

1ST SESSION OF THE IHO ASSEMBLY

Monaco, 24-28 April 2017



PROPOSED REVISED IHO STRATEGIC PLAN

- Redline version**
- Clean version**

IHO STRATEGIC PLAN ~~2009~~2017

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1. PREAMBLE

Hydrography is the branch of applied science which deals with the measurement and description of the physical features of oceans, seas, coastal areas, lakes and rivers, as well as with the prediction of their change over time, for the primary purpose of safety of navigation and in support of all other marine activities, including economic development, security and defence, scientific research, and environmental protection.

The International Hydrographic Organization (IHO) is an inter-governmental consultative and technical organization, governed by an international Convention. Its members are the Governments Parties to this Convention. Established in 1921, the IHO is a competent international organization, as referred to in the United Nations Convention on the Law of the Sea. It primarily supports the safety of navigation and the protection of the marine environment, and coordinates on a worldwide basis the setting of standards for the production of hydrographic data and the provision of hydrographic services in accordance with the SOLAS Convention. It also facilitates capacity building of national hydrographic services. It provides a forum at international level for the improvement of hydrographic services through the discussion and resolution of hydrographic issues and it assists member governments to deliver these services in the most cost effective way through their national hydrographic offices. The IHO Convention is subject to a protocol of amendments which is under ratification.

The work of the Organization is guided by two core documents:

- a strategic plan;
- a multi-annual work programme.

2. VISION, MISSION AND OBJECT

*The **vision** of the IHO is to be the authoritative worldwide hydrographic body which actively engages all coastal and interested States [and relevant intergovernmental and other international organizations](#) to advance maritime safety and efficiency and which supports the protection and sustainable use of the marine environment.*

*The **mission** of the IHO is to create a global environment in which States provide adequate, [standardized](#) and timely hydrographic data, products and services and ensure their widest possible use.*

*The **object** of the IHO is [proposed set out](#) in Article II of the ~~amended~~ Convention. [on the IHO as amended](#). It shall be the object of the Organization:*

- (a) To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography;
- (b) To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services;

- (c) To improve global hydrographic capability, capacity, training, science and techniques;
- (d) To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;
- (e) To give authoritative and timely guidance on all hydrographic matters to States and international organizations;
- (f) To facilitate coordination of hydrographic activities among the Member States; and
- (g) To enhance cooperation on hydrographic activities among States on a regional basis.

3. STRATEGIC ASSUMPTIONS

The strategic assumptions are identified as “strengths” (S), “weaknesses” (W) “opportunities” (O) or “threats” (T) for the implementation of IHO objectives.

1. Status of hydrographic services / Benefits and beneficiaries

- 1.1 An adequate [data-centric](#) hydrographic infrastructure is an essential geospatial foundation layer ~~(O)~~ [to support the move to an open data environment.](#) (O)
- 1.2 There is globally still insufficient awareness (and therefore funding) about the level, [value](#) and importance of hydrographic services. ~~(W)~~

[1.3 Training standards and regulations must keep up with technological developments.](#) (O/W)

2. Political and societal trends

- 2.1 Globalization ~~will continue to increase the demands on maritime trade and coordinated support services.~~ (O)
- 2.2 ~~Growing~~ [The development of the Blue Economy and environmental concerns, related in particular to climate change](#) awareness will generate increasing demands and wider uses for hydrographic information beyond solely core navigational safety use. (O)
- 2.3 Human performance in all sections of the maritime industry (including shipping) is a major concern in terms of safety. (O/W)

3. Economic and market related trends

- 3.1 90-% of the world trade is conducted through maritime routes and presently 800 major ports, a figure that is growing, and is a key dependency for the world economy. (O)
- 3.2 Maritime industry is an indispensable partner within the hydrographic community. (O)
- 3.3 Long term investment is required to provide and maintain an appropriate hydrographic infrastructure and the benefits are indirect. (W)

[3.4 Multinational projects are a fundamental resource.](#) (O)

4. Technological trends

- 4.1 Technological developments (digital era, [ENC](#), high rate communication systems, [sensor technology and integrated services](#) and precise positioning systems) are a major driving force for changes ~~(O)~~ [and require interoperable data management and portrayal.](#) (O)

[4.2 Crowd-sourcing has high potential](#) (O)

5. Legal and regulatory trends

- 5.1 The provision of hydrographic services by contracting governments will remain regulated at the international level by the SOLAS Convention. (S~~-~~)
- 5.2 National and international [regulations/policies](#) are developing ~~about~~[that encourage or require](#) mandatory [open](#) data exchange/distribution/access for natural risk mitigation, protection of the environment and the competitive development of value added downstream services. (O/T~~-~~)
- 5.3 There will be increased regulation with regard to security that will require earlier and more detailed information on vessel movements and will potentially increase control over vessels within national waters. (O~~-~~)

4. STRATEGIC DIRECTIONS

Taking into account the strategic assumptions, the IHO will pursue the following strategic directions, in order to fulfil its mission and objectives:

1. Strengthen the role and effectiveness of the IHO

The IHO will continue its leading role as the competent international organization on all hydrographic matters by responding more efficiently and effectively to the needs of the maritime community, government, science and industry for hydrographic data, products and information through:

- 1.1 implementing proactive, efficient and dynamic procedures and mechanisms that respond effectively to emerging trends, developments and challenges;
- 1.2 closer and more effective cooperation with [relevant intergovernmental and](#) other international organizations, in order to respond to cross-agency issues and thereby promote coherence and efficiency;
- 1.3 engaging the various stakeholders, including non-governmental international organizations, government, industry, academia and others, in the technical work of its bodies, in order to ensure a more inclusive approach to decision-making and the optimum use of high fidelity data;
- 1.4 developing, improving, promulgating and promoting clear, uniform, global hydrographic standards to enhance safety of navigation at sea, protection of the marine environment, maritime security, [port and coastal zone management](#) and economic development;
- 1.5 promoting the role of hydrography in supporting relevant related ocean sciences.

2. Facilitate global coverage and use of official hydrographic data, products and services

The IHO will strive to achieve global coverage and availability of high quality official hydrographic ~~–~~data, information, products and services necessary for safety of navigation at sea and for non-navigational uses, e.g. by means of the developing spatial data infrastructure, through:

- 2.1 coordinating effectively Member State activities for the provision of coherent, [consistent](#), standardized and well-coordinated hydrographic services, in accordance with regulation 9 of Chapter V of the SOLAS Convention;
- 2.2 enhancing and supporting cooperation on hydrographic activities among States on a regional basis under the aegis of the Regional Hydrographic Commissions;
- 2.3 expanding membership of the IHO;
- 2.4 encouraging and supporting the establishment of new Hydrographic Offices;

- 2.5 encouraging and supporting the development and promotion of integrated navigation systems and geospatial data infrastructures;
- 2.6 promoting the use of new technologies and the opportunities offered by globalization ~~and~~, international cooperation ~~and~~ [crowd-sourcing](#).

3. **Raise global awareness of the importance of hydrography**

The IHO will champion the awareness at national, regional and global levels of the [value](#), importance and benefits of hydrography and the provision of hydrographic services for all marine activities, through:

- 3.1 ensuring that the role and responsibilities of national Hydrographic Offices are clearly understood at all levels in the marine and public communities;
- 3.2 supporting and promoting the [benefits/value](#) of national Hydrographic Offices and hydrographic [surveying](#) programmes;
- 3.3 bringing the [value and](#) importance of hydrography on issues affecting safety of navigation at sea, protection of the marine environment, [disaster preparedness and response](#), maritime security and economic development to the attention of ~~International Organizations~~ [relevant intergovernmental and other international organizations](#), funding agencies, national governments, maritime stakeholders and others;
- 3.4 preparing and promoting education and outreach programmes which ~~involve~~ fostering a well-informed citizenry and creation of public awareness of the [value and](#) importance of hydrography and its role in daily life.

4. **Assist Member States to fulfil their roles**

The IHO will help and support its Member States in fulfilling their present roles and in meeting future demands and requirements as effectively and efficiently as possible, through;

- 4.1 acting as a focal point and forum for all hydrographic matters;
- 4.2 supporting national initiatives aimed at [obtaining better hydrographic information and](#) developing and enhancing hydrographic infrastructure;
- 4.3 encouraging bilateral and regional cooperation on hydrographic and related matters;
- 4.4 strengthening the IHO capacity-building programme in order to better support the needs of Member States, especially those developing their capabilities from maritime safety information through surveying to nautical charting and marine spatial data infrastructure.

