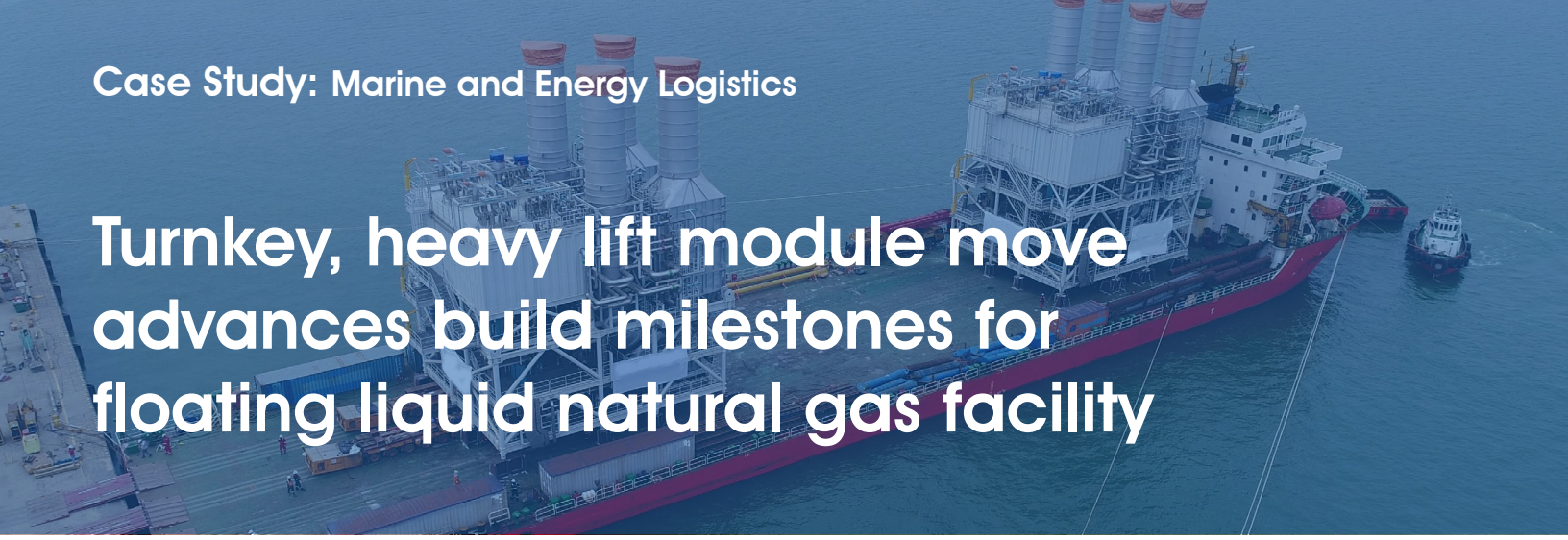


Case Study: Marine and Energy Logistics

Turnkey, heavy lift module move advances build milestones for floating liquid natural gas facility

Summary

When a global engineering and construction firm needed to move two 1,100-ton heat recovery steam generator (HRSG) modules from Vietnam to China on a compressed schedule without compromising safety or the build timeline for a new floating liquid natural gas (FLNG) facility, they turned to the marine and energy logistics experts.

As one part of this large, complex project, Marinetrans, an AIT Worldwide Logistics company, engineered and executed a roll-on, sea-fastening and chartered-deck-carrier solution — meeting tight planning windows and marine warranty requirements.

The Challenge: Compressed schedule for extremely heavy cargo

This project involved moving an extremely large piece of cargo on a tight schedule, through constricted port and yard environments, with strict safety and marine warranty surveyor (MWS) criteria.

In addition to their massive weight, each HRSG module measured approximately 23 by 19.5 by 29 meters, requiring precise operational coordination with the origin fabrication yard, the receiving shipyard, multiple subcontractors, surveyors, and the end customer. Any delay or damage would disrupt the new build of a floating liquefied natural gas facility, the modules' final destination.

