



OFFSHORE WIND ENERGY DEVELOPMENT IN THE ADRIATIC SEA: THE P.O.W.E.R.E.D. PROJECT AS PLANNING POLICY

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Submarine Cables Lay Micoperi Experience

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CABLE TYPES



From the point of view of the installation technology the Submarine Cables can be divided in two main families :

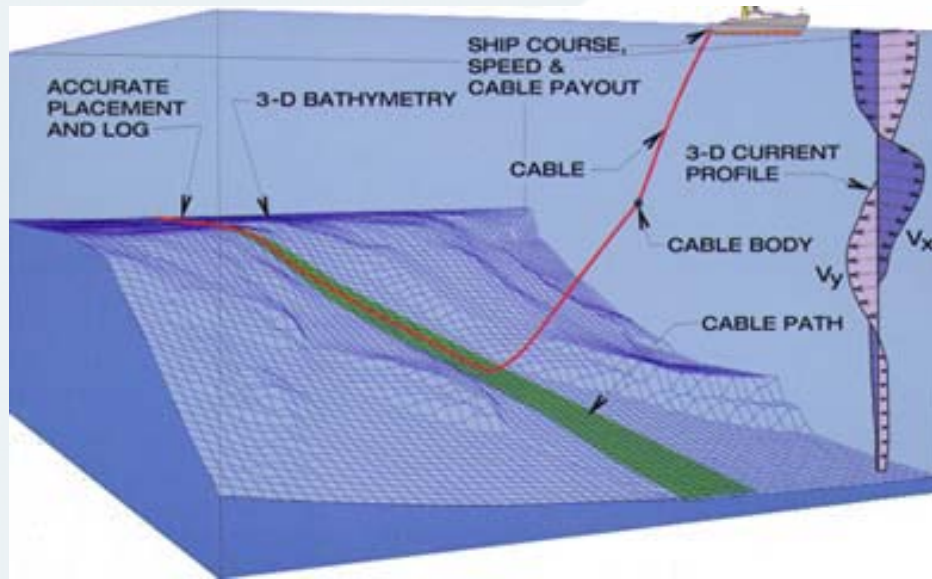


Telecom Cables



Power Cables

TELECOM CABLES LAY



Telecom Cables in deep water are laid with “slack” which means that are laid with a certain percentage of length in excess of the sea bottom contour.

Slack is computed comparing the pay out rate with the vessel speed considering also the local conditions : sea bottom profile and currents.

Telecom Cables in shallow water (armoured cables) are not laid in slack but are laid with the same technique used for Power Cables.

