

# THE POWER BEHIND THE ENERGY SUPPLY CHAIN

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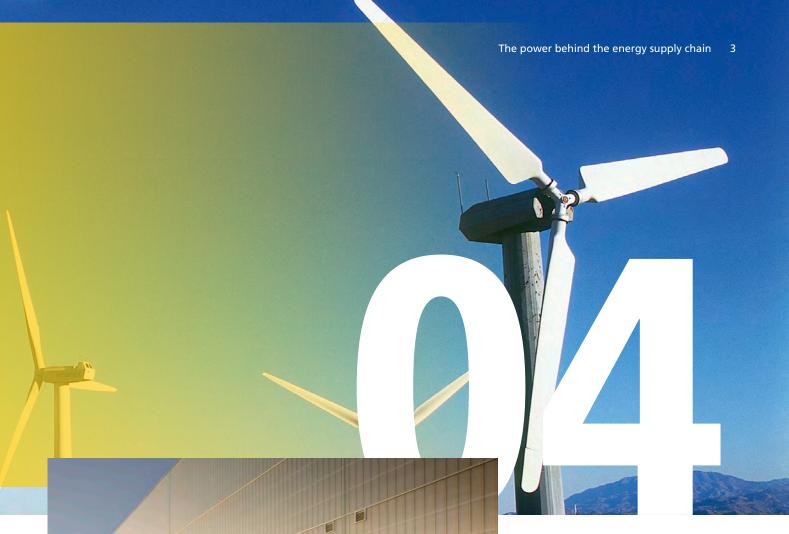
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### Supply chain challenges

Energy companies are increasingly rethinking their supply chains in order to maximize opportunities, reduce costs and achieve competitive advantage.

### Our supply chain solutions

We provide safe and compliant solutions so you can improve productivity, increase efficiency and reduce cost.

### Our supply chain services

Continuously evolving and improving, our wideranging solutions help organizations to address their most complex, pressing operational needs from transportation to management services.



## SUPPLY CHAIN CHALLENGES

Energy companies are increasingly rethinking their supply chains in order to maximize opportunities, reduce costs and achieve competitive advantage.

### Complexity

The energy sector's activities tend to be in remote areas where logistics are a challenge – both in terms of the physical infrastructure and in terms of compliance with strict environmental, health and safety regulations. Added to this is the sheer scale of some operations and the need to source from suppliers based in the far reaches of the globe; the combination makes for particularly demanding operating conditions and the need to overcome fragmented cross-border supply chains.

### **Rising demand**

The energy market today is both maturing and unstable, characterized by rising demand and fluctuating supply. According to the International Energy Agency (IEA), global energy demand will grow by one-third between 2010 and 2035. Most of this increase will come from emerging markets. But the bigger challenges arise from demand planning and forecast accuracy and with that the alignment of materials and supply with energy usage.

### **External forces**

A recent McKinsey Quarterly report suggested that a major shift in the competitive landscape of the world-wide industry is under way as new players from producing countries and the high-growth developing markets of China and India join the industry's top ranks.

In addition environmental responsibility is continuously evolving with a constant need to ensure that standards are never compromised.

### Cost control

The need for efficiency in the materials supply chain can have a dramatic impact on a company's bottom line, by increasing productivity, reducing risk and mitigating downtime. The associated challenge is to find ways to free up engineers so they are able to invest time and talent in the most productive and profitable work.

### Consistency

Compliance and Health, Safety, Security and Environmental (HSSE) policies within the energy sector are no longer a key differentiator but a necessity, with many companies expecting HSSE and compliance policies to be integrated into all their processes. As companies become more globalized, the need for efficient processes and effective service from suppliers is becoming increasingly important.



