

COUNCIL  
116th session  
Agenda item 4

C 116/4/4  
2 July 2016  
Original: ENGLISH

**STRATEGY, PLANNING AND REFORM**

**Report of the Working Group on the Development of a new Strategic Framework**

**Note by the Secretariat**

**SUMMARY**

*Executive summary:* This document reports on the outcome of the second session of the Working Group on the Development of a new Strategic Framework held at IMO Headquarters from 29 June to 1 July 2016

*Strategic direction:* 4

*High-level action:* 4.0.3

*Output:* 4.0.3.1

*Action to be taken:* Paragraph 30

*Related documents:* C 116/4/1; SF-WG 2/1, SF-WG 2/1/1, SF-WG 2/1/1/Corr.1, SF-WG 2/2, SF-WG 2/2/1; C 114/D and C 114/3/5.

**General**

1 The Working Group on the Development of a new Strategic Framework (hereinafter referred to as the working group) met from 29 June to 1 July 2016, under the chairmanship of Miss Katy Ware (United Kingdom).

2 The meeting was attended by representatives from the following Member Governments:

ARGENTINA  
AUSTRALIA  
BAHAMAS  
BANGLADESH  
BELGIUM  
BRAZIL  
CANADA  
CHINA  
COOK ISLANDS  
CYPRUS  
DENMARK  
FINLAND

FRANCE  
GERMANY  
GREECE  
IRAN (ISLAMIC REPUBLIC OF)  
ITALY  
JAPAN  
LIBERIA  
MALAYSIA  
MARSHALL ISLANDS  
MEXICO  
MOROCCO  
NETHERLANDS

NIGERIA  
NORWAY  
PALAU  
PANAMA  
PHILIPPINES  
REPUBLIC OF KOREA  
RUSSIAN FEDERATION  
SAINT KITTS AND NEVIS

SAUDI ARABIA  
SINGAPORE  
SPAIN  
SWEDEN  
THAILAND  
TURKEY  
UNITED KINGDOM  
UNITED STATES

the following associate member:

HONG KONG, CHINA

the following intergovernmental organizations in consultative status:

EUROPEAN COMMISSION (EU)  
INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)

and the following non-governmental organizations in consultative status:

ICS  
BIMCO  
IACS  
OCIMF  
IMPA

INTERCARGO  
IMarEST  
IBIA  
IAMU  
ITF

## Background

3 At its 114th session, the Council agreed:

- .1 on the timeline for the development of a new strategic framework; and
- .2 that the new strategic framework should be finalized in time for it to be implemented for the 2018-2019 biennium.

4 The Council further agreed:

- .1 that the second session of the Working Group on the Development of a new Strategic Framework (SF-WG) should convene back-to-back with C 116;
- .2 that the Trends, Developments and Challenges (TDCs) were a necessary and fundamental next step in a new strategic framework;
- .3 that the collection of input to the TDCs from Member States as well as IGOs and NGOs in consultative status should be an inclusive and transparent process;
- .4 that the Secretariat should issue a circular letter requesting input to the TDCs, as well as through other relevant means, such as the IMO website;
- .5 that the process for adopting a new strategic framework should be inclusive and that the preparatory drafts for consideration and further development by the Member States should be developed by the Secretariat and the external consultant; and

.6 that the filtering and selection of relevant issues were the sole responsibility of Member States.

5 The Council tasked the working group to:

.1 consider and further develop the TDCs based on the preparatory draft to be developed by the Secretariat and the external consultant;

.2 filter and select the relevant TDCs;

.3 consider paragraphs 4 and 5 of C 114/3/5 (Germany); and

.4 report the outcome of the working group to Council at its 116th session.

### **Adoption of the agenda**

6 The working group adopted its provisional agenda as set out in document SF-WG 2/1.

7 The Chairman had submitted document SF-WG 2/1/1<sup>1</sup> to the working group, setting out proposed working arrangements to ensure an efficient meeting. The working group agreed to the way forward, where initial discussion of the proposed TDCs would take place in six smaller groups. Despite some concern about the establishment of the six smaller groups to undertake an initial brainstorming exercise, the working group agreed to the establishment of the six smaller groups, based on the fact that the work to be carried out was unusual and therefore a novel approach might be warranted.

8 Each of the smaller groups was randomly allocated four of the 24 developments listed in the annex to SF-WG 2/1/1. Participation in each of the smaller groups was at the discretion of each individual delegation. It can be confirmed that there was a fair distribution both in terms of numbers and delegations attending the working group within each of the smaller groups.

9 It was also agreed that the outcomes of the small groups were merely to be used as an initial brainstorming exercise for the working group, and that delegations would not be bound in any way by the outcomes of the smaller groups.

### **Consideration and further development of the trends, developments and challenges**

10 The Council had forwarded the outstanding matters in paragraphs 4 and 5 of document C 114/3/5 (Germany) to the working group for consideration. As these paragraphs dealt with agendas and timetables for efficient preparation of meetings, the working group agreed that these issues should be kept pending for a later stage when the formulation of outputs would be discussed.

11 Following a brief presentation by the Secretariat of documents C 116/4/1 and SF-WG 2/2, the external consultant, Mr. Michael Brazukas, reiterated some relevant points regarding the process of developing a new strategic framework as well as his recommendations and guidance to facilitate the discussion of the working group, as set out in SF-WG 2/2/1.

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<sup>1</sup> See also SF-WG 2/1/1/Corr.1

12 The working group agreed that the discussion should take place around the four questions posed by the external consultant:

.1 Does the development fit with the IMO mission areas? If so, how?

.2 Does the development significantly impact the Member States? If so, how?

The working group agreed that when answering this question, the matter should also be considered in the wider context of impact on the maritime community as a whole, i.e. also taking into account industry interests among others.

.3 Is the development likely to occur in the next six-year period? If so, when?

.4 If IMO were to address the development, would it be able to make a significant difference? If so, how?

The working group agreed that the answer to this question was not in relation to which actions IMO should take in response to the development, but rather if IMO took action to address the development, would IMO be able to make a significant, some or limited impact on the development.

13 The small groups reported back on their findings to the working group. These findings have been collated and are set out in annex 1 to this document.

