



# IHO WORK PROGRAMME FOR 2022

# 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 Co-operation 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 Cooperation with International Organizations and participation in relevant meeting**

**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	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	Principal Director	Principal Manager
1.1.1	Maintain relationships with the Government of Monaco and the diplomatic corps accredited in Monaco			Continuous	Secretariat				SG	ADCS and MFA
1.1.2	Maintain relationship with the Antarctic Treaty Consultative Meeting (ATCM)	3.2	Mariners Ship operators Marine scientific community	continuous	Secretariat	1 meeting  Travel cost for SG + AD + ESO, 3 days  In week 23 May – 2 June, Berlin together with HCA18			SG	ADCS
1.1.3	Maintain relationship with the Comité International Radio Maritime (CIRM)	1.2	Navigation equipment manufacturers	continuous	Secretariat	1 meeting  Travel cost for 1 SG/Dir/AD			DTECH	ADSO
1.1.4	Maintain relationship with European Union Initiatives (such as INSPIRE and EMODnet)	3.2	Monitoring of impact of open data policy. Possible significant contribution to Revised Strategic Plan Main Goal 3 in the future	continuous	Secretariat IENWG	SG/Dir/AD  2 meetings  Travel cost for 1 SG/Dir/AD per meeting			DCOOR D	ADCS
1.1.5	Maintain relationship with the Group on Earth Observation (GEO)	2.3		continuous	Secretariat GEBCO GC MSDIWG	1 meeting  Travel cost for 1 SG/Dir/AD per meeting			DCOOR D	ADSO& ADCC

Task	Description	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	Principal Director	Principal Manager
1.1.6	Maintain relationship with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA )  including the IALA e-NAV Committee:  IALA World-Wide Academy (WWA)	3.1	Aids to Navigation authorities, e- Navigation data service providers, maritime community	continuous	Secretariat, HSSC WGs, CBSC	2 meetings  Travel cost for 1 SG/Dir/AD per meeting			SG & DTECH	ADDT & ADCC
1.1.7	Maintain relationship with the International Electrotechnical Commission (IEC), including:  IEC Technical Committee 80	1.1	Equipment manufacturers,  Type approval bodies	continuous	Secretariat, HSSC WGs	1 meeting  Travel cost for 1 Dir/AD			DTECH	ADDT
1.1.8	Maintain relationship with the International Maritime Organization (IMO), including:	1.1 3.1	Mariners  Ship operators  Administrations	continuous	Secretariat				SG	ADSO
1.1.8.1	- Assembly					London, UK 22 Nov-1 Dec			SG	ADSO
1.1.8.2	- Council					C 128, London, UK, July 2022 (tbc)  C 129, London, UK, Nov 2022 (tbc)  SG  attendance only if agenda relates directly to IHO matters of interest			SG	ADSO
1.1.8.3	- MSC			Engagement with IMO for S-100 Implementation Strategy		MSC 105, London, UK, May 2022 (tbc)			SG	ADSO

Task	Description	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	Principal Director	Principal Manager
1.1.8.4	- NCSR			Engagement with IMO for S-100 Implementation Strategy		NCSR 9, London, UK, June 2022 (tbc) DTECH+ADSO 11 nights on site.  IMO/ITU EG 18, London, UK Jul 2022 (tbc)			DTECH	ADSO
1.1.8.5	- TCC					TC 72, London, UK, June 2022 (tbc)  DCOORD or ADCC  3 nights on site			DCOORD	ADCC
1.1.9	Maintain relationship with the Intergovernmental Oceanographic Commission (IOC) of UNESCO, including:	3.2	Marine scientific community	continuous	Secretariat, GEBCO GC, MSDIWG				DCOORD	ADSO
1.1.9.1	- Assembly					DCOORD or ADSO			DCOORD	ADSO
1.1.9.2	- Executive Council					EC 55, Paris, France, June/July 2022 (tbc)  DCOORD or ADSO  4 nights on site			DCOORD	ADSO
1.1.9.3	- Specialized WGs					UN Decade IOC Stakeholders Forum  2 meetings  Travel cost for 1 SG/DCOORD per meeting			SG& DCOORD	ADSO

Task	Description	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	Principal Director	Principal Manager
1.1.10	Maintain relationship with the International Organization for Standardization (ISO), including:  - ISO Technical Committee 211	1.1 1.2		continuous	Secretariat	DTECH or ADDT  6 nights on site for each meeting			DTECH	ADDT
1.1.11	Maintain relationship with the Joint Board of Geospatial Information Societies (JB-GIS)	1.1		annual	Secretariat	1 meeting if coinciding with other meetings.  No significant additional cost			DCOOR D	ADs as appropriate
1.1.12	Maintain relationship with United Nations (UN) organizations based in New York, including:	2.3	Marine geospatial data providers and users	continuous	Secretariat ABLOS MSDIWG				SG	ADs as appropriate
1.1.12.1	- the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM)  and  WG on Marine Geospatial Information					UN-GGIM-12, UNHQ New York, SG  6 nights on site			SG	ADCC (both are being dealt with by the MSDIWG)
1.1.12.2	- the UN Division on Ocean Affairs and Law of the Sea (UN-DOALOS)					UNICPOLOS 22, New York, Jun (tbc)  SPLOS-30, New York, Jun (tbc)  A74/LOS, New York, Dec (tbc)  SG or Director New York 6 nights on site per meeting			SG	ADSO

