



Delivered.

THE GLOBAL LOGISTICS MAGAZINE

ISSUE 04/2017

BUSINESS

BACK TO BASICS

Why analog is making a triumphant return

SOLUTIONS

NOT GOING TO WASTE

Discover a new way of looking at landfill

VIEWPOINTS

GAMECHANGER

Find out how Auma Obama is empowering African youth

FOCUS

NEW LANDSCAPE FOR FILLING STATIONS

Why it's all change at the pumps





DEAR READER,

Did you know that some 1.2 billion people around the world live without electricity?

Half of these live in sub-Saharan Africa, which trails the rest of the world in terms of access to electricity by a huge margin. Our Energy feature **Lighting up Africa** discusses how progress can be made that will turn around the fortunes of business and private households, and how logistics can play an important part.

You'll have heard much about goods coming from China to Europe by rail on China's New Silk Road. Now, for the first time, we are seeing a significant uptake in companies using those same trains to bring Western goods out to Asia. **Going East** explores this latest trend.

And talking of Eastern promise, Japan looks like it's about to have a promising turn in its fortunes. Our Country Focus explores whether the sun is indeed rising as a new trade deal with the EU evolves, and Prime Minister Abe's reforms are starting to kick in.

Enjoy your read!
Sincerely,

Bill Meahl
Chief Commercial Officer, DHL

Cover photo: Buena Vista Images/Getty Images



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NEWS

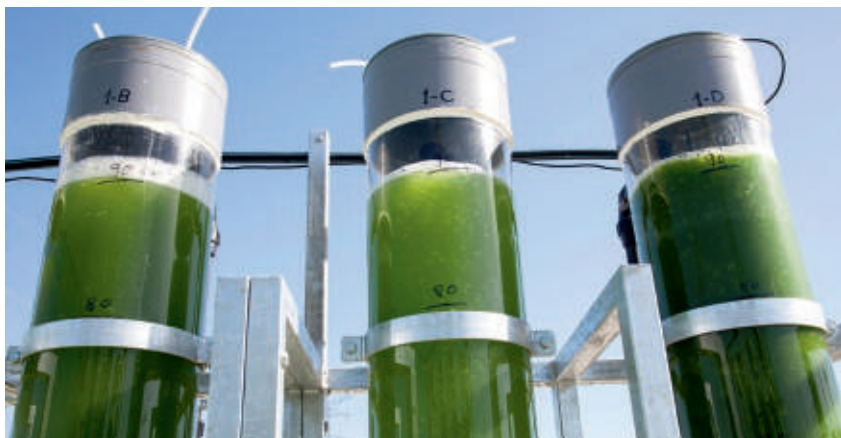


OIL RUSH

One big step to reducing carbon emissions on the road comes with cleaner and more efficient engines, and DHL is about to help global industrial and automotive lubricant giant Castrol introduce an innovation to help achieve this. DHL will develop the supply chain for Castrol's new cellular oil system Nexcel, connecting the company with its customers. Nexcel is designed to make the changing and recycling of old engine oil simpler and cleaner. It is a self-contained, sealed cell that contains the correct oil and filter for a given engine, managed by an electronic control unit that regulates the flow of oil between the engine sump and the cell: less oil in the engine means a faster warm-up and, crucially, fewer emissions during shorter journeys. The sealed cell also allows easier and faster recycling of old oil, the units remaining sealed up to the point of re-refining. Changing the cell takes just 90 seconds. It's estimated that the technology could also help to eliminate a third of the drained engine oil that disappears into the environment worldwide.

ALGAE TO THE FORE

Petrochemical giant ExxonMobil and California-based Synthetic Genomics Inc. (SGI) have announced a breakthrough in their joint research into the possibility of extracting biofuel from algae. Up to now, scientists have had difficulty developing a strain of algae that is both high in oil content and grows quickly. Now researchers at SGI's laboratory in La Jolla have identified a genetic "switch" that can double the conversion of carbon to oil in the algae species *Nannochloropsis gaditana* while still sustaining growth. But while scientists have hailed the breakthrough, they also admit the technology is still many years away from the commercial market.



WIN!

We have five copies of "The Revenge of Analog: Real Things and Why They Matter" by David Sax for our readers to win.

To enter for a chance of winning a book, simply tell us about your favorite analog item. Email us at delivered.magazine@dhl.com. Make sure to include your postal address and your telephone number in the email. Good luck!

Read the "Analog is back!" article on page 24-26.

RUGBY FIRST FOR LAND OF THE RISING SCRUM

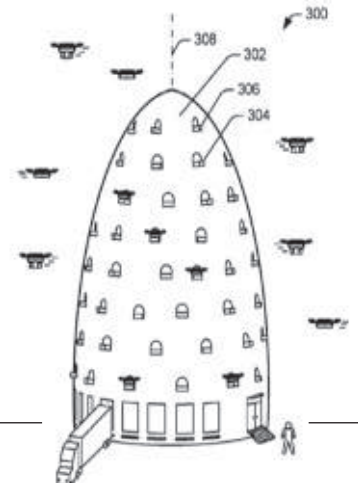
DHL has been announced Official Logistics Partner and a Worldwide Partner of the Rugby World Cup 2019 in host country Japan. The tie-up will see DHL continue its longstanding relationship with the tournament as it delivers things like team equipment to the match venues for all 20 participating teams, and match tickets to the hundreds of thousands expected to attend from overseas. The ninth World Cup and the first to be held in Asia takes place from September 20 to November 2, 2019. DHL has operated in Japan for 45 years and, says Ken Allen, CEO, DHL Express, has built up "an unrivaled network in the country."

 www.rugbyworldcup.com



GAME OF DRONES

Online retail giant Amazon is looking to develop its mooted delivery drone service, if plans filed at the U.S. Patent Office are anything to go by. The company has lodged plans for a multilevel tower that would act as a base for its unmanned aerial vehicles (UAVs). Resembling a beehive, the futuristic tower would suit densely populated urban areas like Manhattan, London or Tokyo.



The value of a six-meter-tall, five-ton, cast-iron sculpture, Iron Tree, by the Chinese artist Ai Weiwei, which was transported to Art Basel 2017 by DHL Trade Fairs and Events in June.

€3
MILLION



ON THE ROAD AGAIN


DHL Freight has reinvented its premium less-than-truckload (LTL) product Eurapid, making it available for 105 destinations in 22 European countries. DHL Freight Eurapid ensures priority treatment of shipments right from the initial booking, thereby offering extremely short delivery times. The service for shipments up to 2,500 kilograms now also comprises same-day pickup. Furthermore, customers can now also book the value added service Pre12 delivery in selected areas.

 bit.ly/dhl-freight-eurapid

MIND THE GAP

Fancy a supply chain career? Not enough people do, says a report commissioned by DHL. The survey of more than 350 supply chain professionals warns that the "talent gap crisis" means demand for staff may outstrip supply by as much as nine to one. The report, "The Supply Chain Talent Shortage: From Gap to Crisis," found that more than a third of companies are not nurturing next-generation talent and outlines ways they can redress the balance.

Download the report:

 bit.ly/talent-shortage-report





KEEPING WATCH

RESILIENCE360

The recent “ransomware” attacks on computer systems worldwide have shown just how vulnerable companies and institutions can be to outside influences. Managing risk in the supply chain has long been a strategic focus of DHL with the group’s Resilience360 risk management solution, an innovative cloud-based platform for visualizing global supply chains, tracking purchase orders and shipments across different transport modes and supporting real-time risk management – including, as in more recent cases, malicious cyberattacks. The next logical step? Being able to predict where these problems might occur. Now DHL Supply Watch, a new integral part of the Resilience360 platform, can do just that. Using machine learning, it analyzes some 30 million posts from more than 300,000 online and social media sources in realtime to detect potential supplier failures before they happen.



www.resilience360.com

RISE OF THE ROBOTS

Technology group Wärtsilä and DHL have run a successful pilot using mobile robots in the former’s main distribution centre at Kampen in the Netherlands, which is managed by DHL. The autonomous robots, developed by California-based Fetch Robotics, are designed to operate alongside employees and take on the physically strenuous parts of their workload. They have a loading capacity of 78 kilograms, can move at two meters a second (about 7.2 kph) and can differentiate between static and moving objects, taking evasive action where necessary. They have a battery life of nine hours and take themselves back to their charging stations when they run low.



www.fetchrobotics.com

IRISH EYES ARE SMILING IN LIFE SCIENCES

DHL Supply Chain has opened a new pharmaceutical-grade life sciences facility in Ireland. The new site, at the Horizon Logistics Park next to Dublin Airport, offers a range of temperature-controlled storage environments, from ambient down to a holding freezer at minus 20°C. The secure facility with 40,000 square feet (3,700 square meters) of warehousing space is fully approved by the Health Products Regulatory Authority and offers storage, pick-and-pack and inventory control. With its proximity to other markets in Europe and good road, air and sea links, Ireland is already the manufacturing base of choice for the majority of the major global pharmaceutical companies.



MISSION 2050: ZERO EMISSIONS



Group has already made great strides in the field with the emission-free StreetScooter van, and the subsidiary behind that project has now entered into a partnership with Ford Werke GmbH to manufacture a larger battery electric delivery vehicle. The new van, manufacture of which began in July, will be based on a Ford Transit chassis and powered by a battery electric drive. More than 2,500 vehicles are expected to roll off the production line by the end of 2018, making this project the largest manufacturer of electric light utility vehicles in Europe. “I consider this partnership another important boost for electromobility in Germany,” said Jürgen Gerdes, CEO, Deutsche Post. “This step emphasizes that we are an innovation leader.” The existing StreetScooter

OUR FRIEND’S ELECTRIC

er production line is also being stepped up to 20,000 units a year at sites in Aachen and is part of Deutsche Post DHL Group’s Mission 2050, which aims for zero-emissions logistics by the middle of this century.

With major automotive companies like Volvo pledging to move completely away from the internal combustion engine in the next few years, it seems as though electric vehicles may finally be the future of transportation. Deutsche Post DHL



bit.ly/dhl-gogreen-program

DEDICATED FOLLOWERS OF FASHION

As the fashion industry moves ever more from the high street to cyberspace, DHL is helping to meet the increasing demand from eCommerce customers. Through partnerships with leading fashion organizations across the globe, the company is doing some tailoring of its own, designing initiatives to help businesses streamline their international supply chains and expand into new markets. DHL has partnered with the Council of Fashion Designers of America, the British Fashion Council and Camera Nazionale della Moda Italiana to study the industry's supply chain, as well as offering mentoring and awards to the new generation of young designers.



