

附錄 A: 船舶 Taillevent 安裝 21 座風力發電機作業及船舶規格相關資訊

Annex A: Installation of 21 sets of WTG by vessel Taillevent (including specifications of vessel Taillevent)

1. 安裝作業期間將在 2021/03/01 到 2021/08/31，包括天氣變化考量在內。這次一個預估期，如果天氣氣候不允許，安裝作業完成期可能會因此更改。
 2. 作業範圍(藍色區域)及風機安裝位置及座標資訊、四個基點標誌浮標及兩個海氣象監測浮標的目標位置座標如下圖及下表所示，作業範圍四個角點即為基點浮標位置。
1. Duration of the operation will be from 2021/03/01 to 2021/08/31, including the weather contingency. This is however an estimation and is subject to change if weather does not allow operation.
 2. Operation area (blue area) is as showing the figure below, with the installed turbine location. The coordination points of each WTG and the coordination points of the proposed installation location of each cardinal buoy and Xylem buoys added in below table, cardinal buoy located in the 4 corners of operation area.

風場範圍區域、風機位置和基點浮標位置

Windfarm, turbine location and cardinal buoys location

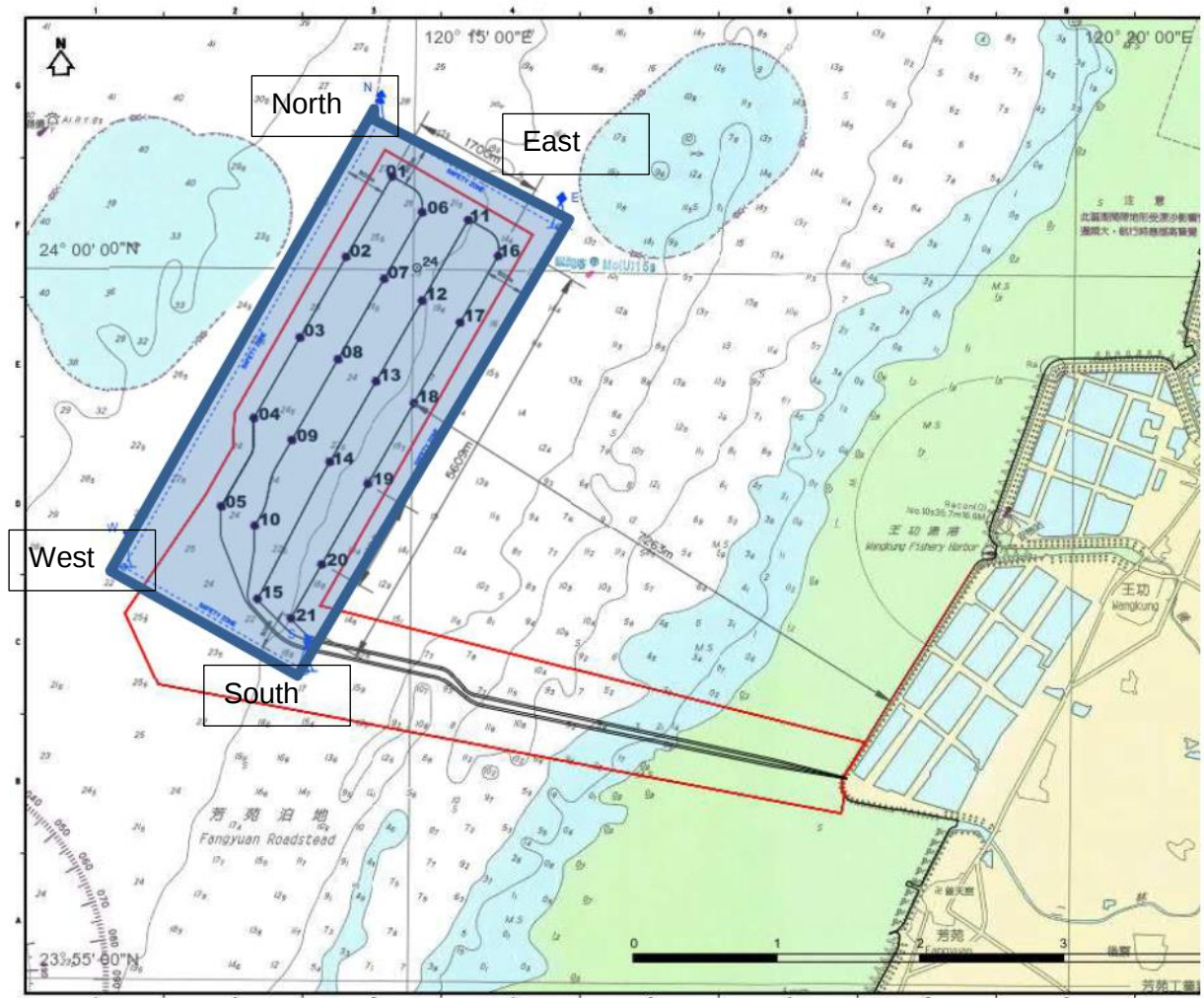


圖 1 作業範圍(藍色區域)及風機位置及基點浮標位置

Figure 1 Windfarm Area (blue),WTG location and cardinal buoys location

風機安裝位置資訊如下

Coordination points each WTG

表一風力發電機座標 Table 1 Coordinates of WTG

風力發電機 WTG	WGS84		輪穀高度(公尺) Hub Height (mLAT)	輪穀高度(公尺) Hub Height (mTWVD)
	緯度(°) Latitude (°)	經度(°) Longitude (°)		
05-A2	23° 58' 19.4347"	120° 13' 31.0037"	101.59	98.94
04-A3	23° 58' 56.5726"	120° 13' 45.7334"	101.66	99.01
