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Item **4.2** of the Provisional Agenda

DRAFT IMPLEMENTATION PLAN
FOR THE IOC CAPACITY DEVELOPMENT STRATEGY 2023–2030

Summary

In 2023, the IOC Assembly adopted the IOC Capacity Development Strategy 2023–2030 (IOC/INF-1433) and its Outreach and Communications Plan (IOC-32/4.3.Doc(2)). In 2024, the Executive Council revised the Terms of Reference of the IOC Group of Experts on Capacity Development (GE-CD) and instructed the Group to present a draft Implementation Plan to the IOC Assembly at its 33rd session.

This document presents the draft IOC Implementation Plan for the IOC Capacity Development Strategy 2023–2030 in accordance with Executive Council Decision EC-57/4.6. The proposed plan builds on the work of the Task Team on Needs Assessment and the Working Group on Implementation Plan, both established by the IOC Group of Experts on Capacity Development (GE-CD). The full plan given in appendix to this document in English only was approved by the GE-CD in April 2025 and is now proposed to the Assembly for adoption. The full plan is preceded by a four-page summary in the working languages of the Commission.

The proposed decision referenced A-33/Dec.4.2 in the Action Paper (document IOC/A-33/2 Prov.) also proposes the continuation of the IOC Group of Experts on Capacity Development with revised terms of reference.

**Draft Implementation Plan
IOC Capacity Development Strategy 2023–2030**

Outline

Goals and Objectives

1.   This Implementation Plan outlines the strategic approach for executing the IOC Capacity Development Strategy 2023–2030, referred to as 'the Strategy' in this summary, ensuring coordination, efficiency, and measurable success.

2.   The plan provides a comprehensive roadmap that sets out the activities, deliverables, timeframes, partners and stakeholder engagements and aligns with the targeted outcomes of the Strategy.

3.   The targeted outcomes of the Strategy include:

Outcome 1:
Human resources developed at individual and institutional levels

Outcome 2:
Access to technology, physical infrastructure, data and information established or improved

Outcome 3:
Global, regional and sub-regional mechanisms strengthened

Outcome 4:
Development of ocean research policies to support sustainable development objectives

Outcome 5:
Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased

Outcome 5:
Sustained resource mobilization reinforced

Implementation Framework: Overarching Recommendations

4.   To effectively implement the Strategy and maximize its impact, the following overarching recommendations are proposed:

(i)   **Leverage Existing Programmes**: Build on IOC's established global and regional capacity development programmes and efforts to enhance benefits for Member States and communities while identifying gaps for future collaboration and partnerships. Strengthen existing initiatives through cross-cutting capacity development approaches and tools, most importantly the IOC Ocean Capacity Development Hub, OceanTeacher Global Academy (OTGA) and the Decade Capacity Development Facility (CDF).

(ii)   **Improve Implementation Capacity**: Adapt a cohesive approach to clearly identify responsibilities (e.g. for each action, for the Monitoring and Evaluation process) and mobilize implementation team both within and beyond IOC. To strengthen Member States' engagement, national Capacity Development focal points should be nominated and engaged to actively participate in the implementation process through regional and global working groups and the Capacity Development Forum.

(iii)   **Strengthen Regional Implementation**: Enhance the capacity of IOC Regional Sub-Commissions, through increased staffing, sustained funding, technology transfer and improved coordination with global programmes.

(iv) **Global Coordination**: Support the IOC Capacity Development Secretariat as a central coordinating unit for capacity development implementation and alignment with ongoing and new IOC initiatives including the Ocean Decade and the Sustainable Ocean Planning and Management (SOPM).

(v) **Global Forum on Ocean Capacity Development**: Develop a bespoke Capacity Development Forum to strengthen collaboration, mobilize necessary resources, and implement targeted ocean-related capacity development actions. The Forum will provide a critical platform for a global discussion on IOC Capacity Development actions, expanding collaboration opportunities among relevant stakeholders, beneficiaries and potential partners.

(vi) **Strategic Partnerships**: Explore, establish, consolidate and promote strategic partnerships with key UN agencies, NGOs, regional and global networks to foster transformative international cooperation. This includes partnerships with regional nodes (e.g. Ocean Biodiversity Information System/OBIS regional nodes, OTGA Regional Training Centres and Specialized Training Centres, National Oceanographic Data Centres) and shared research infrastructures and field stations as hubs for internships/mentoring programmes and field practices.

(vii) **Strengthen Equity, Inclusion and Decolonialisation**: The implementation of the Strategy and its initiatives must be grounded in principles of equity. It must support geographical representation, inclusive dialogue, and critical reflection. As highlighted by Harden-Davies et al. (2022)[1], without intentional design, there is a risk of capacity development becoming tokenistic or perpetuating colonial legacies in science. Capacity Development must be reframed as a tool for decolonizing knowledge production and enhancing scientific diplomacy, serving as a channel for soft power and mutual growth.

(viii) **ECOPs as Change-Makers**: Early Career Ocean Professionals (ECOPs) are not just participants in capacity development—they are key drivers of innovation and change. Mentorship, hands-on field experience, and practical training must be prioritized alongside traditional mobility opportunities to empower their growth. Structural barriers, such as the requirement for formal institutional affiliation, must be addressed through more inclusive partnerships with regional and global infrastructures like OBIS nodes and OTGA Regional Training Centres. Unlocking ECOP potential means reimagining capacity development as a collaborative, inclusive, and transformative process and require allocation of funding for this group.

(ix) **Enhanced Outreach and Communication**: Promote the Implementation Plan and actions, through targeted publicity, outreach, and engagement strategies to ensure broad participation and maximum impact.

(x) **Prioritization and Risk Management**: Avoid fragmentation by streamlining efforts, reducing redundant groups, and ensuring strategic alignment of capacity development initiatives. Prioritize key activities for maximum impact.

(xi) **Monitor, Evaluate and Adapt**: The Implementation Plan requires a structured approach to track progress, measure impact, and ensure accountability within the Strategy and its initiatives including the IOC biennial Capacity Development Needs Assessment surveys and Implementation Plan evaluations to identify successes, address challenges, and refine strategies to enhance effectiveness.

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[1] Harden-Davies, Harriet, et al. "Capacity development in the Ocean Decade and beyond: Key questions about meanings, motivations, pathways, and measurements." Earth system governance 12 (2022): 100138.

Activities and Actions

5.   As a key pillar of the Implementation Plan of the Strategy, key regional priorities and preliminarily recommended actions, which were identified through mapping exercise with the IOC Regional Sub-Commission Secretariats are provided under section 5.3 of the plan.

6.   For each of the expected outcomes, a set of activities and actions have been identified and are designed as actionable steps in section 5.4 of the plan. Building on the strengths of the IOC, the pathways closely link outcomes, activities, and actions to contribute to the implementation of the Strategy by ensuring cohesion, coordination and collaboration amongst efforts.

Collaboration and Partnerships

7.   To ensure this Implementation Plan of the Strategy achieves its maximum potential, it is necessary to communicate and collaborate with the full stakeholder network as partnerships play a central role to achieving the outcomes of the Strategy.

8.   This Implementation Plan of the Strategy will build partnerships with its existing networks with a view to leveraging capacities, expertise, tools, data and funding opportunities to maximize the performance, efficiency and impact of IOC capacity development activities. This includes aligning with existing and complementary initiatives and partners and engaging key stakeholders to focus capacity development activities.

Monitoring and Evaluation

9.   Effective monitoring and evaluation (M&E) are critical for assessing the success of the Strategy. Such a framework ensures that implementation aligns with strategic goals, achieves measurable outcomes, and adapts to emerging needs. To ensure a comprehensive assessment of progress in implementing the Strategy, a set of Key Performance Indicators (KPIs), including their respective means of verification is proposed in Annex 1 to the full plan. These indicators will form the basis for evaluating progress and identifying areas that require additional attention throughout the Strategy's implementation period.

Communication and Outreach

10.   A focused communication plan will ensure all stakeholders are engaged effectively, enhancing transparency and facilitating collaborative efforts. A communication plan will align with the broader IOC Outreach Plan and focus on timely updates, clear messaging, and awareness-building among stakeholders about ocean science advancements and the implementation of the Strategy.

Table 1: Activities and milestones for the implementation of the IOC Capacity Development Strategy 2023–2030

ACTIVITIES	MILESTONES	TIMELINE
Launch IOC Capacity Development Strategy 2023-2030	Official publication in four languages, finalization of Capacity Development Needs Assessment and Implementation Plan by GE-CD	Q1 2024 – Q2 2025
Launch of Implementation Plan	Official publication after IOC Assembly	Q3 2025
Promotion and Outreach	Public outreach and partnership building (see Chapter 6), Global Forum on Capacity Development (Q3 2027)	Q3 2025 – Q2 2026
First Phase of Implementation (timeframe consistent with IOC's biennial budget cycles)	Joint Global Forum (Q3 2027), focus on high priority actions, resource mobilization and regional implementation. Revision of Draft Monitoring & Evaluation (M&E) (Chapter 7)	Q3 2025 – Q4 2027
Evaluation and Adjustments	Review and revision to inform the development of a post-2030 CD strategy (to be presented and adopted at the 35th IOC Assembly in Q2 2029)	Q1 2028 – Q2 2029
Final Phase of Implementation	Focus on Medium/low Priority Actions; Alignment with the end of Ocean Decade	Q1 2028 – Q4 2030

**Draft Implementation Plan
IOC Capacity Development Strategy 2023–2030**

Table of Contents

1. Executive Summary

1.   Capacity Development is an essential tenet of IOC's mission: it enables all Member States to participate in and benefit from ocean research and services that are vital to sustainable development and human welfare on the planet. Adopted by Decision A-32/4.3 of the IOC Assembly at its 32nd session (Paris, 21–30 June 2023), the IOC Capacity Development Strategy 2023–2030 identifies capacity development as the primary catalyst by which the Intergovernmental Oceanographic Commission of UNESCO will achieve its five high levels objectives in the current IOC Medium-Term Strategy (2022–2029) (IOC/INF-1412). The strategy retains the six outputs and expands its associated activities and actions from the 2015– 2021 IOC Capacity Development Strategy, given that it's recognised that their application supports not only IOC's capacity development ambitions but also those included in other frameworks such as the United Nations Decade of Ocean Science for Sustainable Development (2021–2030).

2.   This Implementation Plan outlines the strategic approach for executing the IOC Capacity Development Strategy 2023-2030, ensuring coordination, efficiency, and measurable success. The plan provides a comprehensive roadmap that aligns with the targeted outcomes of the strategy while addressing key operational, technological, and stakeholder engagement components.

3.   Key focus areas include:

> **Governance and Oversight:** Establishing clear roles, responsibilities, and decision-making processes to maintain accountability and alignment with strategic goals of the strategy.

> **Resource Allocation and Capacity Development:** Ensuring adequate human, financial, and technological resources are deployed to facilitate implementation.

> **Risk Management and Mitigation Strategies:** Identifying potential challenges and proactively developing solutions to ensure smooth execution of the strategy.

> **Performance Measurement and Continuous Improvement:** Establishing key performance indicators (KPIs) and feedback mechanisms to assess progress and drive enhancements.

2. Introduction

4.   The ocean plays a critical role in sustaining life on Earth, influencing the climate, weather, environment, and biodiversity. Effective ocean research and management require a high level of scientific and technical expertise at global, regional, and local levels. Capacity development in ocean sciences is essential to equip all nations with the skills and resources needed to conduct robust ocean research, manage marine resources, and address complex challenges such as climate change, loss of biodiversity, and pollution.

5.   UNESCO's Intergovernmental Oceanographic Commission (IOC) enables all its Member States (MS) to participate in, and benefit from, ocean research and services that are vital to sustainable development and human welfare on the planet. The IOC Capacity Development Strategy 2023-2030[1] identifies Capacity Development (CD) as the primary conduit through which IOC will achieve its five High Level Objectives in the IOC Medium-Term Strategy 2022–2029. This document provides a framework for implementing the IOC Capacity Development Strategy 2023-2030[2] and its capacity development initiatives that can support and strengthen global and regional efforts in ocean research and governance.

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[2] https://ioc-cd.org/images/En-Fr_IOC_Capacity_Development_Strategy_20232030_web.pdf

6.   As the need for ocean resource use to transition to sustainability increases, so does the need for well-trained personnel and advanced infrastructures to support ocean research. While progress has been made in some regions, significant disparities remain (GOSR, 2020)[3]. Developing countries, particularly Small Island Developing States (SIDS) and coastal nations, often lack access to modern technology, infrastructures, and knowledge. This inequality limits their ability to monitor and manage marine environments effectively and engage in international scientific collaboration. IOC capacity development efforts aim to address these gaps, ensuring that all nations can contribute to and benefit from ocean science and conservation.

- Capacity development is fundamental to achieving effective, science-based ocean governance. By building knowledge, technical skills, and institutional support, capacity development enables nations to:

- Conduct research that contributes to policy making for sustainable ocean use.

