DHL

Delivered.

THE GLOBAL LOGISTICS MAGAZINE

ISSUE 03/2015

BUSINESS
GOOD CALL
Discover why Xiaomi is China’s no. 1 smartphone brand

SOLUTIONS
TAKE A BREAK
Explore the benefits of taking a sabbatical

VIEWPOINTS
FORWARD-LOOKING
Futurist Johan Peter Paludan on the plusses of planning ahead

FOCUS
THE PERFECT ANTIDOTE
Big pharma’s treatment for rising healthcare costs

DEAR READER,

Traditionally, the healthcare industry has made large investments and reaped significant rewards; but now technical, demographic and economic changes threaten to dramatically trim margins across the sector. Under cost pressure from all sides, pharma companies are having to find innovative ways to respond if they are to continue to thrive – including changing the ways they run their supply chains – as our life sciences and healthcare focus discovers.

Innovation is also currently changing the face of Eastern Europe. Once hampered by its former Soviet Bloc label, it is now benefitting from a combination of technological skills, big ideas and entrepreneurial flair and, as such, has become the location for numerous start-up successes. Our country focus feature asks if, with all this talent on its doorstep, the economies of Eastern Europe have the ability to break free of their neighbors and take a new, independent place on the world stage.

Xiaomi Technology knows all about fast growth. It only launched five years ago but recently replaced Samsung as China's largest smartphone brand and is now looking to replicate its success in international markets. We look at what has made Xiaomi a name to be reckoned with so quickly, and why its "snap up" flash sales technique is a big winner with consumers.

Enjoy your read!

Bill Meahl
Chief Commercial Officer, DHL

Cover photo: Unlisted Images/Corbis; photos on this page: DPDHL, Fotolia/ngaga35, Katharina Hesse, PriestmanGoode, private

04 **NEWS**

FOCUS: LSH

08 **Beating the Squeeze**
The LSH industry has an innovative prescription to tackle rising costs

15 **Creating Smarter Temperature-controlled Supply Chains**
The evolving requirements for LSH transportation and storage

16 **Direct Benefits**
Life sciences' growing interest in "direct-to-market" distribution

18 **High-value Drug Distribution in Australia**
A direct-to-market case study, plus the findings of a new white paper

BUSINESS

20 **Big Ideas and Brave Innovation**
Why Eastern Europe is now a hub for talent, innovation and start-up success

24 **DHL City Quiet, City Safe**
A new gas-powered concept vehicle for smarter deliveries

25 **On the Market**
Are marketplaces the future of e-commerce?

PUBLISHED BY DEUTSCHE POST DHL HEADQUARTERS

Represented By
Prof. Dr. Christof Ehrhart
EVP Corporate Communications & Responsibility

Anita Gupta
SVP Global Media Relations

Editor-in-Chief
Michelle Bach
(michelle.bach@dhl.com)

Editor
Tony Greenway

Project Manager
Sarah Ley

Editorial Assistant
Lochumbeni Yanthan

Contributors
Jonathan Ward, Bill Hinchberger, Charlotte So, Dr. Rajat Kathuria, Angela Singleton, Stephan Fetsch, Simon Baker

www.**delivered.**dhl.com

A NOTE FROM THE EDITOR

A couple of years ago I had my first encounter with a futurist. Johan Paludan, then Director Emeritus at the Copenhagen Institute for Future Studies, worked with us on an InsightOn: report, giving us some fascinating viewpoints on the future of e-commerce. In this issue of Delivered. we've invited Johan to share his story and explain what a futurist actually does. We hope you enjoy finding out how this creative thinker started his career, what megatrends occupy his mind and how he sees tomorrow's world developing. *Michelle Bach*

26 **The Sky's the Limit**
Behind the scenes at Xiaomi, China's leading smartphone brand

29 **Banking on the BRICS**
What to expect from the BRICS' new New Development Bank

SOLUTIONS

30 Making Connections on the Move
A high-tech docking idea that could revolutionize freight transport

32 **Doing a World of Good**
Sabbaticals: the challenges and benefits for employer and employee

VIEWPOINTS

34 *Delivered. looks into the future with …*
Johan Peter Paludan, former Director of Copenhagen Institute of Future Studies

36 **Survival of the Smartest**
An essay by Stephan Fetsch, Partner Corporate Finance, KPMG

38 **What's the Story, Mr. Ashworth?**
The challenges of shipping priceless works of art

Johan Peter Paludan, Futurist

WEB LINK VIDEO LINK

The icons above indicate additional online resources.

Address
Deutsche Post DHL Group
Headquarters
Charles-de-Gaulle-Strasse 20
53113 Bonn, Germany
Tel. +49 (0) 228-18 20

Commercial Register No.
Registration court Bonn
HRB 6792

Turnover Tax ID No.
DE 169838187

Website
www.delivered.dhl.com

Editorial Production
G+J Corporate Editors GmbH
Stubbenhuk 10
20459 Hamburg

Project Manager
Birte Kleinebenne

Art Direction
Matthis Eilers

Layout
Christina Göttsche

Paper
This magazine is made from 100% recycled paper.

We are committed to protecting the environment and the world's resources.

FSC PLATZHALTER

NEWS

BOOST FOR BRUSSELS HUB

DHL Express is to create a state-of-the-art hub at Brussels Airport, tripling shipping capacity and opening up new trade connections and business opportunities for companies. The existing Brussels hub – set up in 1985 as a regional center – has seen solid double-digit growth for the past five years and is nearing 100 percent of its capacity. The new 36,500-square meter facility – comprising of a 31,500-square meter sorting center and 5,000-square meter office complex – will dramatically increase handling capacity from 12,000 to 39,500 shipments per hour, improving pickup and delivery times for customers based in Benelux.

DHL Aviation NV's CEO Koen Gouweloose said the hub, which will cost €114 million to build, "would guarantee an even quicker and higher quality service."
The hub will also adhere to DHL's GoGreen program, with a vehicle fleet running on natural gas, a solar park and other environmentally friendly measures allowing it to save 768 tons of CO_2 per year. Arnaud Feist, CEO of Brussels Airport, said DHL's investment would "further strengthen our position in Belgium as the logistics center of Europe."

tinyurl.com/del-Brussels

YOUR PARCEL? IT'S IN THE TRUNK

DHL Parcel, Amazon and Audi have launched a pilot project for a new service that allows car owners to use their vehicles as mobile delivery addresses for their parcel shipments. The solution – a first for the German market – is thought to be especially attractive for commuters because, regardless of where their car is parked, they need never miss a delivery again.

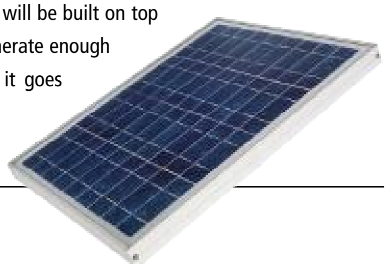
Using a specially developed smartphone app, DHL receives the exact location of the car as well as access to the vehicle's trunk. After the item has been placed in the trunk and the door is closed, the car is then locked automatically. DHL receives confirmation via the app and the car owner is informed that the parcel is waiting for them via e-mail.
DHL Parcel, Amazon and Audi are conducting the pilot in the greater area of Munich, giving selected customers the chance to test the new delivery solution which has been developed and tested to ensure high security standards for both merchandise and automobiles.

The amount of funding a new tech start-up has secured to develop a new 3D printing technique called Continuous Liquid Interface Production – or CLIP – which claims to be 25 to 100 times faster than other resin printing techniques.

Photos: DPDHL (4), Carbon3D, Inc., Fotolia/weseetheworld, YOSHIKAZU TSUNO/AFP/Getty Images, Sama, Fotolia/eugenesergeev, AeroMobil,

LAND OF THE RISING SUN

A huge floating solar farm is being built in Japan, as the country moves away from nuclear power in the wake of the Fukushima disaster. The 13.4-megawatt solar farm – said to be the world's largest in terms of capacity – will be built on top of a dam in Chiba prefecture and will generate enough electricity to power 4,700 homes when it goes into operation next March.



WINNING STRATEGY

DHL Customer Solutions & Innovation (CSI) has been honored not once, but twice by the Strategic Account Management Association, (SAMA) in its 2015 awards. The awards recognize DHL CSI's customer-centric approach to innovation and a new business technology platform that offers Customer Managers, Sales Leaders and Program Managers a "one-stop shop" to drive effective account management and the sharing of customer insights.

SAMA Excellence Awards in Strategic Account Management

tinyurl.com/del-SAMA

AUTO PILOTS?

It sounds like something out of a James Bond movie, but we could soon see flying cars on our roads and in our skies. The AeroMobil 3.0 is a two-seater car/plane hybrid which boasts a range of 545 miles and a top speed of 99mph and could be on the market by 2017. It also runs on normal petrol – just remember to fold the wings back before you drive onto the forecourt. And if that's not mind-blowing enough, its makers also want to produce a self-flying version.

tinyurl.com/del-aeromobil

A FITTING COLLABORATION

Some of the fashion world's brightest designers have benefited from DHL's global Exported Program, which has given them the chance to expand their brand footprint in one of four international markets. The designers – Francesca Liberatore, Hakaan Yildirim, Christopher and Nicholas Kunz, and Henry Holland – received a fully produced runway show at fashion weeks in New York, London, Milan and Tokyo for two consecutive seasons, as well as marketing, PR and logistics support.

tinyurl.com/del-fashion

AN EAR TO THE GROUND RESILIENCE360

DHL's risk management platform Resilience360 has been enhanced with new features. Customers can now integrate the solution with their transport management systems, scan the latest positions and status of all their shipments worldwide and identify any potential disruption to their supply chains. The added features coincide with the launch of a new DHL white paper, "Next-gen LLP: Driving new business value in an unpredictable world," which identifies the challenges and developments affectting supply chain operators and details on how they are seeking ways to increase efficiency and mitigate risk by partnering with lead logistics partners.

"A seemingly small event or outage in one region can quickly escalate into full-blown business interruption halfway across the world," says Lisa Harrington, President of lharrington Group LLC, which prepared the Next-gen LLP report in collaboration with DHL. "The cost, complexity and expertise required to enact mitigation strategies can pose big challenges for companies with constrained staff and budgetary resources. At the same time, competitive pressures make realizing them essential."

tinyurl.com/del-supply-chain

BOXING CLEVER

As part of an initial pilot project, DHL has installed private parcel delivery boxes in selected locations in Berlin and Dortmund. Thanks to the parcel box – which is locked to protect against theft – tenants can now receive parcels at any time regardless of whether they are home or not, saving them an extra trip to a postal outlet or neighbor.

CHANGING FACE OF CHANGI

DHL Express is planning a new €85 million South Asia Hub at Singapore's Changi Airport – and expects to have it operational in just a year.
The 26,200-square meter hub – with a floor space taking up 90 percent of the building's footprint – will feature the first fully automated express parcel sorting and processing system in Singapore and South Asia, allowing it to handle more than 628 tons of cargo every day and process 14,000 shipments per hour: a six-fold improvement on existing capabilities.
The expansion reinforces DHL's multi-hub strategy: DHL's four hubs in the region – Shanghai, Hong Kong, Bangkok and Singapore – link to more than 70 Express Gateways throughout the region.
DHL Express Singapore's Senior Vice President and CEO, Herbert Vongpusanachai, said, "DHL has pioneered the logistics sector in Singapore for over 42 years. The South Asia Hub is a strong statement of DHL's long-term growth plan for Singapore to continue to be one of DHL's strategic air cargo hubs in Asia."

MIRROR, SIGNAL, DO THE CROSSWORD

Driverless cars have gone on trial in four cities in the UK. Self-driving shuttles are being tested in Greenwich in London, while Milton Keynes and Coventry have autonomous "pods" trundling along designated routes, and Bristol has a modified military jeep. Experts believe that by 2030 the technology will have advanced enough to allow us all to be passengers in our own cars. A new report claims that driverless cars will boost the UK economy by £51 billion a year.