03-A4	23° 59' 30.4794"	120° 14' 6.6340"	101.63	98.98
02-A5	24° 00' 4.3850"	120° 14' 27.5370"	100.90	98.25
01-A6	24° 00' 38.2900"	120° 14' 48.4433"	100.10	97.45
10-B2	23° 58' 11.3859"	120° 13' 46.3685"	102.21	99.56
09-B3	23° 58' 47.4585"	120° 14' 3.1614"	102.20	99.55
08-B4	23° 59' 21.3760"	120° 14' 24.0691"	102.32	99.67
07-B5	23° 59' 55.2931"	120° 14' 44.9797"	101.90	99.25
06-B6	24° 00' 23.2702"	120° 15' 2.2309"	102.01	99.36
15-C1	23° 57' 40.7087"	120° 13' 47.7887"	100.10	97.45
14-C3	23° 58' 38.3434"	120° 14' 20.5890"	100.17	97.52
13-C4	23° 59' 12.2724"	120° 14' 41.5039"	100.78	98.13
12-C5	23° 59' 46.2003"	120° 15' 2.4217"	101.43	98.78
11-C6	24° 00' 20.1277"	120° 15' 23.3424"	102.23	99.58
21-D1	23° 57' 32.6593"	120° 14' 3.1520"	102.23	99.58
20-D2	23° 57' 55.2870"	120° 14' 17.0966"	100.10	97.45
19-D3	23° 58' 29.2278"	120° 14' 38.0155"	100.09	97.44
18-D4	23° 59' 3.1679"	120° 14' 58.9376"	101.14	98.49
17-D5	23° 59' 37.1072"	120° 15' 19.8630"	102.16	99.51
16-D6	24° 00' 5.1067"	120° 15' 37.1286"	102.57	99.92

基點標誌浮標的目標座標位置如下
Nominal aimed for coordinates of Cardinal buoys.

表二基點浮標座標 Table 2 Coordinates of Cardinal buoys

浮標名稱 Name Cardinal buoy	位置 Location (WGS84)	
	緯度 Latitude (°N)	經度 Longitude (°E)
北 North	24°01'00.42"	120°14'41.76"
東 East	24°00'17.17"	120°16'04.92"
南 South	23°57'10.52"	120°14'09.82"
西 West	23°57'53.75"	120°12'46.69"

