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Editorial

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Assistant editors **Hazel King, Louise Rouvray**

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Deputy chief sub editor **Nick Shepherd**

Proofreader **Frank Millard**

Advertising

Managing director **Matthew Gunn**

Publication manager **Helena Hunt**

Australasia business manager **Chris Richardson**

Tel: +61 4207 64110

Design

Art director **Craig Marshall**

Art editor **Julie Welby**

Design team **Louise Adams, Andy Bass,**

Anna Davie, Andrew Locke, James Sutcliffe,

Nicola Turner, Ben White

Production

Head of production & logistics **Ian Donovan**

Deputy production manager **Lewis Hopkins**

Production team **Carole Doran, Cassie Inns,**

Robyn Skalsky

Circulation **Adam Frost**

CEO **Tony Robinson**

Managing director **Graham Johnson**

Editorial director **Anthony James**

Published by **UKIP**

Subscriptions £28/US\$54 five issues a year

The views expressed in the articles and technical papers are those of the authors and are not necessarily endorsed by the publisher. While every care has been taken during production, the publisher does not accept any liability for errors that may have occurred.

ISSN 1362-5209 Postal Technology International

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Published by UKIP Media & Events Ltd,

Abinger House, Church Street,

Dorking, Surrey, RH4 1DF, UK

Tel: +44 1306 743744

Fax: +44 1306 742525

Editorial fax: +44 1306 887546

Email: postaltech@ukipme.com

Printed by William Gibbons & Sons Ltd

PO Box 103, 26 Planetary Road

Willenhall, West Midlands, WV13 3XT, UK

Welcome

I was travelling on the M1 motorway last week when I passed a Royal Mail lorry. The sight of the big red vehicle on the road always makes me feel slightly patriotic – like when I see the UK's familiar red phone box, London's black taxis and a red London double-decker bus. Royal Mail is a national institution and one for me that has never failed to deliver. However, for Royal Mail to continue delivering, its current structure needs to change and privatisation is the route that has been chosen. At time of going to press the UK government had just announced that it had given formal notice to the stock exchange that it plans to privatise Royal Mail “in the coming weeks”.

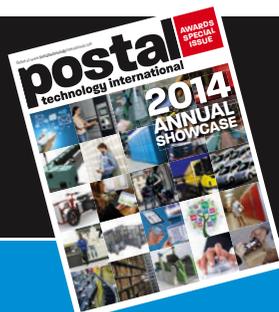
Whether privatisation is the right approach or not remains to be seen. But according to Ian Jones, operations transformation programme director at Royal Mail, the future success of the postal industry lies in “collaboration across all postal operators”. In *Executive Forum*, page 18, Jones says, “All parties must operate in a professional and transparent manner, which ensures the delivery of an effective and efficient service to customers.”

The aim is that Royal Mail's privatisation will generate revenue to secure a “healthy future for the company”, according to the UK's Secretary of State for Business, Innovation and Skills, Vince Cable. Although the plans have been met with considerable opposition, I believe that privatisation is the best choice, especially considering the increasing competition that is entering the market.

Travelling further up the M1 I also passed delivery lorries from CityLink, Hermes and DPD, to name just a few. These players have all entered the market on the back of the e-commerce boom, and are evidence that parcel delivery has now become the mainstay of the postal industry. Competition is tough in this area, with new solutions aimed at improving customer experience entering the market on a regular basis. DPD, for example, recently launched its Follow My Parcel solution, which enables the company to provide a 15-minute delivery window. DPD's work in this area has been recognised as part of this year's Postal Technology International Awards (p6), where it won the award for Last Mile Delivery Innovation of the Year.

On the upside, along with increased competition comes innovation. New products and solutions are being developed in order for posts to stay ahead. Diversification is also key; postal operators need to continue to find new ways to drive revenue. A number of operators have turned their businesses around by doing this, in particular Bpost and Eesti Post, which have both seen profits rise over the past year. Although 2014 is going to be an interesting year, I think it's safe to say that diversification and innovation will continue to ensure the survival of our industry. **Helen Norman, Editor**

“Royal Mail is a national institution and one for me that has never failed to deliver”



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AND THE WINNERS ARE...

Now in their fifth year, the Postal Technology International Awards have gained a reputation for recognising the most innovative developments making an impact on the postal industry. This year saw nominations concerning cloud-based IT services, sorting machines that take into account cross-border regulations, parcel-tracking devices that test temperature and handling conditions, NFC and augmented reality technologies, and interactive retail solutions. One of the most popular solutions to be put forward in the nominations was the parcel locker concept, which is quickly being embraced and expanded by posts in many countries around the world.

Nominations for the 2013 awards opened in May, when readers were asked to propose the most notable achievements of the past year. As in previous years, nominations attracted an overwhelming response from postal operators and suppliers alike. A shortlist was then drawn up from the readers' responses and sent to the judging

panel, which included 17 major decision makers from posts around the world, including Austrian Post, Royal Mail, PostNord and DHL. The judges then voted for their top choices; the winners in each category can be seen over the next eight pages.

For 2013, two new categories have been added: Parcel Handling Technology of the Year and Digital Communication Innovation of the Year (previously Digital Mail Innovation of the Year). The decision to introduce these categories was taken due to the changing postal marketplace, in which e-commerce is becoming one of the major revenue generators for postal operators, and which is seeing the introduction of many advanced technological solutions that are helping to increase customer satisfaction and generate additional revenue.

The winners of this year's Postal Technology International Awards were announced at an awards ceremony at Post-Expo 2013 in Vienna, Austria, on 1 October.

The judging panel

Thomas Baldry, senior vice president and board member of Global Operations, DHL Global Mail

Roger Crook, CEO, DHL Global Forwarding, Freight, and Member of the Board of Management, Deutsche Post DHL

Michael Faltum, head of technology, Post Danmark

Joseph Gafa, CEO, MaltaPost

Ian Jones, operations transformation programme director, Royal Mail

Jan Kollar, head of international and regulatory affairs, Slovak Post

Woo Keng Leong, executive vice president/head of postal services, Singapore Post

Dibuseng Mamabolo, senior manager of international relations, South Africa Post Office

Helen Norman, editor, *Postal Technology International*

Kent Ohlsson, chief operations director, PostNord

Derek Osborn, business coach, Whatnext4u

Gul Muhammad Sabir, superintendent, Pakistan Post

Massimo Sarmi, CEO, Poste Italiane

Mait Soorau, board member, Eesti Post

Gary Stubbs, general manager and programme director, future network, Australia Post

Elmar Toime, chairman, Postea Inc, and postal industry consultant

Carsten Wallman, head of strategy and group development, Austrian Post

The categories

Automation Technology of the Year

Environmental Achievement of the Year

Last Mile Delivery Innovation of the Year

Parcel Handling Technology of the Year

Digital Communication Innovation of the Year

Retail Innovation of the Year

Service Provider of the Year

Supplier of the Year

CATEGORY: **AUTOMATION TECHNOLOGY OF THE YEAR**
WINNER: ROYAL MAIL'S WALK SEQUENCING PROJECT

In order to simplify and standardise its sorting processes, Royal Mail has recently invested £160m to automate its delivery operation. The Walk Sequencing Project enables all mail to be automatically sorted to the sequence of a delivery route, right down to each specific customer address.

"The project was part of the £3.1bn transformation of Royal Mail's entire operation," says Stephen Cameron, operations process and collection director for Royal Mail. "To achieve our goals we supplied 574 compact sequence sorting machines across 174 sites at a rate of six per week between 2010 and 2012 – one of the fastest deployments of its kind anywhere in the world. It was part of our sortation automation programme which also deployed intelligent letter sorting machines into our mail centre estate, at the same time we rationalising our mail centre footprint by around half."

Around 8 out of 10 letters are now successfully sequenced automatically in delivery point order by the end of April 2013. This compared with a business case target of 74%.

"The overall equipment effectiveness measure (OEE) is 85%, compared with a business case target of 65%, highlighting the efficient use being made of the automation now available to Royal Mail. Despite falling mail volumes we have seen an increase over the past three years in terms of productivity. Another key aspect is the world-class safety rate that we have achieved. Overall we delivered 3,500 machine moves, some in highly complex positions, yet our safety rate was less than 0.3 lost time accidents per 100,000 hours," Cameron explains.

Royal Mail won the Automation Technology of the Year award in part because it delivered a fundamental and sustainable operational change ahead of time and to cost but, as Cameron likes to point out, there is more to it than that: "People were at the very heart of the programme," he says. "We affected working lives of 130,000 people and 1,400 delivery offices on the back of the programme. We had to deploy more than 55,000 work packages and our project team trained more than 4,000 people directly on the automation equipment. We also ensured we engaged effectively with the trade union to overcome their long tradition of being averse to change."

The project adhered to the standard Royal Mail project lifecycle, governance and methodology. The lifecycle is split into six stages. The project was managed through a project board, which reported to the Operational People and Programme Board (OPPB). The business need for the investment was to reduce operational costs through replacing manual sortation letter sorting techniques with an automated solution.

"The implementation of the Walk Sequencing Project, while in parallel implementing other automation equipment and reducing the mail centre estate by half, made for an extremely complex project. Achieving all of this and delivering it ahead of time really makes this project stand out over others."



postal technology international Awards 2013

Shortlist

Royal Mail's Walk Sequencing Automation Project

Syslore Match

MIDAS Truthing and Reject Analysis System from PASS

ID Mail Systems' Dispatcher Max

Increase the value of your business, that's his job.

Maurizio PUPPO
Sales Manager

SOLYSTIC
A NORTHROP GRUMMAN company

CATEGORY: ENVIRONMENTAL ACHIEVEMENT OF THE YEAR

WINNER: **POSTNORD**

“Our environmental work is based on the approach that every kilowatt or litre saved helps preserve both the earth’s and PostNord’s resources.” So says Kent Ohlsson, PostNord’s chief operations director. The company has bold plans to reduce its CO₂ emissions by 40% between 2009 and 2020. Already huge inroads have been made: since 2009 CO₂ emissions have fallen by 11%, and last year alone by 5%.

“Our customers set environmental standards, and a well-developed environmental policy is often a prerequisite for doing business,” says Ohlsson. “Customers have concrete requirements such as the environmental performance of our vehicles, environmental services and service-specific environmental data, as well as certified management systems.”

Ohlsson believes that integrating environmental responsibility into PostNord’s core business is a key competitive advantage, both now and in the future. Therefore the company sees its most important environmental efforts as those that provide its customers with environmentally sustainable communication and logistics solutions. By setting itself tough ecological goals, PostNord believes it is aiding its customers’ targets in the same field.

Late last year the company was recognised by the IPC for its qualitative climate efforts. The PostNord Climate Fund, established in 2009, pools environmental suggestions from its employees and deploys the best ones. To date over 80 such initiatives have been taken on, including energy optimisation at printing presses, energy recovery from machines, better draught proofing around doorframes and improved energy efficiency at parcel terminals. This year the fund has been allocated €11.5m (£9.7m).

“One of the most important investments we have undertaken in recent years is in our fleet of electric vehicles,” says Ohlsson. “We currently have over 5,000 such vehicles, which is one of the largest electric fleets in Europe. Not only have we reduced maintenance costs and noise pollution, but

our green vehicle group has also increased the proportion of fossil-free postal distribution.”

PostNord is at the forefront of a research project exploring energy-efficient driving and alternative fuels. The fuel in question is dimethyl ether (DME), a newly developed substance with fewer pollutants and waste products than ordinary petroleum. Early research suggests that over a vehicle’s life DME produces emissions of fossil CO₂ that are 95% lower than from diesel. Meanwhile further environmental work is being done in the field of airmail by PostNord’s Swedish subsidiary, Posten AB. The Green Air Mail project has the dedicated aim of reducing the environmental impact of airmail deliveries. The means by which to achieve this include flying at lower altitudes to reduce fuel consumption and the implementation of ‘green landings’ whereby the aircraft descends continuously from its cruising altitude to the runway, requiring little or no thrust.

“Our environmental goals are some of the most ambitious among companies in the logistics and communications industry,” says Ohlsson. “We know it won’t be easy. We shall need to increase the number of electric vehicles we have in operation, make fuller use of transportation capacity, transfer a greater proportion of long-distance mail by rail, and use more biofuels and fossil-free electricity. However, we continue to upgrade our vehicles to make them more environmentally friendly, transport over a third of our mail by rail, train our drivers to drive with fuel efficiency in mind, and are working on any number of eco-efficiency projects. Here at PostNord we feel that the strength of our improvement proposal lies in our awareness of the innovation and hard work that is required to achieve the goals.”

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Shortlist

Docmail Local Post
CTT Correios de Portugal’s Green
Wheels project
PostNord
Stichting Milieukeurmerk Post



CATEGORY: **LAST MILE DELIVERY INNOVATION OF THE YEAR**
WINNER: FOLLOW MY PARCEL
BY DPD

Earlier this year, DPD, one of the world's leading providers of parcel delivery services, elevated delivery services to a new level with Follow My Parcel, enabling customers to live-track their parcel delivery using a GPS mapping interface designed for smartphones, tablets and PCs. The mapping tool shows the driver on his route and counts down the deliveries in real time to give the recipient an accurate 15-minute delivery slot.

"Follow My Parcel is the natural extension to DPD's ground-breaking Predict service, which launched in March 2010," says Tim Jones, marketing director for DPD. "Predict was the first service to use GPS technology to notify parcel recipients by email or text of an accurate one-hour delivery window. It was a massive success with retailers as it gave them an opportunity to give their customers an improved delivery experience with joined-up communication throughout the journey."

With every parcel, van and delivery already tracked it was a logical next step to complement the GPS technology with a user-friendly mapping interface, to enable customers to live-track their parcels. Feedback from customers and retailers showed that the email and text communication was a huge part of the success of Predict. Therefore Follow My Parcel provides real-time countdown to delivery and further delivery options for customers who won't be at home to receive their parcels. As the parcels are processed through the DPD network, customers are automatically sent an email or text informing them of their delivery day and offering them a range of options including the ability to start live-tracking their parcel, change the delivery date or select a specified neighbour as recipient.

"As the parcel is sorted at the depot on the morning of delivery, customers are automatically notified of their one-hour delivery slot," says Jones. "SMS and email messages give customers 'single tap' access to the live map so that they can watch the progress of their delivery in real time. The map shows where their driver is on their round and the current customer's delivery number. The customer can continue to select from the full range of delivery options while the driver is en-route. As the map counts down delivery drops, the customer is given their final 15-minute delivery window."

DPD originally launched the service in conjunction with fashion retailer Asos in June 2013 before rolling the service out to all DPD UK customers across August and September. The product is designed for the B2C market. This is the first time customers have been able to track their parcels in real time. The promise of a 15-minute delivery window is also a first.

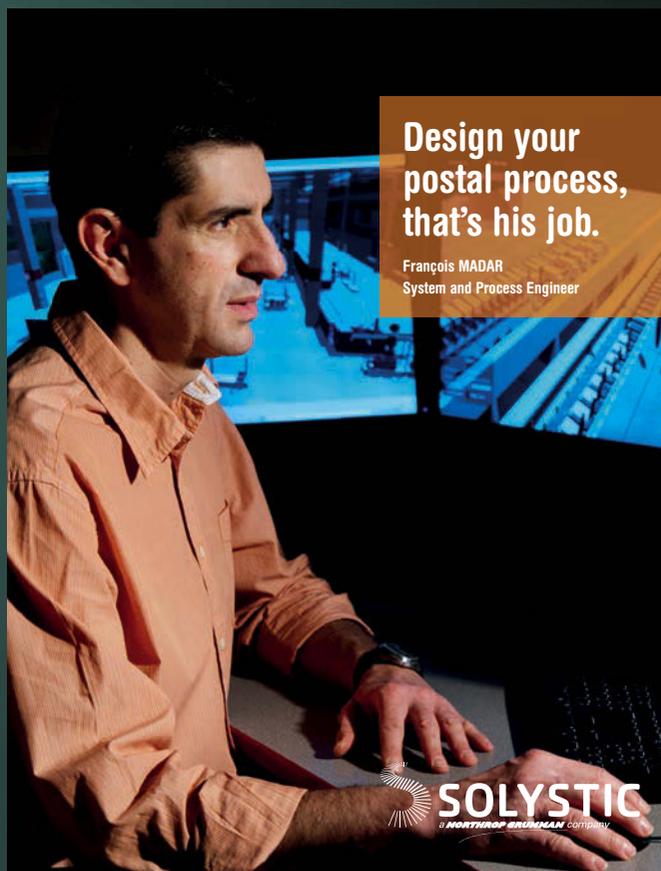
"The feedback has been fantastic," says Jones. "Predict was an instant hit, but this takes it to another level. With social media you get instant feedback and when people see it for the first time, Follow My Parcel definitely has the 'wow' factor."



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Shortlist

Follow My Parcel by DPD
 SenseAware by Fedex
 Shuti
 Droptag by Cambridge Consultants
 Loyds Paxster



**Design your
 postal process,
 that's his job.**

François MADAR
 System and Process Engineer

SOLYSTIC
 a NORTROP BRUNNAN company

CATEGORY: **PARCEL HANDLING TECHNOLOGY OF THE YEAR**WINNER: **USPS'S PTS-2**

USPS's new Product Tracking System, PTS-2, is an industry-leading solution that replaces its ageing mainframe PTS system. The purpose was to create a modern, seamlessly integrated solution to support the various USPS business functional areas involved in the package delivery process.

"We are facing a fiercely competitive and complex market space that is rapidly changing to meet higher customer expectations," says John Edgar, vice-president of information technology at USPS. "Our research showed that package visibility is the prime consideration for customers when choosing a provider. In order to address customer concerns about the quality of our package tracking capabilities we felt that we needed to capture more individual scans throughout delivery as this would provide a better customer experience than our competition. Doing this caused a substantial increase in data processing and storage requirements that our previous system was not able to handle. We needed a robust, flexible and scalable solution that would meet the modern lower operations and maintenance profile demanded by businesses today."

The new solution provides the capacity for the projected growth of a fully barcoded package mail stream, complete with a projected 129 billion annual scans by 2018. It dramatically improves the performance of USPS product tracking system functions, including scan aggregation and data provisioning to mailing partners.

"The newly created tracking solution required the creation of a completely new IT infrastructure using leading architecture, process, software and hardware to support fast high-volume transactions," says Edgar. "We had the dual challenge of supporting the highly complex, high-volume processing of package tracking data and providing the maximum flexibility, scalability and cost containment in the business solution. We achieved this through modularisation and platform alignment to simplify and reduce the maintenance and support activities required for our operations."

The transition from the legacy system to PTS-2 needed an extensive data transformation and conversion effort in order to maintain existing historical data and facilitate a smooth and seamless transition to the new system. It also required a detailed, results-driven programme office encompassing many related USPS systems and applications to facilitate the transition with minimal impact.

"Our product tracking re-engineering effort was supported directly by over 250 people and six vendors across six of our IT locations," says Edgar. "It deployed more than 9,500 detailed business requirements, tens of thousands of detailed technical requirements and over 50 system interfaces. We were very excited that the new system proved itself almost from day one by allowing us to handle considerably larger volumes of packages and enabling us to start reducing the resources needed to operate and maintain it. The new solution immediately interfaced very effectively with large numbers of internal and external stakeholders, such as our self-service portal USPS.com, Track and Confirm, and customer systems. PTS-2, by being able to process and present more detailed tracking data than previously possible, enables our customers to access the desired information faster than ever. PTS-2 has already halved end-to-end processing times."

The information customers are receiving has greatly increased fidelity and timeliness. A package in the USPS supply chain today receives seven to 10 more near real-time scans than it did just a few months ago.

"I believe that what separates the USPS solution from others is scale," concludes Edgar. "We are the largest postal service in the world, we handle billions of packages annually and support tens of millions of customers domestically and internationally. PTS-2 is able to collect, process, store and present timely tracking data, reporting and analytics to support our customers at a scale that we believe is unparalleled."

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USPS's PTS-2 project
Automatic Parcel Singulator from
BEUMER Group and Mechnica
Siemens' fast track unloading
solution: Rubus
Bulk chute design by Deutsche Post
DHL & Vanderlande Industries
U Care C by Fimec Technologies



CATEGORY: **DIGITAL COMMUNICATION INNOVATION OF THE YEAR**

WINNER: **USPS'S DIRECT MAIL CAMPAIGN**

In 2011 USPS vice-president of New Products and Innovation, Gary Reblin, was pondering the state of direct mail (DM) when a thought occurred to him: instead of lamenting the loss of traditional mail, he started considering what digital could do to create new opportunities for DM.

"We began offering DM promotions as a way of trying out new ideas related to mobile technology," he says. "Some of the greatest opportunities can be seen in DM. The advent of smartphones has enabled us to move from hard copy DM to the digital world. As a post we asked ourselves, 'How can we use DM as a kick-off point into the digital world?'"

After talking to a number of mailers and printers, USPS decided to run similar campaigns to the ones they had in the past, offering promotional discounts to encourage customers to try out this new technology. The technologies connected with mobile technology included mobile barcodes, image recognition, augmented reality (AR) and near-field communications (NFC). AR supplements images with sound, video and graphics while NFC facilitates communication and data exchange based on proximity.

"In May last year we offered marketers a discount on postage if they used 2D barcodes on their DM," says Reblin. "One in five of our standard mail users participated in the promotion and 18-20% of DM had QR codes even after USPS's promotion ended. This year our promotions have included both NFC and AR."

Meanwhile USPS has been developing its smartphone app with AR specialists Aurasma to incorporate all the tools required to trigger the codes on mailpieces. The app also allows users to store coupons they receive in the mail.

"Overall the impact has been huge," says Reblin. "We have evaluated customers that took advantage of the promotions and compared them with a baseline of those that didn't. What we are seeing is that those who take advantage of our new offering are receiving an 8-10% growth in their mail volumes while those who are not see a levelling or slight decline. Those embracing the evolution of DM are reaping the benefits and we are greatly encouraged by the results. USPS had been down in direct mail two years in a row. This year we are up nearly 2%."

Reblin has observed other printers and select mailers experimenting with DM but does not believe any other postal outlet has attempted to do so in a complete and integrated fashion as a way of evolving the mail.

"Others are doing it as a one-off while we are driving the whole industry to coordinate and move this technology in the right direction," he says.



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Shortlist

Inspire HybridMail by GMC Software
Technology
LetterMaschine from Novadex
USPS direct mail campaign
LivingMail

Implement a single solution to process your mail flow, that's his job.

Bruno CARTAL
Program Manager

SOLYSTIC
a NORTROP GRUNMAN company

CATEGORY: **RETAIL INNOVATION OF THE YEAR****WINNER: AUTOMATED TERMINAL BY INPOST AND NCR**

It is not often a solution arrives that promises to revolutionise the industry, but that is what NCR and InPost's self-service automated postal terminal concept is threatening. Launched at Post-Expo 2012, the terminal enables customers to perform all standard financial as well as postal transactions, thereby reducing operational costs and in time perhaps replacing unprofitable post offices.

"We live in an era where customers are less time-rich, more demanding and less loyal," says Michal Mierzejewski, NCR's global account manager for InPost. "According to the UK Domestic Express Parcels Distribution Survey, twice as many customers changed carrier last year compared with the year before because they did not see any difference in the services provided. That is why we co-created this terminal to support customers' growing expectations and give the differentiation our partners are looking for.

"This unique solution is a one-stop shop with an ATM user interface, where the customer can dispense or deposit money, collect a parcel and even receive a registered letter. There are no queues or bothersome formalities. The terminals can operate 24/7 and be positioned in convenient locations for customers, adding value to both the postal and the financial sectors. Around 35-40% of parcels are picked up at a time when post offices and couriers do not operate, so for post offices it is an clear opportunity to improve customer satisfaction and save costs."

"When we started this project in early 2012 we saw a lot of synergy," says Wojciech Foroniewicz, regional managing director of InPost. "NCR and InPost have great experience in self-service technology – NCR in retail, hospitality and financial, and InPost in postal and e-commerce. Our focus on innovation and customer experience meant that creating an automated parcel terminal was a natural step forwards. We see a great new potential in postal self-services around the globe. Thanks to the use of the NCR ATMs as

parcel lockers we can substantially reduce our costs and increase production by focusing on the parcel locker modules. Markets are responding positively to this concept and we believe it is only a matter of time before users around the world start benefiting from such a combined solution."

According to NCR and InPost there are two main groups who can benefit from this solution. The first is e-commerce customers, those of us purchasing goods on the internet. Thanks to the ability to connect the InPost locker module to any NCR ATM on the street customers should be able to save time while making financial or postal transaction. The second group is banks and independent ATM deployers (IADs) or owners of ATMs. The InPost lockers already have over one million customers worldwide. This clearly shows that the sector's development can help banks and IADs increase their client base. By extending the range of services they can attract more customers to bank branches and increase ATM transactions.

"We believe the solution is a win-win for all partners involved," says Foroniewicz. "Our self-service automated postal terminal concept is the only one on the market that gives customers the possibility to conduct both financial and postal transactions simultaneously. If you consider how many NCR ATMs there are globally, you will understand that the project gives InPost and our customers huge possibilities for expansion. The potential coming from this solution and our cooperation are unique and visible in all business areas."



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RiposteTouch by the Escher Group
KEBA's KePol LS
InPost and NCR's Automated Terminal



CATEGORY: **SERVICE PROVIDER OF THE YEAR**
WINNER: EESTI POST

While nearly all posts have seen a decline in mail volumes, few have experienced the slump as acutely as Eesti Post of Estonia. Since 2006 numbers have fallen by half, spurring it to create a host of new solutions for its customers and seek innovation as a way out of trouble. "We are a small country so we have to be flexible and create products that are not offered elsewhere," says Aavo Kärmas, CEO of Estonia Post. "Thankfully we are very much an electronic society and have developed new solutions to promote and support the growth of e-commerce."

Eesti Post ended 2012 with revenues of €52.7m (£44.6m), an increase of 9% on 2011. The volume of parcel services increased by 15%, while e-services rose by an impressive 48%. Meanwhile the company's investments nearly doubled to €4.8m (£4m).

"We will use some of that money to modernise working conditions and raise salaries, which went up by an average of 3.6% last year," says Kärmas. "However most of it will go towards growing our Post24 parcel locker network. This is a prime example of service innovation and is a result of the rise in e-commerce. More than 250,000 people have used our lockers to date. We have 148 of them across the Baltic states. As the name suggests, parcels can be retrieved at any time of day or night. Today we see Latvia and Lithuania as our home market and we have expanded Post24 into both. If you look on a map you will see we are tiny countries but put together we are like an average Scandinavian nation."

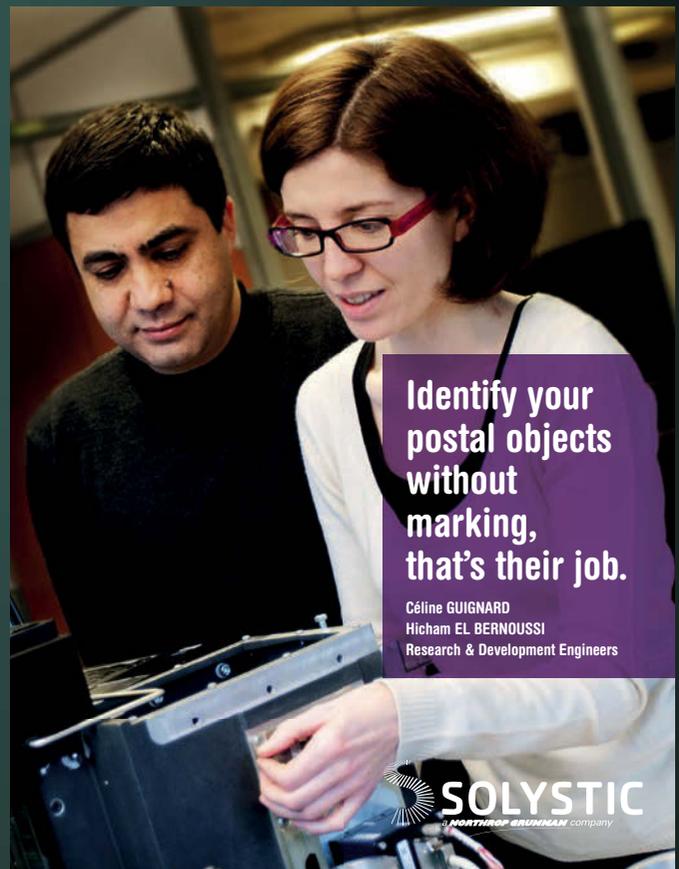
The most developed trade route for Estonia is with Germany, which brings the largest parcel volume from online shopping to the country. The number of packages ordered from Germany has risen rapidly over the past few years. In June, Eesti Post and Deutsche Post DHL agreed to develop further services for customers in their respective countries.

The keynote achievements of 2012 at Eesti were the launch of the Post24 parcel lockers in Latvia and Lithuania, the astonishing growth of e-services, improving conditions for its workforce and the acquisition of Lithuanian courier Unipakas. Through the purchase of one of the largest logistics companies in Lithuania, Eesti Post has strengthened its presence in the Baltic parcel market as well as nearby Latvia. This enables e-sellers to enlarge their market share.

"In the future I see us turning away from services and more towards solutions," says Kärmas. "This way we will offer solutions that address customer needs. Our plan will be to take some part of a value chain from everyday business and absorb responsibility for it, offering a solution for our clients so that they can focus on their business. Innovation and flexibility are key to our survival and success."

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InPost
 Eesti Post
 Deutsche Post



**Identify your
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 without
 marking,
 that's their job.**

Céline GUIGNARD
 Hicham EL BERNOUSSI
 Research & Development Engineers

SOLYSTIC
 a HORTEROP GRUNHEAN company

CATEGORY: **SUPPLIER OF THE YEAR**
 WINNER: **KEBA**

KEBA is a market leader in first and last mile automation. Twelve years ago in a joint project with Deutsche Post DHL it came up with the concept for its goods logistics solution KePol. The idea evolved from KEBA's expertise in safe deposit box automation. In the mid-1980s KEBA developed one of the world's largest systems for HSBC Personal Banking, which featured 26,000 units. This know-how has fed into self-service automation for the development of its locker box automation systems. Today there are 3,000 KePol parcel machines featuring over 250,000 boxes installed throughout the world.

"The current generation of KePol is the modular system KePol FS, which offers a one-stop-shopping package including hardware, software, consulting, services, installation and rollout management," says Gerhard Luftensteiner, CEO of KEBA AG. "The full modularity of the system gives our customers investment protection. It is possible to add or remove modules at any time during the product lifetime. We have recognised that postal organisations show a high demand for offering self-service zones in their post offices, post-partner shops, parcel shops and post outlets in supermarkets and shopping malls. By serving this upcoming market trend and setting the trend for this new technology, KEBA developed the new KePol LS system, which has been specifically designed for indoor installations."

Postal and logistics organisations that are KEBA customers include Deutsche Post DHL, Post Denmark, Austrian Post, Swiss Post, BPM Luxembourg, Post Luxembourg, Kouzlena Almara in the Czech Republic, Post Lithuania and others. Swiss Post described KEBA as its "ideal supplier" while Post Danmark noted the "ease of use, simplicity and added value, which are the key features of every self-service system".

"Availability is important for any self-service system that is running 24/7," explains Luftensteiner. "Of machine availability 95% appears very high, but is put in perspective by the fact that the machine is then unavailable to process

transactions eight hours per week. However we often reach 98% availability or more, which means only three hours of non-availability. A 3% increase in availability cuts downtimes by over 60%, which is a major factor in customer satisfaction and cost-efficiency."

KEBA's engagement with the postal industry and its passion for solving the pressing challenge of first and last mile logistics earned KePol its reputation as a trustworthy high-quality solution. Last year the company rolled out 450 machines to four customer networks alone. It also holds the world record for the most compartments within a machine – 374 at Frankfurt train station.

"I believe we won the award this year because of our high quality and reliability," says Luftensteiner "We feel every customer is individual and needs to be treated individually. Therefore we offer tailor-made packages for the customer's specific needs. There is not one standard that can be applied to all when it comes to automating the last mile. Our flexibility sets us apart from the others. We set trends that others follow. KePol's highly innovative solutions for the automated pick-up and drop-off terminals have helped prepare, influence and drive the postal market since the creation of this new kind of service in 2000. We are constantly working on innovations for the future. Last year we reinvested 16% of our turnover in research and development. This is not just in hardware but also software and services. It is very important for us to show customers that a logistics solution is not the hardware alone. It is an entire system solution where software plays an important role."

KEBA's latest product innovation, KePol LS, will be presented at Post-Expo 2013 for the very first time.

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Patricia ROUGON
Program Manager

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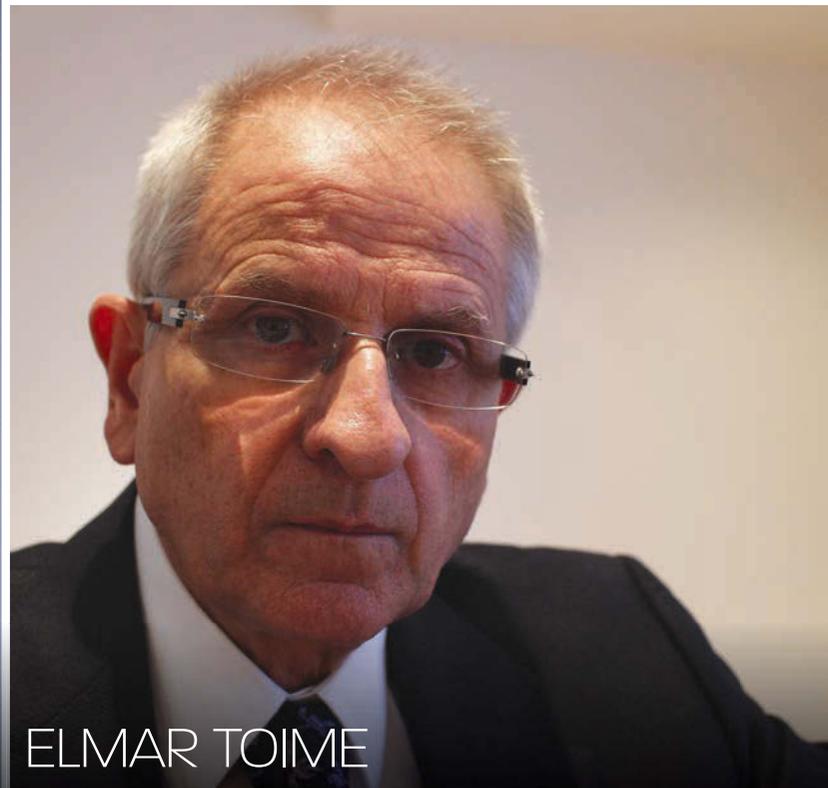
LUIS PAULO



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CARSTEN WALLMANN

Executive forum

SIX INDUSTRY EXPERTS SHARE THEIR VIEWS ON INDUSTRY TRENDS, CHALLENGES AND DEVELOPMENTS FROM THE PAST YEAR

Carsten Wallmann

Head of strategy and group development, Austrian Post

How can posts compete with private operators?

The national postal service companies have more economies of scale with respect to the mail business than any new market player. On the other hand, the private operators usually have lower factor costs since they do not employ civil servants and they can cherry pick. To create a level playing field, regulators need to set limits for private operators, such as by stipulating minimum transit times, defining a minimum geographical coverage, or creating universal service obligation (USO) funds based on contributions from both private operators and the posts.

What innovation has impressed you most in the past year?

An innovation by Austrian Post that has impressed me is the implementation of parcel delivery boxes for households. The concept is similar to mailboxes, except multiple parties can receive parcels through one box. This concept makes the box economical and very customer friendly, as recipients do not need to go to the post office or 24-hour station to pick up their parcels.

What development at Austrian Post has helped drive the business forward?

One of the key innovations has been the introduction of the 'Kuvert' – an envelope in which Austrian Post delivers unaddressed mail to households twice a week. The Kuvert has become a key advertising medium in Austria and has helped us to significantly reduce operational costs, as the sorting of unaddressed mail is now automated. Kuvert

is a four-page envelope designed to hold machine-processable brochures. The cover includes an eye-catching photo, and both inside pages can be booked as advertorials. There is also space for information and image boxes. The back cover is used for high-end image advertising.

What do you think the postal service of the future will look like?

The centre of gravity will shift from the mail to the parcel business. Mail will keep on playing a significant role for postal service providers. Consumers prefer paper bills to physical bills and advertising mail will continue to be relevant. To remain successful, posts will keep on restructuring their cost base. In addition, they will require support from the regulator concerning the USO. However, the parcel business will supply the true success stories for posts. This will remain a growth opportunity for the coming years, and posts will need to invest in their operations and innovate with respect to services. Additionally, posts will explore services along the e-commerce value chain.

What does the future hold for Austrian Post?

Going forward, we will continue to operate a profitable, albeit smaller, mail business in Austria. At the same time, our parcel business in Austria, Turkey and CEE will grow and profit from the e-commerce boom. In Germany and Austria, we will further develop our healthcare footprint to remain the key industry partner for the distribution of pharmaceutical products.



IAN JONES

“The society of the future will value access to information above daily access to mail”



Elmar Toime

Chairman, Postea, and postal industry consultant

What main trends are affecting the industry?

Everyone is using the term ‘transformation’ again. This time it is about competing in a digital world. How to continue to improve productivity in areas of volume decline; how to best serve the needs of e-commerce; how to compete in parcels and express markets; how to make post offices relevant to tomorrow’s consumers. The postal companies with a solid background of change and business diversification seem to be coping better, so it is not just how to react to the new business environment. It is also how prepared you have been over the past decade.

How can posts compete with private operators?

The old laws of marketing still apply. You compete in service or innovation niches, or you compete through scale, productivity and low prices. Many postal companies still seem to be playing catch-up in terms of service features and innovation, so I think being the best volume operator is the way to go. Get mail and parcels delivered on time, every time, at the best price.

How have customer expectations changed?

I don’t know if customer expectations have changed. The scary thing is whether customers expect anything different or better. If that is the case, then it means the industry is losing

relevance. Having said that, we are noting in some countries the debate about universal service is opening up, at least in days per week for mail delivery. That suggests the start of an acknowledgement that service levels have to be eased. In parcel delivery, customers are looking for options: for place of delivery, for flexibility in timing of delivery, and in proof of delivery.

What innovations have impressed you most in the past year?

We are seeing a range of postal companies looking to find profitable ways of providing secure digital connections, payment services and universal electronic mailboxes. In delivery, there is heavy investment in parcel lockers and parcel shops. While these are not innovations within the past year, the recognition is emerging that a range of solutions is needed. In operations technology, a number of suppliers have developed sorting equipment able to handle the broad spectrum of e-commerce items, such as packets, parcels and irregulars. And of course I can’t ignore the QubeVu, a unique parcel dimensioning device that simplifies the ability to price services by dimensional weight.

What post has impressed you?

Three operators come to mind straight away. First, Deutsche Post, where I am a member of the supervisory board, continues to drive forward across a well-defined logistics and mail portfolio with a growing and meaningful digital presence. The next is the flexible delivery model of the Denmark operations of PostNord. I think this was the first postal company to tailor delivery standards that preserve the six-day week at a full postage price, while providing bulk mailers with a two-day-per-week cut-price service. Finally, I would also like to add the achievements of bPost. I think the past 10 years has seen its transformation from a sleepy

postal department, to a shareholder- and customer-focused international business.

What is the main challenge affecting the postal industry?

I always come back to relevance. How do you keep relevant? Well, we know there is a boom in e-commerce. That will eventually reach all economies and settle into a normal growth path. The big merchants and vendors will have plenty of choice for transport and delivery agents, and will want access to the consumer’s front door, to parcel shops and to parcel lockers. Service features and price is already differentiating competitors in this market. Cross-border movements will also need to be freed up. In letter mail, the challenge will be to maintain service levels and productivity, while ensuring a national debate happens for the extent of the universal service. That won’t be easy, but we have seen interesting progress and there is still a lot more that postal companies could do to improve business performance.

What will the postal service of the future look like?

I think the society of the future will value access to information above daily access to mail. At some point, this has to manifest itself in regulatory change and we will see some relaxation of the universal service obligations as they affect frequency and universality of delivery, and disposition of post offices. Postal companies will then need to find the equilibrium point between steady decline in letter volumes, prices rises and productivity improvement. The focus for posts will evolve into logistics, but with innovation and activity up and down the associated value chain. There probably isn’t going to be a universal model for the industry. Some will continue on the international expansion path, but we might see others retreat into a public and subsidised infrastructure role as deliverer of last resort. The seeds of these different paths might be visible even now.

“The growth in e-commerce will continue to create opportunities and challenges”



Ian Jones

Operations transformation programme director, Royal Mail

What main trend is affecting the industry?