SEPTEMBER 24

Save the Date!
The next module of DHL's Corporate Automotive Logistics Academy 4.0 (CALA 4.0) at the Innovation Center, Troisdorf, Germany will address the challenges of global sourcing for the automotive industry and logistics service providers. For registration and more information:

tinyurl.com/del-cala

LIVING RESPONSIBILITY

LIFE-SAVING LOGISTICS

Angela was born in a slum in the Liberian capital of Monrovia. Without vital medicines, Angela's mother would have died during childbirth. Thanks to the work of Life for African Mothers – a charity working in partnership with International Health Partners (IHP) – she didn't. IHP is Europe's largest coordinator of medicines donated by healthcare companies. Angela's mother was so thankful that she named her baby after Life for African Mothers' founder, Angela Gorman.
Angela and her mother are just two of the 25 million people in 104 countries who have benefited from £127 million of medical aid and supplies provided by IHP in its 11-year history. DHL has been part of the story for ten of those years, providing free warehousing for IHP to store its stock and arranging air, sea, road and express shipments of those supplies to a diverse and sometimes difficult range of destinations – parts of the world torn apart by war, disaster, disease or poverty. Currently, DHL stores more than 200 pallets of IHP stock at its Cherwell 1 site in Banbury, Oxfordshire, and medicines from there have gone out to projects in Liberia, Rwanda, Congo, Sierra Leone and others. On behalf of IHP, DHL has also sent eight 40ft conainer-loads filled with £2.5 million of medical supplies to Gaza and the West Bank. Life-saving logistics, without a doubt.

tinyurl.com/del-healthcare

Photos: DPDHL, Catapult Transport Systems, ullstein bild/Still Pictures/SHEHZAD NOORANI, Fotolia/Marco2811, DPDHL/Kay Herschelmann

SHIPPING FORECAST TO GROW

A new weekly direct service for ocean freight containers is being launched between India and Germany. DHL is expanding its network of LCL (less than container load) transports, and the new route will cut the transit time from Tuticorin to Hamburg from 33 to 26 days. The new service will particularly help companies in the textile, chemical, metal, leather and electronics sectors.

tinyurl.com/del-freight

OCTOBER 13

Save the Date! DHL's 3rd Global Energy Conference – in Houston, USA. – has an engaging agenda of keynotes, panel sessions and workshops on a wide range of current issues and topics associated with the upstream, midstream and downstream oil and gas industry. For more information, e-mail: energy.sector@dhl.com or go to:

tinyurl.com/del-save-the-date

ALL YOU NEED!

DHL is further expanding its international parcel business in Europe. Online market place 'Allyouneed' by DHL Parcel started operations in Poland in March, offering online merchants and consumers a platform specifically adapted to the needs of the Polish market. "Allyouneed's entry into the Polish market reflects our strategy of establishing new services and products in Europe's booming e-commerce markets in order to promote the development of this growth market," says Andrej Busch, CEO DHL Parcel Germany and DHL Parcel Europe. "Poland is one of the fastest-growing markets and serves as an excellent launchpad for expanding our marketplace model into other countries."

tinyurl.com/del-all-you-need

GROWING THE DHL FAMILY

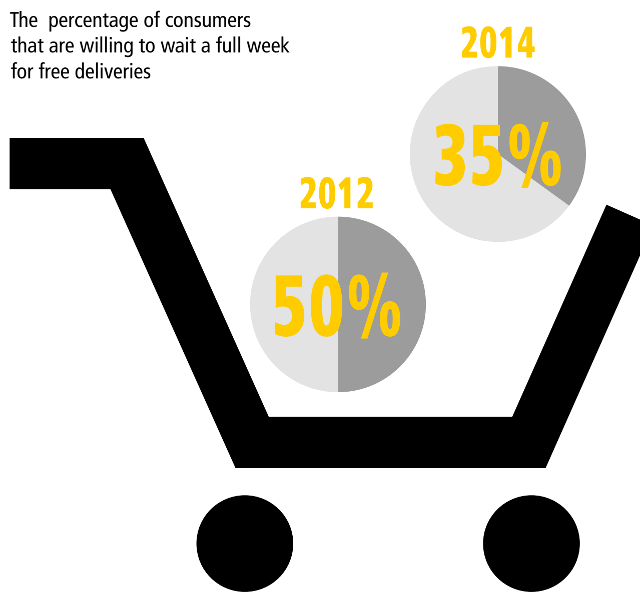
DHL is set to integrate the German logistics business of pharmaceuticals company STADA. DHL Supply Chain will manage the company's logistics activities and sites in Florstadt and Bad Vilbel, near Frankfurt/Main. Some 155 employees working in STADA's warehouse, anaesthetics and export operations will transfer to DHL. STADA will focus on its core business and enjoy expected cost savings thanks to the outsourced logistics.

tinyurl.com/del-Pharmaceuticals

STADA Arzneimittel

E-COMMERCE:

The percentage of consumers that are willing to wait a full week for free deliveries



PREPARED TO LEAD

DHL Global Forwarding in the Americas is the first forwarding company in the world to be awarded the ISO Business Continuity Management 22301 certificate, the first global international standard for BCM. The certification – which covers 14 countries and 40 stations – recognizes that DGF Americas has reached the highest international standard of business continuity by ensuring that employees, customers and suppliers are committed to ensuring their businesses are prepared for any eventuality.

tinyurl.com/del-business-continuity

BEATING THE SQUEEZE

The healthcare industry is under cost pressure from all sides and is finding innovative ways to respond.

TESTING TIMES:
Making profitable new drugs is increasingly harder to do.

The life sciences and healthcare business has a history of placing big bets and making big profits. Five major pharmaceutical companies reported profit margins of more than 20 percent in 2013, and the industry's average profitability was in the high teens, equaled only by banking. Things may be changing, however, with a confluence of technical, demographic and economic changes that threaten to dramatically trim margins across the sector.

First, making profitable new drugs is getting considerably harder to do. Take into account the many projects that fail to produce a salable product and the cost of developing a new prescription drug is now just under $2.6 billion, according to the Tufts Center for the Study of Drug Development. That's an increase of almost two and a half times since 2003, thanks largely to the rising cost of inputs and the greater complexity of the clinical trials needed to prove that new products are safe and effective. Moreover, once they do reach the market, only 30 percent of new drugs are profitable, and only 10 percent of them reach elusive "blockbuster" status, with annual sales of more than $1 billion.

Then there's the ticking clock on the industry's most successful products. Once patent protection on a profitable drug expires, competitors rush into the market with generic alternatives, slashing the price. This so-called patent cliff has hit the industry hard in recent years, with $148 billion in revenues threatened by generic rivals between 2009 and 2014, according to market research company IHS. And while the sales value of expiring patents peaked in 2012, the same researchers predict that a further $121 billion in revenues will be at risk over the next five years.

Discounted prices

If competitors are putting downward pressure on the prices of the industry's older products, increasingly vocal customers are doing the same for many new ones. The high price of some novel drugs is leading the governments and insurance companies that pay for them to ask tough questions about their use. A new treatment for hepatitis C caused controversy in the US last year, for example, when its maker announced a price of $84,000 for a twelve-week course: around $1,000 a pill. And research published this month in the journal Mayo Clinic Proceedings suggests that the average cost of cancer drugs for a US patient rose from less than $10,000 to more than $100,000 between 2000 and 2012. With some payers refusing to sanction the prescription of expensive new drugs on the basis of cost-benefit analysis, manufacturers are being forced to discount their prices significantly in order to access certain markets.

$2.6 BILLION

is the cost of producing a new prescription drug.

Nor is it just the most expensive medicines that are coming under price pressure. Healthcare providers around the world are struggling to balance tight budgets and the rising cost of treating aging populations. In response, they are putting their expenditures of all sorts under increasing scrutiny, with purchasing organizations looking to drive ever-harder bargains with their suppliers. Several major pharmaceutical companies attributed lower-than-expected profits last year to decisions by major US purchasing groups to remove some of their best-selling drugs from recommending prescription lists. In the UK the planned introducton of an infant meningitis vaccination program was delay-

ed by more than a year due to protracted price negotiations between the government and the manufacturer of the vaccine.

As the industry increasingly looks to emerging regions to drive future growth, it must also find a way to serve millions of customers whose ability to pay is severely constrained. Some healthcare organizations have already raised fears that high prices could threaten some of the most important global healthcare initiatives. In a report published in January, for example, charity Medicins Sans Frontieres reported that while the number of diseases covered by the World Health Organization immunization schedule has risen from six in 2001 to 12 today, the cost of immunizing a child has increased 68 times in the same period, and even middle-income countries are finding it difficult to fund the $30 to $45 they need to immunize each child.

A change in focus

Together, these pressures have driven a significant change in focus for the pharmaceutical industry. Its traditional strengths in R&D and sales and marketing are now being joined by a new emphasis on productivity and on keeping costs under control. Speaking to the Financial Times in March, for example, Joe Jimenez, CEO of Swiss Pharma Group Novartis, noted: "The whole industry has shifted to managing costs in a tighter manner because reimbursement is more difficult and because the cost of developing a new drug is higher."

The pharmaceutical industry is pursuing many of the same productivity boosting strategies used by other mature industries. They are selling off less profitable products, rationalizing their internal structures wherever they can, and going through their expenditure with a fine-toothed comb. Novartis is merging many of its back-office staff into a new centralized function, for example, and says it reduced purchasing costs by $1.6 billion last year.

Manufacturing is changing too, as companies sell or close smaller, less efficient production sites, shift manufacturing operations to low-cost regions or outsource them altogether to contract manufacturing organizations. According to market research company Visiongain, the global market for pharmaceutical contract manufacturing will reach more than $79 billion by 2019. Contract manufacturing organisations are increasing in scale and sophistication too, with more companies investing in the skills and equipment to produce newer high-potency active pharmaceutical ingredients (HPAPIs) and complex biopharmaceutical drugs.

Downstream developments

The opportunities to save costs and increase efficiencies in the downstream parts of the pharmaceutical supply chain are every bit as significant as those in manufacturing. And here again, pharma players are seizing approaches developed in other sectors and adapting them to suit the particularly demanding service, quality and regulatory compliance demands of their industry. "Pharma companies recognise that they can free up cash by changing the way they run their

SHARP RISE: The cost of immunizing a child has increased 68 times since 2001.

Photos:Fotolia/ngaga35, Bayer HealthCare AG, plainpicture/Fancy Images

GOOD MEDICINE:
The LSH industry is finding innovative solutions to tackle increasing costs.

supply chains," says Angelos Orfanos, President of Life Sciences and Healthcare, DHL Customer Solutions & Innovation. "And that is vital if they are going to be able to support the essential R&D work they need to develop future generations of products." Among the strategies used by pharma players to cut costs out of their supply chains, he says, are postponement of final filling and packaging operations to reduce inventory levels and increase service flexibility, the use of shared warehouses and other supply chain infrastructures to cut fixed costs, and the outsourcing of logistics management to third-party organizations (see boxes). "Where once pharma companies saw their logistics operations as a core area of expertise, they increasingly recognize that they can obtain higher performance and better value by partnering with specialists in the field," concludes Orfanos.

SOLUTIONS:

1 Value-added services

One powerful way to improve the flexibility and responsiveness of healthcare supply chains is to move certain activities closer to the customer. By postponing final packaging and labeling until customer orders are received, for example, companies can reduce overall inventory and the number of different SKUs they need to keep in stock at any one time, reduce product obsolescence and ensure compliance with different end-market packaging regulations.

DHL has implemented just such a solution in its dedicated LSH facility in Nijmegen, Netherlands, for a European biopharmaceuticals company.

