



OUR VISION

We use the seas in harmony with ecology and economy and thus contribute to the protection of the oceans.

OUR MISSION

We want to position the Ocean Technology Campus as an international leading center for underwater technology and the sustainable use of the oceans.

Further Innovation Fields in the Cluster:

DIGITAL MISSION

Digital Twins as a powerful concept for integrating scalable data platforms, AI-based analytics and simulation to support offshore missions and decision making.

OCEAN LENSE

Efficient monitoring to ensure the conservation and to quantify the impact of human activities on marine systems. Data are collected as comprehensively as possible and with high temporal frequency over long periods of time.

SUSTAINABLE OCEAN USE

Preserve marine ecosystems, even though resources are already being used intensively – e.g. with offshore wind or production of marine biomass in aquaculture facilities.



Prof. Dr.-Ing. Sascha Kosleck
Head of the Innovation Field
Subsea mobility & autonomy

“In the recent years, there has been a growing focus on subsea mobility and autonomy, as technological improvements have allowed for better and more versatile underwater asset exploration and maintenance.”



Contact

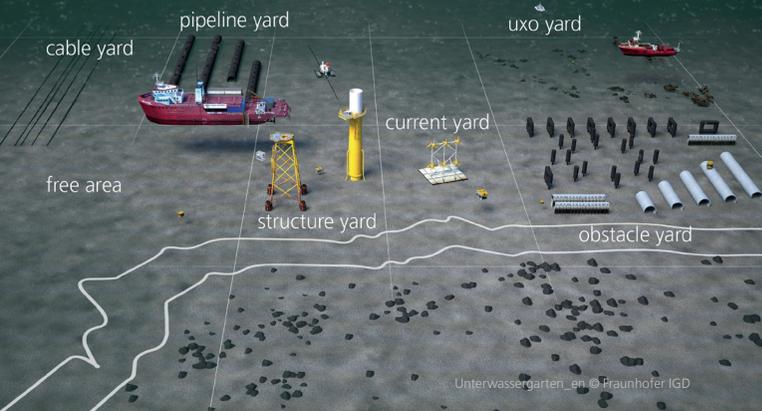
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SUBSEA MOBILITY & AUTONOMY





THE OCEAN TECHNOLOGY CAMPUS

The Campus sets out to strengthen German marine technology by opening up important markets and setting impulses for a worldwide knowledge-based sustainable use of the oceans - and it does so at one of Germany's most traditional maritime locations, Rostock, with its exceptionally high density of marine and maritime research.

The Campus combines science, industry and unique testing sites as an innovative engine targeting renewable energies, food supply, climate change, marine pollution and others.

With the synergy of a comprehensive understanding of the ocean ecosystem through excellent research and a sustainable use of the marine habitat through innovative technologies at the highest level lies the key to reconcile ecology and economy.

SUBSEA MOBILITY & AUTONOMY

Underwater vehicles and equipment carriers are established technologies, with two types of underwater vehicles: manned and unmanned. There is a trend towards unmanned vehicles due to their lower costs, greater flexibility, and increased work safety.

Cable-connected underwater vehicles, such as ROVs and Crawlers, are suitable for heavy underwater work, but they are less flexible in operation and deployment than uncabled autonomous vehicles such as AUVs, Drifters, and Gliders. These vehicles are increasingly used for the exploration of large sea areas, permanent monitoring tasks, and offshore work, opening new weather windows.

We are committed to delivering solutions that address the biggest challenges in this constantly evolving field, including energy supply, positioning, and communication.



PROJECTS

OTC-BASE

Providing the technological basis for newly developed subsea technologies through OTC-Base: an modular infrastructure that allows for quick testing, easy integration, and setting new standards for various marine underwater systems.

OTC-FlyingArgo

OTC-FlyingArgo is developing an autonomous open-source underwater glider with a "passive-flapping-foil" concept, intelligent navigation and modular design to increase the resolution in oceanographic data and close gaps in global ocean monitoring networks.

OTC-Thruster

The focus of the project is the development of a modular and scalable hubless thruster system (MSTP) with low-vibration and quiet operating behavior to address the problem of structural vibrations in ROVs and AUVs.

OTC-Facts

A feasibility study of an innovative hydrogen fuel cell technology for energy supply in subsea technology, enabling the operation of high-power instruments more reliably, and efficiently than traditional batteries.

OTC-Sub

OTC-Sub involves a feasibility study for a manned underwater vehicle that aims to work out the requirements for future projects and the corresponding implementations for manufacturing and commissioning.