INVESTING IN OCEAN FUTURES:
Finance and Innovation for the Blue Economy

Paris / 20 - 22 November 2019
**SCHEDULE AT A GLANCE**

**DAY 1 – CONFERENCE**  
**WEDNESDAY 20 NOVEMBER**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>08:30</td>
<td><strong>Side Event: ARICE Workshop and Lunch (Invitation only)</strong></td>
<td>Le Salon 3 Consuls</td>
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<tr>
<td>13:00</td>
<td><strong>WOC Members Lunch (WOC Members only)</strong></td>
<td>Lasteyrie</td>
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<tr>
<td>12:00</td>
<td><strong>Welcome and Introductory Remarks</strong></td>
<td>Salons Lumière</td>
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<tr>
<td>13:00</td>
<td><strong>Plenary Session: Ocean Executive Forum: The Signature SOS Multi-Sector Panel of CEOs</strong></td>
<td>Salons Lumière et Montgolfier</td>
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<td>15:00</td>
<td><strong>~ Afternoon Break ~</strong></td>
<td>Les 3 Salons</td>
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<tr>
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<td><strong>Plenary Session: Investing in the Blue Economy: The Role of Institutional Investors, Banks and Investment Firms in Ocean Sustainable Development</strong></td>
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<td>17:00</td>
<td><strong>~ Late Afternoon Break ~</strong></td>
<td>Les 3 Salons</td>
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<tr>
<td>17:30</td>
<td><strong>Parallel Sessions:</strong></td>
<td>Salons Lumière et Montgolfier</td>
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<td>1. Sustainable Blue Economy Finance Principles</td>
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<td>2. U.N. Law of the Sea: New Legally Binding Instrument on Biodiversity in Areas Beyond National Jurisdiction (BBNJ) and Ocean Industries</td>
<td>Le Salon 3 Consuls</td>
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<td>3. Ocean NETs: Responsible Negative Emissions Technologies (NETs) for CO2 Sequestration at Sea</td>
<td>Bibliothèque Lasteyrie</td>
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<td>19:00</td>
<td><strong>~ SOS Cocktail Reception ~</strong></td>
<td>Les Deux Magots</td>
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**DAY 2 – CONFERENCE**  
**THURSDAY 21 NOVEMBER**

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<tr>
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<tr>
<td>08:30</td>
<td><strong>Parallel Sessions:</strong></td>
<td>Salons Lumière et Montgolfier</td>
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<tr>
<td></td>
<td>1. Ocean Funds: Focused Finance for Sustainable Seas</td>
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<td></td>
<td>2. U.N. Decade of Ocean Science and SMART Ocean-SMART Industries:</td>
<td>Salon Chaptal</td>
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<td>Advancing Ocean and Climate Data Collection from Ships and Platforms</td>
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<td>3. Blue Economy Blockchain: Linking Around the World and Across the Sectors for Ocean Sustainable Development</td>
<td>Le Salon 3 Consuls</td>
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<td>4. Social License and the Blue Economy: Roles, Responsibilities and Opportunities for Innovation</td>
<td>Bibliothèque Lasteyrie</td>
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<tr>
<td>10:00</td>
<td><strong>~ Morning Break ~</strong></td>
<td>Les 3 Salons</td>
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**Version: 9 November 2019**
Note that the SOS 2019 Draft Program is subject to changes.
Speakers marked with * are pending confirmation.
**Plenary Session:** The Navy and Maritime Industries: Exploring Synergies in Ocean Sustainable Development, Safety, Security and Stewardship  
**Salons Lumière et Montgolfier**

12:00 - 12:30  
**~ Lunch (All SOS Delegates) ~**  
Les 3 Salons

12:10 - 12:20  
**~ Special Lunch Forum ~**  
Le Salon 3 Consuls

12:30 - 15:00  
**Parallel Sessions:**
1. Investing in People: Young Ocean Professionals, Sustainable Development and Careers in the Blue Economy  
Salons Lumière et Montgolfier
2. Biofouling, Invasive Species and the GEF-UNDP-IMO GloFouling Partnerships Project: Guidance, Standards and Regulators  
Le Salon 3 Consuls
3. Ocean EIA: Solutions, Best Practices and Collaboration for Assessing Threat, Risk and Impacts to High Seas Biodiversity  
Bibliothèque Lasteyrie

15:00 - 15:30  
**~ Afternoon Break ~**  
Les 3 Salons

15:30 - 17:00  
**Plenary Session:** Women in Ocean Industries: Leadership, Sustainable Development and Maritime Security  
Salons Lumière et Montgolfier

17:30 - 19:00  
**Parallel Sessions:**
1. Impact Investment, Blended Finance and the Blue Economy  
Salons Lumière et Montgolfier
2. Seabed 2030: Accelerating Ocean Industry Leadership on Global Seafloor Mapping  
Le Salon 3 Consuls
3. Offshore Energy: Oil and Gas Industry Role in Advancing Offshore Renewables  
Bibliothèque Lasteyrie

**DAY 3 – CONFERENCE**  
**FRIDAY 22 NOVEMBER**

08:30 - 10:00  
**Plenary Session:** COPERNICUS Collaborative Vision for a Sustainable Ocean: Investment and Innovation for Ocean Data and Deliverables  
Salons Lumière et Montgolfier