The solution developed by DHL involves the receipt and release of bulk-packaged naked vials of product together with other packaging and dispensing components in a dedicated area. Products are stored in two different temperature-controlled storage facilities. Labels, cartons, leaflets and batch numbers are printed on site in response to orders and components are assembled into end-customer packaging in a clean room manufacturing area that is compliant with current good manufacturing practices (cGMPs). Today, the site manages 18,000 shipments per year of four different basic products and 46 country-specific packaging variations.

For the biotech company, the new approach not only helps it maintain high service levels with significantly lower inventories of its very high-value products, it has also helped allay business continuity concerns by introducing a second inventory location away from the original manufacturing site in Scandinavia. DHL Supply Chain also provides 3PL services to manage the onward shipment of product to hospitals and pharmacies across Europe, further simplifying logistics management for the customer.

2 Taking the lead

For many large pharma and medical device companies, complexities that start in their manufacturing operations can extend right into the downstream supply chain. LSH companies may organize the manufacture of different product groups into different business units, depending on the technologies required to produce and package them. But what makes sense in production can lead to waste and inefficiency in distribution, with companies sometimes managing multiple logistics networks to deliver to broadly the same customer groups.

An increasingly important response to this challenge is the outsourcing of organization-wide logistics operations to a third-party Lead Logistics Provider (LLP). The LLP approach benefits companies, says DHL's Angelos Orfanos since "the deeper the provider penetrates the supply chain, the more expertly they can manage it." By taking responsibility for high-level supply chain decisions, from network design to management of logistics IT, logistics providers can find more opportunities for savings and synergies, and can introduce more of their own best practices, he adds.

In 2011, DHL took on the LLP role in Europe for a major global manufacturer of medical (and other) filtration products. The company's European logistics operations are now run from a central DHL control tower in the UK — the location chosen because 80 percent of the customer's raw materials and finished goods flows pass through the country. The control tower has full visibility of the customer's flows across Europe, allowing it to optimize transport mode and provider, and consolidate shipments wherever possible to reduce costs and simplify customs management.

The new system delivered immediate savings for the customer, reducing supply chain costs by €1.5 million in its first year of operation with a target of €2.5 million savings in three years. Service levels improved too, with faster customs clearance and consistent order fulfillment accuracy. Today, a team of five full-time staff manages transportation spending of some €12 million per year, including both standard and expedited deliveries. The DHL team continues to identify opportunities for transportation savings, from finding back loads inroad transportation to co-loading with other customers.

"The deeper the provider penetrates the supply chain, the more expertly they can manage it."

Angelos Orfanos, President of Life Sciences and Healthcare, DHL

$121
BILLION
is the amount of revenues estimated to be at risk over the next five years due to generic rivals.

3 Asset outsourcing

What do you do when the market moves on, but your warehouses can't? This has become an increasingly pressing question for some life sciences companies as they manage the supply chain implications of changes in demand, customer location or product strategy. The sophistication of pharmaceutical supply chain infrastructure means that adapting or relocating specialist facilities

STOCK CONTROL:
Companies can reduce overall inventory by postponing final packaging until customer orders are received.

Photos: Science Photo Library/Getty Images, Ruetschi/Keystone Schweiz/laif can require significant investment, undesirable at a time when many organizations are seeking to reduce costs and preserve cash.

Some companies in the healthcare sector are responding to this challenge with a novel approach. Typically, as part of a wider outsourcing agreement, they transfer ownership of their existing supply chain infrastructure to their third-party logistics partners. Outsourcing assets in this way increases financial flexibility, by turning what was once a fixed cost into a variable one. But the approach has additional advantages, notes Paolo Rosanna, EMEA Vice President of Business Development, Life Sciences and Healthcare at DHL Supply Chain. "Companies are free to focus on their core activities and let their specialist supply chain partner manage best-practice logistics," he says. ■ *Jonathan Ward*

10 PERCENT

is the amount of drugs that reach 'blockbuster' status, with annual sales of more than $1 billion.

"Some companies in the healthcare sector transfer ownership of their existing supply chain infrastructure to their third-party logistics partner."

STACKING UP: Pharma products at STADA's logistics center in Florstadt, near Frankfurt.

3 QUESTIONS FOR

Angelos Orfanos, President of Life Sciences and Healthcare, DHL Customer Solutions

1. Why is the life sciences sector so challenging right now?

Our life sciences and healthcare clients are dealing with pressure from many sources. As the overall cost of healthcare continues to rise, their customers are negotiating harder than ever for lower prices and improved value, while the cost of developing and manufacturing new products continues to rise. And on top of that, they still have to meet intensely demanding quality and service requirements, and ensure their shareholders are getting a return on their investment.

2. How are these pressures affecting the supply chain?

The supply chain is a key area where healthcare companies have the chance to reduce their fixed costs, free up cash and improve their customer services to customers. More and more of our clients are taking advantage of that opportunity, and there is an increasing willingness to adopt innovative solutions, whether that's outsourcing some or all of their logistics infrastructure, calling on the expertise of specialist providers to manage the entire supply chain function or even adopting entirely new business models based on direct delivery to customers.

3. How is DHL developing its services in the sector?

We are always finding new ways to help our customers meet their diverse challenges, whether that's taking on packaging and assembly activities in Europe or managing front-line logistics for hospitals in Latin America. But perhaps the most exciting opportunities we are seeing are those cases where we can offer end-to-end services ranging from the complete order-to-cash service we provide to a customer in Australia to the integrated procurement and supply chain program we run for the UK National Health Service.

CREATING SMARTER TEMPERATURE-CONTROLLED SUPPLY CHAINS

Complex products, changing markets and stricter regulations are increasing the importance of temperature-controlled supply chains in life sciences. A new DHL white paper explains how a smart approach to their design and execution can deliver higher quality while keeping costs under control.

25
PERCENT
of all pharma products need to be temperature-controlled.

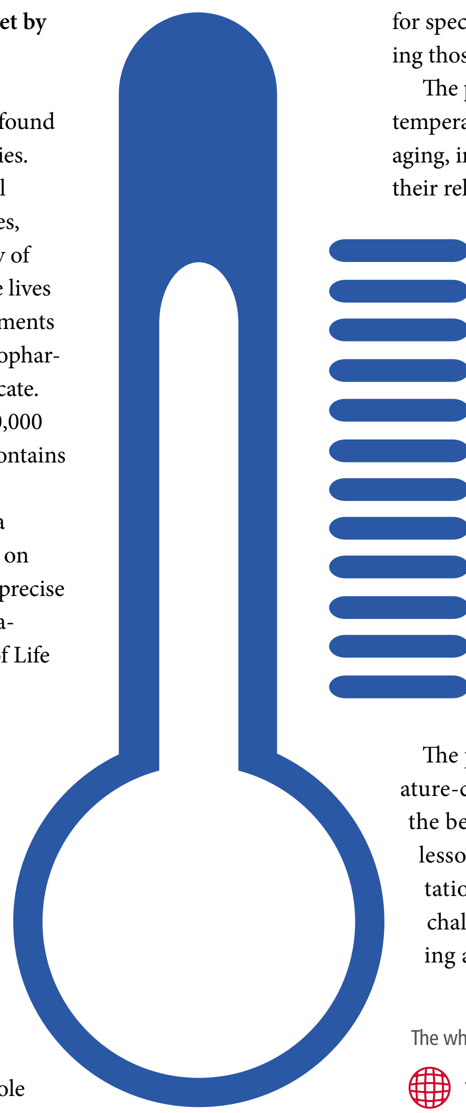
At the turn of the millennium, the US market for biopharmaceutical products was worth around $25 billion, less than 15 percent of total prescription drug sales. By this year, biotech sales are expected to reach $175 billion and to make up one-third of that market. By 2020, they are expected to account for half of the total global drug market by sales.

The biopharmaceutical revolution has driven profound change in the life sciences and healthcare industries. Biologically based medicines, such as monoclonal antibodies, therapeutic proteins, immunotherapies, gene therapy and vaccines, are helping fight many of medicine's most difficult battles, transforming the lives of patients around the world. But these new treatments bring significant new technical challenges too. Biopharmaceutical molecules are large, complex and delicate. A monoclonal antibody molecule may contain 20,000 atoms, for example, while a molecule of aspirin contains only six.

"Ensuring these products arrive at patients in a safe and usable condition puts stringent demands on pharmaceutical supply chains, particularly in the precise control of temperature at every stage of transportation and storage," says Nigel Wing, Global Head of Life Sciences & Healthcare, DHL Global Forwarding. Those demands are compounded by the need for strict regulatory compliance and by the increasingly global reach of many pharmaceutical production networks.

Evolving requirements

In a new white paper, specialists from DHL and global logistic leaders from pharmaceutical companies discuss the evolving, and increasingly diverse, requirements for temperature-controlled distribution in the life sciences and healthcare sector, and the growing role for specialist third-party logistics providers in delivering those requirements.



The paper focuses on four key "pillars" of an effective temperature-controlled supply chain. Firstly, packaging, including the different types of solution available, their relative strengths, limitations and costs. Secondly, network, including the requirements for network design, transport, warehousing, technology and IT infrastructure, people with appropriate knowledge and skills, and the particular demands of last-mile distribution. Thirdly, process, including the need to define rigorous standard operating procedures, tailor those procedures to the requirements of different products and markets, replicate them across the network and ensure their consistent application. Lastly, the total cost of ownership – the key trade-offs in supply chain design, and need for a "smarter" holistic approach to ensure the optimum balance of performance, flexibility and cost.

The paper includes examples of successful temperature-controlled supply chains in different markets, the benefits those solutions have delivered, and the lessons learned from their design and implementation. It concludes with a look forward to future challenges in the sector, and at the options becoming available to meet them. ■ *Jonathan Ward*

The white paper can be downloaded at:

tinyurl.com/temperature-controlled

Photos: Stada AG/Andreas Pohlmann, DPDHL, shutterstock

DIRECT BENEFITS

Direct distribution strategies offer tempting advantages for life sciences companies in increasingly competitive markets, but executing them successfully requires new infrastructure, capabilities and mind-sets.

The downstream supply chain for pharmaceutical products and medical devices has traditionally been a multi-layered affair. Pharma companies will supply importers in their end-use markets. In most cases, those importers then supply regional wholesalers, which supply pharmacies in hospitals and on high streets. And those pharmacies, in turn, will dispense products for individual patients.

While the number of intermediate entities in the supply chain varies from market to market, this multi-step model has been considered advantageous for manufacturers and customers alike. The makers of medical products have the simplicity of dealing with a relatively small number of larger customers, and they can rely on those customers to manage service levels by keeping appropriate inventories close to the point of use. Pharmacies, meanwhile, also benefit from simple relationships with distributors that can supply a broad range of products from multiple manufacturers, and they can keep their own service levels up with same day deliveries from nearby warehouses.

Changes in the industry are now causing some healthcare companies to consider introducing or increasing their well-established distribution channels, however, with new models in which they supply product direct to front-line pharmacies, or even to patients themselves. This growing interest in "direct-to-market" distribution is driven by three main factors.

8.3 PERCENT
is the amount that the market for OTC (over-the-counter) medicines is estimated to grow by 2016.

First, there's margin pressure. The proportion of the value chain captured by wholesalers varies quite widely. In a 2014 report, market research organization IMS Institute for Healthcare Informatics looked at the value chain for five pharmaceutical types in seven countries around the world. It found that the distributor margin ranged from 2 percent of the end user price in the Netherlands, to 22 percent in Kenya. Much of this difference, the researchers say, was down to the different roles played by distributors in different regions.
In Kenya, for example, logistics costs are high and distributors offer significant levels of advice and support to doctors and pharmacies. In the Netherlands, by contrast, distributors primarily run automated order fulfillment activities for pharmacies. In other regions, like Russia and India, meanwhile, distributor margins on some drugs are controlled by legislation. As discussed in our focus feature, pharmaceutical margins are under pressure from rising costs on one side, and increasingly commercially demanding customers on the other. With less margin on

the table, pharma companies are less keen to share it with others, and simpler distribution strategies mean fewer players taking a cut.