The growth in e-commerce will continue to create opportunities and challenges for the postal industry. The continued migration from high street shopping to online shopping creates a growth opportunity that the postal industry must take advantage of. The challenge arises from the need to ensure the efficient collection, processing and delivery of parcels, while optimising the first-time delivery to receiving customers. In contrast, the continued growth in other forms of communication, enabled by smartphones and increased global access to broadband and digital services, will continue to impact adversely on letter volumes. To stem this loss in letter volumes, value-added services underpinned by innovation and agility, will distinguish the best operators from the rest.

How can posts compete with private operators?

With more than half of all mail delivered by Royal Mail in the UK and Northern Ireland currently handled upstream by private operators such as TNT Post and UK Mail, collaboration across all postal operators is essential. All parties must operate in a professional and transparent manner, which ensures the delivery of an effective and efficient service to customers – both posting and receiving. The growth in delivery operations across private operators does create a risk to

USO providers, and regulatory bodies have a key role to play to ensure that the ability to deliver a one-price-goes-anywhere service is not compromised through a strategy of cherry picking on the part of private operators.

How have customer expectations changed?

Customers' expectations have changed materially in recent years. Not only do they require convenient first-time delivery, but they increasingly expect visibility across the supply chain of their items, from point of posting through to the point of delivery. In addition, there is a growing demand from customers to redirect in real time to convenient delivery points. This creates huge technological and operational challenges for postal operators moving forward. Agile and flexible operations, underpinned by effective information systems and customer connectivity, are increasingly essential in order to deliver this value offering to the market.

What one innovation at Royal Mail has helped drive the business forward?

The introduction of walk sequencing technology has created a huge opportunity for Royal Mail to automate a large part of the delivery task. The installation of 574 of Solystic's MARS letter sequencing machines, along with the creation of sequencing capability on our large letter-sorting machines, has resulted in 8 out of 10 letters now being automatically sequenced in delivery point order. This has created the ability to reduce our overall delivery operation costs and is a major part of the successful transformation of Royal Mail's operation in recent years.

What do you think the postal service of the future will look like?

Greater choice and increased value across the supply chain will be prerequisites for the market. In addition

to an expected growth in private operators targeting the traditional monopoly area of last-mile delivery, competition will also come in the form of retailers. With continued growth in online purchasing, retailers will increasingly invest in delivery capability, including in-store convenient delivery of online purchases, same-day delivery options, and more effective return services. In addition to forming closer relationships with retailers, posts will need to drive value innovations for transactional mail and advertising mail. Increased reliability, precision and visibility will be necessary to stem the loss of traditional letter volume to e-commerce and digital marketing, at the same time as securing growth in the share of the growing parcels market.

What does the future hold for Royal Mail?

The past four years have seen a major transformation of Royal Mail, the UK postal market, and the regulatory environment within which it operates. Key elements of the structural change in operations are broadly complete, including the introduction of letter automation, a substantial reduction in the mail-processing footprint, the introduction of digital handheld devices to provide item tracking, and the deployment of new delivery methods such as vans and high-capacity trolleys to facilitate growth of parcels. In the commercial space, the continued focus on simplifying the product offering, while enhancing the value proposition using technology and innovation, remain key elements of the transformation agenda. This ongoing modernisation provides a firm foundation on which Royal Mail can grow a common network for letters and parcels. It enables major synergies as parcels growth offsets the decline in letter volumes, while sustaining an efficient and cost-effective universal service offering for the UK and Northern Ireland.

“We all aspire to participate in the digital revolution and develop secure electronic communication services”



Roger Crook

CEO, DHL Global Forwarding

What main trend is affecting the postal industry?

TK: The development in postal business is driven mainly by two mega trends: e-commerce and e-substitution. Many designated postal operators (DPOs) have experienced a decline in letter mail volumes due to the digital revolution, especially in the transactional mail and direct mail advertising segments. On the other hand, a lot of hope lies in the development of merchandised shipments triggered by online shops and multichannel sales activities, leading to an increase in packet and parcel volumes. In addition, we all aspire to participate in the digital revolution and develop for instance secure electronic communication services.

How can posts compete with private operators?

TK: DPOs normally offer high-quality services at affordable prices. Whenever they succeed in continually modernising and enhancing their products and services, they are able to meet market needs. For international business, DPOs have agreed on standardised products, procedures, accounting and operations within the framework of the Universal Postal Union (UPU). Therefore, DPOs can reach everybody anywhere in the world via this global network. Today's state-of-the-art DPOs meet the needs of



Thomas Kipp

CEO, DHL Global Mail

all kinds of customers, and they are a natural partner for distance sellers because of the 100% coverage of households and address knowledge within their home markets. Lastly, DPOs usually have a good standing within their community and therefore they are trusted, widely known and well-positioned in the market.

What challenges stand in the way of cross-border delivery?

TK: Cross-border delivery has not reached the level it could have because customers anticipate problems in the areas of security of payment, liability and warranty. More often, an easy return solution is missing for customers who want to send back items they did not like. Furthermore, customs clearance may cause delays or inconvenience. Major international projects have been launched on an IPC and UPU level to address the problems and find customer-friendly and feasible solutions in order to foster cross-border e-commerce growth.

What innovations have impressed you most over the past year?

TK: DPOs are much more pro-actively responding to customers' needs and their requirements to link the physical with the digital world. At Deutsche Post DHL we have continuously improved our E-Post services. Having started two years ago with our secure mail product called E-Postbrief, we have meanwhile added a suite of highly

innovative services. Customers can now use a secure online payment tool called E-Postzahlung, a secure online storage tool for important documents called E-Postsafe, or a scan tool digitalising the daily mail and then electronically forwarding it to those customers travelling or being on holiday (E-Postscan). We also operate an e-commerce portal called MeinPaket.de, offering products of thousands of different retailers. It is open 24/7 and comes with a harmonised appearance, easy search options and convenient payment options.

What developments will help drive DHL forward?

RC: The one innovation that will really change DHL's business is about to become reality. The digital revolution and with it e-commerce, including cloud solutions, as well as the desire of our customers to make transportation their competitive advantage, are changing the traditional ways of doing business in the transportation segment. Today's supply chain management and logistics is emerging as an area that can deliver significant value.

Demand and supply planning with integrated logistics networks that continuously drive optimisation to create a flow of benefits to customers is key in this approach. Integrated visibility and big data are areas that will be combined with physical networks to drive next-generation innovations. At DHL, we are constantly looking for ways to create value for our customers and are taking advantage of new technologies that help drive workflow visibility and increase efficiency.

What does the future look like?

TK: In the current postal landscape, I see a spread of two strategic directions as to how posts adapt to the changing business environment. Some put the emphasis very much on financial services; others (*continues overleaf*)

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POST-EXPO Asia Pacific
Email: matthew.gunn@ukipme.com
Tel: +44 1306 743744



“Providing a consistent value proposition to the market is critical to remain competitive”

embark on logistics; and all operators attempt to improve the core physical mail business.

Deutsche Post DHL sees itself as an integrated logistics company with worldwide presence. We foster our strength in physical delivery services while embracing the new digital world. We also see attractive opportunities for a post that is able to innovatively bridge both spheres. The best direct marketing campaign, for example, is the one that creatively combines physical and electronic channels. Here – domestically and internationally – Deutsche Post DHL sees additional business opportunities. We continuously work on extending and strengthening our B2C product portfolio, as well as investing in automation and quality management in order to streamline processes and improve speed and reliability of transit times.

What does the future hold for DHL?

RC: As mentioned already, the fact that our business will be more and more influenced by the digital revolution is the main game changer. We feel well prepared as we are already embarking on significant changes of our IT landscape, especially in DHL Global Forwarding with our New Forwarding Environment. Another aspect that determines DHL's future, as is the case for all large logistics service providers, is of course the further development of the world economy. The growth in Asia and the USA, as well as the crisis still prevailing in a large part of Europe, are factors that have a great impact. We also believe that our strong global presence in developing economies such as the Middle East and Latin American countries will contribute to our further success.



Luis Paulo

Quality and sustainability director,
CTT Correios de Portugal

How can posts compete with private operators?

As the distinction between private and public is becoming increasingly blurry in the postal sector, we should probably speak instead of plain competition, regardless of the ownership of the companies. Previously existing privileges, such as a reserved postal market, do not exist anymore in most of Europe and are disappearing fast, elsewhere. Providing a consistent value proposition to the market is critical to remain competitive. This means delivering innovative, cost-effective and reliable services.

What one innovation at CTT has helped drive the business forward?

CTT has been a profit-making company for the past decade or more, and we want to remain so, without becoming a burden for the current taxpayers or the shareholders in the future. Due to structural and circumstantial reasons, domestic mail volumes are declining fast in Portugal and the company is under increased pressure to find new revenue streams and to effectively implement cost cuttings. Together, projects in these two fields allowed CTT to show again in the first half of 2013 a net profit in excess of €31m (£26m). We consider, in particular, the ongoing cost

rationalisation programme to be extremely successful, financially speaking, without compromising our usual top-class quality of customer service and keeping high levels of internal social consensus.

What will the postal service of the future look like?

It will be very different from today – or it will not exist at all. Posts will remain active in the mail business, but they will increasingly drive revenues from other areas. The product portfolio and the operations will be greener and the social commitment will still be noticeable. While maintaining a widespread presence in different geographies across their countries, contact activities will be more automated and more outsourced. Technology and new organisational solutions will invade every aspect of the postal operations, putting costs at a fraction of today. Customers will be given the possibility to define non-standard, personalised, specifications for their services.

What does the future hold for CTT?

Following the recent shareholder/government decision for CTT to go private, our present priority is to successfully finalise the process of opening up the capital of the company. We truly believe that we have good enough credentials to attract investors: a broad and updated product portfolio, international presence, sound operations supported by a modern technological backbone, satisfied customers, skilled staff, and an unbeaten financial profitability. We commit ourselves to care even better of our stakeholders in the future, either they are shareholders, clients or the staff.

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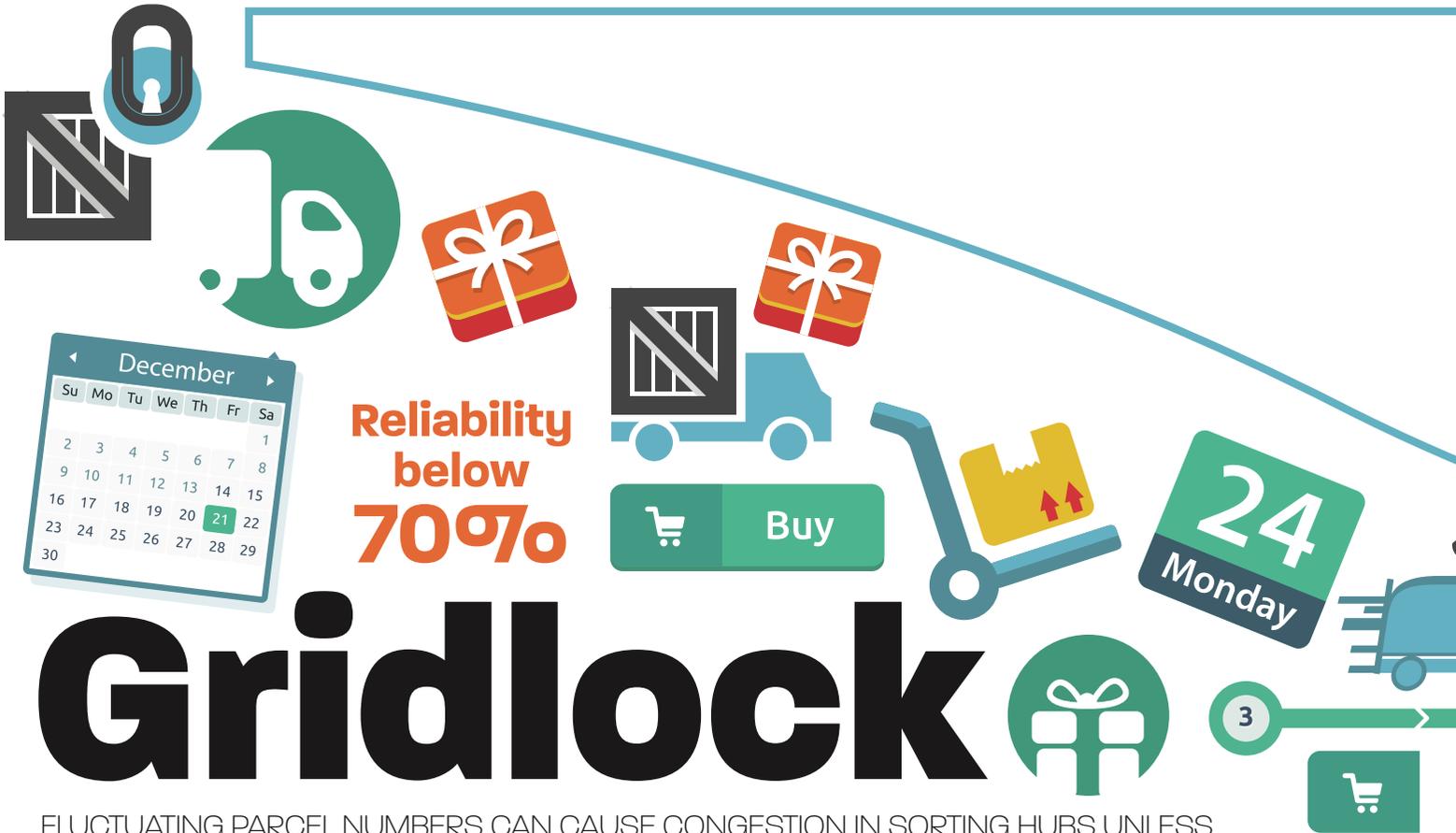
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Matthew Gunn

Managing director,
POST-EXPO Asia Pacific

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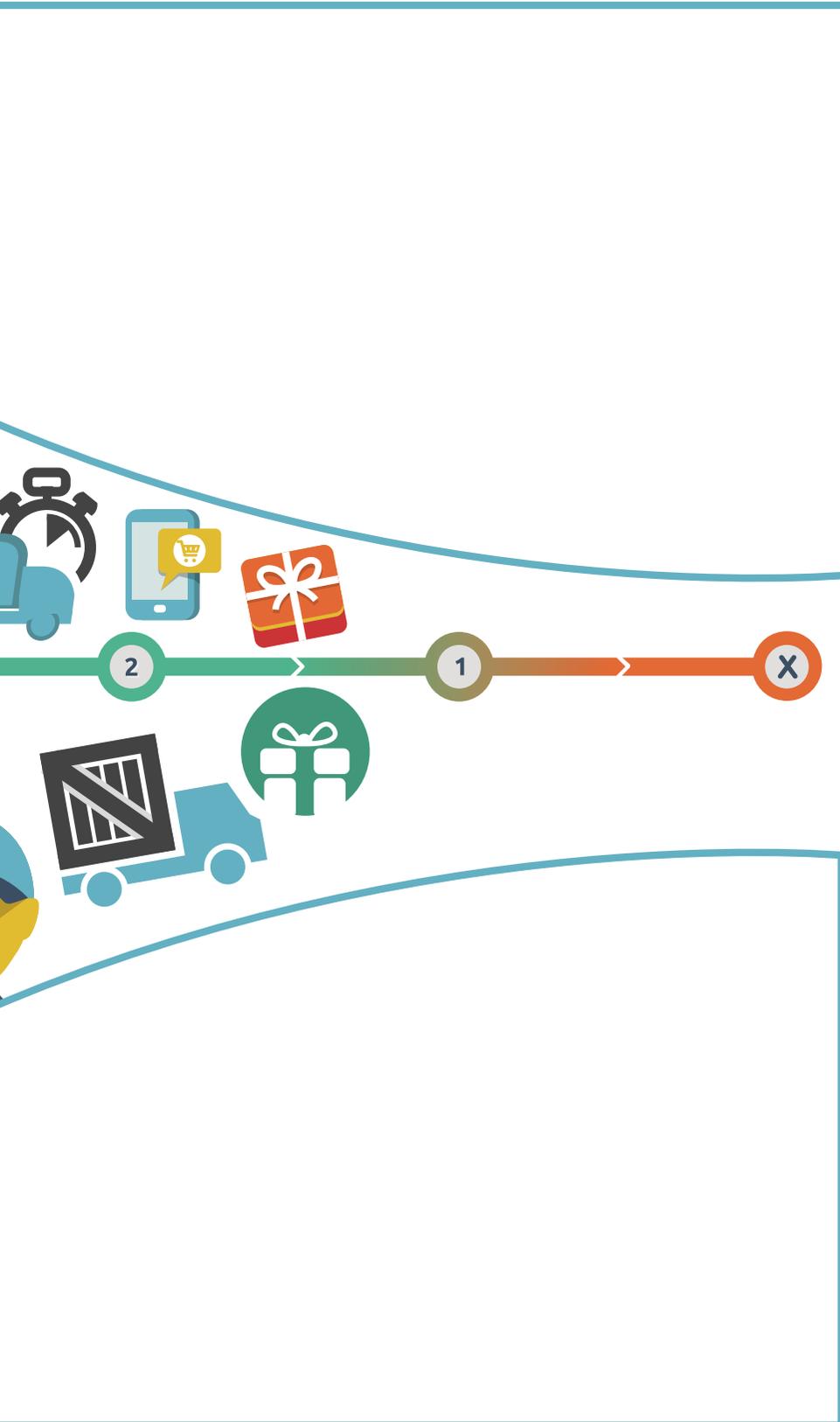
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WORLDWIDE PARCEL DEMANDS ARE DEALT WITH FROM A NETWORK PERSPECTIVE

Improve sorting
capacity by

50%

to 6,000 parcels
per hour





Demand for small package delivery services has rapidly increased in recent years, largely due to the explosive growth of online shopping worldwide. The volatile nature of the online shopping market means that the number of parcels being sent and received can change rapidly and volume is difficult to predict, especially during seasons such as Christmas.

Responding to the increased number of small-sized and frequent shipments poses a great challenge to logistics service providers. They need to rationalise the cost of operating and maintaining their parcel distribution networks, and aim to achieve a reasonable success rate of on-time delivery of packages across a large geographic area. It requires the careful design and management of the physical distribution network, taking into consideration things like terminals, hubs and the network paths that connect them. Maintaining cost efficiency and achieving a high level of service in the distribution system is also crucial in order for logistics service providers to remain competitive in the parcel delivery industry.

A paper published by Lim and Shiode¹ in 2011 on the possible adaptive measures to meet increasing parcel delivery demand focuses on the case of a parcel delivery

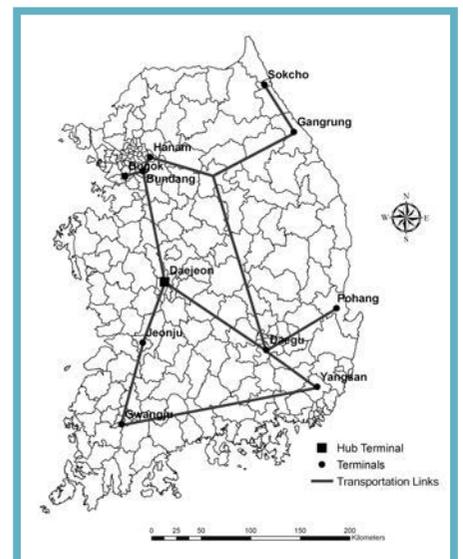


Figure 1

service provider in South Korea and develops a simulation model to study how the overall cost efficiency and reliability would change with different volumes of parcel flow. In this model, cost efficiency refers to the average distribution cost for transporting and sorting individual parcels, and reliability is measured by the proportion of parcels that are transported to the destination terminals prior to the cut-off time – as calculated through the application of a financial penalty for each delayed parcel.

The simulation model shows how increased parcel flows can trigger congestion at a sorting hub and cause delays in parcel deliveries, and how that is reflected in the reliability of each local terminal location as well as that of the entire system, especially when the parcel flow exceeds the maximum sorting capacity of the hub terminal. To overcome the congestion problem in the main hub,

adaptive measures are tested at three levels of logistics decision making: the operational level that corresponds to a short-term peak; the tactical level that copes with mid-term increases; and the strategic level that offers a solution in response to the long-term increase.

Simulating parcel flow The origin-to-destination (OD) flow data was obtained from a leading parcel delivery company in South Korea, covering one week during a regular business season (May 2007) and one week from the peak season around the Lunar New Year (mid-February 2007). To avoid disclosing proprietary business information, the network was scaled down to approximately 15% of its original size in terms of the number of terminals and the average daily network flow. However, the



backbone structure of the original network was retained through the preservation of the key terminal locations in the model and the proportionate assignment of OD flows between them.

Figure 1 illustrates a simplified logistics network in the form of a hub-and-spoke system consisting of one main hub terminal in Daejeon (South Korea's fifth-largest metropolis) and 10 regional terminals located around major cities in each province.

These terminals are assigned the task of collecting and delivering parcels within their designated service areas. The simulation model replicates the logistics flow as follows: demand generation; parcels shipped from the origin terminals to the hub; parcels sorted and consolidated at the hub according to their destination; parcels shipped from the hub to the destination terminals; and parcels arriving at the destination terminals.

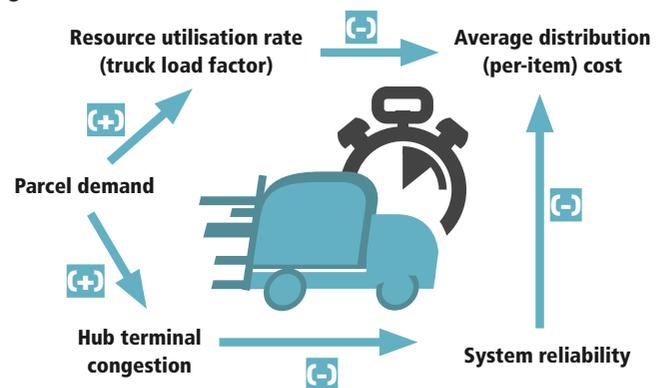
Simulations are carried out at 10 levels of parcel demand with 25% increment, while the proportion of parcel flows between each pair of terminals is fixed. Figure 2 denotes how an increase in parcel flow can affect the performance of the distribution network. A slight increase in parcel flow would likely improve the overall rate of resource utilisation, which would reduce the per-item cost due to economies of scale. However, if the incoming parcel flow increases beyond the hourly sorting capacity at the hub terminal, congestion at the hub becomes inevitable. This would result in more parcels being delivered late

**WHATEVER
YOUR
NEEDS ARE**

HERE WE ARE

See page 33.

Figure 2



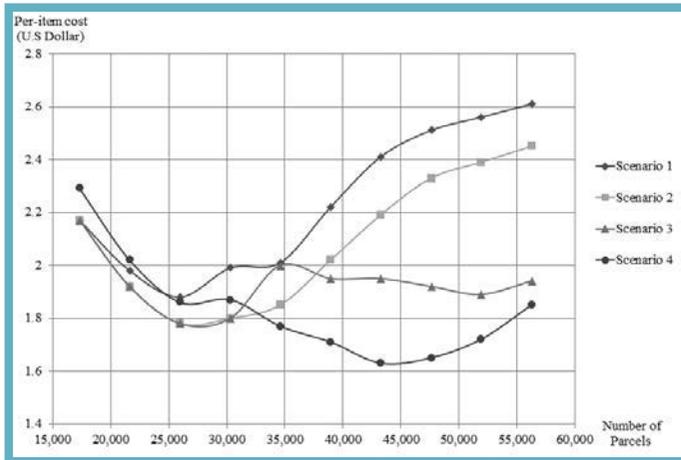


Figure 3

to customers, thereby reducing overall system reliability. Assuming that penalties are imposed for delayed parcels, deterioration in system reliability would lead to an increase in the average distribution cost.

Rising demand Adapting to increasing parcel demand can be considered at three planning levels: operational, tactical and strategic, ranging from a temporary fix to a long-term investment. The simulations carried out under four scenarios reflect these options to identify an effective way to accommodate a potential increase in online shopping demand. Scenario 1 (no change): a single hub with a sorting capacity of 4,000 parcels per hour. Scenario 2 (pre-sorting): assign higher priority to parcels heading for distant terminals, extend the hours of operation at the hub and reschedule the delivery trucks. Scenario 3 (sub-hubs): assign higher priority to parcels heading for distant terminals, and delegate part of the sorting task to regional hubs. Scenario 4 (main hub upgrade): assign higher priority to parcels heading for distant terminals, and invest in a major overhaul of the main hub to increase its sorting capacity to 6,000 parcels per hour.

The first scenario represents the current condition with a hub-and-spoke network served by a single hub with a sorting capacity of 4,000 parcels per hour. It forms the baseline against which the performance of other scenarios can be measured. The second scenario represents a short-term

adaptation at the operational level, which can be implemented on a day-to-day basis to accommodate a temporary spike in demand. Operational-level adaptation includes extending operating hours at the hub terminal and rescheduling the timing of truck dispatch, which may require early arrival of trucks from local terminals. Congestion at the main hub can also be lowered by assigning higher priorities to parcels headed for terminals that are further from the hub. This would help improve the reliability of the system under all scenarios with demand increase. However, even with the application of priority assignment, the entire system may still suffer from delays if there is an excessively large parcel flow.

If priority assignment alone cannot accommodate the increase in parcel flow, sub-hubs can be introduced as a tactical-level adjustment (Scenario 3). This idea is based on the assumption that the introduction of a secondary hub will alleviate the sorting load at the main hub, as some of the parcels will be transported directly between them, thus leaving fewer terminals directly linked to the main hub. In the simulation, existing terminals are gradually promoted to sub-hubs one after another, as the parcel flow increases. The results from the simulation suggest that introducing a secondary hub into the network can solve the problem of delayed parcels for all levels of demand increase tested. However, it also incurs additional cost, mainly due to the extra sorting tasks at secondary hubs and also for maintaining

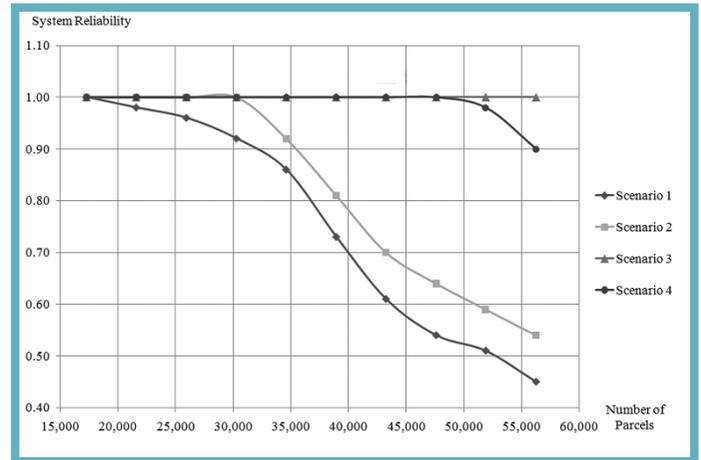


Figure 4

the additional links between the secondary hubs and their respective local terminals. This results in reduced efficiency in operating the overall hub network.

Finally, if the demand is expected to stay consistently high, a change at the strategic level needs to be made so as to increase the sorting capacity of the main hub (Scenario 4). Some of the possible investment may include upgrading an existing sorting facility to improve its efficiency or constructing a parallel hub next to the existing main hub to double the original processing capacity. The simulation adopted a scenario to upgrade the existing infrastructure to improve its sorting capacity by 50% to 6,000 parcels per hour. The result shows that increasing the sorting capacity of the main hub guarantees the system to maintain 100% reliability with least per-item cost, unless an extremely high level of demand arises. Increasing the hub terminal capacity is the best option.

Improve sorting capacity by
50%
to 6,000 parcels per hour



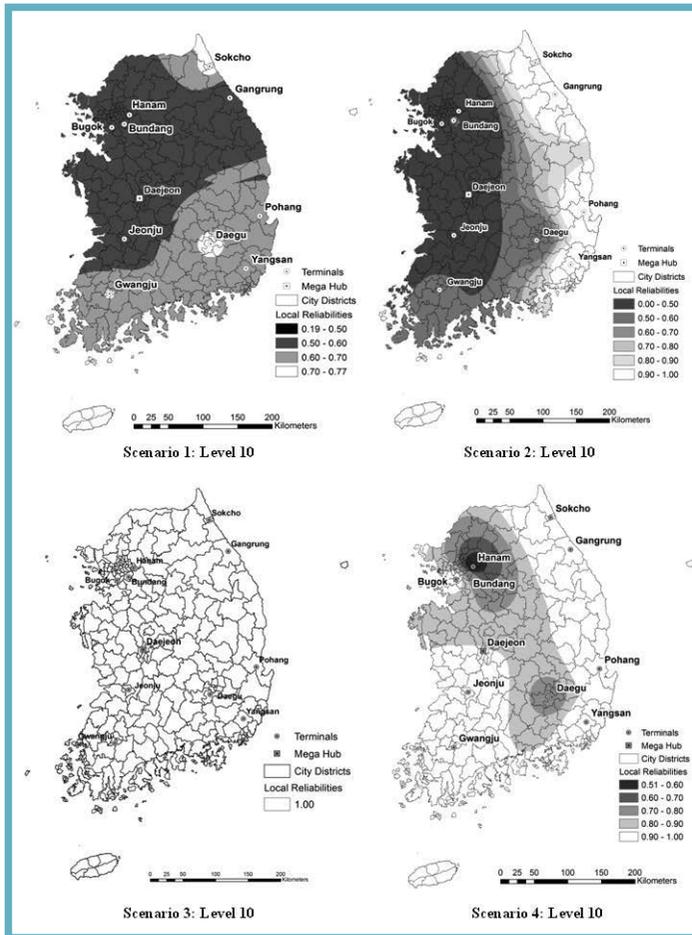


Figure 5

Conclusions This study examines the impact of increasing demand for parcel distribution. Using a simulation approach, it sought an effective means to improve the overall performance of a parcel distribution network. The simulation analysis clearly identifies the main hub terminal as a potential bottleneck in the event of increased parcel delivery. When the total parcel flow exceeds the sorting capacity of the hub terminal, congestion in the hub is observed and this causes delays in parcel delivery, thus reducing the reliability of the respective local terminals as well as the entire system. As a means to alleviate the congestion at the main hub, the study tested adaptive measures at three levels. Of the three scenarios, increasing sorting capacity at the hub terminal turns out to be the best option in the long term, if the return-on-investment is expected to be sufficiently large. The outcome of the simulation model also suggests that the structure and configuration of the existing distribution network would evolve into a more centralised structure with increased capacity at the primary transshipment facility.

The study also identified specific locales that would suffer most from capacity overflow in the network, thus pointing to the regional terminal that required immediate attention. These findings can help logistics service providers make an informed decision for their strategy to accommodate the growing and volatile demand for online shopping, as well as to improve the cost efficiency of their operation while maintaining the reliability of their system. ■

1. H Lim and N Shiode, 'The impact of online shopping demand on physical distribution networks: a simulation approach.' *International Journal of Physical Distribution & Logistics Management*, Volume 41 (2011), pp732-749.

Hyunwoo Lim (hwlim@inha.ac.kr) works at the Graduate School of Logistics at Inha University in Incheon, South Korea. Narushige Shiode (ShiodeN@cardiff.ac.uk) works at the School of Planning and Geography at Cardiff University, Wales.

among the three scenarios, if the return-on-investment is expected to be large.

Figures 3 and 4 illustrate how the average per-item distribution cost and the overall system reliability change under the four scenarios with increases in the parcel flow. According to Figure 3, the per-item costs for Scenarios 2 and 3 remain low, at around US\$1.80, until the parcel demand increases to 30,300 units in Level 4, after which point Scenario 4 becomes the most cost-effective option. When sub-hubs are introduced in the system (Level 5), the per-item cost for Scenario 3 suddenly increases to US\$2 due to the extra cost of maintaining two sub-hubs. As the parcel flow increases, the per-item cost decreases again and is reduced to US\$1.89 in Level 9, primarily because the cost of operating sub-hubs is offset by achieving 100% system reliability and having no penalty.

However, this tendency is reversed in Level 10 and thereafter, because of the expense of operating too many sub-hubs. This suggests that increasing the sorting capacity of the main hub is ultimately the most cost-efficient option, if demand is expected to remain constantly greater than 34,600.

Figure 5 shows how local reliability changes under the different scenarios at the most extreme level of demand. In Scenario 1, most areas suffer from a low local reliability below 70%, with some figures being as low as 19%. Scenarios 2, 3 and 4 show that no delivery delays are anticipated on the east coast, because those deliveries are treated with higher priority at the main hub. In contrast, the remaining areas suffer from delay in parcel delivery. Seoul Metropolitan Area shows particularly low reliability in Scenarios 2 and 4 at Level 10 due to the sheer volume of parcel flow.

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Step changes

HOW CAN ESTABLISHED POSTAL OPERATORS ADAPT TO A MARKET IN TURMOIL?



Postal operators across the world have historically enjoyed legal monopolies that protect them from competition, while continually rising mail volumes have helped improve productivity. However, the progressive deregulation of the postal markets over the past decade has seen increasing competition from nimble private sector operators who have targeted the most profitable business areas. This includes traditional competitors moving into postal delivery, such as TNT Post, which plans to deliver business post to doorsteps across the UK within five years; businesses developing their own delivery capabilities, including the likes of Amazon, Next and Alibaba; and new entrants looking to leverage existing assets, such as Greyhound buses in the USA, which has launched its own courier express service. At the same time, the historical link between economic growth and mail volumes has been broken, with electronic substitutes increasingly biting into the physical communications market. On a more positive note, the rapid rise of internet shopping has led to huge growth in the parcels market as long as postal operators provide the right service at the right price.

Senders and recipients are demanding more track-and-trace and proof of delivery services to improve the visibility of their goods

The challenge These factors, combined with the recent economic downturn, have left the postal market in turmoil. Traditional operators need to adapt and

find new ways to improve both their top- and bottom-line performance, but there is a relatively short window to make the necessary changes before the decline in mail volumes and competitor activity stifles the opportunity. If operators do not respond effectively, much-loved institutions will decline, jobs will fundamentally change, and the doorstep service that consumers and e-tailers rely upon will gradually become eroded.

Pricing and profitability The first challenge for postal operators is to better understand the costs, profitability and customer value of the services they deliver. Postal organisations have relatively high, fixed cost-bases, which are associated with the delivery of the Universal Service Obligation. However, as the mix of traffic changes and competitors target profitable mail streams, cost models need to be re-evaluated in order to negotiate and execute profitable business.

Traditional cost drivers have included distance and geographical spread, speed of service required, levels of automation that can be applied in handling a mailpiece, the physical attributes and volume of items carried, and any pre-sortation provided by postiers. Alongside better information for pricing deals, operators need to manage contracts diligently; in particular being vigilant in ensuring that customer

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responsibilities such as volume guarantees and pre-sortation are complied with to protect revenue and profitability.

As the demand for parcel delivery increases, the proportion of successful first-time deliveries and the number of additional delivery attempts required become ever more significant as a driver of cost and profitability. Operators that can work with posting customers to understand and minimise missed deliveries (for example through recipients opting-in to delivery options such as 'leave with neighbour') can leverage significant commercial and reputational advantages.

Enhancing services Operators also need to better understand the value of enhanced services for both the posting and receiving customer. Receiving customers are prepared to pay not just for speed but also for certainty of delivery, both in terms of day and time-slot. A good example of this is DPD's recent launch of its one-hour delivery slots, together with a 15-minute countdown that enables customers to track the last mile of delivery. Solutions from the dot.com boom such as locker banks are now reaching critical mass and are attractive to some segments of receiving customers, particularly where speed of



On the buses



In August, Greyhound PackageXpress (GPX), the shipping division of US bus company Greyhound, announced a new door-to-door package delivery service in 48 US states. GPX has been a leading provider of shipping solutions for more than 90 years, moving more than one million shipments per year in the USA. GPX offers a wide range of same-day, expedited and deferred ground delivery services using the Greyhound network of more than 3,800 North American destinations.

The new door-to-door package delivery service, which began operations in September, means customers that previously had to pick up their packages at the local Greyhound bus terminal, can now receive their mail on their doorstep. Greyhound will use local couriers to cover the last mile. Dave Phillips, vice president of GPX, says, "By leveraging our relationships with local couriers across the country, we're now able to bring GPX right to our customers' doors."

GPX will accept all major credit cards for charges associated with door-to-door services, and customers can schedule pick-up and delivery by phone.

PostNL currently has around 30,000 part-time employees and 30,000 full-time employees

delivery is important, but waiting at home for delivery is not an option.

Many posting customers, especially e-tailers, want proof of delivery for their goods. With online fraud and chargeback rates of up to 2.5% in some segments, proof of delivery and proof of identity can help mitigate these risks and assist e-tailers in negotiations with card issuers when disputes arise. Track and trace, signature capture, GPS and payment-on-delivery options all help to reduce chargebacks, which can often be far greater than the value of the typical CD or video game purchase. Operators have a limited window to develop enhanced services in these areas or risk being outflanked by the increasing competition in the market.

Driving greater efficiency In a largely commoditised market with falling mail volumes, operators must continue to reduce costs across the network. Of course, postal operators have been seeking to do this for decades through the rationalisation of mail centres, greater automation of sorting and smarter scheduling of fleet. However, there still remain huge opportunities to use technology, allied with business analytics, to generate further efficiency throughout the value chain – particularly in the local delivery network where the bulk of costs lie. For example, alongside the increased deployment of automated walk sequencing technologies, PostNord now analyses delivery-drop volumes to enable near real-time scheduling to balance workloads between delivery walks. As well as increasing labour productivity, and reducing overtime costs,



this has the potential to improve quality of service by reducing variability in walk completion times.

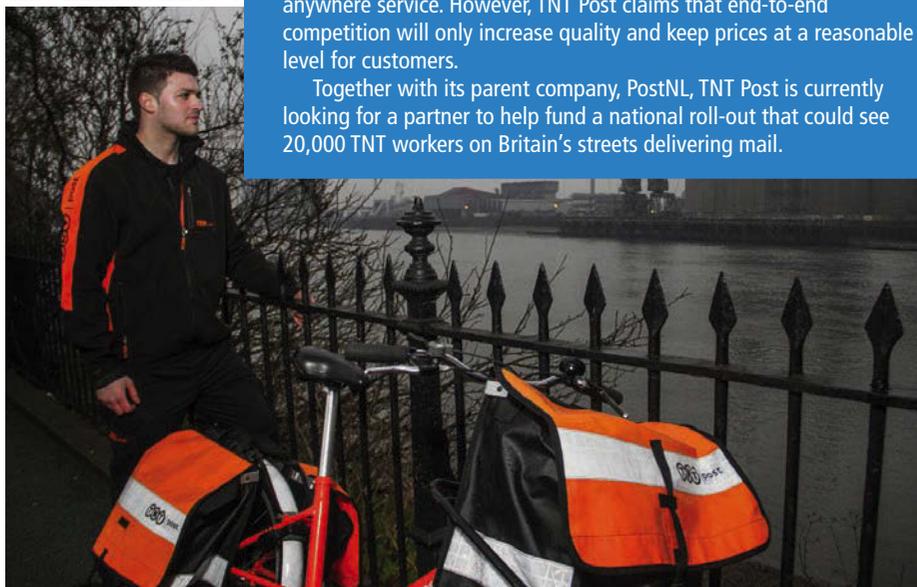
Some operators are fundamentally challenging delivery patterns. For example, USPS has identified potential savings of up-to US\$5.5bn (£3.5bn) per year in moving from doorstep delivery to neighbourhood cluster boxes and PostNord only delivers second-class mail on two specified days per week. The challenge for postal operators is to understand how radical they can afford to be, while retaining the confidence of customers, workforces and regulators.

New delivery models The need to reduce costs and to adapt to changing customer preference, for example by accommodating evening deliveries, is driving operators to adopt more flexible working patterns with profound implications for management and staff. PostNL has now shifted much of its workforce from full- to part-time. More radical options include the introduction of 'owner drivers' as is common in the parcels industry, or even the creation of franchise operations at delivery area or walk level.

Leveraging inherent advantages To succeed in challenging market conditions, traditional postal operators must use their significant advantages over new suppliers – in terms of their brands, workforce, network and data – to grow profitable business. Technology, for example, can enable postal workers to carry out a range of non-traditional activities as they cover the length and breadth of the country. Potentially this could include taking payments at the doorstep, and collecting survey information or data of value to local councils or utilities firms. The trusted brands of many traditional operators are increasingly being leveraged to provide services outside of delivery, for example La Poste has set out its plans to offer identity assurance in digital exchanges.

Traditional operators can also capitalise on their comprehensive networks to carry an increasing variety of products, offsetting the drop in letter volumes. Postal operators internationally are exploring the potential of providing new services, including cargo, grocery deliveries and pharmaceutical deliveries, to utilise surplus capacity.

