A Survey-Based Study of the 2022 Output Proposal for the Revision of the IMO Standard Marine Communication Phrases (SMCP)

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Samenvatting

De SMCP zijn een belangrijk communicatie-instrument op zee, die echter sinds hun totstandkoming meer dan twintig jaar geleden, niet geüpdatet zijn. Een voorstel tot revisie van de SMCP werd ingediend bij het IMO Maritime Safety Committee. Dit voorstel richt zich op het moderniseren van reeds aanwezige onderwerpen in de SMCP. In het licht van de radicale technologische omwentelingen die de digitalisering en automatisering van de scheepvaart teweeg zullen brengen, is het misschien nuttig om meteen ook deze onderwerpen op te nemen in de revisie van de SMCP.

Dit onderzoek wil de revisie van de SMCP bekijken vanuit het standpunt van de zeevarende officieren en peilen naar hun standpunten hierover. De centrale onderzoeksvraag is daarom: “Zijn zeevarende officieren voorstander van het reviseren en moderniseren van de SMCP?”

Om een statistisch relevante steekproef te bekomen, werd gekozen voor een kwantitatieve survey, aangevuld met een kwalitatief expertinterview.

Uit het onderzoek bleek dat de respondenten uit de steekproef, voorstander zijn van het moderniseren van de SMCP en zeker met betrekking tot digitalisering, automatisering en duurzaamheid.

Verschillende ideeën met betrekking tot het herstructureren van de SMCP werden besproken.

Abstract

SMCP are an important communication tool at sea, but have not been updated since their inception more than twenty years ago. A proposal for revision of SMCP has been submitted to the IMO Maritime Safety Committee. This proposal focuses on modernising subjects already present in the SMCP. In light of the radical technological revolutions that the digititalisation and automation of shipping will bring about, it might be useful to include these topics in the revision of SMCP as well.

This study aims to look at the revision of SMCP from the point of view of the seafaring officers and to gauge their views on it. The central research question is therefore: “Are seafaring officers in favour of revising and modernising SMCP?”

To obtain a statistically relevant sample, a quantitative survey was used, supplemented with a qualitative expert interview.

The survey showed that the respondents from the sample group are in favour of modernising SMCP, especially with regard to digititalisation, automation and sustainability.

Several ideas in regard to a possible restructuring of SMCP were discussed.

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1. Introduction

The human factor is often the cause of incidents at sea and one third of those are attributed to problems with language and/or miscommunication (Salleh et al., 2019). Miscommunication or bad communication could lead to grounding, collision, near misses, false information or at the least, frustration - for example between a Vessel Traffic Services (VTS) station and a ship's crew. In VTS areas, for example, the communication failure accounts for up to 40% of collisions involving the human element. These failures mainly occur in radio communication (Fan, 2017). The accident with the Scandinavian Star, which left 159 people dead, was aggravated due to communication problems between Portuguese crew and Scandinavian officers and passengers, as was the accident with the MV Bright Field which saw cultural and language problems between the crew and pilot. The same goes for the grounding of the Royal Majesty (Apostol-Mates & Barbu, 2016). The Estonia was another accident where different national languages contributed to the drama (Katarzynska, 2009). Others claim that problems with communication cause half of maritime accidents and are an attributing factor in nearly all incidents (John et al., 2017).[1] It is abundantly clear that unambiguous, good communication is important at sea.

The main instrument in safeguarding communication at sea are the so-called "Standard Marine Communication Phrases" or "SMCP". SMCP are a crucial element of the daily operations and the safety culture within the maritime sector. However, they are in need of revision as they have not been updated since their coming into force in 2001. In the meantime however, the shipping industry has seen plenty of changes, translated in a plethora of new conventions, treaties, codes, technologies and so on, which have not found their way yet into the Phrases. In that context, a call for revision of SMCP has been launched, identifying a number of areas ripe for updating. Likewise, automatisation and digitalisation promise to bring about monumental changes in the shipping industry. Should the revision process take these aspects already into account?

The purpose of the research is to approach this issue from the viewpoint of active seafaring officers, as they are key stakeholders– thereby supporting the revision process of the Communication Phrases.

[1] Other publications even speak of a share of human error in shipping accidents that varies between 60 and 90%. However, a lot of these studies refer to each other and are often based on studies from the nineties. More recent, original research attribute the human fault as the main factor at 60 to 65% (De Vos et al., 2021).

The main research question therefore is: “are active seafaring officers in favour of revising and modernising SMCP?”

The theoretical part will look at the existing literature on SMCP and linking that to the literature on seafarers’ view on SMCP. Thirdly, we will have a look at what the proposal for revision entails. Lastly, the future challenges that are about to transform the shipping industry will be looked into. The methodological is discussed in chapter 3, followed by chapters 4 to 6 reserved for the description of the data, discussion of findings and the general conclusion.

2. Theoretical framework

2.1 SMCP – background and introduction to the concept

The maritime sector is, by nature, an international economic sector, with multi-national crews on board. This is the reason why the International Maritime Organization (IMO) Maritime Safety Committee decided in 1973 that Maritime English (ME) should be the *lingua franca* at sea (International Maritime Organization, 2001).

Bocanegra-Valle (2013) defines Maritime English as "*an umbrella term which refers to the English language used by seafarers both at sea and in port and by individuals working in the shipping and shipbuilding industry*". It has some characteristics that make it more specific than General English. It is a Language for Specific Purposes (LSP) because it is geared toward a specific, professional use (Trenkner, 2000). Because of that, it is more restricted than General English in that it has a lexicon which is well-defined and of a technical nature. Words such as "derelict", "disabled", "fumes" and "MMSI" (Maritime Mobile Service Identity) all have their specific meaning. In General English, one might fume as a consequence of injustice but in shipping, fumes indicate *"often harmful gas produced by fires, chemicals, fuel"*. Likewise, the Maritime Mobile Service Identity number is a term that probably not many laymen know. However, it is obvious that Maritime English cannot be separated from General English since a sound basis of the latter is needed to be proficient in the former.

Grammatically, Maritime English can differ from General English too. Some specific sentences are: *let go the anchor* (instead of let the anchors go), *anchors aweigh* (instead of anchors are up), *anchor fouled* (instead of they're stuck) and *I require assistance* (instead of I need help) (International Maritime Organization, 2001).

In essence, the Standard Marine Communication Phrases, and its predecessor the Standard Marine Navigational Vocabulary (SMNV), are a segment of Maritime English. They are in fact a simplified version of ME. The SMCP are a standardised set of phrases meant to increase the safety of maritime navigation. These phrases are used for ship-to-ship, ship-to-shore and shore-to-ship, and intra-ship communications. They are short, concise sentences, designed to be as easy to understand as possible, stripped of grammatical superfluities and

devoid of ambiguity. Standardisation is important because it (at least) reduces miscommunication when everyone uses the same definitions or concepts. Sharing the same mental model is one of the key aspects in efficient communication. When people view their environment in the same way, they live and work in "shared subjectivity" (Naumova, 2014). Should some officers or crew be less than proficient (or maybe even just tired, which is an aspect often overlooked in discussing troubles in communication but happens all too often at sea), then these people benefit from having knowledge of standard phrases, both to receive and transmit information and thereby lowering the language barriers. In the case of an emergency, standard phrases promote quick and efficient transfer of information, provided that knowledge of them on both transmitting and receiving is good enough. They describe a situation succinctly, instead of having to narrate the situation in one's own words.

Before the SMCP came into force, other codification efforts were made by the International Maritime Organization. Indeed, as a result of the growing understanding of the link between maritime accidents and poor communication, the IMO Maritime Safety Committee launched an effort to standardise nautical language, resulting in the Standard Marine Navigational Vocabulary (Katarzynska, 2009).[2] The SMNV were adopted in 1977 but were already considered as obsolete and outdated by 1985 (Bocanegra-Valle, 2010; Kovacevic, 2014). An important driver was the need to include new technologies. These ranged from differential GPS, Automatic Identification System (AIS), the Global Maritime Distress and Safety System (GMDSS), and a proliferation of Vessel Traffic Services (VTS) around the world (del Rosso, 2017). To transform the SMNV into a more comprehensive language, reflecting the then modern landscape and to encompass all modern safety-related navigational aspects, the IMO formally initiated the process of designing the SMCP in 1992. The SMCP were finally adopted in 2001 by the Assembly under resolution A.918/22 (Kovacevic, 2014).[3]

The use of SMCP is required for certification for officers in charge of the navigational watch on board ships of 500 GT or more under the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 1978 (amended 1995 and 2010) Convention (International Maritime Organization, 2001) and the International

[2] Other efforts to standardise maritime communication existed too, such as Maritime English under impetus of Blakey in 1983, Seaspeak by Weeks, Wavelength also by Weeks in 1986 (Katarzynska, 2009) and (Čulić-Viskota, 2014). In 2004-2007 a Maritime English course was developed, called MarEng, with multimedia support, by several authors around the world to promote ME, in which SMCP are included (Katarzynska, 2009). In 2007, the EU developed MarTEL in an effort to set international standards in ME with subsequent testing, followed by MarTEL Plus in 2010.

[3] In the SMCP, environmental protection was included for the first time (Losey-Léon, 2000).

Convention for the Safety of Life at Sea (SOLAS) 1974 (International Maritime Organization, 1974). In fact, it is the SOLAS Regulation V/14.4 which stipulates that English shall be the working language on board for bridge-to-bridge and bridge-to-shore safety communications as well as for communications on board between the pilot and bridge watchkeeping personnel, unless those directly involved in the communication speak a common language other than English (International Maritime Organization, 1974). And Regulation I/14.STCW 2010 refers to the SOLAS Convention in that Administrations must ensure that companies oblige officers that their English must be good enough to be able to communicate as described above. In fact, Resolution A.918(22) states that "*the IMO SMCP builds on a basic knowledge of the English language*" (International Maritime Organization, 2001). Furthermore, the STCW Convention requires an adequate working knowledge of the SMCP.

The SMCP are divided into a Glossary, part A and part B. The Glossary includes a general section with "*a limited number of technical terms which do not appear in the text of the IMO SMCP, but might be useful in case the content of a given standard Phrase requires modification*" (International Maritime Organization, 2001). Words and concepts such as *adrift*, *boarding speed*, *EPIRB*, *give way*, *hampered vessel*, *MMSI*, *Not Under Command* et cetera are explained and defined in this part. This is useful for maritime cadets among others to learn the language but also to include concepts or technologies that are not part of the phraseology in part A and B. For example, as of yet, ECDIS (Electronic Chart Display and Information System), AIS (Automatic Identification System) or ECA (Emission Control Area) are not included in this list. This could be a good place to introduce technological and regulatory concepts and definitions that have become commonplace in today's shipping industry but were not included at the time of inception. Furthermore, as will be discussed later in this thesis, it might be a good strategy to already include future technologies that will be part of tomorrow's shipping environment such as AI and autonomous vessels. A small section on "VTS Special Terms" follows, defining concepts specific to VTSs, such as reporting point, maneuvering speed, traffic lane, TSS et cetera.

Part A deals with external communications. It covers essential phrases for ship-to-ship and ship-to-shore concerning ship handling and safety of navigation but also onboard bridge communications for pilot, tug and VTS interactions, standard wheel and engine orders. The usage of the SMCP in this regard is mandatory. Topics include distress traffic, Search and

Rescue (SAR), safety of navigation, meteorological communication, VTS communications, anchoring, berthing and even helicopter and ice operations.

Part B is focused on intra-ship communication and although highly recommended by the IMO, not “mandatory”. Topics here are among others handing over the watch, briefing on trim, list and stability, briefing crew and passengers, cargo handling, cleaning tanks, checking the status of lifeboats, fire protection and firefighting drills, damage control, reporting on grounding.

The introduction to the SMCP reads: “*It was drafted intentionally in a simplified version of maritime English in order to reduce grammatical, lexical and idiomatic varieties to a tolerable minimum, using standardized structures for the sake of its function aspects, i.e. reducing misunderstanding in safety-related verbal communications, thereby endeavouring to reflect present maritime English language usage on board vessels and in ship-to-shore/ship-to-ship communications*.”(International Maritime Organization, 2001). The clear goal of the SMCP is to make communication as simple and unambiguous as possible. Hence its key characteristics are the following:

> “*A block language which is used sparingly*”. The avoidance or omitting of *functional terms such as* “a, an, is, are” and clear and short answers in function of clarity.
> “*Avoiding synonyms”.* One specific word for one meaning.
> *“Avoiding contracted forms”.* Not I’ll but I will, I cannot instead of I can’t.
> *“Providing fully worded answers to "yes/no"-questions”.* Will you cross the fairway? Yes, I will cross the fairway)
> *“Avoiding conditionals*”. may, might, could and should are omitted because they lead to confusion, as well as can. Instead, the message markers and clear, short, order-like phrases are used (International Maritime Organization, 2001)

The structure of certain conversations is also prescribed: “Please use the SMCP – I will use the SMCP” (closed loop communication) or “Do you intend to cross the fairway? Yes, I intend to cross the fairway”, especially in VTS communications and GMDSS messages. Moreover, inherent to the SMCP is the use of the message markers (in VTS communication), i.e. Instruction, Advice, Warning, Information, Question, Answer, Request, Intention.

2.2 Seafarers' view on SMCP

As the subject of this research is to probe what seafarers think of SMCP and the revision of it, this part will briefly offer an overview of issues.
Because this research builds on Dr. Noble's research, her findings are briefly discussed as they are used in the discussion to draw parallels.

Noble (2017) has found that 56% of the respondents used SMCP "rather often" to "very often" for external communication whereas 45% indicated the same categories for onboard use. 24% "never" use the Phrases onboard while 14% never does so for external communication. Less than half of the respondents find SMCP "rather effective" to "very effective" for onboard communication and 77% found them to be "rather effective" to "very effective" for external communication.

The Phrases, as reported by the participants, were used most for VTS communication. Other situations in which the SMCP were reportedly often used, were general exchange of information ship-to-ship and ship-to-shore, distress, urgency and safety communications, GMDSS messages, pilotage and SAR. Indeed, GMDSS messages and communication with VTS stations were scored the highest in relation to their perceived effectiveness. Interestingly, requesting medical assistance scored quite low, just less than half. Surprisingly, despite the low usage of SMCP for internal communication, 70% of her respondents declared to be proponent of a standardised communication system – while it did not necessarily have to be SMCP. The research also showed that part B, onboard communication, were most used for standard wheel and engine orders, and in exchanges with the pilot on the bridge, or communication on the bridge in general. They were least used, and viewed as a useful asset, in communication with passengers or during cargo handling.

The effectiveness of the Standard Marine Communication Phrases largely depends on seafarers' familiarity with them and Maritime English teaching but learning practices differ from country to country (Acar & Varsami, 2021). A lack of knowledge of SMCP is still and often a problem in communication at sea or with the shore (Salleh et al., 2019). The level of Maritime English is a subject that keeps reoccurring in discussions on the topic. It is widely suspected that some officers perform substandard. Whether this is related to certain countries or regions is debatable. According to Ahmmed et al. (2020) cadets from for example China, Indonesia, Taiwan, Vietnam have in the past not always met industry standards. Schriever found in (2009) that 64% of his respondents rarely or never made use of the SMCP.

However, 73% of this group were native English speakers while still 45% of non-native English speakers rarely or never used the SMCP. He offered the explanation that "*in fact the very competence of native speakers of English is the reason for a reluctance to condescend to a much simplified form of verbal expression in their 'own' language."*, a sentiment which was found in Noble's survey as well, with 66% thinking the restricted language to be too simplified ("*Pidgin English*") and 70% finding the system to be too restrictive to allow for fluent communication. It seems that the use of SMCP since 2009 has gone up, when compared to Noble's 2017 survey results. This would make sense since it took a while after the introduction in 2001 for mariners to familiarise themselves with the system. It also shows that the better one's General/Maritime English, less need is felt to use SMCP in the strict sense because of trust in one's ability to clearly communicate. One's proficiency in English also influences one's estimation of others' usage of the language, with only 30% of native English speakers believing that the communication ability of international seafarers in English was sufficiently good, whereas twice that percentage of speakers of other languages felt that that was so (Schriever, 2009). Noble (2017) reports along the same lines: 71% of her respondents agreed that a standardised communication system would be superfluous if all crewmembers had a sufficient command of English. On the other hand, only roughly half agreed that the same would be the case for external communications, meaning that, even if all mariners had sufficient command of English, half of respondents would retain a standardised form of language for external communication, even if the crew's command of (Maritime) English were of a high standard.

While the Phrases are designed to reduce misunderstandings, there's still potential for misinterpretation, especially in high-stress situations. It is understood that in emergency situations, the lack of knowledge of Maritime English and/or SMCP will be exacerbated by a high level of tension (Ziarati et al., 2011). Other, more mundane factors that may hinder good communication are fatigue (which happens all too often), noise over VHF or just plain bad pronunciation. Ziarati et al. (2011) report on external communication that *28% of the seafarers thought that it was 'very difficult' to understand incoming messages from non-native speakers of English. The issue of pronunciation was the most common reason for not understanding an incoming message*.

Misinterpretation can occur if a seafarer doesn't fully understand the intended meaning or context of a phrase. For example, *72% percent of the seafarers said that more than one language was spoken on board during their current or most recent service on board. Most*

participants agreed that communicating in one language in emergency situations was very much affected by this fact. One participant stated that there were times when, because of his interlocutor's pronunciation, he had to leave his station in the cargo control room and go to the deck to speak to the person face to face and 'watch his hand movements' in an attempt to communicate. Ziarati et al. (2011) indicate onboard communication difficulties, where SMCP could be used. He continues: *This clearly underlines the need for communication to be made using standard vocabulary, and for seafarers to be able to give the correct feedback (as documented in SMCP) to confirm that they have understood an order.* By contrast, it may be just as difficult for non-native English speakers to understand native English speakers if they do not use SMCP: *[A] participant stated that some native speakers of English sometimes do not use SMCP all the time, and variations in their use of grammar can be confusing*.

While the phrases aid in overcoming language barriers, some individuals might prefer using their native language for communication, especially during routine operations. While standardisation is intended to overcome language barriers, not all seafarers are equally proficient in English or the language of the standardized phrases. Indeed, it was found that mariners – both ratings and officers- often use their own language among each other on board, also for safety related drills and cargo work. However, having a substandard level of ME does have far reaching consequences. Unbelievable as it may seem, there have been several incidences where ships have been detained by Port State Control as a sole result of miscommunication between the ship's crew and inspectors, due to the inability to explain the situation in general terms (Albayrak & Sag, 2012). It is reported that only a quarter of Chinese seafarers for example have confidence in their communication skills when talking to foreign officers in English. Most of them prefer to speak Chinese whenever they can, with only 11% speaking English on board (Fan, 2017). This is not to say that there is ill will. Because of a cultural factor, these particular seafarers may be afraid to make mistakes and lose face. They also tend to use euphemisms to avoid offense. However, this does indicate an issue when it comes to safety at sea related to communication and learning ME and SMCP. Additionally, few Chinese mariners are familiar with SMCP because it is not sufficiently covered in textbooks (Liu, 2008). In China and Korea, few ME course books are commercially available (Lian & Ryoo, 2017). ME teachers, who are often General English teachers without experience in the maritime world, are left to compile their own material, raising questions as to how closely the material fits with maritime students' specific language needs. Simbolon (2021) reports on the difficulties Indonesian maritime students may face in

learning ME and SMCP because of a lack of General English skills. In their curriculum, these students underwent one course of ME during one semester, which is naturally not enough to master the language. Again, this does not mean people are unwilling to learn ME or SMCP. Indeed, Schriever (2009) found that more than 90% of seafarers (including non-native English speakers) were in favour of using English for the lingua franca at sea. Dirgeyasa (2018) adds that learning SMCP or terminology is not enough. To gain proficiency in ME, it is necessary to develop speaking and listening skills. Rote learning of terminology and phraseology does not work well though. See for example Noble & Peters (2019) and Noble et al. (2014) for research on the importance of interactive, simulated learning or Acar & Varsami (2021) for using real-life situations for learning in the classroom and online learning. Trenkner suggested to make ME mandatory for onboard safety-related communication to increase ME proficiency through training on the job as it were (Robinson, 2013). The trouble partly lies in a lack of implementation and enforcement in real life and operations (Robinson, 2013). There is no real control on or sanctioning for lack of proficiency in ME or failing to use SMCP.

Although Simbolon's survey (2021) focused on Indonesian fishing vessels, the fact remains that Indonesian fishers are required to have a working Maritime English and SMCP knowledge, and that international vessels may come into contact with them, making communication necessary. However, few of the participants knew English or SMCP. Instead, companies appointed an interpreter onboard or used a radio communications officer as the only person onboard available for interactions with international vessels. Bocanegra-Valle (2011) points to the fact that the Phrases are underused in real-life situations. There is a gap between how the Phrases should be used and how they are actually incorporated into everyday English as used in real maritime situations. Kataria (2011) wrote that there was at that time a limited use of Maritime English in communication with and from the Mumbai VTS, resembling more General English interspersed with nautical terms. Bocanegra-Valle (2011) makes the interesting point that shipping companies, rather than maritime academies, should urge their crew to correctly use the standardised language, the way it is in fact inscribed in the STCW and SOLAS Conventions (International Maritime Organization, 1974). However, it is undoubtedly so that maritime academies, national policy makers/government organisations, international institutions such as International Maritime English Conference (IMEC), part of International Maritime Lecturers Association (IMLA),

are instrumental in increasing the level of ME and SMCP used on board vessels and the setting of international standards.

Noble (2017) in her doctoral research also asked mariners whether or not SMCP should be revised and amended. While most were in favour of retaining SMCP, the majority, 71%, supported some form of revision. A recent study reported that close to 96% of its respondents were in favour of reorganising Maritime English training according to their rank and operations (Acar & Varsami, 2021).

2.3 Proposal for revision

The current output proposal on the revision of SMCP, submitted by China and the International Maritime Lecturers Association (IMLA), states that:
"*Two decades after the adoption of SMCP, the rapid development of global shipping brought with it significant changes to the conditions of navigation at sea and the modernization of the GMDSS and the implementation of the e-navigation strategy resulted in a process of upgrading of radiocommunication and navigation equipment and technology used on board. At the same time, several SMCP-related international conventions, rules and standards, including SOLAS, MARPOL, ISPS, VTS Guidelines, etc. which have significant impacts on maritime safety, have undergone continuous amendments. Therefore, the existing SMCP can no longer fully meet the actual needs of marine activities and if not reviewed or revised in a timely manner, it may affect the effectiveness of marine communication, thus bringing hazards to the safety of vessels and seafarers as well as the marine environment*." (*Proposals on the Review and Revision of the IMO Marine Communication Phrases*, 2022)

The question arises whether SMCP is still fit for purpose in a rapidly evolving world where regulatory landscapes and technological developments are evolving at a painstakingly high rate. A body of communication guidelines which is too static could thus by nature considered to be outdated. There have been numerous developments in the shipping industry in the last twenty years, all of which make demands on mariners' English and pose a challenge to maritime academies and teachers to update teaching material. According to Trenkner (2000), Maritime English is very flexible in the creation of new words and new ones emerge almost monthly. Examples of new competency requirements are navigation in ice, cargo handling in oil/chemical tankers, incident investigation, Engine or Bridge Resource Management, Volatile Organic Compounds, Energy Conservation, Management of Change, Anti-Piracy

Measures. There is a plethora of ever evolving flag state requirements, environmental requirements, international conventions, circulars et cetera. Shipping companies and other organisations respond to these changes as well and impose new requirements on ships' crews, such as OCIMF (Oil Companies International Marine Forum), Vetting Inspections, TMSA (Tanker Management and Self Assessment), P & I and class requirements (Albayrak & Sag, 2012). The Maritime Labour Convention (MLC, 2006), International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM, 2004) and the International Ship and Port Facility Code (ISPS, 2004) for example, all came into force after the inception of SMCP.

The call for revision proposes to update the following areas:

The Global Maritime Distress and Safety System (GMDSS)

GMDSS was amended in 1988 to the SOLAS Convention 1974 and in that way closely related to SMCP. New marine communication terms and technologies have emerged, such as AIS-SART, Digital Navigational Data System (NAVDAT), VHF Data Exchange System (VDES), Global Ship Tracking (GST), Long Range Identification and Tracking (LRIT), Satellite AIS (S-AIS), Digital Selective Calling (DSC) et cetera, all to improve GMDSS and SAR operations (Korcz, 2016; *Proposals on the Review and Revision of the IMO Marine Communication Phrases*, 2022).

Since the 86th session of the Maritime Safety Committee, work has been done on reviewing and updating GMDSS elements and procedures, which is now bundled in the Modernization Plan and e-Navigation Strategy and falls under the auspices of the Navigation, Radio Communication and Search and Rescue (NSPS) subcommittee (Ilcev, 2020).

In addition, the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual (1998) is updated every three years. It provides guidelines for a common aviation and maritime approach to organizing and providing search and rescue (SAR) operations. The latest edition dates from 2019 (International Maritime Organization, 2019a).

Telemedical Maritime Assistance Service (TMAS)

In the case of medical emergencies, decisions on the treatment of the patient or the possible eventual evacuation are based on the information the ship's crew transfers to medical

assistance ashore. This information needs to be as exact and complete as possible.[4] Currently, SMCP only contain 9 phrases for requesting medical assistance (A1/1.3). New references such as the International Medical Guide for Ships 2nd Edition on which SMCP is based, was written in 1988. The updated 3rd Edition was published in 2007. In it is described how to make a diagnosis and what actions to take. Naturally, medical knowledge has evolved in the past thirty-five years. A separate chapter describes how to report to TMAS and includes forms for case reporting, referral, and evacuation (World Health Organization, 2007).

Secondly, with the advent of new technologies, new possibilities arise. Remote video-consultation or remotely monitoring a patient's health status (which could even be supported by AI), may become a possibility which did not exist at the time of conception of SMCP. Sadly though, email is at present the most used medium to seek medical advice, followed by telephone and radio. Videoconference was the least used (Sagaro & Amenta, 2020).

Thirdly, operations such as the dangerous helicopter evacuation, ship-to-ship transfer of doctor or patient, and referral information to accompany evacuated patients are also proposed to be examined (*Proposal for a New Output for the Review and Revision of the IMO Standard Marine Communication Phrases (Resolution A.918(22),* 2023).

International Ship and Port Security (ISPS) and security related communications

Security-related communications between ships, ports and governments have become very common. Therefore, security information exchange between ships and port facilities, security level declaration, pirate attack information reports et cetera should also be an important part of SMCP. The ISPS Code entered into force in 2004 and requires every ship to designate an appropriate security officers responsible for the exchange of this security-related information (International Maritime Organization, 2019b).

Green energies and greenhouse gases (GHG)

It is almost superfluous to say that this topic is placed high on the agenda of all actors in the shipping industry, given the amount of attention this topic generates. The IMO has translated

[4] As I have experienced myself, the quality (or at least the length) of medical formation during maritime studies, is not uniform throughout the world. As Ukrainian officers have told me, their medical courses amount to a couple of weeks for their entire curriculum while ours at the Antwerp Maritime Academy constitutes two years and an internship.

this into its decarbonisation targets, which aim for a 50% CO_2 reduction by 2050. The industry has seen developments in alternative fuels such as LNG hydrogen, ammonium, methanol, wind turbines, solar power, kites and sails, hydrogen fuel cells, requirements such as the use of low-sulphur fuel or scrubbers, the introduction of Emission Control Areas (ECA), Particularly Sensitive Sea Areas (PSSA), the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP), mandatory under MARPOL or the use of shore power and operational adaptations such as slow steaming and waste heat recovery (International Maritime Organization, 2019c; Mallouppas & Yfantis, 2021). Obviously, it is necessary to report and communicate on these issues, both intra-ship and externally.

At present however, the coverage in SMCP is quite concise. Important concepts and terms such as ECA, PSSA, SEEMP, scrubber, emission are not present in the Phrases. The term "exhaust" appears only once, in a cargo hold context "*Switch on the hold ventilation to supply / exhaust air*". However, there is a separate piece on environmental protection, A1/3.3, which includes ten sentences on (oil) pollution control/reporting. B3/1.3 deals with preventing and cleaning up ballast pollution but is again focused on spillage. Needless to say, the SMCP might stand to benefit from an update in this regard.

VTS communication

This part of SMCP is an absolutely essential section when it comes to safety at sea since it is used in areas where there is a lot of traffic and communication between ships and shore.

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) released the VTS Communications (R1012) in 2017, revised in 2022, in alignment with IMO Resolution A.1158(32) Guidelines for Vessel Traffic Services and the 2.0 version of VTS voice communications and phraseology (G1132) in June 2021 respectively. In addition, reference is made to the Recommendation R0127 (V-127) on Operational Procedures for Vessel Traffic Services and the Guideline G1089 on Provision of a VTS (IALA, 2022). These documents aim to standardise the phraseology, procedures and technology for the delivery of precise, simple and unambiguous communications to the bridge team and allied services.

The proposal for revision advises the SMCP section on VTS communication be updated accordingly to be consistent with these newly adopted Guidelines and the IMO resolution

A.857(20) (*Proposals on the Review and Revision of the IMO Marine Communication Phrases*, 2022).

Maritime Safety Information (MSI)

The revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI) (MSC.1/Circ.1310/Rev.1) regulates MSI and navigational warnings. The proposal for revision recommends that at least two categories of navigational warnings be added to SMCP, in function of the ever growing sharing of sea areas.

First, there are large-scale recreational activities and sports (water exhibitions, regattas, aqua shows, etc). Secondly, designated areas to be avoided (for navigation/anchoring, pipeline/submarine cable areas, dangerous mine areas, dumping areas, cultivation/entertainment areas, fairways, ship reporting points, traffic control area, etc.) should be brought into SMCP (*Proposal for a New Output for the Review and Revision of the IMO Standard Marine Communication Phrases (Resolution A.918(22)*, 2023)

2.4 Industry 4.0

Given the speed of developments and the relative slowness of creating a matching regulatory IMO framework, the question that arises is if it would not be better to proactively include these coming events into SMCP and eliminate the risk to have to start all over again once the current revision process is concluded because it has been overtaken by time. This part will examine the potential major changes in shipping in the coming decades.

As illustrated in Figure 1, the current process of digitalisation and its effects on reorganising economic and societal structures, has been labelled the fourth industrial revolution (Ellingsen & Aasland, 2019). The first was obviously the introduction of water and steam powered mechanical production facilities. The second revolution was the introduction of division of labour and mass production with the help of electrical energy. The introduction of the first computers and automation ushered in Industry 3.0 leading to automated production.

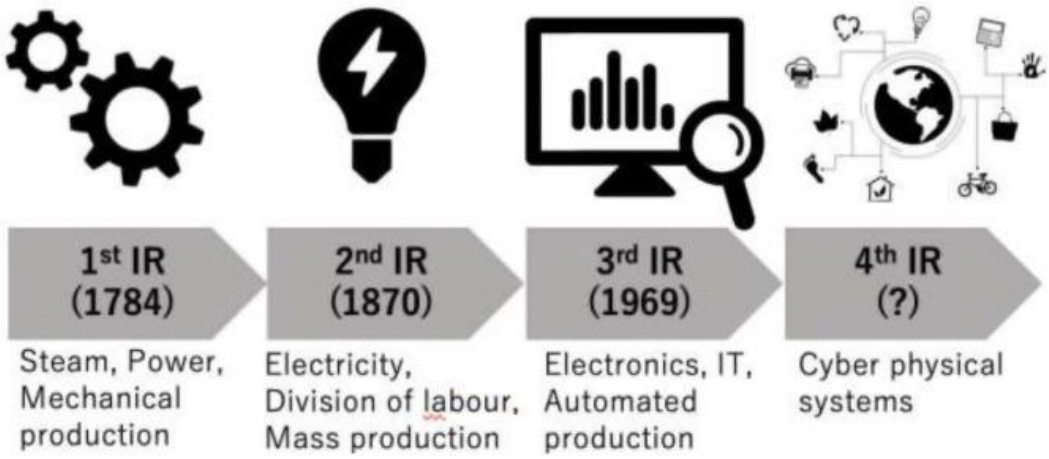

Figure 1 The consecutive industrial revolutions
Source: (Baum-Talmor & Kitada, 2022)

The fourth industrial revolution is fundamentally changing our way of living and working as it merges the digital, physical and biological worlds (Shahbakhsh et al., 2022; World Economic Forum, 2023). The Industry 4.0 is characterised by cyber-physical systems (CPS) in which such a system is defined as collaborating computational elements controlling physical entities (Ellingsen & Aasland, 2019). This means that CPSs integrate computational and physical processes (Crowder, 2020). Digital communication is necessary for the computational side to control the physical end (Wanasinghe et al., 2022). The Internet of Things (IoT) is the part that is responsible for acquiring data on the physical side (think of for example temperature sensors on reefers or in cargo hulls) and AI being responsible for controlling the system and machine learning on the computational side (Wanasinghe et al., 2022). To safeguard this data against attacks, cybersecurity has become paramount (Crowder, 2020).

