Delivered.

THE GLOBAL LOGISTICS MAGAZINE

ISSUE 05/2013

FOCUS

High pressure business

Learn the secrets of Continental's success

BUSINESS

Out of China's shadow?

What Brazil and India can offer your business now

SOLUTIONS

Aging workforce: fresh thinking

How you can win the "generation game"

COVER STORY

READY TO SHINE

From the studio to the stage: the long road to successful vehicle launches

Dear reader,

According to a recently released report by the UN Conference on Trade and Development, global trade is likely to remain slow for years, and the export-oriented growth models adopted by many emerging nations to drive development need to be readjusted. Equally sobering is its conclusion that the effects of the recent global economic crisis are still felt in most corners of the world.

Brazil, China, and India, three key emerging players whose expansion was fueled by export, have shown recent signs of slowdown. *Delivered.* examines if they are managing to rebalance their economies – and create the right environment for business to keep on growing.

Globalization, cost pressure, and increased regulation are just a few of the many factors that make the automotive market challenging. And yet, in the longer term, automotive remains a growth market as demand for mobility continues to rise in many parts of the world. Our industry focus looks at vehicle launches, where years of planning, careful preparation, and complex logistics are necessary to orchestrate a winning global debut.

We also discover how tire giant Continental manages its long and complex supply chain, dealing with thousands of suppliers, huge volumes, and vast global demand on a daily basis.

As this edition of *Delivered.* highlights, multifaceted challenges are being solved with innovative solutions, while difficult economic conditions are met with strategic thinking and concerted action.

Enjoy your read!

Sincerely,

Bill Meahl
Chief Commercial Officer, DHL

Cover photo: Daimler AG; press department
Photos on this page: VDA, VISUM, Angelo Cavalli/Getty Images

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ONLINE

Our cover story, digitally delivered
www.delivered.dhl.com/automotive

NEWS

Zero emission racing

The FIA's new all-electric Formula E series is poised to thrill audiences around the world.

Adding a new twist to the idea of electric entertainment, the FIA Formula E Championship is set to commence in September 2014. The world's first fully electric car racing series will kick off with ten teams competing in ten one-hour races in major cities around the world.

The groundbreaking new series was announced this summer. And in September at the International Motor Show in Frankfurt, Germany, the Spark-Renault SRT_01E single-seater, the new zero emission racer from Paris-based Spark Racing Technology, made its debut. The open-wheel Formula car is powered exclusively by electric energy and capable of achieving speeds of up to 200 km/h – with zero emissions. Representing a vision for the future of the motor industry, the series hopes to spark awareness about sustainable motoring solutions while accelerating investment and innovation in the field of electric vehicles. The races will take place before an international audience in cities as far afield as London, Los Angeles, Berlin, Beijing, and Buenos Aires.

As a founding partner and the Official Logistics Partner, DHL will be ensuring that all 40 race cars, spare parts, tools, and lithium-ion batteries are delivered safely and on time as the teams circumnavigate the globe.

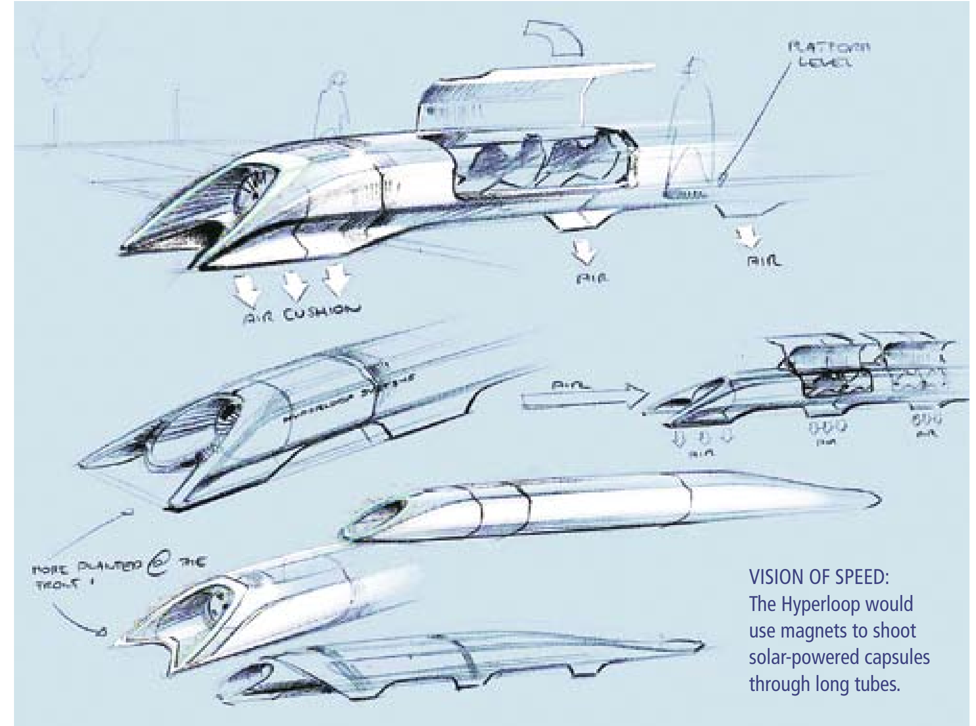
And it is not just the race cars that aim to be entirely carbon-neutral. Emissions from transport and logistics will be minimized, and any remaining emissions will be offset by means of DHL's GoGreen service.

200 KM/H
The top speed attainable by Formula E race cars

Learn more about FIA Formula E:
tinyurl.com/mg77ujj

Photos: AFP/Getty Images, AP Photo/Tesla Motors, Getty Images, DHL, Thinkstock, Gamma-Rapho via Getty Images, AP Photo/Junji Kurokawa

TRAVELING ALMOST AT THE SPEED OF SOUND



VISION OF SPEED: The Hyperloop would use magnets to shoot solar-powered capsules through long tubes.

Imagine traveling the 600 kilometers between San Francisco and Los Angeles in just 30 minutes. Elon Musk, U.S.-based entrepreneur and CEO of Tesla Motors, believes he has found a way to do just that. The "Hyperloop" envisions a long tube that uses magnets and fans to shoot solar-powered capsules which float on a cushion of air. Carrying both passengers and cars at speeds up to 1,220 km/h, nearly the speed of sound, the transport concept would be significantly faster than even traveling via airplane between the two cities. "Short of figuring out real teleportation, the only option for superfast travel is to build a tube over or under the ground that contains a special environment," Musk wrote in a recently published paper outlining the Hyperloop. Scientists reviewing the proposed elevated tube say it is a feasible concept. All that is needed now is someone willing to develop a prototype.

Learn more about the Hyperloop:
tinyurl.com/HyperloopAlpha

ELON MUSK: Hyperloop exponent and founder of PayPal, SpaceX, and Tesla Motors.

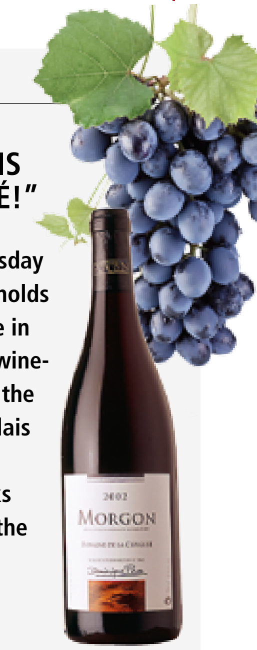
SUPPORTING GROWTH IN SOUTHEAST ASIA

ASIAN EXPANSION: DSC to open new facilities.

As Southeast Asia's growth continues, its businesses expand. To support this trend, DHL Supply Chain (DSC) is investing $180 million in the region by 2015. Singapore, Vietnam, Thailand, Indonesia, and Malaysia are among the countries that will benefit from new transport capabilities, advanced IT solutions, and accelerated recruitment supported by comprehensive induction and training programs. Opening seven new best-in-class multi-user facilities in 2013, DSC will double its size in the region over the next few years.

THE STORY

"LE BEAUJOLAIS EST ARRIVÉ!"



The third Thursday of November holds a special place in the hearts of wine-lovers around the world. Beaujolais Nouveau Day officially marks the first time the year's vintage corks can be popped.

Only available for a very short time each year, and best when drunk soon after fermentation, Beaujolais Nouveau is a fashionable must-have in Asia. For one Korean importer, over 87 tons of the 2012 vintage were on order – enough to require its very own DHL Aviation flight from France.

Along with this love affair comes a new challenge: getting the nectar of the gods into the glasses of aficionados across the globe in time. With the grapes still hanging on the vines at summer's end – the 2013 harvest in late September was the latest in decades – the timeframe to get the 45 million hectoliters to market is tight. DHL's experts ensure the wine works its way through customs processes right on schedule. And with its extensive global network of bonded warehouses, DHL Global Forwarding helps make sure no corks are popped too early.

DHL FREIGHT INTRODUCES EURAPID

Product life cycles are shortening, and the demand to receive goods on time is on the rise. As a result more and more companies require day-definite lead times and priority treatment for less-than-truckload shipments. Eurapid, the new day-definite service by DHL Freight, provides a road network connecting businesses across 14 countries covering the major European economic centers. The road freight service offers a fixed timetable with highly competitive lead times, including a 24-hour turnaround between Frankfurt, Germany and Barcelona, Spain. A dedicated customer service team, along with an activetracing smartphone app, ensures that deliveries are on time and transparent every step of the way.

tinyurl.com/DHL-Eurapid

GREENLINK: NEW LLP SERVICE BY DHL FREIGHT

For companies looking to improve supply chains with end-to-end coverage and scalability to any geography or transportation mode, GreenLink, a new Lead Logistics Provider (LLP) service by DHL Freight, combines the strengths of processes, people, and technology. Global reach, local expertise, and a stringent due diligence process determine potential for optimization, which can result in double-digit savings and an improved carbon footprint through optimized transport routes.

LIFE SCIENCES AND HEALTHCARE: UP TO DATE ON REQUIREMENTS

Few industries are as highly regulated as Life Sciences and Healthcare. To stay abreast of updates and requirements, the latest edition of DHL's Yellow Book offers knowledge on global policy, compliance, rules, and regulations. New regulatory updates include changes to EU, Saudi Arabian, and Indian biologic GDPs and Chinese GSPs. For more information please contact:
mike.meakin@dhl.com

BOXING CLEVER

Some 20% of shipped containers worldwide are empty. The Tworty – a standard 40-foot container that combines two 20-foot cargo holds with doors that open on both ends – has been developed to reduce empty positionings by accommodating ebbs and flows in shipping demand.

RESPONSIBILITY

LIGHTING UP COMMUNITIES IN DEVELOPING COUNTRIES

LITTLE SUNS: Solar-powered lamps provide sustainable lighting.

The world is a little brighter for some of the 1.6 billion people living off-grid. Using its global logistics network, DHL Express has partnered with Little Sun (www.littlesun.com) and the non-profit Solar Without Borders (www.solarzondergrenzen.be/en) to bring sun-powered lamps and charging stations to Africa and South America on a pro-bono basis. "Using solar-powered technology to give people access to light is not just sustainable but also healthy," said Sumesh Rahavendra, Head Marketing for DHL Express Sub-Saharan Africa. For Little Sun, which produces and distributes solar lamps, sustainability is a key belief. With its trade-not-aid system the project aims to boost entrepreneurship in developing countries lacking the energy infrastructure needed. Solar Without Borders pursues a similar goal as they provide the "Solar Kiosk," a solar station that can charge 100 self-developed lamps. The kiosks, constructed in isolated communities from Guatemala to Mongolia, provide affordable and environmentally friendly light.

Photos: DHL, PR, Merklit Mersha, Karl Johaentges/Getty Images, picture alliance/dpa

SURPRISE COMEBACK FOR DETROIT

The North American auto industry looks to be in the midst of the fastest expansion since 1950, according to Morgan Stanley. The profitable sales growth, driven in large part by increasing demand for U.S. brands in China, has some experts looking at sales of 16 million next year. That is good news for the U.S. car market, as the numbers will then match the level they were at in 2006, just ahead of the credit crisis. Though short of the 17.4 million peak, sales in 2013 show an upward trend, which would mark five consecutive years of growth – a boom for Detroit, which has been struggling to pull out of bankruptcy brought on by a dearth of sales.