14 The working group noted the draft TDCs as set out in C 116/4/1. Views were expressed that C 116/4/1 may not include all the issues in respect of trends, developments and challenges that the maritime community may face during the period 2018-2023. Some members of the working group also expressed the view that they did not agree with all the information and data provided in the document C 116/4/1. However, the working group recognized it represented a reflection of the inputs received from Member States, IGOs and NGOs<sup>2</sup>. Further, it was agreed that any specific concerns should be raised directly to the Council at its 116th session.

15 The working group considered the 24 developments set out in C 116/4/1 and listed in the annex to SF-WG 2/1/1. The working group was in agreement that the identification of new developments is not to be a way of circumventing existing procedures related to proposals for new outputs.

16 In relation to developments 1 to 5, the working group agreed that these were issues internal to IMO, and IMO was the leading entity. Furthermore, many of these matters were ongoing, but it was agreed that development 2 "Assessing the effectiveness of IMO regulations" and 4 "Uniform implementation" would be of increasing importance in the 2018-2023 period.

17 The working group agreed that development 11 "Utilization of big data" should be viewed as an overarching tool to underpin many of the other developments.

18 The working group agreed to change the name of development 13 from "Cybersecurity" to "Cyber risks", the reason being that it was recognized that the development was broader than just security, and also had an impact on, for example, safety.

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<sup>2</sup> All inputs available on the IMO website: <http://www.imo.org/en/About/strategy/TDC/Pages/default.aspx>

19 Taking into account IMO's mandate, the working group agreed that the title of development 17 "Marine pollution" was too broad and agreed to rename the development "Pollution from shipping activities".

20 In relation to development 18 "Air Pollution and Energy Efficiency", the working group noted that one of the major global challenges, climate change, was not specifically listed as a development in the annex to document SF-WG 2/1/1, despite the reference to climate change in the trends section of C 116/4/1, under section 2 – 2030 Agenda for Sustainable Development, as well as section 4 – Energy Efficiency and Climate Change.

21 The working group agreed to rename development 19 "Emerging Environmental Issues".

22 In relation to development 20 "Crewing and fatigue", the working group had a substantial discussion on this development, in particular that crewing and fatigue are not solely the responsibility of IMO, as such there were different views on whether IMO could address this development. It was noted that IMO is currently reviewing the IMO guidelines on fatigue, and that implementation of minimum safe manning requirements is the responsibility of the Member States. Whilst it was recognized that manning levels contribute significantly to fatigue, the working group concluded that there were a large number of contributing factors to be considered, when endeavouring to address the increasingly important issue of seafarer fatigue. Views were also expressed that the information in paragraphs 139-141 of C 116/4/1 were possibly not accurate and noted that the data in figure 37 is over a decade old.

23 After much discussion, the working group agreed that fatigue is a broad challenge and that manning is only one factor that contributes to fatigue. As a result of the in-depth discussions and recognizing that 1) fatigue is multi-faceted and 2) that crewing is an important but not the single contributing factor to fatigue, the working group agreed to separate the development into two separate developments. In doing so it was recognized that development in respect to crewing is an ongoing issue for the industry and that for the 2018-2023 period this would be a new development for IMO. In recognizing that it is a new development for IMO, it was reiterated that recognition of a new development did not circumvent existing procedures related to new outputs.

24 It should be noted that when considering whether or not IMO could make a difference in addressing fatigue, it was highlighted that fatigue was a complex issue requiring substantiated data in order for IMO to be able to make a significant impact. The working group recognized that without substantiated data for the 2018-2023 period, IMO could make some impact, rather than a significant one.

25 In relation to development 23 "Sustainable development in the maritime space, the working group recognized that for the 2018-2023 period the field of ocean governance will increase within the United Nations System. The working group recognized that not all elements of ocean governance fall within the mandate of IMO, but agreed that IMO could make a significant difference in the areas where IMO is the primary entity and recognized that in other aspects of ocean governance, IMO should contribute as a supporting entity. The working group agreed that ocean governance was a standalone development but that the challenge of sustainable development of activities in the marine space is the element most likely to present challenges to IMO in respect of safety, navigation and environmental protection. As such, the working group changed the title to "Ocean Governance and sustainable development of activities in the marine space".

26 The working group noted that development 24 "Participation in and coordination with UN Initiatives" was presented in the context of Ocean Governance. As a result of the discussions, the working group agreed that the interests of international shipping should be represented at other United Nations bodies discussing maritime issues that relate to the mandate of IMO. The working group noted that participation of IMO could inform discussions at other United Nations bodies. As a result, the working group agreed this development should be viewed in the wider United Nations context and not merely in relation to ocean governance.

27 The outcome of the discussions of the working group are summarized in three tables presented in annex 2 to this document:

- .1 Table 1 presents the working group's deliberations when answering the four questions in paragraph 11;
- .2 Table 2 presents the developments based on the working group's identification of those developments that are closely connected. This may not be the full picture as some developments are connected to several other developments; and
- .3 Table 3 presents the developments in three groups, significant, some and limited impact, summarizing the deliberations of the working group when answering question 4 in paragraph 11, i.e. if IMO were to address the development, would it be able to make a significant difference?

28 Some concerns were raised about the process going forward, including how the technical committees of IMO would be involved in the continued development of the new strategic framework.

#### **Any other business**

29 No issues were raised under this agenda item.

#### **Action requested of the Council**

30 The Council is requested to note the report of the working group in general and to utilize the outcome in annex 2 in the continued work with the development of a vision statement and the strategic directions for the Organization.

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## ANNEX 1

### COMMENTS OF THE SMALL GROUP'S CONSIDERATION OF THE TRENDS, DEVELOPMENTS AND CHALLENGES

(English only)

The information in this annex is the collated responses of the informal discussions of the six small groups that undertook an initial triage of the developments and challenges presented in C 116/4/1.

The information below is the summary presented to the Working Group on the Development of a New Strategic Framework (the Working Group) by the six small groups. This is provided as background information only.

It should be noted that for the purposes of the text included in this annex, the term "the group" should be taken in the context of the individual small group's informal consideration of a particular issue and not as the view of Working Group

#### **1. Development and review of IMO regulations**

"a) Yes, it is a fundamental ongoing task of the IMO arising from Member State issues, maritime accidents, port state control and flag state oversight.

b) Yes, effective global regulation has a positive effect on Member States as it eliminates the need to allocate resources for the development of unilateral and regional regulations.

c) Yes, the process is ongoing, reflecting the dynamic nature of the shipping environment.

d) Yes, this activity makes a significant difference, however new regulations should be implemented after a thorough disciplined approach supported by management tools (risks, safety, organisational, environmental), coupled with a programme of continuous review and improvement."

