

## Work Programme for 2019

<b>Submitted by:</b>	Secretary-General
<b>Executive Summary:</b>	This submission provides the proposed Work Programme for 2019 for the approval of the Council.
<b>Related document:</b>	IHO Resolution 2/2018 <i>Procedure for Considering the Annual Financial Statement and Recommendations, and the Forthcoming Budget Estimate and Work Programme</i>

### Introduction

- a. Article VI(g)(iii) of the Convention on the IHO stipulates that the Council ...coordinate during the inter-Assembly period the activities of the Organization within the framework of the strategy, work programme and financial arrangements, as decided by the Assembly.
- b. Decision 24.c of the first IHO Assembly... confirmed that the Council is empowered to approve the financial statements and any recommendations for the previous year and the budget estimates and the associated annual work programme for each forthcoming year.
- c. The IHO Resolution 2/2018 lays down the procedure to be observed by the Council when considering and approving the budget estimates and the associated annual work programme for each forthcoming year.
- d. The proposed Work Programme for 2019 is based on the second year of the three-year work Programme approved by the first session of the IHO Assembly.

### Action Required of the Council

The Council is invited to:

- a. **Agree and approve** the IHO Work Programme for 2019.



# **IHO WORK PROGRAMME FOR 2019**

# 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 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	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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			SG	ADCS and MFA
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	Mariners Ship operators Marine scientific community	continuous	Secretariat	ATCM-42, , 3-5 July, (see HCA-16)	Inability for HCA members to lobby ATCM delegates	SG	ADCS
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	Navigation equipment manufacturers	continuous	Secretariat	CIRM Annual Meeting, Greece, April 2019  Travel cost for 1 SG/Dir/AD  3 nights on site		DTECH	ADSO
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		continuous	Secretariat IENWG	SG/Dir/AD  2 meetings annually. 2 days each  1 person per meeting		DTECH	ADCS

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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		continuous	Secretariat GEBCO GC MSDIWG	SG/Dir or AD  1 meeting annually  Norway, in October (TBC)  1 person per meeting		DCOORD	ADSO&ADCC
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)	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 4.4	Aids to Navigation authorities,  e-Navigation data service providers  Maritime Community	Development of a common framework for a country maritime profile  Development of a joint approach for navigational risk assessment.	Secretariat, HSSC WGs, CBSC	ENAV24, Mar, Saint-Germain-en-Laye, France 5 days on site. AD  20 <sup>th</sup> IALA Conference, 28 (Note: Chairs of S-100WG and NIPWG encouraged to attend). SG/Dir 3 days on site  ENAV25, Sep, Saint-Germain-en-Laye, France 5 days on site. AD  Annual IALA-IHO Secretariat Liaison Meeting (Possibly meeting back-to-back with another meeting). SG/Dir  2 meetings, 1 day each (possibly back-to-back with another meeting).		DTECH & DCOORD	ADDT & ADCC
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	Equipment manufacturers,  Type approval bodies	continuous	Secretariat, HSSC WGs	Dir or AD  3 days on site (if required)		DTECH	ADDT

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1.1.8	Maintain relationship with the International Maritime Organization (IMO), including:	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 4.4	Mariners Ship operators Administrations	continuous	Secretariat			SG	ADSO
1.1.8.1	- Assembly					A-31, London, UK SG, November (TBc)		SG	ADSO
1.1.8.2	- Council					C 120, London, UK. SG 2-6 Jul (tbc)  C 121, London, UK. SG 19-23 Nov (tbc)  attendance only if agenda relates directly to IHO matters of interest		SG	ADSO
1.1.8.3	- MSC					MSC 101, London, UK, 16-25 May		SG	ADSO
1.1.8.4	- NCSR					NCSR 6, London, UK, 116-25 Jan, DTECH+ADSO 6 nights on site. IMO/ITU EG 14, London, UK, Jul (tbc). ADSO 6 nights on site		DTECH	ADSO

