

PRO-1.7 3-YEAR WORK PROGRAMME AND BUDGET 2021 - 2023

Submitted by: Council (Council Chair)

References:

- A. IHO Convention
- B. General Regulations
- C. Proceedings of the first Session of the Assembly
- D. IHO Strategic Plan 2017
- E. 3rd Meeting of the Council – Summary Report
- F. IHO Resolution 12/2002 as amended – *Planning Cycle*
- G. PRO 1.6 Revised Strategic Plan

Annexes:

- A. 3-year Work Programme 2021 – 2023
- B. 3-year Budget 2021 – 2023

PROPOSAL

Noting the endorsement by the Council, the Assembly is invited:

- **to approve the 3-year work programme based on the Strategic Plan in force.**
- **to approve the 3-year budget estimates.**
- **to approve the option of a consecutive annual increase of 1% of the Member States contribution share from 2021 to 2023 subject to the annual approval by C-4, C-5 and C-6 as part of the approval process of the annual budget.**

EXPLANATORY NOTE

1. As part of the IHO Planning Cycle for Assembly years (Reference F), the IHO Convention (Reference A, Article VI) mandates the Council to prepare a proposal for the 3-year IHO work programme and budget estimates for Assembly adoption.
2. The Council, assisted by the Secretary-General (Reference B), drafted a proposal of a 3-year work programme 2021 – 2023 (Annex A). This proposal is based on the priorities of existing IHO Strategic Plan (Reference D) as adopted at the first Session of the Assembly (Decision A1/02 refers), and was endorsed by the Council (Reference E, Decision C3/43).
3. If at the second Session of the Assembly, the proposed Revised Strategic Plan (Reference G) is adopted, it is expected that the Assembly will task the Council to adapt the Work Programme 2021 – 2023 (Annex A) at its fourth meeting in October 2020 accordingly.
4. The Council endorsed the budget estimates including recommendations regarding pragmatic allocations as prepared by the Secretary-General (Reference E, Decision C3/45).
5. The Council took note of the explanations of the Secretary-General in view of the large and unexpected increase in health insurance costs, other costs of living in Monaco, the increased request to fund special projects and capacity building measures and the resulting effects for the budget allocations.
6. In order to manage these budgetary challenges and balanced by evidence of efficient saving measures taken by the Secretary-General, the Council endorsed the principle for proposing a general annual increase of the Member States contribution share from 2021 to 2023. A 1% increase would result in an increase of approximately 40 € per share. The

cumulative effect for the IHO Budget would be approximately 35.000 € per year, which would effectively conclude with an overall increase of approximately 105.000 € in 2023 to balance the budgetary efforts. The option of a consecutive increase of 1% per each year from 2021 to 2023 subject to annual Council approval is therefore proposed for Assembly approval but subject to the annual approval of Council Members at C-4, C-5 and C-6 as part of the approval process of the annual budget. It will then be up to the Council to decide on the implementation of the increase after evaluation of the Secretary-General's budget proposal for the upcoming year.

WORK PROGRAMME 1 CORPORATE AFFAIRS

Concept:

Programme 1 covers the provision of the services provided by the Secretariat of the IHO and, through the Secretary-General and the Directors, the management and fostering of relations with intergovernmental and other international organizations. Work Programme 1 is directed primarily by the Secretary-General. It is integral to the achievement of all the Strategic Directions; some directly, others indirectly.

Element 1.1	Cooperation with International Organizations and participation in relevant meetings
Element 1.2	Information Management
Element 1.3	Public Relations and Outreach
Element 1.4	Work Programme & Budget, Strategic Plan and Performance Monitoring
Element 1.5	Secretariat Services
Element 1.6	IHO Council and Assembly

Element 1.1 Co-operation with International Organizations and participation in relevant meetings

Objective: Maintain relationships with relevant international organizations in order to further the interests of the IHO by enlisting their support and cooperation, and participate in projects of common interest. Represent the IHO and participate in international forums dealing with matters of relevance to the objectives of the IHO and the IHO WP, including:

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.1	Maintain relationships with the Government of Monaco and the diplomatic corps accredited in Monaco	1.1 1.2 1.3 1.5 2.3 3.1 3.2 3.3 3.4 4.4			Continuous	Secretariat			
1.1.2	Maintain relationship with the Antarctic Treaty Consultative Meeting (ATCM)	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	3.2	Mariners, Ship operators, Marine scientific community	continuous	Secretariat	1 meeting annually Travel cost for SG or Dir		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.3	Maintain relationship with the Comité International Radio Maritime (CIRM)	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	1.2	Navigation equipment manufacturers	continuous	Secretariat	1 meeting annually Travel cost for 1 SG/Dir/AD		
1.1.4	Maintain relationship with European Union Initiatives (such as INSPIRE and EMODnet)	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	3.2		continuous	Secretariat IENWG	2 meetings annually. Travel cost for 1 SG/Dir/AD per meeting		
1.1.5	Maintain relationship with the Group on Earth Observation (GEO)	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	2.3		continuous	Secretariat GEBCO GC MSDIW G	1 meeting annually. Travel cost for 1 SG/Dir/AD		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.6	Maintain relationship with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) including the IALA e-NAV Committee and IALA World Wide Academy	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 4.4	3.1	Aids to Navigation authorities, e- Navigation data service providers, maritime community	continuous	Secretariat HSSC WGs CBSC	2 meetings annually. Travel cost for 1 SG/Dir/AD per meeting		
1.1.7	Maintain relationship with the International Electrotechnical Commission (IEC), including: IEC Technical Committee 80	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	1.1	Equipment manufacturers Type approval bodies	continuous	Secretariat HSSC WGs	1 meeting annually. Travel cost for 1 Dir/AD		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.8	Maintain relationship with the International Maritime Organization (IMO), including: Assembly, Council, MSC, NCSR, TCC	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 4.4	1.1 3.1	Mariners, Ship Operators Maritime Administrations	continuous	Secretariat	5 meetings annually, Travel cost for each meeting for 1 SG/Dir + AD or 1 AD.		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.9	Maintain relationship with the Intergovernmental Oceanographic Commission (IOC) of UNESCO, including: Assembly Council Specialized WGs	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	3.2	Marine scientific community	continuous	Secretariat GEBCO GC MSDIWG	2 meetings annually. Travel cost for 1 SG/Dir/AD		
1.1.10	Maintain relationship with the International Organization for Standardization (ISO), including: ISO Technical Committee 211	1.1 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3	1.1 1.2		continuous	Secretariat	2 meetings annually. Travel cost for 1 Dir/AD		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.11	Maintain relationship with the Joint Board of Geospatial Information Societies (JB-GIS)	1.1 1.2 1.3 1.4 1.5 2.6 3.1 3.2 3.3	1.1		annual	Secretariat	1 meeting annually if coinciding with other meetings. No significant additional cost		
1.1.12	Maintain relationship with United Nations (UN) organizations based in New York, including: the UN Committee of Experts ON Global Geospatial Information Management (UN-GGIM) and its Working Group on Marine Geospatial Information (WGMGI) the UN Division on Ocean Affairs and Law of the Sea (UN-DOALOS) the UN Group of Experts on Geographical Names (UNGEKN)	1.1 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3	2.3	Marine geospatial data providers and users	continuous Standardization in toponymic matters	Secretariat MSDIWG ABLOS	3 meetings annually. Travel cost for 1 SG/Dir Travel cost for 1 AD (on case-by-case basis)		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.13	Maintain relationship with the World Meteorological Organization (WMO)	1.1 1.2 1.3 1.4 1.5 2.5 3.1 3.2 3.3		Mariners, Ship operators, Maritime Administrations	continuous	Secretariat	1 meeting annually. Travel cost for 1 SG/Dir/AD		
1.1.14	Maintain relationship with the Open Geospatial Consortium, including the Marine Domain Working Group (Marine DWG)	1.1 1.2 1.3 1.4 1.5 2.5 3.1 3.2 3.3	1.1 2.3	Mariners Oil and Gas industry UN-GGIM UN-WGMGI	continuous	Secretariat MSDIWG	1 meeting annually if coinciding with other meetings. No significant additional cost		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.1.15	Maintain relationships with other international and observer organizations when their agendas have relevance to the programme of the IHO	1.1 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3	3.2		continuous	Secretariat	Participation to be determined on an annual basis, subject to the agenda of the organization and its significance to the IHO WP Up to 10 meetings annually Travel cost for 1 SG/Dir/AD per meeting		

