

# SUPPLY CHAIN INNOVATION FOR FAST-PACED TECHNOLOGY



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EXCELLENCE. SIMPLY DELIVERED.

**DHL**  
SUPPLY CHAIN





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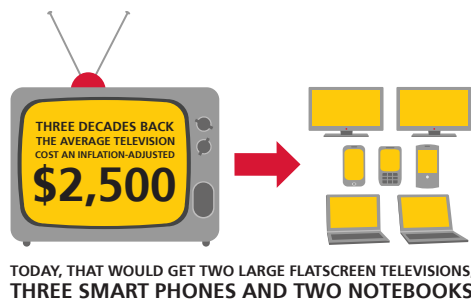
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# A HIGHLY DYNAMIC INDUSTRY

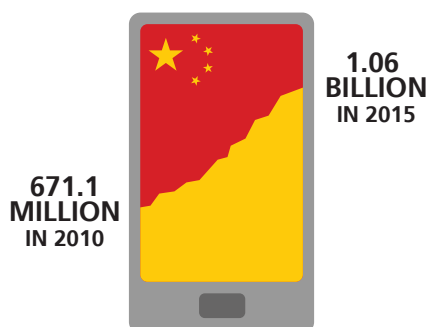
The technology industry moves at a blistering pace and competitive pressure is constant. The success of a technology company is closely linked to its ability to meet and exceed a growing consumer and business appetite for the latest innovation.

Short product life cycles and price erosions mean it's vital to maximize the value of any new product. The ability to launch innovative technologies quickly, with confidence, creates the product differentiation needed to attract consumer interest pre-release, and seize market share quickly.

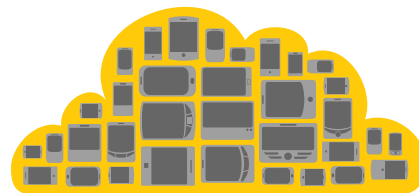


The competitive landscape is diverse. Large organizations, niche players and start-ups with sophisticated online sales channels are increasing competition and accessibility for new players. Even the low-profile contract manufacturers in Asia who historically made products for major global brands are now using their cost advantage to become brand names and global players in their own right.

## THE NUMBER OF MOBILE PHONE USERS IN CHINA



Demand for technology products is largely driven by general economic development and consumer spending. Much of the market growth is driven by new innovations and expansion into emerging markets. Aftermarket services attached to finished goods offer another attractive new business segment for expanding the total revenue opportunity of a product.



**A NEW SERVER IS ADDED  
TO THE CLOUD FOR EVERY  
600 SMARTPHONES  
OR 200 TABLETS**

Rapid convergence of technologies and disruptive new technologies further fuel the pace and need for change. Cloud computing for example is set to see local servers and storage become a thing of the past; 3D printing will see complex objects built on-site; and by 2014 mobile internet access is set to become the most common form of web use. At the same time, the market is experiencing a shift from a battle of devices to a war of delivery platforms, channels and media consumption ecosystems.

## IN 2015 THERE WILL BE

**1.5 BILLION**

DEVICES CONNECTED TO THE INTERNET IN SOME WAY,  
WITH 3.1 BILLION INDIVIDUALS CONNECTED

# SUPPLY CHAIN CHALLENGES

Technology supply chains need rethinking in order to maximize opportunities, reduce costs, minimize risk and achieve competitive advantage.

The dynamic market landscape requires getting the latest technology quickly and at a very competitive price to both developed and emerging markets. Simple, consolidated and agile supply chains need to be designed from the perspective of your key supply chain challenges:

## Meeting demand

Seasonality, promotional and publicity campaigns, product life cycles and the competitive landscape all contribute to the rise and fall in consumer demand for technology. From production to delivery, the supply chain often has to accommodate unpredictable volume fluctuations. The increasing demand in emerging markets requires cost effective solutions, local expertise and labor.

## Driving cost reduction

The intense competitive landscape and constant pressure for lower prices make cost savings a very important aspect of your success. You need to drive down costs through process optimization of component sourcing, manufacturing, distribution and retailing, as well as through analysis of areas that generate high costs. These include labor overheads, warehousing space, transportation and many more.

## Managing risk

You must be able to recognize, assess and plan for diverse risks and threats to operations. Exposure to fuel price fluctuations, the impact of natural disasters, geopolitical unrest and theft of goods and components in transit are just a few threatening factors. All these can disrupt and challenge procurement, production and distribution, and can have a great negative impact on the bottom line.