- Improve resilience to ocean-related hazards, such as tsunamis and storm surges.

- Manage fisheries and marine biodiversity in ways that support both ecological health and food security.

- Plan, manage and assess all human activities in the ocean to mitigate potential impacts and where possible enhance biodiversity and ecosystem supporting services.

- Engage in international initiatives, like the UN Decade of Ocean Science, which require collaborative and equitable scientific contributions including science diplomacy.

7.   Despite ongoing efforts, several challenges limit the impact of capacity development in ocean research (source: Capacity Development Needs Survey 2020–2021, 2022–2023). In human resources, there is a shortage of trained professionals, especially in technical and specialized fields like marine data analysis, satellite imaging, and environmental policy.

8.   While infrastructure is beginning to overcome some ocean-related societal challenges, many developing regions still lack access to advanced research facilities, vessels, and monitoring equipment, which limits the scope of research. Inequitable access to data and technology creates knowledge gaps and hinders informed decision-making. Additionally, limited financial support for training, infrastructure, and sustained research initiatives further constrains the growth and retention of ocean science expertise.

9.   The IOC Capacity Development Strategy aligns closely with the goals of the UN Decade of Ocean Science for Sustainable Development (2021-2030), which emphasizes inclusive and equitable ocean science for the benefit of humanity. It supports global objectives for sustainable development, particularly Sustainable Development Goal 14: Life Below Water. Regional goals, such as those set by the IOC, emphasize similar aims for ocean health and resilience, underscoring the need for widespread scientific collaboration and data-sharing.

3. Goals and Objectives

10.   The proposed Implementation Plan (IP) aims to translate the IOC Capacity Development Strategy 2023-2030 into concrete, actionable steps that address the specific needs and challenges of regions and Member States, aligning with the objectives of the UN Decade of Ocean Science for Sustainable Development (2021-2030). The IP will provide a structured pathway to achieving these objectives, ensuring that the Strategy translates into measurable, region-specific actions that support the global mission of sustainable ocean use. It will also articulate in greater detail how the Actions listed in the Strategy will be implemented and progress and effectiveness monitored.

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[3] Global Ocean Science Report of IOC UNESCO; https://unesdoc.unesco.org/ark:/48223/pf0000375147

11.   **Overall objectives**: To provide further detail on the delivery of the Outputs and Actions identified in the IOC Capacity Development Strategy and to monitor progress and effectiveness.

Human resources developed at individual and institutional levels

12.   Reinforce the institutional capabilities of both national and regional entities involved in ocean science and governance. The IP will support relevant training, infrastructure development, and facilitate an increased access to resources, that will empower Member States in taking an active role in advancing ocean science, policy, and management.

Access to technology, physical infrastructure, data and information established or improved

13.   Promote the exchange of knowledge, technology, and best practices among IOC Member States. Through strategic partnerships, training programs, and knowledge-sharing initiatives, the plan will support the transfer of essential tools and expertise, fostering collaborative growth and enhancing each member state's scientific and technological capabilities in ocean research and management.

Global, regional and sub-regional mechanisms strengthened

14.   The IP will guide the regional implementation of the IOC Capacity Development Strategy to address specific capacity development regional needs/issues. In addition, it will support the development of focused and cohesive work plans based on the specific needs and capacity gaps identified in each region through the regular capacity development needs assessments (Capacity Development Needs Survey 2020–2021, 2022–2023). The IP will ensure these unique regional priorities are captured within IOC's global programs while strengthening Regional Sub-Commissions secretariats by facilitating enhanced coordination between IOC and Regional Sub-Commissions for efficient resource use; and the strengthening IOC/UNESCO's leadership in ocean science and capacity development.

Development of ocean research policies to support sustainable development objectives

15.   This IP supports Member States developing evidence-based policies aligned with global commitments like the UN SDGs and Ocean Decade goals. It promotes knowledge exchange, capacity development, and policy dialogues to strengthen institutions and enhance ocean research's impact on sustainability, economic growth and well-being. This includes providing technical support for national marine research strategies aligned with the 2030 Agenda; integrating science into policymaking through multi-stakeholder dialogue platforms; and advancing international cooperation via research networks, agreements, and regulatory frameworks to address climate change and marine biodiversity conservation. This also supports the capacity development requirements of the Sustainable Ocean Planning and Management strategy and implementation.

Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased

16.   The IP will feature a strategic communication plan (See Chapter 8) including public engagement, and education to promote the benefits of ocean science. It will encourage collaboration with media, educators, and policymakers to enhance understanding and endeavour to bring about societal change in the use and conservation of our shared marine space. The plan will support the development of ocean literacy programmes at the national and regional levels.

Sustained resource mobilization reinforced

17.   There is an evolving need for sustained support (in-kind and financial) for the IOC to fulfil its international coordination role in capacity development delivery. This objective focuses on ensuring

that the Regional Sub-Commissions secretariats are effectively staffed and resourced to implement capacity-development activities and enhance their ability to support regional initiatives in a sustainable and impactful manner. Sustained bilateral and multilateral support needs to be promoted.

4. IOC/UNESCO Capacity Development Initiatives

18. **The IOC Capacity Development Strategy (2023–2030)** identifies capacity development as the primary catalyst by which the Intergovernmental Oceanographic Commission of UNESCO will achieve its five high levels objectives in the current IOC Medium-Term Strategy (2022–2029) (IOC/INF-1412). The strategy retains the six outputs and expands its associated activities and actions from the 2015– 2021 IOC Capacity Development Strategy.

19. **IOC Group of Experts on Capacity Development:** The main objectives of the Group of Experts are to assist the global and regional programmes with the implementation of capacity development needs assessments, the development of related work plans, mobilization of resources, and provide advice on relevant methods and tools to deliver capacity development. Shortly after adopting the IOC Capacity Development Strategy (2015–2021) the IOC Assembly, at its 29th Session in 2017, established the IOC Group of Experts on Capacity Development (Decision IOC-XXIX/10.1), primarily to assist the global and regional programmes with the implementation of capacity development needs assessments, the development of related work plans, mobilization of resources, and provide advice on relevant methods and tools to deliver capacity development. *S*ome of the key deliverables of the group from its first five sessions include the establishment of the Clearinghouse Mechanism that resulted in the Ocean Info Hub (OIH) project, the establishment and conduct of regular biennial capacity development needs survey, providing advice and assistance in various capacity development related initiatives with other organizations, the revision and preparation of the IOC Capacity Development Strategy 2023-2030, the development of the Ocean Capacity Development Hub among others. Following the adoption of the IOC Capacity Development Strategy 2023-2030, and considering the workplan related to the new strategy, the Terms of Reference (ToR) was again revised to reflect the work required for the IOC Capacity Development Strategy 2023-2030, including the development of an Implementation Plan. The current IP responds to this agreed ToR.

20. **IOC-CD Global Coordination Unit/Secretariat:** is the central coordinating unit for the delivery of IOC capacity development programme and strongly supported by the IOC CD Secretariat. It provides the administrative and programmatic support to the implementation of the IOC Capacity Development Strategy while liaising with the Regional Sub-Commissions including capacity development needs assessments and the development of new initiatives including the collaboration with new and potential partners. The IOC Capacity Development global coordination unit facilitates the work of the IOC Group of Experts and its Working Groups and Task Teams.

21. **OceanTeacher Global Academy (OTGA)** provides a comprehensive online platform that supports classroom training, blended training, and online (distance) learning. OTGA aims to build equitable capacity related to ocean research, observations and services in all IOC Member States by delivering training courses on a range of topics addressing the priority areas of the UN Decade of Ocean Science for Sustainable Development and the 2030 Agenda and its SDGs as well as supporting the implementation of the IOC Capacity Development Strategy. The OTGA has established a global network of Regional and Specialised Training Centers (RTCs and STCs), and other affiliated partners, to deliver customised training for ocean experts and professionals to increase national and regional capacity in coastal and marine sciences, services and management. Leveraging existing infrastructure and human resources within each region, IOC creates more training opportunities, and, as importantly, covers a wide variety of knowledge systems and learning needs. OTGA constitutes one of the three programme components of the IODE Project Office for IOC/UNESCO.

22.   **Ocean CD-Hub:** The Ocean CD-Hub (https://oceancd.org/) is a prototype online search engine which helps individuals and organizations (e.g., early career professionals, managers, technicians, government officials, schoolteachers, etc.) search for global capacity development opportunities (e.g., awards, fellowships, grants, Internships/Jobs, teaching materials, trainings, etc.). Information available on the Ocean CD-Hub is sourced from publicly available information and contributions from UNESCO IOC stakeholders.

23.   **UN Ocean Decade Capacity Development Facility (CDF):** The CDF identifies and bridges capacity development gaps—especially those prioritized by the Ocean Decade—through its matchmaking service. It fosters global expert collaboration, with a focus on enhancing support and engagement for Small Island Developing States, Least Developed Countries, and Early Career Ocean Professionals. The CDF is a project supported by the Flanders UNESCO Science Trust Fund (FUST) 2023-2026.

5. Implementation Framework

<u>5.1 Overarching Recommendations</u>

24.   To effectively implement the Plan and maximize its impact, the following overarching recommendations are proposed:

(i)   **Leverage Existing Programmes** – Build on IOC's established global and regional capacity development programmess and efforts to enhance benefits for Member States and communities while identifying gaps for future collaboration and partnerships. Strengthen existing initiatives through cross cutting capacity development approaches and tools, most importantly the Ocean CD-Hub, OTGA and CDF.

(ii)   **Improve Implementation Capacity** – Adapt a cohesive approach to clearly identify responsibilities (e.g. for each action, for the M&E process) and mobilize implementation team both within and beyond IOC. To strengthen Member States' engagement, national CD focal points should be nominated and engaged to actively participate in the implementation process through regional and global working groups and the Capacity Development Forum (see below). Additionally, it is suggested to identify ambassadors for specific actions and initiatives.

(iii)   **Strengthen Regional Implementation** – Enhance the capacity of IOC Regional Sub-Commissions, through increased staffing, sustained funding, technology transfer and improved coordination with global programmes.

(iv)   **Global Coordination** – Support the IOC CD Secretariat as a central coordinating unit for capacity development implementation and alignment with ongoing and new IOC initiatives including the Ocean Decade and the Sustainable Ocean Planning and Management (SOPM).

(v)   **Global Forum on Ocean Capacity Development** – Develop a bespoke Capacity Development Forum to strengthen collaboration, mobilize necessary resources, and implement targeted ocean-related capacity development actions. The Forum will provide a critical platform for a global discussion on IOC Capacity Development actions, expanding collaboration opportunities among relevant stakeholders, beneficiaries and potential partners.

(vi)   **Strategic Partnerships** – Explore, establish, consolidate and promote strategic partnerships with key UN agencies, NGOs, regional and global networks to foster transformative international cooperation. This includes partnerships with regional

nodes (e.g., OBIS regional nodes, OTGA RTC and STC, NODCs) and shared research infrastructures and field stations as hubs for internships/mentoring programmes and field practices.

(vii) **Strengthen Equity, Inclusion and Decolonialisation** – The implementation of the IOC Capacity Development Strategy and its initiatives must be grounded in principles of equity: It must support geographical representation, inclusive dialogue, and critical reflection. As highlighted by Harden-Davies et al. (2022)[4], without intentional design, there is a risk of capacity development becoming tokenistic or perpetuating colonial legacies in science. Capacity Development must be reframed as a tool for decolonizing knowledge production and enhancing scientific diplomacy, serving as a channel for soft power and mutual growth.

(viii) **ECOPs as Change-Makers** – Early Career Ocean Professionals (ECOPs) are not just participants in capacity development—they are key drivers of innovation and change. Mentorship, hands-on field experience, and practical training must be prioritized alongside traditional mobility opportunities to empower their growth. Structural barriers, such as the requirement for formal institutional affiliation, must be addressed through more inclusive partnerships with regional and global infrastructures like OBIS nodes and OTGA RTCs. Unlocking ECOP potential means reimagining capacity development as a collaborative, inclusive, and transformative process and require allocation of funding for this group.

(ix) **Enhanced Outreach and Communication** – Promote the Implementation Plan and actions, through targeted publicity, outreach, and engagement strategies to ensure broad participation and maximum impact (See chapter 8).

(x) Prioritization and Risk Management – Avoid fragmentation by streamlining efforts, reducing redundant groups, and ensuring strategic alignment of capacity development initiatives. Prioritize key activities for maximum impact.

(xi) **Monitor, Evaluate and Adapt** – The IP requires a structured approach to track progress, measure impact, and ensure accountability within the IOC Capacity Development Strategy and its initiatives including the IOC biennial Capacity Development Needs Assessments survey and IP evaluations to identify successes, address challenges, and refine strategies to enhance effectiveness.

