



CoE MARBLE

Centre of Excellence in Maritime Robotics
and Technologies for Sustainable Blue Economy

- main **goal** - create a new “Centre of Excellence in Maritime Robotics and Technologies for Sustainable Blue Economy” (CoE MARBLE) that will engage Croatia in a path of sustainable innovative growth in blue economy
- strategic **vision** - put Croatia on the map of R&I excellence by becoming a European lighthouse and a role model in the field of maritime robotics and technologies
- **partnership** with Norwegian University of Science and Technology (NTNU) and National Research Council (CNR, Italy)



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University of Zagreb Faculty of Electrical Engineering and Computing (UNIZG-FER) is leading a **consortium** comprising of relevant quadruple helix actors of the Croatian blue economy ecosystem:

- **Ruđer Bošković Institute (RBI)** as representative of science end-users;
- **Maritime Innovation Cluster (MARINN)**, a cluster of maritime industry stakeholders;
- **DIH Agrifood Croatia (AFC)**, a hub of aquaculture stakeholders and end-users;
- **Croatian Ministry of Science and Education (MZO)**, a representative of policy makers, and

and leading partners

- **Norges teknisk-naturvitenskapelige universitet (NTNU)**, Norway
- **Consiglio Nazionale delle Ricerche (CNR)**, Italy



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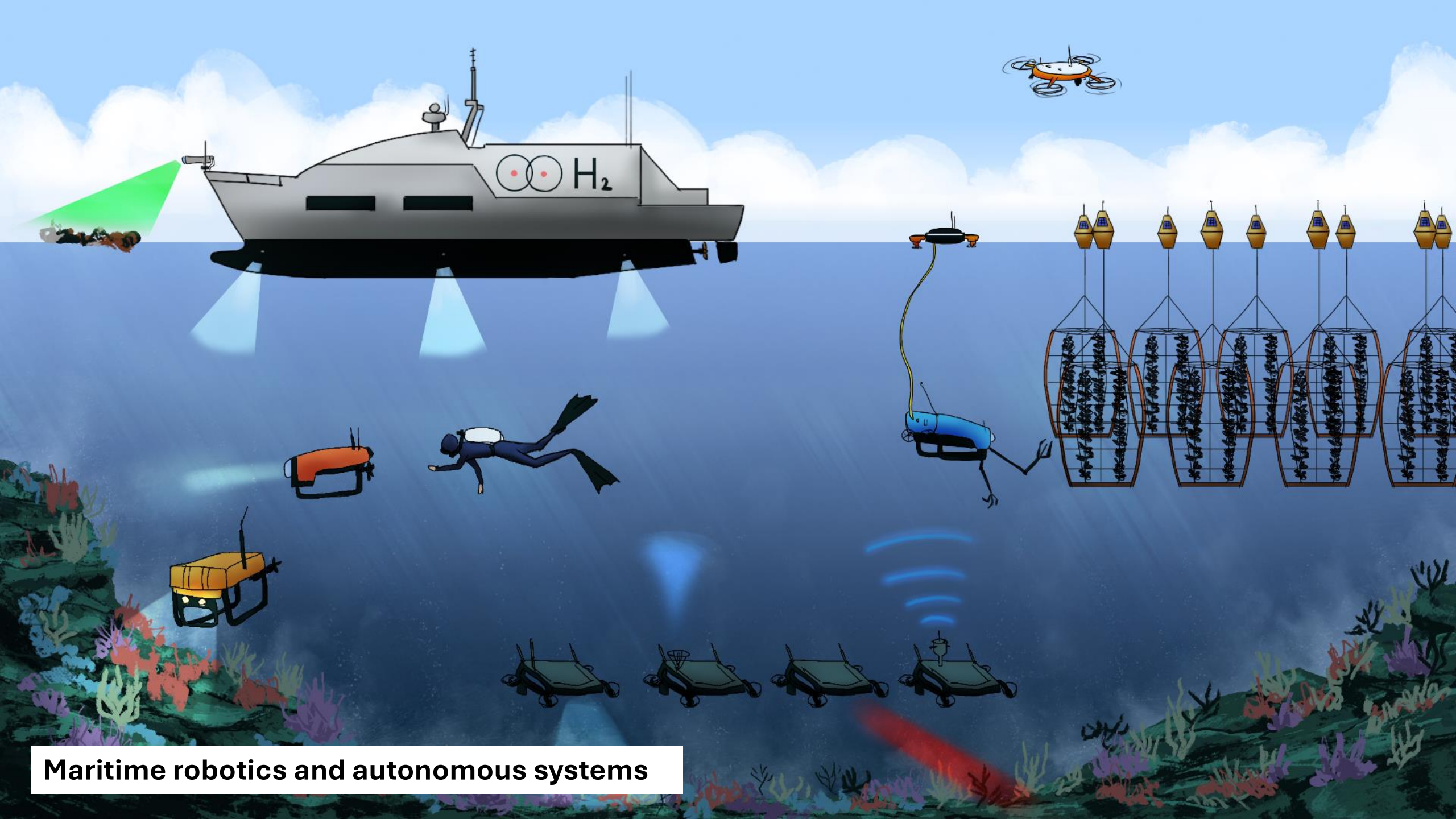
Research areas

Four key research areas identified as essential enablers with the highest impact on the blue economy sectors aligned with the Smart Specialization Strategy of Croatia