海氣象浮標 Xylem buoys

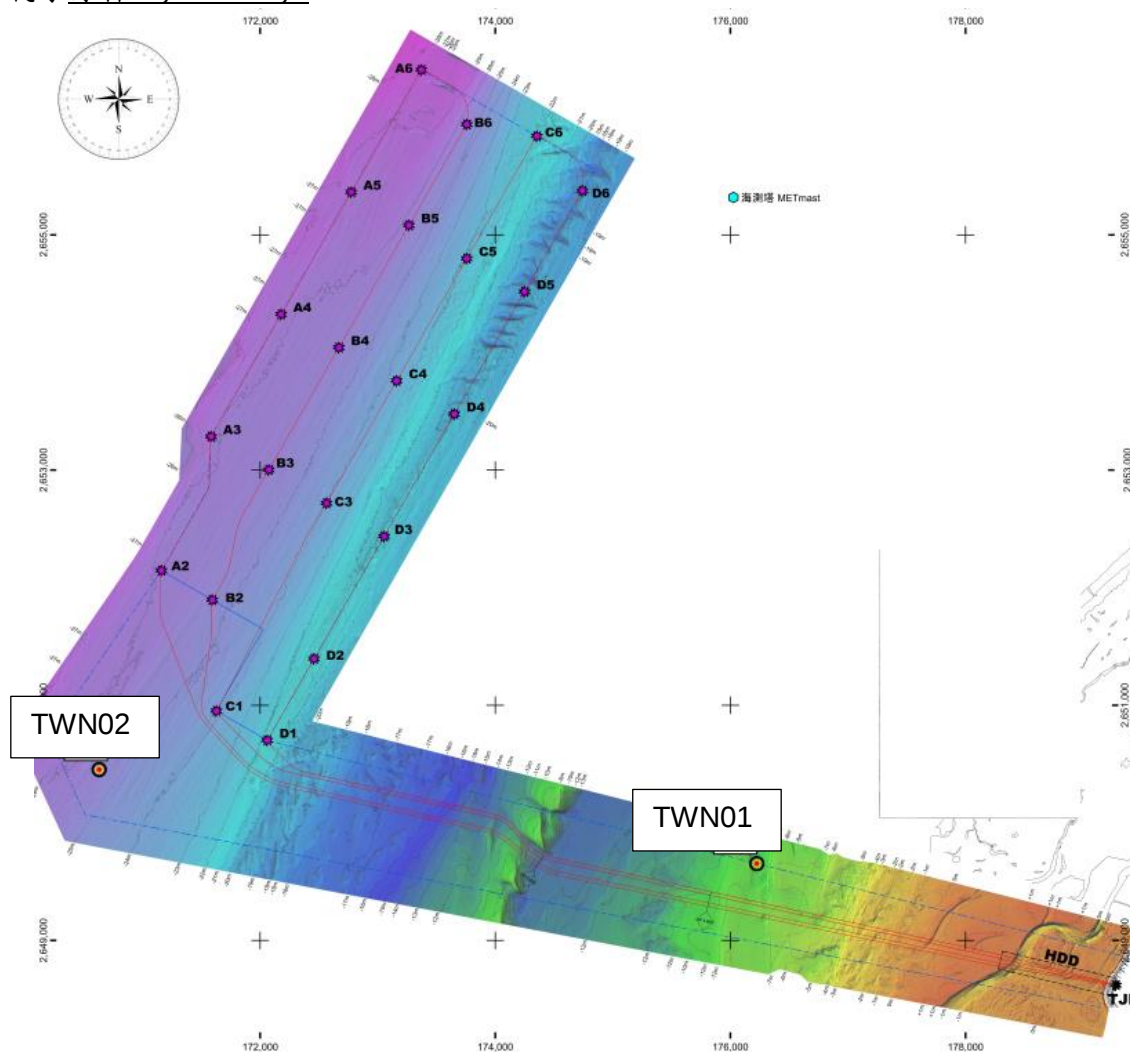


圖 2 所示為海氣象監測浮標位置

Figure 2 Location of Xylem buoys

海氣象監測浮標的目標座標位置如下
Nominal aimed for coordinates of Xylem buoys.

表 3 海氣象監測浮標座標 Table 3 Coordinates Xylem buoys

浮標名稱 Name Xylem buoy	位置 Location (WGS84)	
	緯度 Latitude (°N)	經度 Longitude (°E)
TWN01	23°56'59.28"	120°16'30.69"
TWN02	23°57'24.31"	120°13'12.59"

- 航程計畫和節點座標如下圖所示
- Voyage plan and coordinates is represented in below figure.