New-car sales have long proven a reliable economic indicator, as purchases are often delayed in times of economic uncertainty. In China, the world's largest car market, rising wages and increasing demand brought an increase of 11% in August year on year, according to the China Association of Automobile Manufacturers. Ford reported a record sales increase of 46% there during the month of August.

One expert, George Magliano, Chief Economist for IHS Automotive told Bloomberg News that the global growth of American automotive brands is "coming effortlessly," thanks in part to the introduction of more small and mid-size cars that better meet the needs of consumers.

CHINA TO TEST FREE TRADE ZONE IN SHANGHAI

PUDONG SKYLINE: The heart of Shanghai's new free trade experiment.

In a new milestone on the road to economic reform, China recently announced the establishment of an experimental free trade zone in Shanghai.

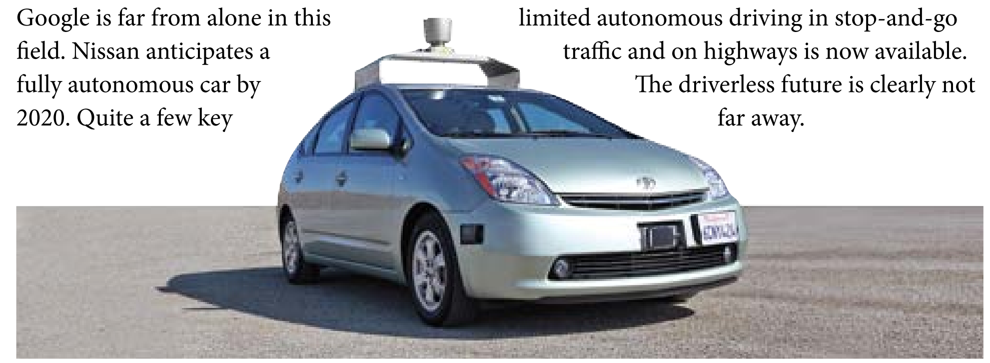
The 29-square-kilometer zone, encompassing Waigaoqiao, Yangshan, and Pudong districts, is intended as a pilot to test a variety of financial overhauls.

It is expected that within the zone, which will be up and running by the end of 2013, there will be no interest rate and exchange rate controls. Other trade and investment restrictions will also be lifted to allow businesses more freedom to import and export goods without customs approvals, and to convert between foreign currency and renminbi more freely. Analysts expect that the reforms being tested will eventually be rolled out nationwide, sharpening China's edge when it comes to the facilitation of trade.

HEADING FOR A DRIVERLESS FUTURE

Driverless cars, says Google, could be available to the public by 2017. Its self-driving cars, recognizable by the "lidar" light detection and ranging device that sits on top, are already racking up mileage and stoking speculation.

Google is far from alone in this field. Nissan anticipates a fully autonomous car by 2020. Quite a few key players in the car industry, such as Mercedes, Audi, BMW, Volvo, Toyota, GM, Bosch, and Continental are experimenting with self-driving technology. Driver assistance systems such ABS brakes and electronic stability control already come as standard, and even limited autonomous driving in stop-and-go traffic and on highways is now available. The driverless future is clearly not far away.



FOCUS:
AUTOMOTIVE

The car's the star

The engine of the auto industry is new vehicle launches, which can take three years and cost more than $500 million. In an increasingly global business, the resulting supply chains and promotional efforts often stretch around the world.

Photo: VDA

CAMERAS GO CRAZY: An Audi concept car has its moment in the spotlight at the 2013 International Auto Show in Frankfurt.

In May, a Mercedes S-Class went on a secret flight. The car, a fresh-from-the-factory 2014 model, was picked up from the automaker's Stuttgart plant and flown to an Airbus factory near Hamburg. Before, during, and after the trip, the flight crew and security guards made sure no one could take photographs of the vehicle or even catch a glimpse of it.

While that might seem like an unusual amount of security for one car, the S-Class is key to the future of Mercedes-Benz – some of its new design elements and technical features are also intended for the upcoming C-Class. It was one of the very first finished cars in the company's revamped S-Class line, then still a month away from production, and it was introduced to a select audience of about 700 global customers, retailers, and journalists. The event also included a performance by Alicia Keys and the Hamburg Symphony, followed by a firework display.

Not every car gets serenaded by a pop star. But as the automotive industry grows more competitive, vehicle launches are becoming more important than ever. Even as the business continues to grow – industry analysts HIS Automotive estimate worldwide vehicle sales will rise from more than 80 million last year to more than 100 million by 2018 – global competition is forcing carmakers to deliver innovative engineering, compelling design, and increasing reliability at the lowest possible price.

By the time new models like the 2014 Mercedes S-Class make their debut, they have reached the end of a process that usually takes several years and between $300 million and $500 million – and in some rare cases up to a billion dollars. Simply put, launches determine the future of car companies. And the difference between success and disappointment often depends greatly on supply chain logistics.

The launch process usually begins about three years before the start of production, with design and engineering work that lasts for two and a half years. Carmakers start by creating a concept and doing a feasibility study that brings together engineers and finance executives. If an idea looks promising, the company then builds "mules" for testing. All this must be done in secret, both to prevent competitors from finding out about products and to stoke curiosity for media and customer events.

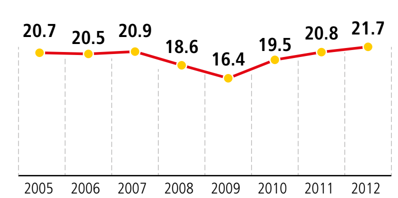
SHAPING THE FUTURE: A 1:4 clay model of a new car being formed at the Mercedes-Benz Advanced Design Studio in Tokyo, Japan.

Photo: Daimler AG

AN EXPANDING AUTO MARKET WORLDWIDE IS BEING DRIVEN BY RAPID GROWTH IN EMERGING MARKETS

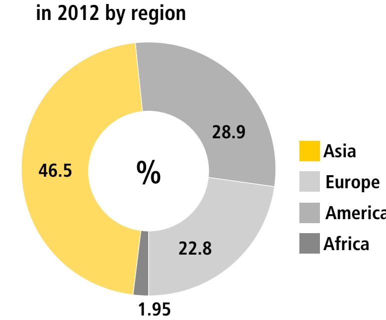
Worldwide sales of both passenger and commercial vehicles have been growing steadily since 2009, and are estimated to top 100 million by 2018. As competition intensifies, commercial vehicle launches are every bit as important as those for passenger cars.

Commercial vehicle sales 2005–2012 (in millions)



Source: International Organization of Motor Vehicle Manufacturers (OICA).

Total vehicle sales in 2012 by region



Part of the process also involves shipping different versions of new components around the world in the kind of small amounts car companies rarely deal with. To complicate things, these components need to reach factories in the right sequence and at the right time to allow for a smooth production process.

As engineers develop a new product, carmakers choose their partners and the companies that will eventually supply components. This process is more complicated than ever, since some cars have as many as 20,000 individual components, sourced, made, or assembled by suppliers all over the world. The new Mercedes S-Class, for example, has no fewer than 60 computers. Also, for the first time in generations, not every mass-production car is based on an internal-combustion engine or even the same kind of alternative fuel. "With electric vehicles, there's an entirely new supply chain to organize," says Fathi Tlatli, President Global Sector Automotive, DHL Global Customer Solutions & Innovation. This includes the transport of batteries that are both heavy and sensitive to temperature variations during shipping. At some point, he says, electric-car supply chains will need to account for battery recycling as well.

Six months before launch, companies start preparing for production, finalizing details and supplier deals. Here, too, logistics matters; a delay of just six months can reduce the profitability of a product by 30% over its lifespan. Logistics issues account for about a third of those delays, so creating a reliable supply chain is crucial. Some decisions involve choosing between "re-localization" – having foreign suppliers move near a production site – and using "stretched" supply lines that can increase component delivery time. At this point, cars are so complicated that almost any significant disruption in global trade is felt on the factory floor. Tlatli points out that the Japanese tsunami in 2011 temporarily cut off Detroit's supply of certain car-paint pigments, causing automakers to scramble in search of a replacement and inform customers that they could not take in orders for certain colors.

At the same time, these events and processes rarely take place in a vacuum. Most modern cars are now built on platforms with standard design and engineering specifications shared among a number of models. The idea is that companies can save money by standardizing some parts, plus create greater flexibility by sharing tooling among assembly lines for different models.

But sharing platforms is not a new concept: General Motors has shared chassis and engines among different models for decades, and in the 1980s, Chrysler cut enough costs to save itself from insolvency by building different models on its K-car platform.

GLOBAL PRODUCTION: Workers at a Volkswagen plant in São Bernardo do Campo, Brazil, assemble new cars for the local market.

Until relatively recently, however, cars built on the same platform often seemed too much alike, alienating consumers. Now carefully planned logistics makes it easier to share a chassis and engine but add enough different parts to make each model unique. Platforms are increasingly popular. According to industry experts, the top 20 platforms will account for more than 45% of worldwide car launches by 2015. But regional differences in taste mean that they must be flexible enough to produce a variety of models for different customers. Americans favor powerful engines, for example, while Chinese luxury car buyers, many of whom employ drivers, prefer models with a stretched wheelbase and a larger backseat.

In theory, companies can save money by building most of several models on the same assembly lines, then finishing them for different markets as needed. But this requires planning production in a way that makes this possible, plus organizing supply chains to ensure an entire operation cannot be stalled by the delay of a few parts. "You can have a global strategy with adaptations for important markets that happen very late in the process," Tlatli says. "In the supply chain, you can bring some components in late in the process in order to be closer to a just-in-time process." For component makers, this makes flexibility very important in responding to challenges or shifts in production. "It's important for us to have people who understand these changes and are able to articulate the proper solutions," says Tlatli.

> "YOU CAN HAVE A GLOBAL STRATEGY WITH ADAPTATIONS FOR IMPORTANT MARKETS THAT HAPPEN VERY LATE IN THE PROCESS."
>
> Fathi Tlatli
> President Global Sector Automotive, DHL Global Customer Solutions & Innovation

This gets even more complex when platforms are shared among companies. In September 2012, Renault and Nissan announced they would jointly develop platforms for new vehicles in order to cut costs – a project later joined by Mercedes. The benefits are obvious. All three carmakers will be able to cut prices by driving down the costs of at least some of their parts. But each also needs to make sure that the models they make on those platforms are different enough from the others that consumers see their value. Something Fiat, Alfa Romeo, Saab, and Renault did back in the 1980s when they all worked together on a sedan. And it will become a more popular strategy as carmakers continue to cut costs.

To help carmakers and component companies manage the ever-increasing complexity of launches, a product launch solution was recently introduced by DHL that integrates the entire launch process, from prototype transportation right down to the delivery of press kits and invitations to the launch event. In addition to arranging "inbound to manufacturing" and aftermarket logistics, supply chains can be built to operate with low cost, low risk, and high efficiency.

Three modules are being offered – Research, Production, and Launch – and customers can either opt for the full solution or go for one of the modules. The Research option includes packing, shipping, security, and customs clearance for prototypes. Production organizes the supply chain logistics that the new model will depend on. Finally, when the product is ready to meet its public – either at an international industry event such as the Frankfurt Motor Show or a special one-off presentation like the Mercedes launch – DHL arranges preview events, press demonstrations, and more.

Sometimes, all of this sophisticated logistics expertise overlaps with old-fashioned delivery service, as it did when a DHL freighter was specially dispatched amid great secrecy to deliver the new Mercedes S-Class to its world premiere. Although the company makes thousands of deliveries daily, this one was special.

