

# SUBSEA SMART HUBS for FLOATING WIND FARMS



## JIP Context and Objectives

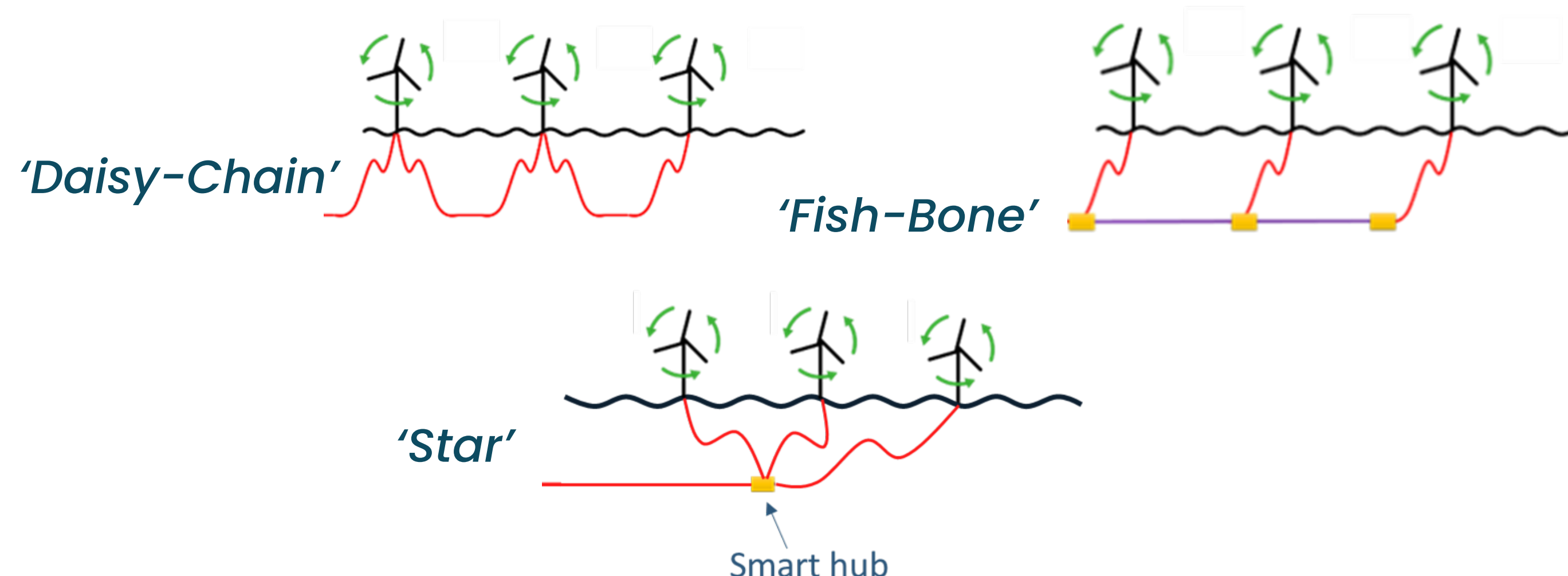
Project has been initiated by 3 companies: SuperGrid Institute, Aventa & SCM, Sponsored by several offshore wind farms developers and major providers.

Collaboration among wind farm developers and technology suppliers is central to this project.

JIP aims to address new Inter-Array Cable (IAC) system architectures for Floating Wind Farms.

Subsea hubs allow Fishbone and Star architectures, that diverge from the traditional daisy-chain configuration with the potential to lower overall costs over the life of field, enhance availability and increase capacity factors resulting in a lower Levelized Cost of Energy (LCoE).