Commercial relationship

Then there are relationships. The direct-to-market model improves direct contact with participants further down. That wasn't so relevant when doctors were the main decision makers when it came to choosing which drug to prescribe, says Paolo Rosanna, EMEA Vice President of Business Development, Life Sciences and Healthcare at DHL Supply Chain. But as more patents expire and new governmental regulations are introduced, he notes, decision-making responsibility is shifting upstream. "In many cases, the doctor will now put the generic name of the product, not the brand name, on the prescription and it is up to the pharmacies to decide which version of the product to pick or offer," he says. "So the pharma companies want to ensure they own or at least build a stronger commercial relationship with the customers."

Finally, there's security. Pharma companies are under pressure from regulators and consumers alike to improve visibility and traceability throughout the supply chain. Tighter control over distribution improves quality and safety – by ensuring, for example, that recalls can be executed effectively in the event of a quality problem in production. And a clearer understanding of inventory levels and demand across the supply chain also helps improve availability by giving manufacturers an earlier warning of potential shortages and by allowing excess stocks in one area to be relocated to areas with higher demand. Traceability from manufacturer to end user also helps reduce the chance of counterfeit products being introduced into the supply chain. With every handover creating additional data management cost and complexity for manufacturers, capturing those benefits is likely to be more straightforward the more of the supply chain they control.

Delivering direct to pharmacies comes with challenges too, however. Pharma companies need to replace the services that distributors previously provided, including a stronger pharmacy field sales team, and access to the infrastructure to accept, process and fulfill orders quickly. This can be hard to do. In the UK, a pioneering market for direct-to-pharmacy shipments, surveys of pharmacists reported widespread dissatisfaction with service levels and even shortages of certain products during the early days of the new approach, for example.

Consumer expectation

Mastering the direct-to-pharmacy model has called for a "change in mind-set" among the companies that have done so, says Paolo Rosanna. "Companies are aware that the DTM model requires a lot of extra elements compared to a traditional supply chain model," he explains. "They need an efficient system in place such as an order-to-cash system to ensure they are actually getting paid for what they ship, plus facilities and resources and a distribution model to keep service levels up. They also need to prepare their upstream supply chain for different order profiles and frequencies."

As the direct-to-market model becomes more widespread, however, an even greater level of supply chain complexity may be just around the corner: shipment direct to the homes of patients themselves. "There is a movement across healthcare towards treating patients in their homes wherever possible," explains Paolo Rosanna, "and shipping medicines or medical devices directly to them is a logical extension of that." It is also in line with changing consumer expectations, he adds, as people who are familiar with e-commerce and fast home delivery of groceries and consumer products start to demand the same level of convenience in healthcare.

So far, direct-to-patient delivery is a niche approach and obviously subject to regulatory constraints, used most often for chronic conditions and medical device. Some manufacturers have developed similar programs for prescription drugs, however, as a way of increasing convenience for patients, discouraging them from using counterfeit-prone online pharmaceutical sites and reducing the risk that pharmacies will shift supply to generic alternatives. Pfizer has developed such a program in the US for its erectile dysfunction drug Viagra, for example, and AstraZeneca announced it would do the same for its stomach drug Nexium - a blockbuster that lost patent protection last year.

Just how quickly the direct-to-patient delivery model will become more widespread is not yet clear, however, cautions Paolo Rosanna, pointing out that regulatory restrictions in some markets act as significant barriers to rapid change, alongside the further change in supply chain complexity. In the longer term, however, it is clear that DHL Supply Chain will play an ever more important role in the business of healthcare. ■ *Jonathan Ward*

> ***"Companies are realizing that they need a lot of extra elements on top of their basic supply chain system."***
>
> **Paolo Rosanna, EMEA Vice President of Business Development, Life Sciences and Healthcare, DHL Supply Chain**

Photo: Thomas Koehler/photothek.net

CASE STUDY

HIGH-VALUE DRUG DISTRIBUTION IN AUSTRALIA: A D2M CASE IN POINT

In 2011, a major global pharmaceutical company decided to try something new in its Australia operation: an outsourced direct-to-market (D2M) distribution solution for two of its high-value drugs.

The solution included a platform for the 'back office' order-to-cash commercial process, as well as prescription fulfillment to patients via hospitals and pharmacies. The company selected a global third-party logistics service provider (3PL) with extensive expertise in the healthcare sector as its partner in this endeavor.

The 3PL had been managing the pharma company's pre-wholesale business for years – providing traditional deliveries to wholesalers across Australia. While stable at present, that portion of the company's business was forecasted to decline, as the company increasingly focused attention on its pipeline of new high-value drugs. For a number of reasons, the company wanted to consider other supply chain options to support its new product line focus.

50 PERCENT

The additional increase in value for manufacturers using the direct-to-market approach.

"Chief among these reasons was the desire to gain absolute control of the product as it moved across the wholesaler's network, since the manufacturer loses sight of it," explains the 3PL's Australia Operations Director. "When products are this complex, they require very exact cold chain handling, are heavily regulated and of high value, and need to be monitored for compliance and condition integrity across the entire supply chain. When a single shipment is worth $20 to $40 million, the risk is just too high." Furthermore, in a wholesaler model the wholesaler

Photos: Your_Photo_Today

trades on the value of the product, taking a percentage as compensation for its services. With such high-value drugs, this percentage can amount to a sizable sum – which naturally eats into the manufacturer's margins.

Cost to serve

The outsourced D2M solution, in contrast, is based on a cost-to-serve fee structure, rather than a percentage-of-value model. This cost-to-serve model includes everything from storing and distributing the product, to providing customer service via a call center and accounts receivable collection. The 3PL does not take ownership of the product, instead acting solely as the distribution agent. The 3PL's call center takes orders and inquiries from pharmacists and hospitals directly, and flows them into its enterprise resource planning (ERP) order management system for fulfillment and order-to-cash reconciliation – while maintaining rigorous cold chain compliance.

One facet that made the solution attractive to the pharma company was the 3PL's existing commercial relationships with Australia's 5,200 pharmacies. "Every pharmacy already has an account with the 3PL and has also signed business terms and conditions with us," reports the 3PL's Operations Director. "Manufacturers don't have to worry about setting up their own trading relationships with each and every pharmacy or chain. This makes the transition like flipping a light switch for the manufacturers."

Visibility into actual orders and usage was another selling point for the healthcare manufacturer in considering D2M. "Through a distributor system, manufacturers have no idea of their actual sales – they have to buy market data from a third party in order to see how products are performing," he notes. "That data is aggregated by type of product rather than by individual product, so the manufacturer never really knows how well each specific product is doing."

Finally, control over the products' condition – and regulatory compliance – all the way to the end customer was critical to the manufacturer. With the D2M solution, the drug company gained a single provider and expert control over its temperature-controlled supply chain. ■ *Jonathan Ward*

GOING DIRECT:

A NEW WHITE PAPER EXAMINES THE POTENTIAL OF DIRECT-TO-MARKET DISTRIBUTION STRATEGIES AS A RESPONSE TO SHIFTING HEALTHCARE MARKETS.

Direct distribution to patients and pharmacies is set to become an increasingly important part of the life sciences and healthcare sector's response to changes in key markets. That's the conclusion of a new white paper published by DHL and written by supply chain expert Lisa Harrington, President of the lharrington Group LLC.

"The healthcare industry is under siege. The perpetually rising cost of healthcare globally, the trend towards more complex drugs, vertical consolidation of wholesalers and increases in regulation have forced the industry into inaction," says Harrington. "Manufacturers need to be shaken out of inaction and realize that direct-to-market offers powerful benefits, including improved margins, sales data visibility and full and direct control of distribution without hand-offs to an intermediary. By assuming full control of distribution, the manufacturer can gain ownership of the customer relationship, improve product security and tap into the growing e-commerce channel. This is currently a huge missed opportunity."

The white paper, "Going Direct: Bold strategy for healthcare supply chains," examines these economic drivers in detail and the opportunity for direct distribution to add value for companies and patients. Actual case examples show how direct distribution strategies are working for healthcare companies today.

The paper also looks at the key challenges and trade-offs for any organization considering a direct-to-market strategy. "A key question for companies is in what markets and for which customers should they consider a direct channel strategy. Also, should they adopt a full direct model or a blended one, in which wholesalers continue to play a modified but still important role?" notes Mike Bebbington, Vice President of Global Product Development, Life Sciences and Healthcare, DHL Supply Chain.

The white paper, "Going Direct: Bold strategy for healthcare supply chains" can be downloaded at:

tinyurl.com/del-supply-chains

BIG IDEAS AND BRAVE INNOVATION

The economies of Eastern and Central Europe are beginning to shed the legacy of their past and emerging as a growing area for talent, innovation, investment – and a future science and technology hub.

What links computer telephony system Skype, remote access software LogMeIn, low-cost image editing suite Pixelmator, and online presentation tool Prezi?
They have all applied technology to disruptive effect in their respective sectors. They are all used by companies and individuals right around the world. And they were all developed by people from Eastern Europe.

64,000

The amount of specialists estimated in Romania's IT sector.

Ahti Heinla, Priit Kasesalu and Jaan Tallinn, the Estonian programmers who originally developed Skype; Márton Anka, the Hungarian founder of LogMeIn; Aidas and Saulius Dailide, the Lithuanian brothers behind Pixelmator; and Péter Halácsy, the Hungarian Chief Technology Officer of Prezi are joined by 96 other individuals and teams from across Eastern Europe to make up the inaugural New Europe 100 (www.ne100.org), a list of "outstanding challengers from Central and Eastern Europe."

The new list, compiled by Polish magazine publisher Res Publica with support from intergovernmental funding agency the Visegrad Fund and software giant Google, was designed to draw attention to the "big ideas and the courage for innovation," in Eastern and Central Europe, says Wojciech Przybylski, President of the Res Publica Foundation. While the high number of ICT-related innovators on the list partly reflects the interests of the project's main sponsor, Przybylski explains that a main consideration in selecting candidates was that they had ideas regarding the scalability to be applied beyond the borders of the region. "The number of great ideas in Eastern Europe is enormous," he says. "What they lack is visibility and capital. When they get that, they grow."

And in the roller coaster world of globally interconnected business, once growth starts, it can be hard to predict its limits. Przybylski cites the example of WhatsApp, the cross-platform instant messaging program bought by Facebook for $22 billion. That company was founded by Ukrainian-born Jan Koum, although he had moved to California in his teens and started his business in entrepreneur-friendly Silicon Valley. For Przybylski, the New Europe 100 list is about more than just showing that Eastern Europeans don't have to travel abroad to succeed. "There is great potential for innovation to be a driver of our economies," he says. "We could even see a leapfrogging effect."

The notion of such a leap is an appealing one for Eastern Europe's politicians and businesses alike. Poland's 2013 per capita GDP, at $13,648, was only a third of Germany's. In Ukraine, it was $3,900, ten times smaller than Germany. Those differences belie the fact that, since the collapse of communism in the region, Eastern Europe's economies have already done a remarkable job of closing the gap on their Western counterparts. Back in 1990, for example, Poland's per capita GDP was thirteen times smaller than Germany's.

Photos: www.ne100.org; Karte: iStockphoto


Tallinn
ESTONIA
Riga
LATVIA
Baltic Sea
LITHUANIA
Vilnius
Minsk
BELARUS
Homyel
Warsaw
Łódź
POLAND
Prague
Kraków
L'viv
UKRAINE
SLOVAKIA
Bratislava
Budapest
HUNGARY
MOLDOVA
Chişinău
Odesa
Ljubljana
SLOVENIA
Zagreb
CROATIA
ROMANIA
Belgrade
BOSNIA & HERZEGOVINA
Sarajevo
SERBIA
Bucharest
MONTE NEGRO
Pristina
KOSOVO
Sofia
BULGARIA
Podgorica
Skopje
MACEDONIA
Tirana
ALBANIA

WIRED IN: The region has seen rapid growth in the high-tech sector, especially the aftermarket service for end customers in Western Europe.

