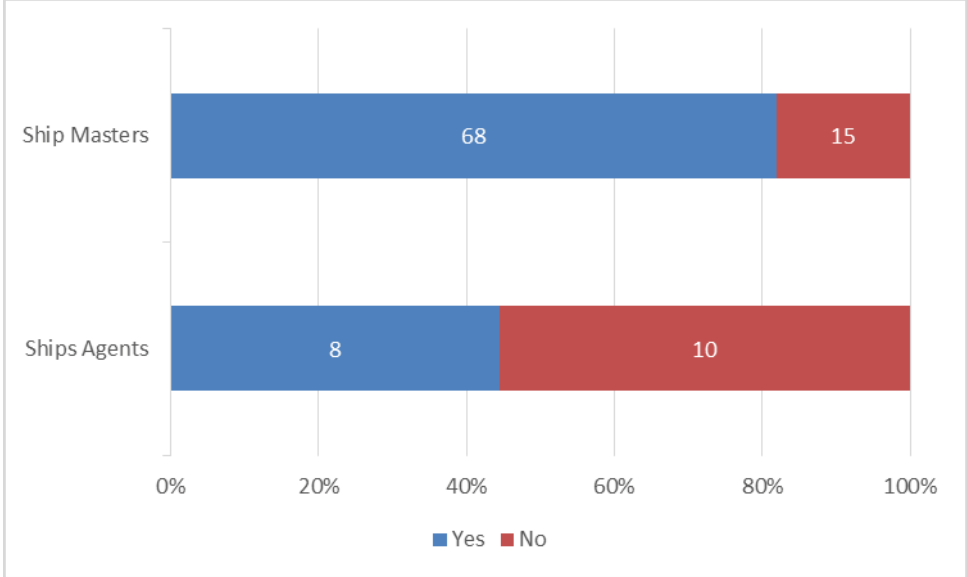
Source: PwC elaboration on targeted survey results (2017)

Only 15 of 83 shipping companies reported that there was no duplication of reporting between MRS/VTS and the NSW, i.e. that they could report certain information once via the MRS/VTS. These examples of companies reporting once came from the Nordic countries or from the Netherlands, and depends on the geographical scope of the MRS as well as the national set up of VTS. Otherwise, the majority of shipping companies (68 out of 83) found that duplication occurred in some or most ports.

Analysis of EMSA data concerning MRS notifications in SSN, for January 2017, a similar picture is given, with 82% of the 33,547 notifications reported by DK, EE, FI, and FR.

Hence, if the reported information into the NSW and the nSSN were effectively shared/re-used, the need to report the full set of information required by the MRS and VTS would be diminished and unnecessary double reporting minimised, reducing the burden to the ship masters.

6. CONCLUSIONS

Having established a system originally to provide the maritime safety community with a tool for monitoring the locations and voyages of ships carrying hazardous material, the concept of a more complete Union information and exchange system has gradually emerged. This today comprises a system capable of supporting not only safety aspects but one which can support

and therefore enhance the efficiency of maritime transport and maritime traffic thereby contributing to safe, efficient and competitive maritime transport.

The overall conclusion of this evaluation based on the evaluation criteria of relevance, effectiveness, efficiency, coherence and EU added value is that the Directive has met its stated objectives, illustrating the value of true cooperation among all authorities involved and achieving EU-wide benefits.
The VTMIS and the system established by it, has succeeded in meeting its safety, security and pollution prevention objectives as well as those related to enhanced efficiency of maritime traffic, through the Integrated Maritime Services providing maritime surveillance capabilities, but not yet fully maritime transport facilitation.

The system established within the VTMIS provides dynamic coherent support, for enhancing national capacities in meeting international obligations and performing various responsibilities and operational tasks in the maritime domain incumbent on them. It has developed, especially through the 2014 amendment, to cater for more information going into the system and more integration preparing it for enhanced use.

> **The conclusion in one sentence** - the VTMIS, and the system set up therein – the Union Maritime Information and Exchange System - is working as intended, is used and still has potential!

Relevance - The evaluation shows that the Directive is relevant and continues to play a key role within the EU maritime transport and maritime safety policy.

Most stakeholders agree on the continued relevance of the objectives, and the continuing need to invest and develop the system, creating synergies avoiding duplication.

The evaluation did not find evidence to suggest that the scope of the Directive is not adequate for the attainment of its objectives, or that it is not catering for the needs of the sector.

Having only one system that is continuously being used and improved upon provides *EU added value*. Over time and with experience a more complete information and exchange system has gradually emerged, based on the real operational needs of not only maritime safety authorities but also those involved in security or pollution prevention as well as any authorities with an interest in the maritime domain.

The *Effectiveness and Efficiency* – is typified by the fact that one and the same system supports all objectives; those of the VTMIS as well as those of other relevant EU legislation, among them also the RFD. In essence, a system has been put in place that uses, integrates and digitally displays information for all authorities with operational needs in a simplified way. This is done for all relevant EU legislation. A system designed for maritime traffic monitoring; now referred to as maritime surveillance has been built on investments already made efficiently and effectively.

A key question is how the system in its national and centralised composition has supported the efficiency of the sector. Here stakeholders generally agree that the current configuration of national and centralised SSN systems is the correct approach, and that this has helped to

reduce burdens on the administrations. There is also general acceptance that the system has helped promote efficiency, especially transport facilitation, in the sector, but that not all these goals especially the potential for trade facilitation have been fully realised.

The Directive as designed can include more relevant information. That is the dynamism asked for and which MS together with EMSA and the Commission carried forward since 2009. In order to maximise efficiency and avoid duplication of efforts, there is merit in building on the existing system/platform hosted in EMSA and in strengthening EMSAs central role.

Coherence – can be seen in maritime transport facilitation and traffic monitoring related aspects but not (yet) for the trade facilitation aspects. What is missing – the gap - is the incomplete implementation of the RFD due to non-legally binding standard for the way the information should be introduced (B2A) in the reporting gateway – the national single windows. That gap, combined with the insufficient and non-harmonised implementation of the NSW as well as the inadequate directive provisions in the RFD, has hampered the materialisation of the expected benefits intended by the coherence between the two directives.

As a consequence, the coherence created for the facilitation objectives in the system experience an unexpected effect, especially for the possibilities of trade facilitation and the synergies (building on the existing system) this could offer for the stakeholders involved and in relation to maintaining safety, security and sustainability as well as the common objective of establishing a European maritime space without barriers.

Conclusion and Recommendation – The evaluation has not pointed to any immediate need to introduce changes to the current Directive. Such needs may become clearer depending on the revision of the Reporting Formalities Directive. The VTMIS Directive and the system set up therein have met their intended objectives, is used and is prepared, in line with policy, for more integration and more information to be reported into it – creating further synergies. This is the potential.

However, in realising that potential, the issue is whether the main thrust or orientation of the VTMIS Directive towards maritime safety – SafeSeaNet has a very strong connotation to maritime safety influencing the perception - is a barrier or a benefit towards enhanced achievement of its broader objectives, including those of efficient maritime traffic and maritime transport. It may therefore be useful to further promote and provide training to explain better the intended role of the Union Maritime Information and Exchanges System as the central maritime information exchange platform.

Importantly, through the integrated maritime services which links data from SSN, automatic identification system (AIS), Long Range Tracking and Identification (LRIT), and satellite imaging (CleanSeaNet, COPERNICUS) with the information in the messages sent from ships, there have been definite synergies enabling real maritime surveillance and situational awareness (commonly referred to as the maritime surveillance picture). The concept of integrated maritime services has thereby evolved, providing a more user friendly way to give authorities a more complete maritime picture, enabling direct sharing (graphical interphase), supporting maritime situational operations in near real time.

Hence, the same picture can be and is used not only for maritime safety, security and pollution prevention but also for facilitation purposes, as well as for enforcement and control

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purposes in the fields of customs, sea border control, fisheries control, health and general law enforcement. This should be further strengthened in operational terms, particular trough the implementation of the recent Coast Guard functions support measures at EU level, involving the three key EU Agencies; EMSA, EFCA and EBCG (Frontex).

The focus is shifting from how reporting and exchanging is done, to how such sharing can be made more user-friendly enabling maritime situational awareness and surveillance for all aspects and users. This should continue and be based on user needs.

While safety is crucial, it cannot be looked at in isolation. The system clearly has potential for further support and use in risk assessment and therefore more pro-active safety, security and pollution prevention rather than only being re-active. Just as it is used for port and coastal State obligations, the system could be in support of flag State obligations using EMSA and benefitting from the EU-wide system (for risk assessment, monitoring and enforcement/compliance). This could help focus the better use of resources and ease the burden on quality operators, further improve competitiveness of the sector without losing focus and enforcement efforts.

In that context, the members of the HLSG have realised the potential that the system has in particular by making some information reported by industry into the system available to that same industry. This includes making AIS positioning data publicly[72] available, and could support more efficient (or abolish) reporting into MRS/VTS, logistical efficiency and interaction with ports as well as produce positive effects in respect of reduced air pollution from ships.

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[72] Some MS already do this at national level. In relation to the private sector it under investigation how the information reported, in particular AIS, in line with the Directive 2003/98/EC on the re-use of public sector information, into the system could be made publicly available EU-wide, enabling reuse of data therefore simplifying reporting to the system.

7. ANNEXES TO THE FINAL REPORT

7.1. *Annex 1*: Procedural information concerning the process to prepare the evaluation

7.1.1   Identification of the lead DG; Agenda planning/Work Programme references

- DG MOVE, Unit D2: Maritime Safety (in cooperation with unit D1: Maritime Transport and Logistics)
- Reference number 2016/MOVE/044

7.1.2   Organisation and timing

The evaluation started in 2016, with a roadmap published on 8 August 2016.

The evaluation study was performed 2016-2017 with the final study published in October 2017.