## Reducing time-to-market

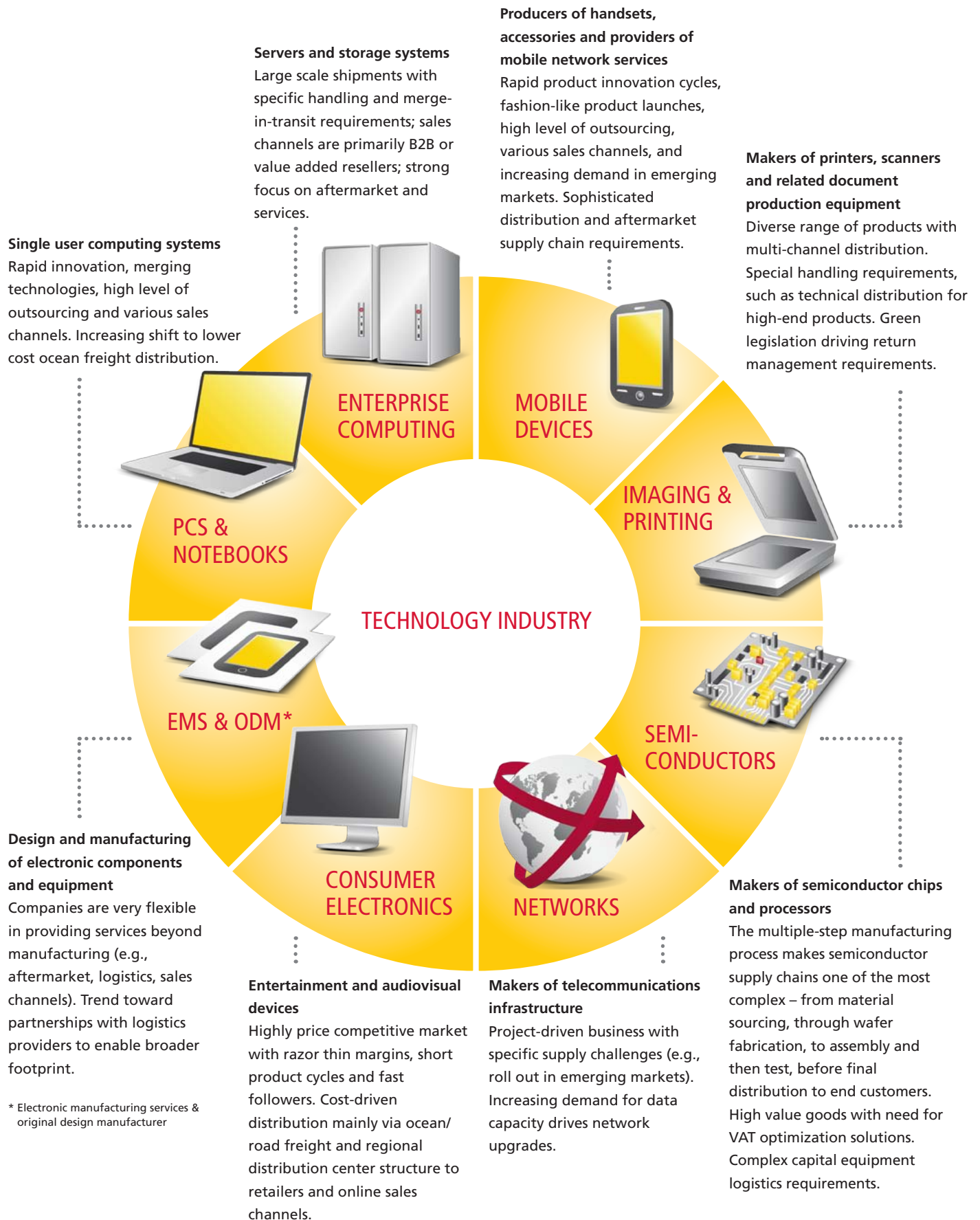
Bringing new products to the market is complex and needs a synchronized effort of all people and organizations that come in contact with your brand. This is all about linking Research & Development, product development, marketing and demand planning with supply planning, sourcing, manufacturing and logistics.

**Technology is a diverse industry, with each sub-sector and individual customers having their own distinct supply chain challenges and needs. The supply chain for a semiconductor manufacturer is very different from that of a PC or mobile device manufacturer. By breaking the industry down into eight sub-sectors with distinct value propositions, we help you stay on top of your game.**





# TECHNOLOGY SUB-SECTORS AND THEIR SUPPLY CHAIN DYNAMICS



# OUR SUPPLY CHAIN OFFERING

We provide innovative solutions that help you simplify your operations and keep pace in this highly dynamic marketplace.