And economies across the region have consistently enjoyed faster growth than their neighbors in Western Europe in recent years.

The region's turbulent history has left marks that are still visible today, a generation after the fall of the Iron Curtain. And in economic terms, those effects cut both ways. First, there is simple geography. The countries of Eastern Europe may be squeezed between Russia and the West, but that also means they are ideally placed to serve markets in both regions. And many sectors have grown rapidly having take advantage of that fact.

Growth

Take the automotive industry, for example. Investment by big global carmakers has helped to transform relatively unsophisticated communist-era carmakers such as Czech Republic company Skoda into world leaders, while other players have moved into greenfield sites. In addition to Skoda, now part of the VW Group, the Czech Republic also hosts assembly plants belonging to Korean automaker Hyundai and a joint venture between Toyota and Peugeot-Citroën. The vehicles that roll out of these factories head both east and west, supplying the established markets of Europe and serving rapidly growing demand in Russia, which was at one point expected to become the largest car market in Europe. And as finished vehicle manufacturing has grown, so has the automotive supply base, Audi's plant in Győr, Hungary, produces nearly 2 million engines every year, for example, supplying engines to 32 Volkswagen sites.

2 MILLION

The number of engines produced every year by Audi's plant in Györ, Hungary.

Skills

It isn't just its location and its low labor costs that make Eastern Europe so appealing for carmakers. A highly skilled workforce is another powerful legacy of a communist-era emphasis on education and technical training. 64 percent of Czech students enroll for tertiary education, as do 65 percent of Latvians and 73 percent of Lithuanians, according to Unesco figures. That's more than the equivalent numbers for Germany, Italy or Japan.

And that combination of skills, proximity and low costs is attracting other industries to the region. Romania is now one of the world's top five locations for IT outsourcing, and has more certified IT specialists per capita than any other country in Europe. Korean electronics giant Samsung runs an overseas R&D facility in Poland.

Knowledge-intensive hardware activities are on the rise too. According to Ian Wilson, Head of Eastern Europe Operations at DHL Express, recent years have seen rapid growth in the high-tech sector, especially aftermarket service and repair activities for end customers in Western Europe.

What about homegrown entrepreneurial activity? Decades of command economy left regulatory conditions in many countries that were poorly suited to the support of fledgling businesses, and the pace of reform across the region has been variable. Estonia, Latvia and Lithuania are all among the top 25 countries in the World Bank's Ease of Doing Business tables, while Serbia and Ukraine languish in the bottom half of this list. And the lack of a venture capital infrastructure makes finding finance a challenge for many entrepreneurs in the region today.

Possibilities

But according to Katarzyna Szajewska, Project Manager for New Europe 100, that lack of entrepreneurial infra-

"The countries of Eastern Europe may be squeezed between Russia and the West, but that also means they are ideally placed to serve markets in both regions."

“Once you break through the initial barriers to starting a new venture, there is a sense that everything is possible because the rules are yet to be written.”

Katarzyna Szajewska, Project Manager for New Europe 100

structure can sometimes be a blessing. “Once you break through the initial barriers to starting a new venture, there is a sense that everything is possible because the rules are yet to be written,” she says. The tough economic conditions of the past have left a positive cultural legacy too. “People here tend to be highly competitive, but they are also collaborative and open-minded,” says Szajewska, noting that some NE100 participants have embarked on new joint projects born out of meetings they have had as members of the list.

The region faces other headwinds, however. National politics can be unstable, says DHL’s Ian Wilson, with regular changes in governments and policy reversals that create unpredictable conditions for local and overseas businesses alike. And the recent crisis in Ukraine, the impositions of sanctions and a falling oil price have all taken their toll on the Russian economy, with immediate knock-on effects for businesses that rely on trade with their neighbor in the east.

Physical infrastructure is still “not what it should be,” adds Hendrik Venter, CEO of Central Europe for DHL Supply Chain. “There has been considerable investment in roads in recent years, but the highway infrastructure in many countries is still not fully interconnected.” That matters not just because it leads to longer travel times, he notes, but also because it has resulted in a fragmented and less productive transportation sector, driving up logistics costs.

Those challenges make a difference, though more for some businesses than others. For the IT-based companies that feature so prominently in the NE100 list, the highways that matter are electronic rather than physical, and in the hunt for customers, partners and investors these organizations and individuals are happy to leap beyond their borders to the technology powerhouses of the US and Asia. Tellingly, when we asked the NE100 organizers if any business on the list was based on close links with a neighboring region, they could not come up with a single example. Maybe the combination of technological skills, innovative ideas and a collaborative mind-set will finally give the economies of Eastern Europe the ability to break free of their neighbors and take a new, independent place on the world stage. ■ *Jonathan Ward*

tinyurl.com/del-NE100

HIGH RISE:
Signifiers of Eastern Europe growth include (anti-clockwise) Warsaw‘s ZŁOTA 44 building by architect Daniel Libeskind – the tallest residential tower in its class in the EU – plus recent major infrastructural development, including bridges, in the city. Top right: Audi AG‘s new production plant in Gyor, Hungary.

Photos: plainpicture/Cultura, Achimbodewig, Akos Stiller/ Bloomberg/ Getty Images, Getty Images

QUIET:
Dedicated gas vehicles offer quieter performance – up to a 50% reduction in engine noise

CLEAN:
Operates on both natural gas and biogas (100% or blend) – reduction in CO_2

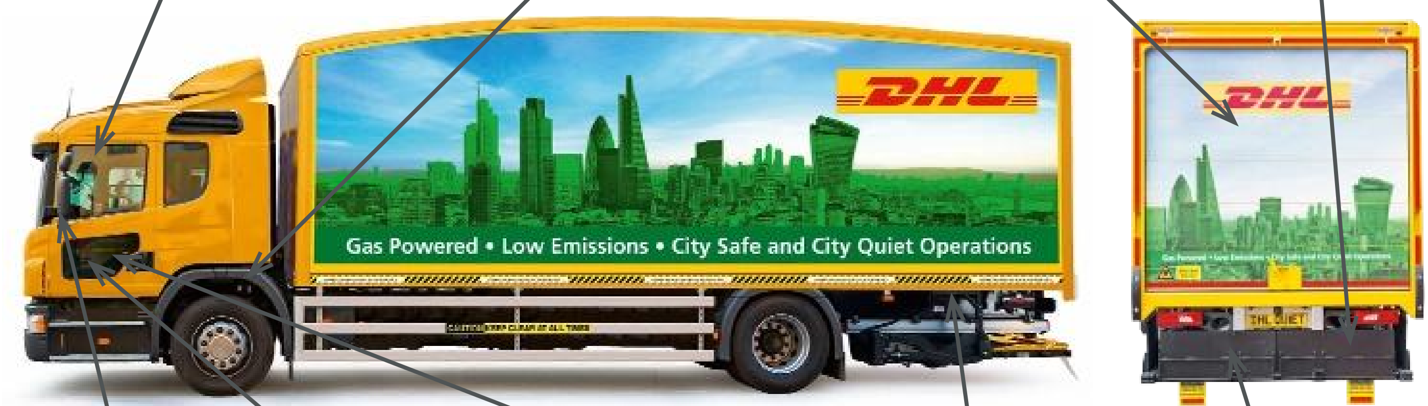
CLEAN:
Reduction in harmful pollutants – 68% reduction in particulate matter (PM) and a 39% reduction in nitrogen oxides (NOx) over a Euro VI diesel vehicle

SAFE:
'Bird's eye view': 360° four-camera system, in-cab screen and constant hard drive recording – provides all-around visibility in a single image and enables review in case of incident

SAFE:
Nearside detection sensor system with in-cab warning and audible left-turn warning – helps detect both fixed objects and other road users, as well as warning road users

QUIET:
Low-noise/powered roller shutter and floor material – nylon components and pneumatic operation enable quieter operation and reduced noise from role cage/MHE

QUIET:
Noise Abatement Society and PIEK-certified tail lift – silent power pack and motor operate between 65 and 60 dB(A)



SAFE/CLEAN:
Vehicle telematics with driver behavior monitoring and vehicle tracking – enabling continuous improvement of driving behaviors

QUIET/SAFE:
In-cab radio – mutes on door opening and when reverse selected – limits radio noise, driver can hear sensors when reversing

SAFE:
Nearside glass door panel – dramatic improvement in primary nearside vision

SAFE:
Blind spot warning tape 'WARNING: THE DRIVER MAY NOT SEE YOU IN THIS AREA' – clear messaging to vulnerable road users

QUIET/SAFE:
Broadband reversing alarm (PIEK/Noise Abatement Society-approved) – delivers a better and more directional effect than a tonal alarm at up to 5dB(A) lower. Sound outside hazard zone dissipates quickly

DHL CITY QUIET, CITY SAFE

A new urban concept vehicle by DHL meets the growing demand for safe, quiet and clean delivery vehicles in cities. Built specifically for city operations, it features dramatically improved primary visibility and boasts a number of noise reduction levers, which may make out-of-hours deliveries possible in the future. Current test operations in London will allow for a full evaluation of the new components and design features and help influence the standard specification of DHL urban delivery fleets of the future.

Photos: DPDHL

ON THE MARKET

Online marketplaces are currently experiencing rapid growth – so are these platforms where the future of e-commerce lies?

Check your online status while on a break from work. Get a tip about a new outfit from friends on your favorite chat group. Try it on in a virtual mall. Order it from your wearable device. Have it delivered by a drone during happy hour after you leave the office.

All that could become the norm in a decade, according to Scot Wingo, co-founder and CEO of ChannelAdvisor, a leading provider of cloud-based e-commerce solutions that enable retailers and manufacturers to increase global sales. ChannelAdvisor makes most of its money by helping both established and emerging brands mark their spots in e-commerce marketplaces and other online venues – and Wingo believes that these will continue to offer the biggest opportunities for growth in the sector in the short term. "Marketplaces are eating the e-commerce world," in Wingo's view.

Defined as an online space where third parties provide the goods and services on offer, e-commerce marketplaces have been growing at a rapid rate. Amazon.com's benchmark marketplace segment saw its 2014 holiday sales ring in at nearly 30% above the figure for the same period in 2013. Other large players in the marketplace realm include eBay, Alibaba and Japan's Rakuten.com Shopping.

Brand exposure

"For retailers, the pros of selling on marketplaces are pretty simple: more channels of demand, more brand exposure and more opportunities to increase sales and revenue," said Wingo. "Consumers like shopping on marketplaces because they offer selection, value and convenience. It's easy for consumers to start the shopping process on a marketplace, where they can search for the products they want and compare prices."

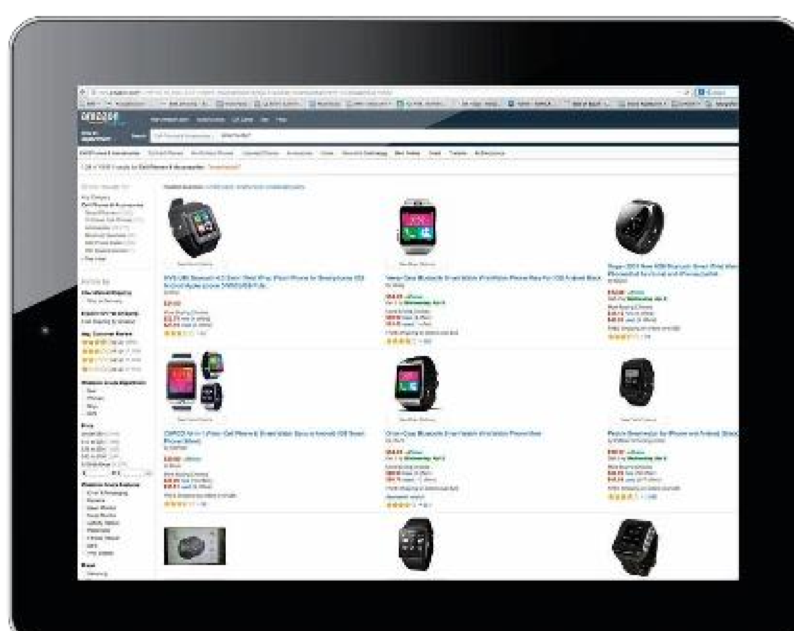
Seller fees charged by the marketplace platforms may cut into revenues, but the extra business is worth it, Wingo believes. "Brands and retailers that don't sell on marketplaces are simply missing out," he said. "Today's shoppers are likely starting their searches on a third-party marketplace. If your products aren't there, you're ignoring an already established customer base and a potentially significant revenue stream for your products. We estimate that marketplaces represent 25% to 40% of e-commerce, so that's a big segment to ignore."

