

saitec

offshore
technologies

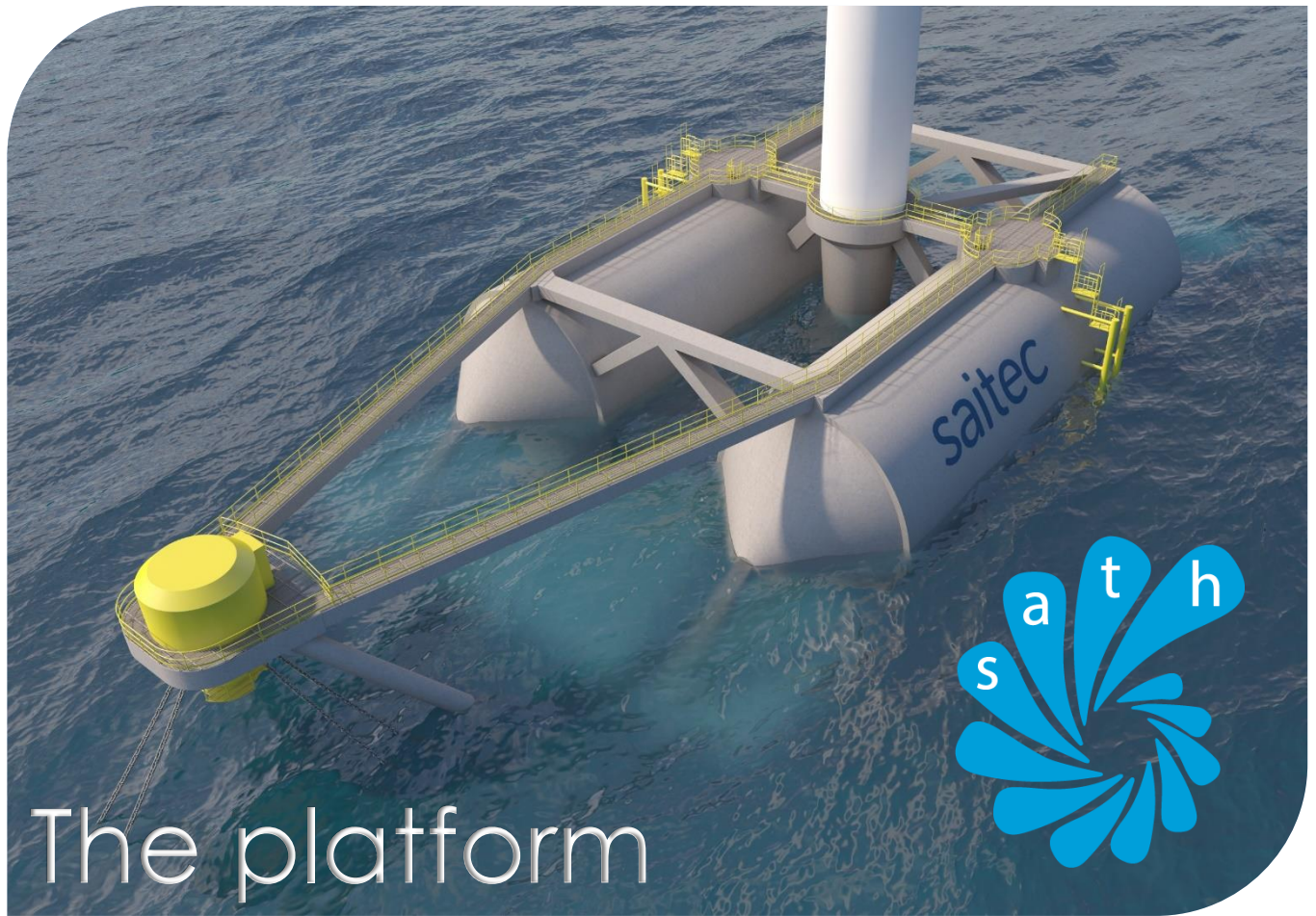


Saitec Offshore Technologies is a spin-off from Saitec S.A. created around SATH technology.

This new company, founded in 2016, was launched into the market to offer a game-changing solution to current offshore wind issues, by removing the barriers related to water depth and sea bed adverse geotechnical conditions.