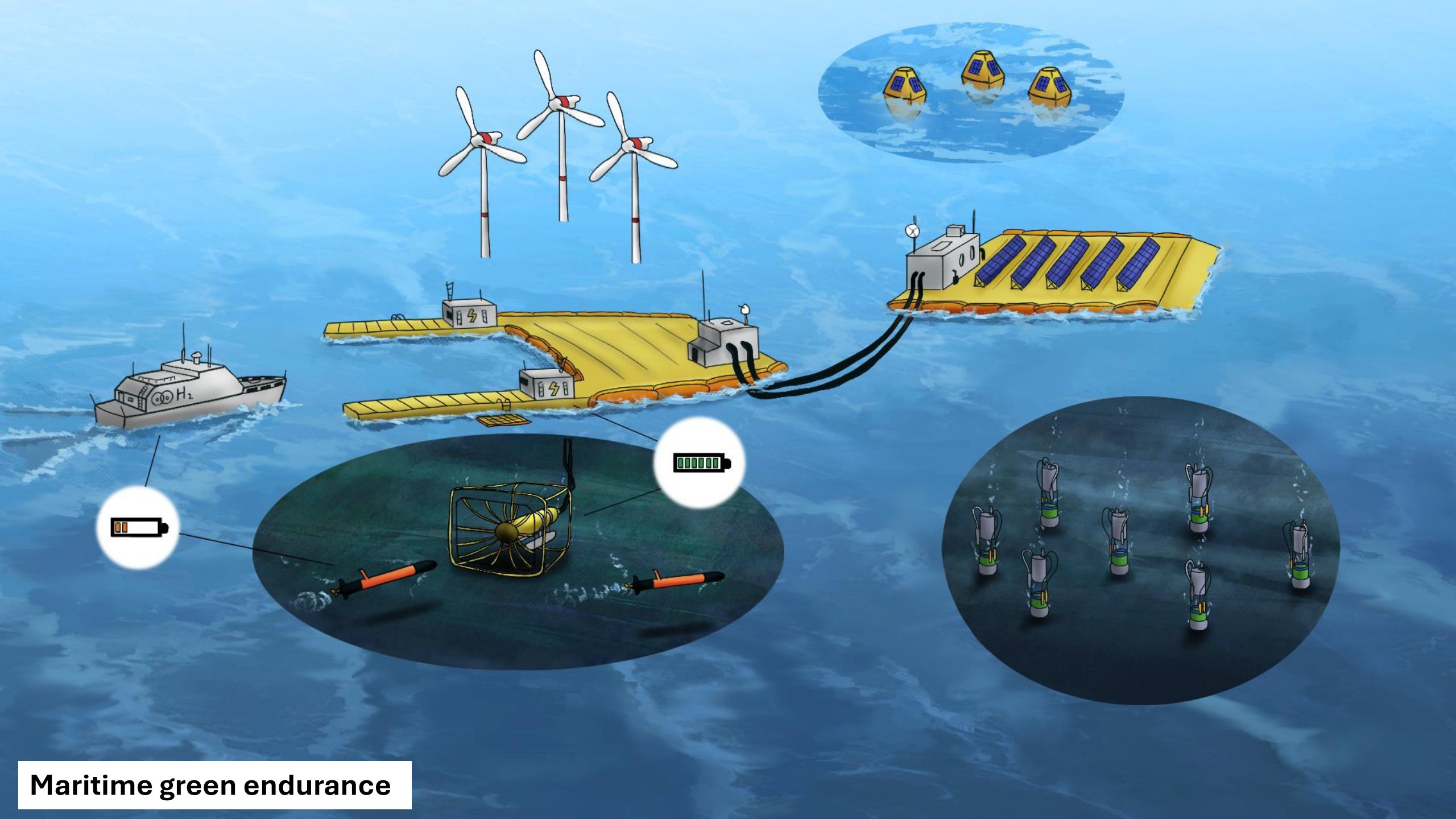


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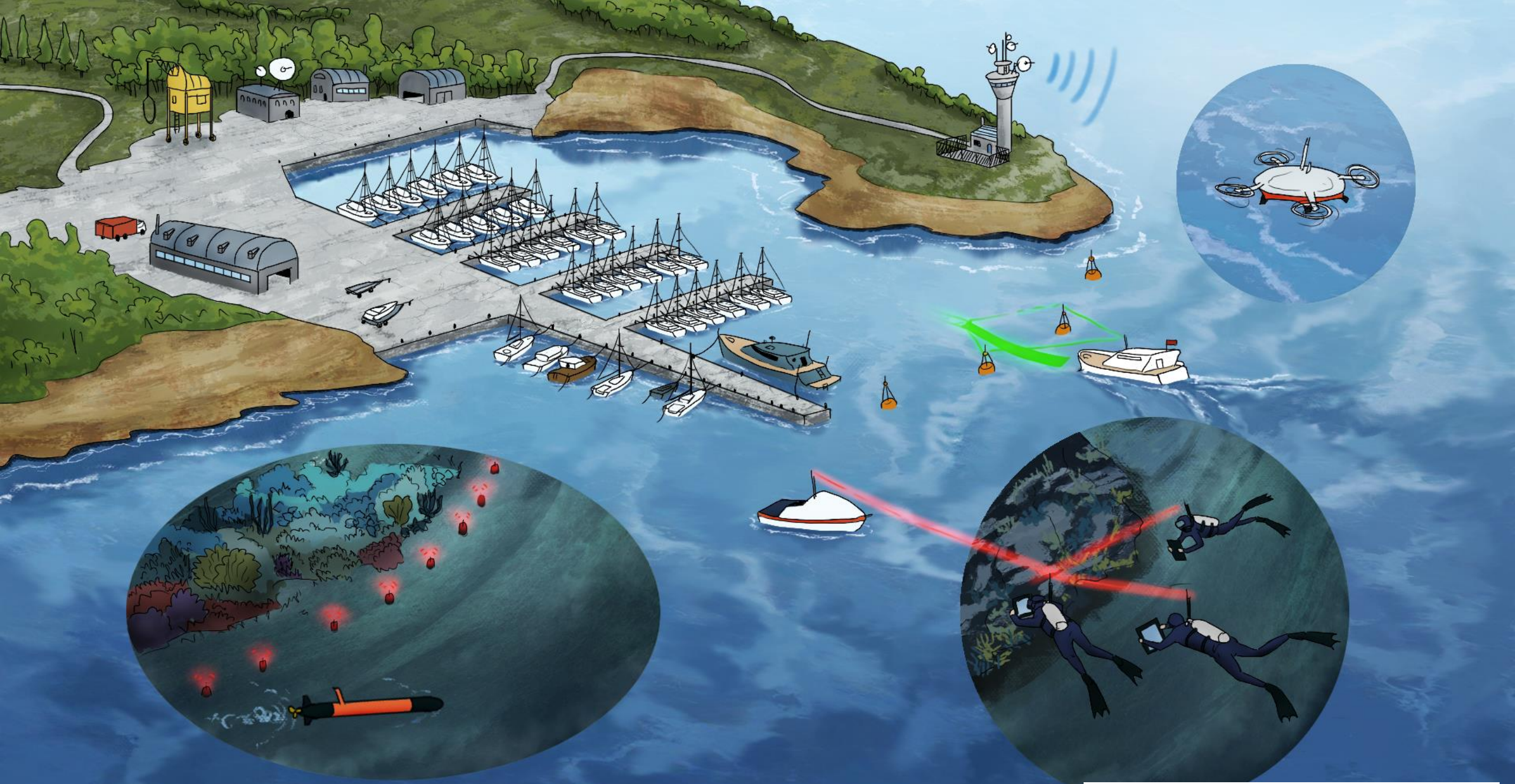
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Maritime robotics and autonomous systems



