

HIVEWIND

HiveWind & Floating Offshore Wind supply chain challenges



September 12th 2023, Ostend, Belgium

B2B session

CONCEPT

HiveWind



Semi-submersible platform
For turbines of
+15MW

A new concept
oriented to cost and
based on a simple
construction and
modularity

It has been designed under the premises:

Be feasible for large-scale projects

Limit the CAPEX & OPEX

Who are we



naval & offshore wind **engineering**
expertise



naval **construction** knowledge



Who are we



GLOBAL FIRM
WORLDWIDE

ENGINEERING
SERVICES

EPC & EPCM
CONTRACTOR

DIGITALIZATION
O&M, DIGITAL

BUSINESS
MODEL

PROJECT
FINANCE



Offshore wind capabilities

Permitting &
Development
Services

Project &
construction
management
services

Engineering
services & R+D

Floating
technology

Who are we



GRUPOamper
Nervión Naval-Offshore



Jackets foundations

- Reinforced and welded lattice frame structures for fixed bottom offshore wind turbines
- Nervión has carried out **all the installation and assembly operations for jackets**. Material supply and coating are the only major operations not carried out
- Operations carried out in third-party facilities
- Main customer: Navantia



Floating foundations

- Formed by large flotation tanks joined together for floating offshore wind turbines
- Nervión has carried out the **final assembly of floating foundations from elements pre-assembled by third-party companies**, material supply and coating, not carried out
- Operations carried out in third-party facilities
- Main customer: Navantia