"We mostly move components," Tlatli says. "When we move vehicles it's because they're luxury cars or racing vehicles – or because it's a special occasion. For something as important as a car launch, we'll pull out all the stops." ***— Robert Levine***

THIS YEAR'S MODEL: As the automotive industry grows more competitive, vehicle launches are becoming more important than ever.

Photos: Nacho Doce/Reuters, VDA, DHL

THREE QUESTIONS FOR

Fathi Tlatli

PRESIDENT GLOBAL SECTOR AUTOMOTIVE, DHL GLOBAL CUSTOMER SOLUTIONS & INNOVATION

"COMPONENTS NEED TO BE ORGANIZED TO COME IN AT THE RIGHT TIME."

The automotive business is more global than ever. What does that mean for logistics?
Indeed, there used to be far fewer automotive centers globally. Now automotive spans the globe as there are vast new markets opening, such as in India and China. In addition, you now have components sourced from all over the world. They need to be organized to arrive just in time, in the right sequence and in the right way. That's why we developed our Automotive Competence Centers, where dedicated teams in strategic locations around the world offer our customers expert advice, and drive the smooth and efficient flow of everything from parts to the actual vehicles.

How does DHL's new focus on logistics for vehicle launches fit into its existing automotive business?
We realized we were already involved at different steps in the process of car launches, from prototypes to preassembly logistics. The only thing missing was the integration of all the elements into one tailored solution to make sure that the different parts of a global supply chain are coordinated, and work on the costs. We now also integrate car dealers into automotive supply chains. Dealers need the right parts at the right time and consumers want things faster. We are developing these solutions so dealers can focus on their core business and not the back-office work.

For the first time in almost a century, basic engine technology is changing with the shift to electric and hybrid vehicles. Does that complicate logistics?
It's more complicated in the sense that there are more components and different technologies. If you have lithium batteries, you need to manage the weight, since that's quite high, and you need to have sensors to monitor temperature and humidity. We developed special packaging to protect the batteries.

MOTOR MARKET: With just 18 cars per 1,000 people, India is ripe for automotive expansion.

HEAVY TRAFFIC AND HUGE OPPORTUNITIES EMERGING

The road ahead for the automotive industry leads toward car-hungry emerging markets.

China is now the world's biggest car market, and emerging economies already account for more vehicle sales than developed countries. To get a sense of the opportunity this represents, the U.S. has about 800 passenger vehicles for every 1,000 people, according to the World Bank, while China has only 85 cars per 1,000 people with more than four times the population. And that is just one emerging market: India has 18 cars per 1,000 people, and business is also booming in Russia, Brazil, South Africa, and other countries.

At the same time, emerging markets are also beginning to dominate car production. In 2009, emerging markets produced more cars than developed economies. So far, at least, this success does not seem to come at the expense of established car businesses as in North America and Europe, which have recovered from the recession. But the automotive business' road ahead, in terms of growth, mostly leads east.

It is becoming increasingly hard to identify what now qualifies as an "American" or "Chinese" car. In 2011, General Motors sold more cars in China than it did in the U.S. Some of these vehicles have brands like Buick, which has become more popular in China than it was for years in the U.S., while others have new ones like Wuling. But all of them use both American and Chinese technology, as well as components from all over the world.

"Manufacturers from a certain part of the world used to favor suppliers from the same part, but this is changing due to globalization and competition," says Fathi Tlatli, President Global Sector Automotive, DHL Global Customer Solutions & Innovation. "They'd rather work with the one that offers the right services at the right cost – especially since the technology inside cars is changing so rapidly – so a lot of manufacturers from elsewhere have come to China." The reverse is also happening. Last year China exported $13 billion in auto parts to the U.S., according to the consultants AlixPartners. Also in 2012, the Chinese auto giant Shanghai Automotive Industries opened a new office near Detroit, joining the carmaker Changan Automotive and parts suppliers like Brilliance Auto, which hope to sell more components to U.S. automakers.

Similar strategies are playing out all over the world. In India, Tata Motors uses Fiat's diesel engines, under a joint venture with the Italian company. Some automakers are even taking the next step and moving engineering and R&D near factories, so that a car produced in a certain market will be designed there as well – no matter where the company behind it is based. The aftermarket part business, which represents an important source of profit, is also moving east. The inevitable complexity is why DHL now has Automotive Competence Centers in China, as well as in emerging markets such as Brazil and South Africa.

BUYERS ARE DEMANDING

Companies in emerging economies do not just produce cars to be sold locally, though. Tata operates Jaguar and Land Rover in the U.K., China exports cars to developing markets worldwide, and companies in the developing world are beginning serious efforts to export vehicles to the U.S. and Europe. "You won't necessarily see a Chinese company with a particular model, you'll probably see it as a partnership," Tlatli says, "to help ease consumer acceptance. In the middle term, they will go into the high-end market. But brands aren't built overnight."

A globalized business will demand global manufacturing platforms, but individual models will still vary according to where they are sold. Different emerging markets have different tastes based on road quality, gasoline prices, and other factors. In South Africa, the fastest growing market outside Asia, pickup trucks sell strongly. In addition, according to DHL's Global Connectedness Index 2012, some carmakers "have also designated particular regions or countries as 'hubs' for particular vehicle categories. India, for example, has been tagged as a 'small car hub.'"

So if car buyers have one thing in common, it is that they are demanding. "In some emerging markets, people expect more," Tlatli says. "If you look at dealerships in those countries, some of them are spectacular." — ***Robert Levine***

Photos: VISUM, Monty Rakusen/Getty Images

THE TRICKY BUSINESS OF RECALLS

Few things make automotive executives more nervous than recalls. After designing a vehicle, planning a launch, and selling millions of cars, companies sometimes find out that a model has a technical problem. Sometimes a software update is needed; other times a part is defective, or even an entire vehicle. Recalls are never easy, but they happen. In 2013, there were 14.3 million recalls in the U.S. for issues including power-window problems, steering issues, and bad ignition switches. When recalls are handled poorly, they can undermine consumer confidence to the point that it affects a company's bottom line.

In any recall, automakers must alert buyers, get replacement parts to dealers, and make sure the necessary repairs happen efficiently. In order to limit their potential liability, they must do all of this while complying with local laws everywhere they operate. At stake is nothing less than the future of their business.

Recalls are on the increase. Some of this is due to tightening regulations and increasing cost pressures, but the biggest issue is the increasing complexity of vehicles. "New cars are technology on wheels," says Fathi Tlatli, President Global Sector Automotive, DHL Global Customer Solutions & Innovation.

Recalls also put customer relationships at risk. While technology makes it easier to communicate with consumers, it also fuels their expectations: if it is so easy to get a car in the color and trim of their choice, why do they have to wait months to get a part replaced? The answer involves coordinating with component manufacturers to make sure dealers get the right replacement parts. Supply chains are not usually designed to run in reverse.

Careful carmakers take a risk-management approach to recalls that involves advance planning, which can save months if a problem does arise. GM's new contract with suppliers gives them financial responsibility for some recalls. As for logistics, DHL's Recall Solution business can do much of the work: its Recall Action unit coordinates operations, tracking components from suppliers to dealers, while Recall Alliance lets companies assess risks and prepare contingency plans, including an online communications platform and a call center with a multilingual staff. "It's not just about the movement of goods," Tlatli says. "When we talk about recalls we talk about the whole process."— ***Robert Levine***

RECALLS ARE NEVER EASY: "New cars are technology on wheels."

"WE ARE DEALING WITH THOUSANDS OF SUPPLIERS, HUGE VOLUMES, AND A VARIETY OF PRODUCTS."

Dr. Jens Röttger
Head Global Cluster Freight & Warehouse Services

Photos: Urs Kuckertz

EXECUTIVE INTERVIEW

CONTINENTAL'S HIGH PRESSURE BUSINESS

Continental AG faces unique supply chain challenges due to the complexity, long lead times, and volatility of the tire market, among other markets, as Dr. Jens Röttger, Head Global Cluster Freight & Warehouse Services, explains.

To the uninitiated, says Dr. Jens Röttger, a tire is a tire … is a tire. Only, of course, it isn't that simple. "The outside world thinks of a tire as a standard black rubber product that's easy to make," says Röttger, Head Global Cluster Freight & Warehouse Services at tire giant Continental AG. "But we are dealing with thousands of suppliers, huge volumes, and a variety of products, too, because we use many different components, depending on the type of tire. Winter tires and summer tires, for instance, differ in composition and compound ingredients."

And that seasonality can test Continental's supply chains to the max. "Take winter tires," says Röttger. "We have to be ready to supply them to our customers within a very short timeframe, just as soon as the first snowflake falls. If we're not ready, we miss the window because the winter tire business is over and done with in four weeks." This is just one reason why Continental's tire manufacturing and delivery is – aptly in the circumstances – a high pressure business. But there are plenty more.

Continental was established in Hannover, Germany, in 1871, making soft rubber products such as hot water bottles and toy dolls, as well as solid tires for carriages and bicycles. Now the company ranks among the top five automotive suppliers worldwide, has approximately 170,000 employees in 46 countries, and in 2012 reported worldwide sales of €32.7 billion. It has also widened its product portfolio and is now a supplier of brake systems, systems and components for powertrains, and chassis, instrumentation, infotainment solutions, and vehicle electronics.

Automotive supply chains are famously complex and Continental's is no exception, with hundreds of different chemical raw materials and hundreds of thousands of assembly parts needed, on time, in its plants every day. Actually, Continental's tire manufacturing supply chain isn't just complex – it's long, too. "You only have to consider where the natural materials come from and where our consumer markets are located," says Röttger. "Think of the natural rubber growing in Southeast Asia – and then the demand for winter tires in northern countries." Bridging that gap is part of Röttger's job, collaborating with transportation and forwarding service providers to find the best possible supply chain solutions for the company.

CONTINENTAL – A TIRE PIONEER

In 1892, Continental became the first German company to manufacture pneumatic tires for bicycles and, in 1901, it produced the tires for the Mercedes that won the celebrated Nice-Salon-Nice car race. The company began mass production of radial tires in 1960 and, around 30 years later, brought the first environmentally friendly tires for passenger cars onto the market.

THOUSANDS OF OCEAN CONTAINERS

Ocean freight is the only economical way to transport heavy goods, such as rubber, around the world. To ensure that finished high performance tires are delivered just in time to its original equipment manufacturer (OEM) customers, Continental's plants require a high throughput of material and a robust distribution system. To that end it employs roughly 300 ocean containers and 700 trucks on a daily basis.

"We have to connect our inbound supply chain raw material producers with our plants," explains Röttger, "and on the outbound side with our OEM customers and distribution. In the aftermarket we distribute tires all over the world, so thousands of ocean lanes have to be considered." Its market sizes vary. For example, it delivers thousands of ocean containers to the U.S. every year. On the other hand, it delivers just a few – but, to its customers, just as important – containers to Samoa annually.

Continental's established markets are in North and South America, Europe, and Asia, but it knows that, in a rapidly changing industry, it has to follow its customers. "Emerging markets present the biggest

business growth opportunities for us," says Röttger. "In car manufacturing terms, the European market is already saturated. Continental is in a good place in Europe, of course, but wherever the market is growing and building new factories and plants, we want to be there – and in the early stages, too."

In China, one of its most important emerging markets, Continental has 20 plants with reach across the country. It also has eight plants in India and eleven in Brazil. "Essentially," says Röttger, "we need to be close to our customers in order to provide the local content that they are asking for."

Even so, operating in emerging markets presents specific challenges. "Sure," he says, "We can move goods across the whole of Europe within 48 hours. But in countries where the infrastructure is not so developed, that's more of a challenge in terms of transit times, reliability, and predictability. It's one reason why we hold buffer stocks and need reliable forwarders. We can't move products across China to deliver them, just in time, in a two-hour timeslot, for example. We need to cover the country region by region with tailor-made solutions."

Because the company is producing such enormous volumes of large products, its supply chain has to be in perpetual motion. "If we had a disruption such as a truck driver strike then immediately there would be an overflow in production," explains Röttger.