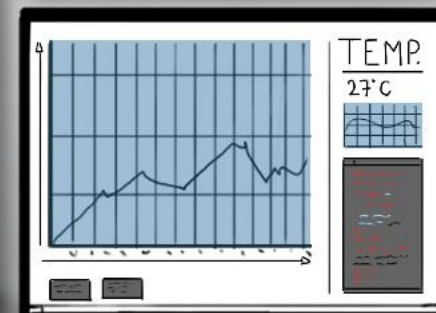
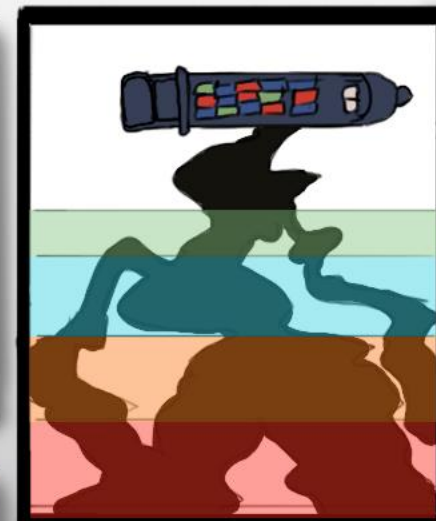
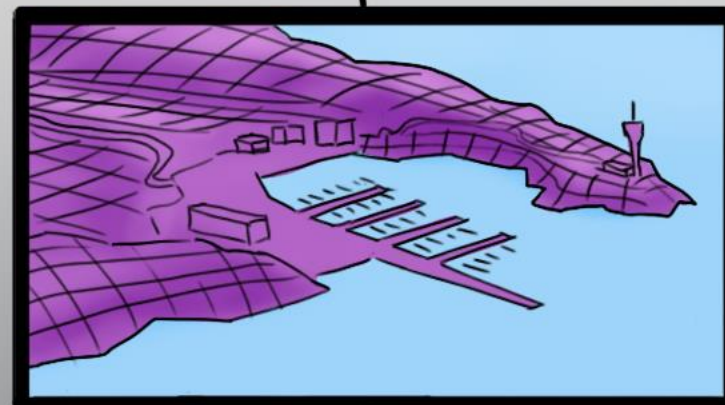
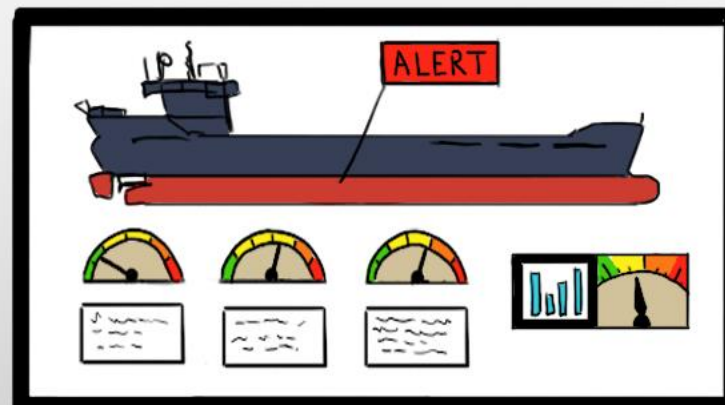
Maritime green endurance