What does industry 4.0 look like in shipping?

Industry 4.0 is characterised by digital interconnectedness. In this network, users will send, compute and receive data in a vastly bigger volume than before. This is what is typically denoted as big data (Ellingsen & Aasland, 2019). In order to harness the power of big data, the system needs fast, reliable and broad connections. This is usually achieved over the Internet but on ships typically via satellite communications. However, satellite communication on ships is expensive. 5G is cheaper and capable of coping with these amounts of data needed to realise a global integrated maritime supply chain, but so far only extends typically up to 25 nautical miles from the shore (Blue Wireless, 2023; Höyhtyä & Martio, 2020).

Underlying all this is cybersecurity which will evidently of supreme importance (Ellingsen & Aasland, 2019). The 2017 cyberattack which accidentally infected and completely shut down Maersk, costing an at best optimistic estimate of $300 million and disrupted operations for two weeks, was a rude wake-up call. Because all ICT systems were down, one of the many problems the company faced, was to redetermine which ships carried which inventories (Capano, 2021). For years, security researchers have warned the maritime industry that it is particularly susceptible to cyberattacks because of its highly valuable cargoes and outdated systems and processes. Spoofing for example, is a technique that sends different GPS coordinates to a vessel with the aim of throwing it off course. In 2017, a cargo ship lost control of its navigation systems after it was hacked with the intention of sending it into waters where it could easily be boarded by pirates (Chirea-Ungureanu, 2021).

In merchant shipping, this technological revolution is paving the way for autonomously sailing vessels. Smart ships will be fully integrated into a much larger logistics network, a maritime ecosystem. One of its pillars is blockchain, which *"is a digital, decentralized and distributed ledger in which transactions are logged and added in chronological order with the goal of creating permanent and tamper-proof records"* (Treiblmaier, 2019). Through blockchain, all stakeholders in the shipping process can communicate in real-time and share information about goods, payment, and delivery. It adds value to the supply chain through the tracking and monitoring of cargo (based on IoT), digitalizing and securing contracts (such as the Bill of Lading) and speeding up the processing of it (Jović et al., 2019).

The Internet of Things is equally essential in this regard. Sensors attached to the cargo or ship enable the monitoring and analysis of all sorts of key data: location, temperature and humidity of the cargo, automatic fault detection, fuel consumption and energy consumption (Aslam et al., 2020). The possibilities are myriad.

When it comes to autonomous ships, or maritime autonomous surface ships (MASS) in short, the following definitions are distinguished (Kepesedi, 2022):
Degree 1: *Ship with automated processes and decision support: Seafarers are on board to operate and control shipboard systems and functions. Some operations may be automated and at times be unsupervised but with seafarers on board ready to take control.*
Degree 2: *Remotely controlled ship with seafarers on board: The ship is controlled and operated from another location. Seafarers are available on board to take control and to operate the shipboard systems and functions.*

Degree 3: *Remotely controlled ship without seafarers on board: The ship is controlled and operated from another location. There are no seafarers on board.*
Degree 4: *Fully autonomous ship: The operating system of the ship is able to make decisions and determine actions by itself.*

It should be noted that the above list does not represent a hierarchical order. A MASS could be operating at one or more degrees of autonomy for the duration of a single voyage (International Maritime Organization, 2021).

The process of navigating and operating a vessel and the communication around it with respect to human-machine relations could be represented as in figure 2 below. Degree 1 is what is already commonplace on ships nowadays. Human officers remain onboard for navigation and operation of the vessel (Sharma & Kim, 2021). For example, sailing on autopilot or ballasting. In degree 2, the ship is remotely controlled but crew is onboard to control the vessel if necessary. The communication in degree 2 involves a lot more interaction between computers which is why an arrow goes from one machine to another. The remotely controlled vessels by Seafar (cfr. infra) fit this case. In the still more digitalised 3rd degree, this hierarchy has flipped; the machine is on top and human interaction is still present but not physically on the vessel (Sharma & Kim, 2021). In the fully automated situation, human involvement is out of the picture. The vessel makes its own decisions through AI (Shahbakhsh et al., 2022). The ocean crossing by the Mayflower may serve as an example.

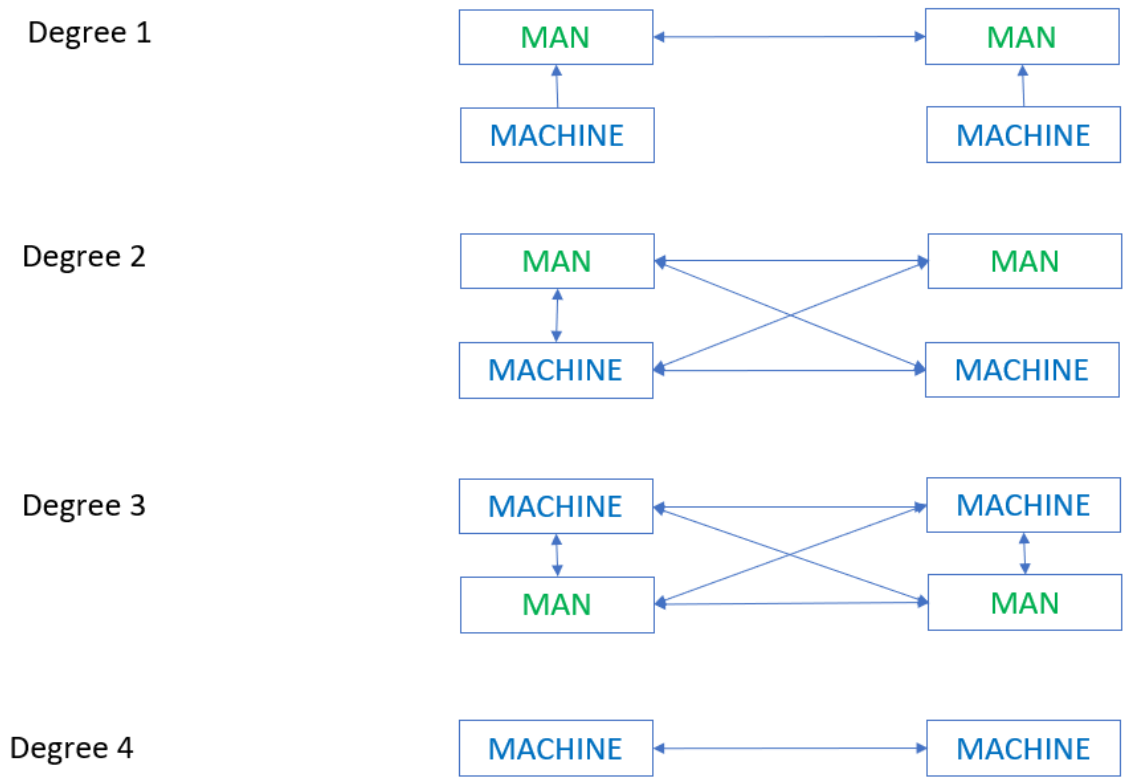

Figure 2 The communication between humans and machines in respect to autonomous vessels
Source: own research

What is the speed of implementation?

Autonomous ships, as the most discussed part of Industry 4.0 in shipping, is further along its development in coastal or inland shipping than ocean-going vessels, where the industry is still in the early stages of adopting this process (Baum-Talmor & Kitada, 2022). The Yara Birkeland is claimed to be the world's first fully electric, autonomous container vessel and will transport fertiliser between Norwegian towns Porsgrunn and Brevik (Yara, 2021). The Dutch company Roboat will provide an autonomous, fully electric ferry for the 2024 Olympics held in Paris. This little marvel will even be 3D printed (Holland Shipyards Group, 2023). In the Stockholm area, the MF Estelle already operates daily. The autonomous ferry still has an operator on board but the company intends to be fully autonomous with a supervisor onshore by 2024 (Guinness, 2023). Even closer to home is the Antwerp based company Seafar, which offers services to inland and coastal shipping companies to remotely navigate or control smaller vessels either with a reduced crew onboard or autonomously. Even if the vessels navigate independently, still there is an operator in the Shore Control

Centre who maintains the ultimate mastery. These onshore supervisors, says Seafar, are former seafarers – usually captains - with a long track record (Seafar, 2023).

Figure 3 An onshore operator at Seafar
Source: https://transportmedia.be/2023/03/seafar-autonoom-varen-is-geen-sciencefiction-meer/

What are the advantages of autonomous vessels?

Cost-cutting will obviously be an advantage for companies since no more crew or at least heavily reduced crew are required on board.[5] Apart from the wages and upkeep, no crew on board means no need for accommodation which in turn means more cargo space and lower building costs (De Vos et al., 2021).

If all systems work properly, then there is the advantage of drastically reducing human error. Fewer accidents on the ocean mean less environmental damage and more safety in terms of human lives. Although no data yet exists on how much safer autonomous navigation will be, De Vos et al (2021) point out that fewer seafarers on the oceans will automatically reduce the

[5] These cost-cuttings will have to be offset against the sizeable investments that will have to be made to make the transition to automated vessels.

number of casualties. AI operated vessels also means more efficient navigation through weather routeing and optimal route planning and potentially reduced port and cargo handling time. More efficient navigating and routeing also contributes to GHG reduction.

What are the hurdles in this process?

The lack of a clear and uniform international regulatory framework is a major hurdle. Lengthy processes to form a legal framework coupled with the blistering speed of development in new technologies create obstacles to the creation of a stable environment for a situation that cannot be held back. Fundamental questions on the status of an unmanned vessel, minimum manning, harmonisation of national rules, potential access to territorial waters, liability and insurance et cetera all need to be answered (Kepesedi, 2022). The IMO has held a scoping exercise, lasting from 2017 to 2021 in which its treaties were checked against MASS operations.[6] The next step is a road map on how to develop an international "goal-based instrument", which is expected to be adopted in 2024 (International Maritime Organization, 2021). The expectation is to develop a "MASS Code" which would enter into force 1 January 2028 (Kepesedi, 2022). As long as there is no regulatory framework in place, MASS degree 3 and 4 are difficult to realise for ocean going vessels because of liability issues. The STCW Convention only applies to vessels with officers onboard. The IMO Maritime Safety Committee is currently focusing its evaluation of the STCW Convention on autonomy degree 2 (Sharma & Kim, 2021). While it is of paramount importance to design this MASS Code meticulously well, the time this takes is juxtaposed to the blistering speed of technological developments.

The lack of human crew on board likewise present challenges. Many tasks that are now carried out by mariners, pose a problem on a crewless ship. When a simple sensor or valve malfunctions, let alone a power failure or cyber-attack, loss of communication signals, automated systems have their own weak spots, especially when alone in the middle of an ocean. Cleaning tanks, carrying out minor repairs, maintaining the condition of the cargo, are all examples of tasks that for now are considered unfeasible on a remotely controlled ship (*Regulatory Scoping Exercise for the Use of Maritime Autonomous Surface Ships (MASS).*

[6] Some examples of Conventions and Codes: Enhanced Survey Programme (ESP), Fire Safety Systems (FSS), Fire Test Procedures (FTP), Bulk Chemical (IBC), Gas Carrier (IGC), Solid Bulk Cargoes (IMSBC), Dangerous Goods (IMDG), Carriage of Irradiated Nuclear Fuel (INF), Intact Stability, International Safety Management (ISM), Ship and Port Facility Security (ISPS) and obviously the collision regulations (COLREG) and the STCW Convention and Code (International Maritime Organization, 2021).

Report of a Survey on What Maritime Professionals Think about Autonomous Shipping., 2018).

Disaster risk management is another factor to take into account. It is hard to imagine what an acceptable solution could be for a crewless ship suffering a major oil leak in the middle of the ocean (Chirea-Ungureanu, 2021).

Moreover, the research focus so far has been largely on the technological side of automatisation and industry 4.0 with little attention for how this will impact the role and future careers of seafarers (Shahbakhsh et al., 2022). It could be that in the future, only one or some operators are on board, fulfilling the role of deck and engineer officers simultaneously (Chirea-Ungureanu, 2021). In any case, training and retraining seafarers will be absolutely necessary to make the transition to a fully digitalised, interconnected shipping industry (Shahbakhsh et al., 2022). This obviously goes for maritime academies over the world as well.

The above discussed trends will be referred to later on in the thesis when analysing the survey results.

3. Methodology

3.1 Research Questions

The main research question of the thesis is: “are active seafaring officers in favour of revising and modernising SMCP?”

I have translated this question into smaller parts on which to build the survey questions:

“Do active seafaring officers think it is necessary to revise the SMCP?”

“Do active seafaring officers think it is necessary to modernise the SMCP?”

“What topics are important to active seafaring officers to certainly include in the revised SMCP?”

“What do active seafaring officers think about making SMCP mandatory for engine room crew?”

“What do active seafaring officers think of reorganising SMCP?”

The topics that were identified from the literature study as potentially most impactful on the shipping industry were AI, 5G, blockchain, automation, clean energy, energy efficiency, maritime robotics, maritime Internet of Things, cybersecurity, immersive reality. These topics were equally included in the questionnaire in order to be able to differentiate the respondents’ views on the themes discussed in the proposal for revision and the “future technologies”. Because immersive reality and Internet of Things might not be well known or totally clear what they mean in a maritime context, links to the following articles[7] were included to provide the respondents with an explanation should they have wished so. I am aware of the potential this choice had to influence the respondents’ answers. On the other hand, this is preferable to receiving false or unusable answers without knowing them to be so because of socially acceptable answering while the respondent didn’t know what to make of the theme. It was chosen not to include links to all topics for the sake of brevity (although links to articles on maritime robotics and blockchain could have been included).

In the light of the changing nautical environment and the implications this might have for the role SMCP communication holds for engine room officers, it was decided to include a section

[7] “What is the Maritime Internet of Things?” https://www.perle.com/articles/iot-at-sea-how-the-internet-of-things-powers-the-maritime-industry-40193572.shtml (Burkhalter, 2022)

“What is immersive reality in maritime industry?” https://seaharmony.co.uk/news/the-potential-uses-of-augmented-reality-in-the-maritime-industry/ (Sea Harmony, S.D.)

in this regard as well. The research question thus became “Do active seafaring officers think SMCP are a valuable communication tool for engine room officers?”.

Finally, a small part on the structure of SMCP was included to examine whether officers believe the SMCP in another form might be more advantageous. The research question thus became “Do active seafaring officers believe revising the structure of SMCP is necessary and in what way?”

3.2 Survey

A quantitative survey was decided as the appropriate instrument to reach a large number of respondents, gauge accurately their insights on the research questions and to allow for statistical analysis (Taherdoost, 2016). A Likert-scale was selected for the answer options. Some advantages of Likert-scale questionnaires are that “*data can be gathered relatively quickly from a large numbers of respondents, can provide highly reliable person ability estimates, the validity of the interpretations made from the data they provide can be established through a variety of means, and the data they provide can be profitably compared, contrasted, and combined with qualitative data-gathering techniques, such as open-ended questions, participant observation, and interviews*” (Nemoto & Beglar, 2013). As for the answer options, it was chosen to have six possibilities: “strongly disagree”, “disagree”, “somewhat disagree”, “somewhat agree”, “agree” and “strongly agree” with “somewhat agree” and “somewhat disagree” as the middle options to rule out neutral answers. Only for the question “*Have you encountered situations onboard in which SMCP did* ***not*** *offer an adequate communicative solution (within their intended purpose)*?” were the answer options “never”, “rarely”, “sometimes”, “often”, “always” as this is more logical from a temporal perspective. Several freely accessible survey programs were looked at but eventually Google Forms was chosen because of the ease of manipulation and compatibility with and transferability to Excel. The draft survey was discussed with Mrs Camille Debandt in function of its methodological sturdiness. The questionnaire is attached in the Annex.

The initial plan was to survey Belgian and Chinese officers. No more than two nationalities were selected at first to keep the range of the survey within the limited scope of a thesis. Belgian because of my nationality and the link with the Antwerp Maritime Academy, and Dr. Noble’s contacts at various Belgian shipping companies and related organisations. Belgian seafarers were defined as officers having the Belgian nationality, actively sailing, either as a

deck or engine officer and being at least third officer. In this way, we excluded cadets who might not have had enough practical experience with the usage of SMCP in the field. Chinese officers were selected because of the proposal for revision which was handed in at the IMO Maritime Safety Committee by China and IMLA. This could have potentially allowed for interesting cross-analysis between the two nationalities.
The Koninklijke Belgische Redersvereniging (KBRV) was contacted as they had previously assisted Dr. Noble in her doctoral research with reaching out to Belgian seafarers. KBRV again very graciously agreed to help by distributing the link to the questionnaire and an introductory text, which can be found in the Annex, to all their members. This was at the end of November 2022. However, after a few weeks, we had received no answers and the KBRV sent a reminder. Dr. Noble in the meantime, as the head of IMLA, was in contact with some Chinese universities. Unfortunately, participation of Chinese officers would not come to fruition and it was decided to abandon the intention of surveying them.

Midway February, Dr. Noble reached out to her contacts at (primarily Belgian) shipping companies, being Jan De Nul, Deme, Euronav, Exmar and Boskalis, asking them to distribute the survey among their officers, again with the link and an introductory text explaining the context and purpose of the research.

In March, it was decided to drop the restriction of Belgian nationality meaning that we contacted mostly Belgian shipping companies but any officer, engine or deck, working for them, irrespective of nationality in an effort to maximise the number of answers. On the other hand, this did bring the methodological question with it whether this survey would be extrapolatable since the number of answers now had to be offset against all seafaring officers, deck and engine, worldwide. If this fraction was not high enough, the results of the survey would only be applicable to the sample group. However, given the previous meagre output of the survey, it was felt that it would be better to have some response rather than none.

In the meantime, companies where we had no contacts, were approached by telephone and e-mail.[8] Of these, only MSC replied and agreed to distribute the questionnaire among some of its ships.

To safeguard the methodological part of the thesis, it was decided to complement the survey with a qualitative, semi-structured expert interview. The expert selected was Mr Christophe

[8] MSC, Maersk, CGA CGM, Kleimar, ZIM Belgium, Aliance Belgium, Kobelfret Ferries, Eimskip Belgium, De Grave Antverpia, Oilchart International, Navios Crewing, Hapag-Lloyd, Holland-America Lines and MACS Benelux.

Roes, head of fleet management at Exmar since Dr. Noble knew that the company attaches importance to SMCP, Mr Roes had been an officer as well and he was one of her contacts. Mr Roes very kindly immediately agreed to an interview which was held on March 27th. The transcription of the interview can be found in the Annex. The semi-structured interview method was selected because it gives the opportunity to follow the themes and questions of the questionnaire and at the same time the freedom to let the expert give his interpretation.

However, upon arriving at the agreed time, Mr Roes was in an urgent meeting and Mr Rony Lanssiers gracefully stepped in for him. Mr Lanssiers had sailed himself, reaching the rank of second officer and is presently HSEQ manager. Mr Roes joined us after his meeting.

Critical note

During my analysis of the survey results, it became clear that the answer possibilities for some questions differed and thus that a methodological mistake had been made. Questions "In my opinion, some sections of SMCP need modernising", "In my opinion, the following sections of SMCP have become obsolete", "Sections of SMCP are a valuable communication tool for engine room officers" had been split up in two. The first part listed all subsections of part A external communication, the second all subsections of part B onboard communication, to keep a clear overview. Each of these questions should have had the answer possibilities "strongly disagree, disagree, somewhat disagree, somewhat agree, agree, strongly agree" but unfortunately, the answer possibilities for part B, read "never, rarely, sometimes, often, always". This makes a like for like comparison not possible.

Having spent months on the design of the survey, meticulously working out every detail, having analysed it several times with Dr. Noble, and having it analysed by Mrs Debandt, having tested out the survey myself several times and by friends, I find it hard to believe that none of us noticed this mistake. It is my strong conviction that an error must have occurred in Google's survey program. However, I have searched my documentation that I have kept throughout the process of writing this thesis and have found no conclusive evidence that the fault is none other than my own so I must take responsibility for it.

However, I believe the sentiment of the answering officers can still be deduced from the answers and in that way compared to the part A answers.

4. Description of the data

The goal of this section is to relay the answers and output resulting from the survey and interviews in an objective manner.

4.1 Sociodemographic description

The survey generated twenty-six participating officers. Most respondents - 35% rounded up - were 35 to 44. 27% were between the age of 25 to 34, being the second biggest group. The age bracket 55 to 65 was the third largest group with 23%. The age intervals were divided in ten year increments with the upper age limit of each bracket ending in 4 so as not to have overlap between consecutive intervals. The 2nd last interval includes 65 since this is the official age of retirement in Belgium and to include this age in the last working bracket. The last interval was >65 old in order to include officers who would possibly still be sailing but no respondents fell in this option. The intervals started from 18 to 24 to include the youngest possible third officers.

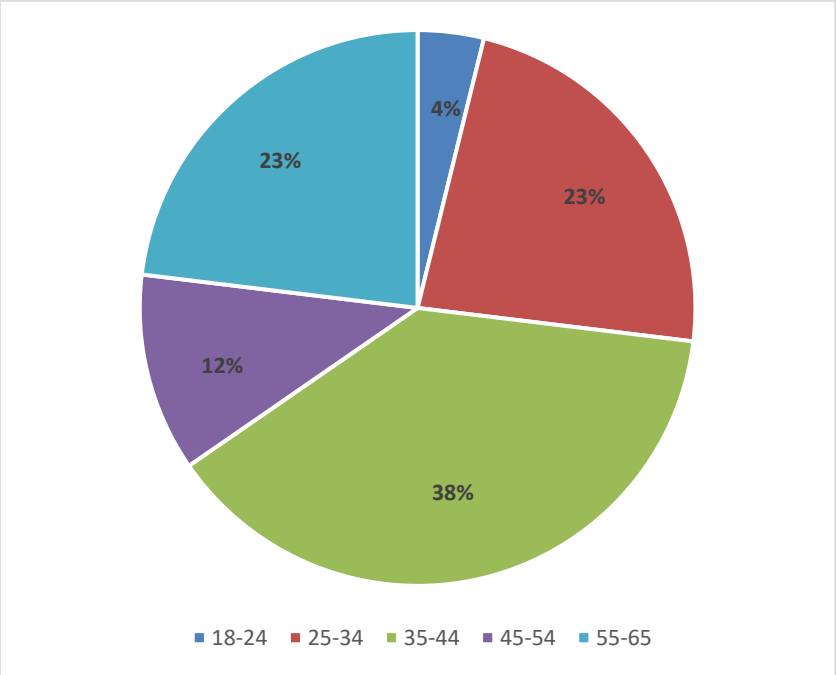

Figure 4 Age distribution
Source: own research

With eleven respondents being Belgian, they made up by far the biggest group, representing 42,31% of the total. Second were Indians and Croatians, each with four respondents or

15,38%. Montenegrins numbered three, making up 11,54%. Two Ukrainians, one Dutch and one Lithuanian made up the rest, bringing the total to 100% or 26 respondents. Therefore, the composition of this sample is predominantly European. Belgian and Dutch officers tend to have a high working knowledge of Maritime English.

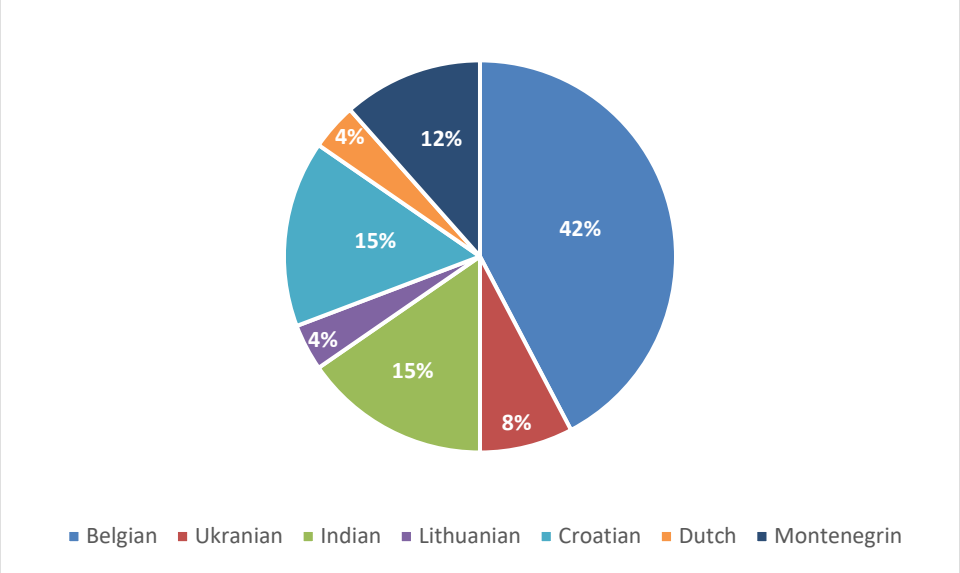

Figure 5 Nationalities
Source: own research

Eight respondents or 30,8% have sailed for more than twenty years while the same number have sailed for 16 to 20 years. Three respondents or 11,5% have had an active career at sea for 11 to 15 years with again the same fraction for 6 to 10 years. Finally, 15,4% of the sample group had been sailing for 1 to 5 years. So, almost two thirds of the sample group have an experience of 16 years or more and 73,1% of the sample group has sailed for more than ten years. Putting aside the relatively few answers, it can be seen that all of these respondents were quite experienced.

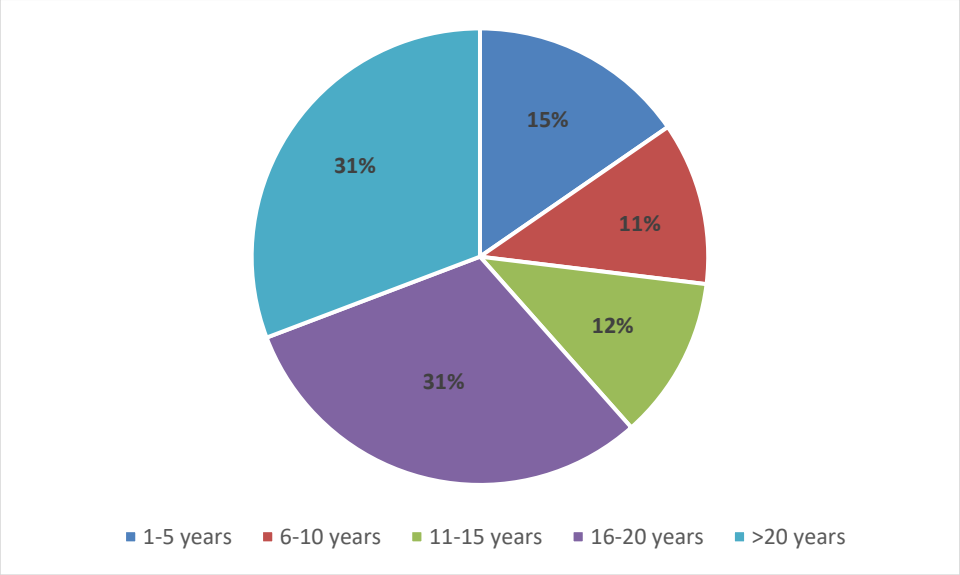

Figure 6 Years of active sailing
Source: own research

This reflects in highest function held on board: 15 respondents or 57,7% were at the time of the survey or had held as highest function the rank of Captain. 11,5% were Chief Officer and 15,4% were 2nd Officer. Unfortunately, only two of the answered surveys came from the engine room department: one respondent (3,8%) held the rank of Chief Engineer and the other the rank of 3rd Engineer. To complete the total, 7,7% of the answered surveys came from 3rd Officers.

Having only 7,6% of the answers come from the engine room raises some questions on representability or validity, were it not for the fact that the sample group is too small to make any general claims or distinctions. However, this may indicate a lack of interest of the engine room departments in the SMCP. This remains, of course, conjecture.

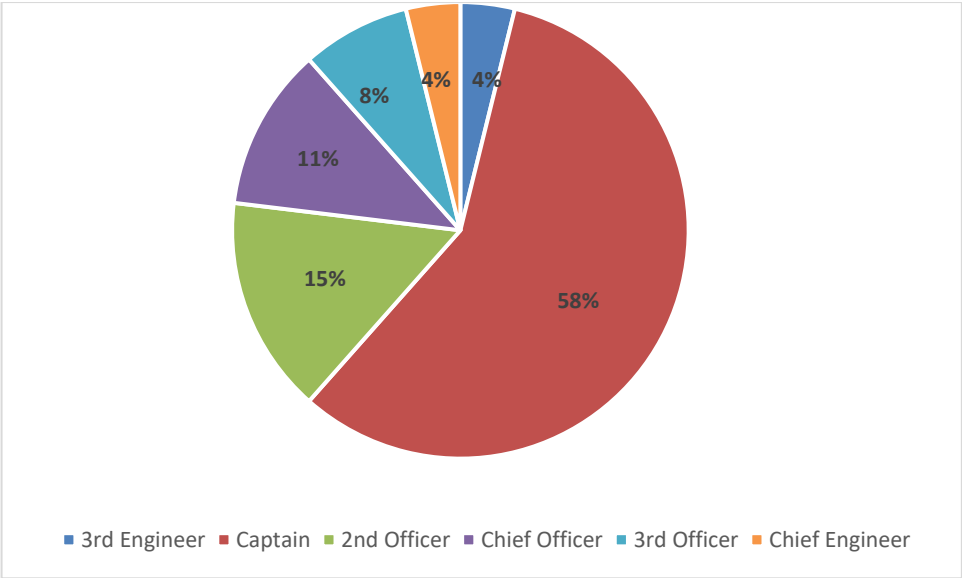

Figure 7 "What is your current function or was your highest function on board?"
Source: own research

Concerning the types of ships the respondents have worked on, the number of types of ships for 26 respondents implies that some or most of the respondents have worked on different types of ships and therefore have sailed in different situations requiring different communication strategies.[9]

[9] Even a "roeibootje" counts as some form of experience.