5.2 Timeline and Prioritization of Actions

Table 1: Timeline of the Implementation Plan

Activities	Milestones	General Timeline
Launch Capacity Development Strategy	Official publication in four languages, finalization of Capacity Development Needs Assessment and Implementation Plan by GE-CD	Q1 2024 – Q2 2025
Launch of Implementation Plan	Official publication after IOC Assembly	Q3 2025
Promotion and Outreach	Public outreach and partnership building (see Chapter 6), Global Forum on Capacity Development (Q3 2027)	Q3 2025 – Q2 2026
First Phase of Implementation (timeframe consistent with IOC's biennial budget cycles)	Joint Global Forum (Q3 2027), focus on high priority actions, resource mobilization and regional implementation.	Q3 2025 – Q4 2027

[4] Harden-Davies, Harriet, et al. "Capacity development in the Ocean Decade and beyond: Key questions about meanings, motivations, pathways, and measurements." Earth system governance 12 (2022): 100138.

Activities	Milestones	General Timeline
	Revision of Draft Monitoring & Evaluation (M&E) (Chapter 7)	
Evaluation and Adjustments	Review and revision to inform the development of a post-2030 CD strategy (to be presented and adopted at the IOC 35 in Q2 2029)	Q1 2028 – Q2 2029
Final Phase of Implementation	Focus on Medium/low Priority Actions; Alignment with end of Ocean Decade	Q1 2028 – Q4 2030

5.3 Regional Priorities

25.   Regional implementation is a key pillar of the Capacity Development Implementation Plan (see Output 3). The Capacity Development needs assessment has identified commonalities across all regions:

- **Limited access to research infrastructure and technology**: Many regions face challenges in acquiring and maintaining essential oceanographic equipment, data management systems, and research facilities, limiting the ability to conduct high-quality ocean science.

- **Insufficient funding and resource allocation for capacity development programmes**: Despite growing interest in ocean research and management, financial constraints hinder the expansion of training programmes, research projects, and regional collaborations.

- **Gaps in expert training, knowledge transfer, and science-policy interface**: There is a need for more structured professional development programmes, interdisciplinary collaboration, and mechanisms to bridge the gap between scientific research and policy-making.

26.   To address these challenges, **Table 2 outlines some key regional priorities and preliminarily recommended actions** which were identified through an exercise with the IOC Regional Sub-Commissions Secretariats. A further detailed survey to capture the wider Capacity Development needs of all Member States will be implemented through the IOC biennial Capacity Development surveys. These actions are tailored to the specific needs of each region while aligning with global capacity development goals. The table highlights strategic initiatives, including:

- Strengthening regional **consortia for higher education and research institutions**, facilitating collaboration between universities, scientists, professional organizations, field stations and shared infrastructure managers.

- Establishing **regional networks of young ocean professionals** to promote knowledge sharing and active participation in ocean science.

- Expanding **training programmes, summer schools, field practices, exchange initiatives** to enhance skills in emerging research areas.

- Promoting the development of **UNESCO Chairs, virtual courses, and mentorship programs** to support long-term capacity development.

Table 2 Preliminary Capacity Needs Assessment with IOC Regional Sub-Commissions

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
1. Human resources developed at individual and institutional levels	1.1 Academic and higher education	1.1.1 Promote and assist with the strengthening and establishment of consortia of higher education and research institutions at the appropriate geographical scale	- Support and Strengthen HABs network of experts: identify the origin of invasive species and pathways of invasion, the environmental conditions conducive to invasion, and their major effects on local habitats, species, and ecosystems. - Support the Strengthening of the GOOS Africa coordination office at CURAT, Abidjan, Cote d'Ivoire	National, regional higher educational and research network database	High Priority: On Marine Spatial Planning Medium Priority: On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. Artificial Intelligence (AI) Application for Ocean research
		1.1.2 Promote collaboration between UNESCO Chairs and IOC, and between IOC and other organizations dealing with ocean matters on human resources development	- Support the strengthening of the GOOS Africa coordination office at Centre Universitaire de Recherche et d'Application en Télédétection (CURAT) in Abidjan, Cote d'Ivoire		Medium Priority: --On Marine Spatial Planning Early Warning Systems -On Pollution -On Coastal Hazard Early Warning Systems	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
	1.2 Continuous professional development	1.2.1 Promote and assist with the organization of training courses, workshops and "summer schools", relevant to the IOC mandate, including training of trainers/technicians	1.Coastal Hazard Early Warning Systems o A coastal hazard modelling and forecasting certification program tailored for African National Meteorological and Oceanographic Services.	1. Blue Schools SIDS network 2. A New Blue Curriculum 3. Working to increase ocean knowledge among representatives of the tourism and fisheries sectors 4. For managers and decision makers: to	High Priority: - On Marine Spatial Planning Medium Priority: -On Coastal Hazard Early Warning Systems --On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
		and executive career development for institutional managers/decision makers, in collaboration with other organisations	2.Marine Spatial Planning (MSP) o MSP technical training courses, including GIS mapping, stakeholder engagement techniques, and participatory planning approaches. 3.Bioecology e-DNA o e-DNA sampling and molecular analysis training, targeting marine researchers and conservationists to enhance biodiversity monitoring.	evaluate and manage multiple activities at sea through Marine Spatial Planning program		
		1.2.2 Establish, or collaborate with other organizations to develop internship/fellowship and on-board training programmes	o Regional partnerships with global research institutions to fund 1-2 year fellowships in coastal resilience, marine spatial planning, and bio-monitoring technologies. o Internship placements in high-tech oceanographic labs to build capacity in e-DNA sequencing and deep-sea species identification.	1. Promote and benefit from internship/fellowship and on-board training programs from SCOR, POGO, ISA and Ocean Decade Opportunities	High Priority: - On Coastal Hazard Early Warning Systems - On Pollution - On Marine Spatial Planning	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
		1.2.3 Establish and collaborate with other organisations on visiting lecturer/scholar/researcher programmes and professional exchanges (peer to peer)		1. Promote and benefit from visiting lecturer/scholar/researcher programmes from partner organizations SCOR, POGO, NASEM GRP, UGOS, NOAA, Geo BON, Blue Planet	Medium Priority: --On Marine Spatial Planning -On Coastal Hazard Early Warning Systems -On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
		1.2.4 Promote and assist with the establishment of regional training (and research) centres relevant to the IOC mandate			High Priority: - On Marine Spatial Planning	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
		1.2.5 Promote the development and sharing of training materials and tools		1. Sargassum and harmful algal blooms using remote sensing and metagenomic tools 2. Coastal Hazard Early Warning Systems 3. Marine Spatial Planning 4. Ocean Decade endorsed projects: 133.2 – Gain knowledge to respond to multiple stressors 134.2 - TAC Pollutants Observatory 135.2 - TAC Ocean Observing and Forecasting System 136.2. Enhancing capacity development in the TAC Region 137.2 Ocean Literacy in the TAC Region 138.2. Integrating Coastal Hazard Warning Systems for TAC 140.2. MACHC-IOCARIBE Seabed 2030 Project	Medium Priority: -On Coastal Hazard Early Warning Systems -On Pollution	Medium Priority: --On Coastal Hazard Early Warning Systems -On Pollution
	1.3 Sharing of knowledge and expertise including through	1.3.1 Establish a travel grant "fund"		1. Explore partners and funders to establish a IOCARIBBEAN travel grant "fund"	High Priority: - On Coastal Hazard Early Warning Systems - On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
	community building	1.3.2 Establish or collaborate with other organizations on a mentoring programme		1. Ocean Discovery League Accessing the Deep: Deep Ocean Training and Mentoring Program in the Caribbean region 2. DOOS	- On Marine Spatial Planning High Priority: - On Marine Spatial Planning Medium Priority: --On Coastal Hazard Early Warning Systems -On Pollution	3. AI Application for Ocean research 1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
		1.3.3 Promote and assist with the development and strengthening of IOC alumni networks, and professional networks including for youth leaders		1. Collaborate with NASEM's Connections to Sustain Science in Latin America 2. IOC/IODE's Alumni system7 3. YoU-CAN 4. seek opportunities youth sailing projects (e.g. Save The Med Foundation) 5. Engage with Global Young Academy Science Leadership Latin America and the Caribbean 6. IANAS	High Priority: --On Coastal Hazard Early Warning Systems -On Pollution	
		1.3.4 Promote funding, grant and scholarship programs to facilitate ocean research, technical development and scientific exchange through bringing visibility of		1. Capacity development at sea 2. Ship time financial support for ongoing regional programs 3. Low-cost and accessible technology 4. Joining global networks to	Medium Priority: -On Coastal Hazard Early Warning Systems -On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
		opportunities via an online CD hub		observe and develop strong deep-sea science for policy and planning (Biodiversity Beyond National Jurisdiction (BBNJ), Climate change) in Areas Beyond National Jurisdiction (ABNJ) and Exclusive Economic Zone (EEZ)		
	1.4 Integration of ocean science in basic education	1.4.1 Promote the integration of ocean science in curricula of primary and secondary schools		1. Blue Schools SIDS network 2. A New Blue Curriculum	High Priority: - On Marine Spatial Planning -On Coastal Hazard Early Warning Systems -On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
		1.4.2 Promote careers in ocean research and ocean management		1. Capacity development at sea for ECOPs 2. Education and mentoring in deep-sea science for policy and planning (Biodiversity Beyond National Jurisdiction (BBNJ), Climate change) in Areas Beyond National Jurisdiction (ABNJ) and Exclusive Economic Zone (EEZ)	High Priority: - On Marine Spatial Planning -On Coastal Hazard Early Warning Systems -On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
	1.5 Improving gender, generational and geographic diversity	1.5.1 Promote participation of women in ocean research o Develop scholarship programs for women and youth in oceanographic modeling, MSP, and marine genetic research. o Support mentorship networks that connect young African scientists with global experts in coastal		1. Local /National efforts in Promote participation of women in ocean research, training at sea and ocean data management	High Priority: -On Coastal Hazard Early Warning Systems -On Pollution - On Marine Spatial Planning	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
		1.5.2 Promote and support "young scientist" and "women in science" awards	hazard response, marine spatial planning, and ecosystem DNA research.	1. Local/National: through the national Academies of Sciences: the L'Oréal-UNESCO For Women in Science promoted	Medium Priority: -On Coastal Hazard Early Warning Systems -On Pollution	1. Deep-Sea 2. Coastal Hazard Early Warning Systems 3. AI Application for Ocean research
2. Access to technology, physical infrastructure, data and information established or improved	2.1 Facilitating access to technology and infrastructure	2.1 Facilitating access to technology and infrastructure to facilitate access, and promote transfer of marine technology / 2.1.1 Establish and maintain a register of infrastructure to facilitate access, and promote transfer of marine technology / Ocean Acidification o Automated ocean pH sensors deployed across priority coastal regions to track acidification trends. o Deployment of AI-powered microplastic sensors in key pollution hotspots, enabling automated data collection. o Integration of marine pollution mapping tools with coastal management plans to identify priority clean-up zones.		1. Ocean Acidification 1a. Research Network of Marine-Coastal Stressors in Latin America and the Caribbean (REMARCO) IAEA technical cooperation projects 1b. GOA-ON Caribbean Hub 2. Capacity Development vulnerabilities of marine-coastal 2a. ecosystems: chemical and microplastic pollution 2b. harmful algal blooms, eutrophication 2c. ocean acidification 2d. challenges in assessing blue carbon inventories 3. Global Initiative collaboration to discover unknown marine life (partner with Nekton	High Priority: On Coastal Hazard Early Warning Systems -Equipment for in situ and laboratory observations, analysis and experimentation -Computer and Software, including models and modelling techniques On Pollution -Sampling - Computer and Software, including models and modelling techniques - Organizing low-cost access to spare parts for equipment - Provision of new / used equipment by donors to your institution/organization	

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
				project of the Nippon Foundation	On Marine Spatial Planning -Observation facilities and equipment, e.g. remote sensing equipment, buoys, tide gauges, shipboard and other means of ocean observation) Medium Priority: On Pollution - (Sampling and analysis equipment e.g. for water, geological, biological, chemical samples)	
		2.1.2 Promote the development of regional collaboration on sustainable scientific infrastructure	o Enhanced remote sensing capabilities for seagrass, mangrove, and salt marsh mapping. o Establishment of standard methodologies for carbon sequestration assessment in coastal and deep-sea ecosystems. o Training workshops on chemical pollutant analysis, equipping labs across Africa with advanced analytical techniques.		High Priority: On Marine Spatial Planning -Use of regional and global data and information systems Medium Priority: -On Coastal Hazard Early Warning Systems - On Pollution	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research
		2.1.3 Promote involvement of citizen science in ocean research			Medium Priority: -Pollution (plastic, clean ups)	