#### **2. Assessing the effectiveness of IMO regulations**

"The group agreed that there is likely to be an increasing expectation placed on IMO to ensure that Regulations are effective in delivering its objectives and providing a regulatory landscape that responds to the 2030 Agenda and other developments.

The group agreed that the assessment of the effectiveness of regulations was a good fit with IMO mission areas relating to the delivery of safe and secure and environmentally sound shipping.

With regard to the effect on Member States the group agreed that effective regulations could improve implementation and help effective targeting of resources. However, the group also noted that a continuous process of assessment of effectiveness of regulations could have budgetary implications and require increased demand for delegate attendance at meetings. The group noted that this may disproportionately impact on LDC and SIDS.

The group agreed that effective assessment needs comprehensive data and noted that any move to formally assess effectiveness should initially focus on issues for which data already exist. Particular caution must be exercised to avoid placing additional demands on shipping at a time when the eradication of administrative burdens is high on the agenda. It also noted that ensuring effective regulation would have impacts on the industry along with Member States.

The group also agreed that criteria to assess effectiveness could be defined for new regulations at the development stage.

The group agreed that the need for effective regulations is already a pressing issue for IMO but that pressure is likely to continue to build.

The group agreed that ensuring effective regulations should make a significant difference. The suggested benefits for the Organization are in respect of enhanced reputation as the single competent body for maritime regulation; enhanced efficiency of work due to a substitution of ad-hoc approach with a planned approach and a confirmation of the relevance of IMO on the international stage to ensure that full participation by Member States is maintained.

The group concluded that this is a relevant issue and furthermore is extremely important for the purposes of facilitating sustainable development.

The group also took note of the view that the effectiveness of regulations should encompass application to shipping of a non-international nature but also noted that this approach could conflict with regional arrangements."

### **3. Improving the IMO's working practices**

"1. As an answer to the first question, the answer is Yes, Improvement of IMOs working practices falls in the IMO's mission, and in the view of the group improvement of IMOs working practises must also be a continuous goal to IMO.

2. When considering, if the development significantly does impact the Member States, the group had the view that the improvement of IMO working practices is crucial for Member States in meeting IMO's demands in a timely manner.

3. And when considering if the development will likely to occur in the next six-year period the group had the unanimous view: This is a continuous work; and not specifically important only for a specific cycle. As one of our colleagues stated elegantly: It was important yesterday, it is important today and will be important tomorrow.

4. When answering the fourth questions the group had a view that we should strive towards continuous improvement of IMO working practices."

### **4. Uniform Implementation**

"(I) Does the development fit with the IMO mission areas? Is so, how?

#### **IMO Mission Statement, as per A.1097(29)**

**The mission of the IMO, as a United Nations specialized agency, is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation.**

**This will be accomplished by adopting the highest practicable standards of maritime safety and security, efficiency of navigation and prevention and control of pollution from ships, as well as through consideration of the related legal matters and effective implementation of IMO instruments, with a view to their universal and uniform application.**

#### **Question 1**

Answer is YES.

Uniform implementation is the back bone of each of IMO mission areas and it underpins the totality of IMO works.



It is specifically mentioned the accompanying sentence of the mission statement in A.1097(29) "this will be accomplished (...) through effective implementation of IMO instruments, with a view to their universal and uniform application"

## **Question 2**

**Does the development significantly impact the Member States? If so, how?**

Answer is YES.

The lack of uniform implementation gives rise to market distortions and prevents a level playing field for flag States.

It is difficult for states to implement when the meaning is not clear, consuming additional resources.

(SOLAS tacit amendment makes the text less readable)

**Question 3 Is the development likely to occur in the next six year period? If so, when?**

Answer is YES

This challenge could not strictly speaking be considered as a development, as the issue of uniform implementation is a continuous and already ongoing issue.

**Question 4 If IMO were to address the development, would it be able to make a significant difference? If so how?**

Answer is YES.

Elements that fall under the remit of IMO and could be specifically addressed within IMO include the following:

- Establishing a process for feedback or assessment of the implementation of regulations
- Clear and unambiguous wording of future regulations
- Making the "intent" of the rule available. Larger use of the solutions available such as annexes 2 and 3 of MSC1/1500. (it explains the drafting process, how it was created and why, and then how to write it, including a checklist and elements to be covered).
- A more targeted approach to allocation of available technical cooperation to support uniform implementation.
- It was noted that the effectiveness of IMSAS is yet to be proven."

## **5. Reduction of administrative burdens**

**"Q1: Does the development fit with the IMO mission? How?"**

Group noted the work undertaken by the IMO/Council on AB and encourages maintaining strict adherence obedience to Council recommendations in order to tackle AB in the future.

Reduction of AB assists with the efficiency of shipping operations and assists to the elimination of fatigue of seafarers. Reduction of AB has direct effect on the enhancement of safety of ships/crew and environmental protection. Tackling AB greatly assists developing countries in better utilising human resources. On board ships, seafarers will have 'free' hands to deal with safety, security and environmental everyday issues rather than performing 'secretarial' duties.

**Q2: does the development impact Member States? How?**

Tackling AB has a direct positive effect. Group noted that some ABs originate from application of individual states of the IMO related regulations (national interpretation). This development within an IMO process, will have an indirect positive effect on individual members to review their own processes and requirements on the shipping industry. Member States will also benefit from having more available personnel to address IMO related issues of safety/security/environmental protection, should AB be managed and controlled appropriately.

**Q3: likely to occur in the next 6 years? when?**

AB is ongoing and continue to exist in the future. Group noted that ABs will never be eliminated but there is an urgent need to be managed appropriately and kept within acceptable and necessary level. Current technology exist, and proper utilization may therefore assist enormously in the elimination of ABs within the next 6 year period.

Group noted the potential that a group of ABs might have to reach a critical stage at some future time, and hence, that necessitates the handling of AB and the proper management on an **urgent and continuous footing**.