**Aventa**



## Cases Studied – Area of Application

3 IAC configurations are compared for CAPEX for 2 fields :

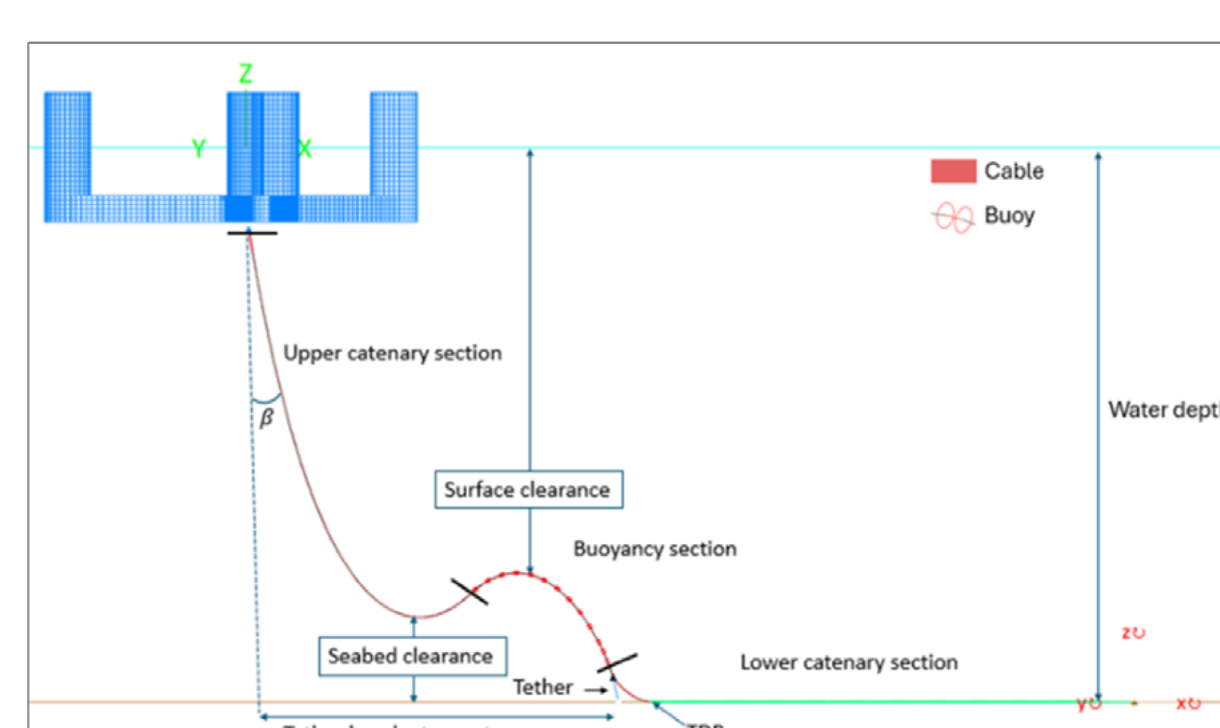
- 500MW (33 x 15MW Wind Turbines) & 66kV cables
- 1 GW (55 x 20MW Wind Turbines) & 132 kV cables

## IAC layouts made possible

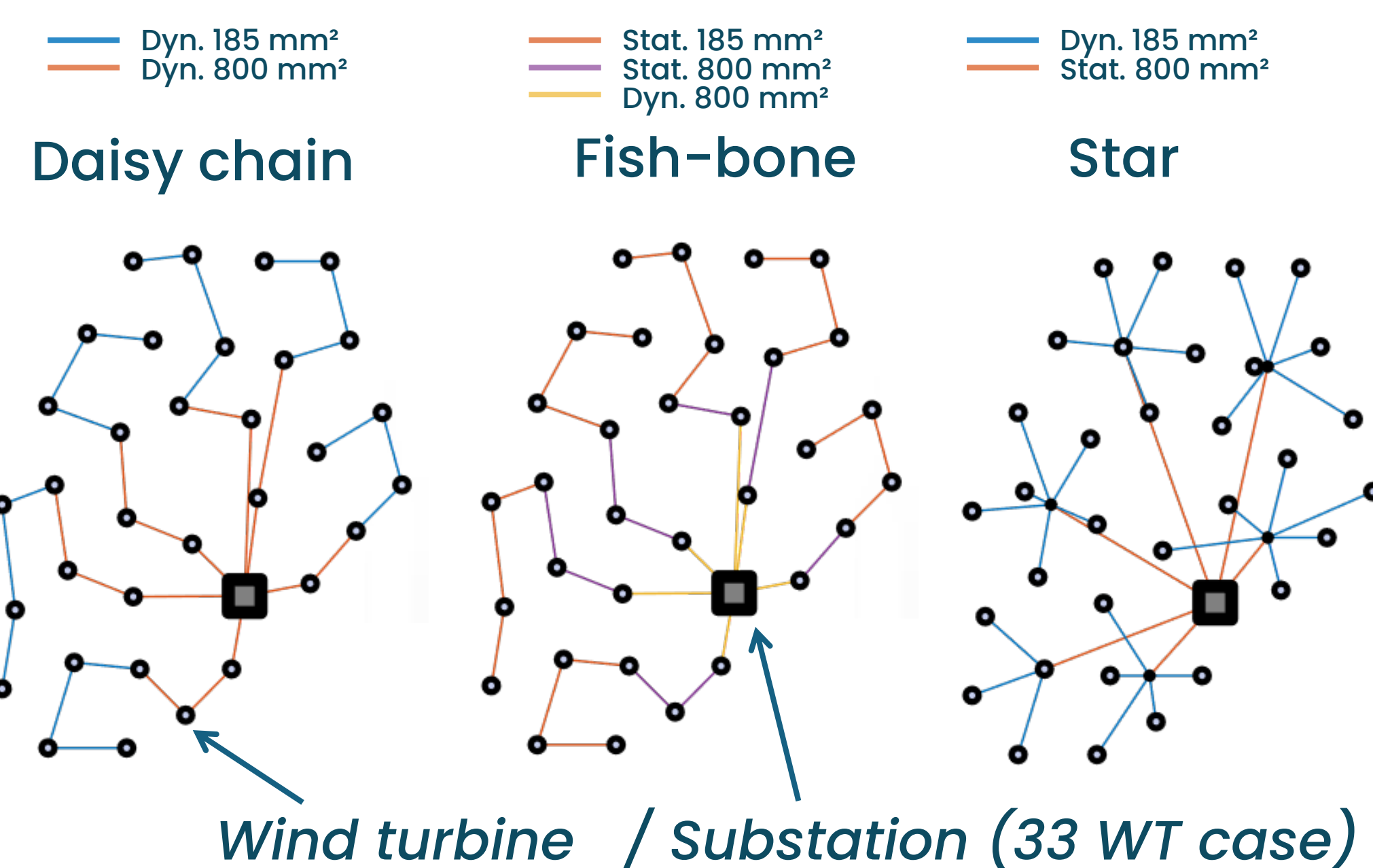
Layout has been optimized with enhanced version of SuperGrid Institute software 'OpTEAssoft'.