Driving cost reduction, managing risk, reducing time-to-market and meeting demand is a complex task you need to tackle in partnership with your logistics provider. For this reason, we have designed our offering to meet your needs and build a consolidated and simplified supply chain that will bring benefits throughout the entire life cycle of your products and services.

Our highly experienced and extensively trained people help you see the big picture and optimize your operations through supply chain consulting, work in partnership with you and support you in planning each step of your product's journey up until return, repair or disposal.

From the moment Research and Development yields production-ready prototypes, we are on hand. We help you plan and coordinate just-in-time supplies for production, manage the material flows for manufacturing, get the product ready for retail, and finally deliver it where it needs to be at the right time, with the right quality.

Supporting your customers effectively, demands fast and efficient operations that are ready for repair, product replacement or recalls. Our reverse logistics solutions streamline the process end-to-end. From dealing with consumer communications in multiple languages to managing product collection, inspection, repair and replacement, we can safeguard your brand reputation.

With our global and local knowledge and continuous investments in best-in-class IT platforms, we make sure you have constant visibility and reporting, through fast and exceptional customer service all around the world.

**From planning to sourcing, manufacturing to storage, distribution to returns, we offer convenient solutions along your entire supply chain to help streamline your business, enabling you to stay one step ahead.**



# SUPPLY CHAIN SOLUTIONS FOR FAST-PACED TECHNOLOGY



## 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, our dedicated teams of supply chain consultants 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 your 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. We help our customers create competitive advantage and provide them with strategic, financial and commercial value by improving control, visibility and flexibility.

## 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. We coordinate the transaction at every stage in the supply chain, ensuring quality and reliability. From the initial consulting and demand planning, to negotiation, buying, tracking, receiving and incoming inspection.
- **Inbound to Manufacturing (I2M)**  
We take responsibility for optimizing all inbound transportation. We collect the right components from multiple suppliers at the right time, giving you the confidence that deliveries will be in synch with your production schedule. We provide full warehousing solutions together with local shuttle service and in-plant movement of materials. We ensure a leaner environment through tighter control, visibility and improved resource efficiency.

## MAKE

Manufacturing the product



### Manufacturing Logistics

- **In-plant Services**  
We help to increase labor flexibility, reduce working capital and drive lean manufacturing by managing the materials flow within your manufacturing plant. We also offer specialized manufacturing services such as sequencing, Line Feeding, Kanban replenishment processes and even sub-assembly.
- **Vendor Managed Inventory (VMI)**  
We manage your suppliers' performance and optimize your inventory, making sure that stock is available and maintained at agreed optimal level against your sales forecast. This allows you to postpone the delivery of components until the last possible moment.

## DELIVER

Getting it where it needs to be



### Distribution Logistics

- **Technical Distribution**  
We manage the deployment of electronic equipment from order to point of use - including warehousing, configuration, on-site installation, user training, de-installation, equipment return, asset recovery and disposal. Skilled technicians with special handling equipment provide on-site delivery and installation, helping to reduce costs.
- **Pre-Sales Technical Services**  
Our kitting and co-packing, assembly, customization and configuration and staging and deployment solutions help you to increase flexibility, reduce working capital, inventory and transport costs.
- **Financial Services**  
We enable you to reduce risks and simplify trading, through activities such as fiscal representation, customs clearance and brokerage.  
  
See next page to learn more about our warehousing, transportation, value added – and management services.

## RETURN

Receiving support when it's needed



### Aftermarket Logistics

- **Service Parts Logistics (SPL)**  
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.
- **Aftermarket Technical Services**  
We integrate repair and logistics activities associated with the recovery of defective products. We make sure that you get the most value out of each returned product and we handle for you: warranty verification, entitlement management, screening, functional testing, module replacement, component level repair, harvesting, asset extraction, material management and recycling.
- **Recall Solutions**  
We provide an end-to-end solution for large scale recall of defective products or inadequate goods with speed, flexibility, control and professionalism, while adhering to statutory regulatory protocols.
- **Envirosolutions**  
We design and manage waste recycling solutions, integrated with existing logistics flows, which consistently reduce cost and environmental impact. Efficient data and supplier management ensures that you are able to meet the requirements of local WEEE legislation and fulfill compliance obligations in a cost effective and environmentally efficient manner.

**Our core logistics services: Warehousing, Transportation, Value Added Services, Management Services**



# 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.

## Warehousing services

Creating and operating customized warehouse solutions that deliver bottom-line benefits is at the heart of all our solutions. For example, sharing warehousing, equipment, labor and transportation with other organizations, especially in the technology sector, confers valuable business benefits. Deal effectively with demand fluctuations with our shared-user campuses and distribution networks. 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.

