



INSPIRATION SERIES:

SUSTAINABLE BLUE ECONOMY: DISRUPTIVE INNOVATIONS THAT WILL SAVE THE WORLD



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Richard van Hooijdonk is a popular and well-known futurist, trendwatcher and keynote speaker. His famous inspiration sessions take you into the future and introduce you to developments that will completely transform our world.

Examples are the high-profile 'Trends 2030' keynote and sector-specific keynotes on, among others, the future of education, healthcare, construction, finance, logistics, agriculture, and government.

Van Hooijdonk makes complex subjects understandable and the unimaginable plausible – with a focus on technology and innovation and peppered with a dose of humour. More than 550,000 people around the world have already attended his inspiration sessions. Van Hooijdonk has more than 1,500 articles and 60 e-books to his name, and his book 'The world of tomorrow' became a bestseller. The popular trendwatcher is also a regular guest speaker on radio and TV.

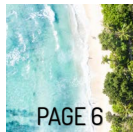
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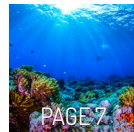
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INTRODUCTION

The Blue Economy is one of the most impactful and critically important initiatives, encompassing environmental as well as business and cultural applications.

As a result of human activity, our oceans are under tremendous strain. In fact, they are in the worst state they've ever been. Pollution, acidification, and rising temperatures all threaten the delicate balance upon which all of humanity relies. Sadly, many people seldom give this any consideration. Our oceans contain 99 per cent of available ecological space on Earth. Our atmosphere and the climate rely on the oceans, which absorb half of the greenhouse gases emitted by humans. Our oceans also provide opportunities for prosperity.

Did you know that, according to the Organisation for Economic Co-operation and Development (OECD), the worldwide ocean economy is valued at \$1.5 trillion a year and that the value of this economy is forecasted to be valued at \$3 trillion annually once we get to 2030? Given all the ways our oceans support economic activity and, therefore, human life, how do we support our oceans in a sustainable way? Well, there's the Blue Economy approach – a concept that involves the sustainable management of our oceans for current and future generations. Healthy seas are not only critical for our environment, but they also lead to economic growth, create employment opportunities, and fight poverty and inequality.



1. WHY DO OUR OCEANS MATTER?

Why do our oceans matter? For one, it's a ginormous economy. Our seas bring us minerals and energy. The sea bottom is rich in resources like copper, cobalt, zinc, silver, nickel, phosphorus, sand, and gravel. And by 2025, more than a third of oil production will come from offshore drilling. Then there's emerging sustainable energy resources like algae-based biofuels, offshore wind energy, and wave energy. Our oceans also offer critical transportation networks. Many of the products we use every day reach us by travelling by sea – in fact, an astounding 80 per cent of global trade is transported by sea.

Of course, the oceans also provide us with food – in more ways than one. Aquaculture not only provides approximately half of the fish we consume, it is also the fastest growing food industry and accounts for 350 million jobs worldwide. And then there's tourism. A little less than half of the global population lives within 100 kilometers of coastal areas and for countries like Thailand, Croatia, or the Maldives, coastal maritime tourism is the main source of income. Water sports like scuba diving, sailing, and surfing provide millions of jobs worldwide – think diving or surfing courses and competitions, but also the manufacturing of apparel and equipment. Our oceans are also home to a large variety of emerging industries. Think science communication, deep sea robotics, biotechnology and bioinformatics. Furthermore, many experts are of the opinion that we haven't even scratched the surface of what our oceans have to offer in terms of industrial enzymes and medical solutions.

2. WHAT EXACTLY IS THE BLUE ECONOMY?

The Blue Economy is a relatively new approach. It entails rethinking how we interact with our oceans. This approach – looking at our oceans as wealth-generating resources while simultaneously improving the health of our ecosystems – is pioneered by island nations like the Seychelles. By attributing greater value to our seas, people are activated to preserve them for current as well as future generations.

A sustainable Blue Economy enables humanity to obtain value from the oceans and coastal regions, while simultaneously implementing sustainable practices that enable them to endure such activities and regenerate. This requires us to manage our activities in such a way that the health of the oceans is guaranteed and economic productivity is safeguarded.



