



CASE STUDY

Putting the island of Pulau Ketam on the power transmission grid for the first time

CWind, part of the Global Marine Group, delivers the company's power cable capabilities. The group has a significant track record in offshore renewables and power, and this is one of many case studies that demonstrates our collaborative experience.

Pulau Ketam is a small island located off the coast of Klang in Malaysia which had previously been powered by small electrical generators.

The Malaysian-Kapar to Ketam power cable project, delivered for Tenaga Nasional Berhad (TNB) Malaysia's main energy provider, connected the Kapar Power Station on the mainland to the island.

The project presented several challenges, most significantly the extent of the cable protection required resulting in a record-breaking cable burial depth to 13.8 metres below the seabed. Global Marine Group's shallow water barge, Networker, 60 metres in length with a proven track record in Asian waters, successfully handled the simultaneous lay and burial aspect of the project.

CABLE PROTECTION

A study commissioned by TNB that looked at future port plans for the coming years and included potential dredging requirements, highlighted the need for the cable be buried to an unprecedented depth of over 12 metres. At this depth, the cable would be fully protected throughout its life without creating any restrictions on the possible expansion of the port.

In fact, the cable was buried to depths of up to 13.8 metres below the seabed; the deepest burial of a cable by the company in its history.

In addition to the 1.5km of cable buried at 12 metres below the seabed, 600 metres of uraduct cable protection was also installed to provide long-term protection on either side of the shipping channel.



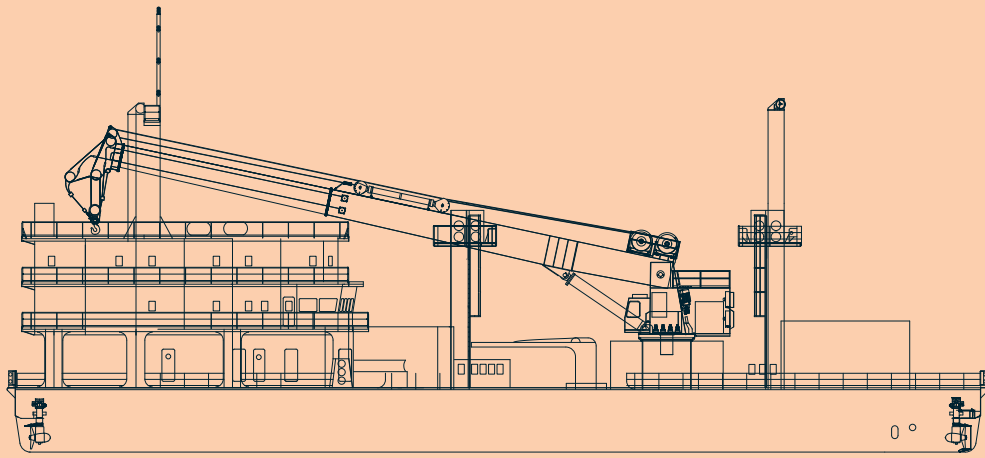
VESSEL: NETWORKER

Submersible: Injector

Cable length: 12km

Maximum burial depth: 13.8m





INJECTOR – SUBSEA ASSET

Global Marine Group's subsea asset, Injector, was designed specifically for this highly technical project to contend with the challenging conditions of the seabed. At the time, there had been no other project around the world which had installed a cable at this depth of burial during a simultaneous lay and burial operation.

Injector is a powerful deep burial installation jetting tool. The package is able to fluidise seabed soil, enabling cable and flexible pipe burial with minimal residual tension. As soon as the cable is laid the soils consolidate returning to their original state resulting in minimal environmental impact to marine life.

NETWORKER – A CUSTOM MADE BARGE

Networker is the first purpose-built cable-working barge in South East Asia. One of the largest vessels of her kind, she is specifically designed to provide shallow water expertise.

Networker can overcome the most challenging seabed terrain, whilst her all-electric drive ensures maximum flexibility and control during narrow corridor cable installation operations.

The specialist barge provides enhanced capabilities with systems designed to allow for grounding out during planned operations where suitable tidal ranges and seabed conditions allow, along an installation route survey corridor.

“This was a highly complex project and the Global Marine Group rose to the occasion, bringing a much needed, dependable power supply to the area. In addition, even with the difficult conditions, the team was able to deliver the 12 metre burial depth required by the project - which is a testament to their expertise and skill.”

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