

# **IHO WORK PROGRAMME FOR 2019**

**(APPROVED BY THE IHO COUNCIL AT THE C-2 MEETING)**

Reference: Summary Report of the C-2, dated 19 October 2018, Decision C2/34

# 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.

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|-------------|--|
| 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<br>1.2<br>1.3<br>1.5<br>2.3<br>3.1<br>3.2<br>3.3<br>3.4<br>4.4 |   | Continuous   | Secretariat                   |  |   | SG                 | ADCS and MFA      |
| 1.1.2 | Maintain relationship with the Antarctic Treaty Consultative Meeting (ATCM)                        | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3               | Mariners<br>Ship operators<br>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<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3               | Navigation equipment manufacturers                        | continuous   | Secretariat                   | CIRM Annual Meeting, Greece, April 2019<br><br>Travel cost for 1 SG/Dir/AD<br><br>3 nights on site |   | DTECH              | ADSO              |
| 1.1.4 | Maintain relationship with European Union Initiatives (such as INSPIRE and EMODnet)                | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3               |   | continuous   | Secretariat<br>IENWG          | SG/Dir/AD<br><br>2 meetings annually. 2 days each<br><br>1 person per meeting                      |   | DTECH              | ADCS              |

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|-------|--|---|--|---|-----------------------------------|---|-------------------------------|--------------------|-------------------|
| 1.1.5 | Maintain relationship with the Group on Earth Observation (GEO)  | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3        |  | continuous  | Secretariat<br>GEBCO GC<br>MSDIWG | SG/Dir or AD<br><br>1 meeting annually<br><br>Norway, in October (TBC)<br><br>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 )<br><br>including the IALA e-NAV Committee:<br><br>IALA World-Wide Academy (WWA) | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3<br>4.4 | Aids to Navigation authorities,<br><br>e-Navigation data service providers<br><br>Maritime Community | Development of a common framework for a country maritime profile<br><br>Development of a joint approach for navigational risk assessment. | Secretariat,<br>HSSC WGs, CBSC    | ENAV24, Mar, Saint-Germain-en-Laye, France<br>5 days on site.<br>AD<br><br>20 <sup>th</sup> IALA Conference, 28 (Note: Chairs of S-100WG and NIPWG encouraged to attend).<br>SG/Dir<br>3 days on site<br><br>ENAV25, Sep, Saint-Germain-en-Laye, France<br>5 days on site.<br>AD<br><br>Annual IALA-IHO Secretariat Liaison Meeting (Possibly meeting back-to-back with another meeting).<br>SG/Dir<br><br>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:<br><br>IEC Technical Committee 80   | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3        | Equipment manufacturers,<br><br>Type approval bodies   | continuous  | Secretariat,<br>HSSC WGs          | Dir or AD<br><br>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<br>1.2<br>1.3<br>1.4<br>1.5<br>3.1<br>3.2<br>3.3<br>4.4 | Mariners<br>Ship operators<br>Administrations | continuous   | Secretariat                   |   |                               | SG                 | ADSO              |
| 1.1.8.1 | - Assembly   |   |   |  |                               | A-31, London, UK<br>SG,<br>November (TBc)   |                               | SG                 | ADSO              |
| 1.1.8.2 | - Council  |   |   |  |                               | C 120, London, UK.<br>SG<br>2-6 Jul (tbc)<br><br>C 121, London, UK.<br>SG<br>19-23 Nov (tbc)<br><br>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.<br>IMO/ITU EG 14, London, UK, Jul (tbc).<br>ADSO 6 nights on site  |                               | DTECH              | ADSO              |

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

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|----------|---|--|--|--|--|---|-------------------------------|--------------------|--|
| 1.1.10   | Maintain relationship with the International Organization for Standardization (ISO), including:<br><br>- ISO Technical Committee 211      | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>2.5<br>2.6<br>3.1<br>3.2<br>3.3 |  | continuous   | Secretariat                            | DTECH or ADDT<br><br>One meeting in Slovenia.<br><br>One meeting in Japan (proposed).<br><br>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<br>1.2<br>1.3<br>1.4<br>1.5<br>2.5<br>2.6<br>3.1<br>3.2<br>3.3 | Marine geospatial data providers and users | continuous   | Secretariat<br><br>ABLOS<br><br>MSDIWG |   |                               | SG                 | ADs as appropriate                             |
