



INSPIRATION

SWISSLOG WAREHOUSE & DISTRIBUTION SOLUTIONS
GLOBAL MAGAZINE ISSUE FOUR

EYEING UP GROWTH
IN ASIA PACIFIC

PLUS:

NEW ASIA PACIFIC MD // **TRENDS** // POSTLOGISTICS // **BIG DATA** // EAST MEETS WEST

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DESIGN.
DEVELOP.
DELIVER.

WELCOME

Welcome to the latest issue of our Inspiration magazine.

It is an exciting time to be involved in the automation sector. With recent attention on the huge growth of Chinese e-commerce, we're delighted to expand our success story in the Asia Pacific region.

This issue also features some of the latest developments at Swisslog, including a welcome to our new man in Asia Pacific.

There's great news from our work across the globe and some fascinating insights from influential experts in the US and elsewhere.

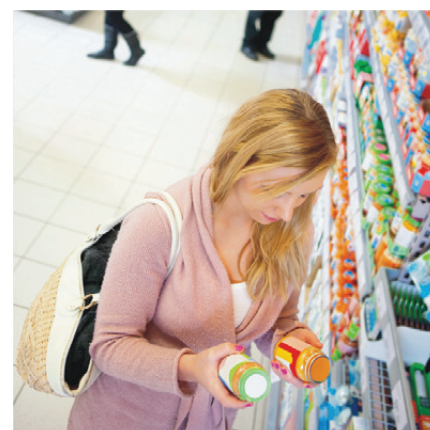
As ever, we hope you enjoy the issue, and as always welcome your inspirational feedback!

Twitter account [@swisslogInspire](#) or via email: inspiration.wds@swisslog.com

I hope you have a lot of pleasure reading it!

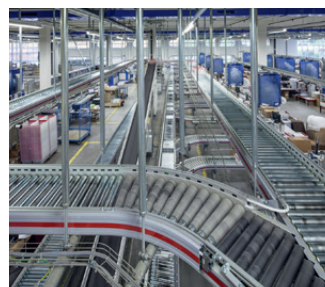


Joe Doering
Division President
Warehouse and Distribution Solutions



A NEW HOMECOMING

"We have strong products and solutions on a global level which need some levels of localization. If we focus on our defined segments, the business needs will be very similar across the globe, and therefore the input and feedback in Asia will be one out of many to our solution management"



Our former MD of Swisslog Central Europe and Technology Center, Francis Meier, is returning to Asia Pacific to start a new, if familiar, challenge.

What will be the focus of your new role?

To continue the success we have already enjoyed in Asia Pacific (APAC) to grow the business further. The region has a lot of growth potential and we have been in the market for many years, so are well positioned to exploit the potential. We've succeeded in the tobacco industry in China, getting key players as customers in Southeast Asia as well as large installations in Australia and New Zealand.

What are the main challenges in the Asia Pacific region?

There are many challenges, but localization and having the right solution portfolio for the market are very important. There are many companies looking to automate - everyone wants to beat their competition! The companies we deal with are very active and forward thinking. We are already strong in China, Korea, Southeast Asia and Australia, and we will look to strengthen our presence there, as well as in selected new markets where demand for automation is growing.

How important is e-commerce in the growth of the Asian automation market?

If we just look at the Alibaba success story and the size of such operations, it is clear that this segment is very competitive and thus will look to automation for help. The size of the market is huge, but GDP per capita remains relatively low, so there is still much potential.

Are the economic benefits of automation still applicable?

At first sight it is true that labor costs are lower in Asia Pacific. However, there are many other factors, such as quality, productivity, staff turnover, etc. which influence operational efficiency. Many of these topics can be addressed through automation, even if labor costs are not the key driver.

Which parts of your experience do you think will be most useful in the new role?

My experience in the intralogistics industry and specifically my Swisslog history. Of course it comes in handy that I have worked in Asia Pacific before and as the Head of Swisslog's Technology Center. I've always stayed in contact with the organizations there.

Your family must be both excited and apprehensive. What are their thoughts on moving to such a different culture?

There are always good things and some challenges when such changes happen. My family is quite used to moving around and they are looking forward to this change. At the same time, it will be difficult to leave behind other family members and dear friends. But since we've lived there before, it is also like "coming home".



Francis Meier, Senior Vice President, is the new Head of Region Asia Pacific within the Warehouse & Distribution Solutions division

In 1995 Francis ventured to Malaysia to open Swisslog's office for Southeast Asia. Three years later, he moved to Australia to work in Business Development for the Asia Pacific Region. Five and a half years as MD of the Swisslog Technology Center preceded this exciting new challenge.