The Solution: Engineering-led, end-to-end execution

Multi-month technical planning: To define methods, risks and acceptance criteria, the team coordinated site visits and dozens of detailed technical reviews with the customer, suppliers, consignee, end client and surveyors.

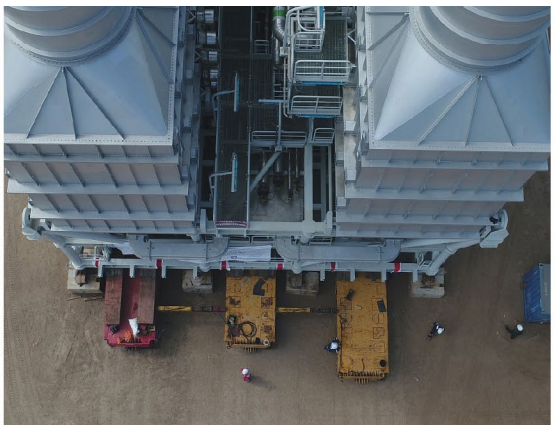
Custom grillage system: AIT's experts designed large steel grillages tailored to module geometry and vessel stability parameters; fabrication was executed locally under the marine logistics team's oversight to meet strength, lead time and MWS requirements.

Self-propelled modular transporter (SPMT) roll-on with 58 axle lines: The team engineered an SPMT configuration for load distribution, clearance, slope and quay interface, including jack-up, alignment and cribbing details.

Chartered deck carrier selection: Marinetrans sourced a specialized deck carrier sized for berth limits, tide windows and under-keel clearance, with the ballasting capacity and intact stability required for roll-on, sea passage and roll-off.

Sea-fastening and class/MWS compliance: Marine engineering and method statements were produced for load-out, voyage and discharge; welding and sea-fastening were completed onboard per approved drawings and surveyor conditions.

Case Study: Marine and Energy Logistics


Control-tower orchestration: From a marine logistics control tower in Oslo, Norway, the team managed chartering and heavy-lift operations, while coordinating auxiliary global shipments with additional AIT offices (including urgent air freight and sea freight), ensuring a unified operational plan.

End-to-end operational details: Roll-on at the module fabrication yard in Vung Tau, Vietnam, was planned for a narrow tide and berth window. Voyage scheduling balanced routing, weather criteria, and motion analysis to protect cargo integrity. Discharge at the destination in Yantai, China, was coordinated with the consignee's team for a controlled roll-off.

The Result: On-track execution against a demanding schedule

The marine logistics team balanced yard constraints, tide windows, vessel strength and stability, and MWS requirements, while keeping fabrication and approvals on schedule.

That discipline, paired with hands-on execution, reduced schedule risk and maintained quality from planning through sail-away.

Project outcomes

- Engineering milestones completed on schedule, including method statements, MWS approvals and grillage fabrication
- Operational risk mitigated through detailed lifting, ballasting and motion analyses, plus redundant sea-fastening verification
- Integrated continuity ensured via marine logistics control tower for all project shipments, from heavy-lift charters to time-critical pallets

The AIT Difference Makers

- ✓ Project management and control-tower coordination
- ✓ Marine engineering and method statements (load-out, voyage, discharge)
- ✓ Custom grillage design and fabrication oversight
- ✓ SPMT engineering and operations (roll-on/roll-off)
- ✓ Onboard welding and sea-fastening
- ✓ MWS liaison, approvals and class compliance
- ✓ Deck carrier chartering, voyage and weather routing plans
- ✓ HSE planning and risk management, leading HIRA processes
- ✓ Multimodal support (including urgent air freight and sea freight)

Discover what AIT can do for you

For more information about AIT's marine and energy logistics solutions, visit www.aitworldwide.com/contact-us/ and click Request a Quote.

www.aitworldwide.com

AIT WORLDWIDE LOGISTICS