A vibrant underwater photograph of a coral reef. The scene is filled with various types of coral, including large, branching yellow and orange corals, and smaller, colorful patches of purple, pink, and red coral. Numerous small, dark fish are swimming throughout the water, and a few larger, more colorful fish are visible near the coral. Sunlight filters down from the surface, creating a bright, blue atmosphere. The text '3. A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY' is overlaid on the left side of the image in a large, white, sans-serif font, with a thin white horizontal line underlining the words 'BLUE ECONOMY'.

3. A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY

As part of the European New Green Deal, the European Commission has introduced a new approach for a sustainable Blue Economy. This includes initiatives with which sectors and industries related to the oceans and coastal areas – such as fishing, aquaculture, coastal tourism, maritime transport, port operations, and shipbuilding – can minimise their impact on the environment.

3.1 A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY

Circularity: zero waste, zero pollution

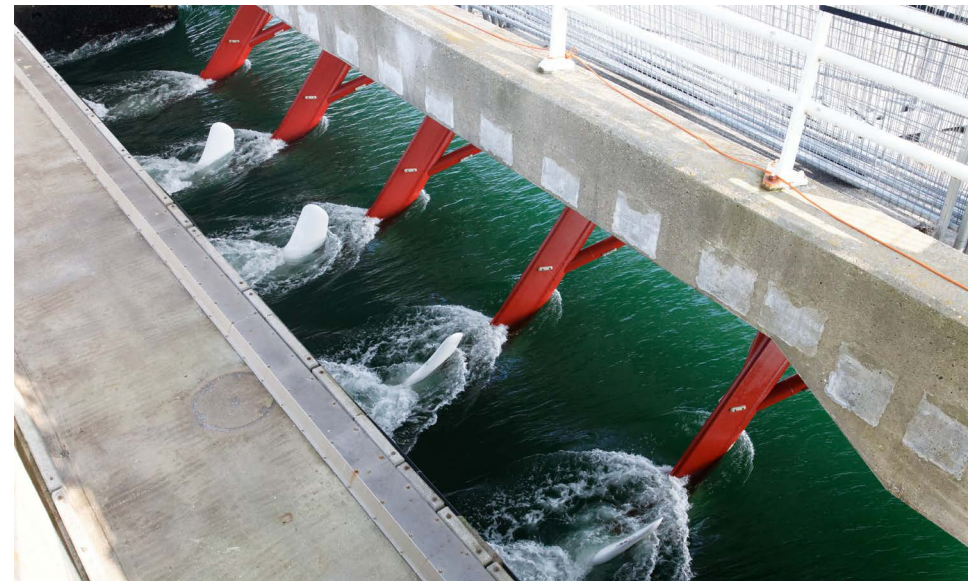
In order to achieve zero waste and zero pollution, the European Commission wants to keep materials in the economy for as long as possible. This means that, by 2030, pollution of our oceans needs to be reduced by half. This can be achieved by preventing pollution from microplastics and revising the rules for the decommissioning of offshore platforms as well as the Ship Recycling Regulation. Furthermore, damaged ecosystems will need to be restored, new marine protected areas will have to be defined, and action plans to protect ecosystems and fish stocks will have to be developed. In order to prevent litter from ending up in the oceans, and to manage and recycle ships and obsolete oil and gas platforms, circular models will need to be developed. For fishing equipment, circular design standards will need to be introduced to facilitate re-use and recyclability.



3.2 A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY

Climate neutrality

Through sustainable offshore energy generation – mainly, although not exclusively, through offshore wind energy – a quarter of Europe's long term energy needs could be met. Other potential energy sources include floating wind energy, wave energy, tidal energy, ocean thermal energy, and salinity gradient energy. Within ten years, these emerging technologies are estimated to reach their respective commercial stages. In addition, it's critical to reduce emissions from shipping and ports and make maritime transport more sustainable. The goal is to implement a set of measures to reduce or even fully eliminate emissions from maritime transport and to introduce zero-emission vessels by 2030. Other initiatives to achieve zero pollution include the optimisation of maritime traffic flows and cargo handling in and around ports, as well as the introduction of autonomous systems and smart digital solutions.