10:00 - 10:15  
**IPCC Report on Ocean and Cryosphere**  
Salons Lumière et Montgolfier

10:00 - 10:30  
**~ Morning Break ~**  
Les 3 Salons

10:30 - 12:00  
**Parallel Sessions:**
1. The Digital Ocean, Big Ocean Data and the Ocean Cloud  
Salons Lumière et Montgolfier
2. Port Resiliency to Sea Level Rise and Extreme Events: Private Sector Collaboration to Advance Infrastructure Adaptation, especially for Small Islands and Developing Countries  
Salon Chaptal

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<td>2. De-Risking Investment in the Blue Economy: The Role of the Ocean/Maritime Legal and Insurance Communities</td>
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<td>3. Port Reception Facilities: Economically Viable Port Waste Disposal for Ballast Water, Hydrocarbons and other Ship-Based Waste Streams</td>
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<td>2. Blue Worlds: The ESA Initiative Towards Space Projects Support for Sustainable Ocean Activities – The Case of Autonomous Shipping</td>
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<td>3. Ocean Energy: Scaling Up Low Carbon Energy from the Sea</td>
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<td>17:30</td>
<td>Plenary Session: Ocean 2030: Blue Economy Business Projections</td>
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<td>(covering ocean transportation, energy, food, tourism and minerals)</td>
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<td>18:50</td>
<td>Closing and Acknowledgements by World Ocean Council</td>
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SUSTAINABLE OCEAN SUMMIT 2019

Opening

- Paul Holthus, Founding President and CEO, World Ocean Council
- Olivier Mousson, President, Hôtel de l’Industrie
- Frédéric Moncany de Saint-Aignan, President, French Maritime Cluster; Chair, SOS 2019
- Brune Poirson, Minister of State, attached to the Minister for the Ecological and Inclusive Transition, France
- Achim Steiner, Administrator, U.N. Development Programme (UNDP) [video]

OCEAN INVESTMENT AND INNOVATION
Plenaries, Parallels, Workshops

Investing in the Blue Economy: The Role of Institutional Investors, Banks and Investment Firms in Ocean Sustainable Development

Framing questions
- What are the experience, barriers and risks for institutional investment, banking and investment firms to work with ocean industries and sustainable development?
- Can existing investment programs targeting ocean industries (e.g. shipping, fishing, aquaculture, etc.) transition to including sustainable development and scale up investor interest across the ocean economy?
- How are ocean dimensions assessed across entire portfolios, and which ocean industry sectors or issues are most relevant to investors?

Chair/Moderator
- Jacques Demers, Chair, York University Pension Fund

Keynote Speaker
- Emma Navarro, Vice President, European Investment Bank (EIB)

Speakers/Panel
- Philippe Desfossés, CEO (ret.), French Public Service Additional Pension Scheme (ERAFP)
- Laurence Peszez, Director, Group Corporate Social Responsibility, BNP Paribas
- Michael van Niekerk, Managing Director, Peakview Strategy
- Divaldo Rezende, Global Head of Climate and Social Finance, Aenergy
- Ted Janulis, Founder, Investable Oceans

Note that the SOS 2019 Draft Program is subject to changes. Speakers marked with * are pending confirmation.
# Impact Investment, Blended Finance and the Blue Economy

**Framing questions**
- What is the role of “Impact Investing” in addressing the complex, long term, global challenges of ocean sustainable development?
- Is “Blended Finance” necessary to ensure that investment in the Blue Economy can achieve the temporal and spatial scale needed to tackle these issues?
- How can impact investors best engage and partner with the other components of the investment community to develop blended finance arrangements for ocean sustainable development?

**Chair/Moderator**
- Anthony Cox, Deputy Director of Environment, Environment Directorate, OECD

**Speakers/Panel**
- Michael Adams, President, Ocean Assets Institute
- Nicolas Pascal, Director, Blue Finance
- Jean-Paul D’Offay, Director Regional Integration, International Cooperation and Regional Integration Division, Department of Foreign Affairs, Seychelles
- Valeria Ramundo Orlando, Vice President, Blended Finance, Rare
- Laurent Develle, Attorney at Law, Of Counsel, Froriep Legal S.A.
- John Virdin, Director, Ocean and Coastal Policy Program, Nicholas Institute for Environmental Policy Solutions, Duke University

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# Ocean Funds: Focused Finance for Sustainable Seas

**Framing questions**
- Why is there a need for specialized funds on ocean topics and sectors?
- What is the experience to date in developing and implementing funds dedicated to the Blue Economy and innovation?
- What is needed for ocean funds to deliver both meaningful, scalable sustainability impact as well as competitive market returns?

**Chair/Moderator**
- Michael Adams, President, Ocean Assets Institute

**Speakers/Panel**
- Jacques Demers, Chairman and Managing Partner, AGAWA Partners
- Olivier Raybaud, Founding Partner, Blue Oceans Partners
- Simon Dent, Blue Investments Director, Althelia Funds
- Jürgen Zeitlberger, Programme Officer, Blue Natural Capital Financing Facility (BNCFF)
- Francisco Saraiva Gomes, CEO, Pontos Aqua
### Corporate Investment and Philanthropy for Ocean Sustainable Development Solutions

#### Framing questions
- Are major ocean industries or non-ocean industries investing directly in ocean sustainable development and innovation, or is this being pursued via corporate philanthropic efforts?
- What approaches are being used to identify and curate the priority issues and the candidates for investment, and how best to replicate and scale up successful corporate investment in sustainable development solutions?
- What has been the experience to date with corporate investors or philanthropic foundations engaging directly with the private sector on ocean sustainable development, biodiversity conservation, supporting sustainable fisheries, reducing illegal fishing, etc.?

