

7TH S-100 TEST STRATEGY MEETING (S-100 TSM7) IHO Secretariat, Monaco, 23 – 26 September

Contribution to the IHO Work Programme 2019	
Task 2.1.2.3	Organize, prepare and report meetings of HSSC working groups (S-100 Test Strategy Meeting).

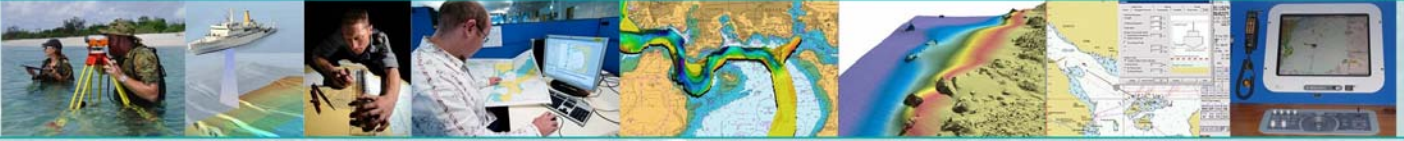
The S-100 Working Group’s 7th Test Strategy meeting took place at the IHO Secretariat in Monaco from 23 to 26 September 2019. Fifteen Member State representatives from Australia, Canada, Finland, France, Germany, Netherlands, Norway, Korea (Rep of) and the USA attended the meeting. Nine representatives from the following industry and academic organizations attended; Esri, Electronic Chart Centre (ECC), Korea Research Institute of Ships and Ocean (KRISO), Korea Maritime and Ocean University (KMOU), IIC-Technologies, International Centre for ENCs (IC-ENC), Portolan Sciences, SevenCs, Teledyne Caris and WR Systems.

The meeting was chaired by Julia Powell (USA). IHO Director Abri Kampfer, Assistant Directors Anthony Pharaoh and Alberto Costa Neves and Technical Standards Support Officer (TSSO), Jeff Wootton, represented the IHO Secretariat and provided logistical support.

The IHO Secretary-General, Dr Mathias Jonas, opened the meeting and reminded delegates of the importance of the work being undertaken by the S-100WG. He highlighted the challenge of bringing all the elements of S-100 data products together for use by data providers, service providers and end users.



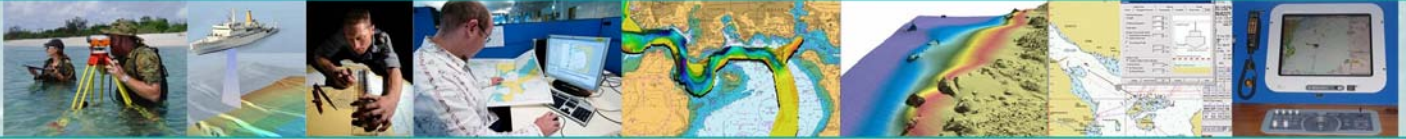
The participants of the 7th S-100 Test Strategy Meeting.



The primary goal of the meeting was to carry out a review of draft S-98¹ publication and to discuss issues relating to the extensions to the S-100 Framework Standard and the implementation of data products in Electronic Chart Display and Information System (ECDIS). The meeting considered issues relating to the architectural display of S-100 related products in ECDIS and how best to achieve harmonized portrayal. There were discussions on the development of an exchange catalogue for multiple products and KHOA provided a report on their sea trial project to test the use of S-100 datasets in a prototype S-100 ECDIS. Other important issues discussed included the need for a code-list register, the implementation of a bathymetric data quality model, carriage requirements for S-100 based ECDIS and data security and authentication for the distribution of S-100 products. A number of proposals for extensions to the S-100 framework standard were also considered.

The next TSM meeting is scheduled to take place at the IHO Secretariat in September or October 2020.

