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Subsea Power Cable Installation

Challenges and innovation



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 asso.subsea



Bridging the distance - **Connecting the World**

Agenda

1. Introduction
2. Subsea power cables Installation
3. Innovation

1 Introduction

We are **Asso.subsea**

- Formerly known as Assodivers
- **Greek-owned and based company**
- Founded in **1976**
- Providing services to clients for almost **50 years**
- Specialized in **worldwide submarine utilities** installation and repair activities
- **In-house design** of vessels and tools
- **Creative, innovative, reliable and cost-effective solutions** fitted to customer needs

50

Years
of Excellence



25+
units



950+
professionals



9 (+1)
vessels

1 Introduction

What we do

Power Cable Installation

- Interconnectors
- OWF Export Cables
- OWF Inter-array Cables

Scope of work

- Engineering & PM
- Surveys
- Route clearance
- Cable laying
- Cable burial and protection



1 Introduction

The Asso equipment “fleet”

- In – house RND, design and fabrication
- In – house maintenance, upgrade and repair
- Largest trencher fleet in the market
- On – site technical support
- In – house operators
- 100% manufactured in Greece



1 Introduction

Asso Worldwide

Asso Experience

Cable Installation  **1.633 km**

Cable Protection  **5.177 km**

Jetting **2.292 km**

Mechanical Trenching **1.178 km**

Simultaneous Lay
& Burial **511 km**



1 Introduction

Asso in Europe



Asso Experience

- Interconnectors
- Exports
- ⚡ IAC
- ⚡ FOWF

Agenda

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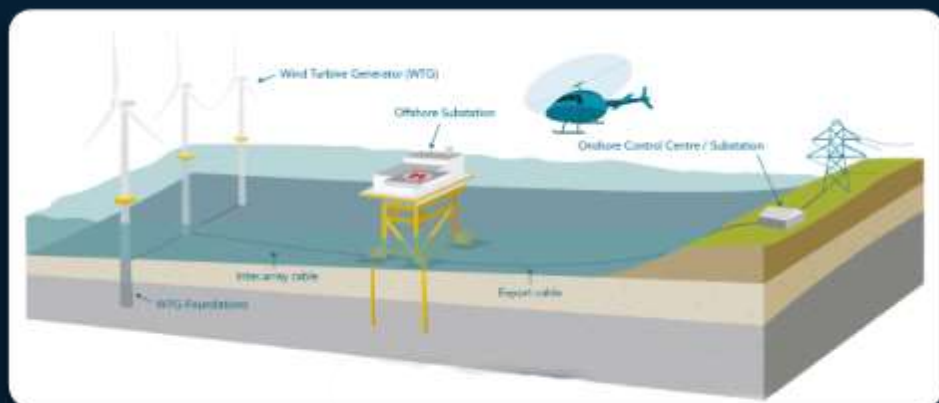
2 Subsea power cables installation