SATH is a disruptive and highly **competitive** concept of **floating platform** for wind turbines in the offshore wind market, not only compared to other floating solutions, but also with **bottom fixed** solutions for waters **with depths greater than 30m**.





The platform



SATH (Swinging Around Twin Hull) is weather-vanning floating platform made entirely of prestressed concrete. It consists of two cylindrical horizontal hulls with conical ends linked to each other by bar frames. The arrangement of the floaters, resembling that of a catamaran, provides the stability needed for the wind turbine in adverse wave conditions. The submerged stabilizing plates around the structure damp the motions for the appropriate operation of the wind turbine. SATH's four fundamental principles are listed below:

- **Concrete:** low-cost (CAPEX & OPEX) and durable material solution.
- **Floaters geometry:** cylindrical geometry with ovoid cross-section leading to a reduced concrete shell thickness and therefore low weight and draft.
- **Structure layout:** horizontal twin hull connected to front and back stabilizing submerged plates acting as damping system and making the platform suitable for proper offshore wind turbines operation.
- **Single Point Mooring:** this anchoring system allows the platform to rotate freely around this single point reducing the environmental forces on the platform and therefore the cost of the mooring. Besides, it helps the yaw control of the turbine to orientate the rotor plane against the wind.



Competitive Advantages

Precast concrete structure

- Maximizes lifespan and reduces fatigue damage.
- Optimized structure to reduce weight.
- Raw material is low-cost and readily available almost everywhere.
- Easily scalable to any turbine capacity.
- Industrialized process for any wind farm size.

Single Point Mooring

- Maximizes wind turbine operational hours
- Plug & Play system
- Reduces stresses in the mooring system

Promote local industries

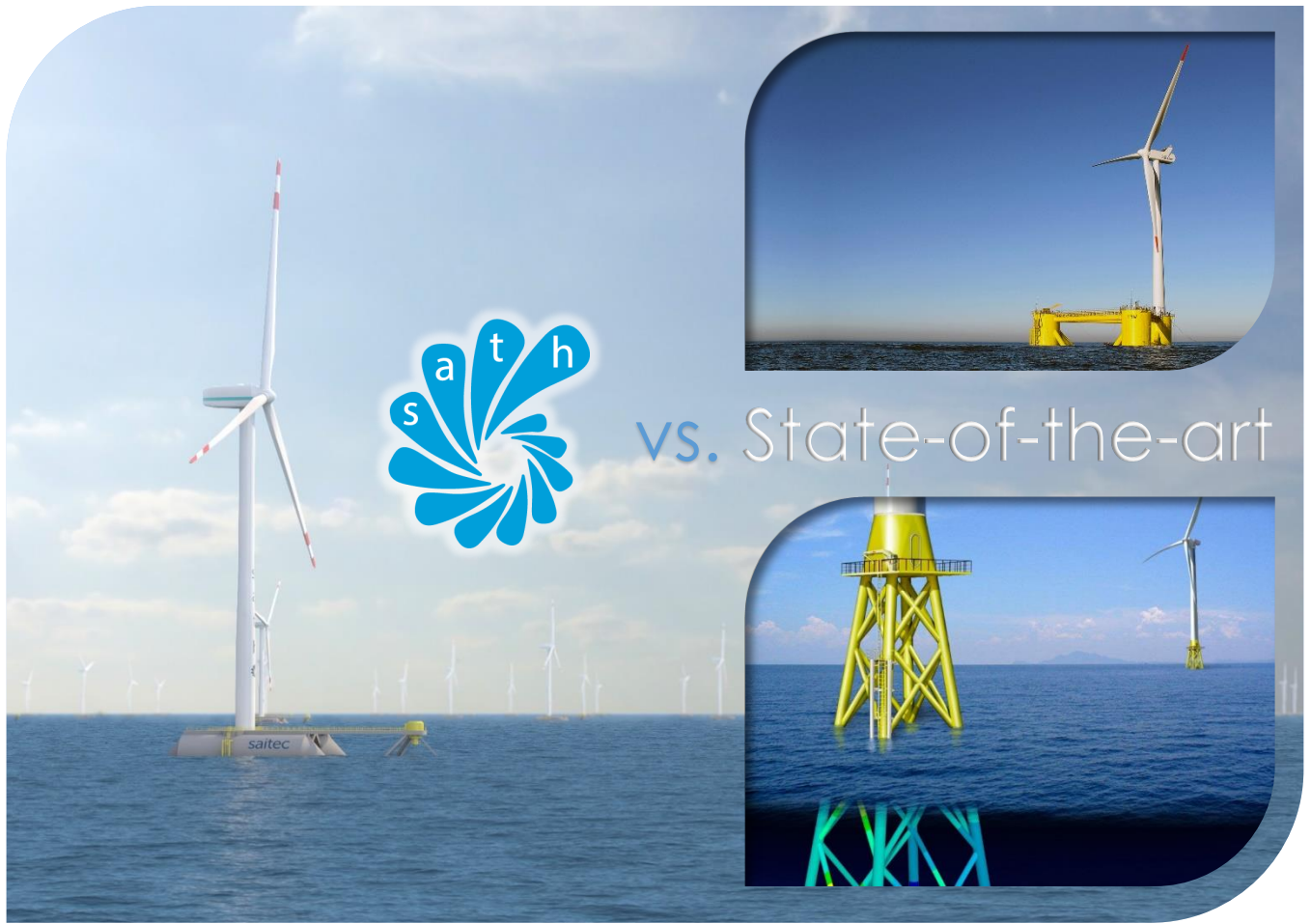
- Concrete manufacturing is easily accessible to local industries.
- The system is self-stable, so installation can be done by regular means.
- Onshore construction minimizes risks and needs for expensive equipment.