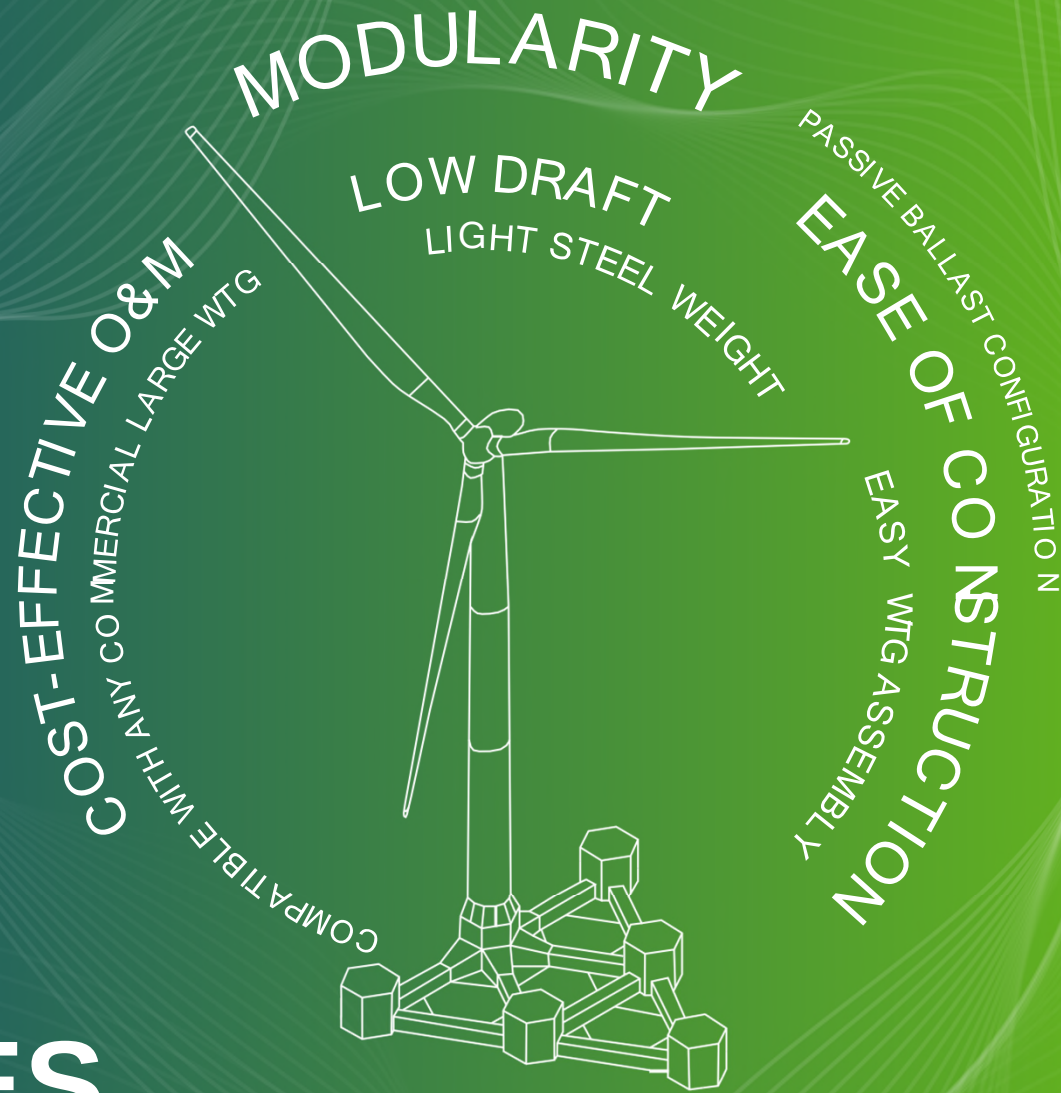


Ships

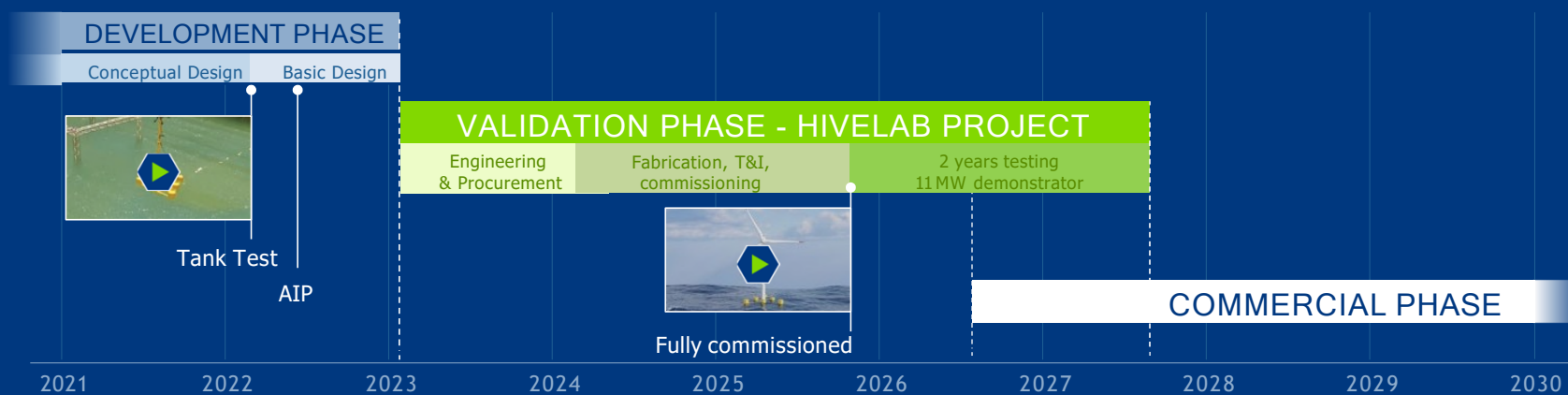
- Large ships with high added value: Army, scientific exploration, etc.
- **Assembly of the metallic structure and blocks of the ships and its maintenance, experience for over 60 years**
- Operations carried out in third-party facilities
- Main customers: Navantia, Armon, Vulcano, Murueta, etc.

