

SUPPLY CHAIN INSIGHTS

KEEPING OFFSHORE ASSETS AFLOAT

Operating and maintaining large-scale industrial equipment requires sophisticated supply chains. How do companies manage when that equipment is far out at sea?

In the Gulf of Mexico, 130 miles south of New Orleans, 192 people live and work in a 40 story, 76 meter by 76 meter structure that floats on four giant steel columns in water more than 900 meters deep. The Shell Olympus production platform, the company's newest and largest in the region, is like a city in miniature.

Crammed into its 32,000 square meters of deck space is a factory capable of processing 100,000 barrels of oil per day, a power station and a heliport. Olympus also incorporates all the sleeping, eating and leisure accommodation necessary to make life safe and comfortable for its personnel, who live on the platform for two weeks at a time.



Keeping Olympus supplied with tools, parts, chemicals, food and other necessities is a significant logistical challenge. And that challenge is repeated at each of the more than 1,300 other offshore rigs around the world. Logistics accounts for 10 to 15 percent of the operating costs of a typical offshore oil and gas facility. As much as 75 percent of that cost is absorbed by the marine logistics part of the chain: the transport of materials from the nearest onshore supply base to the rig itself.

Costs under pressure

The low oil prices of recent years have encouraged oil companies to put all their operating costs under greater scrutiny. The sector has achieved significant efficiency and productivity gains so far. Bob Dudley, CEO of oil major BP, told at a conference last year that his company has reduced the cost of production in the North Sea by half, from \$30 to \$15 a barrel, for example.

There's still more work to do, however. BP says it wants to cut its North Sea production costs by a further 20 percent over the next two years. Despite the recent rise in the oil price, there is always the risk that low-cost producers in the OPEC group and elsewhere will increase production, putting the recovery into reverse.

Improvements to logistics processes could have an important role to play as the offshore sector looks for its next wave of productivity improvements, says Steve Harley, President, Energy, DHL. He sees considerable scope for the oil and gas industry to adopt strategies that have proved highly effective in other sectors.

The first of those is finding ways overcome the fragmentation that characterizes many of today's offshore logistics processes. "It's fair to say that marine experts are not supply chain experts, and supply chain experts cannot replace marine experts," he

notes. “But the contribution of both can be strengthened with better end-to-end planning and integration.”

Companies can pursue opportunities to integrate across their different activities, as well as along supply chains. Frequently, says Harley, the same organization will use different vessel fleets to support construction projects, operations and drilling activities. “By standardizing on a multipurpose vessel, offshore companies can increase vessel utilization and reduce subcontractor numbers, fleet size and marine logistics costs.”

Then there’s the opportunity to optimize the use of marine logistics resources. Offshore supply chains operate under severe space constraints. Supply ships have limited capacity, and platforms little room to store excess inventories. It is essential, says Harley, “to ensure that the equipment and people needed for a job are delivered as near as possible to scheduled start times. The key is to plan and prioritize in advance to optimize deck space, tank space and vessel payload.”

Next, says Harley, companies need to continually evolve and adapt their logistics processes as their requirements change over time. “The intensity of logistics support for a facility will vary during its lifespan. A longer-term perspective on capacity planning can save considerable costs. Oil and gas companies should consider projected rig numbers, drilling schedules, vessel requirements and project lifecycles.”

Over the long term, there are also opportunities to make changes on land that reduce costs at sea. “It’s important to periodically review the number and location of marine bases, making sure that these are optimized for future variations in offshore operations,” says Harley. “This often provides opportunities for cost-saving base consolidation and the use of third-party-owned and operated onshore warehouses and other facilities. Merging supply warehouses can also deliver significant savings by enabling inventory sharing between sites.”

— **Jonathan Ward**