Facts and Figures

28 752 yuan

According to CNN's online global wage calculator, which uses data from the International Labor Organization, the average annual salary of a worker in China's private sector was 28 752 yuan (about \$4 755) in 2012, or 38% of the global average.

46 769 yuan

In urban areas the picture is somewhat different, with Statista reporting the 2012 average almost 70% higher at 46 769 yuan. Either way, it is generally believed that in 2013 and 2014, wages increased year on year by over 10%.

POWER SHIFT

SEGMENT LEADER, ROLAND MARTIN LOOKS AT THE RISE OF THE E-COMMERCE POWERHOUSES IN ASIA-PACIFIC



Asia Pacific grows fast, taking over the leading role from North America in 2015

Business-to-consumer (B2C) e-commerce sales worldwide will reach around USD 1 500 billion in 2014, increasing nearly 20% over 2013. Even though North America (US and Canada) will remain the leading region in B2C ecommerce sales with a 35% share in 2014, it is projected that Asia Pacific will achieve that position in 2015.

Double-digit growth in Asia Pacific will be mainly driven by China (which accounts for more than 50% of each dollar spent online in B2C), Japan, South Korea, India and Australia. Several other countries in South East Asia such as Malaysia, Indonesia and Singapore will also add to the growth over the next years as overall online penetration in the region reaches 50 percent.

CHINA: THE E-COMMERCE POWERHOUSE OF ASIA PACIFIC

The B2C market by total transactions in Q2 2014 is dominated by T-mall (Alibaba group) with a 57% market share, followed by JD.com with 21%, Suning with over 3% and Vipshop with 2%.

300 million people shop online in China, of whom more than half access the internet with their cell phones. It is forecast that mobile shopping will increase by 20 percent annually in the near future.

According to China's e-commerce Research Center, the future growth in online sales is

expected to come out of lower-tier cities as wealth increases in these inland cities.

IMPROVING THE LOGISTICS CHAIN TO SUSTAIN GROWTH

Transport, warehousing and the management of goods in China will be a challenge as e-commerce players attempt to reach more customers over wider geographic regions. Even though billions have been invested in new railways, roads and airports, the logistics chain remains stubbornly inefficient. Logistics spending is 18% of GDP, higher than in other developing such as India and South Africa and double the level in the developed world.

Older warehouses are not mechanized and goods are often transferred up to a dozen times as they make their way across the country. Overloaded trucks ply the new highways, unable to find a return delivery on more than a third of their trips.

Nevertheless, there is good news. Central government has approved a plan for reform to lower costs and develop larger companies. The hope is that the private sector and private equity funds will create bigger logistics firms.

E-commerce companies are worried that a bottleneck in logistics could choke off their tremendous growth in recent years. Online consumers demand high levels of customer service at low prices. Concerned about this, online retailers are building up logistics infrastructure on their own or with the support of third party logistic providers.

Roland Martin is Swisslog's Industry Segment Leader for E-Commerce in APAC for Swisslog Warehouse and Distribution Solutions in Shanghai.

Facts and Figures

300 Million

The number of online shoppers in China.

70% Growth

Business-to-consumer (B2C) and consumer-to-consumer (C2C) sales in China have expanded at a compound annual growth rate (CAGR) of 70 percent over the past five years, rising from roughly USD 21 billion in 2008 to nearly USD 300 billion in 2013.

53% B2C

C2C business accounts for 64 percent of the Chinese e-commerce market, while B2C is gaining momentum and expected to reach 53 percent in 2017. Today's e-commerce market is mainly driven by the top ten cities along the coast of China (Shenzhen, Hangzhou, Guangzhou, etc.). The future growth in online sales is expected to come from lower-tier cities as wealth increases in these inland areas.



THE ROAD AHEAD IS AUTOMATION

In Asia Pacific, only the large e-commerce players operate warehouses with a higher degree of automation, to meet the demanding needs of their customers.

Today's buyers are less willing to accept delays, return damaged or wrong products and deal with low-quality services at the front door.

Medium-sized e-commerce retailers and third-party logistics providers serving those retailers are already considering new warehousing options as competition gets fiercer. Investing or focusing too much on the front end to generate revenues will ultimately cause interruption or breakdown of the supply chain, resulting in loss of customers and reputation.