Task	Description	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	Principal Director	Principal Manager
1.1.12.3	- the UN (UN Expert Group on Geographical Names (UNGEGN)					UNGEGN-3 <sup>rd</sup> Session (1 – 5 May 2023)			SG	ADCS (IHO represented by Trent Palmer, NGA, SCUFN Member)
1.1.13	Maintain relationship with the World Meteorological Organization (WMO)		Mariners Ship operators Maritime Administrations	continuous	Secretariat	SG or ADSO			SG	ADSO
1.1.14	Maintain relationship with the International Seabed Authority (ISA)	1.1 2.3	Marine geospatial data providers and users	continuous	Secretariat	ISA Assembly July Jamaica, SG/Dir 4 nights on site			SG	ADSO
1.1.15	Maintain relationships with other international and observer organizations when their agendas have relevance to the programme of the IHO	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			SG or Director and AD responsible for the subject matter, as appropriate	
1.1.15.1	21 <sup>th</sup> session of the Asia-Pacific Heads of Maritime Safety Agencies (APHoMSA) forum					Local MS to be invited to represent the IHO – otherwise no IHO representation			DTECH	ADCC
1.1.15.2	Conference of the Association of African Maritime Administrations  Southern and East African and Islands Regional Group for Safety of Navigation and Marine Environment Protection (SEaignep)					AAMA7: (tbc) SEaignep7: (tbc)			DTECH	ADDT

Task	Description	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	Principal Director	Principal Manager
1.1.15.3	COMNAP (Council of Managers of National Antarctic Program)					COMNAP AGM IHO attendance only if relevant topics on the agenda and funding becomes available			SG	ADCS
1.1.15.4	IMSO (International Mobile Satellite Organization) Assembly					26 <sup>th</sup> IMSO Assembly, IMO, London, UK (tbc)			DTECH	ADSO
1.1.15.4.1	IMSO - Advisory Committee					47 <sup>th</sup> Session of the Advisory Committee of IMSO (tbc) 48 <sup>th</sup> Session of the Advisory Committee of IMSO (tbc) IMO, London, UK			DTECH	ADSO
1.1.15.5	IMPA (International Maritime Pilots' Association)					26 <sup>th</sup> Congress of IMPA. IHO attendance only if relevant topics on the agenda and funding becomes available			SG	ADSO
1.1.15.6	FIG Congress 2022					Dir or AD 14-20 May Cape Town. SA			DCOOR D	ADCC
1.1.15.7	US/Canada Hydrographic Conference 2022 Ottawa (September 2022 tbc)					In conjunction with USCHC			SG	Relevant AD



Task	Description	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	Principal Director	Principal Manager
1.1.15.8	International Cartographic Conference and General Assembly					IHO attendance only if relevant topics on the agenda and funding becomes available			DTECH	ADCC
1.1.15.9	Meeting of the Working Group on Marine Cartography of the International Cartographic Association (ICA)					IHO attendance only if relevant topics on the agenda and funding becomes available			DTECH	ADCS
1.1.15.10	Meeting of the Commission on SDI and Standards of the International Cartographic Association (ICA)					IHO attendance only if relevant topics on the agenda and funding becomes available			DTECH	ADCC

**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	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	Principal Director	Principal Manager
1.2.1	Maintain and extend the IHO website and the Digital Document Archive	3.3		continuous	Secretariat	30k€ for commercial contract support			SG	ADDT
1.2.2	Maintain and extend the IHO GIS, webservice and web mapping services in support of RHCs, ENC production coordination, INT chart coordination, C-55 and other related activities	3.3		continuous	Secretariat	Use of commercial contract support Maintenance included in 1.2.3			SG	ADDT and other AD and / or Project Officers as appropriate
1.2.3	Maintain and extend the Secretariat Admin IT infrastructure, including in-house publishing facilities	3.3		continuous	Secretariat	80k€ annually (includes hardware, software and contract maintenance support)			SG	ADDT
1.2.4	Maintain the IHO reference library collection including the incorporation of new material			continuous	Secretariat	1K€ annually			SG	MFA
1.2.5	Implement and maintain online forms for the input from Member States to the IHO databases and in response to circular letters			continuous	Secretariat	1K€ annually			DTECH	ADCC

**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	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	Principal Director	Principal Manager
1.3.1	Promote the IHO through publicity and public relations initiatives	3.3			Secretariat, Member States				SG	MFA/PCRO
1.3.2	Encourage new membership of the IHO			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).  2 nights on site per visit			SG and Directors	All ADs
1.3.2.1	Undertake high-level visits to Governments of non-MS					SG or Director  At least 2 visits, 2 nights on site for each visit			SG and Directors	All ADs
1.3.3	Celebrate World Hydrography Day including the preparation of information to support the themes	3.3		annual	Secretariat, Member States				SG	ADCC/ PCRO
1.3.4	Compile and publish P-1 – <i>International Hydrographic Review</i> with the assistance of a paid editor	3.3		continuous	Secretariat, Member States	10k€ for contract support		Lack of suitable papers provided by MS and other contributors	DCOORD	ADCC
1.3.4.1	Maintain IHR website and digital repository for the overall collection of P-1 available for worldwide access			continuous	Secretariat	2 K€ annually			DCOORD	ADCC
1.3.5	Develop IHO Corporate Communication Plan, Social Networks, Newsfeed, Media Release	3.3		Maintain the frequency and level of blogs and feeds on LinkedIn and Facebook	Secretariat				SG / DTECH / DCOORD	PCRO