¹ S-98 Specification for Data Product Interoperability in S-100 Navigation Systems



24TH CONFERENCE OF THE BALTIC SEA HYDROGRAPHIC COMMISSION Gdańsk, Poland, 11-12 September

Contribution to the IHO Work Programme 2019	
Task 3.2.1.6	Prepare for and report meetings of the Regional Hydrographic Commission: BSHC

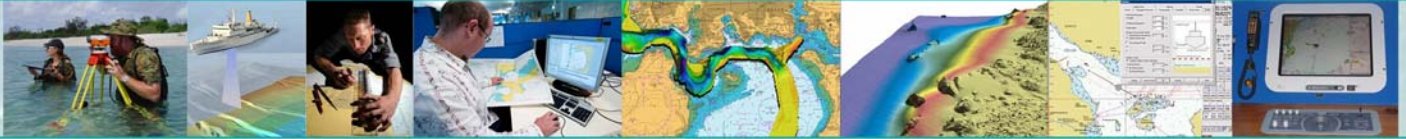
The 24th Conference of the Baltic Sea Hydrographic Commission (BSHC24) was held in Gdańsk, Poland, from 11 to 12 September, under the Chairmanship of Ms Pia Dahl Højgaard, (Denmark). Seven out of eight full members of the Commission (Denmark, Estonia, Finland, Germany, Latvia, Poland, and Sweden) and associate member Lithuania were represented at the Conference. The delegation of the Russian Federation did not participate. The United Kingdom and the United States of America were also represented at the Conference as Observers. The IHO Secretariat was represented by Secretary-General Dr Mathias Jonas.

BSHC24 covered a wide range of regional topics including developments in each of the Member States, the latest status of hydrographic surveying and nautical charting including INT Charts, ENC production and BSHC cooperative projects. The members of the BSHC reported on their national hydrographic, cartographic and Maritime Safety Information activities since the 23rd meeting. They also presented new developments with regard to surveying, chart production and maritime traffic management.

The Commission considered the outcome of the 11th meetings of the Hydrographic Services and Standards Committee and the Inter-Regional Coordination Committee (IRCC) including the 9th meeting of World Wide ENC Database Working Group (WEND-WG).

Secretary-General Dr Jonas reported on the IHO Work Programme and the Organization's activities during the previous year and shared his impressions about the considerations of the 11th Meeting of the Inter-Regional Coordination Committee (IRCC11). He also provided the Commission with general information on topics to be discussed at the upcoming 3rd meeting of the IHO Council (C-3) in October in Monaco, highlighting the fact the five (Denmark, Finland, Germany, Sweden, Russian Federation) of the nine BSHC members will be present at the Council. He also reported about the ongoing preparations of the 2nd Assembly in April 2020 and the triennium to celebrate the hundred years of existence of the IHO.

The Commission reviewed on-going regional initiatives in particular the activities of the Monitoring Re-survey Working Group (MWG), Baltic Sea Bathymetric Database Working Group (BSBDWG), joint North Sea and Baltic Sea Marine Spatial Data Information Working Group (NS-BSMSDIWG), Baltic Sea International Charting Coordination Working Group



(BSICCWG), the Chart Datum Working Group (CDWG) and the new installed Maritime Safety Information Working Group (MSIWG).

Sweden reported about the IHO-EU network working group activities. The report confirmed the general rise of awareness of the role and the duties of Hydrographic Offices and the overarching collaborative arrangements of the IHO on affected EU bodies. The common interest lays with the EMODNET portal theme to present high quality bathymetry as open data. There is an ongoing discussion within the EU whether to adopt navigational chart products to the range of the revision of the EU Directive of Public Sector Information (PSI).

The Commission considered concerted activities for an area-wide gravity measurement campaign featuring improved geoid computations under the auspices of the Chart Datum Working Group (CDWG). Additional measurement needs were identified for Swedish, Polish and Estonian waters.

The Commission renewed its commitment to the continued maintenance of the BSHC internet portal hosted by Sweden including the provision of a gridded bathymetry model for the whole Baltic. The current model still faces good public perception by a significant number of visitors and downloads. The member states reaffirmed these activities as their regional contribution to the Seabed 2030 project.