The amount by which Japanese city Yokohama has cut its municipal waste in the space of three years. An intensive recycling drive has enabled the city to close three waste incinerators and send the remaining rubbish to one of four waste-to-power plants, where it is used to generate heat and electricity



E-TAIL GIANT

The e-commerce sector is booming in Japan. It has a compound annual growth rate of 16 per cent and is on course to exceed €1 billion next year, according to figures from Japan's trade ministry. To help the country's e-tailers sell directly to the world's hottest markets, DHL eCommerce has launched an outbound cross-border distribution centre in Narita, northeast of Tokyo. With the likes of eBay, Amazon and Wish being the main target marketplaces, sellers need a greater variety of international shipping solutions. DHL eCommerce's new cross-border offering gives sellers shipping options with definite delivery times and ranges and end-to-end tracking, as well as IT integration through DHL eCommerce's Customer Web Portal.



bit.ly/dhl-ecom-shipping

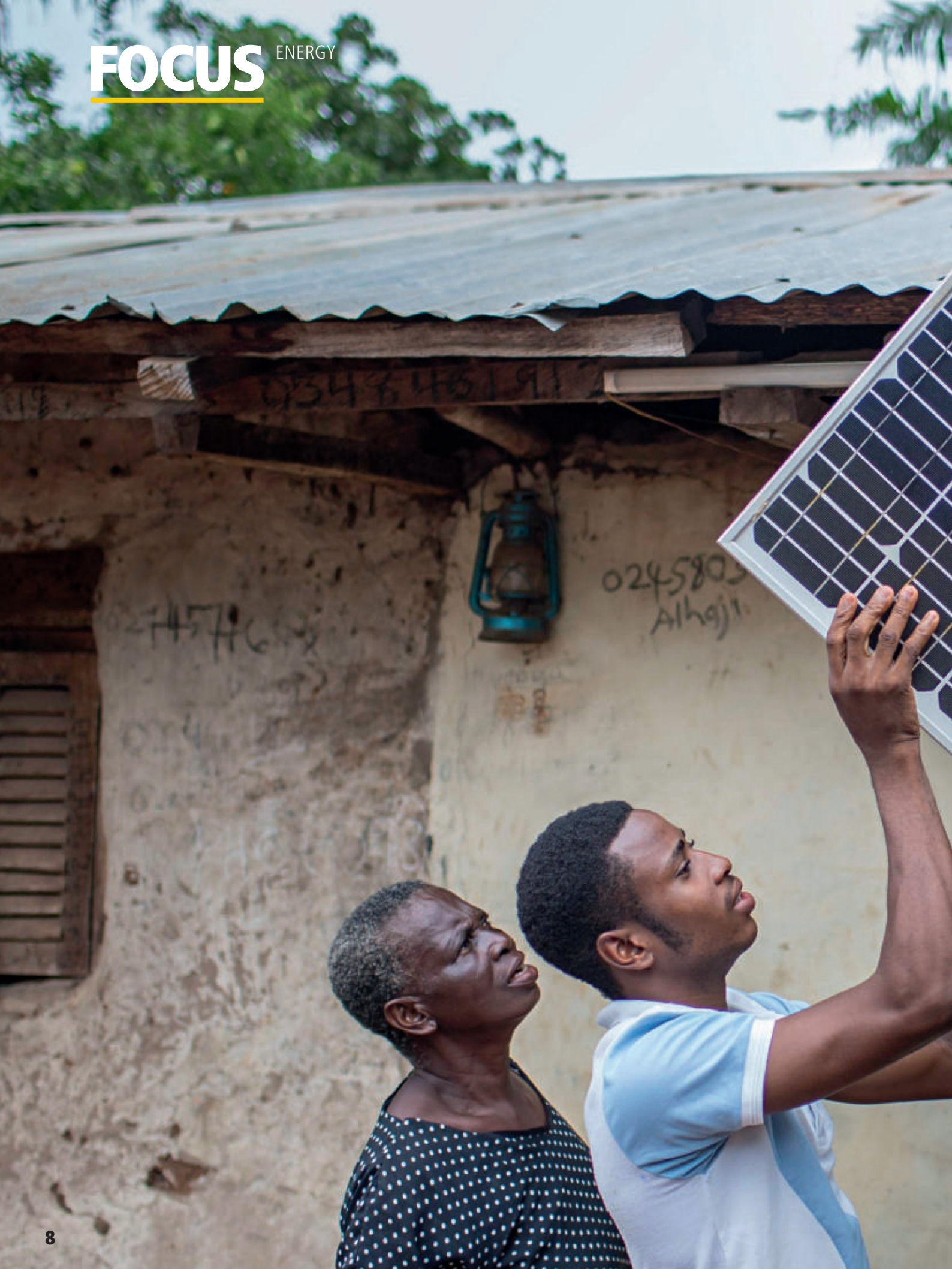


NEW WAVE

Shippers no longer have to be all at sea when needing to know about their oceangoing freight. DHL Global Forwarding has launched Ocean View, an online platform that allows customers to track their shipments in real time – even down to hourly updates on its location at sea. Available to all customers, Ocean View also works without the need for any extra tracking equipment on the container vessel and is able to forecast the shipment's journey, end to end, and predict any changes to arrival time.



bit.ly/dhl-ocean-view





LIGHTING UP AFRICA

To fuel economic growth and support its growing population, Africa needs power. Renewable energy technologies and distributed infrastructure are playing an increasingly important role in the continent's energy mix.

Around the world, 1.2 billion people live without access to electricity. Half of them are in sub-Saharan Africa. Africa trails the rest of the world in terms of access to electricity by a huge margin. In 2014, less than half the population of the continent had electrical power. Everywhere else, the equivalent figure has now passed 90 percent. If the region is to continue the strong pace of economic growth it has achieved since the end of the 1990s, better access to energy, especially electrical power, will be essential.

The International Energy Agency (IEA) expects demand for electricity in sub-Saharan Africa to rise considerably faster than the region's GDP growth for at least the next 25 years. Fulfilling that demand will require electricity production in the region to increase by a factor of more than three by 2040 to 1,300 terawatt hours.

Africa's energy challenge isn't all about resources. The continent has plenty of coal, gas and oil, for example. What it lacks is generation capacity and, just as importantly, the transmission and distribution infrastructure to deliver that power to the homes and businesses where it is needed most. Progress in building that infrastructure has been painfully slow. Between 1990 and 2010, the fraction of the region's population with access to electricity increased by only 0.2 percentage points a year, as new energy investments struggled to keep up with overall population growth.

A brighter outlook

Over the past seven years, Africa's electrification rate has accelerated to around 1 percentage point a year. That's a fivefold increase in the share of the population that gains access to electricity every year. But it still isn't fast enough. Analysts at McKinsey & Company estimate that electrification rates on the continent will only reach 70 or 80 percent by 2040, noting that an electrification rate of less than 80 percent is almost universally associated with low per capita GDP and widespread poverty.

There's growing consensus that, to make better progress toward full electrification, Africa will need a different approach. The continent's phone systems provide a model. While older economies built centralized fixed line telephone networks first, Africa largely skipped that step with the rapid deployment of mobile telephone infrastructure, driven by entrepreneurial private sector companies. Africa's energy networks may develop in a similar way, with renewable sources playing a leading role.

Energy infrastructure projects are often big, expensive and technically complex. Building them is usually

TAKING THE SUN:

African countries are encouraging the development of solar installations.





FIELD WORK:
Technicians install panels at one of East Africa's largest solar farms in Rwanda.



HIGH-WATER MARK:
Dams are needed for some hydropower projects but can bring social and environmental challenges.

the domain of large, international companies. In Africa, which has few local large-scale engineering companies, that is especially the case. Many of the world's largest energy players have been involved in African energy investments over the years, but most recently it is contractors from China that have transformed the pattern of energy development on the continent.

China's involvement in Africa is a core part of Beijing's "Going Abroad" policy, which was first introduced in the country's 10th Five-Year Plan in 2001. The motivation for the policy is simple and logical. Closer relationships with developing economies in Africa and elsewhere help develop new markets for Chinese goods and services overseas, and secure access to important commodities needed to fuel the economy at home.

IEA analysis suggests that Chinese firms were responsible for 30 percent of the utility-scale new power genera-

Renewable energy could fulfill up to half of Africa's total electrical power needs by 2030 using proven technologies.

tion capacity built in sub-Saharan Africa between 2010 and 2015. Between 2010 and 2020 Chinese contractors are expected to install around 28,000 kilometers of new electricity transmission and distribution lines.

Chinese companies have been pragmatic in their choice of power technologies, building generation capacity to suit the fuel types available locally. The projects analyzed by the IEA in its 2016 report include coal, gas, wind and hydroelectric power, as well as biomass and waste-to-energy facilities. Overall, however, the share of renewable energy technologies is significant, as engineering firms export technology and knowhow resulting from the huge investments in domestic renewable capacity that China has made in recent years.

Of the additional generation capacity built, under construction or planned by Chinese companies in Africa this decade, 56 percent is from renewable sources, with the vast majority of that being large-scale hydropower, which is dominated by contractors from the country. Looking just at projects in planning or under construction today, the renewable fraction rises to two-thirds. From the African governments' perspective, say the IEA report's authors, "hydropower projects are more attractive than coal- or gas-fired projects, which imply the construction of railways or pipelines. Hydropower projects use low-cost and abundant local resources, are a potential source of electricity for export, and avoid fuel supply issues." They note, however, that big dams bring their own social and environmental challenges, which need to be thoroughly addressed.

Analysis by the International Renewable Energy Agency suggests that renewable energy could fulfill up to half of Africa's total electrical power needs by 2030 using proven technologies. Doing that won't be easy, however. The agency's suggested mix of hydropower, wind and solar generation capacity would require a tenfold increase in renewables across the continent, an investment of \$32 billion a year.

Small is beautiful

Looking just at big utility-scale infrastructure fails to paint a complete picture of the growing importance of renewable power in Africa, however. In part, that's because many forms of renewable energy lend themselves to smaller, widely distributed sources of generation. It's also because Africa's underdeveloped network infrastructure

means many consumers have little choice but to take a more independent approach to their energy needs.

Motivated by the desire to improve energy security and to meet their commitments under international climate change agreements, many African countries are pursuing policies that encourage the development of grid-connected renewable energy generation capacity. The GET FiT Uganda program, for example, aims to increase energy production in the country by 20 percent by encouraging private investment in small-scale renewable energy generation projects. With financial support from the governments of Norway, Germany and the U.K., as well as the EU-Africa Infrastructure Trust Fund, the program promises to repay investors through feed-in tariffs (FiT) that guarantee a price for the power their projects produce. In 2015, companies began construction of six small-scale hydropower projects under the scheme. And in November 2017 the country's first grid-connected solar power plant came online, a 10 megawatt site at Soroti in the east of the country.

It is off the grid, however, that private companies may be having the most impact today. Africa's low overall electrification rate is exacerbated by the difference between urban and rural consumers. The World Bank estimates that four times as many of the people to gain access to electricity in Africa between 2010 and 2012 live in cities as in the countryside. And even where grid connections are in place, they can be plagued by poor service quality and frequent outages, encouraging many consumers to look for alternatives.

For wealthier consumers, the traditional home power source has always been the gasoline or diesel generator, but the high cost of these units puts them out of the reach of many poorer families, not to mention their impact on air quality, especially in cities. Now a new generation of entrepreneurs is making compact renewable microgeneration systems available to consumers, often allowing them to spread their cost with a fixed monthly fee. M-Kopa Solar, for example, supplies a range of packaged solar power solutions in Kenya, Tanzania and Uganda. The company's offerings typically include a solar panel, a storage battery with mobile phone charging capabilities, several LED lights and a radio. Larger packages also include a TV. The company says it has supplied systems to around half a million homes across East Africa, creating 2,500 jobs in the process.

MIRROR IMAGE:

The solar mirrors at the Noor 1 Concentrated Solar Power plant in Morocco, an installation connected to the grid.



BLADES OF GLORY:

Large-scale turbine power manufacturing is new to Africa, so wind farm construction requires specialist handling.

New energy logistics

Africa's increasingly diverse and vibrant renewable energy market brings equally diverse logistics requirements. At one end of the scale, big hydropower projects require the transport of large, heavy equipment to sites that may be at the end of poor road links in hilly or mountainous terrain. Wind power presents similar challenges. Africa doesn't yet have the economic and commercial justification for large-scale wind turbine manufacturing capabilities, notes Steve Harley, President, DHL Energy, so the construction of wind farms requires specialist handling on a global scale to transport towers, blades and other key components from their countries of origin and deliver them safely to sites. "At DHL, we've been involved with a number of large wind energy projects in Africa," he notes. "They involve a high degree of complexity, from ensuring appropriate customs clearances to route surveys, transport escorts and of course highly specialized handling equipment."

The logistics needs of microgeneration systems, like rooftop solar installations, are very different but equally complex. "Distributing these systems is a business-to-consumer logistics process," says Harley. "Last-mile delivery is always the key challenge." It's another area that is an important focus for DHL, he says, given the strength of the company's Express division in Africa. The development of "packaged" offerings, like M-Kopa's, which combine energy equipment with consumer products like radios and TVs, presents extra complexity in terms of tariffs, customs clearance and fulfillment, he adds, and this is another area where DHL is working to use its facilities and expertise to make life simpler for its customers.