**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	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	Principal Director	Principal Manager
1.4.1	Execute the IHO Work Programme and Budget approved by the 2nd Session of the Assembly, monitoring its progress and proposing or implementing any necessary adjustments according to the circumstances and the regulations	All Goals &Targets		continuous	Secretariat Council				SG	MFA
1.4.2	Develop and propose future IHO Work Programme, Budget and Strategic Plan	All Goals &Targets		Continuous Prepare proposed 2023 Work Programme + 3-year Programme and Budget 2024-2026 for C-6 and A-3 in liaison with HSSC and IRCC, Finance Committee	Secretariat Council Assembly				SG (+ Dirs)	MFA
1.4.3	Conduct biennial IHO stakeholders' forums	2.2 3.1		continuous	Secretariat		Required information not being provided by MS, RHCs or organs of the IHO.  Lack of human resources in Secretariat to assess and report on inputs		SG	ADCC/MFA
1.4.4	Conduct biennial IHO stakeholders' forums			2021	Secretariat				SG or Director and AD responsible for the subject matter, as appropriate	

Task	Description	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	Principal Director	Principal Manager
1.4.5	Prepare and report on the development of an IHO Strategy for gender-inclusive language (Decision A2/07 refers) and report on the implement plan.			Amendments to M-1 and M-3 to be considered at A-3	SG				SG	ESO
1.4.6	Implementation of Decision A2/25 on the future of S-23.			Amendment to existing Resolution (PRO A2/1.9.5 refers and in addition to Task 2.8.7 on S-130)	SG				SG	ADCS

#### 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	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	Principal Director	Principal Manager
1.5.1	Maintain formal communication between the Secretariat and the Member States through Circular Letters	3.3		continuous	Secretariat				SG	PA
1.5.2	Maintain, update and develop procedures to facilitate and improve the effectiveness of the finance and administrative work of the Secretariat			continuous	Secretariat				SG	MFA
1.5.3	Provide in-house translation services English/French and French/English in support of the IHO WP  Include Spanish translations as much as possible in accordance with the relevant IHO Resolutions			continuous	Secretariat		MS encouraged to volunteer to translate lower priority IHO publications from EN to FR and SP		SG	MFA

Task	Description	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	Principal Director	Principal Manager
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:  - Translation  - Technical editing			continuous	Secretariat	10k€			SG	MFA
1.5.5	Compile, maintain and publish IHO publications that are not allocated to a specific IHO body, including:  P-5 – IHO Yearbook  P-7 – IHO Annual Report  P-6 – Proceedings of the Assembly  M-3 –Resolutions of the IHO			As required	Secretariat				SG	MFA  (ADCC for the Yearbook)
1.5.6	Secretariat staff training			New CMS system for website  Photographic skills training for PRCO  Maintain Data Base Server for DCA		7k€			SG	MFA
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			As required	continuous	Secretariat			SG	MFA
1.5.8	Maintain the premises and facilities of the IHO Secretariat as required as the occupant, including renovations or modifications as requirements arise			Continuous	continuous	Secretariat	62 K€		SG	MFA

**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	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	Principal Director	Principal Manager
1.6.1	Prepare and conduct the 3rd session of the IHO Assembly			No Assembly in 2022, but countdown A-3 starts	Secretariat				SG/ DCOORD	ADCC
1.6.1.1	Pre-meeting briefing and preparation for Chair of the Assembly			No Assembly in 2022	Secretariat Chair of Assembly	Assembly Chair			SG	ADCC
1.6.2	Prepare and conduct annual sessions of the IHO Council			Annual	Secretariat	C-6, Monaco, Oct tbc			SG	ADCS
1.6.2.1	Pre-meeting briefing and preparation for Chair of Council				Secretariat, Chair of Council	Council Chair 2 nights on site Monaco			SG	ADCS

## 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	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	Principal Director	Principal Manager
2.1.1	Organize, prepare, and report annual meetings of HSSC	1.1 1.2		Monitor and approve HSSC Work Programme - Annual	HSSC Chair WG Chairs Secretariat	HSSC-14, Bali, Indonesia, 16-19 May TBC. DTECH +ADCS 6 nights on site		Inability of MS and others to participate in meetings	DTECH	ADCS
2.1.1.1	Pre-meeting briefing and preparation for Chair					Monaco 1 night on site			DTECH	ADCS
2.1.2	Organize, prepare and report meetings of HSSC working groups	1.1 1.2		As defined in the HSSC Work Programme	WG Chairs Secretariat			Inability of MS and others to participate in meetings	DTECH	AD assigned to the relevant WG or body
2.1.2.1	S-100WG					S-100WG-7 (tbc) Monaco DTECH, ADDT + TSSO			DTECH	ADDT
2.1.2.2	ENCWG					ENCWG-7 / S-101PT New Zealand (Oct/Nov 2022) ADDT/TSSO			DTECH	ADDT
2.1.2.3	S-100TSM					S-100TSM-10 (tbc) ADDT			DTECH	ADDT
2.1.2.4	NCWG					NCWG-9 (Australia, tbc) ADCS			DTECH	ADCS
2.1.2.5	NIPWG					NIPWG-10 Niteroi, Brazil TBC ADCS			DTECH	ADCS
2.1.2.6	DQWG					DQWG-18 8-11 Feb., to be defined, Monaco as back-up ADCS			DTECH	ADCS
2.1.2.7	TWCWG					TWCWG-6, Cape Town, South Africa, (Apr/May 2022) ADSO			DTECH	ADSO
2.1.2.8	ABLOS					ABLOS-BM29 & ABLOS 11 (3-6 October 2022 Monaco)			DTECH	ADSO