5. **WAYS AND MEANS**

5.1 **Planning and review cycles**

The planning and review cycles for the Strategic Plan ~~and~~, the Work Programme ~~and the Budget~~ are ~~fixed by the administrative resolution T5.1 set out in IHO Resolution 12/2002 as amended~~.

The inter-sessional ~~supervision~~ [monitoring and achievement](#) of the Strategic Plan, ~~the Work Programme and Budget~~ is ~~coordinated/undertaken~~ by the ~~International Hydrographic Bureau (IHB) until the Council is established~~.

5.2 **Risk analysis and mitigation**

An analysis is conducted during the preparation of the Work Programme in order to:

- ~~(a)~~ —identify the [significant](#) risks associated with each ~~strategic direction~~ [Strategic](#)

Direction in the Strategic Plan, understand how and when they arise, identify the stakeholders, and

- ~~(b)~~—estimate their likelihood of occurrence and impact on the IHO, its Member States and other stakeholders if any (~~egfor example: IMO~~), and
- ~~(e)~~—identify the range of mitigating actions required, responsible owners/stakeholders, priority/dates assigned to them with any resource requirement that will be needed.

The Work Programme is designed to implement the ~~strategie directions~~Strategic Directions while mitigating these risks.

A risk management framework is set out in Annex A.

5.3 Work Programme

The Work Programme covers the period starting on ~~1st~~ January of the year following the ordinary session of the ~~International Hydrographic Conference (the International Hydrographic Conference to be replaced by the~~ Assembly ~~when the Assembly is established)~~ and ending on ~~31st~~31 December of the year of the next ordinary session.

The Work Programme is divided into the following three programmes:

- ~~(a)~~—*Corporate Affairs* under the responsibility of the ~~International Hydrographic Bureau (to be replaced by the~~ Secretary General ~~when the revised IHO Convention enters into force)~~,
- ~~(b)~~—*Hydrographic Services and Standards* under the responsibility of the relevant Committee (HSSC),
- ~~(e)~~—*Inter Regional Coordination and Support* under the responsibility of the Inter Regional Coordination Committee (IRCC),

~~according to the responsibilities of the main organs of the IHO which are summarized in Annex B.~~

The HSSC programme includes the activities to be conducted by its subordinate bodies as well as by inter-organizational bodies that report to the HSSC.

The IRCC programme includes the activities to be conducted by its subordinate bodies as well as by the Regional Hydrographic Commissions and by inter-organizational bodies that report to the IRCC.

Activities of individual Member States which are relevant to the implementation of the ~~strategie directions~~Strategic Directions are listed in the appropriate programme.

Each item of the programmes identifies:

- ~~(a)~~—the strategic direction to which it refers,
- ~~(b)~~—~~any stakeholder~~the principal stakeholders outside the IHO, ~~if any~~, that ~~is~~may be affected,
- ~~(e)~~—the key deliverables and associated milestones, as appropriate,
- ~~(d)~~—the lead authority and participants, if any,
- ~~(e)~~—the estimated resources from the IHO budget, ~~(f)~~—when significant, and
- other resources when significant,
- ~~(h)~~ the ~~performance indicator(s) against which progress is monitored~~risk to delivery when significant.

The Work Programme is reviewed annually ~~underby~~ the ~~supervision of the IHB, Council~~ in

~~consultation liaison~~ with the ~~chairs~~ Chairs of the HSSC and IRCC ~~(the IHB in consultation with the chairs of HSSC and IRCC to be replaced by the Council when the Council is established)~~. IRCC.

6. PROGRESS MONITORING

6.1 *Monitoring Mechanism*

The mechanism to monitor the implementation of the Strategic Plan and identify any needs for revision includes the following elements:

- ~~_____~~ the definition of ~~performance indicators~~ Performance Indicators (PIs) against which progress in implementing the strategic directions is periodically assessed;
- the review of progress with ~~strategic directions~~ Strategic Directions through the ~~performance indicators~~ Performance Indicators;
- the review of the adequacy of the ~~strategic directions~~ Strategic Directions in relation with the progress made and with the ~~strategic assumptions~~ Strategic Assumptions on which they are based;
- the review of the ongoing validity of the ~~strategic assumptions~~ Strategic Assumptions themselves since they were first set, in relation to the objectives of the ~~organization~~ Organization and taking into account any subsequent changes in
 - ~~_____~~ status of hydrographic services / benefits and beneficiaries,
 - ~~_____~~ political and societal trends,
 - ~~_____~~ economic and market related trends,
 - ~~_____~~ technological trends,
 - ~~_____~~ legal and regulatory trends.

Taking into account the object of the Organization and the ~~strategic directions~~ Strategic Directions, the Work Programme will be measured by indicators which should show critical items / risk factors, picture of productivity (considering, among others, budget factor) and the level of achievement of ~~strategie objectives~~ the Strategic Objectives. They should also indicate future trends: forecast upturn / downturn.

The periodicity of measure should be annual, in accordance with the Work Programme review cycle.

At the end of the period of the Work Programme (every ~~five years until the revised IHO Convention enters into force and then every~~ three years) these indicators ~~will compose~~ provide a data source for the review of the Strategic Plan and / or the Work Programme.

6.2 *Implementation of Performance Indicators*

The implementation of ~~performance indicators~~ Performance Indicators is based on a two level approach: ~~strategie~~. *Strategic* level: PIs are established by the Assembly as a *top down* process, and *working level* PIs are established by the HSSC and IRCC and their subordinate bodies as a *bottom up* process:

- Strategic Level PIs (SPIs): a small number of PIs associated with the objectives of the IHO (1 or 2 ~~PIs~~ SPIs per objective), to be agreed by the ~~Conference (the Conference to be replaced by the Assembly when the revised IHO Convention enters into force) and Assembly~~ and managed by the ~~IHB (the IHB to be replaced by the~~ Secretary General and the Council ~~when the revised IHO Convention enters into force)~~; (see Annex B for current list)
- working level: Working Level PIs (WPIs): PIs associated with the ~~strategie directions~~ Strategic Directions to be agreed and managed by the ~~appropriate~~ HSSC and IRCC and their subsidiary organs; ~~(see Annex C)~~.

In this perspective cross-references between the objectives, the ~~strategie directions~~ Strategic Directions and the PIs are arranged in the following way:

Objectives => ~~strategie~~ Strategic PIs => ~~strategie directions~~ Strategic Directions => responsible

organs => working level PIs

Accordingly, the 6.3 Assessment and Review

The assessment of the working level PIs and the review of progress within relation to the strategie directions Strategic Directions are considered in two phases: an initial review by the leading organ and an overall review by the IHB ~~(the IHB to be replaced by the~~ Secretary General and the Council ~~when the revised IHO Convention enters into force).~~.

Together with ~~the~~ an assessment of the strategie Strategic PIs, ~~these~~ the results of the working level PIs are ~~then~~ submitted for consideration by the Conference ~~(the Conference to be replaced by the~~ Assembly ~~when the revised IHO Convention enters into force).~~. The submission should include a qualitative and, where practicable, a quantitative assessment of progress based on the value of the PIs. It should also include recommendations on management actions to be considered where trends indicate either a lack of progress or a change to an underlying assumption/direction is required. In this way the aim can be maintained and evidence of progress monitored/presented.

The review of the strategic assumptions is prepared by the IHB ~~(the IHB to be replaced by the~~ Secretary General and the Council ~~when the revised IHO Convention enters into force)~~ for consideration by the Conference ~~(the Conference to be replaced by the~~ Assembly ~~when the revised IHO Convention enters into force).~~. The submission should include an analysis of the relevance of the strategic assumptions and recommendations on the changes to be considered.

Annex A

Risk management frameworkManagement Framework

1. RISK MANAGEMENT POLICY

1.1 Policy aim and objective

- to stimulate common risk management awareness within the IHO,
- to adopt a uniform ~~–risk –management –framework~~ and embed it in ~~IHO’s~~the IHO’s strategic planning processes,
- to proactively identify and analyse ~~IHO’s~~the IHO’s highest risk exposures and define the options to properly treat them,
- to select and implement the appropriate options which minimise the IHO’s exposure to risk in the most cost (both financial, and non-financial) effective way.

1.2 General Methodology

The IHO requires that identified risks are managed in such a way that they are not unduly threatening the strategic objectives and consequently the successful achievement of ~~IHO’s~~the IHO’s Mission. Risk management activities are therefore addressed at two levels:

- *strategic* level by the ~~IHB (the IHB to be replaced by the~~ Secretary General ~~when the revised IHO Convention enters into force)~~ and processed *top down*,
- *working* level by subordinate bodies under HSCC/IRCC and processed *bottom up*.