Sweden informed about its intentions to apply for EU funding for a FAMOS follow-up project named FASTMOS. This project will be designed to demonstrate the collaborative application of several S-100 based products in the area of the Sound, the Great Belt, the Kadettrenden, Irbe and the Quark. Sweden invited BSHC members with regional association to these areas to join the project application phase.

Germany proposed to set up a BSHC Marine Data Portal as future testbed for S-100 based data services. BSHC welcomed the proposal, encouraged the partners to outline future cooperation on this subject and suggested to synchronize with the drafting phase with the FASTMOS project.

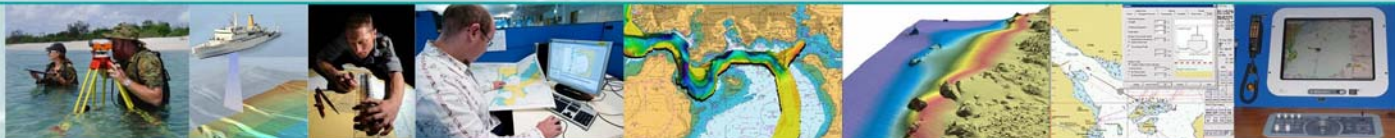
BSHC also discussed the development of the S-100 implementation Decade in Baltic Sea Area but agreed to postpone steps to be taken after the discussion at Council and Assembly level.



Participants of the 24th BSHC Conference in Gdańsk, Poland



At the end of the meeting, Captain (PLN) Andrzej Kowalski, (Poland) was elected as the new Chair of the BSHC. It was agreed that the next meeting of the BSHC will be hosted in Stockholm by Sweden from 23 to 24 September 2020. All available documents of the meeting are posted on the BSHC page of the IHO website as well as under the BSHC web site (www.bshhc.pro)



LIAISON VISIT TO THE 11TH COURSE OF THE IHO-NIPPON FOUNDATION CHART PROJECT

United Kingdom Hydrographic Office, Taunton, UK, 11 September

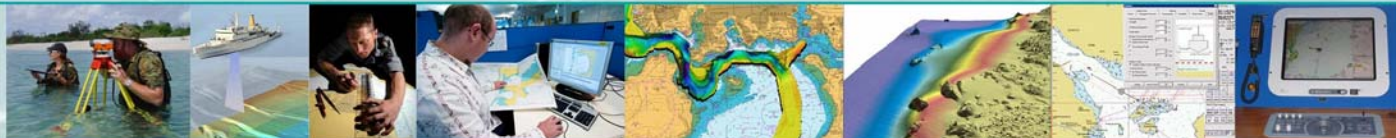
Contribution to the IHO Work Programme 2019	
CBWP P-03	Attendance of CHART Liaison visit

Director Mustafa Iptes and Mr Naohiko Nagasaka (Project Officer seconded to the IHO Secretariat from Japan) visited the United Kingdom Hydrographic Office (UKHO) on 11 September to meet and brief the trainees attending the 11th course of the IHO - Nippon Foundation CHART (Cartography, Hydrography and Related Training) Project. The project, funded by the Nippon Foundation of Japan, provides training in marine cartography and data assessment, which is recognized at the Category B level by the FIG-IHO-ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. The course is hosted by the UKHO and is composed of five modules, each module varying from two to five weeks in length. The 11th course started on 2 September 2019 and will end on 13 December. It is attended by students from Bangladesh, Ecuador, Estonia, Nigeria, South Africa, Thailand and Trinidad and Tobago.

The Team of the IHO Secretariat discussed various topics with the students. In response, the students described their experiences and thanked the Nippon Foundation, UKHO and IHO for the opportunity to develop their knowledge and expertise in the field of nautical cartography. Director Iptes delivered a presentation highlighting the areas of influence and the value of hydrography and the responsibilities of Governments in relation to the provision of hydrographic data, information, products and services. The impact of the CHART project was also described and presented in detail by Mr. Nagasaka. The students were encouraged to keep in touch with each other and to maintain an alumni relationship after they return to their home countries.



