



*Jacques Rougerie, a visionary architect to serve a new vision of underwater exploration*

SeaOrbiter is the culmination of over 30 years of research dedicated to bionic marine architecture and exploration of the undersea world. Internationally renowned for his achievements such as the Sea Pavilion in Kobe, Japan, the Underwater archaeological museum of Alexandria in Egypt or the Kochi Oceanarium in India, he is also the architect for the main French sea centers Oceanopolis in Brest and Nausicaa in Boulogne sur Mer, the underwater habitats Galathee and Hippocampe and the innovative vessels Aquascope and Aquaspace.

*«It is from the ocean that will be born the destiny of civilizations to come»  
Jacques Rougerie*

Around SeaOrbiter is gathered an international multidisciplinary team eager to lead one of major adventures at the beginning of the XXI<sup>st</sup> century

**71%**

of the Earth's surface are formed by the oceans, oceans representing 97% of the global planet's water volume.

Source : IFREMER

**85%**

of the marine biodiversity are still unknown.

Source: IFREMER

**95%**

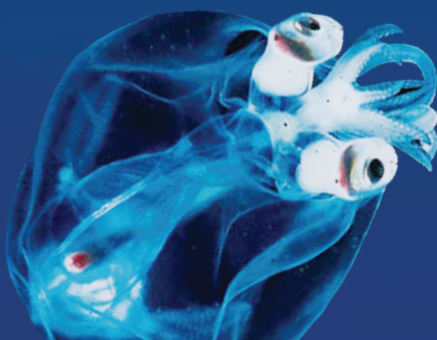
of the oceanic abyssal plain remain unexplored.

Source: IFREMER

**37%**

of the global CO<sup>2</sup> emissions are absorbed by the ocean .

Source: IPCC (International Panel on Climate Change)



## ■ The abyss

A major stake for knowledge and resources for tomorrow

# An international media coverage basis of the SeaOrbiter adventure

Technical tools in line with the objective

The media objective of SeaOrbiter is based on an onboard multimedia platform, a true content production unit dedicated to the knowledge about the ocean.

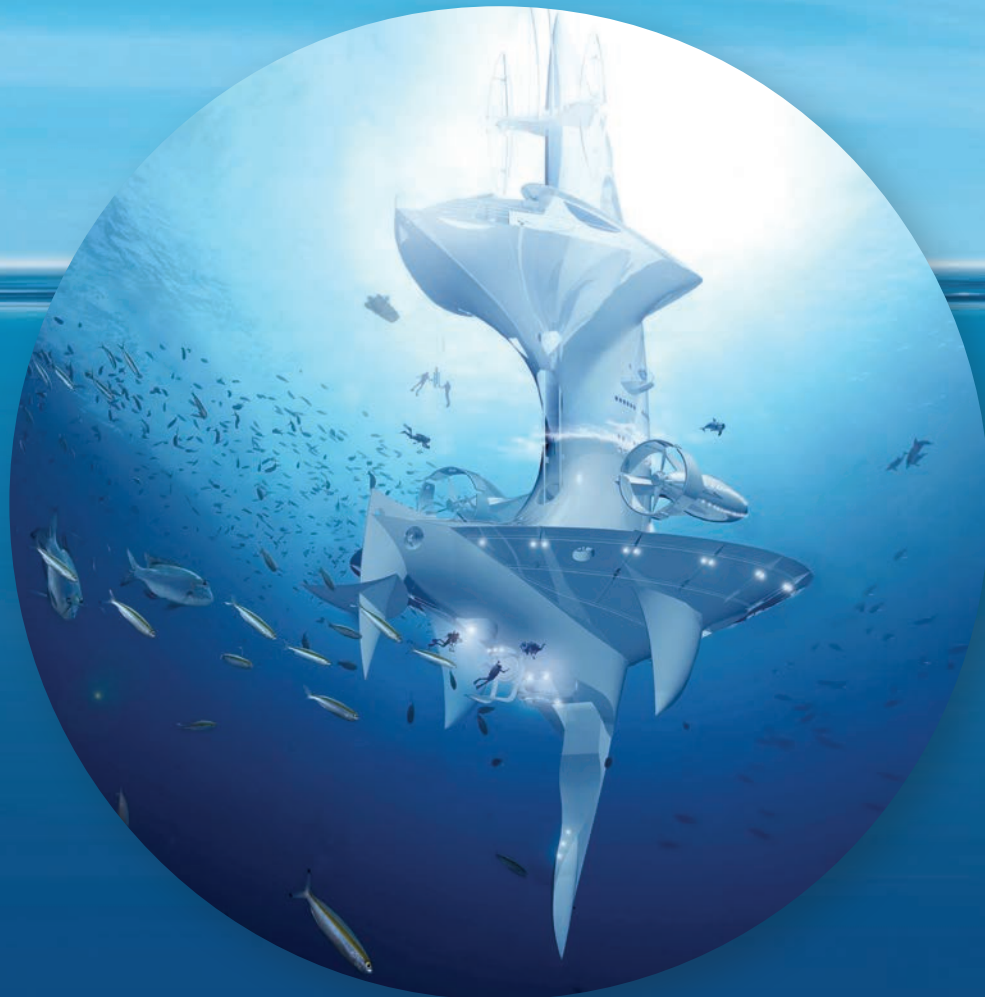
These contents, as the ability to follow the adventure of SeaOrbiter in real time, will be broadcasted throughout the world thanks to satellites and a network of various partners: major sea centers, oceanographic museums, education networks, international media partners...