Element 1.2 Information Management

Objective: Provide Member States and IHO stakeholders with accurate and relevant information in a timely and accessible manner.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.2.1	Maintain and extend the IHO website	1.1 1.2 1.4 1.5 2.1 2.2 3.2 3.3 4.1	3.3		continuous	Secretariat	Use of commercial contract support Maintenance included in 1.2.4		
1.2.2	Maintain and extend the IHO GIS, webserver and web mapping services in support of RHCs, ENC production coordination, INT chart coordination, C-55 and other related activities	1.1 1.2 1.4 1.5 2.2 2.6 3.2 3.3 3.4 4.2	3.3		continuous	Secretariat	Use of commercial contract support Maintenance included in 1.2.3		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.2.3	Maintain and extend the Secretariat Admin IT infrastructure, including in-house publishing facilities	1.1 1.2 1.3 1.4 3.3 4.1	3.3		continuous	Secretariat	80k€ annually (includes hardware, software and contract maintenance support)		
1.2.4	Maintain the IHO reference library collection including the incorporation of new material	1.5 3.2 3.3 3.4			continuous	Secretariat	1K€ annually		
1.2.5	Implement and maintain online forms for the input from Member States to the IHO databases and in response to circular letters	2.1 3.4 4.1 4.2			continuous	Secretariat	1K€ annually		

Element 1.3 Public Relations and Outreach

Objective: Raise awareness of the role of the IHO and the value and importance of hydrography and nautical charting services. Provide advice and guidance on States obligations under international regulations such as SOLAS Chapter V and highlight the importance of coordinated efforts in providing for safety of navigation, protection of the marine environment and the sustainable management and development of the oceans, seas and waterways. Stress the importance of becoming an IHO Member State.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.3.1	Promote the IHO through publicity and public relations initiatives	1.5 2.6 3.1 3.2 3.3	3.3		Continuous Preparation of the centenary of the establishment of the IHB in 2021	Secretariat Member States	10k€ annually		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.3.2	Encourage new membership of the IHO	2.3 2.4			Participation of non- Member States in RHC and IHO activities New Member States	Secretariat RHC Chairs (except: ARHC, NHC, NSHC, USCHC)	Visits normally undertaken as side-trips in conjunction with travel to other meetings Some high-level visits funded by Capacity Building Fund (see programme 3)		
1.3.3	Celebrate World Hydrography Day including the preparation of information to support the themes	1.5 2.6 3.1 3.2 3.3	3.3		annual	Secretariat Member States	10K€ annually		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.3.4	Compile and publish P-1 – International Hydrographic Review with the assistance of a paid editor	1.5 2.6 3.1 3.2 3.3	3.3		continuous	Secretariat Member States	10K€ annually		Lack of suitable papers provided by MS and other contributors
1.3.4.1	Maintain a digital repository for the overall collection of P-1 available for worldwide access	1.5 2.6 3.1 3.2 3.3	3.3		continuous	Secretariat Member States	1K€ annually		

Element 1.4 Work Programme & Budget, Strategic Plan and Performance Monitoring

Objective: Ensure that the formulation and the execution of the IHO Work Programme and Budget is managed, monitored and executed efficiently to best meet the requirements of Member States and the interests of stakeholders. This Element focuses on the implementation of the IHO’s Strategic Plan particularly with regard to risk assessment and performance indicators.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.4.1	Execute the IHO Work Programme and Budget approved by the 2 nd Session of the Assembly, monitoring its progress and proposing or implementing any necessary adjustments according to the	All SDs	All Goals &Targets		continuous	Secretariat Council			
1.4.2	Develop and propose future IHO Work Programme, Budget and Strategic Plan		All Goals &Targets		continuous	Secretariat Council Assembly			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.4.3	Conduct biennial IHO stakeholders' forums	1.2 1.3 1.4 1.5 2.6 3.1 3.2 3.3 3.4 4.4	2.2 3.1		2022	Secretariat	1 meeting every 2 years back-to-back with another meeting Cost subject to the venue	Travel cost, per diem. and working hours for MS and other representatives to prepar	

Element 1.5 Secretariat Services

Objective: Ensure that the Secretariat meets the requirements set by the Member States, by providing the best service within the resources available.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.5.1	Maintain formal communication between the Secretariat and the Member States through Circular Letters	2.2 4.1 4.2 4.3 4.4	3.3		continuous	Secretariat			
1.5.2	Maintain, update and develop procedures to facilitate and improve the effectiveness of the finance and administrative work of the Secretariat	All SDs			continuous	Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.5.3	<p>Provide in-house translation services English/French and French/English in support of the IHO WP</p> <p>Include Spanish translations as much as possible in accordance with the relevant IHO Resolutions</p>	2.2 4.1 4.3 4.4			continuous	Secretariat		MS encouraged to volunteer to translate lower priority IHO publications from EN to FR and SP	Translation workload exceeds the translating capacity of the existing number of staff
1.5.4	Engage contract support to supplement the maintenance and development of IHO publications beyond the resources or competence of the Secretariat or the IHO WGs, including:	3.3 4.1			continuous	Secretariat	10k€ each year		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.5.5	<p>Compile, maintain and publish IHO publications that are not allocated to a specific IHO body, including:</p> <p>P-5 – IHO Yearbook</p> <p>P-7 – IHO Annual Report</p> <p>P-6 – Proceedings of the Assembly and of the Council</p> <p>M-3 –Resolutions of the IHO</p>	1.2 3.3 4.1			As required	Secretariat			
1.5.6	Secretariat Staff training	1.1 4.1					7k€ each year		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
1.5.7	Monitor and maintain the Staff Regulations and the Job Descriptions of the Staff of the IHO Secretariat in step with the evolution of the IHO Work Programme and IHO requirements	4.1			continuous	Secretariat			
1.5.8	Maintain the premises and facilities of the IHO Secretariat as required as the occupant, including renovations or modifications as requirements arise	4.1			continuous	Secretariat	62K€ each year		

Element 1.6 IHO Council and Assembly

Objective: Ensure the successful functioning of sessions of the Council and the Assembly so that they fulfil their top-level governance and decision- making functions in accordance with the Convention and the other basic documents of the Organization.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Othe resources	Significant risk to delivery
1.6.1	Prepare and conduct the 3 rd session of the IHO Assembly	2.1 2.2 4.1 4.4				Secretariat	Funded by the Conference Fund	Travel cost, per diem. and working hours for MS and other representatives to prepare for and attend the Assembly	

1.6.2	Prepare and conduct annual meetings of the IHO Council	2.1 2.2 4.1 4.4			annual	Secretariat	15K€ each year Travel for minimum of SG, 2 Dir, 2AD if session held outside Monaco	Travel cost, per diem. and working hours for MS and other representatives to prepare for and attend a meeting of the Council	
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WORK PROGRAMME 2

HYDROGRAPHIC SERVICES AND STANDARDS

Concept:

Programme 2 focuses on the implementation of component 1.4 of Strategic Direction (SD) 1: “*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*”.

