

Case Study

Liwa Plastics Industries Complex Project



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The Liwa Plastics Industries Complex (LPIC) Project is a major capital investment project in Oman. The total investment value exceeds USD 6 billion, with financing provided by multiple international Export Credit Agencies (ECAs) from Europe and Asia. Owned by ORPIC (Oman Refineries & Petrochemical Company LLC), it shall increase Oman's production of petrochemicals and increase fuel production, generating 450 direct jobs and over 1,200 indirect jobs in Oman to have a positive effect on the Omani economy.



A demethanizer column, with a length of 59.55 m, for the steam cracker unit

EPC1 Package – Steam Cracker Unit



Volume
850,000 FRT
in total



**42 Breakbulk
and Heavy Lift
Vessel Charters**
into Port of Sohar,
Oman



Max. Heavy Lift
1,230 MT, length
up to 115 m



**21,000+ Truck
Movements**
to project sites



**580+ Heavy
Transportation
Loads**
to project sites



**Zero LTIs and
Exemplary
QHSES
Performance**

EPC3 Package - NGL Extraction Plant



Volume
170,000 FRT
in total



**14 Breakbulk
and Heavy Lift
Vessel Charters**
into Sohar and
Duqm ports,
Oman



Max. Heavy Lift
535 MT, length
up to 53 m



**70+ Heavy
Transportation
Loads**
to project sites



**Zero LTIs and
Exemplary
QHSES
Performance**



**Road transportation
of a massive 535 MT
demethanizer unit**

deugro was awarded two of the main logistics packages: LPIC EPC1 Package (steam cracker unit and utilities) and LPIC EPC3 Package (natural gas liquids extraction plant).

Both projects combined represent over 1 million freight tons of equipment to be shipped by deugro from multiple global origins into Sohar, Oman. This was an unprecedented volume of equipment to be imported into Oman.

deugro's involvement from the very early stages of the project was pivotal to the successful awards and allowed for a seamless transition—from conception,

planning, engineering and design of the project logistics solution to the operational delivery of the project cargo.

The two contract awards to deugro complimented and supported involvement of the wider deugro group companies, such as dteq Transport Engineering Solutions (dteq), providing tailor-made engineering solutions throughout all project phases, and dship Carriers, providing cost-effective tramp services for heavy lift and project cargo to support deugro within this project scope. With this specialized set-up, we offered value-added services in varying aspects of the project.

» A movement like this takes months of planning and engagement with all parties. «

Richard Juergens, Project Manager Oman



The demethanizer unit traveling a distance of approx. 600 km across the country

which ensured professional and efficient execution.

The project had a truly global supply chain for the provision of technology and equipment from over 30 countries. This meant that deugro was able to leverage its global offices network to provide logistics support in collecting origin cargo from equipment vendors across the globe.

deugro also provided clients with dedicated teams of in-house logistics specialists based in the client's offices to work directly with the key project stakeholders on end-to-end logistics solutions.

Location

The project was split over multiple locations within Oman. The EPC1 package was destined for the job site in the proximity of Sohar, just 7 kilometers from the port. The laydown facility was just 14 kilometers away. With the EPC3 package, inland distances and the associated transport challenges were much greater. The site location was some 450 kilometers from the Port of Sohar and 600 kilometers from the Port of Duqm – both of which were utilized for inbound cargo discharge.

deugro operations and management teams were positioned strategically dependent on project demands and freight thru-flow. The ability for the deugro team to work in an intuitive,

dynamic and pre-emptive manner ensured that freight movements, visibility and operational assurance was always achieved.

Many project teams and stakeholders

The LPIC Project was delivered through two international deugro Control Tower teams managing the offshore scope from Rotterdam and Seoul. These Control Tower teams were built up exclusively for this unique project execution. Onshore in Oman, deugro's Sohar office managed the receipt, clearance and delivery of all equipment and materials. This use of experienced project logistics experts, local Omani colleagues and senior deugro engagement provided an unrivaled mix of competencies

Working and investing in Oman

deugro invested locally within Oman, opening two new offices in the country, along with training and upskilling the local project logistics teams, delivering the project with a high level of Omani in-country value (ICV).