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1.1.8.5	- TCC					TC 69, London, UK, 18-20 Jun (tbc) DCOORD or ADCC 3 nights on site		DCOORD	ADCC
1.1.9	Maintain relationship with the Intergovernmental Oceanographic Commission (IOC) of UNESCO, including:	1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3	Marine scientific community	continuous	Secretariat, GEBCO GC, MSDIWG			DCOORD	ADSO
1.1.9.1	- Assembly					Assembly 30, Paris, France 26 June-04 July Consider in tandem with 1.1.9.2 DCOORD 8 nights on site		DCOORD	ADSO
1.1.9.2	- Executive Council					EC 52, Paris, France, 25 June Consider in tandem with 1.1.9.1 DCOORD or ADSO attendance only if agenda relates directly to IHO matters of interest		DCOORD	ADSO
1.1.9.3	- Specialized WGs					UN Decade IOC Stakeholders Forum Date and venue TBC		DCOORD	ADSO

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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		continuous	Secretariat	DTECH or ADDT  One meeting in Slovenia.  One meeting in Japan (proposed).  6 nights on site for each meeting		DTECH	ADDT
1.1.12	Maintain relationship with United Nations (UN) organizations based in New York, including:	1.1 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3	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-9, UNHQ,  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 20, New York, Jun (tbc)  SPLOS-28, New York, Jun (tbc)  A73/LOS, New York, Dec (tbc)  SG or Director New York 6 nights on site per meeting		SG	ADSO
1.1.12.3	- the UN (UN Expert Group on Geographical Names (UNGEGN))					UNGEGN-32, venue and date to be decided  SG or ADCS		SG	ADCS

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1.1.13	Maintain relationship with the World Meteorological Organization (WMO)	1.1 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3	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 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3	Marine geospatial data providers and users	continuous	Secretariat	ISA Assembly, Jamaica, mid-year  SG/Dir or ADSO  6 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	1.1 1.2 1.3 1.4 1.5 2.5 2.6 3.1 3.2 3.3		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	20 <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	5 <sup>th</sup> Conference of the Association of African Maritime Administrations					IHO attendance only if relevant topics on the agenda and funding becomes available		DTECH	ADDT

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.1.15.3	COMNAP (Council of Managers of National Antarctic Program)					31 <sup>st</sup> 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					IMO, London, UK  5 nights on site		DTECH	ADSO
1.1.15.4.1	IMSO - Advisory Committee					43 <sup>rd</sup> Session of the Advisory Committee of IMSO (tbc)  44 <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)					25 <sup>th</sup> Congress of IMPA.  IHO attendance only if relevant topics on the agenda and funding becomes available		SG	ADSO

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.1.15.6	FIG Working Week 2019					Dir or AD 22-25 April Hanoi, Vietnam  Consider attending in tandem with other meeting, such as NF CHART Coordination meeting 4 nights on site		DCOORD	ADCC
1.1.15.7	Hydro 2019					IHO attendance only if relevant topics on the agenda and funding becomes available		SG	Relevant AD
1.1.15.8	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
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

**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	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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		continuous	Secretariat	Use of commercial contract support  (External website maintenance included in 1.2.3)		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	1.1 1.2		continuous	Secretariat	May include use of commercial contract support and/or MS support		SG	ADDT and other AD as appropriate
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		continuous	Secretariat			SG	ADDT
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			SG	MFA

**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	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.3.1	Promote the IHO through publicity and public relations initiatives	1.5 2.6 3.1 3.2 3.3		Continuous. Preparation and celebration of the centenary of the 1st International Hydrographic Conference in 2019. Preparation of the centenary of the establishment of the IHB in 2021.	Secretariat, Member States				SG
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).  2 nights on site per visit			SG and Directors
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
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		annual	Secretariat, Member States			SG	ADCC
1.3.4	Compile and publish P-1 – <i>International Hydrographic Review</i> with the assistance of a paid editor	1.5 2.6 3.1 3.2 3.3		continuous	Secretariat, Member States		Lack of suitable papers provided by MS and other contributors	DCOORD	ADCC

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.3.4.1	Maintain a digital repository for the overall collection of P-1 available for worldwide access				Secretariat			DCOORD	ADCC

#### 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	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.4.1	Execute the IHO Work Programme and Budget approved by the 1 <sup>st</sup> Session of the Assembly, monitoring its progress and proposing or implementing any necessary adjustments according to the circumstances and the regulations	All		continuous	Secretariat Council			SG	MFA
1.4.2	Develop and propose future IHO Work Programme, Budget and Strategic Plan			continuous	Secretariat Council Assembly			SG	MFA
1.4.3	Administer the processes for programme management, performance monitoring and risk assessment	1.1 4.1 4.4		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	MFA