#### Chair/Moderator
- Christian Lim, Co-Founder and Managing Partner, Blue Oceans Partners

#### Speakers/Panel
- Vincent Doumeizel, Vice President, Food & Sustainability, Lloyd’s Register Foundation
- Wassim Daoud, Head of Sustainability and CSR, Ponant Foundation
- Rob Johnson, Managing Director, Sea Pact
- Lea d’Auriol, Founder and Executive Director, Oceanic Global Foundation
- Gavin Allwright, Secretary, International Windship Association (IWSA)
- Frédéric Degret, Founder and President, NOAH ReGen, Blue Economy Investment Platform (BEIP)
- Charlotte Gardes, Deputy Head of the Financial Stability, Accounting Standards and Corporate Governance Unit, Ministère de l’Économie et des Finances, France
### Public Funding for the Blue Economy: Multi-Lateral Development Banks for Risk Mitigation, ODA for Ocean Sustainable Development and Major Government Initiatives

#### Framing questions
- What is the role of multi-lateral and public development banks in mitigating risk as a key enabling condition for increased private financing of the sustainable Blue Economy?
- What is the role of bilateral Official Development Assistance (ODA) and major government initiatives in advancing ocean sustainable development?
- What are the barriers or constraints to optimizing the role of public funding in support of increased private financing of the sustainable Blue Economy, and how can these be addressed?

#### Chair/Moderator
- Olivier Raybaud, Founding Partner, Blue Oceans Partners

#### Speakers/Panel
- Rémy Rioux, Directeur Général, French Development Agency (AFD)
- Gerard Alleng, Climate Change Senior Specialist, Inter-American Development Bank (IDB)
- Piera Tortora, Coordinator, Sustainable Ocean for All, OECD
- TBD, U.S. Agency for International Development (USAID)
## De-Risking Investment in the Blue Economy: The Role of the Ocean/Maritime Legal and Insurance Communities

### Framing questions
- What are the key risks, concerns and constraints associated with investing in the expanding ocean economy?
- What is the role of the ocean/maritime insurance and legal communities in relation to these ocean development and sustainability risks and issues?
- How can the ocean/maritime insurance and legal community best coordinate its efforts globally with the ocean business community and the ocean investment and innovation communities?

### Chairs/Moderators
- Liv Monica Stubholt, Partner, Selmer
- Jonathan Webb, Partner, Holman Fenwick Willan

### Speakers/Panel
- Richard Turner, Managing Director, RSA Insurance Group; President, International Union of Marine Insurance (IUMI)
- Falk Niehörster, Head of Catastrophe Research, DEVK Re; Founder, Director, Climate Risk Innovations
- Chip Cunliffe, Director, Sustainable Development, AXA XL - Ocean Risk and Resilience Action Alliance (ORRAA)
- Philip Roche, Partner, Norton Rose Fulbright
- Joshua Brien, Special Advisor, Cooley LLP
- Dazhen Zhang, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong
- Justin Mundy, Senior Adviser, Willis Towers Watson
### Sustainable Blue Economy Finance Principles

**Speakers/Panel**
- Bernhard Friess, Director Maritime Policy and the Blue Economy, European Commission
- Louise Heaps, Head of Blue Economy, WWF-UK
- Chip Cunliffe, Director, Sustainable Development, AXA XL
- Tenke Zoltani, Founder, Better Finance; Development Finance Advisor, UNDP
- Dennis Fritsch, Researcher, Responsible Investor
- Liesel van Ast, Acting Ecosystems, Biodiversity and Blue Economy Lead, UNEP Finance Initiative

**Format**
1. Welcome and Introduction by European Commission and UNEP Finance Initiative
   - How is the Blue Economy relevant to financial institutions?
   - Overview of the Sustainable Blue Economy Finance Principles
   - Responsible Investor Survey Preliminary Findings
2. Examples of Finance Sector Action on the Blue Economy
   Presentations on actions financial institutions and other key stakeholders are taking to contribute to financing the Blue Economy, illustrating ways in which the Principles can be implemented
3. Structured Table Discussions
   Exploring opportunities for financial institutions to implement the Principles
4. Table Report Back and Session Summary

**Outcome**
A briefing on key take-aways to inform the next steps of the Sustainable Blue Economy Finance Initiative. Participants will have the opportunity to join the community of practice under the Initiative.
Blue Economy Blockchain: Linking Around the World and Across the Sectors for Ocean Sustainable Development

Framing questions
- Which ocean business sectors have been the focus of efforts to apply blockchain, and what are the progress and challenges in developing blockchain in these sectors?
- Are there opportunities to develop synergies among the ocean sectors which are working to implement blockchain?
- What is the role of blockchain in the sharing of market data, scientific data, payment, investment to best facilitate ocean sustainable development, and is there a role for blockchain as a broader framework for ocean economic governance and sustainability?

