TUNING IN TO TECHNOLOGY

Solutions for a sector that’s in a state of flux

BUSINESS
Next stop: Qatar
Can the small Gulf state become a regional logistics hub?

SOLUTIONS
Tomorrow’s transport
The driverless future is closer than you think

VIEWPOINTS
Mark Kramer talks Shared Value
Learn why sharing makes perfect business sense
Dear reader,

Over the past decade, companies have increasingly come to realize that elevating corporate responsibility on the company agenda is good for business and good for society. There is greater appreciation today that in the long run profits and brand value are very closely linked to the way a company approaches social responsibility.

Three years ago, a revolutionary essay took the concept a step further. Outlining a new management strategy called Shared Value, Harvard professors Michael Porter and Mark Kramer suggested that businesses could make money from doing good. It provoked debate and caught a growing corporate mood. In this issue, Delivered. talks to Mark Kramer about this rather revolutionary concept.

Growth, efficiency, and innovation are three topics we will be discussing with our customers at this year’s Global Technology Conference. All three are key for technology companies to thrive and win in this complex world, as our Focus article explains. In “Executive View”, Paul Steinberg, chief technology officer for Motorola Solutions, talks to us about his company’s technology strategy and vision, which drives focused innovation around market needs and customer challenges.

As tens of millions of viewers will be watching the FIFA World Cup which is about to kick off, we take a look ahead – at the host of the 2022 World Cup competition, Qatar, which is using its immense wealth not just to build nine new climate-controlled soccer stadiums, but also to transform its infrastructure and play in the Premier League of logistics.

Enjoy reading!

Bill Meahl
Chief Commercial Officer, DHL
First transshipment hub at Pudong

A new transshipment service smooths the way for cargo transferred through Shanghai Pudong Airport.

The opening of China’s Shanghai Pilot Free Trade Zone (FTZ) brings with it opportunities for business and a challenge for the air cargo market. The first experimental zone approved by the State Customs Bureau in China that conforms with international practices, the Shanghai FTZ will allow more flexibility and a boost to the regional economy.

The North Asia Hub provides a fast and flexible process, overseen by Shanghai Airport Customs and Shanghai International Airport Entry-Exit Inspection and Quarantine Bureau. The cost-efficient operation has been made possible with the help of Shanghai Airport Customs and Shanghai Entry-Exit Inspection and Quarantine Bureau, who have hired more staff for the new transshipment hub, enabling it to offer 24-hour clearance services. With international transshipment generally accounting for half of all shipments at major international airports, the service at Shanghai is expected to grow substantially. According to Dong Shuhua, Deputy Commissioner of Shanghai Airport Customs, it is “helping to bridge the gap between China and the rest of the world in air express services.”

Dubbed the fastest rail connection between China and Europe, DHL’s China-Europe rail service now has the additional benefit of being temperature controlled. The route, which runs along China’s West corridor from Chengdu to Lodz, Poland, sees temperatures that vacillate over the course of the year from -17°C to over 26°C. In the past, this has meant that some temperature-sensitive products could not use the route during harsh winter and hot summer months. Now, using power supplied by a diesel-electric engine, internal temperatures in containers can be controlled, tracked, and remotely modified.

The lightweight containers, made from aluminum and high-strength steel, are fitted with an advanced track and trace system that allows customers not only to know their shipment’s precise location but also to check and modify internal temperatures along the way.

Whatever the weather outside, customers can set optimum internal temperatures for their consignment, from -25°C to 25°C, providing a year-round, multi-modal shipping solution that is safe even for highly regulated temperature-sensitive shipments.

DHL FAST TRACK FROM CHENGDU NOW TEMPERATURE CONTROLLED

As password cracking tools become more sophisticated, tech giants have been researching ways to keep their users’ information safe from back attacks. Motorola recently got U.S. FDA-approval for a “password pill” – an edible chip that’s powered by the stomach’s acids. When activated it gives off a unique identifying 18-bit signal that can be detected by your phone or computer. Is this the end of memorizing complicated passwords? Or will it be more than most people can swallow?

INTRODUCING THE EDIBLE PASSWORD

“THE TITLE OF THIS YEAR’S CORPORATE RESPONSIBILITY REPORT IS ‘THE AND MAKES THE DIFFERENCE’ AS A COMPANY, WE ARE COMMITTED TO BUSINESS SUCCESS AND RESPONSIBLE BUSINESS PRACTICE.”

Frank Appel, CEO Deutsche Post DHL

Learn more about the Corporate Responsibility Report at: tinyurl.com/Dhl-theand

LIGHTESTWEIGHT CONTAINERS: Safe, temperature-sensitive.

3 MILLION tons of cargo are handled at Shanghai’s Pudong airport annually.

Learn more about DHL’s transshipment hub at Pudong at tinyurl.com/PudongHub

OPENING NEW DOORS IN MYANMAR

Myanmar until recently was all but closed to outsiders. With political liberalization and international sanctions lifted two years ago, it’s now opening its doors to the world and has the potential to become one of Southeast Asia’s biggest economies. Major work is underway to turn the country, which is home to 60 million people and rich in natural resources, into a modern economy, with new infrastructure, economic zones, and a host of business-friendly policies. Structural reform may still be at an early phase, but companies are already showing interest in setting up manufacturing bases there. Which is why DHL Global Forwarding has expanded its operation and opened its first wholly owned office in the country. With GDP increasing by 6.5% last year and growth forecast to be higher this year, the time is right. The economy is developing fast, driven by energy and construction, with growth showing in other sectors, too. Trade within ASEAN is flourishing and investment coming in from China. It looks like Myanmar is on its way to being the next big thing in Asia. Is it ready for the change? “Ten years ago, it would have been impossible to imagine the growth we are seeing today,” says Kelvin Leung, CEO for Asia Pacific, DHL Global Forwarding. “It’s not easy — no emerging market is — but development signs are good and positive sentiment is high. I expect the next ten years will see even faster growth.”

Learn more about DHL Myanmar at: tinyurl.com/Dhl-myanmar

THE STORY
WEARABLE REVOLUTION

From advertising gimmicks and interactive gaming to enhanced driver safety, X-ray vision for doctors, and training for welders and surgeons alike – the possible applications for augmented reality are growing rapidly as the new tech sector spreads from gaming to enhanced driver safety, X-ray vision for surgeons, and even into the retail sector for advertising gimmicks and interactive gaming.

SPEED AND PRECISION

DHL Global Forwarding is one of the leading air cargo logistics companies. The primary aim throughout was to ensure the pandas’ maximum comfort and safety. They traveled in crates specially designed for them, with space for movement, ventilation holes, and transparent screens. These enabled the two keepers and veterinary physician who accompanied the pandas to monitor their well-being during the journey.

TRANSACTLANTIC TEMPERATURE CONTROL

Transporting life sciences products requires close care and attention at every step. Whether it’s medications, biotech products or biological tissue, ensuring these highly sensitive goods are constantly kept in the correct environment is essential – not only to guarantee their quality, but also to comply with increasingly strict regulatory requirements for businesses shipping life science products.

A SPECTACULAR PARTNERSHIP

Cirque du Soleil started life in Canada 30 years ago as a group of 20 street performers. Today it has grown into the world’s leading live entertainment show, bringing wonder and delight to more than 130 million spectators in over 150 countries. Cirque du Soleil has 19 shows in 150 locations this year alone, and working behind the scenes is DHL. As new Official Logistics Partner the company will support Cirque du Soleil in transferring some 250,000 items between venues using up to 80 40-foot containers filled with inventory to help the acrobats and stuntmen entertain their audiences around the world.