"EMERGING MARKETS PRESENT THE BIGGEST BUSINESS GROWTH OPPORTUNITIES FOR US."

Dr. Jens Röttger
Head Global Cluster Freight & Warehouse Services

Learn more about Continental:

conti-online.com

Yet plant and warehouse replenishment is vital. "We have to agree stock levels on certain products and fill up our warehouses every day."

TRACK AND TRACE OPTIONS ARE KEY

No wonder supply chain optimization is so critical for Continental, particularly in such a volatile market. Demand forecasting is crucial, although this is made difficult by long lead times. "It's a big challenge to harmonize and synchronize our supply chain in such a fast-moving industry," agrees Röttger. "We need a four month horizon to order raw materials from, say, Southeast Asia and then make and get the finished products to North America. The problem is that during those four months when we are ordering and delivering raw materials to our plants, the market shape can change every week. Because of a change in trends we might suddenly need other products, for example."

To deliver products with a long lead time on the inbound side, Continental maintains security stocks to overcome lead time variations. "That's why we need reliable partners, such as DHL, to minimize supply chain risk, which allows us to manage stock levels, and we need support in every key region of the world," explains Röttger. Distribution planning – from regional distribution centers to dealers through to final customers – is also important to stop deliveries failing and competitors jumping into the vacuum.

Whenever there is a short-notice change in a customer's production planning, Continental needs to adjust its production planning and check materials in its inbound supply chain, so supply chain transparency with track and trace options is key. "We cannot influence the market," says Röttger. "We can only adjust our supply chain to its variations. So this is our challenge, which means we have to monitor the whole supply chain closely to know where our products are at any time. If we change a product dramatically we may have to, for example, accelerate the supply chain or transfer a container which has arrived at plant A to plant B." The aim is always to act faster, communicate more efficiently, and be more flexible in order to respond immediately to any given demand.

Röttger, who heads up a small but effective team of ten, has been with Continental for 22 years. "Even now I'm learning new things every day," he says. "For example, Continental is currently entering Russia, which has its own demands and requirements. What works in one country is not necessarily valid in another, so every day is different.

"My motivation is driven by the fact that we are able to implement new solutions to influence our business and create value for our company. Continental is a traditional company but, as we have shown over the years, it is certainly open to innovation." — ***Tony Greenway***

LEAN AND RESILIENT: NEW AUTOMOTIVE SUPPLY CHAINS

A new white paper explores various ways in which the automotive industry can find supply chain solutions that manage to be both lean and safe, reducing risk and increasing resilience.

In 2011, when the unthinkable happened – the Fukushima tsunami and nuclear meltdown in Japan – the global automotive industry was already busy recovering from the U.S. financial crisis, dealing with a European market hobbled by the Eurozone debt crisis, and scrambling to meet demand in exponentially growing markets like China and India.

When the Japanese disaster devastated the single supplier of chip controllers for Toyota, forcing the company to shut down production, the auto industry woke up to the fact that, while its just-in-time business model and super lean, highly interdependent supply chains were very efficient, they were not resilient, and as a result, were at increasingly high risk of failure.

Until recently, lean and safe seemed almost contradictory. "If you wanted to be safe," observes an auto industry executive, "the first thing you would do is keep a lot of inventory nearby. But your other goal is to be lean, so that means taking away most or all of the safety stock."

Lean and Resilient: The new automotive supply chain hybrid, is a new white paper produced by Lisa Harrington, President of the lharrington group LLC, prepared in collaboration with DHL. Harrington is also Associate Director of the Supply Chain Management Center and lecturer of supply chain management at the Robert H. Smith School of Business, University of Maryland

The white paper explores ways that automotive companies can make sense of that dichotomy and find solutions which maintain the efficiencies created with a lean system, while adding in controlled redundancy and contingent options to improve resilience.

RESILIENCE:

1. The ability to recover quickly from illness, change, or misfortune; buoyancy.

2. The property of a material that enables it to resume its original shape or position after being bent, stretched, or compressed; elasticity.

With an increasing percentage of critical components, including electronics, being sourced from afar, the fortunes of the automotive industry have become inextricably intertwined with that of the electronics industry. Vulnerabilities experienced in one sector will reverberate through the other. Issues of resilience need to be addressed on a network-wide basis, particularly by global lead logistics providers (LLP) charged with executing the supply chain operations. As a result, LLPs need a portfolio of solutions, alternatives, expertise, and systems at the ready to deliver tactical logistics agility.

The new resilient automotive supply chain recognizes the need for collective, rather than sequential, risk management; and facilitates collaboration on the new scale that is necessary for survival. It is built on true supply chain partnerships that create agility and contingent scale/capability, delivered in an "on-call" model. These partnerships span all players in the sector: OEMs, suppliers, and supply chain service providers. They embody what Andrew Zolli, author of *Resilience: Why Things Bounce Back*, refers to as the two defining aspects of resilience: the ability to maintain a core purpose, or the ability to restore core purpose in the face of a disruption.

Companies that embrace the "new normal" of continuous supply chain volatility and risk, and put processes and systems in place to better manage both, regularly outperform their competitors. "Market volatility is a tremendous source of opportunity for companies that have developed the capabilities to not only manage risk but also respond to it more effectively than their competitors." — ***Courtney Tenz***

Photos: Urs Kuckertz, Thinkstock by Getty Images

Download the white paper:

tinyurl.com/DHL-white-paper

FAST BOWLER: India is best known for outsourced services, but it is also a very good place to invest in manufacturing.

OPEN ARMS: Brazilian optimism is rooted in a growing middle class with buying power and new opportunities.

Out of China's shadow?

Among BRIC countries Brazil and India are the two most robust economies with growing domestic consumer markets and government plans for infrastructure development. Does that make them long term best bets?

Before Goldman Sachs Chief Economist Jim O'Neill famously coined the BRIC moniker in 2001, touting its members as the main drivers of global growth in the 21st century, Brazil and India - along with Russia and China - were rarely mentioned in the same breath.

After a decade of sometimes wild optimism, naysayers seem ready to scrape some of the luster from the BRICs. Often presented as languishing in the shadows of China and its spectacular growth rates, Brazil and India may have missed opportunities to use the good times to accelerate reforms that would have put their economies on stronger footing, as some analysts believe. "The global economic crisis that broke in 2008 might have triggered India's slowdown, but much of the subsequent damage has been self-inflicted," concluded the final report on the World Economic Forum's India Economic Summit last year in Gurgaon. "Structural issues such as overregulation, poor infrastructure and a failure by government to provide sufficient basic services were overlooked in the boom times and have now reared their ugly heads." About Brazil, Jim Wygand, principal of CCI, a São Paulo-based consultancy, puts it succinctly, "Let's face it, the global economic order is not going to wait around for Brazil to get its act together."

Photos: Jason O'Brian/Reuters, plainpicture/AWL, AFP/Getty Images

DAUNTING PROSPECTS

Even in the best of times, India and Brazil can prove daunting to newbies. Both have large territories and populations, logistical bottlenecks, lots of red tape and complex tax structures. In addition, both have been hit by a currency rout prompted by a withdrawal of U.S. monetary stimulus this summer, which in turn caused investors to view both markets as riskier due to funding deficits, slowing economies and inflation.

Despite these warning calls, many old Brazil and India hands remain optimistic – especially when they talk about the long haul. "India's progress will have many twists and turns, but the general direction is not in doubt," says Bill Olver, vice president, Solution Delivery & Service Management Asia Pacific for DHL. Notes Roger Ingold, country managing director for Brazil at Accenture, "In the longer-term Brazil is very attractive."

Much of the optimism is rooted in the large and growing middle classes in both countries. After two decades of consistent progress since it quelled hyperinflation in 1994, Brazil's middle class makes up half of the population for the first time in the country's history with buying power and access to appliances, electrical goods and travel opportunities. "Consumption has grown, continues to grow, and this is because 40 million Brazilians have been introduced into the consumer market," Guido Mantega, Brazil's finance minister, told a group of foreign journalists in a recent

> "CONSUMPTION HAS GROWN, CONTINUES TO GROW, AND THIS IS BECAUSE 40 MILLION BRAZILIANS HAVE BEEN INTRODUCED INTO THE CONSUMER MARKET."
>
> Guido Mantega, Finance Minister of Brazil

NEW CONSUMERS: India's middle-class is now one-quarter of the population, meaning millions upon millions ready to spend on products and services.

conference call. "Our population has now just reached 200 million, which means that the consumer market is a population of 100 million people."

HUNGRY FOR PRODUCTS

In India, even though many of the country's 1.2 billion citizens remain mired in poverty, many others are climbing out – making the middle class about one-quarter of the population. "Even if the middle class is a smaller percentage in society than in North America and Europe, there are still millions and millions of customers hungry for products and services," says Laura Gonzalez, professor of finance and business economics at Fordham University. "Thirty percent of a billion people are 300 million people, almost the size of the United States." As in Brazil, household appliances are high on the list of India's new middle class. At the "top of the pyramid", defined as the more than 100,000 Indian families with a minimum net worth of $4.4 million, "people are still splashing out on super premium cars and exclusive goods", as the Hindustan Times reported recently. German carmaker Audi saw sales from January to July jump by 19% while Rolls-Royce calls India one of its strongest markets in Asia.

At the same time, both countries share infrastructure deficits that must be resolved if the optimists are to be proven right. "One of the biggest risks to India's socio-economic progress stems from its persistent neglect of infrastructure, a key enabler of economic progress, in a range of sectors including transport and energy," according to the WEF report. "Despite overall consensus that India must encourage investment in infrastructure, it has yet to actually deliver by offering sufficient incentives to investors who, after all, have finite capital and seek the most conducive conditions globally." Inadequate supply of infrastructure ranked first, ahead of corruption and inefficient government bureaucracy, in a poll of opinion leaders who were asked by the WEF to identify the most problematic factors for doing business in India. In Brazil, poor and insufficient infrastructure ranks along with a cumbersome tax system and an inflexible labor market as a main driver of the country's so-called Brazil Cost, a myriad of factors that make it more expensive to operate in Brazil than in many other places. The cost of logistics as a proportion of GDP stands at 15.4% in Brazil. Both countries still move much of their goods by truck – about 70% in India and 60% in Brazil. India has an extensive railway network, but it is used primarily for passenger services. Brazil opted to build roads instead of railways in the mid-20th century.

"THE MIDDLE CLASS IS GROWING BY LEAPS AND BOUNDS AND THAT IS REALLY THE MARKET YOU SHOULD LOOK AT."

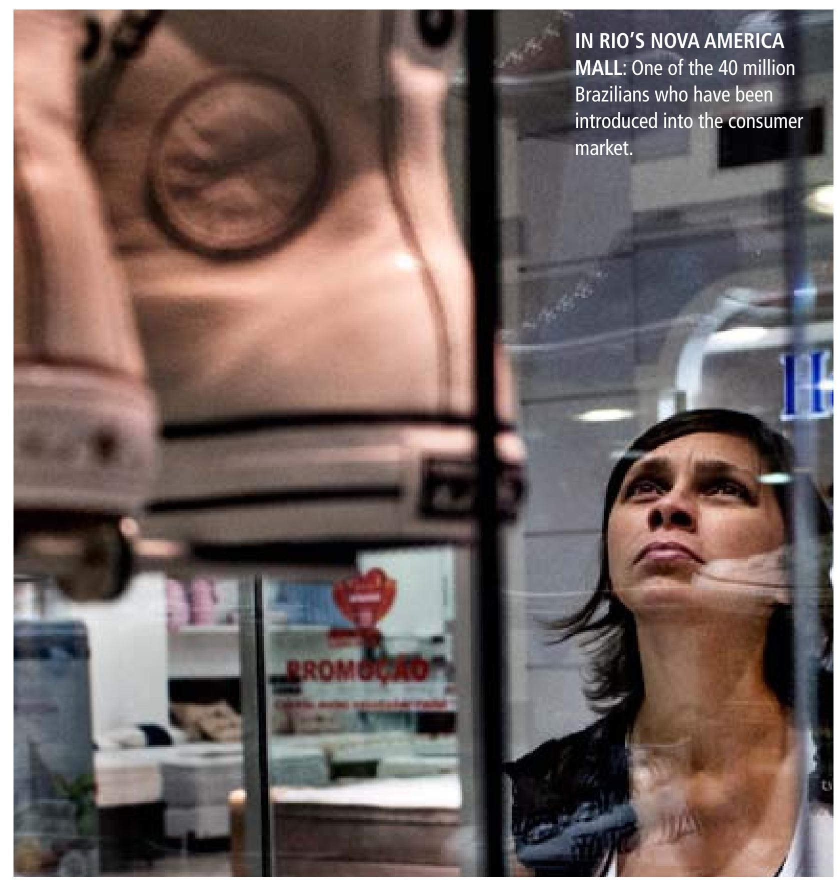
Bharat Bhushan, a senior academic consultant to the Indian Council for Social Science Research

MAJOR DEVELOPMENTS

Leaders in both countries recognize the problem and have begun to address it. In the area of transportation alone, India has embarked on megaprojects like the Golden Quadrilateral highway, something of a ring road around the entire country, and now the multi-modal Delhi-Mumbai Industrial Corridor that involves a $ 4.5 billion loan from Japan in addition to domestic funds. "In my eleven years here, the transformation has not been as fast as in China, but there has been rapid change," says Olver. "You can see investments in airports, seaports, the road network and major projects like the Delhi-Mumbai corridor."