Both levels are merged through the Work Programme which is reviewed annually under the supervision of the ~~IHB, in consultation with the chairs of HSSC and IRCC (the IHB in consultation with the chairs of HSSC and IRCC to be replaced by the~~ Secretary General and the Council ~~when the revised IHO Convention enters into force).~~.

1.3 Roles and Responsibilities

The ~~IHB (the IHB to be replaced by the~~ Secretary General ~~when the revised IHO Convention enters into force)~~ is ultimately responsible to Member States for the ~~IHO’s~~IHO’s risk management. ~~He~~The Secretary-General has the responsibility for ensuring that the risk management framework is effectively implemented within the IHO and that its principles are communicated at all levels. ~~He~~The Secretary-General will also provide the necessary profile to advance a risk management culture in IHO, including participation in its monitoring and reporting.

The ~~IHB, in consultation with the chairs of HSSC and IRCC, (the IHB, in consultation with the chairs of HSSC and IRCC, to be replaced by the~~ Secretary-General and the Council ~~when the revised IHO Convention enters into force)~~, ~~is~~are responsible for the routine oversight of the IHO’s risk management programme, its implementation, agreeing risk tolerances and treatment and their regular monitoring.

2. RISK MANAGEMENT PROCESS

2.1 Context

~~IHO’s~~The IHO’s risk environment is ~~established~~determined by considering the trends and developments identified as relevant to ~~IHO’s~~the IHO’s strategic objectives. ~~The so-called strategic assumptions are~~

The Strategic Assumptions described in ~~chapter~~Chapter 3 of ~~this~~the Strategic Plan ~~and are labelled~~have been identified as “strengths” (S), “weaknesses” (W), “opportunities” (O), or “threats” (T). ~~These assumptions contain~~

The Strategic Assumptions introduce possible risks to the achievement of the associated ~~strategie~~strategic ~~directions (chapter 4)~~Strategic Directions set out in Chapter 4 that are intended to fulfil ~~IHO’s~~the IHO’s objectives and ultimately its mission, ~~and will. They are~~ therefore be the a logical starting point

for ~~an in-depth~~ risk identification.

2.2 Risk Identification

The ~~strategic directions~~ **Strategic Directions** (SD) are not necessarily independent of each other. Possible risks are firstly identified for each individual SD. During the risk assessment phase risks common to more than one SD ~~will~~ **may** be identified. Risks will be categorized ~~in~~ **as either** (1) *internal*, i.e. originating from within the IHO community, ~~and/or~~ (2) *external*. ~~The relevant strategic assumptions are indicated in brackets.~~

~~SD1— Strengthen the role and effectiveness of the IHO~~

Internal

- ~~—— lack of means (capacity/competence/budget) (1.2, 2.3)~~
- ~~—— lack of consensus „how“ (5.2, 5.3)~~
- ~~—— deficiency in standards (4.1)~~

External

- ~~—— technological developments too fast to cope (4.1)~~
- ~~—— national developments (political/legal) hamper cooperation (5.2)~~

~~SD2— Facilitate global coverage and use of official hydrographic data, products and services,~~

Internal

- ~~—— Member State (MS) not able to comply (2.3, 3.3)~~
- ~~—— MS not aware of the level of importance to comply (1.2)~~
- ~~—— lack of consensus “how” (5.2, 5.3, 3.1)~~
- ~~—— deficiency in standards (4.1)~~

External

- ~~—— lack of means (capacity/competence/budget) (3.3)~~
- ~~—— technological developments too fast to cope (4.1)~~
- ~~—— national developments (political/legal) hamper cooperation (5.2)~~

~~SD3— Raise global awareness of the importance of hydrography~~

Internal

- ~~—— lack of means (capacity/competence/budget) (1.2, 2.3)~~

External

- ~~—— lack of knowledge/competence/interest (2.3)~~

~~SD4— Assist Member States to fulfil their roles~~

Internal

- ~~—— lack of means (capacity/competence/budget) (1.2, 2.3)~~

External

- ~~—— national developments (political/legal) hamper cooperation (5.2)~~

2.3 Risk Assessment

Identified risks need to be assessed in relation ~~with~~ **to** their potential severity of impact and ~~with~~ their probability of occurrence. The risk assessment should produce such information for the management of the ~~organization~~ **Organization** that the primary risks are easy to understand and that the risk management decisions may be prioritized. The accepted formula for risk quantification is:

Rate of occurrence (or **probability**) multiplied by the numerical indicator of the **impact of the event** equals **risk**

A five-category approach is considered adequate:

Probability of occurrence within the time frame of the work programme:

- 5 – extreme
- 4 – high
- 3 – medium
- 2 – low
- 1 – negligible

Impact of the event on the IHO:

- 5 – extreme – threatens survival of the IHO
- 4 – high - threatens credibility of the IHO
- 3 – moderate –threatens present structure of the IHO
- 2 – low – shift of focus/means
- 1 – negligible – solved within existing process/structure of the IHO
- 0 – absent – nil impact

Based on this approach, the identified risks are assessed as follows:

<i>Internal</i>	<i>Prob.</i>	<i>Impact</i>	<i>Risk</i>
- <u>lack of means (capacity/competence/budget) (1.2, 2.3)</u>	4	4	16
- <u>lack of consensus „how“ (5.2, 5.3, 3.1)</u>	3	4	12
- <u>Member State (MS) not able to comply (2.3, 3.3)</u>	4	5	20
- <u>MS not aware of the level of importance to comply (1.2)</u>	3	4	12
- <u>deficiency in standards (4.1)</u>	4	4	16
<i>External</i>			
- <u>technological developments too fast to cope (4.1)</u>	3	4	12
- <u>national developments hamper cooperation (5.2)</u>	3	2	06
- <u>lack of means (capacity/competence/budget) (3.3)</u>	4	4	16
- <u>lack of knowledge/competence/interest (2.3)</u>	4	3	12

The following prioritisation of SD"s follows from this risk assessment:

Sum of risks

(1)	<u>SD2 Facilitate global coverage and use of official hydrographic data, products and services</u>	94
(2)	<u>SD1 Strengthen the role and effectiveness of the IHO</u>	62
(3)	<u>SD3 Raise global awareness of the importance of hydrography</u>	28
(4)	<u>SD4 Assist Member States to fulfil their roles</u>	22

~~One can observe that the score for probability and impact differs from one SD to another. From this assessment it becomes clear that the realisation of SD2 is directly linked to the "survival~~

of IHO” and other SD’s much less and a risk score calculated for each risk.

The risk to the relevant SD’s may then be prioritised as significant or otherwise, based on the risk score.

2.4 Risk Treatment

Given the nature of the identified risks the treatment is to be found in “reduction” and “retention”. As *internal* risks are within the direct influential sphere/control of the IHO it makes sense to initially identify the ~~three~~ most relevant and significant risks at a strategic level, *i.e.*; in other words, those which threaten the accomplishment of ~~SD’s~~ Strategic Directions and ultimately the ~~mission~~ Mission of the IHO, and decide on an effective treatment.

(1) SD2:	Member State (MS) not able to comply (2.3, 3.3)	4	5	20
	lack of consensus „how“ (5.2, 5.3, 3.1)	3	4	12
(2) SD1&4:	lack of means (capacity/competence/budget) (1.2, 2.3)	4	4	16

When a MS is not able to comply with **SD2**, IHO has mechanisms (*i.e.* capacity building programmes through RHCs in the Work Programme, or support by individual HOs, *e.g.* drawing on the guidelines for the implementation of the WEND principles) in place to support the involved HO, and so reduce the risk. This confirms this risk has already been identified by the IHO. The solution to this particular situation however is also linked to both **SD1&4**, and therefore viable for their risks. If there is lack of means (capacity, competence, funding) to implement the existing mechanisms to support the involved HO it will still not timely comply with **SD2**. In this situation an individual HO can offer support; it is however essential that the way the support is executed is in line with the principles of IHO.

To mitigate the risk of MS’s not complying with **SD2**; it is essential that the management (IHB/Secretary General in conjunction with IRCC and RHC Chair) identifies (a) the number of possible HOs (lack of capacity; competence) involved, (b) a realistic (timely) estimate of the needed qualified capacity and funding (identifying shortcomings), and (c) if a supporting HO acts in accordance with the principles of the IHO (Capacity building; WEND).

An escalation mechanism could be considered if required: identified MS to be approached via IMO or directly through diplomatic channels to stress its responsibility.