TNT Post is owned by Dutch mail group PostNL



Exploiting data Many of the responses described here require operators to exploit their technology and their data assets much more effectively. Firstly, more accurate, timely and granular data is essential to understand costs and profitability, manage customer relationships, make operations more efficient and effective, and support the introduction of new services. For example, detailed information on the letter or parcel as it enters and travels through the network will provide operators with the opportunity to track and provide inflight redirection with less notice, allowing customers to take advantage of the increasing range of convenient collection options. Furthermore, for some postal operators, the data itself may become a valuable source of revenue; for example by helping government agencies, businesses and individuals to counter fraud and

Close competition

TNT Post, the UK's largest private postal company, has recently expanded its end-to-end delivery service into southwest London. This is the company's latest move to challenge state-owned Royal Mail. TNT has been delivering mail in west London for over a year. The operator also currently collects and sorts post before handing it over to Royal Mail to deliver to residential addresses and businesses.

TNT Post handles approximately 3.8 billion items a year in Britain and has plans to deliver business post to doorsteps across the UK within five years. This would provide Royal Mail with competition on the last mile for the first time in its 370 years of service.

Royal Mail claims TNT Post's plans may jeopardise its ability to sustain its universal service obligation to provide a six-days-a-week, anywhere service. However, TNT Post claims that end-to-end competition will only increase quality and keep prices at a reasonable level for customers.

Together with its parent company, PostNL, TNT Post is currently looking for a partner to help fund a national roll-out that could see 20,000 TNT workers on Britain's streets delivering mail.

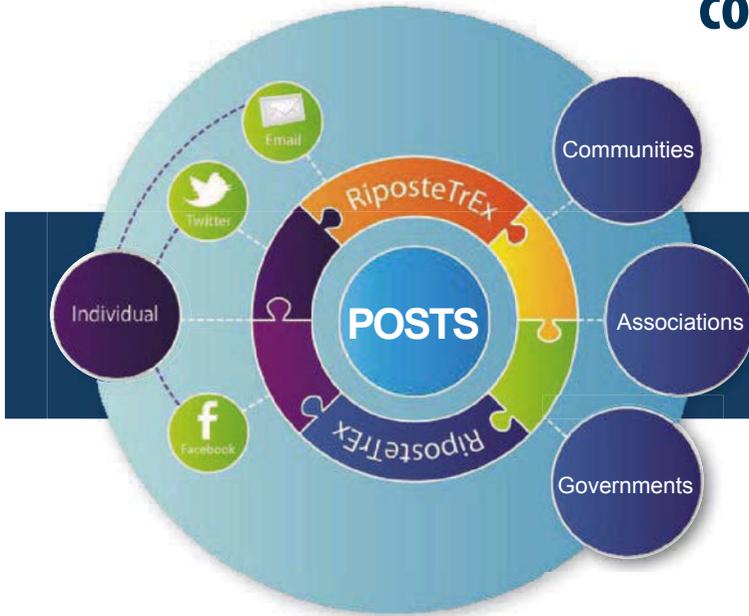
provide targeted market insight. While significant investment is required and potential data protection issues need to be overcome, there is considerable untapped potential for operators to unlock the value from their data.

The current market turmoil presents both great opportunities and serious threats to established postal operators. The key will be how swiftly and effectively they can invest to secure a stake in the parcels market as mail volumes decline. Governments and regulators need to be sensitive to this, and workforces should recognise that change now is essential to secure jobs in the medium term. Should posts be unable to secure sufficient revenue and profit from the parcels market, then profound and wide-ranging structural changes to the operating model will become unavoidable. ■

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Crossing the line

POSTS NEED TO UP THEIR GAME IF THEY ARE TO MEET THEIR CUSTOMERS' COMPLIANCE CHALLENGES FOR CROSS-BORDER DELIVERY

The cross-border trade in the postal industry is currently on the up due to growth in the e-commerce sector. As businesses both large and small develop their online presence, they are able to reach a much wider geographical audience. Although this larger customer base brings opportunities for growth, it can also present challenges, which can often be overlooked, especially by SMEs. Classification, duties and taxes, import and export controls and varied customs processes all have to be taken into consideration when delivering goods cross-border, and it is important for companies to get this right to retain and attract new customers.

“We were at a very interesting seminar recently, which stated that ‘the very first shipment you make to a new market or to a new customer sets the trend for that service from then on’,” says Nick Boland, director of Solutions Consulting, EMEA at Amber Road, a global trade management software and solutions company. “Customers remember that very first shipment with a company and if anything goes wrong then that will affect their decision to shop with them again.”

Delivering duty paid The postal industry's task now – and it's one that presents great growth opportunities – is to make the process of delivering cross-border goods as quick and simple as possible for customers. The aim is to take the hassle out of shipping cross-border items by offering services that take care of rules and regulations that have to be adhered to. An

example of such a service is ‘delivering duty paid’ (DDP). Under DDP arrangements, shippers undertake to deliver goods to their final destinations and as such take on the obligation to bear all the risks and costs, such as import duties and taxes relating to the final delivery of the goods to the buyer.

“The postal market is increasingly looking to offer a DDP service to its customers,” says Boland. “A lot of things need to be factored in when looking to offer a DDP solution, including classification, import and export controls, duties and taxes that affect total landed costs, as well as any customs requirements.”



Posts must adjust to a commercial framework to be successful in the e-commerce market



The growth of e-commerce presents both opportunities and challenges to the postal sector



Amber Road's Global Knowledge database provides import and export data for 126 countries to facilitate efficient cross-border trade

According to Simon Bennett, sales director at Amber Road, postal operators in number of countries are leading the way in this area. "The postal organisations from the leading e-commerce consumer communities such as the USA, UK, France and Australia are moving very quickly in the direction of offering a DDP solution," he says. "But each operator faces its own unique challenges. Australia, for example, has a large threshold – about A\$1,000 (£590) – where you don't have to pay duties or taxes on goods entering the country, so their services are mainly aimed at larger value shipment customers."

Global trade management Amber Road works with the postal operators to help them provide solutions to their customers to make cross-border delivery as smooth as possible. The company's Global Knowledge database is the industry's most comprehensive database of trade compliance content and international business rules regarding global trade regulations. The solution ensures customers have the right data they need for the highest levels of import/export compliance

and accurate landed cost calculations. "The database contains classification systems for 126 countries, and by making this information available to postal authorities, they can easily and quickly help their customers classify for both export and import," says Boland.

Amber Road uses its Global Knowledge database, which is updated on a daily basis, to provide global trade management software and solutions. "Our customers can either use our Global Trade Management software to deliver DDP solutions, or they can integrate the content from our Global Knowledge database into their own shipping systems for them to calculate costs and determine regulations themselves," adds Boland. By helping organisations comply with country-specific trade regulations, as well as plan, execute and track global trade, Amber Road enables goods to flow unimpeded across international borders in the most efficient, compliant and profitable way.

Boland believes that in order for posts to successfully develop DDP solutions for their customers, they need to adjust to a more commercial rather than traditional

postal framework. "The integrators have the lion's share of the express parcel sector and this is a profitable area," he says.

"International movement of goods clearly carries a greater margin than domestic movements and so we're seeing the integrators focus their services on this area. Therefore, I believe that if the posts want to increase their share of that market, then they need to compete on level terms. Many of the integrators, for example, have their own customs clearing teams; posts, however, traditionally rely on someone else to do it. If you want to express something through Brazil right now, the integrators can do it much faster than the posts can. Therefore, if the posts want to compete with the integrators, then they need to move to a more commercial model, and many of them are recognising this now."

Cohesive approach The main challenge for posts when looking to offer DDP solutions is that every country differs with regard to taxes and regulations. But will we ever see a more cohesive approach to DDP being implemented on a global scale? "If



Cross-border trade is increasing at a steady rate



Variations in taxes and regulations can cause difficulties for posts



Amber Road aims to streamline global trade

you had asked that question three years ago, I would have said that it will be too difficult,” explains Boland. “However, since the UPU conference in Doha late last year, there seems to be more posts looking to collaborate and more joined-up thinking with regard to how DDP services can be offered. Posts seem to be hiring more highly skilled and technical personnel in this area, and I wouldn’t be surprised if things accelerate towards more common standards and frameworks. I think

governments will slowly come round to this idea and we will see a greater spirit of cooperation.” The changes will take time but there are opportunities right now, things like e-commerce are an obvious potential quick win.

Bennett believes that the main reason for this is that domestically the majority of posts suffering from declining markets. “As already mentioned, international cross-border delivery is profitable for the posts, and there is a real opportunity here for growth. However, it is going to take time as posts usually have additional governmental constraints to contend with,” says Bennett.

Evidence of a more cohesive approach to global trade management (GTM) solutions from posts came in the form of Amber Road’s most recent project win – the Kahala Posts Group (KPG). In May, Amber Road announced that it was selected by KPG, an alliance of 10 posts around the world, to increase their competitiveness in the international delivery market. In the agreement, signed with the International Post Corporation, Amber Road’s GTM solutions will help KPG members by enabling them to offer additional international trade tools and services to their customers. Members implementing GTM solutions will enable individual shippers, SMEs and large enterprises to more effectively manage cross-border trade, including product classification, screening for restricted parties, calculating total landed costs,

identifying and producing global shipping documents and performing trade-compliance checks.

Helping hand Moving forward, the e-commerce market will provide major growth opportunities for the postal operators. Boland believes that the more attractive markets for the posts will be the SMEs as they don’t traditionally have the global export and import skills in-house that they need to deliver cross-border goods. “They will be looking for advice, guidance and execution, and the posts need to make sure they are in a strong position to offer this,” says Boland. “In the future, we see an increase in the technical ability of the posts and the platforms they use to offer DDP solutions. The SMEs should be able to reach out to their posts and work with them on understanding what they need to do before they undertake cross-border trade.”

Bennett concludes, “The challenge for SMEs new to exporting is understanding the implications of what it means for their products when goods land in the country of import, if not properly managed it often results in goods stuck in countries or the buyer returning the items because the duty and taxes make it uneconomic for them. This is where the postal operators need to offer pre-emptive education to their client base – especially the SMEs. It will save them time and money, and it will enhance their reputation in the marketplace.” ■

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Sort it out

THROUGH TRIAL AND ERROR, POSTNORD HAS DEVELOPED A PRODUCTIVE SORTING SOLUTION TO PROCESS BULKY ITEMS AND SMALL PACKETS RIGHT DOWN TO STREET LEVEL

For many years up until the start of the millennium, letter mail provided a stable stream of revenue for postal operators. However, with e-substitution affecting the industry, the postal market has suffered stagnant letter mail volumes, and this, along with increased competition and the shift to simpler and cheaper products, has led to a challenging marketplace. As a result, postal operators are now continually looking for ways to reduce costs and improve efficiency.

The overhaul of operations to increase efficiency through continuous process improvements is no longer enough to meet the needed level of cost reductions. Improvements to processes must be planned long-term and posts must take into account the required lead-time needed to implement any structural improvements. Posts are also facing new challenges in the logistics market due to the increased volumes of parcels as a result of the booming e-commerce market. What makes this even more challenging is that this market is characterised by fierce competition. The efficiency of mail handling in this sector, especially for small packets, is also affected by the fact that it is still a very manual process and is usually only partly assisted by machines.

With all of this in mind, the overall challenge for postal operators is how to best use innovations from the traditional letter mail segment to create an improved technical solution for both bulky items and small packets that offers a more efficient process and is supported by additional products that meet customers' needs.

The task at hand In 2011, PostNord embarked on a pilot project to try and meet



these challenges and needs. The pilot project saw the development of a total solution that sorted both bulky items and small packets right down to street level, optimising last-mile delivery and meeting the future needs of e-commerce. The solution used high-end singulation, image capture, processing and compact cross-belt sorters to help deliver cost savings. The solution was designed to be flexible and ergonomic, and to ensure that all of the

items could be sorted into 'delivery ready' post bags to save time and improve operational efficiency.

The technology also used best practices from parcel processing, had the ability to accept EDI (electronic data interchange) files from customers and use that information for sortation prior to the item arriving in the sorting facilities. The first pilot system was put into operation in June 2011 in a live environment at PostNord's



PostNord distributes 11 million letters, almost 400,000 parcels and 11,000 pallets of goods to the Nordic region's 25 million residents and two million businesses every day



Årsta sorting centre, in southern Stockholm, Sweden. The pilot ran until October 2012.

To develop the solution for the pilot project, the post first identified where major cost savings could be made. One area was in the handling of bulky items and small packets at delivery offices. The traditional process saw these items sorted and grouped together in postcodes, and then placed in large containers that held about 400 items. At the delivery office,

each postal worker then collected their items from the containers. PostNord identified that this was a time-consuming task and one that used up valuable space in the delivery office. The post's main goal, therefore, when developing the requirements for a new sorting machine, was to find a better process.

To address this challenge, PostNord decided to implement a pilot system, which consisted of a machine that could sort bulky items and small parcels into dedicated trays for individual mailmen. For collection, the items were sorted into containers in the traditional way. The new system meant several new technical solutions were needed upstream and other factors needed to be considered.

One of these factors was space. The floor space in PostNord's sorting centres is usually very limited and therefore a lot of work was undertaken on the design of the system's chutes, trays and containers, to ensure the machine would fit. The final solution was a combination chute that was able to handle containers when in collection sorting mode, and trays when in distribution sorting mode, thus minimising the footprint of the machine.

To further improve the efficiency of last-mile delivery, a pick list printer was integrated into the sorting machine. When a full tray is transported from the chute, on an internal tray conveyor, to the final tray sorting station, a pick list is printed and slid into the tray on top of the bulky items. On the list, all the addresses for the items in the tray are printed in delivery sequence order. Information such as tray ID and delivery route number is also printed on the manifest.

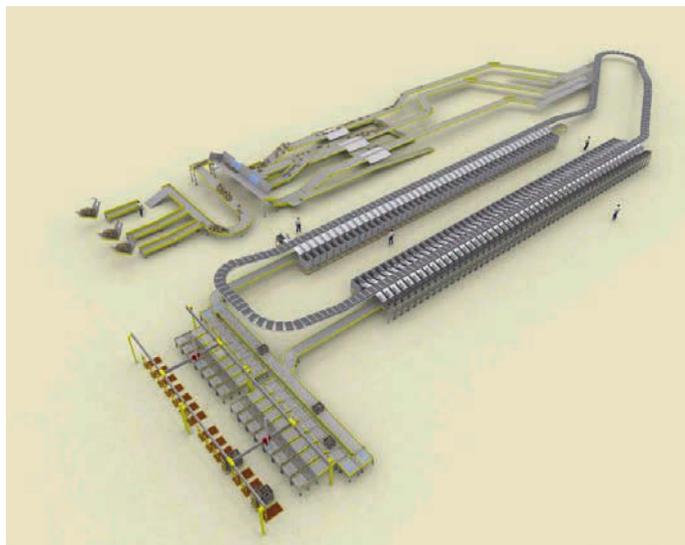
The last part in the sorting process is the automated sorting of trays on to trolleys for

transportation to the delivery offices. The tray-to-trolley sorting is done with a Gantry robot that picks and loads trays to trolleys in 15 different directions. The system also includes a six-sided tunnel scanner, which is connected to a common reading platform, and a small but effective singulator.

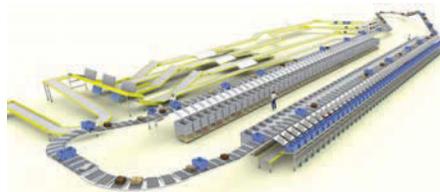
Innovative efficiency PostNord identified that one of the main factors in achieving a streamlined and efficient sorting process to delivery point level was the development of a high-capacity optical character recognition (OCR) system. Since 2005, the post has used a centralised reading platform called GLP (Gemensam Las Plattform) for all mail sorting machines independent of their manufacturers. All letter sorting machines, including for standard letters, flats and bulky items, in Sweden are connected to the GLP for OCR interpretation and other services including Edi-file exchange. During the pilot project, PostNord also wanted to connect the new system and its six-sided tunnel scanners to the GLP.

Due to prior experience, PostNord knew that this process was going to be a challenging one, but the company didn't predict the amount of work and effort that was needed. The pilot project started with a modest automatic read rate that caused saturation of the video coding system. This meant that both the automatic reading and the video coding had to be further developed and enhanced to improve its usability and performance. PostNord carried out this development, which resulted in a much-improved OCR read rate of about 55%.

Throughout the pilot project, the singulators worked extremely well, with only a small percentage of volumes not



PostNord's sorting machine consists of a combination chute, a pick list printer, a Gantry robot for tray-to-trolley sorting and a six-sided tunnel scanner



being singulated. One of the main challenges that is still yet to be addressed in the new system is that all items need to be OCR and VCS interpreted during both collection sorting and distribution sorting due to a lack of unique identification (such as a postal barcode) on each bulky item. PostNord is currently looking at ways it can overcome this challenge in a feasible way by using image-derived attributes.

New services In addition to improving the efficiency of sorting bulky items, the new sorting system has also given PostNord the opportunity to develop some new services. One of these is an efficient revenue protection service. The systems tunnel scanner is equipped with a dimension measuring system, which together with the in-built weight measured solution, provides an opportunity to identify customers that haven't paid the correct postage on a parcel, and invoice them for outstanding money.

The new sorting solution has also enabled PostNord to develop new products that meet the market's demands for small packets. The post has developed 'Varubrev' (meaning 'commerce mail'), which takes best practices from the parcel world and uses them to transform it to a letter product. When sending an item using the Varubrev service, the mailpiece is assigned a unique label with a barcode that matches EDI-file information, which is submitted by the customer together with the mailpiece. The sorting machine reads the barcode, matches and sorts the item according to the corresponding EDI-file information, and provides invoice data from scales that

weight every Varubrev mailpiece. Therefore, no OCR or video coding is required.

Conclusions and future PostNord used the pilot project for the new bulk sorting system to identify any problems that may occur and highlight areas that could be improved further. One area was that, although the system using the trays worked well with the sorting machine, the solution had to be improved. This was mainly because the transportation cost was higher than expected due to the fact that creating a tray with a good filling level in an automated way was challenging. Another reason was that the tray was not as ergonomic as PostNord would have liked, especially for operating in a delivery office. To overcome these issues, the post undertook a minor redesign of the sorting system and it has now been adapted to use sacks instead of trays. According to PostNord, sorting into sacks might be slightly less effective in the machine, but they are far easier for the postal operatives to handle and offer considerably lower transportation costs.

Another area PostNord identified for improvement was the OCR interpretation of the small packets. Although the post has now ended up with good read rates, there are still improvements to be made to increase OCR performance. For example, a unique marker that indicates a corner of the address block may be one way of improving the system.

Using lessons learnt from the pilot project, PostNord, in September 2013, installed the first production system of this

type in its new sorting centre in Hallsberg to sort small parcels with high efficiency and accuracy to the delivery route. This centre will have the capacity to handle approximately 12,000 items per hour. A considerable number of improvements and enhancements have been introduced from the pilot experiences.

As the volumes of goods are growing and most likely will continue to grow, PostNord is now preparing for this at both its new and its refurbished sorting centres. As Varubrev volumes are increasing and new mail services are emerging, efficient sorting processes with effective and versatile sorting machines will be a crucial asset for the future.

The next machines will be identical or very similar to the first fully operational machine recently put into operation. PostNord now plans to continue working towards developing smart and productive efficient services, in an area where business is increasing. ■

About the authors

Rikard Nilsson has been leading many of the machine development and procurement projects at PostNord for the last 14 years. He is currently engaged in the small parcel project and the TFM (Two Format Sorting Machine) project at PostNord.

Petri Princis has worked within PostNord since 1987 and has been involved with and led many of the automation programmes that have been undertaken during the past decade. He is currently working in PostNord Corporation as a technology analysis and strategy manager

What about the automation of your operations?

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The successfully implemented solution has been designed and developed by Fives Cinetic in close cooperation with the technical team of Posten.

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fives cinetic

In plain sight

SENSOR-BASED TRACKING SOLUTIONS ARE HELPING TO IMPROVE THE VISIBILITY, CONTROL AND EFFICIENCY OF THE SUPPLY CHAIN

The growth of global supply chains is unwavering, and maintaining an accurate view of everything that's happening across an entire business at any one time is near impossible. The supply chain demands of a genuinely global business have long since outstripped the information technology that supports it. Sensor-based logistics (SBL), a new frontier in supply chain technology, looks to change that.

A combination of cutting-edge hardware and advanced software systems, SBL uses sophisticated sensors to detect environmental variables such as temperature, light, humidity, barometric pressure and location. Wireless communication provides a continual, accurate picture of what's happening inside shipments. The devices are paired with revolutionary management software that displays, stores and analyses the sensor data. This combination of environmental sensors, wireless communication and management software is the basis of a powerful new central nervous system for the global supply chain.

Traditionally, once goods are in motion, visibility diminishes. But with profit margins riding on the success of the supply chain, that's an increasingly treacherous situation. The cost in lost goods, customer relationships and future business from a weak supply chain can be considerable.

According to CSC's ninth annual Global Survey of Supply Chain Progress, the three-year average of the supply chain's contribution to revenue has jumped from 4% to 8.5% in the past year, with many leaders seeing contributions above 10%.

Supply chain risk Transportation giants and high-tech start-ups alike have made major investments in SBL. Customers in the life sciences, aerospace and financial sectors are adopting SBL for enhanced security, cold chain management and damage alerting. And there's the potential to do much more – from system optimisation to contingency triggers, from in-motion interventions to delivering a superior customer experience.

Supply chain leadership in the 21st century is as much about mastering the use of information and big data analytics as it is about partner management and physical control. Those with strong visibility and analytics capabilities are more than twice as likely to be in the top 20% of business growth. The challenge used to be that there wasn't enough quality data to analyse. But SBL is now making that data – and insight – readily available to everyone.

Getting ahead Soon enough, the wireless devices and web-based software that enable SBL systems will be everywhere – just like passive, barcode-based tracking systems are now. However, although SBL technology is still relatively new, forward-thinking industry leaders have the opportunity to up the performance of their supply chains to a level their competitors can't match. Those reaching for the highest echelons of operational excellence can't afford to wait for this technology to become commonplace. And considering just a few key questions can put companies on the track to a successful SBL programme. Questions include: Why do you need SBL

and what are your goals? What kinds of platforms are available and which fit your needs? Who will be involved in implementing and running the system? How will the system work operationally on a day-to-day basis? How big will the scale of the system need to be?

Why? In order to decide why sensor-based logistics are needed, companies should set goals and decide what challenges the organisation wants to address. Many supply chain challenges can be solved with the help of one thing: information. SBL gives logistics companies the valuable data needed to solve problems and meet operational goals. But in order to scope investments, align stakeholders and implement the right platform for a company's needs, it is important for it to do some evaluating up front. Things to consider include: What existing supply chain challenges are you hoping to resolve with the use of SBL? What benefits will you get from increased visibility and control? Are you hoping to increase throughput, reduce errors, increase yield or deliver better customer experiences? Will you use SBL to monitor your supply chain partners or only to examine internal processes? Do you expect to improve existing processes or create entirely new ones? Will the use of SBL differentiate you from your competition and give you a long-term edge?

What? To decide what kind of platforms to implement, it is important to align your needs to the various sensor platform solutions available to find one that fits.



Current Location



Light Exposure



Accurate Temperature



Barometric Pressure



Relative Humidity



G-Shock Impact



SenseAware users set up a journey in the SenseAware online application and invite business partners to monitor the journey and receive alerts. The activated SenseAware device is then placed in the package and shipped

In control

SenseAware powered by FedEx is a first-of-its-kind SBL service that provides near real-time access to a shipment's vital statistics while in transit, and the ability to share that information continually across supply chain partners. A multisensor device deeply integrated in packages connected to an easy-to-use yet powerful web-based application enables organisations to monitor critical, high-value shipments.

SenseAware provides unmatched visibility and insight into shipments and inventory. Organisations across multiple industries have already embraced the SenseAware platform to enhance security, maintain cold chain integrity, detect potential damage, improve customer support, and more. Using the latest advancements in SBL, SenseAware gives users the most flexibility and control possible over their shipments.

If the business is solely interested in supply chain security, a platform with GPS devices that transmit precise shipment locations may be sufficient. But what if a pharmaceutical company distributing fragile, temperature-sensitive tissue samples is looking for a platform? As well as location information, the company would also need to continually monitor temperature, shock and light exposure. Therefore it is essential to choose a sensor platform with the right tools to meet a specific company's needs. Things to consider here include: How readily do you need to collect the data from your sensor devices? What kinds of information do you want to track, monitor or analyse? Will you use data for in-motion monitoring, analysis or both? Will the SBL platform need to work with other IT systems you have in place? Which modes (air, sea, ground, inventory) should your platform support?

Who? Determining who will be involved in implementing and running the system is extremely important. It is essential for companies to think about human technology interactions, not just hardware capabilities. The human element in SBL is just as critical as the technology. Determining who will be involved and what their responsibilities will be should not be overlooked when deciding what platform to implement. It is also important to consider how easy it will be for those involved to interact with the new platform. Who is the decision maker in the organisation who needs oversight of the SBL programme? Which departments need to be involved: quality assurance, supply chain management, logistics, sales, customer support, risk management, compliance, security, etc? Who will actually handle the devices and with whom will they communicate if there are any questions?

Will anyone outside the organisation need access to information from the sensors? How will external data transfer be handled without compromising security?

How? To look at how the system will work operationally on a day-to-day basis, companies need to examine current operating procedures to ensure maximum impact. To discover the best use of SBL in a supply chain, it's important to consider things like system integration and device placement within shipments. Although some SBL platforms make integration easy with little effect on standard operating procedures, other offerings may require dedicated resources to install and run. It's important to consider what operational efficiencies are likely to be gained and how SBL will affect the cost and profit margins. Will all shipments be equipped with devices or only some? Will packaging need updating to fit devices? And how will supply chain workflows need to change if SBL is implemented? Supply chain partners will also need to be educated to ensure the smooth handling and returning of devices. Companies need to consider how to prepare the devices, how they will be charged to ensure they have battery life to last the length of a journey, and how much training is required for employees.



SenseAware is approved for domestic and international use on FedEx aircraft and other major commercial airlines, as well as on many ground fleet services

How big? How big will the scale of the system need to be? One of the best ways to determine this is to begin with a small pilot to understand what resources are required – then scale up when ready.

Adding SBL to a supply chain is an investment with the potential for big long-term returns. So it's important to think carefully about the road map to reach a fully realised programme. Most companies seeing success with SBL began with a small number of devices (16 or fewer) for a pilot programme and then expanded over time. Although the exact timeline will vary by company, it can be useful to think about it in phases. For example: pilot, device growth, expansion and scaled system.

Questions to consider here include: What is the minimum number of devices you need in order to gauge future SBL needs? Will you expand your use of SBL in small increments or make a large investment up front? Which lanes of your supply chain need to be SBL-enabled first? Do any of your key international markets have restrictions on such systems? What would be an ideal and realistic time frame to reach full scale for your SBL system?

A supply chain that communicates isn't science fiction. Using SBL services offered to the market right now, any company can implement a programme that grants unprecedented visibility into its shipping and warehousing operations. ■

Five sensor-based logistics insights

1. Too many supply chains are built around what-ifs and worst-case scenarios. Excess inventory not only eats into margins, but is also an indicator of inefficient operations. By creating action triggers for shipment arrivals and opened packages, you can reduce inventory and increase profitability with an SBL platform.

2. The volume and precision of SBL data is really revolutionary. It's now possible to know much more

about the intricate workings of a supply chain, with far fewer gaps. Although this data can be used to monitor existing systems, it can also be useful in compiling data over time in order to make a persuasive case for change to stakeholders and partners.

3. Be sure to look at the supporting software and analytic intelligence an SBL system enables. It's very possible to save money by choosing a platform

that doesn't analyse, archive or even export data. But these solutions offer only incremental improvements over standard monitoring tools. If a system isn't connected and analysable, it might not be worth the investment.

4. SBL is an example of what experts call 'The Internet of Things'. That's the idea of ordinary products being smart enough to communicate and transmit data over the web without human

interaction. So, for SBL users, something like inventory monitoring becomes an automatic, hands-off process.

5. Once you have full knowledge of everything that's going on in your supply chain, flaws can come into focus. But the costs of finding and fixing these flaws are far less than the costs of not catching them at all. Those who do so will be those who attain levels of operational excellence.



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Current Location



Accurate Temperature



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A sustainable post

THE POSTAL SECTOR HAS MADE SOME GREAT STEPS FORWARD IN REDUCING ITS ENVIRONMENTAL IMPACT, BUT DOES MORE NEED TO BE DONE IN WHAT IS AN EMISSIONS-HEAVY INDUSTRY?



Posts are making the switch from fossil-fuel reliant fleets to greener alternatives

The challenge is a considerable one – in 2012 the UPU estimated that the global postal sector had more than 600,000 post offices, 1.5 million vehicles and 5.5 million employees contributing to its vast carbon footprint. These offices, vehicles and staff account directly for roughly 56.5 million tonnes of CO₂, making up 0.15% of the world's annual emissions, according to figures published by the United Nations Environment Programme.

Although at first sight the figures look bad, the postal industry has stepped up to the mark in recent years and has made considerable progress towards reducing its global impact in several key areas.

Vehicle fleets Many organisations within the postal industry have recognised the impact of large fossil-fuel reliant fleets (which account for roughly 31% of the postal sector's carbon emissions) and have made major changes to the composition of their existing fleets, especially with respect to the use of electric vehicles. Companies such as CTT Correios, Post Nord and USPS have made huge investments in electric vehicles and are among the forerunners in the race for all-electric fleets.

Further to this, bicycles, as a tool for last-mile delivery, are used much more widely around the globe, and at present more than 730,000 bicycles are used by designated operators in last-mile delivery.

The liberalisation of certain postal markets has also seen the emergence of delivery companies with sustainability at their core. Docmail Local Post, for example,

The postal industry faces many challenges, including e-substitution, liberalisation and technological advances in communication, to name but a few. These challenges must be faced if the industry is to remain relevant and buoyant in an increasingly competitive and hostile environment. Foremost among the obstacles faced is environmental sustainability.

Although the postal industry is not alone in facing up to this particular challenge, it

would appear to be an industry that has more obstacles to overcome than other sectors if it is to achieve a more sustainable future. This is due to the industry's heavy reliance on fossil fuels, the large fleets of transportation vehicles to support the vast logistical networks, and the proliferation of paper communications, which are all factors that would appear to put the industry among the back runners in the race for sustainability.



Bicycles are the vehicle of choice for many last-mile delivery providers

is the third-largest last-mile delivery company in the UK and has built its business on an entirely fossil-fuel-free delivery network using sustainable energy sources, electric vehicles and bicycles to provide its end-to-end delivery service.

The green credentials of businesses such as this are also in line with plans laid out by the European Commission in its *Roadmap to a Single European Transport Area* white paper, which calls for a “strategy for near-zero-emission urban logistics”, a call that has been embraced by a new cadre of locally focused sustainable postal service providers like Docmail Local Post.

Buildings and property The commercial property used by postal service providers accounts for roughly a fifth of the CO₂ emissions generated within the industry, and is an important focus for providers attempting to reduce emissions. Many postal service providers are looking to improve the energy efficiency of the buildings they use and move towards sustainable energy sources.

Sustainable energy and building projects have been at the heart of many recent

developments in environmental science and sustainable energy, and the range of available energy alternatives and potential building designs is vast. Deutsche Post, for example, has set the standard in this area, requiring that all its new building contracts state that the building will use energy generated from sustainable sources.

Green initiatives Many international postal organisations have sought to address the issue of sustainability within the postal industry and several initiatives have arisen to create an international focus on the issue at hand.

The UPU has formed the Sustainable Development Project Group “to support postal operators in their efforts to incorporate sustainable development into their activities”, and has released several studies into the carbon footprint and environmental impact of the postal services sector as part of its Greenhouse Gas Global Overview and Mitigation Project.

Further to this, groups such as PostEurop’s Environmental Working Group and the International Postal Corporation are working together to monitor the

carbon emissions of the postal industry and create a plan of action to reduce all direct greenhouse gas emissions of the industry by 20%.

Encouraging commitment The postal industry has made good progress towards its goal of reducing carbon emissions, and many posts have made great changes to the way in which their businesses operate beyond the usual high-level commitments and mission statements. Despite this, there are still several areas in which postal operators can take positive steps towards creating a more sustainable business model.

Although introspective measures to reduce their own carbon impact is a good start, postal operators need to do more to change not just their own culture, but also the culture of the customers who are using their services.

Many postal operators offer discounts to mail producers that can meet the often stringent environmental standards set by the post. Although this is a step in the right direction, the standards set by the post rarely take into account the production processes of their customers and, as such, many mail producers are unable to meet the required standards or feel that the discount offered by the postal operator does not justify the investment in meeting the standards.

Much greater levels of inter-industry cooperation between mail producers and postal service providers are required if any real progress is to be made. Joint standards set between mail producers and distributors would create ‘green partnerships’ that would provide benefits to both parties and could make considerable progress towards sustainable mail communication.

Postal operators and mail producers are also in a unique position to create greater awareness and collaboration among end users (i.e. the general public). Although the volume of personal mail communication being sent by end users is declining fast, many people still rely on postal services to send and receive many important documents relating to business, property, financial services and public services, among many other uses.

Improving awareness among the public and creating end-user targeted initiatives to increase sustainability and reduce waste are

two important aspects of a sustainable service that have not yet been truly addressed by the industry.

Competition One of the favourite scratching posts of incumbent universal service providers (USPs) and governments is the negative impact of competition on our 'valued institutions' – a narrative that is especially prevalent in the UK.

In most of the industries that have been at the vanguard of technological change, competition has been both strong and essential. Although the liberalisation of the postal market has enabled steps to be taken towards a more competitive industry, these steps have been small and stuttering.

Competition is an essential driver for change, and substantial change is essential to ensure that, as an industry, we are able to face the challenges presented by technology and the environment.

Without challenges from companies that have environmental sustainability at their core, there is no incentive for the gargantuan USPs to make any changes. It is vital for future sustainability that new technologies, practices and ways of



730,000 bicycles are used in last-mile delivery around the world



Docmail Local Post has removed fossil fuels entirely from its distribution process

thinking are developed, and this kind of innovation can only come from a dynamic and competitive marketplace.

Technology matters In the past, technology has presented a challenge for the postal industry, especially with regard to e-substitution. But when it comes to achieving sustainability goals, technology has helped provide many environmentally friendly solutions.

Electric vehicles have been the main focus of environmental technological developments in the postal industry and although great progress has been made, the technology is still not at a stage where it is able to noticeably affect the sector's reliance on fossil fuels, as for intermediate and long-range journeys these vehicles often do not have the necessary range. However, through clever use of existing technologies and collaboration, postal operators can mitigate the need for long-range freight and distribution.

Through a combination of a hybrid mail system, regional print production centres and a local delivery service, Docmail Local Post is able to entirely remove fossil fuels from its distribution process. The documents are transmitted electronically to regional printing locations, which then produce the physical documents. They are then transported by electric vehicle to

urban delivery sites and distributed by bicycle delivery personnel.

With urban transport currently responsible for roughly a quarter of all CO₂ emissions in the EU (according to the European Commission's *Single European Transport Area* white paper), removing fossil fuels from long-distance haulage and urban distribution are clearly steps in the right direction.

Furthermore, the development of clever routeing technology, more efficient freight vehicles and a range of bio fuels has helped the postal industry to achieve major reductions in the use of fossil fuels in areas of long-range freight.

E-substitution Although most technological advancements have benefited the postal service industry's drive towards sustainability, there is one area that has not.

E-substitution has gained considerable support and momentum in recent years and is now widely used in a variety of sectors for a whole range of documents and communications. Many believe that this is a great environmentally friendly alternative to mail.

However, in 2008 *The Economist* suggested that the internet, and more specifically the data centres that house it, could become as 'ungreen' as aviation, with emissions reaching 670 million tonnes per year – over 10 times more than the postal services sector.

Recent estimates have suggested that the global information technology industry already accounts for 2% of the world's CO₂ emissions, compared with the 0.15% of the postal industry.

In fact, the CO₂ generated by individual mailpieces is fairly small. From creation through to eventual disposal, a single mail item, on average, generates 20g of CO₂ per letter delivered, whereas an average refrigerator produces 127kg per year – the equivalent of 5,100 letters.

Although the postal industry has made a strong start towards a sustainable future, there is still a lot of work to be done and a lot of narratives to be changed. A combination of collaboration, competition and the innovation that these will bring is required to move us forward towards our sustainability goals. ■

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Credit crunch

FINANCIAL SERVICES GROWTH OPPORTUNITIES FOR POSTS IN DEVELOPING COUNTRIES ARE VAST, BUT TO SUCCEED THEY NEED SUPPORT FROM ESTABLISHED PLAYERS IN THE INDUSTRY

Postal operators in developing countries face many unique challenges compared with those in the developed world. One of the most striking differences is that delivery is organised in a completely different way. Home delivery in some developing countries may simply not exist. Instead, PO box delivery models, where the customer has to collect mail from a post office, are often used in many Sub-Saharan African (SSA) countries, as well as other developing countries. The boxes are often expensive to rent, making them an unaffordable option.

One of the consequences of this is that postal operators in these countries are failing to develop B2C mail services because they don't have an address. The challenges don't stop there. In area coverage per post office, Sudan, Mali, Niger and the Central African Republic have fewer than one post office per 10,000km², suggesting that some inhabitants would have to travel for at least a day to find a post office.

In developing countries where low levels of income, a lack of infrastructure and less developed financial services are common challenges, the postal operators could provide a trusted partner in order to help the economy improve. However, owing to lack of trust in SSA-designated postal operators, for example, 87% of electricity companies, 86% of water companies and 33% of telecommunications companies deliver their mail themselves. They also collect payment for the bills themselves in 94% of cases. A similar situation can be seen in the financial sector, where 24% of banks do not contract the designated postal operator to deliver their mail.

In addition to this, 50% of competitors are known to charge more than 7.5 times the price of the designated postal operator, meaning these companies are spending vast

amounts of money on mail delivery. By improving the levels of trust in SSA posts, utilities companies and financial services could reduce costs, while revenue could be improved for postal operators.

Another area for improvement is through the development of government and financial services, which offers great growth opportunities for postal operators. A report by the World Bank in 2010, entitled *Measuring Financial Access around the World*, highlighted the problem of delivering financial services in developing countries. It revealed that there are 6.2 billion bank accounts around the world. It was estimated that in developed countries, 160 million adults do not have a bank account compared with 2.7 billion in developing countries.

"Postal networks are twice as large as bank branch networks and generally more evenly spread geographically, meaning postal networks have considerable potential to provide access to financial services," says Alexander Shyla, director of Colvir Software Solutions. "By revamping postal financial services from single fragmented products to integrated product packages, such as payment cards, savings, deposits, insurance and eventually credit, the billions of adults in developing countries without a bank account could soon have access to suitable financial services."

E-solutions In developing countries, government services are not yet developed enough for people to be able to order goods online. "In the UK, for example, if you need a reference from HM Revenue and Customs (HMRC) or from the Driver and Vehicle Licensing Agency (DVLA), you would apply online. There are also various online government portals that can answer questions and provide any forms you may



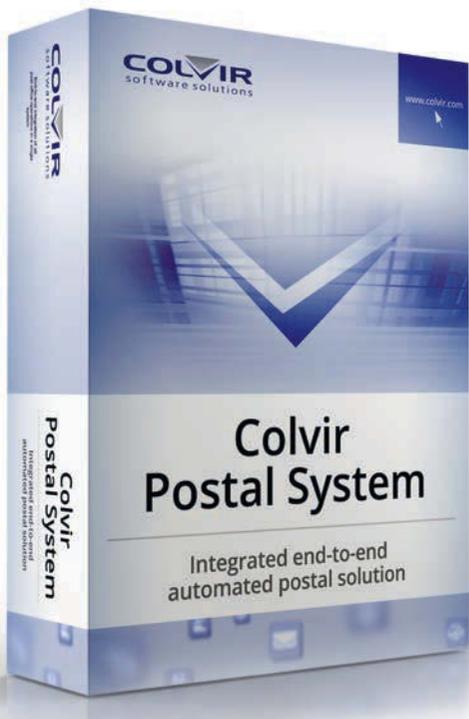
banking sector servicing over 70% of all financial transactions) and Turkmenistan (70% of the banking sector).

Colvir has worked with a number of posts around the world to improve their financial services offering, and according to Shyla, the biggest benefits have been seen in the developing countries.

“We have worked with the World Bank on Azerbaijan Post’s modernisation project, which resulted in significant benefits to the post,” says Shyla. “As part of the US\$10m project we supplied the post with a complete postal system solution, including financial services, channel management, customer relationship management, and various treasury and financial solutions.”

According to the World Bank’s assessment of the project, since 2006 the number of financial services transactions have increased by four times, and the number of financial payments being made is currently growing at twice that amount, and has recently broken the US\$500m mark.