While renewable energy systems don't need refueling during operation, they do require some maintenance and repair over an operating life that may span decades. "Utility-scale renewables need specialized service logistics at low cost, and that's an area where our experience in other sectors, including conventional power generation, is helping us to develop the right maintenance, repair and operations (MRO) support offerings for our customers," says Harley. "And while consumer-scale systems tend to be very reliable, they still contain components like storage batteries that have a finite service life. As these systems become more widespread, companies will need efficient reverse logistics networks to ensure that used batteries can be recovered and recycled."

For DHL, concludes Harley, Africa's fast-growing renewable energy industry presents a dual opportunity. "There is a strong commercial argument for our involvement in the sector, but the potential benefits to society are equally important. We want to support the energy revolution that is underway today, and play our part in lighting up Africa." ■ Jonathan Ward

28,000 KILOMETERS

The length of new electricity transmission and distribution lines Chinese contractors are expected to install in Africa between 2010 and 2020

3 QUESTIONS FOR

Steve Harley,
President,
DHL Energy



1. Why is Africa's renewable energy sector so exciting today?

The recent growth in the industry has been quite extraordinary. We've seen big new wind energy investments in South Africa and Kenya. There are a number of major new hydroelectric projects under discussion. And solar power projects are underway right across the continent, from large grid-connected facilities to a plethora of entrepreneurs offering small-scale off-grid or mini-grid systems for groups of homes and businesses.

2. What does the growth of renewables mean for logistics in the energy sector?

We are seeing a significant shift in demand. In part that's because renewables are growing just as the low oil price has caused a slowdown in more traditional energy sector activities, like offshore oil and gas exploration. But it's also because renewables have very different, and diverse, logistics requirements. They range from the specialist skills and assets you need to move large wind turbines to remote sites, to the challenge of distributing small-scale solar systems to hundreds of thousands of individual consumers.

3. How is DHL addressing those logistics challenges?

We have all the building blocks in place. That includes extensive experience in project logistics in Africa, and specialized wind and solar energy logistics capabilities that we have developed and refined in projects all over the world. Critically, we also have strong business-to-consumer capabilities through our Express network. Today we are working closely with a wide range of energy stakeholders to develop the logistics service offering they need to address Africa's unique energy opportunities.

THE CHANGING FACE OF FILLING STATIONS

In a world of efficient cars and alternative powertrains, filling stations are enjoying an unexpected renaissance.





IT'S A GAS:
An unconventional
filling station in
Slovakia, designed
by atelierSAD.

Photo: Tomas Soucek

In August 1888, Bertha Benz borrowed her husband Karl's latest invention – without his knowledge – and drove it from Mannheim, Germany to her mother's home in Pforzheim, more than 100 kilometers away. That journey has entered the history books as the first long-distance road trip in an automobile. It was instrumental in the development of the car, helping Benz persuade her husband of the commercial potential of his work and garnering useful publicity along the way.

The trip made another little bit of history too. When Benz needed to refuel the Patent Motorwagen No. 3, she stopped at a pharmacy in Wiesloch to purchase ligroin, a petroleum-based solvent. A monument now stands at the site of the first filling station in the world.

Pioneering motorists had to find creative ways to keep their machines running. In the early decades of the car, fuels were only available from pharmacies or hardware stores, usually sold by the bucket or the barrel. It wasn't until well into the 20th century that dedicated filling stations with dispensing pumps became widespread. In the 1960s, filling stations began the transition from staffed "full-service" designs to self-serve, paving the way for the model most drivers know today.

Since then, they have become ubiquitous. There are variations here and there, as architects experiment with alternative forms and materials. Helios House in Los Angeles, for example, the first U.S. gas station to achieve LEED green building certification, is constructed from a mesh of triangular stainless steel panels. German firm J. Mayer H. used reinforced concrete to create an eye-catching monolithic design for a Wissol station in Gori, Georgia. But most filling stations follow the same basic design: underground fuel tanks, rows of pumps under a canopy to protect customers from the rain or sun and a building at the back containing service tills and retail space. Many of those buildings bear the same names and logos too. For 20th century consumers, the filling station became the most visible part of the global energy industry, a place for the oil majors to sell their brands alongside their products.

Peak fill?

The golden age of the filling station was short-lived. Cars became gradually more efficient and more reliable. Driving and shopping habits changed. Intense competition in the fuel retail market constrained profits and tighter regulations pushed up operating costs. In the U.K., for example, Europe's third-largest road fuel consumer, the number of filling stations has fallen by more than two-thirds since 1970, from over 30,000 to around 8,500 today. The structure of the market has changed as well. Supermarkets began to add fuel retail to their portfolios

in the 1980s and 1990s, alongside the development of bigger, out-of-town locations. Filling stations owned by U.K. supermarket chains sell around twice as much fuel per site as their competitors run by oil companies.

Against this background, some oil companies chose to get out of fuel retail operations altogether, selling off their filling station networks to third party groups or individual owner-operators.

The forecourt is back

Today, there is a resurgence of interest in fuel retailing. That's due to a variety of trends. First, there's the oil price. The plunge in crude oil prices in recent years didn't just shrink the industry's profitability, it also reshaped it. As upstream exploration and production were squeezed, downstream activities – refining and retail – remained relatively profitable.

Markets have changed in other ways. In Mexico, for example, energy reforms in 2013 ended the national oil company Pemex's monopoly on fuel retail. Other players have rushed to seize the opportunity. BP plans to open 1,500 new service stations in the country over the next five years, and ExxonMobil has also announced plans to invest \$300 million in developing a network of filling stations there. Elsewhere, new players are entering the scene. Big oil trading operations like Vitol, Trafigura and Glencore have all added fuel retail networks to their portfolios in recent years.

People need refuelling too

But the biggest story is one of diversification. Convenient locations, long opening hours and easy parking make filling stations ideal places from which to sell a wide range of products, from coffee and sandwiches to a week's groceries or a sit-down meal. Filling station owners have ramped up their non-fuel operations, developing their own brands, like BP's Wild Bean Café chain, or partnering with established retailers. Non-fuel products tend to be much more profitable too. Gross margins from fuel sales are as low as 3 percent, while non-fuel products often offer margins of 20 percent or more.

Fuel retailers are seeking to tempt customers with technology too. Shell's "Fill up and Go" service allows customers to pay for fuel purchases via a mobile phone app. The oil company has launched a program in col-



NOT JUST FUEL:
Filling stations are diversifying to meet consumer needs.

laboration with carmaker Jaguar that extends the same system to the vehicle's onboard computer, allowing the driver to complete the transaction using only the touch-screen on the dashboard.

Other companies are using technology to pull customers away from their cars into the retail environment. In the U.S., for example, only a third of fuel customers typically visit the store after filling up. Convenience store chain Kwik Chek provides a mobile fuel payment app that also sends personalized offers to the customer's phone based on their historical purchasing habits.

Filling stations are diversifying in other ways. Some are entering the e-commerce world. Logistics providers – including DHL – and big e-tailers are using them as sites for automated lockers where customers can collect packages. Some stations even operate full post office services, allowing customers to pay bills, send packages and access banking services. In parts of Africa, rural filling stations have become important community hubs, where people go as much to meet and socialize as to buy fuel.

A new injection of energy

The evolving energy landscape is also having an impact. Filling stations have altered their infrastructure over the years as the mix of fuels has changed. In Europe, the use of diesel in passenger cars has risen dramatically in recent years, encouraging stations to dispense the fuel from every pump. Many stations also supply liquefied petroleum gas and a few sell compressed natural gas, too.

Bigger changes are on the horizon. Around the world, governments are responding to pressure to address the



CHARGING AHEAD:
Electric cars present a challenge and an opportunity for gas stations.

air quality challenges created by the combustion fossil fuels in transportation. France announced in July this year that it would ban the sale of new vehicles powered by gasoline or diesel by 2040. The U.K. followed suit just two weeks later. Other countries have even more ambitious timelines for the phaseout. Germany's deputy economy minister Rainer Baake told an environmental conference last year that the country wants to stop sales of new gasoline- and diesel-powered cars by 2030. Norway and the Netherlands are targeting 2025 for the same change.

Right now, electric propulsion is leading the race to replace liquid fossil fuels. Today's battery technology is both a challenge and an opportunity for filling stations. The combination of easy distribution via the electricity grid and long charge times makes homes and offices a logical place for charging infrastructure. Filling stations are likely to play a role, however. Drivers who need to top up their vehicles on long journeys may relish the opportunity to feed and refresh themselves as they wait. And owners living in crowded cities may find it hard to install suitable charging equipment at home, encouraging the development of shared charging facilities.

Advances in battery technology may provide an added boost for the conventional filling station model. Israeli technology company StoreDot, for example, has developed prototype EV batteries that can recharge in only five minutes. Achieving such high speeds requires a 200 kilowatt electrical connection, however, more than is available in most homes. Other companies are exploring the potential of battery swapping systems at filling stations. Electric carmaker Tesla patented one such approach in 2014, for example, although the idea is currently said to be on the back burner at the company.

Other emerging technologies will also give rise to new dedicated fueling infrastructure. As carmakers develop vehicles powered by fuel cells, a joint venture involving

energy companies Shell, Total and OMV has announced plans for a network of 400 hydrogen filling stations in Germany.

Filling stations are set to play multiple roles in the energy systems of the future. Their canopies make good sites for solar photovoltaic installations, for example. Total is planning to install panels on 5,000 of its service stations around the world, 2,500 of them in Africa.

There's some evidence that all this activity is slowing the decline of the filling station, and even encouraging big energy companies to revisit their retail strategies. In Australia, for example, BP has announced plans to buy a network of 527 fuel and convenience stores from retailer Woolworths. According to the European Petroleum Refiners Association, the number of filling stations in Europe has actually increased a little, rising to 125,000 at the end of 2015 from 118,000 two years earlier.

"Tomorrow's filling stations look set to play a wide variety of roles in the communities they serve. That will have implications for their supply chains as well as their business models," says Gert Van Dijck, Global Head of Energy Sector Strategy at DHL. "People need convenience more often than they need fuel or vehicle charging. Service station networks provide access to many consumers and are ideally located to extend services into final-mile delivery and community hubs in emerging markets. This requires flexible and responsive supply chains that support the different services in a cost-effective distribution network. Some companies are already starting to consider integrating their retail offering with the development of autonomous cars and the expansion of ride sharing. One day, a service station network may send an autonomous vehicle with coffee and a croissant to bring you to work and pick you up from work together with your groceries for dinner."

■ Jonathan Ward

Photo: Alexey Dudoladov/Jose Luis Pelaez Inc/Master 1305/Maskot/Getty Images; Maurtius Images/Christina Czubik

SUPER STRUCTURE:

Helios House, the first U.S. gas station with green building certification.



WELCOME BACK!

In July, Japan and the European Union agreed on what Japanese Prime Minister Shinzo Abe called “the creation of the world’s largest free, advanced, industrialized economic zone”. Coming on top of GDP growth and ongoing reforms, could this mark the turning point for Japan’s economy after decades of economic decline?

On July 6, 2017, the European Union (EU) and Japan announced they had reached an agreement in principle on what would be a milestone free trade deal – one of the most important bilateral trade agreements ever concluded by the EU – and a separate Strategic Partnership to tackle issues such as climate change and cybersecurity. For Japan this was, both literally and metaphorically, a big deal. It followed hot on the heels of the collapse of the long-awaited Trans-Pacific Partnership (TPP) trade agreement between Japan, the U.S. and other Pacific Rim countries, with some commentators believing it could herald a much-needed return to growth for the Japanese economy.

Once a model of economic prosperity, the world’s third-largest economy had been hit hard after the Tokyo stock market crash of the early 1990s, experiencing deflation and stagnation. It has also been grappling with an aging population that has presented government and business with multiple challenges.

