

## 17<sup>th</sup> Meeting of the IHO Inter-Regional Coordination Committee (IRCC-17) Monaco, Principality of Monaco, 3-5 June 2025

### Contribution to the IHO Work Programme 2025

#### Task 3.1.1

Organize, prepare and report annual meetings of the Inter-Regional Coordination Committee (IRCC).

#### High level summary

- IHO Secretariat commitment to the Blue Economy and Finance Forum (BEFF) and United Nations Ocean Conference 3 (UNOC3) was appreciated and fully supported.
- Affected RHCs will be requested – via IRCC Letter – to facilitate coordination between NAVAREA Coordinators and National Coordinators with respect to S-124 development and facilitate S-124 education and development to achieve a S-124 Coastal Warnings Area implementation roadmap by 2028.
- The change from “Capacity Building” to “*Capacity Development*” was endorsed by IRCC and a proposal will be forwarded to Council for the following approval of the Assembly.
- S-11 Part C “*Guidelines for the Coordination and Management of the Development of S-100 Electronic Navigational Data Services (other than S-101 ENC)s*” will be submitted – via IHO CL – for the Member States’ approval.
- The way forward to merge the UN-GGIM Working Group on Marine Geospatial Information (WG-MGI) with the IHO MSDIWG into a *UN-GGIM and IHO Joint Working Group on Marine Geospatial Information* was approved. The proposal will be presented for approval by the UNGGIM in August 2025.
- The new “*Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers*” approved by IBSC in May 2025 will be submitted via IHO CL to the IHO Member States for approval.
- IRCC endorsed the structure of the revised IHO Strategic Plan 2027-2032 and provided comments to the SPIs proposed by the SPRWG.
- Project Team on Fund Generation should continue its work under different ToRs.
- IHO Resolution on “*Inspire, recruit and maintain a competent workforce*” will be presented to Council for endorsement and further Assembly’s approval.

#### Details:

The **17<sup>th</sup> meeting of the Inter-Regional Coordination Committee (IRCC-17)** was held in Monaco from 3 to 5 June 2025, hosted at the IHO Secretariat. The meeting was chaired by Mr. Thomas Dehling (Germany) and attended by 60 participants, from 24 Member States in person and from five Member States remotely. The IHO Secretariat was represented by Director Luigi Sinapi and Assistant Director Leonel Manteigas.



*Seabed 2030 Bathysphere at the IHO Secretariat for IRCC17 meeting*

IRCC Chair Mr. Thomas Dehling opened the meeting thanking the IHO Secretariat for hosting two meetings (CBSC and IRCC) in a row, and emphasized the international nature of the IRCC, remembering that this is the second time that an IRCC meeting is hosted at the IHO Secretariat and that two next important appointments (C-9 and A-4) are waiting the IHO community. IHO Secretary-General Mathias Jonas welcomed the participants expressing the gratitude

and honour it was to host the meeting, mentioning the importance to have a Strategic Plan Review Working Group in place to review the IHO Strategic Plan, and the next important meeting and conference (BEFF and UNOC3) dedicated to the oceans to be held the following week, as an important momentum to highlight the importance of the Ocean and raise the awareness of Hydrography. The importance of collaboration to implement the new S-100 standard as an investment on technology and human resources was also highlighted, as a means to involve the entire International Maritime Community and revolutionize the approach to the representation of the marine environment.



*IHO led UNOC3 side-event on "Achieving a fully mapped ocean: A call for action"*

IRCC Chair Mr. Thomas Dehling provided the IRCC report, highlighting the activities since IRCC 16, the C-8 actions and decisions and those A-3 decisions addressed to IRCC, with particular focus on the review of the IHO Strategic Plan. IHO Director Luigi Sinapi provided the IHO Secretariat Report, highlighting on the preparations of the next two important IHO meetings (C-9 and A-4), the IHO initiatives of cooperation with international and intergovernmental organizations, and the IHO commitments to the BEFF and UNOC3 to be held respectively in Monaco (7-8 June 2025) and Nice (9-13 June 2025), that was started with the preparatory process for the UNOC3 Political Declaration and will continue with the active participation in the UNOC3 plenary and side events.