Task	Description	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	Principal Director	Principal Manager
2.1.2.9	HSWG					HSWG-2 ADSO			DTECH	ADSO
2.1.2.10	HDWG					HDWG-3, China (tbc) ADSO			DTECH	ADSO
2.1.3	Prepare for and represent HSSC at meetings of the IHO Council			Submit report and recommendations - Annual	HSSC Chair Secretariat	HSSC Chair 4 nights on site Funded only if country of Chair is not represented in the Council			DTECH	ADCS
2.1.4	Prepare for and represent HSSC at 3 <sup>rd</sup> session of the IHO Assembly			Submit reports and recommendations (through the Council)	HSSC Chair Secretariat				DTECH	ADCS
2.1.5	Monitor the development of related international standards, specifications and guidance	1.1 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	Participation to be determined on the agenda of the relevant meeting and the level of involvement of the secretariat. Travel cost for 1 AD per meeting. 5 nights on site per meeting.			DTECH	AD relevant to the standard being discussed
2.1.6	Provide technical outreach, advice and guidance in relation to IHO standards, specifications and guidance	1.1 1.2		Identify and attend relevant meetings and activities and report outcome - as required	HSSC Chair Group, Secretariat	Participation to be determined on the agenda of the relevant meeting and the level of involvement of the secretariat. Travel cost for 1 Dir/AD per meeting. 5 nights on site per meeting.			DTECH	ADDT
2.1.6.1	E-navigation Underway International (Digital@Sea Conference)		IALA			SG or DTECH  4 nights on site			DTECH	ADSO
2.1.6.2	Digital@Sea Conference (Asia-Pacific)		IALA			Local MS to be invited to represent the IHO – otherwise no IHO representation			DTECH	ADDT

Task	Description	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	Principal Director	Principal Manager
2.1.6.3	E-navigation Underway (Digital@Sea Conference) North America		IALA			Local MS to be invited to represent the IHO – otherwise no IHO representation			DTECH	ADDT
2.1.6.4	OGC Technical and Planning Committee Meetings					IHO attendance only if relevant topics on the agenda and funding becomes available			DTECH	ADDT
2.1.6.5	Meeting of the OGC Marine Domain Working Group					IHO attendance only if relevant topics on the agenda and funding becomes available			DTECH	ADDT&ADCC
2.1.6.6	Shallow Survey 2022					Wellington, New Zealand, (22-27 May 2022) Dir or AD 4 nights on site			DTECH	ADSO
2.1.7	Specify and develop a Document Management System for the collaborative drafting of complex standards	1.1 1.2		Draft preliminary specifications and investigate possible solutions	HSSC Chair Group, Secretariat				DTECH	ADCS
2.1.8	Maintain and extend IHO Resolutions (M-3) related to technical issues	1.1 1.2		Draft proposed amendments for the consideration of the Council  2020	HSSC, All WGs				DTECH	AD assigned to the relevant WG or body
2.1.9	Establish and manage the IHO Singapore Laboratory for Innovation and Technology			Transition from S-57 to S-101  S-131	HSSC / NIPWG				DTECH	ADDT

**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	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	Principal Director	Principal Manager
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)	1.1 1.2			NCWG				DTECH	ADCS
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>	1.1 1.2		Extension to S-101 ENC to be considered after WENDWG reports on the Guidelines for S-101 ENC Scheming	NCWG				DTECH	ADCS
2.2.3	Maintain the INTogIS infrastructure (and consider possible upgrade for INTogIS III for S-1XX products and services)	1.1			Secretariat	Support of the Republic of Korea			DTECH	ADDT/ADCS
2.2.4	Implement the decisions made following the report on the Future of the Nautical Paper Chart	1.1			HSSC (info IRCC, RHCs)				DTECH	ADCS

**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	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	Principal Director	Principal Manager
2.3.1	Maintain and extend the S-100 GI Registry	1.1 1.2			S-100WG, Secretariat	Support of the Republic of Korea			DTECH	ADDT
2.3.2	Maintain and extend S-100 - <i>IHO Universal Hydrographic Data Model</i>	1.1 1.2			S-100WG			Inability of MS and others to participate in the work	DTECH	ADDT
2.3.3	Develop and maintain S-99 - <i>Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry</i>	1.1 1.2			S-100WG				DTECH	ADDT
2.3.4	Develop and maintain S-10x Product Specifications	1.1 1.2	ECDIS OEM GIS Community Data providers		Project teams Relevant WGs	Any contract support to be funded by the Special Projects Fund		Inability of MS and others to participate in the work	DTECH	ADDT and/or AD assigned to the relevant WG or body
2.3.5	Provide advice and guidance to other organizations developing S-100 based Product Specifications	1.1 1.2			S-100WG Secretariat	Travel cost for 1 AD per meeting. 3 nights on site per meeting. Up to 2 meetings annually.		Limited expertise available	DTECH	ADDT and/or AD assigned to the relevant WG or body

Task	Description	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	Principal Director	Principal Manager
2.3.6	Maintain the Roadmap for the S-100 Implementation Decade				Council Chair, SG, HSSC and IRCC Chairs / Secretariat				SG/DTECH/D COORD	ADs as appropriate

**Element 2.4 S-57 Framework**

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

Task	Description	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	Principal Director	Principal Manager
2.4.1	Maintain S-52 - Specifications for Chart Content and Display Aspects of ECDIS	1.1 1.2	ECDIS OEM		ENCWG				DTECH	ADDT
2.4.2	Maintain S-57 - IHO Transfer Standard for Digital Hydrographic Data, including ENC Product Specification	1.1 1.2	ECDIS OEM Data servers		ENCWG			Inability of MS and others to participate in the work	DTECH	ADDT
2.4.3	Maintain S-58 - ENC Validation Checks	1.1 1.2			ENCWG			Inability of MS and others to participate in the work	DTECH	ADDT
2.4.4	Maintain S-61 - Product Specification for Raster Navigational Charts (RNC)	1.1	ECDIS OEM Data servers	No action expected	ENCWG				DTECH	ADDT

