



SUMMIT REPORT

SCOPE

The first Blue Economy Business and Science Forum meeting took place in **Hamburg on 12-13 September 2016** at the [International Maritime Museum Hamburg](#). This venue was selected for its historical importance for marine and maritime industry, research and finance.

The Hamburg Summit gathered together around 200 Blue Economy stakeholders representing industry, science, clusters, public authorities, and finance sectors from 32 different countries from around the World to discuss and propose solutions on:

- how to boost the European competitiveness in marine and maritime technologies;
- how to increase collaboration between science and industrial sectors; and
- how to fully demonstrate the value of innovative technologies, scale them up and bring them to the market.

Participants have also discussed bottlenecks hindering the commercialisation of innovative blue technologies in the EU and explored the new Commission proposal on the European Innovation Council as an opportunity for Blue Economy entrepreneurs-innovators.

SUMMIT OPENING SESSION

The Summit Opening session offered high level welcome speeches from the First Major of the host city Hamburg and European Commission representatives. It was then followed by an industry keynote speech delivered by a representative of MATIS - the Icelandic government-owned independent research company active in research and development. MATIS is also aligned with the food and biotechnology industries as well as providing Iceland's leading analytical testing service for public and private authorities.

Olaf Scholtz (First Major and President of the Senate of the free and Hanseatic City of Hamburg) stressed the historical, political and economic importance of the seas. He underlined the innovation potential of maritime research and the very successful Hamburg cluster policy which aims to strengthen the SMEs. Furthermore, he called the industrial nations to decide on an opening to the sea concept to capture the great potentials resulting from digitalisation, the increase in knowledge, and the enormous abilities of modern technology. In this regard, he emphasised the role of the European Commission (as "locomotive") in bringing science, business and other stakeholders together in the Blue Economy.

João Aguiar Machado (Director-General for Maritime Affairs and Fisheries, EC) outlined three building blocks for the Blue Economy: marine knowledge, blue skills, and smart investments. Information needs to be publicly available and more effort should be made to fully understand the effects of human activities so that opportunities for economic growth for current and future generations can be seized. He stressed the importance of convincing more young people to opt for a career in the Blue Economy and to improve the image of the whole sector. Finally, he highlighted that emerging Blue Economy sometimes has very specific financing needs, and banks can be reluctant to take risks and fund new activities. The EU will need to be innovative in the funding methods too, looking beyond traditional instruments such as Horizon2020 and the structural funds.

John Bell (Director for Bioeconomy, Directorate-General for Research and Innovation, EC) emphasised the new context in which the first Blue Economy Business & Science Forum was organised – COP21 agreement, IPCC report on oceans, and added that the marine data is the new currency in the Blue Economy. In this context, he underlined the role of the Forum as a catalyst pioneer forming a systematic business and science cooperation and cross-pollination for sustainable co-creation. He has also outlined the European Commission led research and innovation drivers, such as Horizon 2020 funding including dedicated funding for SMEs, pilot on the Blue Science Cloud, the European Innovation Council, BBI-JU blue value chain, etc. He finished with saying that this Forum turns Blue enlightenment into the next blue sustainable business revolution.

INDUSTRY KEY-NOTE SPEECH - Sigrún Elsa Smáradóttir, Head of Industry Solutions and Consulting, MATIS

Ms Smáradóttir presented a very informative and visually attractive presentation on the Bioeconomy and how land-sea resources could be used in the most sustainable way possible, including different value chain players. She also emphasised the following points:

- Traditional marine industries need to embrace new technologies to create more value by fully utilising the marine resources.
- Implementation and adaption of an industrial scale is essential in the economic context.
- More focus should be put on supporting successful projects to implement their results on commercial scale.

BLUE ECONOMY BUSINESS AWARDS

The Forum also hosted the first edition of the Blue Economy Business Awards, which rewarded scientific and industrial achievements connected to the seas and oceans. The Awards were set up to showcase success stories from the EU and beyond that demonstrate how new applications from marine research can produce jobs and growth in the marine economy.

The awards ceremony was moderated by a well-known BBC presenter, Ms Louise Minchin.

Katharina Fegebank, Second Mayor and Senator for the Ministry of Science, Research and Equalities of the Free and Hanseatic City of Hamburg and João Aguiar Machado, Director-General for Maritime Affairs and Fisheries announced the winners:

- **Blue Economy Business of the Year:** European Marine Energy Centre, Mr Neil Kermode, United Kingdom
- **Woman of the Year in the Blue Economy:** SUBMARINER Network for Blue Growth, Ms Angela Schultz-Zehden, Germany
- **Rising Blue Star of the Year:** Zensor, Mr Yves Van Ingelgem, Belgium

SHOWCASE OF THE RESULTS OF THE EU INNOVATIVE BLUE ECONOMY PROJECTS, WITH PARTICULAR FOCUS ON SMES

During this session 10 EU innovative Blue Economy projects funded via FP7 and Horizon 2020 with a particular focus on SMEs were showcased. The presentations illustrated the results of the projects and suggested recommendations for the way forward.