*IHO Infrastructure Centre location in Busan, ROK*

HSSC Chair presented on the progress of S-100 Implementation Roadmap and S-1xx products, mentioning that all core Phase 1 Product Specifications have been approved: S-101, S-102, S-104, S-111, S-124, S-128 and S-129 (S-124 and S-128 need of some few edits),

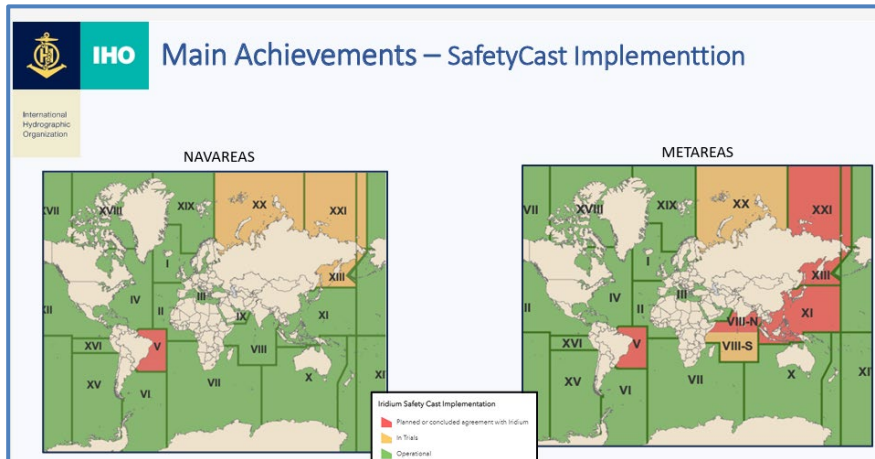
and that an additional Phase 3 in the S-100 Roadmap dedicated to new Product Specifications was created. On the IHO Infrastructure Center, an interim Establishment Manager was full-time contracted by the Secretariat since March 2025. Next step will be the recruitment of a technical specialist. The Infrastructure Centre Establishment Project Team (ICE PT) is continuously handing over tasks to the Infrastructure Centre itself, and the IHO Secretariat is working on the mechanics required, such as the Host Agreement, Resolutions (e.g. defining the Scope) and Regulations (e.g. Staff Regulations). IHO Director Nyberg provided additional insights on the approval process of establishment of the Infrastructure Center in the Republic of Korea and the next steps to adjust the existent IHO Resolutions and Regulations.

HSSC then endorsed the IHO Data Protection Scheme subscription model and the proposal from AU and FR/UK on their respective IHO S-100 Sea Trial Area initiative as official IHO S-100 Sea Trial Areas, inviting all Member States involved in Sea Trials to use the Guidelines to report and share feedback through the HSSC ISO Cell. HSSC in liaison with WENDWG, tasked S-100WG to handle overlapping data issue in a future S-98 edition to at least prevent ECDIS crashes. Finally, HSSC endorsed the proposed Goals with the associated narratives and the Targets of the reviewed IHO Strategic Plan 2027-2032 through the online questionnaire provided by the IHO Secretariat, proposing the reduction of the number of SPIs to achieve a better overview of IHO's performance.

New Zealand, as Chair of the ad-hoc Drafting Group for *"Making IHO Events More Inclusive"*, presented on the outcomes of the survey conducted within the IHO Member States, IHO WGs/Committees, RHCs, and on the draft Resolution prepared in accordance with IHO CL 20/2025.

HCA and RHCs Chairs (and those speaking on behalf of those chairs not present at the meeting) focused their reports on the most important regional key achievements, key findings and lessons learned. The following were the main topics discussed:

- Allocate new bathymetric data to map the gaps in the Southern Ocean from HCA members and extractions from Deep ARGO data and commit to monitor climate change at the next ATCM to be held in Milan, Italy in 2025;
- Raise the importance of hydrography in polar regions;
- Enlarge IHO membership promoting hydrography and marine cartography in the region through the organization of seminars, training workshops, technical capacity building programs, and exchange visits;
- Address S-100 readiness and technical skill gaps, importance of dual-fuel period starting in 2026 and need to acknowledge the coordination with national stakeholders involved in the transformation process;
- Support the S-100 Coordinator role and build a strong S-100 products implementation plan, especially focused on S-101;
- Create a list of priority list of ports to which distribute the Phase 1 S-100 products;
- Close relationships among the members of the RHCs and inter-RHCs;
- Support IHO funded training and educational opportunities, particularly for advanced courses, of significant benefit to RHCs' members;
- Seek Academia and Industry partnerships for technical assistance and knowledge sharing;
- Alternate RHC presential meetings to virtual meetings on one-year rotational basis;
- Explore the opportunity for the RHCs to sign Memorandum of Understanding with Seabed2030;
- Foster regional collaboration and technical support aligned with IHO standards via Technical Visits;
- Harmonize and find technical solutions in ECDIS for overlaps;
- Recognize the opportunities for collaboration in the IHO-Canada S-100 International Sea Trial Area;
- Support the auto-generation of paper-chart, especially in the transboundary;
- Recognize the importance of completing seabed mapping providing bathymetric data to DCDB and GEBCO and identify and secure wider funding for increased data collection;
- Address the MSDI portals' important role within the RHCs.



