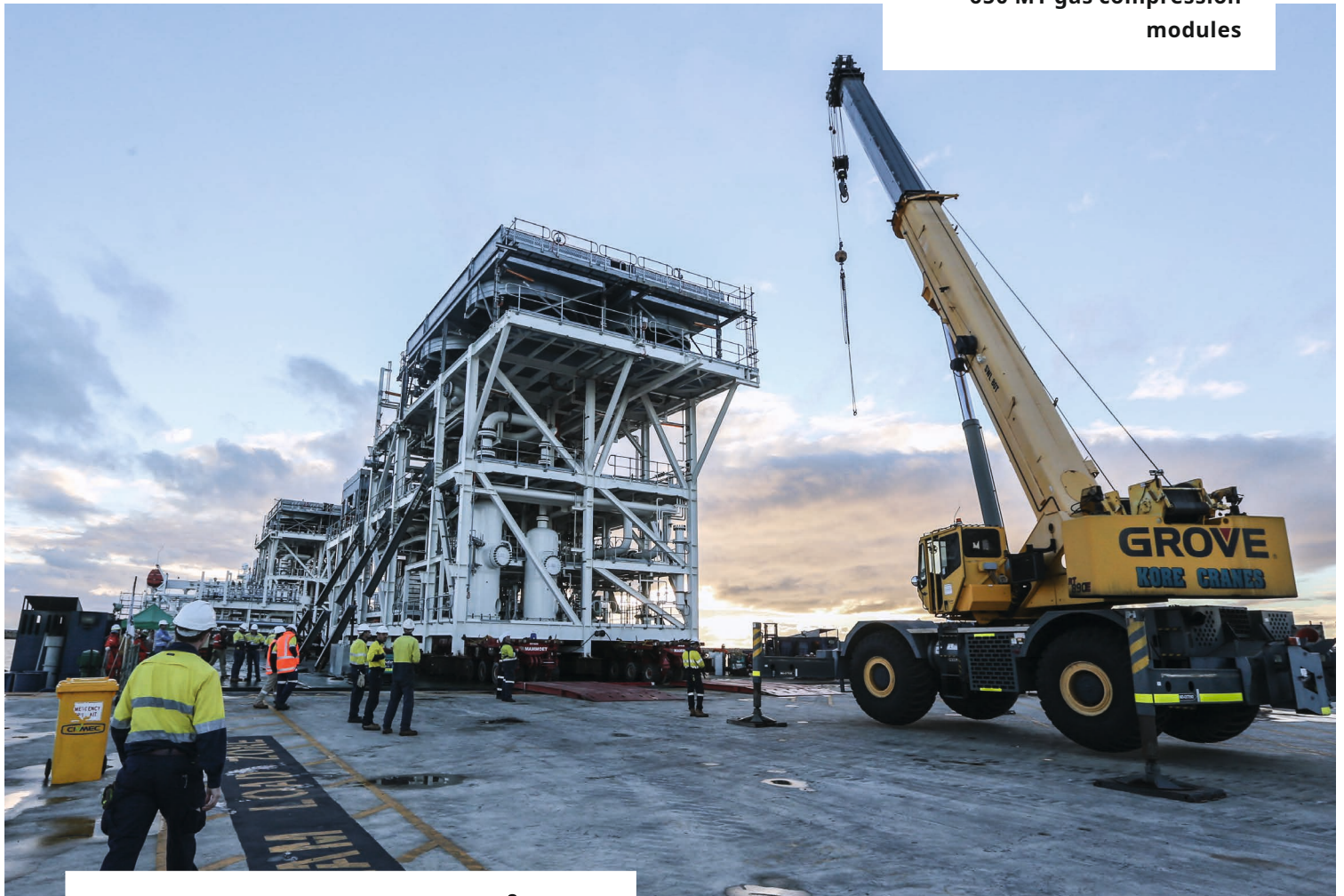


Ro/Ro operation of two  
650 MT gas compression  
modules



## Gas Compression

The oil and gas market conditions have become quite complex in recent years. Precision, quality

» Precision, quality and efficiency are now more important than ever. «

and efficiency are now more important than ever—and that's how we do business. From consulting, planning, calculations, drawings and route surveys, to risk prevention, optimization and cost perfection.



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## Project facts

- Ro/Ro ramps had to be relocated and fixed at the vessel individually for each module.
- There was a limited time window for Ro/Ro operation due to the tidal situation.
- The jetty at the manufacturer's facility had a very limited draft of 5 m.
- Each module weighed 650 MT, with dimensions of 37 x 13 x 19 m (L x W x H).

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## Project achievements

dteq Transport Engineering Solutions' scope of work included the grillage and sea-fastening design, as well as mooring and vessel stability planning, calculations and arrangements.

Taking two days for the loading preparation, the packages were rolled onto the vessel over a time period of three days, from the manufacturer's jetty.

The jetty at the fabricator's yard in Batam, Indonesia had a very low draft, with a maximum depth of five meters at low tide. The options to accommodate the special jetty draft restrictions were limited, but the MV *Dongbang Giant 5* from the specialized South Korean vessel operator Dongbang could be sourced. With an empty draft of 3.20 meters, the MV *Dongbang Giant 5* could easily berth at the jetty. Even after loading the two 650-metric-ton modules, the vessel draft was approximately four meters, which still provided sufficient and safe under-keel clearance from the seabed. The combination of the low-depth vessel and self-propelled modular transporter (SPMT)—for loading in Indonesia and discharge in Australia—enabled the project to go for “modularization” or pre-assembled modules (PAM), instead of the more traditional

stick-build construction method. The SPMTs rolled extreme heavy lifts and oversized equipment packages directly on board the vessel for stowage and sea-fastening on deck.

Shipping the modules at the same time on the MV *Dongbang Giant 5* required precise installation of the grillage prior to loading. A particular focus was on the sea-fastening to ensure the bracing and the welding of stoppers was exactly as calculated and planned to guarantee a safe passage to Australia. The loading and sea-fastening happened in parallel to accommodate the tidal window and the extremely tight shipping schedule, as well as to avoid cost for delay.

Following the successful shipping and delivery of the 22-metric-ton E-Room package, and once again extensive commercial and technical investigations regarding vessel suitability, our client was pleased to receive the final award in partnership with dteq to ship the two 650-metric-ton gas compression modules from Batam to the northwest coast of Western Australia.

Due to project delays brought on by the decline in the oil and gas market, the key equipment packages that had already been fabricated were tendered for storage and preservation in Australia.