The evaluation study covered the Reporting Formalities Directive (unit D1) and the Vessel Traffic Monitoring and Information System (unit D2). The outcome of the study showed that the two Directives had fundamentally different issues and results; it was therefore decided to deal with the evaluation outcomes in two separate Staff Working Documents for sake of clarity and ease of understanding by readers.

- **Exceptions to the better regulation guidelines**

No exceptions to the Better Regulation Guidelines.

- **Consultation of the RSB (if applicable)**

As part of the overall Maritime Fitness Check

7.1.3   Evidence used

The evaluation is based on a several sources, using both quantitative and (as far as available) qualitative data. This includes:

- A significant volume of quantitative information exists as part of the visits to Member States to verify implementation and application of the Directive in operational terms, carried out by EMSA over the last six years.
- These reports as well as the horizontal analysis[73] carried out by EMSA and discussed with MS together with the minutes of meetings of the High Level Steering Group for Governance of the Digital maritime System and Services (HLSG) and the

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[73] Regulation 1406/2002 Art 3.5

recent Impact Assessment support study[74] (2014) also backed up the qualitative analysis, based on direct stakeholder experience.

- Among the surveys, the key resource is the dedicated VTMIS/SafeSeaNet survey carried out in 2017, covering members of the High Level Steering Group, aimed to address the more complex evaluation questions related to VTMIS 2002/59/EC, which could not be answered either from existing studies or from the OPC or the main body of Targeted Consultation responses.

- A separate information gathering exercise was carried out with EMSA, the European agency hosting and operating the central SSN system, focusing on the outcomes of EMSA's horizontal analysis of the implementation of the VTMIS, and in obtaining quantitative data to complement the other consultation and data collection activities.

- Furthermore, an Open Public Consultation (OPC) on the fitness of EU legislation for maritime transport safety and efficiency was launched on the 7th October 2016 and was closed on the 20th January 2017. The OPC was structured, designed and launched directly by the Commission as part of its wider initiative on Maritime Fitness Check.

- Targeted consultations with main stakeholders per surveys and consultation events (meetings, workshops).

- Interviews (face-to-face or per phone) with stakeholders representing different interests.

- Literature review on relevant material relating to the Directives.

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[74] See footnote 6

7.2 Annex 2 : Synopsis report on the public consultation on the REFIT evaluation of Directives 2010/65/EU on Reporting Formalities for ships arriving in and/or departing from ports of the Member States (RFD) and 2002/59/EC on the Vessel Traffic Monitoring and Information System (VTMIS)

7.2.1 Introduction

Attention is drawn to the fact that this consultation report summarises the consultation results for both RFD 2010/65/EU and VTMIS 2002/59/EC; the consultation was done jointly and the results are presented both here and in the parallel evaluation SWD on the RFD Directive[75].

The aim of consultation was to gather input for the evaluation process in order to assess how these two Directives are achieving their objectives and contributing towards the EU maritime transport policy.

The subject area of this evaluation concerns the VTMIS Directives. VTMIS 2002/59/EC established the Union Maritime information and exchange system, SafeSeaNet, in 2009, with a view to enhance the safety and efficiency of maritime transport (goods and persons on board) and maritime traffic (the vessels). RFD 2010/65/EU followed in 2010, with the aim of simplifying and harmonising the administrative procedures applied to maritime transport, through ensuring electronic (as opposed to paper) transmission of information, and by rationalising reporting formalities - the information that must be provided to the authorities when a ship arrives in or departs from a port.

Two main consultation tools have been considered for the development of this Synopsis Report: the Open Public Consultation (OPC); and the Targeted Consultation (TC). Within the TC also a The HLSG Consultation (HC) was considered.

7.2.2 Methodology

The aim of these consultation exercises has been to collect information, evidence and opinions to inform the evaluation of these two, linked Directives. While there are close ties between the Directives, there are also important differences, also reflected in the evaluation methodology. VTMIS 2002/59/EC is relatively mature, having been in operation since 2009, while RFD, which aims to harmonise and simplify reporting requirements through the establishment of National Single Windows (NSW) across EU Member States (MS), has only entered into operation since 2015 and therefore the impacts are only now visible. For VTMIS, there is more accumulated experience, so the evaluation has drawn from a number of already available documents, including the (2009-2016) Horizontal Analysis by the European Maritime Safety Agency (EMSA) on the level of implementation and harmonisation of the VTMIS Directive, based on the outcomes of their official visits to MSs. EMSA is the European Agency responsible for hosting and managing the central (European) SafeSeaNet (SSN) system, and for managing operational, digital and technical aspects.

This desk research was complemented in this (current) consultation exercise by the HLSG questionnaire, focusing on aspects such as linkages with the RFD, which are key for the ongoing evaluation. The overall approach has therefore been to use a number of different consultation

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[75] c.f. COM (2018)…

methods, ranging from higher-level surveys such as the OPC, addressing main areas of policy, information gathering from the relevant authorities implementing the legislation at national level, to more targeted surveys of local authorities and the shipping industry who are able to explain how the legislation affects their daily activities and how effectively and consistently it is being applied in practice.

- o **Tools and Activities**

  - ▪ **Open Public Consultation (OPC)**

It was designed by the Commission as part of its wider Maritime Fitness Check. The goal of the OPC, as the first step in the data collection process, was to collect views and opinions from the general public regarding the RFD and VTMIS legislation, its implementation and interaction with other legislation in the same field. As the name suggests, organisations and individuals could freely take part in the survey and submit their views. The consultation was launched in October 2016 and closed in January 2017 (14 weeks).

  - ▪ **Targeted Consultation (TC)**

This consultation contained more detailed questions, related to both RFD and VTMIS legislation. This was designed to collect field information and to obtain a picture of the state of practice for reporting formalities, since 2015, and for the present day. The questionnaires were structured with the aim of identifying how reporting practices differ across ports, maritime basins and at national level, and to compare the views of different stakeholder groups. Questionnaires were developed for four stakeholder groups, namely Shipping Companies[76], Ship Agents, NCAs and Other Authorities. Therefore it covers both the reporting entities and the authorities who collect and use the information. It ran for a period of six weeks from 23rd December 2016 until 7th February 2017.

Within the TC a HLSG Consultation (HC) was also carried out. The goal of the HC was to address the more complex evaluation questions related to the VTMIS Directive, which could not be answered either from existing studies or from the OPC or the rest of TC exercises. It was aimed at the key national experts in the Competent Authorities managing the national SSN systems and participating in the high level steering group (HLSG) for governance of the digital maritime system[77]. It ran for a period of five weeks between 21st February 2017 and 29th March 2017, and focused primarily on the VTMIS Directive.

- o **Identification of Stakeholders**

Contributions were received from a variety of stakeholder categories representing different interests. A broad geographical coverage of responses has been achieved, across all the surveys, with all coastal MSs, Norway and Iceland represented (see Annex 1). The consultation elicited both consolidated contributions from umbrella organisations and individual contributions from a wide range of stakeholders. MS authorities typically each provide one consolidated response.

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[76] Including Shipmasters

[77] Given that the VTMIS system has been operational since 2009 (before the 1 June 2015 introduction of the NSW), the survey addressed three sub-groups; the SSN/LRIT MS experts group; Places of Refuge MS experts group; and, the Integrated Maritime Services MS use-group (now formal sub-groups to the HLSG).

In order to allow concurring and/or opposing views to be presented clearly, stakeholders have been categorised in accordance with their position in the sequence of data provision, data handling, and data use:

- *Shipping Companies and Shipmasters*. This group comprises stakeholders involved in the shipping industry, such as seafarers and their organisations/trade unions, ship-owners, shipmasters, officers on-board and industry associations. This group has the largest geographical reach, with responses reflecting a pan-European situation rather than being representative of a specific country, unlike the other stakeholder groups. This group, representing data providers, is hereafter referred to as Shipping Companies. A total of 124 responses were obtained from this stakeholder group in the TC and eight in the OPC. Five national and four international associations contributed to the OPC, and one European and one national association answered to the TC.

- *Ship Agents*. This stakeholder group comprises ship agents and their associations. Ship agents (like shipping companies) are also data providers, in the current context. Their activity typically applies to a single port, and they support the shipping companies by using their local knowledge, in completing the reporting formalities process, as well as many other services in port. Stakeholders from this category have not responded to the OPC, but 52 responses were collected in the TC, including two national associations.

- *National Competent Authorities (NCA)*. This group comprises national authorities in charge of the implementation and management of the national SSN and/or the NSW at country level, as well as Ministries responsible for seaports and maritime transport. A total of thirteen NCAs responded to the TC, eleven in the OPC and 22 in the HC[78].

- *Other Authorities*. This category comprises a range of stakeholders, such as a Port-related Authorities (port authority, harbour master, port management company), Coast Guard, Border Check, Police, Customs, Health Office, organisations in charge of the management of the Port Community Systems (PCSs) and other authorities involved in the reporting formalities process. Four Port-related Authorities replied in the OPC and 20 in the TC. One national association of port authorities and a PCS developer contributed also to the TC.

The consolidated views of other associations, academia and other stakeholders not directly falling under the above categories are included in the qualitative analysis but excluded from the quantitative statistics presented here. Empty forms or blank answers submitted to the consultation have not been taken in account for the statistics and charts. Contributions from stakeholders who gave their consent to publication are available online.

- o **Consultation approach**

The OPC and the TC are composed of different sets of questions to collect specific information depending on the activity of the respondent, whilst questions on general information and opinions were replicated in all questionnaires. For this reason, the statistics presented from these surveys can either include responses from all survey participants or from a specific group of them.