TECHNOLOGY MEETS FASHION

As wearable technology is becoming all the rage, fashion follows suit. From a solar-powered bikini to Zegna Sport’s ecotech solar jacket, Ralph Lauren’s high end solar backpack and the famous “Day for Night” dress, fashion forward technology fans can stand out from the crowd – and power their gadgets too. Day for Night, according to its designer “a celebration of the beauty of electronics” is a modular, reconfigurable dress comprised of circuit boards with tiles to accommodate a solar cell, a RGB LED, or a photocell, and jumper connectors. A control board provides power, communicates with the tiles, and links to a computer via RF. The dress is completely modular both in terms of design, software and hardware.
A Chinese phone maker sells 220,000 handsets in three minutes, while several of 2010’s top players are now struggling for survival. In the technology sector, success can arrive at breathtaking speed, but so can despair. How can tech companies survive and thrive?
In singles Day on November 11 is the day when millions of young Chinese think about finding love, celebrating their freedom from relationship ties, or buying some shiny new technology products. Just after midnight on November 11, 2013, on what has become one of the largest sales days in the Chinese calendar, rising electronics maker Xiaomi put a batch of new products online. Three minutes later it had sold out its entire stock of 220,000 of its most popular cellphones.

AT A TURING POINT
This fast-moving, highly competitive environment is taking its toll on the industry. In 2010, the top two smartphone makers, Nokia and Blackberry manufacturer RIM, accounted for 50% of the market between them. By 2012, their share had dwindled to 10%, with today’s giants, Apple and Samsung, taking their place.

As growth slows or stalls in established regions and product categories, technology firms face a double-edged challenge: they must find ways to remain profitable in what are still their largest markets, by transforming the efficiency of their manufacturing and supply chain processes. And they must identify and exploit new areas of growth, which will demand new and different products, services—and logistics.

In the developing world’s rush to catch up with Europe and North America, it is skipping whole generations of technology: Mobile broadband connections are faster, cheaper, and more widely available in many emerging regions than fixed-line alternatives, for example, outnumbering them eight to one in Africa, compared just under two to one worldwide.

In mature markets, meanwhile, it is not clear whether the industry will succeed in finding a new blockbuster product to match the explosive popularity of smartphones or tablet computers. The sector’s next sensation may not come from one category of products, but from thousands. The “Internet of Things” promises a world in which appliances make decisions about how and when to operate. Homes monitor the health and wellbeing of their inhabitants, and lost pets or packages can signal their locations. As one indicator of potential, Google announced in January that it bought Nest Labs, a maker of Internet-connected domestic thermostats and smoke alarms, for $3.2 billion.

Though the transformation affect on global business could be profound, writes Middleton and his research team suggesting that, by 2020, these technologies could add $1.9 trillion to the global economy.

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Diversifying demands
This fragmentation will have far reaching implications for companies, and rising volatility will mean they have ever less time to respond to changes as they appear. In emerging markets, the spread of disposable incomes stretches from just a few dollars a year to millions, for example. The logistics processes that satisfy wealthy urban customers in these regions will look very different from those that can deliver low cost products to aspiring consumers in small towns and remote villages.

Success in the Internet of Things, says Scott Tiazkon, senior research analyst at IDC’s Global Technology and Industry Research Organization, will depend on companies’ ability to identify lucrative niches, and then to create “solutions for specific use cases that address industry-specific business processes.” Once again each of these new niches will require not only unique products, but also unique channels to market and uniquely tailored delivery and product support logistics.
Navigating these conditions of rising complexity and diversity requires technology companies to pick their targets with care: it will become ever harder to offer winning products in every segment, or to cover all markets with a limited product portfolio. They must also be able to move fast, developing and adapting products based on local insights to suit new opportunities as they emerge, then finding ways to get those products quickly to the consumers that want them. In doing so, they must be ruthless about controlling complexity – differentiating products, logistics processes, and services where it matters to their customers and standardizing where it does not. Network hardware designed for Africa and Europe might contain the same core circuitry, for example, even if the packaging, power supply, distribution, and support networks are entirely different.

In a 2012 report, consultancy Ernst and Young suggests that this supply chain segmentation approach “likely will become the gold standard for technology industry companies.” Segmentation, the report says, “offers a practical methodology for reducing the risk of reaching a complexity tipping point and, thereby, circumventing the law of diminishing returns.”

**SEGMENTED LOGISTICS**

Tailored logistics will play a critical role in the segmentation of product and service offerings. Companies need to ship devices rapidly and securely into factories that build the latest and most desirable technology products so useful and compelling also rely on complex upstream networks that help tech companies to reduce inventory and transportation costs while boosting their ability to respond quickly to changing customer demand. “We do a lot of quite complex operations for our technology customers today,” notes Allison. “From installing the software, documentation, and peripherals to suit particular end-user markets to managing reverse logistics, service, and repair.”

In emerging markets, by contrast, speed is key as companies scramble to get products into the hands of enthusiastic consumers. Combining double digit overall growth rates with extreme volatility at the level of individual products is leading both established and new players to lean heavily on third party partners and shared services, but with the need for extra capacity rather than efficiency as the main driver.

The technology sector is shaping the logistics processes that serve it too. New generations of technologies – from low-cost GPS tracking and radio frequency identification tags to voice-guided warehouse picking systems – are helping to further cut costs and improve logistics performance. Technologies under development offer the potential for even greater performance gains, from integrated sensors that make packages increasingly “self-aware” to the use of 3D printing to manufacture components, spare parts, or even complete products on demand.

These new services and technologies will play a central role in helping technology companies to tailor their offerings to diverse and fast-changing environments: stripping out cost and driving efficiency in increasingly cost-competitive markets, and building the capacity and flexibility to capture growth wherever new opportunities emerge. — Jonathan Ward

**DISRUPTIVE INNOVATIONS**

**Mobile Internet**

Increasingly inexpensive and capable mobile devices, such as smartphones, tablets, and wearable devices as well as ubiquitous connectivity and an explosive proliferation of apps are opening new opportunities for businesses and the public sector.

**Automation of knowledge work**

Advances in artificial intelligence are enabling the development of software systems that can perform knowledge work tasks involving structured command and control judgments, opening up possibilities for change in how knowledge work is organized and performed.

**The Internet of Things**

With networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization spreading rapidly, the Internet of Things allows businesses to manage assets, optimize performance, and create new business models.

**GLOBAL TECHNOLOGY CONFERENCE**

The industry’s top supply chain decision makers meet in San Diego on May 13-15 at DHL’s Global Technology Conference. The topics will be around sector trends, challenges and best practices around Growth, Efficiency and Innovation.

Learn more at: dhlevent.com/technologyconference

**THREE QUESTIONS FOR**

Rob Siegels
President, Global Technology Sector, DHL

**“INCREASINGLY VOLATILE MARKETS MEAN COMPANIES HAVE LESS TIME THAN EVER TO GET DECISIONS RIGHT.”**

Why is the technology sector such an exciting area in which to work?

The technology industry is probably the most dynamic and diverse sector in the world. Companies need extraordinary speed and agility to continually innovate and deliver winning products, and behind that, the infrastructure that keeps global businesses, phone networks, and Internet services running has its own challenges, with the need for extremely robust support and high service availability. These diverse requirements have been instrumental in the development of many of the highly sophisticated logistics capabilities we offer today.

What challenges are your technology customers facing now?

Complexity and diversity are key challenges. Across the sector, companies are entering new markets, entering new markets, new geographies, and new product categories, each with their own particular requirements and opportunities. Capturing those opportunities will require companies to make smart decisions about where to standardize and where to tailor their value chains. And increasingly volatile markets mean they’ll have less time than ever to get those decisions right.