## 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.

## Value added services

Reduce costs, reduce inventories, and better match supply with demand. Our value added services simplify e-fulfillment through smart integration across warehousing and dispatch solutions. Sub-assembly, co-packing, customization, postponement, kitting, sequencing and pre-retail activities are just some of the ways our team can improve the performance of your supply chain. For example, by using DHL to manage returns quickly and efficiently, technology customers recapture value, reduce write-offs and increase customer satisfaction.



## Management services

**Labor management** – labor represents 50% to 60% of typical distribution costs. Our 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, DHL Supply Chain bundles 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: Global WMS roll-out

DHL Supply Chain implemented a warehouse management system (WMS) roll-out for a global mobile phone provider. The central program management across multiple countries and 3 regions has helped reduce costs and risk, while improving customer service.

### Case Study: Integrated end-to-end repair service

A leading provider of satellite based television services needed to improve its repair and service operation in order to take advantage of the huge growth in High Definition television. DHL Supply Chain has significantly reduced inventory and unit repair costs, cut turnaround times and enabled the business to maintain rapid growth.



# OUR UNIQUE CAPABILITIES

DHL Supply Chain has a 40 year track-record of running world-class supply chains for many of the technology industry's most innovative and successful businesses. Technology customers continue to partner with us for many reasons.

## Industry expertise

For the best results in your volatile and competitive market, we work closely with you to develop flexible, efficient ways to cope with the short product life cycles, changing customer demands, new sales channels and global distribution challenges. Offering expertise across the range of technology industry sub-sectors, we also share best practice to drive further savings.

## Simplification

By focusing on what you do best and outsourcing non-core functions, you can reduce capital costs and simplify your operation, optimizing your results. As your lead logistics provider DHL can orchestrate multiple suppliers and operations across the supply chain, taking end-to-end ownership. Dashboard visibility and control enables you to make proactive and informed decisions. Supply chains are often complex and always time-critical. We always ensure you have a single point of contact who understands your program and the expert team supporting it.

### Case Study: End-to-end recall solution

A leading consumer goods manufacturer turned to DHL Supply Chain requesting support for one of the largest consumer electronic recalls to date, involving over 7 million units across 15 countries. With capacity to handle up to 30,000 packages a day, customers only had to wait a few days for repair or replacement.

## Commitment to excellence

For DHL, Quality Assurance and Process Improvement are about more than merely exceeding standards, regulations and directives. They're about seizing every possible opportunity to raise the bar. Through a structured and systematic approach, we continuously improve standards and customer satisfaction. First Choice is our service optimization scheme to help us understand your needs more fully and adapt our processes to make your lives easier. Using Six Sigma and Lean methodologies, the DMAIC cycle (Define, Measure, Analyze, Improve and Control) is at the heart of our project management methods. Our relentless pursuit of excellence gives you a real and sustained competitive advantage.

## Global footprint

With our unrivalled global capability and experience in emerging markets, we can help you access new growth opportunities and low cost operations across Supply Chain, Express, Freight and Global Forwarding. With local expertise in over 220 countries and territories, combined with our financial strength, we have the flexibility to scale up or down to meet requirements or overcome disruptions.

### Case Study: Consolidation leads to customer satisfaction

Consolidating 21 warehouses into 3 regional hubs, hiring over 60 specialist electronic technicians and owning processes for warehousing, repair and transportation, DHL Supply Chain has improved customer satisfaction for a global vendor of PCs, Notebooks and Smart Phones, while simplifying operations, driving down parts inventory and reducing transport costs.



### Innovative solutions

To get you moving quickly, the DHL Innovation Center works hard to develop new solutions. Our Innovation team brings together dozens of dedicated academic, industrial and technological specialists to develop advances that have included DHL Smart Sensors for accurate geo-tracking, the use of RFID across the technology supply chain and solutions that provide real-time information on shipments.

#### Real-time tracking and security

**DHL Smart Sensors** provide our customers with real-time information about their package's location, temperature, humidity, light exposure, pressure, shock and vibration.

Designed not to interfere with avionics, the device uses both GPS and GSM radio to transmit data for customers to access through an online portal.



The robust **DHL Secure Box** has been designed for high-value technology goods and prototypes. It physically protects goods in transit and uses a computer-based locking mechanism for added security. Developed by DHL Solutions and Innovations, it offers an intelligent way to protect against misuse, manipulation and damage, reducing insurance costs as well.