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.4.4	Conduct biennial IHO stakeholders' forums(see task 3.3.7 for the CB Stakeholders' Forum)	1.2 1.3 1.4 1.5 2.6 3.1 3.2 3.3 3.4 4.4		2019	Secretariat			SG or Director and AD responsible for the subject matter, as appropriate	

#### 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	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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		continuous	Secretariat			SG	
1.5.2	Maintain, update and develop procedures to facilitate and improve the effectiveness of the finance and administrative work of the Secretariat	All		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	2.2 4.1 4.3 4.4		continuous	Secretariat		Translation workload exceeds the translating capacity of the existing number of staff	SG	MFA

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks 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	3.3 4.1		continuous	Secretariat			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	1.2 3.3 4.1		As required	Secretariat			SG	MFA  (ADCC for the Yearbook)
1.5.6	Secretariat staff training	1.1 4.1						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	4.1		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	4.1		continuous	Secretariat			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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
1.6.1	Prepare and conduct the 2 <sup>nd</sup> session of the IHO Assembly	2.1 2.2 4.1 4.4		2020	Secretariat			SG	ADCC
1.6.1.1	Pre-meeting briefing and preparation for Chair of the Assembly				Secretariat Chair of Assembly	Assembly Chair  No requirement in 2019		SG	ADCC
1.6.2	Prepare and conduct annual sessions of the IHO Council	2.1 2.2 4.1 4.4		Annual	Secretariat	Costs for additional support staff – particularly precis writers  Singapore, 4 days, October (tbc) SG, Dirs, ADCS, PA (tbc)		SG	ADCS
1.6.2.1	Pre-meeting briefing and preparation for Chair of Council				Secretariat Chair of Council	Council Chair (US)  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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.1.1	Organize, prepare, and report annual meetings of HSSC	1.1 1.2 1.3 1.4 2.12.5 2.6		Monitor and approve HSSC Work Programme - Annual	HSSC Chair WG Chairs Secretariat	HSSC-11, Cape Town, South Africa, 06-10 May DTECH +ADDT +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	1.4		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-4 Apr Denmark AD + TSSO 5 nights on site		DTECH	ADDT
2.1.2.2	ENCWG					ENCWG-4 / S-101PT IHO Sec 10-14 June ADDT / TSSO Monaco		DTECH	ADDT
2.1.2.3	S-100TSM					S-100TSM-7 Sep USA tbc ADDT 6 nights on site		DTECH	ADDT
2.1.2.4	NCWG					NCWG-5 (Sweden, Nov 2019, 4 days,)		DTECH	ADCS

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2.1.2.5	NIPWG					NIPWG-6 28- Jan – 1 Feb Rostock, Germany, incl. IHO Digital Nautical Publications Stakeholders ADCS 5 nights on site		DTECH	ADCS
2.1.2.6	DQWG					DQWG-14 5-08 Feb Monaco		DTECH	ADCS
2.1.2.7	TWCWG					TWCWG-4 Busan, Korea; 8-12 Apr ADSO 6 nights on site		DTECH	ADSO
2.1.2.8	ABLOS					ABLOS-26 & ABLOS10, 7-10 Oct, Monaco ADSO		DTECH	ADSO
2.1.2.9	HSPT-3					HSPT-3 Wollongong, Australia; 12-15 March ADSO 3 nights on site		DTECH	ADSO
2.1.3	Prepare for and represent HSSC at meetings of the IHO Council	1.1		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

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2.1.4	Prepare for and represent HSSC at 2 <sup>nd</sup> session of the IHO Assembly	1.1		Submit reports and recommendations (through the Council) - 2020	HSSC Chair Secretariat	No action in 2019		DTECH	ADCS
2.1.5	Monitor the development of related international standards, specifications and guidance	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
2.1.5.1	IMO-IHO Harmonization Group on Data Modelling (HGDM)					HGDM-3 London, UK ADDT 6 nights on site		DTECH	ADDT
2.1.6	Provide technical outreach, advice and guidance in relation to IHO standards, specifications and guidance	4.1		Identify and attend relevant meetings and activities and report outcome - as required	HSSC Chair Group, Secretariat			DTECH	ADDT
2.1.6.1	E-navigation Underway International 2019					SG or DTECH Copenhagen, – Oslo 4 nights on site		DTECH	ADSO
2.1.6.2	E-navigation Underway Asia-Pacific 2019					Local MS to be invited to represent the IHO – otherwise no IHO representation		DTECH	ADDT
2.1.6.3	E-navigation Underway North America 2019					Local MS to be invited to represent the IHO – otherwise no IHO representation		DTECH	ADDT