The trainers and trainees of the 11th CHART Course with the IHO Visiting Team.



12TH JOINT IHO/IMO/WMO/IOC/IALA/IAEA/FIG/IMPA CAPACITY BUILDING COORDINATION MEETING

London, UK, 10 to 11 September

Contribution to the IHO Work Programme 2019	
Task 3.3.6	Organize, prepare and report on meetings with other organizations, funding agencies, private sector and academia

The 12th Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG/IMPA Capacity Building (CB) Coordination Meeting was held on 10 and 11 September 2019, at the headquarters of the International Maritime Organization (IMO) in London, United Kingdom. The annual meeting brought together eight representatives from the IHO, IMO, WMO, IALA and IMPA. The IOC representative provided a briefing via videoconference. The IAEA and FIG were not represented at the meeting. The IHO was represented by Director Mustafa Iptes (first day) and Assistant Director Alberto Costa Neves, Capacity Building Sub-Committee (CBSC) Secretary.

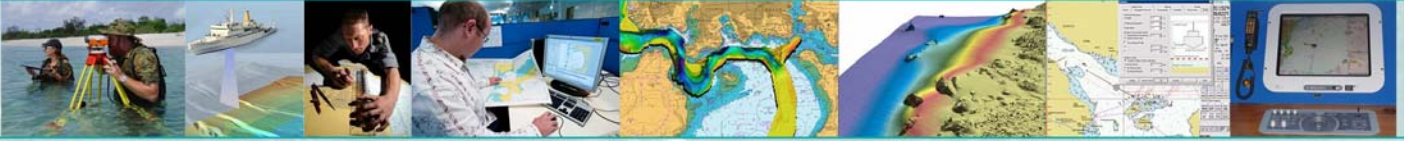
The objective of the meeting is to coordinate the efforts of international organizations for building and developing capacity in the maritime and marine communities. The meeting participants share resources in line with the United Nation concept of "Delivering as One" for effective, efficient, coherent and better performing presence in developing countries. The coordinated international presence has the benefit of creating conditions for enhanced communication and cooperation within the countries and their national infrastructure.



Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG/IMPA Capacity Building Coordination Meeting

Participants reviewed the joint activities conducted in the intersessional period, in particular the seminars for raising awareness of relevant topics preceding the regular conferences of Regional Hydrographic Commissions (RHCs), namely the EAHC, MACHC, NIOHC, SAIHC and SWPHC, the technical visit to Angola and the CB workshop held during the e-Navigation Underway Asia-Pacific. Future joint activities for technical visits and raising awareness seminars were considered, starting with a joint IMO-IHO-IALA-IMPA needs assessment visit to Iraq.

The meeting shared achievements, challenges and lessons learned with the implementation of the respective CB or Capacity Development (CD) strategies, the management of



calendars, course catalogues and portals. The meeting also considered ways to collectively improve e-learning, having as example the IOC Ocean Teacher Global Academy (OTGA) hosting IHO courses on Tides and Water Level and on Maritime Safety Information (MSI), both being implemented.

The strategy to deal with funding agencies was considered during the meeting, and the promotion of joint projects. The existing development of a joint project to support inland water transportation in Bangladesh is progressing with meetings being held by the IMO with funding agencies. The same model will be considered to support other countries. The meeting agreed to prepare a concept paper for building maritime and marine capacity in the Caribbean for climate-resilient and sustainable development. This concept will be presented to donors for implementation, as a response to, among others, the reports of the High-Level Symposium and the Regional Senior Maritime Administrators' Workshop in the Caribbean.

Participants were encouraged to promote and engage with the Working Group on Marine Geospatial Information (WGMGI), established under the United Nations Committee of Experts in Global Geospatial Information Management (UN-GGIM), with the development of an implementation plan for the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) and with the Nippon Foundation-GEBCO Seabed 2030.