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[78] The evaluation covers 23 coastal EU MS, plus Norway(NO) and Iceland(IS)

Comparing the TC consultation which covered all four stakeholder categories, and the OPC consultation, which was open to the general public, there is a prominent difference in the number of responses, with 209 in the TC and 54 in the OPC. Of these 54 OPC respondents, 17 were shipping companies, 12 were national competent authorities and 8 were other authorities. The remaining 15 included e.g. consultancies, researchers and NGOs. The HLSG consultation (HC), as part of the TC, achieved 22 responses, from a target population of 23 maritime EU MS, and two non-EU countries, meaning that it is close to full participation at European level. It also included dedicated interviews with EMSA as the host and technical expert of the central system.

The questionnaires also differed in terms of length, with 16 questions in the OPC, (12 RFD-related and 4 VTMIS-related), 67 in the TC, and 16 in the HC. As a result of the above considerations, and due to relatively low number of OPC responses, the TC and HC have been used as the main sources for this Synopsis Report.

Whereas the TC primarily aimed to gather new information regarding the post-RFD situation, mainly using multiple choice questions, the HC was designed to complement other quantitative analyses gathered over the last seven years, using comment style questions. Therefore the TC results presented below are generally in the form of charts, whilst the HC results are presented qualitatively.

- **Results of the Consultation Activities on RFD 2010/65/EU and VTMIS 2002/59/EC**

Consultation results are presented under the headings: relevance, effectiveness, efficiency, coherence and EU added value. Results for the two Directives are presented together because they share common goals in terms of maritime transport facilitation and because of the closely-connected SafeSeaNet and NSW implementations.

- o **Relevance**

  - ▪ **Relevance of RFD objectives**

The main objective of the RFD is to simplify and harmonise the reporting formalities between different EU legal acts. Stakeholders responding to the TC were asked to assess the relevance of this objective.

- Figure 2: Are the objectives of the RFD Directive relevant?
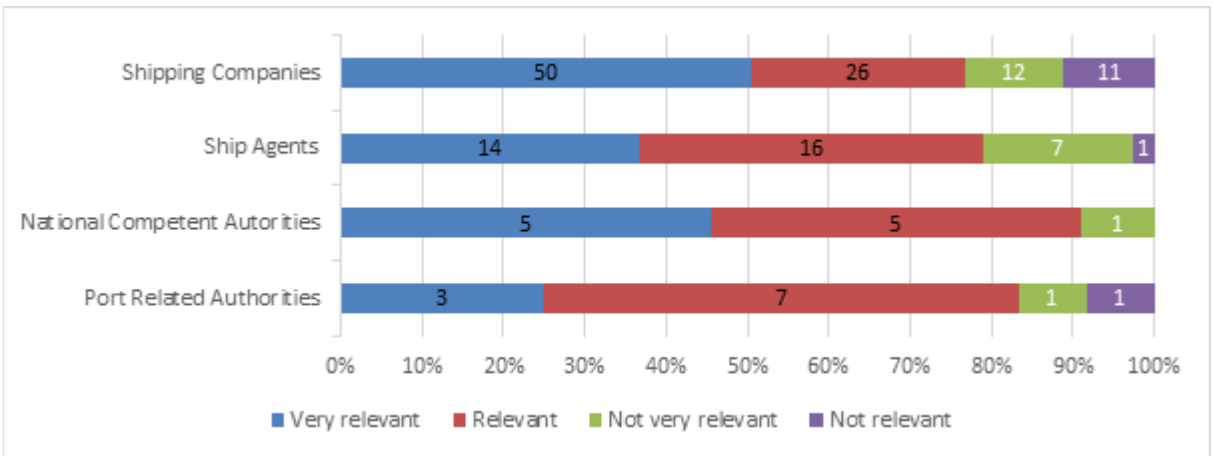
A large majority of respondents (126 of 160) were of the view that the main objective of RFD is either relevant or very relevant. Ten out of eleven NCAs and ten out of twelve Port related Authorities reported that the objective is either relevant or very relevant, as well as most Shipping Companies (76 out of 99) and Ship Agents (30 of 38). Only a few respondents in each stakeholder group were of the view that the simplification and harmonisation of the reporting formalities are no longer relevant to reduce administrative burden.

Respondents to the TC where also asked to identify which of the RFD operational objectives, harmonisation, rationalisation, or reporting once (at port, national or EU level), is the main priority.

- Figure 3: Which RFD objective is the most relevant?
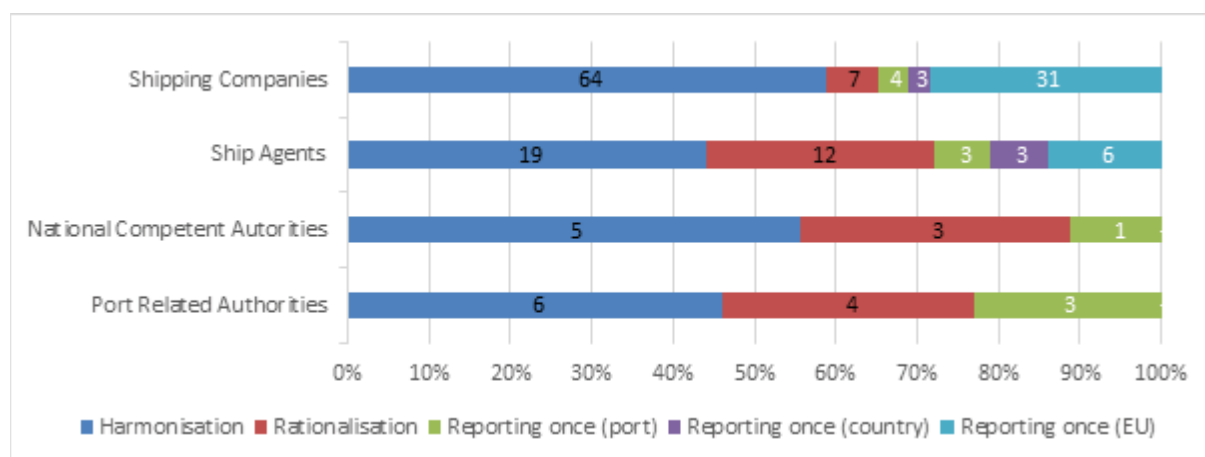
The most selected choice among all stakeholder groups (64 out of 109 Shipping Companies, 19 out of 43 Ship Agents, 5 out of 9 NCAs and 6 out of 13 Port related Authorities) was harmonisation. For three stakeholder groups (12 Ship Agents, 3 NCAs and 4 Port-related authorities), rationalisation was the second most selected option.

The pattern of responses of Ship Agents is similar to that of the Shipping Companies, with harmonisation as the most popular choice and EU reporting once also prominent. Ship Agents also consider the objective of rationalisation as very important. The two Ship Agents' Associations chose harmonisation as the most important provision.

NCAs and Port related Authorities consider the objectives of harmonisation, rationalisation and reporting once at port level to be relevant. They do not consider that the objectives of reporting once at country level or at EU level to be relevant.

- **Relevance of the VTMIS Directive's objectives**

The objective of the VTMIS Directive was to enhance safety, pollution prevention and efficiency of maritime traffic. Within that objective the Directive established the Union Maritime Information and Exchange System, SSN, to enable the receipt, storage, retrieval and exchange of information for the purpose of maritime safety, port and maritime security, marine environment (the main objectives of

the VTMIS) but also, importantly in this context, for the efficiency of maritime traffic and maritime transport (hence for VTMIS but also other relevant Union legislation).

When asked specifically whether they saw an ongoing need for a system, in which a network of national SSNs are connected and communicate information via a central exchange mechanism, all of the NCAs responding to HLSG consultation (22 out of 22) stated that there was still a need, and most (17 out of 22) elaborated that the method chosen, with all MSs co-operating around a common, connected platform, was the correct approach. One MS, speaking from the perspective of maritime safety and pollution prevention, argued that to be informed on-time and with correct data is a "must" in the maritime sector.

     o   **Effectiveness**

         ▪   **Digitalisation**

Digitalisation of transport involves making better use of digital technologies within transport and logistics. In the context of RFD, it focuses specifically upon the reduction in paper-work for reporting formalities by ensuring electronic[79] transmission of information, whereas in the context of the VTMIS Directive, it relates to exchange of data.

- *Use of electronic transmission of data within reporting formalities*

The RFD specifies that reporting formalities should be submitted electronically through a national Single Window (NSW). As the implementation of this provision does not appear to be fully implemented, data providers (i.e. Shipping Companies and Ship Agents) were asked whether the transmission of formalities for EU port calls are done by electronic means.

- Figure 4: Are electronic means always used for reporting formalities?
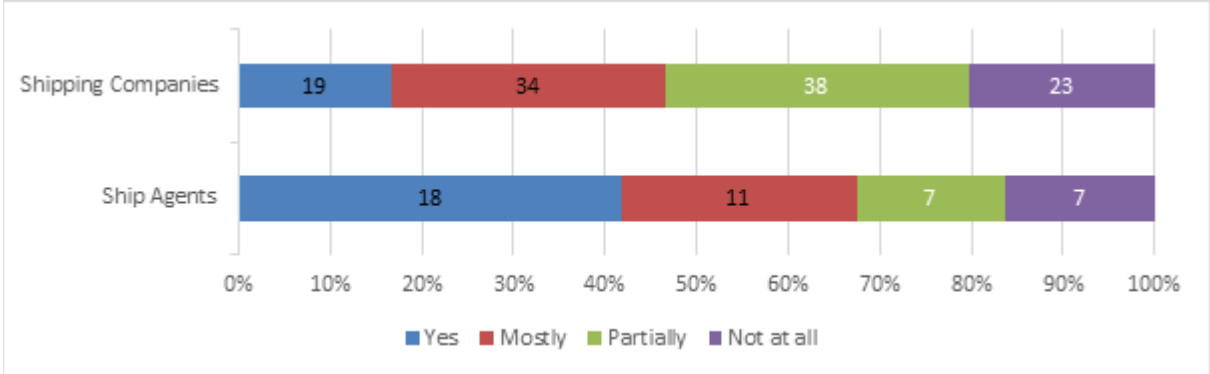
Source: Targeted consultations 2017, ship agents and shipping companies questionnaire replies

Shipping Companies were mostly of the view that the digitalisation objective has not yet been achieved, as only 19 of 114 respondents in this category indicated that electronic transmission is

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[79] RFD 2010/65/EU, Article 2 (f) : 'electronic transmission of data' means the process of transmitting information that has been encoded digitally, using a revisable structured format which can be used directly for storage and processing by computers.

always used for Parts A[80] and B[81] of the RFD. The European Community Ship-owners' Associations (ECSA) is also of this view.