KEY WAREHOUSING REQUIREMENTS IN E-COMMERCE

Reliability and scalability of warehousing solutions are crucial in the e-Commerce sector.

Reliability comprises high throughput to ensure 24-hour delivery and less, maximum availability to pick at any time, and 100 per cent accuracy in delivering the right product to the customer.

Customers are becoming more demanding with regards to availability of products and delivery options, and reliability is becoming even more crucial. Scalability of the warehousing solutions is important to e-commerce firms that grow fast, are exposed to seasonal peaks and maintain a flash-sales business model.

SINGLES GET ONLINE

Chinese Singles' Day is on 11 November, when the value of transactions from Alibaba group reached over USD 9 billion in just one day, up 60% in comparison with last year, representing the highest peak in online sales in China (9 times average-to-peak ratio).

Flash-sales online retailers such as Catch-of-the-Day in Australia and Vipshop in China that sell a large amount of goods for discounted prices undergo more peaks and troughs.



THE BEST IN CLASS

Being a thoughtleader with a compelling technology portfolio in e-commerce, Swisslog thrives to be best-in-class in this industry. Swisslog provides automated warehousing solutions to increase pick-rates, improve accuracy and enhance the robustness of the system.

Integrating the hardware solutions with e-commerce-specific software provides maximum transparency over inventory. In order to cope with high average-to-peak ratios as mentioned above, Swisslog delivers scalable solutions to address the needs of e-commerce retailers.

Additionally, savings can be materialized with optimal space utilization while reducing operating costs.

www.swisslog.com/clickandpick

CLICK&PICK SOLUTION

A modular concept that allows combining conventional picking, zone-to-zone components, and goods-to-person engines with conveyors, software or ergonomic workstations to meet the evolving needs of e-commerce retailers.

OPEN SESAME

FROM ITS FOUNDING IN 1998 TO THE BIGGEST IPO IN US HISTORY, THE AMAZING SUCCESS OF ALIBABA, THE E-COMMERCE MARKET LEADER IN CHINA.

Alibaba was already on its way to being a global phenomenon before earning the title of the largest IPO in US history, but that didn't stop much of the Western media describing it as the 'biggest company you don't know'...

With over 500 million customers, the fact is that Alibaba is very well known indeed and has been a darling of the new China since receiving over US\$25 million funding in 2000.

At the end of 2014, Interbrand reported that the brand value of Alibaba made it the third most valuable brand in China, with only China Mobile and Tencent ahead of them.



Gil C / Shutterstock.com

Key Facts Alibaba

Established: 1998 by ex-translator Jack Ma and 17 other investors

Business Sector: e-commerce, B2B, micro-blogging and finance

Statistics: 22 000 employees, trades with 190 countries, 740m smartphones in China by 2017

Future Growth Areas: Online search, entertainment, sport

By 2017, it is predicted (by Alibaba themselves) that the Chinese online consumer market will exceed that of the US and Europe combined.

The stakes are high then for the company that now has a total value of around \$250 billion. Its executive Chairman, Jack Ma, is the world's 36th richest man.

KIDNAPPING INSPIRATION

Part of its success is attributable to its lightning start in becoming the first serious online business in China. Said to have been inspired by an alleged 'two day kidnapping' of its founder, the business is now as much a part of the internet landscape as Facebook, Amazon and Google.

With its own payment service, Alipay, shopping site taobao.com, spin-off marketplace, Tmall, investment in the China arm of Yahoo! and social media site Sina Weibo, it already bears some resemblance to Paypal, eBay and Twitter.

CONNECTING BUYERS

This is a particularly Chinese success. The world's largest e-commerce business accounts for 80% of the online trade inside China. It also connects buyers with manufacturers not just in China, but around the world, taking the experience of Far Eastern manufacturers used to dealing with Western retailers, and making it widely available to everyone.



Christopher Penler / Shutterstock.com

Swisslog's man in Shanghai, Industry Segment Leader for e-commerce in Asia Pacific, Roland Martin discusses Alibaba's supply chain strategy to support its growth ambitions

Like other ecommerce giants, Alibaba is also looking to get consumers to use their services via a mobile application. It is in partnership to develop a US\$16 bn logistics infrastructure (called Cainiao) both aiming to bring 24 hour delivery to China's estimated grocery market of US\$1 trillion. To put that into context, there are 160 Chinese cities with a population of over 1 million. In the US, there are nine. The third largest country by area has 1 209 800 kilometers (around 752 000 miles) of highways, built to varying standards, as well as a rapidly growing number of qualified drivers.