Group noted current lack of resources within maritime administrations (especially with developing countries) to deal with management of data in relation to the GISIS modules.

Group noted and advise that 'Single window' general concept could be expanded and used in an appropriate manner to handle administrative requirements before they are upgraded to become ABs. (Related to point 7)

Group noted that capacity building programs should be encouraged along with shared platforms of handling administrative reporting.

The impact of new/amended IMO regulations should be kept in mind at the introduction stage in order to achieve maximum benefit. (Related to points 1, 2)

**Q4: if IMO were to address the development, would it be able to make a significant difference? How?**

IMO could encourage cooperation between relevant stakeholders including the transfer of suitable technologies to enable developing countries to facilitate proper administrative handling of the IMO conventions.

IMO should aim toward the reduction of overlapping or unnecessary and obsolete regulations.

IMO attempts to promote acceptance of electronic documents in general (related to 6).

Group noted the negative potential of AB on seafarers. IMO should assess the administrative burden of IMO regulations on seafarers at regular intervals."

**6. Electronic transmission of information, including electronic certificates**

"1. As an answer to the first question the group had the unanimous view: yes, electronic transmission of information, including electronic certificates is clearly a core mission for IMO.

2. When considering if the development will have significant impact on the Member States, the answer was that this development will ensure efficiency and simplifications for all stakeholders. The electronic exchange of information is crucial as it reduces administrative burdens for ships, industry as well as for administrations. The establishment of such systems however, can be a costly process and may be a challenge for some countries to implement. Thus, it is necessary to find good solutions, for example through technical cooperation.

3. In the view of the group this development is an ongoing process/ issue, bearing in mind that some processes covered under this development have target dates.

4. When the group was discussing if IMO could make a significant difference on the development the answer was yes, IMO will provide a legal framework to electronic transmission of information, including electronic certificates to achieve a level playing field for flag States."

## **7. Single Window Approach**

### **"Question 1 Does the development fit with the IMO mission areas? If so, how?"**

The answer is YES.

The development fits with the IMO mission related to efficiency of navigation and facilitation. (Facilitation is included in a reference document provided to us but does not appear in the IMO mission statement).

### **Question 2**

The answer is YES

Trade is currently impeded due to lack of uniform single window approach.

Member states find it difficult to start due to a lack of a single approach and uniform format.

Fatigue onboard caused by administrative burden poses a risk to maritime safety.

### **Question 3 - Is the development likely to occur in the next six-year period? If so, when?"**

The answer is YES.

It is an on-going issue, not a development as such.

### **Question 4 - If IMO were to address the development, would it be able to make a significant difference? If so, how?"**

The answer is YES.

IMO could make a significant difference by addressing the following issues:

- How IMO can avoid having a large number of different SWAs in different Member States, for example by providing a prototype for SWA, or at least establish a strategy, a main principle, then possibly a framework or standards dealing with the format to be used.
- A prototype SWA would decrease the need for TC funding for individual states.

Amongst the significant impacts of the development, our group has listed the following:

- Increase the speed of transferring data for trade purposes and reduce administrative burden.
- Reduction of administrative burden onboard ships (safety, fatigue)
- Remove difficulties linked to the existence of individual or national SWA and the lack of a uniform format"

## **8. Security**

### **"Q1: Does the development fit with the IMO mission? How?"**

Security is directly related to the mission of the IMO affecting the whole scope of it. There are still areas in the world where security of ships is endangered. There are aspects/effects of piracy that are directly linked to the mission of the IMO.

### **Q2: does the development impact Member States? How?"**

Member States are impacted via the implementation of the ISPS code. Security plans for ships and ports developed and seafarers trained and implemented security provisions. Extra personnel needed with specialised security training, training for ashore personnel, seafarers, companies adapted their existing systems. New procedures in place to deal with additional administrative requirements etc.

Member States involved in counter-piracy operations in specific geographical regions including prosecution of pirates and putting in place appropriate national legislation.

Seafarers are directly affected. Implemented anti-piracy measures on board, armed security guards, hostages etc.

### **Q3: likely to occur in the next 6 years? When?"**

Piracy: Current issue and foreseen to continue to exist in the next 6 years. Cyberattacks by pirates (example provided) is dealt with point 13 of Group 4.

Security: Risk for security incident will continue to exist.

### **Q4: if IMO were to address the development, would it be able to make a significant difference? How?"**

Group noted that IMO should continue to address the issue of security. However, group is unable to determine if IMO would make a significant difference as it was unclear if there is a mechanism of assessing the effectiveness and the impact of existing legislation/procedures/voluntary measures."

## **9. Infrastructure facilities**

### **"Q1: Does the development fit with the IMO mission? How?"**

Infrastructure facilities play a role to facilitate international transportation, is a major part of international maritime security chain and provides environmental facilities (e.g. port reception facilities) for ships. Therefore they are partly related to the mission of the IMO.

### **Q2: does the development impact Member States? How?"**

The development of infrastructure facilities have a direct impact on each member by facilitating ever increasing ship size and more effectively and efficiently accommodating maritime trade.

### **Q3: likely to occur in the next 6 years? When?"**

Group noted that ever-increasing ship size in conjunction with increasing maritime trade will continue to present a challenge for the next 6 years. However, group noted that time taken to develop infrastructure necessitates timely responses from Member States.

**Q4: if IMO were to address the development, would it be able to make a significant difference? How?**

IMO would have a very limited impact on such a development because infrastructure development responsibility lies with the Member States.

However, group noted the importance of IMO capacity building in order to assist developing countries."

**10. Safe ship operation and navigation**

"a) Yes, this task represents a critical component of the IMO mission, a "Polar Star".

b) Yes, the impact is related to Member State structure, capability and needs. The capacity of individual Member States to address these impacts varies greatly.

c) Yes, the process is ongoing, reflecting the dynamic nature of the shipping environment.

d) Yes, this item promotes a culture of safety and the use of management tools on all levels of shipping."

**11. Utilization of big data**

"Q1. The group agreed that big data can be used as a tool for making informed decisions at IMO in relation to IMO's work on safety of navigation, marine environmental protection, security and the facilitation of international shipping. In this regard, the development fits with IMO's mission areas.