| 1.1.12.1 | - the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM)<br><br>and<br><br>WG on Marine Geospatial Information |  |  |  |  | UN-GGIM-9, UNHQ,<br><br>SG<br><br>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)<br><br>SPLOS-28, New York, Jun (tbc)<br><br>A73/LOS, New York, Dec (tbc)<br><br>SG or Director New York<br>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<br><br>SG or ADCS   |                               | 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 |
|----------|--|--|--|--|-------------------------------|---|-------------------------------|--|-------------------|
| 1.1.13   | Maintain relationship with the World Meteorological Organization (WMO)   | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>2.5<br>2.6<br>3.1<br>3.2<br>3.3 | Mariners<br><br>Ship operators<br><br>Maritime Administrations | continuous   | Secretariat                   | SG or ADSO  |                               | SG   | ADSO              |
| 1.1.14   | Maintain relationship with the International Seabed Authority (ISA)  | 1.1<br>1.2<br>1.3<br>1.4<br>1.5<br>2.5<br>2.6<br>3.1<br>3.2<br>3.3 | Marine geospatial data providers and users                     | continuous   | Secretariat                   | ISA Assembly, Jamaica, mid-year<br><br>SG/Dir or ADSO<br><br>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<br>1.2<br>1.3<br>1.4<br>1.5<br>2.5<br>2.6<br>3.1<br>3.2<br>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              |

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|------------|--|----|--|--|-------------------------------|---|-------------------------------|--------------------|-------------------|
| 1.1.15.3   | COMNAP (Council of Managers of National Antarctic Program)           |    |  |  |                               | 31 <sup>st</sup> COMNAP AGM<br><br>IHO attendance only if relevant topics on the agenda and funding becomes available   |                               | SG                 | ADCS              |
| 1.1.15.4   | IMSO (International Mobile Satellite Organization)<br><br>- Assembly |    |  |  |                               | IMO, London, UK<br><br>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)<br><br>44 <sup>th</sup> Session of the Advisory Committee of IMSO (tbc)<br><br>IMO, London, UK |                               | DTECH              | ADSO              |
| 1.1.15.5   | IMPA (International Maritime Pilots' Association)                    |    |  |  |                               | 25 <sup>th</sup> Congress of IMPA.<br><br>IHO attendance only if relevant topics on the agenda and funding becomes available                                    |                               | SG                 | ADSO              |

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|----------|--|----|--|--|-------------------------------|---|-------------------------------|--------------------|-------------------|
| 1.1.15.6 | FIG Working Week 2019  |    |  |  |                               | Dir or AD<br>22-25 April<br>Hanoi, Vietnam<br><br>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<br>1.2<br>1.4<br>1.5<br>2.1<br>2.2<br>3.2<br>3.3<br>4.1 |  | continuous   | Secretariat                   | Use of commercial contract support<br><br>(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<br>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<br>1.2<br>1.3<br>1.4<br>3.3<br>4.1                      |  | continuous   | Secretariat                   |  |                               | SG                 | ADDT                             |
| 1.2.4 | Maintain the IHO reference library collection including the incorporation of new material   | 1.5<br>3.2<br>3.3<br>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<br>2.6<br>3.1<br>3.2<br>3.3 |  | Continuous.<br>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,<br>Member States                               |  |   |                    | SG                |
| 1.3.2   | Encourage new membership of the IHO   | 2.3<br>2.4                      |  | Participation of non-Member States in RHC and IHO activities.<br><br>New Member States.   | Secretariat,<br>RHC Chairs (except: ARHC, NHC, NSHC, USCHC) | Visits normally undertaken as side-trips in conjunction with travel to other meetings.<br><br>Some high-level visits funded by Capacity Building Fund (see programme 3).<br><br>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<br><br>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<br>2.6<br>3.1<br>3.2<br>3.3 |  | annual  | Secretariat,<br>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<br>2.6<br>3.1<br>3.2<br>3.3 |  | continuous  | Secretariat,<br>Member States                               |  | Lack of suitable papers provided by MS and other contributors | DCOORD             | ADCC              |