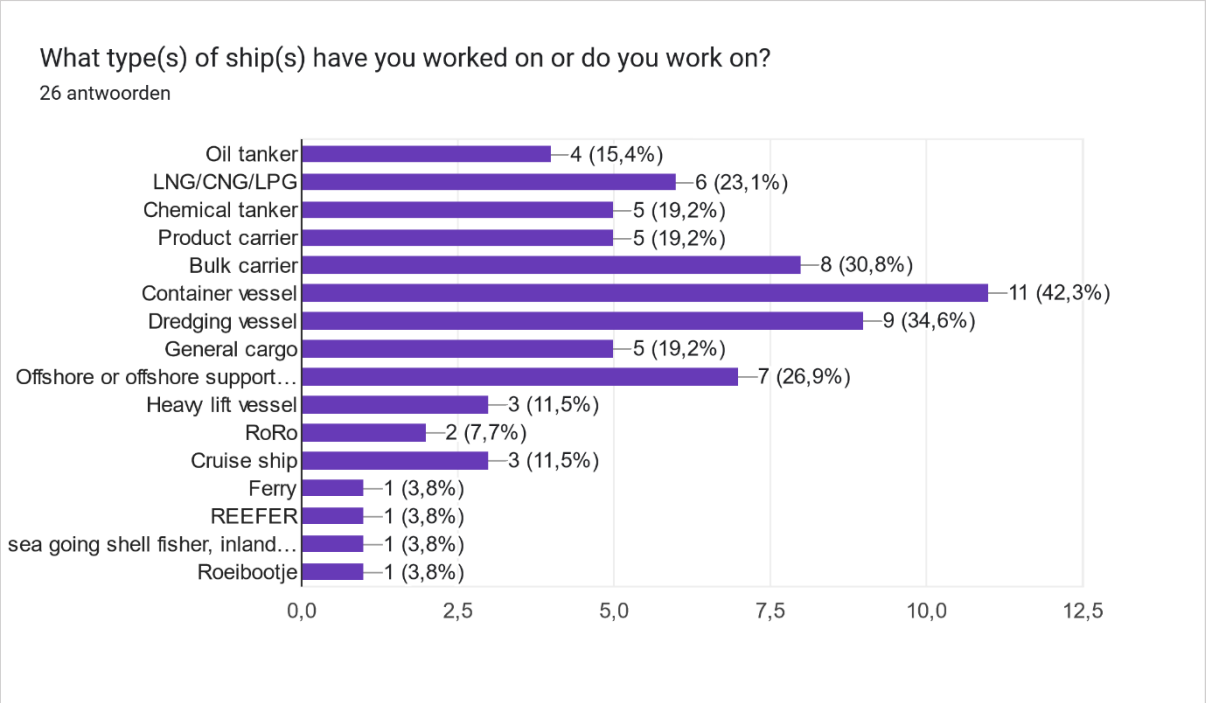

Figure 8 Types of ships worked on
Source: own research

As for the participating officers' level of proficiency in the use of SMCP, eighteen out of twenty-five, one person did not answer, consider themselves proficient in the use of it. Five more "somewhat agree" to the statement "I consider myself proficient in the use of SMCP". One questionee "somewhat disagrees" and another even "completely disagrees". There was one officer who stated that the last time he or she had heard of the SMCP, was in 2003 when he or she was a student, and had never used them in his or her professional life. Perhaps this is the same person who indicated to be not at all proficient in the SMCP, but this is again conjecture.

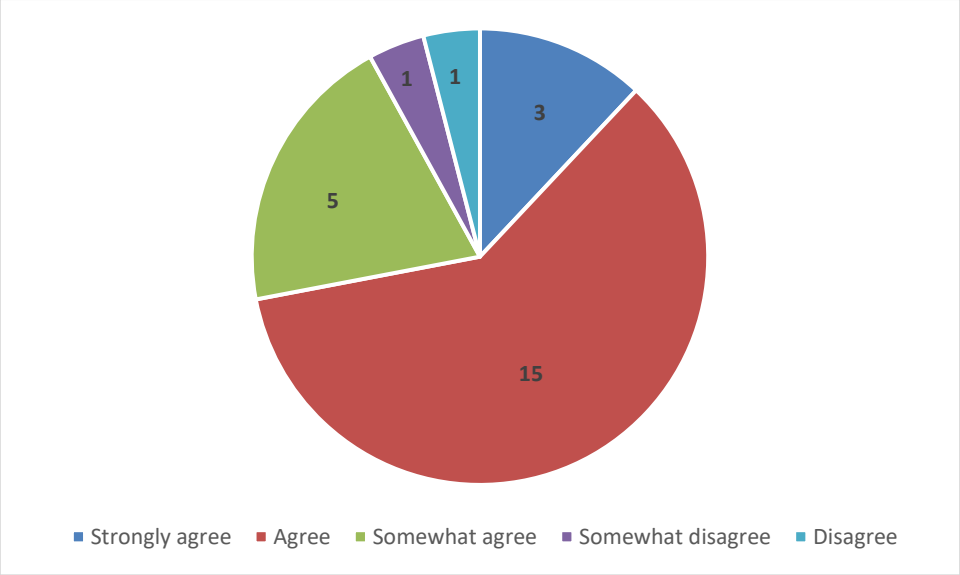

Figure 9 "I consider myself proficient in the use of SMCP
Source: own research

Concerning the next question, “I have received extensive training on the SMCP” (divided up into three parts “glossary”, “part A external communication” and part B “onboard communication”) each time one respondent ticked off “strongly disagree” indicating that he or she feels like he or she has not received any training on the SMCP. This cannot be true of course, since mastering SMCP is necessary to become certified as a watchkeeper. SMCP were adopted and came into force in 2002. The longest sailing careers were between sixteen and twenty years so they have started their career at sea at the earliest in 2003. Other than that, 56% agree that they have had extensive training on the SMCP glossary, 44% on part A “external communication” and 52% on part B “on board communication”. It is somewhat remarkable how the officers have received less training on external communication that on the glossary and part B.

If we take “somewhat agree”, “agree” and “strongly agree” together, in respect to the glossary, the percentage becomes 80,78%. 15,38% disagreed or strongly disagreed to having received extensive training on the glossary.

The same observation applies for parts A and B. This could be a reflection of the educational choices of the seafarers' respective former maritime institutes or their personal view vis-à-vis SMCP. Maybe some of the older participants were tutored in SMCP when they were still new and course materials still had be optimised in function of the new Phrases.

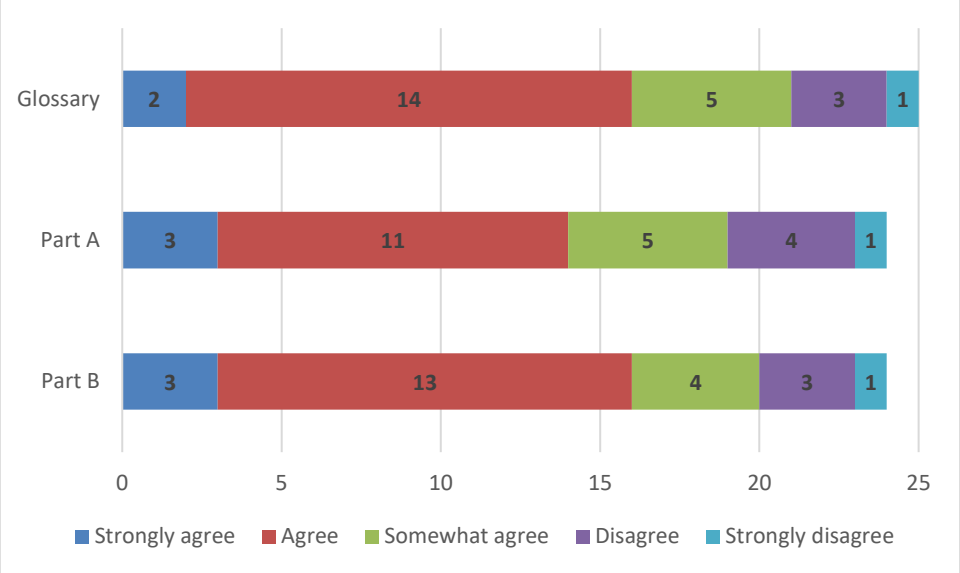

Figure 10 "I have received extensive training on the SMCP"
Source: own research

All things considered, 72% of the sample group rate themselves as proficient in the use of SMCP. Given the years of sailing and the functions of the respondents, one could assume that their knowledge of SMCP is satisfactory and probably good. However, as Noble pointed out (2017) based on her experience as an ME teacher at the Antwerp Maritime Academy, respondents' self-assessment may not necessarily reflect reality and can only be accurately determined through testing.

4.2 Modernisation of SMCP

The next section deals with how the seafarers view the modernisation of SMCP. The first question is "Have you encountered situations onboard in which SMCP did **not** offer an adequate communicative solution (within their intended purpose)?", to try to have a detailed understanding of which sections the seafarers find useful or outdated.

Concerning the glossary, 21,74% from the sample group never had an issue with the glossary, 43,48% rarely and 34,78% sometimes. With 65% of the respondents "never" or "rarely" encountering the limits of the glossary, and 35% only "sometimes", these are quite positive results. Of course, there is an amount of uncertainty because of the self-reporting. As stated above, a little over half of Noble's respondents (2017) used SMCP for external communication and just less than half for onboard communication. It may be that officers with a high proficiency in Maritime English, use a sort of phraseology combined with SMCP words that approximates the strict form, as was reported for example by Kataria (2011). This reflection may also be applied to the rest of the reporting on the answers to the survey.

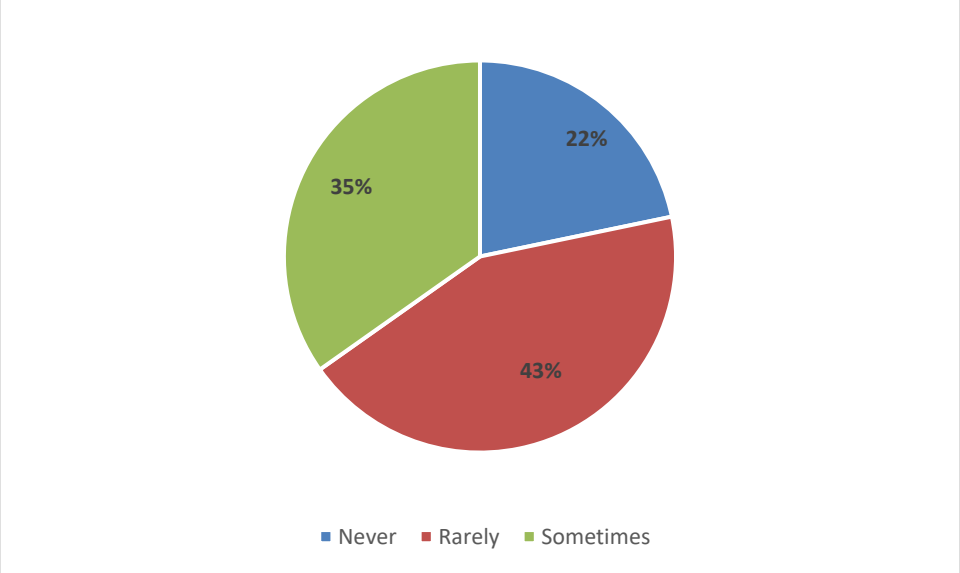

Figure 11 "Have you encountered situations onboard in which SMCP did not offer an adequate communicative solution? – Glossary"
Source: own research

Concerning distress communication, 85,71% of the sample group have answered to rarely or never find the SCMP inadequate. Notably, one officer (out of twenty-one) indicated that search and rescue communication possibilities often do not cover adequately the needs. Ten officers on the other hand never experienced problems in that field. The same picture is painted for requesting medical assistance (one of the fields the IMO proposes to update). One out of twenty-two questionees finds that the section is always insufficient but nine have indicated "never", eight "rarely" and four "sometimes". Almost the exact same answer pattern exists for A1/2 urgency traffic. A1/3.1 Meteorological conditions, A1/3.2 navigational warnings and A1/3.3 environmental protection communications all follow the same pattern: most find that they are "rarely" or "never" left wanting and a minority indicates "sometimes".

The same positive attitudes apply to pilot request, tug request and embarking/disembarking pilot, helicopter operations, icebreaker operations with the distinction that a small minority finds that the SMCP in these fields however “often” or “always” give inadequate communication possibilities. All sections concerning Vessel Traffic Schemes (VTS) were considered quite positive (again one of the area’s IMO proposes to modernise).

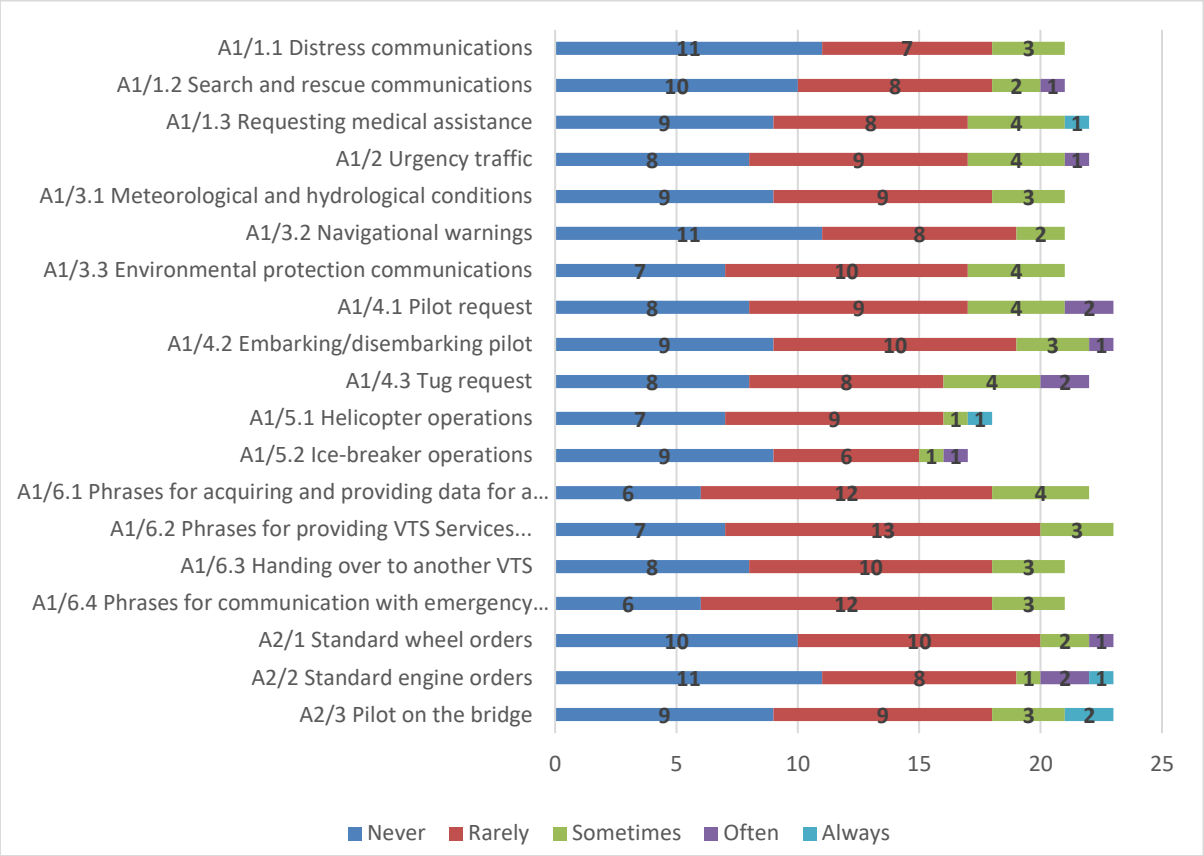

Figure 12 "Have you encountered situations onboard in which SMCP did not offer an adequate communicative solution? Part A"
Source: own research

Concerning part B (Handing over the watch, trim, list and stability, search and rescue on board, evacuation and boat drills et cetera) the same as above applies: most officers indicate that the SMCP “rarely” or “never” leaves them wanting, a smaller group “sometimes” and again one, occasionally two indicate “always” or “often”.

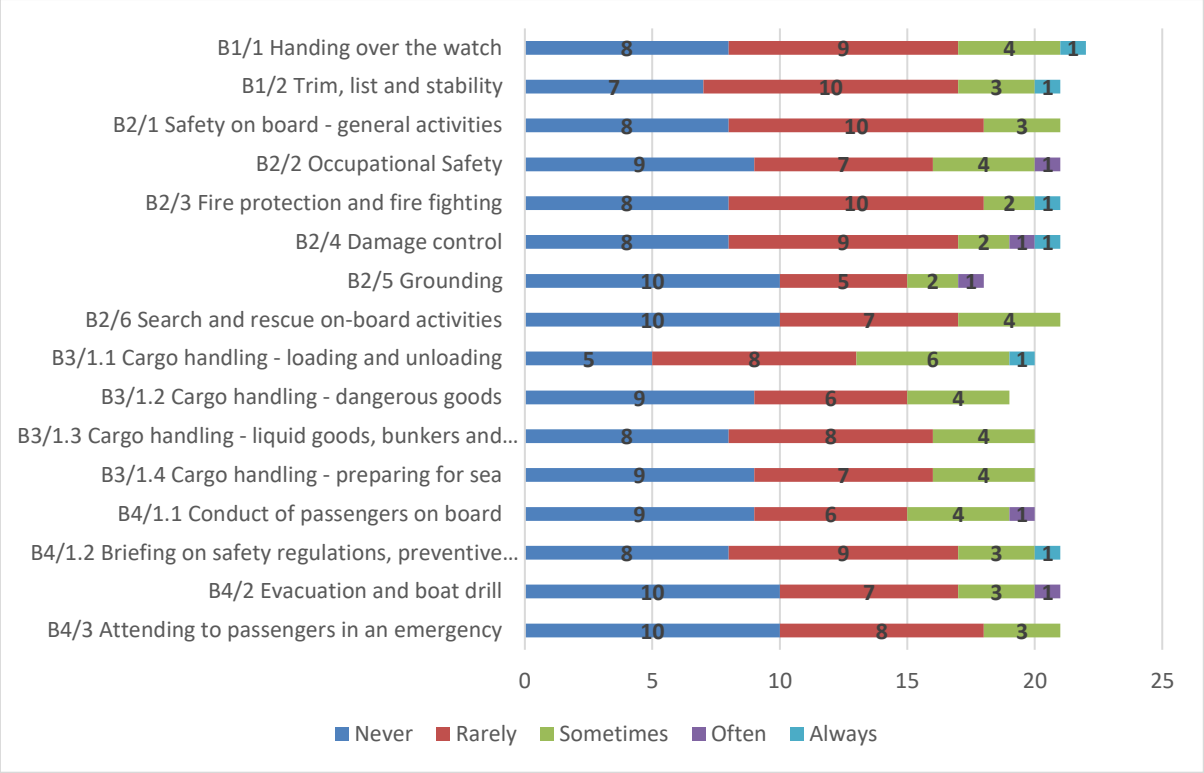

Figure 13 ***"Have you encountered situations onboard in which SMCP did not offer an adequate communicative solution? Part B"***
Source: own research

The question “Have you encountered situations onboard in which SMCP did **not** offer an adequate communicative solution (within their intended purpose)?” was followed by an open section to give the officers the opportunity to give their own opinion in an attempt to receive more detailed input. One mariner stated “*I my opinion it is beter to describe the watch handover in your own words instead of using standard SMCP Phrases*” (sic), a sentiment which is shared by many. The second reply was “*SMCP is fairly well made, the only big issue is that seafarer seems to forget it exist*”. So, on the one hand one officer who said he never uses it, on the other an officer who is frustrated with mariners not using SMCP.

Then, the question around which it all revolves: "Given the fast-evolving maritime industry, SMCP no longer match the modern-day context on ships."

Twenty-four respondents answered this question. Two strongly disagreed, six disagreed. So, taking these two together, 30,78% of the sample group disagree that the SMCP no longer match shipping nowadays or put differently, that the SMCP are still relevant. “Somewhat disagree” is the largest group with nine answers or 34,62%. Somewhat agree has two answers or 7,69%. The hesitant middle part accounts for 42,31%. Four officers agreed and one

strongly agreed. “Agree” and “strongly agree” together make for 19,23%. So, it would seem the opinions are divided on the subject. Of course, one does not know the underlying reasoning. But overall, this sample group thinks the SMCP are still relevant (65% over the range “disagree”) even if the feelings are a bit divided.

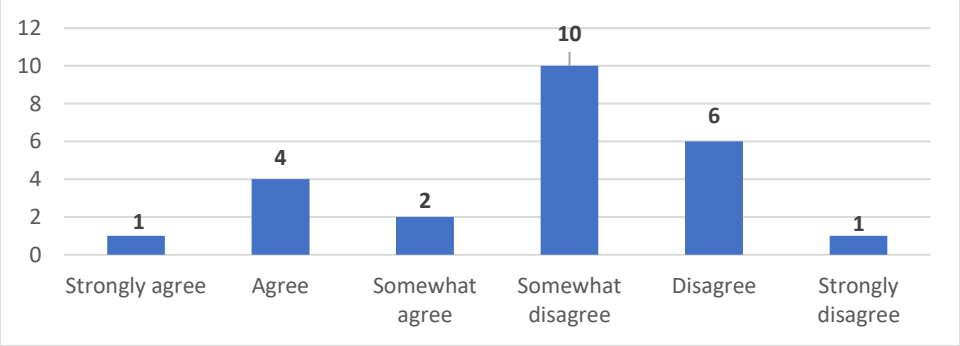

Figure 14 ***"Given the fast-evolving maritime industry, SMCP no longer match the modern-day context on ships"***
Source: own research

The next question was “In my opinion, some sections of SMCP need modernising”. Here, the goal was to probe specifically which sections the mariners thought were important to modernise, if any. This is why, again, they were given the possibility to rate each subsection. Most answers (varying between eight to ten out of twenty-one or 38-47%) were “disagree”, making up the largest group. Of all the sections, modernising the glossary got the most “agrees” with five out of twenty-three (21,74%) and two out of twenty-three (9%) “strongly agrees”. The group is clearly divided. 56,5% disagrees in some form to modernise the glossary while 43,5% thinks the opposite.

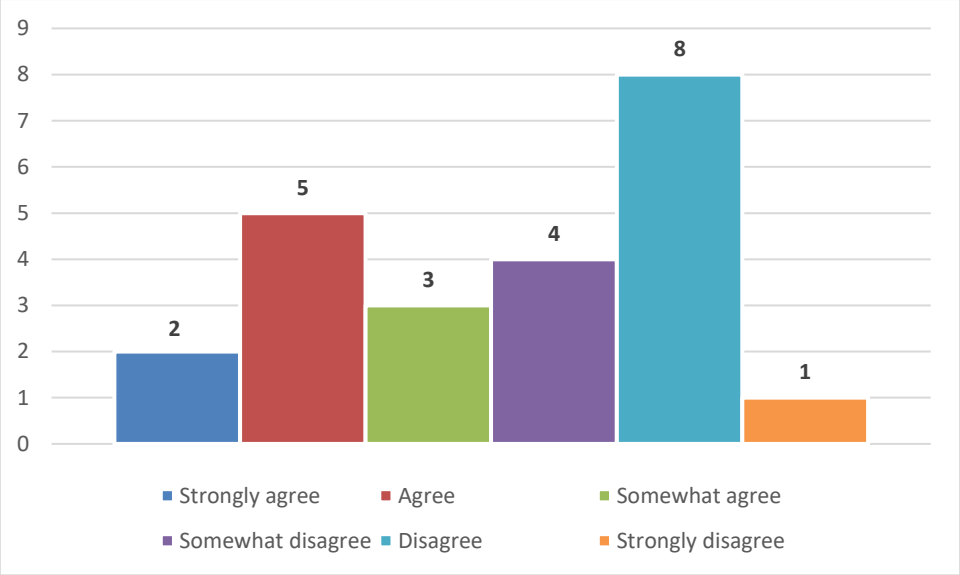

Figure 15 *"In my opinion, some sections of SMCP need modernising - Glossary"*
Source: own research

On urgency and distress communications, the group is more homogenous; apparently, they think this is well taken care of by the SMCP. Taking all "somewhat agree" to "strongly agree" together, concerning A1/1.1 30%, A1/1.2 25%, A1/1.3 amounts to 38%. But A1/2 Urgency traffic more: 42,8%. Still, with 57%, the "somewhat disagree" to "strongly disagree" group is bigger.

Figure 16 *"Given the fast-evolving maritime industry, SMCP no longer match the modern-day context on ships - Part A"*
Source: own research

Concerning communications with VTSs, roughly 40% think these phrases could use modernising. This ties in with the proposal for revision to modernise this section and with the insights of one of the expert interviewees.

When it comes to handing over the watch, 82% of the group thinks it is fine as it is, which corresponds to what has been reported earlier.

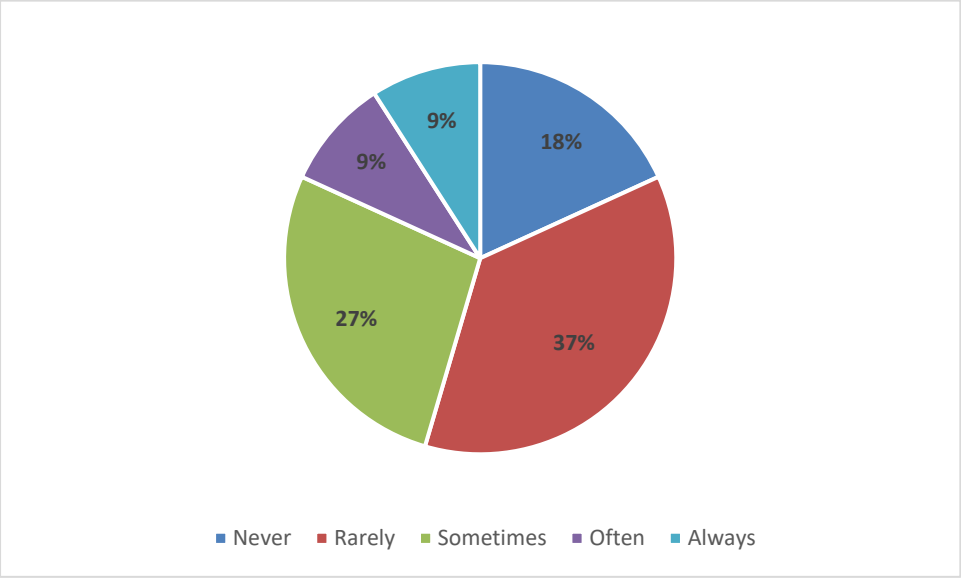

Figure 17 "Handing over the watch, modernise?"
Source: own research

The trend is the same for all part B phrases: a lot more votes in the “disagree” fields than “agree”. In this group, the division is roughly 30% pro-modernising, 60% against.

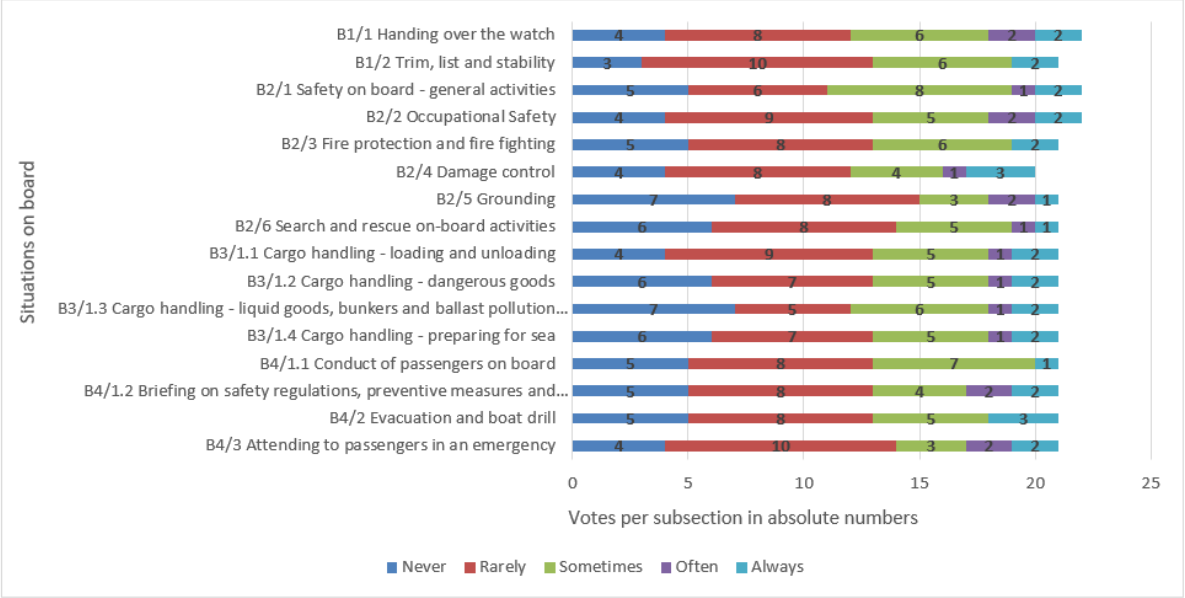

Figure 18 "Given the fast-evolving maritime industry, SMCP no longer match the modern-day context on ships - Part B"
Source: own research

The next question is "In my opinion, the following sections of SMCP have become **obsolete**." The intention of this question was to find out if officers believe some sections of the SMCP should be scrapped altogether.

Again, every single category has at least one “strongly agree”. On a larger scale, it is quite obvious that most officers agree that neither the glossary, nor the constituting parts of part A and part B have become obsolete. 68% disagree or strongly disagree that the glossary has become obsolete. Disagrees for part A account for the majority and vary between 47% to 54,5% of all answers. Only concerning the VTS phrases (A1/6.1,6.2 & 6.3), there are a bit more “somewhat agree/disagree” compared to the other sections but the “disagrees and strongly disagrees” still clearly in majority. This correlates to other results, feedback from the experts and the theoretical reflection that VTS communication needs updating.

In the case of the glossary, the opinion is clear. Twelve officers disagree, three strongly disagree and three more somewhat disagree (out of twenty-two who’ve answered the question). In other words, 82% disagrees that the glossary has become obsolete.

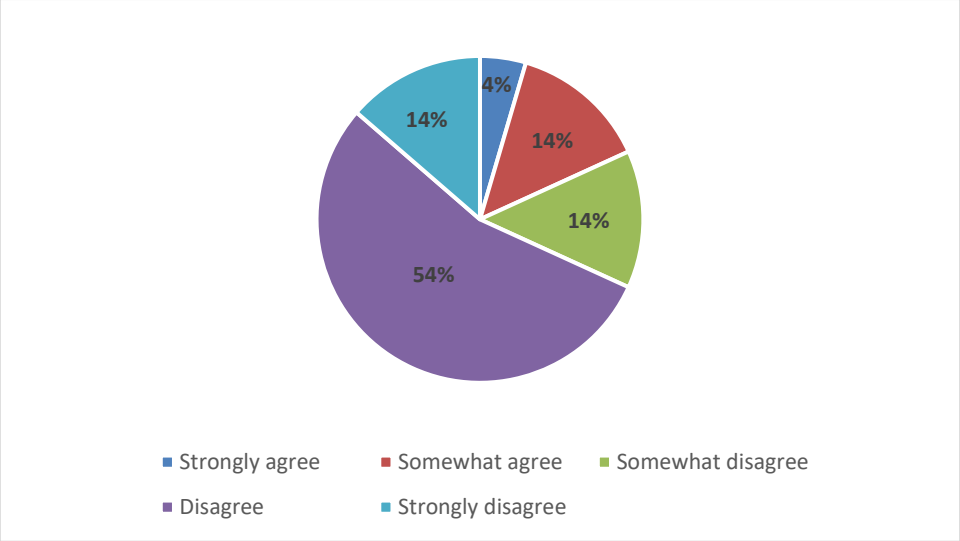

Figure 19 "In my opinion, the following sections of SMCP have become obsolete - Glossary"
Source: own research

Concerning part A, the same trend as with the previous question is obvious but even more pronounced. The category “disagree” receives by far the most votes (per section) (between 9 and 12 out of 22) with usually a strong second or third largest group opting for “strongly disagree”. “Strongly agree” and “agree” receive about one to three votes per section with each section having at least one “strongly agree” vote. For A2/1 standard wheel orders, A2/2 standard engine orders, A2/3 pilot on the bridge, the division is clearest and in favour of the disagree categories, as with A1/4.2 embarking/disembarking pilot, A1/4.3 tug request, A1/5.1 helicopter operations and A1/5.2 ice-breaker operations.