Task	Description	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	Principal Director	Principal Manager
2.4.5	Maintain S-63 - <i>IHO Data Protection Scheme</i>	1.2			ENCWG, DPSWG			Inability of MS and others to participate in the work	DTECH	ADDT
2.4.6	Maintain S-64 - <i>IHO Test Data Sets for ECDIS</i>	1.1 1.2			ENCWG, DPSWG				DTECH	ADDT
2.4.7	Maintain S-65 - <i>ENCs: Production, Maintenance and Distribution Guidance</i>	1.1 1.2			ENCWG				DTECH	ADDT
2.4.8	Maintain S-66 - <i>Facts about Electronic Charts and Carriage Requirements</i>	1.1			ENCWG				DTECH	ADDT
2.4.9	Maintain S-67 – <i>Mariners' Guide to Accuracy of ENCs</i>	1.1			DQWG				DTECH	ADCS

**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	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	Principal Director	Principal Manager
2.5.1	Monitor and assess requirements related to data flow, data security, data quality, backup arrangements, time-varying information, etc.	1.2			All WG			Inability of MS and others to participate in the work	DTECH	ADCS
2.5.2	Support the development and implementation of Maritime Services	1.1	IALA IMO		NIPWG NCWG S-100WG TWCWG WWNWS-SC			Inability of MS and others to participate in the work	DTECH	AD as appropriate

**Element 2.6 Hydrographic Surveying**

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

Task	Description	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	Principal Director	Principal Manager
2.6.1	Maintain and extend S-44 - <i>IHO Standards for Hydrographic Surveys</i>	1.2 2.2		Report annually to HSSC.	HSWG			Inability of MS and others to participate in the work	DTECH	ADSO



**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	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	Principal Director	Principal Manager
2.7.1	Organize the biennial ABLOS Conference	3.0		ABLOS Conferences. Next: 2022		Self-funding			DTECH	ADSO
2.7.2	Maintain C-51 - <i>Manual on Technical Aspects of the UN Convention on the Law of the Sea</i>	3.0							DTECH	ADSO

**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	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	Principal Director	Principal Manager
2.8.1	Maintain S-12 - <i>Standardization of List of Lights and Fog Signals</i>	1.2		Revision as appropriate. No action expected	NIPWG				DTECH	ADCS
2.8.2	Maintain S-32- <i>Hydrographic Dictionary</i>	1.2		Inclusion in GI Registry	HDWG	Any contract support to be funded by the Special Projects Fund  HDWG3, China, 2022 (tbc)		Inability of MS and others to participate in the work	DTECH	ADSO
2.8.3	Maintain S-49 - <i>Standardization of Mariners' Routeing Guides</i>	1.2		Revision as appropriate	NIPWG				DTECH	ADCS
2.8.4	Maintain the list of standard tidal constituent	2.2		Continuous	TWCWG				DTECH	ADSO
2.8.5	Maintain the inventory of national tide gauges and current meters	2.2		Continuous	TWCWG				DTECH	ADSO
2.8.6	Ensure that data quality aspects are addressed in an appropriate and harmonized way for all relevant standards	1.2		Continuous	DQWG				DTECH	ADCS

Task	Description	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	Principal Director	Principal Manager
2.8.7	Develop S-130 Product Specification - Polygonal Demarcations of Global Sea Areas - and then Dataset				HSSC/S-130 PT				SG/DTECH	ADCS

## WORK PROGRAMME No. 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 co-operation 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	G&T	Notable stakeholder (s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.1.1	Organize, prepare and report annual meetings of IRCC	3.1		Monitor and approve IRCC Work Programme – Annual	IRCC Chair, RHC Chairs, Chairs of the IRCC Bodies, Secretariat	IRCC-14 Indonesia (TBC June 2022) DCOORD +ADCC 4 nights on site to be held in tandem with 3.3.1		Inability of MS and others to participate in meetings	DCOORD	ADCC
3.1.1.1	Pre-meeting briefing and preparation for Chair of IRCC					Monaco IRCC Chair Travel cost and per diem for IRCC Chair (1 night on site)			DCOORD	ADCC
3.1.2	Prepare for and represent IRCC at meetings of the IHO Council			Submit report and recommendations - Annual	IRCC Chair Secretariat	IRCC Chair 4 nights on site Funded only if country of Chair is not represented in the Council			DCOORD	ADCC

Task	Description	G&T	Notable stakeholder (s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.1.3	Maintain and extend IHO Resolutions (M-3) related to coordination issues	3.1 3.2		Draft proposed amendments for the consideration of the Council 6	IRCC				DCOORD	ADCC + AD assigned to the relevant WG or body

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.2.1	Prepare for and report meetings of the Regional Hydrographic Commissions (RHC):	1.3 3.1		Submit report and recommendations – normally annually	RHC Chairs Secretariat	Most Commissions meet annually  Travel cost for SG and Directors 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	SG DTECH DCOORD	ADCC ADCS ADDT ADSO
3.2.1.1	ARHC – Arctic Regional Hydrographic Commission		Arctic Council and Arctic SDI			ARHC12, SG (Canada, dates tbc)  4 nights on site			SG	ADCS
3.2.1.2	BSHC - Baltic Sea Hydrographic Commission					BSHC27 DTECH  3 nights on site			DTECH	ADSO
3.2.1.3	EAHC - East Asia Hydrographic Commission					EAHC SC8 Thailand, February dates tbc,  SG  3 nights on site			SG	ADDT
3.2.1.4	EAtHC - Eastern Atlantic Hydrographic Commission					No Conference in 2022 (tbc)			DTECH	ADCS