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|---------|--|----|--|--|-------------------------------|--|-------------------------------|--------------------|-------------------|
| 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<br>Council             |  |  | SG                 | MFA               |
| 1.4.2 | Develop and propose future IHO Work Programme, Budget and Strategic Plan  |                   |  | continuous   | Secretariat<br>Council<br>Assembly |  |  | SG                 | MFA               |
| 1.4.3 | Administer the processes for programme management, performance monitoring and risk assessment   | 1.1<br>4.1<br>4.4 |  | continuous   | Secretariat                        |  | Required information not being provided by MS, RHCs or organs of the IHO.<br><br>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<br>1.3<br>1.4<br>1.5<br>2.6<br>3.1<br>3.2<br>3.3<br>3.4<br>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<br>4.1<br>4.2<br>4.3<br>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<br><br>Include Spanish translations as much as possible in accordance with the relevant IHO Resolutions | 2.2<br>4.1<br>4.3<br>4.4        |  | continuous   | Secretariat                   |  | Translation workload exceeds the translating capacity of the existing number of staff | SG                 | MFA               |

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|-------|---|-------------------|--|--|-------------------------------|--|-------------------------------|--------------------|--------------------------------|
| 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:<br><br>- Translation<br><br>- Technical editing                    | 3.3<br>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:<br><br>P-5 – IHO Yearbook<br><br>P-7 – IHO Annual Report<br><br>P-6 – Proceedings of the Assembly<br><br>M-3 –Resolutions of the IHO | 1.2<br>3.3<br>4.1 |  | As required  | Secretariat                   |  |                               | SG                 | MFA<br>(ADCC for the Yearbook) |
| 1.5.6 | Secretariat staff training  | 1.1<br>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<br>2.2<br>4.1<br>4.4 |  | 2020   | Secretariat                      |   |                               | SG                 | ADCC              |
| 1.6.1.1 | Pre-meeting briefing and preparation for Chair of the Assembly      |                          |  |  | Secretariat<br>Chair of Assembly | Assembly Chair<br><br>No requirement in 2019  |                               | SG                 | ADCC              |
| 1.6.2   | Prepare and conduct annual sessions of the IHO Council              | 2.1<br>2.2<br>4.1<br>4.4 |  | Annual   | Secretariat                      | Costs for additional support staff – particularly precis writers<br><br>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<br>Chair of Council  | Council Chair (US)<br><br>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<br>1.2<br>1.3<br>1.4<br>2.12.5<br>2.6 |  | Monitor and approve HSSC Work Programme - Annual     | HSSC Chair<br>WG Chairs<br>Secretariat | HSSC-11, Cape Town, South Africa, 06-10 May<br>DTECH +ADDT +ADCS<br>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<br>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<br>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<br>Apr<br>Denmark<br>AD + TSSO<br>5 nights on site                             |   | DTECH              | ADDT                                   |
| 2.1.2.2 | ENCWG  |   |  |  |  | ENCWG-4 / S-101PT<br>IHO Sec 10-14<br>June<br>ADDT / TSSO<br>Monaco                      |   | DTECH              | ADDT                                   |
| 2.1.2.3 | S-100TSM   |   |  |  |  | S-100TSM-7<br>Sep USA tbc<br>ADDT<br>6 nights on site                                    |   | DTECH              | ADDT                                   |
| 2.1.2.4 | NCWG   |   |  |  |  | NCWG-5<br>(Sweden, Nov 2019, 4 days,)  |   | DTECH              | 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 |
|---------|---|-----|--|--|-------------------------------|---|-------------------------------|--------------------|-------------------|
| 2.1.2.5 | NIPWG   |     |  |  |                               | NIPWG-6<br>28- Jan – 1 Feb<br>Rostock, Germany, incl. IHO Digital Nautical Publications Stakeholders ADCS<br>5 nights on site |                               | DTECH              | ADCS              |
| 2.1.2.6 | DQWG  |     |  |  |                               | DQWG-14<br>5-08 Feb<br>Monaco   |                               | DTECH              | ADCS              |
| 2.1.2.7 | TWCWG   |     |  |  |                               | TWCWG-4<br>Busan, Korea; 8-12 Apr<br>ADSO<br>6 nights on site   |                               | DTECH              | ADSO              |