Chair/Moderator
- Fred Sullivan, Founder and CEO, Venture Acceleration

Speakers/Panel
- Deanna MacDonald, Founder and CEO, BLOC
- Vjeran Ortynski, Chief Business Development Officer, CargoX
- Walter Purio, Chairman and Founder, QuayChain Pte Ltd
- Jens Paulsen, Manager, Deloitte Blockchain Institute
- Daniel Wilson, Head of Strategy and Operations, TradeLens, Maersk
## SPECIAL FORUMS

### Global Blue Economy Innovation Network: Accelerators, Incubators and Challenge Competitions for Ocean Sustainable Development

**Framing questions**

- How can the growing ocean innovation “ecosystem”, i.e. accelerators, incubators, challenge competitions, etc. best connect and collaborate to optimize addressing ocean sustainable development challenges?
- Which ocean sustainable development issues would be best served by improved communication and synergies among the ocean innovation “ecosystem”?
- How can the Ocean Business and Investment Community best engage with the innovation “ecosystem” to develop, deliver and implement solutions in support of the Blue Economy?

**Chair/Moderator**

- Paul Holthus, Founding President and CEO, World Ocean Council

**Speakers/Panel**

- Ronny Waage, Founder and Managing Director, Heron Advisory
- Joshua Berger, Founder/Board Chair, Washington Maritime Blue
- Ruben Eiras, Director General, Maritime Policy, Portugal
- Rajiv Singh, Member, Board of Directors, SeaAhead
- David Hume, Founder, Liquid Grid
- Leonardo Zangrando, Founder, Startup Wharf

**Participants**

Representatives of ocean sustainability related accelerators, incubators, challenge competitions
### Roundtable of Ocean Industry Association Leaders (ROIAL)

**Framing questions**
- How can ocean industry associations work together to advance global business leadership, collaboration and action on “Corporate Ocean Responsibility” at the scale and pace needed to address ocean challenges?
- What are the priority sustainable development challenges facing ocean industries, synergy and coordination in the Ocean Business Community?
- From among those challenges, which can be best addressed by ocean industry associations interacting?

**Chair/Moderator**
- Paul Holthus, Founding President and CEO, World Ocean Council

**Participants**
Representatives of ocean related industry and investment organizations
# PLENARY SESSIONS

## Ocean Executive Forum: The Signature SOS Multi-Sector Panel of CEOs

### Framing questions
- What is the ocean industry CEO perspective on ocean economic activity to 2030, especially in relation to ocean economy investment and innovation opportunities?
- What opportunities and risks do ocean industry CEOs think that these scenarios create for each sector, for the ocean economy and ocean business community overall, and for the ocean itself?
- How do ocean industry leaders view the Sustainable Development Goals (SDGs) in relation to projected ocean economic activity and future risks and opportunities?

### Chair/Moderator
- Paul Holthus, Founding President and CEO, World Ocean Council

### Keynote Speaker
- **Shipping**: Philippe Louis-Dreyfus, Chairman, Louis Dreyfus Armateurs

### Panel
- **Ocean Data and Technology**: Oliver Plunkett, CEO, Ocean Infinity
- **Aquaculture**: Anne-Kristine Øen, Managing Director, Salmon Group
- **Ocean Energy**: Laurent Albert, CEO, Seabased
- **Submarine Cables**: Didier Dillard, CEO, Orange Marine
- **Seabed Mining**: Greg Stemm, Managing Director, CIC Marine Minerals; President, International Marine Minerals Society
- **Cruise Tourism**: Edie Rodriguez, Americas Brand Chairwoman, Ponant Cruises
- **Fisheries**: Lori Kennedy, Co-founder, Louisbourg Seafoods
- **Classification**: Bruno Dabouis, CEO, Marine and Offshore (North America, South Europe, North Africa), Bureau Veritas
Ocean 2030: Blue Economy Business Projections
(covers ocean transportation, energy, food, tourism and minerals)

Framing questions
- What is the future of industry activity in key ocean economic sectors, and what investment and innovation opportunities will this generate?
- What are the key trends, geographies, assumptions, opportunities and constraints for each sector through to 2030, the time frame of the U.N. SDGs?
- What opportunities and risks do these scenarios create for each sector, for the ocean economy and ocean business community overall, and for the ocean itself?

Chair/Moderator
- Claire Jolly, Head, Innovation Policies for Space and Oceans, Directorate for Science, Technology and Innovation, OECD

Speakers/Panel
- Shipping: Stuart Neil, Communications Director, International Chamber of Shipping (ICS)
- Ocean Energy: Rémi Gruet, CEO, Ocean Energy Europe
- Offshore Wind Energy: Brent Wanner, International Energy Agency (IEA)
- Fisheries: Jean-Louis Meuric, Purchasing Manager, Davigel SAS; Director, Sustainable Fisheries Partnership
- Aquaculture: Melanie Siggs, Director of Strategic Engagements, Global Aquaculture Alliance (GAA)
- Cruise Tourism: Tom Boardley, Secretary General, Cruise Lines International Association (CLIA) Europe
- Seabed Mining: Tom Albanese, CIC Marine Minerals
- Country Spotlight – India: Manish Singhal, Deputy Secretary General & Head International Division, Federation of Indian Chambers of Commerce and Industry (FICCI), India
Women in Ocean Industries: Leadership, Sustainable Development and Maritime Security

Framing questions
- How well is women’s leadership in the Ocean Business Community advancing, and how does this relate specifically to ocean sustainable development and the Blue Economy?
- What are the challenges and opportunities for better advancing leadership by women in the Ocean Business Community, especially regarding sustainable development and maritime security?
- What synergies can be developed between maritime security, sustainable development and women’s leadership to improve the opportunities for investment in the Blue Economy?