3.3 A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY

Protection of and investment in nature and biodiversity

Increasing the protection of the EU's ocean areas and developing ecological corridors will greatly contribute to climate change mitigation and resilience, as well as the reversal of biodiversity loss, while simultaneously generating significant social and financial opportunities. To achieve biodiversity conservation, it's critical to adopt regulations for the restoration and protection of fish stocks and damaged ecosystems, like mangroves, tidal marshes, and seagrasses – which accumulate carbon in their soils, sediments, and plants. To increase the resilience of marine and coastal ecosystems, it's important to dedicate resources to cleaning up polluted areas, restoring macro-algal forests and coral reefs, and even designing artificial reefs. Furthermore, blue biotechnologies also offer opportunities to produce materials, enzymes, pharmaceuticals, and food supplements.



3.4 A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY

Nature-based floods resilience and coastal systems preservation

It's estimated that, by 2100, if global CO2 emissions stay on their current course, sea levels will have risen by 1.1 metres. And due to the loss of Arctic and Antarctic ice, as well as the continuing heat uptake, sea levels will continue to rise further. This will result in an increase in extreme weather events, causing untold damage. To protect our natural and economic assets and resources, we will need to find ways to adapt to the consequences of these events, and natural and nature-based solutions will be our best bet. In coastal areas, this will encompass developing green infrastructure to preserve landscapes, coastal ecosystems and biodiversity. It also means increasing the resilience of the economies of coastal regions and the development of sustainable tourism. These activities are expected to become a new sector within the Blue Economy.



3.5 A NEW APPROACH FOR A SUSTAINABLE BLUE ECONOMY

Sustainable food production

Our current food production and consumption system is one of the largest contributors to carbon emissions, pollution, and loss of biodiversity. Through making use of our marine resources more responsibly and selecting alternative food and feed sources, the Blue Economy can contribute to reducing pressure on our natural resources. It's critical to adopt responsible fishing practices so that natural stocks can be brought back to sustainable levels. It's also important to practice sustainable aquaculture in order to protect the limits of wild captures.

Another way to contribute to sustainable food production is to focus on algae production as a viable and sustainable food, and feed material alternatives for agriculture. The production of algae in the sea can also help remove excess phosphorus, nitrogen, and carbon from water. Low-impact aquaculture and encouraging circular practices in this sector can significantly contribute to the European Green Deal and a sustainable Blue Economy. Advanced technologies and digitisation, like ecosystem modelling, catch reporting via mobile applications, and remote electronic monitoring