How is DHL helping technology companies to meet these challenges?

Every day, we help technology companies to manage complexity, so they can increase their efficiency, pursue growth opportunities, and continue to innovate. Our worldwide reach makes it quicker and easier to access key markets, for example, that’s consumers in European cities or service engineers in rural Africa. And our increasingly sophisticated service offerings help companies control costs and increase responsiveness, whether by postponing final assembly, accelerating repairs or using shared infrastructure to reduce fixed costs.

**SINGLES DAY IN CHINA:** One of the most important sales days in the calendar.
As Senior Vice President and Chief Technology Officer of Motorola Solutions, Paul Steinberg isn’t interested in knowing only what his logistics industry customers want. He wants to find out what they need. The results, he says, can lead to truly innovative technology that creates competitive advantage and real financial savings for a business.

I read an article recently which argued that innovation is the only sustainable advantage in business,” remembers Paul Steinberg. “And honestly, I think there’s a lot of truth in that.”

Steinberg deals with cutting-edge innovation on a daily basis. It’s what excites him about the job he does and drives him and his team to constantly push boundaries and explore the impossible. As Senior Vice President and Chief Technology Officer of Motorola Solutions – a provider of mission-critical communication solutions and services for government and enterprise – he oversees the development and execution of the company’s technology strategy and vision. “For me to do that effectively,” he says, tongue partly in his cheek, “I need a lot of very smart people. Plus, some intuition about where technology is likely to go.” Not to mention “a bit” of Motorola Solutions’ annual research and development spend of $1.1 billion.

The company, founded 86 years ago, has been responsible for many significant technological firsts. It commercialized mobile communications by creating and commercializing the first cellular system, for instance, and it invented and commercialized barcode reading. Motorola Solutions also provides technological innovations to the logistics industry with products that touch every part of the supply chain, from back-end transportation to the front-end, customer-facing experience. This includes everything from scanners and two-way radios to hand-held readers and radio-frequency identification (RFID) technology for warehouse distribution. Because companies in this sector are dealing with huge volumes, the smallest technological improvements can result in massive financial savings. Steinberg offers an example: “One of our customers told us that if they could improve the efficiency of their loading – in this particular case it was vehicle loading – by just one percentage point, the scale was such that it would translate to millions of dollars’ worth of financial savings for their company.”

**FINDING OUT WHAT THE CUSTOMER NEEDS**

That sounds great in theory, but some businesses often don’t realize that they have a problem to solve. Working closely with customers to deliver the right ground-breaking technology is, therefore, crucial for Motorola Solutions – and where the company’s Innovation Design Group comes in. Its associates are, in Steinberg’s words, “right-brained people” – he admits to being “a left brain, true blue engineer” – who experience typical days in the life of a Motorola Solutions customer. "The job of the Innovation Design Group is not to find out what our customers want, because pretty much anyone can do that," says Steinberg. "Their job is to gather insights to help us find out what the customer needs. A customer can't always tell you what their issues are, but if you watch them in the right way they will show you. These customer insights feed opportunity and, ultimately, technology.”

Increasingly, logistics customers are asking for holistic solutions to answer their supply chain challenges. “These days, customers look to us not just as suppliers but as partners,” says Steinberg, who has been with the company for 22 years. “They want us to help them understand how they can use technology for competitive advantage. Delivering value from technology is a much more complicated process now. Companies in the logistics sector are highly sophisticated and very complex, so simply inserting a piece of technology here or there is not nearly as impactful as delivering a solution for an entire supply chain, end to end.”

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As an example of an emerging technology, Steinberg points to his team’s recent work in the area of analytics. “One of the challenges with customers in logistics or large-scale transportation of material is packing efficiency,” he explains. “Yet with advanced analytics we can now accurately ascertain how full or how empty a particular entity is in real time.

Yet when a customer sees this technology, an interesting thing starts to happen. They begin to ask questions they hadn’t thought of before. “They’ll ask, ‘Can it tell me how well our workers are loading vehicles?’” says Steinberg. “And we tell them, yes it can do that. Then they’ll ask, ‘And can it tell me the size of a particular package?’ Well, yes, the technology can likely do that, too. Then they’ll think for a minute and say, ‘And can we send this information to a manager in real time?’ So, all of a sudden we get queries that nobody had thought to ask before because they simply hadn’t realized that technology was available to do these things. The result for the customer is massive supply chain improvement and efficiency.”

Another popular innovation in the logistics field has been the Motorola SL Series two-way portable radio, introduced in 2012. “In enterprise, two-way radio systems are usually very large devices,” says Steinberg. “With the SL, we made a device that is as small as a typical cellphone but has all the capabilities and features of a two-way radio. Security people at the Oscars used the device because it’s not just a communications tool of a two-way radio. Security people at the Oscars used it in your pocket; and that, harnessed with cloud, means the technology you use will be more anticipatory, recognizing what you need before you need it. From a user-perspective, it won’t necessarily look like a slab of black glass, either, with, for example, head-worn displays becoming increasingly popular. “Technology will start to infuse across the body,” says Steinberg. “We are doing more and more research in that area. It’s an exciting time to be at the cutting edge of innovation. Away from work, Steinberg loves spending time with his family and friends; but, even here, he keenly observes how his two daughters interact with the technology available to them. “Both of them are very different from me and I learn a lot from them,” he says. “We had something happen recently that I thought was telling. My wife called me the other day to say she couldn’t get in touch with our younger daughter. She said she called, texted, and e-mailed, but wasn’t getting a response from her. I said, ‘Okay: how long has it been?’ And my wife said, ‘Five minutes.’ But that says a lot about the world. We’re hyper-connected and the expectation is that if you have technology you are reachable almost instantly.” It also neatly echoes the process of creation and innovation and who will give us space to experiment. “We’ll prototype the technology and we’ll get it wrong almost every time, but if the customer lets us experiment with them we’ll learn together so that what we do is very quickly co-created.”

The growth of the logistics industry over the last few years has taken Steinberg’s breath away. What’s more, companies in the sector have aggressively adopted technology to make themselves as efficient and customer-friendly as possible. “For instance,” he says, “DHL has been adding additional capabilities and services for its customers, such as managing repair and fulfillment, which takes it well beyond parcel handling and delivery. So that pulls technology in interesting directions, too.’’

Indeed, he believes that the next few years will be an exciting smarter time for the industry’s technology. “We like to talk about ‘advancing the intelligent edge’, he says. “Increasingly there will be an enormous amount of visibility, so packages and all assets, will be smart. As a result, we’ll be able to locate packages, pallets, assets and people to a fine degree of accuracy, so that enterprises themselves will get much smarter and be more real-time aware about everything and anything. Plus, get ready for some serious computing power, and various different ways to interact with it. In five or six years, predicts Steinberg, you’ll be able to carry the cognitive computing capacity of the human brain in your pocket; and that, harnessed with cloud, means the technology you use will be more anticipatory, recognizing what you need before you need it. From a user-perspective, it won’t necessarily look like a slab of black glass, either, with, for example, head-worn displays becoming increasingly popular. “Technology will start to infuse across the body,” says Steinberg. “We are doing more and more research in that area. It’s an exciting time to be at the cutting edge of innovation. Away from work, Steinberg loves spending time with his family and friends; but, even here, he keenly observes how his two daughters interact with the technology available to them. “Both of them are very different from me and I learn a lot from them,” he says. “We had something happen recently that I thought was telling. My wife called me the other day to say she couldn’t get in touch with our younger daughter. She said she called, texted, and e-mailed, but wasn’t getting a response from her. I said, ‘Okay: how long has it been?’ And my wife said, ‘Five minutes.’ But that says a lot about the world. We’re hyper-connected and the expectation is that if you have technology you are reachable almost instantly.” It also neatly echoes the expectations of forward-thinking twenty-first century businesses who are always clamoring for more and more technological innovation.