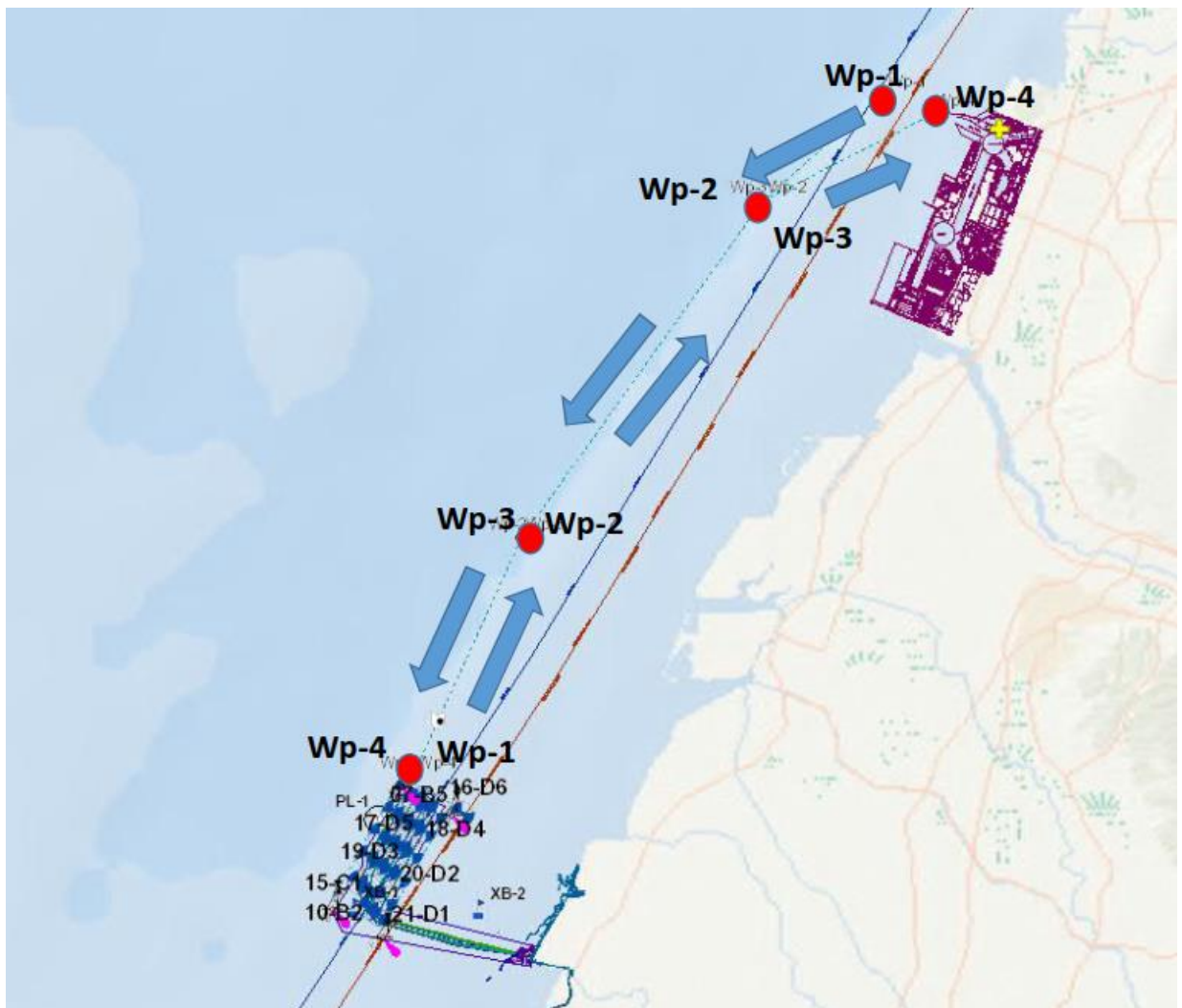


圖 3 為航行計畫

Figure 3 Voyage plan

表 4 航行計畫節點座標 Table 4 Coordinates for nodes during voyage plan

Exclusive Channel	WGS84(度 Degrees)	
	北緯 Latitude(*N)	東經 Longitude(*E)
From Taichung Port to OWF		
Wp-1	24° 18.10' N	120° 28.00' E
Wp-2	24° 15.30' N	120° 24.40' E
Wp-3	24° 07.00' N	120° 18.00' E
Wp-4	24° 01.00' N	120° 15.00' E
From OWF to Taichung Port		
Wp-1	24° 01.00' N	120° 15.00' E
Wp-2	24° 07.00' N	120° 18.00' E
Wp-3	24° 15.30' N	120° 24.40' E
Wp-4	24° 17.40' N	120° 29.20' E