Chair/Moderator
- Christine Ezcutari, Partner, Norton Rose Fulbright

Speakers/Panel
- Manoelle Lepoutre, Senior Vice President, Total
- Christine Valentin, Alumna, Daniel K Inouye Asia-Pacific Center for Security Studies (APCSS)
- Margaret Hepburn, CEO, Hepburn Bio Care
- Tenke Zoltani, Founder, Better Finance
- Florence Wagner, Director of Coast Guard Function, Operational Center, General Secretariat for the Sea
- Donna Lanzetta, CEO, Manna Fish Farms

COPERNICUS Collaborative Vision for a Sustainable Ocean: Investment and Innovation for Ocean Data and Deliverables

Framing questions
- How can EU policy makers advance the role of entrepreneurs, services and industries in developing innovation for ocean monitoring in support of the Blue Economy, such as the Copernicus program?
- How can the Digital Ocean and cloud-based solutions help support innovation for ocean monitoring and ocean sustainable development?
- What are the investment needs and opportunities for improving and expanding ocean monitoring for the Blue Economy?

Chair/Moderator
- Frédéric Moncany de Saint-Aignan, President, French Maritime Cluster

Speakers/Panel
- Pierre Bahurel, CEO, Mercator Ocean International
- Kamil Kiljanski, Head of Unit, Space Data Directorate for Space and Defence, European Commission
- Anne-France Didier, Ministère de la Transition Écologique et Solidaire (MTES), Délégation à la Mer et au Littoral-Pilote ODD14, France
- Rémi Gruet, CEO, Ocean Energy Europe
- Yanis Souami, Founder and CEO, SINAY - Marine Data Solution
- Olivier Raybaud, Founding Partner, Blue Oceans Partners
## The Navy and Maritime Industries: Exploring Synergies in Ocean Sustainable Development, Safety, Security and Stewardship

### Framing questions
- What issues in ocean sustainable development does the Navy share with the commercial ocean industries?
- What are the opportunities for developing synergies between the Navy and ocean industries in tackling these issues?
- How can the Navy and Ocean Business Community best develop and implement collaborative activities on specific areas of mutual interest?

### Chair/Moderator
- Christine Valentin, COO, World Ocean Council

### Keynote Speaker
- Admiral Christophe Prazuck, Head of the French Navy

### Speakers/Panel
- Tom Drake, Head, Ocean Battlespace and Expeditionary Access Department, Office of Naval Research (ONR)
- François Lambert, Secretary General, French Shipbuilders Association (GICAN)
- Jessica Berry, CEO, Maritime Archaeology Sea Trust (MAST); Bradley Soule, Chief Analyst, OceanMind
- Vice Admiral Anthony Dymock (ret.), Trustee, Maritime Archaeology Sea Trust (MAST)
- TBD, General Secretariat for the Sea
**SDG 14.c** Ensure the full implementation of international law, as reflected in the United Nations Convention on the Law of the Sea for States parties thereto, including, where applicable, existing regional and international regimes for the conservation and sustainable use of oceans and their resources by their parties

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**Framing questions**
- How will the legally binding BBNJ agreement affect ocean industries when it is adopted in 2020?
- What are the risks to ocean industries for not participating in the negotiations or providing input to the treaty text as the BBNJ agreement is developed by countries?
- How can and should ocean industries engage with each other and with other ocean stakeholders, including governments, as the BBNJ agreement moves to its final negotiation in early 2020?

**Chair/Moderator**
- Serge Segura, Ambassador for the Oceans, France

**Speakers/Panel**
- John Kornerup Bang, Head, Sustainability Strategy; Chief Advisor, Climate Change, Maersk
- Rena Lee, President, Intergovernmental Conference (IGC) of the BBNJ
- Francois Bailet, Senior Legal Officer, U.N. Division for Ocean Affairs and the Law of the Sea (DOALOS)
- Catherine Trinkle, Head of Innovation and Technology Policy, BASF
- Paul Holthus, Founding President and CEO, World Ocean Council
### Responsible Deep Sea Mining

#### Framing questions
- What are the opportunities but also the challenges for advancing responsible deep-sea mining, e.g. protection of environment, technology, regulatory, financing?
- What innovations are needed to ensure deep sea mining addresses these challenges?
- What role can the investment community play in advancing deep sea mining?

#### Chair/Moderator
- Francis Vallat, Founding and Honorary Chairman, French Maritime Cluster and European Network of Maritime Clusters

#### Speakers/Panel
- Francis Vallat, Deepsea Mining Group, French Maritime Cluster
- Johannes Post, Managing Director, DeepSea Mining Alliance (DSMA)
- Jean-Marc Sornin, President, ABYSSA
- Greg Stemm, Managing Director, CIC Marine Minerals; President, International Marine Minerals Society
- Henk van Muijen, Managing Director, IHC Mining

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SDG 14.2  By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

SDG 14.3  Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.

SDG 14.a  Increase scientific knowledge, develop research capacity and transfer marine technology.