| 2.1.2.8 | ABLOS   |     |  |  |                               | ABLOS-26 & ABLOS10, 7-10 Oct, Monaco<br>ADSO  |                               | DTECH              | ADSO              |
| 2.1.2.9 | HSPT-3  |     |  |  |                               | HSPT-3<br>Wollongong, Australia; 12-15 March<br>ADSO<br>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<br>Secretariat     | HSSC Chair<br>4 nights on site<br>Funded only if country of Chair is not represented in the Council                           |                               | DTECH              | 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                           |
|---------|---|-----|--|--|----------------------------------|---|-------------------------------|--------------------|---|
| 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<br>Secretariat        | No action in 2019   |                               | DTECH              | ADCS  |
| 2.1.5   | Monitor the development of related international standards, specifications and guidance                   | 1.2 | IALA<br>IEC<br>IMO<br>ISO<br>OGC       | Identify and attend relevant meetings and activities and report outcome - as required (see also programme 1) | HSSC Chair Group,<br>Secretariat | Participation to be determined on the agenda of the relevant meeting and the level of involvement of the secretariat.<br><br>Travel cost for 1 AD per meeting.<br><br>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<br>London, UK<br>ADDT<br>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,<br>Secretariat |   |                               | DTECH              | ADDT  |
| 2.1.6.1 | E-navigation Underway International 2019  |     |  |  |                                  | SG or DTECH<br>Copenhagen, – Oslo<br>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  |

| 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                      |
|---------|--|-----|--|--|-------------------------------|--|-------------------------------|--------------------|--|
| 2.1.6.4 | 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<br>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<br><br>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<br>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<br>GIS Community<br>Data providers | Edition 1.0.0 S-101 – 2019<br>S-101 Implementation Plan – 2019<br>Edition 2.0.0 S-102 – 2017<br>Edition 1.0.0 S-111 – 2019<br>Edition 1.0.0 S-122 – 2019<br>Edition 1.0.0 S-123 – 2020 | Project teams<br>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<br>1.3 |  |  | S-100WG<br>Secretariat        | Travel cost for 1 AD per meeting.<br>3 nights on site per meeting.<br>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<br>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<br>Data servers              | No action expected                                   | ENCWG                         |  |   | DTECH              | ADDT              |
| 2.4.5 | Maintain S-63 - <i>IHO Data Protection Scheme</i>  | 1.4 |  |  | ENCWG,<br>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,<br>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 ENC's</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<br>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<br>2.5 | IALA<br>IMO                            | Preparation of the provision of a MSP "Hydrographic Information" – 2019.<br>Provision of an MSP "Hydrographic Information" – 2019(include participation in the IMO/IHO HGDM) | NIPWG<br>NCWG<br>S-100WG<br>TWCWG<br>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.<br>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<br>4.1 |  | ABLOS Conferences.<br>Next: 2019                     |                               | Self-funding<br><br>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.<br>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<br>1.2<br>1.4<br>1.5<br>2.1<br>2.2<br>2.3<br>2.4<br>2.5<br>2.6<br>3.1<br>3.2<br>3.3<br>3.4<br>4.1<br>4.2<br>4.3<br>4.4 |  | Monitor and approve IRCC Work Programme – Annual                | IRCC Chair,<br>RHC Chairs,<br>Chairs of the IRCC Bodies,<br>Secretariat | IRCC-11, Genoa Italy, 3-5 June<br><br>DCOORD +ADCC<br><br>4 nights on site<br><br>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<br>IRCC Chair<br>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<br>Secretariat   | IRCC Chair<br>4 nights on site<br><br>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<br>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<br>2.2<br>2.3<br>2.5<br>2.6<br>3.2<br>3.3<br>4.3 |  | Submit report and recommendations – normally Annually | RHC Chairs<br>Secretariat     |  | Inability of MS and others, particularly non-IHO MS, to participate in meetings | 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 |
|---------|---|----|--|--|---|--|-------------------------------|--------------------|-------------------|