Element 2.1	Programme Coordination
Element 2.2	Foundational Nautical Cartography Framework
Element 2.3	S-100 Framework
Element 2.4	S-57 Framework
Element 2.5	Support the implementation of e-navigation and Marine Spatial Data Infrastructures (MSDI)
Element 2.6	Hydrographic Surveying
Element 2.7	Hydrographic aspects of UNCLOS
Element 2.8	Other technical standards, specifications, guidelines and tools

Element 2.1 Programme Coordination

Objective: Monitor and implement Programme 2 through the HSSC and its subordinate organs.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.1.1	Organize, prepare, and report annual meetings of HSSC	1.1 1.2 1.3 1.4 2.1	1.1 1.2		Monitor and approve HSSC Work Programme - Annual	HSSC Chair WG Chairs Secretariat	Travel cost for 1 Dir + 1 AD Travel cost and per diem for pre-meeting briefing of Chair	Travel cost, per diem. and working hours for MS and other representatives to prepare for and attend the meeting	Inability of MS and others to participate in meetings

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.1.2	Organize, prepare and report meetings of HSSC working groups	1.4	1.1 1.2		As defined in the HSSC Work Programme	WG Chairs Secretariat	Travel cost, per diem and working hours 1 AD / meeting	Travel cost, per diem. and working hours for MS and other participants to prepare for and attend the meeting	Inability of MS and others to participate in meetings
2.1.3	Prepare for and represent HSSC at meetings of the Council	1.1			Submit report and recommendations - Annual	HSSC Chair Secretariat	Travel cost and per diem for HSSC Chair		
2.1.4	Prepare for and represent HSSC at 3rd session of the IHO Assembly	1.1			Submit reports and recommendations (through the Council)	HSSC Chair Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.1.5	Monitor the development of related international standards, specifications and guidance	1.2	1 . 1 . 2	IALA IEC IMO ISO OGC	Identify and attend relevant meetings and activities and report outcome - as required (see also programme 1)	HSSC Chair Group Secretariat			
2.1.6	Provide technical outreach, advice and guidance in relation to IHO standards, specifications and guidance	4.1	1.1 1.2		Identify and attend relevant meetings and activities and report outcome - as required	HSSC Chair Group Secretariat	3 meetings per year Travel cost 1 Dir/AD per meeting		
2.1.7	Maintain and extend IHO Resolutions (M-3) related to technical issues	1.1	1.1 1.2		Draft proposed amendments for the consideration of the Council	HSSC & All WGs			

Element 2.2 Foundational Nautical Cartography Framework

Objective: Develop, maintain and promote the foundational standards, specifications, guidelines and services related to nautical cartography to meet the requirements of the stakeholders.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.2.1	Maintain S-4 (<i>Regulations for International (INT) Charts and Chart Specifications of the IHO</i>) and related publications (INT 1/2/3)	1.4	1.1 1.2			NCWG			Way forward and Maintenance of INT 1 to be decided
2.2.2	Maintain S-11 Part A - <i>Guidance for the Preparation and Maintenance of International Chart Schemes and Catalogue of International (INT) Charts</i>	1.4	1.1 1.2			NCWG			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.2.3	Maintain the INTtoGIS infrastructure	1.1	1.1			NCWG Secretariat		Support of the Republic of Korea	
2.2.4	Implement the decisions made following the report on the Future of the Nautical Paper Chart	1.4	1.1			NCWG			

Element 2.3 S-100 Framework

Objective: Develop, maintain and promote the S-100 framework in order to meet the requirements of the stakeholders.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.3.1	Maintain and extend the S-100 GI Registry	1.4	1.1 1.2			S-100WG Secretariat		Support of the Republic of Korea	
2.3.2	Maintain and extend S-100 - <i>IHO Universal Hydrographic Data Model</i>	1.4	1.1 1.2			S-100WG			Inability of MS and others to participate in the work
2.3.3	Develop and maintain S-99 - <i>Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry</i>	1.4	1.1 1.2			S-100WG			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.3.4	Develop and maintain S-10x Product Specifications and engage on S-100 Implementation Strategy	1.4	1.1 1.2	ECDIS OEM GIS Community Data providers		Project teams Relevant WGs	Contract support funded by the Special Projects Fund		Inability of MS and others to participate in the work
2.3.5	Provide advice and guidance to other organizations developing S-100 based Product Specifications	1.2 1.3	1.1 1.2			S-100WG Secretariat	2 meetings per year Travel cost 1 AD	Travel cost and working hours MS Rep.	Limited expertise available

Element 2.4 S-57 Framework

Objective: Maintain the S-57 framework fit for purpose.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.4.1	Maintain S-52 - <i>Specifications for Chart Content and Display Aspects of ECDIS</i>	1.4	1.1 1.2	ECDIS OEM		ENCWG			
2.4.2	Maintain S-57 - <i>IHO Transfer Standard for Digital Hydrographic Data,</i>	1.4	1.1 1.2	ECDIS OEM Data servers		ENCWG			Inability of MS and others to participate in the work
2.4.3	Maintain S-58 - <i>ENC Validation Checks</i>	1.4	1.1 1.2	RENCs		ENCWG			Inability of MS and others to participate in the work
2.4.4	Maintain S-61 - <i>Product Specification for Raster Navigational Charts (RNC)</i>	1.4	1.1	ECDIS OEM Data servers	No action expected	ENCWG			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.4.5	Maintain S-63 - <i>IHO Data Protection Scheme</i>	1.4	1.2			ENCWG			Inability of MS and others to participate in the work
2.4.6	Maintain S-64 - <i>IHO Test Data Sets for ECDIS</i>	1.4	1.1 1.2			ENCWG			
2.4.7	Maintain S-65 - <i>ENCs: Production, Maintenance and Distribution</i>	1.4	1.1 1.2			ENCWG			
2.4.8	Maintain S-66 - <i>Facts about Electronic Charts and Carriage Requirements</i>	1.4	1.1			ENCWG			

Element 2.5 Support the implementation of e-navigation and Marine Spatial Data Infrastructures (MSDI)

Objective: Provide technical support to the development of new services and functionalities required by the implementation of e-navigation and MSDI.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.5.1	Monitor and assess requirements related to data flow, data security, data quality, backup arrangements, time-varying information, etc.	1.1 2.5	1.2		Implementation of S-100 Security Scheme	Secretariat			Inability of MS and others to participate in the work
2.5.2	Support the development and implementation of Maritime Services in relation to e-Navigation	1.1 2.5	1.1	IALA IMO	Maintenance of Maritime Service descriptions	NIPW G NCWG ENCWG TWCWG WWNWS-SC			Inability of MS and others to participate in the work

Element 2.6 Hydrographic Surveying

Objective: Maintain S-44 and related IHO documents fit for purpose.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.6.1	Maintain and extend S-44 - <i>IHO Standards for Hydrographic Surveys</i>	1.4	1.1 2.2			HS PT / HSWG (to be confirmed)			

Element 2.7 Hydrographic aspects of UNCLOS

Objective: Monitor developments related to the hydrographic aspects of UNCLOS and maintain the relevant IHO publications fit for purpose.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.7.1	Organize the biennial ABLOS Conference	1.3 4.1			ABLOS Conferences			Self-funding	Lack of participation or insufficient volunteers to present papers
2.7.2	Maintain C-51 - <i>Manual on Technical Aspects of the UN Convention on the Law of the Sea</i>	1.4							

Element 2.8 Other technical standards, specifications, guidelines and tools

Objective: Maintain technical standards, specifications, guidelines and tools not included in the previous elements fit for purpose.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.8.1	Maintain S-12 - <i>Standardization of List of Lights and Fog Signals</i>	1.4	1.2		Revision as appropriate No action expected	NIPWG			
2.8.2	Maintain S-32- <i>Hydrographic Dictionary</i>	1.4	1.2		Database version to be expanded with multiple languages	HDWG Secretariat			Inability of MS and others to participate in the work
2.8.3	Maintain S-49 - <i>Standardization of Mariners' Routeing Guides</i>	1.4	1.2		Revision as appropriate	NIPWG			
2.8.4	Maintain the list of standard tidal constituent	1.4	2.2		Continuous	TWCWG			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
2.8.5	Maintain the inventory of national tide gauges and current meters	1.1	2.2		Continuous	TWCWG			
2.8.6	Ensure that data quality aspects are addressed in an appropriate and harmonized way for all relevant standards	1.4	1.2		Continuous	DQWG			

WORK PROGRAMME 3

INTER-REGIONAL COORDINATION AND SUPPORT

Concept:

This programme refers primarily to the Organization's strategic direction "*Facilitate global coverage and use of official hydrographic data, products and services*" through enhancing and supporting cooperation on hydrographic activities among the IHO Member States (MS) under the aegis of the Regional Hydrographic Commissions (RHCs). It also contributes to the strategic direction "*Assist Member States to fulfil their roles*" through the IHO Capacity Building Work Programme in supporting MS as well as non-Member States to build national hydrographic capacities where they do not exist and to contribute to the improvement of the already established hydrographic infrastructure. The programme includes major topics that require a regionally coordinated approach, such as ENC adequacy, availability, coverage and distribution, maritime safety information and ocean mapping.