This session also included a presentation from the Blue Growth Initiative for start-ups in Greece.

The projects selected for this session represented a variety of sectors/technologies in the Blue Economy which are illustrated in the table below.

	Project	EU FP	Sector	Country
1	ARRAINA	FP7	Aquaculture - Advanced Research Initiatives for Nutrition & Aquaculture	FR
2	CERES	H2020	Climate Change and European Marine Resources	DE
3	COLUMBUS	H2020	Knowledge - Monitoring, Managing and Transferring Marine and Maritime Knowledge for Sustainable Blue Growth	IE
4	EnviGuard	FP7	Technology - Development of a biosensor technology for environmental monitoring and disease prevention in aquaculture ensuring food safety	DE
5	KILL●SPILL	FP7	Marine Oil Spills - Integrated Biotechnological Solutions for Combating Marine Oil Spills	GR
6	MARIBE	H2020	Marine Investment for the Blue Economy (multi-use)	IE
7	NOMORFILM	H2020	Health - Novel marine biomolecules against biofilm. Application to medical devices	ES
8	PharmaSea	FP7	Innovative marine bio-discovery - Increasing Value and Flow in the Marine Biodiscovery Pipeline	BE
9	SEA-ON-A-CHIP	FP7	Technology - Real time monitoring of SEA contaminants by an autonomous Lab-on-a-chip biosensor	ES
10	TASCMAR	H2020	Cosmetics - Tools And Strategies to access to original bioactive compounds from Cultivation of MARine invertebrates and associated symbionts	FR
11	Blue Growth Initiative		Open innovation for start-ups and SMEs in blue growth	GR

1ST PANEL DISCUSSION: INNOVATION IN THE BLUE ECONOMY – HOW MARITIME INNOVATION CAN BE A DRIVER OF SUSTAINABLE BLUE GROWTH

The panel was moderated by M. King, Head of Unit at European Commission DG RTD and comprised of T. Onoufriou from the Cyprus University of Technology, J. Temido from a Portuguese micro-algae biomass SME, F. Regan from an Irish cluster and M. Visbeck the Head of marine science at Kiel university to consider what might be holding the Blue Economy back and how to move towards scaling-up. The key points outlined during the panel discussion included:

- Sustainability and the status of the seas should be taken into account - the Blue Economy needs to build on a model of sustainability, which requires continuous assessment of the seas and oceans.
- Right skills are needed (engineers, scientists, entrepreneurs) - engineering skills are in too short supply, as is entrepreneurial spirit more generally.
- We need technologies to solve the problems of the future - the ability to demonstrate the viability of new ideas in the Blue Economy is seen as hugely important.
- Networking between science and business and between clusters should be encouraged.
- It was also seen as the role of government to proactively create markets through smart regulation (innovation principle) and develop a clearer pathway for the results of research projects to business.
- National innovation and smart specialisation strategies were stressed as important.
- Regarding the EIC – during the discussion it was felt to be little need for yet more funding. Rather, smarter funding and more risk capital are needed.
- For the moment the Blue Economy is rather small, important to take all those above aspects into account for the blue growth.
- Radical innovation requires excellent science and novel technologies.

WAKE-UP SESSION – Pierre Erwes, Chairman of Biomarine Business Convention, Chairman of the Board BioMarine International Clusters Association

This session was dedicated to hear the reflections on the potential of the Blue Economy from a very active Blue Economy mover, who raised the following key points:

- There is a need to establish a common understanding of what the Blue Economy is in the whole society.
- Young generation should be involved in the discussions about the Blue Economy.
- The right qualifications and right trainings in the universities are very important.
- Let's create a blue carbon free economy. Let's be the ambassadors!
- For that we need: entrepreneurship, mobility and a bottom-up approach.
- A Blue Deal is needed – political vision under the European flag.

2ND PANEL DISCUSSION: FROM LAB TO MARKET - HOW SCIENTIFIC DISCOVERIES LEAD TO INDUSTRIAL SUCCESS

The panel was moderated by S. Gruber, Head of Unit at European Commission DG RTD and comprised of K. Gramstad Wedler from Marine Harvest, T. Thiele Founder of Global Ocean Trust, J. Hennig from Hamburgische Schiffbau-Versuchsanstalt GmbH and S. De Pietro from DP Energy.