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
2.2 Facilitating equitable access to and sharing of ocean data and information	2.2.1 Promote the development and wide use of regional and global data and information systems		o Development of a blue carbon inventory database, accessible to African researchers, policymakers, and climate finance institutions. o Training programs for acidification impact assessment, equipping researchers with tools to analyze pH fluctuations and their effects on marine life.	1. Local/National: FAIR open access ocean data bases 1a. essential ocean variables	High Priority: On Marine Spatial Planning -Technical training for ocean science data management (Coastal Hazard Early Warning Systems/MSP/Pollution)	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research
		2.2.2 Promote the sharing of ocean data and information by stakeholders	o A real-time data-sharing platform, allowing collaboration between African marine research centers and international monitoring initiatives (e.g., GOA-ON, Global Carbon Project).	1. Partner with Seafloor 2030 2. Collaborate with POGO, DOOS, GOOS	Medium Priority: On Coastal Hazard Early Warning Systems On Pollution -Access to best practices on the use and maintenance of physical infrastructure and equipment Technical training for ocean science related to ocean observation	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research
3. Global, regional and sub-regional mechanisms strengthened	3.1 Further strengthening and supporting secretariats of regional commissions	3.1.1 Improve staffing of secretariat of regional sub-commissions		1. Staffing of secretariat of IOCARIBE sub-commission	High Priority: ALL	Urgent Priority
		3.1.2 Reinforce budgeting of regional sub-commissions		Reinforcement of budgeting of IOCARIBE sub-commission	High Priority: ALL	Urgent Priority

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
	3.2 Enhancing effective communication between regional sub-commission secretariats and global programmes as well as other communities of practice (incl. other organisations)	3.2.1 Establish an effective coordination and communication mechanism between the secretariats of the fisheries and coastal regional sub-commissions and the global programmes	o Developing community response protocols for harmful algal bloom outbreaks, protecting fisheries and coastal livelihoods. o Capacity development for HAB toxin analysis and risk mitigation, ensuring labs across Africa can detect and manage bloom-related threats. o Training for government agencies on best practices in multi-hazard early warning dissemination.		High Priority -On Coastal Hazard Early Warning Systems -On Marine Spatial Planning	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research
	3.3 Identifying specific national and regional capacity development needs through regular needs assessment	3.3.1 Organise and conduct biennial capacity development needs survey				
	3.4 Encouraging regional and sub-regional organisations to be leaders in, and amplifiers of capacity development	3.4.1 Reinforce engagement of regional and sub-regional organizations in consultation process and capacity development initiatives	o Africa's engagement in the International Seabed Authority (ISA) and deep-sea biodiversity agreements. o Creation of African-led deep-sea research initiatives, with dedicated funding for exploration and conservation of understudied deep-ocean ecosystems.	1. First meeting took place 18/10/24 2. Review of the CD WG Terms of Reference		

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
		o Establishing a regional HAB forecasting and data-sharing mechanism, linking African states with international observation networks.				
4. Development of ocean research policies in support of sustainable development objectives promoted	4.1 Fostering the development of ocean research policies	4.1.1 • Compile and compare information on existing ocean research policies, and disseminate to member states for their use	• Develop national platforms for sharing hazard monitoring data and research priorities. • Create shared databases on marine spatial planning projects and policies. • Establish networks for sharing pollution monitoring data.		Medium Priority -On Pollution -On Coastal Hazard Early Warning Systems	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research
		4.1.2 Assist and enable Member States with the development of ocean research policies, making use of the results of 4.1.1	O Implementing policies to combat eutrophication O Strengthening policy frameworks for Marine Spatial Planning, ensuring: • Transboundary MSP collaboration for shared marine resources across regional economic zones. • Legal and governance structures that integrate biodiversity conservation, blue economy development,		High Priority On Marine Spatial Planning - Assistance with the development of national marine science management procedures and national ocean research policies - Support of co-design methodologies that enable joint development of policies - Technical training for ocean science related to research activities e.g.	

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
5. Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased	5.1 Fostering the development of ocean related public information and communication services	5.1.1 Encourage the development of public information (communication) departments in ocean research institutions campaigns to educate stakeholders on the role of o Developing an African e-DNA marine biodiversity atlas, featuring: o Public outreach o Citizen science initiatives to encourage local participation in e-DNA sample collection. o Interactive digital platforms showcasing biodiversity insights from e-DNA research. o Increasing public engagement in deep-sea research, through: o Media collaborations to promote deep-ocean discoveries and conservation efforts. o Interactive documentaries on African deep-sea ecosystems, aimed at fostering	and stakeholder participation. • Harmonization of MSP policies across different coastal governance systems in Africa.	1. Establish a scientific basis for enhancing relationship between people and their environments 2. The UNESCO World Heritage Marine Sites and its Underwater cultural Heritage, Ocean's intangible cultural heritage and Biosphere Reserves 3. Contribute to IOC/UNESCO State of the Ocean Reports 4. Ocean Digital Twin information system 5. Profit from ACALconecta regional science platform communication services	climate change, ocean acidification, eutrophication, etc. On Coastal Hazard Early Warning Systems - Technical training for ocean science related to research activities e.g. climate change, ocean acidification, eutrophication, etc High Priority: On Pollution On Marine Spatial Planning	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
	5.2 Fostering the development of ocean literacy	5.2.1 Assist with the strengthening and development of ocean literacy programmes at national and regional levels	appreciation for oceanic biodiversity. o Educational programs for students and decision-makers, bridging knowledge gaps in deep-sea science. o Raising awareness on marine pollution threats, by: o Running social behavior change campaigns to reduce plastic consumption and pollution. o Developing school curricula on ocean sustainability. o Partnering with media outlets to disseminate investigative reports on marine chemical pollution.	1. Local /National: creation of Ocean Literacy initiatives and review of plans by UN Ocean Decade committees e.g. REALCO Latin American Ocean Literacy network 2. Engage closer with the Ocean literacy for all program and apply its toolkit in diverse priority topics (corals, sargassum, seagrass beds, integrated biodiversity, blue economy, ocean risks, tsunamis, microplastics, noise, sound, oil spills and others) 5. Engage in the Visualizing the ocean program	High Priority: On Pollution	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research
6. Sustained resource mobilization reinforced	6.1 Enhancing sustained support (in-kind and financial) to the IOC for its	6.1.1 Foster partnerships to increase in-kind support opportunities	o Creating an African Blue Carbon Investment Fund, linking: o Scientific research with climate finance to support	1. IOCARIBE Secretariat to foster partnerships to increase in-kind support opportunities	High Priority: On Coastal Hazard Early Warning Systems	1. Coastal Hazard Early Warning Systems 2. Deep-Sea

Output	Activity	Actions	IOCAFRICA	IOCARIBE	IOCINDIO	WESTPAC
	international coordination role		mangrove and seagrass restoration. o Regional partnerships to scale up blue carbon credit mechanisms. • Securing long-term funding for ocean acidification research, by: o Engaging with international donors (e.g., GEF, Pew Trusts) for continuous funding. o Developing sustainable finance models for ocean monitoring.			3. AI Application for Ocean research
	6.2 Promoting sustained bilateral and multilateral support among Member States	6.2.1 Encourage resource mobilisation in particular from Member States, and other donors to support the outcomes of the IOC Capacity Development needs assessment	**Embedding coastal hazard funding into national budgets**, ensuring: o **Institutionalized government investment** in hazard mitigation. o **Long-term resilience planning** in coastal development policies.	1. Information Services to provide support for national and regional marine monitoring and research and development	High Priority: On Pollution On Marine Spatial Planning	1. Coastal Hazard Early Warning Systems 2. Deep-Sea 3. AI Application for Ocean research

5.4 Detailed Actions

OUTPUT 1. Human resources developed at individual and institutional level

Activity 1.1 Academic and higher education

Action
Action 1.1.1 Promote and assist with the establishment of consortia of higher education and research institutions at the appropriate geographic scale

Objective
Foster collaboration among higher education institutions to develop joint curricula, degree programs, and research initiatives that enhance the capacity of ocean science professionals. Where national universities lack the necessary curriculum, consortia can pool resources to deliver full degree programmes.

Pathway
- Map existing BSc, MSc, PhD programmes within Member States   - Facilitate open dialogue within educational and research institutions through regional workshops to identify potential partners.   - Develop appropriate, regionally scaled capacity development consortia formalized within a relevant Memorandum of Understanding signed by all partners.   - Support Member States in the development of curricula and a framework for curriculum integration.   - Identify resources to support consortia activities and develop competitive funding proposals.

Main Partners	Resources
Regional Sub-Commissions, UNESCO Chairs, Research Institutions, Academic Networks, Universities, CD National Focal Points (Member States), ECOPs	Existing resources Existing and new partners

Action
Action 1.1.2 *Promote collaboration between UNESCO Chairs and IOC, and between IOC and other organisations dealing with ocean matters on human resources development*

Objective
- Leverage existing UNESCO Chairs (14) for marine science to support in-country academic programme development.   - Promote international inter-university cooperation and networking for knowledge sharing.   - Enhance synergy between IOC, other UN Agencies, and multilateral organizations (e.g. UN Environment, FAO, IAEA, UNDP, regional bodies such as OAS or CPPS) and improve coordination with the World Meteorological Organization (WMO), International Hydrographic Organization (IHO) and International Maritime Organisation (IMO).

Pathway
- Organize an initial workshop to discuss collaborative opportunities and identify joint areas of work between UNESCO Chairs, Regional Sub-Commissions and potential multilateral partners.   - Create thematic working groups (e.g curriculum development, research collaboration, training programs) that include IOC, UNESCO Chairs, and other multilateral representation to be facilitated by the Group of Experts for Capacity Development.   - Consortium or working groups co-develop integrated curricula projects (Action 1.1.1), and training modules (activity 1.2.1), that reflect current marine science challenges and opportunities.

Main Partners	Resources
Regional Sub-Commissions, UNESCO Chairs, Higher Education Institutions, Research Networks, CD National Focal Points (Member States), ECOPs, UN and non-UN Organizations	Existing resources Existing and new partners

Activity 1.2 Continuous professional development

Action

Action 1.2.1 *Promote and assist with the organisation of training courses, workshops and "summer schools" relevant to the IOC mandate, including training of trainers/technicians and executive career development for institutional managers/decision makers, in collaboration with other organisations*

Objective
- Enhance disciplinary, technical and managerial competencies among marine science professionals.   - Build capacity through targeted training activities/programmes that are tailored to the needs of Member States and the IOC mandate.   - Organize short-term, focused intensive training programmes (including summer schools) that focus on practical application and leadership development.   - Develop competencies and implement learning frameworks related to Blue Skills, considering novel and emerging topics relevant to upskilling of ocean professionals and enhance institutions capability.   - Enhance and leverage existing IOC projects and programs focused on capacity development

Pathway
- Identify specific technical, scientific, and management training needs by professionals via Capacity Development biennial survey and in conjunction with the Regional Sub-Commissions.   - Implement a training request mechanism, e.g. official call or request form via OTGA platform   - Design an integrated training program offered by IOC that includes courses, workshops, and summer schools aligned with identified needs. Develop "training of trainers" (TOT) initiatives to ensure a cascading transfer of knowledge.   - Develop the CD-Hub as primary global marine science training portal for capacity development opportunities   - Develop the OceanTeacher Global Academy (Action 1.2.5) as a central online learning platform.   - Coordinate with consortia of higher education and potentially developed programs (Action 1.1.1).   - Utilize the Capacity Development Facility's matchmaking service to replicate/scale up training initiatives and advance other capacity development activities prioritized by IOC Capacity Development

Main Partners	Resources
All IOC programs and initiatives, Regional Sub-Commissions, International Oceanographic Data and Information Exchange (IODE) and its OceanTeacher Global Academy (OTGA), CDF, CD National Focal Points (Member States), ECOPs, UN and non-UN Organizations, Universities, NGOs	Existing resources/New resources Existing and new partners

Action

Action 1.2.2 *Establish, or collaborate with other organisations to develop internship/fellowship and on-board training programmes*

Objective
- Provide hands-on training through appropriate internships and fellowships that include on-board experience in partnerships with international and regional   - Develop accessible pathway to research cruises and on-site oceanographic training, especially for researchers from under-resourced institutions.   - Develop support mechanisms, including funding arrangements and mentoring networks, to facilitate participation and learning.

Pathway
- Map current internship/fellowship programmes (including on-board training) and assess the training needs of researchers in regions lacking adequate resources. Link them to the CD-Hub.   - Engage with universities, research centres, and partner organisations to identify new contributions and opportunities.   - Create a framework for collaboration with partner organisations that defines roles, responsibilities, and modalities for joint internship/fellowship initiatives, including on-board training.   - Develop standardized training modules and on-board training protocols that ensure quality and consistency across programmes.   - Establish a mentorship network that pairs experienced researchers and professionals with interns/fellows to provide guidance, and ongoing support.   - Coordinate international Research Vessel networks to provide travel support and berths for eligible participants.   - Integration into IOC Ocean CD-Hub, OTGA and CDF.

