

IHO STRATEGIC PLAN

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 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

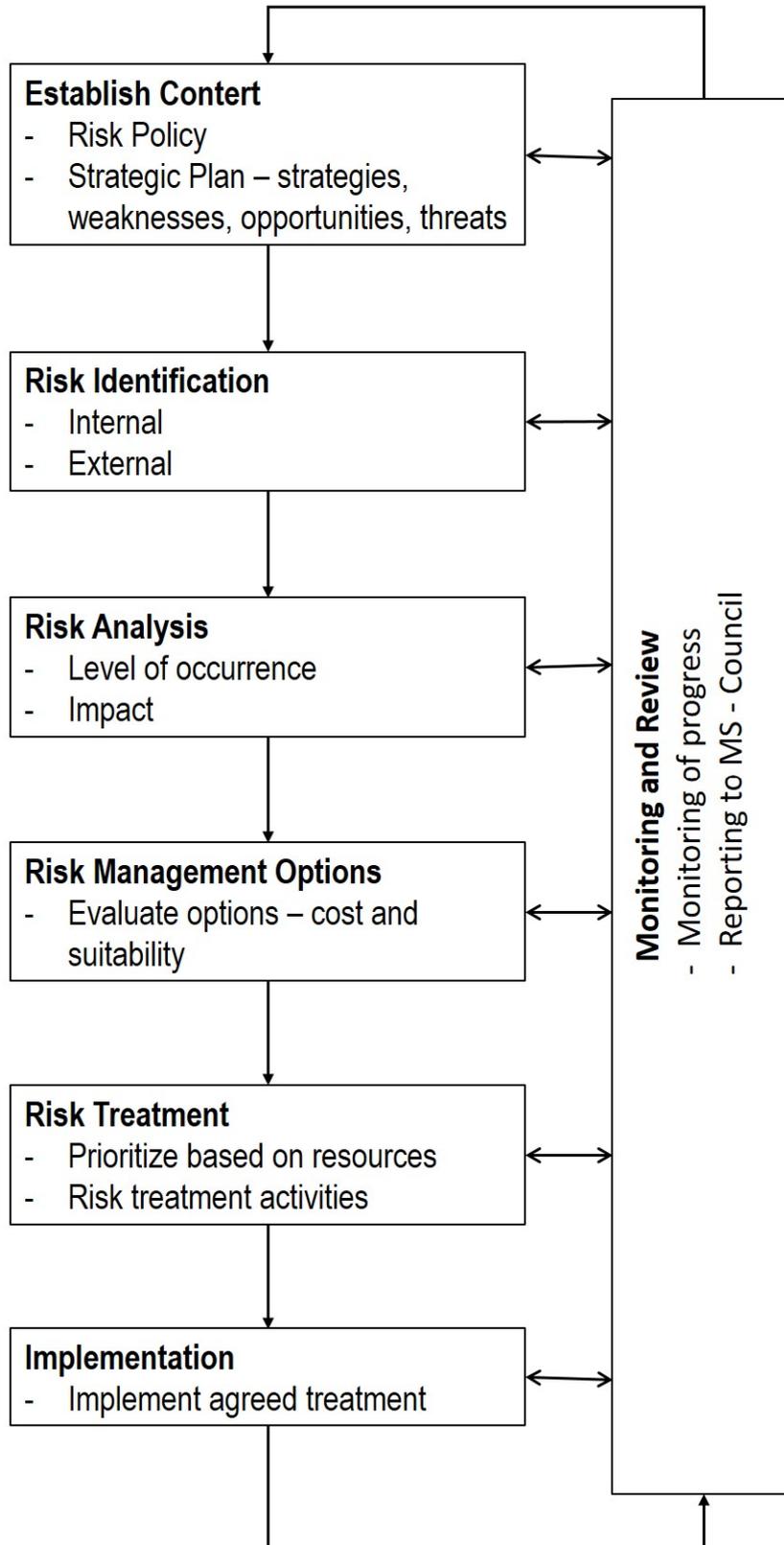
Risk management is dynamic. It is therefore important to monitor, review and evaluate the risk management plan. To monitor the progress on the SDs, the Secretary General and the Council and IHO subordinate bodies will use the agreed performance indicators (PIs).

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



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