4. 如下圖為風力發電機標準圖，將藉由風機安裝船 Taillevent 安裝在下部結構轉接段上:
4. Below shows WTG typical drawing, WTG will be installed on the TP via WTG installation vessel - Taillevent

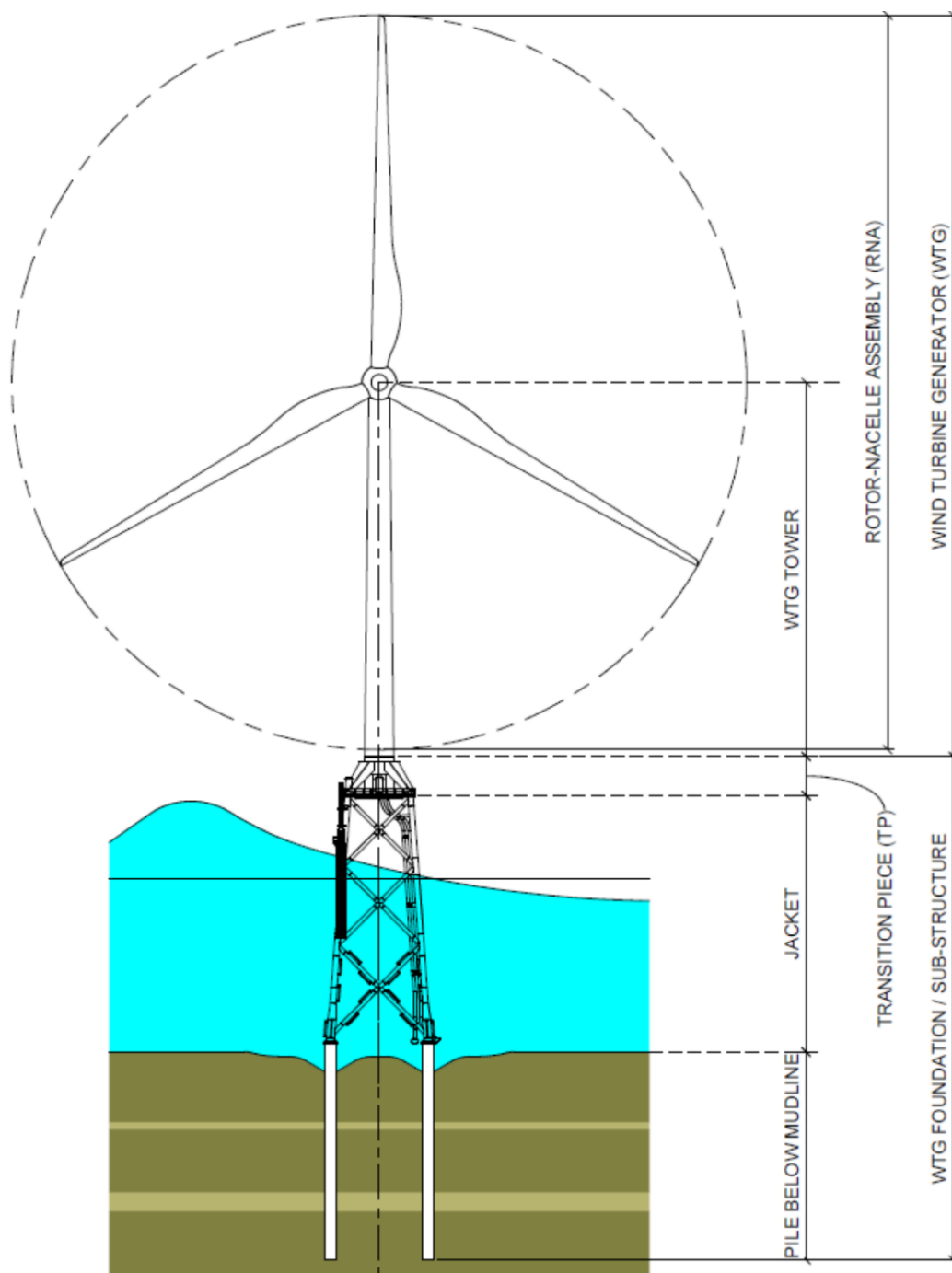


圖 3 風力發電機組主要組件及剖面圖

Figure 3 Definition of offshore wind turbine primary components and layout

5. 安裝作業將由船舶 Taillevent 施行。此船舶的詳細資料在附件中可參閱。
5. The installation will be executed by the vessel 'Taillevent'. The specification of the vessel can be found in the leaflet attached.