POWER CABLES LAY



TELECOM CABLE LAY VESSEL – TYPICAL GENERAL ARRANGEMENT

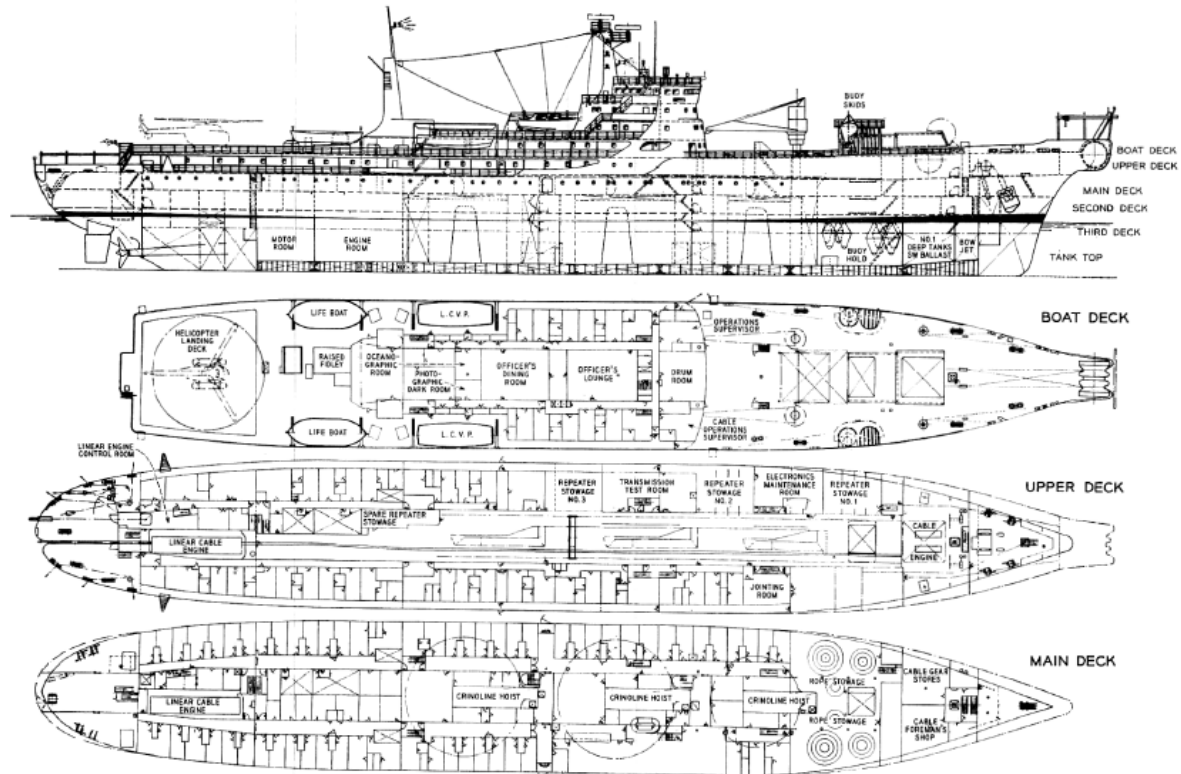


Fig. 4 – General arrangement of decks.

TELECOM CABLES LAY



TYPICAL LAY VESSELS AND EQUIPMENT



Typical Lay Vessel



Linear Cable Engine



Drum Cable Engine

POWER CABLES LAY



Power Cables market is covering the following main fields :

1. Long power connections (AC and DC). Are normally trunk lines operated by National Utilities
2. Oil and Gas connection, normally supplying power to Offshore Platforms
3. Wind Farms cable links bringing ashore the produced energy

POWER CABLES LAY



1. Long power connections (AC and DC)



C/S Giulio VERNE



C/S Skagerrak

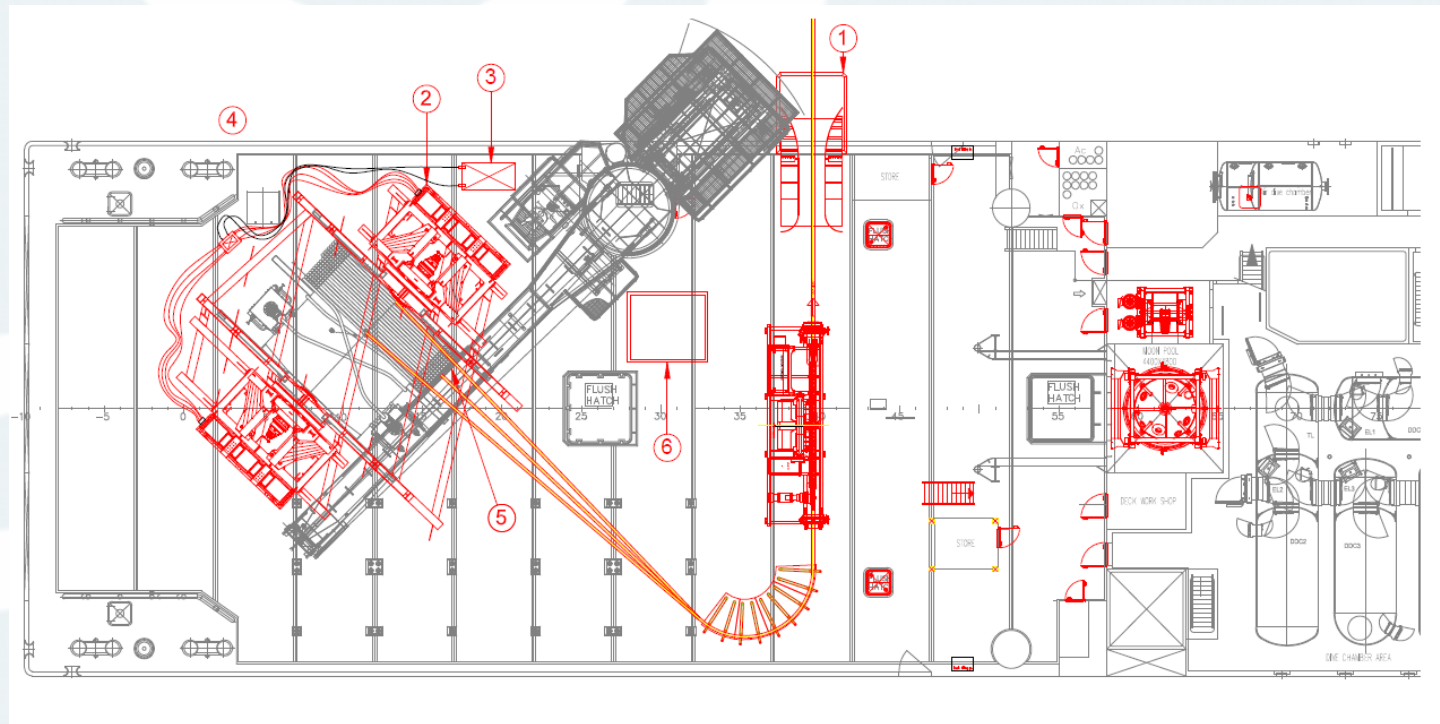
There are only two Cable Lay Vessels in the world equipped for long length power cable lay (cable capacity 7000 Ton).