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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 2019					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		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		Draft proposed amendments for the consideration of the Council  2019	HSSC, All WGs			DTECH	AD assigned to the relevant WG or body

**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	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks 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)	1.4			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>	1.4			NCWG			DTECH	ADCS
2.2.3	Maintain the INTogIS infrastructure	1.1			Secretariat	Support of the Republic of Korea		DTECH	ADDT/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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.3.1	Maintain and extend the S-100 GI Registry	1.4			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>	1.4		S-100 Test bed - 2019 Edition 4.0.0 S-100 - 2020	S-100WG		Inability of MS and others to participate in the work	DTECH	ADDT

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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			S-100WG			DTECH	ADDT
2.3.4	Develop and maintain S-10x Product Specifications	1.4	ECDIS OEM GIS Community Data providers	Edition 1.0.0 S-101 – 2019 S-101 Implementation Plan – 2019 Edition 2.0.0 S-102 – 2017 Edition 1.0.0 S-111 – 2019 Edition 1.0.0 S-122 – 2019 Edition 1.0.0 S-123 – 2020	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	1.2 1.3			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

**Element 2.4 S-57 Framework**

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

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.4.1	Maintain S-52 - <i>Specifications for Chart Content and Display Aspects of ECDIS</i>	1.4	ECDIS OEM		ENCWG			DTECH	ADDT
2.4.2	Maintain S-57 - <i>IHO Transfer Standard for Digital Hydrographic Data</i> , including ENC Product Specification	1.4	ECDIS OEM Data servers		ENCWG		Inability of MS and others to participate in the work	DTECH	ADDT
2.4.3	Maintain S-58 - <i>ENC Validation Checks</i>	1.4			ENCWG		Inability of MS and others to participate in the work	DTECH	ADDT
2.4.4	Maintain S-61 - <i>Product Specification for Raster Navigational Charts (RNC)</i>	1.4	ECDIS OEM Data servers	No action expected	ENCWG			DTECH	ADDT
2.4.5	Maintain S-63 - <i>IHO Data Protection Scheme</i>	1.4			ENCWG, DPSWG		Inability of MS and others to participate in the work	DTECH	<b>ADDT</b>
2.4.6	Maintain S-64 - <i>IHO Test Data Sets for ECDIS</i>	1.4			ENCWG, DPSWG			DTECH	ADDT
2.4.7	Maintain S-65 - <i>ENCs: Production, Maintenance and Distribution Guidance</i>	1.4			ENCWG			DTECH	ADDT

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.4.8	Maintain S-66 - <i>Facts about Electronic Charts and Carriage Requirements</i>	1.4			ENCWG			DTECH	ADDT
2.4.9	Maintain S-67 – <i>Mariners' Guide to Accuracy of ENCs</i>	1.4			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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks 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.	1.1 2.5			All WG		Inability of MS and others to participate in the work	DTECH	ADCS
2.5.2	Support the development and implementation of Maritime Service Portfolios (MSP)	1.1 2.5	IALA IMO	Preparation of the provision of a MSP "Hydrographic Information" – 2019. Provision of an MSP "Hydrographic Information" – 2019(include participation in the IMO/IHO HGDM)	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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.6.1	Maintain and extend S-44 - <i>IHO Standards for Hydrographic Surveys</i>	1.4		Report annually to HSSC. Edition 6.0.0 of S-44 - 2019	HS PT		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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.7.1	Organize the biennial ABLOS Conference	1.3 4.1		ABLOS Conferences. Next: 2019		Self-funding  No requirement in 2019		DTECH	ADSO
2.7.2	Maintain C-51 - <i>Manual on Technical Aspects of the UN Convention on the Law of the Sea</i>							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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
2.8.1	Maintain S-12 - <i>Standardization of List of Lights and Fog Signals</i>	1.4		Revision as appropriate. No action expected	NIPWG			DTECH	ADCS
2.8.2	Maintain S-32- <i>Hydrographic Dictionary</i>	1.4		New trilingual wiki version - 2019	HDWG	Any contract support to be funded by the Special Projects Fund	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>	1.4		Revision as appropriate	NIPWG			DTECH	ADCS
2.8.4	Maintain the list of standard tidal constituent	1.4		Continuous	TWCWG			DTECH	ADSO
2.8.5	Maintain the inventory of national tide gauges and current meters	1.1		Continuous	TWCWG			DTECH	ADSO

