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**THE ROLE OF VESSEL  
MONITORING SYSTEMS  
(VMS) IN MITIGATING  
ILLEGAL, UNREPORTED  
AND UNREGULATED (IUU)  
FISHING**

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Towards a  
SUSTAINABLE **BLUE**  
**ECONOMY**

20 - 22 March, 2022  
Hilton Green Plaza Hotel

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## INTRODUCTION

The concept of “blue economy ” was firstly revealed on the Rio+20 United Nations Conference on Sustainable Development, held in Rio de Janeiro in June 2012. This convention addressed key themes: the in addition improvement and refinement of the Institutional Framework for Sustainable Development and the development of the “green economy” concept. The final recommendations of the assembly considered poverty eradication as a key objective and encouraged the developing and developed countries to promote sustainable development initiatives that eradicate poverty and protect the environment.



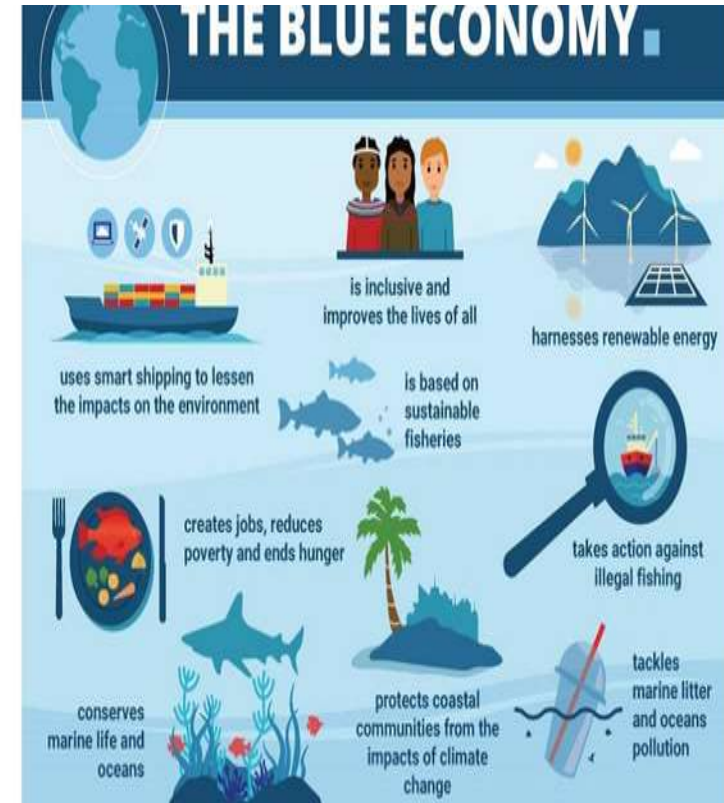
## INTRODUCTION

(Lee, K.-H, et al, 2020) studied the relevancy of the United Nations Sustainable Development Goals (SDGs), the research reviewed the number of published research concerning the blue economy and the 17 sustainable development goals, according to the research results the BE is highly linked to SDGs 14–17, As the blue economy deals mainly with the optimization use of the mineral resources and aquatic resources, consequently the SDG 14 Life Below Water, SDG 15 Life On Land and SDG 12 Responsible Consumption & Production were highly linked to the blue economy concept.



## BACKGROUND

From an economic perspective, "Blue Economy" is meant to boost economic growth and create using sustainable procedures especially on the marine industry including construction, transportation, mineral resources development, ship building, communication cable laying, pharmaceutical enterprises, equipment deployment, sustainable energy from waves, currents, seaside leisure tourism, and fisheries and aquaculture, in this respect the blue economy supports the progress towards 'low carbon' economies that relies on the Blue Carbon to realize their sustainable development goals





## Blue Economy Strategy

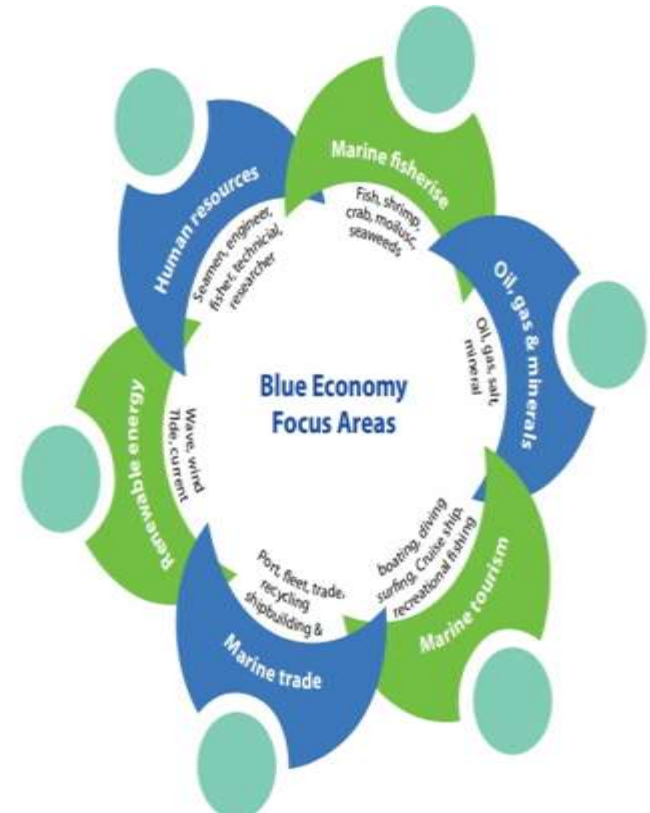
The National Oceanic and Atmospheric Administration NOAA of the United States released the country Blue Economy Strategic Plan for 2021-2025, that provides the guideline to promote the American Blue Economy and to improve the global maritime economy. The Strategic Plan was based on five main pillars that the NOAA will rely on in achieving the strategic objectives which includes the development of the following sectors: marine transportation, ocean exploration, seafood competitiveness, tourism and recreation, and coastal resilience.