The IHB (~~The IHB to be replaced by The Secretary General when the revised IHO Convention enters into force~~) (or RHC Chair) should preferably approach MS supported by individual HOs to verify the terms and conditions of this support. Action should be considered if these terms and conditions are not in accordance with agreed IHO principles.

In the interest of quality assurance of products (related to competence), IHO could put more emphasis on ISO certification of HOs.

External risks should also be addressed if they are deemed significant in terms of threatening the accomplishment of the Strategic Directions and ultimately the Mission of the IHO.

2.5 Implementation of the risk management plan

The An agreed treatment should be executed to reduce the identified significant risks. It ~~can~~ may be decided to select more risks to SDs and work out their “top down” *risk treatment*. ~~It is advised to also decide on possible risks from a bottom up perspective; this could be executed by subordinate bodies of the IHO in line with this framework.~~

2.6 Review and evaluation of the plan

Risk management is dynamic. It is therefore important to monitor, review and evaluate the risk management plan. To monitor the progress on the SDs, the ~~IHB (the IHB to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force)~~ and IHO

subordinate bodies will use the agreed performance indicators (PIs). ~~In case of deficiencies originated by identified risks, action should be taken in accordance with the agreed treatment/plan. The risk management plan should be reviewed, evaluated and updated annually by the IHB (the IHB to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force).~~

In case of deficiencies caused by identified risks, action should be taken in accordance with the agreed treatment/plan.

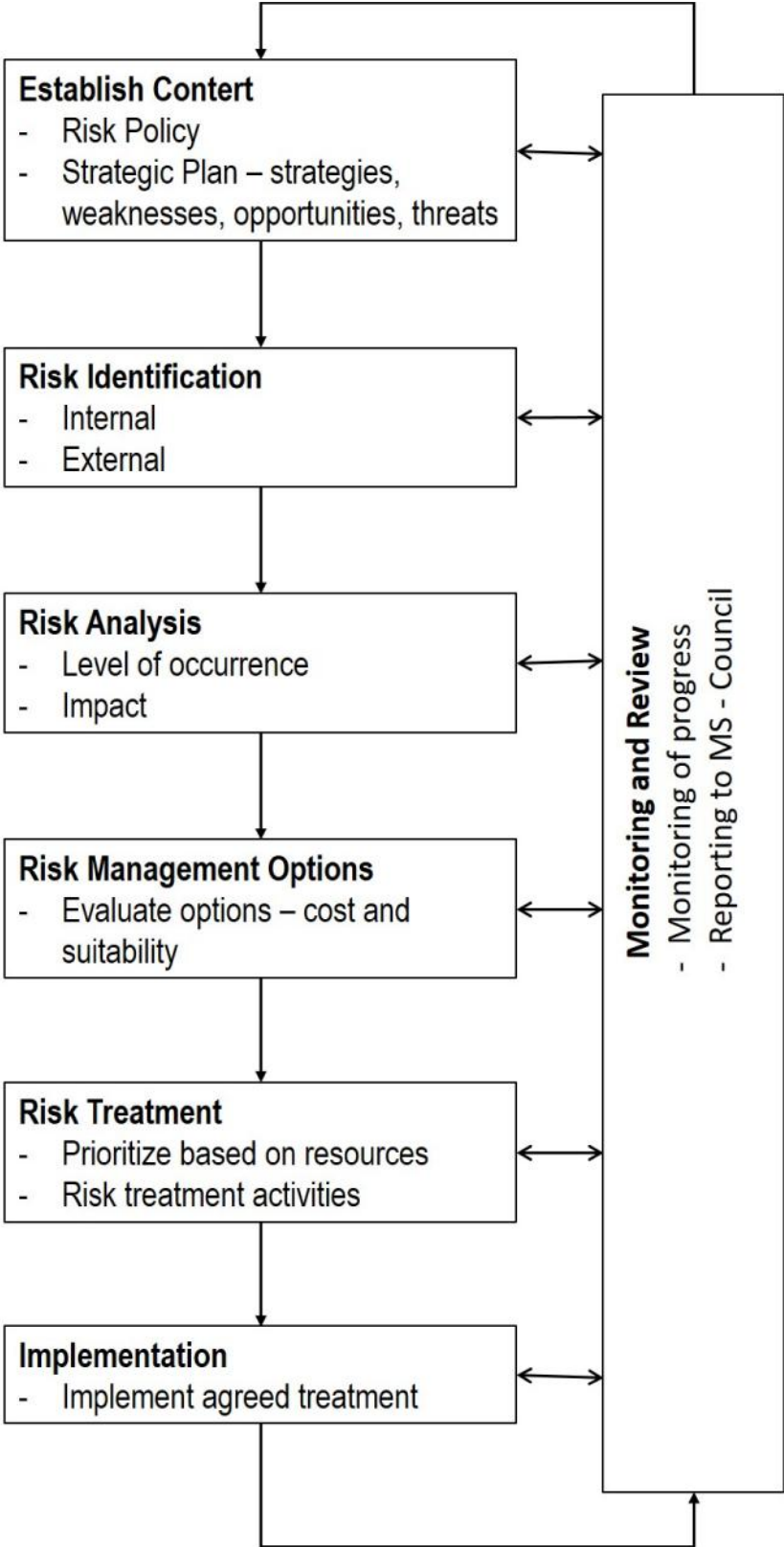
The risk management plan should be reviewed, evaluated and updated annually by the Secretary General and the Council.

The attached [schemediagram](#) summarizes the risk management process.

~~3. GLOSSARY~~

- ~~**Risk** — A combination of the probability of any risk event and its consequences (impact).~~
- ~~**Risk event** — Any event which may adversely impact on the ability of the IHO to meet its objectives.~~
- ~~**Risk management** — The process of identifying, assessing, communicating and mitigating risks impacting on the IHO's ability to meet its objectives.~~
- ~~**Risk tolerance** — A measurement of the IHO's willingness to accept risk, being the highest level of risk at which additional mitigating controls are not required.~~

SCHEMATIC REPRESENTATION OF THE RISK MANAGEMENT PROCESS



Annex B

Responsibilities of IHO organs

1. — ~~International Hydrographic Bureau (IHB)~~

~~Extract from the IHO General Regulations~~

~~(...)~~

~~The Directing Committee [of the IHB], taking into consideration the work of Committees and Working Groups, should present to all ordinary Conferences a Programme Budget proposal containing the work programme to be carried out during the following period, and the financial implications related to it, to be analyzed, discussed and decided upon at Plenary Session. The plan should be distributed to all Member States at least 4 months before the Conference.~~

~~(...)~~

~~The Directing Committee shall be guided by the IHO Strategic Plan and the Five Year Rolling Work Programme~~

2. — ~~Secretary General~~

~~Extract from the revised IHO General Regulations~~

~~(...)~~

~~The Secretary General shall:~~

~~(...)~~

~~(e) support the Council in preparing proposals concerning the overall strategy and the work programme;~~

3. — ~~Hydrographic Services and Standards Committee (HSSC)~~

~~Extract from terms of reference for the HSSC (CL 115/2007 of 10 December 2007)~~

~~Considering the need to promote and coordinate the development of standards, specifications and guidelines for official products and services to meet the requirements of mariners and other users of hydrographic information, the International Hydrographic Organization establishes a Hydrographic Services and Standards Committee (HSSC) with the following Terms of Reference and Rules of Procedure.~~

~~(...)~~

~~6. Prepare a Committee Work Program and propose it to each ordinary session of the International Hydrographic Conference (“each ordinary session of the International Hydrographic Conference” to be replaced by “the Assembly” via the Council when the Assembly and the Council are established). Consider and decide upon proposals for new work items under the Committee Work Program, taking into account the financial, administrative and wider stakeholder consequences and the IHO Strategic Plan and Work Program.~~

~~7. Monitor the execution of the Committee Work Program and report to each ordinary session of the International Hydrographic Conference (“ordinary session of the International Hydrographic Conference” to be replaced by “meeting of the Council” when the Council and Assembly are established), including an evaluation of the performance achieved.~~

4. — ~~Inter Regional Coordination Committee (IRCC)~~

~~Extract from terms of reference for the IRCC (CL 115/2007 of 10 December 2007)~~

~~Considering the need to promote and coordinate those activities that might benefit from a regional approach, and considering further that Capacity Building has been identified as a strategic objective, the International Hydrographic Organization establishes an Inter Regional Coordination Committee (IRCC) with the following Terms of Reference and Rules of Procedure.~~