The Colvir Postal System solution comprises modules, including Postal Services, Financial Services, Channel Management, Tax Accounting and Regulatory Compliance



Colvir’s project with Azerbaijan Post began in spring 2008 and post revenue since that year has increased by 84%, from US\$14.3m for year 2008 to US\$26.4m for 2010. Postal services showed an increase of 70% and financial services by 89% (from US\$9.2m in 2008 to US\$17.4m in 2010). “New financial services were gradually introduced from mid 2010 onwards, so their effect on revenues is only beginning to take effect,” says Shyla.

“This growth was mainly achieved due to the automation of traditional services for utilities and other payments, such as money transfers. It is also worth mentioning that these results were achieved despite the fact that full access to the new automated system of postal and financial services was only realised in December 2010. Before this time, the system was only used in 55% in the total number of post offices.”

Colvir has also worked with Kazakhstan Post on the development of its software solutions. The company provided the post with a complete front to back integrated software solution, which enables it to run post office operations, back office accounts, and has modules to provide financial services and retail services. “In 2011, compared with 2005, Kazakhstan Post increased revenues by 2.4 times, from US\$62.5m in 2005 to US\$149m in 2011. Financial services increased by 2.9 times, from \$25.3m in 2005 to US\$73.6m in 2011,” says Shyla.

One of the more recent modules Colvir provided Kazakhstan Post with was a Mobile Postman solution, which enabled the postal workers, equipped with multifunctional devices, to process government, utilities and financial services meaning customers can request and pay for services on their doorstep. “It’s fairly obvious that capital investment into that solution was significantly more efficient than spending money on building new post offices. I think we will see a lot of posts in countries around the world developing more services like this, especially in rural areas where banks cannot compete,” Shyla explains. “For the banks, it’s quite expensive to have branches in small towns and villages, but the postal operators already have that reach, so they should be much more proactive and gain a bigger share of this market.”

Industry support Shyla believes that in order for more developing countries to gain access to new technologies, influential players in the industry need to come together to support these markets.

“Governments should work with the World Bank and other institutions, such as the EBRD (European Bank for Reconstruction and Development), African Development Bank and the Asian Development Bank, as well as in partnership with the UPU.

Investment into the posts in the developing countries will not only benefit the operators but it will also improve the infrastructure in the country. It could start a chain reaction and significantly improve the availability of many other services,” says Shyla.

Colvir develops its products so that they are cost-effective and meet the needs of both developing and developed countries. “We have developed an easy-to-use, almost off-the-shelf solution, which means posts don’t need to make huge investments into training staff or employing programmers to fix or adapt the solution when needed.”

Although Colvir works with posts around the world, the main benefits of its solutions can be seen in developing countries, as highlighted by its projects with Kazakhstan Post and Azerbaijan Post. “In the quick changing environments of developing countries, software solutions have to be cost-effective, easy to implement and adaptive. Having one integrated solution, consisting of many modules, covering all postal, financial, retail, ERP and other services is much more effective than trying to integrate different solutions from different vendors,” Shyla points out.

Colvir is currently in talks with posts in both Africa and Asia with regards to developing their financial services offering and improving their automation software solutions, but as Shyla points out, “they all need support from both the UPU and the World Bank, and they should look to develop a postal modernisation strategy and support on a cross-border basis”. Shyla concludes, “Postal operators, especially national posts, are changing, but at the same time they continue to play an important role in the development of an economy, and this is unlikely to change. Posts now need to find new ways to generate additional revenue streams, and financial services is one way to do this. ■

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Open for business

DELIVERING OPEN PLATFORMS FOR AN OMNICHANNEL EXPERIENCE TO IMPROVE THE SERVICES OFFERED BY POST OFFICES FOR RETAIL AND CORPORATE CUSTOMERS

Escher Group's nominations for the *Postal Technology International Awards'* Supplier of the Year and Retail Innovation of the Year categories come on the back of a strong 12-month period during which the company celebrated 20 years of delivering services to its postal customers, extended contractual relationships with several international post offices, and secured the Postal Retail System (PRS) contract from Pos Malaysia.

Posts recognise that in selecting solutions for the future, Escher is a trusted partner. The PRS is an integral part of Pos Malaysia's 'Transformation Plan' to enhance its services through its network to Malaysia's 29 million citizens. All these successes demonstrate the global reputation Escher has acquired in delivering outsourced point-of-service solutions based on open platforms.

The post office The role of post offices is evolving in the face of changing social patterns that have seen a shift from transactions and communications conducted through traditional mail and counter services, to the environment of electronic, community and digital platforms that offer complementary opportunities to postal customers when and where they choose. In this new digital environment, post offices themselves are challenged to define what the service landscape of the

future might resemble. Escher believes the postal service, as one of the most important and enduring elements of any civilized society, is deeply embedded with other national services that touch billions of citizens across the country on a daily basis.

Postal strategy is being continually influenced by society's interaction with digital services – be they community based, governmental, online shopping or social networking – which continues today, although more slowly than anticipated. The ownership of smartphones and tablets coupled with broadband access is delivering a cultural and economic revolution that has the potential for far-reaching effects, particularly for post office networks. Therefore it is important to consider how services will be offered, deliveries processed and customers informed in this changing model that has seen the customer becoming increasingly important in the new retail environment.

Know the market Since 1989 Escher has been investing in and delivering innovative solutions for the post office environment, helping its customers become the lead supplier of transactions services in their countries. In delivering the omnichannel experience from the beginning, Escher has allowed its customers to service their corporate and also their retail customers in a single, consistent, efficient manner.

Escher has taken this experience and knowledge of consistent relationships to create a platform whereby all postal customers can interact with local, national and international communities in a secure and meaningful way, continuing the key role the post office plays as part of national communication infrastructure.

Escher's role in working with posts has seen the company deliver multiple deployments to over 30 countries worldwide. Its core platform and product suite, based on the award-winning Riposte software, enables customers to process billions of transactions on a yearly basis.

With its customer base and unique understanding of postal and technology market trends, Escher understands the need to face the new challenge being presented by technology and changing social patterns. Through its vision and innovation, the company has already delivered an enriched customer experience through its interactive omnichannel, delivering a single use experience to end users – at the counter, kiosk, delivery station, vending machine, self-checkout, information point, interactive window, home PC, tablet and handheld device.

Escher's core products have evolved to empower post offices to offer a powerful, secure ecosystem that has the potential to connect many partners – local and national governments, industry and citizens alike.





Liam Church, centre, CEO of Escher, marks the 20th anniversary of Riposte's deployment in An Post. From An Post is John Cronin (left), Group CIO and John Daly, retail operations director

To deliver this competitive edge, Escher has invested substantially in the research and development of Riposte and RiposteTrEx – platforms that effectively create a new channel for the post office to exploit and generate new revenue streams in new market areas. In particular, RiposteTrEx is an all-encompassing framework that delivers the platform for post offices to remain central to business in this new environment. It combines the power of identity, communication, transactions and the ability to send structured communication, and for the first time enabling true system-to-system communications. Supporting the concepts of communities, RiposteTrEx is an all-encompassing open system that delivers a platform for new business and extending existing business.

Open platforms Escher says it is the partner best suited to build 21st century ecosystems that will enable post offices to create pathways to innovation for end users, giving governments the opportunity to be creative in an open system.

Escher platforms are open systems that are highly accessible and interactive, while promoting collaborative government and 'smart cities'. Working with all the major international standards, Riposte and RiposteTrEx are open and accessible systems,

ensuring that they can be accessed by all in a manner suitable to their business process. This consistency of standards enables users to access information and communicate more easily and ubiquitously.

Escher has always built its technology on open standards that help to allow a heterogeneous ecosystem to evolve and grow organically to best suit the needs of its customers. The group's solutions drive interoperability, sustainability and choice.

Escher believes that post offices are key to the maintenance of an uninterrupted flow of information, goods and services across a nation and to all parties in society, between all providers and consumers, whether digitally or physically. The company continues to work very closely with its customers to understand their future requirements and growth strategy. The Escher Customer Forum provides a vehicle for customers and other post offices to openly discuss the challenges facing them in the future, and enables them to share and discuss Escher's latest service solutions and business intelligence to support their business.

Escher's strategy is centred on providing solutions that meet the challenging needs of post offices. The company has evolved its Riposte technology into an extensive interactive transaction platform to allow post offices to adapt easily to the changing

needs of society and provide an open framework for transacting and communicating among all effective members, including governments, businesses and citizens; and protecting the interaction that occurs between them in a highly secure environment.

Escher's interactive communication and transaction platform is a game changer, and this is reflected in the fact that the company has long-term sustainable relationships with its customers. The platform is highly flexible in terms of integration and adapting to new technologies, and focuses on allowing all users of the postal service to access the solution at the most convenient point for them as a customer, be it through desktop, self-service kiosk, tablet or smartphone. This accessibility supports post offices in extending their delivery channel to retailers and other outlets. Escher supports that the post office is central to the question of access to information and the control of that information, with consumers now asserting more control over how they communicate.

Future proofed Escher's solutions have ensured that post offices maintain their central position of being an integral part of society, while allowing them to adapt to ever-changing technological and social behaviours to provide relevant and customer-centric services. The original postal system as we knew it was a public open system, and what is now occurring in the world of digital communications is also an open system. Therefore the natural progression for the post office of the future is to harness its potential through the implementation of open platforms such as Escher's Riposte suite of products.

Escher not only delivers reliable and robust software but is constantly innovating. The group works with its customers to ensure that its technology delivers the best solutions to enable customers to achieve both their existing and their future strategies. ■



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Bringing mail to life

SENDING DIRECT MAIL SHOULDN'T BE A SIMPLE POST-AND-RECEIVE TASK. BUSINESSES AND CUSTOMERS ALIKE SHOULD TAKE ADVANTAGE OF THE COMMUNICATION TOOLS AVAILABLE TO DELIVER MESSAGES

A mailpiece can now offer bidirectional communication between the mailer and the recipient, enabling one of the most effective communication tools in the world – direct mail – to become more personal.

Businesses and consumers must ask, should they still send mail the old-fashioned way, where they drop an envelope into the black hole of a postbox, never to see it or hear from it again? They don't know where it is or when it will arrive, and the person they're mailing it to has no idea it's coming until it arrives at their door with all the other mail. For the average person, mailing an envelope from point A to point B hasn't really changed much since the pony express.

The patent-pending LivingMail service brings each mailpiece to life. With LivingMail, a mailpiece can now communicate with the sender and the person they are mailing to during its long journey, by sending and receiving text messages, emails, text-to-speech, or prerecorded phone messages. LivingMail can record and listen to voice messages, as well as receive emails and text messages sent by the mail recipient.

A range of benefits With LivingMail, users can also create and print a personalised secure QR Code on the same mailpiece. When scanned by the person receiving the mail, a conference call can be automatically established with the person who mailed the letter, flat or parcel; or they could receive a text message or prerecorded voice message, or receive an email with a special coupon



LivingMail brings each mailpiece to life

offer. They can then be sent to a specific video, Facebook page or special coupon tailored specifically to them.

With LivingMail, a mailpiece can now directly communicate with the sender and the mail recipient throughout its journey and long after it arrives at its final destination. Whether mailing one mailpiece or millions of envelopes and packages, now companies can let their mailpieces do the talking, texting and emailing for them. The service will change forever the way businesses and consumers think about direct mail and its potential.

Keeping connected For the average consumer, LivingMail allows the letter, flat or parcel that is put in the mail to actively communicate with the person they are sending it to. For example, a sender might want to have the mailpiece they posted to their grandmother generate an email to let her know that they had just sent her something. Then, when the letter, flat or parcel was out for delivery, to call grandma and tell her to check her mail and scan the QR Code when she receives it for a special surprise.

When the recipient receives a letter, flat or parcel, they can scan the QR Code with their smartphone and within seconds, LivingMail will connect them to the sender so they can both talk.

Unique perspective For businesses and increased competition in today's



A mailpiece can now send text messages, emails and prerecorded phone messages



Letters mailed can be set up to call recipients



Mail can actively communicate with people

marketplace, printers and mailers must identify ways to distinguish themselves. The margins on their traditional service offerings have been pushed to the point where cost can no longer be the only way that a business creates its niche and differentiates itself.

To market a mail-tracking service and innovative mail communication tool such as LivingMail successfully, users have to come up with their bulls-eye target customer base and position their business to meet their specific needs. This market segmentation, if done right, will differentiate a business versus the competition, improve profit margins, and win market share.

Adding services such as mail tracking with targeted piece-level communication using LivingMail is one way of differentiating a business. Now that the USPS is getting heavily into providing tracking data from the mandated IMb on every mailpiece receiving postal discounts, mailers can help their clients generate valuable reports on how their mail is moving through the system, along with providing valuable direct communication with the customer as the mailpiece travels to them.

The mailers are able to diagnose problems in almost real time and forecast delivery times and patterns extremely accurately for each of their clients. This service is something that will very quickly start to become expected in the industry by the customers whom these vendors serve.

Reaping rewards Businesses that adopt and invest in new technologies and services are able to create better and stronger partnerships with their clients. They will be able to suggest new and more effective solutions to answer the clients' needs. These businesses will be able to control projects at a more detailed level and achieve more for their clients and themselves.



Mailers can now diagnose problems in almost real time, and forecast delivery times

Businesses that do not do this will see projects being taken out of their control as they are handed to organisations that have done. Their clients will not want to maintain partnerships with them and they will simply be regarded as price providers.

Organisations of any size or market segment need to provide these services and should not worry about being able to recoup their investment in them. The industry will reward them with clients who are more than willing to pay for these services. Mail tracking and mail communication with LivingMail as a service will make them 'sticky' to their current clients and organisations.

Full force AccuZIP, the company behind LivingMail, is a national software company based in Atascadero, California, that develops products and services to simplify the multimedia communications process. AccuZIP makes it easier for businesses to get their message out to the right people at the right location when they need to most. For over 22 years, the company has built a noteworthy reputation for value, service and innovation.

AccuZIP president and CEO Steve Belmonte says the company plans to target the postal industry at "full force".

"We are ready to show the industry that AccuZIP is the premier postal software solution company in the industry. We are dedicated to our partners and hope to gain valuable exposure to those in the industry who are not familiar with the AccuZIP experience," he says. ■

High capacity

SINGAPORE POST IS UPGRADING ITS INFRASTRUCTURE WITH THE LATEST TECHNOLOGY TO ENABLE IT TO PROCESS MAIL MORE QUICKLY AND PREPARE FOR A NEW ECONOMY WITH FEWER LETTERS AND MORE PACKETS



Singapore Post's heritage dates back to the founding of Singapore by Sir Stamford Raffles in 1819. Operations were restricted in those days, with a single mail office being run by a staff of three who collected and delivered a small volume of letters. Admittance to the UPU came in 1966, following national independence the previous year, and the post was listed on the stock exchange on 13 May 2003.

Currently SingPost handles in the region of 2.4 million letters, 400,000 flats,

200,000 packets and around 15,000 parcels daily, with more than 85% being automatically sorted to the postmen's delivery sequence. As with many other posts around the world, SingPost is preparing for a decline in the volume of letters and flats, but with the growth of e-commerce is expecting to see an increase in packets and parcels. Therefore by 2025 it is anticipated that the number of packets and parcels will have reached 400,000 or more per day.

The company has won many awards and accolades, foremost among which is that it is the only post in the world to have won the UPU's Express Mail Service Cooperative Certification Gold Level Award – for its Speedpost Worldwide Courier Service – for 11 consecutive years since 2001.

To ensure that it continues to deliver such incomparable service, SingPost has instigated plans to install a new sortation system at its sorting centre in the Paya Lebar district of the city. Crisplant, the

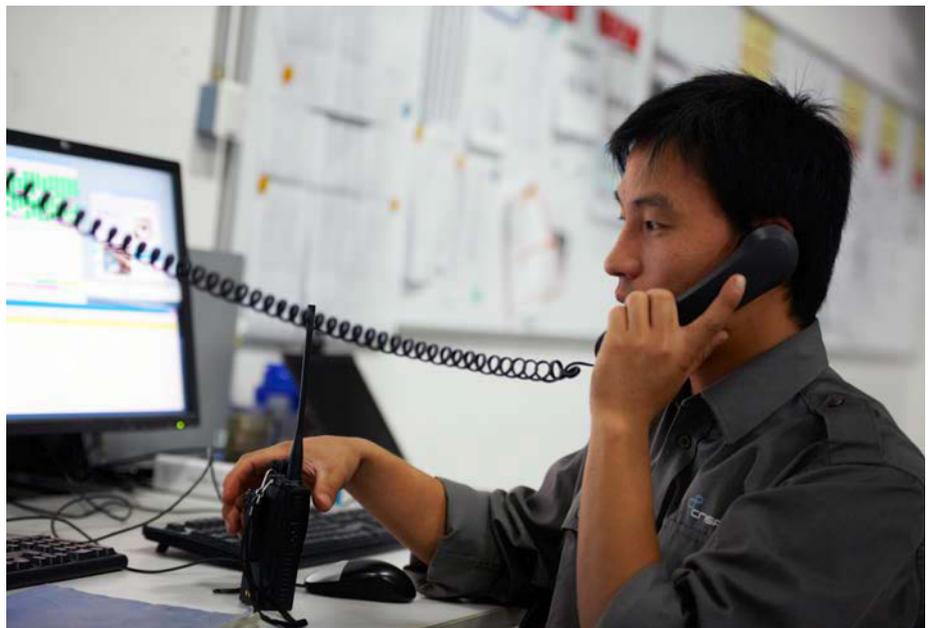
Denmark-based logistics and materials-handling supplier, owned by BEUMER Group, had previously supplied sortation systems to SingPost in the 1980s and 1990s, so was naturally a frontrunner to win this current contract.

Rickson Chan, Crisplant's Southeast Asia sales director for airports and logistics, explains further, "We went through a very tough competition with other potential suppliers before we were finally selected by SingPost, followed by officially being awarded the contract through Toshiba Singapore, which is the post's main contractor for this project.

"We started our discussions with Toshiba and SingPost early this year, but the actual commencement of the contract was not until the middle of June. We developed the design and finalised the specifications with SingPost and Toshiba through July and August, and expect the installation to be carried out between April and June next year. The entire project is scheduled to be handed over towards the end of the third quarter of 2014."

There was an existing sorter in the sorting centre, which was to stay in place and continue to be used, so the new installation had to fit into the available space. The addition of the Crisplant sorter, which will have a much higher capacity than the existing machine, will enable the centre to handle capacity up to around 2020. After that SingPost plans to have a further upgrade, or perhaps a further installation in another location in Singapore. "Naturally we will also be looking at that project," adds Chan.

OCR and video coding The machine that Crisplant will install is its latest LS-4000 crossbelt loop sorter technology. Once it is in place, SingPost expects to deliver at least



Green initiatives

Looking after the planet and one's employees often go hand in hand. SingPost is very environmentally conscious and one of its green initiatives was to make its flagship building, Singapore Post Centre, more environmentally friendly by installing new energy-efficient cooling units. As well as providing a pleasant working area for staff, the system reduced the carbon footprint by 2,531 tonnes per year and saved US\$800,000 a year. The project won the ASEAN Energy Award 2008 for demonstrating best practices in energy efficiency and conservation.

Other green practices include an ongoing eight-year Green Fleet programme to

gradually replace older vehicles at SingPost, with more environmentally friendly ones. Many of the post's vehicles are now Euro IV-compliant, which translates into lower carbon emissions. Route optimisation and investment in three-wheelers also helps reduce the number of return trips to base or mail transit rooms, which again helps to reduce carbon emissions emitted by the postal operator.

All employees are encouraged to contribute towards energy-saving programmes. Another initiative has been to set up 'green corners' in operation areas and offices to simplify recycling.



95% of mail and packages by the next business day. In the system, mail trays are sorted according to destination at a maximum rate of 14,400 trays per hour.

Chan gives more details on operations: “The sorter will use a high-capacity dynamic induction coupled with an OCR system. A camera will capture an image of each mailpiece’s address, and that will be passed to the Toshiba’s OCR system, which will identify the postcode. The use of the OCR system will increase the read rate and decrease the necessity for manual coding, thereby raising the efficiency of the system for greater productivity.

“Images of addresses that are unable to be read by the OCR system will be sent via the network to an operator in the on-site manual coding station, who will enter the postcode manually. The mailpiece will then continue to be processed as normal.”

Ergonomics and the environment As an employer, SingPost is considerate of its staff as well as the environment (see *Green initiatives*, page 67). The post has developed a good working environment in the sorting centre, which is fully air-conditioned and well organised. Crisplant’s LS-4000 sorter is driven by a highly energy-efficient linear synchronous motor, which in addition to using up to 75% less energy than a conventional drive technology is also very quiet. These ergonomic and environmental factors were very important criteria for SingPost when it was looking for its new sortation system.

Chan believes that a major factor that led to Crisplant being awarded the new contract “was the trust that we had built up and the support we had given SingPost over almost 30 years of working together”. Another advantage in Crisplant’s favour in being awarded this contract was that it is very much ‘on the spot’, as Chan explains, “We have a big setup in Singapore for after-sales service and customer support, with approximately 120 staff. From here we provide 24-hour support to Changi Airport for the baggage handling system, and once our new sorter is installed for the post office we will be supporting that as well. In addition we also deliver sales and support to posts and airports throughout the entire South East Asia region, including Taiwan, Thailand, Korea and Japan.” ■

25 and counting

Crisplant has developed many innovative technologies since its foundation in 1944, but in recent years the company has become particularly recognised for its development of energy-efficient applications, most notably with its



LS-4000 sorters. The recent Singapore Post contract is a milestone in that Crisplant can now celebrate the installation of its LS-4000 sorting systems in 25 countries.

The company’s strategy has been the development of systems that combine benchmark material-handling efficiency with state-of-the-art technology to reduce operational costs and CO₂ emissions. Its LS-4000 sorters have found great popularity with customers, who are increasingly choosing systems that can help them make a real difference to the future of the planet and demonstrate their commitment to investment in green technology.

One of the largest of these LS-4000 customers is PostNL, which has used the sorter at its ‘green’ site in Utrecht since it opened in 2009. PostNL is currently equipping new facilities as part of its plan to have 17 new distribution centres in operation by 2015. PostNL has embraced the benefits of the sorter, which in addition to delivering great savings from energy efficiency also creates a quieter working environment than the previous machines.

BEUMER Group has continued to focus on energy efficiency with its recently launched singulator, in which all the conveyors and rollers are controlled by a state-of-the-art PLC with energy-reducing variable-frequency drives to minimise energy consumption. The singulator is completely dynamic and adjusts and optimises the conveyor speed continuously to provide maximum throughput. If no parcels enter the system for a certain period, it goes into sleep mode and will restart progressively once parcels arrive at the in-feed point. As well as reducing power consumption, this entire function is designed to keep wear and tear to a minimum. In addition the singulator employs Kinetic Energy Regeneration (KERG) technology, which is employed on the whole unit and secures optimised reuse of power within the system.

Posten Logistik has trialled the singulator at its distribution centre in Segeltorp, Sweden, where the system performed as predicted and is still in operation. Posten Logistik is more than satisfied with its performance and a further system is scheduled to be installed in the new centre in Stockholm, which is currently being constructed and is due to commence operations in September 2013.

BEUMERGROUP

SOME THINK DELIVERY ERRORS ARE INEVITABLE. WE THINK DIFFERENT.

Running an efficient distribution centre makes a big difference to profitability and customer satisfaction. That's why many leading brands put sortation systems from BEUMER and Crisplant at the heart of their supply chain. Through operational insight and analysis, BEUMER Group is able to deliver complete automated material handling systems that fit seamlessly into your process. Offering exceptional speed, capacity and accuracy, our technology makes a difference to your customers, your brand and your bottom line.

For more information, visit www.beumergroup.com



**MADE
DIFFERENT**

Piece together

OFFERING TAILOR-MADE, EFFECTIVE MAIL-SORTING EQUIPMENT REQUIRES A LARGE AMOUNT OF TECHNICAL DATA TO BE SEAMLESSLY PULLED TOGETHER

“Looking at the sorting solutions we have provided for our customers over the past 10 years, I must admit that not one customer solution is identical to another,” founder and CEO of Prolistic Robert Blattmann once said.

This statement very accurately describes the market tendencies in sorting, especially in the private sector. Every customer is looking for an individual solution that matches its resources and needs.

Characteristics of an effective mail sorter include being able to fit into available space and still fulfil ergonomic requirements. The sorter throughput, frequency of jams, double-feeds and other specifications also have to be met, and the sorter must interface with existing customer software and still collect and display required data. Furthermore, the number of sorter pockets must fit the optimum number of mail targets or letter carriers when sequence sorting is optionally enabled.

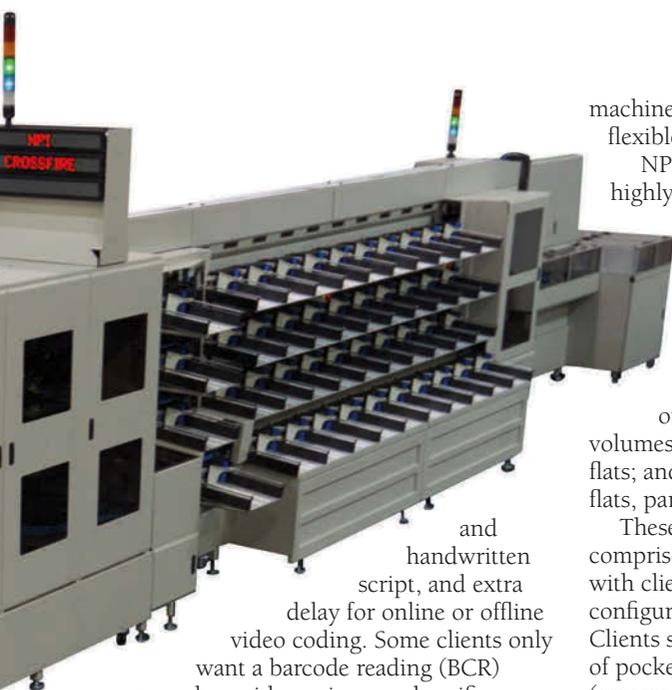
An effective mail sorter must be versatile; sorting standard letters and articles with a wide variety of non-standard features, including items as thick and stiff as a plate or as thin as a single sheet of 80g/m² paper, those the size of a postcard or as large as plastic wrapped magazines, and others such as DVDs.

The sorter must have a wide variety of peripheral options including weigh-on-the-fly, doubles detection, thickness measurement, stiffness measurement and dynamic letter openers.

Some clients want multiline optical character recognition (MLOCR) systems to read addresses, and then spray and verify routing barcodes. Additional options include enhanced OCR for improved reading of both machine print



The Crossfire SE is the world's fastest and most efficient mail sorter. More than 100,000 letters can be sorted per hour



and handwritten script, and extra delay for online or offline video coding. Some clients only want a barcode reading (BCR) system, but with a printer and verifier, and others may want to capture front and back images. Some clients want to print a 1D or 2D barcode on letters, others just want text. Some will have to frank or cancel, others require dynamic logos. Finally, some clients look for fluorescent or magnetic barcode readers, others prefer RFID.

Unique solutions There are so many factors that influence the end solution for an individual client, that in the end each solution is unique. If only unique solutions are sold in the mail-sorting market, one might think that economies of scale are not possible. But the pricing structure for the NPI and Prolistic solutions (compared with others) shows that economies of scale must exist – so where are they? The secret lies in focusing on a variety of standard sorting

machine hardware features and on highly flexible software solutions.

NPI produces five standard, modular, highly configurable sorting solutions:

Crossfire SE, the most compact, high-speed, standard letter sorter (over 100,000 letters per hour); Maxim, the compact, high-speed, standard letter sorter (over 50,000 letters per hour); Vsort, for high-end mixed mail or flats sorting; Atlas, for lower volumes of letters, mixed letters and/or flats; and Xstream, a parcel sorter for larger flats, parcels and packages.

These five standard sorting models comprise the starting point, however with client selections, the final, exact configuration solution becomes unique. Clients select the sorter type, the number of pockets and the desired peripherals (cameras, printers, scales, doubles detector, letter opener, labeller, etc) that meet their specific requirements.

Prolistic/NPI, and its team of physics PhDs, IT experts and engineers, has focused over the past few years on developing and optimising highly flexible and modular software. The outcome is completely self-developed software, in which the configuration of peripherals, the selection of OCR or BCR functionality, and/or integration with a customer interface is accomplished through modularisation. Prolistic has been able to validate the equipment and software in a high-volume production environment with 45 million sorts per month and error rates confirmed to be as low as one in 10 million.

This same software is configured for private postal operators, DVD rental agencies, large banks, insurance companies,

card-processing centres as well as presorting firms.

Economies of scale NPI and Prolistic provide individual and flexible sorting solutions that are reasonably priced by exploiting equipment and software economies of scale. Some examples of implemented solutions include the sequencing solution on a Maxim sorter with 480 standard mail pockets. With 480 pockets, this is probably the largest sequencing solution in Europe. Having four sort levels on two sides, it measures only 32m in length, which makes it the most compact sorter in Europe.

The solution sorts down to 160,000 targets in just two sort runs, which enables 400 letter carriers to get their daily mail sorted into a delivery sequence of more than 400 targets for each carrier.

The sequencing solution is fully adaptable. For example, another solution sorts 40,000 mixed mail letters to 25,000 targets, but in three sort runs and for 100 letter carriers. The solution also provides weight data through a double-scale, letter thickness information, format recognition and dynamic printing (text, 2D barcode and logo). Forwarding is also possible, for example with the new address printed on the letter. OCR and BCR are both processed – the BCR result is preferred. The customer is also able to bill clients either with a standard solution such as CodX in Germany or alternatively with an individually adapted solution.

High performance For single cards, Maxim sorters are specifically adapted to be able to sort single 6g sheets at an average rate of over 60,000 per hour. The sorter has three



The 480-pocket Maxim sequence sorter, which can sort down to 160,000 targets in just two sort runs

(mostly postal code reading), and a printer for franking and/or logo printing. Every presorting company will also get the software module for client billing. This module not only consists of automated invoicing but optionally also of a secure online login for the presort company's clients, where they can virtually access all the information that has been gained through sorting (OCR/BCR results, format, weight, thickness, date and time of sort, pricing before and after presort, organisational unit), even including the image(s) of each mailpiece.

DVD sorting This solution is a good example for the variety of special sorting solutions that are possible. DVD companies can presort outgoing DVDs in order to access discounts and sort the DVDs according to their stock list once they get them back from their clients. Client billing software is also included in this solution.

Over 100,000 letters The Crossfire SE is the world's fastest machine and the most compact mail sorter, according to NPI, sorting more than 100,000 letters per hour. It basically doubles the performance of existing high-speed solutions (50,000 per hour). NPI has optimised the Crossfire solution to have both feeders on the same end of the sorter, making it possible for just one person to feed the machine.

The Crossfire SE will be presented live at Post-Expo 2013 in Vienna.

Solutions for all needs As a result of the modularity of the equipment and software, most of the described solutions can be combined. For example, it's very common for a bank or insurance company to combine the sorting solutions for incoming, interoffice and outgoing (presort) mail in order to maximise the productivity and profitability of the machine. Private postal operators that also offer 'in-house solutions' tend to combine the standard sequence sorting solution for postal operators with the incoming and basic postal presorting solutions. ■

cameras – one each for the front and back, and a verifier camera to check that the 2D barcode has been correctly printed.

All three images are processed in grayscale, then binarised (dynamic elimination of different colours and lines according to the specific card that has been scanned) for OCR and BCR.

A printer applies dynamic text and 2D barcodes on the back of the cards. The system has a specifically configured double-feed control and a delay line that offers the possibility for online video coding. The system is also able to sequence through further sort runs.

Incoming mail To sort incoming mail, the solution consists of an Atlas mixed mail and Maxim standard mail sorter in combination. Incoming letters are sorted to departments by OCR of key words on the letter ('car insurance', for example, for an insurance company). One-strike video coding is quickly done via a specific keyboard that displays all the departments.

The software is able to dynamically open specific letters (at 40,000 per hour) that go to one department, for example. A blacklist of letters that should never be opened (top-management mail or 'confidential'

letters) is also possible through recognition of the name of the manager or a specific word. There is also a special solution for registration of incoming registered mail.

Interoffice mail The speciality of this solution is that it completely adapts to the client's existing process – a lot of customers use interoffice folders in C4 format for internal communication and can keep doing so. But instead of sorting these folders manually, with the interoffice mail sorting solution all folders pass through a sorting machine.

A text-block finder locates the last handwritten entry on the folder, the OCR reads the entry (91% read rate), verifies in a database if it exists, and sorts to the department as allocated. For incorrect entries and no-reads, similar video coding to that used for incoming mail is used.

Outgoing mail Presorting solutions for outgoing mail are available – for example in Germany, Deutsche Post (BZA/BZE) and TNT (easy confinement), in France, La Poste (courrier industriel), and in Italy, Poste Italiane (posta massiva)

These solutions generally consist of a scale, a camera for format recognition, OCR

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Planning ahead

MODERN POSTAL ORGANISATIONS NEED SYSTEMATIC AND CONSISTENT SOLUTIONS TO SUPPORT A COUNTRYWIDE SORTING STRATEGY

In recent years systems and databases for sorting mail at Canada Post have steadily grown in size. Changes in any one location have entailed manual modifications further down the line, with the consequential risk of errors. For some time Canada Post has been working with a new IT architecture and solution from Siemens. Consistent address data and comprehensive, rule-based sort-plan management help to master the complexity.

Previously the sorting system at Canada Post was characterised by heterogeneous, single solutions: a collection of various production-specific systems for address data and sort-plan management scattered across the country made it difficult to sort and distribute mail efficiently. Each time a sort plan was changed somewhere in the country, modifications had to be made by hand at numerous other points to reharmonise the network – an obvious barrier to efficiency. Of course, the fact that new address data had to be painstakingly

entered on site into each solution was also a time-consuming problem, and there was no centralised address entry system for the country's sorting centres.

The postal system, which had evolved over time, was hitting its limits as a result of the increasing demands of postal customers, for example for faster delivery and – for major customers – variable tariffs. Jörg Schiemann, head of IT at Logistics and Airport Solutions, Siemens, points out that “traditional address and sort management concepts are scarcely capable of keeping pace with the new trend”.

Canada Post decided, at the end of the last decade, to optimise its traditional postal service and cost structures with the aid of an IT solution.

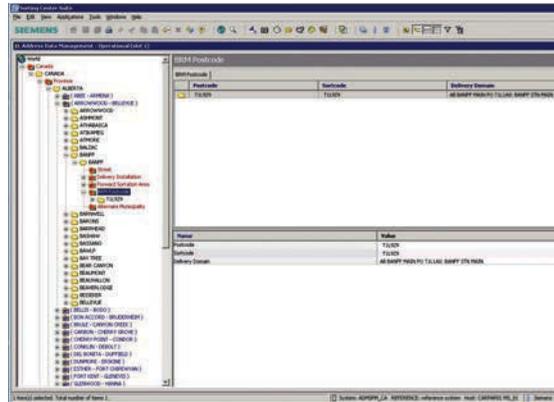
Central and automated Logistics and Airport Solutions' IT solution – the modular, cross-network tool known as Address Data and Sort Plan Management (ADM-SPM) – unites all the features that

Canada Post was looking for. The solution uses a central database for all addresses and delivery information, thus removing the need to enter data at sort-code level. That means all connected address-recognition and letter-sorting systems in the country access the same database. In the same way, nationwide sorting strategy planners can draw on this information pool, and individual sort plans are based on this consistent data.

The other important element of the new IT solution is the comprehensive networking of sorting and distribution centres, which enables them to be controlled centrally. Until now, Canada's individual, generally highly automated centres have operated relatively independently of one another. Two points highlight the advantages of using a common data pool and centralised control. Firstly, data and address changes now need to be made once only and at one location. Secondly, modifications to an inward mail



Through the ADM-SPM solution Canada Post now uses a central database for all address and delivery information



Siemens' Address Data and Sort Plan Management solution enables the systematic and consistent management of address data with sort plans for mail sortation

sort plan no longer trigger a whole string of changes further down the line, since the outward sort plans are adjusted automatically. This capability is based on a sophisticated catalogue of rules that uses if-then analyses to automatically sequence changes in the system.

Speeding things up The ADM-SPM system consists of a series of pre-configured software modules that can be adapted to suit the specific requirements of a postal company. Implementation of the solution at Canada Post was the culmination of an intensive specification phase in which nationwide address structures, distribution processes and all detailed functions were analysed, defined and finally imported into the new IT solution. Only then could the configuration of the production network and the address structures begin. The project team transferred the data – addresses, delivery information, structures and delivery points – from the existing Canada Post databases via specific interfaces. Schiemann explains, “Today there are no addresses in the system that have not been assigned a delivery point.”

Sort codes need to be assigned to delivery points, to enable communication between the recognition system and the sorting machine. The sort codes are generated on the basis of consistent information from the database and pre-defined rules, which are aggregated in the background. Thanks to the importing of delivery structure data, the delivery points are able to transfer data immediately to their carriers and post offices. “This delivery plan process takes place automatically in ADM-SPM,” Schiemann says. “It can be modified at any time.”

Coordinating mailstreams The Contract Management module determines the mailstream between all points in the distribution chain – both between the different sorting centres as well as between the sorting centres and the delivery offices – as determined by the national sort plan and the defined structure of the nationwide mailstream. Schiemann says, “This function is extremely important for the coordination of the mailstream within the branches of the network.” Another useful feature is the generation of alternative sorting scenarios – for example if the number of mailstreams increases suddenly or new postal products need to be distributed.

In the process, the sort planner combines the outward and inward mailstream data and uses the information as a basis for developing the most efficient sorting concept – taking into account machine availability, specific postal products and closing times.

The interaction between delivery planning, contract management and sort planning is mapped in a tree structure that branches right down to the last delivery point. “In this way, each address finds its delivery point – and vice versa,” Schiemann explains. This means that the sort codes of every single delivery point derive from the trunk to each branch of the sorting tree.

Consistent networking is important to enable possible planning adjustments – for example, address changes or altered delivery routes – to be taken into account in the overall system. According to Schiemann, “In many cases, the adjustment can be integrated into a higher planning level entirely without additional intervention by an operator.” For example, if an inward sort plan is changed at a

sorting centre, the outward sort plans in all other sorting centres are adjusted automatically. For Canada Post, this advantage has a profound effect: it no longer has to bother about the complex coordination of different sorting centres.

The next step is simply to link the ADM-SPM system with the address recognition system and the sorting machines. This is performed by the Generate and Transfer module. It also distributes the processed address data and sort plans via the network to the connected systems.

Three-step approach The foundation that permits sort planning and control to be centralised and automated is based on a three-step IT architecture approach. For this purpose, a central database server for the common consistent data repository (Oracle) and an application server for the ADM-SPM system, are located at Canada Post's headquarters in the country's capital, Ottawa. Linked to these are the clients at their headquarters and the individual sorting centres, which are administered via the ADM-SPM User Management module – in accordance with pre-defined access regulations and guidelines.

After an almost two-year conception, development and implementation phase, the system has been operating successfully since 2011. “Our intelligent, rules-based solution for address data and sort-plan management is the central administrative tool at Canada Post today,” explains Schiemann. “The system delivers the consistency and reliable planning of a highly developed postal network that, at the same time, is flexible enough to integrate new functions and services.” ■

Mail management

CONTROLLING THE MAILING PROCESS CREATES A VARIETY OF BENEFITS. NOT ONLY CAN IT REDUCE MAILING COSTS AND INCREASE STAFF PRODUCTIVITY, BUT IT ALSO EQUATES TO CUSTOMER LOYALTY THROUGH ADDED CHOICE



Organisations today are juggling the effects of the 'perfect storm' – a combination of globalisation, recession, reorganisation, digitisation, regulation and climate change concerns. They are currently scratching their heads as to how they can improve communications with their customers to earn greater loyalty. Does that mean more direct mail to push the brand into the sitting room, or using new digital channels and scrapping post? The critical factor is a communications

Electronic mailrooms can save operators time and money while still offering customers their preferred method of receiving information

management system to deliver customer choice. Customers do know themselves best, after all.

This growing need for companies to find new approaches to improve all aspects of their performance has never been more pressing, and this means that the cost and effectiveness of customer, prospect, employee and other stakeholder communications is coming under increased scrutiny. The question whether 'to mail or not to mail' often raises its head, as the

pressure to go digital heightens and internal audits recognise the high cost of postage.

At the same time, the idea of the ‘market of one’ has raised widespread concerns about personal data security. Nowhere is this more critical than in financial sector communications, where the requirement for high degrees of data protection, accompanied by the necessity of rigorous compliance, can increase perceived risk and reduce the effectiveness of communication and exacerbate the gap between what audiences increasingly want from communications and what organisations can or choose to deliver.