### NOAA Blue Economy Strategic Plan 2021—2025



## Bangladesh Blue Economy Strategic Plan(8FYP) (2020–2025)

- Achieve economic growth and earn foreign currency by exporting fish and fisheries products.
- Manage resources including manpower development for ensuring optimum productivity, sustainability of production and conservation of fisheries resources.
- Development of tractability system to identify the sources of contaminants/banned antibiotics and other chemicals used for fish farming and fish processing times so as to take lawful and corrective measures to improve/ratify them
- Introduction of adaptive aquaculture technologies and fisheries management system for the poor fish farmers/fishers of coastal region through training and farm demonstration



## Blue Economy Technologies

The Internet of Things (IoT) implementation in aquaculture includes integrating sensor and internet technology in combination with a user-friendly interaction interface smartphone application, desktop application, and web services to provide real-time monitoring of fish ponds; system database contributes significantly to reducing the risk of losses and improving efficiency.





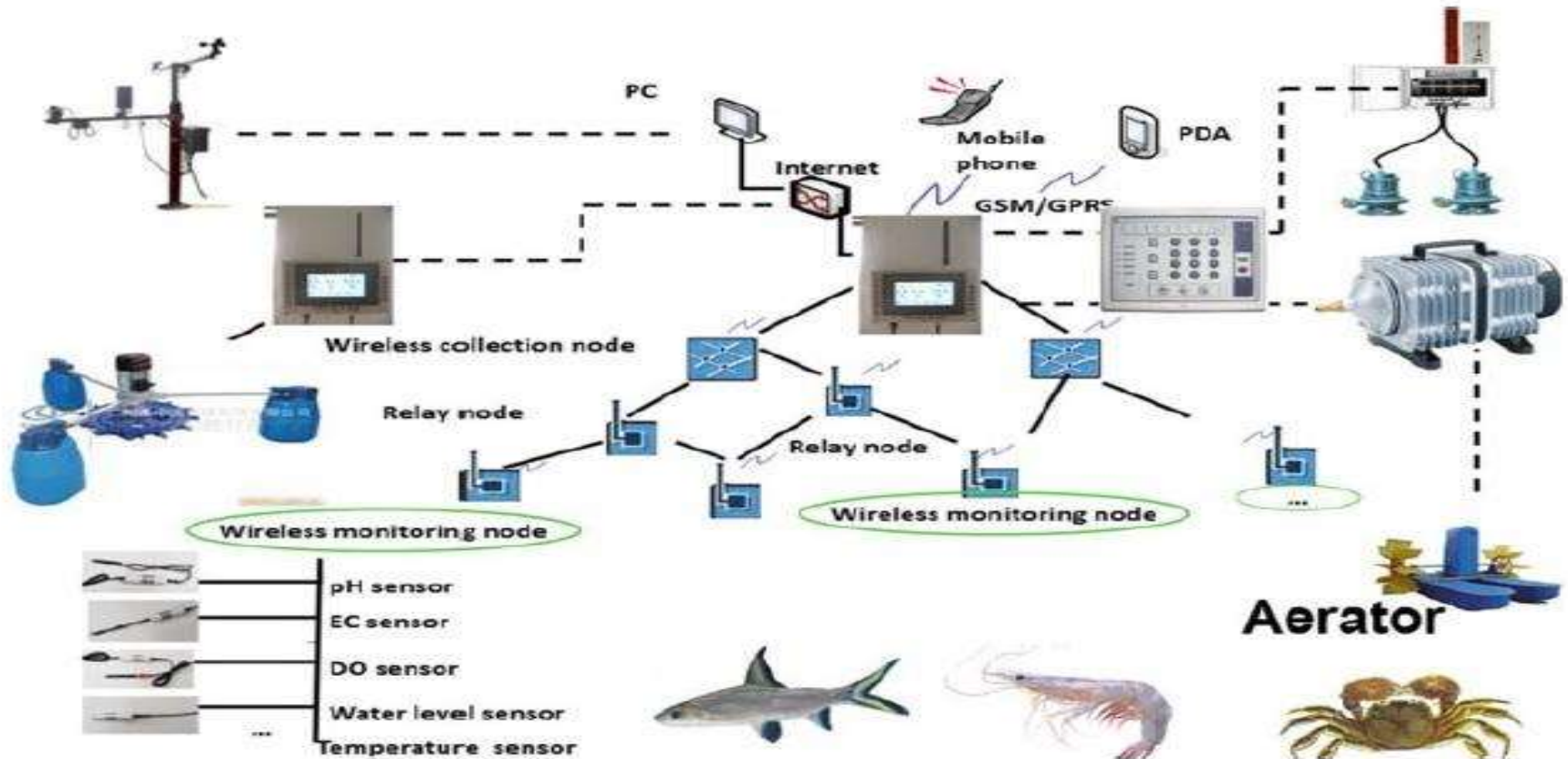
## Blue Economy Technologies

Block chain is a novel way to store, validate, authorize and move digital transaction. Think of a database that keeps a list of records. The record, called “block”, is updated once a new version of the same record is created thereby forming a chain of blocks, hence the name.

the Norwegian Seafood Trust — a national seafood tracking network enabled by multinational technology giant IBM. Launched by the Norwegian Seafood Association used IBM block chain technology to create a permanent digitized record of each transaction as products move through the supply chain.



## Blue Economy Technologies



## **SATELLITE-BASED VESSEL MONITORING SYSTEM (VMS)**

Vessel Monitoring System (VMS) could be defined as the systems used in monitoring commercial fishing within the country Marine territory, in this respect this technology is very useful for the environmental and fisheries management authorities to track and monitor fishing vessel activity

The Vessel Monitoring System (VMS) consists of a tracking unit on a vessel, a Mobile Transceiver Unit (MTC), the transmission medium. In the BHSFU's VMS, MTU's with built in global positioning system (GPS) are fitted to each vessel and regularly transmit information on vessel position, course and speed through an Inmarsat communications satellite to land earth station. This information is sent by secure internet connection to a database at the Fisheries Monitoring Center (FMC) Officers at the FMC view vessel locations using software provided by our service providers.