Market Sectors

Offshore Wind



Inter-array



Export

Inter-Connectors



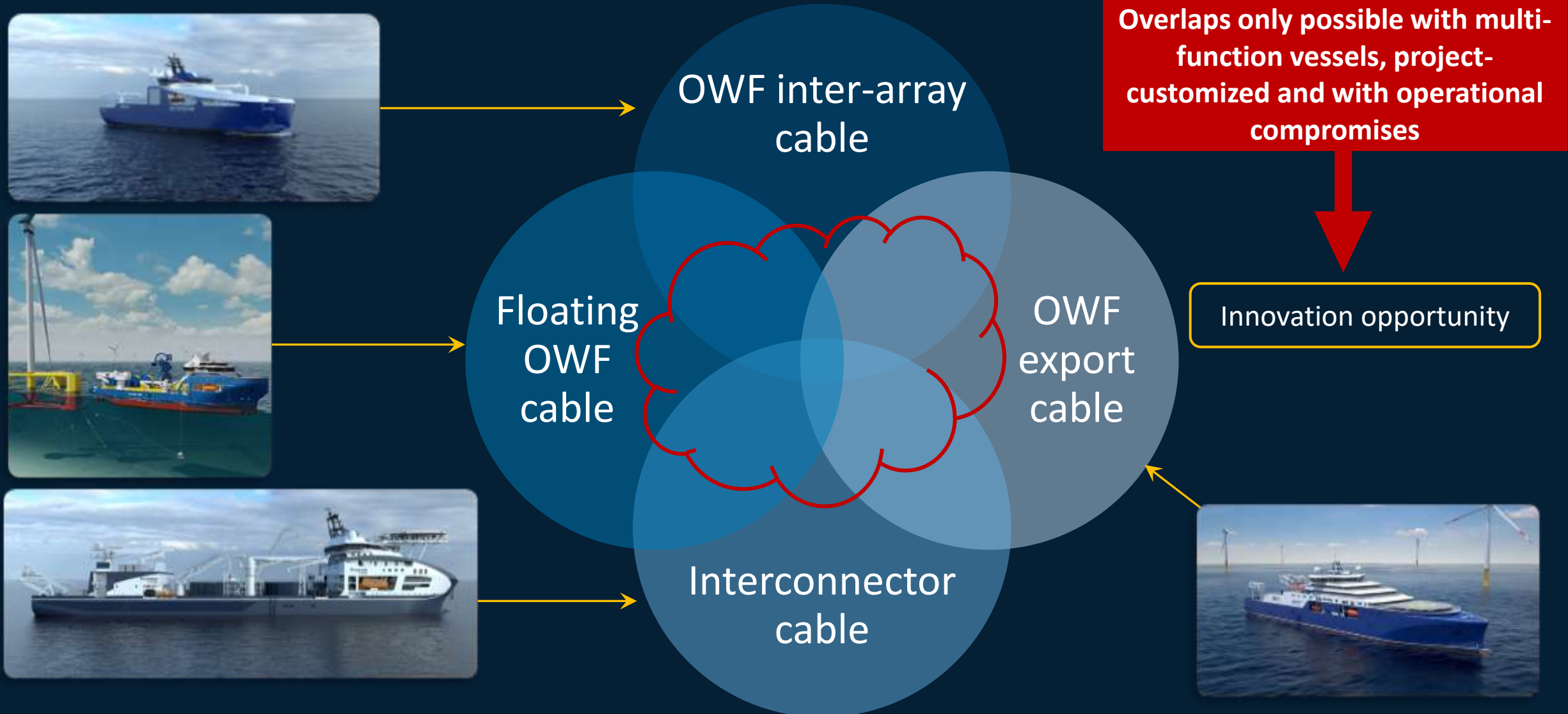
2 Subsea power cables installation

Installation parameters

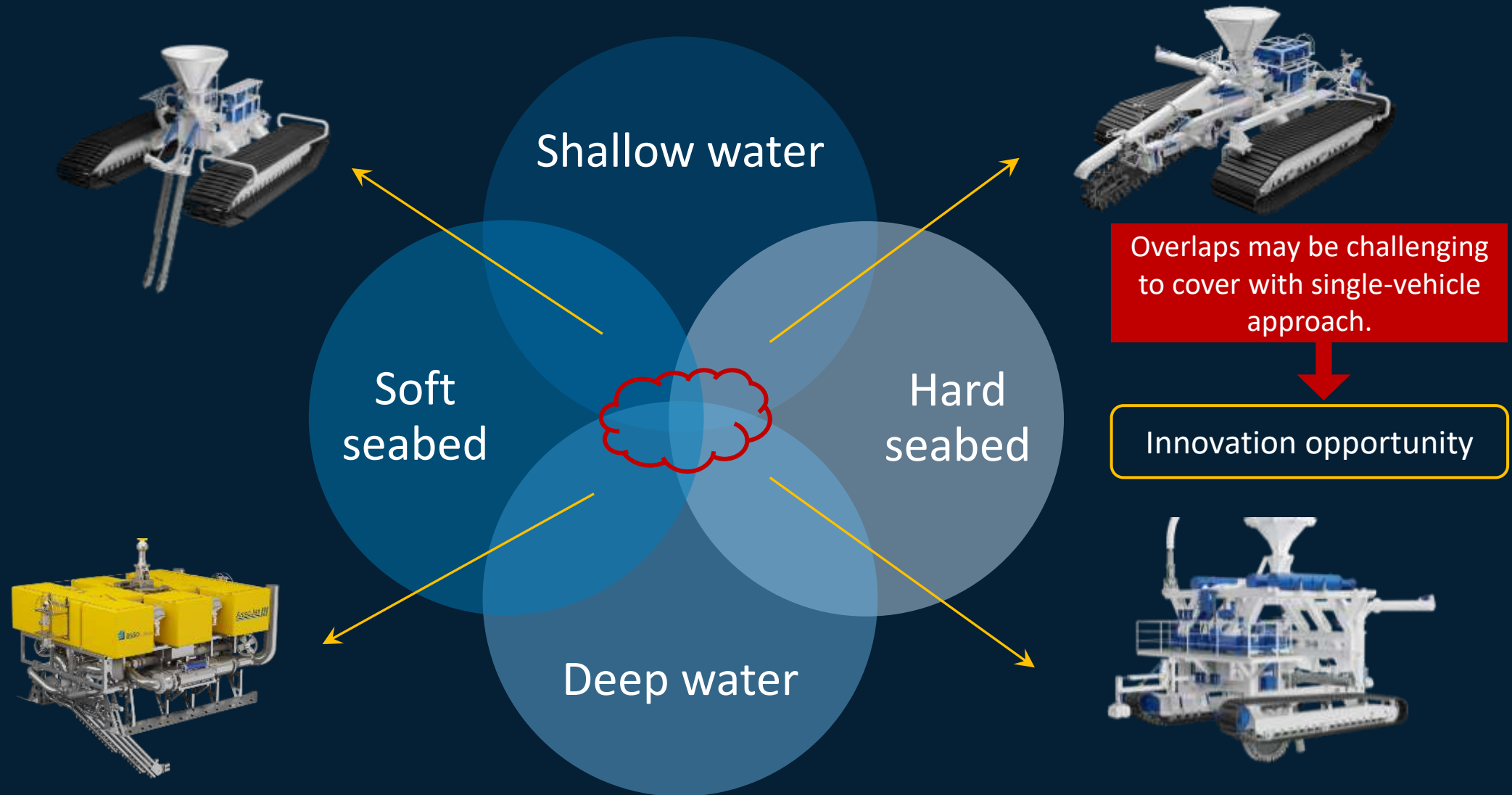
Offshore Wind	Installation Type	Cable Type	Voltage	Length (typical)	Water Depth (typical)	Major Challenges
	Fixed Bottom Inter-array	3-core AC - Static	Medium (33 ~ 66 kV)	~ 1,000m per section	Intertidal zone to ~60m	<ul style="list-style-type: none"> Multiple sections / campaigns Sequence restrictions Pull-in & termination Installation speed 100% burial / protection
	Fixed Bottom Export	1-core DC bundle or 3-core AC	High DC (up to 525kV) High AC (220kV)	~ 100s of km DC ~ 10s of km AC	Shore to ~60m	<ul style="list-style-type: none"> Long lengths / Jointing Bundle installation Shore landing 100% burial / protection
	Floating Inter-array & Export	3-core AC - Dynamic	Medium & High (66 & 220 kV)	~ 1,000m IAC ~ 10s of km ExC	Shore to <600m	<ul style="list-style-type: none"> Pre-terminated cable Floation system Pull-in & termination 100% burial / protection