"Amid all those rotten tomatoes and cartons of sour milk, there is opportunity," offers the official Alibaba blog, Alizila. With Chinese shoppers already able to get cod from Canada, dragon fruit from Vietnam or steak from Australia, delivered direct, none would bet against that opportunity knocking on Alibaba's door any day now.

While Alibaba chos es a partnership-network to achieve its ambitious expansion strategy, competitor Jingong is building its own logistics infrastructure.

Alibaba Group is an ecosystem that provides various online shopping platforms called Taobao (C2C), Tmall (B2C), 1688.com (B2B) and other services such as Alipay (online payment system) and AliExpress (foreign consumers can buy directly from Chinese merchants).

JACK MA'S ROOKIE

Jack Ma, the founder of the ecosystem, aspires to deliver within 24 hours throughout China by 2016. In order to achieve the ambitious vision, Alibaba has chosen to build a partner network called Rookie or China Smart Logistics Network.

Rookie is a USD 50 billion investment (founded by Tmall, luxury retailer Intime, various property developers and express

carriers) to build a nationwide logistics chain in the next five years. Key investments will go into i) systems to optimize shipment, routing, tracking and payments; ii) facilities to build warehouses, data processing centers and financial service buildings; and iii) partnerships like the investment in China Post for post and delivery services.

OWN CONTROL

Particularly concerned about bottlenecks and lack of quality in logistics to sustain growth, some online retailers such as JD.com take it in their own hands. In contrast to Alibaba, JD pursues an asset-heavy model inspired by Amazon. JD's logistics chain comprises warehouses, trucks and drivers who can now reliably transport goods either the same day or next day in some 300 cities across China. Amazon China, Suning, Yixun and Gome operate their own warehouses, while also renting space to cope with growth.

www.alibaba.com



HOW NEW TECHNOLOGY WILL END POVERTY

Can you imagine a world without poverty? Disease? Famine? Ignorance? War? Most people haven't even tried, says technologist, Byron Reese. Those who try will not just see a path, but a well-lit, eight-lane highway.



One of the greatest pieces of good news of the last two decades is how in that relatively short span of time, over a billion people have been lifted out of poverty, mostly in Asia.

The president of the World Bank, along with many others, has set his sights on ending poverty by 2030. And you know what? We probably will hit that goal.

How can this be? In 1980, over half of the world's population lived in poverty. How is it possible that just fifty years later, poverty is ended? It is happening, largely due to technical innovation, the very kind that Swisslog and others have pioneered.

How does technology do this? When you summarize it, how does technology improve the lives of so many people so quickly? Simply put, technology magnifies what people are able to do. I can go faster in a car than on foot. I can move more bricks with a machine than by carrying them. I can be heard by more people with a bullhorn than by yelling.

So, how does that affect poverty? When you magnify what people are able to do, you magnify their productivity. And when people are more productive, they can earn more. We are ending poverty by empowering people to earn enough to support themselves and their families.

Each time a new technology is introduced, there is inevitably disruption. The new technology, while raising the standard of living for everyone overall, often temporarily displaces a few individuals, and we must not minimize the real impact this has on their lives. But if history has taught us anything, it is that displaced workers go on to get better jobs. How do we know this? Virtually all economic growth of the past 130 years has come from technical advancement. And every segment of society is better off than its corresponding segment 130 years ago.

Lights replaced candles, displacing candle makers. Cars replaced horses, displacing stable boys. Refrigerators replaced ice boxes, displacing ice delivery men. In fact, almost every job there has ever been has been eliminated by technology. It used to take 90% of people in the developed world to grow their food. Now it takes 3%. But that didn't result in 87% unemployment.

In addition to increasing prosperity, technology increases human dignity. Any job that can be done by a machine, if you make a person do that job, it literally dehumanizes them, since it does not take advantage of anything that makes them human. If a machine can do it, people should not. In the future, all the jobs will be things that only people can do.

You will almost certainly live to see the final end of poverty on this planet. And from that point, our challenge is to move beyond that, to give everyone the opportunity to achieve their maximum potential. It is a great and bold new world humanity is building.



Byron Reese is an Austin-based serial entrepreneur who presently serves as the CEO of Knowingly, which he started in 2014.

Reese launched his first business while an undergraduate at Rice University, and over the years has started several others. Along the way, he became an award-winning author last year with the publication of "Infinite Progress: How the Internet and technology will end ignorance, disease, poverty, hunger and war."