| 3.2.1.1 | ARHC – Arctic Regional Hydrographic Commission                |    | Arctic Council, Arctic SDI             | Improved AVPG in "CY Q2" (Calendar Year Second Quarter).<br><br>Data policies that reflect CSB in "CY Q3".<br><br>MOU with PAME in "CY Q4".<br><br>Joint Statement ARHC and Arctic SDI in "CY Q4". | Lead nation CA, participants DK, US (RU?)<br><br>Lead nation NO, participants All<br><br>Lead nation US, participants All<br><br>Lead nation US, participants All | ARHC9, , US or RU to be confirmed<br><br>SG<br><br>4 nights on site                      |                               | SG                 | ADCS              |
| 3.2.1.2 | BSHC - Baltic Sea Hydrographic Commission                     |    |  |  |   | BSHC24, date and venue to be decided<br><br>SG<br><br>3 nights on site                   |                               | SG                 | ADSO              |
| 3.2.1.3 | EAHC - East Asia Hydrographic Commission                      |    |  |  |   | EAHC SC6, , March, Indonesia<br><br>SG<br><br>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<br>OECS<br>COCATRAM                |  |   | MACHC20,<br>Jamaica,<br>December (TBC)<br>DCOORD + ADCC<br><br>6 nights on site          |                               | 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 |
|----------|--|----|--|--|-------------------------------|--|-------------------------------|--------------------|-------------------|
| 3.2.1.6  | MBSHC - Mediterranean and Black Seas Hydrographic Commission |    |  |  |                               | MBSHC21, 11-13 June, Cadiz, Spain<br>DCOORD + ADCS<br><br>3 nights on site               |                               | DCOORD             | ADCS              |
| 3.2.1.7  | NHC - Nordic Hydrographic Commission                         |    |  |  |                               | NHC63, 9-11 Apr, Helsinki, Finland<br><br>SG<br><br>3 nights on site                     |                               | SG                 | ADDT              |
| 3.2.1.8  | NIOHC - North Indian Ocean Hydrographic Commission           |    |  |  |                               | NIOHC19, 25-28 Mar, Muscat, Oman<br><br>DCOORD + ADSO<br><br>4 nights on site            |                               | DCOORD             | ADSO              |
| 3.2.1.9  | NSHC - North Sea Hydrographic Commission                     |    |  |  |                               | NSHC33,<br><br>SG<br><br>No mtg planned  |                               | SG                 | ADSO              |
| 3.2.1.10 | RSAHC - ROPME Sea Area Hydrographic Commission               |    |  |  |                               | RSAHC8,<br><br>Pakistan; 6-8 Feb (location tbc)<br><br>4 nights on site                  |                               | DCOORD             | ADSO              |
| 3.2.1.11 | SAIHC - Southern Africa and Islands Hydrographic Commission  |    |  |  |                               | SAIHC16, date to be confirmed,<br><br>DTECH + ADDT<br><br>3 nights on site               |                               | DTECH              | ADDT              |
| 3.2.1.12 | SEPRHC - South East Pacific Regional Hydrographic Commission |    |  |  |                               | DTECH + ADCC<br><br>No mtg planned   |                               | DTECH              | 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 |
|----------|--|---|--|---|---------------------------------------|---|--|--------------------|-------------------|
| 3.2.1.13 | SWAtHC - South West Atlantic Hydrographic Commission                                     |   |  |   |                                       | SWAtHC13, Buenos Aires, Argentina<br>March/April<br><br>DCOORD + ADCC<br><br>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<br><br>DTECH + ADCC<br><br>4 nights on site              |  | DTECH              | ADCC              |
| 3.2.1.15 | USCHC - USA and Canada Hydrographic Commission   |   |  |   |                                       | USCHC42, Biloxi, Mississippi, USA, 19-22 March<br><br>DTECH<br><br>2 nights on site           |  | DTECH              | ADDT              |
| 3.2.2    | Organize, prepare for and report meetings of Hydrographic Commission on Antarctica (HCA) | 2.1<br>2.2<br>2.5<br>2.6<br>3.2<br>3.3<br>4.3 | COMNAP<br>IAATO<br>IALA                | Submit report and recommendations - Annually.<br><br>Conduct a risk assessment for the Antarctic region and develop a work programme to improve Antarctic charting - 2019.<br><br>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<br>Observers<br>Secretariat | HCA-16 + Seminar., SG+ADCS<br><br>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              |

| 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 |
|-------|---|-----|--|--|-------------------------------|--|-------------------------------|--------------------|-------------------|