Yet, actually, Steinberg and his team live for the challenge of being able to make their customers better at what they do. “And we get to do it every day,” he says, “with a technology canvas that is so rich and so rapidly evolving that it’s a very heady place to be.” — Tony Greenway

FUTURE INNOVATIONS
Not that this constant technological innovation is easy. If it was, everyone would be doing it. Steinberg says that one of the challenges faced by Motorola Solutions is being ready to disrupt the company in order to stay ahead of changing times and the technological curve. It also has to be ready and willing to fail sometimes. “When we’re in an incubation environment we tell the customer, ‘Look, we know this idea isn’t perfect yet, and we don’t even know if it is what you really need.’ That’s why it’s so important to find someone on the customer side who understands the process of creation and innovation and who will give us room to experiment. ‘We’ll prototype the technology and we’ll get it wrong almost every time, but if the customer lets us experiment with them we’ll learn together so that what we do is very quickly co-created.’

The rising popularity and sophistication of consumer technology products is driving an explosion in the availability of network-connected devices and low-cost sensors. These could have significant implications for the logistics industry. Consumer technologies offer great possibilities for the automation of core logistics activities. The latest smartphones and tablet computers can identify objects using barcodes, RFID, or near-field communications technologies. They can determine location using GPS or triangulation with networks of WLAN base stations or cell towers. They can also measure temperature, humidity, and vibration, or evaluate the quantity or condition of objects via sophisticated image processing. And they can communicate all this data remotely and do much of it more cheaply than current industrial solutions – especially with capabilities bundled free in products that customers or employees already own.

To investigate the potential for the industrialization of these technologies, a group from DHL Customer Solutions and Innovation, in association with Fraunhofer IIS, recently conducted a field test of an innovative volume-measurement and freight-scanning system. It uses the 3D range imaging sensors from Microsoft’s Xbox Kinect gesture-based video game controller, which were mounted in warehouse environments including a pallet-loading area and on a forklift truck. These low-cost sensors, which can collect both video and 3-D range data, were used to identify loads, calculate volumes, and create photogrammetric documentation of load condition. They proved quick, effective, and accurate, with expected payback times of more than five times faster than conventional solutions. Remaining challenges include simplifying system calibration and ensuring sufficient robustness for industrial conditions, but DHL is already examining further uses for the technology, including the identification of past ages on conveyors, and the optimum loading of trucks and warehouse shelves.
ENABLING GROWTH

Technology consumers are becoming more widespread, less predictable, and harder to reach. That makes things more complicated for an industry where success depends on getting the right product to the right place at just the right time.

B y the end of 2013, 14 countries had more than 100 million cellphone subscribers — up from ten a year before. Of these, only Germany, the U.S., and Japan are traditional, developed economies. Mobile communications industry association GSMA reports that Asia Pacific accounted for nearly 60% of global mobile subscriber growth between 2008 and 2012 — and Africa and Latin America accounted for a further 20%. Today’s fastest growing regions for mobile technologies include Egypt, South Africa, and Russia as well as half a dozen Latin American countries. Others, like Peru, Columbia, and Ecuador, are expected to join them by 2015.

Accessing these new customers won’t be easy. More new cities will be created in emerging markets over the next 20 years than exist today in the West, according to the Boston Consulting Group. The challenge for technology companies is that their millions of new consumers will also be spread across the suburbs, small towns, and rural communities between these emerging cities. And the very global connectivity enabled by technology products means they’ll be every bit as demanding and unpredictable as their counterparts in Berlin or Beijing. Ahead of the 2014 World Cup and the 2016 Olympic Games, for example, middle class Brazilians are demanding the installation of satellite TV receivers at the same speed as customers in developed countries.

This combination of high service expectations, demand volatility, and geographic spread is compounded by poor infrastructure, unpredictable border crossings, and varying local tax regimes. Manufacturers must balance increased local inventories in order to ensure availability in the market, against the risk of being caught with costly unsold stock if demand shifts, or fails to materialize.

In this environment, long, complex, and increasingly fragile global supply chains are being supplemented by near-shoring or on-shoring approaches, but choosing what should go where will be the key challenge. Companies are beginning to adopt tailored approaches which use regional manufacturing for nearly 60% of low volume, high variability, while supplying high-volume or more predictable items from lower-cost facilities elsewhere. Flexibility and scalability are also vital in new and uncertain markets.Supply chains must expand and contract at will, based on market conditions.

Companies don’t just have to contend with unpredictable demand and unfamiliar physical territory; there are often quite different distribution models,” says Scott Allison, DHL’s Senior Vice President, Technology Sector. “In Africa, many cellphones are delivered to the market through local distributors, rather than by major phone networks, so companies need ways of getting their product to thousands of individual stores. That’s where a service provider like DHL is useful, since we already have the infrastructure there on the ground, and plenty of experience navigating local customs, taxes, and other hurdles.” — Jonathan Ward

Roger Ingold, Accenture’s Country Managing Director for Brazil, ON OPPORTUNITIES IN LATIN AMERICA

How do you see the growth opportunities for Latin America in the next five years?

Long-term fundamentals are mostly strong. It is quite a large and diverse region, and so it’s growth opportunities. These still exist, for example, from infrastructure concessions in Brazil and the recent energy reform in Mexico. Moreover, the young population is increasingly tech-savvy, and there are existing growth prospects in the area of innovation across the Latin region. Latin America is producing leading players in sectors like biotechnology, aerospace and consumer technology. We are seeing increasing numbers of innovation clusters and start-ups being set up.

What are the major roadblocks for “Doing Business in Latin America”?

Education and workforce qualification levels have been improving in recent years, but remain an important consideration when planning growth in Latin America. There has been investment in the physical and technology infrastructure across the region, but shortages remain. The good news is that such difficulties represent important opportunities: for businesses that are in the right place at the right time to make the necessary investments.

What are your (top three) advices for companies targeting to expand their business in Latin America?

Firstly, ensure you have an accurate view of your target market and segment, as well as of your own performance in it. This demands investment in superior financial and controllability capabilities. Secondly, build partnerships. You need to work together with local firms, which will help you take an accurate pulse of the local market, and with communities, because this makes your company more resilient and attractive for clients, business partners and employees. Lastly, build agility and flexibility to avoid emerging risks and group opportunities quickly when you identify them.

THE EFFICIENCY PUZZLE

In the ceaseless quest for efficiency, technology companies are facing a tension between increasing standardization on the one hand, and the benefits of tailoring their logistics practices to local needs on the other.

I n the cause of efficiency, companies have been centralizing control of their supply chains and adopting standard methods. “As customers standardize their supply chain approach across the globe, they benefit from increased visibility and management simplicity through the use of standard IT systems and KPIs,” says Jan-Thiho Karlsbush, Vice President Strategy and Business Development, Global Technology, DHL Supply Chain. “They can also adopt standard tools and approaches like LEAN and SIX SIGMA to drive day-to-day efficiency improvements.”

An effective improvement infrastructure is vital in the quest for efficiency, says Karlsbush, because the majority of supply chain cost is determined on the ground by the efficiency of frontline operations. It is hard, tedious, but vital work. “Companies need to go through a cultural shift, so that continuous improvement becomes part of everything they do,” he adds.

Standardization has its limitations, too, with the potential for higher local costs resulting from approaches that imperfectly match particular needs. The challenge for companies lies in knowing where in the supply chain to standardize, and where to tailor.