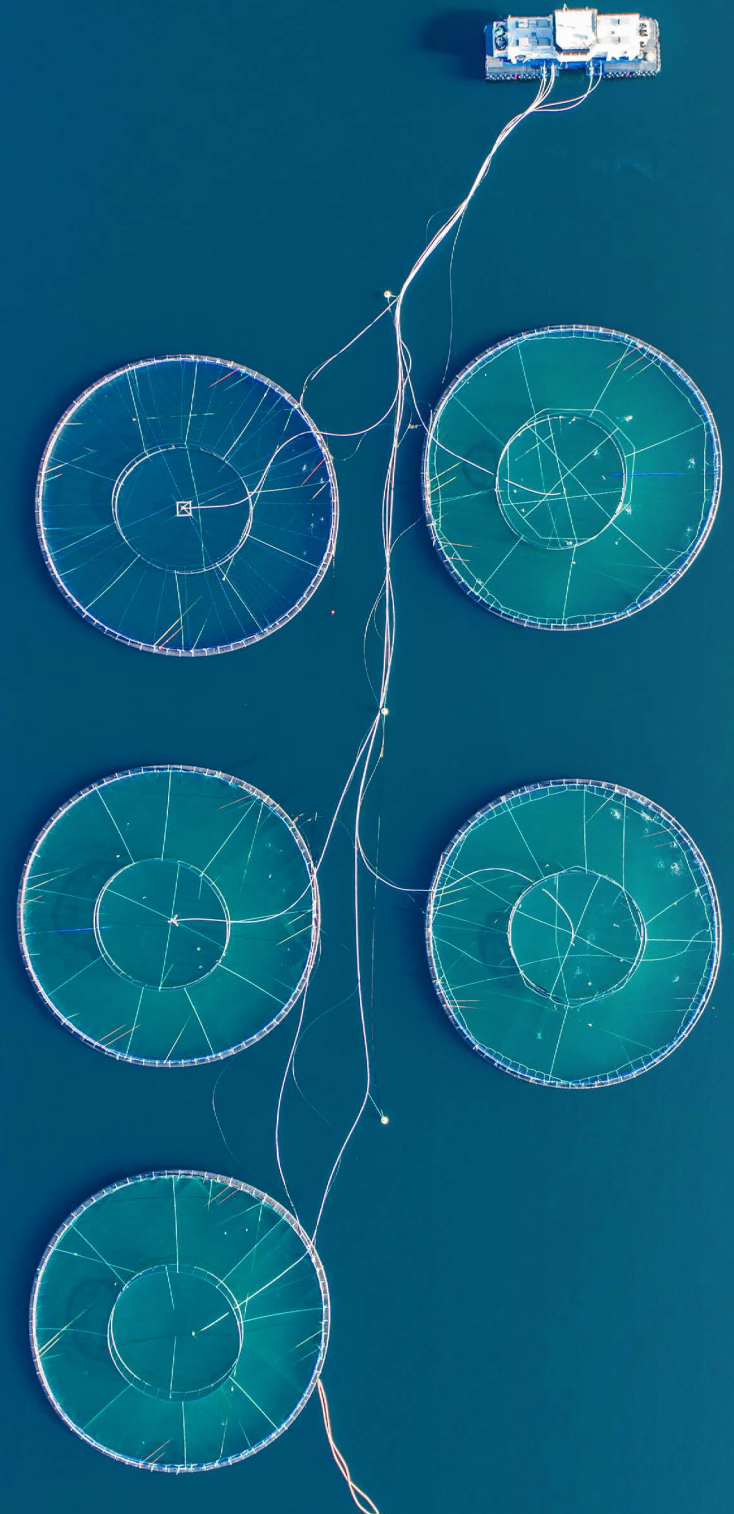
systems, will improve monitoring and control, optimise fishing operations, and enable data collection and analytics. These technologies will greatly enhance the sustainable management of marine biological resources and minimise the need for physical human presence.



4. THE EMERGENCE OF BLUE ACCELERATION

As land-based resources decline and the demand for resources continues to increase, expectations for the ocean as an engine for human development are increasing. Although it's not new for humanity to claim marine space and resources, the intensity, extent, and diversity of the aspirations we see at the moment are unparalleled. And now that climate change and a growing need for clean water and healthy fish stocks are increasingly moving towards the top of the industry's priority list, we're witnessing the emergence of the 'Blue Acceleration'. According to the new study 'The Blue Acceleration: The Trajectory of Human Expansion into the Ocean', "Everything from cruise tourism to marine aquaculture to submarine cables has grown rapidly in the past few decades." Blue Acceleration can be described as 'the race among diverse and often competing interests for ocean food, material, and space'.

From the depths of our oceans to our coastal areas, the Blue Acceleration is already showing significant ecological and social consequences. In times of rapid change, it's important to safeguard ocean sustainability and this will require transdisciplinary efforts in order to steer the incentives and activities of civil society, corporations, and governments toward responsible ocean stewardship. These new developments can also present unique opportunities.



5. DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

The Blue Economy incorporates a vast field of 'blue' technologies that can help develop our maritime resources in a sustainable way. Blue Technology is based on 'blue thinking' – the belief that renewable resources and eco-sustainability offer a myriad of possibilities for social and economic growth. Blue Tech is the maritime industry's advanced technology sector and includes a wide spectrum of technologies and industries that are focused on encouraging and prioritising sustainable ocean activities.

Our seas and oceans are fertile grounds for innovation and offer opportunities for new technologies, such as submersible (robotics) technologies, maritime operations at ever greater depths, biotechnologies, energy solutions, and so on. Achieving environmental goals is a continuous source of inspiration and innovation, and progress has been phenomenal. Blue Technologies hold great promise for established organisations as well as startups that are developing solutions that have a positive impact on our oceans. Here are some great examples of Blue Innovations.