This contrasts with a much larger proportion of Ship Agents (18 out of 43) and two national Ship Agents' Associations who report that electronic transmission of data is fully achieved in their countries or ports.

- *Use of paper and PDF forms*

Ship Agents were also asked if paper and PDF forms were still required.

- Figure 5: Are paper and/or PDF forms still required?
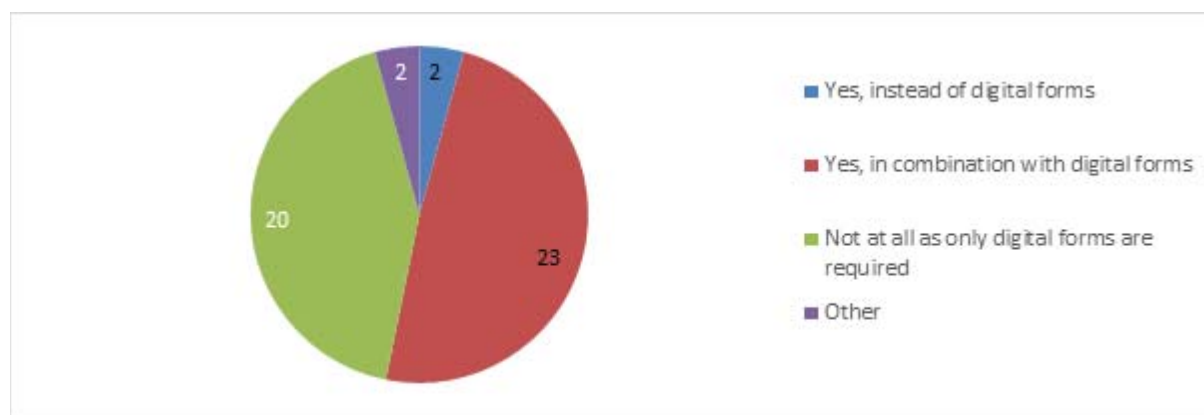
Source: Targeted consultations 2017, ship agent questionnaire replies

Almost half of the Ship Agents reported that electronic transmission is used in combination with the submission of paper hard copies (23 out of 47 reported this) while a slightly smaller share (20 of 47) of agents responded that reporting formalities were only submitted digitally. Two national Ship Agents' associations indicated that although all forms could be submitted digitally, sometimes particularly long passenger lists would require manual entry. Only a few (2 out of 47) Ship Agents stated that reporting formalities still have to be submitted completely in paper format.

- *Exchange and re-use of data*

The majority of HLSG respondents were in favour of data sharing between different maritime authorities, with other public sector users (e.g. law enforcement) and for statistical purposes (see paragraph **Error! Reference source not found.**). However, there is no real consensus on providing limited access to private sector stakeholders. A total of 13 out of 19 HLSG respondents who answered the question on private sector access to data agreed that some form of controlled or limited access to data was feasible. Some saw no barrier in principle to granting limited access (e.g. giving private sector organisations access to their own data), and one MS already allows access to own data for re-use, but for others, private sector access is either seen as undesirable or offering no net benefits. It was

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[80] Part A: Reporting formalities resulting from legal acts of the Union.

[81] Part B: FAL forms and formalities resulting from international legal instruments.

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felt that before any further steps are taken to open up the system towards industry, that user needs should be more thoroughly examined and elaborated.

▪ **Rationalisation**

- *Redundancy in data and information requests*

Shipping Companies and Ship Agents were asked about the level of rationalisation of the reporting process in European ports.

- Figure 6: Are data entered more than once per port call?
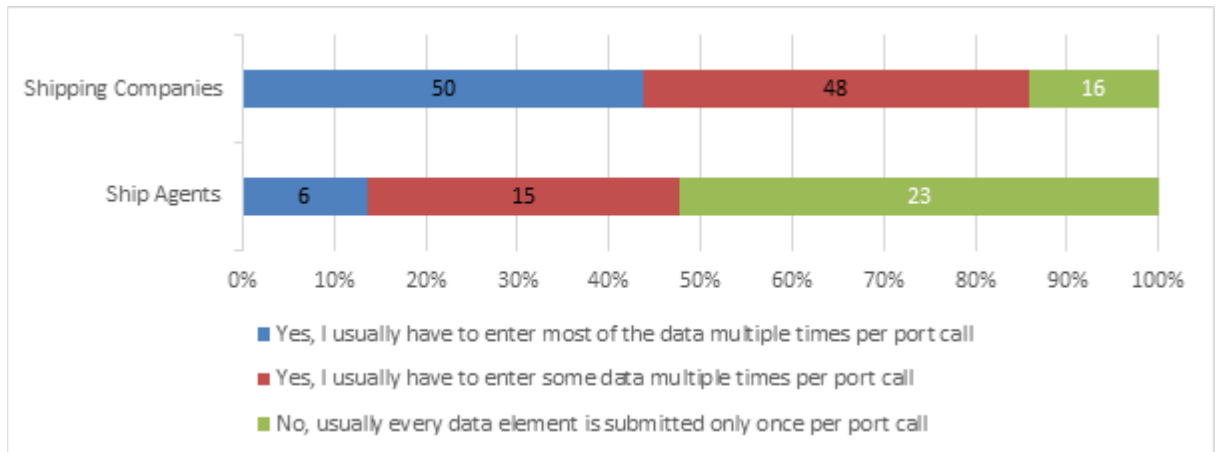
Source: Targeted consultations 2017, shipping companies and ship agents questionnaire replies

The majority of the Shipping Companies (98 of 144) reported that some or most of the data must be submitted multiple times, while just less than half of the Ship Agents (21 of 44) share the same view.
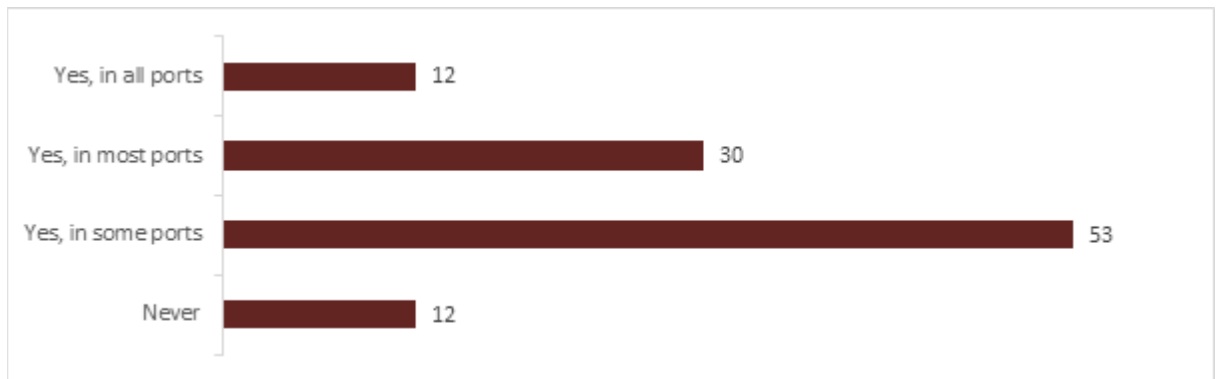
▪ **Reporting Once**

The principle of 'reporting once' is an important cross-linkage between the two Directives. SSN, as a network of connected national reporting systems aims to support the cross-border 'reporting-once' principle by allowing information reported in the NSW and linked with the n-SSN to be requested via the central SSN from one MS to another[82]. RFD makes clear that the NSW (linked to SSN, e-Customs and others) shall be the place where information is reported once and made available to competent authorities and MSs. Both Directives also include the concept of exemptions.

- *Reporting once at port level*

The reporting once requirement implies that all the formalities per a port call can be submitted only once through the same system. Hence, Shipping Companies were asked whether they are required to submit the same formalities to several authorities during the same port of call.

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[82] It should in this context be noted that e.g. requests for information about dangerous goods on board is not a constant one, as not all vessels carry dangerous goods. Furthermore, information on customs or border control is not supposed to be shared via SSN.

- Figure 7: Do you have to submit the same information separately to several authorities per port call?

Bar chart:
- Yes, in all ports: 12
- Yes, in most ports: 30
- Yes, in some ports: 53
- Never: 12

Source: Targeted consultations 2017, Evaluation study by Panteia and PwC, p. 51

Nearly half of Shipping Companies (53 out of 107) along with two Ship-owners' Associations reported that the reporting once requirement has been implemented just in some EU ports. 30 out of 107 respondents were of the view that reporting once is possible in most of EU ports. Twelve out of 107 Shipping Companies reported that they are never required to report the same information separately to different authorities when calling a port. At the other end of the spectrum, twelve respondents reported that they are always requested to report the same information to several authorities during the same port of call.

- *FAL[83] form exemptions*

Shipping Companies and Ship Agents were asked to report if they are effectively exempted from the re-submission of FAL forms under the conditions determined by the RFD.