The development of a joint input to the IMO Member States Audit Scheme (IMSAS) was considered. The aim is to improve the assessment of the status of Safety of Navigation (SOLAS Chapter V) in a holistic way. IHO reported on its experience in offering support to IMO Member States in their preparation for IMSAS on aspects related to hydrography, nautical charting and MSI.

The meeting considered the impact of alumni from World Maritime University (WMU) and from the International Maritime Law Institute (IMLI) and how they are enabling progress in several aspects in the maritime sector in their countries and in their regions, a long-term return of investment. The impact of the Nippon Foundation's initiatives to support alumni was also noted with appreciation.

The IHO invited the participants to the CB Stakeholders' Seminar that will take place in Monaco on 17 and 18 June 2021, following the CBSC19, and to take part in the Centenary Anniversary of the IHO.

The next Joint CB Coordination Meeting will take place in August 2020 in Monaco, hosted by the IHO Secretariat.



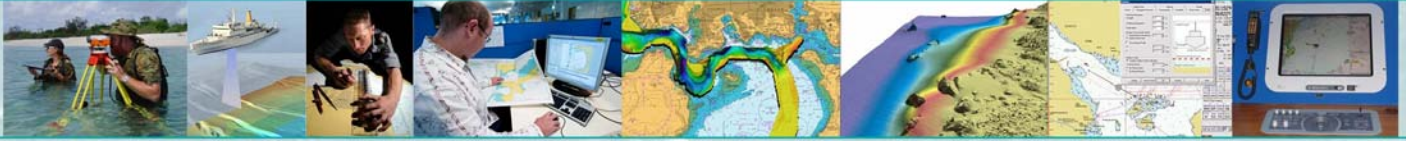
**16TH CONFERENCE OF THE SOUTHERN AFRICAN AND ISLANDS
HYDROGRAPHIC COMMISSION (SAIHC) AND SEMINAR FOR
RAISING HYDROGRAPHIC AWARENESS
Cape Town South Africa, 3 to 5 September**

Contribution to the IHO Work Programme 2019	
Task 3.2.1.11	Attendance of SAIHC – Southern African and Islands Hydrographic Commission

The 16th Conference of the Southern African and Islands Hydrographic Commission (SAIHC) was held from 3 to 5 September 2019 in Cape Town, South Africa. The following SAIHC Member States attended the Conference; France, Mozambique, Mauritius, Norway, South Africa and the United Kingdom. Namibia, Portugal, India, Tanzania, Comoros, Madagascar, Malawi and Kenya attended as Associate Members. Only one Member State, Seychelles, and one Associate Member State, Angola, were unable to attend the Conference. Delegates from the International Maritime Organisation (IMO), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), Southern and East African and Islands Regional Group for Safety of Navigation and Marine Environment Protection (SEAIGNEP) and industry stakeholder participants from Kongsberg Maritime, AML Oceanographic, Chartwise, Unique Hydra, Teledyne Caris, UnderWater Surveys, Navico, iXBlue and Fugro participated in the Conference as observers. Director Abri Kampfer represented the IHO Secretariat.

The Conference was hosted by the South African Navy Hydrographic Office (SANHO). The SAIHC Chair, Rear Admiral Tim Lowe (UK) opened the Conference and invited Captain Theo Stokes, National Hydrographer of South Africa to provide the opening address. Each of the coastal States present provided an update on their activities since the last Conference that took place in Seychelles in August 2018 and although there is some progress on coordination of hydrographic activities in some countries with the establishment of National Hydrographic Committees, meetings are infrequent. The capacity building needs of the region remains vast and bi-lateral agreements and regional capacity building efforts should be considered in addition to the IHO capacity building programme. South Africa presented on the progress of the creation of an online MSI course that may be very fruitful to improve MSI awareness and create much needed capacity within the coastal States in the region.