| 3.2.3 | Contribute to improving the framework of IHO response to marine disasters   | 3.3 |  | Improve the relevant guidelines for disaster risk reduction.<br><br>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<br>2.4<br>3.3<br>3.4<br>4.4 | IMO<br><br>IALA                        | Monitor and approve CB Work Programme (CBWP).<br><br>Annual | CBSC Chair<br><br>CB Coordinators<br><br>Secretariat | CBSC17, 29-31May, Italy<br><br>ADCC<br><br>5 nights on site                              |                               | 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 |
|---------|---|-----|--|--|--|---|-------------------------------|--------------------|-------------------|
| 3.3.1.1 | Pre-meeting briefing and preparation for Chair of CBSC  |     |  |  |  | CBSC Chair<br>Monaco<br>1 night on site<br>Funded from the CB Fund administrative expenses, when required |                               | DCOORD             | ADCC              |
| 3.3.2   | Manage the IHO Capacity Building Fund   | 4.4 |  |  | CBSC Chair<br>Secretariat  |   |                               | DCOORD             | ADCC/MFA          |
| 3.3.3   | Develop and maintain a Capacity Building Management System  | 4.4 |  | Support the implementation of CBWP<br>Continuous     | CBSC Chair<br>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.<br>Annually                  | CBSC Chair<br>Secretariat  |   |                               | DCOORD             | ADCC              |
| 3.3.5   | Develop, monitor and update the Capacity Building Work Programme (CBWP)<br>including:<br>- Reviewing and updating CB procedures<br>- 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.<br>Annually.<br>Considered in conjunction with task 3.3.1 |   |                               | 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 |
|-------|---|---------------------------------|---|---|---|--|-------------------------------|--------------------|-------------------|
| 3.3.6 | Organize, prepare and report on meetings with other organizations, funding agencies, private sector and academia<br><br>including:<br>the Joint IHO/IMO/WMO/IOC/IAEA/IALA/FIG/IMPA Capacity Building Coordination meeting | 4.3<br>4.4                      | World Bank<br><br>UNDP<br><br>UNEP                              | Coordinated delivery of Capacity Building activities.<br><br>Investigate new opportunities for CB activities.<br><br>Increase the CB Fund.<br><br>Annual  | CBSC Chair<br><br>Secretariat                   | 2 meetings annually in junction with other events<br>Travel cost for DCOORD or ADCC<br><br>1 night on site per meeting<br><br>Joint CB Group meeting to be hosted by IMPA, in London | Secretariat                   | DCOORD             | ADCC              |
| 3.3.7 | Organize, prepare and report on a Capacity Building and IBSC Stakeholders' Forum  | 4.4                             | IMO<br><br>IALA<br><br>IOC<br><br>WMO<br><br>FIG<br><br>Academy | Obtain lessons learned from CB training activities<br>Review the future of the IHO CB Work Programme and CB Strategy. Engage with institutions delivering IBSC recognized programmes.   | Secretariat                                     | CB/IBSC Stakeholders Forum<br><br>27-28 May, Genoa, Italy, in tandem with 3.3.1<br><br>3 nights in site  |                               | DCOORD             | ADCC              |
| 3.3.8 | Maintain IHO publication M-2 - <i>National Maritime Policies and Hydrographic Services</i>  | 3.1<br>3.2                      |   | Continuous  | Secretariat                                     |  |                               | DCOORD             | ADCC              |
| 3.3.9 | Plan, administer and implement Capacity Building activities, including:<br><br>Technical and advisory visits, Workshops, Seminars, Short and long courses, On the Job Training (ashore / on board)                        | 2.3<br>2.4<br>3.3<br>3.4<br>4.4 |   | Assess the status of hydrography, cartography and aids to navigation in developing States.<br><br>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<br><br>RHC Chairs<br><br>Secretariat | In accordance with annual CBWP<br><br>Funded by the CB Fund.   |                               | 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 |
|--------|---|----|---|--|---|--|-------------------------------|--------------------|-------------------|
| 3.3.10 | Investigate and Develop Regional Hydrographic / Maritime Projects |    | IMO<br>IALA<br>IOC<br>UN Agencies<br>World Bank<br>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.<br><br>Develop and support the Outline/Scope Studies on Regional Projects.<br><br>Continuous | CBSC Chair<br>RHC Chairs<br>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<br>2.2<br>2.6 | CIRM,<br>CNITA,<br>RENC<br>Management  | Foster the implementation of the WEND principles, monitor progress and report to IRCC.<br><br>Annually |                               | WENDWG9, 26-28 Feb, Brest France<br><br>DCOORD +ADCS<br><br>4 nights on site             |                               | DCOORD             | ADCS              |