Main Partners	Resources
IOC programs and initiatives; Regional Sub-Commissions; Universities, research institutions, and governmental bodies that offer internship or	Existing resources/ New resources Existing and new partners

fellowship opportunities; ECOPs network(s): OTGA; CDF; Organizations with access to research vessels or specialized oceanographic equipment; Bilateral and international funding agencies that can provide financial support for training programmes; Private Sector, NGOs

Action
Action 1.2.3 *Establish, and collaborate with other organisations on a visiting lecturer/scholar/ researcher programmes and professional exchanges (peer to peer)*

Objective
● Fill specific expertise gaps in teaching and training programmes.
● Enhance the quality of academic programmes and on-site training by providing specialized knowledge and practical insights.
● Encourage collaboration with partner organisations to expand the range and reach of the visiting lecturer programme.

Pathway
● Map similar existing, and potential, programmes within the IOC Ocean CD-Hub.
● identify specific expertise gaps that could be targeted.
● Organise regional events such as forums and workshops where visiting lecturers share experiences and promote best practices with local faculty and managers.
● Develop a standardised Visiting Lecturer Programme Framework to define roles, responsibilities, selection criteria, contractual arrangements and guidelines and support resources.
● Launch a Pilot Visiting Lecturer Programme in selected regions including IOCARIBE's existing regional fishers and managers exchange programme
● Ensure that visiting lectures are embedded and relevant within broader training and academic programmes and existing courses (e.g., Action 1.1.1) to maximize impact.
● Promote the visiting lecturer programme through targeted campaigns, highlighting success stories and opportunities available via the IOC Ocean CD-Hub.

Main Partners	Resources
Regional Sub-Commissions; International Visiting Scholar Programs, UNESCO Chairs, Marine Research Institutes	Existing resources Existing and new partners

Action
Action 1.2.4 *Promote and assist with the establishment of regional training (and research) centres relevant to the IOC mandate*

Objective
● Establish or strengthen regional specialized training and research centres within existing, well-established academic or research institutions.
● Create integration mechanisms and forum among these centers to enable sharing of course materials (including translations), and to promote student and teacher mobility.
● Foster regional and inter-regional collaboration through community building, thereby reinforcing the IOC mandate.

Pathway
● Identify existing training and research centres (e.g., IOC RTRCs, OTGA RTCs/STCs, UNESCO Chairs, and Centres of Excellence) within Member States and determine priority training modules and research areas.
● Leverage the resources mobilized by CDF to advance and address capacity development needs of underserved regions.
● Develop a Consortium ("Community of Practice") to facilitate sharing of course materials (including translated versions), best practices, and training modules.
● Draft standardised frameworks outlining governance, roles, responsibilities, curriculum development, quality assurance, and sustainability of regional training and research centres.
● Prioritise the operational capacity of designated centres in line with regional priorities and include targeted investments, technical support, and staff training.
● Design and implement mobility schemes to facilitate exchange programmes among centres, including short-term visits, research collaborations, and teaching assignments.
● Promote the network of regional centres, their programmes, and successes through the IOC Ocean CD-Hub, newsletters, and targeted outreach.

Main Partners	Resources
Regional Sub-Commissions, OTGA, CDF, CD focal points (Member States), Universities, Research Institutions, Training Center Networks, NGOs	Existing resources/ New resources Existing and new partners

Action
Action 1.2.5 *Promote the development and sharing of training materials and tools*

Objective
● Develop high-quality, regionally relevant training materials and tools.
● Facilitate the online sharing and exchange of training resources through open, accessible platforms.
● Encourage collaborative content development and translation to broaden the reach and applicability of training materials.

Pathway
● Conduct a comprehensive inventory of current training materials available on the OTGA Learning Management System (LMS) and other platforms.
● Translate and adapt existing training materials into multiple languages to ensure accessibility across different regions.
● Engage regional centres, Regional Sub-Commissions and stakeholders to identify specific content needs and preferred formats for training materials.
● Foster partnerships between IOC, regional centres, and academic institutions to develop new training modules, particularly on priority topics.
● Facilitate Content Sharing Workshops and Webinars instruct staff and partners on the effective use of OTGA LMS.
● Capitalize on the partnerships and resources available through the CDF to further scale up and replicate training materials that directly address the evolving needs of Member States. Consider interfaces with other e-Learning Portals

Main Partners	Resources
OTGA, OBPS, Universities, Research Institutions, Online Learning Platforms, NGOs	Existing resources Existing and new partners

Activity 1.3 Sharing of knowledge and expertise including through community building

Action
Action 1.3.1 Establish a travel grant "fund"

Objective
● Enable researchers, especially from under-resourced Member States, to share their work and benefit from global knowledge exchange.
● Leverage existing partnerships and support mechanisms (as listed on the Ocean CD-Hub) to supplement travel grant fund
● Enhance regional representation and networking, with special attention to supporting ECOPS participation in key conferences.

Pathway
● Establish priority regions and disciplines for potential grant recipients (see Table 3).
● and determine funding requirements and key criteria.
● Develop the scope, eligibility criteria, application, and selection processes, grant size, and reporting requirements. Ensure alignment with IOC's strategic goals and capacity development initiatives.
● Ensure sufficient financial resources from internal IOC budgets, international donors, partner organizations, and other potential sponsors are available.
● Integrate travel fund into existing IOC strategies and programs (e.g. also visiting lectures, mentoring, alumni etc.) and
● Promote through the IOC Ocean CD-Hub, newsletters, social media, and partner networks.
● Administer and manage the Grant fund and assess overall impact on capacity development and knowledge sharing via beneficiary reporting (Testimonials).

Main Partners	Resources
Member States, Research Institutions, Philanthropic Foundations, NGOs	Existing and new resources Existing and new partners

Action
Action 1.3.2 *Establish, or collaborate with other organisations on a mentoring programme*

Objective

- Facilitate knowledge transfer and professional growth for young scientists or early-stage researchers.
- Build long-term relationships between mentors and mentees that foster career development.
- Utilize existing networks and communities of practice (e.g., through the Ocean CD-Hub) to identify and engage mentoring partners.
- Develop a sustainable training/mentoring network that continuously nurtures emerging talent in marine science.

Pathway
- Identify existing mentoring programmes and potential mentors and mentee target groups.   - Develop unique profile (with a clearer objective and value proposition e.g. regional exchanges) for IOC mentoring program or consider integration with existing mentoring programs (which are also listed in the CD-Hub) such as APECS or Ocean Wise Innovator Lab.   - Establish (internal) database of potential mentors, mentees, and partner organisations in the Ocean CD-Hub / OceanExpert Platform.   - Develop clear guidelines and a framework that includes mentor/mentee roles, selection criteria, programme duration, and expected outcomes.   - Launch a targeted recruitment campaign using IOC networks, the Ocean CD-Hub, and regional outreach including tailored initiatives by Regional Sub-Commissions.   - Conduct orientation sessions, capacity development workshops, and webinars to prepare mentors and mentees.   - Initiate a pilot phase to test the programme structure and gather initial feedback.   - Regularly schedule one-on-one mentoring sessions, group discussions, and regional networking events.   - Create an online portal (or integrate with existing platforms like the CD-Hub and/or OceanExpert) to manage mentor/mentee profiles, schedule sessions, share resources, and track progress.

Main Partners	Resources
All IOC programs and initiatives, Regional Sub-Commissions; Universities, Research Institutions; ECOPs network(s):	Existing resources Existing and new partners

Action
Action 1.3.3 *Promote and assist with the development and strengthening of IOC alumni networks, and professional networks including for youth leaders*

Objective
- Build and maintain an online community of alumni from IOC training activities, linked with the OceanExpert Directory.   - Enhance networking among experts and create opportunities for alumni to share experiences and best practices.   - Monitor training impact and career trajectories to evaluate the long-term impact of IOC training initiatives.   - Utilize alumni feedback to continuously improve IOC training programmes and capacity development efforts.

Pathway
- Evaluate the current IOC/IODE Alumni system and the OceanExpert Directory to identify strengths, gaps, and opportunities for integration.   - Build or upgrade an online community platform that enables alumni registration, profile management, networking, and career tracking. Ensure integration with the OceanExpert Directory. Consider if interactive features such as discussion forums, event calendars, and resource sharing will be necessary.   - Facilitate regular webinars, virtual roundtables, and regional meetings that bring together alumni and current trainees to share career experiences and best practices.   - Encourage alumni to act as mentors within existing or new mentoring programmes (linking to Action 1.3.2 and IOCARIBE initiatives).   - Utilize AI as monitoring mechanisms (such as periodic surveys and profile updates) to track alumni career progress and measuring the long-term impact of IOC training. Monitor Alumni Program via Performance Indicators   - Create structured channels for alumni to provide feedback and recommendations on e.g. training programmes. Utilize alumni insights to inform the development and refinement of future IOC training initiatives.   - Promote the alumni network and its benefits through newsletters, social media, and the IOC Ocean CD-Hub.

Main Partners	Resources

| OTGA alumni, Schools, Teachers' Associations, NGOs, Science Museums | Existing resources
Existing and new partners |

Action
Action 1.3.4 *Promote funding, grant and scholarship programmes to facilitate ocean research, technical development and scientific exchange through bringing visibility of opportunities via the Ocean CD-Hub*

Objective
● Increase the visibility and accessibility of available funding and scholarship programmes. ● Create a comprehensive, searchable database on the Ocean CD-Hub that lists global, regional, and national opportunities. ● Encourage collaboration between IOC, funding agencies, and partner organizations to keep the database up-to-date. ● Enhance capacity development and scientific exchange by providing a one-stop portal for financial support information. ● Facilitate a higher success rate in applications for ocean research and technical development initiatives through improved information dissemination.

Pathway
● Compile and verify existing funding, grant, and scholarship opportunities from international, regional, and national sources. ● Create or upgrade a dedicated section on the Ocean CD-Hub for funding opportunities including information sessions to help potential applicants understand how to effectively use the database and apply for funding. ● Develop formal collaborations or MOUs with key funding agencies to ensure a steady flow of updated information. ● Engage regional offices to identify and contribute local funding opportunities, ensuring the database reflects diverse regional contexts. ● Create promotional materials (e.g., newsletters, social media posts, webinars) to raise awareness of the funding database among the marine science community. ● Track usage statistics (e.g., searches, downloads, clicks) on the funding database and gather feedback from users regarding its functionality and usefulness.

Main Partners	Resources
Regional Sub-Commissions; Marine Research Institutes, Technology Providers, Funding Agencies, Philanthropists; NGOs	Existing resources/New resources Existing and new partners

Activity 1.4 Integration of ocean science in basic education

Action
Action 1.4.1 *Promote the integration of ocean science in curricula of primary and secondary schools*

Objective
● Develop age-appropriate, culturally relevant teaching materials and activities that highlight the importance of the ocean. ● Introduce ocean science into existing curricula at primary and secondary school levels. ● Support teachers through training programmes and resource-sharing platforms. ● Engage local communities and stakeholders (including parents and local authorities) in ocean awareness initiatives.

Pathway
● Conduct a (broad) review of existing curricula in primary and secondary schools to identify opportunities for integrating ocean science including the collection of existing teaching material ● Assess the current level of ocean literacy among students and teachers (Gap Analysis) ● Engage with teachers, school administrators, parents, and local authorities establish priorities ● Create modular, age-appropriate ocean science content that can be integrated into existing subjects (e.g. science, geography, environmental studies). Ensure materials are engaging, interactive, and culturally relevant. ● Translate and adapt teaching materials into local languages, ensuring accessibility and local relevance. ● Organize workshops, webinars, and training sessions to equip teachers with the skills needed to deliver ocean science content effectively. Integrate online training via OTGA, realize on-site training in collaboration with the Regional Sub-Commissions secretariats.

- Highlight success stories of pilot group of primary and secondary schools by Highlighting existing programs, toolboxes, games, books, and other learning material on IOC websites, including CD-Hub.
- Collaborate with local NGOs and community groups to support and amplify ocean literacy initiatives and remote through relevant media and via schools (multiplier).
- Leverage events like World Oceans Day or regional celebrations (e.g., local cultural festivals) to highlight the importance of ocean science; Organize interactive events (e.g., school exhibitions, science fairs) to showcase student projects
- Review and report on student engagement, learning outcomes, and teacher feedback.

Main Partners	Resources
IOC Ocean Literacy Program; CD Focal Points (Member States); Teachers; NGOs	Existing resources Existing and new partners

Action
Action 1.4.2 *Promote careers in ocean research and ocean management*
Objective

- Increase awareness of potential career pathways in ocean research and ocean management among students, educators, and professionals.
- Provide comprehensive, up-to-date information on training, capacity development activities, scholarships, grants, internships, and career opportunities available worldwide.
- Leverage the Ocean CD-Hub as an interactive platform where users can explore, search, and access career-related resources and capacity development programmes.
- Engage partner organizations, educational institutions, and industry leaders to showcase role models, career stories, and success cases.
- Foster community building and networking through online forums, webinars, and events that connect aspiring ocean professionals with experts in the field.