Q2. The group agreed that the utilisation of big data as described above would significantly impact Member States, in broadly two ways. The first was in the making of informed decisions, for example: in assessing the potential impact of proposed regulations, in the development of new regulations or in amending existing regulations, and in the effective implementation of existing regulations. The second area would be the administrative burden and/or additional costs to Member States, the industry and the IMO Secretariat.

Q3. The group agreed that this development was already taking place (e.g. GISIS, the data collection system for fuel consumption by international shipping) and would continue to have an influence on IMO's work over the next six-year period.

Q4. IMO's roles in the utilisation of big data would include: the development of parameters on the type and quality of data to be collected; the methodology for collecting and analysing data; and capacity building or technology transfer to help all Member States meet the requirements of data collection and utilisation."

**12. Automation and remote operations**

"Q1. The group agreed that this issue, to the extent that it involves shipping in international trade, was within IMO mission areas, particularly the safety of navigation.

Q2. The group noted that there were broadly three developments being referred to, namely: automation, the advent of remote operations and the future possibility of autonomous ships involved in international trade. The group agreed that these were all different stages of the same overarching trend of technological evolution. Technological evolution would impact Member States as it may require the development of new regulations or amendments to existing ones. The group also noted that legal and liability issues may arise from remote operations and autonomous ships, as existing conventions (including SOLAS and UNCLOS) were developed on the assumption of fully-manned ships.

Q3. The group agreed that technological evolution is an on-going process. The group noted the possibility that remote operations could become a reality within the next six-year period, though some members expressed doubts that autonomous ships for international trade would be a reality in the foreseeable future.

Q4. IMO would be responsible for developing regulations, or amendments to existing regulations, to address technological developments. With regard to remote operations and autonomous ships, IMO would need to discuss potential legal and liability issues."

### **13. Cybersecurity**

"a) Maritime cyber risk management is an upcoming issue the IMO will need to continue.

b) yes, and is becoming a more important consideration with the greater understanding and application of digital technology.

c) Yes, as the threat to security and safety is rapidly changing.

d) Yes, due to the potential damage from rapidly evolving threats to cyber security and cyber risk, the IMO should promote the development and utilisation of cyber risk management tools on ships."

### **14. Hydrographic surveys and nautical chart**

**"Q1: Does the development fit with the IMO mission? How?**

HS & NC directly related to safety of navigation and therefore part of IMO mission.

**Q2: does the development impact Member States? How?**

Direct impact to Member States. Updated charts support safer navigation and reduce the risk of maritime incidents.

**Q3: likely to occur in the next 6 years? when?**

Group noted increasing maritime traffic on new routes with larger vessels along with increase access to polar routes.

**Q4: if IMO were to address the development, would it be able to make a significant difference? How?**

IMO should recognise and promote hydrography as an important tool for efficient and safe maritime navigation and to assist in capacity building initiatives to expand hydrographic surveying.

However, group noted that IMO should maintain cooperation with the International Hydrographic Organization (IHO) who is considered the primary organization dealing with hydrographic surveys and nautical charts.

Group also noted SOLAS Chapter V, regulation 9 which requires contracting governments to undertake to arrange for the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation."

## **15. Ship design and ship building**

"The group noted that the main developments under this topic are increasing ship size; increasing expectations of ship performance and efficiency, and the introduction of innovative technologies and materials.

It was clear to the group that these developments are of critical importance to the role and work of the IMO.

The developments do have an impact on Member States as they imply a need for development of personnel who have the technical competence to be able to deal with the challenges that arise in matching innovative technologies and unconventional materials to existing regulations. Member States also have a need to be able to provide delegates to IMO meetings who can assist in the development of appropriate technical provisions for design and operation.

Increasing size of ships; use of unconventional fuels and increasing demands for emission-free operations in ports bring challenges to Member States in providing the necessary infrastructure to ensure that disruption to maritime transportation is avoided.

The developments described are experienced at the present time and are expected to continue to evolve in the future. This means that IMO must continue efforts to remain apprised of current technological developments and anticipated future developments.

The group agreed that IMO must continue to ensure that regulations are goal-based in order that the intent of provisions are clearly understood. This will provide the necessary flexibility to apply to innovation to maintain and improve safety levels. IMO must also ensure that there is no stifling of innovation.

The Group agreed that this development is relevant and of critical importance to the IMO. However, the group also noted the comment that IMO must continue all efforts to ensure that developing states are not disadvantaged in the formulation of new requirements."

## **16. Propulsion systems and alternative fuels**

**"Question 1 - Does the development fit with the IMO mission areas? If so, how?"**

Answer is YES.

Supporting the use of these clearly comes under the goal to "Promote environmentally sound, efficient and sustainable shipping" also relate to safety (of vessels).

**Question 2 - Does the development significantly impact the Member States? If so, how?"**

The answer is YES.

The development is directly related to the large variety of new fuels being used and the difficulty to assess risks, on a uniform basis. The objective is related to environment but the problems raised are related to safety

It will have impacts for countries where ships trade. For example, impacts for ports and the provision of relevant infrastructure (bunkering, storage).

**Question 3 - Is the development likely to occur in the next six-year period? If so, when?"**

Answer is YES

On-going concern. Need to meet environmental regulatory timeframes. (EEDI)

**Question 4 - If IMO were to address the development, would it be able to make a significant difference? If so, how?**

Answer is YES.

IMO could make a significant difference by making sure new fuels meet safety and environmental requirements, but developing an open mind to examine new and existing regulatory frameworks in order to remove undue barriers to facilitate use of new types of fuels."

**17. Marine pollution**

"Q1. The group agreed that this was clearly within IMO's mandate, as evidenced by Article 1 of the IMO Convention and MARPOL.

Q2. The group noted that the consolidated inputs provided in C116/4/1 adequately presented the ways in which Member States would be impacted. The group made particular note of the environmental impact on Member States, increasing public focus thereof and the resulting political imperative. The group further noted that one of the immediate challenges for Member States, particularly port States, is the provision of adequate port reception facilities.

Q3. The group agreed that this was an on-going trend which would continue into the next six-year period.