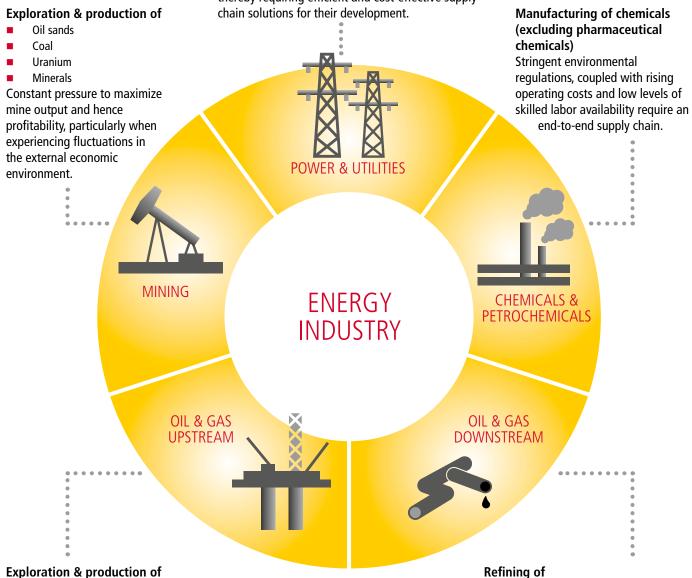
### **ENERGY SUB-SECTORS AND THEIR**

### **SUPPLY CHAIN DYNAMICS**

### **Power generation from**

- Conventional sources
- Renewable sources
- Transmission & distribution
- Electricity, gas, water power management & optimization

The evolution of smart metering and smart grid deployment increases costs in servicing a geographically dispersed range of customers, thereby requiring efficient and cost-effective supply chain solutions for their development.



### Exploration & production of conventional & unconventional

- Crude oil
- Natural gas

Facing a rise in exploration costs due to remote and challenging environments associated with new resources, as well as large infrastructure and logistics asset constraints.

- Crude oil
- Natural gas

Logistical issues arise in trying to reduce production costs while increasing output despite squeezed margins; all the while handling complexity in the size and scale of operations and projects.

## OUR SUPPLY CHAIN SOLUTIONS

We provide safe and compliant solutions so you can improve productivity, increase efficiency and reduce cost.



Addressing increasing energy demands while driving cost reductions, managing health and safety standards and reducing time-to-market is a complex job that requires partnership with a logistics provider.

Over the years, we have developed countless innovative solutions for the energy industry. Working across a host of sectors including oil & gas upstream, oil & gas downstream, mining, power generation & utilities, chemicals & petrochemical, we offer a wide range of flexible, end-to-end specialized supply chain solutions. By simplifying supply chains we can drive value and competitive advantage for our clients.

### Oil & Gas Upstream

Whether building new on or offshore exploration or production facilities or operating existing ones, supply chains are complex and of global scale – often involving hundreds of suppliers from all corners of the world.

We help you to design, implement and operate efficient supply chains for every phase of the oil and gas upstream sector, including construction, exploration, production and primary processing. Implementing a range of services, including rig move management and supply base management solutions, our goal is to increase the value of in-field operation. We achieve that by transporting material to the right locations, at the right time to minimize downtime, while simultaneously controlling your costs and the environmental impact of transport operations.

Collaborating with industry leading companies, globally recognized research institutes, and renowned experts, we create supply chain solutions which provide you with a competitive advantage. These solutions can help you to

manage the efficient flow of materials, staff and resources to and from offshore platforms, construction sites, drilling sites and Floating Production, Storage & Offloading Vessels (FPSOs).

Because we understand that the very nature of oil exploration projects means drilling priorities can change at any time, we provide the third party logistics oversight and coordination needed to make sure all providers respond quickly and cost-effectively to changes in project plans while working to defined systems, processes and standards.

### Oil & Gas Downstream

We specialize in sourcing supplies from around the world and we do so in a sustainable manner. We are experts in managing numerous international and local vendors and streamlining the inbound flow of materials into new build projects or existing plants, to aid in construction, maintenance, repair and operations of oil refineries, petrochemical plants and product distribution facilities. We also appreciate that sustainability is becoming ever more integral to our clients' businesses and work with the World Business Council for Sustainable Development to help develop and test new standards to ensure the best sustainable solutions are provided.

We have in-depth knowledge of the downstream oil and gas industry along with the capabilities to cost-effectively move freight of all sizes – even the largest pieces – from manufacturing locations to warehouses and final work sites anywhere in the world.

To maintain efficiency across every part of the downstream supply chain, we also provide maintenance, repair and operations services (MRO), offering real-time visibility and traceability. Our MRO services provide efficient, productive



materials supply without the risk of stock-outs and the expensive unplanned purchases that go with them. As a result, time-on-tool increases and plant and staff productivity can soar by 15 percent or more.