Nevertheless, the bottom line is that even in a rapidly digitising world companies must offer choice to all their audiences, ensuring that no one is excluded from vital services and information.

Boxed out According to Opinium Research, 84% of UK adults do not like it when companies take away their right to choose the means by which they are engaged. Furthermore, 81% of UK adults want to choose how they receive their information. Clearly this makes good business sense.

The statistics back up the need to offer choice, because the reality is some people don’t have digital access or aren’t yet computer literate enough to use digital services, while others simply prefer paper.

According to the UK Office of National Statistics, 5.2 million households in the UK do not have internet access. The organisation Go On UK believes 16 million consumers aged over 15 don’t have basic online skills. Plus, data from the Keep Me Posted campaign reveals 44% of Britons currently believe their financial records would be incomplete without their paper statements.

Finally, four out of five people are more likely to read statements that are available both online and by post, and believe that without paper statements they are more likely to miss payments and less likely to have a handle on their finances.

Mail costs millions Yet in an increasingly competitive world, the manual process for mailing documents to those who favour paper – as well as those who would prefer digital communication but are still



Three steps to standardising your output to deliver choice

receiving paper – is costing companies millions every year. Employees print and post thousands of ad-hoc, unstructured mail items from their desktops every day that can be still posted, but in a more cost-effective way.

It is a labour-intensive and unproductive process. Imagine a business user or call centre operative printing a piece of correspondence; after hitting the print button they physically have to get up and collect it from a printer, take it to be enclosed, stamped or franked, and then on to the post room for fulfilment either in-house or externally. Repeat that several times a day and the loss of staff productivity and costs escalate. In fact, many of the associated costs remain hidden and are incorporated into everyday operational budget lines.

Total postage costs are usually hidden for unstructured mail, appearing on departmental, operational budgets rather than a centralised one. The cost can be frightening and departments don’t have control over their true expenditure. Many claim that to go paperless is to go ‘green’, however fundamentally it is the perceived cost savings that inspire this corporate social responsibility.

Inspire HybridMail Generically, Inspire HybridMail can be described as a centralised ‘postal system’ or an ‘electronic mailroom’. Systems for dealing with structured mail will mainly already be in place. It’s coping with the unstructured mail that is the bigger challenge as this is created on the back of an ad hoc call or call centre interaction.

The new cycle of dealing with unstructured mail via Inspire HybridMail follows this pattern: once the user has written their everyday desktop document in their existing office application, they click the print button as normal. But now the document is uploaded into a virtual printer, and checked and formatted to take advantage of the efficiencies of a centralised production facility, including high-volume printing and reduced stationery.

The documents are then collected, sorted and tracked securely via an in-house or external service provider to be printed, enclosed and delivered. It removes the need for individuals to go through the fulfilment process themselves and frees staff to focus on more value-adding business activities. Inspire HybridMail also offers far more competitive postal rates, which often bring down the cost to £0.17 per item. Service providers get lower postal rates through bulk mail processing. When customers use Inspire HybridMail, these postage savings are immediately transferred to their business. Costs are cut further through reduced need for desktop printers, consumables and stationery.

GMC Software Technology’s Inspire HybridMail next-generation, web-based mail-management and automation software provides the answer to this more controlled mailing process, enabling staff to be more productive, streamlining unstructured customer correspondences and reducing business mailing costs by 60% through productivity increases and bulk discounts while engaging with a customer in a way that satisfies them.



Customer feedback

GMC Inspire’s multichannel capabilities enable a business to convert mail that is formatted for print into digital-ready files that can be automatically emailed, or even sent via SMS, to the customer when they are requested in that format. This ensures brand consistency, reduces mailing costs, increases staff productivity and controls risks associated with postal, mobile and email-based customer engagement.

As Vincent Jouault, director of innovation at GMC customer DataOne, says, “Inspire HybridMail has enabled our clients to greatly reduce their internal administrative costs while improving staff productivity and removing risks in business-critical communications.” GMC customers, including Gala Bingo, report a 35% improvement in customer response rates.

Such organisations have found in GMC a customer communications management partner to help them engage with their customers, with what they want, when they want and in the way that they want, helping them navigate the profound changes that are taking place in their industries and prepare for and capitalise on the opportunities for value creation that such changes reveal. Improving the customer experience to engender loyalty by offering the option of printed mail in addition to the new digital channels means everyone is a winner.

In addition, through clever address management, real-time address correction and the ability to connect to any local postal address system, the solution is designed to reduce returned mail by 50%.

Easy to use Inspire HybridMail enables employees to send mail with a single click of a mouse – increasing control and

reducing corporate risk. The solution also seamlessly tracks exactly where every item is in the mailing process across every user, department or location. It reports the status back to the user and provides management reports detailing cost savings, volume printed, undelivered items and more.

As a result, Inspire HybridMail allows staff to focus on their core competencies.

For every 100 mail items processed through Inspire HybridMail, businesses save the equivalent time of one full day’s work while reinforcing corporate branding, ensuring brand consistency, reducing returned mail, increasing accountability and transparency, and reducing their carbon footprint.

Furthermore, the rules and parameters defined by the business using the solution will be built in to the system so that the mailing process is customised for different users. This means that when a user clicks to Inspire HybridMail, the solution will automatically follow all the parameters defined for that department or user. ■



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Using Inspire customers can choose how they want their mailings to be optimised

“Inspire HybridMail has enabled our clients to significantly reduce their internal administrative costs, while improving staff productivity and removing risks on business-critical communications.”

Vincent Jouault
director of innovation, DataOne



A bright idea, just got brighter...

The GMC Inspire hybrid mail solution is designed to add exceptional value to desktop mail across any enterprise. With advanced functionality, you gain a 40% reduction in postage costs, significant increases in productivity, total brand control, reduced risk of error, a platform that increases cross-sell opportunities and more.

GMC's unique value led business model ensures that the solution suits your budget while delivering the highest returns.

To learn more or book a demo contact:
hybridmail@gmc.net

Handle with care

AUTOMATED PARCEL HANDLING HELPS IMPROVE PRODUCTIVITY, BOOST CAPACITY AND REDUCE PARCEL DAMAGE

The growing e-commerce sector presents a variety of challenges for logistics and parcel-delivery providers, including higher workloads, an increasingly diverse array of containers, and peak-load periods that are often difficult to predict.

Fimec Technologies, a French-based company that specialises in automated loading and unloading solutions for logistics and express-delivery platforms, is helping companies to meet these challenges through innovation. The company's solutions, which put particular emphasis on ergonomics and operator safety, are designed to meet the specific requirements of the logistics and parcel-delivery sectors. The company also pays special attention to energy efficiency and the reduction of equipment noise levels to below 68dB.

Using Fimec's automatic unloaders, capacity can be boosted to 3,000-5,000 parcels an hour, processed by a single operator, compared with no more than 600 parcels an hour via a telescopic conveyor.

Fimec Technologies' solutions offer a way to keep pace with rising productivity needs and provide comfortable working conditions for operators. The company's ongoing efforts to refine existing procedures and develop exclusive systems are yielding constant improvements in equipment performance and ergonomics.

Innovations At Post-Expo 2012, Fimec Technologies unveiled its U-Care-P unloader, designed to work with pallets of all sizes with no additional adaptation required. With a very high processing speed (120 pallets per hour), the all electric unloading solution makes parcels



The U-Care-C unloader's fully electric tipper guarantees the smooth handling of parcels, emptying containers quickly and efficiently

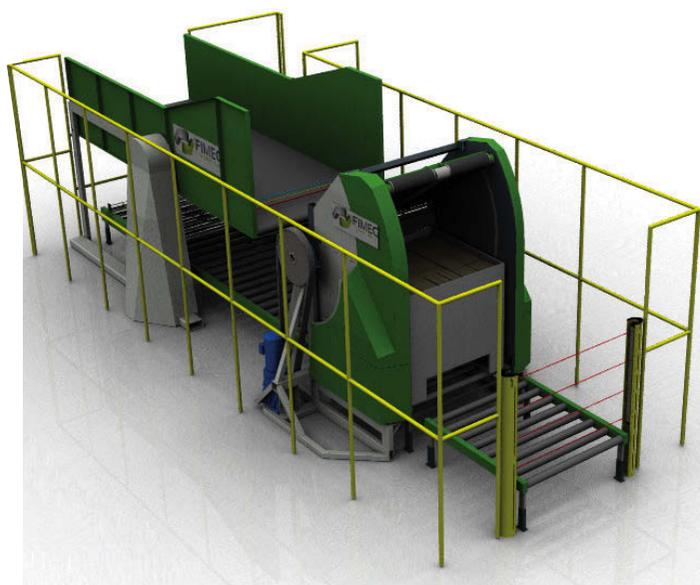
slide rather than fall, providing direct improvements on parcel integrity and noise levels. This equipment can be supplemented with a device known as U-Assist, which holds the parcels in place while the pallet is being unwrapped.

Also in 2012, Fimec Technologies patented a robotised parcel-palletising concept known as Packtris. This innovative solution prepares pallets with multisized parcels using 3D cameras and a heuristic algorithm. With a rate of up to 900 parcels per hour, the robot can select the right parcel for the right position on the pallet being built.

The U-Care-C unloader, a unique process for tipping containers and thus reducing parcel damage, will be unveiled at Post-Expo 2013. As postal operators often use containers, trolleys and pallet boxes to handle their parcels, there was a need for an automatic solution that emptied these containers in a safe and efficient way. Fimec identified this need and adapted a solution to develop the new, gentle U-Care-C.

The U-Care-C is a fully electric tipper that guarantees the smooth handling of parcels. It uses a 'lid' conveyor that automatically closes the container before tipping. Once the container is upside down, the lid slowly opens to unload the parcels onto a downstream conveyor.

The main characteristics of the U-Care-C include guaranteed respect for the parcel, thanks to its patented shock reduction system, exceptionally high efficiency with a processing capacity of 80 containers an hour, as well as an all electric unloading solution coupled with a new interface for low energy consumption.



Fimec Technologies' U-Care-C ensemble, a unique process for tipping containers, will be unveiled at Post-Expo 2013

Further chief characteristics include low noise of less than 68dB, an intuitive operator interface including a display unit with integrated PLC, multiple configurations for recycling of empty containers, and remote support and control by a Fimec Technologies technician. U-Care-C can be used with containers, trolleys and pallet boxes.

Committed to development Fimec Technologies is a subsidiary of the Materials Technologies Group. With a workforce of 170 employees, the Materials Technologies Group helps customers on five continents fulfil their projects.

Fimec Technologies is committed to developing increasingly innovative solutions that combine ease of use with enhanced safety, improved ergonomics and technological progress. ■

U-CARE: your solution for high throughput and extra gentle unloading process

- ✓ Flexible for all types of containers and pallets
- ✓ High capacity unloading process
- ✓ Extra gentle handling



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- 90 containers / hour



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U-CARE

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Handling operations

EFFICIENT E-FULFILMENT IS KEY TO DELIVERING A HIGH SERVICE LEVEL WITHIN THE PARCEL AND POSTAL SECTOR. FAST, ACCURATE AND COST-EFFECTIVE ORDER HANDLING STARTS WITH THE OPTIMISATION OF ONLINE COMMERCE OPERATIONS



Material handling systems for e-fulfilment

Strong growth in online business and tough competition for customers' orders mean retailers need a focused strategy – whether they are 'bricks and mortar', store-based operators or pure e-tailers. Efficient fulfilment is key to delivering a high service level with fast, accurate and cost-effective order handling. Parcel and postal specialist and e-fulfilment solutions provider Vanderlande Industries has automated processes for leading retailers in a wide range of markets.

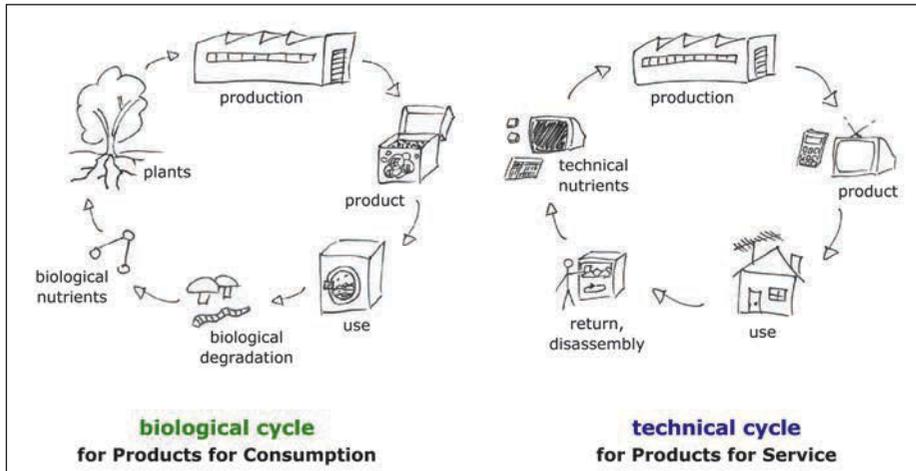
Double-digit growth in virtually all markets makes online sales an essential part

of retailers' channel mix. But competition is strong, so effective processes are essential to ensure the required high service level. In-store picking may be an option for smaller operators with hybrid store-based and online businesses, but an efficient, automated warehouse process is essential for specialised, larger-scale operations.

What does the Vanderlande statement, "Efficiently handling thousands of orders of widely varying shapes, sizes and weights, from car tyres and computers right through to footwear and fashion," mean in practice? Accurately handling and shipping these

goods to customers within 24 hours of ordering is a tough enough task, but handling large reverse flows of returned goods – often totalling 30% or more of all orders as consumers use their suppliers as online fitting rooms – makes it an even greater challenge.

These goods flows are handled efficiently by automated transport and sorting systems, which have the further advantage of smoothing the peak seasonal workloads encountered in many sectors. But getting the desired results in e-fulfilment demands expertise that extends



Working together Profitability is important, however people and the planet are also essential. While many corporations are focused primarily on profitability, others like Vanderlande Industries are looking beyond merely generating revenue. The company is investing in its people and protecting the environment.

Today companies need to do more than just focus on financial results. Vanderlande’s performance has two additional and equally important dimensions – ‘people’ and ‘planet’ – relating to our environment and the society in which we live. Vanderlande is making those aspects an essential part of the way it works. ‘People’ and ‘planet’ do not conflict with profitability; they are part of the same, coherent overall strategy based on sound business reasoning.

One of the reasons for the drive for sustainable business – also referred to as Triple P – is increasing demand from customers. They also have their own sustainability programmes and goals, and are faced with their own challenge to improve performance on each of the triple bottom line (TBL) strategy indicators: people, planet and profit.

Sustainable future Vanderlande isn’t just following market demands in response to those competitive pressures. In fact it is going much further by committing to lead the way towards a sustainable future for itself as a manufacturer of material handling systems and for its customers as users of those systems.

It is important to emphasise that using people and planet as indicators of success does not conflict with profitable operation.

A circular economy can help reduce environmental impact

across retailers’ warehouse automation processes and sorting operations by parcel and postal specialists. With a proven track record in both these areas, Vanderlande Industries helps speed online orders from warehouse to consumer.

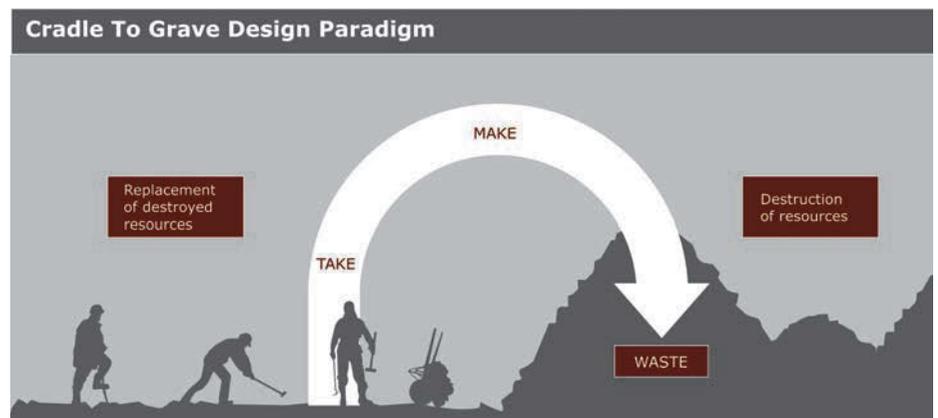
That starts with warehouse automation for fast, accurate goods picking and sorting, so orders are ready for shipment within a few hours of receipt. And it extends to the parcel and postal industry, where handlers have to meet increasing consumer expectations in areas like speed and flexibility in delivery scheduling.

Effective automation Just one example of effective automation is the solution supplied by Vanderlande for Zalando’s newly opened 78,000m² warehouse in Germany, described as ‘Europe’s largest wardrobe’. The new facility is one of Zalando’s biggest investments, enabling it to continue the rapid upward trend in its online sales while at the same further expanding its product range. Acting as main contractor, Vanderlande supplied the complete material handling system, comprising tote and carton handling, shelving, a Quickstore HDS shuttle system and high-performance sortation.

In the UK, Vanderlande has worked with leading retailers including Tesco and Asda in developing and extending their e-fulfilment operations. For Tesco, Vanderlande provided the automated systems for a new, dedicated distribution centre handling home shopping fulfilment of grocery products. For Asda, the systems

were supplied for a new semi-automated e-fulfilment centre for online sales of ambient, chilled and frozen products. In both cases the challenge was to handle the retailers’ fast-growing e-commerce volumes with scalable solutions, ready for continued strong growth in their online sales.

Data support For parcel and postal operators, the challenge is to quickly and efficiently handle a wide variety of parcels, typically weighing from 50g to 30kg or more, with peak capacities as high as 15,000 parcels per hour. As well as sorting parcels to different destinations, systems also capture barcode and weight data that are needed for functions such as mailpiece tracking and tracing, and item-based billing. Here too efficient automation plays a key role, and a lot of gains can be made by the way data from parcel flows is captured and used.





Error-free order picking is vital in order to ensure order fulfilment in the e-commerce world

They are part of the same, coherent, overall strategy. Together this approach is the way to build the basis for a sustainable future for any business.

Economy transformation For many years, corporations have followed linear 'take, make, dispose' industrial processes, where products are manufactured, used and then disposed of as waste. Now, due to the growing scarcity and depletion of natural resources, the linear economy model is unsustainable. Raw materials are becoming increasingly costly and hard to find and the percentage that can be recovered by conventional recycling is not enough to fill the gap. Instead, the long-term solution is to transform today's linear economy into a non-linear economy of the future.

The scope of a circular economy not only encompasses the production and consumption of goods, but also the financial impact of such goods. In the circular economy materials will be selected not only for their tangible properties, but also for their effects on people, the environment and their capacity for reuse. These products will be designed and intended for continual reuse in a closed loop system without waste or loss of value.

Evolving into a circular economy is a long-term vision and will take time to achieve. This is why it is vital today for companies to begin taking the necessary steps for the future in their own operations as well as by involving all their partners throughout the supply chain. For

Vanderlande the broadly based TBL strategy is proving its worth, with innovations that are delivering compelling results for the company and its customers.

The challenge currently facing the manufacturing industry is to start making the transition from the linear to the circular economy. Vanderlande Industries is working on that by designing its new systems for disassembly to promote repeated reuse of materials at end-of-life. The company is also eliminating the use of toxic or otherwise harmful materials such as varnishes and glues. It is also ensuring that all plastic materials are recyclable and that steel is unpainted as much as possible for easier reprocessing.

Energy efficient The process of manufacturing new products, however, cannot focus solely on the reusability of material but rather also on reducing energy consumption and associated carbon emissions. This can be achieved by innovations, such as cleverly designed belting and motors with energy requirements that are among the lowest available on the market. Another way in which customers can reduce energy usage and operational costs is by introducing smart controls that automatically switch transport systems off at idle times and quickly restart them when needed, with no operational holdups.

We have numerous innovations that show that the TBL strategy is making a difference and already proving its worth. It

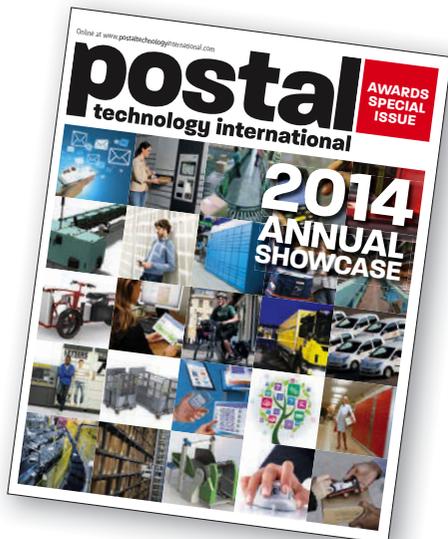
is delivering compelling results for Vanderlande Industries and its customers. Many of the company's new products are designed in accordance with 'cradle to cradle' principles, which maximise reusability and eliminate waste. This means materials are repeatedly reused in an endless series of production cycles, as modelled in a circular economy.

One example is the Blueveyor conveyor belt system. It is the world's first system of its kind to be designed according to 'cradle to cradle' principles and offers major savings in weight and materials. Also recently introduced is the Greenveyor, a highly energy-efficient belt system that achieves energy savings of up to 45%. In addition, the Energy Scan programme delivers energy savings of as much as 50%, achieved through a combination of smarter subsystem design, energy-efficient motors and optimised control systems.

People driven As well as the planet, people are vitally important for the success of the TBL strategy. Employees who are well cared for are healthier, happier and more motivated, and ultimately more engaged in the business they are working for.

Important employee welfare aspects on which Vanderlande Industries is focusing are safety and ergonomics. Safety is a vital employer responsibility, especially where employees work with high-tech tools and heavy-duty machinery, and it is one that the company takes very seriously as an industry leader. It also pays close attention to ergonomics and invests much time and resources in designing products to support and ease the work of operators. An example of this is the elimination of heavy, repetitive tasks and the creation of a healthier working environment.

Proactive approach These initiatives are all part of a proactive approach in which Vanderlande Industries engages with its customers, suppliers and other business partners, working together in exploring, developing and applying new technologies, processes and innovations. Vanderlande is convinced that this shared, broad-based approach is the optimum way to achieve sustainable business objectives and meet the expectations of all stakeholders, today and in the future. ■



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Seamless service

END-TO-END MAIL PROCESSING TECHNOLOGY SHOULD BE DESIGNED TO DRIVE CONVENIENCE, CREATIVITY AND CONTROL FOR CUSTOMERS

Postal operators face a challenge: to position for the future as the marketplace becomes increasingly competitive. The most forward-thinking are re-evaluating the entire mail-processing workflow, identifying areas for improvement and looking to deliver new and enhanced services that drive efficiency and value.

Efficiency is not achieved through operating in silos of functionality. Rather, a holistic, 360° approach to operations is required. Only in this way can productivity and customer service be optimised and true value be realised from postal technology investment.

The technology already exists to provide this end-to-end excellence. Pitney Bowes' sortation and mail-processing technology is geared towards driving maximum productivity through the workflow, providing the necessary tools to improve the bottom line and add value.

Sophisticated sortation The typical understanding of mail sortation is of an automated process that is able to sort bulk mail into specific postcode (or other designated address) locations. Certainly, automated processing of this nature remains a business-critical task for many operators. However, describing today's sortation services in only these terms is massively underselling the functionality of today's integrated, highly advanced sortation platforms.

Pitney Bowes constantly evolves its solution-set to bring products to market



The Pitney Bowes Vantage Sorting Solution is a high-speed, flexible sorting machine



The Vantage helps automate more processes with consistently high throughput

workflow for posts around the globe. The software provides a single interface, meaning that all information about every item processed is held in one place. This saves time when gathering data for billing, track-and-trace operations and delivery routing, automating several otherwise time-consuming processes.

MDM enables users to track and trace individual items from the minute they are collected or received, through sortation to delivery, producing an audit trail for every item. Billing becomes a simple, centrally controlled process that can accommodate requirements such as customer and specific cost-centre billing. MDM's ability to track individual items means that a detailed list of what was processed – and when – can appear on bills so that clients know exactly what they are paying for.

MDM brings a single centralised administration process to all operations. Information such as new clients and route updates can quickly and easily be added without having to individually update every item of hardware or database on the system.

Dynamic data Similarly, on the software side, Pitney Bowes' Postal Address Database provides the flexibility for posts to develop a broad and inclusive database linking the geographical address to a logistical map of delivery routes, and also holding additional information within the boundaries of legal regulations.

These additional, enriched elements might include address-change information

that fit perfectly with modern processing patterns and ways of working. This is the ethos behind the latest adaptation of the industry-leading Vantage Sorting System and the FlexLine Stacker Section solution.

Adapted for today Pitney Bowes has modified its Vantage sorter by developing a shorter transport that is designed to suit today's production environments. The ergonomic design makes no compromise on performance. The shorter Vantage system delivers full OCR and BCR capability, high-speed graphics printing and production processing of up to 50,000 mail pieces per hour – all at a cost that encourages an earlier progression to sophisticated automation.

The FlexLine Stacker Section also has a name that reflects its functionality. Offering a quieter stacking process and, once again, priced to attract take up from businesses of

all sizes, the FlexLine can be connected straight to the transport of the shorter Vantage, making the total operating area extremely compact.

The flexibility comes from the ability to have two, three or four tier configurations, providing best-in-class ergonomics, including the option to have a two-sided system with U-turn. These new systems dovetail perfectly with Pitney Bowes' existing portfolio of flexible sortation solutions, a range that is designed to effortlessly automate the processing of today's mail mix – whether at high volume or for lower-volume applications. Although the hardware is the obvious focus of any production environment, the software behind the scenes is every bit as critical.

Managing the workflow Pitney Bowes' Mail Distribution Manager (MDM) software is the intelligence behind every stage of the



The Vantage uses innovative feeder technology, which enables users to sort mailpieces with a wide variety of thickness while maintaining a consistently high speed

to enable seamless forwarding services. Other examples include personalised notes to prevent certain types of non-addressed mail being delivered to particular areas. The database may even include information on the type of houses in a particular region, thus helping postal operators better match targeted communications to properties in the area.

The Postal Address Database is also the main source of reference for the address-reading devices in sorting machines, enhancing automation and providing essential integrity control.

A 90-year pedigree The market is changing – driven not only by deregulation and increased competition, but also by demographic changes and an audience more in tune with digital communications than traditional channels. The postal service providers that use technology to drive convenience, creativity and control for customers will be those that stay ahead

of the competition and successfully negotiate this developing landscape.

Pitney Bowes is unique in providing solutions and expertise at every stage of the customer communications management (CCM) cycle – from data management and message creation to print, fulfilment and dispatch. The company is working with national posts and private mail couriers across the world to help them establish these additional services.

Investment in new technology and solutions continues apace. Pitney Bowes' presence at Post-Expo 2013 will showcase the very latest products from its portfolio – products developed with the flexibility to enable posts to react quickly to the new opportunities presented by a deregulated postal market.

The business benefits of mail integrity and cost-efficiency are no longer limited to volume mailers. Pitney Bowes has the capability to provide sorting solutions for almost all business sizes. Based on a very

flexible system software architecture, all Pitney Bowes sorting technology is designed to drive efficiency, including the ability to equip the sorting system with a high-speed inline scale or high-speed graphics printing solution to further streamline workflows.

Previously customers in low-to-mid-volume mail operations have not had the technology to capitalise on new market opportunities and take the step into a fully automated solution. This is changing, and Pitney Bowes is at the forefront of bringing new solutions to the market.

This fast-moving marketplace requires suppliers that recognise today's business challenges and move fast to deliver technology capable of driving efficiency and business growth. Pitney Bowes is a company with over 90 years of experience in design and innovation, and it continues to use this vast bank of expertise to develop solutions that help its customers meet the evolving needs of their audiences. ■



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 **Pitney Bowes**

The delivery debate

THE CHANGING E-COMMERCE MARKET CREATES CHALLENGES FOR COURIER AND POSTAL COMPANIES IF THEY ARE TO KEEP PACE AND OFFER INNOVATIVE SERVICES IN THE BATTLE FOR E-SHOPPERS

There is no doubt that e-commerce is on a fast growth track that is expected to continue in the coming years. According to the *Europe B2C Ecommerce Report 2013*, the value of the European B2C e-commerce sector grew 19% to €311.6bn (£266.4bn) in 2012. Developed countries such as the UK, The Netherlands, Sweden and Norway saw a 10-15% increase in terms of internet trading, and eastern and southeastern Europe experienced a real e-commerce boom, with growth rates reaching around 20-25%. This dynamic sector is a real 'parcel producer'.



The same report estimates the annual number of B2C parcels sent to 250 million customers to be at 3.5 billion, a number that will certainly continue to rise along with the projected growth of B2C e-commerce in Europe.

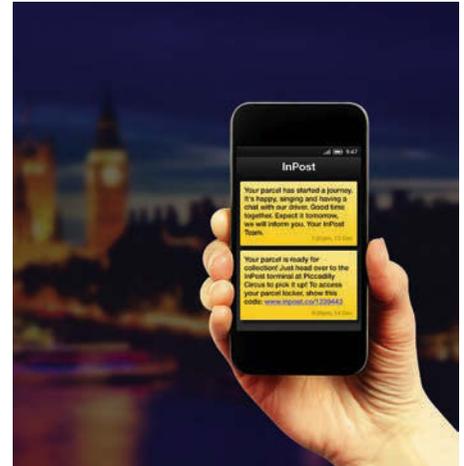
Not only does e-commerce thrive, but it is also a favourable platform for novelties. All signs indicate that 2013 will be the year of mobile commerce. International shop ASOS introduced a 'scan to shop' service that enables customers to point their phones at images inside the print magazine and click to buy with their smartphones. Australian online fashion retailer The Iconic publishes a quarterly magazine that allows readers to shop straight from the page. Tesco opened a virtual grocery store in a South Korean subway station, where a large, wall-length billboard was installed, designed to look like a series of supermarket shelves and displaying images and prices of available products that users can buy simply by scanning a QR code with their smartphones.

New ways of shopping require novel delivery methods. It's a change e-retailers and carriers need to be prepared for. Internet trading is a source of a wide parcel stream that needs to be operated by postal and courier companies. The only way to keep pace is to offer customers an innovative service that will meet their needs. And current customers may be hard to please.

According to DPD research, 73% of UK shoppers withdrew from an online store site because there was insufficient choice of delivery options. Twice as many customers changed carrier last year compared with the year before because they did not see any difference in the services provided, as stated by the UK Domestic Express Parcels Distribution Survey. And the cost of failed deliveries in the UK amounted to £851m, according to IMRG research. A single failed delivery might cost a retailer as much as £238 considering actual cost of the missed delivery and the brand



Customers can choose the InPost parcel locker which is closest or most convenient for them



Customers can opt to be sent text alerts to track their parcel on its delivery journey

damage according, to the 2013 *Europe B2C Ecommerce Report*.

Such great opportunities and challenges lie ahead for courier and postal companies, but they must be able to adapt to changing market conditions and offer their customers choice and cost-effective delivery options.

Ways to please customers The way to succeed in the delivery sector is to offer customers a vast selection of convenient delivery and collection methods. Alternatives to courier delivery or visiting a depot within opening hours are dynamically spreading, switching roles and empowering customers by giving them choice. And they tend to choose more convenient options than those mentioned above. It is the responsibility of logistics/postal companies to remain competitive and take a closer look at modern solutions that are offered throughout the world.

Parcel shops are a first option that have recently gained in popularity. These are pick-up points run by local convenience stores, where customers can collect their orders and drop off returns. Parcel shops offer a convenient local presence and stretched opening hours compared with post offices. The key success factor is building a dense network to enable most customers to use this option.

Leader in package delivery UPS turned its attention to this type of delivery option



Parcels can be collected and sent day and night, and at weekends and bank holidays

and acquired Kiala, one of the largest existing networks of pick-up points, to expand its e-commerce activities. The parcel shops will be rebranded as UPS Access Points. The network is planned to expand from France, Spain and Benelux into Germany and the UK. Consumer convenience and the potential wide availability of the solution are very attractive reasons for expanding into this parcel shop activity.

Another delivery option is parcel lockers. These are self-service automated parcel terminals that enable customers to collect and dispatch parcels around the clock, seven days a week, even at weekends and bank holidays. Such terminals are conveniently sited near retail parks, petrol stations, banks and office parks, so customers can pick up their parcels on their way home, to work or when they go shopping. Their unquestionable advantage over parcel shops is 24/7 availability and rapid collection without queuing.

This solution is heartily advocated by InPost, a producer of parcel lockers and operator of a network of 1,700 lockers. So far the company launched InPost parcel lockers in 17 countries, entering the

markets by itself or in cooperation with local partners. InPost implements a vast choice of cooperation models, depending on the opportunities and constraints of new markets. Usually InPost invests in building the network of lockers and selects a logistics partner to organise the management of parcels to and from the lockers. In addition a local sales team is tasked with increasing penetration within e-commerce and offering the solution to other logistic companies on a pay-per-locker rental model. InPost can also consult on the optimisation of the existing network. It is an all-inclusive offer tailored to specific needs and appreciated by courier companies, postal operators, e-tailers and final customers.

Post of the future National postal operators also wish to benefit from the lucrative e-commerce parcel stream and search for customer-focused innovative solutions. This trend is slowly gaining momentum and the attention of the main players. Traditional home delivery faces multiple problems, such as there being no one at home to receive the parcel, resulting in customers having to rush to the local

post office before it closes to pick up their mail. Innovative modern solutions are ways to avoid these inconvenient issues.

More posts are opening 24-hour zones that extend normal opening hours and are a potential solution for busy customers. However, such zones often offer only limited postal services and the number and coverage of such depots remain partial.

A potential solution appeared last year that might interest postal operators willing to offer a truly innovative and convenient service to their clients. It is the outcome of a strategic alliance between InPost and NCR, a global ATM manufacturer. The InPost postal terminal combines postal and financial services in one terminal, enabling customers to collect and dispatch registered letters, pick up and send parcels, pay bills, transfer money as well as deposit and withdraw cash. Offering all these services does not require personnel because they are processed by an automated self-service postal terminal. This solution enables posts to save money and provide 24/7 access to standard services.

The need for innovative and convenient delivery options is clear and should not be ignored by carriers and postal operators. Meanwhile the parcel stream shows no signs of slowing down, so it will be vital for large global operators as well as smaller parcel delivery companies to implement innovative strategies in order for them to gain a market share of the ever-growing parcel market.

Recognition and introduction of existing alternatives to home delivery or collection at the depot will be key success factors in the future. The applied strategies may differ and may involve choosing a single solution or introducing a blend of a few. For instance, Australia Post, Polish Post and Portugal Post are installing parcel lockers in or nearby existing post offices. Australia Post's private sector rival, Toll Group, decided to simultaneously implement parcel lockers and parcel shops. The future will show which of these strategies will prove most effective. ■

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Meeting expectations

HOW CAN TRANSPORTATION AND LOGISTICS OPERATIONS MEET THE GROWING DEMANDS OF CUSTOMERS? AUTOMATION AND MOBILE TECHNOLOGY MAY HOLD THE KEY

As customers' demands evolve, transportation and logistics (T&L) operations are being put under growing pressure to offer more efficient delivery services, while not compromising on customer service. A recent survey of transport and logistics managers around the world¹ explored how a combination of mobile technology implementations for mobile workers and process re-engineering efforts can elevate operations to the next level. It also highlighted how a lack of adoption can hold T&L operations back, preventing them from capitalising on substantial cost savings.

Key findings from the research found that T&L managers are seeking to improve operational efficiency and believe reviewing current workflows and technologies is the way to achieve this. Managers recognise that by combining evolved processes with mobile technology implementations, they can gain access to major cost savings. The research also found there is an awareness that the introduction of automation and mobile technology can greatly reduce the time taken by mobile workers to perform pick-up and delivery-related tasks on a daily basis, as well as increase accuracy and access to information. Finally, the research revealed that mobile data capabilities offer the biggest potential opportunity and the largest possible ROI.

Resistance to change Customers are increasingly demanding more from their T&L providers. The growing demand for same-day deliveries is putting pressure on T&L operations to not only meet these tight timelines, but to continue to offer consistent

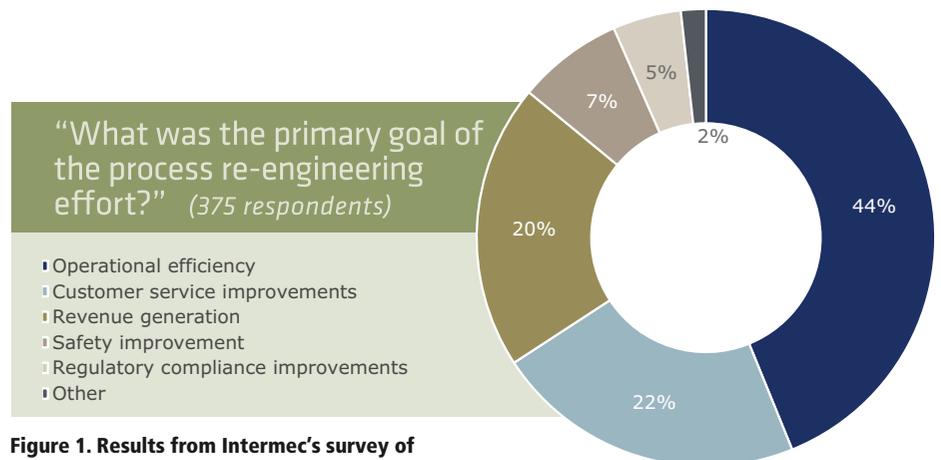


Figure 1. Results from Intermecc's survey of transport and logistics managers in April 2013

customer service (while improving operational efficiency and reducing costs).

However, a lack of innovation is holding T&L operations back. An unwillingness to deploy mobile technology and undergo process re-engineering efforts could be affecting customer service – and more importantly, organisations' profitability. According to the study, these same T&L operations could save on average over US\$459,000 (£295,000) per annum as a result of process re-engineering and the implementation of mobile technology across workflows. Yet in spite of that, 60% of the organisations still use paper-based systems to complete tasks associated with pick-up and delivery.

How then can T&L operations best position themselves to meet the evolving needs of the customer? This research highlighted how T&L operations can undergo an effective cost-saving initiative

and, at the same time, improve operational efficiency through workflow re-engineering and implementing mobile technology into their pick-up and delivery services. It offers best practice insight for T&L operations seeking to capitalise on the benefits this type of process transformation can bring to their operations.

Express delivery More than three quarters of organisations say their customers now demand same-day delivery services, and 92% of companies claim that meeting these expectations is placing severe challenges on their business. To capitalise on customers' demand for same-day delivery services, T&L operations need to be as adaptable as possible, in order to give customers more control and flexibility over their deliveries.

T&L operations do have some awareness of the need to reinvigorate their processes. Operational efficiency was identified as the

number-one area needing improvement this year, and 44% of companies believe that reviewing current workflows and technologies is the most effective means of achieving that. What's more, T&L managers ranked operational efficiency and customer service improvements in their top-three concerns when giving or receiving direction from their management team.

However, an awareness of these issues is not enough if T&L operations are to keep up with their 'right-here right-now' customers. Process improvements and implementation of workflow technology is not a one-off practice. Organisations need to understand the requirement for regular and ongoing process re-engineering efforts. The survey reveals that 39% of respondent companies have not initiated re-engineering efforts in the past year, and of these, 72% have not evaluated their existing processes for at least two years. Without a willingness to orchestrate widespread change and improvement, the customer demands of these organisations will inevitably fall by the wayside.

Operational efficiency Re-engineering the workflow activities involved in pick-up and delivery services may prove a daunting undertaking for many T&L operations, but not all companies have neglected the need to re-engineer their processes – 61% of organisations have undergone such an effort in the past 12 months, with the most common single goal being to improve operational efficiency (Figure 1).

Clearly, this is a worthy objective for a workflow re-engineering endeavour: T&L managers having experienced, or are

expecting to experience, a 13.74% increase in efficiency as a result. With operational efficiency a number-one priority for T&L managers, workflow re-engineering is critical.

However, as with any business decision, this is not the only driver for improving existing processes. For organisations that have not undergone a workflow re-engineering effort in the past 12 months, it has been an average of two years since they conducted a review. But what's more surprising is that 7% of T&L operations have never undertaken a process re-engineering effort – entirely overlooking a multitude of opportunities to improve their operational efficiency and drive cost savings.

Innovating through automation Process improvement is not merely about spotting where workflows can be made more efficient. For T&L operations in particular it's about understanding how automation can reduce the human effort and intervention required, as well as decrease the number of 'man hours' necessary to carry out processes from start to end. Not surprisingly, automation is generally delivered by adding technology. Speeding up highly repetitive workflow processes by just seconds and eliminating the opportunity for human error can have considerable impact on overall operational efficiency and costs.