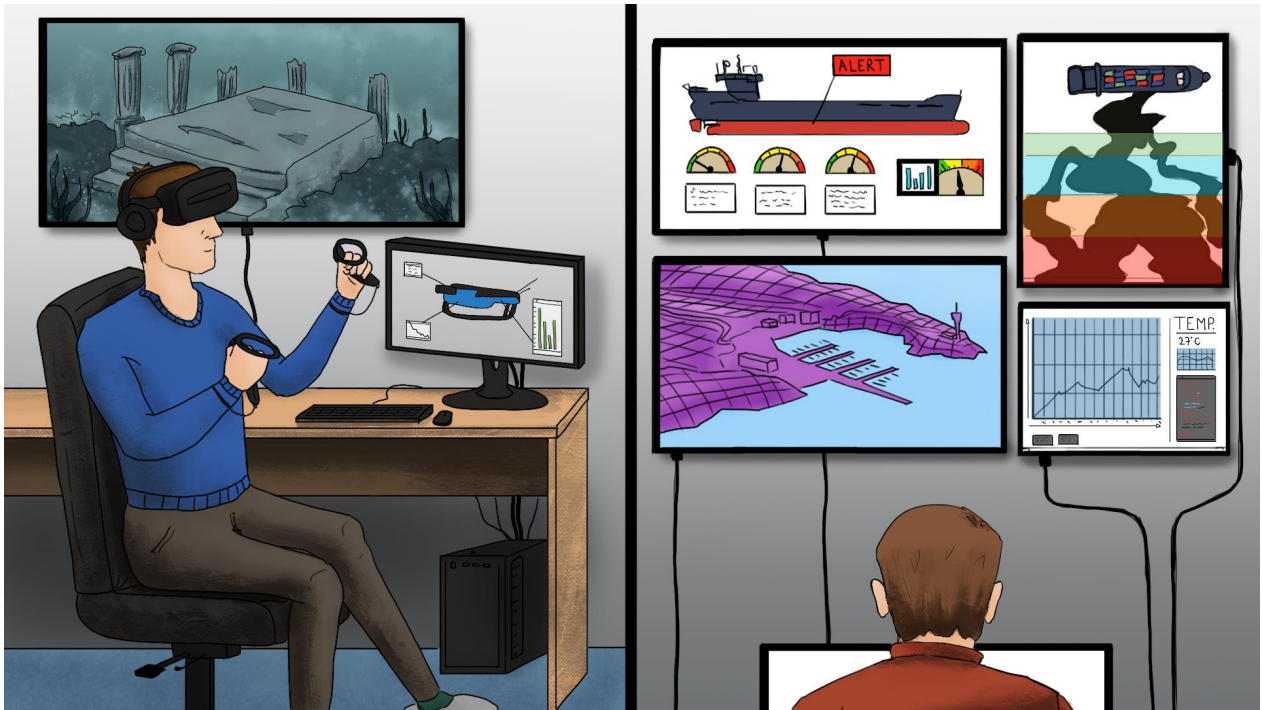
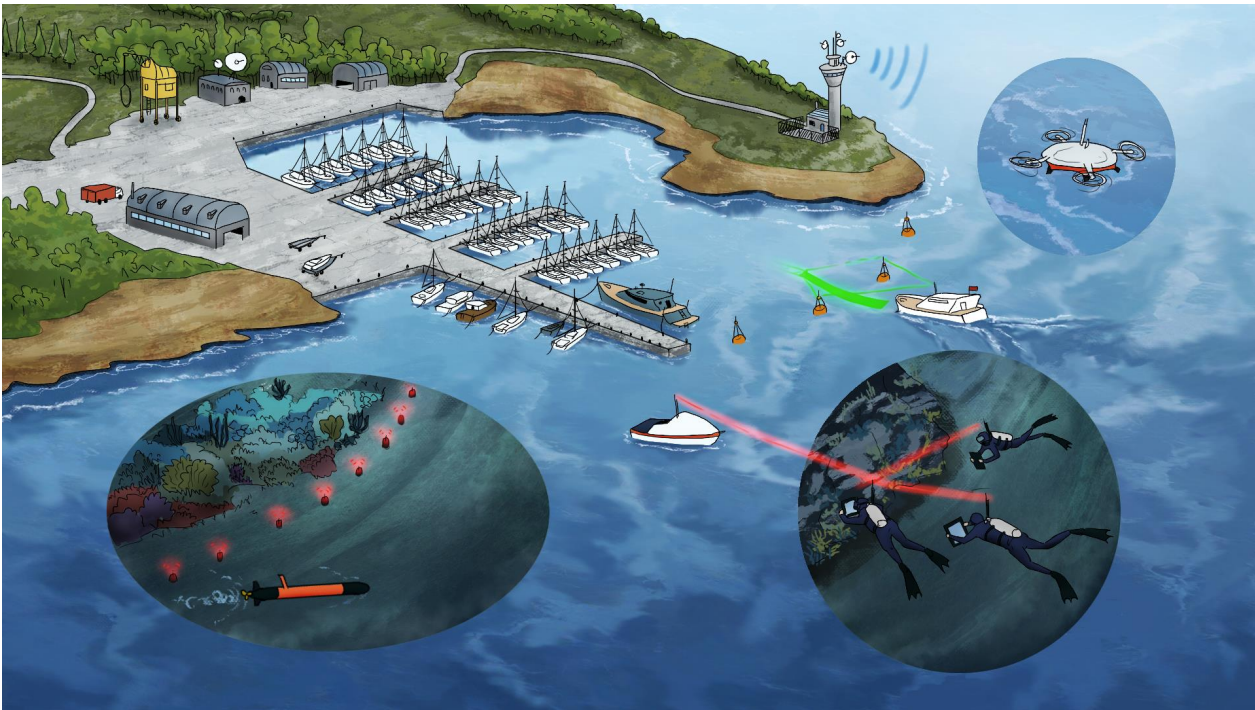