Mantega outlines some of the major elements of Brazil's ambitious concession scheme. "Brazil is putting in a major infrastructure program worth $ 200 billion," he says. " Among the specific projects are some in "the area of ports and port infrastructure, as well as airports, notably Galeão Airport in Rio de Janeiro and Confins in Belo Horizonte." In September 2013, there was a public auction which refers to 7,500 kilometers of highway, plus a further auction for the rail industry.

Claudia Roa, DHL's vice president of Latin America, Customer Solutions & Innovation, believes that the change is real. "Even though there is an infrastructure deficiency in Brazil, the government is making great progress," she says. "The privatization of airports and ports, investments in the rail system and interest in in-



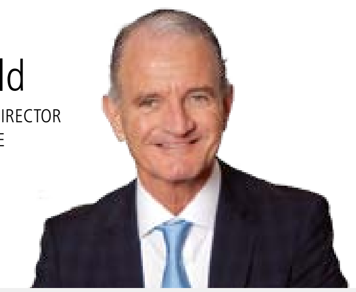
IN RIO'S NOVA AMERICA MALL: One of the 40 million Brazilians who have been introduced into the consumer market.

Photos: Bloomberg/Getty Images, Tribhuvan Tiwari, Francesco Zizola/Noor/laif, PR

THREE QUESTIONS FOR

Roger Ingold

COUNTRY MANAGING DIRECTOR FOR BRAZIL, ACCENTURE



"IN THE LONG TERM, BRAZIL IS VERY ATTRACTIVE."

What characterizes Brazil?
Brazil is very western in many ways: people from the U.S. and Europe see many similarities when they visit us. Consumers aspire to acquire the best brands, enjoy and use technology, and are optimistic about the future. From a business perspective, we can argue that it takes a long time to open a company, but it is possible. For 2014, the government stated its engagement to reduce this gap, thanks to technology investments that will soon be available. In Brazil you can buy and merge just as in the U.S.; there is also a large consumer base and wealth in natural resources, along with a good climate. This makes Brazil, in the long term, very attractive.

How do you compare Brazil to other BRIC economies like China?
It is very hard to compare Brazil and China. China's market is ten times bigger. The two markets are also very different in terms of savings, investments, and infrastructure. China is more dependent on the other countries for raw materials, food, etc., and Brazil is certainly a key player for it. China may have a huge market, but does not have as many resources as we have locally.

What sectors are most affected by Brazil's deficit in transportation infrastructure?
The biggest opportunities for improvement in transportation infrastructure are in agriculture, consumer goods, and the automotive industry at the micro level. But we need to evaluate two different situations here. In some sectors, like mining, there are few, very high scale companies that have invested in their own railways and ports. In horizontal markets, such as agribusiness, the growers are distributed throughout the country. Good infrastructure is essential here, and it demands much greater planning and investment to increase the flow of crops. In this sector, only a few large players have made substantial investments. The expectation is that the program of concessions underway will address these gaps.

THREE QUESTIONS FOR

Dr. N. R. Bhanumurthy

PROFESSOR AT THE NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY IN NEW DELHI

"IN EMERGING ECONOMIES TODAY, CHINA AND INDIA ARE LEADING THE PACK."

How does India compare to other emerging economies?
During the global financial crisis India and China led in terms of overall economic growth to some extent. However, India has adopted stimulus measures that have hampered that growth. Yet, if we look at emerging economies, even today China and India are leading the pack. While China is leading the BRIC group, India is not far behind on the growth rate per se. But it is growing at a pace slower than it used to.

The Indian economy has had a stellar decade. Did you see the current short-term slowdown coming?
No, I don't think anyone expected the rupee to depreciate at such a pace, largely because we had sufficient foreign exchange reserves, and also because there was a general perception that India's micro fundamentals were really strong. Even now, there is no doomsday scenario. Once the global external factors are dealt with, the stability of the rupee, and overall economy, ought to set in again.

What impact has depreciation had on businesses in India?
Gradual depreciation is not really a big worry – that can be absorbed easily. The trouble is the steep depreciation, 25% over three months. The country has not seen such steep depreciation since the post-reform (post-1991) period. Sectors most likely to experience the impact at the moment are manufacturing entities, particularly those with large dollar loans.
A rise in fuel prices already impacts people's budgets. In the mid-term, we will see a lot more middle class consumers tightening their purse strings, so long as the currency keeps fluctuating. Yet India remains a confident economy, and its government is unlikely to bring in protectionist measures, so investors will keep coming. It's just that for a while the size of these investments may be smaller than we would hope for.

volving the private sector to accelerate these improvements are clear signs that these problems are being addressed."

TREMENDOUS OPPORTUNITIES

With all these new consumers and plans to increase outlays for infrastructure, a number of sectors could look interesting to foreign investors. To serve the emerging middle class consumer goods, automotive and manufacturing deserve attention. "In terms of consumption, investments in commercial malls for example, both India and Brazil offer tremendous opportunities," says Laura Gonzalez. For George T. Haley, director of the Center for International Industry Competitiveness at the University of New Haven, the manufacturing sector in India tops the list. "Though known primarily as a source for outsourced services, India has actually been a very good place to invest in manufacturing," he says. "Manufacturing investments have in many sectors generated higher returns than similar investments in China." But he also views infrastructure as a sector worthwhile for foreign investment in both countries.

Ingold is bullish on several industries in Brazil. "Many sectors are booming in Brazil. First of all, the energy sector, which has an intricate value chain. There will be more government concessions in the sector in the very near future," he says. "Second, engineering & construction, especially where infrastructure projects are concerned, , for example new roads and airports. If the government delivers on its promised concessions, there is going to be a lot happening. You are also going to have investment in industry and manufacturing to increase production. And then the consumer market: Brazil is the second most important market for companies like Volkswagen, Fiat, Nestle and Unilever – just because of the consumer base."

Foreign investors can make a success of doing business in either country. With both governments committed to tackling issues and prepared to make sizeable investments, large and relatively cheap labor pools, natural resources and the promise of burgeoning middle class and upper income consumer markets, Brazil and India are definitely worth considering.

However, companies need to do their homework before stepping foot into either place. "You have to understand India to work in this market," says Olver. "You have to choose your local partners carefully. Also, companies should not make the mistake of trying to force fit their 'developed country' business model in a 'developing country' setup like India, as that will likely lead to failure. Many successful companies have adapted their models to make them work the local way. For example, Pepsi and Unilever are distributing products cost efficiently through a series of sales channels and fast food giants like McDonald's are serving menus to suit local tastes." Similar advice is in order for Brazil. — ***Bill Hinchberger***

$76 BILLION

Net inflows of foreign direct investment in Brazil in 2012 (Source: World Bank)

$32 BILLION

Net inflows of foreign direct investment in Brazil in 2011 (Source: World Bank)

Photo: private

ASEAN INTEGRATION – WHY TRADE FACILITATION MATTERS

Growing strongly and on course to become an economic community by 2015, the ASEAN organization of ten Southeast Asian nations has dismantled nearly all internal tariffs, but now needs to work harder on reducing other barriers to trade in order to achieve regional integration.

The global business community is increasingly turning its attention toward the geo-political and economic association which comprises the rapidly growing markets of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

ASEAN, the Association of Southeast Asian Nations, covers a market of over 600 million consumers and a growing middle class. A region with an impressive growth rate of 5.6% in 2012, it has weathered the global economic slowdown well, thanks to resilient domestic demand and prudent macroeconomic management by its governments. ASEAN has established itself as an important trading and investment partner, not only thanks to its strategic geographical location and its economic strength, but also as a result of its aim to become an economic community with a single investment and production base by 2015.

ASEAN has made significant progress to this end. As of early 2010, 99.1% of tariff lines had been eliminated among the six largest ASEAN countries, which has helped boost trade and lower costs for business. Intra-ASEAN trade is steadily increasing, albeit from a low base. Less than 30% of ASEAN's total trade is conducted between ASEAN countries, compared with over 70% in the European Union. There is therefore significant scope for increasing this trade and further easing the flow of goods between ASEAN countries.

Enhanced participation in global supply chain networks has been identified as one of the key factors behind rapid ASEAN growth. Strengthened connectivity is a vital building block when it comes to realizing the full potential of ASEAN's economic integration, boosting trade, and enhancing the attractiveness of the region as a single investment and production destination. For this reason, ASEAN has drawn up a number of comprehensive action plans and roadmaps, which include liberalization and facilitation measures in the area of logistics services and the creation of an integrated ASEAN logistics environment.

Facilitating trade and improving logistics performance makes sound economic sense – research points to the fact that trade costs have a large influence on trade flows and that trade facilitation measures are particularly important for regional integration. This includes customs requirements, administrative procedures, and behind-the-border barriers to trade, which can increase costs by 2–24% of the value of goods. Lack of harmonized cross-border procedures such as customs rules makes it more costly for companies to operate in multiple markets, and small and medium sized enterprises are particularly vulnerable to these costs – they simply refrain from expanding their business beyond their home markets. In addition, networked production of goods, such as electronics, relies heavily on logistics to coordinate the production and distribution of parts and components. This type of production network is predominant the Asia Pacific and ASEAN regions.

Accelerating regional economic integration requires looking beyond the dismantling of tariffs. Harmonization of rules and procedures at or behind the border can lead to large economic gains and expand trade at little or no cost. ASEAN has come a long way toward realizing its economic community, but there are still gaps to be closed. In order to provide tangible benefits for ASEAN's businesses, policymakers now need to focus on the real implementation of ASEAN treaties on the ground. — ***Åsa Larsson***

ASEAN

The Association of Southeast Asian Nations is a geopolitical and economic organization formed in 1967. Its aims include accelerating economic growth, social progress, cultural development among its members, and the establishment of an ASEAN community by 2015.

ASEAN Member States:

1 Brunei
2 Cambodia
3 Indonesia
4 Laos
5 Malaysia
6 Myanmar
7 Philippines
8 Singapore
9 Thailand
10 Vietnam

Learn more about ASEAN and the harmonization of rules and regulations at:

www.asean.org

Photo: EDB

EXECUTIVE VIEW

Plugged into the heart of Asia

Singapore sits at the heart of Asia, surrounded by emerging economies which offer huge growth potential for the region, says Leo Yip, Chairman of the Singapore Economic Development Board.

When not working or relaxing with his family, Leo Yip likes to run. "It helps me physically and it relaxes my mind," he says. "I welcome the clarity of thought that running gives me." Which is just as well, because there is a lot to think about.