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.2.1.5	MACHC - Meso American - Caribbean Sea Hydrographic Commission		IMO, IALA, ACS, OECS, COCATRAM			MACHC22, December (TBC) DCOORD + ADCC 6 nights on site			DCOORD	ADCC
3.2.1.6	MBSHC - Mediterranean and Black Seas Hydrographic Commission		IALA, IC-ENC, PRIMAR, CIESM, Private Industries			MBSHC22, Ljubljana, Slovenia, 29 March – 1 April 2021  DCOORD + ADCS  4 nights on site  BASWG16, Istanbul, Turkey, 2022, dates tbc  DCOORD  3 nights on site			DCOORD	ADCS
3.2.1.7	NHC - Nordic Hydrographic Commission					NHC64, dates and venue tbc  SG  3 nights on site			SG	ADDT
3.2.1.8	NIOHC - North Indian Ocean Hydrographic Commission					NIOHC21, dates tbc  DTECH  4 nights on site			DTECH	ADSO
3.2.1.9	NSHC - North Sea Hydrographic Commission					NSHC35, Reykjavik, Iceland, 5-6 April 2022  SG  3 nights on site			SG	ADSO



Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.2.1.10	RSAHC - ROPME Sea Area Hydrographic Commission					RSAHC9, Muscat, Oman, dates tbc DCOORD 4 nights on site			DCOORD	ADSO
3.2.1.11	SAIHC - Southern Africa and Islands Hydrographic Commission					SAIHC17, Mauritius, DTECH			DTECH	ADDT
3.2.1.12	SEPRHC - South East Pacific Regional Hydrographic Commission					SEPRHC15, Chile, 2023 DCOORD			DCOORD	ADCC
3.2.1.13	SWAtHC - South West Atlantic Hydrographic Commission					SWAtHC16, tbc 2022 DCOORD 4 nights on site			DCOORD	ADCC
3.2.1.14	SWPHC - South West Pacific Hydrographic Commission		IMO, IALA, SPC			SWPHC19, Vanuatu, February 2022, dates tbc DTECH + ADCC 4 nights on site			DTECH	ADCC
3.2.1.15	USCHC - USA and Canada Hydrographic Commission					USCHC44 -USA, Venue and dates tbc SG 2 nights on site			SG	ADDT

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.2.2	Organize, prepare for and report meetings of Hydrographic Commission on Antarctica (HCA)	3.2	COMNAP IAATO SCAR IALA	Submit report and recommendations - Annually.  Conduct a risk assessment for the Antarctic region and develop a work programme to improve Antarctic charting.  Through IHO Secretariat to submit to ATCM the risk assessment conducted by HCA for the Antarctic Region together with a proposed HCA work programme to improve Antarctic charting, for consideration, endorsement and support from ATCM..	HCA Chair Observers Secretariat	HCA-18, Berlin, Germany (back-to-back with ATCM XLIV), 2022, 4 nights on site  SG+ADCS+ESO  (no Conference planned in 2023))		Inability of Members and others to participate in HCA meetings or to engage with other Antarctic organizations	SG	ADCS
3.2.3	Contribute to improving the framework of IHO response to marine disasters	3		Improve the relevant guidelines for disaster risk reduction.  Continuous	RHC Chairs Secretariat				DCOORD	ADCC
3.2.4	Maintain and enhance the underlying database and IHO Publication C-55 – <i>Status of Hydrographic Surveying and Nautical Charting Worldwide</i>	2.2 3.1		Develop a new framework for the input, presentation and assessment of the survey and nautical cartography status in C-55	Secretariat				DCOORD	ADCC

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.3.1	Organize, prepare and report annual meetings of the Capacity Building Sub-Committee (CBSC)	1.3 3.1	IMO IALA	Monitor and approve CB Work Programme (CBWP).  Annual	CBSC Chair  CB Coordinators  Secretariat	CBSC20, Indonesia, tbc, June 2022  DCOORD, ADCC  To be held in tandem with 3.1.1  The IHO will organize a Capacity Building and IBSC Stakeholders' Seminar (tbc)			DCOORD	ADCC
3.3.1.1	Pre-meeting briefing and preparation for Chair of CBSC					CBSC Chair  Monaco  1 night on site  Funded from the CB Fund administrative expenses, when required			DCOORD	ADCC
3.3.2	Manage the IHO Capacity Building Fund	1.3 3.1		Continuous	CBSC Chair  Secretariat				DCOORD	ADCC/MFA

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.3.3	Develop and maintain a Capacity Building Management System	1.3 3.3		Support the implementation of CBWP  Continuous	CBSC Chair Secretariat	Support from the Republic of Korea	Donor States and Agencies		DCOORD	ADCC
3.3.4	Review and maintain the IHO Capacity Building Strategy	1.3 3.1		Up to date CB Strategy  Annually	CBSC Chair Secretariat				DCOORD	ADCC
3.3.5	Develop, monitor and update the Capacity Building Work Programme (CBWP), including:  - Reviewing and updating CB procedures  - Monitoring and assessing the progress and success of CB activities and initiatives	1.3 3.1		Develop and propose an annual CBWP to be included in the IHO WP.  Annually.  Considered in conjunction with task 3.3.1	CBSC Chair Secretariat				DCOORD	ADCC
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	1.3 3.1	World Bank UNDP, UNEP Donor Agencies	Coordinated delivery of Capacity Building activities.  Investigate new opportunities for CB activities.  Increase the CB Fund.  Annually	Secretariat	2 meetings annually in junction with other events  Travel cost for DCOORD and/or ADCC  1-2 nights on site per meeting  Joint CB Group meeting to be hosted by IHO, in Monaco, Principality of Monaco (dates tbc)			DCOORD	ADCC