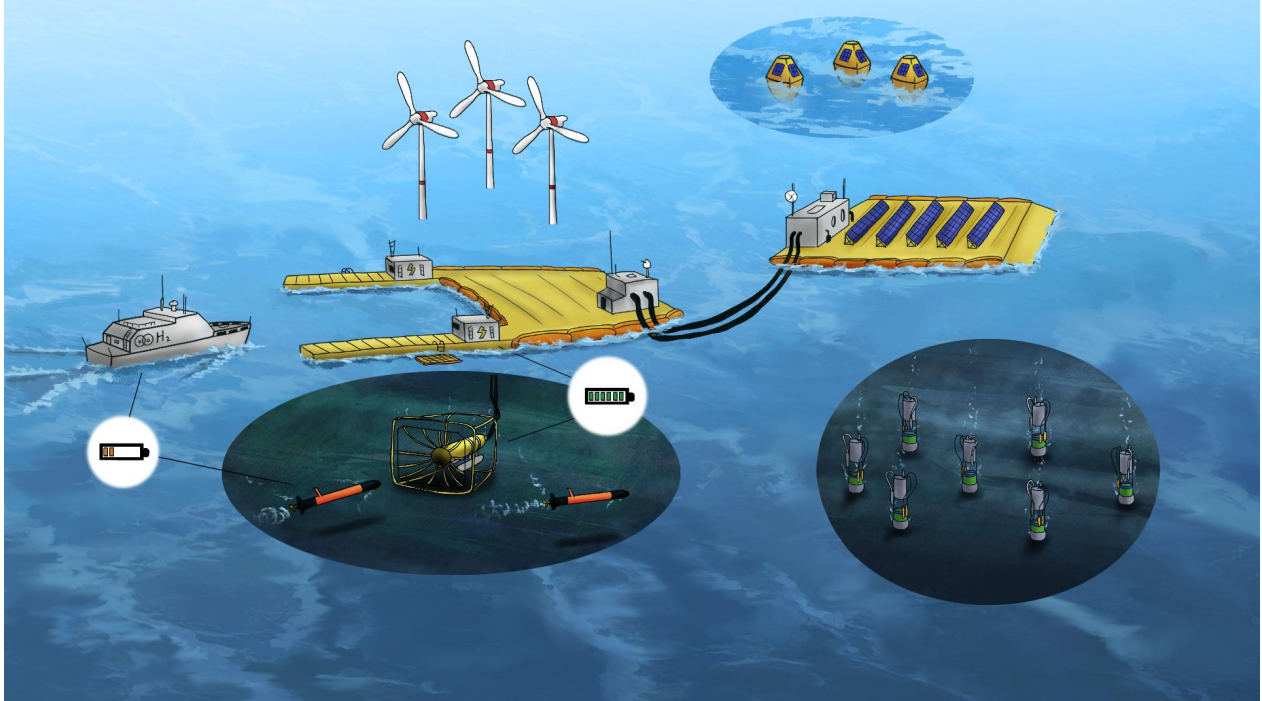
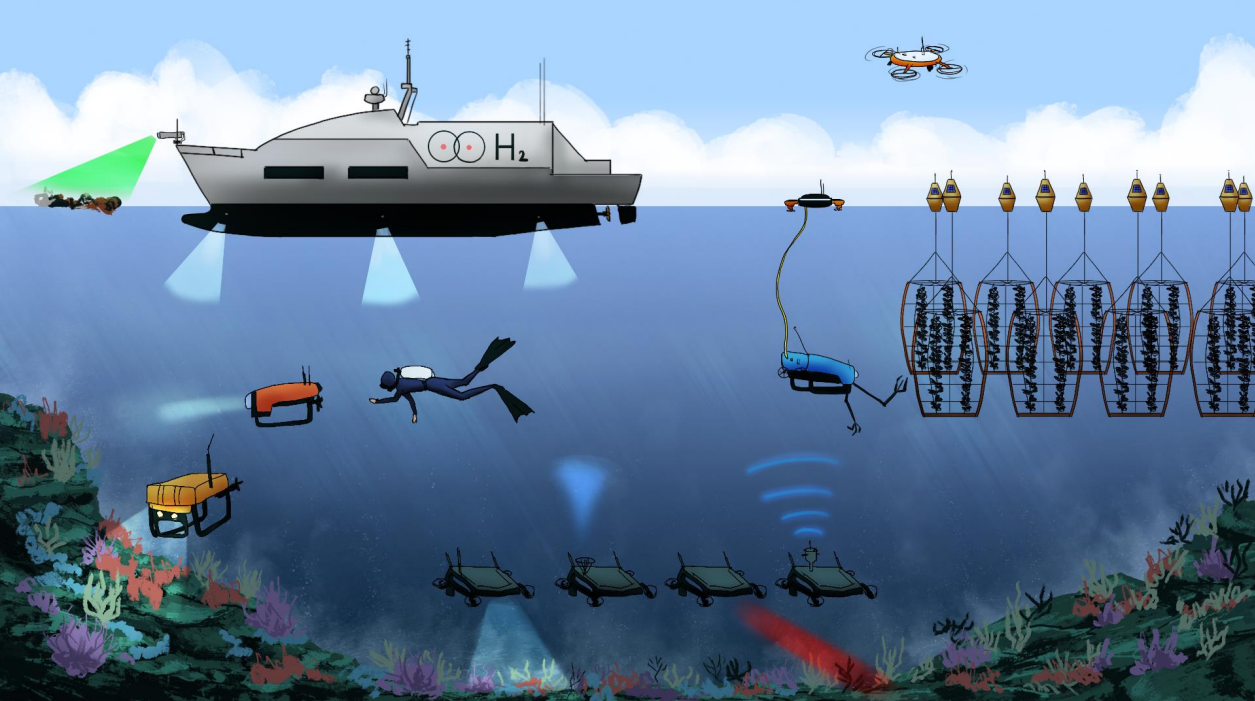