6. 緊急聯絡窗口

6. Contact

Vessel Name / Call Sign 船舶名稱/呼號	Taillevent/ LXDE	
Telephone Master/Bridge 船長/船橋聯絡電話	+32 38084025 +31 307131292	
Emergency Contact 緊急連絡電話	+886 (02) 87120616-207 +886 928 201187	
Project Manager 船舶專案經理	Jan Kop	+886 928 066560
	William Krijnen	+886 928 201187
JDN Site Rep. JDN 代表	Jan Kop	+886 928 066560
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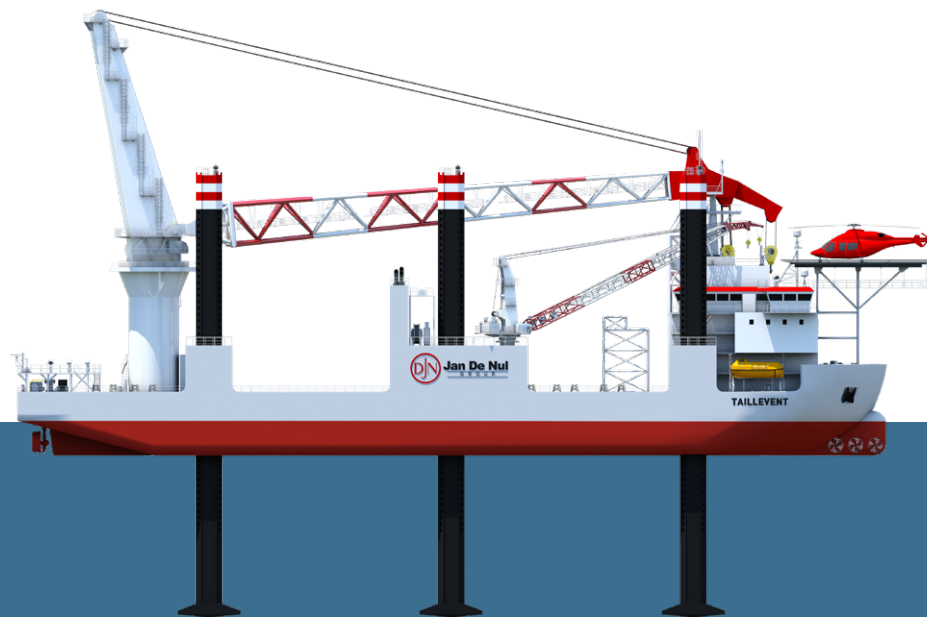
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Wind Turbine Installation Vessel

TAILLEVENT

VESSEL

Category	Jack-up vessel, Heavy Maintenance and Construction
Classification	DNV GL ✕ 1A1 Self-elevating Wind Turbine Installation Unit Crane Unit HELDK CRANE EO DYNPOS- AUTR CLEAN
Flag	Luxemburg
Length Overall	138.55 m
Breadth	40.8 m
Operation Draught	5.22 m
Moulded Depth	10 m
DWT	6,000 t
Dynamic Positioning	DP Class 2 - KONGSBERG K-POS DP-21



CRANE AND JACK-UP SYSTEM

Crane Make	Gusto MSC GCC-100-HD – Pedestal Mounted
Max. Lifting Capacity	1,000 t at 25 m
Aux. Hoist	160 t at 70 m
Cargo Deck	3,600 m²
Max. Deck Load	10 t/m²
Max. Cargo Weight	6,000 t
Jack-up System	Gusto MSC Hydraulic – 6 legs
Max. Water Depth	40 m
Leg Length	73.27 m

MACHINERY - PROPULSION

Main Gen. Sets	6 x 2,560 kW
Main Propulsion	3 x 3,250 kW azimuth thrusters
Bow Thrusters	3 x 1,500 kW
Transit Speed	11.7 kn
Max. endurance	45 days

ACCOMMODATION

Accommodation	112 persons
Heli Deck	22.20 m diameter, 9.3 t

BUILDING INFORMATION

Shipyard	Cosco Nantong - China
Delivered	2011



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