### Health and safety

We help you to meet high standards on health, safety and security through extensive training and timely monitoring. We offer consulting and advice on global safety regulations accomplished by in-depth audit processes and regular inspections of our sites. This enables us to achieve a lower frequency of workplace injuries, lose less time, reduce equipment failures and prevent business disruptions.

### Green logistics

Enhance your brand reputation and bottom line while decreasing your impact on the environment. We were the first logistics company to set carbon efficiency targets and our GoGreen (environmental protection program) innovations enable customers to offset handling and transport costs against climate protection projects. We also provide product refurbishment and recycling solutions.

#### Case Study: Helping reduce carbon emissions

For a global provider of communication technology solutions, DHL Supply Chain has helped reduce emissions. Efficiencies like optimizing routing for 70,000 vehicles, improving loading ratios, deploying hybrid vehicles and smarter packaging have resulted in a 45% reduction in carbon emissions compared to the year 2000.



# END TO END SUCCESS

We understand you are in a challenging and fast-paced market. You need a supply chain that ensures speed and visibility, drives constant optimization and creates a sustainable competitive advantage for you.

## **Innovate faster**

You need to successfully launch products ahead of the competition and also have the flexibility to make changes during the product development process. Let us remove the headaches and complexities of technology logistics and develop integrated value-added supply chain solutions. Free your best teams to focus on creative, profitable innovations and prototypes and test products at speed.

## **Procure more competitively worldwide**

In today's often volatile global economies, maintaining robust, trustworthy and secure supply chains has never been so important. Our offering helps you optimize your procurement strategy worldwide and creates cost reduction. Plan component and raw material purchases from approved suppliers with confidence and secure competitive pricing supported by the appropriate quality assurance safeguards and supply level guarantees. Get full control and visibility of your supply chain and reduce inventory levels, delayed purchases, damages and obsolescence.

## **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 Inbound to Manufacturing support. Outsource non-core processes and operations. Leverage shipping, distribution, just-in-time delivery and economies of scale around the world, only possible with an experienced global logistics partner. Provide unmatched levels of technical support across every sales territory. Earn a reputation for customer service that defines a brand leader.

**DHL Supply Chain supports more than 300 leading companies in the technology sector around the world. Use our skills, resources and experience to take your business forward.**



# DHL at a glance

DHL is the global market leader in the logistics industry and “The Logistics company for the world”. DHL commits its expertise in international express, air and ocean freight, road and rail transportation, contract logistics and international mail services to its customers.

## THE LOGISTICS COMPANY FOR THE WORLD

A global network composed of more than 220 countries and territories and about 275,000 employees worldwide offers customers superior service quality and local knowledge to satisfy their supply chain requirements. DHL embraces its social responsibility by supporting climate protection, disaster management and education.

DHL is part of Deutsche Post DHL. The Group generated revenue of more than € 53 billion in 2011.

## DHL SUPPLY CHAIN

As the world’s leading contract logistics provider we create competitive advantage for our customers by delivering exceptional operational service and innovative solutions across the supply chain.

Comprising a global network of 125,000 dedicated employees, in more than 60 countries, DHL Supply Chain provides the best supply chain solutions across a number of industry sectors including automotive, consumer, chemicals, energy, engineering & manufacturing, life sciences & healthcare, retail, and technology.

As the most trusted operator in the logistics industry, DHL Supply Chain delivers on promises.

Deutsche Post DHL			
<b>Deutsche Post</b> 		<b>DHL</b> 	
Die Post für Deutschland		The Logistics Company for the World	
DHL			
EXPRESS	GLOBAL FORWARDING, FREIGHT	SUPPLY CHAIN	
			
International Express	Road Freight	Air and Ocean Freight	Contract Logistics & Business Process Outsourcing

### Facts & figures DPDHL

- Exchange: DAX
- Ticker symbol: DPW
- Fiscal year end: December
- Revenue in 2011: € 53 billion
- Sector: Logistics
- Modern postal system founded: 1490
- Went public: 2000
- CEO: Frank Appel
- Head Office: Bonn, Germany
- Employees: Approx. 470,000
- Sales in 220 countries and territories
- 120,000 destinations worldwide

### Facts & figures DHL Supply Chain

- Market leader in contract logistics with 8.3% market share
- Revenue SUPPLY CHAIN 2011: € 13.2 billion
- Approx. 125,000 dedicated employees
- Present in more than 60 countries
- >2,000 customers across all vertical markets
- 2,400 terminals, warehouses, offices
- ~23,000,000 m² of storage area

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