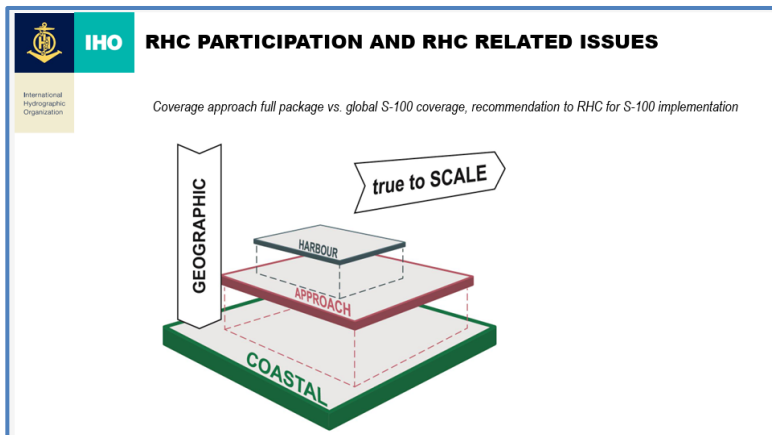
### *SafetyCast implementation in METAREAS and NAVAREAS*

The WWNWS-SC Chair informed on the last WWNWS16 meeting and the specific topics discussed (SPI, C-55, Iridium SafetyCast Implementation, Capacity building and S-124 development). Overall,

for 2024, the WWNWS assessed MSI Coastal States capacity to be 89,6% (IHO SPI 3.1.1 target is 90% by 2026). The SPI is measured yearly, based on the navigational warnings issued and on the MSI support provided by NAVAREAS, but additional criteria to provide an accurate assessment of capacity and how to allocate IHO resources to increase that capacity will be discussed at the next WWNWS meeting in 2026. There was general support that S-124 products and services should be considered MSI equivalent in the future and that the WWNWS would develop and adopt a phased implementation approach, where both S-124 and traditional MSI would be available simultaneously for an undetermined period. As main achievements, it is worthy to mention the approved DRWG22 proposed amendments to the MSI Resolution (A.705), 2024 WWNWS Resolution (A.706), and the MSI Manual (MSC.1/Circ.1310) and interim BMDSS SafetyLink Service Manual. Last courses performed on MSI were in Istanbul, Türkiye (MBSHC) in May 2024, Manama, Bahrain (RSAHC) in October 2024, whilst more courses were proposed to CBSC23 for RSAHC, SAIHC, SWPHC and the MACHC. Affected RHCs will be requested – via IRCC Letter – to facilitate coordination between NAVAREA Coordinators and National Coordinators with respect to S-124 development and to establish a MSI Working Group or similar body comprised of the NAVAREA Coordinator and National Coordinators to facilitate S-124 education and development to achieve a S-124 Coastal Warnings Area implementation roadmap by 2028.

The CBSC Chair presented the CB Work Program (CBWP), e-Learning Center, EWH project, and the outcomes of the Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG/IMPA Capacity Building (CB) Coordination Meeting. The Chair highlighted the generous financial contribution to Capacity Building coming from the Republic of Korea, Japan through the Nippon Foundation and RENCs, and the related initiatives / projects funded with those contributions, as well as several Member States provided support to IHO CB activities in terms of provision of facilities, trainers, personnel, advice, etc. Virtual CB activities organized for one RHC but accessible for other RHCs are now available on the CB activity calendar to allow for better planning and increased participation. The intention to move from Capacity Building to *Capacity Development*, the S-100 implementation impact on CB Work Programme, the improvements of eLearning Centre's website and available material and the proposal to change name and structure of IHO Publication C-47 (not anymore kept updated and superseded by other IHO Standards) were presented. Despite having all approved CB activities funded in 2025 through the additional received support, this is not likely for 2026 though developments start to point in the right direction.