# WORK PROGRAMME No. 3

## INTER REGIONAL COORDINATION AND SUPPORT

## 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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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		Monitor and approve IRCC Work Programme – Annual	IRCC Chair, RHC Chairs, Chairs of the IRCC Bodies, Secretariat	IRCC-11, Genoa Italy, 3-5 June  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 1 night on site		DCOORD	ADCC
3.1.2	Prepare for and represent IRCC at meetings of the IHO Council	1.1		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
3.1.3	Prepare for and represent IRCC at 2 <sup>nd</sup> session of the IHO Assembly	1.1		Submit reports and recommendations (through the Council) - 2020	IRCC Chair Secretariat	No action in 2019		DCOORD	ADCC

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.1.4	Maintain and extend IHO Resolutions (M-3) related to coordination issues	1.1		Draft proposed amendments for the consideration of the Council -2019	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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.2.1	Prepare for and report meetings of the Regional Hydrographic Commissions (RHC):	2.1 2.2 2.3 2.5 2.6 3.2 3.3 4.3		Submit report and recommendations – normally Annually	RHC Chairs Secretariat		Inability of MS and others, particularly non-IHO MS, to participate in meetings	DCOORD	ADCC
3.2.1.1	ARHC – Arctic Regional Hydrographic Commission					ARHC9, US or RU to be confirmed SG 4 nights on site		SG	ADCS

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.2.1.2	BSHC - Baltic Sea Hydrographic Commission					BSHC24, date and venue to be decided SG 3 nights on site		SG	ADSO
3.2.1.3	EAHC - East Asia Hydrographic Commission					EAHC SC6, March, Indonesia SG 4 nights on site		SG	ADDT
3.2.1.4	EAtHC - Eastern Atlantic Hydrographic Commission					No conference planned in 2019		DTECH	ADCS
3.2.1.5	MACHC - Meso American - Caribbean Sea Hydrographic Commission		OCS OECS COCATRAM			MACHC20, Jamaica, December (TBC) DCOORD + ADCC 6 nights on site		DCOORD	ADCC
3.2.1.6	MBSHC - Mediterranean and Black Seas Hydrographic Commission					MBSHC21, 11-13 June, Cadiz, Spain DCOORD + ADCS 3 nights on site		DCOORD	ADCS
3.2.1.7	NHC - Nordic Hydrographic Commission					NHC63, 9-11 Apr, Helsinki, Finland SG 3 nights on site		SG	ADDT
3.2.1.8	NIOHC - North Indian Ocean Hydrographic Commission					NIOHC19, 25-28 Mar, Muscat, Oman DCOORD + ADSO 4 nights on site		DCOORD	ADSO

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.2.1.9	NSHC - North Sea Hydrographic Commission					NSHC33, SG No mtg planned		SG	ADSO
3.2.1.10	RSAHC - ROPME Sea Area Hydrographic Commission					RSAHC8, Pakistan; 6-8 Feb (location tbc)  4 nights on site		DCOORD	ADSO
3.2.1.11	SAIHC - Southern Africa and Islands Hydrographic Commission					SAIHC16, date to be confirmed, DTECH + ADDT  3 nights on site		DTECH	ADDT
3.2.1.12	SEPRHC - South East Pacific Regional Hydrographic Commission					DTECH + ADCC  No mtg planned		DTECH	ADCC
3.2.1.13	SWAtHC - South West Atlantic Hydrographic Commission					SWAtHC13, Buenos Aires, Argentina March/April  DCOORD + ADCC  3 nights on site		DCOORD	ADCC
3.2.1.14	SWPHC - South West Pacific Hydrographic Commission		IMO, IALA, SPC			SWPHC15, Alofi, Nuie, 11-14 February  DTECH + ADCC  4 nights on site		DTECH	ADCC
3.2.1.15	USCHC - USA and Canada Hydrographic Commission					USCHC42, Biloxi, Mississippi, USA, 19-22 March  DTECH  2 nights on site		DTECH	ADDT