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.3.7	Organize, prepare and report on a Capacity Building and IBSC Stakeholders' Forum	1.3 3.1	IMO IALA IOC WMO FIG Academy	Obtain lessons learned from CB training activities Review the future of the IHO CB Work Programme and CB Strategy.  Engage with institutions delivering IBSC recognized programmes.	Secretariat  CBSC Chair  IBSC Chair	The IHO will organize a Capacity Building and IBSC Stakeholders' Seminar, following CBSC20 (tbc) (see 3.3.1)			DCOORD	ADCC
3.3.8	Maintain IHO publication M-2 - <i>National Maritime Policies and Hydrographic Services</i>	2.2 3.3		Continuous	Secretariat				DCOORD	ADCC
3.3.9	Plan, administer and implement Capacity Building activities, including:  Technical and advisory visits,  Technical Workshops, Seminars, Short and long courses,  On the Job Training (ashore / on board)	1.3 3.1		Assess the status of hydrography, cartography and aids to navigation in developing States.  Provide the basic technical knowledge and to jointly explore initiatives to achieve a minimum level of response to national, regional and international obligations	CBSC Chair  RHC Chairs  Secretariat	In accordance with annual CBWP funded by the CB Fund.			DCOORD	ADCC

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.3.10	Investigate and Develop Regional Hydrographic / Maritime Projects	2.1 2.2 3.1	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.  Continuous	CBSC Chair RHC Chairs Secretariat				DCOORD	ADCC
3.3.11	Develop and maintain an online repository of training material and references	3.1  3.3	Member States and other States RHCs Academia	Ensure all training material and references are available	CBSC Chair RHC Chairs Secretariat	In accordance with annual CBWP funded by the CB Fund.				
3.3.12	Investigate and Develop Maritime Projects in Caspian Sea	2.1 2.2 3.1	IMO IALA Funding Institutions	Ensure awareness of multilateral or bilateral projects with hydrographic and/or maritime sectors (in cooperation with IMO and IALA), and to provide advice to governments, project managers and funding agencies.	Secretariat RHC Chairs	IMO/IHO/IALA High level visit to Caspian Countries – Date (1 <sup>st</sup> semester 2022) and Location tbc  DCOORD  2-3 nights on site			DCOORD	ADCC

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.4.1	Organize, prepare and report annual meetings of the WEND Working Group	1.1	CIRM RENC Management	Foster the implementation of the WEND principles (including WEND100 principles) monitor progress and report to IRCC.  Annually	WEND WG Chair Secretariat	WENDWG-12, USA (22-24 February 2022), dates and location TBC. Go no-go by end of December 2021. If not possible, same dates but for VTC sessions only.  DCOORD +ADCS 4 nights on site			DCOORD	ADCS
3.4.2	Maintain liaison with RENCs	1.1	RENC management RENC MS	Facilitate the promotion of RENC co-operation for the benefit of ENC end-users.  Support S-100 Implementation Strategy  Annually	WEND WG Chair Secretariat	2 Steering Committee meetings annually. IC-ENC in July, PAC in October  DCOORD 3 nights on site per meeting			DCOORD	ADCS
3.4.3	Maintain and coordinate ENC and INT schemes, including coverage, consistency, quality and availability	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.  Continuous	RHC Chairs Secretariat			Lack of appropriate surveys or re-surveys in areas where there is no satisfactory coverage.  Overlapping data in the same area.	DCOORD	ADCS

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.5.1	Organize, prepare and report annual meetings of the World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC)	1.1	IMO IALA IMSO	Monitor and guide the IHO/IMO World-Wide Navigational Warning Service including NAVAREA and coastal warnings.  Annually	WWNWS-SC Chair Secretariat	WWNWS14, August – September 2022 (tbc) ADSO			DCOORD	ADSO
3.5.2	Conduct annual meetings of the WWNWS-SC Document Review Working Group	1.1	IMO IALA IMSO WMO	Maintain the IMO/WWNWS documents.  Annually	WWNWS-SC Chair Secretariat	DRWG20, , IMO, London, UK, June 2022 (week after NCSR 9)(TBC) ADSO3 nights on site			DCOORD	ADSO
3.5.3	Maintain and extend the following IHO standards, specifications and publications:  - relevant IHO Resolutions in M-3 - Resolutions of the IHO,- S-53 - Joint IMO/IHO/WMO Manual on Maritime Safety Information	1.2	IMO IMSO WMO	Provide update to WWNWS documentation.  Continuous	WWNWS-SC Chair Secretariat				DCOORD	ADSO
3.5.4	Liaise with IMO and WMO on the delivery of MSI within the GMDSS	1.2	IMO IALA IMSO WMO	Ensure maintenance of service delivery.  Continuous	WWNWS-SC Chair Secretariat	ADSO 1 meeting, 2 days per year within Europe (London/ Genève/ Monaco)		Lack of engagement of national MSI Coordinators with the relevant NAVAREA Coordinator	DCOORD	ADSO



Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
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	IMO IALA IMSO WMO	Monitor projects to ensure maintenance of service delivery at least at current levels, investigation areas for improvement.  Continuous	WWNWS-SC Chair Secretariat				DCOORD	ADSO
3.5.6	Improve the delivery and exploitation of MSI to global shipping by taking full advantage of technological developments	1.1	IMO IALA IMSO WMO	Progress development of S-124 PS to align with the development of e-navigation and GMDSS modernization (see element 2.5).  Continuous	WWNWS-SC Chair Secretariat				DCOORD	ADSO