The ones that immediately stand out, are the three subsections that deal with VTS communication. They receive the most “somewhat agrees” meaning that the participants are of the opinion that the Phrases in this regard have become outdated. The same reasoning could apply to navigational warnings and environmental protection communications, with a high number of “somewhat disagree”. A1/1.3 requesting medical assistance has 21 out of 23 votes in the disagree categories, while there are two for agree and strongly agree, so 91% to 9%.

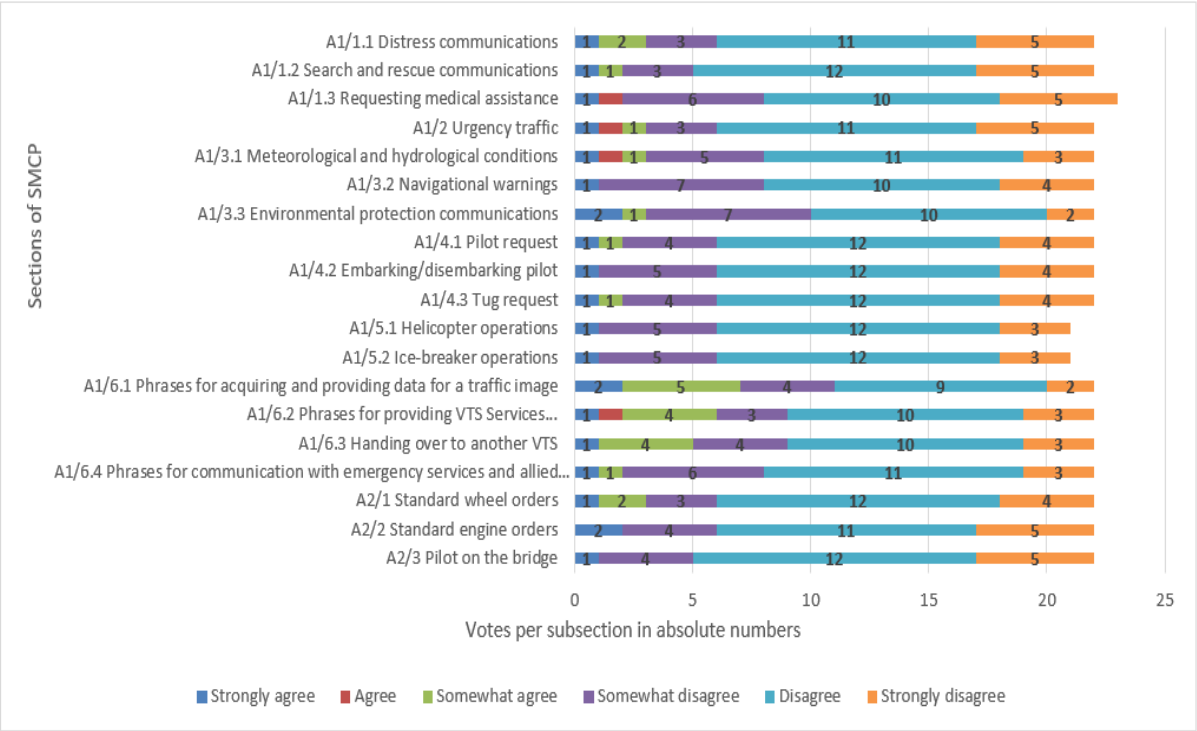

Figure 20 "In my opinion, the following sections of SMCP have become obsolete - Part A"
Source: own research

Part B curiously shows the exact same picture. An overwhelmingly large group thinks the SMPC, onboard communication have not become obsolete, while a very small group maintains that they are.

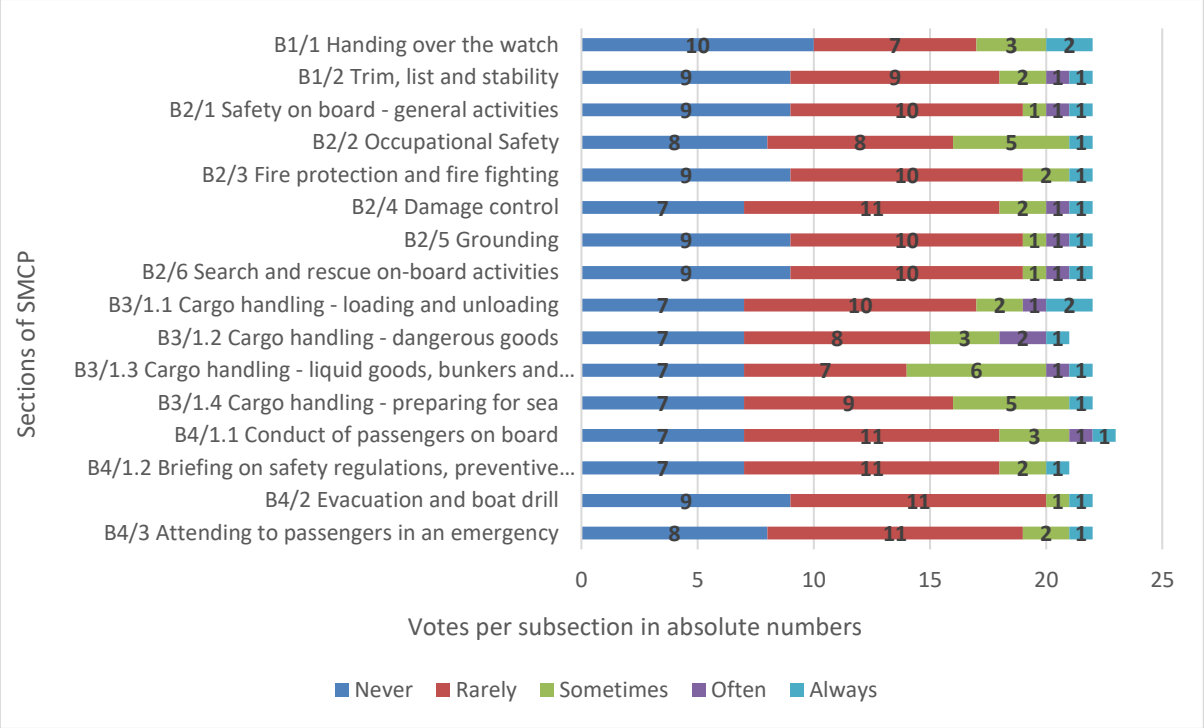

Figure 21 "In my opinion, the following sections of SMCP have become obsolete - Part B"
Source own research

Now for the question "To what extent do you agree that SMCP require modernisation in terms of the following **contexts**?" which meant to get a clearer picture of what the participating officers think of the areas proposed to be updated. Whereas with the previous questions the spread was more noticeable, here the results lay closer together, showing a preference for updating. Not one proposal has received a "strongly disagree" but all have received at least one "strongly agree".

30% disagrees that GMDSS topics should be updated in the SMCP while 22% "agree" and 30% "somewhat agree". Two respondents, or 8,7% "strongly agree" and 8,7% "somewhat disagree". The sentiment to update the GMDSS-section is therefore supported by a larger group than those opposed to it.

Concerning TMAS, 31,6% disagrees while 15,8% agrees that TMAS phrases should be modernised. 15,8% somewhat agrees while 31,6% somewhat disagrees and 5,2% strongly agrees. Therefor 63,2 disagrees in some form while 21% agrees but the difference in opinion is less clear cut than vis-à-vis GMDSS.

ISPS and security: 30% disagrees that ISPS and security related phrases should be updated while 25% agrees. 15% "somewhat disagrees" and 25% "somewhat agrees". 5 "strongly

agree". So with 45% disagreeing and 50% agreeing (55% including "strongly agree") in some form and the results quite evenly spread. (ISPS is a competence reserved for higher ranking officers on board so lower officers come less into contact with it and it may not bear on SMCP, is this the translation of the voting?) Even though security has been a prominent concept in shipping since the introduction of ISPS in 2004 and the prevalence of piracy attacks in some parts of the oceans.

Greenhouse gas emissions and ICT and autonomous shipping have received the highest number of "agree". 22,7% disagree with updating the SMCP in function of GHG emissions but 31,8% does agree. 13,6% somewhat disagrees and 27,2% somewhat agrees. 4,5% strongly agrees. Of course, the subject of decarbonisation has been very prominent in shipping with the introduction of scrubbers, alternative fuels, on shore power supply but also the creation of Emission Control Areas or the obligation to lower sulphur content of fuels and so on.

ICT and autonomous shipping: the largest difference and largest number of agrees over the different proposals. 19% disagrees while 38,1% agrees. 14,3% somewhat disagrees and 23,8% somewhat agrees. 4,8% strongly agrees. 33,3 in the disagree category while 66,7 (so two thirds pro).

MSI and navigational warnings is the most equally spread which is perhaps not surprising since it is fairly well worked out in the SMCP, as also indicated by the experts. 25% favours disagree, 25% in favour of somewhat disagree, 25% in favour of somewhat agree. 20% for agree and 5% for strongly agree.

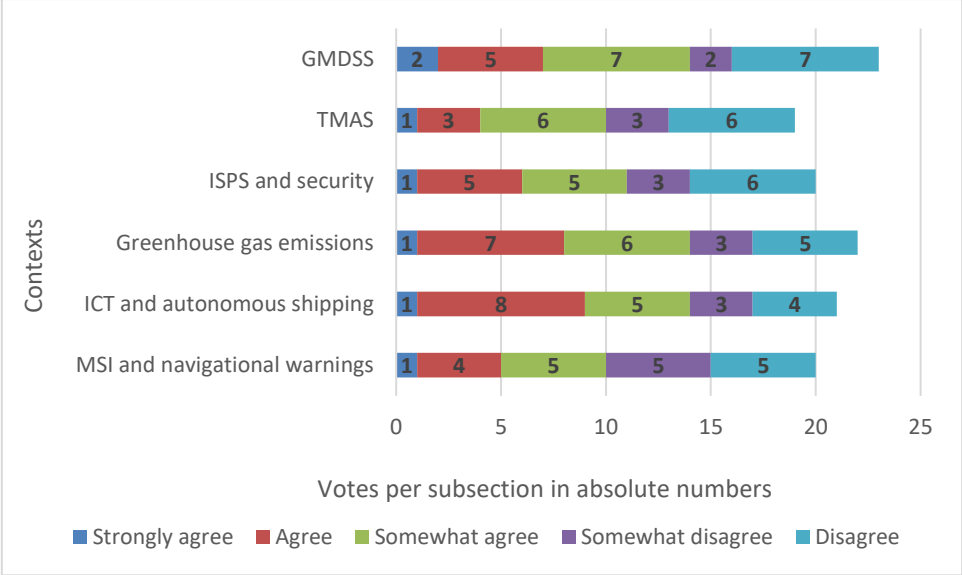

Figure 22 "To what extent do you agree that SMCP require modernisation in terms of the following contexts?"
Source: own research

Concerning the new technologies, the stance is overwhelmingly in favour of including them:

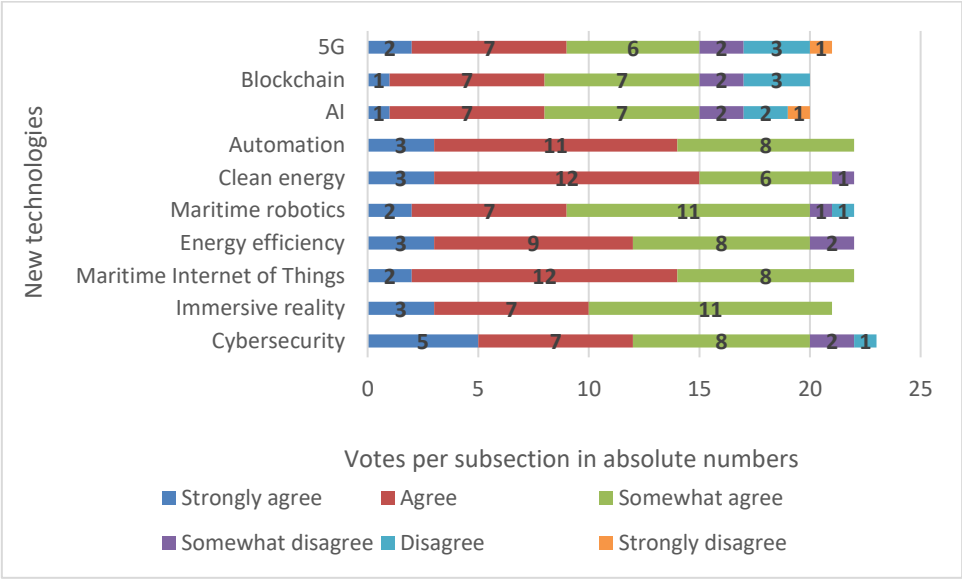

Figure 23 "Should new technologies be included in the modernised SMCP?"
Source: own research

In the case of automation and clean energy, the case is very clear: 50% agree, 13,6% strongly agree, 36,4% somewhat agree. There are no countervotes and no negative votes. In the case of clean energy, even 54,5% voted agree.

Automation, clean energy and maritime Internet of Things received the highest number of agrees of the different categories. But, as can be seen below, maritime Internet of Things received a higher number of hesitant "agrees". Might it be too soon? This technology is not yet widespread on ships. It will be in the future though and mariners will deal with it closely, more so than blockchain and 5G, in terms of communication and SMCP.

5G, blockchain and AI, although there is 75% in favour in some form, received the most opposition compared to the other topics. In the case blockchain this seems straightforward since the application for future shipping is situated more ashore than on ships. However, AI will become a part of navigation. Perhaps this should be interpreted as the participating officers understanding that there is no sense in using SMCP when dealing with AI controlled vessels.

Surprisingly, cybersecurity is not all unreservedly pro since cybersecurity is already a problem on ships. Despite this, 54,5% are in favour or strongly in favour, 36% is somewhat in favour. 9% are somewhat against and 4,5% are plainly against.

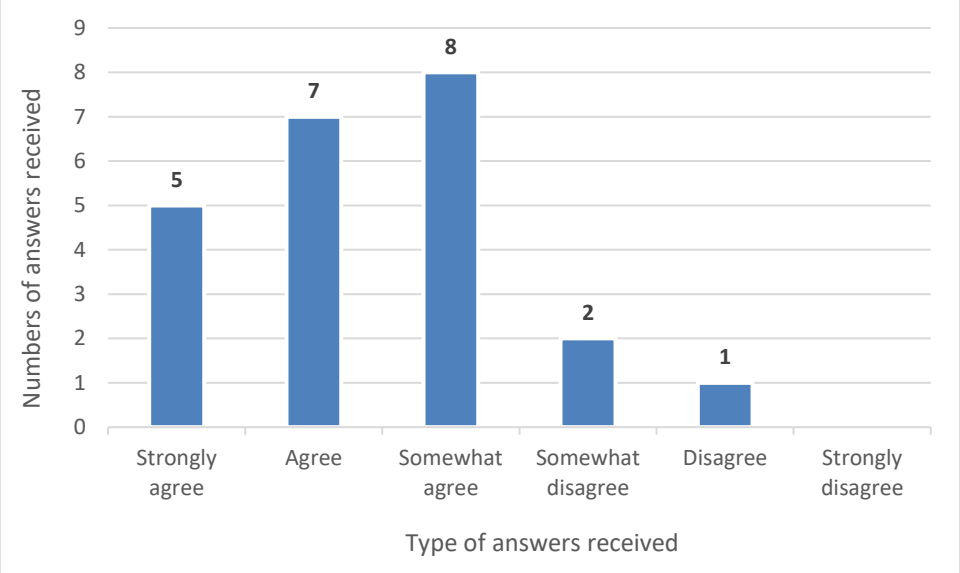

Figure 24 "Include cybersecurity in new SMCP?"
Source: own research

To close off this section, the respondents were given the opportunity to give their own opinion and asked whether the respondents thought there should be any other topics added to the new SMCP. Three have answered with a clear and concise "no". One specified "*no, for*

now". One officer stated correctly that ECDIS has not been included in the SMCP since it did not exist at the time of SMCP's inception. Lastly, one officer stated "*The standardisation of any marine related communication is always beneficial*".

4.3 SMCP and the engine room

The aim of this section was to examine what mariners think of the value of SMCP for engine room officers.

The first question making SMCP obligatory for engineers. 9,5% somewhat disagreed while 33,3% somewhat agreed, the largest group. 28,6% agreed, the second largest group. Strongly in agreement were 19%. So, agree and strongly disagree together are 47,6% or almost half. Then again, 90% agreed in some form so it is safe to say that the feelings concerning this subject are quite positive. On the other hand, only two engine room officers participated unfortunately. Furthermore, the total number of responders here is just 19 whereas in the other segments it was 22 or more.

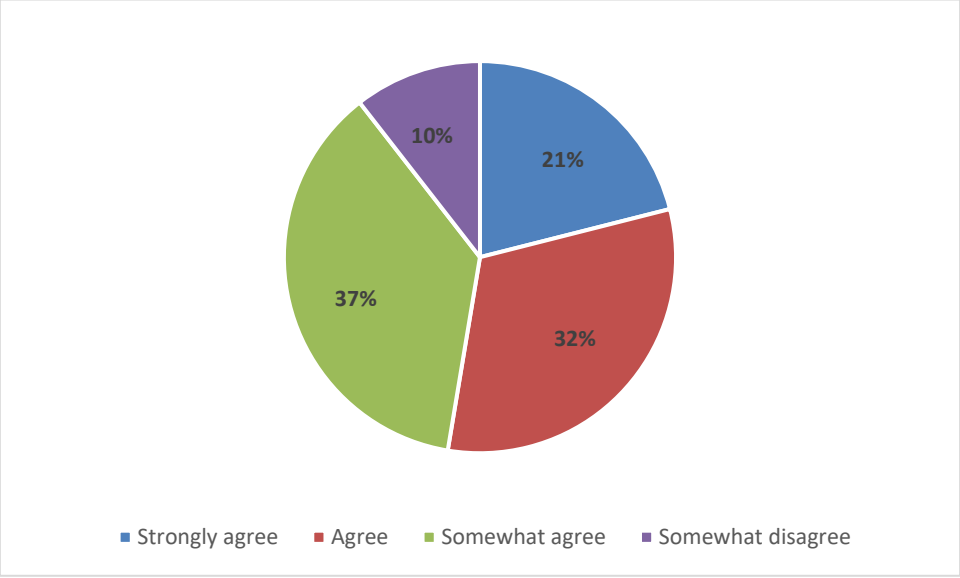

Figure 25 "Should the use of SMCP by engine room officers be obligatory by SOLAS?"
Source: own research

Wanting to know which sections officers potentially found useful for engine room officers, we asked the following question, again to be answered per subsection: "Sections of SMCP are a valuable communication tool for engine room officers."

The majority find that the glossary is useful to engine room officers: 53,3%. The same applies to the feelings on part A, the largest group is always in the “agreed” category. But there was a considerably bigger amount of votes cast towards “disagree” and “somewhat agree”, showing that the opinions of the sample group are nuanced. For example, the phrases concerning VTS received the highest number of disagrees (albeit still less than agree) but standard engine orders, standard wheel orders and pilot on the bridge received a high number of agrees and strongly agrees. On the other hand, pilot request, tug request, helicopter operations, show a balanced division between somewhat agree, disagree and agree. The majority of the group thinks that environmental protection is useful for the engineers. Surprisingly, distress communication, search and rescue communication and requesting medical assistance, 13,3% to 20% disagree that these are useful phrases to know for the engineers.

Only B4/1.1 conduct of passengers on board obtained more votes against (60%) than in favour, which makes sense (and incidentally shows that at least some of the respondents attentively filled out each part of the questionnaire).

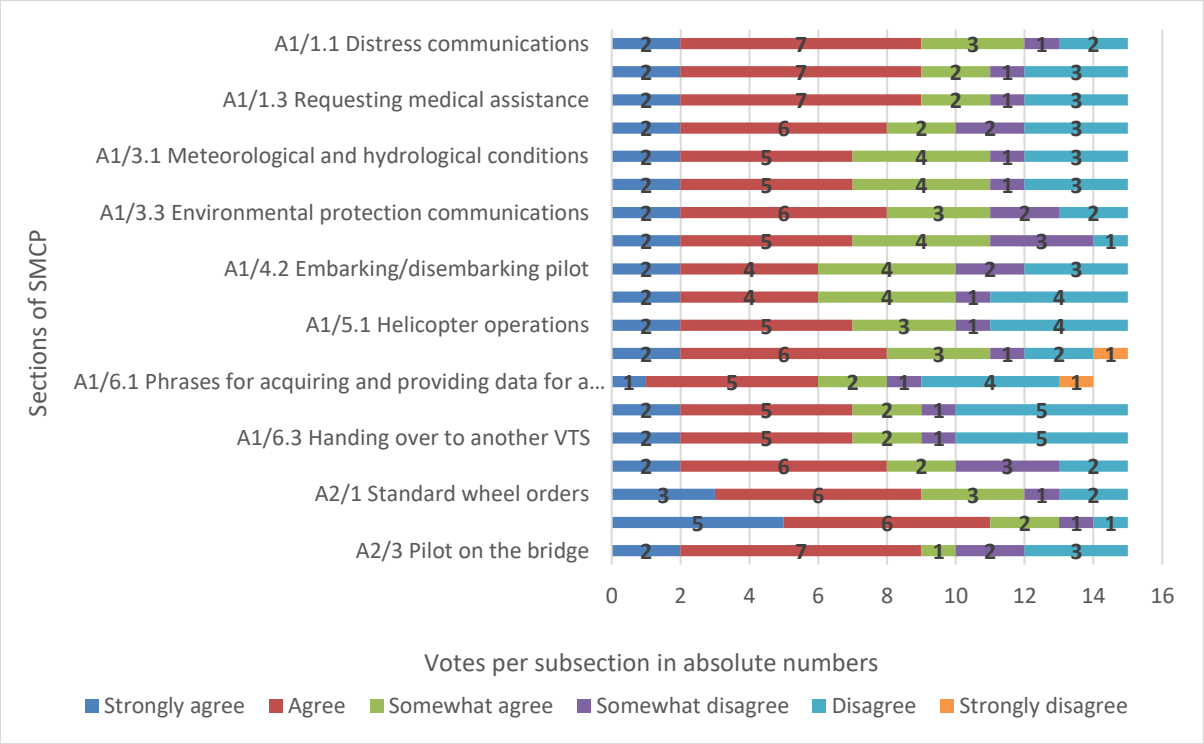

Figure 26 “Sections of SMCP are a valuable communication tool for engine room officers – part A”
Source: own research

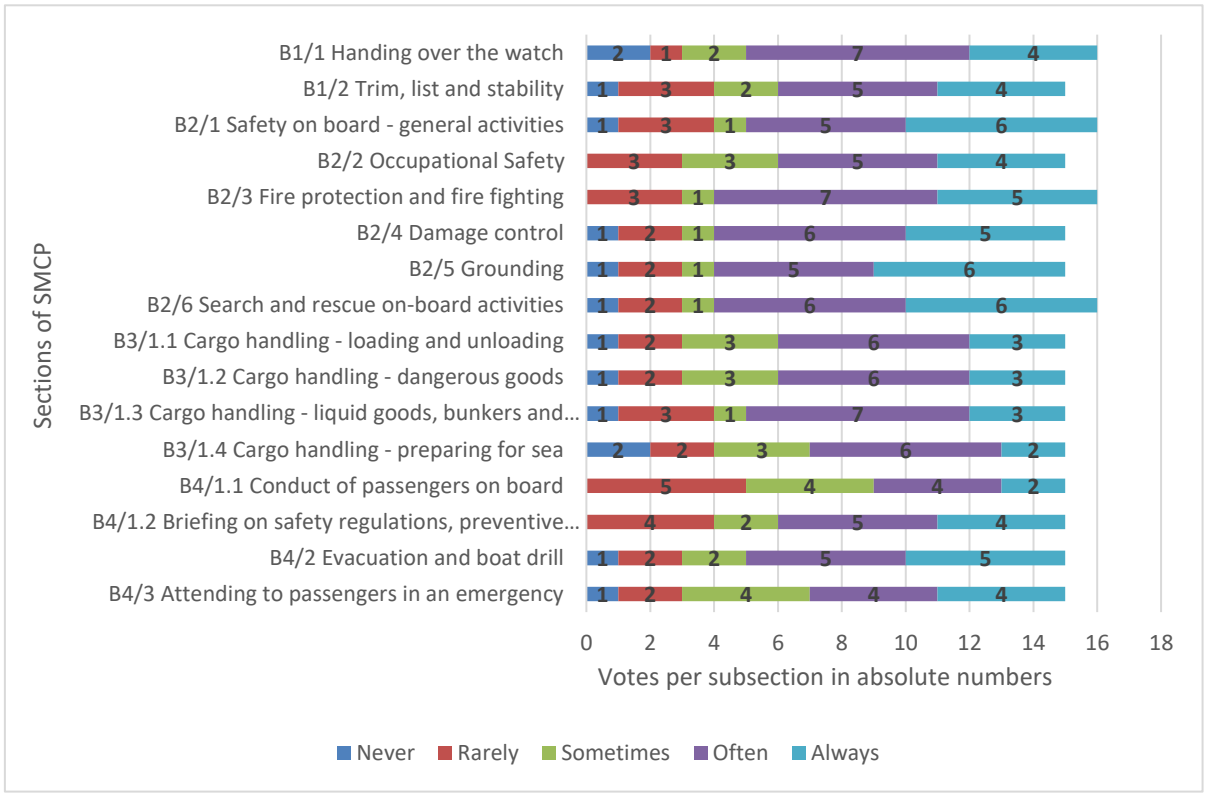

Figure 27 "Sections of SMCP are a valuable communication tool for engine room officers – part B"
Source: own research

4.4 Structure of SMCP

The purpose of this section was to examine if a reorganisation of SMCP is a viable option for seafarers and with twenty-five officers sharing their thoughts, this section had the highest participation. The introduction to this segment contained the following short explanation, to sketch the context for the participants:

"This part deals with the actual structure of the SMCP. At present, it consists of a limited glossary and phrases to be applied in given situations. Updating SMCP will involve a long and arduous process.

The SMCP are perceived (by some) as too long and unwieldy to learn.
An alternative way of structuring SMCP could be to define a system of phraseology to be applied in each and every situation, with an expanded glossary from which words could be selected and swapped into the phrase, as the situation demands.
Another possibility would be to divide the SMCP into different volumes according to various functions on board.

Receiving your feedback on the structure of SMCP could help in the potential update to reduce the volume of SMCP and assist learning/application of the phrases."

"SMCP need to be reorganised and simplified": 12% agree and 12% disagree. 20% somewhat disagree and 36% somewhat agree. 20% strongly agrees and no one strongly disagrees. Although somewhat agree is the largest group, if we take agree and strongly agree together then 32% of the mariners are of this opinion and 68% for all "agrees". Therefore, we may say that the majority of this sample group are of the opinion that the SMCP should be reorganised and simplified.

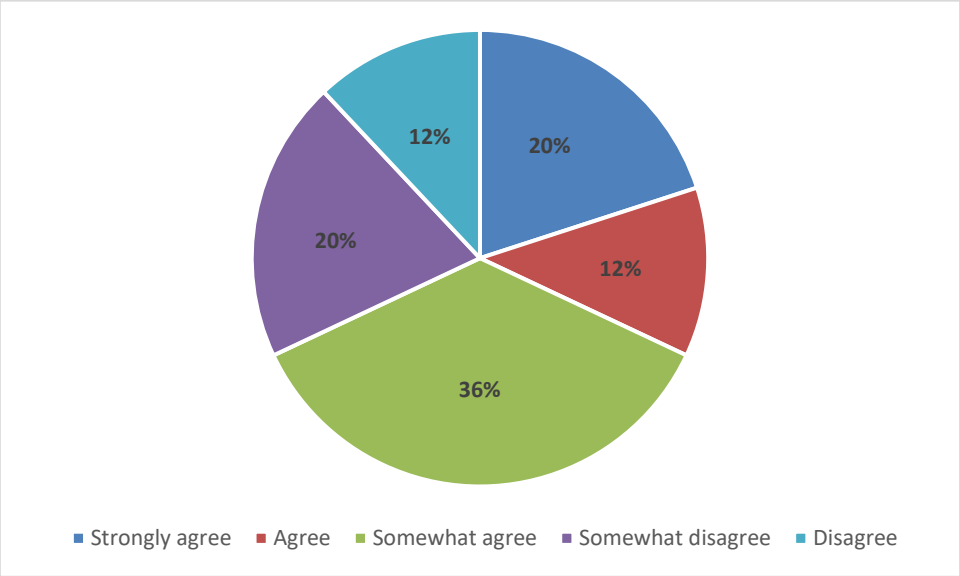

Figure 28 "Do you think the SMCP needs to be reorganised and simplified?"
Source: own research

To narrow it down or try to get a further insight, "The phraseology needs to be simplified" was the next question. 12% disagreed, 28% somewhat disagreed. 36% somewhat agreed. 16% agreed and 8% strongly agreed.

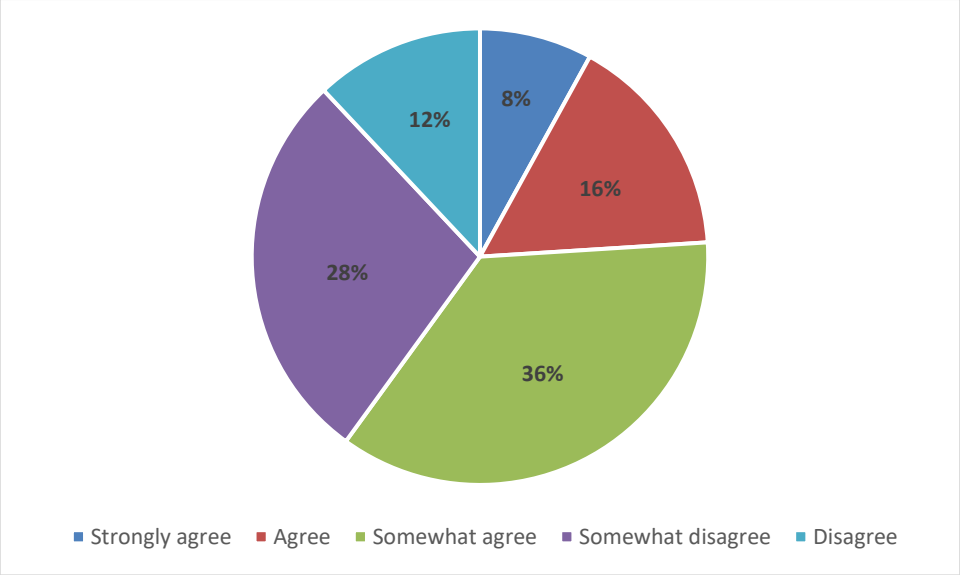

Figure 29 *"Do you think the phraseology needs to be simplified?"*
Source: own research

"The **glossary** needs to be expanded and categorised according to situation". 4% disagreed and strongly agreed, respectively. 12% somewhat disagreed and 52% somewhat agreed. 28% agreed. Again, a high number in favour, albeit hesitantly.

