DeepWind Subgroup Cable Lay Vessel update
11th April 2024

Norman Skillen – Jan De Nul Group

Jan De Nul Group

International Marine Contractor and Offshore Wind Tier I Contractor since 2012

100% family owned and managed. 7500 employees and 900+ professional engineers

Operations and offices worldwide

221 international projects in 2022 (dredging, offshore wind and subsea cables, civil construction and environmental projects)

€2.5bn turnover in 2022

Principal business:
The safe and sustainable execution of complex and multi-disciplinary marine projects with vessels and equipment owned and operated by company.


Jan De Nul
GROUP
1. Hydrogen Plant Infrastructure
2. GBF Manufacturing Yard
3. Jacket Foundation & WTG
4. Monopile Foundation
5. Floating Windfarm
6. Crossing of cables/pipelines
7. Gravity Based Foundation
8. Interconnector subsea cable
9. Cofferdam landfall
10. Export Cable Landfall
11. Onshore Solar- & Windfarm
12. Offshore Substation
13. Energy Island
14. Floating Solar Panels
15. Hydroelectric Power Station
Constructing the Energy Transition

PROJECT HIGHLIGHTS
OFFSHORE CABLES.

UNITED KINGDOM/IRELAND
- Greenlink Interconnector Project

THE NETHERLANDS
- Hollandse Kust North & West-Alpha

UNITED STATES OF AMERICA
- Vineyard Wind

TAIWAN
- Formosa 2 OWF

GREECE
- Peleponese - Crete Interconnector

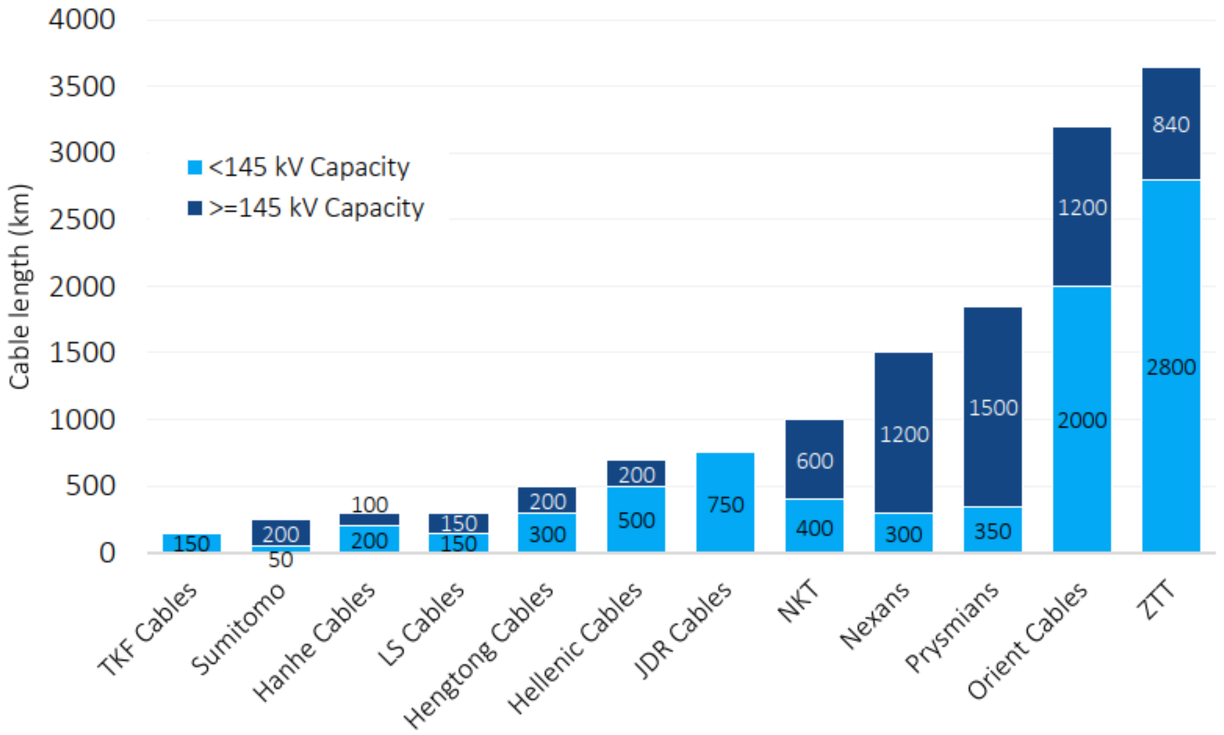
UNITED ARAB EMIRATES
- Lightning Project