*Coverage approach full package vs. global S-100 coverage*

The WENDWG Chair reported on last achievements of the WENDWG. To further investigate methods on how to clarify the understanding on the meaning of the term ENDS, the WG forwarded to HSSC additional explanations for their implementation into a technical standard. Amendment to the WEND-100 Principles and

the S-100 Roadmap are under consideration by WENDWG, taking into account the maturity of S-100 products and other requests. Guidelines on the Implementation of the WEND-100 Principles were updated and ready for IRCC endorsement. Still no common ground for pursuing a global common grid scheme was found, highlighting risks coverage issues where grids are not aligned or excessively overlaps do exist. The S-100 coordination readiness level in RHCs for meeting 2026-2029 milestones was assessed by the WG. An S-100 Communication Strategy was drafted for following consideration of HSSC and IRCC and then IHO Secretariat. S-11 Part C *“Guidelines for the Coordination and Management of the Development of S-100 Electronic Navigational Data Services (other than S-101 ENC’s)”* is under refinement and will be presented for the MS’ approval, finalizing S-11 Part C phase 1 by next IRCC18 meeting and initiating drafting S-11 part C phase 2 products to complete by 2030. Overlaps in combination with S-100 products interoperability will be challenging and require to work in-line with WEND-100 principles for the provision of technical workaround in S-98. Possibility of not allowing S-100 provision if overlaps occur was presented to HSSC which agreed to consider S-98 workaround, tasking the S-100WG to investigate on a technical solution for potential S-101 overlaps happening in S-100 ECDIS. RHCs were requested to continuously update their S-100 products provision coverage and production schedule and share their own roadmap at the next WENDWG and IRCC meeting, and to establish S-100 coordination under ICCWG to harmonize S-100 products implementation.

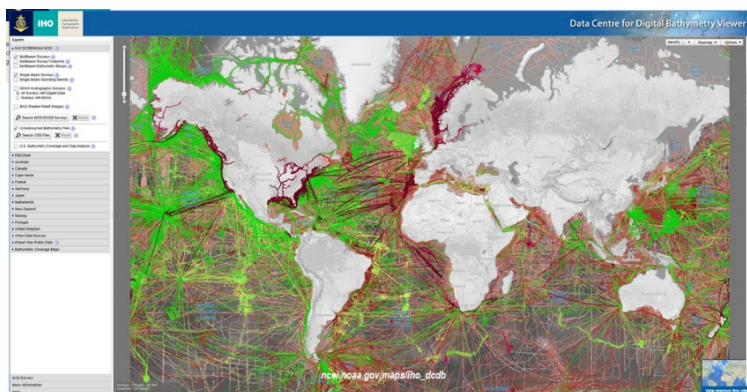
The MSDIWG Chair reported on the last WG meeting. The importance of continuing appointing RHC MSDI Ambassadors and inform MSDIWG of contact points was highlighted. The WG designated a liaison to coordinate with NIPWG on S-122/ MPAs and inform MSDIWG as needed, providing feedback to NIPWG/ S-122 Pilot Project Team on ProtectedSeas’ data population of S-122 for non-navigation purposes when available. In addition to that, the MSDIWG will explore options to make S-122 data publicly available. The way forward to merge the UN-GGIM Working Group on Marine Geospatial Information (WG-MGI) with the IHO MSDIWG into the UN-GGIM and IHO Joint Working Group on Marine Geospatial Information, along with its new Terms of Reference, was agreed to reduce overlaps and elevate IHO influence in the U.N. environment. The MSDIWG Work Plan 2024-2027 highlighting the alignment with the UN IGIF 9 pathways and the OGC federated MSDI pilot were also presented.

The IENWG reported on the over past months WG’s activity, highlighting the increased support and interactions to/with the European Commission (EC) in the fields of marine knowledge, maritime transport and international partnership. On the occasion of the European Maritime Day 2025 in Cork (Ireland), on 21 May 2025, the WG held its 15<sup>th</sup> meeting with the participation of representatives of the EC, sharing information on EU funded projects and initiatives involving Hydrographic Offices. On that occasion, the EC expressed that the international hydrographic community is very well organized and is an essential provider of global marine observation, products, standards and best practices. EU initiatives on Ocean Observations and Shared Responsibilities, Maritime Policies, Standards and Best Practices in Ocean Observation Consortium, and to shape EU Ocean Pact launched in UNOC3 were presented and discussed. IENWG is a member of the group formed by the EC on the vision 2035 of EMODnet, with the aim to share synergies between Hydrography and Science, as a contribution to

Seabed 2030 EMODnet Bathymetry, IHO DCDB and IHO-IOC GEBCO programme. Ongoing project related to S-100 production by the Baltic Sea EU countries to make S-100 an operational reality and to contribute to IHO and IALA standardization and to prepare the RENCs () was also discussed. As a reminder, the IENWG identified opportunities between the IHO and the EU for hydrography to be supported in future EU projects.