Port Resiliency to Sea Level Rise and Extreme Events: Private Sector Collaboration to Advance Infrastructure Adaptation, especially for Small Islands and Developing Countries

Framing questions
- How can the ocean business and investment community best ensure that ports and essential coastal infrastructure are being adapted to ensure resiliency during extreme events, especially in small islands and developing countries?
- How can the Ocean Business Community best collaborate with other key stakeholders, e.g. multilateral/bilateral development assistance, national governments, science institutions, etc.?
- What is the best way to develop and implement a global, multi-stakeholder leadership alliance to ensure ports and coastal infrastructure worldwide are ready, resilient and able to minimize the impacts of extreme events on communities, businesses and economies?

Chair/Moderator
- Paul Holthus, Founding President and CEO, World Ocean Council

Speakers/Panel
- Jason Pratt, Vice President, Group Health, Safety and Environment, DP World
- Greg Fisk, Business Development Director, BMT
- Shimrit Perkol-Finkel, Co-Founder and CEO, ECOncrete
- Brigitte Vlaswinkel, Research Director, Oceans of Energy
- Nicolas Swetchine, Group Head, International Key Accounts and Infrastructure Markets, LafargeHolcim
- Michael Adams, President, Ocean Assets Institute
### Ocean NETs: Responsible Negative Emissions Technologies (NETs) for CO2 Sequestration at Sea

**Framing questions**
- What are the requirements of the International Climate Agreement (Paris 2015) for negative emissions technologies (NETs) to remove atmospheric CO2 to meet planetary safe limits for global temperatures?
- What is the state of information on the potential ocean-based NETs, what science is available on them, and what are the risks and benefits of Ocean NETs?
- What is needed to advance careful, science-based consideration of Ocean NETs as a potentially viable, important means to address increasing atmospheric CO2, and what are the investment opportunities associated with this?

**Chair/Moderator**
- John Ridley, Managing Director, Ocean Nourishment

**Speakers/Panel**
- Wil Burns, Founding Co-Executive Director, Forum for Climate Engineering Assessment; Professor of Research/Co-Director, Institute for Carbon Removal Law and Policy, American University
- John Munford, CEO, Marine Resource Management
- Philip Kithil, CEO, Ocean-based Climate Solutions

### Ocean Energy: Scaling Up Low Carbon Energy from the Sea

**Framing questions**
- What are the status and prospects for ocean energy: wave, tidal, current, floating solar, ocean thermal energy conversion?
- What are the barriers to scaling up ocean energy?
- What are the investment needs and opportunities for expanding and accelerating offshore wind and ocean renewable energy?

**Chair/Moderator**
- Britta Schaffmeister, CEO, Dutch Marine Energy Centre

**Speakers/Panel**
- Laurent Albert, CEO, Seabased *(wave power)*
- Jean-Christophe Allo, Commercial Director, Sabella *(tidal power)*
- Brigitte Vlaswinkel, Research Director, Oceans of Energy *(floating solar energy)*
- Rémi Gruet, CEO, Ocean Energy Europe
Offshore Energy: Oil and Gas Industry Role in Advancing Offshore Renewables

Framing questions
- How is the oil and gas industry transforming into the offshore energy industry and supporting the development of offshore renewable energy?
- How can the offshore energy industry best accelerate the transition to offshore renewable energy, e.g. through investment, technology transfer, expertise, etc.?
- What are the scenarios for a more integrated portfolio of ocean-based energy sources in the future?

Chair/Moderator
- Gunnar Herzig, Managing Director, World Forum Offshore Wind (WFO)

Speakers/Panel
- Patrik Möller, CEO, CorPower Ocean
- Guillaume Ardoise, Senior Technical Manager - Europe, Principle Power
- Dan Kyle Spearman, Manager, Offshore Wind Program, Carbon Trust
- Amélie Elkik, Founder, Blue4Sea
- Johan Sandberg, Senior Manager Business Development, Offshore Wind, Aker Solutions
**SDG 14.a**  Increase scientific knowledge, develop research capacity and transfer marine technology

### U.N. Decade of Ocean Science and SMART Ocean-SMART Industries: Advancing Ocean and Climate Data Collection from Ships and Platforms

<table>
<thead>
<tr>
<th>Framing questions</th>
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<tbody>
<tr>
<td>What is the most effective way to coordinate between ocean scientists and ocean industry operators in order to engage industry in data collection and sharing in support of the U.N. Decade of Ocean Science?</td>
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<tr>
<td>What are the investment opportunities linked to greater industry involvement in data collection and sharing, and how can these be developed?</td>
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<tr>
<td>What are the priority locations, topics and technology to engage more ships and platforms of opportunity in collecting data?</td>
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</table>

**Chair/Moderator**
- Paul Holthus, Founding President and CEO, World Ocean Council

**Speakers/Panel**
- Vladimir Ryabinin, Executive Secretary, UNESCO Intergovernmental Oceanographic Commission (IOC)
- Veronica Willmott Puig, Project Manager ARICE, International Cooperation Unit, Alfred Wegener Institute
- TBD, IFREMER
- Amos Barkai, CEO, OLSPS
Seabed 2030: Accelerating Ocean Industry Leadership on Global Seafloor Mapping

**Framing questions**
- What is Seabed 2030, how is it important to the Ocean Business Community and sustainable development, and how does it relate to the World Ocean Council’s Smart Ocean – Smart Industries Ocean Platform?
- How can ocean industry operators share existing bathymetric data to support improving seabed knowledge and mapping and/or collect and contribute crowdsourced bathymetry data to Seabed 2030?
- What are the technologies, procedures and practices for collecting new bathymetric data that can contribute to Seabed 2030?