Pathway

- Upgrade the Ocean CD-Hub (or alternative) to include a dedicated "Careers in Ocean Science" section that is searchable, user-friendly, and regularly updated.
- Populate the platform with relevant multimedia resources (video interviews, case studies and webinars) (e.g. from Alumni network - Action 1.3.3 and Mentoring Program - Action 1.3.2). that illustrate successful career pathways in ocean research and management.
- Promote ocean career opportunities ("Jobs" Section) via the Ocean CD-Hub, existing job portals and via social media, newsletters, and partnerships with educational institutions
- Develop targeted training on the OTGA on "Careers in Ocean Science and Management" e.g. support in international job application.

Main Partners	Resources
CD Focal Points (Member States); Research Institutions; Universities; International organizations	Existing resources Existing and new partners

Activity 1.5 Improving gender, generational and geographic diversity

Action
Action 1.5.1 *Promote participation of women in ocean research*
Objective

- Integrate a gender equality perspective and diversity considerations into all IOC capacity development activities to increase the participation of underrepresented groups (women, early-career scientists, and individuals from geographically diverse or underserved regions) in training, research, and management programmes.
- Promote inclusive policies that support a balanced representation in decision-making and programmatic activities at all levels.
- Strengthen monitoring and evaluation mechanisms to track progress and impact on diversity.
- Increase women's participation in IOC training courses and capacity development activities.
- Encourage Member States to adopt gender-balanced policies in training, research, and leadership roles.
- Monitor progress through the IOC alumni system (linked to Action 1.3.3).
- Expand inclusion efforts to underrepresented communities, including indigenous groups, intergenerational learners, and deaf communities.

Pathway

- Ensure gender-balanced participant selection for all IOC training courses, workshops, and capacity development activities.
- Implement quotas or gender-responsive selection processes where necessary.
- Launch leadership and mentorship programmes targeted at women in ocean science.
- Include gender-sensitive modules in existing IOC training courses.
- Advocate for scholarships, Awards (see also Action 1.5.2) and travel grants (Action 1.3.1) specifically for women researchers, particularly from underrepresented regions.
- Feature accomplished female marine scientists in IOC outreach campaigns (Link with Mentors and Alumni in Action 1.3.3, 1.3.4 and 1.4.2) and training materials.
- Monitor and report - highlighting achievements, challenges, and areas for improvement in gender and inclusion in ocean science.

Main Partners	Resources
Regional Sub-Commissions; OTGA; CD Focal Points (Member States); Research Institutions; Universities; International organizations	Existing resources Existing and new partners

Action
Action 1.5.2 *Promote and support "young scientist" and "women in science" awards*

Objective
To recognize and encourage young scientists and women in ocean science through awards and recognition programmes, fostering excellence, visibility, and motivation for emerging researchers in the field.

Pathway

- Analyse existing award programs and consider gaps, include missing programs on the Ocean CD-Hub.
- Develop an overarching (global) award profile recognizing outstanding research, innovation, and leadership in ocean science.
- Develop regional award schemes recognizing emerging ocean scientists.
- Partner with universities, research institutions, and private sector stakeholders to secure funding and sponsorships.
- Promote participation in international awards such as the L'Oréal-UNESCO For Women in Science Programme and other relevant initiatives.
- Promote and recognise winners during high-profile events (World Oceans Day, regional scientific conferences, and Assembly meetings) and leverage social media, press releases, and IOC platforms to highlight contributions.

Main Partners	Resources
Regional Sub-Commissions; OTGA; CD Focal Points (Member States); Research Institutions; Universities; International organizations	Existing resources Existing and new partners

OUTPUT 2. Access to technology, physical infrastructure, data and information established or improved

Activity 2.1 Facilitating access to technology and infrastructure

Action
Action 2.1.1 *Establish and maintain a register of infrastructure to facilitate access, and promote transfer of marine technology*

Objective

To establish or improve access to ocean research technology, physical infrastructure, data, and information, particularly for low-income economies, through regional collaboration and support mechanisms.

Pathway
- Identify existing infrastructure gaps and needs, through survey or consultation, of IOC member states and relevant regional and global partners.   - Design and develop an online IOC database of research infrastructure. Define the scope and criteria for infrastructure inclusion (e.g. research vessels, scientific instruments, broadband access, electricity supply, etc.). Ensure interoperability with existing databases where applicable.   - Engage with regional sub-commissions to gather and validate data on available research infrastructure.   - Develop governance and funding models to ensure the register remains updated and operational.   - Organize workshops and training sessions to educate stakeholders on using the infrastructure register and promote the register through IOC regional programs to ensure widespread awareness and utilization.   - Explore potential partnerships with international donors for initial funding support.   - Work with Member States to secure long-term commitments for maintenance and continuous data input.   - Conduct periodic reviews and updates based on feedback from users and stakeholders.

Main Partners	Resources
IOC programs and initiatives, Regional Sub-Commissions; IODE; OTGA; ODIS; OBIS; CD-Hub; National Ocean Data Centers	Existing resources/ New resources Existing and new partners

Action
Action 2.1.2 *Promote the development of regional collaboration on sustainable scientific infrastructure*

Objective
To encourage joint investments and resource-sharing mechanisms to optimize the use of ocean research facilities.

Pathway
- Facilitate discussions between Member States and relevant organizations to identify opportunities for regional cooperation.   - Support the establishment of regional agreements for shared access and joint management of infrastructure.   - Develop frameworks to facilitate equitable access to shared scientific infrastructure.   - Provide guidance and best practices on infrastructure sharing, including cost-sharing models and governance structures and the organization of regional training programs on the effective use and maintenance of scientific infrastructure.   - Promote joint projects, partnerships and investments that facilitate regional access to the infrastructure and services of the states involved.   - Support knowledge transfer and technical assistance programs to enhance infrastructure utilization. Assist Member States in mobilizing financial support from international donors and private sector collaborations.

Main Partners	Resources
IOC programs and initiatives, Regional Sub-Commissions; IODE; OTGA; ODIS; OBIS; CD-Hub; National Ocean Data Centeres	Existing resources/ New resources Existing and new partners

Action
Action 2.1.3 *Promote the involvement of citizen science in ocean research*

Objective
- Enhance mechanisms to promote societal participation in ocean research, services, and management through IOC capacity development initiatives.   - Develop and implement global and regional learning frameworks to support citizen science.   - Promote community building and collaborative forums for integrated action and expanded participation.

Pathway
- Encourage national research programs to integrate citizen science initiatives.   - Facilitate collaboration between professional researchers and community members. Create community research projects, promoted by non-scientific personnel.

• Create citizen science training modules via OTGA to increase public participation in ocean research and provide the necessary tools for local communities to assume responsibility. • for data collection and analysis efforts. • Strengthen cooperation and information exchange within the IOC UNESCO Ocean Literacy Portal to promote ocean literacy among non-academic communities. • Review and refine engagement strategies based on feedback and evolving needs.

Main Partners	Resources
Ocean literacy; Universities; Local Communities; NGOs	Existing resources Existing and new partners

Activity 2.2 Facilitating equitable access to and sharing of ocean data and information

Action
Action 2.2.1 *Promote the development and wide use of regional and global data and information system*

Objective
Enhance global accessibility and interoperability of oceanographic data systems, ensuring equitable sharing of scientific knowledge and resources among all stakeholders.

Pathway
• Evaluate, through surveys/consultation process, the opportunities and challenges within the data management systems of the member states, regional bodies and other users. • Develop guidelines and best practices for ocean data sharing and utilization and ensure interoperability of data systems across regional and international platforms. • Provide relevant data management training for Member States that support Member States in contributing relevant, quality data and resources. • Ensure the equitable inclusion and Integration of Indigenous/traditional and scientific knowledge.

Main Partners	Resources
IOC programs and initiatives, Regional Sub-Commissions; IODE; OTGA; ODIS; OBIS; CD-Hub; National Ocean Data Centers	Existing resources/ New resources Existing and new partners

OUTPUT 3. Global, regional and sub-regional mechanisms strengthened

Activity 3.1 Further strengthening and supporting secretariats of regional sub-commissions

Action
Action 3.1.1 *Improve staffing of secretariat of regional sub-commissions*

Objective
Ensure sufficient human resources to effectively coordinate and implement regional capacity development activities.

Pathway
• Identify personnel gaps, priority positions necessary for efficient operation of Regional Sub-Commissions Secretariats. • Highlight required competencies (communication, inter-institutional coordination, project management) and run open recruitment process. • Facilitate secondments and supplement staffing from Member States and partner organizations. • Provide relevant training programs to develop core staff competencies and ensure adequate succession planning is considered.

Main Partners	Resources
IOC Secretariat; Regional Sub-Commissions; Member States	Existing resources/ New resources Existing and new partners

Action
Action 3.1.2 *Reinforce budgeting of regional sub-commissions*

Objective
Secure sustainable financial support for regional ocean research and training programs.

Pathway

- Develop strategies for long-term funding of secretariat staff of the Regional Sub-Commissions. (See Action 3.1.2)
- Advocate for increased financial commitments from Member States
- Showcase the value of regional sub-commissions in the implementation of global ocean science and capacity development programs.
- Increase Operational Budget: Ensure that IOC allocates sufficient resources to Regional Sub-Commissions, including implementing their work plans.
- Mobilize External Funds: Develop resource mobilization strategies, including partnerships with multilateral partners, the private sector, and international foundations. Submit proposals to relevant funding bodies and establish collaborations with international partners to support regional initiatives.

Main Partners	Resources
IOC Secretariat; Regional Sub-Commissions; Member States	Existing resources/ New resources Existing and new partners

Activity 3.2 Enhance effective communication between regional sub-commission secretariat and global programmes as well as other communities of practice (incl. other organisations)

Action
Action 3.2.1 *Establish an effective coordination and communication mechanism between the secretariats of the regional sub- commissions and the global programmes*
Objective
Strengthen collaboration, streamline information exchange, and enhance alignment between regional sub-commissions and global programs to improve the effectiveness of capacity development initiatives.
Pathway

- Appoint liaison officers to facilitate vertical communication across the organization and establish a formal coordination mechanism (Steering Group) between regional sub-commissions and global programmes.
- Establish digital information systems that facilitate information exchange between regional and global programs.
- Organize regional workshops and webinars to strengthen interaction among global, regional, and national actors.
- Integrate global ocean science initiatives into regional strategies and action plans.

Main Partners	Resources
IOC Secretariat; Regional Sub-Commissions	Existing resources/ New resources Existing and new partners

Activity 3.3 Identifying specific national and regional capacity development needs through regular needs assessment

Action
Action 3.3.1 *Organise and conduct biennial capacity development needs survey*
Objective
Identify emerging national and regional capacity development needs and ensure training and resource allocation align with evolving priorities.
Pathway

- Improve the format and methodology of the biennial Capacity Development Needs Assessment to capture regional challenges and priorities.
- Draft and revise with feedback from Regional Sub-Commissions, promote to Member States accordingly as part of a joint conduct and implementation with the regional secretariats.
- Develop individual capacity development profiles for each region, summarizing key needs and opportunities for development.
- Provide recommendations for targeted interventions (e.g., training programs, funding initiatives, technical support) that address specific gaps.
- Discuss output and findings with Member States to guide planning and execution of future initiatives.

Main Partners	Resources
IOC CD Secretariat, GE-CD, Regional Sub-Commissions, National Focal Points	Existing resource Existing and new partners

Activity 3.4 Encouraging regional and sub-regional organisations to be leaders in, and amplifiers of capacity development

Action
Action 3.4.1 *Reinforce engagement of regional and sub-regional organisations in consultation process and capacity development initiatives*
Objective
Strengthen the role of regional and sub-regional organizations as key leaders in capacity development, ensuring tailored approaches that address specific local and regional challenges.
Pathway
- Identify regional and sub-regional organizations with a significant role in capacity development and IOC-related initiatives.   - Develop and host Information Sessions to improve communication and collaboration between global, regional, and sub-regional organizations and align efforts and resources effectively.   - Strengthen Regional Sub-Commissions' roles as a leader in coordinating effective CD initiatives that reflect local and regional priorities, as identified through the biennial capacity development surveys.   - Design training programs and workshops for regional and sub-regional organizations to build leadership capacity and implement successful capacity development efforts   - Train the Trainers: Build the capacity of trainers and facilitators and scale capacity development activities at the local level to create a pool of experts within regional organizations to mentor and provide technical assistance to member states.   - Ensure that regional leaders are empowered to advocate for capacity development at high-level political and technical meetings.   - Promote Local Voices and impact: Develop programs tailored to the specific needs of coastal communities and small island states.   - Acknowledge and celebrate the successes of regional and sub-regional organizations that excel in capacity development efforts.   - Provide support, to organizations that show leadership and innovation in developing and scaling capacity development initiatives.