Element 3.1	Programme Coordination
Element 3.2	Regional Hydrographic Commissions and the HCA
Element 3.3	Capacity Building
Element 3.4	Coordination of Global Surveying and Charting Coverage
Element 3.5	Maritime Safety Information
Element 3.6	Ocean Mapping Programme
Element 3.7	Marine Spatial Data Infrastructures
Element 3.8	International Standards for Hydrographic Surveyors and Nautical Cartographers

Element 3.1 Programme Coordination

Objective: Promote and coordinate those activities that might benefit from a regional approach:

- establish, coordinate and enhance cooperation in hydrographic activities amongst States on a regional basis, and between regions;
- establish cooperation to enhance the delivery of the Capacity Building Work Programme;
- monitor the work of specified IHO inter-organizational bodies engaged in activities that require inter-regional cooperation and coordination.

The IRCC will foster coordination between all RHCs and other bodies that have a global/regional structure (including: HCA, GGC, CBSC, IBSC, WWNWS-SC, WEND-WG).

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.1.1	Organize, prepare and report annual meetings of IRCC	1.1 1.2 1.4 1.5 2.1 2.2 2.3 2.4 2.5 2.6 3.1 3.2 3.3 3,4 4.1 4.2 4.3 4.4	3.1		Monitor and approve IRCC Work Programme – Annual	IRCC Chair RHC Chairs Chairs of the IRCC Bodies Secretariat	Travel cost for 1 Dir + 1 AD Travel cost and per diem for pre-meeting briefing of Chair		Inability of MS and others to participate in meetings
3.1.2	Prepare for and represent IRCC at meetings of the Council	1.1			Submit report and recommendations - Annual	IRCC Chair Secretariat	Travel cost and per diem for IRCC Chair		
3.1.3	Prepare for and represent IRCC at 3 rd session of the IHO Assembly	1.1			Submit reports and recommendations (through the Council)	IRCC Chair Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.1.4	Maintain and extend IHO Resolutions (M-3) related to coordination issues	1.1	3.1 3.2		Draft proposed amendments for the consideration of the Council	IRCC			

Element 3.2 Regional Hydrographic Commissions and the HCA

Objective: Facilitate regional coordination, cooperation and collaboration to improve hydrographic services and the provision of hydro-cartographic products through the structure of the Regional Hydrographic Commissions and of the Hydrographic Commission on Antarctica.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.2.1	Prepare for and report meetings of the Regional Hydrographic Commissions (RHC): ARHC – Arctic Regional Hydrographic Commission BSHC - Baltic Sea Hydrographic Commission EAHC - East Asia Hydrographic Commission EAtHC - Eastern Atlantic Hydrographic Commission	2.1 2.2 2.3 2.5 2.6 3.2 3.3 4.3	3.1 1.3		Submit report and recommendations – normally Annually	RHC Chairs Secretariat	Most Commissions meet annually Travel cost for SG or Dir to each meeting. An AD also attends several of the RHC meetings – particularly the larger Commissions and those with significant CB requirements		Inability of MS and others, particularly non-IHO MS, to participate in meetings

3.2.1	MACHC - Meso American and Caribbean Hydrographic Commission MBSHC - Mediterranean and Black Seas Hydrographic Commission NHC - Nordic Hydrographic Commission NIOHC - North Indian Ocean Hydrographic Commission NSHC - North Sea Hydrographic Commission RSAHC - ROPME Sea Area Hydrographic Commission SAIHC - Southern Africa and Islands Hydrographic Commission SEPRHC - South East Pacific Regional Hydrographic Commission	2.1 2.2 2.3 2.5 2.6 3.2 3.3 4.3	3.1 1.3		Submit report and recommendations – normally Annually	RHC Chairs Secretariat	Most Commissions meet annually Travel cost for SG or Dir to each meeting. An AD also attends several of the RHC meetings – particularly the larger Commissions and those with significant CB requirements		Inability of MS and others, particularly non-IHO MS, to participate in meetings
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Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.2.1	SWAtHC - South West Atlantic Hydrographic Commission	2.1 2.2 2.3 2.5	3.1 1.3		Submit report and recommendations – normally Annually	RHC Chairs Secretariat	Most Commissions meet annually Travel cost for SG or Dir to each meeting. An AD also attends several of the RHC meetings – particularly the larger Commissions and those with significant CB requirements		Inability of MS and others, particularly non-IHO MS, to participate in meetings
	SWPHC - South West Pacific Hydrographic Commission	2.6 3.2 3.3							
	USCHC - USA and Canada Hydrographic Commission	4.3							

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.2.2	Organize, prepare for and report meetings of Hydrographic Commission on Antarctica (HCA)	2.1 2.2 2.5 2.6 3.2 3.3 4.3	3.2	COMNAP IAATO SCAR IALA	Submit report and recommendations	HCA Chair Observers Secretariat	2 meetings between two Assemblies Travel cost for SG or Dir +1 AD (on case by case basis)		Inability of Members and others to participate in meetings
3.2.3	Contribute to improving the framework of IHO response to marine disasters	3.3	3		Improve the relevant guidelines for disaster risk reduction. Continuous	RHC Chairs Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.2.4	Maintain and enhance the underlying database and IHO Publication C-55 – <i>Status of Hydrographic Surveying and Nautical Charting Worldwide</i>	4.4	3.1 2.2		Develop a new framework for the input, presentation and assessment of the survey and nautical cartography status in C-55	Secretariat			

Element 3.3 Capacity Building

Objective: Assess the hydrographic surveying, nautical charting and nautical information status of nations and regions where hydrography is developing.

Provide guidelines for the development of local hydrographic capabilities taking into account the regional context and possibilities of support for shared capabilities.

Identify regional requirements and study the possibilities for capacity building assistance and training from the CB Fund and other sources.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.3.1	Organize, prepare and report annual meetings of the Capacity Building Sub- Committee (CBSC)	2.3 2.4 3.3 3.4 4.4	3.1 1.3	IMO IALA	Monitor and approve CB Work Programme (CBWP) Annual	CBSC Chair CB Coordinators Secretariat	Travel cost for 1 Dir + 1 AD Travel cost and per diem for pre- meeting briefing of Chair		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.3.2	Manage the IHO Capacity Building Fund	4.4	3.1 1.3			CBSC Chair Secretariat			
3.3.3	Develop and maintain a Capacity Building Management System	4.4	3.1 1.3		Support the implementation of CBWP Continuous	CBSC Chair Secretariat			
3.3.4	Review and maintain the IHO Capacity Building Strategy	4.4	3.1 1.3		Up to date CB Strategy Annually	CBSC Chair Secretariat			