Already over 350 media exposures in France and around the world

PRESS: The Times, Weiner Zeitung, Südkurier, Neptune Russie, Spiegel Online, Gizmodo, Le Monde, Les Echos, Le Figaro, Geo, Science et Vie, Okapi, Die Welt, Mail Today, A.F.P., Boating New Zealand, Paris Match...

TV : France Télévisions, TF1, Arte, Euronews, M6, NHK, ZDF...

WEB : over 3 million pages on Google.



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# SeaOrbiter®

The ocean's Sentinel

20 000 hours under the sea, a world premiere

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# International ambassadors

Inheritors of the great Human adventure  
and holders of the pioneers' spirit for the  
XXI<sup>th</sup> century



Prince of Monaco

## *HSH Prince Albert II of Monaco*

*"The SeaOrbiter vessel is an extraordinary tool that will offer to the general public a new vision onto the oceans and its underwater world. A highly technological oceanic exploration vessel and the only one of its kind in the world, it will enable each of us to dive at the heart of this world still widely unknown with a proximity and over time periods never reached to date".*



Explorer-in-residence  
National Geographic,  
Marine sciences

## *Sylvia Earle*



*"SeaOrbiter is the only vehicle in the World allowing observing continuously the oceans and their Abyss, unexplored for more than 90%. SeaOrbiter enables to discover new species, to better understand deep-sea ecosystems while offering new potentialities to observe the Planet Ocean with a new vision, hence creating passion and vocations for all explorers and adventurers of the unknown worldwide."*



Former NASA  
Administrator,  
Relationship with USA

## *Daniel S. Goldin*



*"SeaOrbiter provides exciting opportunities for exploring the last truly unknown frontier on Planet Earth, our oceans. A fleet of these advanced research platforms will enable broad access to new knowledge and contribute to practical applications, major innovations and improved stewardship of the oceans for enhancing the quality of life for all of humanity. SeaOrbiter also offers astronauts an unconstrained training platform that could be used to simulate many of the demanding and complex operating conditions of life in a confined and isolated environment that they may encounter on future space missions."*



Technip CEO,  
Industry, Offshore  
& underwater  
engineering

## *Thierry Pilenko*



*"SeaOrbiter is both a technological challenge and a feat in terms of architecture and engineering, notably underwater. Through its innovation in all these areas, it offers a new exploratory approach of the ocean and opens a door onto sustainable exploitation of its resources, particularly in the abyss, in accordance with the principles of sustainable development."*

# The ocean, a world of unexplored treasures

A common wealth to humanity  
for the benefit of future generations

## A nomadic undersea habitat with no equivalent

The vessel, built of recyclable aluminum, 58 m in height and 550 tons, hosts from 18 to 22 people on 12 levels, of which 6 under the sea level, to conduct long-term scientific missions lasting over 6 months. It is regularly supplied by liaison boats and is able to access ports by folding up its keel and using its ballast system up to draft of 8m.