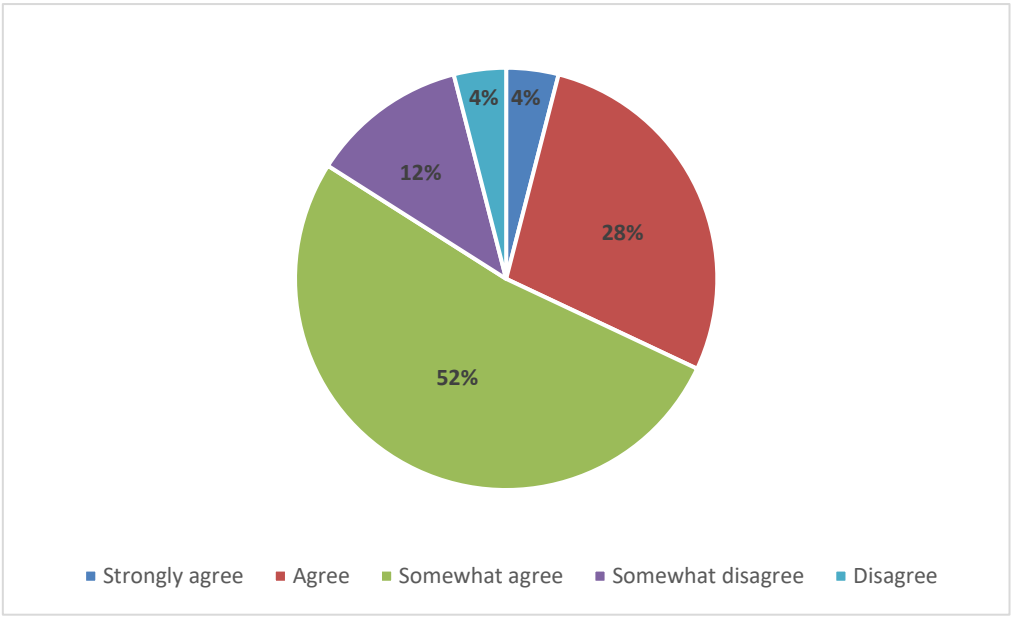

Figure 30 *"Do you think the glossary needs to be expanded and categorised according to situation?"*
Source: own research

"**SMCP** needs to be expanded and categorised according to situation". About the same answers but notably, here a "strongly disagree", compared to previous answer, thus maybe giving confidence to our idea of the grammar/glossary-reorganisation.

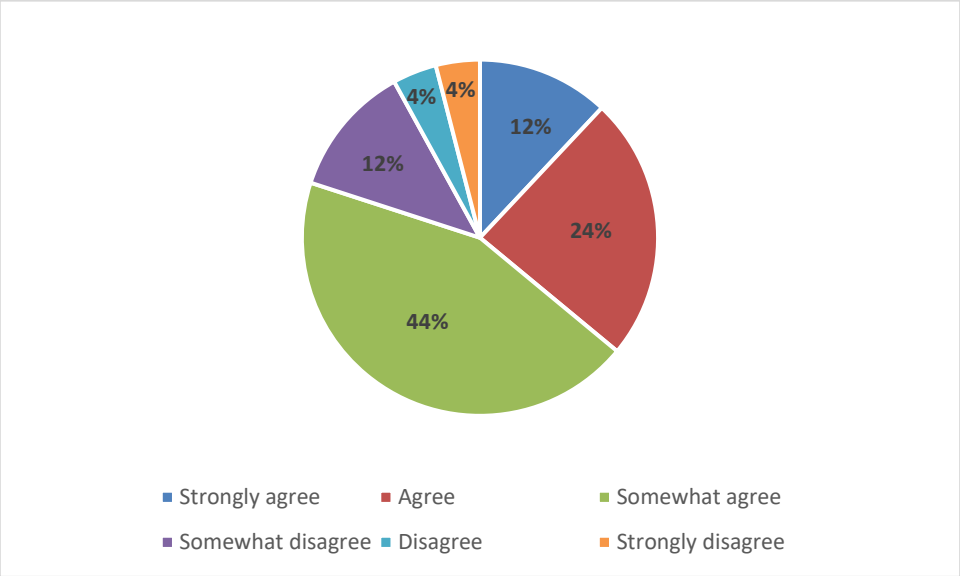

Figure 31 "Do you think the SMCP needs to be expanded and categorised according to situation?"
Source: own research

"SMCP need to be expanded and categorised according to the situation."
What was attempted with the following two questions was to know whether there is support among mariners to have SMCP divided into chapters organized according to a situation, in which the relevant phrases for that situation would be. Another idea was to organise the SMCP according to function, since not all officers need the same phrases. In the case of the first question 4% strongly disagrees and 4% disagrees, 12% somewhat disagrees and 44% somewhat agrees, 25% agrees and 12% strongly agrees.

"SMCP should be divided into different volumes to be consulted as applicable to the function on board." 8% disagrees, 16% somewhat disagrees. 44% somewhat agrees. 24% agrees and 8% strongly agrees.

So, the same percentage and largest group "somewhat agrees" that SMCP should be reorganised, or are not adverse to the idea of rearranging the SMCP.
In fact, the statement "the glossary needs expanding" received the highest number of somewhat agrees votes and highest number of agrees votes.

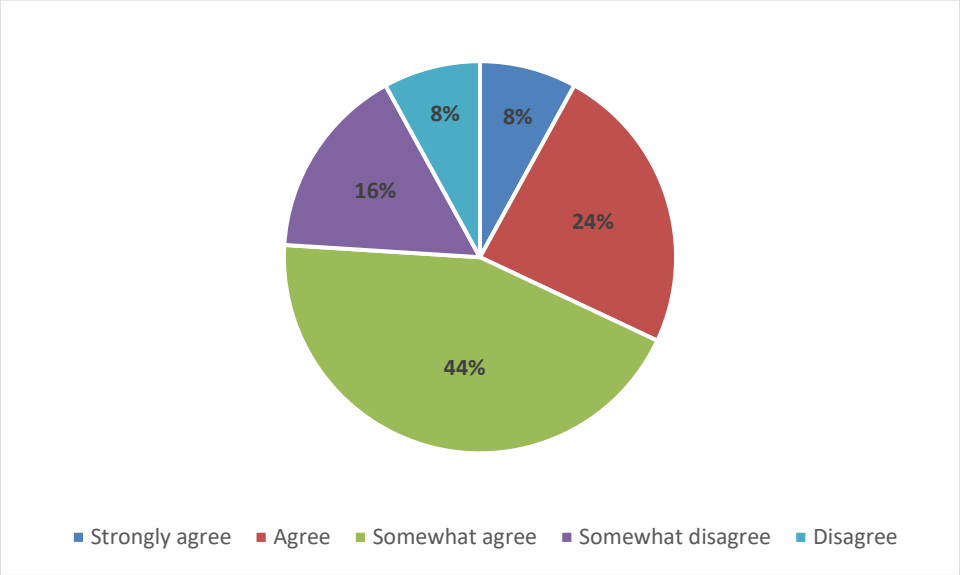

Figure 32 "Do you think the SMCP should be divided into different volumes to be consulted as applicable to the function on board?"
Source: own research

Lastly, "There should be a SMCP digital learning tool freely available", to which the respondents replied overwhelmingly positive. Only one “disagreed” (may we assume that this is the same person who thinks the SMCP are irrelevant?) and one person “somewhat disagreed”. That means that all the positives (from “somewhat” to “strongly”) account for 92%, of which 36% “agreed” and 44% “strongly agreed”. Does this mean that these officers would refresh their SMCP if online freely available or do they mean during their education? Numerous studies have shown the importance of modern instruments in learning instead of trope learning. An online learning tool could offer the considerable advantage of rearranging and selecting content as one sees fit, for example according to function or tasks onboard.

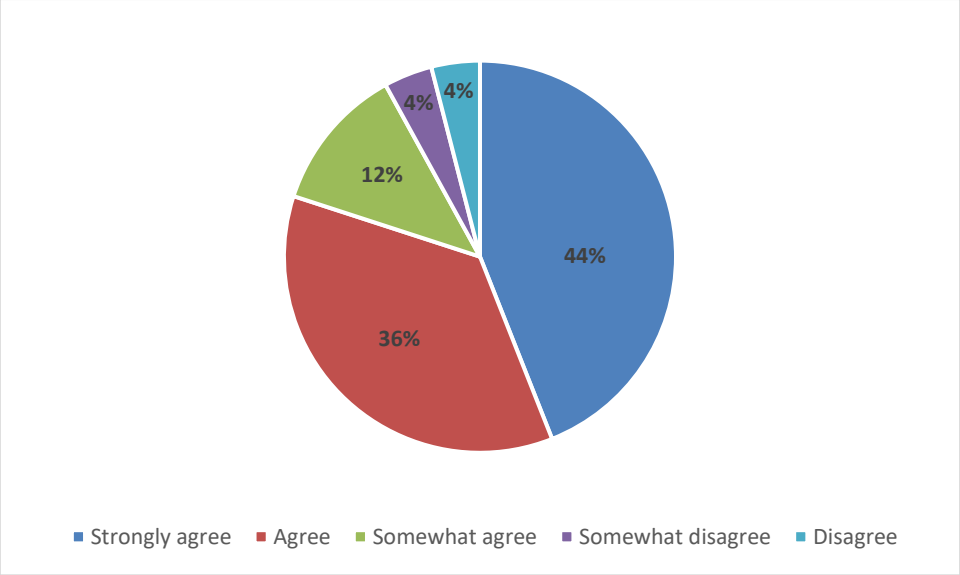

Figure 33 "Do you think there should be a SMCP digital learning tool freely available?"
Source: own research

5. Discussion of research findings

Demographic data:

Although the sample group is quite small, having officers with much experience adds value to their insights. We must keep in mind however that about half of the involved officers are Belgian or European and likely have a good working knowledge of General and Maritime English. Their view on how to learn and use Standard Marine Phrases may be different from cadets' or officers' views hailing from countries where exposure to and education in English is not as evident.

Proposal for revision:

It is clear from the survey that there is no large consensus among the active seafarers on SMCP. Some consider the Phrases to be obsolete, others are in favour of maintaining the status quo but the majority of the officers have a more nuanced, tentatively positive view.

Regarding the question if the officers encountered situations in which SMCP did not offer adequate communicative solutions, the vast majority answered with "rarely" to "never", a minority with "sometimes" and very few "often" or "always" – equally so for the glossary, part A and part B. Only the glossary received 38% votes for "sometimes", the highest of all categories (but no votes for "often" or "always"), indicating a sentiment that it should be modernised. While 70% of the sample group is of the opinion that SMCP are still "somewhat" to "strongly" relevant in modern day shipping, 37,5% was only hesitantly positive about its relevancy and 20,8% downright disagreed. When it comes to modernising the glossary, 39% clearly disagreed, 30% somewhat agreed or disagreed and another 30% clearly agreed. The stance of the officers on modernising the glossary was markedly higher though than for external and internal communication. Concerning those, most participants feel that the Phrases do not necessarily need modernising, the proportion – 70% - of which roughly coincides with those that think the system is still relevant in modern day shipping. There is a clear distinction between part A and B in so far as more officers are of the opinion that the subsection in external communication need modernising than those of onboard communication. Although my survey, strictly speaking, cannot be statistically extrapolated, I believe there is an indication that the parallel with Dr. Noble's survey exists, in which respondents stated that they use SMCP most often for external communications and

established traditions such as wheel orders and standard engine orders, while SMCP were "not often" to "never" used for subjects such as communication with passengers, cargo handling, with the engine room, when discussing trim, list and stability or when handing over the watch (Noble, 2017). Indeed, the entire B-section in general and items such as B1/1 handing over the watch, B1/2 trim, list and stability, B2/3 firefighting and protection, B3 cargo handling, B4/1.1 conduct of passengers on board in particular generated much less support for modernising than all subsections of part A and the glossary. One of the participants remarked that handing over the watch is "*best to do it in own words*" and the survey responses support this perspective. These points were shared by the experts. They are of the opinion that SMCP is a good system. It is especially beneficial for mariners whose English is less than proficient, both for external and intra-ship communication. However, there should be more control, although this might be hard to realise. There are certain trades, such as in the bulk or tugs sector, where officers are paid less and shipping companies might not place a lot of importance on the level of ME of their employees, whereas Exmar's sector attracts well-educated officers (although, as every officer is STCW certified, everyone should have the same basic proficiency). Moreover, Exmar tests the level of ME in every job interview (although not the knowledge of SMCP explicitly). In the case of Exmar's fleet therefore, where the level of ME onboard poses no issue, the experts voiced the opinion that SMCP are not quite as necessary. On the other hand, they stated that the use of the standardised system for external communication is always beneficial and absolutely necessary for those whose ME is not up to standard.

When it comes to the areas that were explicitly named in the proposal for revision, the participants responded quite positively. Related to GMDSS communication, 61% is in favour of updating them. Noble's survey (2017) reported that 62% of officers "rather often" to "very often" use standard GMDSS messages in GMDSS communication. TMAS communication is roughly equally divided between pro (53%) and con (47%), and this coincides again with the number of Noble's participants using SMCP "rather often" to "very often" for requesting medical assistance, namely 48%. Likewise, 55% is in favour of updating ISPS and security while 45% is against. Concerning greenhouse gas emissions, a very prominent topic in the shipping industry and an area in which a significant number of technological and regulatory changes have taken place in the past few years, exactly two thirds of the sample group is a proponent of adjusting the Standard Phrases accordingly. The same remark stands for ICT and autonomous shipping - a topic that is likely at the back of many seafarers' minds. It is

perhaps not surprising then that exactly two thirds as well have voted for modernising the SMCP in this regard. MSI and navigational warnings on the other hand is exactly fifty-fifty. It is my conjecture that seafarers are of the opinion that this section is quite well worked out. On the other hand, it could be that my decision to not include an explanation of what exactly the IMO proposes to update – being recreational zones, shared occupation of sea areas (increasing number of offshore wind farms) – may have influenced this voting. On the other hand, I chose not to include an explanation with every question for the sake of brevity (not in the least because there is a survey weariness among seafarers) and because active sailing officers are most probably aware of the increased sharing of sea areas and its effect on MSI and navigational warnings.

VTS communication remains a sore point, which was stated by an officer in an open comment of the final section, saying that he often hears VTS struggle to get the relevant information from ships. "*Out at sea the use of SMCP can be valuable. We often hear VTS operators suffer to get the required information needed from officers over VHF. The knowledge of English is way too often below standard, leading to potential dangerous situations.*" This issue was confirmed by the experts, having experienced it first hand during their sailing career. VTS communications, according to them without a doubt have to be expanded. Cybersecurity should be included since it is already a reality and important issue on ships. Lastly, ECDIS should be included. On the other hand, topics such as navigational warnings and MSI, though very important, are already well worked out. It is important, they stressed, to keep SMCP as light as possible and to make sure that the Phrases are used as they should be. Therefore, the level of ME worldwide has to be acceptable. There is no sense in expanding SMCP with topics if this means they become too cumbersome to learn.

One of the questionees remarked that "*SMCP are fairly well made, the only problem seems to be that mariners forget they exist*". One respondent in Dr. Noble's survey on the use of SMCP (Noble, 2017) stated: *"Since graduating from the maritime academy I can't say that I've used, or have heard anybody using, SMCP's. On board communication is going well in my experience, without using SMCP"* and *"as I saw, nobody on board or with other boat, pilot, port control nobody uses it. But for someone who doesn't speak English is good help"* (sic). Please note the similarity with the remark from our respondent who stated that he or she has not used SMCP since graduating in 2003. Another officer is clearly of the opposite view and would like stricter standards: "*The SMCP standards is not a new discovery. Marine personnel has no wish or no knowledge to follow a standard marine communication system.*

The previous statement also includes the basic standards in filling in the Deck and Engine Room logbooks. Marine Industry Must have a certain (strict) standards in communication" (sic).

So, on the one hand, a small majority of the participating officers are of the view that SMCP do offer adequate communicative solutions and are still relevant to modern day shipping while at the same time the sentiment exists that the Phrases need an update. Broadly speaking, a significant minority is of the view that the system needs no revision while a small majority holds the opposing stance. Of course, those that see the value of SMCP will probably see the need to let them evolve with the changing shipping environment, juxtaposed with the few that view them as irrelevant and do not frequently use them, will not see the need for modernising the Phrases. Another viewpoint may exist: "SMCP are fine as they are, no need to update them and make them even more voluminous".

In any revision process, attention should of course be paid to not creating more operational burdens on the seafarers but on making SMCP more effective and efficient, not merely more voluminous.

I think it is therefore clear that the participants are in favour of the system SMCP, of updating it and especially with regards to greenhouse gas emissions, GMDSS, ICT and autonomous shipping, while the frustration with the lack of effective Maritime English and SMCP communication needs to be addressed.

Identified as most impactful on shipping in coming years:

Given the above stated observations and the observations that SMCP are still not as widely used as they should be and are often regarded as too vast, it was surprising to find that there was general support for modernising the Phrases with the "future technologies". Indeed, three out of ten areas did not receive a single vote against. 75% is of the opinion that 5G should be included as a topic although 30% hesitantly "somewhat agrees".

Blockchain surprisingly has the same percentage in favour. I found this peculiar because this technology is always named in the context of digital ledgers and contracts and has little use onboard in terms of SMCP.

AI also obtained 75% of the pro-votes and this seems more straightforward since its ubiquity in media and shipping in particular in the light of the automation-revolution. It struck me

therefore that only one of two “strongly against” votes was cast here. I wonder if this could be a sort of protest against the inevitable introduction of AI in the merchant navy? Conversely, all questionees were in favour of automation, with 36% “somewhat agreeing” and 13,6% “strongly agreeing”. Automation has of course been present in the day-to-day operations onboard for a longer time and mariners most probably know that this process will only continue to expand. The same reasoning in all likelihood applies to clean energy and energy efficiency, tallying 95% and 91% in favour, respectively.

This result is also consistent with the support for including greenhouse gas emissions from the previous section.

Regarding maritime robotics, 9% voted against and 95% in favour. In retrospect, I should perhaps have included a link for this topic too. Maritime robotics is no stranger to those working in the dredging and offshore industry (34,6 and 26,9% of the sample group respectively) with ROVs while other officers may be familiar with hull cleaning robots so this may (or may not) have skewed the results.

Maritime Internet of Things acquired 100% of the pro-votes with 36% “somewhat agreeing”. Once again this is likely an area that is familiar for mariners in the form of sensors and automation, vessel monitoring and tracking but not on the scale that it will take in the future, of which seafarers are supposedly aware.

Finally, 13% felt cybersecurity does not warrant a place in the SMCP while 87% are of the opposite opinion. Moreover, cybersecurity raised the most “strongly agree” votes of all the topics in this section. It would be interesting to probe officers on why they think cybersecurity should not be included given the fact that it is already a reality on board and will only continue to gain prominence. Cybersecurity is not only the protection of a mailbox but also crucial navigational equipment for instance. A vessel which positioning system or ECDIS has been hacked, could be used as a weapon in the worst-case scenario.

All things considered, these results are somewhat unexpected because of the very high proportions in favour, while a smaller number of questionees was in favour of revising, modernising SMCP in general. Then again, almost 21% found that Standard Phrases are not relevant in today’s shipping industry and 38% think the glossary sometimes does not offer an adequate communicative solution, so perhaps these persons have outspoken opinions in favour of including new technologies. It is important to note however that the number of respondents for this section was twenty-two, out of the total of twenty-six participants. It

could be that the ones with the most negative views on the Communication Phrases did not engage in these particular questions, which would then of course skew the results towards a positive bias. It is therefore prudent to interpret these results somewhat more nuanced. Important to note as well is that the two experts clearly stated that these new technologies will "certainly" not see widespread introduction in ocean going vessels in the coming ten years, making it not worth the effort to invest time in trying to introduce them into SMCP for now.
The officers were then asked if they thought any other, hitherto not mentioned subjects should be added to the Phrases and three responded with a clear "no", one with "*no, for now*".

In any case, it seems that the respondents are largely in favour of modernising SMCP in view of the big technological changes that are about to transform the shipping industry. One officer specified: "*The standardisation of any marine related communication is always beneficial.*"

This is where the position of the experts was diametrically opposed. Autonomous ships and all related technologies are certainly not to be expected within the first ten years. Therefore, it makes no sense to burden SMCP further by including these topics in an anticipatory manner, especially if this could result in having to delete them again when it turns out they are superfluous.

SMCP in the engine room:

Only two of the respondents were engine room officers. Consequently, the interpretation of this section must bear in mind that the viewpoint of this subject is largely that of deck officers. This may indicate a lack of interest in SMCP by the engineers. Moreover, only nineteen officers engaged in this section, the lowest of all segments. Of course, the Communication Phrases are not mandatory for engine room officers. However, in the light of automatisation and AI, ocean going vessels will have fewer and fewer crew on board and technological systems and digitalisation will keep on becoming more widespread and fundamental. Consequently, the position of an engineer on board will become more important proportionally. This may affect his/her obligation to communicate with other ships or shore and could raise the question if SMCP should become mandatory for them.

It is evident that the opinion of the respondents is largely in favour (89,4%) with 36,8% "somewhat agreeing" and only 10,5% "somewhat disagreeing". The results showed that for the glossary and all subsections of external and onboard communication, except for B4/1.1

conduct of passengers on board, the deck officers value engine room officers having working knowledge of SMCP. If this could be extrapolated to the larger seafaring community, this could be a valuable signal to explore this area further.

The experts held a slightly different view, which is of the same philosophy as discussed above. If, such as in the case of Exmar, the crew speaks English well enough, SMCP is not necessary. It does have its benefits though on ships or in trades where the level of English is not sufficient.

Structure of the SMCP:

This section indubitably shows there is support for the idea to restructure and/or simplify SMCP. We must keep in mind however that about half of the involved officers are Belgian or European and likely have a good working knowledge of General and Maritime English. Their view on how to learn and use Standard Marine Phrases may be different from cadets' or officers' views hailing from countries where exposure to and education in English is not as evident. There is also a relatively large proportion of officers with a long career at sea and working in the offshore and tanker industries which likely means that their Maritime English is proficient.

All the proposed ideas received clear support, with "the glossary needs to be expanded and categorised according to situation" raising the highest rate of agreement - which is congruent with the findings from before. The idea to *expand* and reorganise SMCP according to situations and the idea to reorganise SMCP according to the function of the officer on board, could both count on approval. This ties in with the findings from Acar & Varsami (2021) that the overwhelming majority of officers want to see Maritime English training adjusted in function of the officer's position and tasks onboard. On the other hand, the proposition to simplify the phraseology, while still more positive votes than negative, received comparatively larger resistance. This could however possibly be linked to the findings that more officers from this sample group are in favour of updating the glossary than the phrases for onboard and external communication.

Correlated to the idea of rearranging the SMCP according to activity, the following quote of a respondent is relevant: "*The SMCP are not always practicable in offshore. It doesn't take into account all types of propulsion (Schottel's etc.). I think it is very difficult to cover all types of maritime activities in SMCP. The future will be very challenging when traditional shipping*

meets extremely modern high tech autonomous crafts/vessels." Would it be feasible to make SMCP chapters that are specific to tankers, offshore vessels, passenger carrying vessels et cetera?

Another idea which was not explicitly worked out in the survey[10] but was discussed during the expert interview – and received some recognition, is to significantly reduce the number of phrases and to separate them from the glossary. In this way, a sort of template of phraseology could be learned, to make the particular syntax one's own and leave a dotted line where a specific term should be filled in. This would have the benefit of making SMCP more user-friendly and the glossary more flexible to expand and adjust to new developments.
The prerequisite for this of course is that the basic level of General or Maritime English must be high enough.

Mr Roels and Mr Lanssiers didn't see much point in completely reorganising the structure of SMCP. They saw merit in updating the glossary. Given the length of revision processes and the plethora of actors involved, it probably involves less discussion and agreement between different parties and is therefore faster and easier, to update the glossary than it would be the phraseology. They also saw merit in reducing the number of phrases and instead learn the phraseology, the way of speaking instead of rote learning of sentences, to make it easier to learn.

Almost everybody saw the merit in having a SMCP digital learning tool freely available, which may be a great didactic tool and easily updatable.

The results of the survey do give credibility to the proposed ideas and the IMO may find it useful to consider them during the upcoming revision process.

[10] But forms the basis for the questions "the phraseology needs to be simplified" and "the glossary needs to be expanded and categorised according to the situation".

6. General conclusion and final remarks

Firstly, it is important to keep in mind that the size of the sample group allows no generalisation. Unfortunately it was very hard to obtain representative participation, most likely due to survey fatigue, which was tried to be countered by an additional expert interview.

However, based on the results of the survey and the literature study, my main findings are the following:

While a minority is against updating SMCP or even using them, most are in favour of retaining the system, revising it according to areas stated in the call for revision, in particular towards digitalisation and sustainability, and VTS communication. Furthermore, as an interconnected maritime eco-system 4.0, including autonomous vessels in different shapes and forms, looms on the horizon, this will profoundly change how man and machine will communicate with each other. A further structural and mandatory reduction of GHG emissions and other environmental goals, will necessitate to rethink ship design, navigation and port operations, hence also impact communications. And indeed, a large majority of the sample group is in favour of including future technologies in the Phrases.

The IMO regulatory process will have to be adapted in function of speed and proactivity, to stay on top of technological and environmental influences. It is quite impossible to predict how quickly and broad the technological innovations will be applied, but in order to govern this process effectively, the regulatory body will have to shorten the review, decision and implementation process.

Still too many seafarers do not know adequate Maritime English and SMCP are not (correctly) used, and this frustration shows in the results of this research. Therefore, it could be of value to look into ways of tackling this issue. National governments, maritime academies and involved organisations play a quintessential role but shipping companies should take up their responsibility as well. Developing a freely accessible online tool, for which there was a lot of support, could equally help.

As automation advances and crew onboard may diminish, the role of the engineers, also towards navigation, enhances. And indeed, it was found that there is large support for expanding the communication with the engine room and making it mandatory under SOLAS.

The participants showed a lot of support for reorganising SMCP in some form or another, which coincides with the finding in the literature study that most officers want to see Maritime English training adjusted to their respective function and tasks onboard. Given the speed of changes that will likely happen and the length of the decision making process of the IMO, it may be of value to look into these ideas in order to form a more easily and quickly updatable SMCP.

It might be relevant to try to continue this research on a large scale so as to make it statistically relevant and extrapolatable to the global seafaring community. Especially the idea of restructuring SMCP in a certain way seems to be valuable because it could synthesise all of the above themes: find a way to make them more easy to learn, easily/faster updatable and relevant to the involved officers so as to increase the use of them.
Given the contradiction between the survey's respondents on modernising SMCP and including future technologies on the one hand, and that of the experts' on the other, it may be beneficial to further investigate this issue to come to a more definite conclusion on what seafaring officers' preferences in this regard are.

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8. Annexes

8.1Survey results

Survey on the revision and modernisation of the Standard Marine Communication Phrases from the viewpoint of seafaring officers.

26 antwoorden

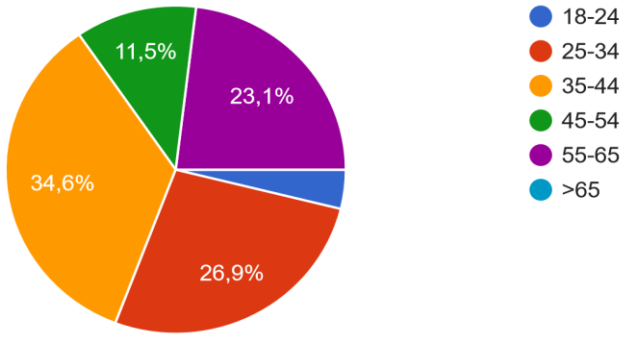
Analyse publiceren

Socio-demographic information

What is your age?

Kopiëren

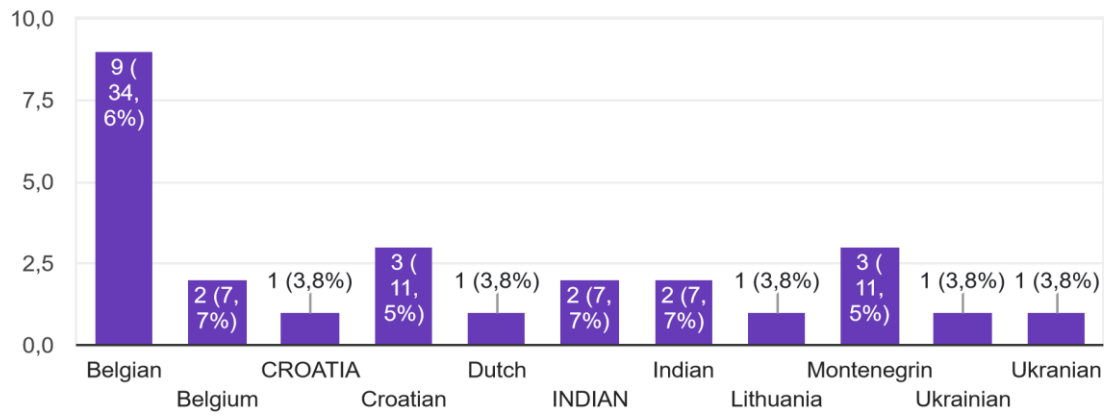
26 antwoorden



What is your nationality?

Kopiëren

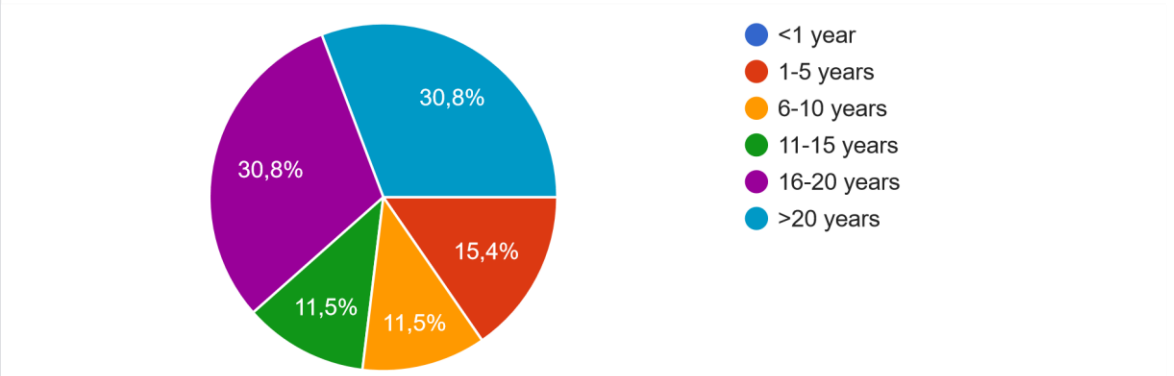
26 antwoorden



Throughout your career, for how long have you sailed to date?

Kopiëren

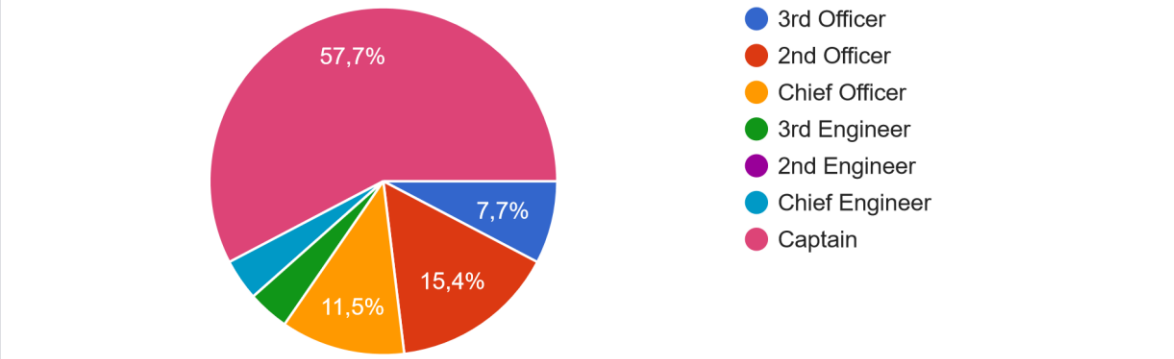
26 antwoorden



What is your current function or was your highest function on board?