Main Partners	Resources
IOC CD Secretariat; GE-CD; Regional Sub-Commissions; National Focal Points	Existing resource Existing and new partners

OUTPUT 4. Development of ocean research policies in support of sustainable development objectives promoted

Activity 4.1 Fostering the development of ocean research policies

Action
Action 4.1.1 *Compile and compare information on existing ocean research policies, and disseminate to Member States for their use*
Objective
Provide a knowledge base for policymakers to develop or refine national and regional ocean research policies.
Pathway
Review existing national and regional ocean research policies from Member States, international organizations, and regional entities.

- Utilize exiting platforms to integrate a searchable electronic database or online platform to host and categorise ocean research policies
- Create a framework for comparing ocean research policies based on criteria such as alignment with SDGs, focus on transdisciplinary research, funding mechanisms, and stakeholder engagement to identify gaps where research policies fail to address critical ocean challenges or sustainable development objectives.
- Highlight areas where research policies could be enhanced or standardized to better support transdisciplinary and sustainability science.
- Prepare a report detailing key findings, recommendations, and best practice guides for aligning ocean research policies with sustainable development goals and present to Member States, regional organizations, and stakeholders to promote the adoption of best practices and inform future policy development.
- Host a series of workshops that encourage Member States to integrate and develop recommendations within national and regional ocean research strategies through technical assistance and expert consultations.
- Encourage member states to integrate ocean research into national science and technology plans and broader national policies e.g. on climate change.
- Promote regional cooperation in the development of ocean research policies by facilitating intergovernmental consultations and sharing of best practices.

Main Partners	Resources
Member States; SOPM; Research Institutions; Policy Research Organisations	Existing resources Existing and new partners

Action
Action 4.1.2 *Assist and enable Member States with the development of ocean research policies, making use of the results of 4.1.1*
Objective
Strengthen the governance and regulatory frameworks for sustainable ocean management through science-informed policy development.
Pathway

- Provide technical advice and policy-making support that can be utilized by Member States when developing national and regional marine policy.
- Offer training programs in marine ecosystem management, marine spatial planning (MSP), and marine assessments to strengthen governance capacity.
- Conduct training in best practices for implementing international agreements, supporting national efforts to monitor and conserve marine ecosystems.
- Use IOC's regional and international strategies and programs as guidance in ensuring policy coherence and alignment of national marine development plans
- Establish regional networks and communities of practice to connect scientists and policymakers through IOC Sub-Commissions, UNEP Regional Seas programs, and Large Marine Ecosystem (LME) initiatives.
- Develop capacity development programs that support data-driven decision-making and science-informed policy formulation.

Main Partners	Resources
Member States; SOPM; Research Institutions; Policy Research Organisations, UNEP	Existing resources Existing and new partners

OUTPUT 5. Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased

Activity 5.1 Fostering the development of ocean-related public information and communication services

Action

Action 5.1.1 Encourage the development of public information (communication) departments in ocean research institutions
Objective
Increase visibility, awareness, and understanding of the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development, ensuring public and policy engagement with ocean-related research outcomes.
Pathway
- Establish dedicated public information and communication departments within ocean research institutions to lead efforts in disseminating research findings to the public and building relationships with media outlets.   - Develop communication strategies that include regular updates via newsletters, scientific outreach programs, social media campaigns, and interactive web portals.   - Promote ocean research through documentaries, podcasts, and digital storytelling, increasing public interest and engagement in marine sustainability topics.   - Strengthen collaborations with journalists and media outlets to ensure accurate and accessible reporting of ocean science and research outcomes.   - Organize public engagement events, such as World Ocean Day activities, open-door sessions, and educational exhibitions, to bring ocean science closer to communities.

Main Partners	Resources
Media Organizations, Educational Institutions, Environmental NGOs, Science Communicators, Government Agencies	Existing resources Existing and new partners

Regional Example: IOCARIBE's Public Outreach Initiatives: IOCARIBE has been actively engaging in public outreach programs to highlight IOC activities in the region. These efforts include awareness campaigns, stakeholder consultations, and science-policy dialogues to enhance regional capacity development and ocean governance.

Activity 5.2 Fostering the development of ocean literacy

Action
Action 5.2.1 Assist Member States with the strengthening development of ocean literacy programmes at the national and regional levels
Objective
Assist Member States in developing and enhancing national and regional ocean literacy programs that promote public understanding of the ocean, increase resilience to environmental challenges, and support sustainable development and disaster risk management through integrated education, research, and community programs.
Pathway
- Conduct a baseline assessment of current ocean literacy efforts in Member States, identifying existing programs, gaps, and challenges at the national and regional levels.   - Develop a comprehensive framework for ocean literacy programs that can be adapted to different national and regional contexts. This framework will provide guidelines for integrating ocean literacy into education, research, and community engagement; target audience; outline key messages tailored to different audiences; and suggest methods for program delivery (e.g., formal and informal education, virtual and distance learning, media outreach).   - Integrate ocean literacy into national education curricula, ensuring that ocean science is included in formal education at primary, secondary, and higher education levels.   - Expand informal and experiential learning opportunities, such as hands-on workshops, citizen science initiatives, and engagement with coastal communities.   - Develop digital learning platforms and virtual education tools, making ocean science accessible to broader audiences.   - Foster regional and international collaboration, creating a network of educators, scientists, and policymakers to exchange best practices in ocean literacy.   - Implement targeted outreach campaigns to engage marginalized and vulnerable communities, ensuring equitable access to ocean knowledge and resources.   - Encourage private sector participation, supporting industries such as fisheries, tourism, and shipping to integrate ocean literacy into their corporate sustainability initiatives.   - Scaling up the Blue Schools Program to additional coastal regions.

Main Partners	Resources

IOC Ocean Literacy Programs; IOC Communication and Outreach Teams; Media Organizations; Educational Institutions; Environmental NGOs; Science Communicators	Existing resources Existing and new partners

OUTPUT 6. Sustained resource mobilization reinforced

Activity 6.1 Enhancing sustained support (in-kind and financial) to the IOC for its international coordination role

Action
Action 6.1.1 *Foster partnerships to increase in-kind support opportunities*
Objective
Enhance long-term financial and in-kind support for the IOC to enable it to effectively coordinate international ocean research and capacity development efforts. This includes mobilizing resources from Member States, private donors, and international organizations to support IOC's global initiatives, and fostering partnerships to secure sustained funding for ocean research and capacity development, particularly in developing regions.
Pathway
- Identify key in-kind, and potential, support opportunities from Member States, including fellowships and grants for students or researchers; ship time, laboratory facilities, and equipment availability; opportunities for staff secondments to the IOC Secretariat or regional offices   - Establish formal and informal partnerships with Member States, universities, research institutions, and private sector organizations. Develop a partnership framework to define roles, expectations, and contributions.   - Facilitate Knowledge and Resource Exchange: Organize webinars, workshops, and networking events to facilitate the exchange of information on available in-kind resources and collaborative opportunities. Encourage the sharing of best practices for leveraging in-kind support.

Main Partners	**Resources**
IOC Secretariat, Member States, National Focal Points, National Ocean Research Institutions; Ocean Research Networks, Private Sector Partners	Existing resources/ New resources Existing and new partners

Activity 6.2 Promoting sustained bilateral and multilateral support among Member States

Action
Action 6.2.1 *Encourage resource mobilisation in particular from Member States, and other donors to support the outcomes of the IOC Capacity Development needs assessment*
Objective
Optimize the financial resources available through UNESCO and other contributing organizations to ensure efficient allocation and implementation of capacity development programs. Increase Financial Contributions from Member States, private donors, and international organizations to support IOC's capacity development activities and promote Public-Private Partnerships
Pathway
Align Resource Mobilization with IOC Priorities: Review the IOC Capacity Development Needs Assessment in light of the Medium-Term Strategy to with the priorities of the IOC.   - Prioritize funding needs based on urgent and high-impact initiatives.   - Develop a comprehensive resource mobilization strategy that includes targeted outreach to Member States, private donors, and international organizations; A clear plan for promoting public-private partnerships and attracting new donors; Tools and resources to assist Member States in securing funding (e.g., grant proposals, funding opportunities database).   - Organize donor engagement events, such as webinars, workshops, and bilateral meetings, to build stronger relationships with potential donors, both private and public, e.g. a Joint global conference with IOC

Responsibilities	**Partners**

IOC Secretariat; GE-CD; Resource Mobilization Experts; Member States; Ocean Research Networks; Private Sector Partners; Donors	Existing resources/ New resources Existing and new partners

6. Stakeholder Roles and Responsibilities

27.   To ensure this Capacity Development Strategy Implementation Plan achieves maximum impact it is necessary to communicate and collaborate with the full stakeholder network including specialized bodies ranging from international organizations, research bodies, civil society and the private sector, with a view to leveraging capacities, expertise, tools, data and funding opportunities to maximize the performance, efficiency and impact of capacity development activities. This includes aligning with existing and complementary initiatives and partners and engaging key stakeholders to focus capacity development activities. A multitude of actors are engaged in IOC capacity development initiatives including Member States, regional and global IOC programmes, international organizations, government agencies, research institutions and academic establishments, indigenous and local communities, NGOs and the private sector, all of which bring specific interest, experience and competence to capacity development initiatives. The following chapter identifies key stakeholders and their impact on the IOC Capacity Development Strategy and its implementation.

28.   **IOC-CD Global Coordination Unit/Secretariat:** Serve as the central coordinating unit and provide the administrative and programmatic support to the implementation of the IOC Capacity Development Strategy and the Implementation Plan including liaising with the global programmes and regional subsidiary bodies. The IOC CD Secretariat/global coordination unit facilitates the work of the IOC Group of Experts and its Working Groups and Task Teams.

29.   **IOC Member States** (Developing Countries, Small Island Developing States (SIDS), and Other Member States): Drive policy implementation, contribute to capacity development, and promote national and regional cooperation. Developing countries and SIDS have a high influence due to their need for targeted support and capacity development. They collaborate in setting oceanographic research policies, participating actively in training and resource-sharing initiatives.

30.   **Global and Regional IOC Programmes (GOOS; IODE and its OTGA, OBIS, and ODIS) IOCAFRICA, IOCARIBE, WESTPAC, IOCINDIO):** Support the implementation of capacity development programs, strengthen regional sub-commissions, and ensure alignment with IOC goals. These programs have a moderate to high influence, working to enhance regional cooperation, coordination, and infrastructure support.

31.   **United Nations specialized agencies (e.g. WMO, FAO, CBD, etc.):** Assists financing and support capacity development initiatives. Expand coordination of similar and relevant activities of UN partners to mutualize resources and forge partnerships for collective actions.

32.   **International Organizations (IHO, POGO, ISA, etc.):** Collaborate on marine and environmental policy development, share technical resources, and contribute to global data initiatives. Their role is moderate in influence, focusing on partnerships that integrate marine conservation and sustainable use strategies.

33.   **Governmental Bodies (National and local government agencies, including regulatory authorities):** Implement local policies, enforce marine regulations, and ensure regional compliance with global standards. Governmental bodies have a high influence, critical for policy application and facilitating partnerships that integrate national interests into broader frameworks.

34.   **Research and Academic Institutions (Universities, students, researchers, and scientists):** Provide scientific expertise, conduct research, and offer training through scholarships, internships, and mentorship programs. These institutions have a moderate to high influence, supporting the advancement of marine science and fostering knowledge transfer.

35.   **Local and Indigenous Knowledge Systems:** Share traditional ecological knowledge, participate in ocean conservation, and offer local perspectives. Their influence is moderate, essential for integrating cultural knowledge into marine management and sustainability practices.

36.   **Non-Governmental Organizations (NGOs) (e.g WWF, IUCN, Foundation Tara Ocean, Plastic Odyssey, Greenpeace):** Advocate for environmental protection, conduct awareness campaigns, and build alliances for conservation. NGOs have a moderate influence, actively involved in public engagement, advocacy, and providing technical support.

37.   **Private Sector (Marine-related businesses, investors, oil and gas, mineral extraction, wind energy, ocean contractors, shipping, etc):** Invest in oceanographic initiatives, support infrastructure development, and participate in economic projects that impact marine science. They have a moderate to high influence, particularly in financial resource mobilization and economic impact.

7. Monitoring and Evaluation: Draft Framework

38.   Effective monitoring and evaluation (M&E) are critical for assessing the success of the IOC Capacity Development Strategy 2023–2030. Such a framework ensures that implementation aligns with strategic goals, achieves measurable outcomes, and adapts to emerging needs. To ensure a comprehensive assessment of progress in implementing the IOC Capacity Development Strategy, a set of Key Performance Indicators (KPIs), including their respective means of verification is proposed (Annex 1). These indicators will form the basis for evaluating progress and identifying areas that require additional attention throughout the strategy's implementation period. However, the draft requires additional review and consultation within IOC (see Table 3, Chapter 6). The draft framework will be useful for the preparation of the next Global Ocean Science Report and the further development of the IOC biennial Capacity Development Needs Assessment.