The 16th Conference included a meeting of the SAIHC International Charting Coordination Working Group (ICCWG) during which the status of INT chart and ENC production in the region was discussed and decisions were made on finalising the SAIHC ENC Schema and resolving current ENC overlaps. A presentation on the current and future functionalities of the IHO INTogIS II was well received.

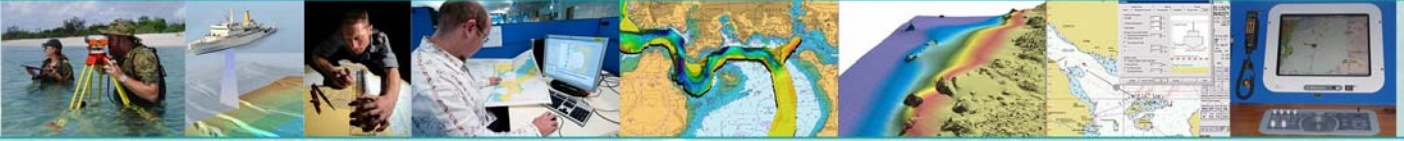


There were presentations and discussions on Marine Spatial Data initiatives and the Conference received feedback from the newly established SAIHC MSDIWG, led by UK, and it was emphasised that the group could play an important role in the discovery of regional data portals and assist in unlocking the “Blue Economy” of the region. An excellent presentation by Ms Lauren Williams from the Department of Environmental Affairs on the South African Marine Spatial Planning and National Oceans and Coastal Information Management System provided a good example of a national Maritime Spatial Planning effort and the potential benefits that can be achieved. GEBCO activities, presented by Evert Flier (Norway) included information on the GEBCO–Nippon Foundation Seabed 2030 Project and feedback on the IHO Crowdsourc Bathymetry WG. Coastal States were reminded of the importance of responding to the questionnaire attached to IHO CL 11/2019 to indicate support for crowdsourc activity within their waters of national jurisdiction, including any caveats, as this will guide future crowdsourc activities within the region.



Participants of the 16th SAIHC Conference

The IHO Capacity Building Programme for the region was discussed and the need to refine the SAIHC Capacity Building Strategy was identified. Other topics discussed during the meeting included; feedback on outcomes from the IHO Council, HSSC, IRCC, WEND WG, MSDI WG and C-55 information. Procedures for dealing with marine disasters were discussed and a presentation by Mozambique on lessons learnt from dealing with the effects of the destructive cyclones Idai and Kenneth that struck Mozambique and neighbouring countries prompted an action to develop a Disaster Response Framework for the SAIHC Region. A report on Maritime Safety Information (MSI) activities in NAVAREA VII was presented by South Africa and reviewed by the Commission. Feedback was also provided by India on NAVAREA VIII activities. It was quite evident that few countries in the region communicate with their NAVAREA Coordinator and more effort are required for the submission of maritime safety information for NAVAREAS VII and VIII. All coastal States in



the region were urged to nominate participants for the upcoming MSI Training Course, but care should be taken that the nominees will be utilised in a MSI role on completion of their training. Presentations were also provided by each of the industry participants. All the presentations made either by observers or industry participants and stakeholders were very educative, in particular for those who participated in the Conference for the first time.

IHO/SAIHC Seminar for Raising Awareness of Hydrography

The 16th meeting of the Commission was preceded by a seminar for Raising Hydrographic Awareness sponsored by the IHO capacity building fund and delivered by representatives from the IHO Secretariat, IMO, IALA and the UK. The seminar was intended to provide the representatives of the SAIHC with information to assist in the development and strengthening of hydrographic capacity to meet their international obligations under SOLAS and to support economic growth and protection of the marine environment.



Participants of the SAIHC Seminar for Raising Hydrographic Awareness

Next Conference

The next Conference is scheduled in Mauritius from 7 to 10 September 2020. The Commission re-elected Rear Admiral Tim Lowe (UK) as its Chair and Mauritius was elected as Vice-Chair, subject to confirmation.