	Interconnector	1-core DC 3-core AC 1-core AC	High DC (up to 525kV) High AC (up to 220kV) Medium AC (33-66kV)	10s of km to 1000s of km	Shore to <2,000m	<ul style="list-style-type: none"> Diversity (different types of IC) Extra Long lengths / Jointing Shore landing Deep water laying 100% burial @ < ~600m WD

2 Subsea power cables installation

Laying Vessels



2 Subsea power cables installation Burial Vehicles (post-lay)



Agenda

1. Introduction
2. Subsea power cables installation
- 3. Innovation**

3 Innovation

Vessel technology

Conversion from OSV

130m length

25m beam

7,000t total cable payload

1 x 5,000t carousel (on deck)

1 x 4,000t carousel (in hold)

Burial support capability

2 x WROV support capability

106 Persons accommodation

DP-3 with 6 x thrusters

Diesel-Electric propulsion

14MW Power

"Ariadne" – Multi-use Cable Layer



Innovations

- Designed to cover IAC, Export Cable and interconnector cable installation using modular back deck arrangements
- Multi-cable bundle lay (3 cable bundle)
- Simultaneous laying and burial
- Harsh environment operability

3 Innovation

Vessel technology

Conversion from barge

97m length

31.5m beam

4,500t total cable payload

1 x 4,500t carousel (aft)

1 x 2,500t carousel (fore)

