

The new blue: Built-up seascapes create new maritime relations

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Four representatives of the research programme, Mistra Co-Creating Better Blue, discuss maritime innovation in the context of a dawning new era for human presence and activities at sea

We humans are builders. The most densely populated and most intensively exploited areas are built-up landscapes, where wood, stone, concrete and steel constructions dominate. But the situation has been fundamentally different at sea for centuries and millennia. Here, human activities and presence have been almost exclusively associated with boats and ships, which, over time, have grown in size and capacity in line with our technological development.

These advances have enabled an increased human presence and activity at sea, which we often call the 'blue economy'. Although the broader definition of the 'blue economy' can include many sectors and stakeholders such as transport, fisheries, and military, these activities share a common factor: they rely exclusively on ships.

The role of offshore wind farms in the 'blue economy'

Today, in the early 2000s, we live in the dawn of a new era when the total dominance of ships is challenged by a new form of human presence and activity at sea: the rapid expansion of offshore wind farms. The transformative effects of these developments are impossible to assess with certainty, but they must not be underestimated. We are referring to a vast number of massive permanent installations, each over 300 meters high, possibly spreading across the 70% of Earth's surface covered by the sea – areas where humans have never settled.

Currently, offshore wind farms are being built in relatively shallow areas of the continental shelf within national exclusive economic zones, up to 200 nautical miles from the coast. With the introduction of floating installations, the built-up seascape can theoretically be extended to any part of the sea.

Key precursors to the developed seascape can be found both on the seabed, with subsea cables dating back to the 1850s, and at sea level, with offshore oil and gas platforms established since the 1950s. As important as these installations were at the time, they did not challenge the dominant role of ships in the blue economy, at least not in the way that offshore wind farms do today.

Offshore windfarms create a new built-up seascape

We argue firstly that offshore installations, such as wind farms, should be considered part of a built seascape, and secondly that the current expansion of the built-up seascape represents such a fundamental shift for the blue economy and the maritime sector that it is appropriate to speak of a 'new blue'.

We draw inspiration from another area, namely space, where we are experiencing a dramatic expansion of actors and the number and types of launched platforms in the 21st century. This is combined with diversified purposes for the platforms, including small, low-cost, low-orbit satellites for Earth observation and high-speed communications and crafts for private space tourism. This has been aptly called the 'new space'.

Relating to and navigating the 'new blue'

How should we relate to the 'new blue'? The most important thing is to accept the inherent uncertainties. Opportunities such as renewable energy, diverse use of infrastructure, and enhanced data acquisition, as well as challenges like competition for sea space, legal uncertainty, and potential environmental impacts, are becoming increasingly evident and are already subjects of intensive discussion and research. But it is unrealistic to say that we see all the relevant cascading effects, when we leave the old blue economy, exclusively based on temporary presence and ships, and enter the 'new blue' where permanent offshore installations are important and distinguishing features.

Navigating the 'new blue' is necessary for national policymakers to manage both positive opportunities and rapidly changing risks. For instance, during periods of heightened international tension, the data routinely collected by operators of offshore installations – both above and below the sea surface – can offer situational awareness that surpasses what dedicated military installations can provide. Such awareness will facilitate both proper de-escalation and appropriate response measures. If a military conflict breaks out, mastering naval warfare in the built-up seascape may be just as essential as urban warfare on land.

It is tempting to relate to innovation when thinking of the transformation in the "new blue". Let us do that. Innovation is commonly referred to as the new or redistributed value, outcomes, results, and impact adopted by the context, market, society, and citizens on planet Earth. We often unconsciously overlook the fact that for an innovation to be adopted by people and have an impact, we need to consciously use common language, metaphors, attractive guiding images, compelling wordings, and knowledge of relational processes.

These approaches address our human emotional and relational needs. Functional needs help us complete important tasks with the support of technology, however we often place greater emphasis on the technological and functional aspects of innovation and its processes, neglecting the relational and emotional ones.

Research on the new blue

The emotional and relational aspects of innovation are particularly relevant to consider in the ‘new blue’, as the built-up seascape challenges the established norm of human presence at sea, a norm that has been in place for centuries and millennia. In the research programme [Mistra Co-Creating Better Blue \(C2B2\)](#), our approach to innovation is to engage old and new stakeholders of the Swedish blue economy in processes “from data to knowledge to decision and actions”.

Essential to our concept are the three LivingLabs we launched in 2024. For more details about the C2B2 concept, see two previous presentations in Open Access Government ([Wehn et al., 2023](#); [Imperiale and Wehn, 2024](#)).

The dramatic ocean data and knowledge increase Emphasising data does not contradict the relational and emotional aspects of innovation. A significant element of the “new blue” is the dramatic increase in ocean data. Most of our knowledge of the 70% of our planet covered by ocean is based on data gathered by ships and satellites. This increase in data also calls for advancing our knowledge of the ocean and “the new blue”.

The ocean is still almost a data desert compared to the situation on land, especially compared to the built-up landscape. This is now changing in all areas where the built-up seascape is spreading, with massive data acquisition both above and below the sea surface.

Engaging stakeholders from different parts of society in co-creation around a comprehensive set of open and relevant data allows the creation of shared knowledge, images and stories. In these times of division and tension, C2B2 offers a positive vision of how we can govern a sustainable blue economy.

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Primary Contributor

Jessica Hjerpe Olausson
RISE Research Institute of Sweden

Additional Contributor(s)

Daniel Richardsson
RISE Research Institute of Sweden

Richard Hawkins
University of Calgary

Torsten Linders
University of Gothenburgh

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