5.1 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

Tandem Repeat uses squid protein to produce self-healing textiles



Growing the Blue Economy will require innovation: Blue Innovation and Blue Technology. And Philadelphia-based synbio innovation company Tandem Repeat is doing just that, by developing self-healing textiles out of a unique protein from the tentacles of squid. In collaboration with engineers and molecular biologists, the team has used synthetic biology and genetic sequencing tools to design the world's strongest and fastest self-healing material. The material – named Squitex – has a myriad of applications. It can be made into fibre for textiles, adhesive for various industrial and electronic applications, and coatings to minimise microfibre shedding. The end products made with Squitex are 100 per cent natural, recyclable, easily processable, and thermoplastic.

Tandem Repeat CEO Dr Gozde Senel-Ayaz explains, “We cloned the respective gene and, via fermentation, we are producing our materials – as we call it,

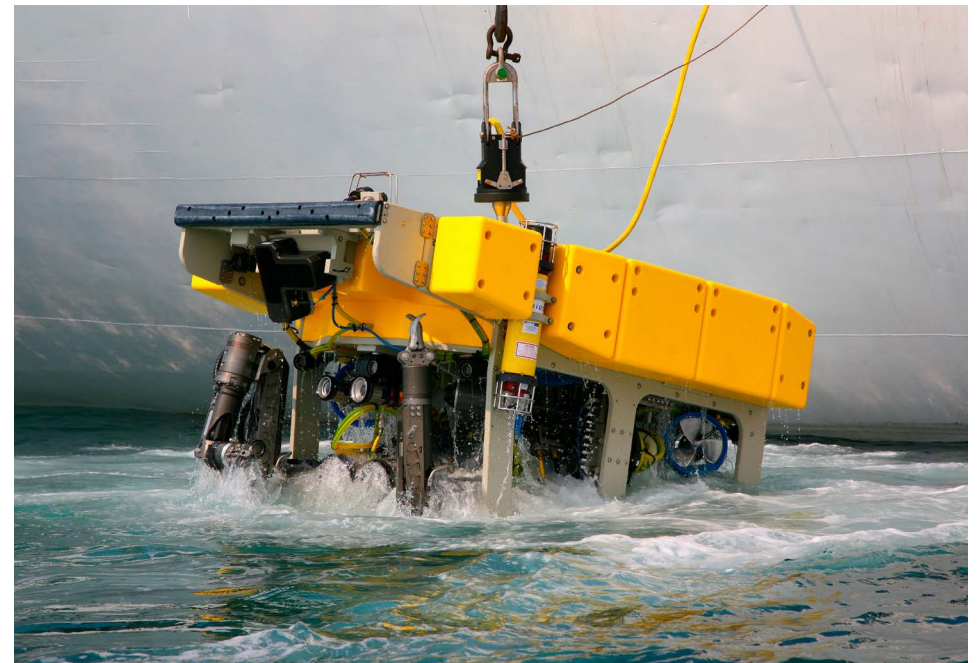
Squitex.” It's important to note that no squids are harmed in the production of Squitex, the material that self-heals with the application of pressure and water. The Tandem Repeat team is focusing on promoting Squitex as an adhesive alternative for the usual plastic-based reinforcement used in the production of clothing.

The team also wants to market Squitex as an alternative to petroleum-based synthetics in beauty products. Innovations like Squitex have the potential to significantly contribute to the reduction of plastic that ends up everywhere, not least our oceans, and to circularity and the Blue Economy. The team is also practical and realistic about their innovation. “Brands and consumers don't want to give up already-existing properties in current products. It is very important to mimic the current products and add advanced properties such as self-healing to give them a competitive edge,” says Dr Senel-Ayaz.

5.2 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

High-tech marine and atmospheric climate change research vessel

The European Investment Bank (EIB) has signed a €58 million loan for a project that aims to improve our understanding of climate change. The project encompasses identifying mitigation and adaptation methods and includes the design and construction of a new oceanographic vessel by the Hellenic Centre for Marine Research in Greece. The new vessel will be 70 metres long, 16 metres wide, and will explore continental shallow waters as well as the deep sea. To be able to carry out a wide range of scientific missions, the vessel will boast motion-compensated cranes, mobile chemical, biological, geophysical, and computer labs, as well as mechanical and electrical workshops. The ship will be staffed by approximately 30 researchers, 20 officers, various technicians, and crew. The researchers will have high-tech equipment like autonomous underwater vehicles (AUVs), remotely operated vehicles (ROVs), and multi-channel seismic reflection systems, and deep water multi-beams at their disposal to carry out their scientific missions.