- Figure 8: Are you exempted from re-submission of FAL forms?
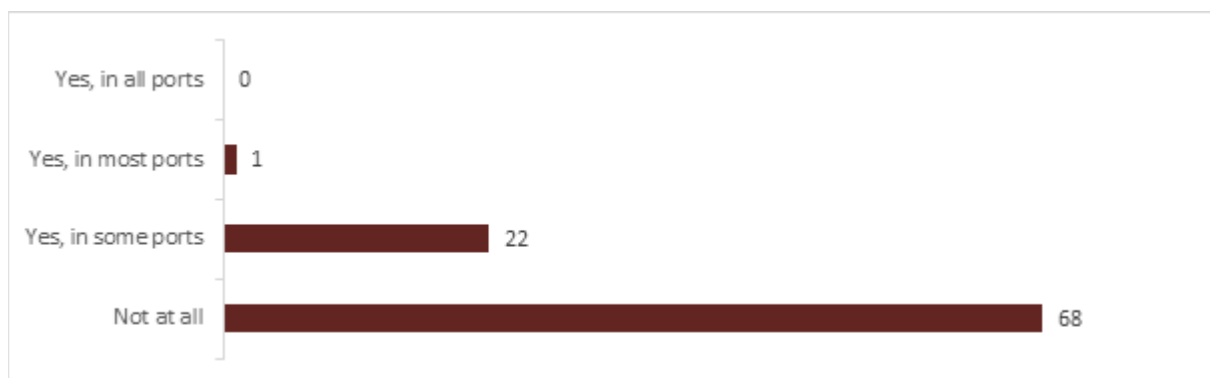
Bar chart:
- Yes, in all ports: 0
- Yes, in most ports: 1
- Yes, in some ports: 22
- Not at all: 68

Source: Targeted consultations 2017, shipping companies and ship agents questionnaire replies; see also Evaluation study by Panteia and PwC, p. 36

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[83] List of documents which public authorities can demand of a ship according to the Convention on Facilitation of International Maritime Traffic (FAL Convention)

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The majority of Shipping Companies (68 of 91) and one Ship-owners' Association report that in their experience ships are never exempted from submitting FAL forms when calling at subsequent EU ports. However, some respondents (22 out of 91) and ECSA recognise that sometimes exemptions are permitted.

The majority of the Ship Agents are generally of the same opinion, replying that ships are not exempted from submitting any FAL formalities when they call between two EU ports.

- *Reduction of cross-border duplicated reporting by re-use in SSN*

The HC showed that MSs primarily depended on their national SSN systems for their daily responsibilities and for handling the data required by the VTMIS Directive. They tend to use the central SSN system (exchange of data) for incident reporting, i.e. in more exceptional circumstances, and not specifically as a way to reduce the volume of multiple reporting by shipping lines[84].

Two MSs commented that re-use of SSN data is only partially possible, and thus not very useful. Another felt re-use was not a good idea because it shifts responsibility from the declarant to another system.

On the other hand, one argued that by enhancing the sharing options (e.g. push-pull of information) burden could be reduced. Another MS argued that re-using departure data (HAZMAT and the security message) for ships operating between EU ports to reduce reporting on arrival (and in Mandatory Reporting Systems) would definitely reduce the reporting burdens for the data providers.

- **Harmonisation of Reporting Formalities**

- *Harmonisation at country level*

Shipping Companies were asked to report their opinions on the actual implementation of the RFD's national harmonisation provision in the EU countries (since the application of the NSW requirement on 1 June 2015). Shipping companies are the stakeholders most likely to notice differences between port reporting procedures as they are exposed to the comparison whereas national authorities and ship agents normally are mostly aware about the system in one single port.

- Figure 9: Has harmonisation of reporting formalities at national level been achieved?
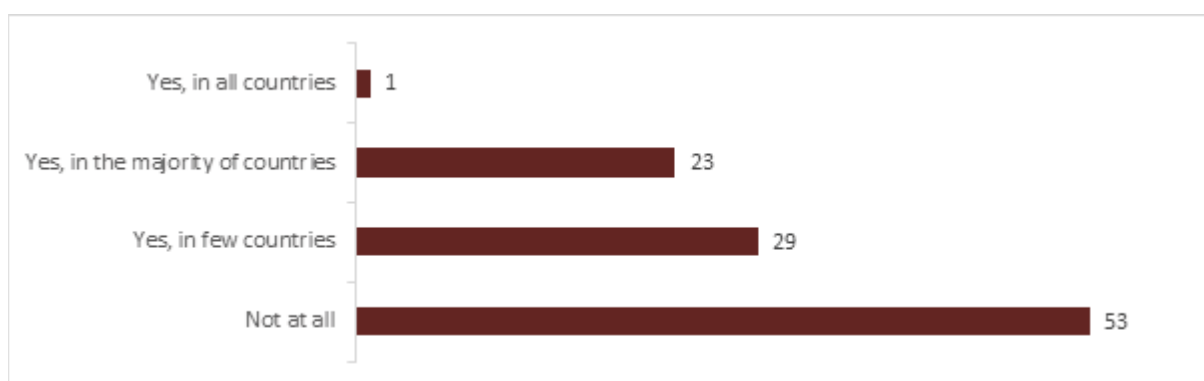
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84 See also footnote 5.

According to Shipping Companies, the harmonisation of formalities at national level has not been achieved yet in most of EU MSs. Half of respondents (53 out of 106) were of the view that national harmonisation has not been achieved in any EU country. The other half (52) along with two Ship-owners' Associations were of the view that harmonisation has been implemented partially in some or the majority of countries.

- ***Harmonisation at EU level***

In the HC, when asked about ways to reduce reporting burdens on industry, many respondents (12 out of 21 responses to this issue) commented on the lack of harmonised data standards for data collection via the NSW.

One HLSG member commented that more should have been done to ensure standard methods of data collection, as many data providers have expressed frustration that each EU country has different methods for collecting the same information. A second respondent pointed to the fact that maritime administration practices across the EU MSs are so different one from another. He argued that it would be best to have a legislative act that will align and harmonise the practices across the EU, and that only then will the industry realise transport facilitation effects.

Provisions and instruments that hampered the implementation of the NSW

In order to identify the provisions and instruments that have negatively affected the implementation of the NSW, NCAs and Port-related Authorities were invited to indicate what have hampered the full realisation of benefits.

- Figure 10: Factors (connected to NSW) which have hampered the full realisation of benefits
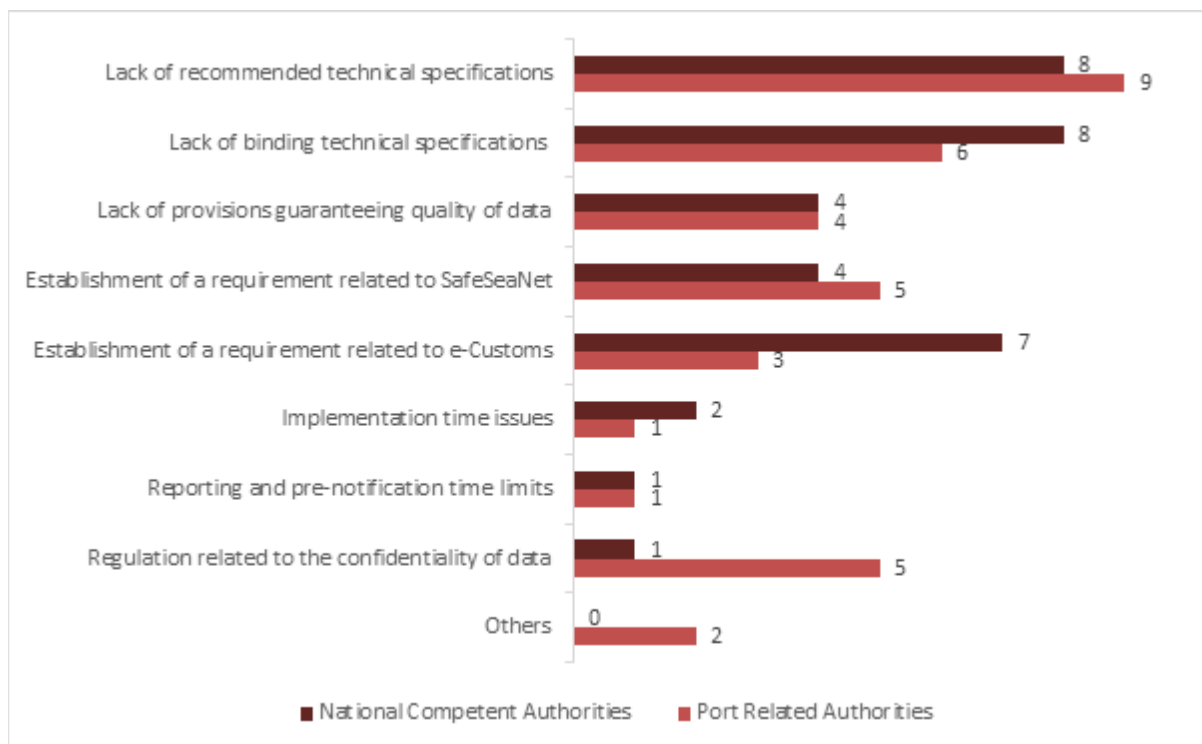
Source: Targeted consultations 2017, Evaluation study by Panteia and PwC, p. 47

The lack of recommended and/or binding technical specifications has been identified as the biggest issue by both stakeholder groups. Also, the complexity of linking the NSW to the Customs' system has been singled out by many NCAs as an issue during the implementation of the NSW. Customs authorities had already developed electronic systems and established procedures for reporting of the Entry Summary Declaration. One Port related Authority commented that the establishment of a requirement on coordination with e-Customs is necessary to lead to better co-ordination and harmonisation for cargo formalities. The lack of an early agreement on EU NSW guidelines was also commented as a major problem by NCAs which could not base their developments on harmonised standards.

- ***Implementation of VTMIS Directive***

VTMIS Directive has been in operation since 2009, and its implementation history is recorded in depth by a number of statistical studies produced by EMSA. However, with the HC it was possible to gather individual views of the NCAs using the system, in order to have a present-day cross section of opinions, to give context to the available statistics.