~~(...)~~

~~6. Prepare a Committee Work Program and propose it to each ordinary session of the International Hydrographic Conference (“each ordinary session of the International Hydrographic~~

~~Conference” to be replaced by “the Assembly” via the Council when the Assembly and the Council are established). Consider and decide upon proposals for new work items under the Committee Work Program, taking into account the financial, administrative and wider stakeholder consequences and the IHO Strategic Plan and Work Program.~~

- ~~7. Monitor the execution of the Committee Work Program and report to each ordinary session of the International Hydrographic Conference (“ordinary session of the International Hydrographic Conference” to be replaced by “meeting of the Council” when the Council and Assembly are established), including an evaluation of the performance achieved.~~

ANNEX C STRATEGIC PERFORMANCE INDICATORS

Table 1

Strategic Performance Indicators

Objective	Strategic PIs	Reporting Period	Related Strategic Directions
(a) ₂ To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography.	SPI 1 Number and percentage of Coastal States providing ENC coverage directly or through an agreement with a third party. (Previous year figures in brackets)	Yearly	1.5; 2.5; 3.1; 3.2; 3.3; and 3.4
(b) ₂ To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services.	SPI 2 Growth in ENC coverage worldwide, as reported in the IHO on-line catalogue, relative to the existing gap in adequate coverage (as defined by IMO/NAV) from the benchmark 01 Aug. 2008.	Quarterly	2.1; and 4.2
	SPI 3 Percentage of Coastal States which provide hydrographic services, directly or through an agreement with a third party, categorized by CB phases, as defined by the IHO Capacity Building Strategy.	Yearly	
(c) ₂ To improve global hydrographic capability, capacity, training, science and techniques.	SPI 4 Percentage of “acceptable” CB requests which are planned. <i>(= Percentage of submitted CB requests that were approved)</i> SPI 4bis Percentage of planned CB requests which are subsequently delivered	Yearly	1.3; 2.3; 2.4; 3.4; and 4.4

Objective	Strategic PIs	Reporting Period	Related Strategic Directions
(d). To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques –and to achieve the greatest possible uniformity in –the use of these standards.	SPI 56 Number of standards issued (including new editions), per category: - hydrographic standards to enhance safety of navigation at sea, - protection of the marine environment, - maritime security, - economic development.	Yearly	1.3; and 1.4
(e). To give authoritative and timely guidance on all hydrographic matters to States and international organizations.	SPI 67 Number of potential new IHO MS (indicated by the start of the application process) relative to the number of “non-IHO” IMO MS.	Quarterly	1.1; 1.2; 2.6; and 4.1
(f). To facilitate coordination of hydrographic activities among the Member States.	SPI 78 Increase in participation / membership in RHCs.	Yearly	2.1; and 4.3
(g). To enhance cooperation on hydrographic activities among States on a regional basis.	SPI 89 Percentage of available / agreed ENC [production] schemes.	Yearly	2.2; 2.3; and 4.3

Table 2

Assignment of the strategic directions to the appropriate IHO organs and suggested working level performance indicators

Strategic directions	Responsible organ	Working level PIs		Related Objectives
1.1 implementing proactive, efficient and dynamic procedures and mechanisms that respond effectively to emerging trends, developments and challenges.	IHB / Secretary General	WPI 1-	Percentage of IHO MS participation in the main IHO organs during the reporting period	e
		WPI 2-	Response ratio to IHO CL during the reporting period.	
		WPI 3-	Specific examples of changes made (e.g. implementation of S100) in the reporting period.	
		WPI 4-	Number of times the IHB is required to respond to external demands without notice (or without opportunity to consult with MS).	
		WPI 5-	Number of reactive circular letters published each year (the fewer the better).	

Strategic directions	Responsible organ	Working level PIs		Related Objectives
1.2 closer and more effective cooperation with other international organizations, in order to respond to cross-agency issues and thereby promote coherence and efficiency.	IHB / Secretary General	WPI 6-	Number and names of relevant international organizations with which agreements are established.	e
		WPI 7-	Qualitative assessment of progress with such agreements including any noteworthy successes that promote the partners' positions.	
1.3 engaging the various stakeholders, including non-governmental international organizations, government, industry, academia and others, in the technical work of its bodies, in order to ensure a more inclusive approach to decision-making and the optimum use of high fidelity data.	IHB / Secretary General	WPI 8-	Qualitative and quantitative assessment of the attendance by stakeholders in key IHO meetings and a shorty qualitative statement of any noteworthy benefits/outcomes delivered as a result	e and d

Strategic directions	Responsible organ	Working level PIs		Related Objectives
1.4 developing, improving, promulgating and promoting clear, uniform global hydrographic standards to enhance safety of navigation at sea, protection of the marine environment, maritime security and economic development.	HSSC	WPI 9-	Percentage of standards considered up to date.	d
		WPI 10-	Number of standards issued (including new editions), per category (safety of navigation at sea, protection of the marine environment, maritime security and economic development) in the reporting period.	
		WPI 11-	Percentage of standards considered adequately implemented/enforced	
1.5 promoting the role of hydrography in supporting relevant related ocean sciences.	HSSC	WPI 12-	Number of events (including a letters, meetings, seminars, publications, Web actions for this purpose) during the reporting period.	
		WPI 13-	Assessment of the effectiveness of the events based on specific feedback.	

Strategic directions	Responsible organ	Working level PIs		Related Objectives
		WPI 14-	Increase in proportion of IHO web site hits and enquiries to IHO for advice / assistance.	
2.1 coordinating effectively Member State activities for the provision of coherent, standardized and well-coordinated hydrographic services, in accordance with regulation 9 of Chapter V of the SOLAS Convention.	IRCC	WPI 15-	Growth in ENC coverage worldwide, as reported in the IHO on-line catalogue, relative to the existing gap in adequate coverage (as defined by IMO/NAV) from the benchmark 01 Aug. 2008.	b and f
		WPI 16-	Number of additional IHO MS starting to produce & maintain (with/without support) relevant ENCs (contributing to 'adequate coverage') in the reporting period relative to those already producing at 01 Aug. 2008.	
		WPI 17-	Percentage of Coastal States delivering hydrographic services categorized by CB phases (MSI services, surveying capabilities, charting capabilities); directly or through an agreements with a third party, at the end of the reporting period.	

Strategic directions	Responsible organ	Working level PIs		Related Objectives
		WPI 18-	Percentage of IHO MS updating their C-55 entry regarding hydrography survey, INT charts, ENC, and MSI in the reporting period	
2.2—enhancing and supporting cooperation on hydrographic activities among States on a regional basis under the aegis of the Regional Hydrographic Commissions.	IRCC	WPI 19-	Status of hydrographic surveys in each region.	g
		WPI 20-	Percentage of agreed INT chart schemes, percentage of INT charts available.	
		WPI 21-	Percentage of agreed ENC schemes, percentage of ENC available.	
		WPI 22-	Increase in effective MS participation in RHC activities.	
2.3—expanding membership of the IHO.	IRCC	WPI 23-	Percentage of Coastal States which are IHO Member States;	e and g
		WPI 24-	Number of new Coastal States joining the IHO during the reporting period.	

Strategic directions	Responsible organ	Working level PIs		Related Objectives
		WPI 25-	Number of potential new IHO MS (indicated by the start of the application process) relative to the number of “non-IHO” IMO MS.	
2.4 encouraging and supporting the establishment of new Hydrographic Offices	IRCC	WPI 26-	Percentage of Coastal States which have achieved phase 1, 2 or 3 and established a National Hydrographic Office.	e
		WPI 27-	Number of States which have achieved phase 1, 2 or 3 and established a National Hydrographic Office in the reporting period.	
2.5 encouraging and supporting the development and promotion of integrated navigation systems and geospatial data infrastructures.	HSSC	WPI 28-	Percentage of Coastal States which provide ENC coverage directly or through an agreement with a third party.	a
		WPI 29-	Percentage of Coastal States which have set up a national geospatial infrastructure.	
2.6 promoting the use of new technologies and the opportunities offered by globalization and international cooperation.	IHB/Council	WPI 30-	To be determined in relation with the relevant Work Programme	e

Strategic directions	Responsible organ	Working level PIs		Related Objectives
3.1 ensuring that the role and responsibilities of national Hydrographic Offices are clearly understood at all levels in the marine and public communities.	IRCC	WPI 31-	Number of promotion actions in the reporting period along with feedback indicators of notable impact.	a
		WPI 32-	Number of invitations received and taken up to participate in engagement with other government agencies / maritime interest groups in the reporting period.	
3.2 supporting and promoting the benefits of national Hydrographic Offices and hydrographic programmes.	IRCC	WPI 33-	Number of promotional events or activities conducted in the reporting period including letters, meetings, and seminars for this purpose.	a
3.3 bringing the importance of hydrography on issues affecting safety of navigation at sea, protection of the marine environment, maritime security and economic development to the attention of International Organizations, funding agencies, national governments, maritime stakeholders and others.	IRCC	WPI 34-	Number of participations in a national and international events in the reporting period year and specific examples of resultant successes.	