5.3 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

The Windfloat Atlantic project: a first-of-its-kind floating offshore wind farm

Also with a loan from the EIB, this time to the value of €60 million, and supported by the European Commission through the Energy Demonstration Projects facility, offshore wind energy project developer Windplus SA has built an offshore floating wind farm; the first of its kind. The Windfloat Atlantic project, installed off the Portuguese north coast, is widely regarded as a major milestone in the technological advancement of the offshore wind energy industry. The facility is made up of three semi-submersible platforms anchored to the seabed at 100-metre depth, and is designed to withstand 17-metre waves and winds of more than 60 knots.



The installation comprises an array of three 8.4 MW MHI Vestas turbines – the most powerful and largest wind turbines ever installed onto a floating foundation. The rotors are 164 metres in

diameter, which is twice the length of the largest passenger plane in the world. The WindFloat Atlantic's floating platforms are 30 metres tall with a 50-metre distance between columns. The turbines have the combined capacity to produce 25MW – which is equivalent to the annual energy consumption of an astonishing 60,000 households – and save almost 1.1 million tons of CO₂. As we can see from the Windfloat Atlantic project, floating offshore wind farms are not restricted to the same water depth as fixed structures, they have large-scale feasibility and may provide a solid alternative to traditional wind farm technologies in the future.

5.4 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

The Ocean Cleanup: clearing the oceans of plastic

While in many countries there are government regulations in place that prohibit the dumping of waste in the ocean, unfortunately not all countries are compliant and some still allow ships to dump waste at sea. This is one of many reasons for the continuous expansion of the 'plastic soup'. Did you know that the Great Pacific Garbage Patch (GPGP) is a staggering three times the size of France? In January 2020, Dutch nonprofit organisation The Ocean Cleanup, after a couple of months of trial and error and a few setbacks, finally managed to bring in their first debris haul of 60 cubic meters from the garbage patch.

The plastic cleanup system consists of a 600-metre-long barrier that floats on the water and a 'skirt' that prevents garbage from escaping underneath the floating barrier. The waves, wind, and current push waste into the barrier, which moves slower than the trash via an anchor that restricts its speed. The startup aims to clear out 50 per cent of the garbage patch within five years and 90 per cent of ocean plastic pollution by 2040. This would be an astonishing achievement, as conventional cleaning methods with nets and vessels would take many hundreds of years and require large investments – especially considering that the GPGP is just one of five other ginormous garbage patches around the world's major ocean gyres.



The Ocean Cleanup

The organisation has also created the Interceptor, a contraption that intercepts garbage at river mouths, feeding it into a solar-powered marine shuttle capable of collecting up to 100,000 kg of garbage daily. The aim is to install Interceptors at the mouths of the 1,000 rivers that generate 80 per cent of the waste. Besides having it recycled, the plastic waste could also be safely disposed of by feeding it to giant maggot-like waxworms that can digest this plastic. These waxworms live on the wax in beehives.

5.5 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

Innovative Aquatraz salmon cage concept for sustainable aquaculture

Aquaculture is one of the world's fastest growing food production methods, as well as the fastest growing sector in the livestock industry. The latest group of innovations in agritech could very well come from our oceans as something we might refer to as 'aquatech'. The importance of aquatech in aquaculture has sparked a myriad of innovation initiatives and investment opportunities. The ambitious levels of growth envisioned by, for instance, the Norwegian government – quintupling marine production by 2050 – can however only be achieved by finding solutions for sustainability challenges like fish escape and sea lice.



Photo: Steinar Johansen/MNH, seafarmingsystems.com

A company called SeaFarming Systems specialises in tackling these challenges with its sustainable fish farming solutions and groundbreaking tank designs. The company's mission is to develop fish farming systems that contribute to increasing the world's sustainable food production while caring for the oceans' biodiversity. SeaFarming Systems' semi-closed Aquatraz fish cage protects against salmon lice, prevents escape, and provides the fish with the right aquatic environment, which leads to increased production.