This investment developed the levels of in-country technical and logistical knowledge and regulatory experience, which provided a stable foundation for the operational delivery of the onshore scope of work for this project. deugro in Oman benefited from the ability to develop the local team not only in terms of staff numbers but also competence, training and empowerment.

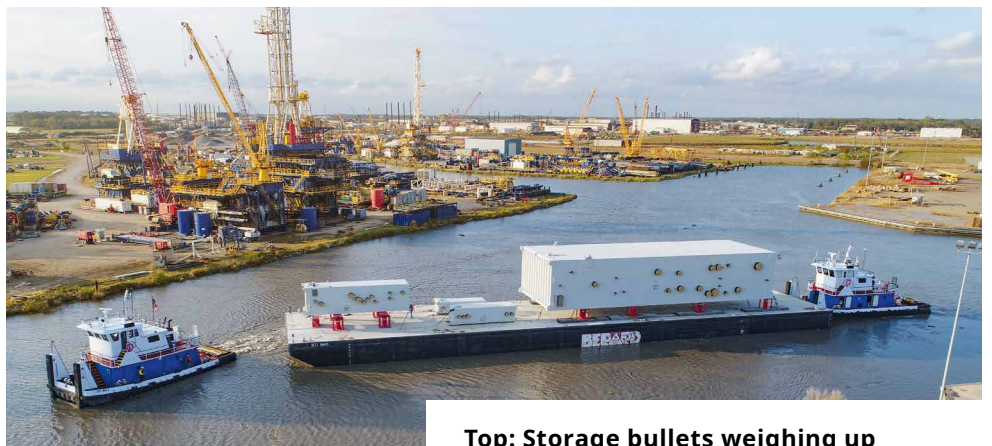


Scope of work and project execution

The challenging scope of work included transporting over 1 million freight tons of general cargo and heavy lift project equipment from vendors' worldwide facilities, and delivering it safely to the job sites in Oman. This end-to-end logistics solution was delivered through a carefully developed logistics plan, involving over 150 deugro people managing all aspects of the logistics supply chain.

Congestion at the Port of Sohar presented a major risk. The high volumes of both container and heavy lift cargo required careful scheduling and management of port facilities and resources. Regular project planning and forecasting meetings were held to identify logistics bottlenecks at the ports and provide contingency solutions to ensure delays and congestion were kept to a minimum.

Throughout the whole execution, our teams remained focused on maintaining a highly safe, secure and healthy environment for our staff and all parties involved in the



Top: Storage bullets weighing up to 1,230 MT Bottom: Cold boxes being loaded out in the USA

Liwa Plastics Industries Complex Project. All heavy cargo at the Sohar Port was supervised by deugro personnel, and we ensured that our contractors complied with transport design and strict HSE requirements at all times.

To successfully accomplish road transportation, deugro, in cooperation with dteq, carried out multiple infrastructure studies and consulted with the Department of Transport, the Royal Omani Police and various construction contractors.

deugro was intrinsically involved with the EPC clients and the project owner in providing critical support in the application and management of the project duty

exemption processes. By providing HS Code consultancy services and establishing the initial exemption list, reporting on all cargo movements into Oman was in line with Omani customs requirements. This process included direct support to both EPCs and the project owner in successfully applying for and processing all duty refunds owed to the project.

Innovation and unique techniques

Throughout the delivery of the project, deugro collaborated with the clients in identifying innovative cost saving initiatives and changing procurement terms in their global sourcing. One example was the unbundling of three 330-metric-tonne time-critical boiler modules. deugro worked together with the client to safely provide precarriage, loading and lashing on board the vessel in Italy. This reduced costs by 60 percent and improved permit times, while increasing control and assurance for this technically

challenging heavy lift operation. This same principal was leveraged in numerous other circumstances and proved to be highly successful throughout the project. It enabled us to gain support from our client, empowering deugro logistics specialists to complete more logistics and, in turn, provide significant savings.

Watch the film of the EPC3 Package transportation: deugro group – Orpic Liwa Plastics Industries Complex EPC-3

» We offered cost-saving initiatives while increasing operational and schedule assurance for various critical shipments. «



Boiler package with a height of 17.4 m on stools