CABLE SUPPLIERS: Supply vs Demand.

Cable suppliers: Supply capacity

Total estimated capacity of all suppliers is ~ 14,140 km/year

Estimated current supply capacity of all manufacturers – by voltage

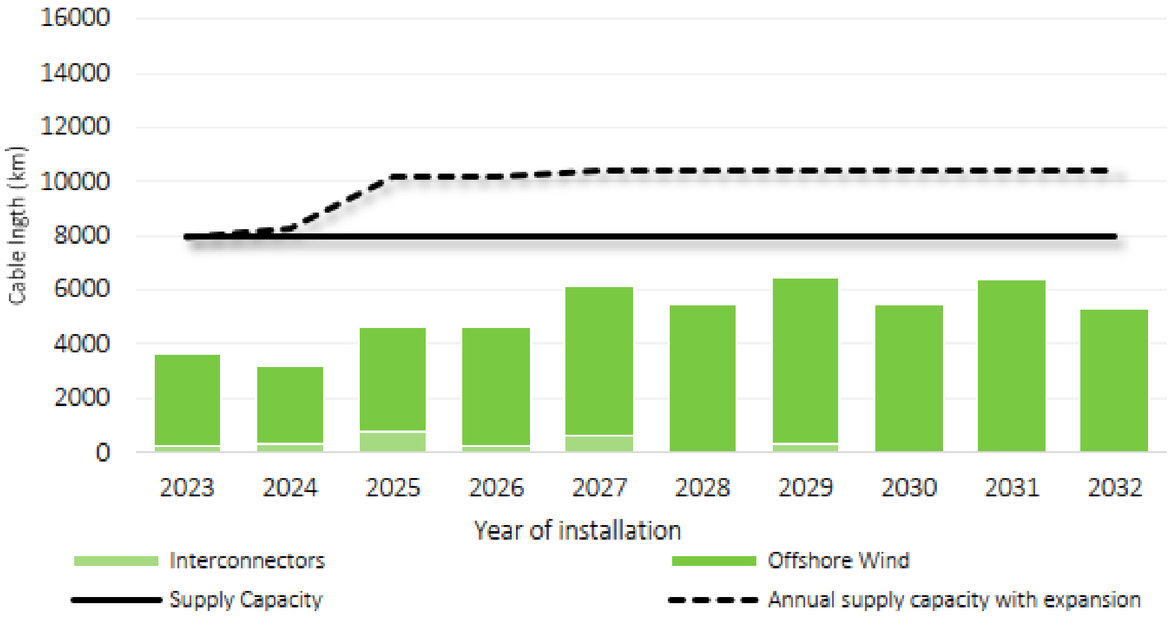


Source: 4COffshore.

CABLE SUPPLIERS: Supply vs Demand (global).