### Mining

Understanding the unique challenges associated with mining operations, we help you to consolidate your supply chain to increase material availability, resulting in higher uptime for equipment, assets and operations and higher productivity for your teams.

Underpinned by strong corporate and financial stability, we have operations in a large number of geographies supported by a specialist workforce who understands the demands of capital project logistics and transportation on an international, local and multi-functional level.

We use our supply knowledge of warehousing and transportation to improve the in-bound supply chain for maintenance, repair and operational materials, maximizing engineering productivity, reducing asset downtime and so increasing mine production.

### **Power & Utilities**

We can help you with your new build projects as well as supporting existing electricity, gas, water infrastructure. This extends to supporting alternative energy companies with a strong renewable portfolio. We are aware of your challenges, from outdated or inadequate infrastructures, to increased governmental focus on exploring alternative energy sources. We help you through supply chain design, implementation and management services that enhance your productivity while reducing costs.

We understand that a more efficient indirect materials supply chain can have a dramatic bottom line impact on your business by increasing the utilization of your engineers, reducing your risk and minimizing downtime. Using this knowledge we can put greater supply chain efficiency well within your reach, keeping essential equipment online, while freeing your engineers to invest their time and talents in more productive and profitable ways for the business.

### **Chemicals & Petrochemicals**

We understand that there are many complexities associated with moving, storing, blending, and packaging petrochemicals, lubricants, plastics and other materials. This is why we provide finished product packaging, storage, handling and distribution services for this sector. Also appreciating that sustainability is becoming more integral to your business, we streamline all services and dramatically cut costs. Our services enhance materials traceability and visibility, quality management and, most importantly, Health, Safety, Security and Environment (HSSE) performance.

### **FULLY INTEGRATED SUPPLY CHAIN**

We believe that a fully integrated supply chain has the power to drive real value for energy businesses – revolutionizing the industry, creating new solutions and savings. Having a trusted partner and ensuring the correct business fit is crucial.

## OUR UNIQUE CAPABILITIES

Our proven track record in the energy sector extends back 20 years, bringing the most innovative supply chain solutions to more than 120 companies worldwide.

### Health, Safety, Security and Environment Compliance

With our vision of Goal Zero – the relentless pursuit of no harm to people and no incidents – our robust compliance management approach focuses on the development of a proactive, generative safety culture based on personal intervention, personal responsibility and an appreciation of individual consequences.

Our standards and processes are compliant with OHSAS 18001, ISO 19001, and BSI 25999 and are common across every sector and country in which we operate. We also commit to robust sub-contractor management & assessment programs. We set demanding performance targets, and we measure progress via leading indicators to ensure continuous improvement in health, safety, security, and environmental performance and compliance. It is worth noting that all of our staff involved in the Energy sector undergo rigorous HSSE training to ensure that standards are never compromised.

### **FCPA** and Compliance

We are committed to the highest standards of compliance within all of our processes, including the Foreign Corrupt Practices Act (FCPA), UK Anti-Bribery Act and Organization for Economic Cooperation & Development (OECD) Anti-Bribery Convention. All personnel are trained and managed to adhere to the strictest international standards and to DHL's comprehensive Code of Conduct.

### Commitment to excellence

For us, Quality Assurance and Process Improvement are about more than merely exceeding standards, regulations and directives. Through a structured and systematic approach, we continuously improve standards and customer satisfaction. Using Six Sigma and Lean methodologies, the DMAIC cycle (Define, Measure, Analyze, improve, and Control) is at the heart of our project management methodology.

### Sustainability

DHL was the first logistics company to set carbon efficiency targets and our GoGreen innovations enable customers to offset handling and transport costs against climate protection projects. As such we enhance your brand reputation and bottom line while decreasing your impact on the environment.

### Innovative solutions

To get you moving quickly, our dedicated innovation team works closely to accelerate new solutions. DHL's Innovation Center brings together academic, industrial and technological specialists to develop advances that have included DHL Smart Sensors for accurate geotracking, the use of RFID across the technology supply chain and solutions that provide real-time information on shipments.





### SUPPLY CHAIN SOLUTIONS FOR AN

### **EVOLVING ENERGY INDUSTRY**



### **PLAN** Laying the foundation



Supply Chain Planning

### Supply Chain Consulting (SCC)

By understanding and anticipating your business and logistics needs in an ever-changing environment, we provide a reliable source of expertise. We provide you with advisory and/or consulting services. For example, an in-depth analysis of all network flows and supply chain processes across an organization in order to re-engineer and develop an optimized supply chain.