The panel discussed the transition of the idea from the lab to the market and what key points need to be understood and addressed:

- Science holds the key for the future growth of the Blue Economy. However, for scientific discoveries to benefit business they need to lead to cheaper products and technologies.
- Interdisciplinary aspect is a key for the global industry. Cutting edge technologies should be part of the Blue Economy.
- Lack of common language – inventors and investors often do not speak the same language. How to bring them together?
- Mutual trust is important – interactions with clients of the entire supply chain should be established.
- Lack of knowledge in choosing the right financial source - every idea/project/technology is very particular and needs to be addressed in a particular way. Matching the right funding mechanism for the right project is important.
- Regulatory uncertainty adds financial risks.
- Knowledge intensive sectors and new technologies face a very high degree of risk; therefore financial facilitation is needed, especially providing the commercial risk guarantee facilitation.
- We need a dedicated large scale finance facility, maybe an Ocean Sustainability Bank. We also need to engage with stakeholders and financiers. The Green Bonds initiative was a great success; therefore we need to do the same for the Blue.
- Ocean observation is important, but not enough. We need to link it to operational use - business.
- The mistakes made on land should not be repeated in the sea. Industries should learn from each other to be more efficient and to avoid mistakes.
- IP rights are one of the obstacles – some sectors are keen to share the knowledge and discoveries, for the others – especially the technology developers – it is a key element of competitiveness.
- Blue Economy is described as: high costs, high risks, large scale and large infrastructures. Therefore we need to think big, to think about the future, to raise dedicated financial tools.

3RD PANEL DISCUSSION: UNLOCKING INNOVATION THROUGH COLLABORATION - HOW DIFFERENT SECTORS CAN WORK BETTER TOGETHER

The panel was moderated by F. Vallat, Chairman of the European Network of Maritime Clusters and comprised of S. Gerrard from Southampton Marine and Maritime Institute, Michael B. Jones from The Maritime Alliance & TMA Foundation, M. Rossi from the Maritime Technology Cluster FVG and N. Ortega from CTN Innovative Solutions. The panel discussed the ways to increase collaboration between industry, science and the blue value chain as a whole and raised the following key points:

- Spatial dimension – often clusters work inside their boundaries. EU projects promote going beyond those boundaries. The clusters work best when they cross those boundaries.
- Establishing a good cluster takes time. We have to be patient to see its added value.
- Mutual trust, good coordination and synergies are very important for clusters.
- Collaboration in the cluster has to focus on innovation efforts. Everyone in the cluster has to understand its role and the common goal.
- It is important to ensure that research done is generating added value, otherwise the cluster cannot survive.
- All the different elements of the cluster are important and the whole pipeline of those elements has to be healthy so that the cluster can function.
- Motivation and belief are crucial elements to establish a good cluster.
- Cross-cluster collaboration is also very important.
- Last but not least, new technologies should encourage clusters to work beyond the physical borders.

CLOSING PLENARY SESSION: KEY RECOMMENDATIONS AND CONCLUSIONS FROM THE SUMMIT

The Closing Plenary session was moderated by F. Leinemann, Head of Unit at European Commission DG MARE and comprised of W. Schmidt from the European Investment Bank, T. Pitta e Cunha from the Oceano Azul Foundation and N. McDonough from the European Marine Board. This session has focused on identifying the lessons learned and recommendations from this Summit.

The key lessons learned:

- Structured collaboration is a key for the success of the Blue Economy.
- The most important and challenging element is to translate research into products.
- We need a holistic approach into a Blue Economy. Maybe a retail approach?
- We need young generation!

The main barriers for innovation in the Blue Economy as suggested by panel speakers are:

- Access to finance is the main barrier for innovation and scaling-up technologies. There is no Venture Capital culture in Europe. It is very important to develop financial instruments to fill this gap.
- Inventor-investor dilemma. There is a lack of capacity to understand each other. EIB has launched the InnovFin advisory facility to guide the clients on how to structure their R&I projects in order to improve their access to finance.
- The lack of entrepreneurship culture in Europe and the usual dependency on grants.
- Regulatory uncertainty – regulatory differences among the Member States and outside world, some sectors are regulated too much, the others are in need of legislation to advance.
- Blue Economy exists only on political level – industries are very fragmented.
- The lack of realising the importance of the Blue Economy is a barrier.
- Lack of political and financial support to Blue Economy (in comparison with EU support for transport, agriculture, space, etc.).

What are the next steps for policymakers, industry and science?

- To engage to get finance. To get bankable projects.
- To always have a sustainability element in a project/technology – sustainability and blue growth should go hand-in-hand.
- To develop cross-sectorial skills. We need much broader topics to be taught at the universities.
- To develop a new sustainable vision, even more holistic – we have to fit the Blue Economy into the climate change economy. Natural capital is essential for economic capital. And Europe has to be at the forefront of this vision.
- To transfer and to deliver science to address societal challenges

What recommendations for the future Blue Economy Business and Science Forum?

- To concentrate on concrete sectors – major Blue Economy leaders.
- To involve decision makers, including at national level, more clusters and more business/industry.
- To discuss public-private partnership for the Blue Economy and possible insurance schemes.
- To have more optimism – to showcase good examples.
- More support at political level for the Blue Economy (e.g. COP 21).
- To showcase not only Blue Economy sectors, but other sectors that could be used as examples in the Blue Economy.
- Bring SMEs and starts-ups in front of big companies.