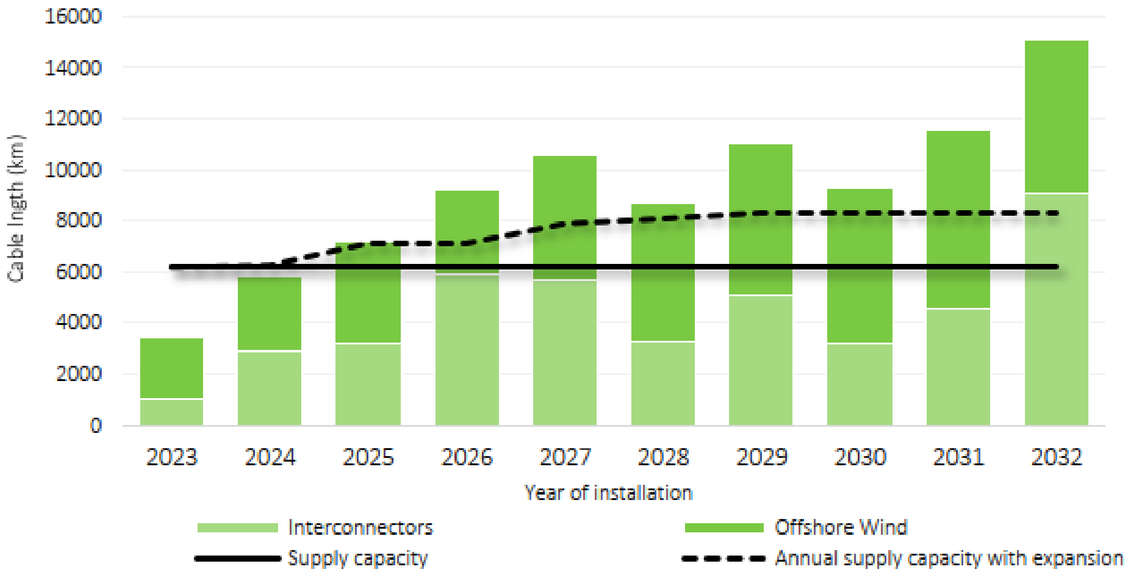
Supply shortage is unlikely

<145 kV cables: supply vs demand



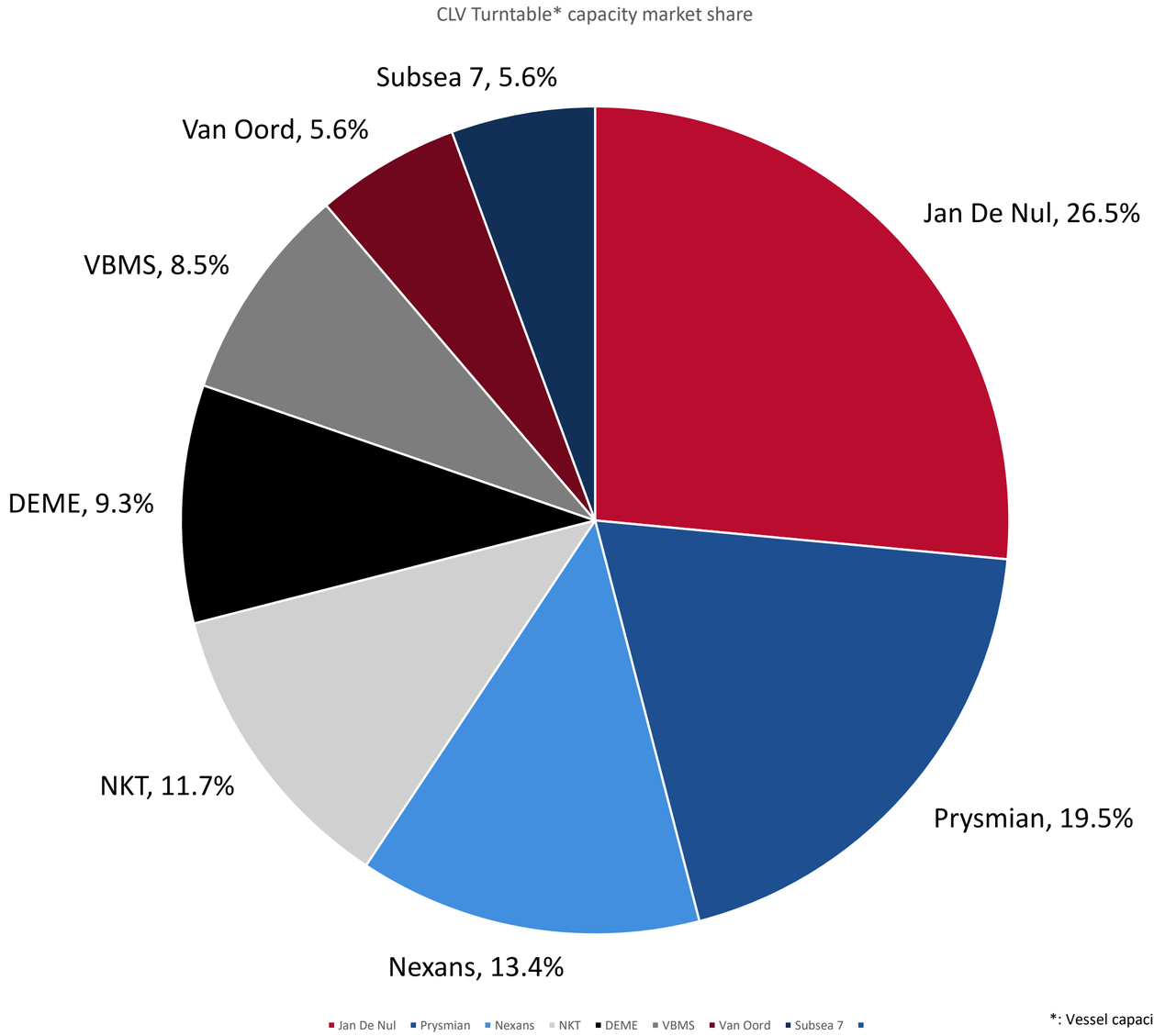
Expected supply shortage after 2025

>=145 kV cables: supply vs demand



Source: 4COffshore.

CABLE INSTALLERS: Capacity.



Contractor	[mT]
Jan De Nul	61,300
Prysmian	45,000
Nexans	30,950
NKT	27,000
DEME	21,500
VBMS	19,600
Van Oord	13,000
Subsea 7	13,000
TOTAL	**231,350**

Average installation rate:
0.044km/carousel tonne/year
E.g., A 13,000t carousel can install 572km/year.

=> Annual capacity will be around 10,000 km/year (2027)

*: Vessel capacity above 4,000 mT

Source: 4COffshore.

Jan De Nul Group Next Generation Ultra Low Emission Cable Laying Vessel (CLV)