Results from the HC show that the national SSN authorities all agree that the Directive has met its objectives in terms of safety and pollution control, and especially with regard to emergency procedures. They point to aspects such as the ability to trace a ship's past record for pollution incidents, the way that the system has led to centralisation of all relevant information, the ability to have a global view for monitoring traffic, and through the establishment of common and transparent EU procedures.

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In the OPC the majority of Shipping Companies responding (4 out of 5) and NCAs (9 out of 10) were of the view that the SSN facilitates monitoring of maritime traffic to a great extent or to some extent. The three Port related Authorities who responded were also of the view that SSN facilitates the monitoring of maritime transport and traffic, but only to a limited extent.

Regarding the question of whether the Directive has been effective in achieving its efficiency objective, stakeholders are generally more cautious. Within the HC, some NCAs indicate that the national SSN, by centralising information, is assisting efficiency by reducing the complexity of administrative procedures. However, several others point out that maritime transport efficiency objectives have not been fully realised, and that there is still untapped potential. For instance, one NCA raised the point that inconsistent data quality is still a barrier. A second NCA observed that frequent technical changes being made to the system, were hindering the process of achieving full integration with the system, and therefore hindering the process of improving efficiency.

In the TC, responses by NCAs and Port-related Authorities, were generally positive to the question of whether sharing information through SSN has improved efficiency. For most of the activities listed in the survey (i.e. Port State Control, Pollution preparedness and response, Emergency/ incident management, Port operations, Coastal monitoring, Risk analysis and control, Statistics, Waste control, Security monitoring), NCAs were of the view that there had been gains in efficiency due to the sharing of data through SSN. These NCA stakeholders were generally more likely to indicate that benefits were to 'some' or to a 'great' extent than the Port-related Authorities.

In their comments, some NCAs and Port-related Authorities argued, on one hand, that SSN was (or could potentially be) a good tool for exchanging information, but on the other hand, that SSN had been set up primarily as an incident response system rather than a general information exchange. It was a tool for improving maritime safety, but for some users, it is not contributing towards efficiency.

- **Efficiency**

- *Benefits for the Shipping Industry*

In order to identify any benefits or cost savings experienced by the shipping industry, following the implementation of the NSW, Shipping Companies and Ship Agents were presented with a multiple choice question where they could select more than one option.

- Figure 11: Benefits identified for the Shipping Industry
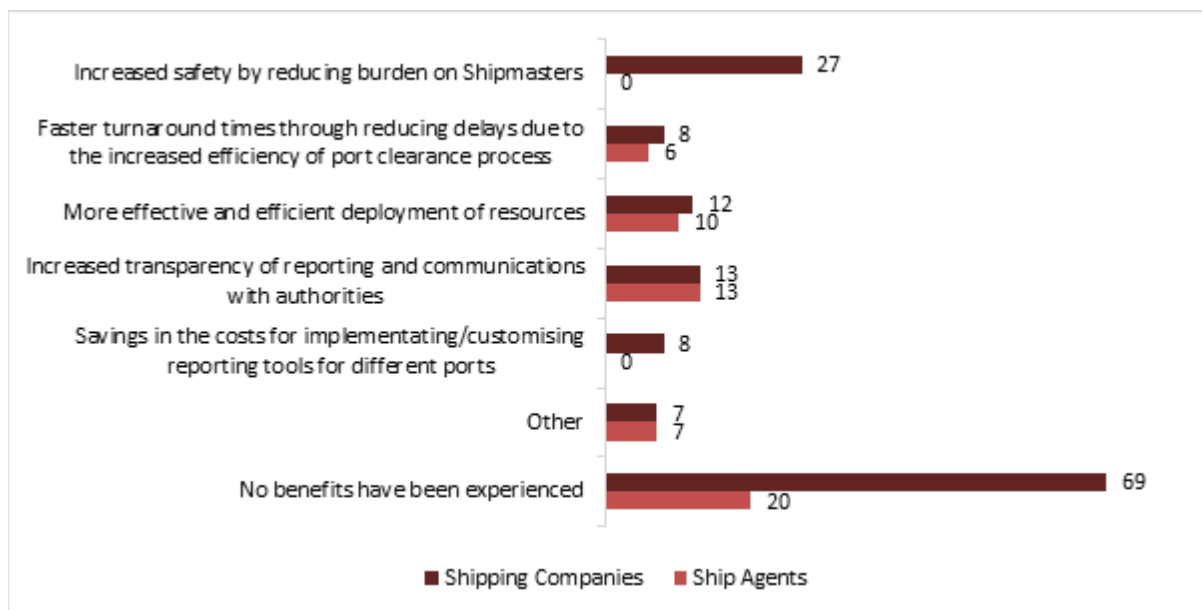
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Source: Targeted consultations 2017, shipping companies and ship agents questionnaire replies
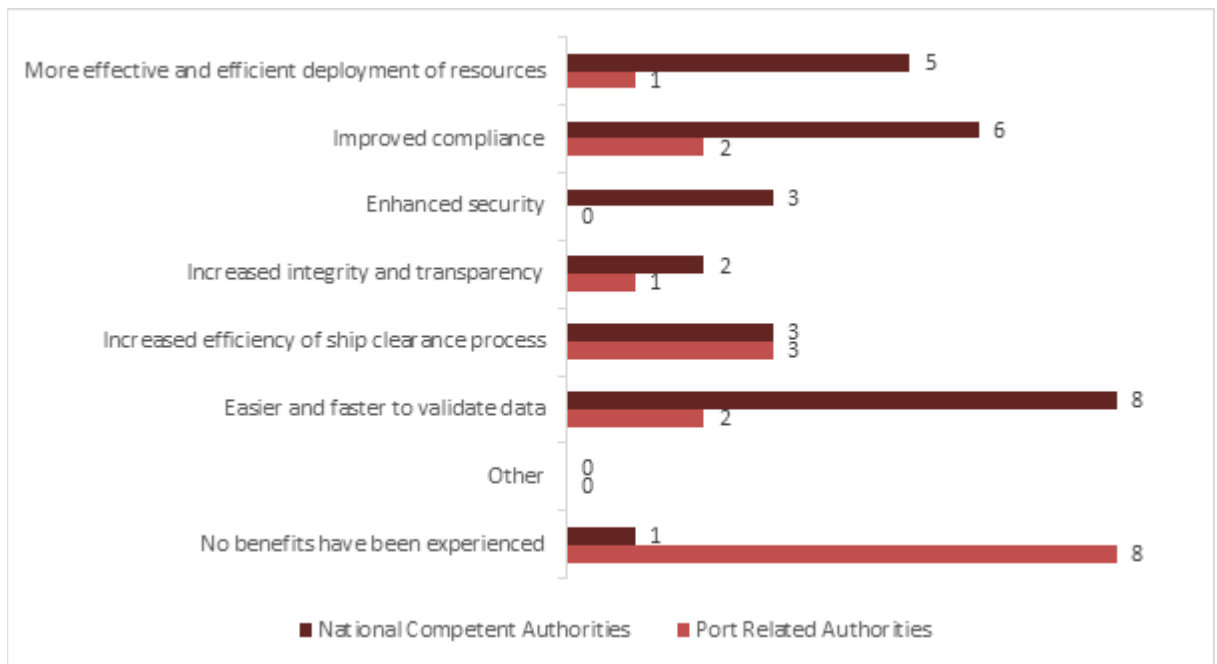
The majority of Shipping Companies (69 out of 113), as well as two national Ship-owners' Associations, responded that no benefits have been experienced. This was also the most frequent response from Ships Agents (20 of 48). Some of the respondents who reported "Other" indicated that the administrative burden and the workload have also increased.

However, it is relevant to note that several Shipping Companies believe that safety was increased through the reduction of burdens on Shipmasters following the implementation of the RFD (27 out of 113). Also some Ship Agents experienced benefits: one fourth (13 out of 48) noted that the adoption of NSW increased transparency of reporting and communications with authorities.

- *Benefits for the Authorities*

A similar question, as above, was posed also to NCAs and Port-related Authorities, although the available options to select were different. They were invited to select one or more options.

- Figure 12: Benefits identified for the Authorities

Bar chart showing benefits by National Competent Authorities and Port Related Authorities:

Benefit	National Competent Authorities	Port Related Authorities
More effective and efficient deployment of resources	5	1
Improved compliance	6	2
Enhanced security	3	0
Increased integrity and transparency	2	1
Increased efficiency of ship clearance process	3	3
Easier and faster to validate data	8	2
Other	0	0
No benefits have been experienced	1	8

Source: Targeted consultations 2017, national competent and other authorities questionnaire replies

NCAs were of the view that the implementation of the NSW and other provisions of the RFD have generated benefit to them. Only one respondent in this group reported no benefits occurring as a result of the implementation of the NSW.

A considerable share of NCAs (8 out of 11) reported that the implementation of the NSW simplified the validation data process and improved compliance of the submissions. According to their comments, the implementation of RFD has helped the establishment of common understandings between authorities at national level and to combine and simplify the existing processes, digitalisation has facilitated authorities in their activities of storing, elaborating and quickly validating the information received. In addition, harmonised and structured formalities allow authorities to process the information in their systems faster and more efficiently, involving less human resources.

The majority of Port-related Authorities however (8 out of 13) reported no benefit occurring from the implementation of the NSW. One respondent reported that the volume of information that is requested from data providers has increased, but the information that is shared with the other authorities has not. Another respondent commented that there is a lack of exchange of information which results in unreliability of the new process for collecting the information.

However, other Port-related Authorities reported that they have experienced benefits following the implementation of the system. For instance it was pointed out by 3 out of 13 Port-related Authorities that the ship clearance process has improved as a result of better compliance with regard to the reporting requirements.