Key advantages enabled by Subsea Hub:

- single size of dynamic cable
- Static cables
- Both dry-mate and wet-mate subsea connectors considered

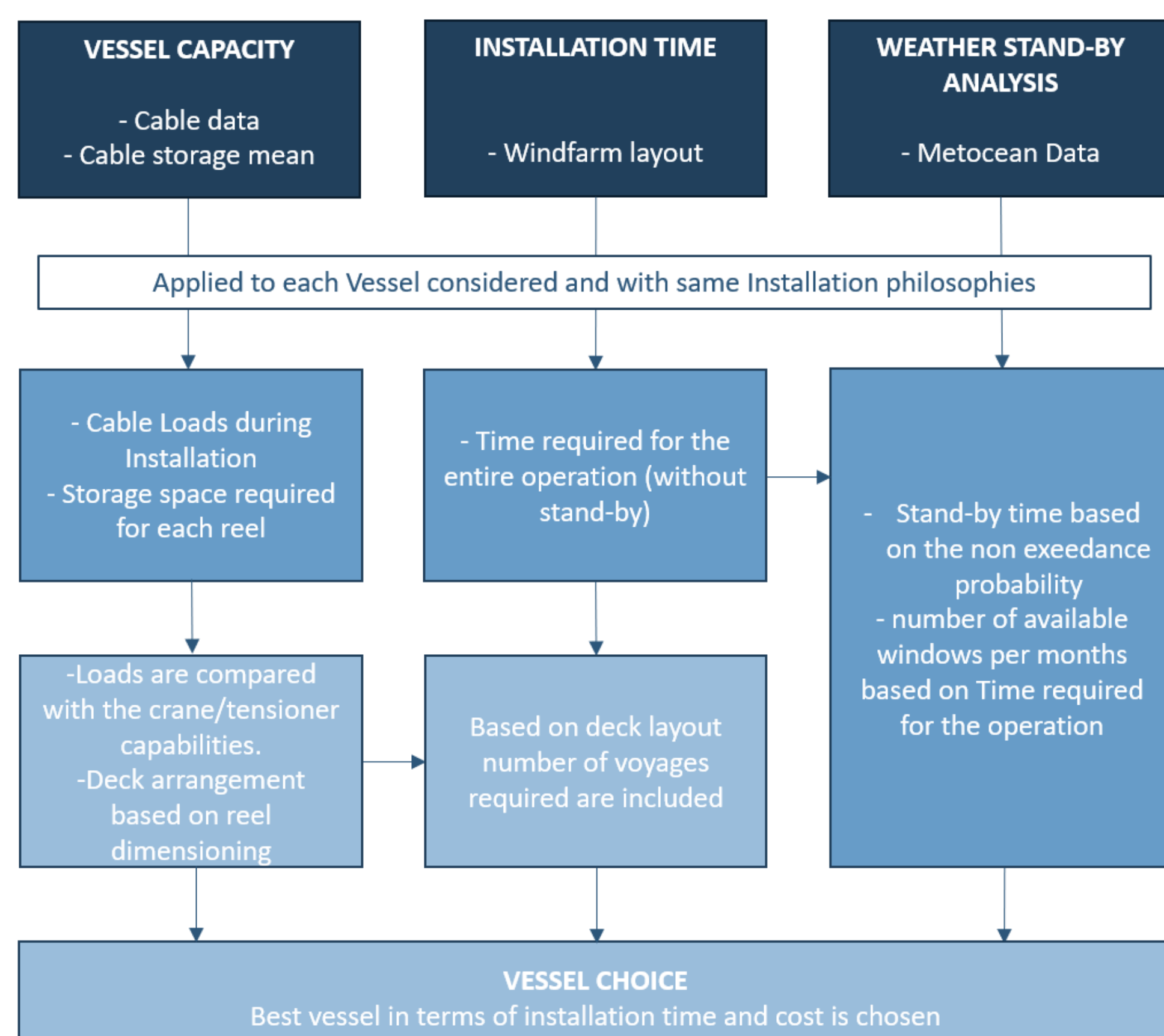