For example, the average time it takes a driver to complete shipment pick-up related tasks at present is 8 minutes 49 seconds. By introducing automation with mobile computing technology, it is estimated that this time can be reduced by an average of 2 minutes 40 seconds.

Analysis of the pick up and delivery area which would most benefit from improvement (375 respondents)



Figure 2. Service improvements will increase operational efficiency and competitiveness

This is a 30% decrease in time and associated operational costs.

According to the research, organisations believe that pick-up processes can benefit most from being enhanced. The next workflows to be improved are accessibility of information in back office systems (24%), an increase in the amount of information and detail (23%), and improved accuracy of information (22%) (Figure 2).

Compared with a pick-up, the delivery of a shipment is a slightly quicker process, taking on average 8 minutes 11 seconds; 29.5% of that time, or an average of 2 minutes 25 seconds could be saved through automation. Areas most in need of improvement in the delivery process are an increase in the amount of information and detail (23%), the time taken to process delivery information (23%), improved access of information in back office systems (22%) and improved accuracy of information (22%).

Mobile industry Automation and process re-engineering are closely linked to mobile technology implementation for T&L operations. Customer expectations in the industry are growing higher each day,

“Which of the following technologies do you believe offer your organization the most promising return on investment?”

(375 respondents)

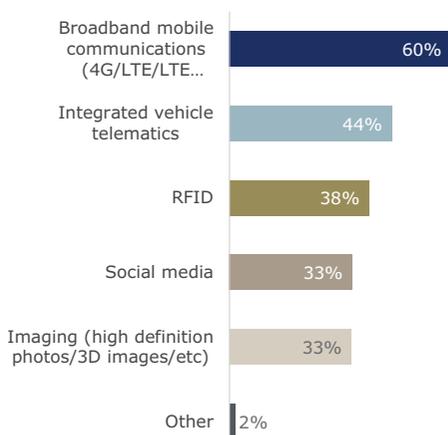


Figure 3. Mobile technology is key to business development

putting increasing pressure on mobile workers to meet tighter deadlines. This makes the ability to reduce pick-up times for mobile workers and reduce call times for back-office workers all the more necessary.

According to the survey, T&L operations believe that arming their mobile workforce with mobile technology could cut both their pick-up times by 30% and delivery times by 29% – savings that could be crucial in boosting operational efficiency and meeting customer demands.

Location tracking technology is also currently being used by more than three quarters (77%) of organisations in their mobile workflows, with navigation (77%) and route optimisation (72%) being the most common implementations.

Almost a quarter (23%) of the companies in the survey have yet to deploy GPS-based applications, citing a number of barriers, including lack of need and cost that are preventing them from capitalising on these benefits.

Future-thinking What are likely to be the future trends for mobile technologies?

What are the areas that could potentially offer T&L operations the most for their money? Improved mobile data offers the biggest potential opportunity for T&L operations, with data communications providing the most promising ROI. Broadband mobile communications (4G/LTE/LTE Advanced/WiMax/etc) were chosen as the most important opportunity for ROI by 60% (Figure 3).

The need for T&L operations to deliver on time and accurately is as much a strategic issue as it is a demand from customers. Over 75% of companies rank complying with SLAs, making deliveries and collections on time, and accuracy of service as some of the biggest areas of business pressure.

Some 48% of operations estimate that they receive more than 300 calls per day from customers asking for order status updates, though they believe that more than 20% of these calls could be eliminated by having automated proactive shipment status updates. This demonstrates that automation benefits could extend to back-office staff as well. By providing proactive shipment updates, a process enabled by location-based and mobile technologies, these same companies can eliminate 24% of these calls immediately. This equates to 72 calls per working day, a time saving that could be used to better serve a wider range of customers.

Indeed, there is a significant business case for deploying these automated shipment status updates, as 91% of respondents say their systems are under pressure due to evolving customer expectations of delivery times, that their top priority is improving customer service (90%), and that they want to improve operational efficiency (90%).

The ability to grow better customer service, while driving further efficiency, is core if T&L operations wish to place themselves competitively in the market.

Conclusion The growing pressure on organisations to become more flexible and efficient is widespread in the T&L industry. Companies are eager to find ways to meet customer demand for same-day deliveries, communicate effectively with customers, and maintain/improve high-quality service while reducing operating costs.

Implementing mobile technologies, including advanced hand-held computing and imaging, GPS-based location capabilities, RFID and mobile printing, is not enough on its own. By targeting the capabilities presented by these mobile technologies with workflow process re-engineering efforts, T&L operations are able to improve their customer offerings, service levels, customer satisfaction and profitability. Ignoring, being inconsistent or slow to review with process change opportunities made available by the myriad advances in mobile computing technologies is not a sustainable path given market and competitive pressures. This research draws a clear link between workflow process re-engineering and improved operational performance and efficiency and suggests that continued evaluation of current processes with the advanced automation capabilities can result in significant gains in customer satisfaction and profits. ■

¹ Sampled 375 T&L managers at organisations with more than 500 employees in the UK, France, Germany, USA, Australia and New Zealand. Research commissioned by Intermec and carried out by Vanson Bourne in April 2013



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Transforming IT

THE EFFECTIVE USE OF INFORMATION TECHNOLOGY IN THE POSTAL INDUSTRY IS VITAL FOR KEEPING PACE WITH EVOLVING MARKET CONDITIONS

Postal organisations are adapting to customer demand through significant transformational investment programmes. Whether these are designed to improve customer service so as to retain and attract customers, or to diversify into new revenue streams, the organisations' IT divisions must adapt rapidly to enable this change.

To provide a few reasons as to why transformation must take place, consider the modern business customer. E-commerce has created demand for increasingly accurate and timely tracking information and also a wider range of service options; such as the ability to specify collection times and locations and to redirect items during delivery. Business customers handling large consignments can benefit through IT generated process and financial efficiencies and in turn will be more likely to increase business with their postal operator.

A second example could be those businesses providing unaddressed mail who are contributing to keeping the mail bag full. These customers require competitive pricing, flexibility in products and enhanced information. Connectivity within a postal operator's IT landscape could provide socio-demographic intelligence, which could be used to offer target households advanced information to keep a customer set opted-in to products.

A final example could be the postal operator's offering financial and other diversified services, which require multichannel interaction with customers. Communication across handheld devices, SMS, social media and phone contact for example, all require integration with

Early Adopter Model:

Model 1 - Prime:

Integration included as part of a single Supplier deal



Evolved Hybrid Models:

Model 2 - Guardian:

One of the Service Tower Suppliers supplements the Client



Model 3 - Independent

Integrator: A Supplier provides Integration services, but no Towers



Model 4 - In-house:

Client is responsible for Integration, can be supplemented by 3rd party



The four models commonly seen in the IT industry

information technology in order to generate centralised data which can then be used to improve the customer experience.

Additionally, the amount of transformation depends on how well an organisation has planned and invested to ensure their IT landscape can adjust to the demands. This is where Lockheed Martin has developed a centre of excellence with a number of Service Integration and Asset Management (SIAM) approaches to aid postal organisations.

Challenges faced Often the business case for investing in IT is difficult to justify, resulting in legacy systems remaining in place until they become unsupportable. Declining revenues from traditional postal products are gradually being supplemented

with the growth in parcels, so many transformation projects are now faced with the challenge: How do we make our IT solutions support a parcels business that also delivers letters?

Chief information officers will challenge their enterprise architects to address the problems of scalability, flexibility, obsolescence and COTS licence costs. The most frequently faced challenge is how to manage older applications, either due to ageing technology or limited skills, and develop knowledge to support the applications.

Typically, in most cases, the lack of upward compatibility combined with underlying operating systems, database and COTS technology will hold back the migration to the latest standards, having

the knock-on impact of lack of COTS support and the latest security features.

IT response A number of strategies are being adopted by IT organisations in response to these problems; most organisations are following a three-phase approach of consolidating, rationalising and then transforming.

Consolidation normally takes the form of a risk assessment based on criticality to the business of applications and infrastructure, including disaster recovery solutions. Typically the assessment is done by third parties to provide independence.

Rationalisation tends to focus on transition to a service orientated architecture, and reducing multiple instances of applications for customer relationship management, billing, purchasing and HR.

Transformation requires a more innovative approach and a degree of independence from the usual stakeholders and suppliers in the IT organisation.

Service integration There are several service integration models; one that is now being applied across many government and business organisations is Service Integration and Asset Management (SIAM).

The SIAM approach is not new in the IT industry however is new to the postal industry. Many IT organisations have implemented a service tower arrangement with multiple suppliers who are responsible for each tower, for example, for desktop support, hosting, application management and so on.

The SIAM function sits across the service towers to ensure that the dependencies are managed to provide a set of service-level agreements to the postal organisations. Each of the service towers has a set of operational-level agreements that aggregate to deliver the overall service.

Overcoming obstacles Allocating clear responsibilities to service towers under the control of a SIAM model ensures standardisation across the architecture. Lockheed Martin has found that establishing a SIAM capability early during

the consolidation and rationalisation phases will create a framework for success.

There are several types of SIAM approach that can be applied depending on the postal organisation's strategy. Lockheed Martin has recognised that each organisation requires a different approach depending on the amount of retained control, supplier relationships and the approach to owning or delegating risk.

Types of benefits The four models that are commonly seen in the IT industry include: the Early Adopter Model, the Guardian Model, the Independent Model, and the In-house Model.

The Early Adopter Model is where a single SIAM provider is responsible for establishing the SIAM, service towers and is responsible for selecting and managing the suppliers. This is the ultimate IT-managed service model. The benefits are a single point of accountability for managing the overall service.

The Guardian Model is where one of the existing suppliers performs the SIAM function. This has less risk in an established tower arrangement, but can cause tension among the other service tower providers. Sometimes it can be difficult for the Guardian supplier to extract themselves from their service tower.

The Independent Model is often seen as a good choice as the SIAM is neutral, with no vested interest in a service tower and independence from the other suppliers.

The In-House Model is used where an IT organisation wishes to retain more control and establishes its own SIAM function. Often a third-party is engaged in a project or advisory capacity.

Ultimately there is no one model that fits all organisations. Lockheed Martin has developed an approach where it independently supports the postal IT organisation and also explores with stakeholders the best strategy, which may include no changes if the existing service integration is appropriate.

Secrets of success It is important to establish the correct service towers by addressing the demand for new products

and services. For example, separating application development from application management may be appropriate when managing a large legacy IT landscape. Introducing mobile services requires careful consideration and may require a separate tower for handheld devices, telecoms, networks, etc.

It is critical to manage the external interfaces to other organisations, such as post offices, financial services and international partners for e-commerce, thereby ensuring that each service tower provider understands their dependencies. Therefore the early creation of a dependency matrix that identifies the responsibilities between service towers is key to ensuring that no gaps exist and the dependency matrix is kept up to date and applied by the SIAM function.

It is essential to integrate the IT service desk with the SIAM function. The service desk provides the central view of the IT services with the IT service management tools and dashboards that are important for the SIAM provider to have visibility. Ensuring the service management tooling is integrated across the service towers from early in the transformation process will ensure success.

Finally, the most important ingredient for success is the ability for suppliers to collaborate across the service towers. Lockheed Martin has an approach of integrated product teams that include stakeholders across the different disciplines to ensure visibility and early engagement. It is critical to develop relationship management plans by using industry best practices such as BS11000, which is implemented by the Institute of Collaborative Working, of which Lockheed Martin is a founder member.

Just the beginning By adopting a service integration approach to IT, postal organisations will be able to respond more rapidly to market demands. Regardless of the model adopted, creating a service tower structure that reflects the needs of the business with a SIAM partner will deliver agility, as well as a platform for growth for new products and services. ■

Future logistics

A CUSTOMER-CENTRIC APPROACH IS ESSENTIAL TO KEEP UP IN THE B2C PARCEL SEGMENT OF A TECHNOLOGY-ENVELOPED WORLD



“Change is the law of life. And those who look only to the past or present are certain to miss the future.” So said John F Kennedy – and this is particularly relevant in the postal industry.

Postal business in recent years has been mainly focused on optimisation and the downscaling of operational units due to decreasing traditional mail volumes. The focus has been on operational cost savings to sustain margins and to remain competitive against new private rivals. However, the B2C parcel business is a segment in the postal industry that has shown continued growth rates of up to 15-20% per year.

In 2020 customers will have an increased focus on climate and values, especially in western countries. They will demand full transparency with regard to ecological aspects and want to be aware of the goods they buy and whether they meet their personal ethical thinking – all for economically achievable prices.

New technologies By taking a look at the smartphone boom, it is predictable to see how quick and life-changing technological innovations can be. Studies by market research company eMarketer predict that in 2017 more than 80% of the population will have a smartphone and that

it will be the smart agent for assisting all our activities in most western European countries. People will be permanently online and as a consequence the human machine interface has to be as simple as possible. Self-explanatory interfaces and the integration of new technologies in user interaction are required.

The customer is predominant As well as the trend towards e-commerce companies replacing traditional stores and mail-order companies, independent people are also selling goods over the internet. Studies forecast that in 2020, three billion people will be e-commerce sellers. These figures

Logistics companies can choose a range of box sizes to meet their clients' needs

show the potential for growth in logistics companies, but only if they have the right solutions to meet their customers' requests.

How will this growing trend influence logistics companies? In order to be successful and provide services that are attractive in the future, a logistics company must have a clear focus on the end user, otherwise the competition will win the race. Knowledge of user behaviour and personal preferences will be the key factor in staying ahead of competitors.

The main issues arising from the above-mentioned trends for logistics companies are flexibility, simplicity and individuality. All three trends show there is not one single solution for satisfying all customers' requirements. Every customer is different and their requirements will also change over the years. Therefore, it is an absolute must for logistics companies to have the last-mile channel in the hands of the customer.

All shapes and sizes KEBA's KePol logistics solution is available in four tailor-made packages, which serve the different challenges logistics companies face in order to be successful in the market.

For a first-time trial with KEBA, KePol@Lab is an ideal choice. It provides an easy opportunity to try KePol during a defined trial period and within a testing environment. Almost all the functions of a full implementation can be experienced and tested without the need to start a big project. All necessary tasks, including installation and setup of the machines are carried out by KEBA. The KePol Software Suite is provided as SaaS (software as a service) and completely managed by KEBA.

KePol@Pilot can be used to evaluate the entire KePol solution in a field trial. Besides standard functionalities, additional options and individual implementations can be added. Setup, administration and operation



is included in the package. The entire KePol@Pilot solution, including software, machines and service, is provided on a rental basis. Easy and economic upgrade possibilities to the other KePol packages (KePol@KEBA and KEBA@Customer) are available, making further expansion of the service possible.

KePol@KEBA comprises the entire KePol solution with various options provided as a service. Again, as with KePol@Pilot, KEBA is providing KePol software as a managed service and the setup, administration and operation are included in the package. With KePol@KEBA, customers do not need to implement the software within their own IT structure; they only have to establish all the necessary connections to the KePol server that is hosted by KEBA. The whole software solution is billed on a rental fee basis with cost-effective upgrade possibilities to KePol@Customer.

KePol@Customer offers an implemented KePol solution at the customer's IT department or at their external hosting provider. With KePol@Customer, there are no limits to individual implementations. The solution is taken over into regular operation and has no operational limits concerning the number of machines or customer-specific adaptations.

A package for every need All four packages (KePol@Lab, KePol@Pilot, KePol@KEBA and KePol@Customer) are standardised – but nonetheless customised – bundles, designed to cope with the varying needs of each client. Each of the packages consists of a combination of hardware and software, as well as integration into the customer's existing logistic IT structure.

Some postal or logistics companies might be interested in new technologies



The KePol FS solution has been designed to cope with any environmental condition

and the benefits they can bring; others might simply want to put their business case to the test. KePol offers a package for each postal and logistics provider that is standardised, but still tailor-made to benefit from the flexibility that KePol is known for. And as with every KePol solution, modularity, flexibility, security and life-long value are incorporated and play an important role.

Locations There is no perfect solution for all the requirements regarding locations. It might be better to place a parcel machine in an outdoor or indoor location; they can be large or small and should be placed in different arrangements for perfect space usage. For all these requirements, KEBA has the perfect solution in its portfolio.

With all four tailor-made packages, customers can select the right hardware solution – either KePol FS, well-known as the totally modular outdoor automat, or the new KePol LS, which fits in any post partner, post office, supermarket, shopping mall or office area.

The KePol LS solution is the upgraded and further developed version of the KePol FS. The KePol LS terminals retain all the features (long-life value, burglary resistance, etc) of the original KePol FS.



KEBA's KePol FS (top) is suited to outdoor locations and the KePol LS is ideal for indoor public areas

However, developments were made by adopting the automat from outdoor to indoor use, achieved by eliminating and adapting features (such as resistance to wind and snow load) based on the changed environmental conditions.

With KEBA's wide range of box sizes from XS to XL, every logistics company can select the perfect mixture of boxes based on their specific business. Additionally, with the dual-box module, which features a large number of XS boxes, KEBA now offers an economic solution for small packets or letters.

Functionality KEBA's business functionalities are based on the experience of 12 years in this business and feedback from customers all over the world. The functionality leaves nothing to be desired and offers a scalable solution from small entities up to large installations. ■

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Branch optimisation

HOW CAN POSTAL ORGANISATIONS SURVIVE IN AN AGE OF DECLINE FOR TRADITIONAL MAIL SERVICES AND INCREASED PARCEL DELIVERY COMPETITION? PROCESS AUTOMATION WITH INNOVATIVE IT SOLUTIONS FOR POST OFFICE BRANCHES MAY PROVIDE THE ANSWER

Postal organisations around the world face a huge challenge: how to compensate for the steady decline in their core mail services, driven by attractive and practical internet-based services. The solution that many posts are discovering is to expand into retail, governmental and financial services to generate new revenue streams and, no less important, to automate in-branch transactions to reduce costs.

Clearly, a transformation is under way in postal organisations in liberalised markets, particularly in Europe and North America. It's taking place, above all, in the branch. Gone are the long queues in cramped quarters and cost-intensive counter transactions that occur most of the time. Today's modern branch, whether company-owned or franchised, is open, efficient and convenient. Customers benefit from improved service while postal organisations can lower operating costs. It's a win-win situation enabled by advanced IT solutions.

Optimisation Automation is at the heart of these solutions, whether at the counter or a self-service terminal. It's also the driving force in Wincor Nixdorf's strategy to serve postal customers eager to optimise their branch operations. Counter automation, self-service and intelligent cash management are pillars of this strategy. They also support the needs of posts keen to expand beyond their core postal services into new retail and financial services.

The Paderborn-based German IT provider has been delivering a wide range of high-performance, cost-saving solutions and services to postal customers for more than 20 years. The company is able to draw on experience in the area of hardware,

software and services, in a range of sectors including banking, retail and postal, to provide a unique and seamless offering.

Key portfolio Wincor Nixdorf's portfolio of postal solutions focuses on five major areas: counter automation, postal self-service, financial self-service, in-branch cash management and queue management. The company's counter automation offering comprises a wide variety of ePOS and mobile POS solutions, counter peripherals such as printers and scanners, cash components including automated teller safes for banknote and coin recycling, and postal counter software.

For postal self-service, Wincor Nixdorf offers a flexible, compact stamp-vending kiosk with an integrated scale, which calculates the postage for letters and parcels and prints stamps, labels and receipts. For financial self-service, the company provides a wide range of ATMs, cash recycling systems, multimedia transaction terminals and related software solutions.

The in-branch cash management offering comprises hardware such as automated teller safes for the counter, ATMs for the self-service area, cash consolidators for back-office environments, as well as an intelligent note storage cassette that can be exchanged between



The right technology can help automate branch processes, support employees in their daily work and offer posts' customers a positive visitor experience

cash points. The whole process can be controlled and optimised by the company's own cash-cycle management software.

Smart management technology Wincor Nixdorf's new CINEO line of systems is part of the company's unique Cash Cycle Management Solutions technology concept. A core feature of the solution is the closed cash cycle that, for instance, enables intelligent cassettes to move from the front office to the back office without anyone touching the cash. Such security systems reduce theft and inventory differences practically to zero.

And last but not least – and of special importance to postal organisations – is Wincor Nixdorf's queue management portfolio, which includes ticket dispensers, digital signage, queue management software and various add-on software components, such as a mobile app and an analysis and simulation module.

Key facts

- Dedicated focus on the postal industry for more than 20 years
- Partnerships with more than 30 postal organisations around the world
- More than 3,000 postal self-service kiosk deployments
- More than 10,000 ATMs and cash recyclers installed in postal organisations, for which Wincor Nixdorf achieved 'Best ATM Technology Award 2013' from banking and finance resource, *The Banker*
- Automation of more than 25,000 fully equipped counters and 100,000 printers in postal outlets

Summary The needs of postal organisations vary, depending on their focus. Often they require tailored solutions. For a number of large European postal companies, for instance, Wincor Nixdorf has installed several thousand ATMs with extended self-service functions such as scanning and bill payment. Such solutions have enabled the companies to shift numerous

transactions from the counter to the self-service area in their branches. Many of these postal customers now generate between 50% and 70% of their revenue from financial services. All of them have benefited from Wincor Nixdorf's expertise in the retail-banking sector.

For many other European postal organisations focused on optimising their branch operations, Wincor Nixdorf has deployed numerous counter workstations and peripherals customised to meet individual performance requirements. In several cases the company has also taken over complete responsibility for the rollout and continued maintenance of the hardware supplied.

Wincor Nixdorf is a one-stop provider of hardware, software and services, including consulting and outsourcing, to the postal industry. The company can deliver, install, maintain and operate complete postal IT systems, with a proven track record. ■

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Last mile innovation

BY MAKING STRATEGIC INVESTMENTS IN LAST MILE DELIVERY AND THE CUSTOMER EXPERIENCE, POSTS CAN ENHANCE THE E-COMMERCE BUSINESS MODEL

With the continued growth of e-commerce shipping, it is clear the market for parcel delivery is expanding. So how can posts worldwide capture their share of this growing industry? Let's imagine being in the shoes of a fictional e-tailer CEO, Chris Kelly, to consider the possibilities.

The year is 2019 and Kelly is being honoured by a leading business magazine as 'Global E-Tailer of the Year'. After he describes how his company rose from mid-tier status to compete directly with many online giants, he comments on what helped his company develop the strategy needed to compete in a crowded market.

"Our success has been all about our value chain," Kelly says. "More specifically, partnering with postal organisations that have efficient last mile delivery programmes and other innovative digital features that have helped us decrease costs while enhancing customer shipping flexibility – both key factors to growing our business."

Back in 2013, Kelly's story embodies the experience of many e-tailers and highlights the need for strong partnerships with posts around the globe. Today, posts are making key investments to improve their value to e-tailers, building dynamic routeing capabilities to deliver goods with optimised route planning and near real-time delivery information, to ensure that only a small number of highly efficient routes are employed. Posts are also pursuing new digital initiatives to enhance the e-commerce experience to protect customers' privacy and enhance tracking capabilities through geospatial technology.

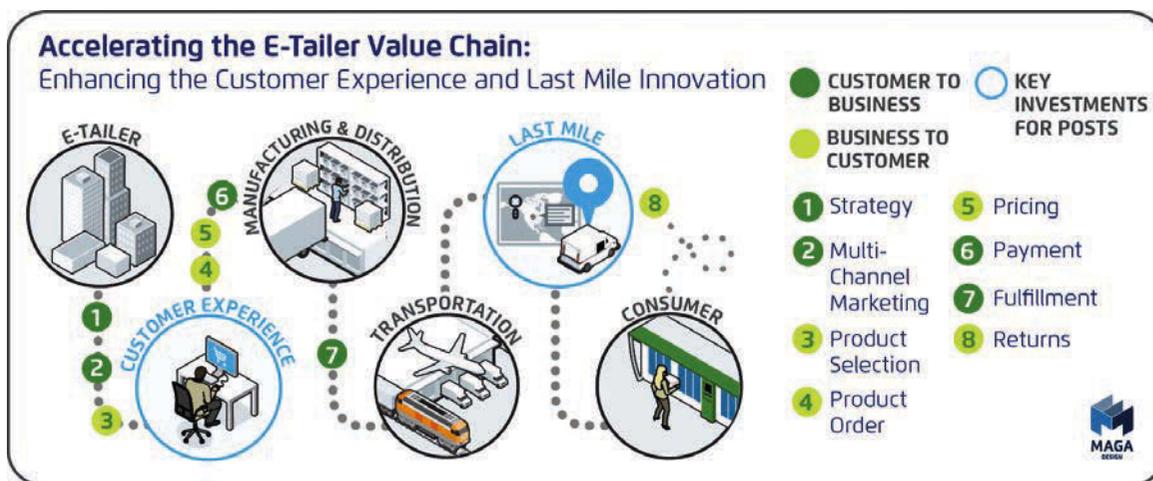
E-commerce opportunities Not only do posts have an opportunity to enhance the customer experience through high-performing last mile delivery, but other key competencies – including ease of payment, multichannel marketing, analytics and more – present potential wins in the

e-commerce space and can serve as a means for posts to insert themselves as key partners throughout the value chain.

Competitive logistics How can posts help e-tailers avoid the pitfalls of disruptive innovation within the market? Today many big box companies are building out their own logistics networks, which challenges their competitors to provide such services at a better price and more efficiently.

To address this disruptive innovation challenge, postal operators can use dynamic routeing to quickly sort and route orders to their final destination using the most efficient line-of-travel, reducing fuel and labour costs – savings that are passed on to both the e-tailer and the end customer.

Customer choice How can posts use analytics to help e-tailers better understand customer preferences? To gain a competitive advantage in today's highly



Through the right blend of investments in their end-to-end capabilities, posts can impact the full e-tailer value chain

Last mile

Can posts improve the customer experience with last mile delivery enhancements?

Customers have increasingly demanded both flexibility and world-class shipping services.

Posts can use last mile technology to provide sought-after customer requirements for e-tailers that include:

- Holding and re-routeing packages on demand
- Same-day delivery
- Real-time visibility into the status of deliveries
- Parcel lockers to make pick-up easier for customers
- Simple, convenient returns

segmented market, e-tailers need help acquiring new data and applying analytics to bolster decision-making around new product offerings. Posts can use aggregate customer and geospatial data to provide a variety of benefits that include identifying the greatest geographic concentration of customers for key products, down to

specific communities and neighbourhoods, as well as helping multichannel retailers determine where to pilot innovative retail opportunities, such as more-flexible pop-up showrooms.

Simple steps Can posts streamline the return process to provide a simple e-tail experience for customers? According to internet analyst comScore, over 60% of online shoppers consider an e-tailer's return policy before making a purchase, suggesting that shopping decisions are made – at least in part – based on ease of experience. To assist e-tailers, posts can make the return process simple and fast for customers by offering to schedule on-demand return pickups and taking advantage of dynamic routeing technology to maximise pickup route efficiencies.

Marketing methods Beyond the last mile, how can posts help implement an effective

multichannel marketing approach? Posts can leverage their insight to develop tools that enhance targeted marketing, using aggregate demographic information to help e-tailers better understand buying patterns.

Benefits may include identifying the best channels for marketing to a specific population, including physical catalogues, e-mail and other media, and also enhancing the e-commerce experience through full protection of individual privacy.

Back to the future Flash forward again to 2019, as Kelly makes his concluding remarks with the crowd hanging on to his every word: “My company now has 9% year-over-year global growth and it is primed for continued success. My challenge to all posts is this; how are you going to help me in the e-commerce space? Will you invest in elements – including the last mile – that provide direct benefit to the e-tailer value chain?” ■



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Bold delivery

SOMETIMES A DISRUPTIVE MARKET APPROACH IS NEEDED TO MAKE SELF-SERVICE DELIVERY A MORE VIABLE LAST-MILE SOLUTION AND FOR RETAILERS TO GAIN A BETTER Foothold IN THE COMPETITIVE E-RETAIL MARKET SEGMENT

The growth in e-retail is a challenge for logistics businesses. The number of parcels for home deliveries is growing, while B2B volumes are fairly flat. However delivering parcels at private homes, one parcel at a time, is a labour and capital intensive process that pushes shipping costs on to the consumers that buy from e-retailers.

Effective fulfilment and logistics, along with convenient delivery options, are recognised to be key factors in a successful e-retail business. International surveys have shown that customers prefer free shipping (86%) to fast shipping (33%). Furthermore, 75% do not want to pay to return goods. This means that the e-retailer needs to absorb the shipping cost, which again drives e-retailers towards the most cost-effective last-mile solutions, since this is the most labour- and capital-intensive part of the journey – from e-retailer to customer.

Cost-effective distribution networks

The disruptive e-retail business has to find new and more cost-effective ways of distributing goods to consumers. Even though fulfilment centres and web-shops represent a much lower investment than bricks-and-mortar shops, much of the gained savings risk being lost if the last-mile distribution takes place through a traditional system of home delivery.

An example from the USA makes this quite clear. Many people in the USA that live in lower-density areas also have a high disposable income – thus the natural thing for an e-retailer would be to try to conquer those areas. Unfortunately home delivery shipping to lower-density areas is more costly, and since the majority of consumers prefer free shipping, e-retailers are left with two difficult choices. Either they choose to target higher-density areas, where people

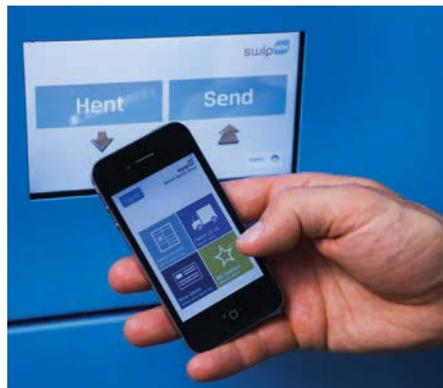
may have a lower disposable income, or they accept a lower margin due to the higher shipping cost.

Last-mile automation The solution to avoid the deadlock is to automate the last mile with a self-service parcel distribution locker that enables the logistics provider to

deliver multiple parcels at a time, and the receivers to pick up their parcel in an automated and convenient process. The parcel locker in itself is not new. Since the beginning of this millennium, these systems have been gaining a foothold, installed by postal services worldwide.

Typically these systems are designed for outdoor use and are capable of performing multiple transactions that are normally associated with postal services. The parcel locker systems usually have a large touchscreen, a payment module for credit card payments, and a printer and scanner for printing receipts and scanning parcel slips or identification card barcodes. In order to protect this expensive equipment, the parcel station needs to be extremely rugged and maybe also heated to withstand the weather in order to function well during winter.

All these requirements to functionality and environmental robustness add cost and load a heavy burden on the business case.



Owners need a very long investment horizon or a number of other distribution methods that are profitable and can subsidise the network of parcel stations. As well as these challenges, it is not easy to find areas in central locations to install these systems. So the roll-out speed would typically be only a few per month.

Disruptive approach A more disruptive and radical approach is needed to achieve a quantum leap in cost effectiveness to make the self-service parcel station a viable last-mile optimisation solution. The Swipbox from aCon is designed based on the vision of presenting parcels to customers in places they visit anyway in their daily routine and making the pick-up possible in seconds to increase the convenience for the consumer and eliminate a waiting line.

First of all, the Swipbox is designed to be placed indoors, such as in a supermarket, protected from the hazards of the weather.

Second, all non-essential peripheral equipment has been removed from the parcel stations, thus making it really simple for the customer to pick up or send a parcel. The customer simply enters a unique code to open a locker, and can then pick up the parcel or leave one for shipping. All other functionalities are accessed via the internet or the user-friendly phone app. Customers can interact with the system where and when they want, and are not forced to spend more than a few seconds at the station.

Using a closed mobile network for communication to and from the stations also enables extremely flexible and fast installation. The installation only needs a mobile network coverage and a 220V power unit to work, meaning the Swipbox can be up and running in just one hour.

Put into practice In practice, this approach has been proved by a nationwide

network of more than 325 parcel delivery points in Denmark, established to obtain nationwide coverage from day one. The network was established by Swipbox A/S, an independent firm not affiliated to any logistics provider or national post service. The stations are placed in supermarkets owned by retailer Dansk Supermarked. The entire network was established in less than eight weeks and has been fully operational since May 2013.

The last-mile automation solution is a cost-effective option to help e-retail and postal organisations sustain a profitable business. The solution uses the synergies of pulling customers into public places such as supermarkets, while being placed in the path of the daily routines of the customers. In Denmark, the disruptive e-retail business has now found a logistics solution that offers a cost-effective and hassle-free way of distributing parcels to the end consumer. ■

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All shapes and sizes

A BROAD RANGE OF MATERIAL HANDLING SOLUTIONS ARE AVAILABLE ON THE MARKET. THE KEY IS FINDING THE RIGHT SOLUTION FOR EACH OPERATOR'S NEEDS

From cost-effective scales that provide fast and accurate results, to full data-capture technology that records dimensions, weight and ID, there are solutions on the market for any material handling process. Modular systems can be customised to suit specific information needs, providing tailor-made solutions for every requirement.

To determine the right solution, start by taking a look at your current process. Make an evaluation based on your throughput. Consider how many parcels you process, volume during peak hours, and what the potential volume could be if you were able to increase productivity. Identify problematic areas in your operation – where are the bottlenecks? Also think about the types of objects that move through your facility – parcels, pallets, etc – and their shape and size. How are goods transported – is there room for an automated conveyor system or is handling done manually? All these things will affect the type of system you should implement.

Suitable solutions For use in processes with throughput of up to 400 parcels an hour, with little need for transporting goods on a conveyor, a static, table-top measuring

system is a good solution. Dimensions, weight and ID are recorded by triggering the scanner using a handheld barcode reader and the measurements are transferred to the customer's host. Easy to install and to connect to label printers and scanning devices, a static dimensioner, such as the CSN810 TableTop from Mettler-Toledo, is quick to set up and will cause little or no disruption to operations.

To capture a full data profile in higher throughput operations of up to 3,000 parcels an hour, a dynamic solution is required. An automatic dimensioning, weighing and scanning solution can be built up to suit your data capture and throughput requirements and integrated with any sorting environment, large or small. Such a system typically offers a range of configurations for varying throughput and sorting requirements. It can be used as a fully automatic solution that diverts non-readables, or alternatively can be configured to stop when an object is missing necessary data, allowing an operator to key in the parcel information manually. Several barcode reading configurations are available on an automatic dimensioning solution for maximising the read rate.

Accurate scanning Mass flow applications require a solution that can accurately capture dimensions and IDs of touching parcels. In such an application, weight cannot be captured unless the flow is singulated further down the line.

Systems that offer the best read-rate in touching and irregular applications use technology that creates thousands of vertical parallel scans that can see every detail of each object, in the highest throughput conditions. An advanced sorter logic is required for mass flow situations to ensure that each item ends up at its intended destination.

Tailor-made technology Floor scales can be tailored to your specifications including weight range, available space and work environment. Customise your scale with ramps and lifts, and choose a weight capacity based on the goods you handle.

A forklift scale saves time by turning weighing into a one-step operation. Customers can choose between a scale that is built into the forklift truck's carriage or one that is an attachment that can be installed on forklift trucks with Class II lift brackets. The weight of a pallet is accurately recorded by lifting it. The forklift



Productivity can increase with automatic weighing and measuring



Today's floor scales can be tailored to customer specifications

driver can control all weighing operations from a scale terminal mounted in the cab.

Made to measure The simplest pallet dimensioners on the market are designed to measure pallets of all shapes, but may have limitations when measuring irregular-shaped objects. Such systems should not be used to measure irregular shapes in legal-for-trade invoicing applications, but can be an excellent introduction to automatic pallet dimensioning, especially in situations where accuracy requirements are less stringent.

To measure irregular-shaped pallets in legal-for-trade applications, you need a pallet measuring solution that is approved for all shapes. A three-headed dimensioner will see all angles of a pallet and capture any protrusions, bulges or other irregularities that can cause problems and should be charged at a higher rate.

Data management software The beauty of today's transport and logistics solutions



Top and above: Knowing how much space an item occupies can actually increase revenue

lies in their modularity. Good data-management software can easily be customised to suit individual data capture and application needs. It gives full control of weighing, dimensioning and identification components, and stores a detailed record of all data. From standard functions such as generating reports and statistics, to advanced options including unattended terminal controls, sorting and tracking, and image capture, data capture software is a powerful tool for capturing and using data.

Automatic measuring and weighing brings efficiency to the logistics process. It facilitates correct invoicing, proper payment for space, efficient sorting and tracking, and customer communication. From the service team to the end customer, automatic data collection is fundamental to all stakeholders within the logistics chain, lending transparency to each stage and affecting bottom line, capacity and operational efficiency. ■

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AN ENVIRONMENTALLY FRIENDLY YET ECONOMICAL AND RELIABLE DELIVERY VEHICLE IS THE KEY TO IMPROVING LAST-MILE EFFICIENCY

After several years of collaboration supplying various products, Loyds Industri knows Norway Post and its requirements. Based on its focus for cost reductions and environmental care, Norway Post requested an alternative delivery vehicle to add to its fleet – a vehicle that could be registered as a moped with a load capacity of 150-200kg and range of 40km minimum, or 6-7 hours without recharging. Following a public tender in March 2012, Norway Post awarded the framework agreement for an environmentally friendly vehicle to Loyds.

Throughout the years Loyds has worked with Norway Post, the post has remained open about its preference for increasing its number of environmentally friendly vehicles used to deliver post on more than 4,500 routes throughout Norway, with varying requirements.

The objective for Loyds was to provide Norway Post with the right mix of vehicles that could help reduce operating costs, improve efficiency and contribute to a cleaner environment. Loyds decided to embark on the development of what it felt had the potential to be Europe's most efficient and environmentally friendly full-line solution for the distribution of post, newspapers and small packages.

Information gathering As part of the LIPP-approach (Loyds Integrated Process and Product Innovation), the company began by observing the daily work of mail carriers on various types of routes and in different weather conditions. The aim was to gain information on the details of the mail carriers' daily work routine.

The next stage was going deeper into the meticulous work of building a prototype from scratch. Functions such as the driver's sitting position, getting on and off, load capacity and user friendliness were the



With the range and payload of the Loyds Paxster, drivers can deliver a complete route without reloading

main priority. The technical design was then developed, followed by rounds of testing to ensure the optimal balance between technology and functionality. The complete vehicle was then presented to Norway Post for final testing.

Urban delivery Norway post divides the nation's postal routes into four categories: city/town centres, built-up areas, residential areas and rural districts. The new delivery vehicle has been developed for use in city and town centres, and in built-up and residential areas, where getting on and off the vehicle must be done fast and frequently. In these areas, environmentally friendly forms of transport are usually the most desirable.

The public tender held by Norway Post included several specifications that the new Loyds Paxster vehicle would be required to fulfil in relation to health, the environment,

safety, electric battery range, ergonomics and functionality.

The prototype was tested and given positive and enthusiastic feedback from mail carriers. The batteries lasted for the entire route, the ergonomics were good, and the vehicle was easily able to manoeuvre close to letter boxes.

The design, aesthetics and functionality were all important factors that had to synergise during the development process. The maximum load was set at 200kg.

Completely automatic Loyds Paxster is a 100% electric vehicle produced from 100% recyclable materials. Production is environmentally friendly and meets the car industry's requirements on emissions and elimination of SOCs (Substances of Concern) in both processes and raw materials.

Loyds has placed great importance on designing and constructing a niche product that can be produced completely

automatically in its own factory, while keeping the cost of tools at a moderate level. This is particularly important, since modification of the product will be required to configure it to each country's load requirements and the composition of post for different customers.

Commercialisation In spring 2013 the first Paxster vehicles were rolled out to Norway Post as part of a framework agreement with Loyds Industri to acquire vehicles following their replacement plan in the coming years.

In September 2012, the Loyds Paxster was successfully launched at Post-Expo in Brussels and since then several postal companies in Europe have shown interest in the new product. Vehicles are currently being tested by mail carriers in various posts enabling potential users to experience the Paxster. The vehicle offers advantages over a car, yet operates like a moped. The

experience at Norwegian Post is that the daily work of mail carriers has been made simpler, less of a strain and more efficient.

Design excellence The Paxster received the Honours Award for Design Excellence 2013 from the Norwegian Design Council. The jury's verdict on the product was: "Loyds Paxster incorporates a number of innovative functions and solutions. It has a clearly distinctive individuality. It has large wheels for good steerability and it is good fun to drive. In addition, it has been designed as an ergonomic workplace. It is easy to get on and off frequently, while the post is kept dry and easily accessible.

"A unique product that is 100% designed for the job it is required for. The jury is impressed that a small company that originally refurbished cars has designed such a fun, light, environmentally friendly and innovative workplace with international potential." ■



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In full flow

AWARD-WINNING INNOVATIONS ARE HELPING POSTAL OPERATORS BOOST PERFORMANCE AND MANAGE SORTING PROCESSES IN A CHALLENGING POSTAL ENVIRONMENT

Solystic has been at the forefront of the postal industry for over 60 years. During this time, the company's products have played a core role in the postal process, and Solystic has witnessed the sector's constant evolution from conventional processing methods up to industrialisation of the postal process. Every year Solystic has focused on developing and delivering innovative products that postal operators need in order to be faster, smarter and more efficient. The company works closely with its postal partners and clients to help them achieve optimum efficiency – a vital concern in today's business climate.