3.3.5	<p>Develop, monitor and update the Capacity Building Work Programme (CBWP), including:</p> <p>Reviewing and updating CB procedures</p> <p>Monitoring and assessing the progress and success of CB activities and initiatives as approved in the annual IHO CBWP</p>	4.4	3.1 1.3		<p>Develop and propose an annual CBWP to be included in the IHO WP</p> <p>Annually. Considered in conjunction with task 3.3.1</p>	<p>CBSC Chair</p> <p>Secretariat</p>			
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Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.3.6	Organize, prepare and report on meetings with other organizations, funding agencies, private sector and academia, including: the Joint IHO/IMO/WMO/IOC/IAEA/IALA/FIG/IMPA Capacity Building Coordination meeting	4.3 4.4	3.1 1.3	World Bank UNDP UNEP Donor agencies	Investigate the new opportunities for CB activities Increase the CB Fund Annually	Secretariat	2 meetings annually Travel cost for 1 Dir or 1 AD		Budget constraints
3.3.7	Organize, prepare and report on a Capacity Building and IBSC Stakeholders' Forum	4.4	3.1 1.3	IMO IALA IOC WMO FIG ICA Academy	Obtain lessons learned from CB training activities Review the future of the IHO CB Work Programme and CB Strategy 2021, as part of the Centenary Celebrations	Secretariat CBSC Chair IBSC Chair	No significant cost expected		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.3.8	Maintain IHO publication M-2 - <i>National Maritime Policies and Hydrographic Services</i>	3.1 3.2	3.3 2.2		Continuous	Secretariat			

3.3.10	Investigate and Develop Regional Hydrographic /Maritime Projects	2.3 2.4 3.3 3.4 4.4	3.1 2.1 2.2	IMO IALA IOC UN Agencies World Bank Funding Institutions	Ensure awareness of multilateral or bilateral projects with hydrographic and/or cartographic components, and to provide advice to governments, project managers and funding agencies Develop and support the Outline/Scope Studies on Regional Projects	CBSC Chair RHC Chairs Secretariat			
3.3.11	Develop and maintain an online repository of training material and references	2.3 2.4 3.3	3.1 3.3	Member States and other States RHCs Academia	Ensure all training material and references are available	CBSC Chair Secretariat			

Element 3.4 Coordination of Global Surveying and Charting Coverage

Objective: Facilitate the achievement of a world-wide quality nautical charting coverage to suit the needs of the mariner in support of safe and efficient navigation through the development of specifications and standards for the production, distribution and updating of cartographic products and supporting publications.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.4.1	Organize, prepare and report annual meetings of the WEND Working Group	2.1 2.2 2.6	1.1	CIRM RENC management	Foster the implementation of the WEND /WENS (to be confirmed) principles, monitor progress and report to IRCC Annually	WEND WG Chair Secretariat	1 meeting annually. Travel cost for 1 Dir+AD or 1 AD		Component of the S-100 Implementation Strategy (to be confirmed)
3.4.2	Maintain liaison with RENCs	2.1 2.2 2.6	1.1	RENC management RENC MS	Facilitate the promotion of RENC cooperation for the benefit of ENC end-users Annually	WEND WG Chair Secretariat	2 meetings annually. Travel cost for 1 Dir or 1 AD		

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.4.3	Maintain and coordinate ENC and INT schemes, including coverage, consistency, quality and availability	2.1	2.2 3.3		Develop ENC schemes in the regions and coordinate the production and maintenance of ENC Maintain INT Chart schemes and coordinate the production of INT Chart in the regions, in line with ENC production	RHC Chairs Secretariat			Lack of appropriate surveys or re-surveys in areas where there is no satisfactory coverage. Overlapping products in the same area.

Element 3.5 Maritime Safety Information

Objective: Facilitate the efficient provision of Maritime safety Information (MSI) to mariners through coordination and the establishment of relevant standards between agencies.

Improve the coordination of NAVAREAs in liaison with the RHCs and relevant international organizations.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.5.1	Organize, prepare and report annual meetings of the World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC)	1.2 2.1 4.3	1.1	IMO IALA IMSO	Monitor and guide the IHO/IMO World-Wide Navigational Warning Service including NAVAREA and coastal warnings Annual	WWNWS-SC Chair Secretariat	1 meeting annually Travel cost for 1 AD		Lack of engagement of NAVAREA Coordinators or partner organizations to maintain service
3.5.2	Conduct annual meetings of the WWNWS-SC Document Review Working Group	1.2 2.1	1.1	IMO IALA IMSO WMO	Maintain the IMO/WWNWS documents Annual	WWNWS-SC Chair Secretariat	1 meeting annually Per diem for 1 AD		Lack of engagement of NAVAREA Coordinators or partner organizations to maintain service

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.5.3	Maintain and extend the following IHO standards, specifications and publications: relevant IHO Resolutions in M-3 - <i>Resolutions of the IHO</i> , S-53 - <i>Joint IMO/IHO/WMO Manual on Maritime Safety Information</i>	1.2 2.1 3.3	1.2	IMO IMSO WMO	Provide update to WWNWS documentation. Continuous	WWNWS-SC Chair Secretariat			
3.5.4	Liaise with IMO and WMO on the delivery of MSI within the GMDSS	1.2 2.1 3.3		IMO WMO IMSO IALA	Ensure maintenance of service delivery. Continuous	WWNWS-SC Chair Secretariat	1 meeting, 2 days per year within Europe (London/Genève/Monaco)		Lack of engagement of national MSI Coordinators with the relevant NAVAREA Coordinator

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.5.5	Participate and contribute to the IMO work items on the modernization of the GMDSS and the development of the e-navigation implementation plan	1.2 2.1 2.5	1.2	IMO WMO IMSO IALA	Monitor projects to ensure maintenance of service delivery at least at current levels, investigation areas for improvement Continuous	WWNWS-SC Chair Secretariat			Inability of current providers to maintain service due to increased costs in a multi-system environment
3.5.6	Improve the delivery and exploitation of MSI to global shipping by taking full advantage of technological developments	1.2 2.1 2.5	1.1	IMO WMO IMSO IALA	Progress development of S-124 PS to align with the development of e-navigation and GMDSS	WWNWS-SC Chair			

Element 3.6 Ocean Mapping Programme

Objective: Contribute to global ocean mapping programmes through the IHO/IOC General Bathymetric Chart of the Oceans (GEBCO) Project, the International Bathymetric Chart (IBC) Projects and other related international initiatives.
Improve the availability of shallow water bathymetry for purposes other than nautical charting.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.6.1	Organize, prepare and report annual meetings of the GEBCO Guiding Committee (GGC) and associated bodies including TSCOM, SCRUM, GEBCO Science Day and SCUFN	1.5 2.6 3.4	3.2	IOC	Implementation of the GGC Work Programme Contribute to global ocean mapping programmes Improve the availability of shallow water bathymetry Implement the strategic goals for the next decade. Annual	GGC Chair Secretariat	4 meetings annually Travel cost for 1 Dir + 2 AD Travel cost for 1 AD (for SCUFN)	Travel cost, per diem. and working hours for MS and other representatives to prepare for and attend the meetings	Lack of support from coastal states to progress GEBCO activities

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.6.2	Ensure effective operation of the IHO Data Centre for Digital Bathymetry (DCDB)	1.5 2.6	3.2		Enhance the DCDB for upload, ingest, discovery and download of bathymetric data and associated information, such as the gazetteer of undersea feature names	Director, DCDB CSBWG Chair GEBCO GC Secretariat	10k€ annually to support maintenance and development	Operation of the DCDB is funded primarily by US (NOAA)	Inability of sole funder to continue current level of support
3.6.3	Encourage the contribution of bathymetric data to the IHO DCDB	1.5 2.2 2.6	3.2	Academia and Industry	GEBCO representatives participate in RHC meetings Continuous	GGC Chair RHC Chairs Secretariat			Lack of MS willingness to provide data

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.6.4	Develop general guidelines on the use and collection of Crowd Sourced Bathymetry (CSB)	2.6	2.2 3.2			CSBWG Chair Director, DCDB Secretariat	1 meeting annually. Travel cost for 1 AD	Travel cost, per diem. and working hours for MS and other representatives to prepare for and attend the meetings of the CSBWG	
3.6.5	Support cooperative bathymetric data gathering programmes, including; the Atlantic Ocean Research Alliance (AORA)	2.6	3.2		Contribute to global and regional ocean mapping programmes Annual	CSBWG Chair Secretariat	2 meetings annually 1 AD	Funded by EU	