The name of the cage was inspired by the high-security prison Alcatraz, on Alcatraz Island in the San Francisco Bay, from which no prisoner has been able to escape and live to tell the tale. The design of the cage, as well as the use of water current generators inside it, pull deeper, oxygen-rich water into the cage, increasing the water exchange rate. This way, the salmon get fresher water than if the water passively passes through the cage. The deep-water supply also ensures more stable water temperatures, keeps the fish healthy and growing, and exercises them as they continuously swim against the current.

5.6 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

Farming insects for fish feed using waste food

The French-Tunisian company nextProtein uses food waste to mass-produce insect protein to feed farmed fish, instead of the usual fishmeal. The production of fishmeal, which is made from the bycatch of corporate fisheries, can exacerbate the collapse of local fisheries and lead to the depletion of ecosystems. And as the world's demand for farmed fish increases at an astounding 8 per cent per annum, this innovation is anticipated to play a critical part in the reduction of aquaculture's impact on our oceans.

For fish feed production, nextProtein uses vertical farming, which requires very little space, water, and energy. Using EU-approved organic waste to raise black soldier fly larvae for animal feedstocks, nextProtein will first target the aquaculture industry. The company selected the black soldier fly for its growth rate, its high-yield quality, and because the flies can easily be processed into oil and powder. Because the flies have a voracious appetite, they also create valuable byproducts like fertiliser. Their nutritional value for fish and fowl is outstanding and, should the black soldier flies escape the farm, there's no threat, unlike with locusts, for instance.



According to Syrine Chaalala, co-founder of nextProtein and former UN Food and Agriculture Organisation emergency officer, the company's goal is to produce 100,000 tonnes of insect protein annually by 2025. This represents approximately 10 per cent of the insect meal market. "Because we wanted to have maximum impact, we wanted to provide solutions to other problems, namely food waste and land scarcity. Here, we can convert 20 kilos of food waste into 1 kilo of product," Chaalala says. "Insect protein provides solutions to major societal problems: a growing population with a higher demand for fish and meat, and a degrading environment."

5.7 DISRUPTIVE INNOVATIONS IN THE BLUE TECHNOLOGY SECTOR

Robotic fish ensure more sustainable seafood production

Aquaai, a marine robotics company that builds specialised fish-like Autonomous Underwater Vehicles (AUVs), was founded in 2014 by Liane Thompson and her husband Simeon Pieterkosky, who has a robotics and climate change background. After his daughter heard about the ocean crisis at school, Pieterkosky promised her that he would try and save the seas. The husband-and-wife team decided to focus on creating robotic fish to monitor water quality at aquaculture farms, as well as locate subsurface ocean plastic.

The biomimetic robotic fish developed by Aquaai are 3D printed using selective laser sintering (SLS), and can be deployed to monitor underwater industries like aquaculture fisheries. Because of their size and the fish-like way in which they move,

the fish can get very near to the sources they need to monitor. They continuously swim alongside and keep an eye on real fish stocks, which leads to less disease and death and results in increased yield.

The robotic fish collect and deliver real-time visual and environmental data, such as water quality, temperature, pH, and dissolved oxygen, but also images and other footage. All this data is then sent back to an AI-powered online dashboard which is accessible by multiple industries. The robo-fish can also be used to pinpoint sources of pollution, monitor waterways after storms and floods, and locate subsurface ocean plastic. As the little machines are autonomous and continuously in the water, their operating cost is significantly lower than manned systems.



twitter.com/aquaaiCorp

Liane Thompson says, "We have to make future decisions based on information. Our system is designed for the 21st century of climate issues, to reduce the expense that goes into collecting and tracking visual and environmental data from waterways. Aquaai offers an affordable risk management tool for players in the blue economy, such as reinsurance, aquaculture, cities, ports, rivers, dams, first responders in flood disasters, ocean and climate research, conservation and illegal fishing monitors."