**Chair/Moderator**
- Rob Adams, Senior Vice President, New Ventures, PGS

**Speakers/Panel**
- Paul Holthus, Founding President and CEO, World Ocean Council
- Helen Snaith, Head of Seabed 2030 Global Centre, British Oceanographic Data Centre, National Oceanography Centre, UK
- Evert Flier, Norwegian Mapping Authority Hydrographic Service; Member, Crowd-sourced Bathymetry Working Group, International Hydrographic Organization (IHO)
- David Millar, Government Accounts Director, Americas, Fugro
- Bjørn Jalving, Executive Vice President, Subsea, Kongsberg Maritime
## The Digital Ocean, Big Ocean Data and the Ocean Cloud

### Framing questions
- What are the status, trends and forecasts for the development of the Digital Ocean, Big Ocean Data and the use of Cloud Computing for ocean sustainable development?
- What are the benefits (economic, sustainability, operational oceanography, maritime security, etc.) from a Digital Ocean that produces Big Ocean Data and harnesses Cloud Computing in support of Agenda 2030, and what are the challenges to achieving these benefits?
- What are the opportunities for better industry leadership and collaboration in advancing the Digital Ocean, Big Ocean Data and Cloud Computing for the Blue Economy?

### Chair/Moderator
- Sofia Fürstenberg Stott, Innovation and Sustainability Advisor, Fürstenberg Maritime Advisory

### Speakers/Panel
- Yanis Souami, Founder and CEO, SINAY - Marine Data Solution
- Mogens Mathiesen, Senior Vice President, Head of Strategy and Partnerships, Ocean Data Platform Foundation
- Walter Kuehnlein, Chairman, Board of Directors, German Association for Marine Technology (GMT)
- Jan-Bart Calewaert, Head, EMODnet Secretariat, European Marine Observation and Data Network (EMODnet)
- Isabelle Duvaux-Béchon, Head, Member States Relations and Partnerships Office, European Space Agency (ESA)
Blue Worlds: The ESA Initiative Towards Space Projects  
Support for Sustainable Ocean Activities – The Case of Autonomous Shipping

Framing questions

• What is the European Space Agency (ESA) “Blue Worlds” initiative?
• What are the shipping/maritime world’s challenges to develop and implement automation tools for ship navigation, situational awareness and ultimately autonomous shipping?
• How can space projects, data and technology existing today improve and increase support to activities linked to autonomous shipping?
• What gaps could be covered by future systems (in earth observation, telecommunication, positioning, technology, etc.), and where could some coordinated work and planning be beneficial to make sure that the user needs are taken into consideration?

Chair/Moderator

• Isabelle Duvaux-Béchon, Head, Member States Relations and Partnerships Office, European Space Agency (ESA)

Speakers/Panel

• Stefano Ferretti, Earth Observations Directorate, ESA
• Piera di Vito, Downstream Business Applications Department, ESA
• Daniel Fischer, Directorate of Operations, ESA
• Piero Messina, Co-coordinator, Blue Worlds Initiative, ESA
• Maria-Grazia Abete, Co-coordinator, Blue Worlds Initiative, ESA
**MARINE POLLUTION/IMPACTS**

**SDG14.1**  By 2025, prevent and significantly reduce marine pollution of all kinds, including marine debris and nutrient pollution

**SDG 14.2**  By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

**SDG14.a**  Increase scientific knowledge, develop research capacity and transfer marine technology

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<tr>
<th>Port Reception Facilities: Economically Viable Port Waste Disposal for Ballast Water, Hydrocarbons and other Ship-Based Waste Streams</th>
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**Framing questions**

- What is needed to ensure that adequate, economically viable port waste reception facilities are able to handle ballast water residues, hydrocarbons and other waste streams from vessels coming to port?
- What models, examples and best practices exist for scaling up port waste reception facility development, especially in developing country port cities?
- How can port users (shipping, cruise tourism, oil and gas, fisheries, renewable energy, etc.) collaborate with each other and with the investment community (public and private) to advance industry leadership in accelerating the development of economically viable port waste reception facilities that are able to handle ballast water residues, hydrocarbons and other waste streams?

**Chair/Moderator**

- Sophie Delair, Secretary General, Euroshore

**Speakers/Panel**

- Fabienne Vallée, General Manager, President of the Board, SeaTopic
- TBD, IMO
- TBD, Association of French Ports
- Vincent Favier, CEO, Ecoslops
- David Turton, CFO and Company Director, SeaBin
- Feng Wang, Programme Officer, Life Cycle Initiative, Economy Division, U.N. Environment Programme
## FOOD SECURITY: SUSTAINABLE FISHING AND AQUACULTURE