Strategic directions	Responsible organ	Working level PIs		Related Objectives
3.4 preparing and promoting education and outreach programmes which involve fostering a well-informed citizenry and creation of a public awareness of the importance of hydrography and its role in daily life.	IRCC	WPI 35-	Number of initiatives in the reporting period.	a and c
4.1 acting as a focal point and forum for all hydrographic matters.	IHB / Council	WPI 36-	Number of events dealing with hydrographic matters without any IHO participation in the reporting period.	e
4.2 supporting national initiatives aimed at developing and enhancing hydrographic infrastructure.	IRCC	WPI 37-	Number of initiatives in the reporting period	b
		WPI 38-	Number of requests for support met in the reporting period.	
		WPI 39-	Number of proactive measures taken during the reporting period to engage national hydrographic authorities.	
4.3 encouraging bilateral and regional cooperation on hydrographic and related matters.	IRCC	WPI 40-	Number of agreements signed in the reporting period, including bilaterals and RENC membership, etc.	f and g

Strategic directions	Responsible organ	Working level PIs		Related Objectives
<p>4.4 strengthening the IHO capacity building programme in order to better support the needs of Member States especially those developing their capabilities from maritime safety information through surveying to nautical charting and marine spatial data infrastructure.</p>	<p>IRCC</p>	<p>WPI 41-</p>	<p>Percentage of planned CB events that are achieved.</p>	<p>e</p>
		<p>WPI 42-</p>	<p>Number of acceptable CB requests received.</p>	
		<p>WPI 43-</p>	<p>Percentage of “acceptable” CB requests which are planned.</p>	

IHO STRATEGIC PLAN

2017

1. Preamble
 2. Vision / Mission / Object
 3. Strategic assumptions
 4. Strategic directions
 5. Ways and means
 - 5.1. Planning and review cycles
 - 5.2. Risk analysis and mitigation
 - 5.3. Work Programme
 6. Progress monitoring
- Annex A Risk management framework
Annex B Performance Indicators

1. PREAMBLE

Hydrography is the branch of applied science which deals with the measurement and description of the physical features of oceans, seas, coastal areas, lakes and rivers, as well as with the prediction of their change over time, for the primary purpose of safety of navigation and in support of all other marine activities, including economic development, security and defence, scientific research, and environmental protection.

The International Hydrographic Organization (IHO) is an inter-governmental consultative and technical organization, governed by an international Convention. Its members are the Governments Parties to this Convention. Established in 1921, the IHO is a competent international organization, as referred to in the United Nations Convention on the Law of the Sea. It primarily supports the safety of navigation and the protection of the marine environment, and coordinates on a worldwide basis the setting of standards for the production of hydrographic data and the provision of hydrographic services in accordance with the SOLAS Convention. It also facilitates capacity building of national hydrographic services. It provides a forum at international level for the improvement of hydrographic services through the discussion and resolution of hydrographic issues and it assists member governments to deliver these services in the most cost effective way through their national hydrographic offices. The IHO Convention is subject to a protocol of amendments which is under ratification.

The work of the Organization is guided by two core documents:

- a strategic plan;
- a multi-annual work programme.

2. VISION, MISSION AND OBJECT

*The **vision** of the IHO is to be the authoritative worldwide hydrographic body which actively engages all coastal and interested States and relevant intergovernmental and other international organizations to advance maritime safety and efficiency and which supports the protection and sustainable use of the marine environment.*

*The **mission** of the IHO is to create a global environment in which States provide adequate, standardized and timely hydrographic data, products and services and ensure their widest possible use.*

The **object** of the IHO is set out in Article II of the Convention on the IHO as amended. *It shall be the object of the Organization:*

- a. To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography;
- b. To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services;

- c. To improve global hydrographic capability, capacity, training, science and techniques;
- d. To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;
- e. To give authoritative and timely guidance on all hydrographic matters to States and international organizations;
- f. To facilitate coordination of hydrographic activities among the Member States; and
- g. To enhance cooperation on hydrographic activities among States on a regional basis.

3. STRATEGIC ASSUMPTIONS

The strategic assumptions are identified as *strengths* (S), *weaknesses* (W) *opportunities* (O) or *threats* (T) for the implementation of IHO objectives.

1. **Status of hydrographic services / Benefits and beneficiaries**
 - 1.1 An adequate data-centric hydrographic infrastructure is an essential geospatial foundation layer to support the move to an open data environment. (O)
 - 1.2 There is globally still insufficient awareness (and therefore funding) about the level, value and importance of hydrographic services. (W)
 - 1.3 Training standards and regulations must keep up with technological developments. (O/W)
2. **Political and societal trends**
 - 2.1 Globalization will continue to increase the demands on maritime trade and coordinated support services. (O)
 - 2.2 The development of the Blue Economy and environmental concerns, related in particular to climate change awareness will generate increasing demands and wider uses for hydrographic information beyond solely core navigational safety use. (O)
 - 2.3 Human performance in all sections of the maritime industry (including shipping) is a major concern in terms of safety. (O/W)
3. **Economic and market related trends**
 - 3.1 90% of the world trade is conducted through maritime routes and presently 800 major ports, a figure that is growing, and is a key dependency for the world economy. (O)
 - 3.2 Maritime industry is an indispensable partner within the hydrographic community. (O)
 - 3.3 Long term investment is required to provide and maintain an appropriate hydrographic infrastructure and the benefits are indirect. (W)
 - 3.4 Multinational projects are a fundamental resource. (O)
4. **Technological trends**
 - 4.1 Technological developments (digital era, ENC, high rate communication systems, sensor technology and integrated services and precise positioning systems) are a major driving force for changes and require interoperable data management and portrayal. (O)
 - 4.2 Crowd-sourcing has high potential (O)

5. Legal and regulatory trends

- 5.1 The provision of hydrographic services by contracting governments will remain regulated at the international level by the SOLAS Convention. (S)
- 5.2 National and international policies are developing that encourage or require mandatory open data exchange/distribution/access for natural risk mitigation, protection of the environment and the competitive development of value added downstream services. (O/T)
- 5.3 There will be increased regulation with regard to security that will require earlier and more detailed information on vessel movements and will potentially increase control over vessels within national waters. (O)

4. STRATEGIC DIRECTIONS

Taking into account the strategic assumptions, the IHO will pursue the following strategic directions, in order to fulfil its mission and objectives:

1. Strengthen the role and effectiveness of the IHO

The IHO will continue its leading role as the competent international organization on all hydrographic matters by responding more efficiently and effectively to the needs of the maritime community, government, science and industry for hydrographic data, products and information through:

- 1.1 implementing proactive, efficient and dynamic procedures and mechanisms that respond effectively to emerging trends, developments and challenges;
- 1.2 closer and more effective cooperation with relevant intergovernmental and other international organizations, in order to respond to cross-agency issues and thereby promote coherence and efficiency;
- 1.3 engaging the various stakeholders, including non-governmental international organizations, government, industry, academia and others, in the technical work of its bodies, in order to ensure a more inclusive approach to decision-making and the optimum use of high fidelity data;
- 1.4 developing, improving, promulgating and promoting clear, uniform, global hydrographic standards to enhance safety of navigation at sea, protection of the marine environment, maritime security, port and coastal zone management and economic development;
- 1.5 promoting the role of hydrography in supporting relevant related ocean sciences.

2. Facilitate global coverage and use of official hydrographic data, products and services

The IHO will strive to achieve global coverage and availability of high quality official hydrographic data, information, products and services necessary for safety of navigation at sea and for non-navigational uses, e.g. by means of the developing spatial data infrastructure, through:

- 2.1 coordinating effectively Member State activities for the provision of coherent, consistent, standardized and well-coordinated hydrographic services, in accordance with regulation 9 of Chapter V of the SOLAS Convention;
- 2.2 enhancing and supporting cooperation on hydrographic activities among States on a regional basis under the aegis of the Regional Hydrographic Commissions;
- 2.3 expanding membership of the IHO;
- 2.4 encouraging and supporting the establishment of new Hydrographic Offices;
- 2.5 encouraging and supporting the development and promotion of integrated navigation systems and geospatial data infrastructures;
- 2.6 promoting the use of new technologies and the opportunities offered by globalization, international cooperation and crowd-sourcing.