## A permanent scientific laboratory at the hearth of the oceans

SeaOrbiter hosts scientists and research programs to observe, listen and study the oceans 24h a day and over long periods. These studies will enable development of new applications and solutions for the future of mankind.

## A pressurized underwater base with amazing capabilities

The pressurized module allows conducting experiments in a complex and confined environment and to undertake permanent and direct exits into the aquatic realm at – 12 m. For its similarities with the life conditions in space, NASA and ESA participate in scientific programs developed around this very specific capability.

## A unique international multimedia communication platform

With its integrated multimedia production unit and its real time communication capabilities, SeaOrbiter is an amazing platform which will allow the general public sharing the adventure, the exploration and knowledge about the oceans.

# SeaOrbiter, a unique international oceanic station

An exploration vessel and a universal scientific laboratory dedicated to the discovery of the underwater world and the education around sustainable development applied to the ocean

**AIR DRAFT: + 27 m**  
Communication systems.  
Radio and satellite antennas

Vertical wind turbine for energy production

350 m<sup>2</sup> solar skin for electricity production

Outside deck with 2 handling cranes

Platform lift for divers

Retractable rear access ladder

Level of the sea

Underwater training platform for divers – ballasts

Stern thruster

Winch and abyssal platform (1200 m)

Dive pit for divers, sub and AUV's

Retractable keel (180 tons)

## A direct access to the underwater world at -12m, 24h a day

Diving base for divers and starting point for explorations in the abyss. Thanks to a combination of sophisticated operational systems, SeaOrbiter will enable its crew to benefit from a direct access into the underwater world at -12m under the sea by means of SCUBA, submarine or other deep-sea exploration devices. Hence SeaOrbiter is able for the first time in the world, to conduct underwater missions 24h a day over very long periods, up to 6 000m in depth by submersible.

**DRAFT: - 31 m**

# Multiple scientific missions and a large education plan

DECK +18.50 Lookout post

DECK +11.50 Boats storage

DECK +9.40 Upper deck for sea operations, engines rooms and storage

DECK +6.80 Diving room and scientific wet lab

DECK +4.20 Command bridge

DECK +1.60 Multidisciplinary modular laboratory, medical zone and fitness area

DECK -1.00 Bunks area and Captain's room

DECK -3.60 Bunks area and VIP cabin

DECK -6.20 Communication zone and sanitary area

DECK -8.80 Living quarters in atmospheric pressure

DECK -11.60 Living quarters in pressurized mode, underwater garage and diving zone

DECK -13.90 Technical zone, dive pit and access to sub

SeaOrbiter is the only one- of- its- kind scientific and educative platform, complementary to existing observation and analytical tools of the oceanic world. Thanks to its main capabilities of slow motion drifting pace and great autonomy, the vessel provides:

- **Permanent** and **continuous** observation and research operations at the heart of the ocean.

- The ability to **directly deploy under- the- sea** many types of underwater observation devices.

- A capability to evolve in a **quiescent mode** to better capture a **great variety** of physical and ecological data.

The missions conducted from the vessel will enable to better understand the **links between ocean and atmosphere**, the **planktonic balance**, the **decrease of marine biodiversity** or the impact of **climate change** upon the marine world and its wealth of life.

SeaOrbiter will allow **discovering and valorizing new marine richness** which will, tomorrow, enable the development of major innovations in various fields such as **nutrition, health, biotechnologies** or **renewable marine energies**.

SeaOrbiter is also a powerful **education tool** dedicated to the marine world and engaging **all generations**.



The **broadcasting of the expedition's** daily adventure through international media coverage (movies, TV, press, web) or the implementation of exhibitions in museums, aquariums, oceanographic institutes and sea centers **around the world** will enable the mobilization of a **global community aware of the crucial role of the ocean** with regard to today's and tomorrow's **planetary challenges**, thus creating the **"Meriens" community**.