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.6.6	Maintain IHO bathymetric publications, including: B-4 - <i>Information Concerning Recent Bathymetric Data</i> B-6 - <i>Standardization of Undersea Feature Names</i> B-8 - <i>Gazetteer of Geographical Names of Undersea Features</i> B-9 - <i>GEBCO Digital Atlas</i> B-10 - <i>The History of GEBCO</i> B-11 - <i>IHO-IOC GEBCO Cook Book</i> B-12 – <i>Guidance on Crowd source Bathymetry</i>	2.6	3.2 3.3	IOC	Maintain publications updated	GGC Chair Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.6.7	Contribute to outreach and education about ocean mapping. Increase understanding of the importance of hydrography and interest in following ocean mapping as a career	1.5 2.6 3.4	3.2	IOC	Development of Roadmap for Outreach and Education Working Group. Development of Education Materials. Printing of GEBCO World Map in MS Continuous	GGC Chair Secretariat		GEBCO Fund - 8200 Euros	
3.6.8	Maintain GEBCO Website	1.5 2.6 3.4	3.2 3.3	BODC	Content of GEBCO web site continually updated with news items; information about meetings and events and information about and links to new products Continuous	GGC Chair Secretariat		GEBCO Fund - 5000 Euros annually	

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.6.9	Develop short course and course material on compiling digital bathymetric models (DBMs) to be included in GEBCO from a heterogeneous bathymetric source database	1.5 2.6 3.4	3.1 3.2			GGC Chair Secretariat			GEBCO Fund
3.6.10	Update and enhance the GEBCO Gazetteer (B-8) for internet access	1.5	3.2 3.3		Continuing enhancement and maintenance to incorporate new names from each SCUFN meeting: Annual	GGC Chair Director, DCDB Secretariat		Contract support funded by GEBCO Fund - 10,000 Euros	

Element 3.7 Marine Spatial Data Infrastructures

Objective: Monitor developments related to the hydrographic component of Spatial Data Infrastructures, to develop and maintain the relevant IHO Publications, and to provide technical advice as appropriate.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.7.1	Organize, prepare and report annual meetings of the Marine Spatial Data Infrastructures Working Group (MSDIWG)	2.5	2.1 2.3	OGC SPC Academia Industry UN-GGIM UN-WGMGI	Continuous	MSDIWG Chair Secretariat	1 meeting annually. Travel cost for 1 AD	Travel cost, per diem. and working hours for MS and other representatives to prepare for and attend the meeting	
3.7.2	Maintain the relevant IHO standards, specifications and publications on MSDI, including C-17	2.5	2.1 2.3	OGC Academia Industry		MSDIWG Chair Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.7.3	Develop and maintain training syllabi and material for MSDI and associated learning subjects	2.5	2.1 3.1	OGC Academia Industry	Course material for standardised MSDI training course	MSDIWG Chair Secretariat			
3.7.4	Meeting of the OGC Marine Domain Working Group	2.5	2.1 2.3	OGC Academia Industry	Coordination of the relevant activities	MSDIWG Chair Secretariat			

Element 3.8 International Standards for Hydrographic Surveyors and Nautical Cartographers

Objective: Establish minimum standards of competence for hydrographic surveyors and nautical cartographers.

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.8.1	Organize, prepare and report annual meetings of the International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)	1.1 1.4	2.2	FIG ICA Academia Industry	Recognition of new submissions and maintenance of guiding tools and references Continuous	IBSC Chair Secretariat	1 meeting annually. Travel cost for 1 AD	Travel cost, per diem. and working hours for Members and other representatives to prepare for and attend the meeting	Availability of Board members to undertake an increasing intersessional workload Capacity of Secretariat to provide full support to the Board

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.8.2	Fulfil the functions of the IBSC	1.4	2.2	FIG ICA	Provide guidance to training institutions Continuous	IBSC Chair Secretariat			Availability of Board members to undertake an increasing intersessional workload Capacity of Secretariat to provide full support to the Board
3.8.3	Manage the IBSC Fund	4.4		FIG ICA	Management of the IBSC Fund effectively and report to the IHO Secretariat Continuous	IBSC Chair Secretariat			

Task	Description	SD	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing	Lead authority / Participants	Notable specific resources from the IHO budget	Other resources	Significant risk to delivery
3.8.4	<p>Review the IBSC standards and maintain IBSC Publications,</p> <p>including:</p> <p><i>C-6 - Reference Texts for Training in Hydrography</i></p> <p><i>C-47 - Training Courses in Hydrography and Nautical Cartography</i></p> <p><i>S-5A and B - Standards of Competence for Hydrographic Surveyors</i></p> <p><i>S-8A and B - Standards of Competence for Nautical Cartographers</i></p>	1.4	2.2	<p>FIG</p> <p>ICA</p> <p>Academia</p> <p>Industry</p>	<p>Monitor, control and update of the IBSC Standards in S-5A/B and S-8A/B and Publications</p> <p>Continuous</p>	<p>IBSC Chair</p> <p>Secretariat</p>	<p>Support to IBSC on review and update of Standards of Competence</p> <p>10K€ annually</p>		<p>Availability of Board members to undertake an increasing intersessional workload</p> <p>Capacity of Secretariat to provide full support to the Board</p>

Appendix A to Annex A to PRO 1.7

Strategic Risk analysis

1. INTRODUCTION

This assessment follows the risk analysis framework described in the IHO Strategic Plan adopted by the IH Conference in 2009. It is based on a limited update review conducted by the Secretariat of the analysis provided in Annex A to the Strategic Plan. The HSSC provided input that confirmed the relevant risk assessment scores used in the 2009 risk analysis.

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).

These Strategic Assumptions introduce possible risks to the achievement of the associated Strategic Directions (as set out in Chapter 4), that are intended to fulfil the IHO's objectives and ultimately its mission. They have been used as the logical starting point for risk identification.

2.2 Risk Identification

Possible risks have been identified for each individual SD. These risks have been categorized as either (1) *internal*, - originating from within the IHO community; or (2) *external*. The relevant Strategic Assumptions are indicated in the table below.

SD1 Strengthen the role and effectiveness of the IHO

Internal Risks

Description	Strategic Assumptions
lack of means (capacity/competence/budget)	1.2, 2.3
lack of consensus "how"	5.2, 5.3
deficiencies in existing standards	4.1

External Risks

Description	Strategic Assumptions
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 Risks

Description	Strategic Assumptions
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
deficiencies in existing standards	4.1

External Risks

Description	Strategic Assumptions
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 Risk

Description	Strategic Assumptions
lack of means (capacity/competence/budget)	1.2, 2.3

External Risk

Description	Strategic Assumptions
lack of knowledge/competence/interest	2.3

SD4 Assist Member States to fulfil their roles

Internal Risk

Description	Strategic Assumptions
lack of means (capacity/competence/budget)	1.2, 2.3

External risk

Description	Strategic Assumptions
national developments (political/legal) hamper cooperation	5.2

2.3 Risk Assessment

The risks identified above can be scored in relation to their potential severity of impact and their probability of occurrence according to the formula for risk quantification:

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

Based on the five-category approach as described in the IHO Risk Management Framework, set out in Annex A to the Strategic Plan, where:

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

The risks identified above have been assessed as follows:

Internal Risks	Probability (1 to 5)	Impact (1 to 5)	Resultant risk score (P x I)
lack of means (capacity/competence/budget)	4	4	16
lack of consensus "how"	3	4	12
Member State (MS) not willing/not able to comply	4	5	20
MS not aware of the level of importance to comply	3	4	12
deficiencies in existing standards	4	4	16

External Risks	Probability (1 to 5)	Impact (1 to 5)	Resultant risk score (P x I)
technological developments too fast to cope	3	4	12
national developments hamper cooperation	3	2	6
lack of means (capacity/competence/budget)	4	4	16
lack of knowledge/competence/interest	4	3	12

Using the aggregate risk score for all the risks associated with each SD provides the following risk priority for the SD's:

Ranking	SD	Description	Sum of risk scores
1	SD2	Facilitate global coverage and use of official hydrographic data, products and services	94
2	SD1	Strengthen the role and effectiveness of the IHO	62
3	SD3	Raise global awareness of the importance of hydrography	28
4	SD4	Assist Member States to fulfil their roles	22

From this assessment it is clear that there are significant risks associated with achieving SD2, with the other SD's attracting progressively less risk.