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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	COMNAP IAATO IALA	Submit report and recommendations - Annually.  Conduct a risk assessment for the Antarctic region and develop a work programme to improve Antarctic charting - 2019.  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 - 2019.	HCA Chair Observers Secretariat	HCA-16 + Seminar., SG+ADCS  4 nights on site, 3-5 July, Prague, Czech Republic	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	3.3		Improve the relevant guidelines for disaster risk reduction.  Continuous	RHC Chairs, Secretariat			DCOORD	ADSO
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		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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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	IMO  IALA	Monitor and approve CB Work Programme (CBWP).  Annual	CBSC Chair  CB Coordinators  Secretariat	CBSC17, 29-31May, Italy  ADCC  5 nights on site		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	4.4			CBSC Chair  Secretariat			DCOORD	ADCC/MFA
3.3.3	Develop and maintain a Capacity Building Management System	4.4		Support the implementation of CBWP  Continuous	CBSC Chair  Secretariat	Support from the Republic of Korea		DCOORD	ADCC
3.3.4	Review and maintain the IHO Capacity Building Strategy	4.4		Up to date CB Strategy.  Annually	CBSC Chair  Secretariat			DCOORD	ADCC

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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	4.4			Develop and propose an annual CBWP to be included in the IHO WP.  Annually.  Considered in conjunction with task 3.3.1			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/IMPACT Capacity Building Coordination meeting	4.3 4.4	World Bank  UNDP  UNEP	Coordinated delivery of Capacity Building activities.  Investigate new opportunities for CB activities.  Increase the CB Fund.  Annual	CBSC Chair  Secretariat	2 meetings annually in junction with other events Travel cost for DCOORD or ADCC  1 night on site per meeting  Joint CB Group meeting to be hosted by IMPACT, in London	Secretariat	DCOORD	ADCC
3.3.7	Organize, prepare and report on a Capacity Building and IBSC Stakeholders' Forum	4.4	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	CB/IBSC Stakeholders Forum  27-28 May, Genoa, Italy, in tandem with 3.3.1  3 nights in site		DCOORD	ADCC
3.3.8	Maintain IHO publication M-2 - <i>National Maritime Policies and Hydrographic Services</i>	3.1 3.2		Continuous	Secretariat			DCOORD	ADCC

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.3.9	Plan, administer and implement Capacity Building activities, including:  Technical and advisory visits, Workshops, Seminars, Short and long courses, On the Job Training (ashore / on board)	2.3 2.4 3.3 3.4 4.4		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
3.3.10	Investigate and Develop Regional Hydrographic / Maritime Projects		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	SG or Dir and/or AD		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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.4.1	Organize, prepare and report annual meetings of the WEND Working Group	2.1 2.2 2.6	CIRM, CNITA, RENC Management	Foster the implementation of the WEND principles, monitor progress and report to IRCC.  Annually		WENDWG9, 26-28 Feb, Brest France  DCOORD +ADCS  4 nights on site		DCOORD	ADCS
3.4.2	Maintain liaison with RENCs	2.1 2.2 2.6	RENC management, RENC MS	Facilitate the promotion of RENC co-operation for the benefit of ENC end-users. Annual		2 meetings annually.  DCOORD or ADCS  3 nights on site per meeting		DCOORD	ADCS
3.4.3	Maintain and coordinate ENC and INT schemes, including coverage, consistency, quality and availability	2.1		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			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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	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)	1.2 2.1 4.3	IMO, IALA, IMSO	Monitor and guide the IHO/IMO World-Wide Navigational Warning Service including NAVAREA and coastal warnings.  Annual	WWNWS-SC Chair  Secretariat	WWNWS11, Canada; 26-30 Aug (location tbc)  ADSO		DCOORD	ADSO
3.5.2	Conduct annual meetings of the WWNWS-SC Document Review Working Group	1.2 2.1	IMO IALA IMSO WMO	Maintain the IMO/WWNWS documents.  Annual	WWNWS-SC Chair  Secretariat	ADSO  3 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 2.1 3.3	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
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	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

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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	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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	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	1.5 2.6 3.4	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	GEBCO meetings, ,  <u>GGC35</u> : DCOORD + ADSO 3 nights on site  <u>SCUFN 32</u> : ADCS China 5 nights  <u>TSCOM, SCRUM</u> : <u>ADSO Canada</u> : <u>location and dates tbc after 2018 meeting</u> 4 nights on site		DCOORD	ADSO