**SDG 14.4**  By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans.

**SDG 14.6**  By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies.

### Moving Commercial Seafood to Sustainability: Innovation and Investment

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<tr>
<td>• What are the priority innovations that leadership fishing and aquaculture companies would like to see, especially regarding sustainability?</td>
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<td>• How can the linkages between the fishing, aquaculture and seafood sectors with the Blue Economy innovation community be improved and accelerated?</td>
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<td>• What investment opportunities would these innovations create?</td>
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<tr>
<th>Chairs/Moderators</th>
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<tbody>
<tr>
<td>• Donna Lanzetta, CEO, Manna Fish Farms</td>
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<tbody>
<tr>
<td>• Karl Almås, Chairman, Aquatech Cluster, Norwegian Center of Expertise</td>
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<tr>
<td>• John Goodlad, Chairman, Fisheries Innovation Scotland</td>
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<td>• John Molina, President, Pacific6</td>
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<tr>
<td>• Edouard Le Bart, Southern European Regional Director, Marine Stewardship Council (MSC)</td>
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<tr>
<td>• Katrina ole-MoiYoi, former Director of Sustainability, Victory Farms</td>
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Note that the SOS 2019 Draft Program is subject to changes. Speakers marked with * are pending confirmation.
# Ocean EIA: Solutions, Best Practices and Collaboration for Assessing Threat, Risk and Impacts to High Seas Biodiversity

## Framing questions
- What are the best practices for assessing threat and risk and undertaking environmental impact assessments (EIAs) for high seas biodiversity?
- How can these help inform and ensure that the legally binding BBNJ agreement includes practical, science-based solutions that work with industry and other stakeholders to understand and address priority impacts?
- Is there value in having an international platform or forum for the practitioners and clients of high seas EIAs to advance and improve this emerging field, in support of the BBNJ treaty?

## Chair/Moderator
- John Ridley, Managing Director, Ocean Nourishment

## Speakers/Panel
- Mikael Kamp Sørensen, Head, Ecology and Environment Department, DHI
- Greg Fisk, Business Development Director, BMT
- Patience Whitten, former NOAA Fisheries Official, EIA Specialist
- David Billett, Director, Deep Seas Environmental Solutions Ltd, UK

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# Biofouling, Invasive Species and the GEF-UNDP-IMO GloFouling Partnerships Project: Guidance, Standards and Regulators

## Framing questions
- What is the GEF-UNDP-IMO GloFouling Partnerships Project?
- How is the issue of invasive aquatic species being addressed through guidance, standards and regulators that are affecting a range of ocean industry activities?
- What are the innovation needs and investment opportunities in relation to addressing the global, multi-industry challenge of biofouling and the introduction of invasive species?

## Chair/Moderator
- Laurance Langdon, General Manager, HullWiper

## Speakers/Panel
- Lila Khodjet El Khil, Project Technical Manager, GEF-UNDP-IMO GloFouling Partnerships, International Maritime Organization (IMO)
- Theofanis Karayannis, Head of Marine Biosafety, International Maritime Organization (IMO)
- Mikael Kamp Sørensen, Head, Ecology and Environment Department, DHI
Social License and the Blue Economy: Roles, Responsibilities and Opportunities for Innovation

Framing questions
- What are the roles and responsibilities of businesses, sectors, cross-sectoral organizations and governments in relation to social license in the Blue Economy?
- How can the Ocean Business Community work together to address social license issues?
- Who should be investing in the development of innovative engagement practices between business, sectors, governments and communities (or stakeholders) to enhance the social license of the Blue Economy?

Chairs/Moderators
- Judith van Leeuwen, Environmental Policy Group, Department of Social Sciences, Wageningen University
- Michelle Voyer, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong

Panel
- Ports: David Bolduc, Executive Director, Green Marine
- Oil and Gas: Clement Lavigne, Deputy to Senior VP HSE, Exploration and Production, Total
- Seabed Mining: Tom Albanese, CIC Marine Minerals
- Shipping: Stuart Neil, Communications Director, International Chamber of Shipping (ICS)
- Aquaculture: Katrina ole-MoiYoi, former Director of Sustainability, Victory Farms
- Fishing: Lori Kennedy, Co-founder, Louisbourg Seafoods
- Offshore Wind Energy: Gunnar Herzig, Managing Director, World Forum Offshore Wind (WFO)
- Ocean Energy: Bill Staby, CEO, Resolute Marine Energy
Investing in People: Young Ocean Professionals, Sustainable Development and Careers in the Blue Economy

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<tr>
<td>- Where are the job and career opportunities for Young Ocean Professionals in the Blue Economy, i.e. are companies looking for people with an interest and experience in sustainable development?</td>
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<tr>
<td>- What educational, training and professional development opportunities are critical for addressing the growing ocean sustainable development challenges facing the Ocean Business Community?</td>
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<tr>
<td>- What are the professional development needs of the investment community regarding the Blue Economy and ocean sustainable development, and how can these be met?</td>
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<tr>
<td>- Christine Valentin, COO, World Ocean Council</td>
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<tr>
<td>- Patricia Ricard, Chairwoman, Paul Ricard Oceanography Institute; Vice-President, Ocean and Climate Platform</td>
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<tbody>
<tr>
<td>- Cleopatra Doumbia-Henry, President, World Maritime University</td>
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<tr>
<td>- Gail Scowcroft, Associate Director, Inner Space Center, University of Rhode Island</td>
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<tr>
<td>- Marc Le Menestrel, Visiting Professor, Corporate Governance and Sustainability, INSEAD Singapore</td>
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<td>- Jennifer Fox, Consultant, Aquatera</td>
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<tr>
<td>- Francois Bailet, Senior Legal Officer, U.N. Division for Ocean Affairs and the Law of the Sea (DOALOS)</td>
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<tr>
<td>- Ernest Tindo, President, African Youth Organization for the Blue Economy</td>
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