SCOTT WINGO
Co-founder and CEO of ChannelAdvisor

With improved international shipping, Wingo believes that "borders are blurring." Marketplaces give retailers a chance to test the international waters before jumping in. "Rather than make heavy investments in local websites and worry about translations and other common challenges, marketplaces can help lay the foundation," Wingo noted. "Global marketplaces can reduce the risk involved in entering a new market and handle some of the major hurdles, such as fulfillment. They can also help you scale your cross-border business one step at a time."

Until those drones start whizzing about, Wingo suggests keeping an eye on Amazon.com, as the pioneering online retailer continues "raising the bar on the e-commerce experience." At the same time, mobile devices and social media will continue to gain ground, he believes. He also expects a growing number of leading brands will break from the pack and start offering their wares directly to consumers on their own platforms. ■ *Bill Hinchberger*

tinyurl.com/del-delivering-tomorrow



Photos: ChannelAdvisor, Fotolia

UPWARDLY MOBILE:
Zhao Lei, Senior Business Manager, Logistics Center, Xiaomi

THE SKY'S THE LIMIT

Xiaomi, China's largest smartphone maker has its sight set on international markets.

It was only founded in April 2010, yet Beijing-based Xiaomi Technology, often called China's Apple, has already become the largest Chinese smartphone brand. At the same time as its rapid development in mainland China, the company is rolling up its sleeves to head into India and other emerging markets, hoping to replicate the group's extraordinary domestic success abroad.

China's economic rise and the popularity of its telecommunications services have driven a rapid increase in the number of its mobile phone users: by mid-2014, there were a staggering 1.26 billion of them. Smartphones are the next big must-have here, and telecommunications consultancy firm eMarketer predicts that in the next three years emerging markets such as China and India will see the most smartphone growth. In fact, it estimates that China's smartphone users will increase from 500 million last year to 700 million in 2018, while the number of India's smartphone users is expected to rise to 200 million in 2016, surpassing the US as the world's second largest smartphone market.

So the extraordinary growth of Xiaomi, which replaced Samsung as China's largest smartphone brand in February, can be partly explained by the rapid development of China's electronic technology market, its mature industrial manufacturing technology base and booming economy. Yet that's not the whole story. Lei Jun, CEO of Xiaomi, summed up the success of his company with an interesting analogy: "Pigs can fly when standing on an air vent," he said. Xiaomi has been able to fly higher and farther than others by creating a winning market strategy that couples high quality and low prices with smart marketing, a dynamic distribution channel and well-orchestrated production.

To start with, the company's smartphones are less than half as expensive of its main competitors, and, unlike the competition, its marketing and distribution model centers on e-commerce. 'Snap up,' Xiaomi's novel flash-sales technique, could well revolutionize the smartphone life cycle. Traditionally, mobile phone manufacturers sell their products through distributors, who distribute their phones to retail outlets or telecommunications service companies, with resulting high intermediate selling costs. Xiaomi, however, manages to reduce costs by cutting out the middle man and directly selling phones to users – although the company inevitably has to bear last-mile logistics expenses and risks.

Xiaomi has been very successful at integrating its logistics with its production processes to implement a "zero inventory" just-in-time (JIT) model. In addition, it has developed a smart demand strategy. Its weekly 'snapping-up' and fast-trading practices are highly successful but require smart logistics too. "We have snapping-up activities every Tuesday," says Zhao Lei, Senior Business Manager, Logistics Center, Xiaomi. "On that day, numerous cargo loads are distributed to domestic and overseas warehouses, requiring a large number of couriers. Xiaomi also asks its fans to make a reservation online before the development of each new phone model," she explains. "Only users with a reservation

> ***"Xiaomi asks its fans to make a reservation online before the development of each new phone model."***
>
> **Zhao Lei, Senior Business Manager, Logistics Center, Xiaomi**

are then eligible to buy the phone once it is launched." After receiving the required booking volume, Xiaomi develops a production plan and places orders with a dozen of its OEM (Original Equipment Manufacturer) factories in China.

Its special Operations Center monitors the entire supply chain, including upstream production processes and downstream transport processes. Depending on the production schedule, it mobilizes trucks to deliver finished phone products to its warehouses nationwide. Warehouse staff distribute and package the products, which are then handed over to logistics companies for delivery to customers – in record time. "The turnover period for delivery of our phones is no more than three

Photos: Katharina Hesse

LIVING COLOR:
Xiaomi's best-selling product range includes tablets, Bluetooth speakers and Mi Band fitness trackers.

days," says Zhao Lei. "After a smartphone arrives at the warehouse, it is usually picked up within one day and then delivered to the customer."

Zhao Lei – who is in charge of the company's overseas logistics business – says the goal is to successively localize overseas markets by setting up warehouses for product distribution and packaging, and replicate the logistics model that works so well in mainland China abroad. Yet when Xiaomi started to explore overseas markets in 2012, it faced a challenge to its business model through higher logistics costs. At that time, products where exported to Hong Kong via border-crossing trucks. Shipments to Taiwan, Singapore and Malaysia were delivered via international express – so the cost of Xiaomi products had to rise to absorb these expenses. Now, however, the company has adapted its supply chain and transports products from China to local warehouses by air, and, after local distribution and assembly, the phones are delivered to the customer.

tinyurl.com/del-xiaomi

In its quest to continue conquering new markets, Xiaomi is now vigorously developing infrastructure in a number of populous emerging markets. To support growth in India, a warehouse in Bangalore will be officially launched this year, with phones delivered across India from here.

Brazil is another country that Xiaomi is exploring as part of its expansion plan. However, its market strategy here is an entirely different one. The company plans to find local OEMs to produce Xiaomi phones and thus avoid the 70% import tariffs imposed by the local government on mobile phone products. Where European and US markets are concerned, Xiaomi prefers to take a more cautious approach, mainly because the smartphone market in both of these regions is so mature. However, it is now selling peripheral products to Europe and America, and slowly cultivating its brand awareness.

Any e-commerce company chasing fast growth needs to get three vital elements right, says Zhao Lei. "Marketing, product development and logistics support are the three most important departments for any enterprise engaged in e-commerce," she says. For Xiaomi, it seems, the story has only just begun – and the sky is the limit. ■ *Charlotte So*

'SNAPPING UP' A BARGAIN

A 'snap up' is a flash-sales marketing technique that is built around a sales event during which a number of limited products are sold at a discount. Its purpose is to raise brand awareness – but Xiaomi has cleverly adapted the process to make it more exciting and cool, and to get people talking about their products.

First of all, customers register on the site where the 'snap up' will take place; then, two weeks before the event, they are asked to make a small deposit as a commitment to buying the discounted product. When the sale is taking place, participants have to be present to confirm their purchase and select accessories and apps, and this may involve competing for timeslots with other customers. It's a powerful and fun way to create a strong relationship between buyers and sellers that continues after the sale via social media channels.

Photos: Xiaomi

BANKING ON THE BRICS

Dr. Rajat Kathuria welcomes the creation of the BRICS countries' New Development Bank.

In July 2014, the decision of the leaders of the BRICS countries (Brazil, Russia, India, China, and South Africa) to establish a New Development Bank (NDB) and a Contingent Reserve Arrangement (CRA) was largely seen as a reflection of their collective dissatisfaction with the running of the existing Bretton Woods Institutions (BWI), namely the World Bank and the International Monetary Fund (IMF), and the corresponding hegemony of the US dollar in global finance. The latter continues to give the United States an exorbitant privilege in monetary policy in addition to the privilege of nominating the World Bank's president, a convention it has been loath to abandon. In the IMF, the BRICS are underrepresented when juxtaposed against their contribution to global economic activity.

The trouble with BRICs is that the coalition looks fractured now compared to 2001, when Goldman Sachs conjured the term to reflect the growing might of the BRIC countries. When South Africa joined the alphabet soup in 2011, BRICS were growing strongly and looked set to announce their arrival on the world stage. Since July 2014, however, when their leaders met in the Brazilian city of Fortaleza, BRICS fortunes have changed sharply for the worse. The price of oil, Russia's main export, has slipped to below $50 a barrel, and combined with its increasing isolation, GDP is forecast to contract between 3% and 5% this year. Brazil and South Africa are combating recession and China is showing more modest growth – India is the only member that looks likely to grow faster. Although their combined weight in global GDP is estimated at 21%, slowing growth seems to suggest a weakening coalition – what's more, B, R, I and S are together dwarfed by China's economy, and economic indicators like per capita income are vastly divergent. These differences could eventually impact decisions on infrastructure funding – one of the compelling reasons for creating the NDB in the first place.

Private local investment

The logic of having an institution to fund the massive infrastructure needs of BRICS and other emerging countries is however persuasive. Article 1 of the BRICS agreement on the NDB states the bank's primary aim is mobilization of resources for infrastructure. The World Bank estimates that South Asia alone requires $2.5 trillion over the next ten years. Historically, such investment has been sourced from governments and national development banks, private finance (which can be fickle and cyclic) and western multilateral lending institutions – the massive gap suggests that existing sources are insufficient. Admittedly, the NDB with an initial subscribed capital of US$50 billion will be unable to bridge the gap on its own, but judging it simply on capital adequacy will be insufficient. And capital can be increased over time. But more importantly, NDB could help funnel private local investment into infrastructure projects that suffer from several kinds of market failures in emerging markets.

With the fast-globalizing world, success depends critically on the efficiency of a country's trading and business activities. In order to maintain competitiveness, it is crucial for a country to develop sound logistics since a positive relationship between logistics and economic growth has been well established in the literature. With growing complexities in the trade patterns including the rise of global value chains (GVC) and regional production networks, the importance of an efficient logistics network has become even more critical to international and regional trade. For example, inefficient logistics add significantly to India's costs, adversely impacting its competitiveness. Accordingly, any infrastructure strategy for India should regard development of a robust logistics network as an integral part of that effort. The NDB could thus be seen as a means of enhancing trade. For example, energy negotiations such as the ones on gas between Russia and India were catalyzed following the announcement of the NDB. A decline in funding for financing coal projects for developing countries can be partially offset by the NDB – at the same time, the NDB can itself put into place reasonable safeguards for sustainable development.

The NDB promises transition and change in its capacity as an additional source of infrastructure-financing mechanism to developing and emerging economies. Even more importantly, it may well turn out to be the push needed to reform the international financial architecture that has been caught in a maze of vested interests and a denial to accept the changing dynamics of global production. It may well be as stated elsewhere, 'a dream come true'. ■ *Dr. Rajat Kathuria*

DR. RAJAT KATHURIA

Dr. Rajat Kathuria is Director and Chief Executive at Indian Council for Research on International Economic Relations (ICRIER), New Delhi.

US$16 TRILLION

The collective GDP of the BRICS nations.

Photo: private

MAKING CONNECTIONS ON THE MOVE

A high-tech docking idea might just revolutionize the future of train travel for passengers – and freight.

In the future, passengers and cargo could transfer directly from one tram or high-speed train to another – while on the move. This radical idea, called Moving Platforms, comes from UK-based transport designer, PriestmanGoode.