Postponement is one key strategy, helping to achieve this balance by allowing a later split between the standardized supply chain and the tailored one. By carrying out the final configuration and packaging of products at locations close to end-user markets companies can reduce downstream inventory levels, and make upstream logistics cost savings — for example, by allowing common parts to be shipped by sea, while higher-value, shorter-lifecycle products travel by air (see case study below).

Keeping service and repairs close to the end-user also helps increase supply chain responsiveness, and integrating them has efficiency benefits, since companies can switch resources as demand patterns change. “Resource sharing is no longer limited to the activities of a single company,” adds Karlsbush. “Many of our technology customers have moved their postponement activities to our shared service centers, where we can integrate services for a range of customers, allowing all of them to benefit from significantly higher levels of efficiency, flexibility, and responsiveness.” — Jonathan Ward

CASE STUDY: THE LATER THE BETTER

A leading global imaging and video product maker needed to outsource its entire European end-to-end supply chain. In a partnership with DHL that has evolved over nearly a decade, all of the company’s logistics requirements — inbound, warehousing, picking, packing, and pre-sale testing — are carried out from a single distribution center in the Netherlands.

Contrary to the work of the distribution center is a semi-automated kitting and assembly line that brings together product components, peripheral, packaging, and documentation to meet precise customer requirements. This assembly line was designed by DHL and is fully integrated with the customer’s planning and warehouse management software. As part of the project, DHL subsidiary Taysl developed new packaging to streamline the kitting process, while reducing the customer’s packaging spend by 7%. By shipping parts separately from its factories in Asia, and postponing final assembly until true customer demand becomes clear, the company has saved some €10 million a year in transportation costs, cut the time to market by two days, and reduced excess and potentially obsolete stocks of packaged products.
Qatar’s latest quest

It has the world’s largest per capita GDP, and is not shy about spending its wealth on ambitious projects. But can the small Gulf emirate of Qatar also succeed in transforming itself into a leading logistics hub and rival its neighbor, the United Arab Emirates?

In 1996, Qatar rocked the Arab world. The tiny state on the Arabian Peninsula – at the time considered sleepy and conservative by many – took to the airwaves with Al Jazeera, a news channel featuring debates and open criticism of officials, something previously unheard of across Arab states.

Almost two decades on, and the oil and natural gas-rich state, smaller than the U.S. state of Connecticut, has made a name for itself globally. Al Jazeera now broadcasts in Arabic and English around the clock to a worldwide audience of some 150 million viewers. Qatar Airways, the national carrier, proclaimed itself “the world’s 5-star airline.” The country’s sovereign wealth fund made headlines with the purchases of Harrods department store in London and French Premier League soccer club Paris Saint-Germain.

Qatar is now managing to build up the infrastructure required to fulfill its logistics ambitions and become a serious competitor to its neighbor, the United Arab Emirates.

“We will make you proud”: HH Sheikh Hamad bin Khalifa Al Thani and his wife HH Sheikh Moza hold a replica of the World Cup trophy after the official announcement that Qatar will host the 2022 World Cup.

“In logistics terms, however, Qatar’s neighbor the UAE, and Dubai in particular, are a hard act to follow. The Emirates have long capitalized on the Arabian Gulf’s strategic location, including the UAE’s latest estimates for oil and gas reserves and production. Qatar has prioritized improving economic diversity and domestic welfare, including establishing advanced healthcare and education systems, and expanding the country's infrastructure.

Looking beyond oil and gas

A former British protectorate, since 1971 Qatar has transformed itself into an independent state with the highest per capita income in the world. The then Emir Hamad bin Khalifa Al Thani, started to modernize Qatar economically in 1995. Today, the country is the world’s largest exporter of liquid natural gas (LNG), oil and gas account for more than 50% of GDP and roughly 85% of export earnings, yet economic policy is focused on developing the non-associated natural gas reserves and increasing investment in non-energy sectors.

In mid-2013, Hamad transferred power to his 33-year-old son, Tamim bin Hamad, who has prioritized improving economic diversity and domestic welfare, including establishing advanced healthcare and education systems, and expanding the country’s infrastructure.

Keeping up with the Emirates

In logistics terms, however, Qatar’s neighbor the UAE, and Dubai in particular, are a hard act to follow. The Emirates have long capitalized on the Arabian Gulf’s strategic location, including the UAE’s latest estimates for oil and gas reserves and production.
Regional Logistics Hubs – Does the Middle East Need More Than One?

Abu Dhabi, Dubai, Qatar – three powerful and commercially minded enclaves with future expansion on their minds. New railways, ports, and mega airports are being built – but can the region’s growth support more than one logistics hub? Maybe so, if projected growth both in the Gulf region and in trade between emerging markets materializes.

The Gulf Cooperation (GCC) states – Bahrain, Kuwait, Oman, the UAE, and Qatar – are growing fast. By 2022 the GCC population will have reached 13.5 million, a 30% increase in people who require housing and infrastructure, food, and consumer goods that mostly need to be imported, with food imports alone projected to grow to $13.1 billion by 2020.

Then there is construction, which relies heavily on imported materials. According to MEED (Middle East Economic Digest) “the GCC civil construction market has returned to growth with a total $10 billion in contracts awarded last year, a level not seen since 2008.” There are some $1.045 trillion’s worth of planned projects overall. GCC states all have strategies to diversify their economies to lessen dependence on oil and gas. Chemicals and metals are some of the export industries set to benefit from investment and growth.

Trade flows between China and the GCC sit right in the middle of these trade lanes. Khaw Dalar Ruhab, Global Transportation & Logistics Leader, PwC, comments, “The Gulf Cooperation countries are perfectly situated to benefit from growing trade volumes between China and Africa. This way they will not only profit from China’s increasing demand, but also from Africa’s growing exports and increasing consumer market. It is not only Nigeria in the west of Africa, with its vision to be among the 20 largest economies in the world by 2050, that will foster trade flows from Africa, but also countries in the south and east of the continent, led by South Africa and Kenya. Seizing demand is beyond debate and given the GCC’s ambitious investment plans in infrastructure, competition will even grow between them and will boost capacity to a large extent. Therefore the economic rationale for more than one logistics hub will be great.”

Steve Harley, president of DHL’s energy sector, believes that in the mid-term the right logistics facilities in the GCC could also help unlock the potential of East Africa’s energy business. “A logistics hubxF9;the warehouse technology, expertise, and services, and legal frameworks needed to coordinate shipping. Currently, much of this is done in European ports – but the opportunity is there for the taking.”

Learn more about global trade growth by 2030 from the PwC report:

In a recent development, Doha’s short-to-be-opened new Hamad International Airport saw its inaugural cargo flight take off in December 2013. Despite delays in its opening, the airport is expected to offer capacity of up to 5,700 shipments simultaneously by 2015 in its new cargo terminal complex belonging to Qatar Airways.

“The opening of our brand-new $1 billion cargo facility at Hamad International Airport (HIA) will see Qatar Airways Cargo handle 1.4 million tons of cargo annually, more than tripling the capacity of the existing facility,” says CCO Akbar Al Baker. A 1 million-square-meter logistics village with 33,000 square meters of warehousing and a 44,000 square meter container depot add significant capacity to the affluent Gulf state’s future logistics and transport offering.

Transforming Infrastructure

Nael Aittay, DHL Express country manager in Qatar, welcomes the developments. “Investment in transport is important for logistics and key to improving regional and global connectivity. Qatar’s business environment is promising, and we are committed to having a total of 15 facilities and service points in the next few years. We would also like to become a ‘single window’ approach to customs, which will guarantee faster clearance times and an overall smoother process and easy customs procedures.”