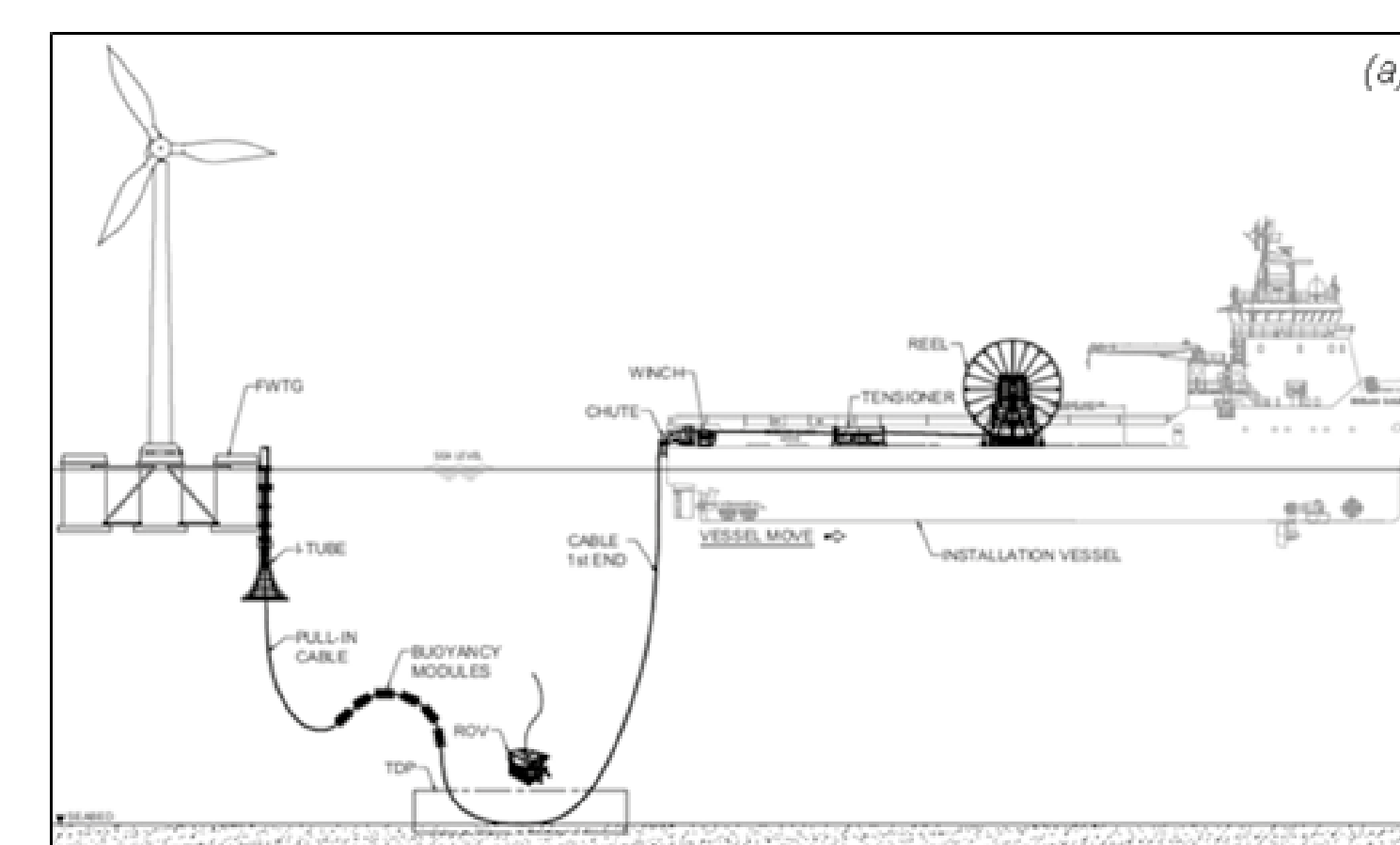
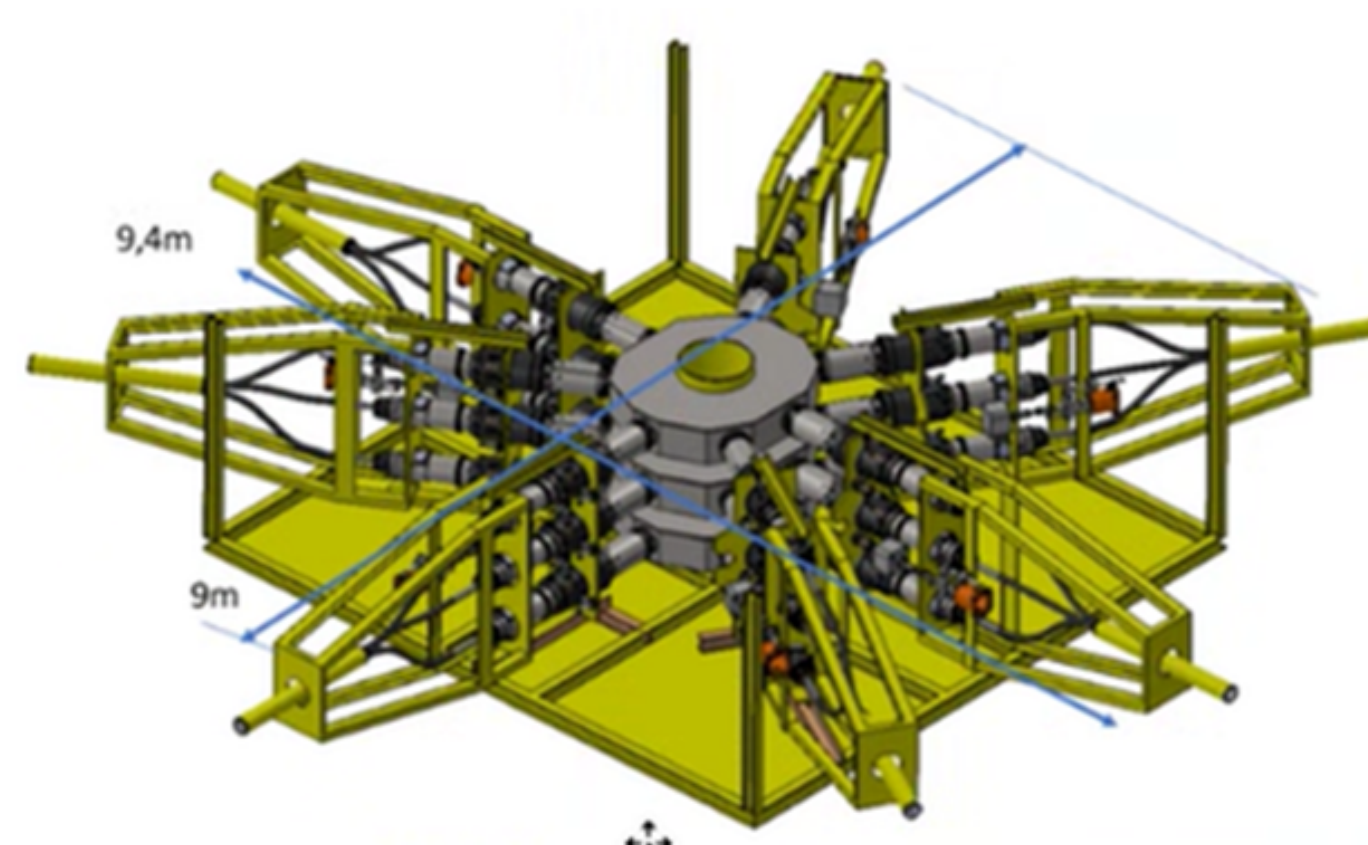


Tethered Lazy-Wave



## Transport and Installation – O&M

T&I depends on field seasonal metocean conditions driving the optimal vessel choice. Combined with CAPEX, OPEX costs are then based on O&M strategies and system reliability.



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More

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