The IBSC Chair reported on the last IBSC48 meeting, where 18 submissions were received, 6 were recognized, 3 were not recognized and for the reminder 9 the Board offered inter-sessional revision, as submissions had a significant number of shortcomings. The Board established the ambitious goal to have the revision of the four Standards (S-5 A and B and S-8 A and B) to be completed in the second semester of 2025 and then submitted to the IHO MS for approval. The final Board discussion will be at the intersessional meeting planned in Qingdao, China, in a face-to-face format, from 9 to 14 November 2025, where it is intended to make the Standards available to Member States and other stakeholders for further consultation. The Board also decided to organize further workshops for submitting institutions that are expected to submit in the next 2 years, scheduled from 1 October 2025 divided in two time zones. Following the proposal withdrawal of the C-47 proposed by CBSC, and to ensure the global hydrographic community is informed on recognized programmes, the IBSC will maintain a list of recognized Hydrography programmes updated on the IHO website. It was announced the change of IBSC board for the period from 2026 to 2028, as well as the issue of an IHO CL with the new *“Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers”* approved by IBSC in May 2025.

The CSBWG Chair reported on the two working group meetings have been held since IRCC16 and the CSB Tools Workshop, to explore open-source CSB software through implementation of new features, DCDB GeoJSON metadata tool, workflow GUI tool, DCDB Data Querying API and requirements gathering for outlier detection/data filtering/cleaning tool, through the development of a comprehensive CSB manual, short videos on specific topics and considering focused future workshops. At the last CSBWG16, overviews of the CSB-related work at the IHO Data Center for Digital Bathymetry Review, progress of CSBWG Work items, new way to maintain B-12, updates on several ongoing CSB Initiative Projects, and review of the preceding CSB Tool Workshop were discussed. The CSBWG recommended a Revision (within the meaning of IHO Resolution 2/2007) to B-12 3.0.0 to add a statement to section 3.3 ("Metadata and Data Formats") indicating that the contents are the minimum guidance for data and metadata, but that updated recommendations specific to DCDB are maintained separately not subject to the IHO Resolution 2/2007. The proposal was endorsed by IRCC. US/NOAA is testing a new data pipeline for automated CSB extraction, processing, and quality assessment to deliver to their Nautical Charts. The number of positive Member States respondents to IHO CL21/2020 and IRCC CL1/2020 has risen to 37 with the addition of the United Kingdom and Kenya. Also worth noting, both Fiji and Cyprus revisited their CL responses and updated their caveats to make data sharing even less restrictive.



*World Reference for raw Bathymetry*

The DCDB is an IHO Member States' resource that requires additional data to increase the coverage and move towards a comprehensive global bathymetric dataset, archiving terabytes (TB) of uncompressed oceanic soundings acquired by hydrographic, oceanographic and other vessels during surveys or while

on passage. Data submitted to the DCDB is formatted into our database schema, and then goes through our data ingest pipeline to get archived and published to the DCDB Viewer. A new ingest

infrastructure will increase automation, improve efficiency, provide error handling and notification, have greater flexibility for evolving bathymetric technology, better handle complex datasets and large volumes of data and, finally, be cloud ready. The DCDB developed a CSB Coastal State Review Application to automate the approval process of data for coastal states who have provided positive responses to IHO CL 21/2020 or IRCC CL 1/2020 but request pre-approval of data before public distribution from DCDB. A web tool (*GEBCO Gazetteer*) that allows the public to search for, view, and download information on more than 4,500 undersea features is now available. The Gazetteer provides an internationally recognized geospatial layer and common vocabulary and it is under continued improvements and enhancements to remain focus on maintenance and upgrades (when necessary) and implement SCUFN-requested enhancements.

The GEBCO Guiding Committee (GGC) Chair reported on the recent GEBCO Strategy 2024-2030 and the related 5 Pillars, recently approved at the last GGC41 meeting in Fiji. The 4.34 million Km<sup>2</sup> new bathymetry added equating the size of EU were highlighted as new mapped seafloor area in 2024, bringing the total seafloor area mapped to 26,1%. 63 ocean scientists / experts from 38 countries contributed to GEBCO, in terms of over 90% valuing GEBCO gridded data sets, over 70% valuing GEBCO webservices and over 60% valuing Undersea Feature Names. A high demand for more high resolution data sets, especially in coastal / shallow water regions, and better meta data and additional data formats for ocean scientists was also highlighted. The improved cooperation / harmonization between GEBCO Sub Committees work from new strategy as well as the funding challenges faced by the GEBCO programme were finally highlighted.