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.6.2	Ensure effective operation of the IHO Data Centre for Digital Bathymetry (DCDB)	1.5 2.6		Enhance the DCDB for upload, ingest, discovery and download of bathymetric data and associated information, such as the gazetteer of undersea feature names.  Continuous	Director DCDB CSBWG Chair CEBCO GC	Operation of the DCDB is funded primarily by US (NOAA)		DCOORD	ADSO
3.6.3	Encourage the contribution of bathymetric data to the IHO DCDB	1.5 2.2 2.6	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)	2.6		New IHO publication on CSB - 2019	CSBWG Chair Director DCDB	ADSO  CSBWG7 – Québec, Canada; 12-14 Feb  CSBWG8 – Monaco; Nov/Dec 2019 4 nights on site		DCOORD	ADSO
3.6.5	Support cooperative bathymetric data gathering programmes, including; the Atlantic Ocean Research Alliance (AORA)	2.6		Contribute to global and regional ocean mapping programmes.  Annual	CSBWG Chair, Secretariat	ADSO  2 meetings - funded by EU		DCOORD	ADSO

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
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>	2.6	IOC	Maintain publications updated	GGC Chair Secretariat			DCOORD	ADSO/ADCS
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	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		DCOORD	ADSO
3.6.8	Maintain GEBCO Web site	1.5 2.6 3.4	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	1.5 2.6 3.4		Course curriculum and schedule for first course occasion. 2019	GGC Chair Secretariat			DCOORD	ADSO

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.6.10	Update and enhance the GEBCO Gazetteer (B-8) for internet access	1.5		Continuing enhancement and maintenance to incorporate new names from each SCUFN meeting. Annually	GGC Chair Director DCDB Secretariat			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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	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)	2.5	OGC Academia Industry	Continuous	MSDIWG Chair Secretariat	MSDIWG10, 4-8 Mar, Busan, ROK ADCC 5 nights on site		DCOORD	ADCC
3.7.2	Maintain the relevant IHO standards, specifications and publications on MSDI, including C-17	2.5	OGC Academia Industry		MSDIWG Chair Secretariat			DCOORD	ADCC
3.7.2.1	Develop a new framework for C-17 (online interactive publication)	2.5		Revised version of IHO publication C-17 - 2019	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	2.5	OGC Academia Industry	Course materiel for standardised MSDI training course - 2019	MSDIWG Chair Secretariat			DCOORD	ADCC

Task	Description	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	Significant risks to delivery	Principal Director	Principal Manager
3.7.4	Meeting of the OGC Marine Domain Working Group	2.5	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	SD	Notable stakeholder(s) outside the IHO	Notable deliverables / milestones and timing in 2019	Lead authority / Participants	Notable specific resources from the IHO budget / dates/ venue / Secretariat participants	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)	1.1 1.4	FIG ICA Academia Industry	Recognition of new submissions. Continuous	IBSC Chair Secretariat	IBSC42, , Honolulu, Hawaii, USA, March/April ADCC 12 nights on site	Availability of Board members to undertake an increasing intercessional workload.  Capacity of Secretariat to provide full support to the Board.	DCOORD	ADCC
3.8.2	Fulfil the functions of the IBSC	1.4	FIG ICA	Continuous	IBSC Chair Secretariat		Availability of Board members to undertake an increasing intercessional workload.  Capacity of Secretariat to provide full support to the Board.	DCOORD	ADCC
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			DCOORD	ADCC
3.8.4	Review the IBSC standards and maintain IBSC Publications, including:  <i>C-6 - Reference Texts for Training in Hydrography</i>  <i>C-47 - Training Courses in Hydrography and Nautical Cartography</i>  <i>S-5A and B - Standards of Competence for Hydrographic Surveyors</i>  <i>S-8A and B - Standards of Competence for Nautical Cartographers</i>	1.4	FIG ICA Industry Academia	Maintain Standards in S-5A/B and S-8A/B. Provide guidance to training institutions.  Continuous	IBSC Chair Secretariat		Availability of Board members to undertake an increasing intercessional workload. Capacity of Secretariat to provide full support to the Board.	DCOORD	ADCC