Fleeming Jenkin, ordered September 2023 with target completion in late 2026, and up to 28,000 tonnes of cable carrying capacity.

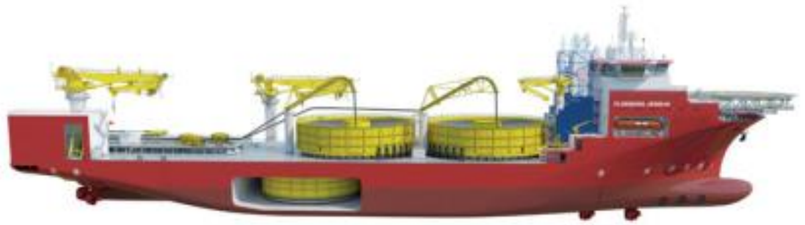
Fleeming Jenkin.

DP2 Cable Laying Vessel

TECHNICAL SPECS	
Maximum cable load	**28,000 t**
Turntable capacity	**2 x 11,000 t + 1 x 7,500 t**
Length o.a.	**215 m**
Breadth	**40 m**
Draught loaded	**9.75 m**
Draught empty	**5.5 m**
Propulsion power	**4 x 2,600 kW Azimuth thrusters**
Bow thruster power	**3 x 2,100 kW**
Retractable thruster power	**2 x 2,600 kW**
Total installed power	**30,600 kW**
Speed max.	**13.5 kn**
Accommodation	**120 single cabins**
Built in	**under construction - 2026**