Maritime Internet-of-Things



Maritime digital twins







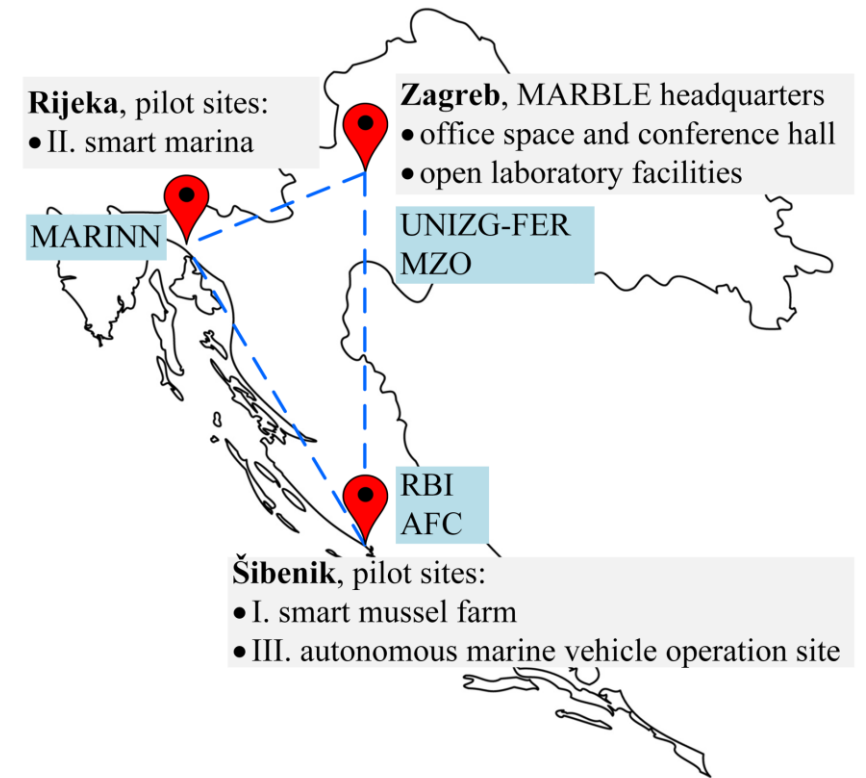
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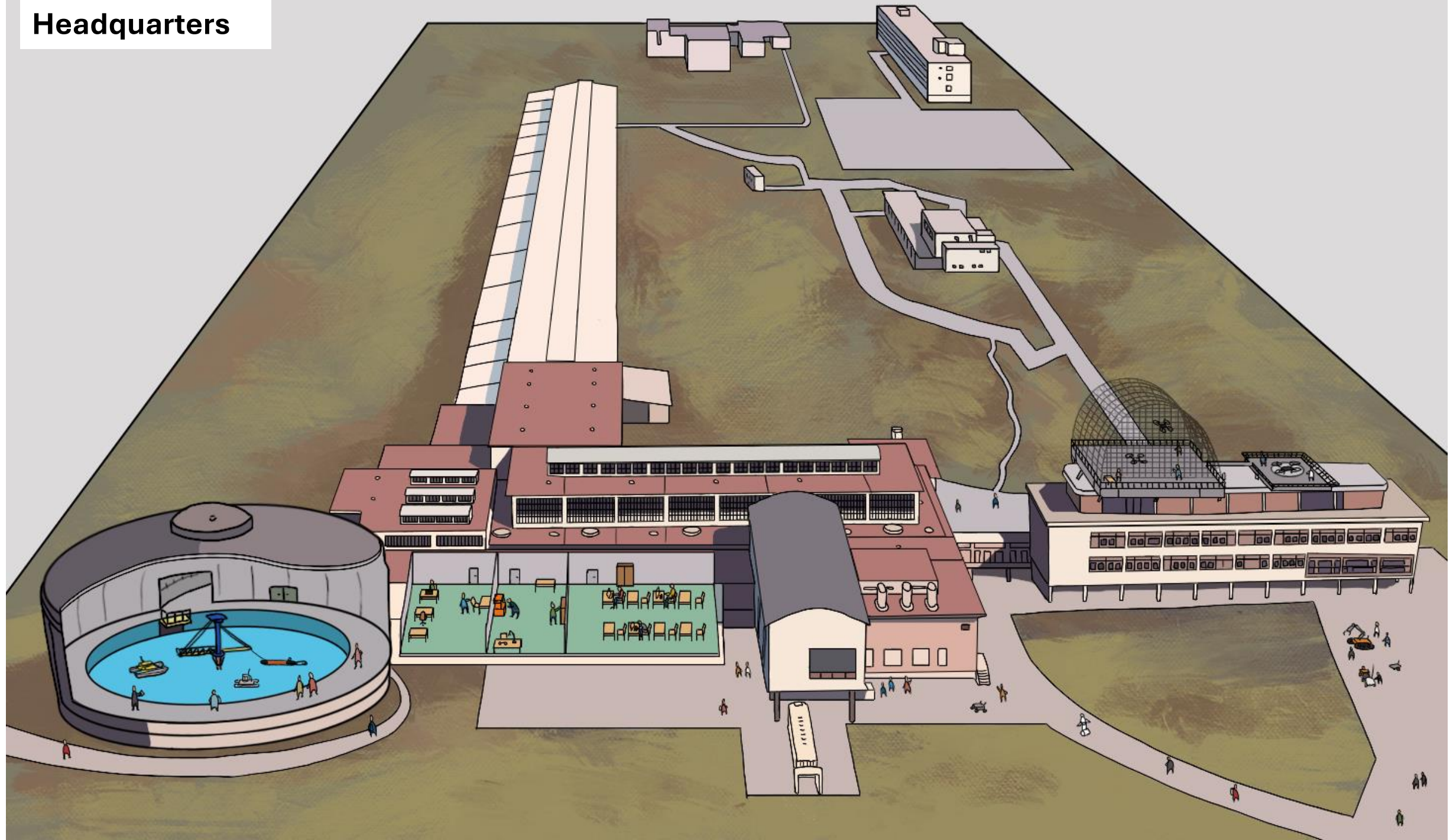
CoE MARBLE facilities will be partly distributed across Croatia to support deep industrial transformation of Croatian regional economies and reduce the developmental disproportion between the City of Zagreb, the administrative and industrial centre of Croatia, and the Adriatic part of Croatia (cities of Rijeka and Šibenik).