Over the past year, Solystic has strengthened its position as a leading and trusted player in the postal industry thanks to several top industry awards. At Post-Expo 2012, the company received *Postal Technology International's* Automation Technology of the Year and Supplier of the Year awards with the help of its latest product, the XMS (eXtended Mail Sorter), as well as its ability to deliver customer-oriented, market-driven solutions. In addition, in spring 2013 Solystic received the World Mail Award (WMA) for Innovation, with the XMS.

The XMS was developed to respond to ongoing challenges in the postal sector, such as the overall mail volume decline and the crucial need for greater efficiency. At every phase, from concept to design and through to production, the needs of postal organisations were carefully considered. According to Solystic, the XMS is the only machine in the world that is able to sort flats and letters together while reducing costs associated with the last mile by

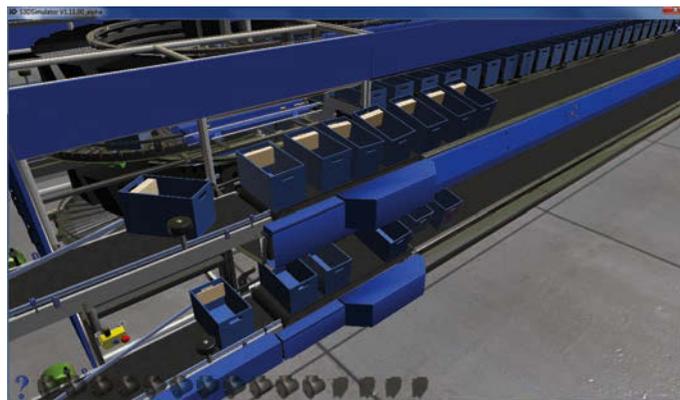
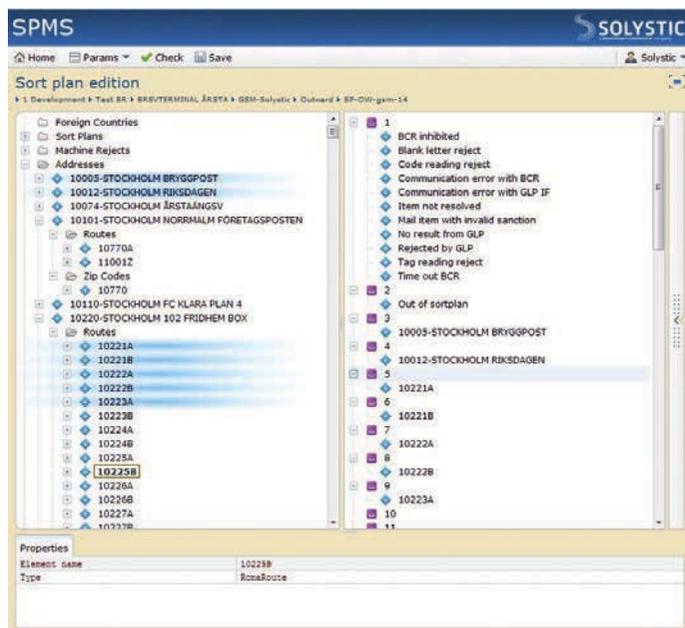


around 70%. The system automatically processes up to 95% of mail that can be handled mechanically and reduces manual operations by 70%. Given the ongoing trend in reduced mail volumes, the XMS ensures that users efficiently manage flow variations and maximise efficiency.

The award for Supplier of the Year is recognition of Solystic's ability to carefully listen to and closely collaborate with its partners. The company's presence throughout the world allows it to fully understand the postal process and all its intrinsic aspects, from logistics, services and equipment, all the way up to facility management and information technology. Solystic works alongside its partners and customers to understand the challenges

at hand and to develop the most pertinent solutions possible. The company understands that flexibility is at the heart of success, which is why it has spent quite a bit of time concentrating on developing comprehensive customer-oriented services.

Growth success This year Solystic has also successfully expanded into the Asian and Eastern European marketplace. The company's clients in these areas chose Solystic based on long-term partnerships that devote special attention to cultural and geographic flexibility. The company's teams are able to adapt to different cultures and geographies, so that the most relevant solutions can be delivered to customers throughout the world.



**Above: SOSi enables 3D simulation of realistic sorting environments
Left: Productivity can be maximised using Solystic's Sort Plan Management System**

In an international context, it is imperative to focus on cost and time-savings. With the help of SOSi, Solystic's 3D virtual reality environment, the company can simulate scenarios based on data collected from real machines that are actually in operation, and configure new equipment to precise specifications. This allows the company to anticipate real experiences based on real situations and offer time and cost reductions.

Likewise, the logistical and service aspects for international partners require the utmost attention. Starting with the planning phase all the way up to delivery and equipment start-up, every detail must be meticulously considered and handled with expertise. Solystic devotes a number of teams to ensuring that every project materialises smoothly. In addition, the majority of the company's first-generation equipment has been reliably performing for over 15 years, continuing to make it a viable and worthwhile choice for postal operators across the board. Even if equipment lifespans are quite long, Solystic is constantly measuring industry constraints in order to deliver newer, improved versions that respond to current and future trends.

Product development Solystic has recently developed a flexible and open application to manage complex sort plans and maximise productivity. SPMS (Sort Plan Management System) is tailored to customers' specific needs and ensures a simplified approach to a highly complex subject. SPMS relieves users from traditionally complicated and hard-to-use systems and saves time by optimising the entire process, synchronising machines and sorting centres as well as providing automatic updates and eliminating the need for manual data entry. Considering that sort plans are highly complex systems that take into account a vast amount of data, such as outward, inward and sequencing sorting, complete address information and even transport schedules and their respective deadlines, it is crucial to generate the most efficient sort plan possible.

To respond to the demand for solutions that help process the increasing number of parcels being delivered, Solystic has developed a new identification solution by which operators can identify individual mailpieces. As parcels come in a wide range of sizes, formats and weights, and are transported on conveyors, there is no

simple, automated way of printing an ID directly onto them during processing. V-Id responds to this challenge by providing a virtual identification for every parcel and object. Important data, such as postcode, text, handwriting and dimensions, is captured digitally. This data is then analysed, combined and coded to create a unique ID, known as the V-Id, for each postal object. Tests carried out using actual data have proved that V-Id is an effective solution for parcel sorting.

Solystic considers innovation paramount in everything it does. The company's closeness with a wide variety of key postal actors has enabled it to bring forth the solutions needed to make every facet of the postal process more efficient. In this issue of *Postal Technology International 2014 Annual Showcase*, Solystic would like to thank its partners and customers for their continued support and collaboration. The company looks forward to another year of close alliances and new partnerships as it continues to deliver the latest products that address persistent industry challenges, as well as ensure better performance, increased revenues and maximised efficiency. ■

Smarter decisions

INTRODUCING INTELLIGENT OPTIMISATION SOFTWARE YIELDS COMPETITIVE ADVANTAGES FOR POSTAL ORGANISATIONS, WITH BENEFITS ON ALL COMPANY LEVELS

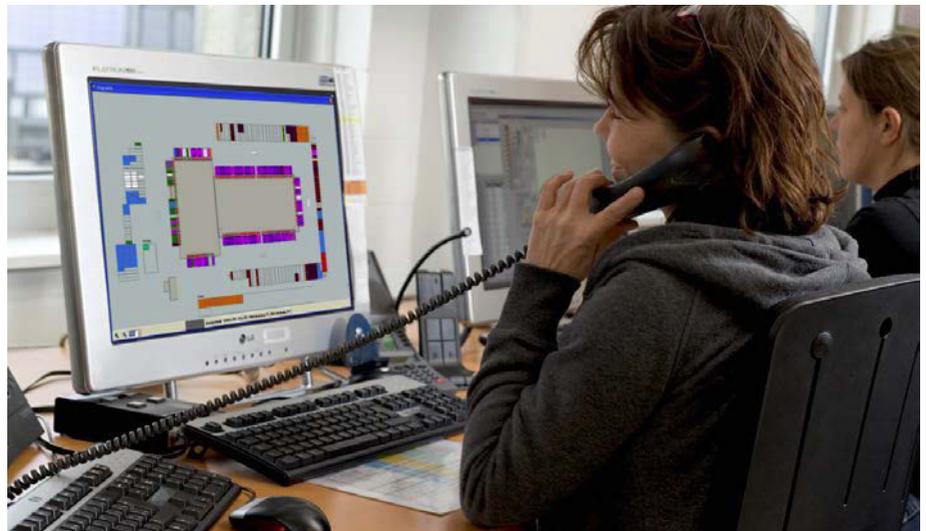
Lower costs, more transparency and better service. When companies use software to optimise their business processes, these are the goals. A suitable IT system must be able to quickly map complex structures and find the best possible solution based on large amounts of data within a short time frame. To meet these requirements, advanced mathematical and various analytical methods are needed.

Operations Research is the most appropriate technology when it comes to complex decision-making processes. INFORM's intelligent management software is able to greatly improve corporate processes. However, what makes INFORM's solutions unique is that they set new standards.

Benchmark studies with a large construction materials provider have shown that a centralised dispatch approach, supported by INFORM's optimisation algorithms, yields annual transport cost savings in excess of 12% (amounting to several million Euros per year). INFORM's algorithm is the most effective currently known for graph partitioning – finding the best and new solutions for 50% of all benchmark instances and cutting solution times by a factor of five, while obtaining solutions of the same quality.

Over the past 40 years, INFORM has supplied software systems to more than 1,000 companies worldwide. Every day, INFORM's SyncroTESS optimises complex logistics processes in various application areas, handling over 50,000 containers and the arrival of 13,000 trucks, as well as reducing bottlenecks.

Case study A leading German parcel service provider implemented INFORM's SyncroTESS for yard management, which led to lower processing times, the more efficient use of resources and a high schedule adherence. The system ensures



SyncroTESS enables postal organisations to make their logistics processes more profitable

that an average of 250,000 shipments per day find their way from the distribution centre to their end customers on time.

Thanks to SyncroTESS, the high noise levels caused by radio and telephone communication when coordinating transport movements is reduced. Employees responsible for the yard management confirm that working conditions have improved since the introduction of the software.

“In the past we had to discuss internal transport orders with the staff at the gate, the truck drivers and the team leaders inside the distribution centre, by phone or radio,” says the head yard controller. Today, the software gives intelligent decision proposals and provides navigation for daily life at the hub, relieving the head yard controller of routine tasks and allowing him to concentrate on strategic tasks.

“Earlier we had no choice but to hear the entire radio traffic in the yard. At the end of our working day we were far more stressed than is the case since the system

was introduced,” says a shunting vehicle driver, who receives and dispatches containers at the loading bays. Today the drivers communicate with their dispatchers using radio data terminals. Using these devices the software submits the next transport order to the vehicle that has the shortest distance to travel, taking all relevant constraints into account.

SyncroTESS guarantees that every container on the premises can be assigned to a dedicated storing position. In the past this could not be ensured, as storage positions were not employed efficiently due to a lack of transparency and prompt communication. “Then everyone could get a bit jumpy, because processes were interrupted and nerves would soon be on edge,” the driver says. “Today everything is much calmer and more structured.”

In addition, the software was easy to learn. “It took me a few hours to learn the merits of the system and after two or three days I was able to work with it easily and effectively,” the driver adds.

Peak loads evened out There is high potential for optimisation in the link between the yard management and that of the distribution centre. Today the dispatcher, and not the distribution centre manager, decides which truck or container can be sent to which loading bay. This change in procedure and the consequent reduction in communication paths have led to many synergies, new areas of responsibility for employees, and an increase in traceability in all processes.

SyncroTESS avoids errors in time and removes potential process disruptions. "In our business it's vital to ensure that containers are available at the goods receipt area when needed, and SyncroTESS is invaluable in achieving that," according to the controller.

Increased transparency The benefits from deploying the system can also be seen at the gate, where 200-300 incoming and outgoing trucks are processed daily.

"Nowadays it takes an average of about one minute per driver," says an employee responsible for this area. "Before, it took a lot longer as we always had to register the process in two different systems."

Printing out the shipping documents is also much faster than before. As the gate, yard management, shunting vehicles and distribution centre are all linked by SyncroTESS, the external truck drivers receive their delivery and collection times in the waiting area in real time.

In the distribution centre, the software ensures that notifications regarding status changes and contents of the corresponding trailer are more readily available. "This is why we have a more exact idea of the scale of ingoing and outgoing consignments, which allows us to adjust the capacity of staff available to this workload," a team leader in the distribution centre explains.

The software has also increased safety. Due to its link to an automatic traffic light system, orders at the gates can only be

generated when the employee inside the distribution centre has cleared the removal.

Benefits on all levels Introducing intelligent management software is one way for logistics companies to keep up with the demands of the growing e-commerce market, which requires faster handling at lower margins and more efficient working routines. This includes an improved workplace, with a reduction of unnecessary stress for staff and better information. Hub management can also benefit with full transparency, realised savings and improved KPI. Top management will have a sustainable and risk-reduced supply chain, satisfying all customer demands.

Across a wide range of industries, companies use INFORM's software to optimise business processes to lower costs, increase transparency and improve service. Intelligent decision proposals relieve staff from time-consuming activities and lead to more profitable processes. ■

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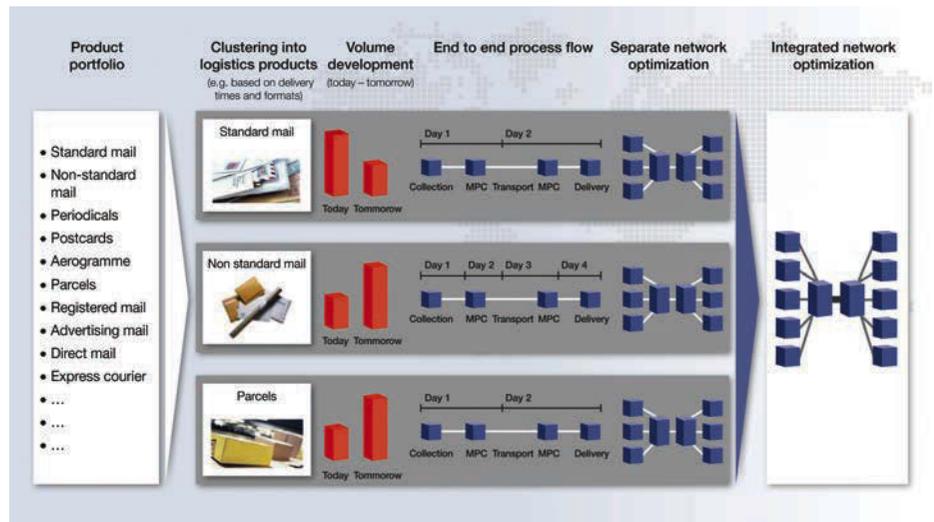
A MAJOR CHALLENGE FACED BY POSTAL OPERATORS TODAY IS THE MOVEMENT OF MAIL AND LOGISTICS. WHAT ARE THE METHODOLOGIES INVOLVED IN OPTIMISING THE NETWORK STRUCTURE?

One of the key factors to success in the postal and logistics industry is ensuring efficient movement of mail and logistics. Taking into account the high investments needed, optimisation of the operational network is of utmost importance.

As in many cases, finding the right balance between service and costs is the main challenge. What level of service does the customer expect and what level of service best attracts customers and has the edge over competitors? What is the most cost-effective network structure that is able to fulfil the given service level? These are the two main questions, and usually it takes some effort and research to find the right balance between both the service and cost aspect.

Once the service level and network structure has been defined, there are further operational challenges such as standardisation, whether to make or buy equipment, and also finding the right equipment for the operations.

Clustering products Defining the optimal network structure is a complex task. The first step is to look at the product portfolio and to cluster the products into 'logistics products'. This clustering is done by looking at similarities when it comes to logistics aspects, such as delivery time, formats, and so on. In this example, the logistics products are standard mail, non-standard mail and parcels. The next step is to simulate the volume development for the products. Currently, postal organisations are particularly focused on the increasing parcel volumes, which in many cases leads to a necessary reconfiguration of the operational network.



Configuration of optimal network structure

The end-to-end process flow for each of the product streams is very much determined by the defined delivery time, be it D+1 or more. The idea is to optimise each product stream separately, to come up with the ideal network configuration for each one. The network configuration includes the various process steps, locations of sorting and delivery centres, and the transport network, as well as the capacities within the network.

The final step is to look at the various networks and find ways to integrate them to reduce costs in the entire network. This step may lead to compromises having to be made between service and costs by reasonably balancing these two aspects, which is definitely the most challenging part in the overall network configuration. The optimal configuration of the network

structure determines the future success of the service provider, since it defines the service level that can be achieved and the cost basis for the years to come.

In the early 1990s, Deutsche Post completely restructured its mail network and asked two separate institutions to calculate the optimal network structure. The institutions' results were pretty close to each other, and resulted in a network structure with 83 letter mail centres across Germany. Today, this network structure still forms the foundation for the competitive position of Deutsche Post in the letter mail business.

Changing requirements Implementing the right network structure is a very important pillar of moving mail and logistics efficiently. On the other hand,



Postal supply chain and relevant transport equipment

regular revision of the structure, as well as an optimisation of the processes within the network structure, is just as important.

This is necessary mainly due to changing customer requirements – for example, customers are now asking for home deliveries of groceries, so logistics service providers have had to re-define

their supply chain, so that it is able to handle and deliver food that requires cooling along the supply chain. This was the case with Deutsche Post and online retailer All You Need – following the e-commerce project, customers can now order groceries online to be delivered direct to them by DHL.

Another development is for green logistics – for example, since 2011 Austrian Post's deliveries of its letters, parcels and admail have been carbon-neutral. The post now has plans to reduce its entire carbon footprint of roughly 100,000 tonnes per year to zero in a three-step approach: minimisation of energy consumption via environmentally friendly technology and efficient use of resources; promoting alternative propulsion systems for vehicles such as electricity or gas; and eventually, compensating for unavoidable carbon by investing in climate protection projects.

There are also basic operational topics that constantly have to be looked at, such as the use of optimal transport equipment. Be it optimal roller cages, trolleys for letter and parcel transport, automatic loading and unloading devices, or equipment that supports new processes in delivery, they all help to streamline operations and to move mail and logistics more efficiently. ■



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tel.: +49 2365 9100-50
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Space saving

A WELL-DESIGNED PRODUCT CAN DELIVER A SUBSTANTIAL INCREASE IN LOGISTICS EFFICIENCY AND EMPLOYEE SATISFACTION

Since its founding almost 80 years ago, Hoza Logistic Solutions has become a successful and prominent supplier of both internal and external logistics products to the postal industry. The tailor-made solutions that Hoza provides are designed to offer excellence in ergonomics, weight savings and sound attenuation. Most importantly, they generate results. The aim is to always develop sustainable products with added value that enable clients to meet their financial targets while ergonomics on the work floor are improved.



The RX3G parcel roll cage in its nested position

One of Hoza's newest developments is the RXSP – an innovative parcel roll cage equipped with a revolutionary nesting capability that enables the bottom to fold into a vertical position. This is accomplished by a sophisticated hinge construction. The dimensions of 2,300 x 1,150 x 1,800mm (L x W x H) make it ideal for efficiently transporting large volumes of parcels. Also, the roll cage consists of 95% aluminium and is fitted with a brake and a tow-pen construction to transport a train of cages.

Nesting the roll cage during return transport or for storage can save more than 60% of valuable floor space. It is also a relatively lightweight product compared with other products that can transport similar volumes. This feature has a positive influence on its handling capabilities.

Optimum comfort Another solid and robust parcel roll cage with strong ergonomic characteristics from Hoza is the RX3G, which has been used by Swiss Post for several years now. The cage's efficient L-nesting position saves up to 60% of floor space and can easily be accomplished by a single person in a matter of seconds. In addition, it has been equipped with a central brake, making it extremely easy to handle even when fully loaded. The RXSP and RX3G both have a system in place for locking the swivel wheels.

The roll cage, which measures 1,350 x 1,005 x 1,792mm (L x W x H), can move large numbers of parcels very efficiently. The pull and tow construction makes it



The RXSP parcel roll cage in individual (L) and regular (R) positions

possible to link several roll cages together and move them simultaneously, thus moving a larger volume with less manpower. All in all it is a user-friendly product that is continually being updated. Along with its impressive ergonomic features it enables logistics processes to be improved considerably.

New innovation This autumn Hoza will launch its latest innovation onto the market. The Retail Roll Cage 2.0 (RRC 2.0) is designed to offer a more sustainable supply chain and a substantial reduction in total cost of ownership. Although this product has been specifically developed for the retail food and non-food sectors, there is much confidence that other industries can also benefit greatly from its advantages.

The RRC 2.0 is another example of Hoza's creative ability and drive to produce



The Retail Roll Cage 2.0 will be launched at Post-Expo 2013 in Vienna, Austria

smarter and more efficient solutions. A special hinge construction is incorporated in the bottom, which is a truly unique feature for this type of roll cage.

An individually nested RRC 2.0 saves about 55% of valuable floor space and also remains easily movable in its nested state. The 3-in-1 and 5-in-1 nesting configurations enable major space and cost savings. Further to this, the need for labour-intensive and time-consuming (de)construction of roll cages during return transport and off-peak season storage is eliminated.

Many years of successful practice have led to a profound knowledge of logistics problems and materials, combined with a great number of solutions that have already proved their value in many markets. By launching innovations such as the RRC 2.0, Hoza is trying to stimulate markets and get companies to consider the design of their logistics processes. In this particular case

Hoza was convinced that a well-known and commonly used product like a roll cage with a fixed plastic bottom was not the end of the line. The next generation of roll cages has arrived, ready to prove themselves and become the new standard in their markets.

Ready for the future Hoza is currently in the midst of optimising its production site in Scheemda, the Netherlands. The plan includes new construction, modification of existing buildings, and the implementation of new and advanced production equipment. After completion of the project the factory will have the latest production technology, and capacity will have been expanded by 30%. Hoza will have an even more sustainable and state-of-the-art production site at its disposal, perfectly equipped to produce solutions that meet the postal industry's logistics challenges. ■

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Evolution management

INNOVATION IN PRODUCT DESIGN AND SOFTWARE IS ESSENTIAL TO KEEP UP WITH THE POSTAL AND COURIER EVOLUTION



Automating singulation and sortation enables maximum efficiency and precision

Innovation has always been at the heart of Fives Cinetic, the logistics division of Fives. Created in 2007 by merging Fives' activities in the logistics market with the Sandvik Sorting Systems division of Sandvik, Fives Cinetic designs, develops and supplies automation solutions in close partnership with its customers. The logistic division is composed of four subsidiaries in France, Italy, the USA and Japan.

Fives, an international industrial engineering group founded more than 200 years ago, supplies process equipment, production lines and turnkey plants for industrial companies in the aluminium, steel, glass, automotive, logistics, cement and energy sectors, in emerging as well as in developed countries.

In all these areas Fives designs and manufactures innovative equipment and

solutions that anticipate and respond to the needs of its customers in terms of profitability, safety and environmental responsibility. In 2012 Fives achieved sales of €1.5bn (£1.3bn) and employed more than 6,500 people in 30 countries.

A distinctive factor in Fives Cinetic's evolution has been its continuous research into innovative approaches to customers' needs, creating new products and technologies that are regularly upgraded and modernised to solve the challenges of intralogistic automation.

The company's achievements include the introduction of the rolling shoe sorter in 1974 and cross-belt sorting in 1981. Linear singulation was followed in 1992 and 3D singulation in 1999. All these technologies have now entered into the common language of logistic operators. Current

innovation efforts are aimed at creating a solution that will meet customers' future needs in terms of performance, sustainability and ergonomics.

Fives Cinetic provides flexible system solutions projected towards the future. The company designs, optimises, manages and follows-up each project, from the design stage to after-sales service, including upgrades. This helps guarantee a better working environment, improving the ergonomic working conditions of operators and eliminating repetitive and wearing activities.

Fives Cinetic provides its customers in the postal and express parcel industry with integrated solutions based on proprietary technologies. The in-house technologies can be grouped into high speed sorters, singulators and conveyors.

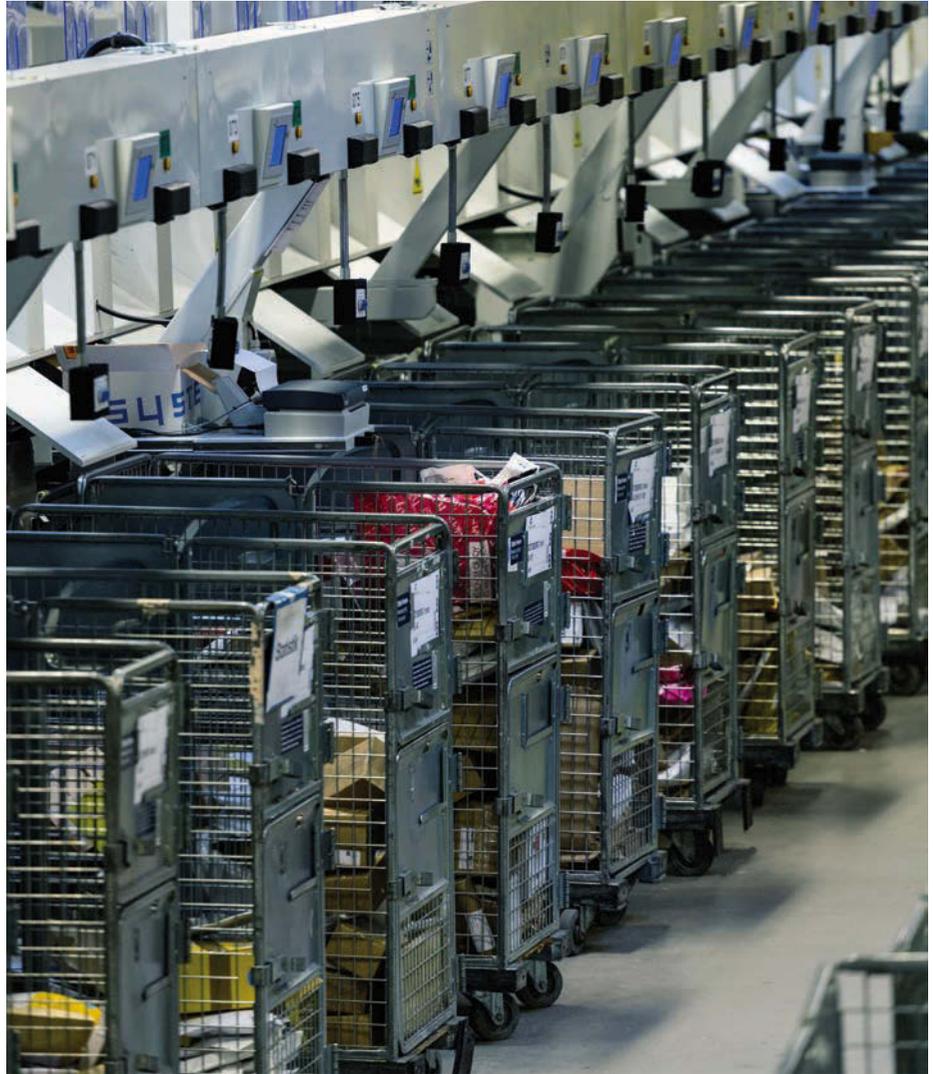
High speed sorters One of the key advantages of Fives Cinetic's high-speed cross-belt sorters is the "width-wise" loading: items are loaded with their length perpendicular to the direction of transport. This technique, introduced by Fives Cinetic in the late 1990s, enables the maximum density of items on the sorter, delivering a capacity much greater than the length-wise method at the same speed. Parcel sortation, shipping and distribution processes are ideally suited to the Fives Cinetic high-speed cross-belt sorters, which can sort items up to 80kg in weight and 1500 x 800 x 800mm in size.

The sorters are fed with parcels via the High Performance Induction Line, designed and developed by Fives Cinetic. The equipment is able to induct items onto the sorter with high accuracy and consists of several conveyors arranged to maintain the items' orientation during their transfer to the sorter. Items are loaded with their longest side perpendicular to the direction of movement to optimise capacity.

The High Performance Induction Line is equipped with an Identification Station that identifies each item's shape and position. During the loading phase, items are accelerated and loaded exactly in the middle of the sorter unit. The acceleration starting point is calculated using the data captured by the Identification Station. In this way, items are transferred from the High Performance Induction Line to the sorter with no slippage: the item travels at the same speed as the belt under controlled acceleration.

The cross-belt sorters feature a PC-based control system with a distributed I/O network – a very reliable off-the-shelf control architecture. The most recent developments of the cross belt have been aimed at further increasing sorter reliability, enabling a fault-tolerant design for each subsystem. Fives Cinetic has also introduced an innovative power distribution system based on a generating wheel, which increases reliability and the simplicity of installation and maintenance, as well as reducing power consumption.

The sorter carrier units are provided with electrical energy by the supporting wheels, which work in parallel to supply power to a common on-board bus that guarantees power distribution to all



Fives Cinetic's tailor-made outlet devices meet process needs

on-board motors. The generating-wheel system outperformed other solutions such as busbars and inductive power transfer systems, providing higher efficiency, simplicity and failure tolerance. The complete fault tolerance derives from the elimination of all single points of failure and from the ability to continue to operate after any initial fault, thanks to its redundant design.

Among the sorter models available, including the shoe sorter and a variety of pushers and diverters, it is worth highlighting a specific product designed to address the problem of handling the most

difficult items (irregulars) – the SLIDE Sorter. Thanks to this innovative equipment, irregular items that are normally classified as non-conveyable due to their size, shape or other physical characteristics, can now be sorted automatically.

The SLIDE Sorter consists of bilateral diverting units mounted between belt conveyors and motorised skew roller units. The conveyed items are diverted off the main transport line at 90° degrees, ensuring a very high level of security as well as operational reliability. The motorised skew rollers are installed at the exit lines to extract, rotate and centre long parcels



High-speed cross belt sorters maximise energy efficiency

towards the output conveyor. The modular and energy efficient design enables easy expandability. It is fully reversible, designed to be applied in a typical medium-size depot, where the outbound and inbound material flows run in opposite directions.

Singulators Fives Cinetic's material handling and sorting solutions integrate bulk transport devices such as bulk collection conveyors and bulk feeding lines, managing any type of flow of items to be processed, in a single layer or a 3D arrangement. Furthermore, Fives Cinetic incorporates the buffering function into its singulators, processing the unordered flow to obtain a single, sortable stream of products. The continuous flow process solution is based on patented singulators that can effectively handle all types of packages, from boxes to flats to softpacks, in a minimum amount of floor space.

The solution enables operational savings and maximises customers' ROI since no manual intervention is needed, plus maintenance and requirements for spare parts are reduced and the controls simplified. The simple system design has been proved in more than 300 demanding applications worldwide since 1993.

Conveyors Fives Cinetic provides transport systems for posts' material handling requirements. Depending on the project, either roller or belt conveyors are used. Motorised rollers are suitable for the transport of virtually all types of parcels, as



The high performance induction line offers increased throughput and accuracy

well as plastic trays and packages. In particular they are also used for buffering the flow of items to be processed at the outlets before loading onto trucks. Belt conveyors enable the movement of a wide variety of items safely at high speed. They are robust, quiet and easy to maintain.

Software Fives Cinetic's solutions integrate real-time controls, including a user-friendly warehouse control system (WCS) and a hazardous materials identification system. The WCS interacts with the customer's information system through the customer's Ethernet network, deploying all necessary functions and interfaces in real time.

Recent success In recent years many national operators have engaged in large-scale programmes. This is certainly the case in Europe and North America, where the emphasis is on modernising existing facilities, and in emerging countries (mainly those of eastern Europe) for network expansion projects. Fives Cinetic has succeeded in establishing itself as a contributor to these programmes and registered very positive activity in the parcel market in 2012.

Despite trends in the global economy, characterised by a general contraction in all sectors, the logistics arena has remained constructive and resourceful. This is mainly thanks to the increasing need for automation in eastern Europe and emerging countries, as well as the growth of small parcel and package delivery driven primarily by e-commerce.



Fives Cinetic's Cross Belt sorter promises unmatched reliability and accuracy

The commitment of market players to continue investing in automation to reinforce their domestic networks has generated new opportunities, both with major international companies and with smaller national players.

In Europe, Swedish Post chose a Fives Cinetic solution to automate its logistics operations in three of its sorting centres. Aimed at minimising human intervention, especially in operations that are repetitive or heavy, Fives Cinetic also provided Posten Meddelande, a division of PostNord, with a new system to handle and sort postal trays and bulky items automatically. The successfully implemented solution was designed and developed by Fives Cinetic in close cooperation with the technical team at Posten Meddelande.

Canada Post has qualified Fives Cinetic as one of its solution providers, and has realised several systems throughout the country as part of its renovation programme.

In Asia, to automate its terminal in Tokyo, Sagawa Express renewed its trust in Fives Cinetic by awarding a contract to include four sorters with a capacity of 30,000 items per hour. Similarly Yamato has chosen Fives solutions and sorters for the automation of its largest hub in Tokyo's Haneda Airport.

Fives Cinetic, relying on its international experience, is currently preparing solutions for emerging needs brought about by evolving customer expectations. The company is designing products and processes that will improve its client's business results. ■

What about optimizing the efficiency of your installation?

→ Swedish Post has chosen Fives Cinetic singulation technology to optimize sorting



Fives Cinetic provided Posten, a part of PostNord, with a new system to handle and sort postal trays and bulky items fully automatically. Designed and developed by Fives Cinetic in close cooperation with Posten's technical team, this solution has a sorting capacity of over 12,000 packets/hour.

The system includes among others 3D Accord Singulators, Fives Cinetic's proprietary equipment featuring a built-in buffering capability of the incoming bulk flow and turning it automatically into a single stream of items properly spaced and aligned.

Answering the customers' needs to reach the highest operational throughput and be flexible, Fives Cinetic's Singulators have been successfully implemented in hundreds of installations worldwide both in the express courier and the postal industry.



fives cinetic

Ready for change

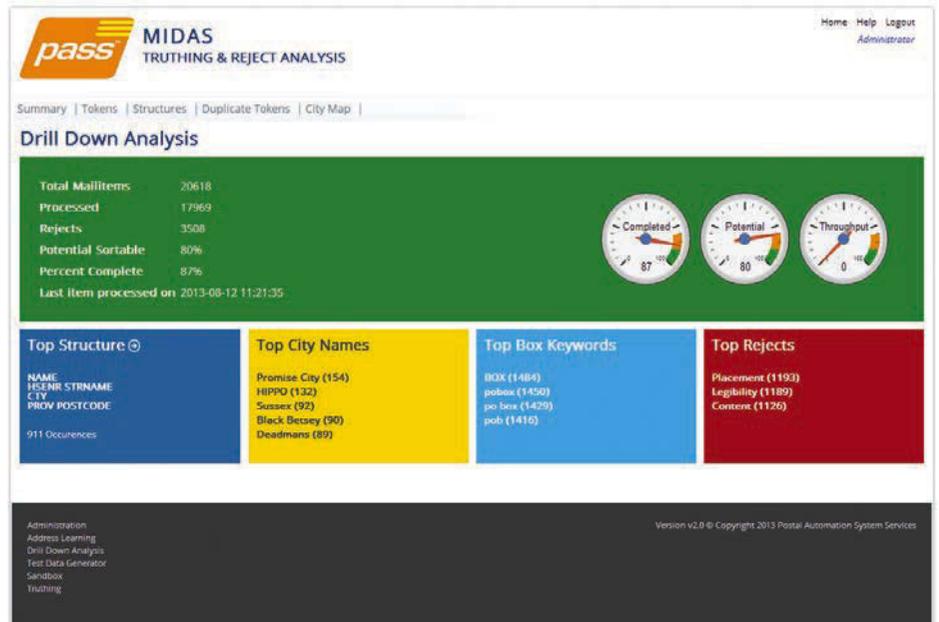
IN ORDER TO ACHIEVE A SUSTAINABLE FUTURE, POSTAL OPERATORS MUST UNDERSTAND THEIR ENVIRONMENT AND ENSURE THE FOCUS OF PROCESSING INVESTMENT IS EFFECTIVE

In the past, with robust letters growth and extensive budgets, automation projects could be large and long-term. Constant volume growth and big workforces made it easy to manage network inefficiencies.

However, with the current decline in the letters business and shrinking postal budgets, mature markets will need help in focusing their letters-downsizing strategies and in concentrating on growth areas. Less mature markets will need support in determining the correct level of investment in process and technology.

The main growth opportunity is in the packets, parcels and e-commerce sectors,

The MIDAS system provides in-depth analysis of real data to improve sorting operations



Targeted solution

In the current postal environment, the reduction of rejects and the subsequent remedial processing becomes ever more important. Currently, on the information path, rejects lead to a knowledge dead-end. The items enter the process without any statistical, meta or detailed information and leave the automated process in the same state. The most expensive items in the system are invisible to the operation except in volume.

The PASS MIDAS Truthing & Reject Analysis system enables an evaluation of the reject items and identifies improvement sources. Rather than pressuring the OCR supplier to squeeze out another read-rate percentage, operators can target their improvement programmes to the areas that will provide the best return. These may be adding elements to the address database, aliasing entries, engaging with bulk mailers or improving the machine operation.

The MIDAS system 'tokenises' each address element and provides detailed online analysis. From the top-level overview, it is possible to drill down to individual mailpieces to provide proof and examples. Incorporated into the system is an Address Learning application, which automatically proposes new elements and aliases.

The MIDAS system opens up rejects and makes them visible to the sorting process. Improvements can be directed to where they will have the optimal impact and address database content can contain up-to-date data based on in-use addressing methods.

PASS provides MIDAS as a managed service that includes all image processing, online reporting and evaluation. MIDAS fills in the blanks in current operations and can provide substantial operational improvement. MIDAS is built using web and database skills from PASS and can be fully tailored to meet all data analysis requirements.

where there is a lot more competition. To be successful, postal operators will need a greater understanding of product characteristics and the processing networks required, as well as understanding the impact this will have on the delivery network.

The procurement environment is also changing. Generally, parcel suppliers expect a far simpler approach to supplying equipment. Many vendors are no longer interested in long tender and evaluation processes, concentrating instead on standard components, with short lead times and less custom development.

The days of expecting a vendor to provide a free consultation are over for all but the biggest customers – and even so, it is not the most effective method to get the right equipment for the right price.

Avoiding problems Many of the difficulties encountered by operators in automation

or realignment projects occur in the early stages and are mostly due to incorrect assumptions being made about the state of the network. Time and effort is lost in trying to compensate for problems that could have easily been avoided.

PASS provides procurement, process, network realignment and operational consulting exclusively to the postal automation industry.

PASS consultants have more than four decades of experience in the industry, working in both the vendor and supplier environment. Network renewal comprising a key element of that work. PASS works alongside operators, production managers and other key personnel in the operational environment to analyse and map processes and to measure the input and output variables. PASS believes that hard decisions can only be made with hard data.

Once an accurate view of the network has been formed and tested, PASS assists in

feeding the results back into the business to ensure the best outcome.

PASS has practical experience of the ever changing postal market and is here to ensure that postal operators continue to stay relevant.

Case in point In its most recent engagement, PASS facilitated the expansion of two primary parcel facilities for a major postal operator. PASS applied a unique network analysis and procurement process that enabled a preferred supplier and preliminary design, including complex material handling to be arrived at and agreed to within three months of the release of the tender.

As an independent consultancy, PASS supports a project throughout its lifetime with impartial and objective solutions, knowledge and communication. PASS can assist postal operators to create a sustainable future for their operation. ■

targeted read-rate improvement

web-based reject analysis

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drill-down evaluation

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Communication matters

USING MOBILE TECHNOLOGY CAN PRODUCE A WIDE RANGE OF INTEGRATED FLEET MANAGEMENT BENEFITS TO ENSURE A BETTER AND FASTER CUSTOMER SERVICE

Emerging integrated fleet management systems provide a platform for the end-to-end visibility needed for achieving delivery excellence, enabling post and parcel operators to break away from disparate systems and the islands of information that they create.

The power of the latest mobile computing devices has led to the convergence of multiple technologies in a single portable platform, facilitating integrated fleet management, enhanced operational performance levels and improved customer service.

Operators are no longer restricted to fixed in-cab boxes to communicate with drivers and collect vehicle data. This provides greater flexibility by enabling computing power to be moved between vehicles. As rugged mobile computing technology is inherently scalable, with an average life span of five years, new devices provide the platform for more functionality as fleet operations grow and customer demands for data accuracy and greater service levels increase.