Tools and Metrics for Measuring Progress

39.   To ensure consistent tracking of outcomes, the following tools and metrics will be employed:

1. Digital Monitoring Platforms:
   a. utilization of centralized databases for tracking participation, resource allocation, and project milestones;
   b. interactive dashboards for visualizing progress against KPIs.
2. Surveys and Assessments:
   a. periodic surveys to collect feedback from stakeholders, including participants, partners, and funders;
   b. regular needs assessments to identify emerging gaps in capacity.
3. Case Studies and Impact Reports:
   a. detailed case studies highlighting successful interventions;
   b. comprehensive reports on the socio-economic and environmental impacts of capacity development initiatives.

Reporting Timeline and Template

40.   A standardized reporting process will be adopted to maintain accountability and transparency:

- Annual Updates - brief progress summaries submitted by regional and global programs.
- Bi-Annual Reports (Q3 2027, Q3 2029) - comprehensive evaluation of KPIs and identification of challenges and opportunities combined with biannual capacity development needs assessment.
- Final Report (2030) - summary of achievements, lessons learned, and recommendations for future capacity development strategies.

41.   Evaluating these indicators regularly will allow for adjustments to address emerging needs and maintain alignment with global ocean science goals. This iterative approach ensures that capacity development remains responsive, impactful, and sustainable over the long term.

Table 3: Stakeholder Interest, Influence, and Interaction Levels with the IOC Capacity Development Strategy and Implementation Plan

Stakeholder Group	Interest	Level of Influence	Interaction
Member States	High	High	Capacity Development Needs Assessment, Support of individual actions, funding of initiatives
Regional Sub-Commissions (IOCAFRICA, IOCARIBE, WESTPAC, IOCINDIO);	High	High	Cooperation and coordination, Support/implementation of individual actions.
Global Programs (GOOS, IODE (and its OTGA, OBIS, and ODIS)	Moderate to High	High	Cooperation and coordination, Support/implementation of individual actions
United Nations Specialized Agencies: (WMO, FAO, CBD, etc.):	High	High	Resource mobilization and collaborative initiatives
International Organizations: (IHO, POGO, ISA, etc):	Moderate	Moderate	Partnerships and collaboration
Government Agencies: Administrations, agencies, local authorities	Moderate to High	Moderate to High	Collaboration, coordination, and partnership, / Implementation of local policies and regulation
Research and Academic Institutions: Students, researchers, scientists	High	Moderate to High	Training, scholarships, internships, mentoring, and access to technical resources and infrastructure
Indigenous and Local Communities	Moderate	Moderate	Sharing perspectives abd knowledge, awareness, and participation
Non-Governmental Organizations (NGOs):	Moderate	Moderate	Awareness, alliances, and cooperation in environmental advocacy and conservation
Private Sector (Marine-related businesses, investors, environmental tech firms, oil and gas, mineral extraction, wind energy, ocean contractors, shipping, etc):	Moderate	Moderate to High	Financial investment in oceanographic initiatives

8. Communication and Outreach Plan

42. A focused communication plan will ensure all stakeholders are engaged effectively, enhancing transparency and facilitating collaborative efforts.

43. This communication plan will align with the broader IOC Outreach Plan and focus on timely updates, clear messaging, and awareness-building among stakeholders about ocean science advancements and the implementation of the IOC Capacity Development Strategy. It will use social media, websites, for transparent and consistent communication. The plan will also include a regional focus to address specific needs directly through regional networks and platforms. Dedicated campaigns will highlight training opportunities, scholarships, , internships and mentorships, and success stories related to this implementation plan. This will encourage broader participation and knowledge-sharing across communities. Engaging with journalists, science communicators, and influencers will amplify outreach efforts. Press releases, opinion articles, and media briefings will raise awareness of key initiatives.

> **Concrete Steps:**

- Pilot and develop a campaign for a relevant stakeholder group, for example ECOPs, and launch within IOC activities including OceanExpert, OTGA, OTGA-RTC, CD-Hub, as well as NDCs of the Ocean Decade, the CDF, and organizations like FAO, WMO, etc.

- Prepare a Press release of the official launch of the IOC Capacity Development Strategy Implementation Plan in Q3 2025

- Develop a promotional video highlighting the focus of the IOC Capacity Development Strategy, implementation and key partners and programmes.

- Prepare, issue and promote a quarterly digital bulletin or e-newsletter highlighting capacity development initiatives and upcoming training initiatives.

- Updating https://www.ioc-cd.org/ that highlights the IOC Capacity Development Strategy and its implementation plan

- Hold virtual live sessions where capacity development experts (e.g. of the GE-CD), Member State representatives, trainees and others discuss capacity development initiatives

- Further improvement and utilization of the OTGA and CD-Hub

- Produce a video series featuring testimonies from early-career researchers who benefited from capacity development programmes, shared across relevant social media platforms.

9. Conclusion

44. The successful implementation of the IOC Capacity Development Strategy 2023–2030 hinges on effective coordination, innovative collaboration, and continuous performance monitoring and improvement. Through the strategic initiatives outlined in this plan, IOC will achieve its desired outcomes while fostering innovation, efficiency, and stakeholder engagement.

45. As implementation progresses, regular assessments and refinements will be necessary to address evolving challenges and optimize results. By maintaining a proactive and agile approach based on this IP, the IOC can ensure the long-term sustainability and impact of its capacity development interventions.

Annex 1. Draft M&E Framework with KPIs for Monitoring the IOC Capacity Development Strategy

Action	Priority	Indicator	Means of verification	Comment
Action 1.1.1 Promote and assist with the establishment of consortia of higher education and research institutions at the appropriate geographic scale	Medium to High	Number of consortia of higher education assisted; Number of higher education degree programs in ocean science (BSc, MSc, PhD) supported	IOC internal survey	Regular updates and quality verification suggested
Action 1.1.2 Promote collaboration between UNESCO Chairs and IOC, and between IOC and other organisations dealing with ocean matters on human resources development	Medium	Number of Joint programs, projects, working groups, teaching collaborations	IOC internal survey, reports	define collaborative formats
Action 1.2.1 Promote and assist with the organisation of training courses, workshops and "summer schools" relevant to the IOC mandate, including training of trainers and training of technicians as well as leadership seminars for institutional managers and decision makers, in collaboration with other organisations	High	Number of individuals trained through workshops, (scholarships, and internships); Number of training events conducted	OTGA monitoring: A. Number of New Courses Developed and Delivered in the year of evaluation B. Number of Total Courses Developed and Delivered C. Course Quality D. Ressources and Infrastructure	Include feedback on training effectiveness
Action 1.2.2 Establish, or collaborate with other organisations on an internship/fellowship programme (including on-board training)	High	Number of internships or fellowships supported	Institutional reports, surveys	Specify criteria for selecting participants
Action 1.2.3 Establish, and collaborate with other organisations on a visiting lecturer programme	Medium	Number of visiting lecturers, potentially track impacts of lectures	Internal IOC surveys	Track impacts of lectures
Action 1.2.4 Promote and assist with the establishment of regional training (and research)	High	Number of regional training centers; number of Trainings	Reports by Regional Training Centers;	Include qualitative feedback from participants

Action	Priority	Indicator	Means of verification	Comment
centres relevant to the IOC mandate		offered by regional training center	Reporting by OTGA	
Action 1.2.5 Promote the development and sharing of training materials and tools	High	Number of training materials and resources distributed (online available)	OTGA Monitoring	Measure user satisfaction
Action 1.3.1 Establish a travel grant "fund"	Medium	Number of grantees; Impact by grants	Reports from grant programs, IOC platforms	Monitor long-term impacts on participants' careers
Action 1.3.2 Establish, or collaborate with other organisations on a mentoring programme	High	Number of Mentoring partnerships; impact of mentoring	OTGA monitoring, institutional reports	Clearly specify evaluation criteria
Action 1.3.3 Promote and assist with the development of IOC alumni networks	Medium	Number of Alumni; Number of Alumni Events	IOC reports, event records	Ensure sustainability of alumni engagement
Action 1.3.4 Promote funding, grant and scholarship programmes to facilitate ocean research, technical development and scientific exchange through bringing visibility of opportunities via the Ocean CD-Hub	High	Number of Offers of the CD-Hub, User numbers,	CD-Hub monitoring, IOC internal reports	Measure effectiveness in opportunity utilization
Action 1.4.1 Promote the integration of ocean science in curricula of primary and secondary schools	High	Number of national strategies/programmes for ocean literacy; Number of curricula adjusted	National reporting, IOC review	Assess content quality and relevance
Action 1.4.2 Promote careers in ocean research and ocean management	Medium	Number of Trainings for Ocean Careers; Number of Online representation of ocean careers in CD-Hub or IOC social media	CD-Hub monitoring, IOC social media metrics	Regularly assess the effectiveness of career promotion efforts
Action 1.5.1 Promote participation of women in ocean research	High	Number of women throughout IOC programs; number of dedicated (networking) events	IOC internal reports, surveys	Track impacts on career progression for women
Action 1.5.2 Promote and support "young scientist" and "women in science" awards	High	Number of awards	Official IOC announcements, event documentation	Follow-up evaluation of the impact of awards recommended
Action 2.1.1 Establish and maintain a register of infrastructure to facilitate access, and promote transfer of marine technology	Medium	Number of registered infrastructure; Quality of register	Survey	Regular user-experience reviews recommended

Action	Priority	Indicator	Means of verification	Comment
Action 2.1.2 Promote the development of regional collaboration on sustainable scientific infrastructure	High	Number of agreements or joint project for collaboration on infrastructure AND/OR Number of data-sharing platforms established or enhanced; User feedback on platforms	Survey with Regional Sub-Commissions	Evaluate partnership effectiveness periodically
Action 2.1.3 Promote the involvement of citizen science in ocean research	Medium	Number of projects/programs for citizen science supported; Number of trainings for citizen science	CD-Hub, OTGA monitoring	Document case studies showcasing success
Action 2.2.1 Promote the development and wide use of a global data and information system	High	Number of users and/or datasets of IOC global data and information systems AND/OR Number of Member States accessing updated data management systems	IOC system usage statistics, reports	Regular assessments of data quality and usability suggested
Action 2.2.2 Promote the sharing of ocean data and information by stakeholders	High	Number of users and/or datasets of IOC global data and information systems	Reporting by system groups (which??)	Consider tracking data-sharing frequency and effectiveness
Action 3.1.1 Improve staffing of secretariat of regional sub-commissions	Very High	Number of staff	Annual Regional Sub-Commissions reports	Evaluate sufficiency of staffing relative to objectives
Action 3.1.2 Reinforce budgeting of Regional Sub-Commissions	Very High	Budgets of regional sub-commissions	Annual Regional Sub-Commissions reports	Consider sources of funding and long-term stability
Action 3.2.1 Establishing an effective coordination and communication mechanism between the secretariats of the Regional Sub-Commissions and the global programmes	High	Number of IOC programmatic elements being implemented jointly by the IOC HQ secretariat and the Regional Sub-Commissions	Survey or feedback reports	Ensure continuous improvement based on feedback
Action 3.3.1 Organise and conduct biennial capacity development needs survey	Medium/high	Number of survey replies;	Biennial Capacity Development Survey Reports	Feedback from Regional Sub-Commissions and Member States (also on improvements of survey usability)
Action 3.4.1 Reinforce engagement of regional	High	Number/Quality of Jointly develop	Regional Capacity Development	Track actual implementation effectiveness

Action	Priority	Indicator	Means of verification	Comment
and sub-regional organisations in consultation process and capacity development initiatives		regional capacity development plans OR Number of joint initiatives with regional and sub-regional organizations; Quality assessment of partnerships	Plans; Regional Sub-Commissions Reports	
Action 4.1.1 Compile and compare information on existing ocean research policies, and disseminate to Member States for their use	High	Number of research policies shared	Member state feedback, Regional Sub-Commissions reports	Regular updates and policy effectiveness tracking
Action 4.1.2 Assist and enable Member States with the development of ocean research policies, making use of the results of 4.1.1	High	Number of ocean research policies supported by IOC initiatives	National reports, IOC assessments	Evaluate the effectiveness of policies implemented
Action 5.1.1 Fostering the development of ocean-related public information and communication services	Medium	Number of national departments or strategies for Ocean Literacy / public information on Oceans	Member state reports, IOC reviews	Track the depth and effectiveness of implemented programs
Action 5.2.1 Assist Member States with the development of ocean literacy programmes at the national and regional levels	Medium	Number of National and Regional Ocean Literacy Programmes (or Projects) supported	Member state reports, IOC reviews	Evaluate outreach and educational impacts regularly
Action 6.1.1 Foster partnerships to increase in-kind support opportunities	Verh	Number and scope of partnerships providing in-kind support established	Annual financial statements, IOC financial reporting	Monitor the effectiveness and sustainability of partnerships
Action 6.2.1 Encourage resource mobilisation in particular from Member States, and other donors to support the outcomes of the IOC	Very High	Amount of funding mobilized for IOC capacity development outcomes	Annual financial statements, IOC financial reporting	Ensure funding is diversified and stable