GREAT SHAKES:

Japan and the EU have reached a milestone bilateral trade agreement.



As a result, the country has been losing business to the U.S., China and South Korea, especially in the technology sector where it was traditionally an agile and innovative leader. A report from the Mizuho Research Institute shows that this declining status is mainly down to lack of investment in sectors such as software and telecommunications, as well as a severe talent shortage. Added to this is the high rate of the yen versus the U.S. dollar, which still remains a challenge for exporters. And when you factor in the economic slowdown of China, one of Japan’s key trading partners, it’s not hard to see why the world’s fourth-largest export nation has been lagging behind, with exports decreasing at an annual rate of 3.4 percent, from \$765 billion in 2010 to \$670 billion in 2015.

Enter Prime Minister Abe, who in 2012 launched “Abenomics,” a set of economic principles designed to revive the country’s flagging economy and based on “three arrows”: monetary easing, fiscal stimulus and structural reforms.

Initially, Abe’s reforms were slow to take off; but 2016 was the first year in a decade with no negative quarter-on-quarter GDP growth and in August 2017, the economy recorded its longest economic expansion in more than a decade, and its sixth straight quarter of growth – signaling that the country might be on the right track again.

All the rage

Japan’s exports were solid, with ¥37.7 trillion (\$3,390 billion) in the first half of 2017, up 9.5 percent year-on-year, according to Japan Customs – the Ministry of Finance’s customs and tariff bureau. The bureau also says that customers in the U.S. and EU are buying more Japanese bikes and foodstuffs, while Japanese manufacturers of industrial machinery and speed trains are experiencing a boom as countries across Southeast Asia upgrade their infrastructure. China, meanwhile, is showing sustained interest in Japanese products such as optical instruments for scientific use. The one fly in the ointment comes in the form of North Korea – recent



CONSUMER FOCUS:
the Japanese economy
could be seeing a turn-
around in its fortunes.

tensions affected markets and saw the Nikkei average, which had risen by some 30 percent in the past year, dip and fluctuate.

Now, with political agreement paving the way for the new and far-reaching trade agreement with the EU, experts predict that Japan could see a full turnaround in its economic fortune. Tariffs for Japanese cars sold into the EU, for example, will be gradually lowered over a period of seven years from their current level of 10 percent. *The Economist* reports that an assessment of the deal's impact (before the final details were agreed on) suggested that almost half of the benefit to Japan would be from lower tariffs and that, as a result, the EU's exports to Japan could rise by 34 percent, while Japanese exports to the EU could rise by 29 percent.

Traditionally, major global sporting events provide a boon for economies, and the 2019 Rugby World Cup and the 2020 Summer Olympics and Paralympics in Tokyo are no exception. Japan aims to improve domestic infrastructure to the tune of \$55.4 billion, as outlined in an investment plan that includes a Maglev line connecting Tokyo to Osaka. Meanwhile, the Bank of Japan

expects the country to generate between ¥25 trillion (\$208 billion) to ¥30 trillion in sales and revenue for the economy in the runup to 2020.

Self-driving cars are on the agenda for Tokyo by 2020, and a joint venture between Mitsubishi Electric, mapmaker Zenrin plus nine car makers, is working on creating high-definition 3-D maps that digitally chart Japan's key motorways. These will be given to automotive companies willing to invest in autonomous driving.

Crossborder e-commerce is another sector that shows great potential for pushing Japan forward, according to Hideki Matsumura, senior economist at the Japan Research Institute, a Tokyo-based thinktank. "Japan is doing a lot of online crossborder businesses with other Asian countries, especially China," he said "This could lead to new growth for Japan's economy."

Indeed, in the first half of 2017, Japan sold ¥5.64 trillion and ¥6.93 trillion worth of products to ASEAN countries and China, respectively, up 10.7 percent and 17.7 percent year-on-year, according to Japan Customs.

"We are seeing incredible growth in the Japanese crossborder e-commerce market, with an estimated

THE FEMALE FACTOR:

Japan's government is encouraging companies to promote more women to management roles.

**DRIVING DEMAND:**

The call for autonomous cars – like this Mitsubishi concept with self-drive capabilities – is expected to rise.

crossborder e-commerce value of \$40.8 billion (€38.5 billion),” agrees Charles Brewer, CEO, DHL eCommerce. “In Japan, SMEs and sellers on marketplaces such as Rakuten, Amazon and eBay are the main crossborder e-commerce players, targeting markets in Europe, Asia, and the Americas. To enable them to grow their business and reach a wider customer base internationally, they need a greater variety of international shipping solutions with high-quality services while keeping their operational costs low. Specific e-commerce services are also needed, such as IT integration from shopping cart to delivery for a seamless logistics process.”

An aging society

There is, however, a serious issue which Japan urgently needs to tackle: the severe labor shortage, caused by the country's aging workforce. Japan is believed to have the oldest population in the world, with a fifth of its people aged 65 and older (and that figure estimated to reach a third by 2050).

In an effort to get to grips with workforce shortages, companies pay premium hourly rates that increase every year, and married women are encouraged to go back to work. In April 2016 a new policy took effect, encouraging companies – at this stage voluntarily – to promote more women to management positions.

In addition, Japan encourages its senior citizens to stay employed. According to *The Japan Times*, more

than half a million older Japanese people find work through the government-subsidized National Silver Human Resources Center Association. Companies are also bringing back older workers. *The Japan Times* reports, for example, that electronics giant Ricoh has called upon retired technicians to prepare its computers for installation at companies, schools and government departments.

“There is very strong market pressure for employers to keep older people,” Atsushi Seike, a Professor of Labor Economics and President of Keio University in Tokyo, told the paper.

“The drastic decline of the workforce will have a significant impact on the behavior of employers. Many are willing to boost the number of older workers, even at major companies, and I think this trend will continue – or even accelerate – in the future.”

But even with more older people and more women returning to the workforce, Japan still faces great challenges. In May the job-to-applicant ratio reached 1.49

OLDER AND WISER:

Japan encourages its senior citizens to remain in employment.

**NEW INNOVATION:**

Japan is finding new uses for robotics, like this therapy robot for older people.

– its highest level since 1974, according to Japan's Ministry of Health, Labor and Welfare, and a problem that is especially critical for service sectors. According to Taketo Yamakawa, President, DHL Express Japan, one solution must be to create policies that are more open to migration. "Historically, Japan isn't a country that opens to immigrants, but I think it must open now," he said. "All companies would benefit from an increase in fresh skilled labor from overseas."

The Japanese government has started to take action by setting up a privileged committee in 2016 to study how foreign workers could be attracted; and, according to the Ministry of Health, Labor and Welfare, there were 1.08 million foreign workers in Japan by the end of October 2016, the first time in its history that the number had risen to over a million. Among them, Chinese account for 31.8 percent, followed by Vietnamese, Filipinos and Brazilians, all employed primarily in service sectors. In April this year, members of a ruling Liberal Democratic Party (LDP) panel proposed an expansion to the types of jobs open to foreign workers and an increase of the foreign workforce to twice its current size.

Leadership in innovation

Yamakawa also believes it is high time for Japan to gain leadership in developing innovative technologies again. "Japan is good at applying and optimizing existing technologies such as robotics and artificial intelligence," he said. "Innovation is the only way for Japan's future growth."

Japan is certainly forward-thinking in the use of robotics. The country already employs over a quarter of a million industrial robot workers, a number that is estimated to jump to over one million, with expected revenue from robotics to be close to \$70 billion by 2025.

The government launched its "New Robot Strategy" in 2015, which aims to both develop robotics and expand its use. This would partly solve Japan's demographic and labor challenges, with robots helping to fill the gap. The strategy's goal is to gradually automate across all industries, from automotive to pharma.

Robotics is not the only field where Japan leads the way. Michael Sekora is a physicist and top former U.S. Defense Agency executive who, in the 1980s, headed Project Socrates, a Reagan administration program to determine why the U.S. was rapidly losing competitiveness in advanced industries. He believes that Japan has continued to perform superlatively in the field of technology, gaining dominance in dozens of advanced industries. In an article in Forbes Magazine he points out that "in electronics alone, Japan is the leading player in a host of crucial underlying technologies driving the information technology revolution. For example, only Japan can supply the highest grades of silicon needed for silicon chips. The country is also the dominant supplier of, for instance, the most sophisticated so-called steppers, which are the optical machines that imprint

JAPAN

Population:
126,702,133*

GDP: \$4.932 trillion

**World Economic Forum's
Global Competitiveness Index:**
8th out of 138

World Bank Group's Ease of Doing Business Index:
34th out of 190

DHL Global Connectedness Index:
38th out of 140

*CIA World Factbook 2016 estimates



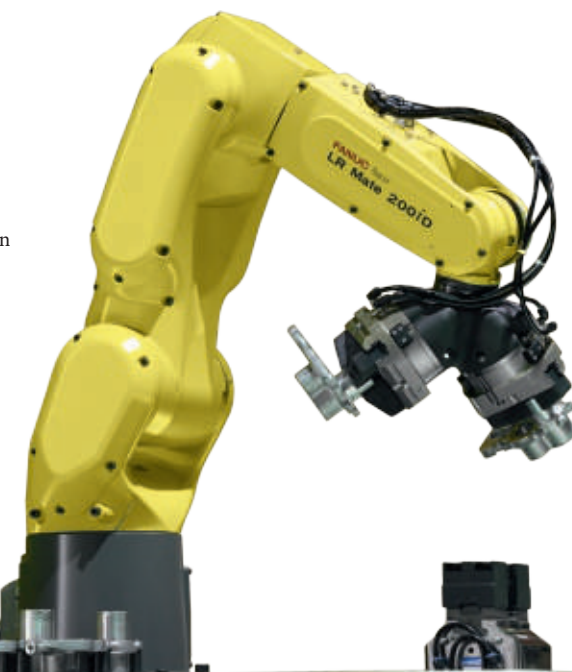
microscopically fine circuitry on semiconductors and liquid crystal displays."

As Japan sets its course back towards leadership and growth, perhaps companies such as Fuji can help navigate the way. The former pioneer in color film is an example of how a business can use radical new methods to adapt, overcome challenges and succeed. In 2004 the company sunset its photo-film-centric business approach and declared the start of the "Second Foundation." It used its technological assets – such as those of collagen and nanoparticle formulation fostered through the photographic business – and applied these to cosmetics and other new business fields. One of the results is Astalift, an entire range of anti-aging skincare. Fuji didn't stand still in other areas, however, and a revival of its instant camera business, among other things, helped its group net profit rise 4 percent to ¥123.3 billion (\$1.11 billion) in 2015/ 2016.

Nanakorobi yaoki. Fall seven times and stand up eight.
七転び八起き ■ Michelle Bach

HIGH-TECH:

Japan already employs over a quarter of a million industrial robot workers.



GOING EAST

Rail freight links between Asia and Europe are booming.
That's creating significant opportunities for Western exporters.

Asia's growth as a global manufacturing powerhouse was enabled by efficient logistics links. Traditionally, those links have been dominated by two transport modes, and choosing between them was a simple tradeoff between time and cost. Price-sensitive shipments traveled by sea container, time-sensitive ones by air freight.

In recent years, however, European companies have enjoyed a third option. Rail freight links between China and Europe offer an intriguing middle ground, faster than ocean, but cheaper than air.

East-west rail links across Asia have existed for a long time. The Trans-Siberian Railway was completed just over 100 years ago, for example, but it is only in the last decade that these long-distance railways have played a significant role in modern global trade as an increasing number of companies recognize their value. "The first companies to make large-scale use of rail between Europe and China were automotive and high-tech players with company block trains," says Thomas Kowitzki, Head of Multimodal, DHL Global Forwarding. "They were the front runners and realized the potential quite early."

For companies from these industries, the railway served primarily as a cost-effective substitute for air freight. High-value goods, short product lifecycles and unpredictable demand place a premium on speed, while aggressive pricing and intense competition created an appetite for a cheaper alternative to flying.