| 3.4.2 | Maintain liaison with RENCs  | 2.1<br>2.2<br>2.6 | RENC management, RE NC MS              | Facilitate the promotion of RENC co-operation for the benefit of ENC end-users. Annual                 |                               | 2 meetings annually.<br><br>DCOORD or ADCS<br><br>3 nights on site per meeting           |                               | DCOORD             | 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 |
|-------|--|-----|--|--|-------------------------------|--|---|--------------------|-------------------|
| 3.4.3 | 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.<br><br>Maintain INT Chart schemes and coordinate the production of INT Chart in the regions, in line with ENC production.<br>Continuous |                               |  | Lack of appropriate surveys or re-surveys in areas where there is no satisfactory coverage.<br><br>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<br>2.1<br>4.3 | IMO,<br>IALA,<br>IMSO                  | Monitor and guide the IHO/IMO World-Wide Navigational Warning Service including NAVAREA and coastal warnings.<br><br>Annual | WWNWS-SC Chair<br><br>Secretariat | WWNWS11,<br>Canada; 26-30 Aug<br>(location tbc)<br><br>ADSO                              |                               | DCOORD             | ADSO              |
| 3.5.2 | Conduct annual meetings of the WWNWS-SC Document Review Working Group  | 1.2<br>2.1        | IMO<br>IALA<br>IMSO<br>WMO             | Maintain the IMO/WWNWS documents.<br><br>Annual   | WWNWS-SC Chair<br><br>Secretariat | ADSO<br><br>3 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 |
|-------|--|-------------------|--|---|-----------------------------------|--|---|--------------------|-------------------|
| 3.5.3 | Maintain and extend the following IHO standards, specifications and publications:<br>- relevant IHO Resolutions in M-3 - Resolutions of the IHO,<br>- S-53 - Joint IMO/IHO/WMO Manual on Maritime Safety Information | 1.2<br>2.1<br>3.3 | IMO<br>IMSO<br>WMO                     | Provide update to WWNWS documentation.<br><br>Continuous  | WWNWS-SC Chair<br><br>Secretariat |  |   | DCOORD             | ADSO              |
| 3.5.4 | Liaise with IMO and WMO on the delivery of MSI within the GMDSS  | 1.2               | IMO<br>IALA<br>IMSO<br>WMO             | Ensure maintenance of service delivery.<br>Continuous   | WWNWS-SC Chair<br><br>Secretariat | ADSO<br><br>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<br>2.1<br>2.5 | IMO<br>IALA<br>IMSO<br>WMO             | Monitor projects to ensure maintenance of service delivery at least at current levels, investigation areas for improvement.<br><br>Continuous | WWNWS-SC Chair<br><br>Secretariat |  |   | DCOORD             | ADSO              |
| 3.5.6 | Improve the delivery and exploitation of MSI to global shipping by taking full advantage of technological developments   | 1.2<br>2.1<br>2.5 | IMO<br>IALA<br>IMSO,<br>WMO            | Progress development of S-124 PS to align with the development of e-navigation and GMDSS modernization (see element 2.5).<br><br>Continuous   | WWNWS-SC Chair<br><br>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<br>2.6<br>3.4 | IOC                                    | Implementation of the GGC Work Programme.<br><br>Contribute to global ocean mapping programmes.<br><br>Improve the availability of shallow water bathymetry.<br><br>Implement the strategic goals for the next decade.<br><br>Annual | GGC Chair<br><br>Secretariat                     | GEBCO meetings, ,<br><br><u>GGC35</u> : DCOORD + ADSO<br>3 nights on site<br><br><u>SCUFN 32</u> : ADCS China 5 nights<br><br><u>TSCOM, SCRUM</u> :<br><u>ADSO Canada: location and dates tbc after 2018 meeting</u><br>4 nights on site |  | DCOORD             | ADSO              |
| 3.6.2 | Ensure effective operation of the IHO Data Centre for Digital Bathymetry (DCDB)   | 1.5<br>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.<br><br>Continuous   | Director DCDB<br><br>CSBWG Chair<br><br>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<br>2.2<br>2.6 | Academia and Industry                  | GEBCO representatives participate in RHC meetings.<br><br>Continuous   | GGC Chair<br><br>RHC Chairs<br><br>Secretariat   |  | Lack of MS willingness to provide data | 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 |
|-------|---|-------------------|--|---|-------------------------------|--|-------------------------------|--------------------|-------------------|