This view is also held by Ahmed Hammouda, Qatar & Kuwait country manager for DHL Global Forwarding. “The new airport and expansion of Qatar Airways will enhance the services we provide to our customers. We have already started to notice improved customs clearance and inspection processes at the new airport and are fully geared up to handling and delivering all types of project and non-project cargo in the build up to 2022. In order to be truly competitive, Qatar should also consider establishing a free zone, which could offer significant commercial benefits.”

So, can Qatar cut it and transform its infrastructure to allow it to be a serious contender in the regional logistics arena? There is no doubt about the government’s determination. Qatar means business and it is determined to put serious money behind projects, to the tune of many billions.

But the task ahead is a massive one. The UAE is well ahead. The scale of infrastructure developments in Qatar is one of the most ambitious in the world, and timesframes for delivery are short. Can the many mega-projects under parallel construction all be completed on schedule? Will the current infrastructure be able to support the influx of manpower and materials needed to build the future? Time will tell. – Michelle Bach
Small companies and startups are often agile, innovative, and responsive in ways that are making multinationals sit up and take notice. What can the big guys learn from the little guys, and how?

Metropolitan Window Fashions has been in business for 80 years. This small, family-owned drapery company with stores in New York and New Jersey prides itself on having earned its customers’ patronage with quality products, fair prices, and good service. Here customers can reach the managers, decorators, and installers anytime by phone or email. “If someone wants to speak to the owner, they can. Try getting the president of a ‘Big Box’ store on the phone when you have a problem,” says manager Bruce Heyman.

Small and medium-sized enterprises (SMEs) are also known for their flat hierarchies, flexibility, and agility. When Jong Hwan Lee, an entrepreneur in South Korea’s popular computer gaming sector was looking for a growth market outside of the country for his exports start-up ESGN, he moved his entire company to Berlin. “The city has more global appeal than the South Korean export community and is located in a strategic time zone between Asia and North America,” he says.

Companies like Metropolitan Window Fashions and start-ups like ESGN are the backbone of any modern economy. In the European Union, for example, SMEs employ two-thirds of the work force and create 85% of new jobs. But sustainable growth can be difficult.

“Technology, science, and even consumer trends are advancing far too rapidly for most companies to keep pace,” says Stefan Lindegaard, author of Champs of the Twenty-First Century and founder of the 15inno. “Large companies and their smaller brethren – GMNCs and SMEs – must create new value, Lindegaard emphasizes. “This is what separates the companies that thrive from the ones that languish or even fail. “Ultimately, GMNCs are learning from SMEs to become more agile, create on the fly, and stretch beyond what creates new markets and the next gee-whiz products. Their success has not gone unnoticed. To solve business problems or develop new products, global multinational corporations (GMNCs) are learning from SMEs and increasingly partnering with some in novel ways – often resulting in a win-win situation.

85% of new jobs in the European Union are created by SMEs.
Drone delivery, ships without crews, personal helicopters, driverless cars — automated transport is no longer just sci-fi.

Jobs for remote-controlled drones already include bridge inspections, engineering surveys, and storm chasing. Operators are now being trained and certified to operate small drones that weigh 23 kilograms or less to do the jobs once handled by more expensive full-sized planes and pilots. According to Mario Mairena, a senior manager for the Association of Unmanned Vehicle Systems International, “We’re talking $25 to $75 an hour for a small-platform vehicle and an operator.” Some companies are now considering the possibilities for package delivery in both off-the-grid locations and congested urban areas.

The European Union meanwhile is funding the “mycopter” project, whose objective is to create a personal air transport system (PATS), with “personal aerial vehicle” (PAV) traveling between homes and workplaces, and flying at low altitude in urban environments. Such PAVs should be fully or partially autonomous without requiring ground-based air traffic control.

Rolls-Royce is making headlines with its vision for unmanned cargo ships, which it says would provide safe, affordable, and low-pollution vessels. According to Bloomberg, the company has already displayed a virtual reality prototype at its facility in Alesund, Norway, replacing a traditional, manned bridge with a camera capable of simulating 360 degrees of the surrounding waters. The EU is also sponsoring research into unmanned maritime navigation, led by the Fraunhofer Center for Maritime Logistics and Services.

Back on land, Volvo has been experimenting with a “platooning” system for vehicles. A semi speeds down the highway, followed by a pack of vehicles taking advantage of the windbreak to increase fuel economy. The followers are linked electronically to the leader, forming a line of cars or trucks separated by four-meter increments and traveling safely at highway speeds.

Delivery vans are not far behind. An electric-powered concept vehicle called eVT1 has been developed by Volkswagen in cooperation with Deutsche Post DHL and the University of Art, Braunschweig. This semi-autonomous van follows a delivery person from house to house as he or she drops off packages. If the driver walks to the end of the block, with a swipe on the touch screen of a wearable device, the van will follow.

“The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident?” says Rammler. “Who will be liable when an autopilot unexpectedly causes an accident? The vehicle’s owner, the manufacturer, or the software developer? It’s not technology causes an accident?”

Though the US states of Nevada and California have already approved licenses for driverless vehicles, a comprehensive system on any national or international level needs time to develop. “Although many automation concepts are close to market-ready, many legal and social questions have yet to be clarified,” says Rammler. “With any form of intelligent transportation, building the infrastructure to accommodate it often is the largest barrier to widespread adoption,” says Dr. Alberto Broghi, IEEE Senior Member and professor of Computer Engineering at the University of Parma in Italy. “Since we already use the existing network of roads, autonomous vehicles are advantageous for changing how the majority of the world will travel on a daily basis.”

By 2040, Martin Brown, thanks to scientific advances likely to then a fairly youthful looking best ager in his 70s, may actually choose to live in his native England, rather than a futuristic Shanghai. But has described how the transportation and ride in his driverless car or even his automated personal helicopter may still be the order of the day, even amid the rural setting of Dorset or Kent. — Scott Sowers & Michelle Bach

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Tomorrow’s transport

A science fiction scenario? Not really. The driverless future may be upon us quicker than you think. Automated passenger trains are familiar in cities from Dubai to London, where in 1968 the Victoria underground line was the first to employ an automated train system. Partial automation in cars is developing at a fast pace (see infographic on page 28-29), and millions of dollars are being invested into research on everything from automated personal helicopters to aerial drones and unmanned cargo vessels.

Wider use of automated trains, planes, ships, and cars is being ushered into the present by a combination of technological advances, concerted R&D efforts, and new legislation, such as the United Nations Economic Commission for Europe’s legal instruments to enhance safety and reduce fuel consumption. Unmanned aerial vehicles, such as delivery drones, are currently a hot research item and governments are taking note.

In 2013, the US Federal Aviation Administration (FAA) issued a roadmap for unmanned aircraft integration into American airspace and rural areas. The FAA has partnered with universities, research centers, and businesses to pursue a comprehensive system on any national or international level needs time to develop. “Although many automation concepts are close to market-ready, many legal and social questions have yet to be clarified,” says Rammler. “With any form of intelligent transportation, building the infrastructure to accommodate it often is the largest barrier to widespread adoption,” says Dr. Alberto Broghi, IEEE Senior Member and professor of Computer Engineering at the University of Parma in Italy. “Since we already use the existing network of roads, autonomous vehicles are advantageous for changing how the majority of the world will travel on a daily basis.”

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Expanding technology and changing laws are making driverless cars, trucks, and delivery vehicles a reality. Here’s a quick look at where we are and what’s coming down the road.