Other industry sectors have followed in the meantime. DHL started the first scheduled open weekly rail freight service between Chengdu in China's Sichuan province and Poland in 2013. The service gave companies the flexibility to ship smaller volumes, since they no longer always needed to book a full train. Today, says Kowitzki,

there is a broad range of regular rail connections between Chinese and European cities, thanks to increased interconnectivity between the European and Chinese intermodal systems. Westbound cargoes cover the whole gamut of manufactured products including chemicals, automotive parts, apparel and consumer goods.

According to Zafer Engin, Head of Value Added Services, DHL Global Forwarding China, that broadening of interest comes from multiple factors, not least among them increasing confidence that rail freight actually works. "At DHL, we've been interested in long-distance rail freight links since 2008, when we established a project group to look at their potential," he says. The company spent time talking to customers, experts and customs authorities along the main trans-Asian rail routes, eventually designing and piloting its first services in 2011.

"In the early days, the biggest challenge was a lack of confidence among our customers," says Engin. "We found plenty who were willing to trial the service but only with one or two containers." Feedback from those early customers was positive, however, given the constraints of the low-volume service. "Our first customers told us they were happy with the quality and security of the service, which had both been key concerns, but the lack of stability was a problem," says Engin. The lack of stability was driven by train operators delaying departure until they could assemble a full train, which resulted in extra travel time and unpredictable schedules. "For the service to be most effective, you need a block train, that's at least 41 containers," says Engin.

One Belt, One Road

Seventeen trains made the journey from China to Europe in 2011. The following year, that number had risen to 42. Then, in 2013, the Chinese government made a decision that would transform the market, announcing the official adoption of its "One Belt, One Road" (OBOR) policy, designed to promote connectivity and economic links among the countries bordering the ancient silk routes between Europe, the Middle East and Asia. OBOR involves a bewilderingly ambitious set of infrastructure investments, including gas pipelines, power lines, roads, bridges, marine terminals – and rail links. China plans to spend \$150 billion a year on projects linked to OBOR, and some estimates put the total value of planned projects at \$900 billion.



The railways have been early beneficiaries of the OBOR policy. The Khorgos “dry port” on the border between China and Kazakhstan was little more than empty desert five years ago, for example. Today, the spot hosts a \$250 million rail freight terminal, and plans are underway to invest a further \$600 million in new warehousing and manufacturing operations.

Improved infrastructure is already making rail links slicker and more efficient. Railways in former communist bloc countries use a different gauge than those in China or Europe, so containers need to switch railcars at least twice on their east-west journey. “In 2013, the journey from China took 14 to 16 days,” says Engin. “Now that is down to 11 days.”

Those improvements, together with direct subsidies and support from the Chinese authorities, have put rail freight growth into overdrive. More than 300 trains made the journey from China to Europe in 2014. By 2016, the number had passed 1,700. It is expected to double every year until at least 2020. Prices have fallen further as volumes have increased, and ongoing developments are set to make rail freight even more competitive with other modes.

Today, says Engin, DHL is investing in rail services and working with national railways along the major routes between Europe and China. “We have strategic business agreements and memoranda of understanding with Kazak, Belarus, Russia, Azerbaijan and major local governments in China. The aim is to create a sustainable transport system along Road and Belt Policy countries.” That policy of close partnership and strategic cooperation is already bringing direct benefits to customers, he adds, for example by cutting the time taken to cross international borders, enabling the creation of longer block trains and facilitating performance guarantees that ensure trains travel at least 1,000 to 1,200 kilometers per day.

Space on the way back

If it was exports from China that drove the dramatic growth in rail freight, it is exports from Europe that stand to benefit particularly as capacity expands. Rail wagons that arrive in Europe from Asia need to go back, and their owners would rather take them full than empty. The imbalance in trade volumes between China and the West means there is plenty of spare capacity, however, and

that makes prices highly competitive. Zafer Engin notes that west-east traffic has risen steadily in recent years, as European exporters catch on to rail freight’s potential. “In 2013, before OBOR, there were no open eastbound trains, only company-owned block trains,” he says. “In 2014 there were 28 and in 2016, 265.” Eastbound freight volumes are now doubling every year, but they remain significantly smaller than westbound volumes.

The nature of many products supplied by European companies to customers in China makes them particularly good candidates for the rail freight option. Things like industrial machinery, specialty chemicals or car parts headed for Chinese assembly lines are often bulky and heavy but also high in value and sensitive to lead time. Rail’s combination of speed and cost is especially useful for these kinds of products. It also makes sense for many of the high-end goods that Chinese consumers enjoy. In April 2017, the first direct train to leave the U.K.’s London Gateway bound for China was carrying whiskey, soft drinks, vitamins and pharmaceuticals.

Another factor driving increasing interest in rail freight, says Engin, is the container shipping industry’s struggles to match supply with demand. After an extended period of low prices, shipping lines have reduced sailings on many Asia-Europe routes. The resulting squeeze has pushed prices up and made securing space on vessels difficult, especially at peak times. The narrowing price gap, combined with readily available capacity, makes rail a real alternative to sea freight for many shippers.

There are few barriers to adoption of rail freight as an alternative to air or sea, adds Thomas Kowitzki. “There are additional customs checks on overland rail services, so it is important that shippers ensure documentation is complete and accurate, but that’s an area where we are always ready to provide support and advice.”

And rail links to China don’t just work for goods destined for the market in that country. “Multimodal services that reach China by rail are a good way to access many of the important surrounding markets, like Japan, Vietnam, Taiwan and South Korea,” says Kowitzki. There are plenty of other export opportunities along the way. The countries along China’s One Belt One Road account for 65 percent of the world’s population and a third of its GDP. That’s a vast potential market, waiting at the end of the line. ■ *Jonathan Ward*



Analog is back!

Vinyl records, film cameras, print magazines and paper notebooks were once written off as dead, but now their sales are increasing. So, is analog having the last laugh?

Here's an interesting experiment for you. At your next meeting, see how many people sitting around the table are using laptops, smartphones, tablets and phablets to take notes – and how many are jotting them down with a pen in a Moleskine notebook. If author and journalist David Sax is right, you're going to see the numbers of pen-and-notebook users increasing in the future as people combine their state-of-the-art digital devices with a return to trusty, if old-fashioned, analog.

"Moleskine notebooks are now the analog working accessory of the digital age," says Sax. "Go to a coffee shop in London, Berlin, Paris or Tokyo and you'll find someone sitting there with their latte, laptop – and Moleskine journal."

It wasn't supposed to be this way. The obituary was written for analog products from the early 2000s when sales of personal computers, then laptops, then smartphones and tablets increased and the dream of a paperless office came nearer. In 2014, music downloads overtook CD sales, just as CDs had once overtaken vinyl. Struggling brick-and-mortar record stores closed in cities across the world while the rise of e-books, Amazon and other online retailers sounded the death knell for many physical bookstores. As the popularity of video and console games grew, sales of board games also took a dive; and with the proliferation of handily downloadable digital media, magazine subscribers went online to read their favorite titles, leaving the print versions unloved and on the shelf. The fallout meant the end for some publications, while others ploughed all their resources online and reinvented themselves as 'e-zines'. *Newsweek*, for instance, closed its 80-year-old

print title in 2012 and became an internet-only product. Analog, plainly, had had its day.

But then a few years ago, a strange thing happened. People began rediscovering analog products all over again.

Look at the incredible revival of vinyl records, for example. In the U.S. in 2015, vinyl sales increased by 32 percent to \$416 million, their highest level for 27 years. In the U.K. in 2016, 3.2 million records were sold – a rise of 53 percent on the previous year. According to a report from Deloitte, this turntable trend isn't set to go backwards any time soon. In fact, it estimates that, this year, annual sales of vinyl records will pass the \$1 billion mark for the first time since the 1980s. There's also been a rise in board games purchases, up 28 percent in the U.S. in 2016, and Moleskine's sales were up from \$58 million in 2010 to \$139.5 million in 2015.

And print magazines? Many of them are back too, with *Newsweek* relaunching its print edition in 2014 and around a thousand new magazine titles being launched in the U.S. alone each year. In addition, bespoke custom print has thrived. Take *Monocle*, the on-trend current affairs, lifestyle and design magazine – launched in 2007, it has seen its sales grow each year. Today *Monocle* sells 81,000 copies per issue, with 18,000 subscribers.

Another astounding trend in this age of ubiquitous social media snaps and selfies is the growth of film photography. After selling one million of its Instax cameras in 2002, Fujifilm saw sales plummet to 100,000 by 2004 as camera phones became ever more sophisticated. Yet, last year, it was reported that Instax film cameras are outperforming Fujifilm's digital models, and that in 2017 the company estimates it will sell 6.5 million units.

"All of these products had been written off in the media as dead," says Sax, whose latest book is called "The Revenge of Analog." "What's more, those individuals who stuck with vinyl, film cameras and pen and paper over the years were told: 'You're outdated and a Luddite.' But then – surprise! – these supposedly obsolete technologies started growing again."

Except, Sax says, that this should come as no surprise at all. He believes that, for retailers, there is a solid, practical reason behind the return of analog: i.e., they look at the sales figures and give people what they so obviously want. "Also, Amazon and the other online companies that are currently opening brick-and-mortar stores are not doing it for fun. They know that online, "digital only" retail has its limits. They can't display things in an attractive and varied way; they can't add a value of service in terms of staff knowledge; and they can't build a brand that people can touch and have an emotional connection with. All of which impacts their sales."

For consumers, Sax points to a primal urge for going retro with analog. "Human beings are fundamentally analog creatures," he says. "We're made of flesh and blood and walking on a spinning rock. As long as that remains the case we will always interact in a deeper, more meaningful way with the analog world. Take a person's vinyl collection. You'd happily flip through that, but you'd never ask to see the playlist on their smartphone. That's because we derive more pleasure from the world outside of our screens because it's three dimen-

sional, tactile and gives us more sensation. We want it more – and so we're willing to pay more for it."

The growth in analog sales isn't some kind of bizarre nostalgia trip on the part of 50- or 60-year-olds either, as Sax says that buyers tend to be younger. "Older consumers who are in love with their tablets and smartphones can't understand why anyone would want to go back," he says. "But for the younger generation who have only ever known digital, analog isn't 'old' or 'vintage.' It's almost an entirely new technology."

This isn't to say that millions of people around the world are suddenly going to start ditching their digital devices. Far from it. But many are recognizing that analog tools can unlock creativity and productivity because they work in a way that digital does not. The popularity of the white board, for instance, has never been dented by the smart board, thanks to its simplicity.

"There's a reason why Jeff Bezos conducts meetings at Amazon by asking his teams to write paper memos and read them out," says Sax. "Paper or white boards are physical repositories for ideas. They deliver. It's why the innovators at Google always use pen and paper for the first phase of their product designs. This is not a rejection of technology – it's a mature use of it. We need to think of technology as a toolbox. Sometimes we need to use the most up-to-date power saw. Other times a knife, chisel and hammer would do the job better. Ultimately, we go with what's most appropriate and works best for us. That includes analog." ■ *Tony Greenway*

ABOUT DAVID SAX

David Sax is a Canadian journalist specializing in business and culture who has written for publications including *New York Magazine*, *Vanity Fair* and *Bloomberg Business Week*. His book "The Revenge of Analog: Real Things and Why They Matter," was one of *The New York Times'* top 10 books of 2016. Sax's favorite analog products are books and magazines. "I love reading physical newspapers, too," he says, "although reading newspapers online is usually more convenient. But, for me, a real, physical magazine and a real physical book is absolutely essential. It's right there in your hand, it's fairly resilient and it doesn't require a battery. When you think about it, paper is the perfect technology."

For details on how to win a copy of "The Revenge of Analog: Real Things and Why They Matter," see page 4.



Robert Bound, Culture Editor, *Monocle*, U. K.

What analog item can you not live without and why? What makes this item indispensable over its digital version?