SPECIFICATION OF OPERATIONAL EQUIPMENT	
Deck carousel	**2 x 11,000 t** **Inner diameter 8 m**
Under deck carousel	**7,500 t** **Inner diameter 8 m**
Fibre optic tanks	**2 x 600 t**
Tensioners	**Laying: 3 x 50 t – 4 tracks** **Loading: 2 x 7.5 t – 2 tracks**
Laying wheel	**integrated in stern chute** **12 m diameter**
Offshore cranes	**100 t AHC** **30 t**
ROVs	**2 x WROV in dedicated ROV hall** **3,000 m depth rating**
Winch	**150 t AHC abandonment & recovery winch**

Reinforced construction for ploughing A-frame

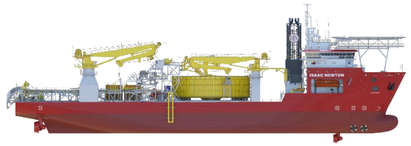


The vessel can install up to 28,000 t of cable and is thereto equipped with two 11,000 t turntables above deck, a 7,500 t turntable below deck and two fibre optic tanks, along with three 50 t tensioners, a cable laying chute and a cable laying wheel. The vessel is capable of laying up to five cables simultaneously.

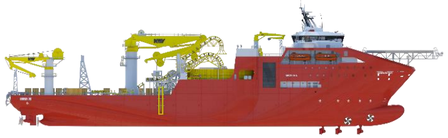
NEXT GENERATION TECHNOLOGY
Hybrid power plant with 2.5 MWh battery system
ULEv technology
Green fuel solutions: operation on biofuel and methanol

Offshore Cables.

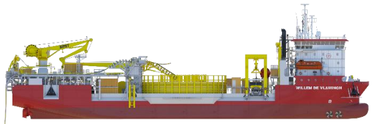
Fleeming Jenkin



Isaac Newton



Connector



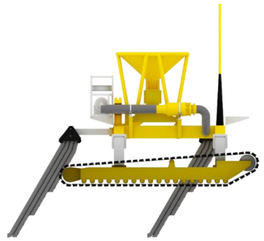
Willem de Vlamingh

Symphony

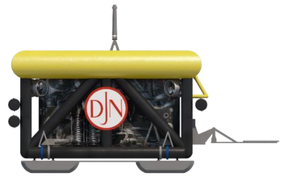
Sunfish

Moonfish

Swordfish



UTV1200



PT1

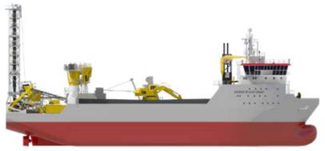
Starfish

Subsea Rock.