## SATELLITE-BASED VESSEL MONITORING SYSTEM (VMS)





**SATELLITE-BASED VESSEL MONITORING SYSTEM (VMS) DEPLOYMENT**

Country	Application
<b>European Union (EU)</b>	The European mission Regulation (EC) No. 2244/2003 laying down detailed provisions regarding satellite-based Vessel Monitoring Systems ("Regulation 2244/2003"), from 1 January 2005, all fishing vessels exceeding 15 meters length overall, should be subject to a satellite based Vessel Monitoring System (VMS).
<b>United Kingdom</b>	Legislation is due to come into force which will make it a legal requirement for all vessels under 12 metres in length to have an inshore vessel monitoring system (I-VMS) installed and transmitting data to the MMO when they are at sea in English waters.
<b>Indonesia</b>	Since 2003, a Vessel Monitoring System (VMS) technology for all fishing vessels which operated in the Indonesian regulatory area with a capacity above 100 gross tonnages

**SATELLITE-BASED VESSEL MONITORING SYSTEM (VMS) DEPLOYMENT**

<b>Country</b>	<b>Application</b>
<b>Morocco</b>	Morocco launched a fully operated fisheries monitoring center in 2013 to track fishing vessel movement within the territorial water and installed 2250 VMS terminals on board of the moroccan fishing vessels .
<b>Tunisia</b>	fishing vessels above 15 meters in length are required by law to have VMS tracking system on board
<b>Oman</b>	Oman has a vessel monitoring system for fishing since 2000, all costal fishing vessel $14 \leq 24$ meters

## Conclusion

The blue economy is meant to boost economic growth using sustainable procedures especially ,on the marine industry including construction, transportation, mineral resources development, ship building, communication cable laying, pharmaceutical enterprises, equipment deployment, sustainable energy from waves, seaside leisure tourism, and fisheries and aquaculture.

One of the main challenges facing the blue economy is the adoption of new technology that serves the blue economy, in order to regulate, and control fishing, to maintain food security and nutrition, to increase the proportion of renewable energy in the world's energy supply.



## Conclusion

Given the fact the International Maritime Organization (IMO) doesn't require the small fishing vessel 15 meter length and over to install a tracing system on board of vessels , many countries enforced the fishing vessels to install a vessel monitoring system (VMS) to operate in the country territorial water.

VMS provides remote monitoring of fishing vessel positions in relation to regulatory areas, maritime boundary lines, and other position-critical enforcement schemes. As such, they significantly reduce the resources (cutter and aircraft) required to provide at-sea monitoring of these types of regulatory regimes.





Thank YOU



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