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
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	3.2	IOC	<p>Implementation of the GGC Work Programme.</p> <p>Contribute to global ocean mapping programmes.</p> <p>Improve the availability of shallow water bathymetry.</p> <p>Implement the strategic goals for the next decade.</p> <p>Annually</p>	GGC Chair Secretariat	<p>GEBCO meetings</p> <p>GGC38: Monaco, 18-20 January 2022</p> <p>DCOORD + ADSO</p> <p>SCUFN 34, San Petersburg, Russian Federation, March – April 2022 (tbc), Monac as back-up</p> <p>ADCS 5 nights on site</p> <p>TSCOM38 and SCRUM9, SCOPE3, , 11-15 Oct/Nov 2022 (tbc)</p> <p>ADSO 4 nights on site</p>			DCOORD	ADCS ADSO
3.6.2	Ensure effective operation of the IHO Data Centre for Digital Bathymetry (DCDB)	3.2		<p>Enhance the DCDB for upload, ingest, discovery and download of bathymetric data and associated information, such as the gazetteer of undersea feature names.</p> <p>Continuous</p>	Director DCDB CSBWG Chair GEBCO GC Secretariat		Operation of the DCDB is funded primarily by US (NOAA)	Inability of sole founder to continue current level of support	DCOORD	ADSO

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.6.3	Encourage the contribution of bathymetric data to the IHO DCDB	3.2	Academia and Industry	GEBCO representatives participate in RHC meetings. Continuous	GGC Chair RHC Chairs Secretariat			Lack of MS willingness to provide data	DCOORD	ADSO
3.6.4	Develop general guidelines on the use and collection of Crowd Sourced Bathymetry (CSB)	2.2 3.2		Maintain updated the new IHO publication on CSB B12 Continuous	CSBWG Chair Director DCDB	CSBWG12 –2022 (tbc) ADSO 5 nights on site			DCOORD	ADSO
3.6.5	Support cooperative bathymetric data gathering programmes, including; the Atlantic Ocean Research Alliance (AORA)	3.2		Contribute to global and regional ocean mapping programmes. Annually	CSBWG Chair, Secretariat	ASMIWG12 (tbc) 2 meetings - funded by EU			DCOORD	ADSO
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 – Guidance on Crowd source Bathymetry	3.2 3.3	IOC	Maintain publications updated	GGC Chair Secretariat				DCOORD	ADSO/ADCS

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
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	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		Provided from GEBCO Fund – 8.200 Euros		DCOORD	ADSO
3.6.8	Maintain GEBCO Website	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		Provided from GEBCO Fund		DCOORD	ADSO
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	3.1 3.2		Course curriculum and schedule for first course occasion. 2020	GGC Chair Secretariat				DCOORD	ADSO
3.6.10	Update and enhance the GEBCO Gazetteer (B-8) for internet access	3.2 3.3		Continuing enhancement and maintenance to incorporate new names from each SCUFN meeting.  Annually	GGC Chair Director DCDB Secretariat		Provided from GEBCO Fund – 10.000 Euros		DCOORD	ADCS

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.7.1	Organize, prepare and report annual meetings of the Marine Spatial Data Infrastructures Working Group (MSDIWG)	2.1 2.3	OGC Academia Industry UN-GGIM UN-WGMGI	Continuous	MSDIWG Chair Secretariat	MSDIWG13, tbc March/April 2022 with an integrated OGC Marine Domain WG part and a UN-GGIM WGMG Meeting DCOORD and ADCC 5 nights on site	Travel cost, per diem, and working hours for MS and other representative to prepare for and attend the meeting.		DCOORD	ADCC
3.7.2	Maintain the relevant IHO standards, specifications and publications on MSDI, including C-17	2.1 2.3	OGC Academia Industry		MSDIWG Chair Secretariat				DCOORD	ADCC
3.7.2.1	Develop a new framework for C-17 (online interactive publication)			Revised version of IHO publication C-17 - 2021	MSDIWG Chair Secretariat			Lack of resources to develop a new framework	DCOORD	ADCC
3.7.3	Develop training syllabi for MSDI and associated learning subjects	2.1 3.1	OGC Academia Industry	Course materiel for standardized MSDI training course	MSDIWG Chair Secretariat				DCOORD	ADCC
3.7.4	Meeting of the OGC Marine Domain Working Group	2.1 2.3	OGC	Coordination of the relevant activities	MSDIWG Chair Secretariat				DCOORD	ADCC

**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	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.8.1	Organize, prepare and report annual meetings of the International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)	2.2	FIG ICA Academia Industry	Recognition of new submissions and maintenance of guiding tools and references	IBSC Chair Secretariat	IBSC45, Cadiz, Spain, March/April 2022 (tbc)  ADCC  14 nights on site	Travel cost, per diem, and working hours for MS and other representative to prepare for and attend the meeting.		DCOORD	ADCC
3.8.2	Fulfil the functions of the IBSC	2.2	FIG ICA	Provide guidance to training institutions  Continuous	IBSC Chair Secretariat			Availability of Board members to undertake an increasing inter-sessional workload.  Capacity of Secretariat to provide full support to the Board.	DCOORD	ADCC
3.8.3	Manage the IBSC Fund		FIG ICA	Management of the IBSC Fund effectively and report to the IHO Secretariat  Continuous	IBSC Chair Secretariat				DCOORD	ADCC

Task	Description	G&T	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2021	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Other resources	Significant risks to delivery	Principal Director	Principal Manager
3.8.4	<p>Review the IBSC standards and maintain IBSC Publications, 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> <p><i>Guidelines for the Implementation of the Standards of Competence</i></p> <p><i>Frequently asked Questions</i></p>	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>Intersessional Meeting, October/November (tbc)</p> <p>ADCC</p> <p>6 nights on site</p>		<p>Availability of Board members to undertake an increasing inter-sessional workload.</p> <p>Capacity of Secretariat to provide full support to the Board.</p>	DCOORD	ADCC