3. **Raise global awareness of the importance of hydrography**

The IHO will champion the awareness at national, regional and global levels of the value, importance and benefits of hydrography and the provision of hydrographic services for all marine activities, through:

- 3.1 ensuring that the role and responsibilities of national Hydrographic Offices are clearly understood at all levels in the marine and public communities;
- 3.2 supporting and promoting the value of national Hydrographic Offices and hydrographic surveying programmes;
- 3.3 bringing the value and importance of hydrography on issues affecting safety of navigation at sea, protection of the marine environment, disaster preparedness and response, maritime security and economic development to the attention of relevant intergovernmental and other international organizations, funding agencies, national governments, maritime stakeholders and others;
- 3.4 preparing and promoting education and outreach programmes which involve fostering a well-informed citizenry and creation of public awareness of the value and importance of hydrography and its role in daily life.

4. **Assist Member States to fulfil their roles**

The IHO will help and support its Member States in fulfilling their present roles and in meeting future demands and requirements as effectively and efficiently as possible, through;

- 4.1 acting as a focal point and forum for all hydrographic matters;
- 4.2 supporting national initiatives aimed at obtaining better hydrographic information and developing and enhancing hydrographic infrastructure;
- 4.3 encouraging bilateral and regional cooperation on hydrographic and related matters;
- 4.4 strengthening the IHO capacity-building programme in order to better support the needs of Member States, especially those developing their capabilities from maritime safety information through surveying to nautical charting and marine spatial data infrastructure.

5. **WAYS AND MEANS**

5.1 **Planning and review cycles**

The planning and review cycles for the Strategic Plan, the Work Programme and the Budget are set out in IHO Resolution 12/2002 as amended.

The inter-sessional monitoring and achievement of the Strategic Plan, the Work Programme and Budget is undertaken by the Council.

5.2 **Risk analysis and mitigation**

An analysis is conducted during the preparation of the Work Programme in order to:

- identify the significant risks associated with each Strategic Direction in the Strategic Plan, understand how and when they arise, identify the stakeholders, and
- estimate their likelihood of occurrence and impact on the IHO, its Member States and other stakeholders if any (for example: IMO), and
- identify the range of mitigating actions required, responsible owners/stakeholders, priority/dates assigned to them with any resource requirement that will be needed.

The Work Programme is designed to implement the Strategic Directions while mitigating these risks.

A risk management framework is set out in Annex A.

5.3 Work Programme

The Work Programme covers the period starting on 1 January of the year following the ordinary session of the Assembly and ending on 31 December of the year of the next ordinary session.

The Work Programme is divided into the following three programmes:

- *Corporate Affairs* under the responsibility of the Secretary General,
- *Hydrographic Services and Standards* under the responsibility of the relevant Committee (HSSC),
- *Inter Regional Coordination and Support* under the responsibility of the Inter Regional Coordination Committee (IRCC).

The HSSC programme includes the activities to be conducted by its subordinate bodies as well as by inter-organizational bodies that report to the HSSC.

The IRCC programme includes the activities to be conducted by its subordinate bodies as well as by the Regional Hydrographic Commissions and by inter-organizational bodies that report to the IRCC.

Activities of individual Member States which are relevant to the implementation of the Strategic Directions are listed in the appropriate programme.

Each item of the programmes identifies:

- the strategic direction to which it refers,
- the principal stakeholders outside the IHO, if any, that may be affected,
- the key deliverables and associated milestones, as appropriate ,
- the lead authority and participants, if any,
- the estimated resources from the IHO budget when significant, and
- other resources when significant,
- (h) the risk to delivery when significant.

The Work Programme is reviewed annually by the Council in liaison with the Chairs of the HSSC and the IRCC.

6. PROGRESS MONITORING

6.1 Monitoring Mechanism

The mechanism to monitor the implementation of the Strategic Plan and identify any needs for revision includes the following elements:

- the definition of Performance Indicators (PIs) against which progress in implementing the strategic directions is periodically assessed;
- the review of progress with Strategic Directions through the Performance Indicators;
- the review of the adequacy of the Strategic Directions in relation with the progress made and with the Strategic Assumptions on which they are based;
- the review of the ongoing validity of the Strategic Assumptions themselves since they were first set, in relation to the objectives of the Organization and taking into account any subsequent changes in
 - status of hydrographic services / benefits and beneficiaries,
 - political and societal trends,
 - economic and market related trends,
 - technological trends,
 - legal and regulatory trends.

Taking into account the object of the Organization and the Strategic Directions, the Work Programme will be measured by indicators which should show critical items / risk factors, picture of productivity (considering, among others, budget factor) and the level of achievement of the Strategic Objectives. They should also indicate future trends: forecast upturn / downturn.

The periodicity of measure should be annual, in accordance with the Work Programme review cycle.

At the end of the period of the Work Programme (every three years) these indicators provide a data source for the review of the Strategic Plan and / or the Work Programme.

6.2 *Implementation of Performance Indicators*

The implementation of Performance Indicators is based on a two level approach. *Strategic* level PIs are established by the Assembly as a *top down* process, and *working* level PIs are established by the HSSC and IRCC and their subordinate bodies as a *bottom up* process:

- Strategic Level PIs (SPIs): a small number of PIs associated with the objectives of the IHO (1 or 2 SPIs per objective), to be agreed by the Assembly and managed by the Secretary General and the Council; (see Annex B for current list)
- Working Level PIs (WPIs): PIs associated with the Strategic Directions to be agreed and managed by the HSSC and IRCC and their subsidiary organs.

In this perspective cross-references between the objectives, the Strategic Directions and the PIs are arranged in the following way:

Objectives => Strategic PIs => Strategic Directions => responsible organs => working level PIs

6.3 *Assessment and Review*

The assessment of the working level PIs and the review of progress in relation to the Strategic Directions are considered in two phases: an initial review by the leading organ and an overall review by the Secretary General and the Council.

Together with an assessment of the Strategic PIs, the results of the working level PIs are submitted for consideration by the Assembly. The submission should include a qualitative and, where practicable, a quantitative assessment of progress based on the value of the PIs. It should also include recommendations on management actions to be considered where trends indicate either a lack of progress or a change to an underlying assumption/direction is required. In this way the aim can be maintained and evidence of progress monitored/presented.

The review of the strategic assumptions is prepared by the Secretary General and the Council for consideration by the Assembly. The submission should include an analysis of the relevance of the strategic assumptions and recommendations on the changes to be considered.

RISK MANAGEMENT FRAMEWORK

1. RISK MANAGEMENT POLICY

1.1 Policy aim and objective

- to stimulate common risk management awareness within the IHO,
- to adopt a uniform risk management framework and embed it in the IHO's strategic planning processes,
- to proactively identify and analyse the IHO's highest risk exposures and define the options to properly treat them,
- to select and implement the appropriate options which minimise the IHO's exposure to risk in the most cost (both financial, and non-financial) effective way.

1.2 General Methodology

The IHO requires that identified risks are managed in such a way that they are not unduly threatening the strategic objectives and consequently the successful achievement of the IHO's Mission. Risk management activities are therefore addressed at two levels:

- *strategic* level by the Secretary General and processed *top down*,
- *working* level by subordinate bodies under HSCC/IRCC and processed *bottom up*.

Both levels are merged through the Work Programme which is reviewed annually under the supervision of the Secretary General and the Council.

1.3 Roles and Responsibilities

The Secretary General is ultimately responsible to Member States for the IHO's risk management. The Secretary-General has the responsibility for ensuring that the risk management framework is effectively implemented within the IHO and that its principles are communicated at all levels. The Secretary-General will also provide the necessary profile to advance a risk management culture in IHO, including participation in its monitoring and reporting.

The Secretary-General and the Council are responsible for the routine oversight of the IHO's risk management programme, its implementation, agreeing risk tolerances and treatment and their regular monitoring.

2. RISK MANAGEMENT PROCESS

2.1 Context

The IHO's risk environment is determined by considering the trends and developments identified as relevant to the IHO's strategic objectives.

The Strategic Assumptions described in Chapter 3 of the Strategic Plan have been identified as "strengths" (S), "weaknesses" (W), "opportunities" (O), or "threats" (T).

The Strategic Assumptions introduce possible risks to the achievement of the associated Strategic Directions set out in Chapter 4 that are intended to fulfil the IHO's objectives and ultimately its mission. They are therefore a logical starting point for risk identification.