Kopiëren

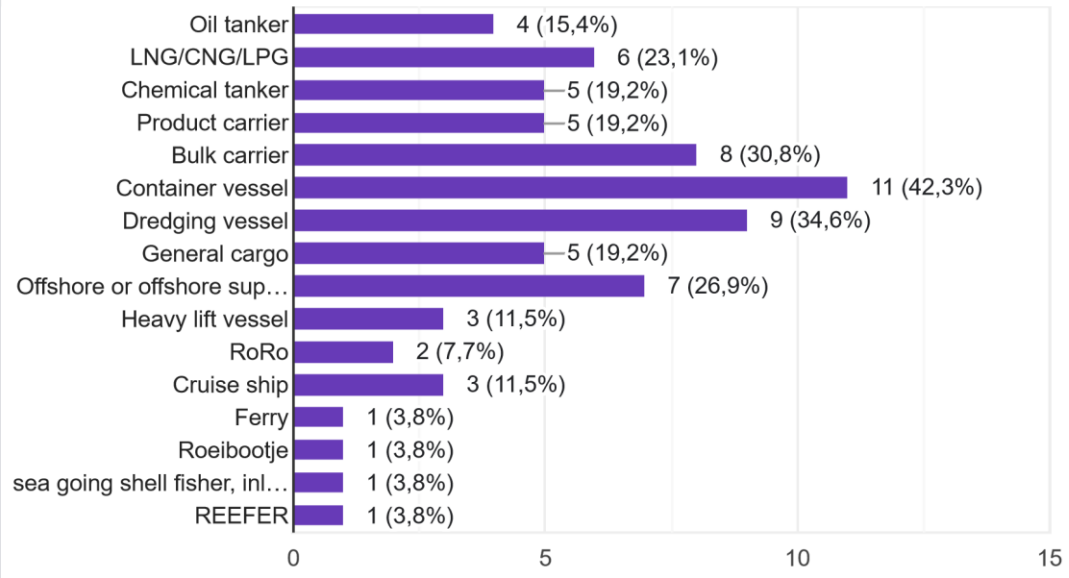
26 antwoorden



What type(s) of ship(s) have you worked on or do you work on?

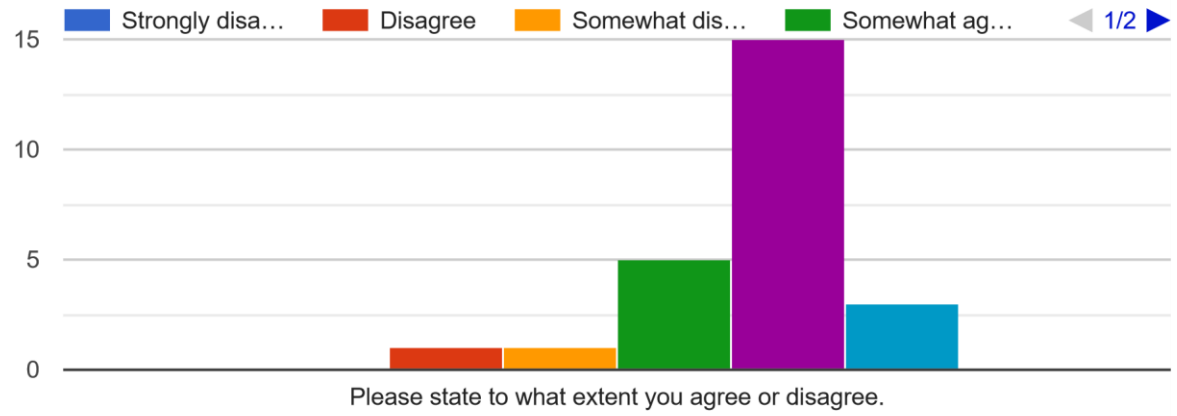
Kopiëren

26 antwoorden



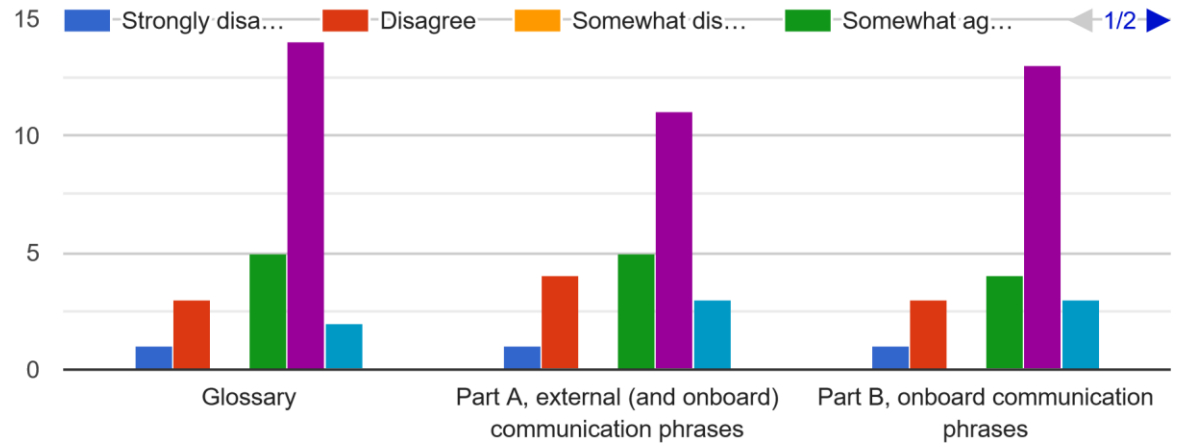
"I consider myself proficient in the use of SMCP."

Kopiëren



"I received extensive training on the following":

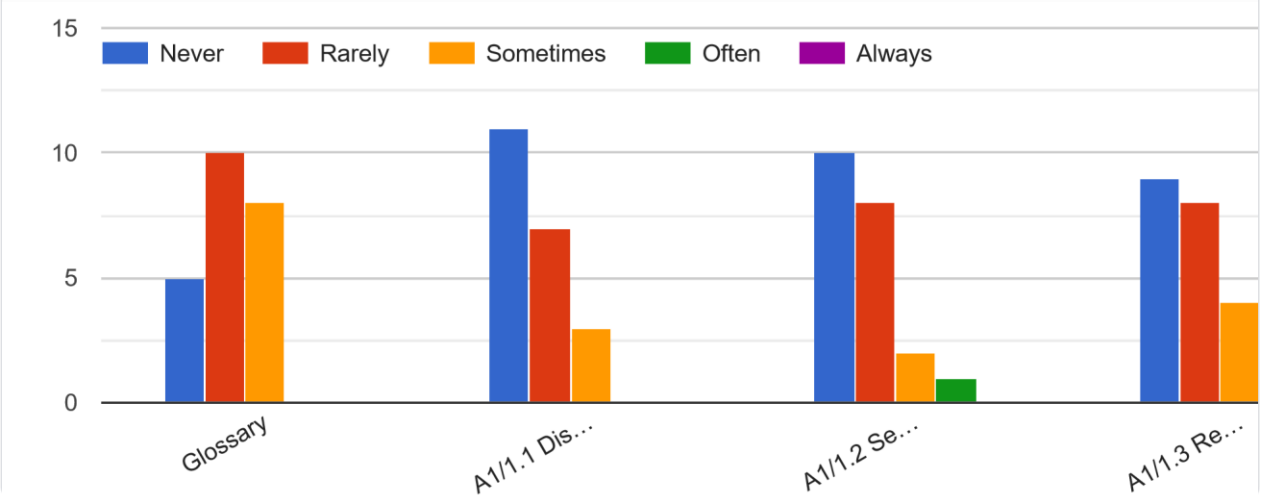
Kopiëren



Feedback on modernising the SMCP

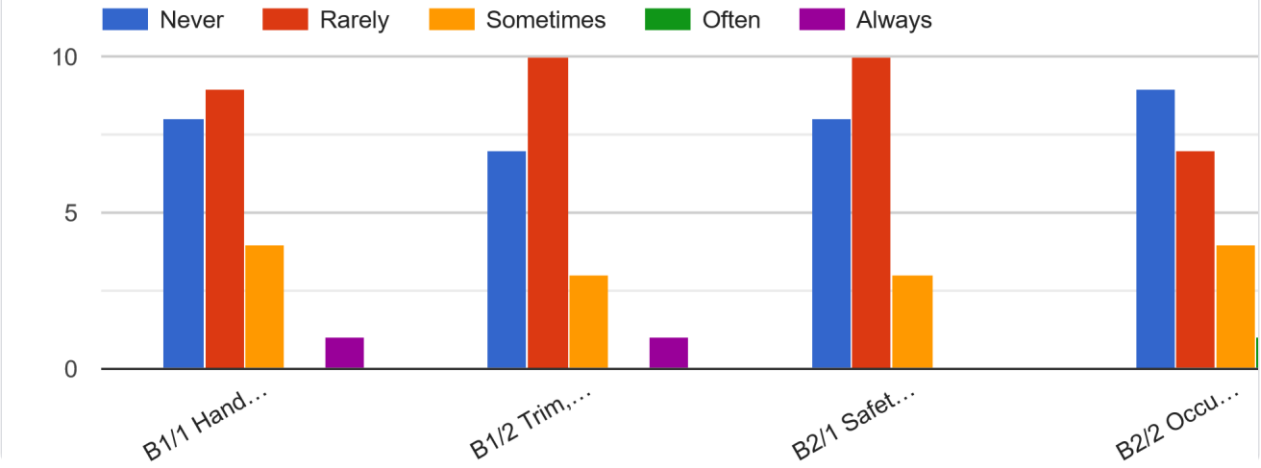
Have you encountered situations onboard in which SMCP did **not** offer an adequate communicative solution (within their intended purpose)? Please indicate which section, if any (multiple answers possible). (1/2)

Kopiëren



Have you encountered situations onboard in which SMCP did **not** offer an adequate communicative solution (within their intended purpose)? Please indicate from which section (multiple answers possible). (2/2)

Kopiëren



If you **have** encountered a situation in which SMCP were not adequate in terms of communication, please describe the situation.

8 antwoorden

N/A

NO

I my opinion it is beter to describe the watch handover in your own words in stead of using standard SMCP Phrases

Using Left side / Right side instead Port & Starboard

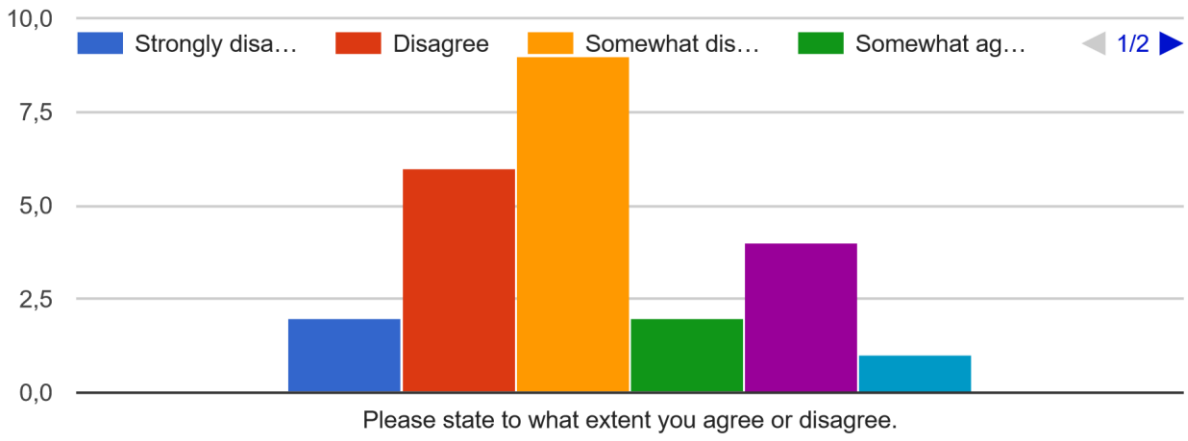
none

SMCP is fairly well made, the only big issue is that seafarer seems to forget it exist

I have never been in that situation.

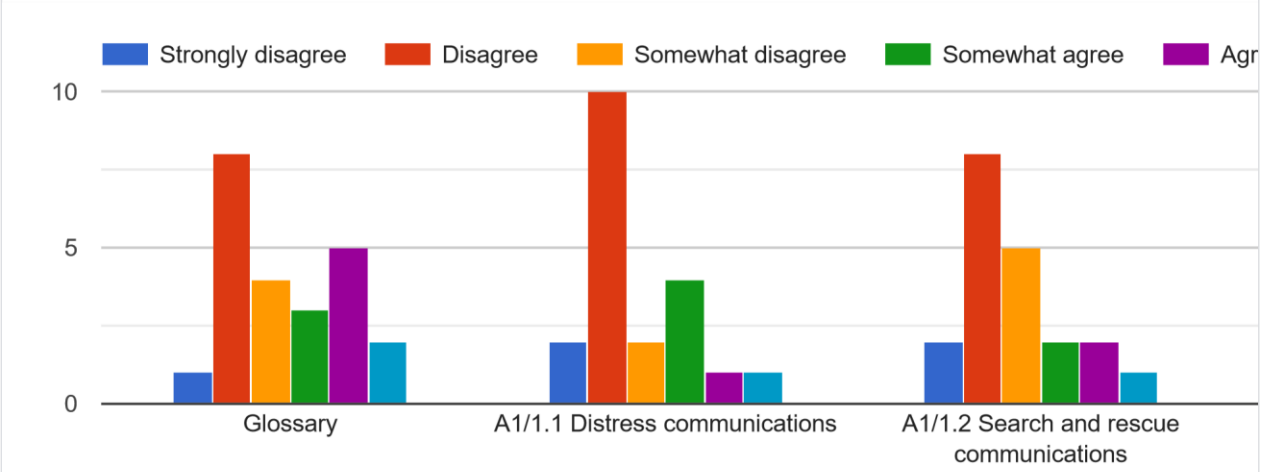
"Given the fast evolving maritime industry, SMCP no longer match the modern day context on ships."

Kopiëren



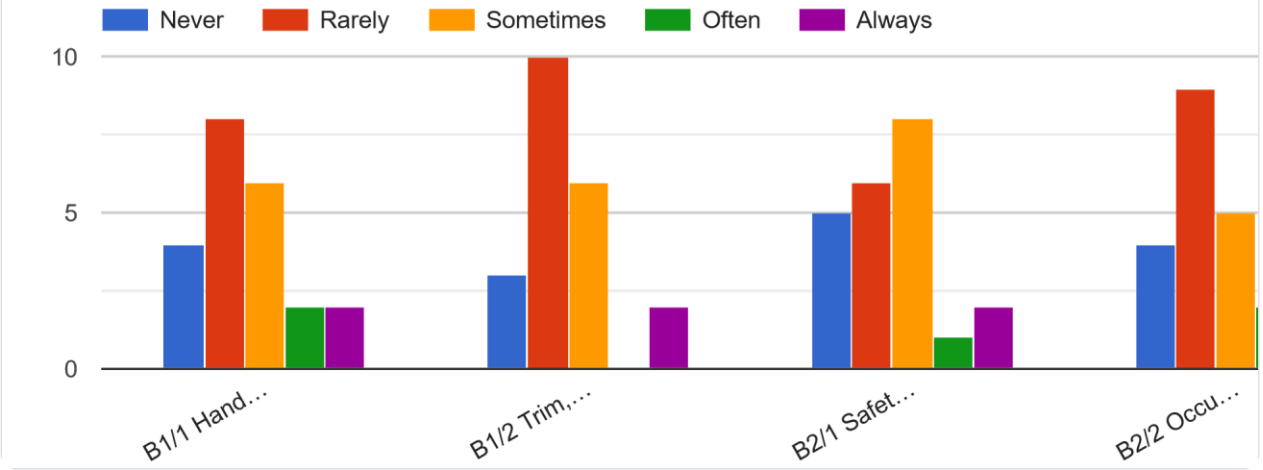
"In my opinion, some sections of SMCP need modernising." Please indicate which section, if any (multiple answers possible). (1/2)

Kopiëren



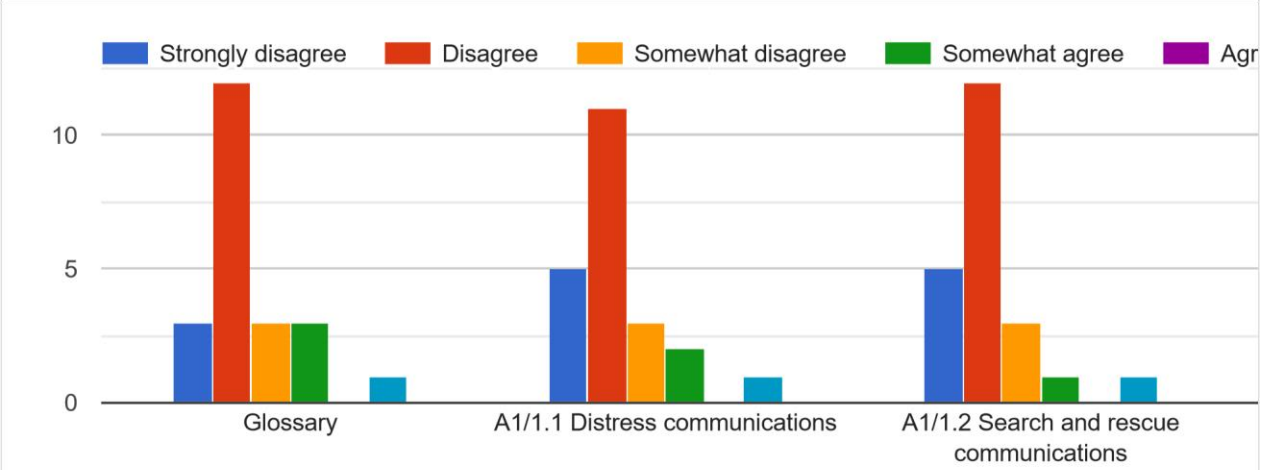
"In my opinion, some sections of SMCP need modernising." Please indicate which section, if any (multiple answers possible). (2/2)

Kopiëren



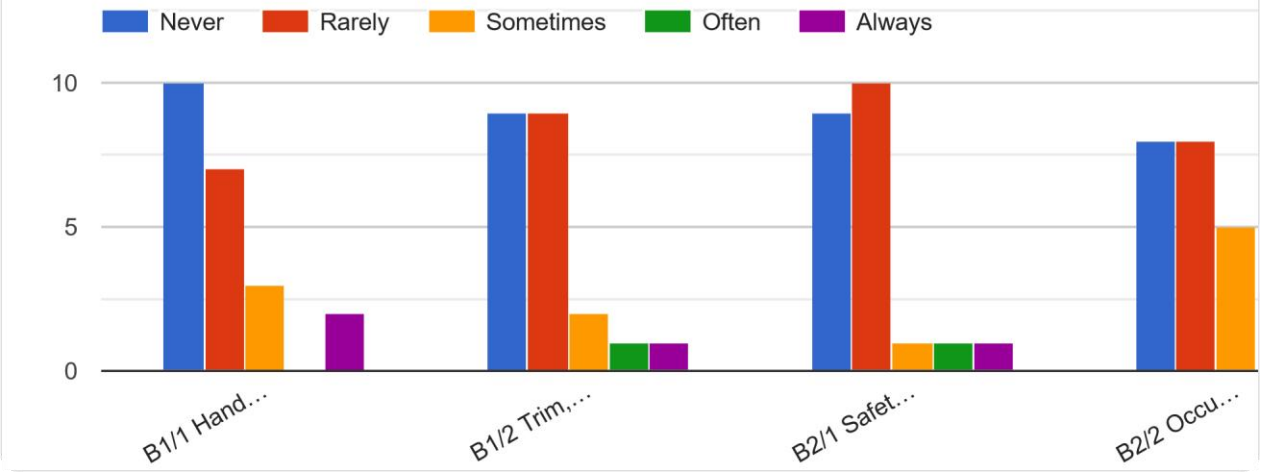
"In my opinion, the following sections of SMCP have become **obsolete**." Please indicate which section (multiple answers possible). (1/2)

Kopiëren



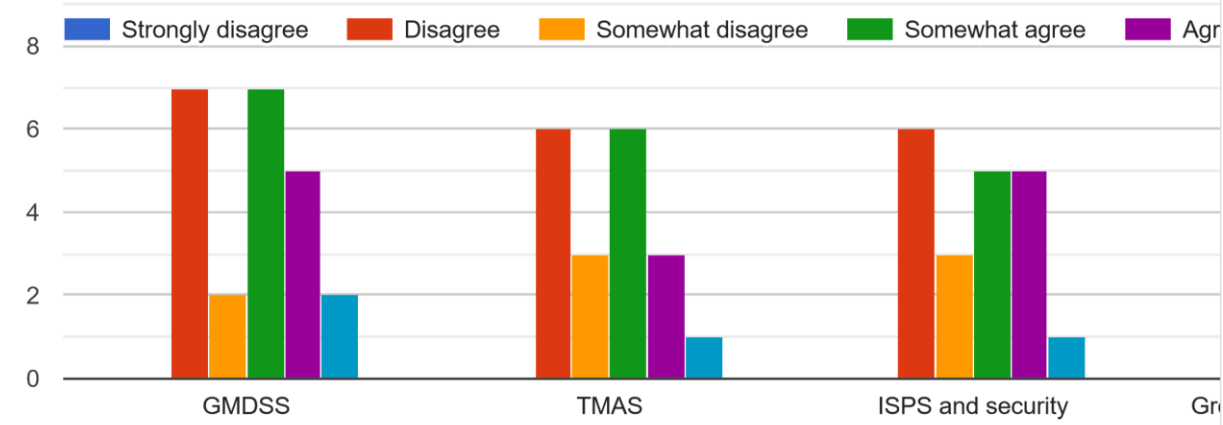
"In my opinion, the following sections of SMCP have become **obsolete**." Please indicate which section (multiple answers possible). (2/2)

Kopiëren



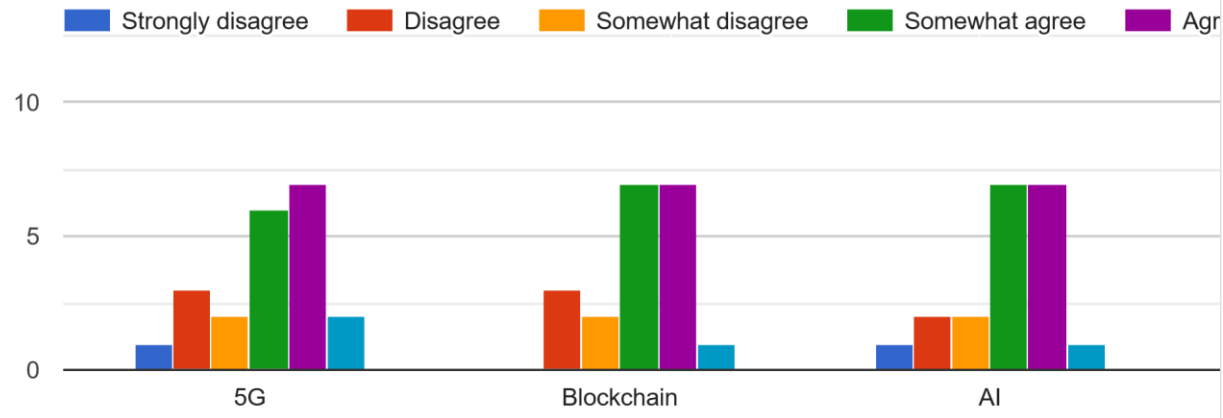
To what extent do you agree that SMCP require modernisation in terms of the following **contexts**? (multiple answers possible)

Kopiëren



The following areas have been identified as probably the most impactful changes to the maritime industry in the coming years. To what extent do you agree that there should be standard phrases for these contexts?
(*What is the Maritime Internet of Things?*)
(*What is immersive reality in the maritime industry?*)

Kopiëren



Do you think any other topics should be added to SMCP? (multiple answers possible)

9 antwoorden

NO

No

The standardisation of any marine related communication is always beneficial.

no

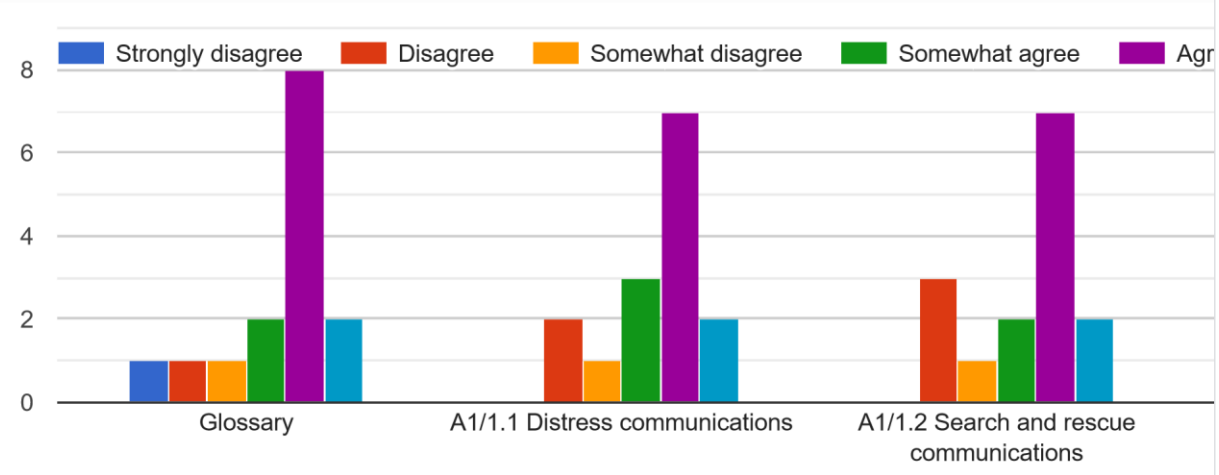
ECDIS related terms which was not yet existing when SMCP was introduced

No,for now.

Engine room

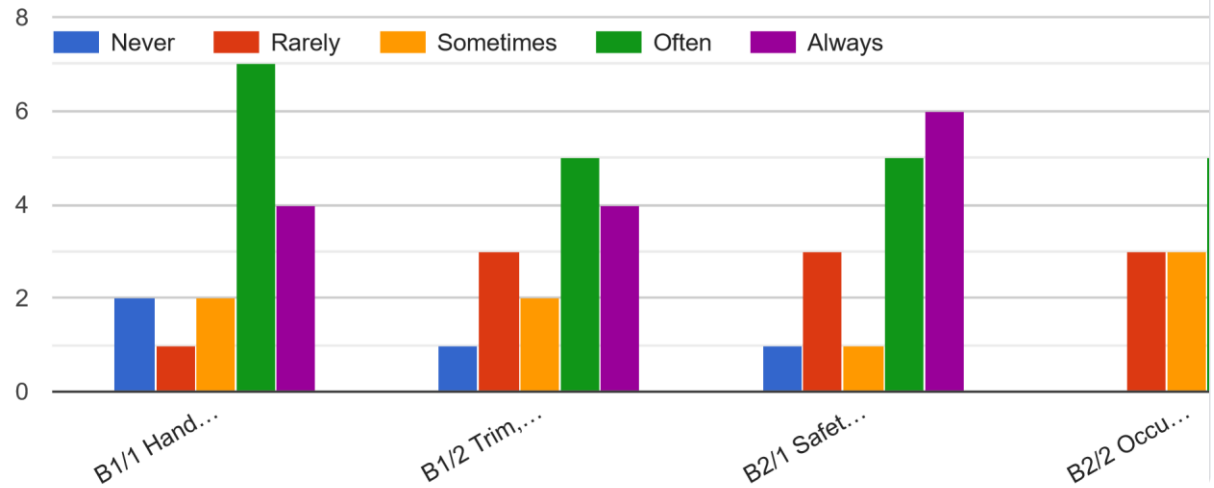
"Sections of SMCP are a valuable communication tool for engine room officers." Please indicate which (multiple answers possible). (1/2)

Kopiëren



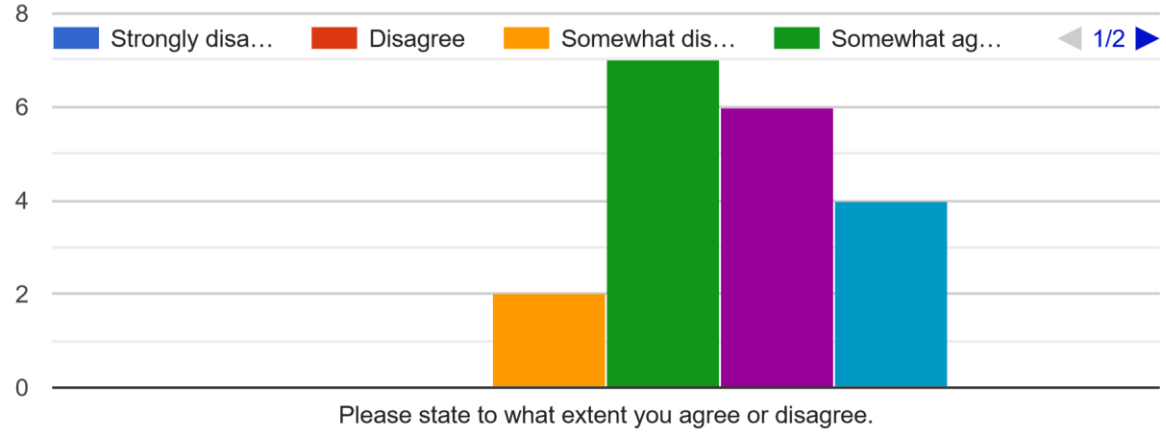
"Sections of SMCP are a valuable communication tool for engine room officers." Please indicate which (multiple answers possible). (2/2)

Kopiëren



"The use of SMCP by engine room officers should be "required" by SOLAS."

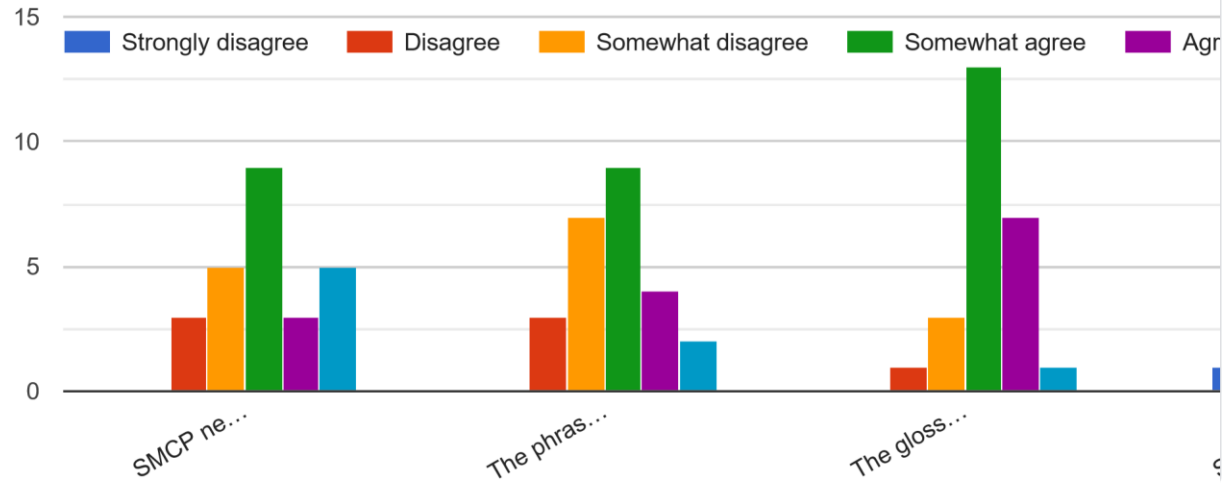
Kopiëren



Structure of SMCP

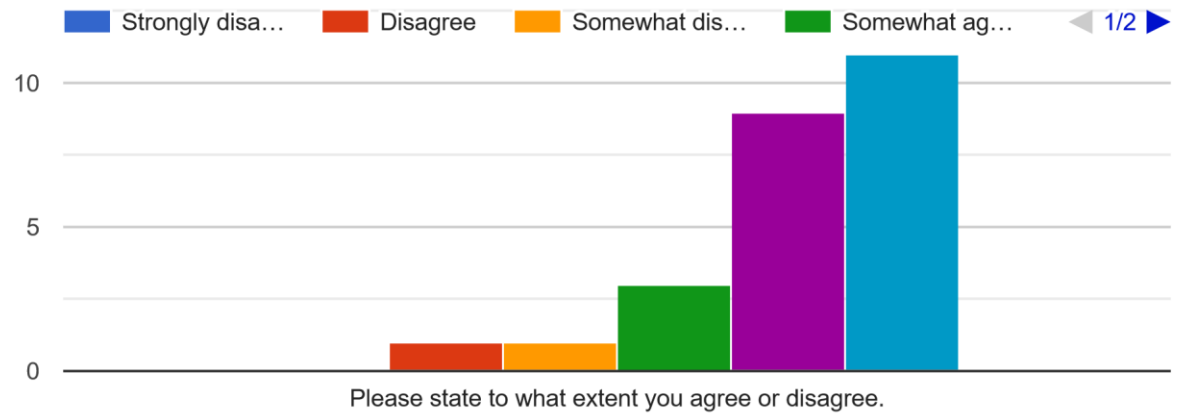
Please state to what extent you agree or disagree with the statements.