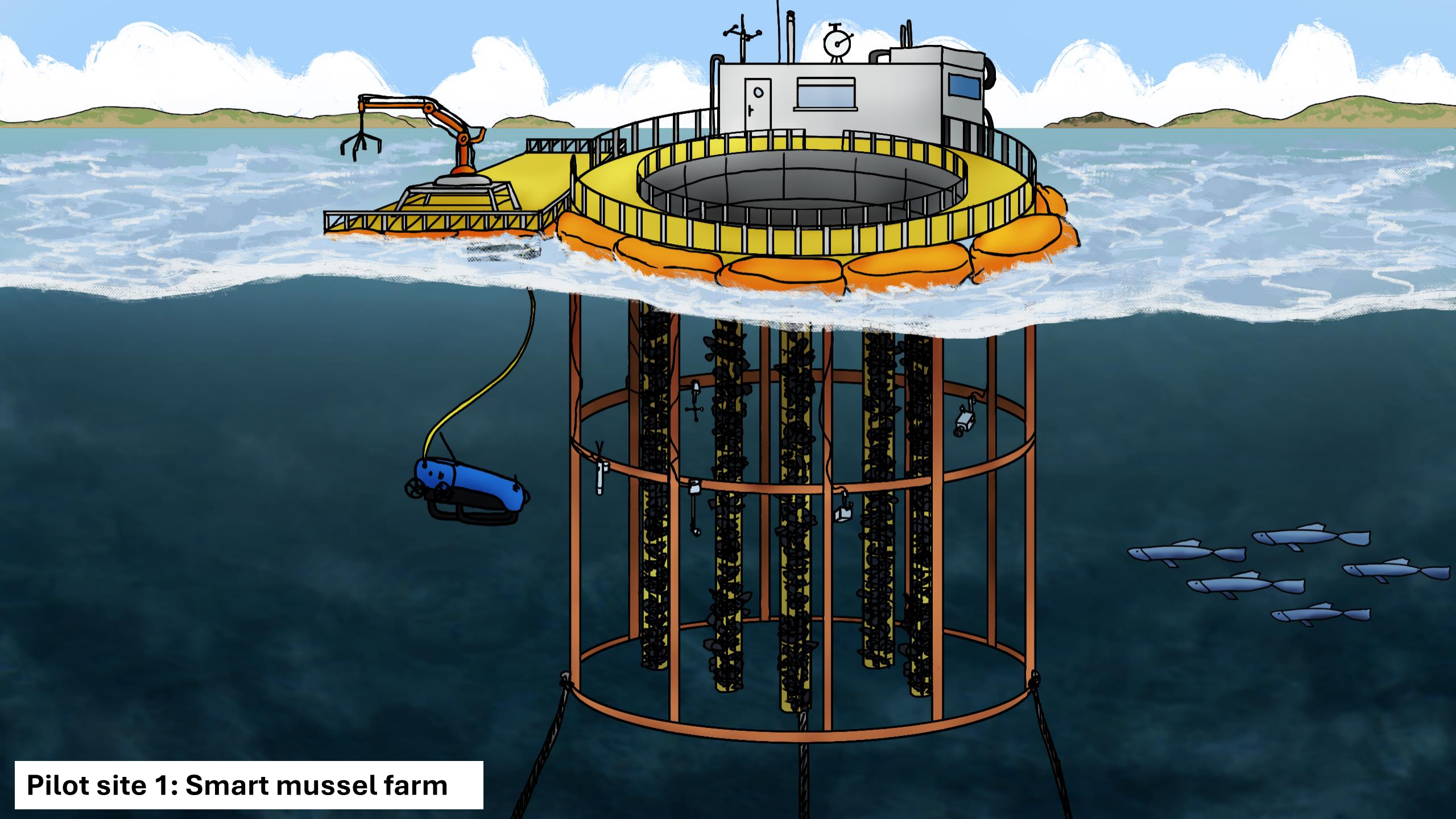
CoE MARBLE headquarters will be in Zagreb while three pilot sites will be set up in Šibenik and Rijeka:

1. smart mussel farm in Šibenik under the operation of DIH AgriFood Croatia;
2. smart marina in a port in Rijeka under the operation of MARINN;
3. autonomous marine vehicle operation site in Šibenik in front of marine station Martinska (Ruđer Bošković Institute)