2.2 Risk Identification

The Strategic Directions (SD) are not necessarily independent of each other. Possible risks are firstly identified for each individual SD. During the risk assessment phase risks common to more than one SD may be identified. Risks will be categorized as either (1) *internal*, i.e. originating from within the IHO community, or (2) *external*.

2.3 Risk Assessment

Identified risks need to be assessed in relation to their potential severity of impact and their probability of occurrence. The risk assessment should produce such information for the management of the Organization that the primary risks are easy to understand and that the risk management decisions may be prioritized. The accepted formula for risk quantification is:

Rate of occurrence (or **probability**) multiplied by the numerical indicator of the **impact of the event** equals **risk**

A five-category approach is considered adequate:

Probability of occurrence within the time frame of the work programme:

- 5 – extreme
- 4 – high
- 3 – medium
- 2 – low
- 1 – negligible

Impact of the event on the IHO:

- 5 – extreme – threatens survival of the IHO
- 4 – high - threatens credibility of the IHO
- 3 – moderate –threatens present structure of the IHO
- 2 – low – shift of focus/means
- 1 – negligible – solved within existing process/structure of the IHO
- 0 – absent – nil impact

Based on this approach, the identified risks can be scored for probability and impact and a risk score calculated for each risk.

The risk to the relevant SD's may then be prioritised as significant or otherwise, based on the risk score.

2.4 Risk Treatment

As *internal* risks are within the direct control of the IHO it makes sense to initially identify the most relevant and significant risks at a strategic level; in other words, those which threaten the accomplishment of Strategic Directions and ultimately the Mission of the IHO, and decide on an effective treatment.

External risks should also be addressed if they are deemed significant in terms of threatening the accomplishment of the Strategic Directions and ultimately the Mission of the IHO.

2.5 Implementation of the risk management plan

An agreed treatment should be executed to reduce the identified significant risks. It may be decided to select more risks to SDs and work out their “top down” *risk treatment*.

2.6 Review and evaluation of the plan

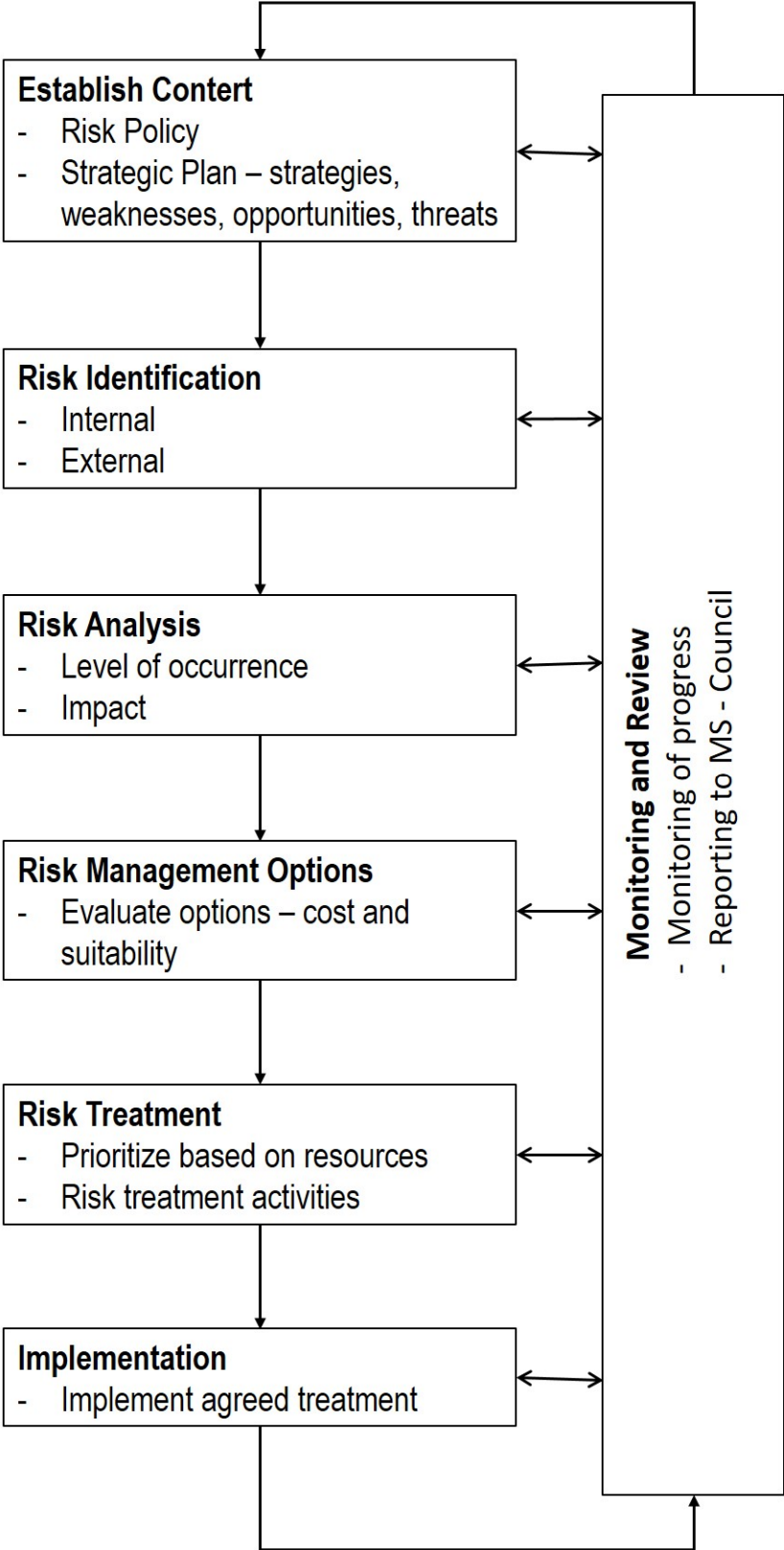
Risk management is dynamic. It is therefore important to monitor, review and evaluate the risk management plan. To monitor the progress on the SDs, the Secretary General and the Council and IHO subordinate bodies will use the agreed performance indicators (PIs).

In case of deficiencies caused by identified risks, action should be taken in accordance with the agreed treatment/plan.

The risk management plan should be reviewed, evaluated and updated annually by the Secretary General and the Council.

The attached diagram summarizes the risk management process.

SCHEMATIC REPRESENTATION OF THE RISK MANAGEMENT PROCESS



ANNEX B TO IHO
STRATEGIC PLAN

STRATEGIC PERFORMANCE INDICATORS

Objective	Strategic PIs	Reporting Period	Related Strategic Directions
a. To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography.	SPI 1 Number and percentage of Coastal States providing ENC coverage directly or through an agreement with a third party. (Previous year figures in brackets)	Yearly	1.5; 2.5; 3.1; 3.2; 3.3; and 3.4
b. To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services.	SPI 2 Growth in ENC coverage worldwide, as reported in the IHO on-line catalogue, relative to the existing gap in adequate coverage (as defined by IMO/NAV) from the benchmark 01 Aug. 2008. SPI 3 Percentage of Coastal States which provide hydrographic services, directly or through an agreement with a third party, categorized by CB phases, as defined by the IHO Capacity Building Strategy.	Quarterly Yearly	2.1; and 4.2
c. To improve global hydrographic capability, capacity, training, science and techniques.	SPI 4 Percentage of “acceptable” CB requests which are planned. (= <i>Percentage of submitted CB requests that were approved</i>) SPI 5 Percentage of planned CB requests which are subsequently delivered	Yearly	1.3; 2.3; 2.4; 3.4; and 4.4
d. To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards.	SPI 6 Number of standards issued (including new editions), per category: - hydrographic standards to enhance safety of navigation at sea, - protection of the marine environment, - maritime security, - economic development.	Yearly	1.3; and 1.4

Objective	Strategic PIs	Reporting Period	Related Strategic Directions
e. To give authoritative and timely guidance on all hydrographic matters to States and international organizations.	SPI 7 Number of potential new IHO MS (indicated by the start of the application process) relative to the number of “non-IHO” IMO MS.	Quarterly	1.1; 1.2; 2.6; and 4.1
f. To facilitate coordination of hydrographic activities among the Member States.	SPI 8 Increase in participation / membership in RHCs.	Yearly	2.1; and 4.3
g. To enhance cooperation on hydrographic activities among States on a regional basis.	SPI 9 Percentage of available / agreed ENC [production] schemes.	Yearly	2.2; 2.3; and 4.3