| 3.6.4 | Develop general guidelines on the use and collection of Crowd Sourced Bathymetry (CSB)  | 2.6               |  | New IHO publication on CSB - 2019   | CSBWG Chair<br>Director DCDB  | ADSO<br><br>CSBWG7 – Québec, Canada; 12-14 Feb<br><br>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.<br><br>Annual   | CSBWG Chair,<br>Secretariat   | ADSO<br><br>2 meetings - funded by EU  |                               | DCOORD             | ADSO              |
| 3.6.6 | Maintain IHO bathymetric publications, including:<br><br><i>B-4 - Information Concerning Recent Bathymetric Data</i><br><br><i>B-6 - Standardization of Undersea Feature Names</i><br><br><i>B-8 - Gazetteer of Geographical Names of Undersea Features</i><br><br><i>B-9 - GEBCO Digital Atlas</i><br><br><i>B-10 - The History of GEBCO</i><br><br><i>B-11 - IHO-IOC GEBCO Cook Book)</i> | 2.6               | IOC                                    | Maintain publications updated   | GGC Chair<br>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<br>2.6<br>3.4 | IOC                                    | Development of Roadmap for Outreach and Education Working Group.<br>Development of Education Materials.<br>Printing of GEBCO World Map in MS.<br>Continuous | GGC Chair<br>Secretariat      | Provided from GEBCO Fund   |                               | 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 |
|--------|--|-------------------|--|---|---|--|-------------------------------|--------------------|-------------------|
| 3.6.8  | Maintain GEBCO Web site  | 1.5<br>2.6<br>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.<br><br>Continuous | GGC Chair<br>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<br>2.6<br>3.4 |  | Course curriculum and schedule for first course occasion. 2019  | GGC Chair<br>Secretariat                  |  |                               | DCOORD             | ADSO              |
| 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.<br><br>Annually  | GGC Chair<br>Director DCDB<br>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<br>Academia<br>Industry            | Continuous   | MSDIWG Chair<br>Secretariat   | MSDIWG10, 4-8 Mar, Busan, ROK<br>ADCC<br>5 nights on site                                |                               | 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 |
|---------|--|-----|--|--|-------------------------------|--|--|--------------------|-------------------|
| 3.7.2   | Maintain the relevant IHO standards, specifications and publications on MSDI, including C-17 | 2.5 | OGC<br>Academia<br>Industry            |  | MSDIWG Chair<br>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<br>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<br>Academia<br>Industry            | Course materiel for standardised MSDI training course - 2019 | MSDIWG Chair<br>Secretariat   |  |  | DCOORD             | ADCC              |
| 3.7.4   | Meeting of the OGC Marine Domain Working Group   | 2.5 | OGC                                    | Coordination of the relevant activities                      | MSDIWG Chair<br>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<br>1.4 | FIG<br>ICA<br>Academia<br>Industry     | Recognition of new submissions.<br>Continuous   | IBSC Chair<br>Secretariat     | IBSC42, , Honolulu, Hawaii, USA, March/April<br>ADCC<br>12 nights on site                | Availability of Board members to undertake an increasing intercessional workload.<br><br>Capacity of Secretariat to provide full support to the Board. | DCOORD             | ADCC              |
| 3.8.2 | Fulfil the functions of the IBSC   | 1.4        | FIG<br>ICA                             | Continuous  | IBSC Chair<br>Secretariat     |  | Availability of Board members to undertake an increasing intercessional workload.<br><br>Capacity of Secretariat to provide full support to the Board. | DCOORD             | ADCC              |
| 3.8.3 | Manage the IBSC Fund   | 4.4        | FIG<br>ICA                             | Management of the IBSC Fund effectively and report to the IHO Secretariat.<br>Continuous              | IBSC Chair<br>Secretariat     |  |  | DCOORD             | ADCC              |
| 3.8.4 | Review the IBSC standards and maintain IBSC Publications, including:<br><br><i>C-6 - Reference Texts for Training in Hydrography</i><br><br><i>C-47 - Training Courses in Hydrography and Nautical Cartography</i><br><br><i>S-5A and B - Standards of Competence for Hydrographic Surveyors</i><br><br><i>S-8A and B - Standards of Competence for Nautical Cartographers</i> | 1.4        | FIG<br>ICA<br>Industry<br>Academia     | Maintain Standards in S-5A/B and S-8A/B. Provide guidance to training institutions.<br><br>Continuous | IBSC Chair<br>Secretariat     |  | Availability of Board members to undertake an increasing intercessional workload. Capacity of Secretariat to provide full support to the Board.        | DCOORD             | ADCC              |