As they near each other, the train slows down slightly and the tram speeds up alongside it – at which point the vehicles physically connect via a docking system, allowing transfers from the tram to the high-speed train and vice versa. But this concept isn't just a boon for consumers. PriestmanGoode has also designed it as a possible solution for local deliveries and freight, which could be shipped at night when passengers aren't using the system. This, says the company, would get trucks out of cities, help ease congestion and improve air quality.

tinyurl.com/del-connections

CHANGING TRAINS:
The Moving Platforms concept sees vehicles connect via a docking system, allowing passengers and freight to change vehicles while on the move.

Infographic: PriestmanGoode (3)

DOING A WORLD OF GOOD

Increasing numbers of employees are taking sabbaticals from their jobs, in order to travel, volunteer, learn new skills or fulfill a lifelong dream before returning to work as a "new and improved" version of themselves.

Taking a sabbatical changed Molly Swenson's life, both personally and professionally. Swenson is a Senior Project Manager for SuccessFactors – a company which provides cloud solutions for human resources and whose parent is SAP, the German software corporation. SAP runs a social sabbatical initiative that sends its employees to help entrepreneurs and small to midsize companies solve business challenges in emerging markets, so that employees can "hone their leadership skills, deepen cultural knowledge and connect with other emerging leaders from around the world." Swenson duly took time off from her regular job to travel to Nairobi, Kenya, to help a local software solutions company improve its communications strategy.

Away from her usual routine she found she was constantly stretched and usually placed well outside her comfort zone, mainly because she was engaged in work that involved meeting local farmers who spoke very little English.

The sabbatical also gave Swenson a lot of time to reflect on her own ambitions and goals and explore facets of her personality she never knew existed. "It really brought out different qualities in me, one of which was leadership," she says. "I was working with a team of 12 people who are smarter than me and more experienced than me, but I had to make sure I was not only learning but I was leading."

Spending time with people she had never met before – but with whom she would become good friends – was an added bonus, and not something Swenson was expecting from the experience. Plus, with time away from her normal work environment, she got the chance to analyze her job back home and understand what she does well and what she could do better. "When I came back I was able to take all my experiences from Nairobi and push them into my daily work," she says. "It has definitely changed the way I interact with people now in my own job."

Benefits

All kinds of companies, including law firms, technology giants and service providers, are now offering paid or unpaid sabbaticals as part of their benefits packages. In the US, according to the Families and Work Institute's National Study of Employers, 24% of small businesses and 14% of large businesses allow their employees to take sabbaticals (paid or unpaid of six months or more), while the Great Places to Work Institute points out that 34 of the "100 Best Workplaces in Europe" offer paid sabbaticals.

Global management consulting firm Accenture offers a self-funded sabbatical program called 'Future Leave,' which allows employees to take up to three months away from work with continued healthcare and insurance benefits – plus an assurance that they can return to work afterwards. "It's open to employees below the CEO level." says Joanne Giordano, Accenture's US spokeswoman. "Employees may take up to three months away from work with continued benefits to manage their personal priorities. The program also helps employees financially plan for the self-funded time off and is exceptionally valuable to those who have a family crisis or other type of significant need to be away from work." In fact, 61% of 30,000 Accenture employees named sabbaticals as one of the top five most-favored options for work-life flexibility.

So what's really in it, both for employees and employers? Elizabeth Pagano, co-founder of YourSabbatical, a US-based organization offering customized sabbatical programs to businesses such as Edelman, Intel and

tinyurl.com/del-Sabbatical

Deloitte, believes that sabbaticals can be beneficial to both the employee and the company by boosting creative thinking through new and shared experiences. "Sabbaticals are an opportunity for intentional reflection, personal growth, transformative insights, and renewed passion, which are all powerful benefits in life and in leadership," she says. "By providing employees with resources that help structure purposeful sabbaticals, companies can ensure that their workforce is ready to fully engage and drive performance upon return," she says. "This is about not only attracting, retaining and recharging top talent, but also accelerating the development of that talent. Most end up being a positive experience for both the employer and the employee."

Unplugging

Pagano suggests at least four weeks for a sabbatical, although six to ten is better. "With at least four weeks off, individuals are able to accomplish many things they want to do in their life or career that vacation time does not allow for, including successfully unplugging and leaving work behind," she says. Some sabbaticals can stretch past six months or up to a year, and those obviously require a different level of preparation and planning.

And, make no mistake, preparation and planning are crucial. From the employee's side, although it may seem attractive to step away from the usual day-to-day routine, it isn't necessarily easy in practice. That's because what a person does with their sabbatical is usually entirely up to them. They may want to volunteer with a charity, teach children, travel or spend their time learning a new skill or language. And that might sound enriching, but new-found freedom can also be scary. Individuals may worry about how they'll cope without regular work and job security – and, if they are thinking of embarking on an unpaid sabbatical, will need to consider how they will manage without a paycheck at the end of each month.

Pagano agrees that employees need to be mentally prepared for their change in circumstances and ready with contingency plans should the worst occur. "When you agree to your sabbatical, you need to ensure you think through all the things that might happen," she says. "Especially the things you don't want to happen such as running out of money and needing to come back to your job early." Having a workable savings plan – and implementing it months in advance of the departure date – is therefore vital, as is making sure that your boss will welcome you back with open arms.

For employers, it is of course essential to know who will fill the gap during an individual's sabbatical; but, in return, a company may get back a more rounded person who has learned a new skill set or developed a different, career-enhancing view of the world: someone who comes back to their old job with passion and renewed vigor. Done for the right reasons and planned with care, a sabbatical can be a win-win for everyone. ■ *Angela Singleton*

24

PERCENT

of small businesses in the US allow their employees to take sabbaticals.

Infographic: Mathis Rekowski

DELIVERED. LOOKS INTO THE FUTURE WITH ...

JOHAN PETER PALUDAN

The renowned futurist talks megatrends, advancing automation and his vision for improvements to "last-mile" delivery systems …

You can't study something that doesn't exist," reasons Johan Peter Paludan. Yet that's exactly what this prolific author and former Director of CIFS (Copenhagen Institute of Future Studies) has spent most of his career doing.

Now a spritely 70 years old, Paludan's specialty is looking into the future and advising companies on what might happen once they get there and the decisions they may have to make as a result. As he doesn't actually have a working crystal ball, Paludan does this by identifying and scrutinizing the "megatrends" happening right now, which may influence the future nationally and internationally. As their name suggests, megatrends are big, long-term trends that produce huge shifts in society, business and the economy for years to come: the fact that people now live longer, for instance, or the empowerment of women, the rise of the middle classes and the increase in urbanization. Ultimately, by studying megatrends such as these, Paludan can tap into lots of possible future scenarios – which is why he prefers to talk about futures studies, with future in the plural.

It is, he admits, a quirky role – but one that gives him a zest for life. "The greatest thing about being a futurist," he says, "is that it makes you want to live as long as possible to see what's going to happen next!" It is, of the course, the only way for him to know if his estimates about tomorrow's world will be proved correct or not – and an insatiable curiosity has always been a key part of his job ...

Becoming a futurist isn't a typical career choice. How did it happen?
I hate to admit it but it was a total coincidence. I was training to be a teacher but was wondering which direction to take when a friend of mine told me about the Copenhagen Institute of Future Studies and the work they do. I thought it sounded rather interesting and the rest, as they say, is history. 38 years later and I'm still connected with the organization!

How do you make a living as a futurist?
Well, it's always a challenge. A futurist works with anything that has a future, which gives us quite a broad spectrum to earn a living from. CIFS has a mix of public sector and private clients who ask us questions about the future. Basically, we get our income from advising those clients and sketching a picture of probable developments.

100

The number of presentations Johan gives around the world in one year.

10

YEARS

The length of time a megatrend is likely to last.

tinyurl.com/del-futurist

What megatrends are currently occupying your thoughts?
Globalization is a big one, with emphasis on the scattering of each country's workforce, leading to increasing wage inequality. Economic welfare is another megatrend and is a very volatile topic. There's an old saying: "Capitalism without crisis is like religion without sin." They always seem to be connected – excesses and sins are inevitable aspects of human nature. Demography is another big one, particularly the graying of the world's population. Half of today's babies can expect to live to 100!

What are the most important challenges facing companies in the future?
Lack of skilled labor will be a big problem. I tell companies they should start recruiting more people now because they might not be able to do so in a few years' time.

You've written a lot about e-commerce in the past. How do you see it developing?
Yes, e-commerce is definitely here to stay and is set to grow as even more people become accustomed to buying online. High streets and smaller retailers are likely to disappear because e-commerce is just so much easier. 3D printing will also continue to develop and will allow you to produce anything you want from the comfort of your own home.

What about the advance of automation?
Automation will take up all the simple tasks – but we will still need "the human factor" to focus on the difficult tasks. Driverless cars will come but I'm not sure when. Automated robots in warehouses are already here, but there needs to be better automation of "last-mile" delivery services to make it sustainable.
One vision would be to have a warehouse for each neighborhood with just one company delivering e-commerce orders to local residents. This would save lots of different companies in lots of different vans from delivering in the same area. Another idea is to have a delivery box – a bit like a one-way cat flap – with a special barcode reader for each house. People could then easily receive goods whether they are at home or not.

What qualities should a futurist possess?
They need to have an open attitude to reality and an ability to listen to others. They need to embrace the cross-fertilization of ideas from a wide variety of people – and to see that 2 + 2 might equal 5 in some cases. ■ *Angela Singleton*

Photo: picture alliance /Scanpix Denmark/Reimar Juul

Survival of the Smartest

How inter-sectoral thinking can lead to more business opportunities

AN ESSAY BY STEPHAN FETSCH

Stephan Fetsch is Partner Deal Advisory – Valuation, at KPMG Cologne, and a member on KPMG's German Consumer Markets and Retail Board.

The title of this essay assumes that sectors still exist today and can be distinguished from one another. An assumption that corresponds with our experienced thinking pattern and semantic history.

Dictionaries and Wikipedia state that typically a sector is defined by the product, service, production technology or raw material involved in the sector's own value creation. Today, this narrow definition is overruled by two fundamental developments: the use of digital, universal basic technology and the accentuating focus on end customer relationships.

In the reality of the 21st century, however, the picture is different. For the first time, cars are reading e-mails, pay their own parking fees and maneuver without the aid of humans. Consumer goods manufacturers are starting to communicate directly with and deliver goods to customers. Electricity and telecommunication companies attempt to generate maximum use of existing house connections by providing numerous transmittable contents. The list of products and services spanning across several sectors is endless.

The fascinating part about the development of digital technology is the fact that it lowers market entry barriers. This makes it the opposite of many past technologies that were specific to a sector and therefore had the effect of preventing cross-sectoral value creation. The examples do not indicate that there will be any sectors left in the future that definitely exclude one another or do not have any interfaces, at least potential ones.

Potentials and risks arising from shifting sector limits

In view of this background, inter-sectoral thinking appears to be a necessity for the organizational structure of value creation in the 21st century. But if technology can do so much, which one of the traditional sectors do I turn to? And who initiates such inter-sectoral activities? The chart, "Expansion potential by sector" on the following page shows the results of a poll conducted in Germany in 2014 regarding the expansion potential in unfamiliar sectors.

Today, this is opposed by a value creation organizational structure that remains largely based on the old sector limits. Expansion into new sectors did not exceed 25% in any of the industries in the poll conducted at the end of 2014. This means that more than 75% of the sector representatives approached had not yet dared to take the step into a new sector.

It is also interesting to compare the expansion potential taken and the risk factor that goes along with such an expansion due to players in other sectors. There are significant deviations in some parts, with sectors being regarded as having above-average competition and at the same time a rather low expansion potential (see the chart, "Risk of competition from unfamiliar sectors," on the following page).

Structural changes in the economy and value creation

This raises the question of how and in which direction inter-sectoral thinking should be focused. Here are three theses on this issue:

1. The structures of a digitally interlinked economy will change. It

Illustration: Bernd Schifferdecker

will have a significantly higher number of networks and network solutions. Expansion will therefore often be organized in cooperative solutions in joint and expanded value added chains that are not owned by one individual company.