### Lead Logistics Provider (LLP)

We build performance driven partnerships with our customers. As a single logistics partner, we take over responsibility and accountability for the design, management and optimization of end-to-end supply chains.

### **Rig Move Management & Support**

We increase the value of in-field operations by providing the oversight and coordination for transportation of rigs to the right locations, improving rig move efficiency, minimizing downtime, and maximizing string days, while controlling costs and the environmental impact of transport operations.



### **SOURCE** Getting the materials you need



**Inbound Logistics** 

### **Procurement Services**

We provide sourcing and procurement services, leveraging economies of scale to drive down costs and improve margins.

### **Inbound to Operations**

We provide an integrated, end-to-end service that eliminates inefficiencies in the inbound flow of materials, supplies, equipment and information. Increased visibility and traceability of supply helps improve engineer productivity and reduce plant down time.

### **Supply Base Management**

We manage the efficient flow of materials and resources to and from offshore platforms, construction sites, drill ships and Floating Production, Storage & Offloading Vessels (FPSOs).

### **Capital Project Logistics**

We increase project time and cost certainty by managing the inbound supply chain to major capital projects on an integrated basis - controlling the movement of materials from suppliers to project work-sites.



### MAKE Manufacturing the products



**Manufacturing Logistics** 

### **Finished Product Logistics**

We design, build and operate solid and liquid packaging facilities in line with environmental legislation, local fire and hazardous chemical regulations. The design and storage facilities go beyond the optimal location and layout to the right racking configurations, storage media and manual handling equipment.

### Inbound to Operations (MRO)

We ensure the inbound flow of materials, supplies, equipment and information so you have the right materials at the right place and time.

### Plant Site Logistics

We are dedicated to achieving the highest levels of safety when operating on sites, facilities and properties; handling labor management, supply bases, warehousing and lay-down yard management, plant and tool stores.

### **Primary Packaging**

We design and operate packaging lines that reduce lead times/costs and increase the quality of finished products.



### **DELIVER**

Getting it where it needs to be



### **RETURN**

Receiving support when it's needed



**Distribution Logistics** 

### **Finished Product Logistics**

We offer finished product storage, handling and distribution for petrochemicals, lubricants, plastics and other materials. These materials can be distributed in bulk, by railcar, or road tanker or as packed product by container, road, or rail transportation on a domestic or international basis. We help you to streamline services and cutting costs, while meeting, and in most cases exceeding, standards for materials' traceability and visibility, quality management and, most importantly, Health, Safety, Security & Environment (HSSE).

See next page to learn more about our transportation, warehousing, value added, and management services.



**Aftermarket Logistics** 

### **Reverse Logistics**

By managing returns effectively, we help to recapture value and reduce write-offs. We design, plan and implement reverse supply chains that leverage the latest technologies to maximize the value of returned assets and increase profitability.

### **Service Parts Logistics**

We order, store and deliver critical spare parts with short lead times to your field engineering and maintenance staff. We do this through a global network of warehouses and control towers.



### **OUR SUPPLY CHAIN SERVICES**

Continuously evolving and improving, our wide-ranging solutions help organizations to address their most complex, pressing operational needs from transportation to management services.

### TRANSPORTATION SERVICES

Product transportation can easily consume more than half of your total logistics costs. Don't let shipping and freight expenses compromise your profits. By increasing visibility and raising inventory accuracy, our solutions put you firmly back in control. We offer multi-modal access to emerging markets, including dedicated and shared-user solutions for domestic and international transportation. Using the most efficient mix of carriers and fleet resources, our management and administration optimize all movements, safeguarding service levels while minimizing costs.

### DOMESTIC TRANSPORTATION MANAGEMENT

Creating the most appropriate transportation solution for your needs using external carriers, a DHL multi-user fleet, a dedicated fleet, or a mix of all three. Using software optimization tools to maximize fleet utilization, dynamic planning to improve service and reduce carbon footprint and can extend to the management of wet stocks, or bulk product storage at the point of use.