Kopiëren



"There should be a SMCP digital learning tool freely available."

Kopiëren



Thank you very much for your valuable input. Should you wish to share anything else concerning the modernisation of SMCP, you can do so below.

7 antwoorden

No

NO

The SMCP standards is not a new discovery. Marine personnel has no wish or no knowledge to follow a standard marine communication system. The previous statement also includes the basic standards in filling in the Deck and Engine Room logbooks. Marine Industry Must have a certain (strict) standards in communication.

The SMCP are not always practicable in offshore. It doesn't take into account all types of propulsion (Schottel's etc.). I think it is very difficult to cover all types of maritime activities in SMCP. The future will be very challenging when traditional shipping meets extremely modern high tech autonomous crafts/vessels. Out at sea the use of SMCP can be valuable. We often hear VTS operators suffer to get the required information needed from officers over VHF. The knowledge of English is way too often below standard, leading to potential dangerous situations.

The last time I heard about SMCP was at school in 2003. Actually the only time...

If you would like a summary of the findings once the paper is completed, please leave your e-mail address down below.

5 antwoorden

No

sahil_1983@hotmail.com

jens.deploey@jandenul.com

gostevas@gmail.com

collettim@hotmail.com

8.2Invitation survey

I am a final year student at the Antwerp Maritime Academy. For my Master's dissertation, I am conducting research on the potential revision of the IMO Standard Marine Communication Phrases (SMCP). This system of communication was instituted twenty years ago and has not undergone any revision. However, in the meantime, the maritime world has seen lots of changes. A proposal has been submitted to the IMO to revise the current SMCP. Member states and other key players have been given time to formulate suggestions.

The goal of my research is to determine what seafaring officers - as the actual users of the SMCP - think about updating them. I.e. what do they think are useful sections, which topics should be modernised and which should be dropped?
The data from the study will, I hope, prove useful as a contribution to the IMO process via my promotor, Dr Alison Noble, who has recently been appointed as Chair of International Maritime Lecturers Association (IMLA). IMLA hopes to be involved in the revision process.
I would therefore like to ask you if you would be so kind as to share your thoughts on the SMCP. Completing the survey should take approximately five minutes.

Please use the following link to access the questionnaire:

https://docs.google.com/forms/d/e/1FAIpQLScTllZ9rrVNvD00KiKlVpYBHTxwyvdq39iigWiPoo19Up0CtQ/viewform?usp=sf_link

The information obtained will be used exclusively for scientific analysis and the surveys will remain anonymous. Personal information (such as e-mail addresses) will not be stored nor linked to answers from the survey. By continuing to the survey, you consent to the use of your data as described above.

If you should so wish, you may provide your e-mail address so as to receive an executive summary of the paper, once the research is concluded (in which case your e-mail address will be temporarily stored). Should you have any queries concerning privacy, do not hesitate to contact me at bart.suykens@student.hzs.be

Thank you very much for your input and assistance with this.

Bart Suykens

8.3 Transcription interview Exmar, March 27 2023

11u, Rony Lanssiers, HSEQ ship management en Elke, crewing.

Eerst context onderzoek uitgelegd en privacy Rony's gegevens besproken.
Net voor opname ging het over bevraging zeevarenden in survey over nood om automatisatie, AI, 5G, blockchain, cybersecurity op te nemen in revisie, waarop Mr Lanssiers begon te vertellen dat hij het ver vindt gaan en ik vervolgens op opnameknop duwde

Hoezo vindt u het ver gaan?

Wel, als ge zoals blockchain en dergelijke vermeldt.. de toekomst zal het uitwijzen. Maar ik heb de indruk dat ze dan een beetje anticiperen op hot topics in de maatschappij die gaan doordringen naar de scheepvaartwereld. Maar het gaat dan al ver. Ik zeg het, in welke mate is een zeevarende geconfronteerd met die onderwerpen? Dus dat Internet of Things, blockchain.. Dan stel ik mij wat.. Alle, dan ben ik meer voorstander van definieer een essentiële set die ingeburgerd is en gebruikt wordt zoals het hoort voordat je veel hooi op je vork neemt en dan misschien tot totaal niks komt he. Maar dat er ondertussen al enorm veel veranderd is ten opzichte van vroeger, zoal Ecdis bijvoorbeeld zoals je aangeeft, dat is zeker en vast zo. Dus dan is dat zeker nuttig dat dat daarop aangepast wordt. En dan VTS-communicatie. Ik zal het mij heel hard blijven herinneren. Toen ik nog vaarde, heb ik zelf ooit een conversatie gevolgd op de VHF tussen een Spaanse, alle, een dame van de Spaanse kustwacht die wou communiceren met een Chinese officier op een sleper maar die een gigantisch ding aan het slepen was maar waarvan wij dachten "wat is dit?" en ja, dat ging totaal niet he, dus dat euh, in zo'n situaties, en dan betreft het niet alleen frustraties maar ook veiligheid, is het zeker een aanwinst.

Dus, u bent voorstander van er eerst voor te zorgen dat de SMCP's, zoals dat ze nu zijn, op een hoog niveau gebracht worden, wereldwijd?

Wel, ze mogen wel uitgebreid worden met de topics die effectief aan boord gebruikt worden, zoals Ecdis, en de focus of op de VTS erbij in te betrekken maar ik zou er toch voor pleiten om zich niet vergalloperen en nu een voorsprong te willen nemen op wat de toekomst nog gaat brengen waarvan ze het er misschien terug achteraf gaan uitgooien omdat het niet geworden is wat iedereen ervan denkt.

Maareum, wat denkt u van de snelheid waarmee de SMCP geüpdatet worden? Want bijvoorbeeld alle, ze zijn nog nooit geüpdatet geweest en nu voor het eerst gaat dat gebeuren maar eum, dat

proces gaat ook weer een paar jaar duren. Dus vandaar denk ik, misschien de noodzaak om dat proces eens te bekijken of dat proces zelf niet beter moet.

Wel, ik denk dat dat een beetje eigen is aan alles wat dat binnen de IMO euh, dat heel dat proces van overleggen met zoveel administrations, contracting parties, om dan tot een consensus te komen en iedereen nog tijd geven om zich aan te passen want ja, maritime academies die het moeten aanleren moeten dan ook tijd hebben om aan te passen en het moet omgezet worden naar nationale regelgeving, alle dat is een beetje eigen aan, alle. Het voordeel is ook dat dat ook niet zo snel verandert dus op dat gebied is er denk ik geen nood dat het om de vijf jaar of dergelijke, maar alle. Het zou wat frequenter geüpdatet mogen worden maar ik denk dat dat moeilijk realiseerbaar is.

Ja

Om de tien jaar zou ideaal zijn maar zelfs dat is vrij ambitieus, denk ik.

Toen u aan boord was, welke functie heeft u gehad?

Ik heb gevaren tot tweede stuurman.

Ja. Op LNG-tankers ook?

LNG en LPG.

Wat was uw ervaring met de SMCP, buiten dan het voorbeeld dat u juist zei van de VTS?

Eum, dat het vooral relevant is voor communicatie met externe partijen en daarmee bedoel ik, extern die niet fysiek op het schip zelf aanwezig zijn. Nu, dat hangt ook een beetje af van bedrijf tot bedrijf natuurlijk. Toen ik vaarde, waren er nog redelijk wat Belgen aan boord. Kroaten, Ukraïners, Filippijnen. Ik heb nooit gevaren met rechtstreekse collega's dat er daar mensen waren die het Engels niet zo goed machtig waren dat ge effectief naar iets zou moeten overschaken als Maritime Communication Phrases. Terwijl naar de buitenwereld toe, ja dan kunt ge met zoveel verschillende nationaliteiten, zeker als ge wereldwijd tradet, euh, gaande van VTS maar ook andere schepen die ge oproept want ge hebt een scala he. Er zijn mensen waarvan ge duidelijk aan de VHF al hoort, oké, zelfs de Maritime Communication Phrases dringen niet door of dieje heeft totaal niet begrepen wat ik gevraagd heb dus daar is het echt wel essentieel eigenlijk.

Ja, ja ja, inderdaad.

Maar ik kan mij ook voorstellen dat ge, alle, ik denk dat dat niet bij ons van toepassing is (en dan kijk ik naar Elke) omdat wij ook screenen op kennis van het Engels maar als ge in andere landen of

in sectoren zoals bulkcarriers waar ze misschien minder daarop gaan focussen dat ge in situaties komt misschien dat ge aan boord ook mix hebt van nationaliteiten die mekaar nauwelijks begrijpen he. Dus het is niet omdat het bij ons goed loopt dat het overal goed loopt.

Nee, inderdaad. Ik heb het zelf ook al ervaren tijdens stages dat sommige officieren nauwelijks begrijpbaar zijn he. Maar ik neem aan dat vermoeiing daar soms ook een rol in speelt.

Zou kunnen, ja.

Trainen jullie bij Exmar officieren nog extra op SMCP? Of wat is het standpunt van Exmar?

Euh trainen niet maar screenen wel, er is een taaltest.

Elke: Een Engelse test en interviews, altijd een in het Engels ook.

Maar dan wordt specifiek getest op het niveau van Engels, niet de SMCP in se

Rony: Bij mijn weten niet specifiek nee

Elke: Een deel gewoon in het Engels, algemeen Engels en ook Maritime English, hebben we ook wel, dus, maar niet specifiek nee.

Eum, wat denkt u van automatisatie, van autonoom varende schepen en hoe de SMCP zich daartoe verhouden?

Dat is euh, jah, autonoom varende schepen wat gaat dat worden? Er zijn veel projecten ongoing maar ik jah, vraag mij af in welke mate dat men erin zal slagen dat op echt grote schaal te realiseren. Ik bedoel, ik wil het praktisch nog wel eens zien hoe dat werkt. Dat is misschien goed voor kustvaart, inland navigation waarbij ge altijd relatief dicht bij mensen zit die aan boord kunnen gaan maar schepen die de oceaan oversteken en in het midden van de oceaan een technical breakdown hebben, ja hoe gaat het, alle ik kan het mij op dit moment moeilijk voorstellen hoe dat gaat euh.

Ok, dus het is niet voor morgen.

Dat denk ik niet, nee.

Dus dan heeft het ook geen zin om het op te nemen in de revisie van de SMCP.

Dat lijkt mij ook een van de zaken te zijn waarop ze anticiperen maar dat we eerst nog gaan moeten afwachten wat het gaat worden.

Eum, cybersecurity is nog zo'n hot topic. Denkt u dat dat moet opgenomen worden in de revisie, dat daar vaker over moet gesproken worden?

Eum, misschien wel omdat we toch zien dat dat een groot issue is geworden. Er zijn recentelijk een aantal voorbeelden van scheepvaartbedrijven die in de problemen geraakt zijn. DNV is er een van die ik mij herinner. Ook bij ons is dat een aandachtspunt omdat hoe langer hoe meer automatisatie of systemen er met elkaar verbonden geraken dus voordat ge het weet zijt ge eigenlijk kwetsbaar dus dat lijkt mij wel nuttig om dat, dat is niet iets waarvan dat we zeggen dat zal misschien in de toekomst belangrijk worden maar dat is eigenlijk nu al zo he.

Eum, uit mijn onderzoek blijkt dat de meeste respondenten vinden dat de SMCP wel handig zijn, nu zoals ze zijn, dat ze goed opgesteld zijn maar dat sommige stukken wel mogen uitgebreid worden. Zoals die VTS-communicatie. Dus daar bent u wel mee akkoord.

Daar ben ik volledig mee akkoord.

De voorstellen van de IMO over MSI, Greenhouse Gases, eum thema's die, daar zijn de respondenten voornamelijk mee akkoord dat die uitgebreid worden en dan, mijn voorstellen van de nieuwe technologieën: 5G, blockchain, Internet of Things … die vinden ze ook voornamelijk relevant om opgenomen te worden in de SMCP maar ik heb een beetje moeite om dat te interpreteren want tegelijkertijd vinden de meeste zeevarenden dat de SMCP veel te uitgebreid zijn. Wat denkt u daarvan?

Wel dat komt een beetje terug op wat ik daar in het begin van het gesprek zei, als ze zich nu vergalopperen en zoveel intrekken dat het heel omvangrijk wordt dan kunt ge misschien wel zeggen van ja, we hebben een tool om te communiceren over een breed spectrum van onderwerpen maar dan vrees ik een beetje dat het ook minder gaat opgepikt en toegepast worden. Dus ik ben ook eerder voorstander van het mag wel uitgebreid worden, de wereld is veranderd ten opzichte van twintig jaar euh maar hou het toch zo beknopt en duidelijk mogelijk dat het een handige tool blijft.

Denkt u dat de structuur zoals dat ze nu is aangepast moet worden? Alle, je hebt hoofstukjes, alle eerst interne communicatie en dan hoofdstukjes per operatie. Tug operations, pilot on board…

Ik denk dat niet, ik zie niet direct een reden waarom dat zou moeten aangepast worden.

Ja. Er zijn mensen die zeggen dat je ze per thema zou kunnen rangschikken en dan zouden mensen kunnen kijken van de operatie waar we mee gaan bezig zijn, dit zijn de zinnetjes die ik moet kennen. En dan kan je de SMCP uitgebreider maken en tegelijkertijd beknopter omdat je dan per hoofdstuk specifiek kunt gaan zoeken. Denkt u dat dat interessant is?

Misschien. Daar heb ik niet zo direct een pasklaar antwoord op. Misschien wel ja. Zeker als het dan. Het zal zeker uitgebreid worden. Als het dan zo nog behapbaar blijft. Maar euh. Ik stel mij toch ook vragen in welke dat zeevarenden, op het moment dat ze een operatie gaan doen, ze op dat moment gaan kijken wat is nu relevant, dat zie ik toch ook niet zo direct gebeuren. Dus ik weet niet of het zo echt veel gaat bijbrengen.

En als opfrissingsmiddel? Of denkt u dat dat ook niet gaat gebeuren.

Weinig denk ik. Maar goed, ik weet het niet. Het is misschien een goed idee, ik heb niet direct een pasklaar standpunt.

Eum, een ander idee is om eum de structuur zodanig te maken dat er een vorm van spreken aangeleerd wordt. Omdat eum zoals ze bestaan is dat een bepaalde manier van spreken maar dan zou het idee zijn om eerder euh die grammaticale structuur toe te passen en dan daarnaast een hele grote glossary, die dan veel flexibeler kan aangepast worden, zodanig dat je bepaalde zinnetjes leert van eum what are your intentions of my intention is to … en dan heb je een dotted line waarbij dat je een bepaald woord uit de glossary kunt toepassen zodanig dat er in de glossary veel vaker termen kunt stoppen die dan relevant geworden zijn.

Ja ja, jajaja. Dat maakt het misschien wat makkelijker om het naar de toekomst toe wat frequenter bij te werken. Ja, da's waarschijnlijk een goed idee. Ja, ja, om wat korter op de bal te kunnen spelen. Want die glossary aanpassen dat zal waarschijnlijk wat minder discussie vereisen en euh overeenstemming tussen verschillende partijen dus dat lijkt mij wel een goed idee.

Er is ook een vraag, of een idee, dat de mensen van de engine room de SMCP moeten beginnen gebruiken. Bent u daarmee akkoord?

Dat hangt er weer van af van welke bemanning dat ge aan boord hebt he. Als daar een taalprobleem is, dan is dat zeker nuttig. Als ge zoals wij screent op kennis van het Engels dan is dat minder nuttig omdat ge ja om over het even wat zal ik maar zeggen een normale conversatie met elkaar kunt hebben dus ook naar de link bridge-engine room is er minder risico of alle geen risico op verwarring naar mekaar. Maar ik kan mij voorstellen dat dat bij sommige bedrijven wel een toegevoegde waarde is omdat daar ook dan het taalprobleem bestaat dat ge daarmee kunt misschien ondervangen.

En hoe zou u dat dan opleggen? Wat zijn dan de parameters of hoe zou je dat kunnen controleren? Ik bedoel, als je het aan bedrijven overlaat en Exmar zegt bijvoorbeeld onze mensen zijn goed genoeg in Engels dus bij ons is het niet nodig maar dan zouden er sommige bedrijven zijn waar het wel nodig zou zijn eum maar die gaan het misschien niet toepassen dan. Kan je dat afdwingen?

A la limite kan dat verplichtend worden zoals alle regelgeving van de IMO. Hoe dat het dan gaat gecontroleerd en toegepast worden is nog een andere vraag. Maar alle, nu ontbreken misschien de instrumenten voor bedrijven die het wel willen toepassen maar het instrument niet hebben. Dus alleen al daarvoor is het misschien wel nuttig.

Ja. Zijn er euh onderwerpen die voor de engine room belangrijker zijn - ten opzichte van SMCP he - dan voor de bridge?

Al wat technisch is meer georiënteerd is, denk ik. Alles wat te maken heeft met automatisatie en dergelijke meer lijkt mij meer relevant voor mensen met een technisch profiel aan boord dan voor euh bridge.

Eum, als u zou kunnen zeggen dit moet er absoluut nog bij, bij de SMCP, dit is nog nodig, wat zou dat dan zijn?

Voor mij VTS he, omwille van het voorbeeld dat ik zelf aangegeven heb. Overal waar dat ge een port call hebt tijdens een approach komt ge met shore services en dan bedoel ik die ofwel port authority ofwel euh VTS over VHF, wereldwijd, dus ik denk dat dat zeker nodig is. Als ik zou moeten een top drie samenstellen zou die bovenaan zijn.

Wat zouden uw andere twee zijn?

Die zaken die we hebben gezegd die ondertussen eigen geworden zijn zoals Ecdis-gerelateerd, cybersecurity-gerelateerd. Dat zou ik dan eerder op twee en drie zetten.

Okay, danku. Ik ben door mijn vragen. Heeft u nog opmerkingen of vragen?

Eum neen, niet zo onmiddellijk. Ik ben benieuwd wat er van gaat komen uiteindelijk euh.

Van het onderzoek of van de revisie?

Van de revisie in de eerste plaats en van het onderzoek ook natuurlijk want het is altijd nuttig om zo'n onderzoek he te hebben dat reflecteert over.. Maar ook van de revisie uiteindelijk.

Dat heb ik daarnet nog niet gezegd maar mijn onderzoek gaat eum deel zijn van professor Noble om euh, alle het proces te leiden. Dus het bouwt voort op haar onderzoek maar zij is ook het hoofd van IMLA dus zij zal actief deelnemen aan het leiden van de discussies.

Jajaja, ok, goed. Mooi.

Ok, heel erg bedankt voor uw medewerking en uw tijd.

Da’s graag gedaan. ’t Is een onderwerp waar ikzelf normaal niet veel over euh, alle niet veel mee bezig ben maar dat wel interessant is euh.

Nog eventjes gebabbeld, dan komt Christophe Roes binnen. Afgesproken niet opnieuw zelfde vragen maar synthese van vorig gesprek.

Christophe Roes, head of Fleet Management

Dus eum, wat dat Rony gezegd heeft is dat de SMCP zoals ze nu zijn wel mogen uitgebreid worden met bepaalde dingen die zeer relevant zijn zoals VTS, cybersecurity en euh Ecdis eum en dat die robuuster gemaakt worden maar dat het niveau van Engels van officieren wereldwijd ook omhoog moet zodanig dat de SMCP kunnen gebruikt worden zoals dat ze bedoeld zijn in functie van, alle, goeie communicatie en veiligheid. Dat is juist tot zover? Maar dat eum veel nieuwe technologieën en ontwikkelingen er nog niet bij moeten. En dat was dus mijn vraag aan de zeevarenden. Wat denken jullie van automatisatie, blockchain, AI, Internet of Things euh. Moet dat allemaal bij de nieuwe SMCP?

Ok.

Enneuh, ik heb de indruk dat de zeevarenden dat belangrijk vinden en ze antwoorden ook meestal ja dat mag bij de revisie maar het moet ook niet te uitgebreid worden. Wat denkt u daarvan?

Euh. Ja, ik denk, alle, mijn persoonlijke gevoel is aan de ene kant hebben wij bij Exmar niet zo'n heel groot probleem met de kwaliteit van Engels. Je zit met gastanker crew. Dat zijn binnen de shipping industry, de merchant marine sowieso laat ons zeggen sterkere profielen. He, of ja, ik zou niet zeggen hoger opgeleid want uiteindelijk als ge STCW-compliant zijt dan kunt ge bij ons aan boord stappen natuurlijk maar daar zit toch een bepaalde kwaliteitscontrole op dus het probleem van Engels is sowieso redelijk beperkt. Wij hebben wel wat schepen, zeker als ge naar alternatieve nationaliteiten gaat die enkel of een sterk deel van de vloot worden ingezet onder druk van een klant dat ge af en toe wel eens een uitdaging hebt maar goed, euh dus ik denk dat wij als bedrijf misschien niet perfect relevant kunnen spreken voor inderdaad de hele maritieme industrie maar wij zien natuurlijk wel, tijdens zelfs navigational audits als wij als superintendent meevaren en ook van onze eigen tijd aan boord, dat er veel rondvaart wereldwijd met allerlei niveau's die echt wel schokkend kunnen zijn. Ik denk persoonlijk dat de SMCP's, dan is het natuurlijk de vraag hoe terdege dat die worden doorgevoerd tijdens een opleiding dat die kunnen bijdragen tot een basiskennis. Ik ben persoonlijk van mening, maar misschien moet ge me daar in corrigeren, mensen aan boord praten niet in SMCP's. He, number of casualties, fower, euh of he, hoe was het, ik herinner mij dat nog; er zijn een aantal dingen die wel inderdaad zo gebruikt worden en die moeten er

zo ingekomen zijn via de SMCP's maar euh ik kan zeker en vast die niet meer afratelen. Ik weet ook niet of dat die, dat boekje is laat ons zeggen elektronisch aan boord, ik denk niet dat dat ooit geraadpleegd wordt, als ik daar cru alle eerlijk in mag zijn. Dus ja, alle ik denk dat de SMCP's vooral gezien moeten worden als een soort van standaardisering van het aanbod Engelse opleiding in zeevaartscholen of in een STCW-opleiding. Euh, en ja, als ge ze uitbreidt, why not, het geeft alleen maar meer awareness maar ja.

Eum, er zijn ideeën om de structuur van de SMCP te herzien en waarbij dat dan gefocust kan worden op die bepaalde manier van spreken, in functie van duidelijkheid, en dan moet je enkel die grammaticale structuur leren en dan kan daarnaast een glossary bestaan die veel flexibeler kan uitgebreid worden in functie van nieuwe ontwikkelingen. Dan heb je die zinnetjes, die dus beperkt zijn in aantal, en dan kiest je je woordje dat je nodig hebt uit de glossary, die je dan wel moet leren natuurlijk, en dan vul je die in waar dat het nodig is in je zinnetje. Maar de prerequisite is dat je basisniveau van Engels wel goed genoeg is.

Dhr. Roes: Ja, want terwijl ge dat aan het vertellen zijt, denk ik bij mezelf ja, ofwel kunt ge Engels en dan, ge hebt mannen die over de walkie talkie supergestructureerd kunnen communiceren en ge hebt er die een hele boek vertellen, ofwel kunt ge geen Engels en de SMCP's zijn geen Engelse cursus he. Dus ge gaat niet plots Engels kunnen als ge de SMCP's in uw opleiding hebt gehad he dus.

Dhr. Lanssiers: Nee, maar misschien wel meer kunnen, alle ik heb daarnet het voorbeeld gegeven waar ik ooit zelf getuige van geweest ben. Dus een dame van de Spaanse kustwacht die wou communiceren met een Chinese officier op een sleepboot. Die verstonden mekaar van geen kanten. 't Is geëindigd dat dieje officier zijne kapitein gaan halen was die dan een Brit was die dat wel kon. Maar het ging gewoon over het feit dat van euh, die sleepte iets gigantisch door Spaanse wateren en wat zijde gij aan 't slepen. Dus die moeten ook geen heel verhaal tegen elkaar vertellen maar die kunnen met SMCP misschien wel erin slagen de vraag te stellen en een verstaanbaar antwoord te krijgen. En daarvoor vind ik het dus wel nuttig. He, zoals dat ge in het begin zei dat heb ik ook gezegd, wij hebben daar dus geen nood aan omdat wij screenen op de kennis van het Engels voordat we iemand aanwerven maar ik kan me voorstellen dat de eerste de beste low cost sleepbootmaatschappij dat die dat worst zal wezen en dat die pakken wie dat ze kunnen krijgen, als die maar een sleepboot kan manoeuvreren.

Dhr. Roes: Zelfs niet alleen omdat ze niet caren, zelfs ook omdat er geen keuze is he. Laat ons zeggen, gastankerschepen zijn bij de hoogst betaalde, als het gaat over koopvaardij-

officieren, dus en en en bepaalde nationaliteiten, de grote moot, de grote groepen zoals Indiërs, Ukraïners, Filippijnen die kunnen overal aan de slag. Dus euh, wij kunnen gewoon door de lonen die wij betalen de beste mensen eruit filteren. Zelfs wij komen nog, zien de limieten daarvan, en hebben tekorten bij momenten. In feite is voor ons de vijver onuitputtelijk. Als ge dan een stortgoedschip moet bemannen, ja die hebt ge die keuze dus niet want die verdienen dertig procent minder, veertig procent minder per maand terwijl die nationaliteit, die man kan perfect zeggen de groeten en ik ben hier weg.

Ja, dus voor die mensen zou het dan wel interessant zijn om de SMCP te behouden zoals dat ze zijn omdat ze dan gewoon die zinnetjes kunnen aflezen.

Het ding is inderdaad dat, want ik herinner mij dat wij op de Zeevaartschool ook Maritime English hadden, ook dat ja, euh, we hadden dan de Franstalige studenten die dat met veel minder basiskennis Engels aan de opleiding begonnen, het is niet dat die vloeiend Engels spraken aan het einde van de opleiding.

Dhr. Lanssiers: da's ook het doel niet he. Wel van Maritime English maar van de SMCP (praten door elkaar, niet verstaanbaar)

Dhr. Roes: Volledig akkoord. Maar dus, inderdaad, ik denk dat er twee dingen, twee werkelementen misschien wel zijn. Aan de ene kant wat voor basisniveau Engels verwacht ge van iemand die STCW is opgeleid en aan de andere kant hebt ge dan het lexicon, het vocabularium voor zeemannen, die dan nog eens heel specifiek is. Volledig mee akkoord eigenlijk he. Zoals artsen alles in het Latijn zeggen en mekaar perfect begrijpen, spreken wij ook met heel veel afkortingen en vaktaal.

Dhr. Lanssiers: Dan nog, stel dat, daar stopt het eigenlijk niet he Christophe. Stel dat alle zeevarenden heel goed opgeleid zijn en het Engels goed machtig zijn, dan nog moeten ze spreken met dieje meneer of mevrouw die in Brazilië achter dat radarscherm van de VTS zit dus dan moet het eigenlijk ook daar, dat gaat, dat is gewoon niet realistisch, dus dan blijft het daar. Dus vandaar dat het zeker nuttig is om de VTS daarbij in te trekken dat ge met zoveel partijen in contact komt dat het relevant blijft. Zelfs al zijt ge als zeevarende het Engels heel goed machtig maar dan moet ge overschakelen naar een standaardformulering dat die tegenpartij dat die niet is u ook begrijpt. Alle en dat in de veronderstelling dat die het ook aangeleerd gekregen hebben natuurlijk.

Dhr. Roes: Jajaja. Maar ik volg wel inderdaad het idee van een soort grammaticale structuur dat ge een manier van een zinsbouw, dat ge dat standaardiseert, eerder dan dat ge zinnekes vanbuiten moet blokken

Dhr. Lanssiers: Ja, da's waar.

Dhr. Roes: Ja, ge hebt van die mensen he die dat heel goed kunnen om een heel gestructureerde en korte boodschap over de radio door te geven en ge hebt er die dat totaal niet kunnen en die blablablablabla en uiteindelijk snapt niemand wat er bedoeld wordt. Dus euh, da's misschien wel een zinvolle…

Ja, ik heb het ook al gehoord op stage dat een Britse officier gewoon begon te vertellen maar ja, voor hem was het natuurlijk niet nodig om in SMCP te spreken maar een Indiër die niet goed Engels spreekt bijvoorbeeld is misschien moeilijker voor hem weer om te volgen.
Wat denkt u van blockchain, Internet of Things, automatisatie enzovoort. Is dat nu relevant?

Dhr. Roes: Ik denk dat, persoonlijk denk ik dat dat nog vroeg is. Persoonlijk denk ik dat daar letterlijk geen woord over wordt gesproken tussen zeemannen. Ok, tenzij in de bar. Dieje die in zijn vrije tijd belegt in crypto omdat 'em zoveel verdient. Maar laat ons zeggen, in professionele context denk ik dat dat echt nog niet nodig is. Maar ja, moet ge wachten tot het al te laat is om het door te voeren? Misschien ook niet. Eh, ge merkt dat er wel veel sprake is, ja.. Ik denk niet dat voor de komende vijf jaar relevant gaat zijn, en zelfs tien jaar.

Dhr. Lanssiers: Ja, plus alle, ik ga de redenering omdraaien. Moet ge dan nu al de dingen verzwaren met zaken waarvan dat ge zegt van dat zou misschien wel iets kunnen worden om dan misschien over tien jaar vast te stellen oei niemand spreekt nog over die topics in de scheepvaart dus we gaan het er terug uit halen.

Dhr. Roes: Ja, wat ik misschien inderdaad nog eerder zou doen is, het zo licht mogelijk maken het systeem en bepaalde… Ja, want de IMO doet dat he, herziet ook… alle, bijvoorbeeld (onbegrijpelijk) is dan het gebruik van de sextant, dat dat in vraag wordt gesteld, dat wordt uit het standaardtraject van de opleiding gehaald. Iets wat wij denk ik hier wel kunnen volgen.

Dhr. Lanssiers: Ikke nie

Dhr. Roes: Daar zijn meningen over, he, daar zijn duidelijke meningen over. Maar hetzelfde: vlaggencombinaties he…

Dhr. Lanssiers: Het is er toch nog niet uit he, de sextant?

Nee. Pff, het is een keer vermeld geweest in het eerste jaar.

Dhr. Roes: ja, dus dat bestaat nog.

Vlaggencombinaties zelfs niet.

(Allemaal door elkaar, niet verstaanbaar)

Dhr. Lanssiers: Dus jullie oefenen niet meer met sextant?

Het is ons een keer uitgelegd geweest, we hebben het niet eens zelf gedaan.

Dhr. Lanssiers: Want volgens mij staat dat nog altijd in de STCW he.