All papers and presentations for the Seminar and the Conference are available on the SAIHC16 document page on the IHO website (<http://www.iho.int>).



LATE REPORT

4TH S-101 ENC PROJECT TEAM (S-10IPT) MEETING IHO Secretariat, Monaco, 13-14 June

Contribution to the IHO Work Programme 2019	
Task 2.3.4	Develop and maintain S-10x Product Specifications

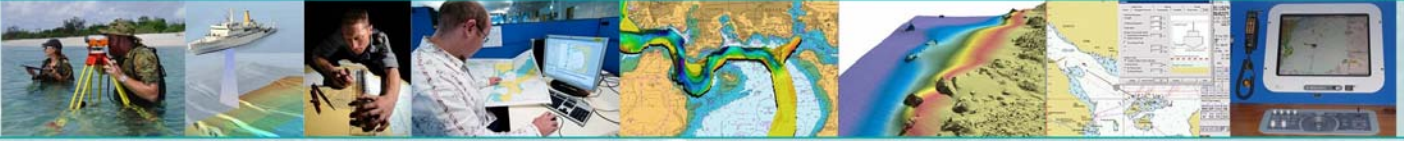
The S-101 Electronic Navigational Chart Project Team (S-101 ENC PT) held its 4th meeting at the IHO Secretariat, in Monaco from 13 to 14 June 2019. Twenty eight Member State representatives from Australia, Brazil, China, Denmark, Estonia, Finland, France, Germany, Italy, Norway, Korea (Rep of), the United Kingdom (UK) and the USA attended the meeting. Ten members from seven industry and academic organizations also attended the meeting. The meeting was chaired by Al Armstrong (USA). Director Abri Kampfer, Assistant Director Anthony Pharaoh and Technical Standards Support Officer Jeff Wootton represented the IHO Secretariat.



The participants of the 4th S-101 Project Team Meeting.

Following the publication of the Edition 1.0.0 of the S-101 ENC Product Specification in December 2018 for evaluation and testing, a few inconsistencies in the S-101 feature catalogue were reported and discussed during the meeting. These will be resolved in the next minor edition of the feature catalogue. A report was provided on the development of the S-101 portrayal catalogue and its associated conditional procedure framework. This work includes the development of conditional rules for triggering both portrayal and alert / indicator events within an ECDIS.

Denmark reported on their activities to develop a framework for documenting validation rules for S-100 based products. Denmark have also developed a preliminary list of validation checks for S-101 ENC data.



The IHO Registry Manager reported on the current status of the GI Registry, and the outcomes of the Registry workshop which took place during the 4th S-100WG meeting in Aalborg, Denmark from 27 Feb to 1 March 2019. KHOA² provided update reports of the Feature Catalogue and Portrayal Catalogue builder applications that are currently being tested. These applications work in tandem with the GI Registry.

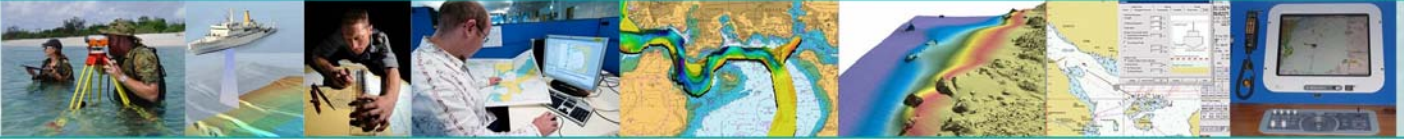
IIC-Technologies presented the results of an S-57 ENC to S-101 ENC data conversion study. One of the main objectives of the study was to look at how S-57 data can be “optimised” in order to facilitate data conversion. The free S-57 to S-101 ENC converter produced by Esri was used for the data conversion.

The Chair of the DQWG reported on a proposed mechanism to automatically compute the equivalent of CATZOC for use in S-101. The process requires that the underlying survey data is adequately attributed.