2. Comprehensive customer typologies will crystallize or be easier to identify. These will take the form of "communities" that process major parts of their consumption and communication requirements via a limited number of platforms. Initially, these platforms will have a technically secure and integrating function, which is confirmed by the trust of the users. The product and service portfolios offered on such platforms will generally be comprehensive but geared toward the typology of the customer.

3. Data and the ability to utilize it will continue to gain significant economic importance. Without a minimum of digital data, companies will find it difficult to productively integrate themselves in the impending changes to our economy.

The scope of possibilities arising from this situation is almost infinite. Numerous options replace definite paths for most sectors with regard to inter-sectoral approaches. Individual companies must have four challenging skills in order to participate in this changing form of economic value creation:

- Developing a trust-based end customer relationship
- Creating value from digital data
- Organizing data security
- Understanding how their own value creation fits into a digital world

Business potential in the 21st century

But how are business opportunities created in the digital world of the 21st century? Two approaches are starting to emerge: new business models are based around companies with digital technology at their core (mainly IT, telecommunications and media). Alternatively, new approaches are explored through structured and unstructured communication and familiarity.

Inter-sectoral networks and communication and the systematic determination of interfaces within companies' own and external value creation play an important role for uncovering new business models. There are the following basic options:

- A combination of players from the digital technology segment and products or services (digital technology and content)
- Deepening, professionalizing and increasing the efficiency of a value added chain (content focus)
- Developing a platform on which customers or a customer typology satisfies most of their requirements (platform with digital technology and content)

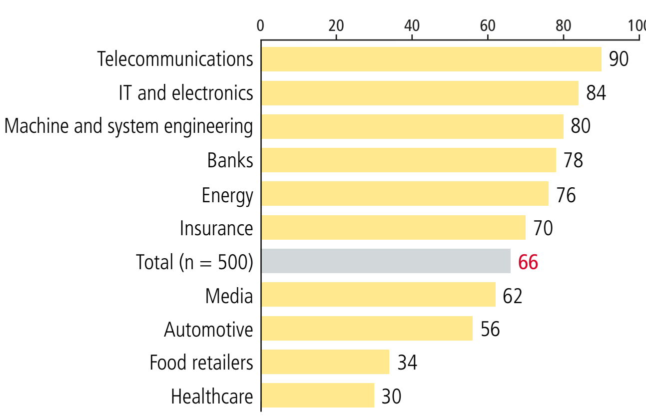
Platforms, in particular, provide exciting options. Strong (umbrella) brands that are embedded among consumers can attempt to convert their brand into a platform with the help of digital technology. This can create interesting cooperations. There are also inspirational technological innovations that are junior partners of traditional content players that attempt to penetrate the market and believe that such cooperations provide more potential than one large technological solution. The rising number of start-ups and joint ventures indicates that there may be a large laboratory where many options, including inter-sectoral ones, are being tested. And one thing is certain: the courage of those players who look beyond their own sector's horizon will be rewarded. ■

tinyurl.com/del-kpmg

EXPANSION POTENTIAL BY SECTOR

Do you see growth opportunities in unfamiliar sectors for your company? Is at least one of the sector named a possible candidate for expansion for your company by 2020?

Yes answers in % of participants*

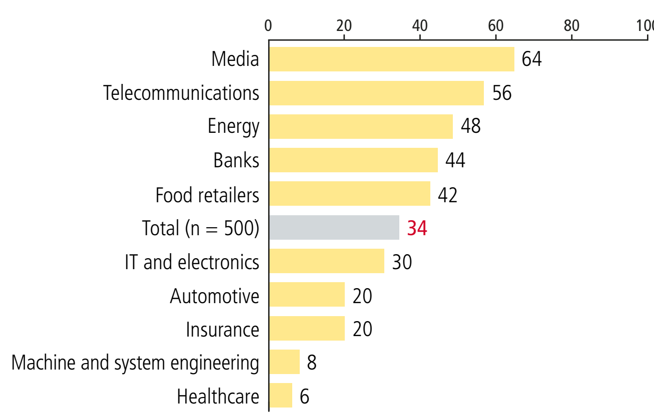


***Options:** Yes – No, none of these – Don't know/no answer; **Source:** KPMG, 2014

RISK OF COMPETITION FROM UNFAMILIAR SECTORS

To which extent do you regard companies from other sectors to be a real risk of competition to your business?

Top two values ("Rather serious" or "Very serious risk of competition") in % of participants*



***Options:** None – Very low – Rather serious – Very serious risk of competition; **Source:** KPMG, 2014

WHAT´S THE STORY, MR. ASHWORTH?

GETTING THE PICTURE

There's a fine art to shipping paintings and objets d'art around the world, says Marcus Ashworth, Head of DHL Arts. While some sculptures and collectables may appear easily portable, an irreplaceable – and priceless – work of art can make a challenging traveling companion …

Famous paintings by Van Gogh, installations by Jeff Koons and even ancient Chinese sculptures − the DHL Arts team has safely delivered these and many other artworks like them to galleries, museums and auction houses around the world. We do everything from coordinating entire touring exhibitions to transporting individual works, and the most valuable single item we have shipped is the oldest bible in the world, which has never been sold and, I believe, is priceless. We're also trusted by the big auction houses to deliver private collections.

Of course, we need to handle all of the art we transport with the utmost care and expertise to preserve its condition in transit, whether it's being moved by land, sea or air. The main cause of damage to art is inadequate packing, so we use special packing materials and art crates to keep the artwork in the ideal condition during the transport. Because each material reacts differently to its environment, there is no substitute for knowledge and skill in art transportation. For instance, it's essential to know that oil paintings on linen canvas can go moldy when stored in a cold, damp warehouse – or can crack in an overheated shipping crate.

To avoid these problems, we were the first team to start using transponders that measure temperature and humidity in real time, back in 2009. We also use high-quality climate crates fitted with GPS tracking and climate control trucks on the road. If the temperature drops below or goes above a certain level, an alarm sounds and we can address the situation.

One of the most rewarding parts of the job is the close relationships and trust we build with the artists themselves, who need to feel confident that their work will arrive in its original condition. One of my favorite artists was Otto Piene, who sadly died last year. We had the great honor of delivering Otto's pieces for his first solo show after his death to a museum in the Middle East. Ultimately, every job is very different and brings its own set of challenges – but that's what makes it so rewarding. ■

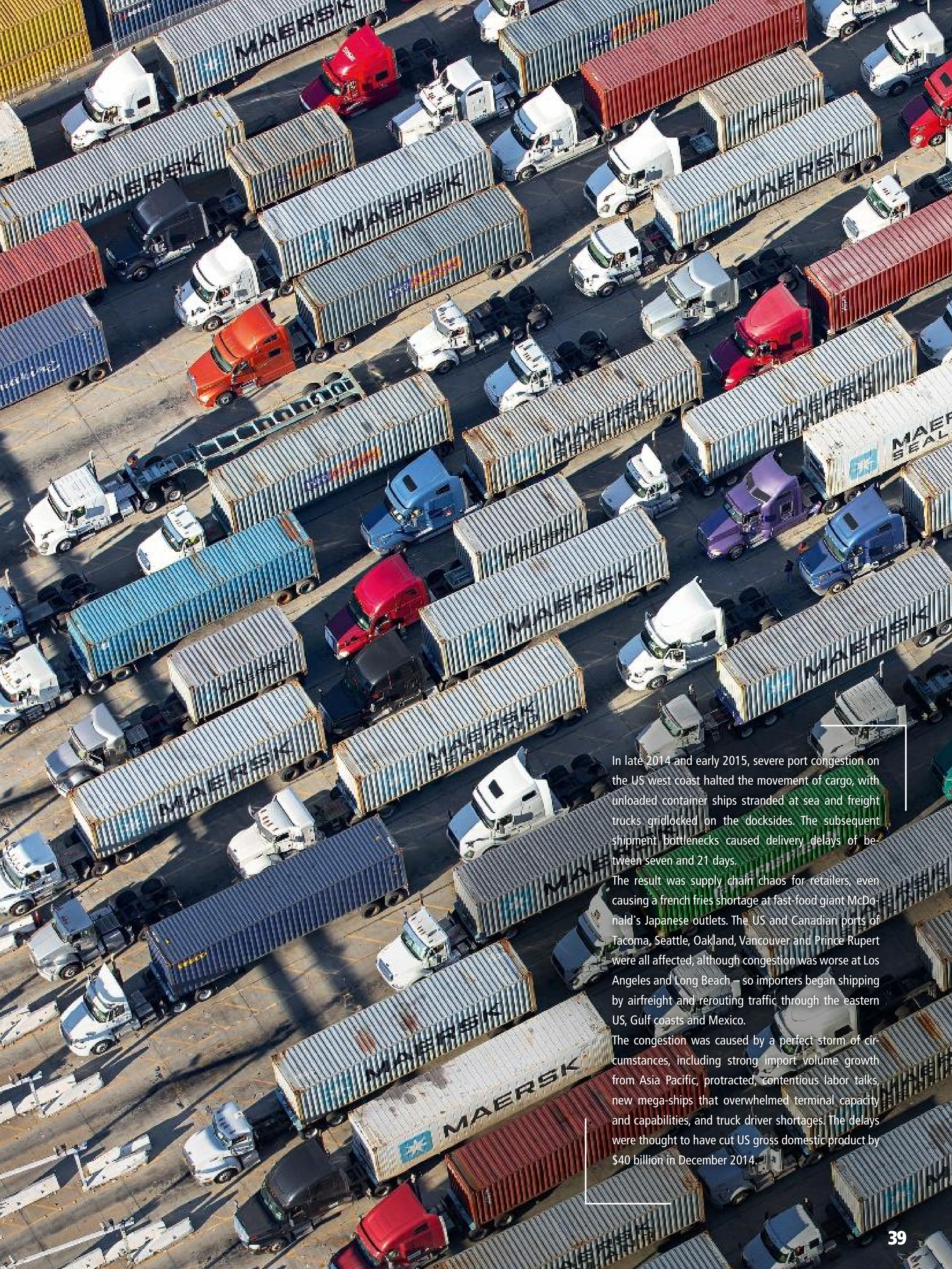
BETTER BY DESIGN

The most challenging part of the team's work is risk management, which involves assessing insurance and liability for the art being shipped.

14 years – the amount of art transportation experience acquired by DHL Arts.

20° Celsius – the relative humidity range that is optimum for storing art.

Photos: DPDHL (2), Mike Kelley



In late 2014 and early 2015, severe port congestion on the US west coast halted the movement of cargo, with unloaded container ships stranded at sea and freight trucks gridlocked on the docksides. The subsequent shipment bottlenecks caused delivery delays of between seven and 21 days.

The result was supply chain chaos for retailers, even causing a french fries shortage at fast-food giant McDonald`s Japanese outlets. The US and Canadian ports of Tacoma, Seattle, Oakland, Vancouver and Prince Rupert were all affected, although congestion was worse at Los Angeles and Long Beach – so importers began shipping by airfreight and rerouting traffic through the eastern US, Gulf coasts and Mexico.

The congestion was caused by a perfect storm of circumstances, including strong import volume growth from Asia Pacific, protracted, contentious labor talks, new mega-ships that overwhelmed terminal capacity and capabilities, and truck driver shortages. The delays were thought to have cut US gross domestic product by $40 billion in December 2014.


HEALTHCARE IS GETTING BETTER AROUND THE WORLD,
THANKS TO GLOBAL TRADE.
Across the world, ever-greater numbers of people now have access to the latest advances in medical science. From breakthrough medicine, to affordable 3-D printed artificial limbs, progress is affecting the lives of those who need it most. This is the power of global trade. Of course there's still a long way to go, but one delivery at a time, the more we keep on trading the better it's going to get for everyone, everywhere. Read more online.
dhl.com/globaltrade
EXCELLENCE. SIMPLY DELIVERED.