Facts and Figures

100 trillion

Last year, 100 trillion emails were sent. That is over 10,000 for every person on the planet. And while 90 percent were viruses and SPAM, says Byron, that is still an amazing number.

500

Nearly 4 million exajoules of energy is absorbed by the earth's atmosphere, oceans, and land each year. Humanity consumes less than 500 exajoules each year.

2020

The year by which a \$1 000 personal computer is expected to hold the computing power of a human brain.



Marc Wulfraat is founder and president of MWPVL International, consultants in the leadership of supply chain and logistics organisations.

Founded in 2006, MWPVL International is a specialized supply chain, logistics and distribution consulting firm. With 27 years of consulting experience, Marc has unrivalled knowledge of supply chain strategy, distribution centre design and automation.

The author of several articles in industry publications and a speaker at over 50 international events and conferences, Marc is an influential observer of the latest trends in large scale warehousing operations.

Facts and Figures

\$775 million

The amount Amazon paid for the acquisition of Kiva Logistics, the company which produces the robots

15 000

The number of Kiva robots which Amazon ordered

70%

Proportion of customers who don't want to pay extra for overnight or same-day delivery, according to Google Express

WHAT ARE THE CHALLENGES FACED BY KEY PLAYERS IN ONE OF THE MOST INFLUENTIAL E-COMMERCE MARKETS IN THE WORLD?

BATTLEFIELD USA

A lot of people are still not making money in e-commerce, but it is very important to get in the game and get, or at least defend, market share.

The whole e-commerce war in the USA is in full flow, initiated by Amazon and going on now for well over 10 years. Here is where the key players currently stand...

AMAZON.COM

By the end of 2015, we expect Amazon will have between 90 and 100 facilities up and running in the United States. Well over 60 million square feet by the end, not to mention all of the other buildings they have in Europe and Asia. It is a tremendous growth curve if you look between 2010 and 2014.

We tend to think of books and DVDs when we think of Amazon, but in reality they have a number of large non-sortable fulfilment centers and small sortable fulfilment centers. They also have redistribution centers, return centers, specialty centers that handle only jewelry or text books, and so on.

Today, the Amazon same-day shipping capability can hit about 23% of the North American market with same-day delivery service, around 80 million people. That number should hit about 30% by the end of 2015.

HOME DEPOT

Home Depot has decided to launch three dedicated e-commerce DCs in strategic locations around the United States, and they now offer more than 600 items on the website as opposed to 35,000 in a typical store.