- *Time spent on preparation of reporting formalities*

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Estimating the time spent on the completion of reporting formalities is essential to consider the effective administrative burden that impacts on stakeholders and to identify which specific issue is the most burdensome. For this reason, Shipping Companies and Ship Agents were asked to indicate the average time spent on the whole reporting process per port call (therefore both arrival and departure).

- Figure 13: Time spent on preparing reporting formalities
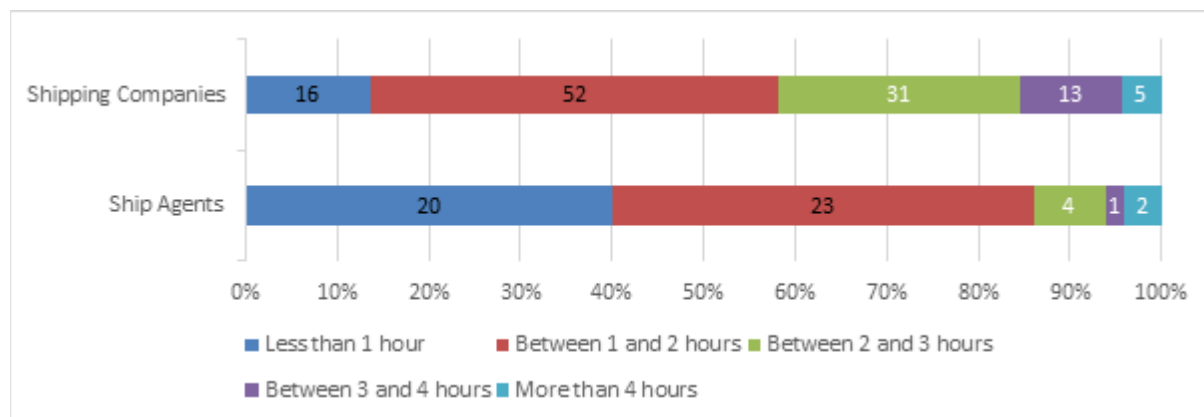
Source: Targeted consultations 2017, shipping companies and ship agents questionnaire replies; see also Evaluation study by Panteia and PwC, p. 41

Responses from the two stakeholder groups have a similar distribution: 52 out of 117 Shipping Companies and 23 out of 50 of Ships Agents reported that between one and two hours is spent on the reporting process per port call.[85]

The average time spent on reporting by Ship Agents is lower (i.e. 1 hour 19 minutes) than the average time spent on reporting by Shipping Companies which is almost two hours.

The diverging perceptions are coherent with the different roles of each stakeholder in the reporting formalities process. The majority of Shipping Companies (81 out of 121) reported that the lack of harmonisation between formalities/forms is the most time-consuming issue. When ships go from port to port the low degree of harmonisation at EU level makes the reporting process different in each port, in turn making the reporting process more time consuming.

On the other hand, Ship Agents indicated operational issues (digitalisation, the functioning of the NSW, etc.) as the most burdensome. The main problem is the fact that the Excel files used for reporting information are frequently so rigidly structured.

Almost 90% of all stakeholders replied in the open public consultation that the reporting process could be further simplified to a great or a significant extent.

- ***Changes in the reporting process***

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[85] Some necessary assumptions have been made in order to calculate the average time per stakeholder. A value of 0.5 hours has been assigned to the range "Less than one hour". A value of 1.5 hours has been assigned to the range "Between one and two hours". A value of 2.5 hours has been assigned to the range "Between two and three hours. A value of 3.5 hours has been assigned to the range "Between three and four hours. A value of 4.5 hours has been assigned to the range "More than four hours".

60

All stakeholder groups were asked to provide their opinions on how the reporting process has changed following the implementation of the RFD and the NSW since 1 June 2015. The question offered a multiple choice, where respondents could choose and specify if the RFD made the reporting process better or worse and for what reason.

Shipping Companies and two Ship-owners' Association were of the opinion that the implementation of the RFD 2010/65/EU made the reporting process more difficult. They complained in particular with the lack of harmonisation of NSW across Europe (70 out of 125) and that reporting has worsened because now in several places there is an obligation to report both digitally and on paper/pdf (69 out of 125).

A small majority of the Ship Agents' responses indicated that the implementation of the RFD made the reporting formalities more difficult, however the remaining Ship Agents and two national Ship Agents associations reported overall improvements or no changes. On one side, those that believe that the reporting process was worsened identify the lack of harmonisation of NSW across Europe (21 out of 60) as the main reason. On the other side, those of the view that the reporting process has been improved indicated the digitalisation and the possibility of reporting once (17 out of 60).

Most of the NCAs were of the opinion that the implementation of the NSW made the reporting process simpler. Half of them (6 out of 11) mentioned the digitalisation of reporting formalities as the main achievement of implementing the RFD and the NSW.

Finally, there is not a prevalent view among Port related Authorities on how the collection of reporting formalities is changed following the implementation of the NSW. Some (6 out of 13) reported that the collection of formalities has been simplified thanks to the reporting once provisions, however four other respondents claimed that their activities become more difficult because of the same reporting once provision.

o **Coherence**

In the Targeted Consultation, National Competent Authorities and Port-related Authorities were asked whether the NSW was connected to the national SSN for the exchange of information between various competent authorities and Member States.

Figure 10 Is the NSW connected to the nSSN?
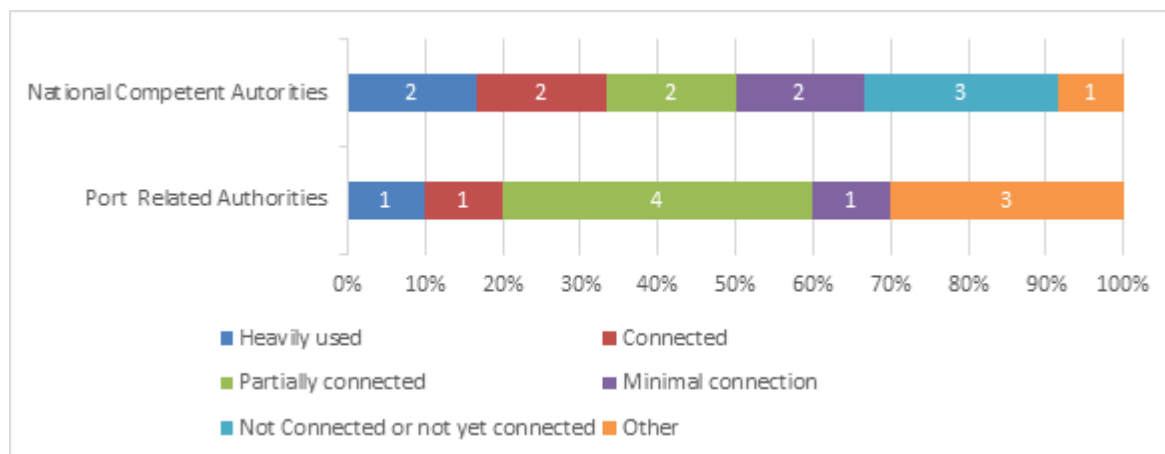
61

Source: Targeted consultations 2017, national competent and other authorities questionnaire replies; see also Evaluation study by Panteia and PwC, p. 58-59

National Competent Authorities and Port-related Authorities provided similar responses. The results are evenly spread across all categories, indicating that circumstances differ significantly between different Member States. As a general rule, the more positive responses ('heavily used', and 'connected') came from authorities located in smaller maritime countries.

The HLSG survey provided similar outcomes: in some cases (e.g. ES, HR, RO and SI) the NSW and SSN are essentially the same system, or systems maintained by the same authority (e.g. IT) so all the information collected in the NSW is available in the nSSN by definition. Others (e.g. BE, FR, LT) have implemented messaging connections between the NSW and SSN systems, and others (e.g. UK) are in the process implementing such connections, and others (e.g. EL) are planning to implement connections in the future.

o **EU-Added Value**

Given that the majority of ships calling in European ports call in multiple European countries, and that the Member States all request similar information content, arising from international (IMO) and European obligations, there is clear potential for generating European added value by harmonising the reporting process. However, this potential has not been realised due to the limited implementation of the provisions within RFD 2010/65/EU.

Notably, the majority of Shipping Companies (59 out of 104) reported in the targeted consultations that ships are never exempted from providing the same information in a second port of the same country and another 34 of the 104 respondents replied that only in *some* ports could they be exempted from re-reporting the same data. The majority of all respondents in OPC and TC also conclude that harmonisation of reporting at EU level has not been achieved. Findings from the OPC and Targeted Consultation confirm that digital formats are used in about half of the countries (either in combination with paper copies or in alternative to those). The majority of shipping companies (84%) and national competent authorities (77%) replied in the open public consultation that the scope of the RFD should be extended to cover more or all reporting formalities. Overall, this was the view of 72% of those who replied to the question; with 10% replying that the scope should be limited and 17% considering the current scope adequate.