6. INTERESTING FACTS AND FIGURES

The global population will have reached almost 10 billion by the year 2050. All of these people will eat over 500 billion kilograms of meat. This is 2 billion more people than today, consuming 177 billion more kilograms of meat than we currently consume. This will be near-impossible to accomplish. Land-based food production is already complicated and will become increasingly challenging as a result of freshwater and land scarcity, declining yield rates, escalating emissions, and environmental impact. By 2050, as an alternative, the ocean could sustainably provide 80 to 103 billion kilograms of food. This is a 36 to 74 per cent increase compared to the current yield of 59 billion kilograms.



By **2030**, the Blue Economy could outperform the growth of the global economy as a whole

(Source: 2020 European Union report/Commonwealth/OECD)



Aquaculture is the fastest growing food sector, providing **50%** of fish for human consumption

(Source: 2020 European Union report/Commonwealth/OECD)



By 2050, the ocean could sustainably provide **80 to 103** billion kg of food

(Source: 2020 European Union report/Commonwealth/OECD)



Fishing, aquaculture, and marine and seaside tourism employ over **350** million people worldwide

(Source: 2020 European Union report/Commonwealth/OECD)

Here's some more interesting statistics about the Blue Economy:

- The Blue Economy employs 5 million people in Europe. Fishing, aquaculture, and marine and seaside tourism employ over 350 million people worldwide.

Source: 2020 European Union report.

- Fish accounts for about 15.7 per cent of the global consumption of animal protein. Currently half of this is contributed by aquaculture, but by 2030 this is expected to have increased to 65 per cent.

Source: Food and Agricultural Organisation

- Aquaculture is the fastest growing food sector and provides about 50 per cent of fish for human consumption.

Source: Commonwealth

- Offshore wind power could meet 14 per cent of the demand for electricity in the European Union by 2030.

Source: Énergies de la mer

- Eastern African economies earn well over \$10 billion each year from the Blue Economy.

Source: United Nations Economic Commission for Africa

- By 2025 it is estimated that 34 per cent of crude oil production will come from offshore fields.

Source: Commonwealth

Ocean panel recommendations



Restored biodiversity and habitats

Source: The Ocean Panel



A **40**-fold increase in ocean renewable energy

Source: The Ocean Panel



6 times more sustainable seafood

Source: The Ocean Panel



A **20%** reduction in emissions

Source: The Ocean Panel



12 million new jobs

Source: The Ocean Panel



\$15.5 trillion in net benefits from investments

Source: The Ocean Panel

Here's some more interesting statistics about the Blue Economy:

- Approximately 30 per cent of human-made CO₂ is absorbed by our oceans, which fundamentally alters the seawater's chemistry and can destabilise ecologically critical ecosystems like coral reefs.
- By 2030, the Blue Economy could outperform the growth of the global economy as a whole, both in terms of value added and employment.

Source: United Nations

Source: OECD

- Although our oceans are of critical importance to our planet, we are attacking them with overfishing, pollution, and global warming. If we continue on this trajectory, chances are that by 2100 nearly 50 per cent of all life in our oceans will have disappeared.

Source: Paul Buchwitz, DWS Group

- The Ocean Panel set out recommendations for achieving key transformations across ocean wealth, health, equality, knowledge, and finance. By 2050, these actions could result in restored biodiversity and habitats, a 40-fold increase in ocean renewable energy, six times more sustainable seafood, a 20 per cent reduction in emissions, 12 million new jobs, and \$15.5 trillion in net benefits from investments.

Source: The Ocean Panel

In closing

It's clear that, beyond social and economic reasons, there are many other reasons to make caring for and investing in our oceans a top priority. Environmental challenges like plastic pollution and climate change threaten all the services, jobs, and foods that our oceans provide and that we have taken for granted for far too long. Through the Blue Economy, we can develop projects, policies, frameworks, initiatives, and collaborations, and rethink how to best sustain and preserve our oceans for generations to come.

The global importance of a healthy ocean ecosystem cannot be overstated, and we all need to take urgent action to restore and protect it. The Blue Economy has the potential to become one of the most impactful and critically important initiatives, encompassing environmental as well as business and cultural applications. The Blue Economy is set to become a new way of thinking, acting and designing a healthier, better future for our future generations and our planet.



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This e-book is also available in Dutch.

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