Yip is Chairman of the Singapore Economic Development Board (EDB), which is charged with planning and implementing strategies to enhance Singapore's position as a global business center. Those strategies are working well. In 2011, Business Environment Risk Intelligence (BERI) ranked Singapore first out of 50 major investment destinations; and the World Bank's *Doing Business 2012* report named it the easiest place in the world to conduct business.

"International companies come here because this place is connected to the global economy, they know that business is conducted according to rule of law, and they are confident that our strong legal framework will protect their ideas and technologies," says Yip. "Our government has also created a business-enabling environment with headline corporate tax at 17% – almost the lowest in the world – and we encourage connectivity, openness, talent, and technology. Then there's our location. Singapore is a global business city plugged into the heart of Asia."

A HEART THAT'S BEATING FAST

Around Singapore is a cluster of interesting emerging economies. Indonesia, for example, a country of 250 million people, has experienced financial turbulence recently; but, says Yip, its steady growth over years has attracted many global players. "Then there is the Philippines, which, in the first quarter of 2013, was the fastest growing economy in Asia, a role traditionally filled by China." Yip also highlights Vietnam, Thailand, and Malaysia, plus Myanmar, which offers a potential consumer base of 60 million people as it opens up to the global economy.

"There are nine countries around Singapore – a total of 600 million people," says Yip. "When you look at the big companies that have headquarters, manufacturing capabilities, or innovation centers here, it speaks volumes about the growth potential this part of Asia offers." Of course, says Yip, when you look at Asia as a whole, there is also China. "Yes, China is in a period of transition right now – rebalancing, as some call it – but we are optimistic that it has strong potential for future growth; and let's not forget the huge population and market size offered by India."

In the 1980s, the "Asian Tiger" economies of Hong Kong, Singapore, Taiwan, and Korea began to roar. All experienced consistent high growth and were resilient enough to weather the 1997 Asian financial crisis. Is development in the region different this time?

"There are some similarities," says Yip. "The Asian Tigers grew as the region is growing now with a lot of export-oriented growth, and, as was the case with Singapore and Hong Kong, by welcoming multinational corporations. But the Tigers were smaller economies. Plus, because of the strength of China and India now, there's a marked difference to what is happening today. Currently, global companies see the market and production potential of the whole region and have to ask themselves what sort of footprint they want here. Simply a market footprint to drive growth and sell products and solutions? Or do they want a production and innovation presence, too?"

The other thing that has changed since the 1980s, notes Yip, is Asian consumer power. Today, with three billion people and a growing middle class, there is a lot of opportunity. Global companies have recognized the need to understand Asian spenders – and translate that understanding into products, services, and solutions designed and developed specifically for the Asian market.

"Take shampoo," says Yip. "Shampoos sold in Asia have a larger proportion of conditioner. Why? Asian hair is two times thicker than Caucasian hair. That's one example, but you can apply it across different product types and customer segments." So consumer businesses and food giants such as Unilever, Procter & Gamble, Danone, and Nestlé have been expanding in the region, utilizing a talent pool in Singapore that is, as Yip puts it, "culturally connected" to Asian markets. The rise of the Asian middle classes has also resulted in a rise in air travel, meaning growth for the aerospace industry. "The number of new orders for airplanes is strongest in this part of the world," says Yip, "and Singapore has benefited from that. Take Rolls Royce, which has decided to assemble aero engines here. This was previously done exclusively in Derby, England."

Healthcare solutions and services are also blossoming. "And that means an expansion of the logistics sector with new supply chain solutions, trade routes, products, specialized management, and storage," says Yip. "There are many exciting opportunities."

There are challenges ahead for Singapore, too, but Yip relishes the future. "Singapore must continue to restructure its economy," he says. "We also have an aging population so we have to ensure that growth is more productivity-propelled and less manpower-reliant. But the big focus is how Singapore can continue to be relevant to global companies and industry leaders around the world, and tap the growth that is being generated around us." — ***Tony Greenway***

Singapore Economic Development Board (EDB) is the lead government agency for planning and executing strategies to enhance Singapore's position as a global business center. Leo Yip, a graduate of Cambridge and Harvard and a former member of the Singapore Police Force, joined the EDB in 2008 as Deputy Chairman, becoming Chairman in 2009.

The World Economic Forum (WEF) recently ranked Singapore as the second most competitive country after Switzerland in its *Global Competitiveness Report* released in September 2013.

The DHL Global Connectedness Index: "As a major trade hub Singapore was listed the top-ranked country in the East Asia & Pacific region in terms of trade, capital and people in 2012."

CHINA 2.0 – THE WORLD'S FACTORY SHIFTS GEARS

For decades China has been the factory of the world. But now the economy is shifting, with domestic consumption expected to become a key growth driver. What lies in store for the world's second largest economy?

HIGH RISE FUTURE: The cheap labor economy of China looks forward to growing domestic consumption and innovation.

At Beijing's Raffles City Mall, Sai Li is doing her part to keep the Chinese economy rolling. Today an office outfit at a branch of international fashion giant Zara has caught her eye. "I love shopping. Once I've saved up a bit, I'd like to get a flatscreen TV for my bedroom and a new designer watch, and maybe some day a new car." The 25-year-old, recently returned from an internship abroad, now works as a direct marketing assistant and, like 230 million fellow consumers from China's growing middle class, is changing the face of the country's growth.

As China nears the end of three decades of economic reforms, contradictions continue to reign in the world's second largest economy. It is both rich and poor, a developed and a developing country. Still projected to remain one of the world's fast-growing economies, it has hit the snag of a sustained slowdown as economic growth is expected to come in at about 7.5% this year. That's a figure many global economies would dream of, but for China it's the slowest rate of growth in 23 years.

Exports are down and some international companies have started moving production closer to their home markets or to other low-wage countries. Firms cite rising labor costs, poor quality, and long lead times as reasons for leaving. On the other hand, a growing domestic market, driven by an ever-increasing middle class and large groups of wealthy individuals with an appetite for luxury, offers opportunities in many areas, such as automotive, health care, consumer goods, and technology.

Despite the economy being weighed down by sluggish international demand, the Chinese government is not expected to deploy any major economic stimulus or shift in policy. Instead, it is attempting to steer the country away from its reliance on exports and cheap credit toward a consumer-led economy. Experts predict a transformation from its previously export-oriented, low-wage factory-of-the-world economy to a "factory of the Chinese."

"THERE ARE ALWAYS OPPORTUNITIES FOR ALL KINDS OF COMPANIES, DOMESTIC OR FOREIGN. THIS IS BECAUSE OF THE SHEER SIZE OF THE CHINESE MARKET."

Marina Zhang, Beijing-based consultant and author

CLEAR TRENDS EVIDENT

"This is a major structural transformation. Exports are – and will remain – an important contributor to China's economy. But the focus of growth is shifting from construction and manufacturing to more services, innovation, and consumerism," Bruno Salle, Managing Director (Asia-Pacific) at Corporate Value Associates, told Transport Intelligence in a recent interview. "But this is a process still in its infancy. It will take some time until a clear picture of China emerges, but there are clear trends evident already."

Among them Salle sees increased market deregulation and opening for more competition. He also expects the rise of large private enterprises, a broadening in the quality of suppliers and services, and more determined steps to tackle corruption.

China is also poised to become the world's largest e-commerce market, something that is already impacting domestic retail. A recent PwC report found that e-commerce in China has grown from virtually nothing to a $211 billion industry in the last five years and that 58% of Chinese people shop online at least once a week – the highest percentage in the world – fueled by mobile shopping, which is more popular here than elsewhere in the world. "It makes the once almost illusive idea of reaching consumers in third-tier, forth-tier cities or even rural areas possible for global companies," says Beijing-based consultant and author Marina Zhang. Already, foreign companies have positioned themselves to get a piece of the e-tail action. A case in point, Walmart took over a controlling stake in online retailer Yihaodian in late 2012.

Chinese cyber-consumers are demanding, though, and they are also spread across vast geographies, which is why logistics will be a key part in the puzzle that main players such as online marketplace Alibaba still need to solve in order to exploit the market's full potential.

Tony Chen, Senior Director, Public Policy North East Asia, Deutsche Post DHL notes an increase in cross-border e-commerce, with Chinese companies targeting other Asian countries in particular, but also spreading out to the U.S. and Europe, and even responding to high demand in Russia, using the well-established international logistics networks to deliver to these global markets.

The jury is still out on the question of whether China has completely made the shift from world workshop to a gigantic domestic market and e-commerce El Dorado.

Photos: Angelo Cavalli/Getty Images, PR

230 MILLION

Chinese people currently make up the country's growing middle class

3.1 %

was the year-on-year increase in China's consumer price index in September

"The Chinese economy is in a transformative stage, in which the traditional means of generating growth are slowing down a bit," says Chen. "For sure, the current evolution means companies will be faced with very different challenges than in the past. The drastically rising costs in major cities and coastal ports, where rents can rise by up to 40% year on year and labor costs are on a steady increase, has prompted a shift with some companies moving out and new industries such as services, health care, and high-end goods manufacture moving in."

GOING WEST

However, according to Chen, China's manufacturing expertise, combined with its large labor pool and reasonably strong infrastructure, still offers many positives, even though more companies may need to consider moving their production out west where they can significantly decrease costs and take advantage of favorable regulations and policy incentives.

Firms heading west will need to deal with a number of challenges, including a less developed talent pool, and solve a range of logistics issues, as raw material and components suppliers as well as key markets mainly remain overseas and in the Chinese coastal cities. According to Chen, for companies going west to be successful, they need to develop deep insight and understanding of both the inland market and of government plans and policies to create smart strategies, as well as craft-tailored in- and outbound supply chain solutions, and take maximum advantage of government incentives.

Much has already improved since the Chinese government first implemented its Go West strategy more than a decade ago. Many so-called second tier cities such as Chengdu and Chongqing have significantly upgraded transport options and infrastructure, including air and rail. Now government focus needs to turn to tier three cities. Chen says Mianyang, which some have dubbed China's Western Silicon Valley, is one of the tier three cities that may greatly benefit from the Go West policy, as it lies at the heart of the Cheng-Yu economic zone, a major future industrial base for the entire country.

Perhaps Mianyang also sums up China 2.0. While it holds great promise, its location presents companies with a fair share of logistics conundrums and other challenges that need to be tackled. Meanwhile, five million citizens reside in the Mianyang area, many of whom, just like Sai Li in Beijing, have the aspiration and income to make them a future focal point for retailers, e-tailers, and manufacturers – a new economic force heralding a new era for China.

— Michelle Bach, Tong-Jin Smith

Photos: Patrick Cashin © Metropolitan Transportation

SOLUTIONS

An engineering feat

The Second Avenue line's first phase is scheduled for completion by 2017, making it New York's first new subway line in nearly 30 years. With a network comprising 337 kilometers of routes covered by 1,355 kilometers of tracks, the New York subway serves some 4.9 million passengers every day, taking congestion off the city's busy streets. As surface congestion increases, so does competition for space on city streets, which impacts delivery services. Analysts predict that in the near future urban underground transport systems will offer one possible solution for transporting freight into and around urban areas.