### WAREHOUSING SERVICES

Creating and operating customized warehouse solutions and yard management that deliver bottomline benefits is at the heart of all our integrated solutions. Providing a location for storage, consolidation, kitting, cross docking and other additional value added activities. When scale or complexity demands a dedicated solution, look no further



than DHL for bespoke design, innovative planning and state-of-the-art operation and management.

### **VALUE ADDED SERVICES**

Reduce costs, reduce inventories, and better match supply with demand. Our value added services simplify our customers' supply chains through smart integration across warehousing and dispatch solutions. Sub-assembly, copacking, customization, kitting, sequencing, blending and mixing are just some of the ways our team can improve the performance of your supply chain. For example, by using DHL to implement innovative solutions for grinding and mixing, energy customers capture a new revenue stream from an otherwise redundant by-product.

### **MANAGEMENT SERVICES**

Labor management – labor represents 50% to 60% of typical distribution costs. DHL Supply Chain's labor solutions help you manage these costs and improve the capabilities of your human capital. Our approach combines labor-management technology, engineered productivity standards, comprehensive operating



practices and performance recognition while our scale and expertise allows us to bring qualified resources to the task just when you need them most.

IT management – whether you require a new solution from scratch or integration into your existing system, we design and implement global IT and project management solutions to match your needs and bring consistent, high-quality, cost effective IT services to your supply chain. Through experience working with every system in the business (Oracle, Red Prairie, SAP, Manhattan etc.), we understand how to optimize IT solutions and consistently review and deploy new capabilities as they come on to the market.

Business continuity management – if your supply chain is disrupted by a natural disaster or other destructive events, it could have devastating consequences. We can help you create a robust, flexible and fully optimized business continuity management (BCM) strategy. By identifying the risks inherent in your supply chain and putting strong measures in place to mitigate them, you can be sure that there is a backup plan for whatever may arise.

Real estate management – a well-executed real estate strategy can make significant contributions toward achieving your operational and financial budgets. Real estate plays a vital role in supply chain strategies, as nearly every warehousing or distribution center decision features a real estate component. Whatever and wherever your market, We bundle real estate and logistics services to offer a single-sourced comprehensive solution that reduces end-to-end supply chain cost, minimizes risks and improves efficiency.

### **CASE STUDY**

### **Packaging Operations**

Our logistics park in the USA allows customers to avoid port congestion while maximizing manufacturing and transportation efficiencies. Capable of 24 hour operations via barge transportation versus 8-hour gate operations at the port, the logistics park offers a strategic location, flexibility, and a team with years of experience delivering operational results and finding new ways to minimize operational costs.





### END TO END **SUCCESS**

We understand that you work in a challenging and ever changing market and that you need an integrated supply chain to ensure speed and visibility, drive continuous improvement and optimization and create sustainable competitive advantage for you.

### Innovate faster

Let us remove the headaches and complexities of energy logistics. Free your talent to focus on core competencies. Seize competitive advantage and valuable market share by getting to market quicker.

### **Maintaining HSSE**

In front of today's critical public, maintaining high health, safety, security and environment standards across your energy supply chain has never been so important. Our global presence helps you maintain your HSSE compliance in every market that you work across. This compliance within DHL is anchored by the vision of Target Zero – the relentless pursuit of no harm to people and no incidents – and an OHSAS compliant HSE management system. All of which means you have the security of leaving your supply chain in capable hands.

### Transforming your industry

For many energy companies, a major challenge is having a secure supply chain to support operations, which delivers against expectations, while providing visibility and traceability of materials. As the most trusted operator in the logistics industry, our people deliver on promises, bringing unrivalled sustainable solutions to our customers around the world. We are able to design and streamline processes at each stage of the supply chain, providing our clients with better visibility and increased efficiencies at lower cost.

### Manufacture, distribute and support products for less

Operating more efficiently means operating more profitably. Trust us to prevent costly, frustrating manufacturing delays. Schedule, control and fine-tune production quickly with streamlined, best-in-class Maintenance, Repair and Operations support. Outsource non-core processes and operations. Leverage shipping, distribution and just-in-time delivery and economies of scale across the world, only possible with a seasoned global logistics partner. Provide unmatched levels of technical support across every sales territory.

### **Integrated logistics solutions**

A streamlined and simplified supply chain provides better visibility and traceability of materials across each process of the chain, improving the way you do business. Our innovative and tailored solutions will save you time and money while building your reputation in the industry for customer service that defines a brand leader.