2.4 Risk Treatment

As *internal* risks are within the direct control of the IHO it makes sense to initially identify the three most relevant **risks** at a strategic level, i.e. those which threaten the accomplishment of SD's and ultimately the mission, 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 Member State is not able to meet **SD2**, the IHO has mechanisms in place to provide support, aimed at reducing risks associated with the non-provision of navigational services. This support includes; the provision of capacity building programmes through RHCs in the Work Programme, or support by individual HOs through bilateral arrangement. At the same time, resolution of the situation may also be linked to both **SD1&4**. If there is a lack of means (capacity, competence, funding) to implement the existing mechanisms to support the involved HO then it is unlikely that **SD2** can be achieved effectively.

To mitigate the risk of MS not being able to fulfil **SD2**; the IHO (Secretary-General in conjunction with IRCC, CBSC and the RHC Chairs) should identify;

- the HOs most affected (lack of capacity; competence)
- a realistic estimate of the remedial action required (identifying shortcomings), and
- how a supporting HO or the CB Programme can assist.

An escalation mechanism should be considered, when appropriate; such as an affected MS being approached via the IMO or directly through diplomatic channels to identify its shortcomings and highlight its responsibilities and the national benefits and value of seeking improvements to the situation

3 years Budget 2021 - 2023

TABLE 1
PROPOSED IHO BUDGET DETAILS FOR 2021-2023
SUMMARY

TABLEAU 1
PROJET DETAILLE DE BUDGET DE L'OHI POUR 2021-2023
RECAPITULATIF

Chapters and Items	Approved budget 2019	Proposed budget 2021	Proposed budget 2022	Proposed budget 2023
<i>Chapitres et postes budgétaires</i>	<i>Budget Approuvé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>
Value of the share - <i>Valeur de la part</i>	4 024,32 €	4 024,32 €	4 024,32 €	4 024,32 €
Number of shares - <i>Nombre de parts</i>	817	817	817	817
Provision for suspended Member States <i>Provision pour Etats membres suspendus</i>	-6	-6	-6	-6
Final number of shares <i>Nombre de parts définitif</i>	811	811	811	811
	(Euros)	(Euros)	(Euros)	(Euros)
Income - <i>Revenus</i>	3 489 724	3 498 724	3 494 724	3 498 724
Net Expenditure - <i>Dépenses nettes</i>	3 488 400	3 495 700	3 493 700	3 496 700
Budget Excess/Deficit - <i>Excédent/Déficit budgétaire</i>	1 324	3 024	1 024	2 024
Effect on capital - <i>Effet sur le capital</i>	1 324	3 024	1 024	2 024

TABLE 2
INCOME

TABLEAU 2
REVENUS

Chapters and Items	Approved budget 2019	Proposed budget 2021	Proposed budget 2022	Proposed budget 2023
<i>Chapitres et postes budgétaires</i>	<i>Budget Approuvé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>
	(Euros)	(Euros)	(Euros)	(Euros)
CONTRIBUTIONS <i>Contributions</i>	3 263 724	3 263 724	3 263 724	3 263 724
INTEREST ON BANK ACCOUNTS <i>Intérêts sur comptes en banques</i>	40 000	42 000	35 000	35 000
INTERNAL TAX <i>Imposition interne</i>	186 000	193 000	196 000	200 000
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	3 489 724	3 498 724	3 494 724	3 498 724
	=====	=====	=====	=====

TABLE 3
DETAILED EXPENDITURE

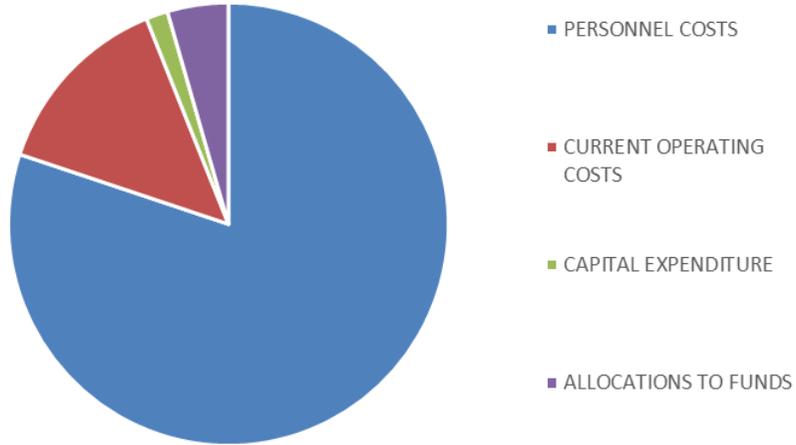
TABLEAU 3
DETAIL DES DEPENSES

Chapters and Items	Approved budget 2019	Proposed budget 2021	Proposed budget 2022	Proposed budget 2023
<i>Chapitres et postes budgétaires</i>	<i>Budget Approuvé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>
<u>Personnel Costs - Dépenses de personnel</u>	(Euros)	(Euros)	(Euros)	(Euros)
Salaries - Directing Committee - <i>Salaires - Comité de direction</i>	502 000	518 000	528 000	540 000
- Category A - <i>Personnel de catégorie A</i>	600 000	622 000	636 000	650 000
- Translators - <i>Personnel de traduction</i>	218 000	232 000	238 000	243 000
- General Services (B & C) - <i>Services généraux (B & C)</i>	490 000	540 000	540 000	550 000
Overtime - <i>Heures supplémentaires</i>	10 000	10 000	10 000	10 000
<u>Costs dependent on Salaries - Coûts liés aux salaires</u>				
Annual Bonus - <i>Gratification annuelle</i>	48 000	50 000	50 000	51 000
Payment to Retirement schemes - <i>Cotisations patronales de retraite</i>	390 000	410 000	417 000	427 000
Insurances based on wages - <i>Assurances assises sur salaires</i>	17 000	15 000	15 000	16 000
Medical (CIGNA premiums) - <i>Primes médicales versées à CIGNA</i>	121 000	302 000	310 000	310 000
Family Allowances - <i>Allocations familiales</i>	20 000	17 000	17 000	17 000
Education Grants - <i>Allocations pour frais d'études</i>	17 000	12 000	5 000	5 000
<u>Costs independent of Salaries - Autres charges indépendantes des salaires</u>				
Medical claims paid - <i>Remboursements de soins</i>	160 000			
Medical refunds - <i>Remboursements médicaux</i>	-125 000			
Home rental - <i>Indemnité de logement</i>	7 000	6 000	6 000	6 000
Home Leave - <i>Congés dans les foyers</i>	15 000	12 000	12 000	12 000
Miscellaneous Personnel Expenses - <i>Autres dépenses de personnel</i>	5 000	3 000	3 000	3 000
<u>Controllable Personnel costs - Coûts de personnel modulables</u>				
Salaries - Temporary staff - <i>Personnel temporaire</i>	1 000	1 000	1 000	1 000
IHO Secretariat Staff training - <i>Formation du personnel</i>	7 000	7 000	7 000	7 000
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TOTAL CHAPTER I - TOTAL CHAPITRE I	2 503 000	2 757 000	2 795 000	2 848 000