Q4. The group noted that IMO would have a role to play in amending existing regulations or otherwise addressing implementation issues arising from existing regulations, for example in the case of the Ballast Water Management Convention. The group also noted that IMO may have to develop new regulations to address potential new sources of marine pollution (e.g. noise pollution). IMO would also have a role in providing capacity building for the effective implementation of IMO instruments, for those Member States that require it. The group noted the concerns raised by some members on the absence of regulations or standards for the treatment of garbage, ballast water sediment, etc. by port reception facilities before their disposal. The group agreed that this was a land-based issue and therefore not within IMO's mandate."

**18. Air pollution and energy efficiency**

"The group found this topic to be most difficult to discuss and thus, after quite thorough discussion the development number 18, the group would like to highlight as a general remark, the following:

Some delegates expressed concerns that document C 116/4/1, e.g. paragraph 129, does not reflect the current situation and the reality of the carbon footprint of shipping.

Furthermore, some delegates expressed concerns that one of the major global challenges, climate change, is not specifically listed as developments and challenges in the Annex to the document SF-WG 2/1/1, which was considered as an absence.

When considering the questions

- .1 The view of the Group was that yes, Air Pollution and Energy Efficiency is a core mission of IMO.
- .2 The development impact significantly on the Member States.



- .3 When discussing the timing of this challenge the group stated that the challenge is here and now. However, there are still issues that we need to address within the next six years, so this challenge will continue to be at the forefront of the IMO's agenda.
- .4 Addressing the challenge will make a significant difference on air quality and the environment as such. By increasing public awareness in relation to the Organization's goals and achievements in relation to the reduction of air emissions and improvement of energy efficiency IMO could make a significant difference. IMO and the Secretary General has a role in promoting shipping as the green transport alternative and also IMO's importance in achieving the UN Sustainable Development Goals."

### **19. Emerging environmental developments**

"a) Yes, the IMO needs to keep pace with emerging environmental issues.

b) Yes, there is a potential for significant injury to Member States if environmental problems are not addressed.

c) Yes, there is a continual need for monitoring new environmental risks, however no action may be required until a risk is identified by a competent agency (scientific etc.).

d) Yes, this requires a framework to embrace technology, support data collection and analysis so that the IMO is in position to take action on emerging environmental issues. The IMO should improve the public awareness of the success of its environmental regulations otherwise external pressure may impose harsher measures on shipping."

### **20. Crewing and fatigue**

**"Question 1 - Does the development fit with the IMO mission areas? If so, how?"**

Yes

With respect to maritime safety and environmental concerns, as well as efficient navigation.

But the group noted that individual regulation's on crewing and fatigue are not solely made by the IMO.

**Question 2 - Does the development significantly impact the Member States? If so how?"**

Group noted that this was not a new development.

Creates a risk for safety of navigation and to the environment.

Lack of implementation of minimum standards for crew is creating a safety risk and may also lead to an uneven playing field.

We were not able to answer the question.

#### **Question 3**

The problem of fatigue is an ongoing problem.

**Question 4 - If IMO were to address the development, would it be able to make a significant difference? If so, how?"**

The group was unable to reach a conclusion on this question but these were the points that were made in the discussion. They do not represent the agreed position of the group.

IMO is currently reviewing the guidelines on fatigue. Whether that will make a significant difference remains to be seen.

Better implementation of existing instruments could be achieved through port state control.

Human element should be addressed by encompassing all elements, not isolating one element.

But also education, training, and relation to new technologies.

Including an element on IMO regulations process to assess the impact of the new rule on crew fatigue.

IMO could address the issue but significant solutions could only be found with the help of ILO.

Lack of apprentice and the possibility to accommodate apprentice.

Open the door for new proposals by other parties such as training institutes.

Differing views on whether IMO can address the development.

Achieve better implementation on existing instruments STCW, manning, fatigue.

IMO could address the user friendliness of bridge platform."

## **21. Seafarer demand and possible manpower gap**

"The group noted the development as the perceived increasing shortage of well-qualified seafarers. However, the group also noted that the data provided in support of this development dated from 2010 and concluded that there is a need for updated data.

It was clear to the group that any prolonged shortage of seafarers could impact on the IMO's mission of safety etc.

The group noted that the manpower gap could be driven by weaknesses in recruitment and challenges to retention. To a great extent both of these are linked to the attractiveness of seafaring as a career. The group noted that shipping patterns continually change and that port stays tend to be shorter thus restricting the opportunity for shore leave. Other well-known restrictions on shore leave also exist.

The group also noted that progression to post-seafaring careers can be limited and many well-qualified individuals leave the industry completely before they achieve senior rank. This leads to an impact for Member States seeking to recruit personnel into their Administrations.

The efforts made by IMO such as the "Go To Sea" Campaign and the Day of the Seafarer are welcomed albeit that their impact is not quantified. Nevertheless the IMO must remain a strong advocate of seafaring as an attractive career. IMO must also continue with its efforts to remove all barriers to seafaring satisfaction e.g. administrative burdens.

The group also noted the heavy demands on seafarers in respect to training and assessment. Parallels were drawn to other professions that have routes to competence that feature far fewer obstacles to overcome. The group also noted that there is a general lack of recognition ashore for the level of education that is achieved through STCW.

The Group concluded that this is a relevant issue for the IMO but is unable to envisage it making a significant difference alone. However the group suggests that IMO continues its current efforts in respect of advocating seafaring but also looks at collaborations with WMU to investigate what conversion courses could be designed to achieve wider recognition ashore, and with ILO and others in efforts to enhance public understanding of the importance and professionalism of seafarers."

## **22. Seafarer education and training**

"1. The group considered once again that Seafarer education and training falls in a core mission of IMO.

2. Seafarer education and training impact significantly on the Member States through the number of qualified/competent seafarers to be available, especially now when both the change in working environments and also the technical developments are so rapid.

3. When considering the timing of this development the group had a lively debate and as a conclusion the group states that there is a fundamental need for standardization of equipment as well as the provisions of unified training standards for electronic navigation equipment. The e-navigation, single window concept and other will hopefully be finalized within the next six years. However, the group had a view that there is an ongoing need for unified training standards as such in other specific areas.

4. The IMO, especially the STW Committee would have a significant difference in addressing this development."

## **23. Sustainable development of activities in the marine space**

"The group noted the development as being one of ocean governance and extending wider than IMO's remit as provided for in the Convention. However, the increasing development of the marine space was thought to have an impact on IMO in respect of the potential impacts e.g. on safety of shipping from offshore power generation facilities etc.