Paperback books. Man, it sounds studiously „Dawn of the 20th Century“ to say it but the paperback is the best way to read almost anything, especially fiction which, as we know, is the best way to learn fact. Paperbacks are the size of your two palms but potentially span a leap so far greater than the width of your mind. It's a fact that we absorb knowledge better off paper than off a screen and while newspapers are nice, books are best.

Will analog continue into the far future?

I believe so. We've heard so much about the 'feel' of print and vinyl records and craft beer and all this stuff – and of course that's important. But what is less considered is the pure practicality of so much of the analog world - or, as it's otherwise known, the world. Books are more practical than e-readers, newspapers are more practical than tablets or phones. Machines with buttons are easier to use than touching a button-like part of a screen. I've just bought a not-that-small house and still don't have space for my beloved, bloody huge 3000-strong CD collection, though. Maybe attic rooms are the most beloved of all analog things.

For the full interview with Robert, please go to: bit.ly/robert-bound-for-delivered

Sarah Al Othman, Key Account Executive, Saudi Arabia

What do you like about playing tawilah (backgammon)?

I have loved playing for a few years now. My friends in Istanbul taught me to play, and I often enjoy playing a game with siblings or friends, whilst sipping some tea – it's a lovely way to spend a free evening.

With so many digital games around, and even virtual reality options on offer, why do you still like playing a traditional board game?

Tawilah allows me to make connections. During the game I interact with my family members or friends and we all have great fun. Plus, it is traditional. It is one of the oldest board games in the world and was already around in ancient Mesopotamia. In Saudi Arabia, we are keen to move forward, but we are also very rooted in our heritage and love preserving traditions.

Saudi Arabia has a very young population and one of the highest per capita concentrations of people on social media. Do you think this means that the digital world will one day just overtake the analog world?

No, I don't think so. Yes, we are quite a digital nation – especially young people, of course. And I see this growing much more in future – everyone has at least one smartphone and many people are digital natives. However, as I already said, as much as we are ready to embrace the digital future, we also love our traditions. For example, here in Saudi we love playing games at our gatherings. We also have many new board games such as Saudi Monopoly, Deal, and Ludo. Is there anything better than having a fun game with your family? Playing online with an avatar just isn't the same.

Daniel Montua, Digital Communications Manager, Germany

Do you have an analog item that you are really fond of?

Yes, after making the transition from CDs to MP3s and iPod, and finally onto Spotify this year, I transited back and now I own a record player and LPs.

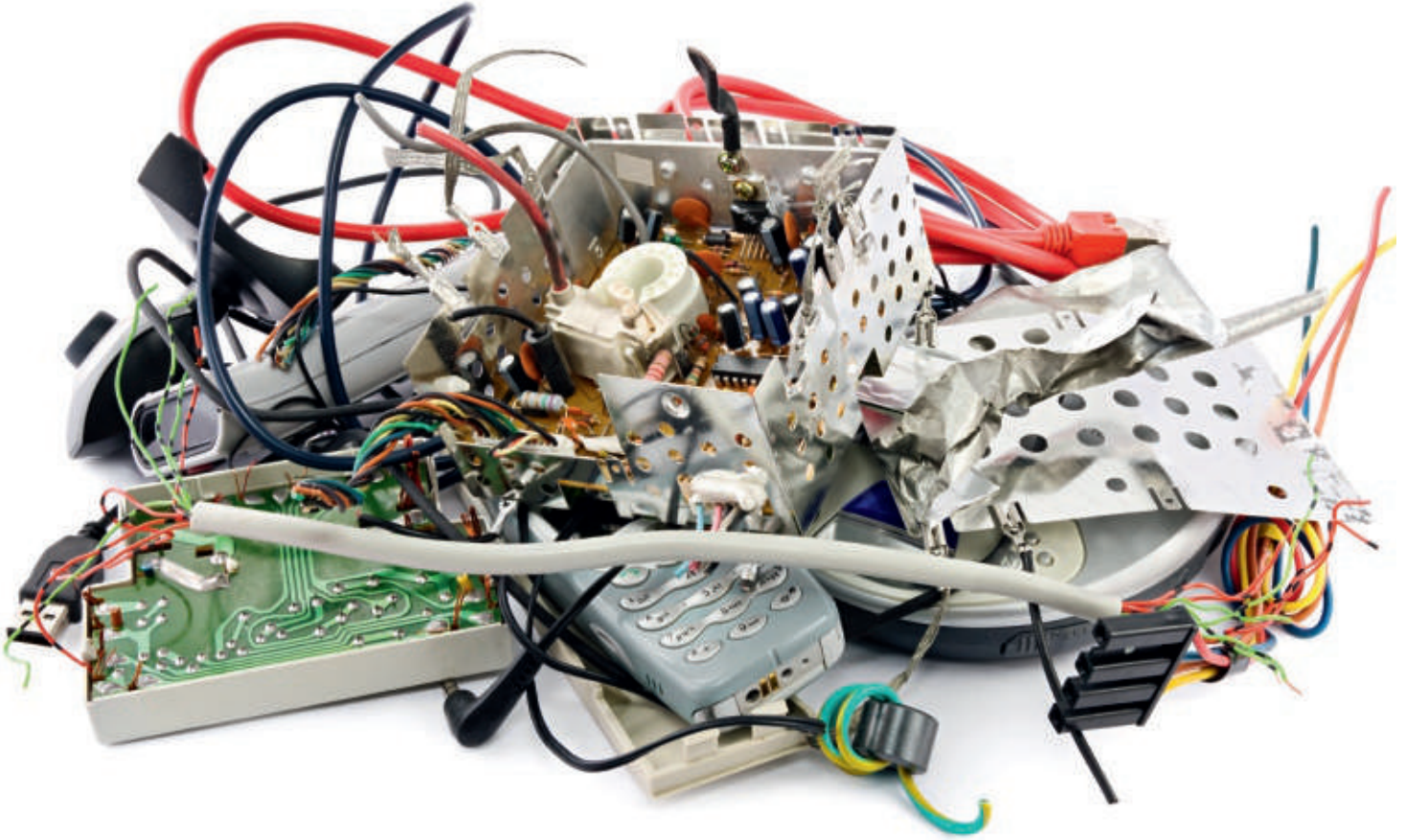
Record players and LPs are certainly a move back in time – what made you consider them?

Well, actually, there is already a trend towards people starting to own and collect records, and there are quite a few record shops opening up. This is what first got me curious, and then I got pulled in. Spotify is great, and I am certainly keeping my subscription, but there is a certain pleasure to owning a physical album. I also love the covers – and I see buying an album as creating a much closer connection with my favorite bands.

Do you think this is a passing fad and one day analog items will simply disappear?

I don't think so. When you look around, as much as digitalization is moving forward, many of my peers at least like to enjoy the benefits of the digital world, but are also quite firmly rooted in the analog side. For me personally, my role involves constant engagement in the digital space and those records allow me some precious time away from that, back to a more traditional old-school way. That is very enjoyable, and it also brings balance, which I think is very important.





TURNING TRASH INTO TREASURE

Companies are looking to circular economy models for ways to transform waste into raw materials, energy and new business models. Creativity abounds. The hard part is getting the business model right.

Tomato skin waste as part of the raw materials in car parts. Scrap tires as furniture or playground accessories. Food and packaging waste converted into power. Or lost fishing nets recycled into nylon for carpets.

Companies around the world are thinking about, experimenting with and benefiting from their own and others' waste as a material input, a process widely referred to as a circular economy model. In some cases, it is regulators who are mandating more reuse, repair, remanufacturing and recycling; in others, companies want to operate sustainably and be acknowledged for it.

No matter what the driving force, many companies have understood that the “take, make, waste” principles of linear production and consumption put too much pressure on the world's resources and make their own supply chains risky. They are looking to circular economy models for ways to transform waste into raw materials, energy – and new business models.

That said, adopting a circular economy model is easier said than done, since it involves re-engineering processes and usually means working with new partners. Nicola Cerantola, a visiting professor specializing in the circular economy and green entrepreneurship at IE Business School in Madrid, says: “Most companies



are already thinking about reuse, or already doing it. The challenge is finding something profitable.”

Often it comes down to a logistics capability that can manage complexities, says Cerantola: To turn one person’s waste into another one’s treasure, companies must get that waste to the right spot in the right form at the right time. That can be a major feat – especially in crowded and chaotic megacities, or in tightly built city centers.

Piling that problem higher are waste volumes that are going up in line with population growth, rapid urbanization and higher levels of economic development. According to the World Energy Council’s 2016 report “Waste to Energy,” OECD countries lead in amounts of solid waste created each day by residents and account for approximately half of the world’s urban waste. A total of seven regions around the world had an average of 1.19 kilograms per day per person, while people in the OECD produced 2.15 kilograms per day.

Simon Potter, who is responsible for the Enviro-solutions and Public Sector business units at DHL Supply Chain in the U.K., says companies that want to implement a circular economy model should think ahead about hurdles they are likely to confront. For instance, a company may face internal resistance to overhauling its processes. Many have invested heavily in their own

572 MILLION

The number of tons of solid waste per year generated by the OECD countries

solutions, infrastructure and process capabilities around waste, and introducing a first or a new circular economy principle is perceived as risky. A second hurdle is potential partner risk. “Circular economy solutions don’t always come from the typical waste management companies and organizations,” comments Potter, adding that it’s important to have an overview of entire networks to see where waste streams can be fed back into production. Finally, companies must invest in any new solution and face the complexity of setting up a circular economy model. He says, “It’s a challenge in terms of equipment, the utilization of space, and the types of organizations to work with.”

For Potter, getting rid of your own waste should not be a burden. “It should become a way of capturing a resource. As long as your waste is handled, processed and moved in the right way, it can become economically viable to do so instead of just dumping it.”

Earlier this year at London’s Gatwick Airport, DHL Supply Chain and the airport operator began using a \$4.9 million (£3.8 million) waste plant to turn the airport’s food and packaging waste into heat energy. Gatwick is the first airport in the world to turn Category 1 airline waste into energy onsite and aims to have an 85 percent recycling rate while saving \$1,300 (£1,000) per day in energy costs. Potter comments: “We are tak-

ing material at the end of its life and creating a second and potentially third life for the material through the processes and solutions we put in place.”

The idea for the waste plant originated as DHL considered how it might avoid empty return loads for the contract it already had to supply concession stands at the terminal. At that point, waste was being removed from trash cans by a waste removal company and taken offsite, sometimes to a landfill. DHL presented the idea that it could collect the waste on runs it was already making, sort it and then burn it to capture heat for the plant and the site’s water recovery system. Later, operators hope the plant can produce additional energy to power other areas of the airport.

The Gatwick solution was in part inspired by a similar one by DHL at London’s Heathrow Airport, and Potter sees two trends emerging: The line between services offered by waste disposal companies and logistics companies may be getting blurry, and models like the one at Gatwick are ripe for application elsewhere.

“We are reaching into new ground here. This is absolutely a model that applies to other sectors, such as retailers, restaurants, pubs and hotel chains – any organization with lots of people and customers creating lots of different waste types.”