The Strategic Plan Review Working Group (SPRWG) Chair presented on the work of the WG, to which representatives from 16 IHO Member States, participated, presenting the initial draft IHO Strategic Plan 2027-2032 for review and comment by HSSC17/IRCC17. The draft represents approximately 80% completion of the SPRWG's work, with focus on the revised goals, targets, and strategic performance indicators (SPIs). SPIs have been extracted as a separate document to facilitate more targeted feedback on their specificity, measurability, and trackability. This review process will help determine the most effective integration of SPIs with goals and targets. Feedback from HSSC and IRCC is considered essential to refine the draft before submission to the 9<sup>th</sup> IHO Council by mid of July 2025, and to the 4<sup>th</sup> Session of the IHO Assembly 4 by mid-December 2025. The working group has preserved the layered structure of Goals, Targets, and Strategic Performance Indicators, which has proven effective in the current plan. Goal 1 (Safety of Navigation) continues as IHO's central priority, as reaffirmed at A-3, then the SPRWG has merged the current Goals 2 and 3, and created a new Goal 3 focused on technical and workforce capabilities and infrastructure. This decision balances and streamlines focus on Navigation (Goal 1) and Science Applications of our work (Goals 2 and 3) and thus creates space for focus on Workforce and Infrastructure (Goal 3). The targets have been updated to reflect the evolving maritime landscape through 2032, considering digital transformation, S-100 implementation, and growing demand for marine spatial data. In response to feedback and to facilitate a more comprehensive review, the draft SPIs have been extracted from the goal structure for focused evaluation with the intent to help to assess the overall effectiveness and measurability of the proposed SPIs, addressing feedback on the current plan's metrics, thus avoiding unnecessary effort across different goals. IRCC agreed on the Goals and Targets proposed. On 2025 July 2<sup>nd</sup>, the SPRWG will review the inputs from HSSC and IRCC to be incorporated into the final draft of the Strategic Plan 2027-2032 to be submitted to Council-9. IRCC will review the SPIs of interest of IRCC, providing a feedback to the SPRWG by 20<sup>th</sup> June 2025.

The Fund Generation Project Team (FGPT) Chair presented on the work of the PT, analyzing current demand for funds and assessed associated challenges, identifying the opportunities for new funding streams and finally analyzing the impacts and gaps to identify a number of areas for further development to provide a firm foundation upon which to increase funding in future. The Project Team also conducted a review and engaged with the Security Scheme Project Team and HSSC on this action. A subscription approach with an initial fee and an annual fee was proposed, as this supports the



requirements of the Security Scheme and ensures sustained income to support the cost of maintaining the associated services and standards. While pathways are identified further work needs to be done to establish conditions under which new funding streams (RENCs/Subscription Scheme) can be optimized. IRCC will propose to the Council to evaluate how the Project Team should continue its work on fund generation.

The Workforce for the Future Project Team (WFPT) presented on a new IHO Resolution to *“Inspire, recruit and maintain a competent workforce”*. The draft Resolution was requested by Council with Decision C8/22a, and it is based on creating an attractive work environment, encouraging open communication and collaboration, embracing diversity and inclusion, and finally sharing identity. The IRCC requested the WFPT to consider eventual additional input to the draft Resolution by 13<sup>th</sup> June 2025, and present the amended Resolution IRCC for the further submission to Council-9 by 15<sup>th</sup> July 2025.

IRCC reminded the IRCC members to submit their documents on time, proposed to liaise with Council and HSSC about the future improvements on the workload of the two Committees (IRCC and HSSC), to investigate having the IRCC meeting on the year before the Assembly hosted at the IHO Secretariat and, finally, to consider ways to leverage RHCs Chairs participation to improve the benefits of discussing common challenges.

**Photo:**



*IRCC17 participants – Monaco, 3-5 June 2025*

The next IRCC meeting is planned to be held on 15-17 June 2026 in Lima, Peru (venue TBD). Following meetings will be held in Nigeria (May/June 2027), Australia or New Zealand (May/June 2028 – Venue TBD), and Denmark (May/June 2029).