Ja

Dhr. Roes: Ja. 'k Dacht dat ze dat er gingen uit halen maar ok, 'k weet het niet. Anyway.. In alle geval, er zijn zo.. en wij nemen af en toe ook wel eens iets op uit de onderwijsraad van de Zeevaartschool en zo.. Shipping is conservatief he maar we moeten allemaal goed begrijpen ja dat er heel veel, dat er niet uit nostalgie dingen blijven. Ja alle zeker nu met, da's niet alleen met de sextant, da's met die vlaggen, da's met allerlei dingen over medische, quarantainevereisten en zo. Met Corona werd dat plotseling weer heel hot maar eigenlijk al die dingen over quarainte-aanvraag wat ook in de SMCP staat volgens mij, medische euh.. alle, een schip vraagt free pratique, enzovoort. Ja, dat zijn nog altijd wel dingen.. Dan komen schepen in een haven en hijsen die een gele vlag. En als de quarantine officer aan boord is geweest dan wordt die terug omlaag gehaald. Ok, goed. Dat is euh, alle. Er zijn wel wat dingen die pro forma gebeuren. Hoe minder dat er, hoe minder er zo zijn, hoe beter denk ik. Ik denk dat, hoe lichter het systeem, hoe meer slaagkans zodat de mensen de relevante content echt kennen een hoop extra ja..

Het voorstel van de IMO om te euh updaten is onder andere thema's eum medical assistance en ISPS en greenhouse gases en euh MSI. Dus dat vindt u dan inderdaad ook relevanter?

Dhr. Roes: Ja. Ja, dus ik denk dat de shipping een gigantische push in environmental awareness kent euh en dat wij… Hier op kantoor werken daar mensen full time op, niks anders dan dat. Energy efficiency en en en CII/EXI, dat bestond een jaar geleden ook al, de SEEMP he, het Energy Revision Management Plan. Maar dat was een boekske dat, alle een document dat aan boord lag en dan moest ge dat eens.. We zien dat het aan boord nog altijd

een uitdaging is om awareness daarin te doen groeien, he dat bemanning aan boord van schepen ook vaak denkt van ja, onze scope eindigt bij het licht uitdoen ’s avonds en dingen niet nodeloos laten draaien maar er zijn waarschijnlijk nog veel meer dingen die kunnen.. Maar dat zijn echt relevante dingen he. Maritime Safety Information, zeker ook. Alhoewel dat ik denk dat dat vrij gestandaardiseerd is al. He, die navigational warnings en zo dat is nu toch al allemaal vrij…

Ja, maar het zou nu uitgebreid worden met recreational areas en safety areas, waar grote evenementen gebeuren, waar schepen in contact komen met.. Omdat alles veel meer, omdat er op sommige plekken veel meer euh

Dhr. Roes: interactie is

Ja, inderdaad

Dhr. Roes: Ja, ok. Why not.

Dhr. Lanssiers: Liever dat ze dat uitbreiden dan dat ze beginnen over Internet of Things en blockchain of euh..

Dhr. Roes: Als in.. Alle, ge moet begrijpen, er zijn initiatieven he. Iedereen kent (niet verstaanbaar), ondertussen kent iedereen ook Seafar hier aan de overkant van het gebouw, die onbemande of beperkt bemande binnenvaartschepen hier in de regio opereren maar die initiatieven die zijn.. Dat zal zeker geleidelijk aan tractie krijgen. Maar, jaren nog he. Minstens he. En dat is op dit moment werkelijk nog geen procent, dat is een komma nul nul procent van de hele industrie voordat dat echt iets wordt. Er moeten schepen omgebouwd worden of gebouwd worden dus ja verwacht u daar de eerste vier vijf jaar nog zeker niet aan, en langer..

Ok. Dankuwel. Heeft u nog vragen of opmerkingen?

Dhr. Roes: Nee, eigenlijk niet nee

8.3 Proposal for revision, April 18 2022

INTERNATIONAL MARITIME ORGANIZATION

E

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ANY OTHER BUSINESS

Proposals on the review and revision of the IMO Standard Marine Communication Phrases

Submitted by China and IMLA

SUMMARY

Executive summary: This document provides a preliminary summary of changes in the marine environment and marine communication phrases and terms over the past two decades and proposes to review and update the IMO Standard Marine Communication Phrases

Strategic direction, if applicable: 6

Output: Not applicable

Action to be taken: Paragraph 21

Related documents: Resolutions A.380(X), A.857(20), A.918(22) and A.1158(32)

Introduction

1 Effective communication is essential to the safety of navigation at sea and standardized marine communication phrases and terms can help improve the efficiency and effectiveness of communication and reduce the risk of misunderstanding. In this context, in November 2001, the twenty-second session of the IMO Assembly adopted resolution A.918(22) on *IMO Standard Marine Communication Phrases* (SMCP).

2 SMCP covers the standard English communication phrases in the relevant safety aspects laid down in the 1974 SOLAS and the 1978 STCW Conventions. SMCP has played an active role in improving the efficiency and effectiveness of shore-to-ship, ship-to-shore, ship-to-ship and onboard communications, enhancing the quality of maritime education and training and promoting safety of navigation at sea.

3 Two decades after the adoption of SMCP, the rapid development of global shipping brought with it significant changes to the conditions of navigation at sea and the modernization of the GMDSS and the implementation of the e-navigation strategy resulted in a process of upgrading of radiocommunication and navigation equipment and technology used on board.

At the same time, several SMCP-related international conventions, rules and standards, including SOLAS, MARPOL, ISPS, VTS Guidelines, etc. which have significant impacts on maritime safety, have undergone continuous amendments. Therefore, the existing SMCP can no longer fully meet the actual needs of marine activities and if not reviewed or revised in a timely manner, it may affect the effectiveness of marine communication, thus bringing hazards to the safety of vessels and seafarers as well as the marine environment.

4 It is also noted that resolution A.918(22) authorizes the Maritime Safety Committee to keep SMCP under review and to amend it, when necessary, in accordance with the relevant procedure set out in annex 2 to the resolution. This document preliminarily collates the changes in marine communication phrases over the past two decades and proposes to review and revise SMCP.

Background

5 In 1973, MSC 27 agreed that, where language difficulties arise, English should be used as a common language for navigational purposes, and in consequence, the Standard Marine Navigation Vocabulary (SMNV) was developed and adopted in November 1977 by resolution A.380(X), which was amended in May 1985.

6 In 1992, MSC 60 instructed the Sub-Committee on Safety of Navigation (NAV) to develop more comprehensive standardized marine communication phrases based on SMNV, taking into account the changing conditions in modern seafaring and covering all major safety-related verbal communications. In 1997, MSC 68 approved the draft SMCP submitted by the NAV Sub-Committee. After several years of international trials, SMCP was adopted on 29 November 2001 by resolution A.918(22).

7 SOLAS regulation V/14.4 stipulates that for ships to which chapter I applies, English shall be used on the bridge as the working language for bridge-to-bridge and bridge-to-shore

safety communications as well as for communications on board between the pilot and bridge watchkeeping personnel, unless those directly involved in the communication speak a common language other than English.

8 According to the 1995 amendments to the STCW regulations, the use and understanding of SMCP is the minimum standard of competence for officers in charge of a navigational watch on ships of 500 gross tonnage or more.

Discussion

GMDSS modernization and e-navigation strategy implementation

9 The SMCP glossary is divided into general terms and VTS special terms. In the past two decades, the GMDSS modernization has brought a large number of new marine communication terms such as Automatic Identification System (AIS), Digital Navigational Data System (NAVDAT), VHF Data Exchange System (VDES), and some common terms have gained new meanings compared with previous interpretations.

10 It is neither necessary nor possible to provide in SMCP an exhaustive list of terms that may be used in marine navigation, however it is important to provide, as far as possible, major and representative terms in common use. Therefore, it is considered further review and updating of SMCP terms including their definitions are needed to meet the needs of prospective users and eliminate possible ambiguities. In addition, the general terms contain many terms and phrases of different types used in different scenarios, which is not easy for users to find or access. It is recommended to organize and classify the SMCP terms into NCSR 9/23/2

sub-categories according to major maritime services and/or typical scenarios to improve user-friendliness. The sub-categories are suggested to include: radiocommunication, VTS, MSI, TMAS, ship construction, ship operation, life-saving appliances and arrangements, etc.

11 With the development of radiocommunication and medical technologies, telemedical assistance service has been improving day by day. In the *E-navigation Strategy Implementation Plan – Update 1* (MSC.1/Circ.1595), Maritime Service 9 (Telemedical Assistance Service (TMAS)) proposes to implement standardized telemedical services such as monitoring the health status of the patients, remote consultations, etc. through the internet. Therefore, a standardization of the TMAS phrases will help enhance the quality of telemedical practices and treatment.

12 SMCP contains only nine phrases related to requesting medical assistance (A1/1.3), which can no longer fully meet the needs of TMAS, and some phrases, such as "Radio Medical Guidance" (A1/1.3.2.1) and "Radio Medical Guidance on High Frequency Channels/Frequency Arrangements" (A1/1.3.3) are no longer suitable considering the development of TMAS practice. When the transfer is required, no matter ship-to-ship transfer, helicopter transfer or ship-to-shore transfer, consideration should be given not only to the cost of services and the deployment of relevant medical resources, but also to the risks that rescuers put themselves into to save people at sea. In this context, MRCCs, shipowners and medical

staff all need to give specific medical advice or make decisions based on their understanding of the basic conditions of the patients. In this respect, it is suggested the *International Medical Guide for Ship* (IMGS), jointly issued by IMO, the International Labour Organization (ILO) and the World Health Organization (WHO), in particular chapter 25 on External assistance, providing guidance on medical advice, helicopter evacuation, ship-to-ship transfer of doctor or patient, and referral information to accompany evacuated patients, should be taken into account.

Amendments to the relevant conventions and regulations

13 In recent years, a couple of maritime safety-related conventions and regulations have come into force, such as the MLC 2006, the 2004 BWM Convention, the ISPS Code, the amendments to MARPOL 73/78, etc. which have a direct impact on the complexity of marine communications. For instance, after the ISPS Code became effective on 1 July 2004, security-related communications between ship-to-ship, ship-to-shore, ship-to-naval convoys and on board are becoming very common. Therefore, security information exchange between ships and port facilities, security level declaration, pirate attack information report, etc. should also be an important part of SMCP.

14 Greenhouse gas emission reduction and the development of green shipping have been put high on the agenda, gradually broadening the content of marine communication, for example, the use of low-sulphur fuel or LNG fuel to meet an Emission Control Area (ECA) requirement and the use of shore power, etc.

15 VTS communication is an important part of SMCP (Part A1/6). With the development of VTS, the global consistency and applicability of VTS communications have always been the focus of the shipping industry. IALA released the *VTS Communications* (R1012) in January 2018 and the 2.0 version of *VTS voice communications and phraseology* (G1132) in June 2021 respectively. In addition, the thirty-second session of the IMO Assembly in 2021 adopted the revised *Vessel Traffic Service Guidelines* by resolution A.1158(32), which deleted the content related to the original VTS service types, and instead highlighted the VTS services in typical scenarios such as timely and relevant information provision, vessel traffic monitoring and management, and responding to developing unsafe situations. The SMCP A1/6 part, which is developed based on resolution A.857(20), needs to be updated accordingly to be consistent with the newly adopted VTS related IALA Guidelines and IMO resolution.

16 In addition, it is envisaged that the rapid development and application of computer, network and communication technologies as well as autonomous shipping will both facilitate and bring new vitality and challenges to effective communication at sea. Considering the complexity of effective communication in the context of shipping innovation and development, this may be considered and accommodated during the review and revision of SMCP.

17 SMCP is largely based on relevant conventions, resolutions, standards, circulars, guidelines or manuals. Some references are outdated, for example, the IAMSAR Manual (1998) cited in A1/1.2.3 and B2/6 has been amended to the 2019 edition, and resolution A.851(20) on *General Principles for Ship Reporting Systems and Ship Reporting Requirements* cited in A1/6 has been amended by resolution MEPC.138(53). Some new references such as the *International Medical Guide for Ships* and the *VTS voice communications and phraseology* (IALA G1132) may need to be added. A new appendix is recommended to be developed to list the SMCP normative reference documents and their version information, which would be easier to use and maintain.

Increased marine activities

18 Maritime safety information (MSI) is an important part of SMCP (Part A1/3). With the development of marine activities, the types and content of MSI are also increasing. In this respect, the phrases and terms related to navigation warnings contained in SMCP are insufficient to cover the scenarios specified in the revised *Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)* (MSC.1/Circ.1310/Rev.1) and it is recommended that at least two categories of navigational warnings in relation to large-scale recreational activities and sports and designated areas be added.

19 The sub-category of large-scale MASS recreational activities and sports may include water exhibition, regatta, aqua show, etc., while the designated area sub-category may include area to be avoided (Navigation/Anchoring), pipeline/submarine cable area, dangerous mine area, anchorage, dumping area, cultivation/entertainment area, fairway, ship reporting point (RP), traffic control area, etc.

Proposals

20 In light of the above, it is proposed to review and amend SMCP, taking into account the changing conditions and practices in modern seafaring. If the Sub-Committee agrees, China and the International Maritime Lecturers Association (IMLA) will submit a new output proposal to MSC and will be happy to lead the work.

Action requested of the Sub-Committee

21 The Sub-Committee is invited to consider the proposals contained in paragraph 20 and take action, as appropriate.

8.4 Proposal for revision, updated, February 28 2023

INTERNATIONAL MARITIME ORGANIZATION

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MARITIME SAFETY COMMITTEE
107th session
Agenda item 17

MSC 107/17/19
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WORK PROGRAMME

Proposal for a new output for the review and revision of the IMO Standard Marine Communication Phrases (resolution A.918(22))

Submitted by China and IMLA

SUMMARY

Executive summary:	This document proposes a new output for the review and revision of the *IMO Standard Marine Communication Phrases* (resolution A.918(22)) to accommodate the changes in maritime communications over the past two decades, with a view to enhancing the efficiency and effectiveness of communications on board ships, as well as between ships and shore and ships.
Strategic direction, if applicable:	6
Output:	Not applicable
Action to be taken:	Paragraph 24
Related documents:	Resolutions A.918(22) and A.1158(32); MSC.1/Circ.1610; NCSR 9/23/2 and NCSR 9/24

Introduction

1 This document is submitted in accordance with the provisions of paragraph 4.6 of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.4).

Background

2 Effective communication is essential to the safety of navigation at sea, and standardized marine communication phrases and terms can help improve the efficiency and effectiveness of communication and reduce the risk of misunderstanding. The *IMO Standard Marine Communication Phrases* (SMCP) adopted by the twenty-second session of the IMO Assembly through resolution A.918(22) covers the standard English communication phrases in the relevant safety aspects laid down in the 1974 SOLAS Convention and the 1978 STCW Convention. Over the past years, SMCP has played an active role in improving the efficiency and effectiveness of shore-to-ship, ship-to-shore, ship-to-ship and onboard communications and the safety of navigation at sea.

3 SOLAS regulation V/14.4 stipulates that for ships to which chapter I applies, English shall be used on the bridge as the working language for bridge-to-bridge and bridge-to-shore safety communications as well as for communications on board between the pilot and bridge watchkeeping personnel, unless those directly involved in the communication speak a common language other than English. Following the adoption of the 1995 amendments to the STCW Code, the use and understanding of the IMO SMCP is the minimum standard of competence for officers in charge of a navigational watch on ships of 500 gross tonnage or more.

4 It is also noted that resolution A.918(22) authorizes the Committee to keep SMCP under review and to amend them when necessary.

5 The Sub-Committee on Navigation, Communications and Search and Rescue (NCSR), at its ninth session, noted the information in document NCSR 9/23/2 (China and IMLA) on a proposed revision and update of the IMO SMCP, taking into account changes related to the marine environment and maritime communications over the past two decades, and invited interested Member States and international organizations to contact the submitters directly in case of any comments and/or support for the proposal, noting that a new output would be required to be approved by the Committee.

IMO's objectives

6 This proposal is in line with the mission statement of IMO "to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation" in the *Revised Strategic Plan for the Organization for the six-year period 2018 to 2023* (resolution A.1149(32)).

7 The proposal is also in line with the description of strategic direction (SD) 6, as contained in paragraph 34 of the annex to in resolution A.1149(32), that "In its role as the global regulator of shipping, IMO will build on work already completed to address the human element and will take the human element into account in the review, development and implementation of new and existing requirements".

Need

8 Two decades after the adoption of SMCP, the navigation environment has experienced significant changes. First, with the rapid development of the global shipping economy, the modernization of the Global Maritime Distress and Safety System (GMDSS) and the implementation of the e-navigation strategy have resulted in the upgrading of shipborne communication and navigation equipment and technology. Secondly, a number of international conventions, rules and standards that have a significant impact on maritime safety and are closely related to SMCP have been revised accordingly, such as SOLAS, MARPOL, ISPS, VTS Guidelines, etc. Thirdly, with the increasing number of human activities at sea, the content of maritime safety information transmission is constantly enriched. Therefore, the existing SMCP can no longer fully meet the actual communication needs in modern navigation and it is necessary to update the relevant terms and phrases, delete obsolete ones and optimize part of the structure of SMCP as appropriate to accommodate the changes in navigation environment and communication needs, make it more user-friendly, and reduce the risks caused by poor communication or misunderstanding.

Analysis of the issue

GMDSS modernization and e-navigation strategy implementation

9 In the past two decades, with the modernization of the GMDSS, a large number of new marine communication terms have emerged, such as AIS-SART, Digital Navigational Data System (NAVDAT), VHF Data Exchange System (VDES), and some commonly used terms have taken on new meanings in addition to previous definitions.

10 The general terms contain many terms and phrases of different types used in different scenarios which are not easy for users to find or access. It is recommended to organize and classify the SMCP terms into sub-categories according to major maritime services and/or typical scenarios to improve user-friendliness.

11 With the development of radiocommunication and medical technologies, telemedical assistance service has been improving day by day. In Maritime Service 9 – Telemedical Assistance Service (TMAS) of the *Initial descriptions of Maritime Services in the context of e-navigation* (MSC.1/Circ.1610), it is proposed to implement standardized telemedical services such as monitoring the health status of the patients, remote consultations, etc. through the Internet.

12 Therefore, a standardization of the TMAS phrases will help enhance the quality of telemedical practices and treatment. SMCP contains only nine phrases related to requesting medical assistance (A1/1.3), which can no longer fully meet the needs of TMAS, and some phrases, such as "Radio Medical Guidance" (A1/1.3.2.1) and "Radio Medical Guidance on High Frequency Channels/Frequency Arrangements" (A1/1.3.3) are no longer suitable considering the development of TMAS practice. When transfer is required, whether it is shipto-ship transfer, helicopter transfer or ship-to-shore transfer, consideration should be given not only to the cost of services and the deployment of relevant medical resources, but also to the risks taken by rescuers to save people at sea. In this context, MRCCs, shipowners and medical staff all need to give specific medical advice or make decisions based on their understanding of the basic conditions of the patients.

13 In this respect, it is suggested the *International Medical Guide for Ships* jointly issued by IMO, the International Labour Organization (ILO) and the World Health Organization (WHO), in particular chapter 25 on External assistance, providing guidance on medical advice, helicopter evacuation, ship-to-ship transfer of doctor or patient, and referral information to accompany evacuated patients, should be taken into account.

Amendments to the relevant conventions and regulations

14 In recent years, a couple of maritime safety-related conventions and regulations have come into force, such as the Maritime Labour Convention, 2006, the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, the ISPS Code, the amendments to MARPOL 73/78, etc., which have increased the complexity of marine communications. Greenhouse gas emission reduction and the development of green shipping have been put high on the agenda, gradually broadening the content of marine communication, for example, the content on the use of low-sulphur fuel or LNG fuel to meet an Emission Control Area (ECA) requirement and the use of shore power, etc.

15 VTS communication is an important part of SMCP (Part A1/6). With the development of VTS, the consistency and applicability of VTS communications worldwide have always been the focus of the shipping industry. IALA has released the *VTS Communications* (R1012) in January 2018 and version 2.0 of the *VTS Voice Communications and Phraseology* (G1132) in MSC 107/17/19
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June 2021, respectively. In addition, the thirty-second session of the IMO Assembly, in 2021, adopted the revised *Guidelines for vessel traffic services* (resolution A.1158(32)), which deleted the content on the types of VTS service, and instead highlighted the VTS services in typical scenarios such as timely and relevant information provision, vessel traffic monitoring and management, and responding to unsafe and developing situations. Part A1/6 of SMCP, which was developed based on resolution A.857(20), now revoked by resolution A.1158(32), needs to be updated accordingly to be consistent with the newly adopted VTS-related IALA guidelines and resolution A.1158(32).

16 Besides, SMCP is largely based on relevant conventions, resolutions, standards, circulars, guidelines or manuals. Some references are outdated, for example, the IAMSAR Manual (1998) cited in A1/1.2.3 and B2/6 has been amended to the 2019 edition and resolution A.851(20) on *General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants* cited in A1/6 has been amended by resolution MEPC.138(53). Some new references such as the *International Medical Guide for Ships* and the *VTS Voice Communications and Phraseology* (IALA G1132) may need to be added. A new appendix is recommended to be developed to list the SMCP normative reference documents and their version information, thus facilitating the use and maintenance of SMCP.

Changes in the transmission of maritime safety information

17 Maritime safety information (MSI) is an important part of SMCP (Part A1/3). With the development of marine activities, the types and content of MSI are also increasing. In this respect, the phrases and terms related to navigation warnings contained in SMCP are insufficient to cover the scenarios specified in the *Revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)* (MSC.1/Circ.1310/Rev.1) and it is recommended that navigational warnings in relation to large-scale recreational activities and sports, as well as designated areas, should be added. The sub-category of large-scale recreational activities and sports may include water exhibition, regatta, aqua show, etc. while the designated area sub-category may include area to be avoided (e.g. navigation/anchoring, pipeline/submarine cable area, dangerous mine area, anchorage, dumping area, cultivation/entertainment area, fairway, ship reporting point (RP), traffic control area,

etc). At the same time, it was noted that the Correspondence Group on Dissemination of MSI and SAR-related Information, established at NCSR 9, also identified the text of SMCP where improvements could be made, which were proposed to be considered under the proposed new output.

Analysis of implications

18 The checklist for identifying administrative requirements is provided in annex 1.

Benefits

19 The revision of SMCP will provide the crew with updated and improved maritime communication phrases by taking into account the continuous development of navigation practices, improve the efficiency and effectiveness of onboard, ship-to-shore, ship-to-ship communications, and reduce the risks of misunderstanding, thus contributing to the enhancement of maritime navigation safety.

Industry standards

20 IALA has developed *the VTS Voice Communications and Phraseology* (IALA G1132), which should be taken into account when updating the IMO SMCP, so as to ensure the coherence and consistency in marine communications.

Output

21 The proposed output is "Review and revision of the Standard Maritime Communication Terminology (SMCP) (resolution A.918(22))".

Human element

22 The checklist for considering and addressing the human element for revision of resolution A.918(22) is set out in annex 2.

Urgency

23 It is recommended that this proposed new output be given sufficient priority and be included in the 2024-2025 biennial agenda of the NCSR Sub-Committee, with two sessions needed to complete the work.

Action requested of the Committee

24 The Committee is invited to consider the information provided above and endorse the request for a new output as proposed.

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ANNEX 1

CHECKLIST FOR IDENTIFYING ADMINISTRATIVE REQUIREMENTS

This checklist should be used when preparing the analysis of implications required in submissions of proposals for inclusion of outputs. For the purpose of this analysis, the term "administrative requirement" is defined in accordance with resolution A.1043(27), as an obligation arising from a mandatory IMO instrument to provide or retain information or data.

Instructions:

(A) If the answer to any of the questions below is **YES**, the Member State proposing an output should provide supporting details on whether the requirements are likely to involve start-up and/or ongoing costs. The Member State should also give a brief description of the requirement and, if possible, provide recommendations for further work, e.g. would it be possible to combine the activity with an existing requirement?

(B) If the proposal for the output does not contain such an activity, answer **NR** (not required).

(C) For any administrative requirement, full consideration should be given to electronic means of fulfilling the requirement in order to alleviate administrative burdens.

1. Notification and reporting? Reporting certain events before or after the event has taken place, e.g. notification of voyage, statistical reporting for IMO Members	NR ☑	Yes □ Start-up □ Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
2. Record keeping? Keeping statutory documents up to date, e.g. records of accidents, records of cargo, records of inspections, records of education	NR ☑	Yes □ Start-up □ Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
3. Publication and documentation? Producing documents for third parties, e.g. warning signs, registration displays, publication of results of testing	NR ☑	Yes □ Start-up □ Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
4. Permits or applications? Applying for and maintaining permission to operate, e.g. certificates, classification society costs	NR ☑	Yes □ Start-up □ Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
5. Other identified requirements?	NR ☐	Yes ☑ Start-up □ Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes) The output aims to revise resolution A.918(22). If the new version of the SMCP comes out, Member States will be required to organize the related training to enhance the seafarers' practical language skill and competences. Full consideration should be given to electronic means of training so as to alleviate administrative burdens.		

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ANNEX 2

CHECKLIST FOR CONSIDERING AND ADDRESSING THE HUMAN ELEMENT

	1 Question	2 Yes/ No	3 IMO references	4 Considerations	5 Instructions
			Other relevant references may be added *Strikeout references that are not relevant*	*If answer to question is "yes" identify considerations.* *If answer is "no" make proper justification*	*Identify how human element considerations should be addressed in the output*
	Does the "output" affect workload?	NO		The output aims to revise resolution A.918(22), therefore it will not affect workload.	

	On board, especially in the already intensive phases of the voyage and port operations to:	NO	~~*Revised guidelines for the operational implementation of the International Safety Management (ISM) Code by Companies*~~ ~~(MSC-MEPC.7/Circ.8)~~ ~~*Guidelines on fatigue*~~ ~~(MSC.1/Circ.1598)~~ ~~*Principles of minimum safe manning*~~ ~~(resolution A.1047(27))~~ ~~*Guidelines for the investigation of accidents where fatigue may have been an issue*~~ ~~(MSC/Circ.621)~~		

	1 **Question**	**2 Yes/ No**	**3** **IMO references**	**4** **Considerations**	**5** **Instructions**
	Operations including navigation, cargo and engineering	NO			
	Maintenance of the ships structure and its equipment	NO			
	Onboard administration in support of the ships' management systems	NO			

	Onboard administration related to regulation involving flag States, classification societies, port State and other bodies such as charterers and port authorities	NO			
	Increased workload or time pressure on personnel if involved in implementation of changes prior to the implementation date	NO			
	Ashore, in a manner that would affect the ships operation to:	NO			
	Companies' administration	NO			
	Flag State, port State and classification societies administration such that certification and other processes are compromised or delayed	NO			

	1 Question	2 Yes/ No	3 IMO references	4 Considerations	5 Instructions
ng			*Other relevant references may be added* *Strikeout references that are not relevant*	*If answer to question is "yes" identify considerations.* *If answer is "no" make proper justification*	*Identify how human element considerations should be addressed in the output*
	Does the "output" impact decision-making on board the ship?	NO		The output aims to revise resolution A.918 (22), therefore it will not impact decision-making. On the contrary, this output will improve seafarers' confidence in communication.	

	By confusion with existing requirements and regulations	NO			
	By changing responsibilities as laid out in the ISM Code	NO			
	By creating complexity in its implementation and/or in the safety management systems	NO			
	By requiring increased mental effort, such as the need to find, transform and analyze data or result in the need to make judgements based on incomplete information	NO			
	By limiting the time available to establish situational awareness, decide, communicate (possibly across time zones) or check	NO			
	By increasing reliance on judgement and administrative controls to manage major risks such as oil spills and collisions	NO			

	1 **Question**	**2** **Yes/ No**	**3** **IMO references**	**4** **Considerations**	**5** **Instructions**
	king environment		*Other relevant references may be added* *Strikeout references that are not relevant*	*If answer to question is "yes" identify considerations.* *If answer is "no" make proper justification*	*Identify how human element considerations should be addressed in the output*

	Does the "output" affect the living and working environment?	NO	~~*Guidelines on the basic elements of a shipboard occupational health and safety programme* (MSC-MEPC.2/Circ.3)~~ ~~*Guidelines on fatigue* (MSC.1/Circ.1598)~~	The output aims to revise resolution A.918(22), therefore it will not improve the living and working environment directly.	
	By interfering with existing arrangements for abandonment, fire-fighting and other emergency plans or procedures	NO			
	By introducing new materials that could create an explosion, fire, environmental or occupational health risk	NO			
	By introducing new high energy sources such as high-voltage and high-pressure fluids	NO			
	By affecting access or egress and causing lack of ventilation in working spaces	NO			
	By affecting the habitability of accommodation spaces owing to noise, vibration, temperatures, dust and other contaminants	NO			

	1 **Question**	**2 Yes/ No**	**3** **IMO references**	**4** **Considerations**	**5** **Instructions**

maintenance		*Other relevant references may be added* *Strikeout references that are not relevant*	*If answer to question is "yes" identify considerations.* *If answer is "no" make proper justification*	*Identify how human element considerations should be addressed in the output*
Does the "output" affect the operation and maintenance of the ship, its structure or systems and equipment?	NO	~~*Revised guidelines for the operational implementation of the International Safety Management (ISM) Code by Companies*~~ ~~(MSC-MEPC.7/Circ.8)~~ ~~*Guidelines for bridge equipment and systems, their arrangement and integration (BES)*~~ ~~(SN.1/Circ.288)~~ ~~*Principles of minimum safe manning*~~ ~~(resolution A.1047(27))~~ ~~*Issues to be considered when introducing new technology on board ships*~~ ~~(MSC/Circ.1091)~~ ~~*Guideline on software quality assurance and human-centred design for e-navigation*~~ ~~(MSC.1/Circ.1512)~~ ~~*Guidelines for the standardization of user interface design for navigation*~~	The output aims to revise resolution A.918(22), therefore it is not related to operation and maintenance.	

			~~*equipment*~~ ~~(MSC.1/Circ.1609)~~		

	1 Question	2 Yes/ No	3 IMO references	4 Considerations	5 Instructions
	By introducing equipment that the user may find difficult to operate or maintain or may be unreliable	NO			

	By introducing new and/or novel technology, or technology that changes the role of the person	NO			
	By introducing requirements for new competencies and roles	NO			
	By overloading existing infrastructure such as power generation and ventilation systems	NO			
	By poor integration with existing systems and controls	NO			
	By introducing new and unfamiliar operations/procedures	NO			
	By introducing new and unfamiliar operating interfaces?	NO			
	By introducing risks to the ship during any modifications required prior to the implementation date of the output	NO			
	1 **Question**	**2** **Yes/ No**	**3** **IMO references**	**4** **Considerations**	**5** **Instructions**
	ldress the human element		*Other relevant references may be added* *Strikeout references that are not relevant*	*If answer to question is "yes" identify considerations.* *If answer is "no" make proper justification*	*Identify how human element considerations should be addressed in the output*

	Does the "output" require changes to:	YES	~~*Shipboard technical operating and maintenance manuals*~~ ~~(MSC.1/Circ.1253)~~ ~~*Revised guidelines for the operational implementation of the International Safety Management (ISM) Code by Companies*~~ ~~(MSC-MEPC.7/Circ.8)~~	The output aims to revise resolution A.918(22), therefore it can help improve the efficiency and effectiveness of communication, reduce the risk of misunderstanding, and promote safety of navigation at sea. Accordingly, it requires Member States to organize relevant training to improve the language skills and abilities of the seafarers.	
	Training	YES		Member States are required to organize related training to enhance the seafarers' practical language skill and competences.	Full consideration should be given to electronic means of training so as to alleviate administrative burdens.
	Practical skill development and competences	YES		If the new version of SMCP comes out, seafarers should develop their language skill based upon this output.	The competent institutions or schools should update their teaching materials.
	Operating, management and/or maintenance procedures	NO			
	Information/manuals for operation and maintenance	NO			
	Spares outfit	NO			
	Occupational safety requirements, including guarding and PPE	NO			
	Shore support	NO			