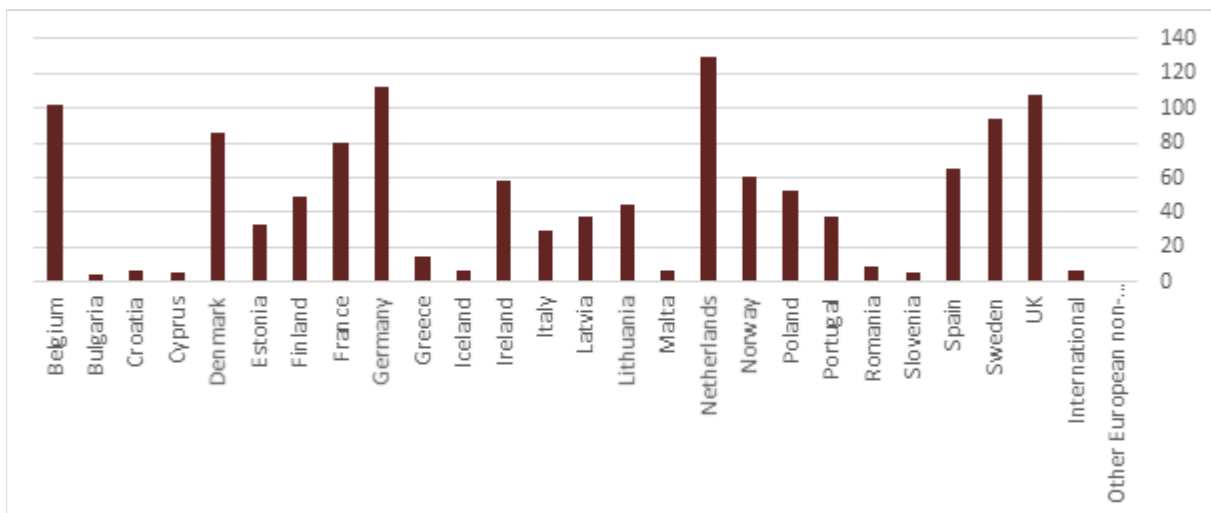- **Annex 1 - Number of respondents and geographical distribution**

Overall, 282 responses were collected throughout separate consultation tools as presented in the chart below.

- Figure 14: Number of responses collected by consultation tool
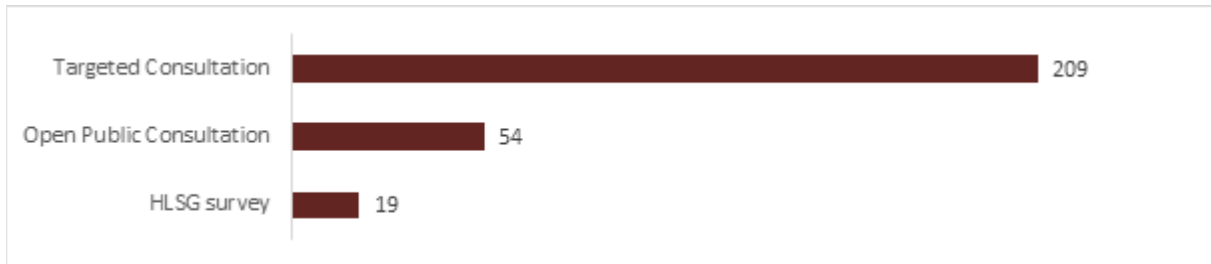
The Figure below depicts the number of responses collected per country of residence/operation. The chart consolidates responses collected throughout the different consultation tools. It should be noted that respondents from the Shipping Companies group were able to indicate multiple countries of operation.

- Figure 15: Number of responses collected per country of residence/operation

The geographical coverage is satisfactory, as all EU MSs have been well represented. BE, DE, NL, and the UK are the most represented countries in terms of number of respondents.

7.3. Annex 3 - implementation status (in 2017) of the VTMIS

Member State	EMSA's visit date	CURRENT STATUS – visit closed/ongoing
Belgium	04/06.Feb.2014	/
Bulgaria	19/21.Feb.2013	/
Croatia	31 May/3 June 2016	**Partly closed; follow-up under assessment**
Cyprus	28/30.Sept.2015	**closed 23.11.2016**
Denmark	3/5.Feb.2015	**closed 24.11.2015**
Estonia	15/17.May.2013	**closed 11.03.2014**
Finland	24/26.Mar.2015	**closed 25.11.2016**
France	19/21.Mar.2013	/
Germany	13/17.Feb.2012	**closed 23.01.2013**
Greece	15/17.Oct.2013	**closed 12.02.2015**
Iceland	29 May/1 Jun.2012	/
Ireland	18/22.June.2012	/
Italy	14/18.Dec.2015	**closed 01.03.2017**
Latvia	25/27.Nov.2014	/
Lithuania	07/08.Oct.2014	**closed 29.07.2015**
Malta	23/25.Sept.2014	**closed 14.09.2015**
Norway	05/09.Nov.2012	/
The Netherlands	03/06.Jun.2014	/
Poland	24/26 Sep.2013	/
Portugal	02/04.Oct.2012	**closed 15.05.2012**
Romania	08/11.Sept.2015	**closed 02.06.2016**
Slovenia	26/27.Nov.2014	/
Spain	08/10.Oct.2012	**closed 05.06.2014**
Sweden	01/03.Apr.2014	/
UK	27/29 Mar.2012	/

/ = the visit resulted in an assessment where there was no need for any specific follow-up.

7.4 Annex 4 - EMSA Digital Maritime Services: current portfolio

Key information systems under EMSA[86] remit:

Integrated Maritime Services: The IMS services to MSs support various activities performed by MS authorities executing functions in the maritime domain based on a vast array of notifications from ships, position information and satellite data. Users have access to the service through a web-based graphical user interface as well as standardized system-to-system interfaces.

SafeSeaNet: The Union Maritime Information and Exchange System, established in order to enhance maritime safety, port and maritime security, marine environment protection, efficiency of maritime traffic and maritime transport. The system links maritime authorities from across Europe through a network for maritime data exchange, including: vessel information, port calls and voyage details, persons on board, dangerous and polluting goods, waste and cargo residues to be delivered and security information. This is based on notifications from ships from Mandatory Reporting Systems, notification of incidents from coastal stations and information from reporting formalities from NSWs.

The following central databases are hosted, maintained and developed by EMSA within the Union Maritime Information and Exchange System[87] : the Central Location Database (CLD), the Central Ship Database (CSD) and the Central Hazmat Database (CHD).

Central Location Database (CLD): holds a reference list is of location codes which include UN/LOCODEs and SSN-specific codes. It also holds the list of port facility codes as registered in the IMO database GISIS. The CLD is used to facilitate the submission of information by the data provider as it allows searching location codes and port facility codes by their name or code.

Central ship database (CSD): is premised on the fact that each ship has an active ship identity which is valid at a particular moment. Information from the CSD can be used by Member States as a reference for their national systems, for example for the national single window, or for cross-checking with data stored within national ship databases. Ships' identifiers (IMO, MMSI, name and call sign) are stored in the CSD, and it also includes other particulars (e.g. tonnage, length, beam) when these details are provided by relevant stakeholders. The current data sources are the notifications received from the SafeSeaNet, THETIS, and LRIT applications.

Central hazmat database (CHD): includes a comprehensive list of all the dangerous and polluting goods that have to be notified in accordance with the VTMIS Directive 2002/59/EC.

Exemptions data base which should cover ships which have regular calls that are exempted from reporting certain formalities (as is being managed at national or port level today). Included in the existing SSN exemptions data base.

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[86] In addition to managing and hosting specific information systems, EMSA is in charge of the Maritime Support Services (MSS) Centre which is a 24/7 facility located at EMSA.
[87] As discussed and decided by the HLSG

Earth Observation Data Center: Earth Observation data allows viewing Europe's oceans and coasts. Satellites can provide routine surveillance over wide areas or can target selected locations for monitoring specific operations. Radar images provide day and night coverage, regardless of weather conditions. Optical images, acquired only in daylight and cloud free conditions, provide high resolution color images of areas of interest. Data from satellites is downlinked to a network of ground stations, processed into images, analyzed, and then sent to the EMSA Earth Observation Data Centre. At EMSA, earth observation images are primarily used for the CleanSeaNet oil spill and vessel detection service and to support EMSA's Integrated Maritime Services once integrated with vessel traffic and other maritime information (see previous bullet point).

EU LRIT CDC: The objective of the EU LRIT CDC is to identify and track EU flagged vessels worldwide and integrate them into the wider international Long Range Identification and Tracking (LRIT) system. The EU LRIT CDC disseminates LRIT information on EU-flagged ships around the world on behalf of all European flag States, and exchanges information with other data centers around the world. The EU LRIT CDC can provide Member State users, on request, with the LRIT information of any third country vessel bound to, or sailing within, EU waters.

EMCIP: The European Marine Casualty Information Platform (EMCIP) stores, shares and assists analysis of casualty data and investigation reports submitted by the Member States. EMCIP stores data relating to the particulars and consequences of all notified marine casualties, incidents, and occupational accidents. Additionally, on completion of a safety investigation, the Member States' investigative bodies report data relating to the sequence of accidental events, the identification of contributing factors, including human factors and others relating to shipboard operations, shore management and regulatory influence, and any resulting safety recommendations.

STCW-IS: The Seafarer Training Certification and Watch keeping Information System (STCW-IS) is an information system making available to the public information on the seafarers' certification systems in the MSs together with generic information on the EU maritime education and training institutions. The information is provided or validated by the participating countries, which are responsible for the content of the respective webpages. In addition, the STCW-IS gathers and compiles data on certificates and endorsements issued to seafarers by the EU maritime administrations with the objective of providing for policy making.

THETIS: THETIS is the information system that supports the Port State Control inspection regime. The system serves both the EU Community and the wider region of the Paris Memorandum of Understanding on PSC (Paris MOU) which includes Canada, Iceland, Norway and the Russian Federation. To facilitate planning of inspections, THETIS is linked to SSN. THETIS indicates which ships have priority for inspection and allows the results of inspections to be recorded. Via THETIS these reports are made available to all port State control authorities in the Community and the Paris MOU.

THETIS-EU: has been established as the EU's reference database for inspections of ships' reporting, monitoring and verification, to support the MSs in meeting their obligations towards enforcement and inspection. The system provides a platform where inspectors

enforcing compliance with the respective directive or regulation throughout the EU can retrieve and record relevant inspection and targeting information on ships.

THETIS-MRV: EMSA has developed a new module in THETIS, namely THETIS-MRV, enabling companies responsible for the operation of large ships using EU ports to report their CO_2 emissions under the Regulation (EU) 2015/757 on Monitoring, Reporting and Verification of CO_2 from marine transport. Through this web-based application all relevant parties foreseen by the Regulation can fulfil their monitoring and reporting obligations in a centralized and harmonized way since August 2017.