Burial support capability

1 x WROV support capability

4m WD operational capability

Safe grounding capability

Spud-pole anchoring

DP2 with 6 x thrusters

“Atalanti” – Shallow Water Cable Layer



Innovations

- Designed to cover shore landing portions of OWF Export Cable and interconnector cable installation
- Capable of beaching
- Multi-cable bundle lay (3 cable bundle)
- Engineered for Floating IAC installation

3 Innovation

Vessel technology

New cable laying vessel

175m length

42m beam

16,000t cable payload

1 x 12,000t cable carousel (fore)

1 x 4,000t cable carousel (aft)

Burial support capability

5m WD operational capability

Safe grounding capability

Spud-pole anchoring

DP2 with 9 x thrusters

Diesel-Hybrid propulsion

Methanol & Biofuel ready

20MW Power

Under Construction – Q2/2027



Innovations

- Designed to cover OWF Export Cable and long interconnector cable installation
- Engineered for deep and shallow water with beaching capability
- Multi-cable bundle lay (4 cable bundle)
- Sustainable technology built in.

3 Innovation

Vessel technology

New trenching support vessel

130m length

28m beam

Twin working deck

2 x Heavy Duty A-Frames

2 x WROV Moonpools

200t Bollard Pull

DP-2 with 6 thrusters

Diesel-Hybrid propulsion

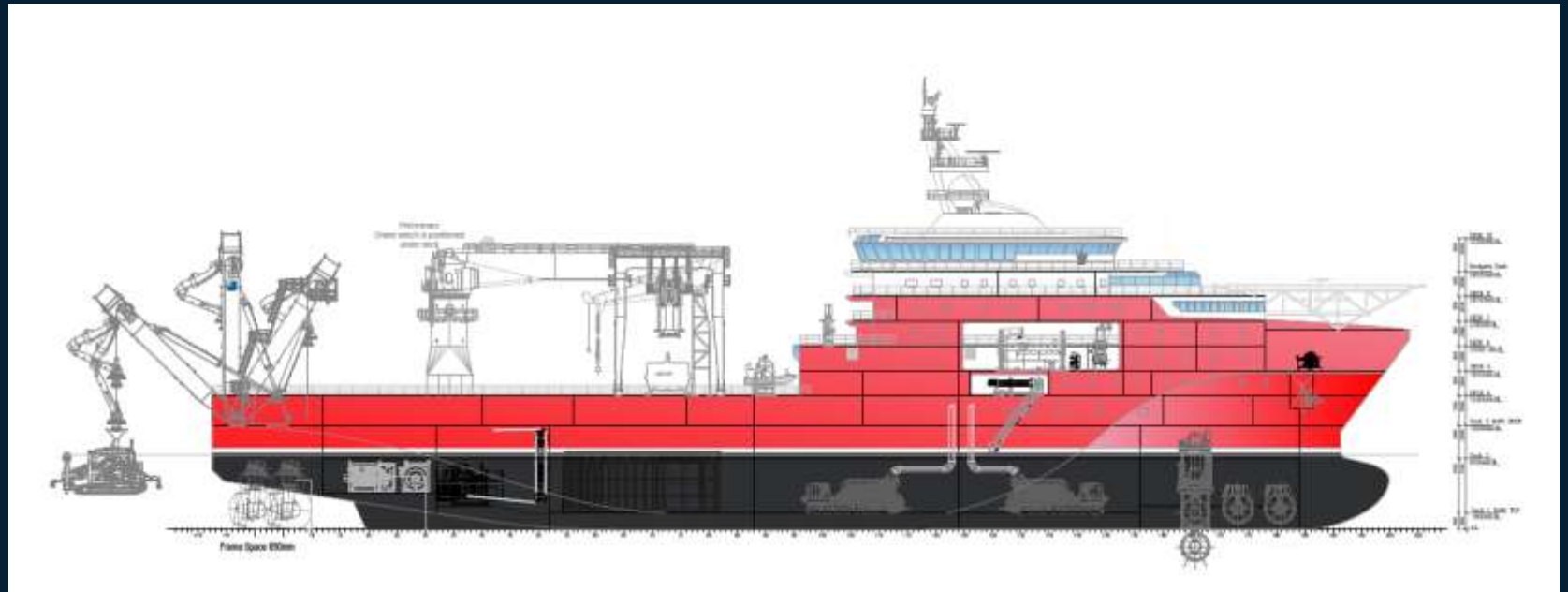
>20 MW Power

Methanol & Biofuel ready

Speed >14kn

120-person accommodation

Under Development – Q1/2028

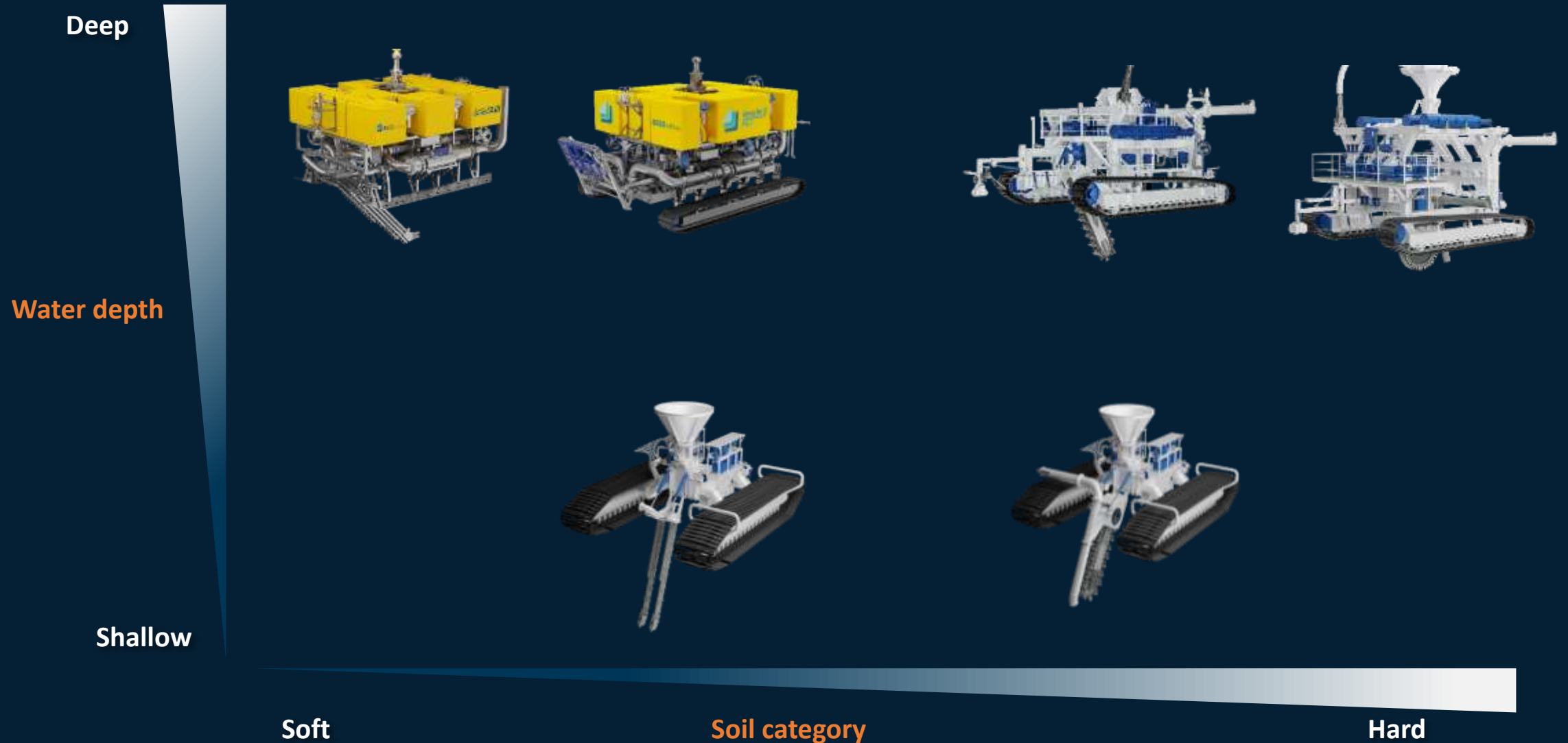


Innovations

- Integrated powering and handling systems for 4 x cable protection and installation spreads (2 x trenchers, plough, boulder clearance + ROV)
- Prepared for cable carousel installation for 4,000t of cable
- Heavy weather capable – extending operational profile into winter periods
- Double-redundant power, propulsion and dynamic positioning capability
- Sustainable technology built in.

3 Innovation

Burial vehicle technology





Thank you