POWER CABLES LAY



2. Oil and Gas and 3. Wind Farms power connection
Vessels, equipment and lay technology are similar:
Typical deck layout :

1. Stern chute
2. Spooler frame
3. Power pack
4. Spooler
5. Cable Drum
6. Tensioner



POWER CABLE LAY



TYPICAL VESSELS

The utilization of DP vessels is normally recommended. Micoperi has on its fleet the following vessels suitable for cable lay works :



DSV MAMTA



DSV REMAS

POWER CABLES LAY

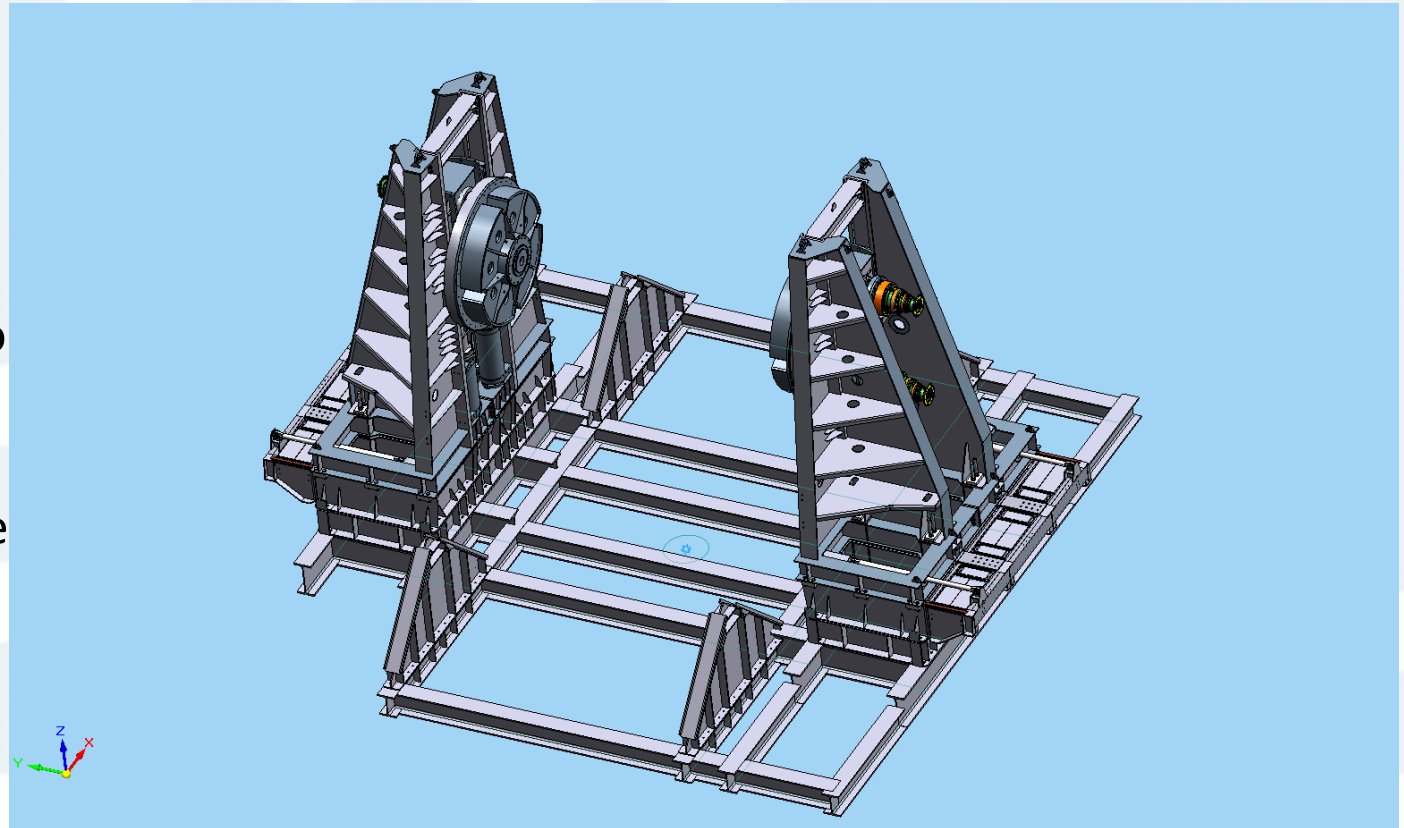


TYPICAL EQUIPMENT

Micoperi has designed and manufactured the main equipment :

SPOOLER

Suitable for drum up to 500 t weight which is the highest portable spooler capacity on the market.



