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Shell: Achieving a step change in logistics performance through the design and deployment of a first-in-industry 4PL logistics solution

Shell collaborated with Accenture to achieve a step change in its logistics performance through the design and implementation of a 4PL logistics solution.

Client profile

Shell is one of the largest companies in the world. Comprising a global group of energy and petrochemical companies, Shell is active in every area of the oil and gas industry, including exploration and production, downstream manufacturing, and distribution and marketing. Headquartered in the Netherlands, Shell operates in more than 70 countries and territories and employs approximately 92,000 people. In 2013, Shell reported revenues of approximately US\$451 billion.

Opportunity

The growth and diversity of Shell's upstream business activities created challenges that required a new logistics management solution. Specifically:

- The growth of the Unconventional Gas business led to more intensive demand for materials and road transportation.
- The fast-paced, volatile and intensive nature of the materials requirements in unconventional gas operations had increased the risk of operation disruption and safety hazard exposure related to logistics, thereby driving the need for better demand visibility, enhanced planning and reporting capabilities, and greater contractor oversight in logistics. Having these elements in place could better assure full logistics support to the business.
- Complex projects often included parallel logistics networks operated by multiple contractors that could potentially foster an environment of sub-optimal performance.
- A shortage of skilled logisticians and logistics systems had led to a limited end-to-end logistics management capability.

Together, these challenges resulted in value leakage for Shell in the form of lost operational synergy, rising transportation costs, and greater potential for project delays due to the unavailability of materials and higher safety exposure. The company recognized that it needed to move to a more integrated supply chain management approach to drive a step change in its logistics capability and performance.

Solution

As the scope of this project was to design and implement a new logistics operating model to support Shell's upstream operations, covering production, wells and projects, Shell engaged Accenture to help design a logistics solution that involved the use of a 4PL provider to plan and manage Shell's logistics activities. 4PL is a fourth-party logistics service provider and asset free logistics management partner that helps to optimize and manage traditional 3PL (3rd party logistics) execution partners. The 4PL approach has been deployed successfully across a number of clients and industries and has helped to deliver significant savings in cost, service improvements, and reductions in health, safety and environmental exposure.

Accenture worked closely with Shell throughout the strategy development to design an approach that was fit-for-purpose for Shell and could adapt to the local requirements of the different business units. Accenture conducted detailed analyses of current logistics operations and shared leading-class 4PL practices and external sector perspectives to help shape Shell's global vision. The 4PL solution became known as "Logistics Management Services" (LMS) within Shell. Shell adopted the LMS term to highlight key distinctions from traditional 4PL and to define a

solution that was dedicated to Shell and based on a model that allowed Shell to retain close control of the outsource provider. Further, the solution was focused on building long-term strategic relationships, positioning Shell to access the 4PL provider's best people, leading innovations and best technology. The single client platform enabled a Shell-tailored solution with dedicated focus.

Following the strategy development phase, a number of pilots were implemented to test and refine the new 4PL solution. Accenture worked closely with Shell through the pilots, conducting initial logistics management assessments, supporting supplier selection, and driving the co-creation of the solution design with the 4PL suppliers. This ensured that the 4PL solution was appropriate and tailored to meet Shell's local business challenges. Highlights of the key pilot initiatives included:

Offshore Production

Local challenges

- Logistics services had traditionally been sourced, planned and managed in functional silos with tactical logistics execution partners.
- The local team's skill set was mostly technical, lacking focus on end-to-end logistics and with limited data culture or access to logistics systems.
- Operations were very mature and under significant cost pressure to stay competitive, requiring a step change to lower costs.

How Accenture helped

- Accenture worked closely with the local teams to identify business benefits in managing logistics as part of a cross-geography, cross-modal 4PL solution.
- Accenture designed a detailed solution that identified appropriate areas for external support through 4PL, together with Shell retaining and leveraging its deep industry skills and regional knowledge.
- Accenture supported the Shell team in the selection of a 4PL supplier for the European offshore logistics operations.

Unconventionals Onshore

Local challenges

- Development of unconventional resources (such as shale gas) was cost marginal and logistics made up a significant part of the total operations cost.
- Business demand for unconventionals was volatile and intensive, resulting in significant non-productive time spent transporting assets and high health and safety exposure with large numbers of vehicles operating in populated semi-urban areas. Inefficient logistics planning and execution resulted in value gaps such as cost inefficiencies and delays to drilling operations.
- The client faced the challenge of managing a fragmented and often immature local transport carrier base, which operated manual processes. This required extensive Shell management and oversight in locations where onshore logistics skills were limited.

How Accenture helped

- Accenture leveraged its wider road transport logistics expertise, as well as experience with the European offshore pilot, to identify the key business benefits for an unconventional operation.
- Accenture applied its proven methodologies to enable a fast-paced implementation to drive quick wins. In one US location, a 4PL solution was designed, sourced and implemented in less than four months, meeting the needs of the business for rapid change.
- The subsequent design and implementation of the solution is now delivering net savings of over 25 percent of logistics costs and significantly reducing the cost-per-barrel of water downhole—a key metric for the operations.
- Safety exposure was improved as approximately two million miles were eliminated, resulting from better road transport planning and scheduling.
- Other improvement initiatives (such as vehicle inspections) were made by the 4PL provider in collaboration with Shell to reduce safety exposure and improve service assurance to the business.

Projects

Local challenges

- Preparation was required for a fast-paced ramp-up of a drilling project in a remote field, resulting in heavy dependency on onshore road transport (with more than one billion road miles expected over the life of the project). This, in turn, led to high safety exposure.
- The local market was severely resource constrained and competition for resources was high; the business's goal of achieving on-schedule and on-budget project delivery required greater logistics visibility in terms of schedule and cost.
- Additional complexity was added with the expected sourcing of large volumes of materials and equipment from China, which required end-to-end supply chain visibility to avoid delays to the program.

How Accenture helped

- Accenture's prior LMS experience enabled the team to rapidly design a solution to meet Shell's business requirements and help select a supplier to be in place before the commencement of project activities.
- Accenture identified the logistics pain points of the project through workshops and business interviews and used these insights to tailor the 4PL model according to business value drivers.
- Accenture designed a solution that was able to integrate capital projects and drilling operations into one 4PL operating model and designed a governance structure which included the operational and contractual interfaces with the relevant contractors.
- The project team used an activity based cost model to identify peaks in the logistics schedule and used this information to drive the contracting strategy of the 4PL.

Once the pilots had been successfully implemented, Accenture helped train the Shell LMS team and moved into a supporting role for subsequent 4PL assessments and implementations. As the number of deployments grew, Accenture helped Shell to define the long-term systems and category strategies before handing them over to the newly established LMS category and global logistics discipline teams. LMS is now an established part of the Shell logistics strategy.

Results

With Accenture's support, Shell developed, embedded and matured its 4PL logistics strategy to achieve the following benefits:

- Improved service levels, minimized asset down time due to the non-availability of materials, and reduced supply chain risks to the business.
- Reduced logistics costs of up to 25 percent through improved logistics asset utilization and integrated supply chain planning.
- Reduced safety exposure due to better planning, resulting in fewer trips and lifts.
- Improved logistics cost and performance visibility, and the implementation of better reporting and an enhanced analytics capability to assist Shell in making faster and smarter decisions.
- The leveraging of external logistics specialists to bring skilled resources, industry-leading logistics practices and technologies to Shell, while providing the flexibility to meet changes in business demand.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with approximately 323,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US\$30.0 billion for the fiscal year ended Aug. 31, 2014. Its home page is www.accenture.com.