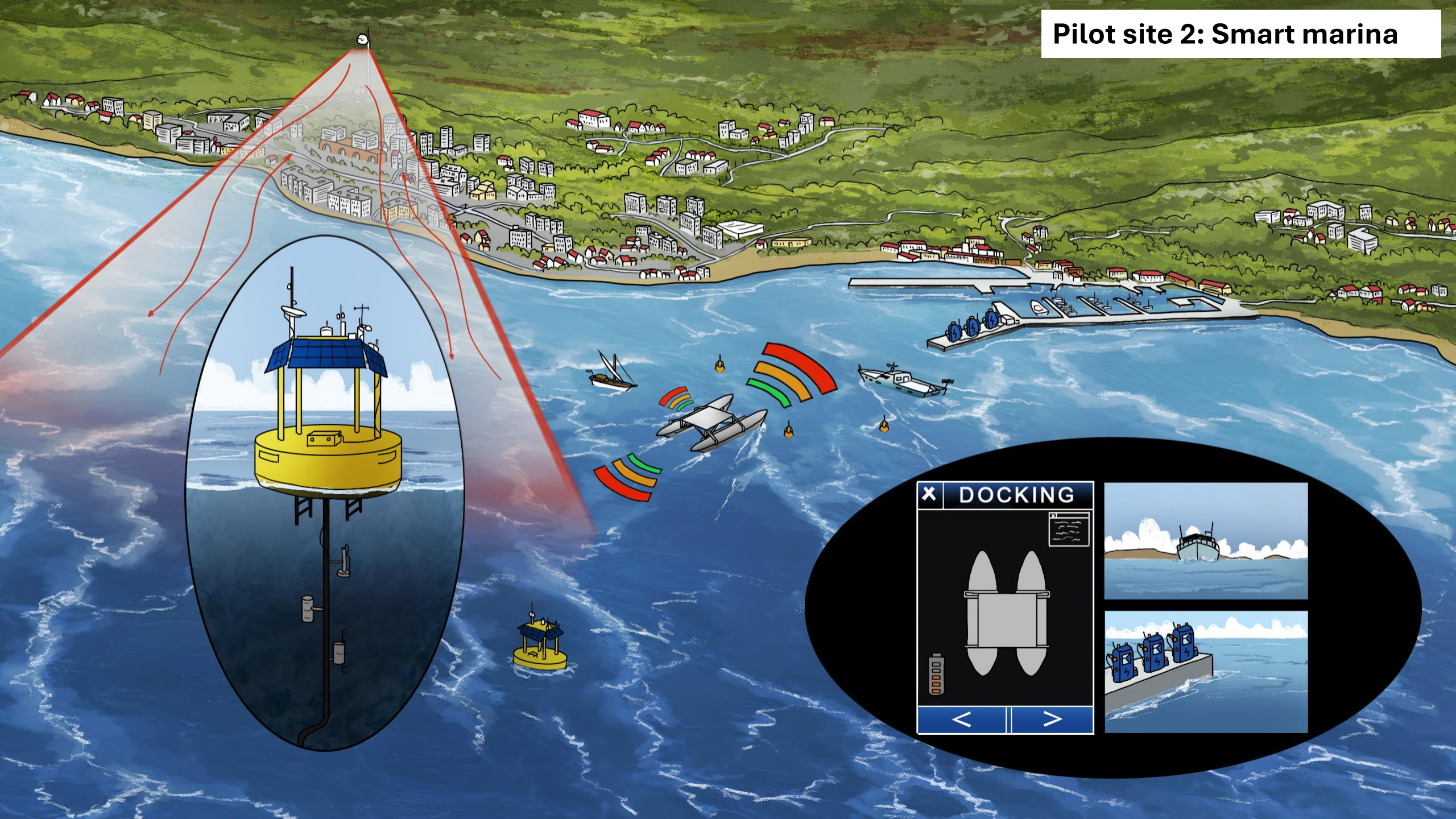
Headquarters

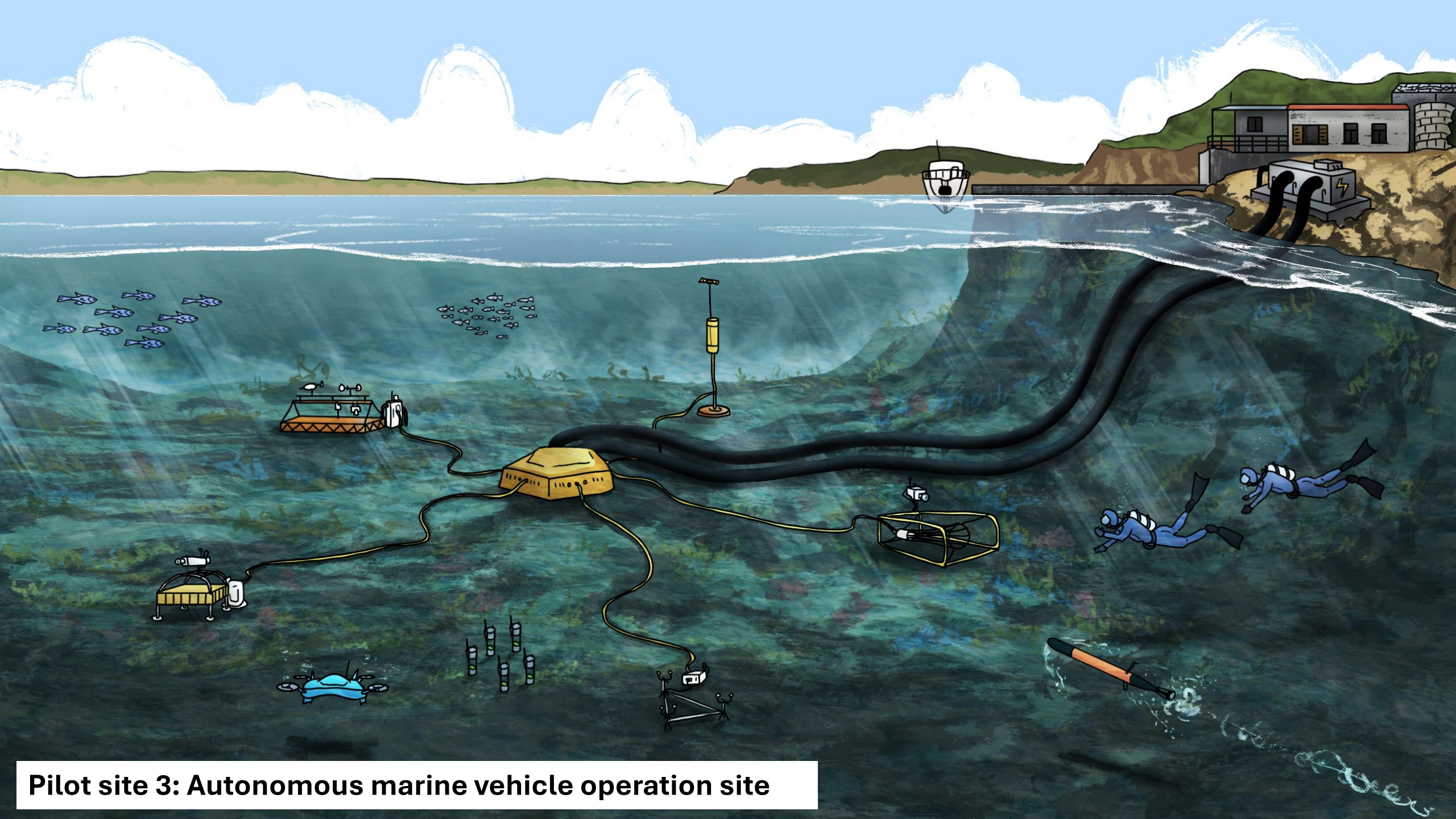




Pilot site 1: Smart mussel farm

Pilot site 2: Smart marina





Pilot site 3: Autonomous marine vehicle operation site