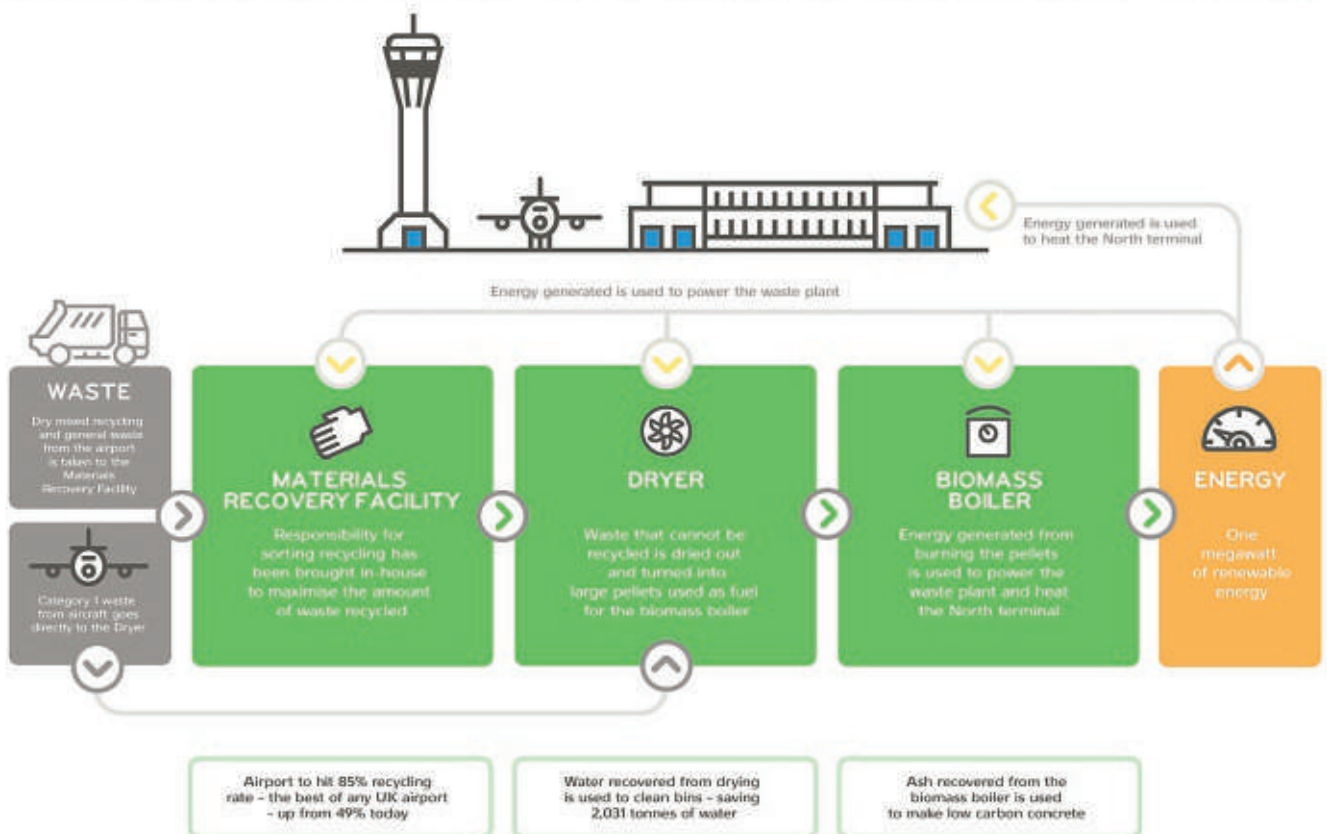
“Getting rid of waste should become a way of capturing a resource.”

Simon Potter, VP Public Sector and EnviroSolutions at DHL Supply Chain

Cerantola sees a separate and complementary trend emerging. He expects a re-regionalization of the global economy due to developments such as trade nationalism, open source manufacturing, and technologies like 3-D printing that make it feasible to produce close to where goods are consumed.

He says this will cause the “radius” of circular economy models to shrink so they focus on local and regional reuse of waste and materials, and rely heavily on optimized micrologistics, city logistics and reverse logistics capabilities. In this vision, in which many smaller circular economy models overlap, material flow and logistics complexity will increase – but so will recapture and reuse. ■ Rhea Wessel

GATWICK'S WORLD-BEATING WASTE PLANT





37 meters

26.5 meters

36 meters

12 meters

Length: 1700 meters

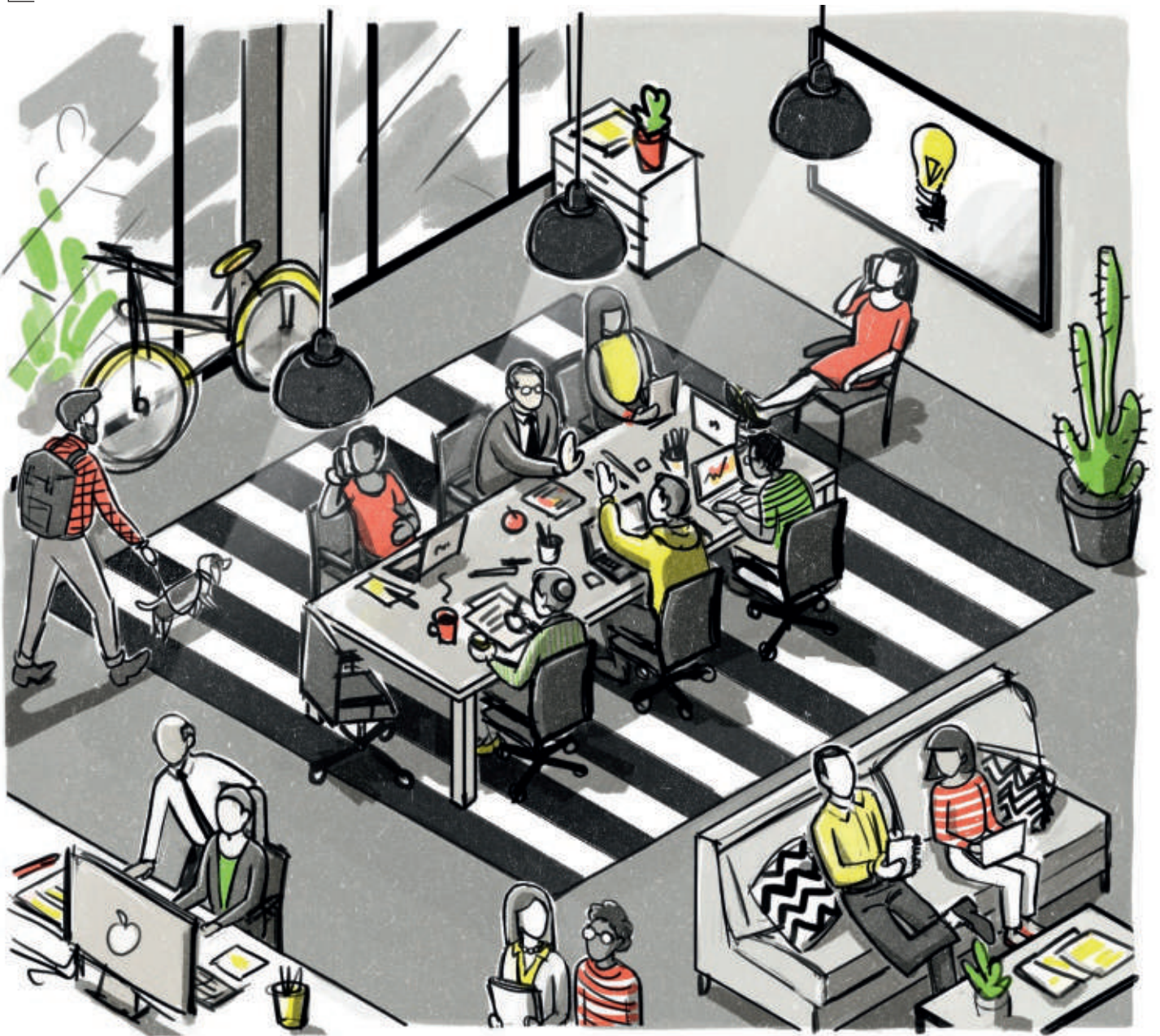
SAFE PASSAGE: THE WORLD'S FIRST TUNNEL FOR SHIPPING

The sea around the Stad peninsula in Norway is the most exposed and most dangerous stretch along the country's long coastline, infamous for its extremely bad weather conditions. To bypass the dangerous waters, the Norwegian government has set an ambitious plan to build the world's first full-scale ship tunnel.

The Stad Ship Tunnel will be 1.7 kilometers long, 37 meters high and 26.5 meters wide. It will reduce the risk of incidents and accidents, making the voyage shorter and safer for both passenger and cargo ships of up to 16,000 tons. Approximately three million cubic meters of rock will have to be removed during the construction process through the narrowest point of the rocky peninsula. Construction work is set to start in 2019, and the first ships are expected to use Stad in 2023. The eventual capacity will be 100 ships per day, with one-way traffic alternating in direction every hour. ■



bit.ly/stad-ship-tunnel



THE GENERATION GAME

Today's workplace is abuzz with trendy terms – from “millennial” to “digitalization” and everything in between. How do non-digital natives survive and thrive in the digital age surrounded by Generations Y & Z – and ultimately, who learns from whom?

When 70-year-old former executive Ben Whittaker starts his stint as an intern in a fast-growing e-commerce fashion startup, he is placed between two hoodied millennials hacking away at their laptops. Whittaker, played by Robert De Niro, is the protagonist of the movie “The Intern”: baby boomer meets digital natives on their home turf.

Sure enough, he starts out flabbergasted by all the gizmos of the digital age, the coded bantering of coworkers two generations younger and a tough-talking 30-something female founder he is supposed to assist.

Soon it becomes obvious, however, that Ben has what his new colleagues are lacking: experience. He doesn't even try to figure out how to tweak the

algorithms, but he does know office politics. He is savvy in building relationships, calms down colleagues freaked out by deadlines, and is quickly seen as the rock everybody can depend on. He just knows how to play the game.

As retirement ages are going up in many countries, more and more companies might have up to five generations in the workplace. It can by no means be taken for granted that those generations will work well together, which could potentially present issues both for companies and the employees themselves. In a study of 2,500 global executives, management professor Lynda Gratton from London Business School found that “almost a quarter rated ‘intergenerational cohesion’ as the most significant risk their company faced.”

But what is the magic formula that can help generations blend and turn differences into advantages instead of obstacles?

Talk and share

One approach lies in getting the generations to talk and share. Some companies, such as SAP or Deutsche Telekom, are using the tech-savvyiness of their youngest employees in “reverse mentoring” projects: millennials meet with top execs to mentor them on the latest developments in social media, cloud computing or computer algorithms. At SAP, a program called Reverse/Tandem Mentoring reflects the fact that advice is passed in both directions. A welcome side effect is getting the different generations to talk to each other on an equal footing.

Learning from each other is one of the keys to successful collaboration. Generation Xers are said to often have lots of what psychology calls “crystallized intelligence”: the ability to use skills, knowledge and the huge stock of their lifelong experience. Some millennials can be champions of “fluid intelligence” or the capacity to deal with new problems in novel ways. If companies can make them work together instead of against each other, those core competencies of both age cohorts can complement each other perfectly.

Showing appreciation for what each individual has to contribute is a key value in managing different generations. Another is to establish a culture of lifelong learning in the company.

This is equally important for all generations. Upskilling and continued learning will ensure older employees stay up-to-date on constantly evolving trends, while learning from more experienced colleagues

2.56
BILLION

The predicted size of the
Gen Z population by 2020

gives millennials balance and grounding: younger employees may be more digitally savvy, but they lack their older colleagues’ broader experience and wisdom. Some companies are providing special sponsoring for their experienced staff: United Technology, the maker of Pratt & Whitney aircraft engines, encourages its employees to earn part-time degrees and pays up to \$12,000 a year for tuition fees. Microsoft recently amended its criteria for appraising employees by adding the question whether they learned from others and subsequently used that knowledge.