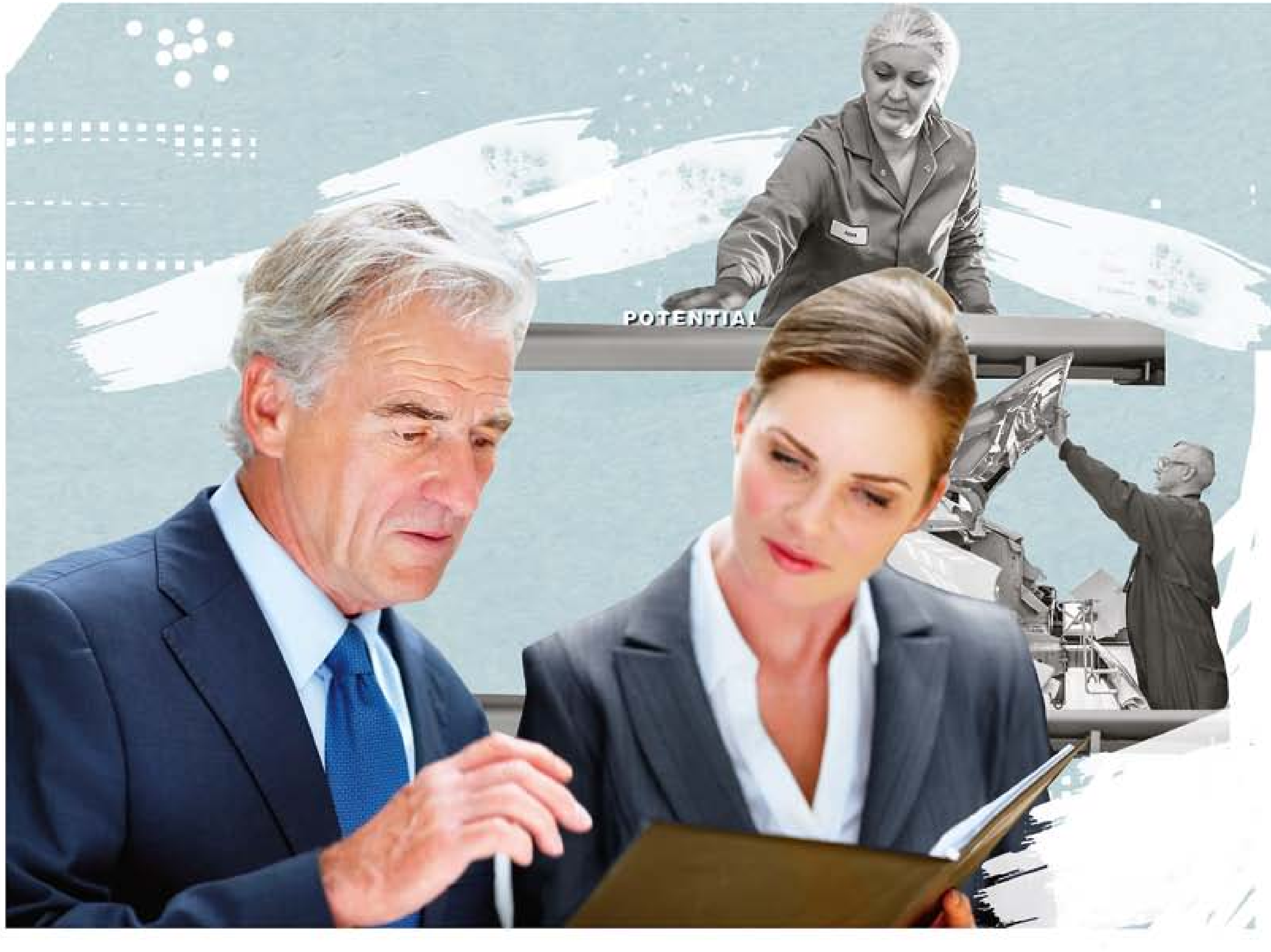


Illustration: Sabrina Tibourtine

AN AGING WORKFORCE – A NEW WAY OF THINKING

As the western world's workforce grows older, and the baby boomer generation begins to retire, industrial economies are on the brink of losing millions of skilled workers. This demographic shift is cause for concern, but an aging workforce can also be an asset. Here's how companies can ride the wave, maximizing the potential of their older employees, and providing opportunities for their younger colleagues.

In 2020, every eighth American and every fourth Japanese person will be over 65 years old. And stories like that of Sara Dappen, 92, will not be so unusual. Five years ago she started working at a fast food restaurant in Story City, Iowa. "I thought it was more interesting to keep walking around here than to keep walking down the street," she told a local reporter. "And this keeps me from sitting."

Lifespans are increasing. Birth rates are decreasing. Across the industrialized world, the average age of the population and workforce will rise in the coming decades. In response, governments in the UK, Germany, and the U.S. are moving to raise the retirement age to 67.

It's a prospect that can seem worrisome to employers. But instead of worrying about the demographic shift, companies should focus on how best to ride the wave. With a few adjustments to the changing needs of an aging workforce, companies can both maximize the potential of their older workers, and provide new opportunities for the younger ones. Jürgen Deller, an HR consultant who coaches companies on how to handle demographic change, says managers "think that if your reaction time goes down, you must be worse, and there's no way out of it. But the world is more complex." In a blue-collar environment, Deller explains, older employees may lose quickness, but their experience has taught them precision, consistency, and reliability. They offer a unique ability to improve their teams, and have developed interpersonal skills that foster teamwork. "It's nice to work together," he says. "They look for ways to build team relationships and communicate easily."

PASSING ON KNOWLEDGE

What is true for blue-collar workers also holds for those at management level. Kenneth Shultz, an organizational psychologist and editor of the book *Aging and Work in the 21st Century*, says older managers are better prepared to see the value of business trends and recognize "old wine in a new bottle." "Management fads come and go," he says, "I think older employees have a better sense of the value of any new thing coming through." And mature managers are not always as interested in quick promotions or changing companies. Instead, having reached a certain level in their careers, they often want to create a legacy and pass on their knowledge. "Mentoring frequently becomes a big part of what the older workforce does," Shultz says.

Intergenerational mentoring can also work in the opposite direction. The Hartford, a U.S. financial services group and insurance provider, launched its Reverse Mentoring Initiative in 2012, pairing tech-savvy generation Y workers with baby boomer-aged executives to teach them social media tools and trends. Of the 50 mentees who participated, 80% rated the project "extremely effective/effective" for business reasons and 97% rated it "extremely effective/effective" on a personal level. The mentor-mentee relationships also helped the junior employees, who felt listened to and valued within the company.

EVOLVING TO STAY COMPETITIVE

An aging workforce also needs new working models. These must be designed to reduce physical demands on older employees, enabling them to remain active until statutory retirement age and thus avoid any significant reductions in pay or pensions – often the pitfall of early retirement. Such is the purpose of the Generations Pact, introduced by Deutsche Post DHL's Mail division in Germany – together with its social partner ver.di – in 2011. Its instruments include "working-time accounts," "partial retirement," and a "demographic fund" to give mature associates more flexibility in the number of hours they work without significant reduction in pay and pensions, while the company benefits from retaining their valuable knowledge and experience for a longer time. The Generations Pact enjoys great popularity: already more than 16,000 employees have a working-time account and more than 1,200 are in partial retirement.

The automaker BMW is another company exploring ways to capitalize on the demographic shift. With the average age of its staff expected to rise from 39 to 47 by 2017, the company launched the Today for Tomorrow project in 2007 to research the ideal working environment. By staffing one power train plant in Dingolfing, Germany with an older team to match the projected age structure, BMW was able to adapt the work environment to put less strain on its workers. The pilot produced 70 small workplace adjustments, including different footwear and dynamic working chairs. "The good news is that steps employers might take to decrease the physical demands on the job may also decrease injury rates among younger workers," says Pitt-Catsouphes, Director of the Sloan Center.

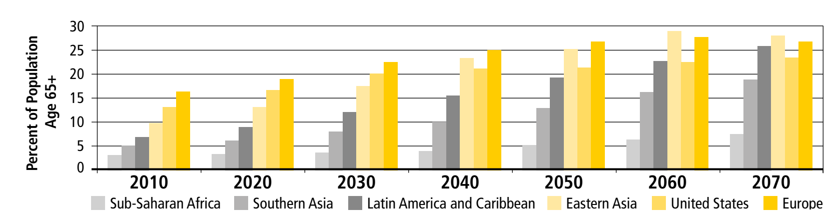
Meanwhile, with the changes in place, BMW's experimental power train line was just as productive and efficient as those staffed with younger teams. The automaker's pilot is a message to the business world at large: evolving to support the needs of older workers may well become the best way to stay competitive in the twenty-first century. — ***Zeke Turner***

64.4 YEARS

is currently the average retirement age for men in the OECD, for women the average is 63.1 years. (Source: OECD, the Organization for Economic Co-operation and Development)

PERCENTAGE OF POPULATION 65+
BY REGION

Source: Wilson Center's Environmental Change and Security Program



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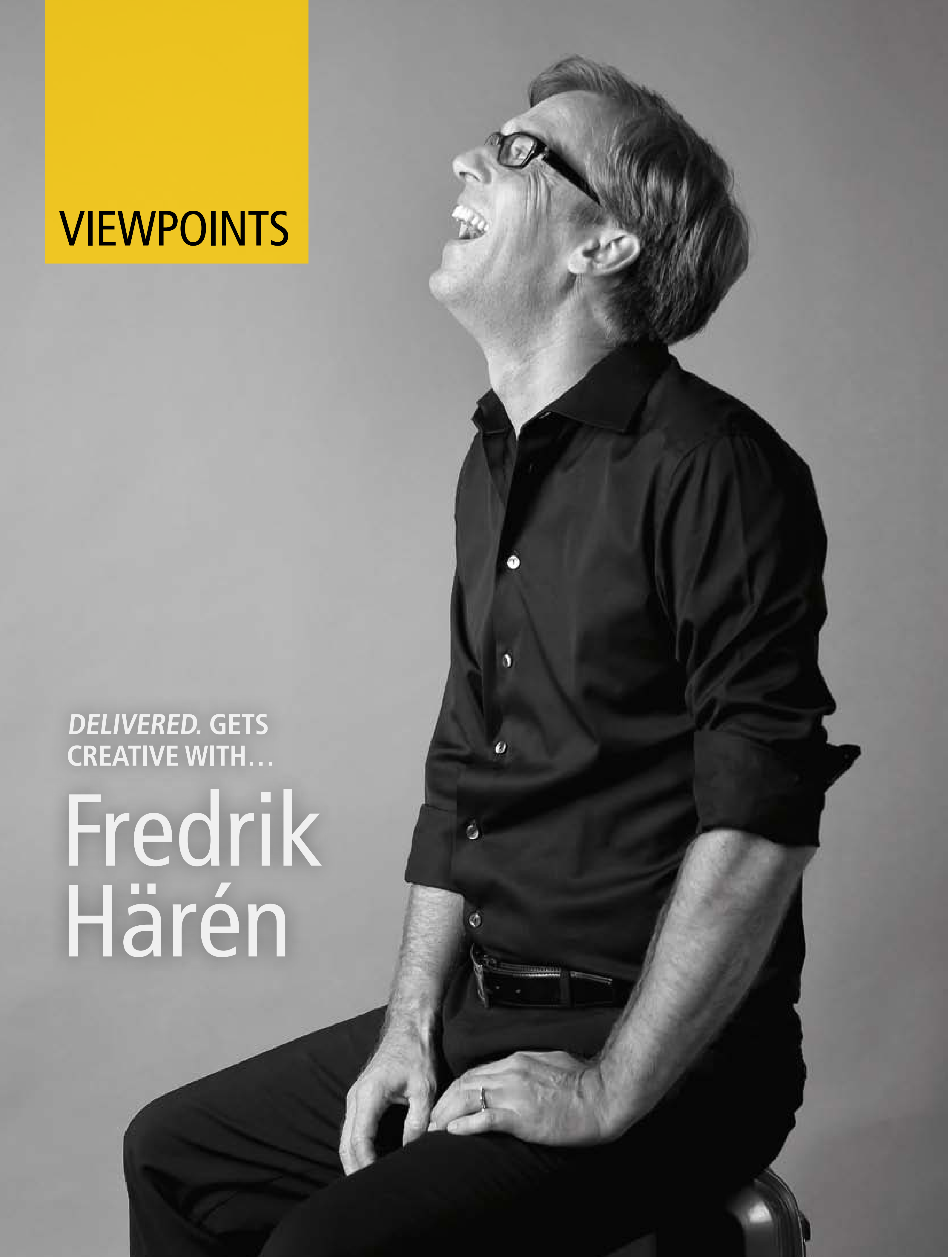

Photo: Tomato Photo

DELIVERED. GETS CREATIVE WITH…

Fredrik Härén

Innovation expert and best-selling author Fredrik Härén travels the world teaching companies the art of business creativity. It's essential for their survival, he says, because change in any industry isn't probable. It's inevitable.