GPS technology An important mobility feature is real-time communication and integrated GPS, to confirm whether journey times can be made up due to traffic or road incidents. In these cases, traffic buffers can be built into the plan. In this way, integrated fleet management will analyse whether a vehicle has the capacity and time to fulfil, how it may be affected by new orders, the location of the closest depot, and whether it can achieve the plan while keeping customer commitments.

Integrated GPS technology avoids the historic two-piece tethered solutions, allows



turn-by-turn navigation, breadcrumbing for trend analysis (planned versus actual routes), accurate location data and geofence alerts to be sent direct to customers to provide more accurate estimated times of delivery.

If a driver is unable to gain access for a collection or delivery, a photograph can be taken and a reason code entered. Proof of location and proof of attendance can also be confirmed by appending geocodes to the image. Imaging is a simple, low network bandwidth option to inform customers of a missed delivery or collection.

Constant communication with drivers underpins a successful transport operation. Immediate task allocation and timely SLA failure alerts allow positive reaction and customer communication when unforeseen events occur. Instant communication by voice or data is not just with the vehicle, but direct to the driver. Subsequent data

analysis will allow operators to compare time in and out of the vehicle to see where productivity improvements can be made.

With voice and data communications handled by mobile devices, it is not necessary to have two SIM cards in the vehicle, as has been the case, resulting in a reduction in operational costs, which can be substantial in large fleets.

Cost savings Real-time updates of vehicle position, scanned transactions and proof of delivery confirmation ensure that reliable track-and-trace data can be provided for customer self-service. This can be a major cost saving by reducing the necessity for customers to contact a call centre.



enterprising

Another benefit of instant mobile communication is that collection tasks can be allocated as and when they are needed, ensuring that capacity is optimised throughout the daily cycle.

Data capture Fast and accurate scanning and imaging technology is the ideal solution for postal operations because of its ability to read virtually all linear and 2D barcodes, capture images and digital signatures, and read OCR fonts, enabling users to capture and manage large volumes of data.

The same imaging technology used for 2D code scanning can also be used to capture proof-of-delivery signatures from documentation. This is useful where sign-on screen is not legally valid and a paper document must be signed and electronically captured for proof of collection/delivery and payment.

Advanced imaging technology can also be the basis for volumetrics or package dimensioning. In many cases, volume is estimated by a customer and on collection is found to be inaccurate. Fast and accurate dimensioning reduces instances of inaccurate volume recording and provides more efficient shipment data and charging.

Mobile technology provides the platform for end-to-end data collection for complete operational visibility. What if this data could be extended to include driver performance metrics, by analysing mobile device user behaviour?

Vehicle data, such as fuel consumption, harsh acceleration or braking and engine diagnostics have long been provided to fleet operators to optimise performance and productivity.

Equally, mobile technology should provide similar feedback regarding device characteristics.

Honeywell's device 'counters' and motion sensors for example, provide detailed event logs that can be linked with Remote MasterMind device management to accurately report on wireless connectivity trending, button depressions, screen pressure, battery charging and barcode scans, for example. This valuable data can be used in service reviews and to establish how devices are being treated.

Remote device management can also help to reduce the total cost of ownership of the mobile and scanning estate. A remote device management solution can perform asset tracking, software distribution, configuration management, remote diagnostics and performance measurement, all from a single, remote location.

Mobile advantages A key element in delivering integrated fleet management excellence and value-added service differentiation is the integration of new processes, hardware, software, IT services, project management, education and user acceptance, together with reliable on-going service and maintenance.

The latest advances in mobile technology can be used to achieve a wide range of integrated fleet management benefits. These include first-time, on-time service level compliance, reduction in fuel consumption and emissions, resource and fleet optimisation, preplanned or dynamic allocation of jobs, accurate and on-time billing, reduced returns through damaged goods image capture, environmental sustainability and overall improved customer service. ■



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The big picture

VIDEO CODING TECHNOLOGY IS BRINGING A WHOLE NEW LEVEL OF ACCURACY TO CAMERA-BASED READING SYSTEMS, PUTTING AN END TO INCOMPLETE CAPTURED DATA

High-performance camera-based reading systems, such as VIPAC from Vitronic, automatically capture customer-related and object-related information on packages in warehouses, distribution centres and postal depots, with a high degree of accuracy.

Video coding technology from Vitronic makes for a 100% read rate, allowing users to achieve flawless levels of efficiency.

The VIPAC camera systems are used by many logistics companies for applications such as mail sorting, handling of returns, inbound and outbound inspection, order picking and shipping, and data archiving.

VIPAC cameras capture photographic images of packages as items pass underneath on powered conveyors. The system uses sophisticated software to recognise, analyse and read barcodes, 2D codes and plain writing (OCR). The system even picks up on different code types in one image, very small codes, or codes and OCR behind foil.

Important supplemental information, such as volume and weight of the package or the condition and position of goods, can be captured at the same time. This flows directly into linked merchandise management systems or ERP solutions, which can automatically trigger additional customer-related or object-related services.

Data completion VIPAC camera systems achieve significantly higher read rates than traditional laser scanners. Nevertheless, even with the best camera systems, codes and plain writing that are dirty, incomplete, covered or not readable for other reasons, make it almost impossible to hit 100% without manual intervention of some kind.



Subsequent data supplementation by trained videocoders reduces no-read rates to zero

This is where Vitronic video coding comes into play. With video coding, incompletely captured data (NoReads) are supplemented manually by trained staff on dedicated workstations. There are two types of video coding – online and offline.

With online video coding, the data that is relevant for sorting is supplemented during the sortation process and immediately processed further for sorting prior to the first discharge. With offline video coding, the data does not need to be used immediately for sorting and is therefore supplemented later, e.g. for delivery processes.

Video coding boosts reading rates up to 100% whatever the application, increasing automation, significantly shortening cycle times and reducing costs.

Flexible installation and application

VIPAC compares camera-acquired data with a linked database in real time. If the identified information is not sufficient for clear sorting, the captured image is automatically sent to a video coding station by Ethernet. Here, trained video coders can take on various tasks. For example, if a user logs in who has specific know-how for a country, the system recognises these skills (e.g. “can edit Japanese addresses”) and the relevant images (in this case, Japanese state codes) are automatically assigned to this workstation/expert.

Users can install video coding stations in separate locations or directly at the in-feed belts. Several stations for various distribution centres can also be bundled into a centralised processing area – the

distance between the identification location and the video coding station is virtually irrelevant. In this way, trans-regional remote connections can be established quickly and easily.

Ergonomic software Vitronic's video coding software is at the core of this integrated capture solution. An ergonomic user interface makes for high throughput and operators can customise its appearance and structure to meet their specific requirements or working conditions.

The video coder receives an image of an object on their display. Vitronic's software automatically recognises the regions of interest (ROI) and highlights them. The video coder can select the relevant regions, zoom in, or even rotate the image. It is also possible to select unrecognised regions.

The software associates the image with that parcel's captured data. Operators can supplement or correct this in predefined



Pop-up menus accelerate data capture

text masks. Plausibility checks for newly entered data are performed in real time through linked databases. Users can tailor text masks to suit their individual application with minimal effort.

Video coders can use a split screen in order to optimise data entry efficiency as much as possible, with images appearing in the bottom section of the screen.

This way, the video coder sees a preview, moves from one image to the next quickly,

and increases capture speed as well as individual productivity.

Depending on the employee's ability and the number of data fields to be supplemented, up to 1,000 objects per hour can be coded. Using the training mode, new employees can be trained or the skills of existing employees can be further enhanced. Statistics provide information about the efficiency of the video coding processes, enabling targeted optimisations.

Complete capture Vitronic's integrated identification systems ensure fast and complete capture of customer-related and object-related data on packages and in goods inward (inbound inspection and handling of returns), goods outward (order picking and outbound inspection) or sorting. The identification systems also accelerate data capture processes, reduce cycle times, increase productivity and reduce costs. ■

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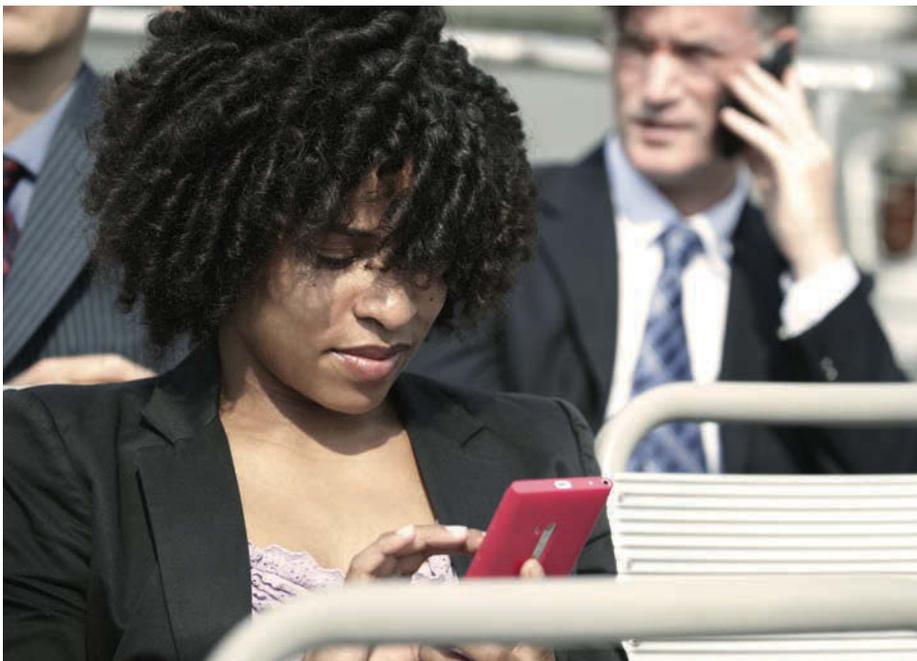


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VITRONIC Dr.-Ing. Stein
Bildverarbeitungssysteme GmbH
Hasengartenstr. 14
65189 Wiesbaden
Germany
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Public printing

TO GENERATE NEW REVENUE STREAMS AND RETAIN CUSTOMERS, POST OFFICES SHOULD EMBRACE NEW PRINTING SOLUTIONS THAT OFFER ACCESSIBILITY, CONVENIENCE AND FLEXIBILITY IN A FAST-PACED, TECHNOLOGY-FOCUSED WORLD



The HP ePrint app enables users to print wirelessly from virtually anywhere to supported HP ePrint locations

Mobility is transforming the way we work and live. When it comes to printing, HP has developed a solution that meets the needs of our more mobile lives. At Hewlett-Packard's ePrint public print locations (PPLs) anyone with a smart mobile device can access and print content on the go. This creates a great opportunity to generate new revenue streams and provide a valuable service that drives traffic to post offices.

In this fast-paced world, successful organisations will offer versatile, easy-to-use technology solutions to capture and retain customers while driving new revenue opportunities. Having agile and accessible capabilities for tech-savvy consumers is quickly becoming a crucial part of a sound

business strategy. Thousands of businesses around the world have already increased their brand profile, enhanced their reputation for innovation, and added considerable value to their customer experience by becoming official HP PPLs.

Case Study Swiss Post introduced the new ePrint platform with the HP ePrint Service App, allowing customers to print remotely to over 1,800 post offices nationwide. Users simply download the free application, locate the nearest post office and securely send via the HP cloud any document, presentation or photo to be printed. Or they send an email from whichever device they want, using the address:

swisspost@eprintpublic.com. This is then presented on producing the secure code sent to the user device.

"When you have an external business meeting and need a last-minute printout, it used to be a challenge. Previously, this logistical problem meant going back to the office but now, as Swiss Post is an HP ePrint PPL, it is possible to print out last-minute documents quickly and easily – anywhere in Switzerland," says Andreas Mante, head of communications at Swiss Post.

Becoming a HP PPL helps deliver more value to customers by providing easy access to a printer when and where they need it. Today's mobile market is varied, but some of the most common needs include:

emergency prints enabling customers to print while on the go; last-minute changes where customers can conveniently print and pick up the latest versions of important documents right before they are due; and working from home – telecommuting has become the norm for many companies. By printing to an HP PPL, employees can save a trip to the office while post offices benefit from increased traffic. The solution is also extremely convenient – new services for the mobile market, easily found nearby, provided by someone they trust.

The HP public print service removes the hassle of dealing with flash devices, cables and printer drivers. After downloading the app, customers can print directly from their mobile devices. By helping customers easily print on the go, post offices can increase brand awareness and establish their location as the one that provides mobile users with convenient printing. Additionally, the HP solution for PPL

partners is cloud-based and flexible. A variety of ‘off-ramp’ options for delivering customers’ print jobs are available to meet different business needs and the unique considerations of physical environments. Customers also enjoy a variety of online options, or ways to find locations and submit their print jobs.

Options for partners HP PPLs printer app for select HP printer models is available online from the HP ePrintCenter, which allows individual printers or networks to become registered as an HP PPL and be discovered by potential customers. A customer enters a release code provided upon print job submission via the printer’s touch panel.

Web Release is another option, paired with the hardware of choice; an attendant enters the customer’s release code in a secure web client, downloads the files from the cloud, and sends them to the device.

Furthermore, full-featured kiosks from an HP partner featuring an HP printer inside for document printing enables full unattended printing, with full service support, remote service monitoring, and leasing options.

Choice for customers The HP ePrint Service app – a unique HP smartphone app for printing to HP PPLs and used by HP ePrint Enterprise customers – locates nearby HP PPL with GPS and accesses photos and documents saved on the device, and available from services such as Facebook and Dropbox.

Email options mean that a specified location can receive print jobs via a unique email address. Meanwhile, the website www.hppublicprint.com enables users to find a location and upload a print job.

The HP ePrint PPL solution adds value with an easy mobile printing experience for people on the go. ■

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People power

HAVING SPENT THE PAST FEW DECADES ELIMINATING HUMANS FROM THE SORTING PROCESS, POSTS ARE REINTRODUCING THEM TO GREAT EFFECT



To accommodate changing market needs, ride the tide of uncertain volumes and remain both cost-competitive and profitable, most posts have automated their sorting processes. Many have continued to refine these systems to take advantage of new technology and chip away at residual manual handling.

So, is it safe to assume that the industry is at a point where fewer people are involved in sorting the mail than ever before? After all, it makes sound business sense to use people to process mail where automation fails, or where the process is so small or special that it doesn't merit the effort or cost. Doesn't it?

The short answer is 'no'. Prime Vision – an automation, processing and recognition specialist – is increasingly seeing a paradigm shift in the way innovative posts achieve greater business agility. Into the established, antisocial world of machine automation, people power is marching back. Thanks to the advances in technology, man and machine are working in perfect harmony and the potential gains from this partnership are huge.

Take PostNL as an example. It introduced offshore video coding, giving employment to many thousands of people in the process. This cost-cutting solution soon became a new and growing business venture that has expanded and developed way beyond the original concept.

Prime Vision technology and people power have allowed PostNL to cut labour expenses by 50% in comparison with other west European posts. This fresh approach has also enabled PostNL to add data processing to its list of services.

So where does this leave automation? According to United States Postal Service figures, postal peak was reached in 2006

and the decline of traditional letter mail ensued. For some countries the rate of decline has been astonishing, many seeing annual reductions of up to 16%.

Automation has been a critical component in this sea change and demand remains stronger than ever, but in recent years the drivers for automation have changed considerably. Automation is now the means to secure speed, agility, redundancy, revenue protection and competitive edge. Technological advances allow machines to routinely process up to 70,000 mailpieces per hour, compared to 15,000 recorded in the late 1950s.

The notable developments that have prompted this achievement include improvements in physical handling and sorting machinery, and the introduction of postal codes and standardised addressing formats. Advances in identification technologies, such as text and handwriting recognition and barcode reading, are also major contributors.

The residual percentage In a traditional postal automation solution, there has always been a great deal of emphasis put on mail that fails to be handled automatically. Essentially this comprises items that end up on the reject chute, fall off the line, or can't be put on the line in the first place.

Video coding has become the time-honoured method of dealing with the lion's share of these rejects and for some posts the ongoing refinement of this process has been the direction automation development has taken. For example, the Prime Vision MailMatch and ParcelMatch platforms have become the basis for integrating multiple OCR engines, barcode readers and assignment engines to squeeze the last percentage points of automated



Skilled personnel and automation go hand in hand when aiming to increase productivity

identification. Today Prime Vision works in partnership with its own core-technology and other OCR providers for its clients.

Post Danmark provides a good illustration. It wanted to reduce the rejects presented for video coding. Even in its early stages this work resulted in 90% of items presented for video coding being readable, an achievement previously considered impossible.

At TNT Post UK, the need was different again. As large labour costs were tied up in a small proportion of difficult-to-sort mail, TNT Post UK worked with Prime Vision to develop a semi-automatic workstation, a solution Prime Vision now calls PROCESS-IT. TNT Post UK also adopted a solution developed by Prime Vision for PostNL in The Netherlands for a nationwide platform connecting all sorting centres – a combination of Prime Vision's MailMatch and an offshore coding service with programme partner Shore.

The system is designed to capture images from letter and flat rejects, and send them, via Prime Vision software and servers, to a central processing hub in The Netherlands and via the PostNL Shore server to the Far East for video coding.

Efficiency For PostNL Shore, the provider of this offshore service to TNT Post UK, advances in automation continue to underpin its success and in recent years its new people-powered resource has become the jewel in its crown. What started off as a means to add capacity during peak times has developed into the most flexible automation strategy that PostNL has in its toolbox. Today there are no video-coders employed in its mail centres in The Netherlands, yet the company still has the ability to process 750,000 to one million 'unreadable' mail items daily.

Images are transmitted electronically over a fast and fully redundant data line, video coded in Asia, returned and fed into the organisation's automation systems for sorting. The entire process takes seconds and enables PostNL to increase and decrease data entry capacity by 500% within 15 minutes. It's the ultimate in flexible processing and not only has the company made cost savings of 70% in the process, it has also improved quality too.

PostNL Shore was established as a subsidiary just three years ago and today its scope of data entry continues to grow. It currently scans incoming invoices, order forms, statements and reply mail in six European countries, and has opened new data entry sites in Bulgaria, The Netherlands and India. PostNL Shore is the fastest growing entity within PostNL and is already branching out in the digital areas of e-invoicing, e-books and e-ordering.

The next big thing PostNL has demonstrated beyond doubt that people-centred technology is the way to go, as it does so much more than just improving reject handling and cutting costs. It's all about providing the best business case option for a given task. Now all posts have more options in their automation toolkit and the massive implementation for the UK and The Netherlands proves that whether you use OCR, barcoding or 'people power', all strategies can be treated as automation in terms of speed and process.

With such a model, there really is little operational difference between a custom-developed OCR solution and an offshore coding solution, and in fact both are very complementary. In today's postal market that's an interesting proposition, especially in view of the constraints on upfront capital expenditure, smaller programme sizes and time-to-market considerations.

The premise 'people power fills a lot of automation gaps' guides Prime Vision's own development. Its core technologies remain OCR development and open-integration expertise, but to reflect changing market needs, Prime Vision's MailMatch and ParcelMatch platforms now also support offshore coding as standard. Open integration offers a total automation solution, from gathering images and mailpiece data directly at any mail or parcel sorting machine, to returning the assignment or sorting response.

What is clearly emerging for Prime Vision is that while there is a common thread in the postal automation requirements, the needs of each post are different. The key to success is being able to build solutions around the customer application, based on the best technical and commercial model for the job. ■



5 PRIME REASONS for choosing Prime Vision for your mail and logistics automation

PRIME REASON NO. 1: COMPETITIVE PRICE AND PERFORMANCE

Prime Vision has built a reputation as the value integrator with no compromise on performance and quality.

PRIME REASON NO. 2: OPEN, AGILE AND TRANSPARENT

Prime Vision platform solutions have been built with open interfaces in mind since day one. We don't pursue any proprietary or closed systems in our architecture or designs, quite opposite.

PRIME REASON NO. 3: FIERCELY INDEPENDENT

Prime Vision works closely with the integrator or camera supplier of your choice. We can also offer independent consultancy expertise to aid preparation of your public tender or vendor-selection based on your application requirements.

PRIME REASON NO. 4: WE ARE EXPERTS AND FUN TO WORK WITH

Ask our clients; we are known for our flexibility, easy and friendly approach, affordability and innovation. We start by understanding your processes and project goals and develop innovative solutions that integrate your existing process or environment.

PRIME REASON NO. 5: WE CAN DELIVER IT ALL

- Total systems design and supply for data capture and process control hardware and software
- In-house recognition and identification solutions development and software engineering capabilities
- Platform level solutions: open, modular, flexible
- New build or augmenting existing systems
- Consultancy & competencies for hire
- All stages of project cycle, design, build, implementation, testing, lifecycle support and maintenance

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Up to speed

THE RIGHT VEHICLE CAN REDUCE A POSTAL ORGANISATION'S DELIVERY COSTS, DECREASE ITS CARBON FOOTPRINT AND COPE WITH INCREASING PARCEL VOLUMES

What lies at the core of an efficient mail distribution vehicle? Is it its ability to handle hundreds of kilograms worth of goods? Or is it the behind-the-scenes electrical works that operate inside the motor's engine? Not forgetting the underlying objective at the heart of many postal service providers – an environmentally friendly yet economically viable distribution option.

The answer is, all of the above are important factors when developing a vehicle for the postal industry. Danish company Industrial Electric Vehicle (IEV) has recently developed a three-wheeled cargo scooter that has been specifically designed to meet the core needs of the postal industry.

Heavy load Due to its even weight distribution – the vehicle chassis is spread across three wheels instead of two – IEV's Postmaster scooter can carry goods up to



IEV's Express motorcycle is designed specifically for last-mile postal deliveries

240kg in weight. The scooter has also been designed to transport a range of goods including items that require heating or freezing. The Postmaster has been developed alongside IEV's two-wheeled electric motorcycle, IEV Express, designed specifically for postal deliveries.

As the company name suggests, all vehicles developed by Industrial Electric Vehicle are fully powered by electricity and therefore drastically reduce the amount of carbon emissions.

Energy efficient With a 7kWh lithium battery, the Postmaster can travel up to 240km when charged. It is also equipped with a 72V electric system and 4kW super-power brushless in-wheel motor. Equally efficient, the IEV Express can cover a range of 150km once charged.

Both IEV's vehicles travel at optimum speeds, ensuring that goods are delivered quickly but also safely. The Postmaster can travel at up to 45km/h, and the IEV Express has a maximum speed of 100km/h.

Tailor-made The Postmaster can be customised according to customers' wishes and can be used for a range of services including postal delivery, rental services, transportation of goods, catering transportation (with a heating or freezing box) and other requirements.

All IEV models carry a 24-month warranty and are made from practical, hard-wearing materials including rust-free steel and aluminium.

The vehicles contain waterproof brushless electric motors with energy-efficiency ratings of 95%. Both models are also fitted with IP67 wire-harnessing and components, and high-quality (FePO4) lithium batteries.

As parcel volumes continue to rise alongside the growing e-commerce market, postal organisations must seek the best mode of transport to ensure fast delivery and satisfied customers. Both the IEV Express and the Postmaster will be showcased on Stand 1578 at Post-Expo 2013. ■



The versatile three-wheeled Postmaster scooter

Right first time

TO AVOID FAILED DELIVERIES AND REVENUE LOSS, RETAILERS AND THEIR CARRIERS MUST SEEK SOLUTIONS THAT INCREASE DRIVER EFFICIENCY, REDUCE FLEET OPERATING COSTS AND IMPROVE CUSTOMER SERVICE

Online retailers and their carriers are still not getting home delivery right. The 5th annual *UK Consumer Home Delivery Review – 2013*, from Blackbay and the Interactive Media in Retail Group (IMRG), reveals consumers' demands for delivery information are still not being met.

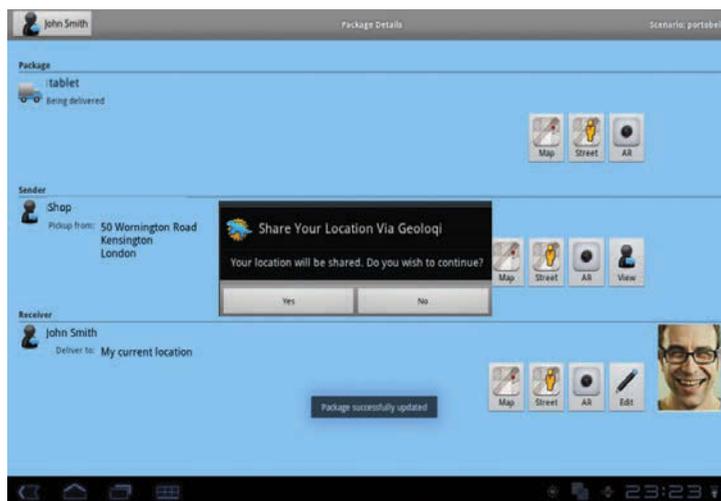
The annual cost of failed UK online deliveries is a staggering £851m. How can retailers and their carriers absorb this loss? Why aren't they doing more to reduce it? Especially as the technology is available right now that would help to answer consumers' questions as to when and where their parcels will be delivered.

The top consumer concern highlighted in the review is the cost of home delivery (60%) closely followed by the risk of a failed delivery (56%).

Failed delivery Looking at the risk of failed deliveries first, the review shows that 55% of households run the risk of a failed delivery because there will be no-one at home to accept it. So consumers want home deliveries even though they won't be at home to take receipt of them.

Interestingly, when asked what would make home deliveries more convenient, thereby eliminating failed deliveries, alternative delivery options were not seen as the answer. For example, and despite the launch of parcel lockers, only 34% of respondents said they would prefer 'locker boxes', even if they were located on their daily route.

Mobile technology can overcome the problem of failed deliveries by allowing carriers to access delivery preferences stipulated by consumers as to a designated 'safe place' where the parcel can be



Blackbay's research and development team are trialing technology that allows customers to share their location to prevent failed deliveries

delivered in the event of the recipient not being at home.

Alternatively mobility can allow digital interaction via SMS or social media platforms enabling the consumer to confirm to the carrier that they are indeed at home to accept a delivery.

Cost incentives Consumers' reluctance to pay for home deliveries is an increasing problem for online retailers and their carriers. Not only are they having to bear the cost of failed home deliveries, they risk losing customers as a result of those failed deliveries. However, the implementation of technology to improve first time, on-time deliveries, and enhance the home delivery experience, has to be paid for by someone.

With consumers not willing to pay additional costs for home delivery, perhaps the time has come for online retailers and

their carriers to bite the bullet when it comes to the cost of deploying technology that can provide consumers with the information they want around their home deliveries. They need to look carefully at the sums to see just how much the cost of deploying technology would offset the enormous cost to them of failed deliveries.

Customer demands The review highlights that consumers want to be in control of their home deliveries. They want access to delivery information before they buy and in real time prior to delivery taking place. For example, they want to be able to specify the delivery day and a delivery time-slot, provide specific delivery instructions, and to nominate a designated safe place if they are not at home. Importantly, consumers want confirmation that parcels have been successfully delivered or carded.



All of these demands can be met with today's technology, but the first step for retailers and their carriers is to implement mobility solutions that allow consumers to confirm that they will be at home for a delivery. If no confirmation is received, then the delivery will not be attempted.

Working together However, the carrier needs the support of both the retailer and the consumer to implement a successful solution. For example, if a consumer finds that he or she will not be at home to accept a delivery, then he or she should have the ability to alert the carrier via SMS or relevant social media platform.

The online retail industry is at an important crossroads. In order to meet the needs of consumers, it must provide the delivery information they are demanding. Industry players need to work out how this will be funded and all associated parties need to work together. ■

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Against the odds

AUTOMATED PARCEL MACHINES OFFER A WORLD OF CONVENIENCE TO CUSTOMERS, BUT WHY ARE INDOOR TERMINALS TAKING THE LEAD AHEAD OF 24/7 OUTDOOR LOCKERS?

Convenience is the first thing that comes to mind when talking about automated parcel terminals. Customers demand extended opening times and self-service technology. So far, most automated parcel terminal producers promote 24/7 outdoor terminals. But all the successful networks are based on indoor terminals – why is that?

Indoor parcel terminals open up important new opportunities. The service is convenient for the end user and profitable for the operator. Indoor terminals are much closer to customers' daily routine. They do not have to walk or drive to a special location just to pick up their parcel, but can do so while out shopping.

Light indoor machines are easier to install and there are fewer environmental and regulatory requirements for siting a terminal. In some countries it may be difficult to find a good location for indoor terminals but every retailer of every type is making the move towards multichannel retailing and is interested in having a parcel delivery service available to customers. The general understanding is that indoor terminal operating costs are high because of the rental costs, but increasingly supermarket chains are requesting to have automated parcel terminals in their stores and not asking the operator to pay rent.

Calculating costs The cost of an outdoor terminal is up to three times that of an indoor model, but the lifespan, due to exposure to the weather, is half as long. This is an important factor for operators when calculating their long-term investment return. The maintenance of outdoor machines is more expensive and



Above: Cleveron's parcel terminals have been developed for indoor use and only need electricity and an internet connection to become operational. Right: Most retailers who sell cosmetics and electronics don't allow their products to be delivered to outdoor parcel terminals as they are exposed to extreme weather conditions



challenging for the operator and can lead to unforeseen costs and lost business. Indoor machines have up to three times lower risk of technical failure. The biggest challenges for outdoor machines are extreme temperatures, dust, sun, humidity, traffic and security. With indoor terminals there is no need to worry about these factors damaging delivered parcels. What matters most for the end-user and the operator is for the package to reach its destination in good shape without unpleasant surprises.

In cold weather many parcels may be at risk as their contents cannot withstand subzero temperatures. Any parcels containing electronics or liquids may be seriously damaged. In hot weather, the temperature inside a terminal may be very high, putting at risk sensitive items such as cosmetics. Most retailers who sell cosmetics

and electronics don't allow their products to be delivered to outdoor parcel terminals. According to a study by PostNord, top 10 e-commerce products in the Nordic region include home electronics and cosmetics, with the former holding the top spot.

Outdoor disadvantages Although parcels are protected from rain inside the terminal, they may become wet while being inserted or removed. Outdoor terminals are also accessible at night, so there is a greater risk that someone might attempt to damage them. Burglars may not succeed in breaking into a terminal, but they can cause expensive damage. Indoor terminals, however, can be connected to in-house security and there is no need for special security components or monitoring.

The only advantage of an outdoor parcel is that it can provide 24-hour service. But

there such little demand for such services that the investment made to provide 24-hour service will not pay off. Studies shows that fewer than 5% of customers use the service between 11:00pm and 8:00am.

Furthermore, 24-hour service comes along with the demand for 24-hour client support, which will further increase fixed costs for the delivery service and the cost to send a parcel.

Parcel terminals have been on the agenda of postal and parcel logistics companies for a long time, with many projects being launched and many shutting down. Operators who use indoor terminals are currently the only profitable automated parcel delivery service providers, which demonstrates that it is reasonable to provide clients with a parcel delivery and collection service from parcel terminals installed indoors. ■



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Border control

AS CROSS-BORDER MAIL CONTINUES TO RISE, THERE IS AN INCREASING NEED FOR A FULLY AUTOMATED MAIL PROCESSING SYSTEM TO HANDLE THE VARIOUS REQUIREMENTS THAT COME WITH OVERSEAS CONSIGNMENTS

Whether it is packages, letters, catalogues or magazines, cross-border mail volumes are on the rise. The increase in mailpieces travelling overseas and across borders has proved to be a growing revenue source for posts, but it has also proved to be challenging for mail processors, mainly due to the fact that different countries have different mail classifications, rates, and labelling and reporting requirements. To help capture this new revenue without adding more labour costs, ID Mail Systems has developed a family of products with solutions to turn these challenging requirements into one simple process.

The Dispatcher MX and the Dispatcher Max are systems designed for processing large volumes of cross-border mail with automatic and manual feeding, imaging, OCR and BCR reading, weighing, format detection, labelling, printing, sorting and data-reporting capabilities – all in a single pass. Previous methods were done by hand or by assorted partial automation solutions. However, these were costly and time consuming. Sorting cross-border mail by hand was a labour-intensive process. It involved the operator either memorising which delivery partner would provide the lowest cost for shipping the mailpiece, or required the operator to look it up for each individual item.

Dispatcher MX Since the savings differ depending on the country of destination and/or weight (even up to a hundredth of an ounce), a manual approach to sorting the mail would require simple routing matrices. With the Dispatcher MX, a completely automated system, the sorting matrices can be as complex as necessary, which means more savings and higher profits. The software is programmed to sort



ID Mail's Dispatcher MX at Post Danmark in Copenhagen

in real time and is configured with all the destinations, formats and delivery routes.

The Dispatcher MX sorts the mailpiece to the bin designated to the delivery partner with the highest savings, and can be equipped with up to 150 bin locations. Therefore, the Dispatcher MX not only provides a faster way to save on postage savings and allows for more mail to be processed, but also saves on labour costs.

Dispatcher Max The Dispatcher MX and Max can both process up to 10,000 pieces of mail per hour, however the MX handles thin postcards to packets up to 30mm thick. Meanwhile, the Max can process a wider range of mail types, including pieces up to 40mm thick, 400mm long, 300mm wide and a maximum weight of 3,000g.

The materials of the mailpieces used on the Dispatcher Max can be more varied as well. Not only does it sort standard paper envelopes, but also Tyvek, cardboard, giftwrapped packages, lumpy items, and extremely small items down to 60 x 80mm in size. Mailpieces can be sorted by weight, size and location, depending on the country, to achieve the ultimate savings.

Variety of benefits The Dispatcher MX is equipped with a 12in (305mm) field-of-view camera with an increased depth of field that ensures the system's imaging and coding capabilities cover the widest spectrum of mail sizes. The OCR coding software provides precise address and barcode recognition to process each postal item correctly.

Virtually any printing task can be accommodated, including mail indicia or franking, destination coding (1D barcodes and 2D barcodes), indicia, logos, addresses, tracking numbers and endorsements. The labeller can be used to cover domestic indicia, or to print on busy backgrounds or plastic envelopes. Following printing, pieces are sorted to the ergonomically designed multi-tiered TL3 modules or single-tiered SL3 bins according to postal code, country or other destination.

Versatile solutions ID Mail equips each machine with command/control software to ensure each mailpiece is accounted for and that it reaches its intended bin.

The software is not just designed for cross-border mail, but domestic mail sorting too. The software can handle domestic mail to postal code or delivery point barcode using house number, street name, city and postal code, with predefined

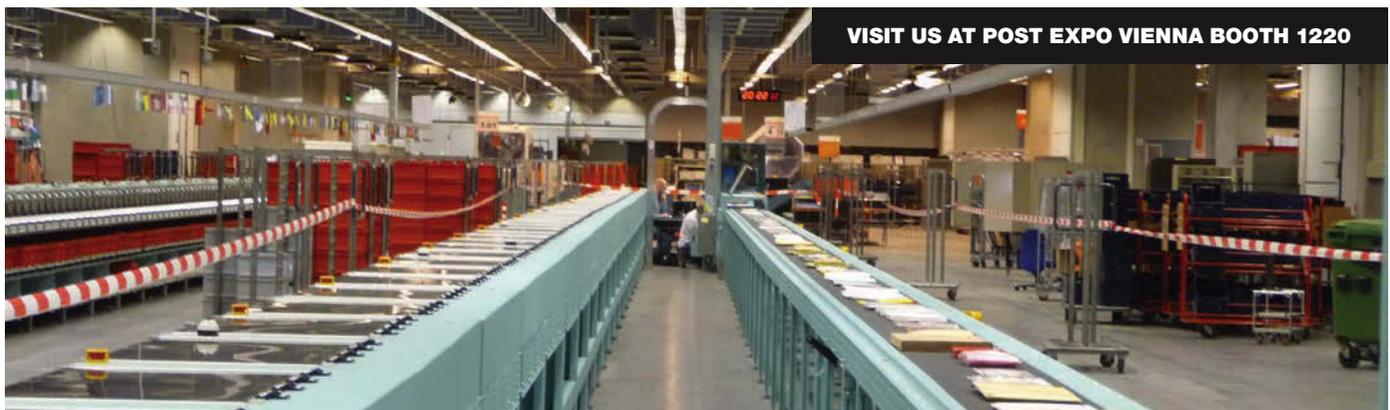


Left and below: The key features of the Dispatcher Max include sorting bins with bin-full detection and LED display, a delay module with 0-30 second delay configuration, and multiple OCR and overseas video encoding

address databases. It is also designed for custom-built databases using ID Mail's flexible coding engine.

Private delivery couriers can also benefit from the system's capabilities for processing mail. These capabilities include assigning a track-and-trace barcode, sorting for delivery routes, and building a delivery manifest and customer billing data.

The Dispatcher MX and Max are highly versatile machines with many different capabilities. The software on both machines can easily be configured and customised for applications to any sorting requirements to maximise savings for postal organisations worldwide. ■



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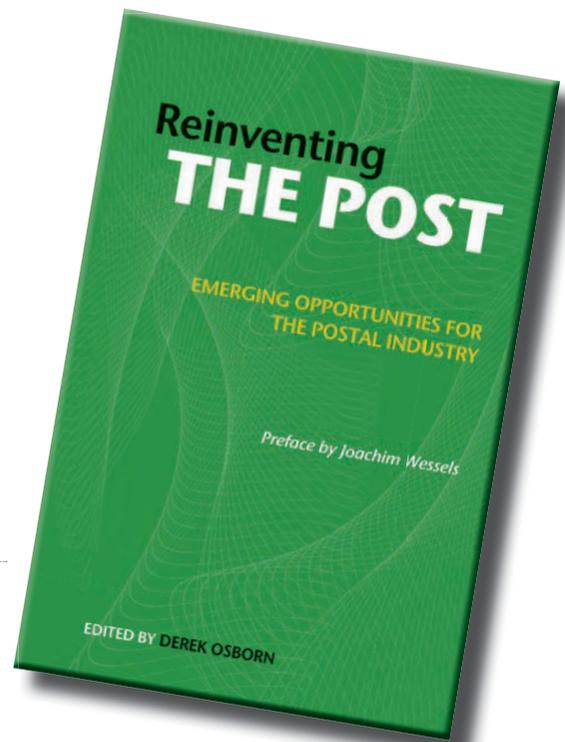
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A NEW BOOK BEING LAUNCHED AT POST-EXPO 2013 EXAMINES HOW THE POSTAL INDUSTRY NEEDS TO ADAPT TO SURVIVE



It is often said that the postal industry is at a crossroads and the future direction it will take is unclear. Of course, this is true not just of the postal industry. All sectors need to decide what business they are in, what their main markets are and, in short, why they exist.

However, in the postal sector, this debate is often carried out under a heavy cloud, overly influenced by negative indicators, shrinking markets and declining volumes. Although the economic and market pressures are indisputable, our reaction to them can be quite different, depending on our perspective.

Emerging opportunities *Reinventing the Post*, which is being launched at Post-Expo 2013 in Vienna, Austria, on 1-3 October, gives a platform to many different views on how the sector is being 'reborn', asking questions such as 'What is the future shape and direction of the post?' and 'What will be the business of the post in the future?'

There has been a growing and vocal chorus of voices persistently announcing the imminent death of the post, apparently with great certainty, giving it a rather helpless 'victim' mentality that is willing to

blame everyone else for the problems it is facing and preparing for its inevitable fate. If the gloomy mantra is repeated often enough then it almost becomes a self-fulfilling prophecy.

However, in the face of these morbid predictions, not everyone in the post is lying down and waiting for the end; many are seizing opportunities and beginning to shape their own future. This book gives a platform to these alternative views that describe emergent possibilities and many different ways in which the sector is being reborn and reinvented for a new generation.

Multiple themes The book covers six main topics, the first one focusing more on 'how' and 'to what' can the post reinvent itself, using customers to help it navigate the future and providing visions of what kind of role or business the post can envisage.

The second section is devoted to postal delivery, and the contributors here show how delivery itself can be seen in new and interesting ways.

The third section concentrates on the opportunities to be considered by building on the historical trust that the posts have enjoyed in the past.

The fourth section addresses the opportunities that exist with the new digital age and how integrated solutions can be identified that use digital technology and build on the traditional physical capabilities of the postal operator.

The fifth section underlines the notion that posts should embrace new technologies, exploring how they can 'turbocharge' their business propositions through smart use of technology platforms.

The sixth section faces the wider global challenge of sustainability and looks at this from the postal industry perspective. Alongside these are four 'country' case studies highlighting examples of reinvention of traditional postal networks in different continents – Europe, Africa and Australia.

In the final section, there are two reflective pieces designed to take us back to the future, looking backwards and forwards to see what lessons we can learn.

Parts of this article are adapted from the book, *Reinventing the Post*, published by Libri Publishing on 30 September 2013. To read the full article visit: www.postaltechnologyinternational.com

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