Core Business, 75% of current activity

KEY FEATURES



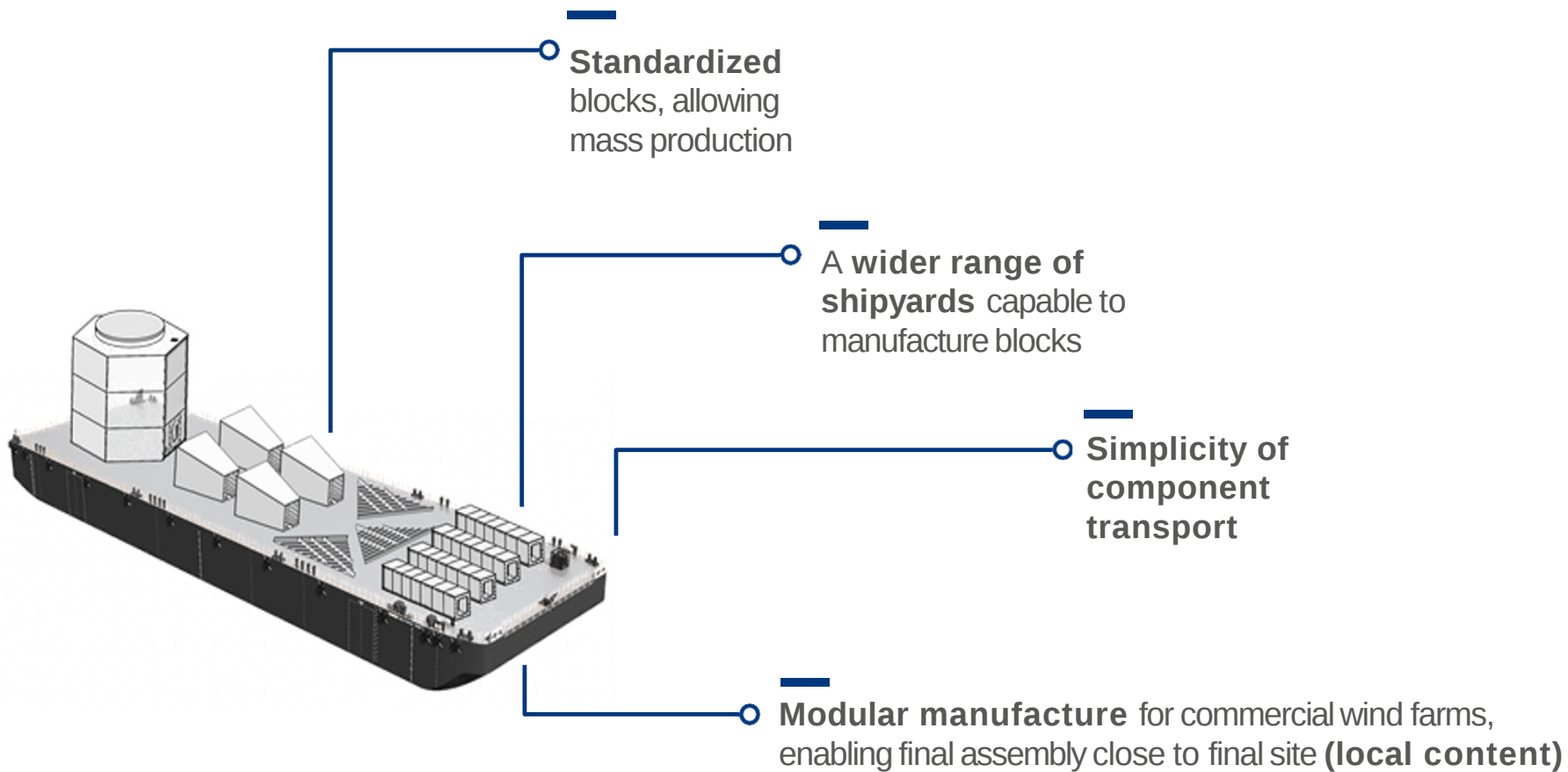
TIMELINE



CHALLENGES

Strengthening the Supply Chain

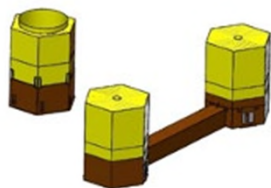
- Alleviate supply chain restrictions: decentralized manufacturing with less infrastructure requirements
- Identify partnership and collaboration opportunities



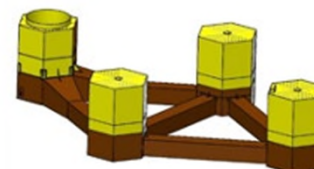
CHALLENGES

Assembly Line Production

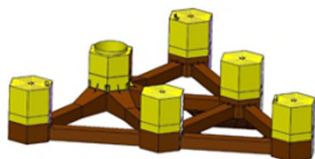
- Standardized and small pieces to reduce the capacity of the auxiliary resources (cranes, size of the painting booths, etc.)
- Flat surfaces and straight angles allow automated welding system to industrialize the process
- Creation of assembly line/locations



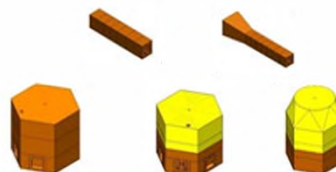
Automated welding



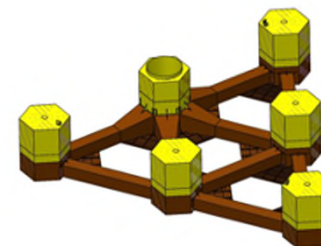
Design allows simplicity of support elements for manufacturing



Straight angles, better welding execution



Reduces time & increases the quality of the joints

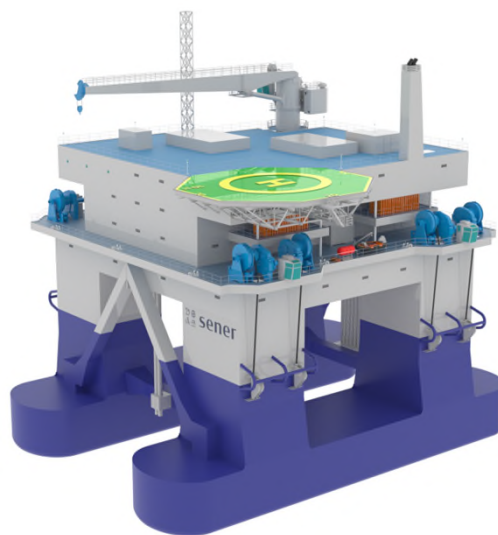


Small size of elements for a **reduction in the capacity** of the auxiliary resources (cranes, scaffolding, size of the painting booths, etc.), **reducing the time and cost associated**

CHALLENGES

Design and construction of floating substation

- Key for feasibility of numerous good wind resource areas far away from coast
- Several solutions under development, yet to be delivered on commercial scale



FLOATING SUBSTATION



R&D for other solutions that allow to increase the distance from coast and/or system robustness in shorter term

THANK YOU

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