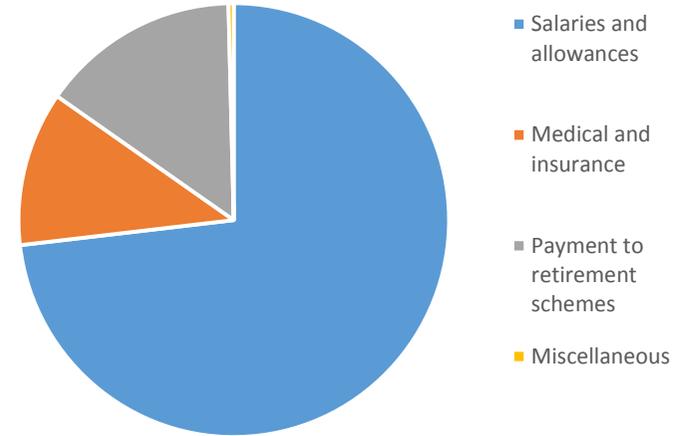
Chapters and Items	Approved budget 2019	Proposed budget 2021	Proposed budget 2022	Proposed budget 2023
<i>Chapitres et postes budgétaires</i>	<i>Budget Approuvé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>
<u>Current Operating Costs - Dépenses de gestion courante</u>				
	<u>(Euros)</u>	<u>(Euros)</u>	<u>(Euros)</u>	<u>(Euros)</u>
Maintenance of building - <i>Entretien des locaux</i>	47 000	43 000	43 000	43 000
Multirisk insurance - <i>Assurance multi-risques</i>	3 500	4 000	4 000	4 000
Maintenance of IT equipment - <i>Entretien des équipements</i>	64 000	55 000	55 000	55 000
Office Stationery - <i>Fournitures de bureau</i>	10 500	11 000	11 000	11 000
Postage, telephone, telefax - <i>Courrier, télécommunications</i>	37 000	32 000	32 000	32 000
Local Travel - <i>Déplacements locaux</i>	2 000	1 500	1 500	1 500
Bank Charges - <i>Frais bancaires</i>	9 500	6 000	6 000	6 000
Contract support - <i>Support contractuel</i>	20 000	10 000	10 000	10 000
Administrative support for Council - <i>Support administratif pour le Conseil</i>	20 000	15 000	15 000	15 000
Auditors fees - <i>Honoraires du commissaire aux comptes</i>	10 000	10 000	10 000	10 000
Public Relations - <i>Relations publiques</i>	22 000	20 000	20 000	20 000
Miscellaneous Operating Expenses - <i>Autres charges d'exploitation</i>	1 000	1 000	1 000	1 000
<u>Travel costs - Frais de déplacements</u>				
Long Distance - <i>Grands déplacements</i>	307 000	250 000	250 000	250 000
<u>Publications costs - Frais de publications</u>				
I.H. Review - <i>Revue hydrographique internationale</i>	10 000	10 000	10 000	10 000
Other publications - <i>Autres publications</i>	1 700	1 000	1 000	1 000
Provision for bad debts - <i>Provisions pour créances douteuses</i>	50 000	20 000	20 000	
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TOTAL CHAPTER II - TOTAL CHAPITRE II	615 200	489 500	489 500	469 500

Chapters and Items	Approved budget 2019	Proposed budget 2021	Proposed budget 2022	Proposed budget 2023
<i>Chapitres et postes budgétaires</i>	<i>Budget Approuvé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>	<i>Budget Proposé</i>
<u>Capital Expenditure - Dépenses d'équipement</u>	(Euros)	(Euros)	(Euros)	(Euros)
Purchase of IT equipment - <i>Equipements informatiques</i>	10 000	10 000	10 000	10 000
Furniture & other equipment - <i>Mobilier et autres équipements</i>	5 000	5 000	5 000	5 000
Purchase Publications & Binding - <i>Reliures et publications</i>	1 000	1 000	1 000	1 000
Depreciation of fixed assets - <i>Dépréciation des immobilisations</i>	15 000	15 000	15 000	15 000
TOTAL CHAPTER III - TOTAL CHAPITRE III	31 000	31 000	31 000	31 000
=====	=====	=====	=====	=====
=	=	=	=	=
Annual Operating Costs - Coût opérationnel annuel	3 149 200	3 277 500	3 315 500	3 348 500
=====	=====	=====	=====	=====
=	=	=	=	=
<u>Asset Allocation - Immobilisations</u>	(Euros)	(Euros)	(Euros)	(Euros)
Purchase of IT equipment - <i>Equipements informatiques</i>	15 000	15 000	15 000	15 000
Furniture & other equipment - <i>Mobilier et autres équipements</i>	10 000	10 000	10 000	10 000
	25 000	25 000	25 000	25 000
<u>Allocation to Funds - Dotations aux fonds dédiés</u>	(Euros)	(Euros)	(Euros)	(Euros)
GEBCO Fund - <i>Fonds pour la GEBCO</i>	8 200	8 200	8 200	8 200
GEBCO SCUFN Gazetter	30 000	10 000	10 000	10 000
Assembly Fund - <i>Fonds pour les assemblées</i>	20 000	20 000	20 000	20 000
Relocation Fund - <i>Fonds pour les déménagements</i>	5 000	0	0	0
Capacity Building Fund - <i>Fonds pour le renforcement des capacités</i>	116 000	125 000	85 000	65 000
Special Project Fund - <i>Fonds pour les projets spéciaux</i>	60 000	30 000	30 000	20 000
IBSC Fund - <i>Fonds IBSC</i>	5 000	0	0	0
Internal Retirement Fund - <i>Fonds de Retraite Interne</i>	70 000	0	0	0
TOTAL CHAPTER V - TOTAL CHAPITRE V	314 200	193 200	153 200	123 200
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Total Expenditure - Dépense totale	3 488 400	3 495 700	3 493 700	3 496 700
=====	=====	=====	=====	=====

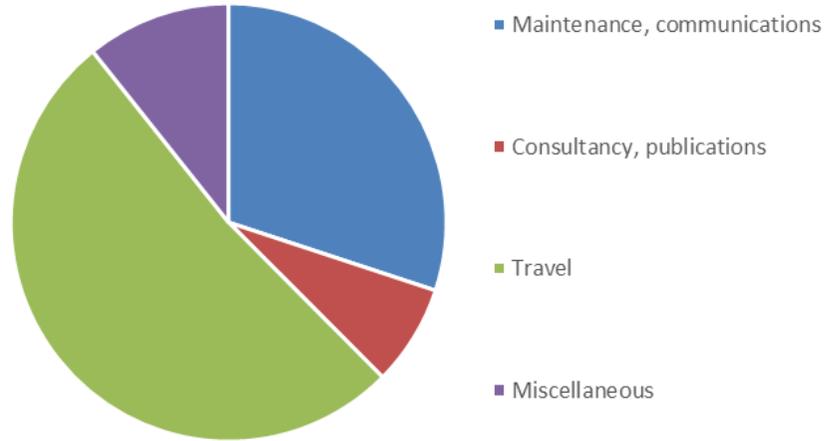
BUDGET EXPENDITURE
(2021-2023: 11 236 100)



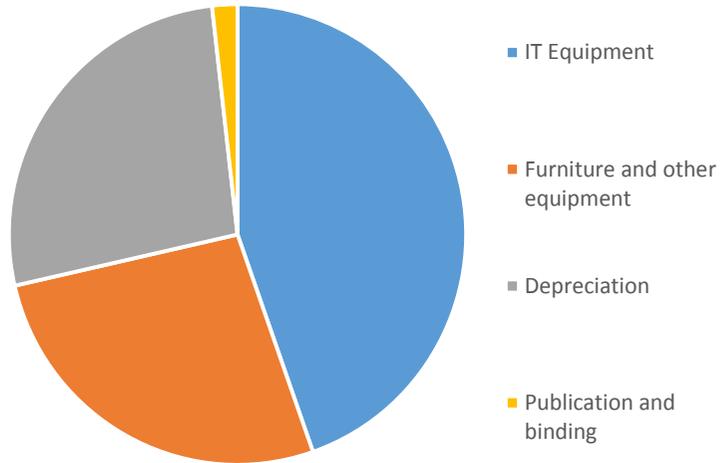
CHAPTER I PERSONNEL COSTS
(2021-2023: 8 400 000)



CHAPTER II CURRENT OPERATING EXPENSES
(2021-2023: 1 448 500)



CHAPTER III CAPITAL EXPENDITURE
(2021-2023: 168 000)



CHAPTER IV ALLOCATION TO FUNDS
(2021-2023: 469 600)