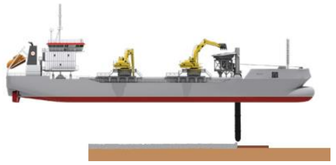
Joseph Plateau

Simon Stevin

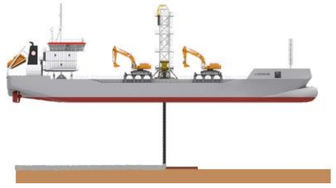
Daniel Bernoulli



Adhémar de Saint-Venant



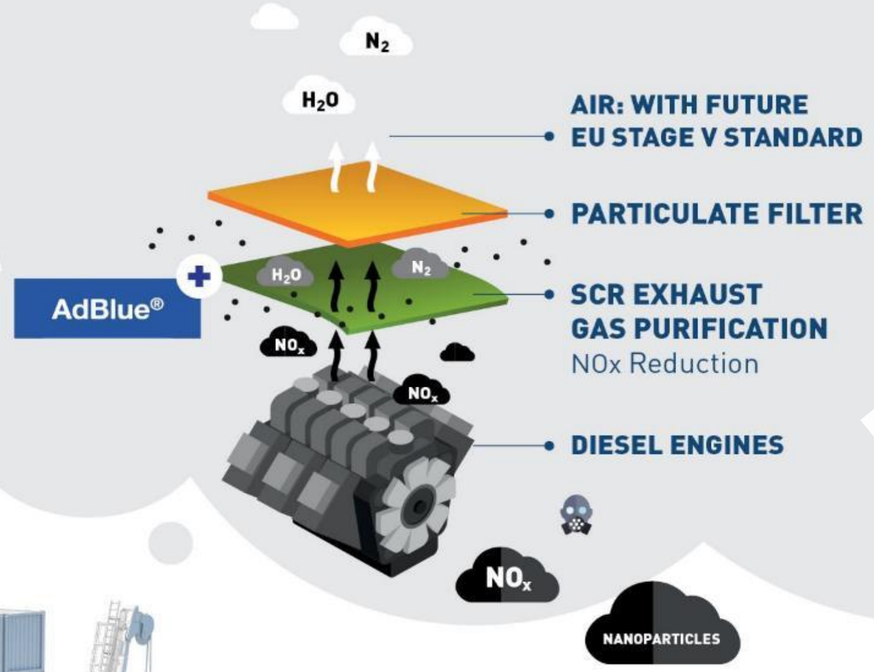
Tiger



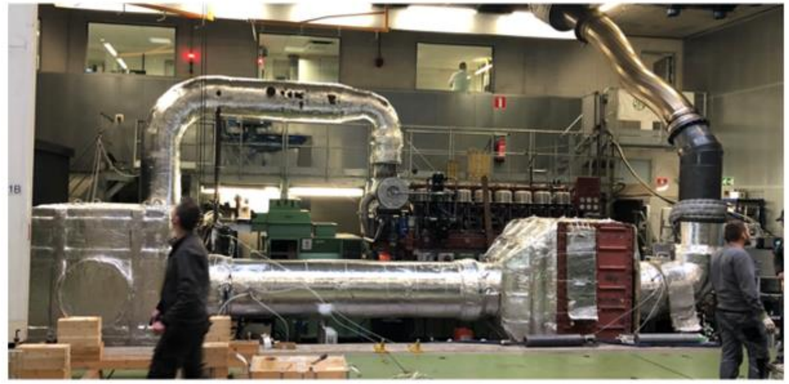
La Boudeuse

Pompei

Ultra Low Emission Vessel



- ULEv can achieve an 80%+ carbon footprint reduction with no methane emissions if run on second generation bio-diesel.
- Selective Catalytic Reduction of nitrous oxides NO_x with urea
- Particulate filter removes 99% nanoparticles for e.g. carbon black
- Voltaire, Les Alizés and Fleeming Jenkin join five existing JDN ULEv's.




Jan De Nul
GROUP


www.jandenul.com

APPENDIX

Willem De Vlamingh.

Cable and Umbilical Installation vessel

Total installed diesel power: 8,975 kW
Equipped with two turntables

Turntable capacity: 5,400 t
Outer basket diameter 28m
Inner basket diameter: 8 m

Isaac Newton.

Cable and Umbilical Installation vessel

Total installed diesel power: 12,330 kW
Equipped with two turntables

Turntable capacity: 7,400 t / 4,500 t
Outer basket diameter: 27.4 m / 23.5 m
Inner basket diameter: 8 m / 4.6 m

Connector

DP3 Ultra Deepwater Multipurpose,
Flex-Lay Subsea Construction Vessel

Total installed diesel power: 23,405 kW
Turntable capacity: 6,000 t + 3,000 t
AHC Knuckle Boom Crane 400 t at 3000m water depth
2 WROV up to 4000m water depth

Symphony

DP2 Trenching and Offshore Support Vessel

Total installed diesel power: 15,360 kW
Deck area: 1,400 m² - 10 T/m²
AHC Knuckle Boom Crane 150 t at 10m
2 WROV up to 3000m water depth
OPTIONAL: ROV Trencher
105 pax capacity