A report on the new data security scheme that will be used for the distribution of S-100 products was provided by Primar. Other items discussed included; quality of horizontal measurement, additional portrayal issues and reports on test bed projects.

The next meeting is scheduled to take place in conjunction with the next ENCWG meeting. The date and venue of both meetings is yet to be finalized.

² Korea Hydrographic and Oceanographic Agency



NEW HYDROGRAPHER OF UNITED KINGDOM

Rear Admiral Peter James Sparkes

Born and educated in Liverpool, UK, Peter Sparkes joined the Royal Navy as a graduate entrant Surface Warfare officer in 1990.

His initial appointments in Her Majesty's Ships YORK, EDINBURGH, GLOUCESTER,

SOUTHAMPTON, and MONMOUTH, included service in the Arabian Gulf (Operation SOUTHERN WATCH), the Adriatic (Operation SHARPGUARD), and in the North and Western Atlantic (Anti-submarine, counter-narcotic, and disaster relief operations). He qualified as a Principal Warfare Officer in 1998, specialising in Communications and Electronic Warfare. Thereafter, he was promoted to the rank of Lieutenant Commander and served as the Operations Officer of the amphibious flagship HMS FEARLESS in the Mediterranean and Black Sea. Peter Sparkes was then selected to be the Executive Officer and second in command of the frigate HMS NORFOLK, deploying on Operation TELIC / IRAQI FREEDOM in 2003.



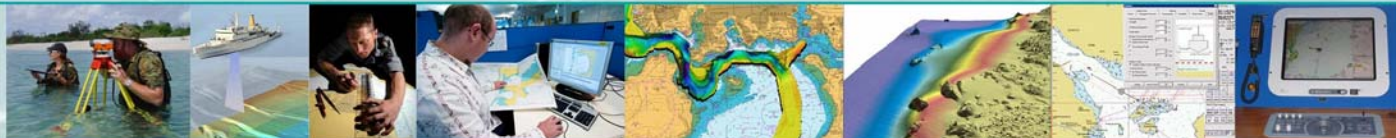
As a Commander, he commanded the frigate HMS CUMBERLAND on a notably successful counter-piracy deployment to the Gulf of Aden in 2008. Upon promotion to Captain in 2010, Peter Sparkes was charged with the generation of the UK's replacement Ice Patrol Ship, HMS PROTECTOR. He subsequently commanded the Royal Navy's ice-breaker on two fascinating austral summer deployments to Antarctica. As a Commodore (1*), he had the privilege of commanding the 44 units (aircraft carriers, destroyers, frigates, mine-hunters, patrol vessels, and the UK maritime explosive ordnance disposal teams) of the Portsmouth Flotilla. An assignment which included overseeing the acceptance into service and force generation of the QUEEN ELIZABETH Class aircraft carriers.

Ashore, Peter Sparkes has served in Ministry of Defence acquisition appointments, with a remit of defining Joint information warfare and maritime situational awareness capabilities. This included the development and introduction into Royal Navy service of the Warship Electronic Charting Display Information System (WECDIS). Within Navy Command he specialised in personnel management and had responsibility for, and oversight of, all Royal Navy and Royal Marine officer and other rank career management below the rank of Captain / Colonel. As a Captain he was the Permanent Joint Headquarters (PJHQ) J5 lead for operational planning in Africa and the South Atlantic. Latterly, he was privileged to serve in Washington DC as the UK Chief of Defence Staff's Liaison Officer to the US Joint Chiefs of Staff (2018 – 2019). He was promoted to Rear Admiral and appointed as the National Hydrographer on 28 October 2019.

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Peter's wife, Karen, is a teacher. Their son is a Royal Navy medical officer. Rear Admiral Sparkes is a graduate of the Higher Command and Staff Course and the US Capstone Course. He is a Younger Brother of Trinity House, a Freeman of the City of London, and an Honorary Liveryman. Peter enjoys a variety of outdoor pursuits, cooking curries, and he is an avid supporter of Liverpool football club.