**Lidar**

“Light Detection and Ranging” systems employ a rotating turret of lasers that measures distance and the shape of objects by using light to create an enhanced radar system. The units currently being tested by Google use 64 lasers to probe 360 degrees, taking more than a million measurements per second. This data forms a high-resolution map (accurate to about 11 cm) of the car’s surroundings.

**Fully autonomous vehicles**

Currently being developed by Google as well as major car manufacturers in cooperation with universities such as MIT, Stanford, and RWTH Aachen, fully autonomous vehicles are expected by experts to be on the streets within five to seven years. Google says its lidar-based system has already safely logged over 800,000 kilometers in specially equipped Lexus and Prius models in California. At this year’s CES in Las Vegas and CeBIT in Hannover, carmakers introduced their versions of driverless cars, including models by BMW, Audi, and Nissan.

**Driver assistance**

Advanced Driver Assist Systems (ADAS) use a combination of ultrasonic sensors and cameras that function as long- and short-range radar. The eyes and ears of the system work with “drive-by-wire” actuators, control units, and integrating software to enable cars to monitor and respond to their surroundings. The emerging technology steers vehicles within travel lanes, offering an adaptive cruise control system for hands-off driving. ADAS also provides driver warnings about approaching unseen road hazards, back-up alerts, and automated parallel parking.

**V2V / V2X / V2I**

Connected vehicle systems use wireless technologies to communicate in real-time with other vehicles (V2V) and from vehicle to infrastructure (V2I). Benefits include smoother traffic flow, accident prevention, and improved fleet management, as cars and other technology also be able to “talk” to repair shops and fix themselves. In the U.S. and EU, steps are being taken to create a standardized system of V2V / V2I technology.

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WORLD TRADE BEYOND BALI

The future of multilateral trade negotiations – even of the World Trade Organization itself – was at grave risk. But the new Brazilian Director-General of the WTO, Roberto Azevedo, pushed very hard for a deal and managed to achieve an agreement. The Trade Facilitation (TF) deal, concluded in the Indonesian resort island of Bali last December after nearly ten years of negotiations, was the first global trade agreement reached since the WTO was created in 1995. Admittedly, the TF is far from ideal, but it put the WTO in Geneva back into the game. Now, WTO members have until July 2014 for legal review and submission of their implementation timelines. The final acceptance by two-thirds of the WTO could, however, take a further two years.

TF contains improvements in transparency and consultation with industry along with more predictability through advanced rulings and judicial appeals. Further potential benefits for cross-border shipments could come from more efficient border clearance and release procedures, as well as improved coordination between border agencies. If trade barriers are lowered, it will speed up movements of goods across borders.

However, crucial measures such as electronic “pre-arrival processing,” removal of “weight and value caps” on express delivery shipments, and the establishment of a commercial “de minimis” provision exempting low-value shipments from customs procedures, duties, and fees remain “best endeavor” provisions only – to be implemented where possible. To gain the full potential benefits from the TF deal, the logistics industry must now focus on encouraging and facilitating countries to implement these “best endeavor” provisions by demonstrating the benefits for each country.

The TF could boost the world economy by anything up to $1 trillion and create 20 million jobs, mostly in developing nations. As an industry, our work is only just beginning – speedy implementation of the Bali agreement must be our objective. For the time being, we can at least take solace that multilateral trade agreements managed by the WTO are still possible.

— Wolfgang Pordzik
P rofit. It’s not a dirty word. In fact, it can be a dy-
namic force for good, creating value for share-
holders and society. This was the thinking be-
hind a ground-breaking article called Creating Shared Value: Redefining Capitalism and the Role of the Cor-
poration in Society, which was published in Harvard Business Review in 2011. In their article, co-authors Professor Michael E. Porter and Mark Kramer argued that capitalism was “under siege” and that public trust in companies had fallen to an all-time low. People thought of big business as contributing to environ-
mental and social ills, and generally “prospering at the expense of the broader community.”
But Porter and Kramer also reasoned that making money and the march of social progress didn’t have to be mutually exclusive. What if the public could see companies in a different light? What if they could see businesses doing good for their communities while simultaneously creating economic benefits for them-
selves? What if corporate mindsets could be changed to view environmental and social problems – in both advanced economies and developing countries – not as constraints, but as business opportunities? It could fundamentally change capitalism as we know it.
This, then, is Shared Value, a revolutionary way of thinking that is being embraced by companies around the world as a way to “do good for the world while doing well.”

CISCO’S NETWORKING ACADEMY: “THE WORLD’S LARGEST CLASSROOM”

Technology is evolving, space. The growth in computer network, for example, has been rapid – but its significant downside is a global shortage of people who are qualified to implement and maintain networking solutions. Realizing this, Cisco Systems, the global 
provider of networking equipment, launched its blindingly Networked Learning Academy NetworkLab in 1997. It now operates in 170 countries, has trained five million network administrators globally, and has been called “the world’s largest classroom.”

NetworkLab uses cloud technology to deliver the curriculum to students. It teaches them how to design, build, troubleshoot, and secure computer networks to further the students’ career and economic opportunities. Results have been impressive, for example: a report found that 69% of the surveyed students had obtained a new or better job, increased responsibilities, or a higher salary, and many had started their own companies. NetworkLab is available across all sections of society. Cisco says that, through the academy, 129 youths from a shelter in Brazil have found a career path, and five women’s universities have opened Cisco Academies in Saudi Arabia.
All of which is good for the development of communities. And, of course, it gives Cisco a growing pool of talent to implement and maintain its technology, which is essential for company growth.

HUGE IMPACT

To combat this, Nestlé has developed its Maggi brand product range, including bouillons, seasonings, and noodles, which is iodine-enriched and sold at affordable prices in developing countries. It’s been a best-seller since it was first launched in the 1960s. Critics argue that the total number of its individual servings fortified with iodine were approximately 100 billion in 2012, plus the company is running an iron fortification program in India, Paki-
stan, Sri Lanka, the Caribbean, Central America, Cen-
tral African countries, and the Pacific islands. The positive health implications of one small bouil-
lon cube are plainly huge. From a “green” standpoint, there are numerous examples of companies who use environmentally friendly products to attract new business. Toyota’s acclaimed Prius, for example, and GE’s Ecomagination program, which is committed to building innovations for today’s environment-
mental challenges while driving growth.” For its part, DHL is currently developing and piloting a Shared Value strategy that uses its expertise in green logistics to offer dedicated solutions to select key customers. The company’s Shared Value focus is present on road freight, but other modes of transport are being investigated for the future.

The second way to create Shared Value is to ad-
dress problems through company operations, includ-
ing their relationships with suppliers and communities. One example is the work Microsoft and Coca-Cola are doing to help farmers in China improve, boosting Mars business in the process. “To building innovative solutions for today’s environ-
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Delivered. shares value with...

Mark Kramer

Mark Kramer, co-architect of the Shared Value concept, believes that companies can help the environment and society — while helping themselves at the same time.

I t’s funny,” says Mark Kramer in a voice which suggests that it’s anything but. “It’s ingrained in our society that if you’re doing something good, you shouldn’t be making money. And if you’re making money you shouldn’t be worried about doing good.”

In a 2011 article called Creating Shared Value, co-authored with Professor Michael E. Porter and published in Harvard Business Review, Kramer exploded that particular myth. Porter and Kramer argued that there is a third way where philanthropy and commerce can work together to boost each other’s causes. Indeed, they theorized that if businesses could start to solve some of the world’s environmental and social problems, they would, in so doing, create dynamic economic benefits for themselves.

