

# Case Study: BorWin3 – Installation of HVDC Cable Works

## Overview of Centaur Work

### PROJECT OVERVIEW

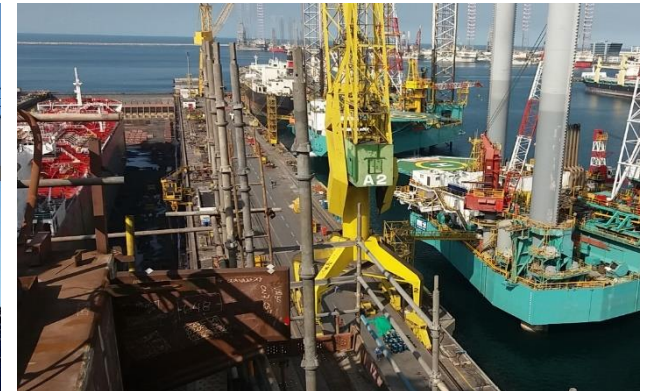
- **Client:** Prysmian Power Link
- **Project Initiation:** Client approached Centaur (since Centaur was pre-qualified and approved)
- **Tender Submission:** Multiple detailed site surveys performed, technical and commercial meetings held, specification reviews and scope matrix defined prior to tender submission
- **Tender Award:** Final negotiation and Tender awarded
- **Execution Timeframe:** One month

### KEY FINANCIAL METRICS

- **Profit:** Approx. 70%
- **Payment terms:** 30 days

### PROJECT PLANNING DETAILS

- **Project Overview:** Construction of the BorWin Gamma platform, which will house a Siemens HVDC<sup>(1)</sup> station that converts the AC<sup>(2)</sup> produced by wind turbines to DC<sup>(3)</sup> before transmitting it onshore to the German national grid
  - One of the largest offshore project platforms constructed in the UAE
  - Topside took over 13.5MM man-hours to construct
  - 10,500 tonnes of steel – more than the Eiffel Tower; total weight over 18,000 tonnes
- **Centaur Role:** EHV<sup>(4)</sup> cabling experience required to lay down cable work and ensure hardware quality performance withstands the harsh environments of the North Sea (130 kilometers from the coast and in water depth of 40 meters)
  - Cables pulled inside a large floating platform which functions as an offshore substation
  - The power is generated by a connected offshore wind farm (900 MW) and converted into DC<sup>(3)</sup> of 320kV
- **Preparation & Planning:** After being awarded the job, Centaur's technical team made multiple site visits to study and prepare an action plan & method statement for the execution of the specialized nature of the job
  - Massive scaffoldings erected to ensure cables are routed appropriately for a stress less operation
    - Suitable cable rollers arranged in line with the diameter of the cable pulled
    - Special attention given to the points of turn & bends to maintain required bending radius
    - Spooling machines and pushers are required to perform this work
  - Stringent HSE<sup>(5)</sup> requirements were followed inside the Drydock
    - Every hand tool/ electrical tool needed to be certified by a third party and then again by the Drydock authority
    - Detailed schedules worked out in advance to cater for the above to make sure the project is executed on time
    - All manpower deployed finalized well in advance since HSE training and obtaining entry passes take 1-2-weeks



#### Notes:

1. High voltage direct current
2. Alternating Current
3. Direct Current
4. Extreme high voltage
5. HSE – Health Safety and Equipment