Floating

- Very low draught (< 10 m), suitable for any water depth.
- A stable and compact platform for a lower exposure to extreme storms.
- More respectful with the environment, minimizing seabed affection.
- Simpler installation with no need for jack-ups, reducing noise emission.

Reduced CAPEX/OPEX

- Concrete is virtually maintenance-free in terms of fatigue and corrosion.
- Regular equipment for construction and installation.



State-of-the-art fixed bottom:

- ✗ Dependent on specialized installation equipment
- ✗ Expensive to transport (dependant on specialized vessels and fabrication site)
- ✗ Limited to shallow water (<30m)

SATH floating foundation:

- ✓ No specialized equipment required for installation
- ✓ Cost efficient transportation (floatable structure, produced locally)
- ✓ Cost-effective installation over 200 m depth

State-of-the-art Floating foundations:

- ✗ Higher CAPEX than fixed bottom
- ✗ Off-shore maintenance and assembly
- ✗ Difficulties to work low depths.
- ✗ Complex installation processes and decommissioning

SATH floating foundation:

- ✓ CAPEX reduction
- ✓ On-shore assembly, manufacturing and coating
- ✓ Reliable system for any depth and wind turbine.
- ✓ Easy installation process and decommissioning process.



saitec

offshore
technologies

Role in Projects

DEVELOPER *

WIND TURBINE MANUFACTURER

EPCi CONTRACTOR *

SUBCONTRACTOR
CABLE

PORT

SUBCONTRACTOR
ELECTRICAL

FOUNDATION &
MOORING SUPPLY

saitec offshore
technologies

Engineering, Procurement &
Construction Management
(EPCM)

MARINE
CONTRACTOR

* Whereas EPCM is the common scope of Saitec Offshore Technologies in Offshore Wind Projects, the company could occasionally play the role of Early-Stage Project Co-Developer and/or provide a full turn-key solution as EPCi if required.



saitec

offshore
technologies



Projects Worldwide

Tenders & Pre-commercial Projects

Location: Europe



DemoSATH

Power: 2MW

Location: North Spain

COD: 2019

Toyoura

Power: 400MW

Location: South Japan

COD: 2023

FOWPI

Power: 3MW + 200MW

Location: West India

COD: Phase 1 – 2020

Phase 2 – 2023



saitec



Saitec Offshore Technologies, S.L.

Business Park Ibarra-barri, Building A-2

48940 Leioa – Bizkaia, Spain

+34 944 646 511

saitec@saitec-offshore.com

www.saitec-offshore.com