Fredrik Härén talks. That is what he does. As an expert on business creativity and innovation he is constantly in demand by companies around the world. Over the years he has given presentations and lectures in over 45 countries and inspired hundreds of thousands of business people to become more creative. He also writes. In 1994, realizing that the rise of the internet would revolutionize the world, Härén published an ahead-of-its-time book urging businesses to get in front of the digital curve. Businesses need to be creative, says Härén, for the simple reason that every industry undergoes change and to survive they need to understand that change and be ready to react to it.

For example, he recently spoke about innovation to a company that makes nails. "You may say, really? Because nails are nails, right?" asks Härén. "They haven't changed for thousands of years. Why do you need to be an innovative nail-producer? But it turns out that the nail industry has never been in a greater state of flux than it is today, because carpenters now use nail guns. They're buying nails on plastic strips, which they load into their guns. But each nail gun uses a different kind of plastic strip. So, suddenly, if you make nails you now need to have a relationship with the people who make the guns. Everything is changing because of one innovation." And, says Härén, this can happen to any product in any industry. Time, then, to get creative…

How do you define creativity as opposed to innovation in business?
The process of generating ideas and then making them happen. Creativity means change. For me, innovation is only part of the creative process, which actually starts the moment you begin to define a problem. "I'm going to paint the Mona Lisa" is an idea. The act of painting the Mona Lisa is an innovation. But before you have the idea of painting the Mona Lisa, you must learn how to draw and paint. All of these things combined require creativity.

Where does creativity come from?
From individuals. My argument is that everyone needs to be creative, to see change, and to react to it. For example, Sweden embraced the internet ages before many other countries. Why? Well, Sweden is a very non-hierarchical society. We have a consensus mentality: everyone can have an idea and it will be listened to. It should be the same in business.

ABOUT FREDRIK HÄRÉN

Fredrik Härén is a Swedish entrepreneur and best-selling author who lives in Singapore. He is the founder of a creativity company called interesting.org, and has written a total of seven books, including *The Idea Book*, which has been included in The 100 Best Business Books of All Time. Fredrik can be reached at **fredrik@interesting.org**

Learn more about Fredrik Härén and his inspiring ideas for business at:

www.interesting.org

What do you mean by "idea perception" in business?
A specific kind of creativity, the ability to react effectively to a sea-change. For example, the internet changed every industry; but some companies didn't embrace it for a long time because they were used to doing things a certain way. They were doing OK selling their old products and they didn't want to interrupt that by launching something new. Their idea perception wasn't so good.

Your new book, *One World, One Company* talks of the importance of being a "truly global company (TGC)." Don't most big players see themselves as truly global?
No, they think they're international, which is a huge difference. What I've written about is going from a multinational company (MNC) to a TGC, which is a truly global company. An MNC comes from one country and sells in a lot of other countries. But they are not truly global. Samsung, for example, is a very international company, but it's also a very Korean company. You can't be a Korean global company. But you can be a Korean international company. That's the difference. But you can take the next step like Volvo Trucks. Their CEO said "we've been international for almost 100 years, but we've been global for three years." That's the difference and that's the transition. MNCs have been around for a long time, but global companies are very few.

Why is it important to be truly global?
Company heritage is important because it's about where you come from and the values you hold. But in the twenty-first century, truly global companies aren't defined by the countries they originate from. A TGC thinks, "We don't care where an idea comes from. If you're working in Peru and have an idea, tell us about it." That's how creativity spreads easily through the organization. A company that isn't truly global, meanwhile, expects headquarters to come up with the ideas.

Can every business become truly global?
It's difficult for American and Chinese companies to become TGCs, because their home market is so big. Usually, a good way to become a TGC is if the majority of your sales and employees are outside your home country because you then need to shift your perceptions. KPMG is a great benchmark for how truly global a company can be. No one knows where KPMG comes from. Is it American? German? British? No one cares either. My point is, it's irrelevant. — ***Tony Greenway***

SUSTAINABLE BUSINESS IN A CHANGING WORLD

AN ESSAY BY YVO DE BOER

Yvo de Boer is KPMG's Global Special Advisor. Prior to that he led the U.N. Climate Change Secretariat between 2006 and 2010. He has been involved in climate change policies since 1994, helping to prepare the position of the European Union in the lead-up to the negotiations on the Kyoto Protocol, and assisting in the design of the internal burden sharing of the EU.

Businesses today are operating in an increasingly interconnected and globalized world. Customer demands and government policies change rapidly and planning has to remain nimble, especially as businesses begin to face a new set of challenges.

For over 20 years we have recognized that the way we do business has a serious impact on the world around us. Now it is clear that the state of the world around us increasingly affects the way we do business.
KPMG has explored the challenges, risks, and opportunities created by the massive environmental and social changes taking place. The result is a set of ten environmental and social megaforces that we believe will impact all business over the next two decades:

1. Climate change: Predictions of annual GDP losses range between 1% per year, if strong and early action is taken, to over 5% a year if policymakers fail to act.

2. Energy and fuel: Fossil fuel markets are likely to become more volatile and unpredictable because of higher global energy demand; changes in patterns of consumption; supply and production uncertainties; and increasing regulation related to climate change.

3. Material resource scarcity: A growing issue as developing countries industrialize rapidly, leading to increasing trade restrictions and intense global competition for a wide range of material resources.

4. Water scarcity: Businesses will be vulnerable to supply pressures, decline in water quality, price volatility, and reputational challenges. Growth may be compromised and conflicts over water supplies may create security risks.

5. Population growth: Global population is predicted to reach 8.4 billion by 2032. This growth will place intense pressure on ecosystems and the supply of natural resources, leading to supply challenges and price volatility.

6. Wealth: The global middle class (defined by the OECD as individuals with disposable income of between \$10 and \$100 per day) is predicted to grow 172% between 2010 and 2030. The challenge is to serve this new middle-class market with resources likely to be scarcer and more price-volatile.

Illustration: Bernd Schifferdecker

7. Urbanization: Growing cities will require extensive improvements in infrastructure including construction, water and sanitation, electricity, waste, transport, health, public safety, and internet and cellphone connectivity.

8. Food security: In the next two decades, global food supplies will come under increasing pressure and food prices are predicted to rise 70–90% by 2030.

9. Ecosystem decline: Declining ecosystems are making natural resources scarcer, more expensive, and less diverse; increasing water costs and escalating damage caused by invasive species to agriculture, fishing, and food.

10. Deforestation: The timber industry and downstream sectors such as pulp and paper are vulnerable to regulation against deforestation. Companies may also face increasing customer pressure to prove their products are sustainable.

PREPARING FOR MEGAFORCES

During the next 20 years, businesses are likely to come under increasing pressure as governments address the effects of megaforces. Companies should expect to pay a rising proportion of their external environmental costs, which today are often not shown on financial statements.

KPMG member firms encourage clients to adopt systems thinking around sustainability – to consider the entire structure of megaforces, rather than individual constituents. This is an important way to assess and manage new risks, and uncover previously unidentified ones.

RISK AND OPPORTUNITY

It is a mistake to label these risks "medium to long term." They are impacting businesses already. Risks posed by megaforces range from the physical, such as damage to assets or supply chains from extreme weather events, to the competitive, such as commodity-price volatility and rapidly changing market dynamics.

Other risks include reputational damage, increasing exposure to legal action, complex and rapidly evolving regulation, and the growing threat of civil unrest and even international conflict driven by environmental and social issues.

With potentially far-reaching impacts on the horizon, it is crucial that businesses and policymakers together take strategic decisions now and promote changes in long-term thinking. Without action and planning for the complex future, risks will multiply and opportunities be lost.

But this is not all about risk. Environmental and social megaforces also provide new opportunities for nimble businesses. Many are contacting KPMG to understand what these are. They include opportunities to cut operating costs and increase efficiency; to develop profitable new partnerships with governments, NGOs, and other businesses; and to innovate new products and services. Sustainable growth requires action from both economic sides: supply and demand. The supply side must make more with less, increasing resource efficiency and minimizing the environmental footprint of processes and operations. The demand side must make less do more, managing growing demand for goods and services, while addressing pressure on dwindling natural resources.

Can company valuations continue to largely ignore the risks and opportunities associated with environmental and social megaforces? The common-sense answer has to be "no."

IMPERATIVES FOR ACHIEVING SUSTAINABLE GROWTH

The transition to a sustainable economy is possible, but needs widespread global support from businesses, governments and civil society, and innovative solutions addressing both how and which goods and services are produced. Both public and private sectors have a vital role to play and a coordinated approach holds the key to success.

But that means moving on from old ideas of corporate responsibility focused on protecting and enhancing reputation. It means being aware that your business stands to be affected as supplies of freshwater decrease, costs of energy rise, and ecosystems decline. Managing the effects successfully will require a sophisticated understanding of these factors.

But competitive advantage can be carved out of emerging risk. Consumer and investor values are changing. Corporations are recognizing that there is profit and opportunity in a sense of responsibility broader than the next quarter's results. The bold, the visionary, and the innovative see that what is good for people and the planet can also be good for the long-term bottom line and shareholder value. We can never be certain about the future. But it is good business sense to be prepared for the possibilities: to expect the unexpected.

KPMG International's report *Expect the Unexpected: Building business value in a changing world* can be downloaded from:

kpmg.com/expecttheunexpected

WHAT'S THE STORY, MR. SAWANT?

"WE HAVE A DELIVERY SYSTEM BUILT UP OVER DECADES, AND OUR MOTTO IS: ERROR IS HORROR."

LUNCHES TO GO: The low-tech Dabbawala supply chain uses public trains and pedal power.

The Dabbawala code shows exactly where each lunch is going.

Home-cooked delivery: Only one lunch in 1.6 million ever goes astray.

Learn more about the Dabbawala:

tinyurl.com/Dabbawala

dabbawala.in

MUMBAI'S SIX SIGMA DELIVERY MASTERS

Vitthal Sawant is a Dabbawala, one of the operators of a unique lunch delivery system in Mumbai, India, which allows up to 200,000 office workers to eat a home-cooked lunch from a distant kitchen. Every day. Without fail.

I first started delivering tiffins when I was 19 years old and by now, I have been a Dabbawala for more than 15 years. I always knew I was going to be a Dabbawala – my father was one, as were most of my uncles, and now most of my brothers and cousins, too. It's the "family business."

Our job is a seemingly simple one – we pick up the tiffin from one location, deliver it to its destination, and then bring it back. A hundred things can go wrong along the way but they rarely do. That's because we have a system of delivery that we have perfected over the years, and our motto is "error is horror." We were even awarded a Six Sigma certification by *Forbes*, an honor only given to businesses that have a 99.999999% success rate. It means only one tiffin box in 1.6 million ever goes missing. Even airlines lose more luggage than that.

The secret to our success is a complex, intricate system of coding, which has remained unchanged for more than a century because it is so effective. The pick-up address, drop-off address, railway station of pick-up and delivery are all crunched into numbers that are hand painted onto each tiffin. The series of codes tell us all that we need to know, right down to which floor in which office the tiffin is headed to. Even though many of us are only semi-literate, we have learnt to read the code. The code is sacred. We don't have any need for computers – the code is imprinted in our minds.

We don't need to market our services either since our customer base has always come to us through word of mouth. Still, recently we did create a web page for people to get in touch with us. But even after a century, the Dabbawalas have no competition.

LUNCH BOX

125 YEARS — **since the Dabbawala service** began in the heyday of the Raj, originally to deliver packed lunches to the British in their workplaces. Its official name is the Mumbai Tiffin Box Suppliers Association.

3.4 DEFECTS — **per million opportunities.** To achieve Six Sigma, a process must produce no more than that.

5 THOUSAND — **The number of Dabbawalas** involved daily in delivering up to 200,000 lunches in Mumbai.

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