POWER CABLES LAY



TYPICAL EQUIPMENT

TENSIONER

Micoperi utilize a Cable Tensioner Remacut type

Maximum pull 15 ton
The belt is very long and produce lower lateral Pressure on the product.



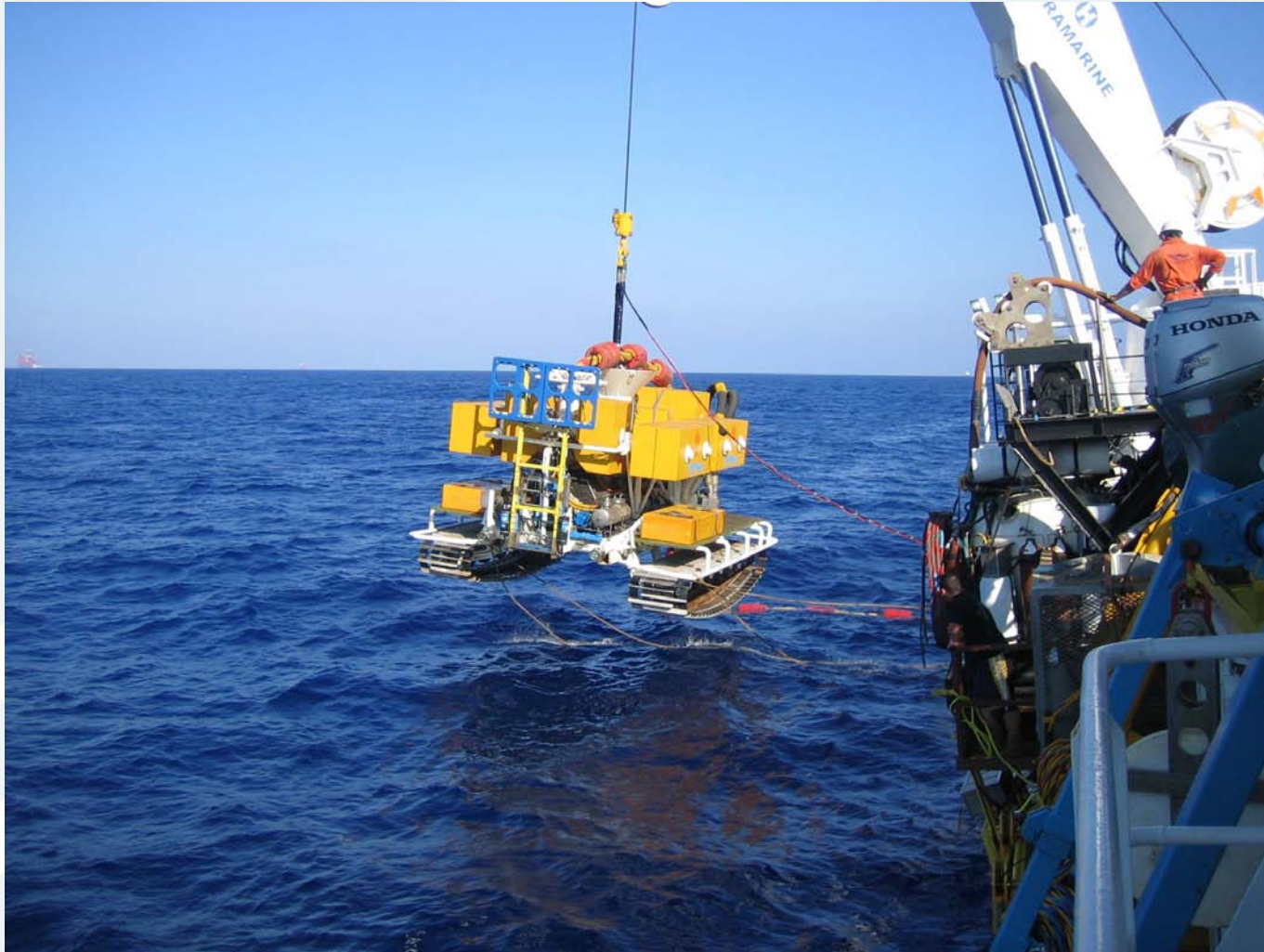
POWER CABLES LAY



POWER CABLES LAY



POWER CABLES LAY



Cable Burial

POWER CABLES LAY



GRAZIE DELL'ATTENZIONE