It’s not a theory anymore. Shared Value has since rocked the business world (see previous pages) with corporations of every kind shifting their strategies to engage with its principles. There are now conferences devoted to the subject worldwide, with Kramer and Porter often appearing as keynote speakers. Shared Value is also a popular part of a Harvard Business School course for new CEOs of billion-dollar-plus companies, and it’s being built into the curricula of business schools around the world. “New CEOs see it as part of a legacy that they can create and as a real opportunity that hasn’t been exploited before,” says Kramer.

Kramer has always had a passion for both business and philanthropy. In 2000, he co-founded FSG, a nonprofit consultancy specializing in strategy, evaluation, and research for clients including Ernst & Young, Nestlé, and Unilever. The best part of his day, he says, is “hearing laughter in the hallways” and knowing FSG is developing new ways to “increase the impact of our clients and find better ways to solve social problems.”

Since remarrying in December, the once Boston-based Kramer has been living under the San Francisco sun and relaxing by taking sailing lessons around the Bay. “I am learning the ropes — literally,” he laughs. And so, metaphorically, are the CEOs of companies that have engaged with Shared Value, and who, like Kramer, want to chart a new course. The opportunities to change the world while increasing their profits could be just over the horizon — and much too good to miss.

How did the concept of Shared Value occur to you?

It emerged over time. FSG was hired by companies to help them think about their philanthropy. But, as we worked with them, we realized that their philanthropy was one of the least powerful ways that they achieved social impact. They did it best through their core business.

How did you come up with the idea of Shared Value?

Kramer was an associate at the law firm Ropes & Gray in Boston, before serving for 12 years as President of Kramer Capital Management, a venture capital firm. Now, as co-founder and managing director at FSG, he leads consulting engagements with particular emphasis on philanthropic strategy for private foundations, Shared Value initiatives, strategic evaluation, and impact investing. He is also a frequent speaker around the world on various topics in catalytic philanthropy, including creating Shared Value for corporations and social entrepreneurship.

What are your hopes for Shared Value?

Largely positive. I think the greatest positive response has come from CEOs and senior executives who used to think social responsibility was peripheral to their business. Now they see it as central to the leadership of their companies. The Economist published a special Intelligence Unit report earlier this year which showed that 28% of global CEOs have already made a change to their business strategy or model to incorporate Shared Value thinking. Now, people don’t always use the term as precisely as we defined it — so maybe 28% haven’t adopted Shared Value in its truest sense. But the fact that 28% of CEOs are at least thinking in that direction is quite stunning.

What are your hopes for Shared Value?

That, like marketing or operational logistics and efficiency, it will simply become part of how business is conducted in the future and not even thought of as anything novel or different. Could it become the new face of capitalism? Well, that would be a wonderful thing. — Tony Greenway
It cannot be JUST about demand. Today, materials are scarce and price volatility is the highest in three decades. Supply chain practices were defined in the early 1990s when crude oil was $10 per barrel. They have changed little despite a 14-fold price increase and increased fluctuations. Likewise, no apparel supply chain was ready for cottons doubling in price in 2011 followed by a 50%-drop in 2012.

Traditional supply chains react. They do not sense. Nor do they orchestrate the response market-to-market from channel shifts to commodity shifts bi-directionally. As a result, there are surprises. Note the quote from DuPont on the 2008 recession in its 2009 annual report: “In December 2008, DuPont announced plans to address rapidly deteriorating market conditions and strengthen the company’s future competitiveness. Plans are focused on generating cash by better aligning cost, working capital and property, plant, and equipment expenditures to the revised demand signals of the fourth quarter. These plans include a restructuring program with associated fourth quarter pre-tax charge of $535 million, with expected pre-tax savings of about $130 million for 2009, and about $250 million annual savings thereafter. The company also outlined 2009 plans to achieve a $1 billion in net working capital reduction and a 10% to 20% reduction in capital spending”.

Shutting factories in 2008 for DuPont was serious business. The company is known for excellence in process reliability. They own and operate factories with high process in some of the most challenging chemical environments. They are a supply chain leader. To ensure that this would not happen again, DuPont used the downtime in the factories to train employees on the principles of supply chain management. The focus was on the redesign of the processes to sense and adapt more quickly to market changes. The principles of supply chain agility grew in importance.

Today, the company is actively building market-driven value networks. As a result, DuPont lacked off some demand-driven initiatives to speed the translation of the demand signal directly from the channel and sense and shape demand more actively.

As a result, I have concluded that demand-driven is not sufficient. Instead, I think that companies need to be market-driven. I define market-driven value networks as adaptive networks that sense and translate market changes (buy and sell-side markets) bi-directionally with near-real-time data latency to align sales, logistics, distribution, manufacturing, and sourcing (see Figure 1).

**Outsides In Processes**

Today, market-driven is aspirational, and builds on the concept of demand orchestration where companies sense buy and sell-side market changes and orchestrate end-to-end through horizontal processes like revenue management, Sales and Operations Planning (S&OP), and supplier development. It requires the orchestration of market shifts into process reality. The focus needs to be end-to-end from the customer’s customer to the supplier’s supplier.

While aspirational, it is a major shift from today’s inside-out thinking. Making the journey to become market-driven requires the building of outside-in processes to listen, test, and learn cross-functionally. It is about much more than building market awareness through the classical four Ps of marketing. Most companies are much more comfortable “telling their message” than managing the channel and using structured and unstructured data to listen and learn. By and large, companies are just not good at listening.

An example of this in practice is the work at Cargill Beef, one of the largest beef processors in North America, producing nearly 8 billion pounds of boxed beef and by-products each year. The company senses the market potential for cuts of beef and orchestrates the go-to-market options based on market potential. As a market-driven leader, the company uses price optimization tools to evaluate the market potential for beef. Before Cargill Beef decides what to package for the market, they first evaluate the market potential for each cut of beef and then optimize how they harvest their inbound herds to maximize opportunity and minimize risk. There are 197 ways to cut up beef cattle. Since each breed of cow has a different potential or finite mix of products – steaks, ground beef, roast, etc. – Cargill uses the technology in Sales and Operations Planning to drive rancher insights to define which breeds are best for customer demand. This process of being adaptable to trade-offs from market to market based on the use of optimization technologies is termed demand.

Many companies pride themselves on being marketing-driven. Our challenge is that marketing-driven processes are very different than market-driven. It requires the ability to listen, test, learn, and orchestrate the signal market to market. This is fundamental to building market-driven value networks. What do you think?

### COMMON MISCONCEPTIONS ABOUT MARKET-DRIVEN VALUE NETWORKS:

- **Market-driven is the same as marketing-driven**
- **Orders and shipments represent “true” market demand**
- **Supply chain latency is not an issue**
- **Tight integration of the supply chain drives supply chain excellence**

The most effective supply chain is the most efficient.
I’m a supply chain management student, and the MyWays crowdsourcing project — where a select group of individuals delivers packages in exchange for cash or store vouchers — caught my eye.

In January 2013, I signed up for the Stockholm pilot of MyWays, intrigued by how this innovative idea uses crowdsourcing to help close the “last mile” of package delivery logistics. With a smartphone app, I could see available deliveries, hit “accept” for convenient stops on my route for the day, pick up the package from DHL, and get going. You handle one package at a time and there’s a time limit on delivery.

Over the summer I delivered four or five packages a week, and really enjoyed the interaction with recipients. One was a man who placed an order from a tobacco store near his home and had his package delivered via MyWays to his apartment. He was curious about how the service worked. “It seemed cool,” he said, “and I wanted to try it out.”

Another time I had a package for delivery to an island, but learned that the bridge was closed. I called the customer, who said he could wait until the next day. Having that personal interaction helped address the issue quickly and provide good customer service.

I think MyWays is an excellent option to try in other cities. Customers like it, and it gives students and others the chance to supplement their income. I’m sure people will enjoy participating.
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