The group noted SDG 14 and agreed that IMO must consider its role in the delivery of that goal. It also agreed that IMO does have a role in sustainable development and the protection of the marine environment in general.

The group could not immediately identify specific new impacts on Member States noting that the effects of illegal fishing and restrictions on the freedom of navigation are well-known.

The group agreed that the IMO must continue to fully engage with other players such as the International Seabed Authority and noted that the London Convention is currently developing its own Strategic Plan.

In conclusion the group agreed that it was difficult to conclude that this development currently impacts significantly on the Organization although it had the potential to do so in future.

The group noted that should such activities be found to disrupt or interfere with maritime transportation then action would need to be considered. However, there are no data to support action at this point in time and the group was not cognizant of any other developed plans that may require action over the period in question."

## **24. Participation in and coordination with UN initiatives**

"Q1. The group agreed that maritime-related developments at other UN bodies, such as those related to BBNJs and MPAs, would impact international shipping and therefore were within IMO's mandate. The group agreed that IMO was the only body with the necessary technical expertise and mandate to deal with international shipping.

Q2. The group noted that given the potential impact on international shipping, there would, at minimum, be an impact on Member States that are flag States, Member States that supply seafarers to international shipping, and the shipping industry. The group considered whether there would be a significant administrative burden or cost impact on Member States or the IMO Secretariat. The group agreed that since IMO's involvement in this issue would effectively be an extension of its existing work on PSSAs, any incremental administrative burden or other cost should be tolerable.

Q3. The group noted that a legal instrument on the conservation and sustainable use of BBNJs was already being discussed by the UN DOALOS, with possible adoption before the end of 2016. This issue was therefore an on-going one and would likely continue into the next six-year period.

Q4. The group agreed that that the interests of international shipping should be protected at other UN bodies discussing maritime-related issues. As regards the specific role of the IMO Secretariat, the group agreed that the IMO Secretariat should participate in these other UN bodies to monitor discussions, raise awareness of related work at IMO and to report back to IMO Member States. The group noted that aside from promoting IMO's achievements, the Secretariat's participation could inform discussions at other UN bodies, by sharing IMO's experience and the instruments / guidelines that IMO has in place to deal with similar issues. For example, IMO has in place a comprehensive set of guidelines for the designation of PSSAs, which could be offered as reference material to other UN bodies during their discussions on the designation of MPAs."

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**ANNEX 2**

**Table 1: Summary of discussion**

	<b>Does the development fit with the IMO mission areas? If so, how?</b>	<b>Does the development significantly impact the Member States? If so, how?</b>	<b>Is the development likely to occur in the next six-year period? If so, when?</b>	<b>If IMO were to address the development, would it be able to make a significant difference? If so, how?</b>
<b>1. Development and review of IMO regulations</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
<b>2. Assessing the effectiveness of IMO regulations</b>	Yes	Yes	Ongoing with increasing need	IMO is the leading entity – internal issue
<b>3. Improving IMO's working practices</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
<b>4. Uniform Implementation</b>	Yes	Yes	Ongoing with increasing need	IMO is the leading entity – internal issue
<b>5. Reduction of administrative burdens</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
<b>6. Electronic transmission of information, including electronic certificates</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>7. Single window Approach</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>8. Security</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity
<b>9. Infrastructure facilities</b>	Yes	Yes	Ongoing development	IMO can have limited impact on the development – mainly in the area of capacity building and technical cooperation
<b>10. Safe ship operation and navigation</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>11. Utilization of big data</b>	Yes	Yes	Ongoing development and increasing	IMO can have some impact on the development – overarching topic

	Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
<b>12. Automation and remote operations</b>	Yes	Yes	Ongoing development and development related to remote operations and autonomous ships likely to increase	IMO can have a significant impact in respect of this issue. IMO will need to monitor the development, in respect of the potential impacts on safety, environmental protection as well as legal and liability issues.
<b>13. Cyber risks</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity
<b>14. Hydrographic surveys and nautical chart</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity and recognizes the role of IHO and the Member States
<b>15. Ship design and ship building</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development in particular in the field of emerging and innovative technologies – IMO is the leading entity
<b>16. Propulsion systems and alternative fuels</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have a significant impact on the development in particular in the field of emerging and innovative technologies – IMO is the leading entity
<b>17. Pollution from shipping activities</b>	Yes	Yes	Ongoing development	IMO can have a significant impact – IMO is the leading entity
<b>18. Air pollution and energy efficiency</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have a significant impact on the development – IMO is the leading entity
<b>19. Emerging environmental issues</b>	Yes	Yes	Ongoing issue that can be used as tool to inform issues 17 and 18	IMO can have some impact but recognizes that IMO also relies upon and responds to information/ data from external sources

	Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
<b>20. Crewing</b>	Yes	Yes	Ongoing development for industry, new development for IMO	IMO could have a significant impact – recognizing that Member States currently have the leading role
<b>20bis. Fatigue</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development, recognizing that fatigue is a multi-faceted issue.
<b>21. Seafarer demand and possible manpower gap</b>	Yes	Yes	Ongoing development	IMO has limited impact on the development – IMO has a promotional role to play
<b>22. Seafarer education and training</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>23. Ocean governance and sustainable development of activities in the maritime space</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO has a leading role in some areas of the development, and as such IMO can have a significant impact in these areas, while recognizing that in other aspects IMO can contribute as a supporting entity.
<b>24. Participation in and coordination with UN initiatives</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have some impact on the development – IMO is a supporting entity.