Experience to the fore

And to be sure, being digitally savvy isn’t always the be all and end all. In “The Intern,” the hoodied desk neighbors very quickly and successfully teach Ben Whittaker to use the digital devices. However, when their boss inadvertently fires off an angry email to her mother, none of the digital natives manages to retract the offensive missile. Baby boomer Whittaker finally has the solution: They race off together to the boss’s mother’s house, use the key under the flower pot to enter and delete the offensive email before the mother returns home and logs on to her computer – showing that, no matter how digital the world gets, good old-fashioned common sense, experience and wisdom will never go out of fashion. ■ Margaret Heckel

“Traditionalists,” 1928 – 1944, value authority and a top-down management approach. Had big influence on baby boomers

“Generation X,” 1965 – 1979, comfortable with authority, want to be listened to and will work as hard as needed

“Generation Y,” 1980 – 1995, begs to differ, respect must be earned, work-life balance even more important

“Generation Z,” 1996 to present, just entering the workplace, many traits are still emerging

As defined by Lynda Gratton, London Business School

VIEWPOINTS

A close-up portrait of Dr. Auma Obama, a Black woman with her eyes closed and a joyful smile, showing her teeth. She has dark, textured hair styled in braids. She is wearing small, round earrings. The background is a dark, solid color.

DELIVERED. UNLEASHES POTENTIAL WITH...

DR. AUMA OBAMA

Dr. Auma Obama – founder of Kenya's Sauti Kuu Foundation – tells us why Africa's youth is a gamechanger for the continent.

Dr. Auma Obama knows exactly what it's like to be poor. When she was a girl, her family lived in a rural area of Kenya with no running water or electricity. "Even when we moved to the city and things improved for us, we did not always have enough to eat," she remembers. "And I was often sent home from school due to lack of fees."

The difference was, Obama had people who believed in her and who created a platform for her to grow and realize her potential. She is now a noted humanitarian, author, sought-after keynote speaker and – most importantly – founder and director of Kenya's Sauti Kuu Foundation, an organization that supports children and young people, in particular those from rural communities and urban slums. Her autobiography, "And Then Life Happens," was published in 2012. "I was able to overcome all hardship and gain the confidence needed to excel and achieve," she says.

After leaving Kenya to study and work in Germany and the U.K., Obama joined aid organization CARE International before founding Sauti Kuu in 2009. Sauti Kuu isn't about giving young people aid and handouts, she insists. Instead, the idea is to "find ways and create structures that will help them become self-reliant," using "locally available resources to improve and secure livelihoods."

In the early days of Sauti Kuu (Swahili for "powerful voices"), Obama sat down with 10 school pupils under an old fig tree to discuss life in the countryside in Alego Nyangoma in western Kenya. Now the Foundation has over 450 children and young people taking part in its programs, and has found sponsors for five young people either at university or in vocational training colleges. Since 2014, Sauti Kuu children and young people have been running three income-generating Demonstration Kitchen Gardens and one tree nursery; and 78 Sauti Kuu families have Kitchen Gardens on their homesteads and are able to feed their families from the yield. "Our model presents young people with local solutions for achieving financial stability and livelihood security without being forced to leave their rural communities," she says. "There is no doubt that lives have been transformed by it." Her hope now is that the Sauti Kuu approach will spread across Africa and beyond.

To relax, Obama loves to read, dance, take part in sports and spend time with her family and Sauti Kuu children and young people ("I don't consider the latter work," she says). If her surname sounds familiar, that's because her brother is former President Barack Obama, who is one year younger than her. Although he was born in Hawaii and they didn't meet until they were in their 20s, they now enjoy a close relationship.

Dr. Obama says she can relate to many of the people empowered by Sauti Kuu. Yet despite her early hardship it seems as though she had her life planned out from

42
PERCENT

The share of Kenya's 44 million people who live below the poverty line

a young age. "Not really," she says. "All I know is that I always felt very strongly that one had to take responsibility for what happened in one's life. Intuitively I knew from a very young age that my future would depend on what I did. I had the power to shape my destiny. That is what I teach children and young people today: 'You are your future!'"

Why do you believe that aid is not sustainable?

First of all classic charity/ handouts create dependencies. Furthermore, poverty in the context of development aid is understood as lacking in certain material commodities, based on a Eurocentric view of life. This definition of poverty has had a very negative impact on the humanitarian sector and has led to the stigmatization of a whole continent, i.e. Africa, as poor. Secondly, the term "development aid" is problematic. Development from what to what? In this context, the term is associated very closely with "philanthropy." And although non-profit organizations will always, to some extent, be dependent on aid, pure philanthropy must be preserved for conflict situations and natural disasters.

So what needs to be done to enable real long-term change?

It is critical that the term "development aid" is revised to exclude the word "aid." We must talk of "sustainable economic development." Only then will any intervention have a lasting sustainable impact. The focus must be on enabling beneficiaries to become financially independent. It is therefore all about economics; training for employability, creating jobs and promoting business opportunities.

Is Africa fulfilling its potential?

The question is too broad. Africa is a continent with 54 countries. Any answer could only be a sweeping statement. All I can say is that there is a lot of potential on the continent. According to the U.N., the continent has the youngest population in the world with a median age of 19.5. We need to tap into that potential, use it to grow and develop our local economies. It is not about improving but about establishing a sound foundation for this very young population.

Could Africa's youth be the gamechangers the continent needs?

Africa's youth, as with all youth worldwide, are gamechangers. However, how impactful and positive that change is depends on the role young people are allowed to play in the development of their communities. Their voices must be taken seriously. We must include them as an integral part of the development process.

What are some of those challenges?

Firstly, believing that they matter and that their opinion counts; and, secondly, believing that they have the power to change their lives. Young people have to learn that they are responsible for what becomes of them. Sauti Kuu helps them unleash their potential. ■ Tony Greenway

On the road to a zero emissions future

Climate change is one of humankind's greatest challenges. Green logistics is one of the keys to combating it. With a new mission to reduce our own emissions to zero by 2050, Deutsche Post DHL Group is leading the way into a new era of sustainable logistics.



AN ESSAY BY PROF. DR. CHRISTOF E. EHRHART

Christof Ehrhart is Head of Corporate Communications and Responsibility and Executive Vice President at Deutsche Post DHL Group.

Besides his corporate career he has been continuously engaged as a visiting lecturer in the academic discipline of Corporate Communications. His teaching assignments in the last ten years include the Free University Berlin, the University of Zurich and the University of Leipzig. Until 2011 he headed the Board of Trustees of the newly founded private Quadriga University Berlin for postgraduate studies in communications. Ehrhart has published extensively in magazines and scientific books.

Christof Ehrhart's thoughts on the future of corporate communications and responsibility can be found on his blog at www.futureproofingpr.com

The year 2015 marked an important milestone in the history of climate protection. In September, the United Nations passed the 2030 Agenda for Sustainable Development, which addresses the world's most pressing challenges. At the heart of the Agenda are the 17 Sustainable Development Goals (SDG), several of which aim to protect the environment and our planet. Goal 13, for example, urges us to take action now to combat climate change and its impacts. Only months later in December, at the Paris Climate Conference (COP 21), the member states

pledged to limit global warming to below two degrees Celsius in a historic agreement. Many scientist agree that this threshold is vital if we are to limit the dangerous effects of climate change.

Milestones for a green world

The Paris Agreement requires all U.N. member states to work toward this climate protection goal and the 17 SDGs. These international milestones provide a roadmap. Now it's time for governments, businesses and people around the world to do

everything in their power to reach these global goals. Many are looking to logistics and transport to play a key role in achieving climate change goals. After all, transport is currently responsible for 23 percent of global energy-related greenhouse gas emissions. But what does that mean exactly for the future of logistics?

The U.N.'s High-Level Advisory Group on Sustainable Transport has been looking into answers to that question and others. The expert panel, which was established in 2014 by then U.N. Secretary General Ban Ki-moon, was made up of logistics experts from the private and public sectors, including Frank Appel, CEO, Deutsche Post DHL Group. The group published its first comprehensive report in 2016. In addition to analyses and estimates, the report includes a number of recommendations for government and explores to what extent transport and logistics can help achieve the SDGs. Many of the goals have a direct impact on the logistics and transport sectors. Regardless of whether you want to reduce the number of illnesses caused by air pollution or combat negative environmental impacts in cities, moving people and goods as environmentally friendly as possible is always a part of the solution. Ultimately, there is only one radical solution: zero emissions.

The future is zero emissions

Deutsche Post DHL Group is now embarking on that road. Many heads turned in early March when we announced our new goal of reducing emissions to zero by 2050. At first, zero emissions logistics seems unimaginable. Yet many intelligent ideas and solutions for radically reducing transport-related emissions already exist today – and both industry and academic research and development are in full swing. We are seeing lots of change, especially in heavily polluted inner cities. Increasingly environmentally friendly pickup and delivery services on foot, by bike and with electric vehicles are reducing local air pollutants – including noise pollution. Pilot projects such as Carbon-Free Delivery in Bonn provide a glimpse of what the future holds. Outside the city, hybrid drive systems provide the necessary range – and who knows, someday in the near future maybe drones will make deliveries to remote areas that can only be reached by car today.

There is also an urgent need for low-emissions solutions in long-haul road transport as well as ocean and air transport.

While on the street we can turn to hybrid and natural gas drive systems as well as technical modifications such as improved aerodynamics, environmentally friendly ocean and air transport is still a real challenge for today's technologies. Natural gas is certainly a plausible alternative to the heavy fuel oil or diesel used in ocean shipping. In the air, however, there are currently no practicable, sustainable alternatives to conventional aviation fuels, although industry initiatives such as aireg e.V. are working to make the use of biofuels a realistic alternative in air transport.

Politicians, academics and business leaders are all equally responsible for paving the way to zero emissions logistics. That won't happen overnight, but the foundations for logistics that is virtually emissions free in several decades are being laid today in the world's capitals, universities and corporations. ■



WHAT'S THE STORY, MS. GROSS?

"NO PACKAGING IS THE BEST PACKAGING"

23-year-old product design student Anne Gross came up with an idea for a sustainable packaging solution that could potentially transform how goods are packed for shipping. Her invention made her the winner of DHL's Fair & Responsible Challenge and opened up avenues for future progress.

I have always had a questioning mind, and so when I learned from a friend who studies environmental engineering that the overall usage of paper and packaging materials is going up exponentially due to the growing volumes of e-commerce, I decided to make sustainable packaging the topic of my semester project for my product design course at Bauhaus University in Weimar, Germany.

Above all, good design should be user-friendly, smart and easy to use. When I start any design project, I always begin with a question, such as "Is no packaging the best packaging?", for example. During my research, I try to view everything from the perspective of the end user, plus the environmental impact – because if something isn't practical for the user, then there is no point creating the product to start with.

For my project, I developed the Air Parcel, an inflatable, reusable parcel that is lightweight, protects goods during shipping and can be reused

over and over again. Air Parcel is durable and it eliminates the need for inner and outer packaging. At DHL's Innovation Challenge I was invited to present Air Parcel to a live audience of around 200 logistics experts – it was thrilling to be up on stage alongside two other international entrants presenting to all those seasoned professionals who got to vote. Winning the challenge means I get to start a proof of concept with DHL and work with the team on all the steps necessary to move Air Parcel into the pilot phase. Discussions are currently ongoing for a company to prototype Air Parcel and put it into testing. I'll be delighted if my theory turns out to be right and Air Parcel proves to be a viable product – seeing your idea become reality is not something many students get to experience – it's really exciting! ■ As told to Michelle Bach



ABOUT THE DHL'S INNOVATION CHALLENGE

DHL's Innovation Challenge 2017 has taken the dual themes of Robotics and the Sharing Economy this year. Finalists from both categories will be chosen by a panel of logistics experts and will be invited to pitch their concepts and present their prototypes at the DHL Innovation Day in Troisdorf in December 2017.



www.dhlinnovationchallenge.com



10

The number of pieces in a new capsule collection created by fashion collective Vetements, inspired by DHL.

First there was the DHL T-shirt, which took the fashion world by storm in 2016. Now the Vetements fashion collective around head designer Demna Gvasalia has collaborated with DHL to create a capsule collection of 10 new red and yellow pieces, including a T-shirt, a hoodie and a sweater, for spring/summer 2018. DHL supports the fashion industry with end-to-end logistics solutions for fashion, retail and e-commerce. The new Vetements capsule collection demonstrates that yellow is indeed the new black.



#vetementsxdhl



bit.ly/dhl-the-new-cool

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