**Table 2: Summary of discussion by connected development**

	<b>Does the development fit with the IMO mission areas? If so, how?</b>	<b>Does the development significantly impact the Member States? If so, how?</b>	<b>Is the development likely to occur in the next six-year period? If so, when?</b>	<b>If IMO were to address the development, would it be able to make a significant difference? If so, how?</b>
<b>1. Development and review of IMO regulations</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
<b>2. Assessing the effectiveness of IMO regulations</b>	Yes	Yes	Ongoing with increasing need	IMO is the leading entity – internal issue
<b>3. Improving IMO's working practices</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
<b>4. Uniform Implementation</b>	Yes	Yes	Ongoing with increasing need	IMO is the leading entity – internal issue
<b>5. Reduction of administrative burdens</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
<b>11. Utilization of big data</b>	Yes	Yes	Ongoing development and increasing	IMO can have some impact on the development – overarching topic
<b>6. Electronic transmission of information, including electronic certificates</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>7. Single window Approach</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>8. Security</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity
<b>9. Infrastructure facilities</b>	Yes	Yes	Ongoing development	IMO can have limited impact on the development – mainly in the area of capacity building and technical cooperation
<b>10. Safe ship operation and navigation</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity



	Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
<b>12. Automation and remote operations</b>	Yes	Yes	Ongoing development and development related to remote operations and autonomous ships likely to increase	IMO can have a significant impact in respect of this issue. IMO will need to monitor the development, in respect of the potential impacts on safety, environmental protection as well as legal and liability issues.
<b>14. Hydrographic surveys and nautical chart</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity and recognizes the role of IHO and the Member States
<b>12. Automation and remote operations</b>	Yes	Yes	Ongoing development and development related to remote operations and autonomous ships likely to increase	IMO can have a significant impact in respect of this issue. IMO will need to monitor the development, in respect of the potential impacts on safety, environmental protection as well as legal and liability issues.
<b>15. Ship design and ship building</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development in particular in the field of emerging and innovative technologies – IMO is the leading entity
<b>16. Propulsion systems and alternative fuels</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have a significant impact on the development in particular in the field of emerging and innovative technologies – IMO is the leading entity
<b>13. Cyber risks</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity

	Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
<b>17. Pollution from shipping activities</b>	Yes	Yes	Ongoing development	IMO can have a significant impact – IMO is the leading entity
<b>18. Air pollution and energy efficiency</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have a significant impact on the development – IMO is the leading entity
<b>19. Emerging environmental issues</b>	Yes	Yes	Ongoing issue that can be used as tool to inform issues 17 and 18	IMO can have some impact but recognizes that IMO also relies upon and responds to information/ data from external sources
<b>20. Crewing</b>	Yes	Yes	Ongoing development for industry, new development for IMO	IMO could have a significant impact – recognizing that Member States currently have the leading role
<b>20. bis. Fatigue</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development, recognizing that fatigue is a multi-faceted issue.
<b>21. Seafarer demand and possible manpower gap</b>	Yes	Yes	Ongoing development	IMO has limited impact on the development – IMO has a promotional role to play
<b>22. Seafarer education and training</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
<b>23. Ocean governance and sustainable development of activities in the maritime space</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO has a leading role in some areas of the development, and as such IMO can have a significant impact in these areas, while recognizing that in other aspects IMO can contribute as a supporting entity.
<b>24. Participation in and coordination with UN initiatives</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have some impact on the development – IMO is a supporting entity.

**Table 3: Summary of discussion listed into three categories – significant/some/limited impact**

		Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
Significant impact	<b>1. Development and review of IMO regulations</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
	<b>2. Assessing the effectiveness of IMO regulations</b>	Yes	Yes	Ongoing with increasing need	IMO is the leading entity – internal issue
	<b>3. Improving IMO's working practices</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
	<b>4. Uniform Implementation</b>	Yes	Yes	Ongoing with increasing need	IMO is the leading entity – internal issue
	<b>5. Reduction of administrative burdens</b>	Yes	Yes	Ongoing	IMO is the leading entity – internal issue
	<b>6. Electronic transmission of information, including electronic certificates</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
	<b>7. Single Window Approach</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
	<b>10. Safe ship operation and navigation</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
	<b>12. Automation and remote operations</b>	Yes	Yes	Ongoing development and development related to remote operations and autonomous ships likely to increase	IMO can have a significant impact in respect of this issue. IMO will need to monitor the development, in respect of the potential impacts on safety, environmental protection as well as legal and liability issues.

		Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
	<b>15. Ship design and ship building</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development in particular in the field of emerging and innovative technologies – IMO is the leading entity
	<b>16. Propulsion systems and alternative fuels</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have a significant impact on the development in particular in the field of emerging and innovative technologies – IMO is the leading entity
	<b>17. Pollution from shipping activities</b>	Yes	Yes	Ongoing development	IMO can have a significant impact – IMO is the leading entity
	<b>18. Air pollution and energy efficiency</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have a significant impact on the development – IMO is the leading entity
	<b>20. Crewing</b>	Yes	Yes	Ongoing development for industry, new development for IMO	IMO could have a significant impact – recognizing that Member States currently have the leading role
	<b>20.bis Fatigue</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development, recognizing that fatigue is a multi-faceted issue.

		Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
	<b>22. Seafarer education and training</b>	Yes	Yes	Ongoing development	IMO can have a significant impact on the development – IMO is the leading entity
	<b>23. Ocean governance and sustainable development of activities in the maritime space</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO has a leading role in some areas of the development, and as such IMO can have a significant impact in these areas, while recognizing that in other aspects IMO can contribute as a supporting entity.
Some impact	<b>8. Security</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity
	<b>11. Utilization of big data</b>	Yes	Yes	Ongoing development and increasing	IMO can have some impact on the development – overarching topic
	<b>13. Cyber risks</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity
	<b>14. Hydrographic surveys and nautical chart</b>	Yes	Yes	Ongoing development	IMO can have some impact on the development – IMO is a supporting entity and recognizes the role of IHO and the Member States

		Does the development fit with the IMO mission areas? If so, how?	Does the development significantly impact the Member States? If so, how?	Is the development likely to occur in the next six-year period? If so, when?	If IMO were to address the development, would it be able to make a significant difference? If so, how?
	<b>19. Emerging environmental issues</b>	Yes	Yes	Ongoing issue that can be used as tool to inform issues 17 and 18	IMO can have some impact but recognizes that IMO also relies upon and responds to information/data from external sources
	<b>24. Participation in and coordination with UN initiatives</b>	Yes	Yes	Ongoing development, but increasing in importance	IMO can have some impact on the development – IMO is a supporting entity.
Limited impact	<b>9. Infrastructure facilities</b>	Yes	Yes	Ongoing development	IMO can have limited impact on the development – mainly in the area of capacity building and technical cooperation
	<b>21. Seafarer demand and possible manpower gap</b>	Yes	Yes	Ongoing development	IMO has limited impact on the development – IMO has a promotional role to play