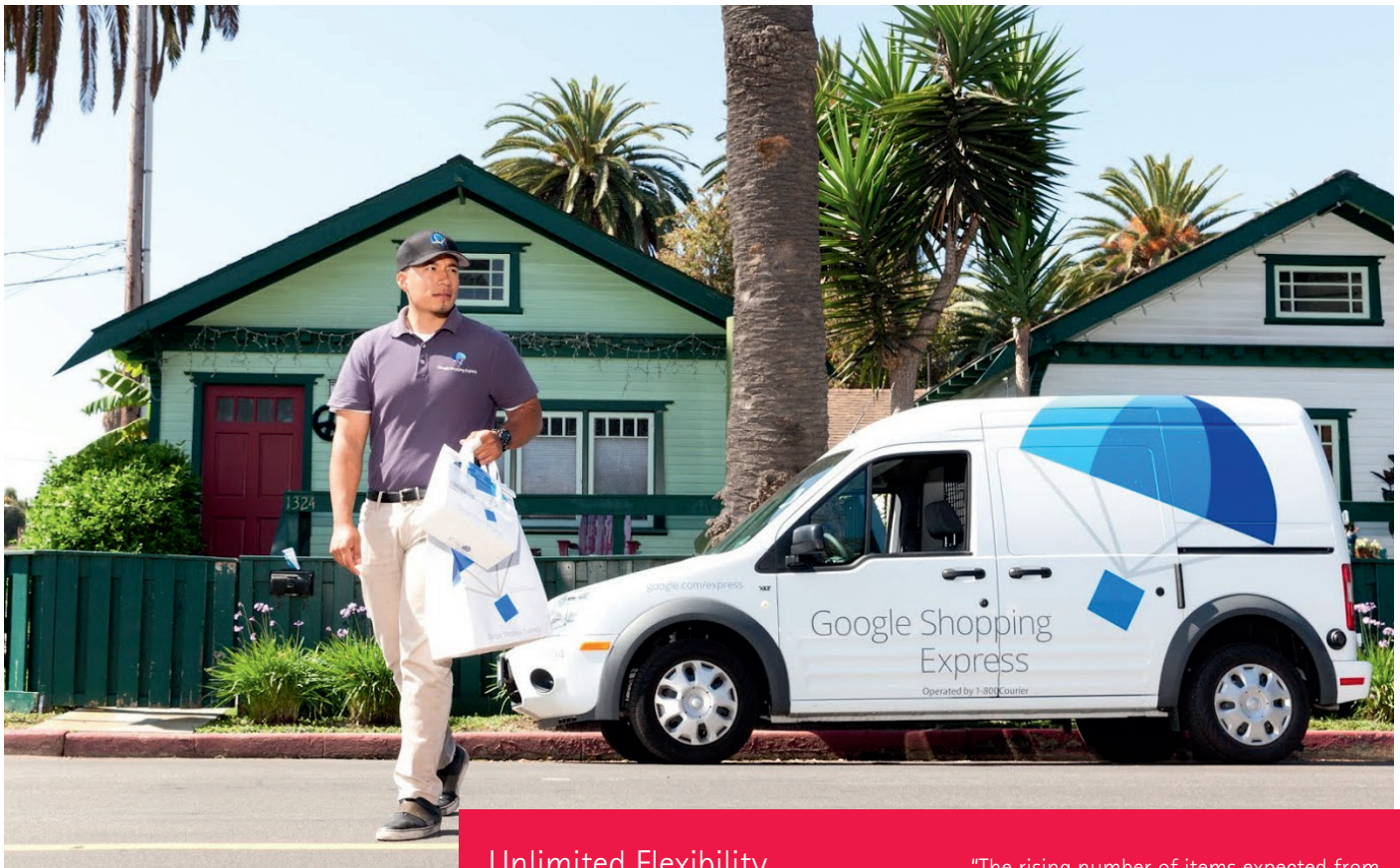
It looks like the way things are shaping up is that companies need a hybrid solution where retail and distribution are the methods to fulfill online orders.

EBAY

Ebay is getting into the act too, and their service, Ebay Now, was introduced in 2012. They have decided to use couriers as local deliverers; the same concept as Google, going to the store to pick up your goods for you, charging you \$5 per order for a minimum order size of \$25 and then charging a very minimal amount of money for a service where they deliver within a couple of hours of your order time.

They had plans to roll this out to 25 different cities by the end of 2014, but since have had a considerable change in strategy. They have now held back to one or two cities as they realize they cannot bring this service to fruition.

It is not scalable, profitable and it is very difficult for them to make this work without losing money, so it demonstrates that, whilst some companies are jumping on the bandwagon, many are just offering the service as a loss leader. Others are realizing that such a service would lose too much money.



GOOGLE

On the West Coast, Google has established 'Shopping Express'. This is really a mechanism for Google to increase revenues from an advertising perspective.

The concept, launched in April 2013, operates in several cities in and around the West Coast, plus Chicago and Manhattan - larger, more affluent areas of the US.

There are about 32 national and local retailers participating. Members (who pay \$10 a month) get free deliveries for orders over \$15, or if you are a non-member, you pay \$5.

Having placed your delivery, a valet literally goes to the store and shops for you. He or she comes to your door within a four-hour time window.

They are not looking at an annual membership fee to fund this, but the concept here is that Google does not really want to become a retailer as much as they want to increase revenue through their advertising services.

www.mwvpl.com

Unlimited Flexibility

CarryPick is a goods-to-person system that improves picking rates by up to 70 percent and has enormous scalability. Designed for storage and order picking operations with thousands of different SKUs, the system includes warehouse management software, Automated Guided Vehicles (AGVs) and mobile racks, as well as highly efficient and ergonomic multi-function workstations.

"We are moving fast forward to the apex of the e-commerce phenomenon," says Ralf Büchner, Solution Manager for e-commerce.

"When consumers purchase any product online, no matter how small or how cheap, the expectation is to get it within the next day. Looking at the cost of some items delivered from elsewhere, it is difficult to see how this is possible or indeed sustainable. In the event that an order is incorrectly fulfilled, getting it put right can be difficult. Especially international deliveries, and even more the returns, take time, much more time than the typical consumer is willing to allow. The use of automated solutions provides a supplier with the ability to deliver the correct item first time, thus eliminating returns."

"The rising number of items expected from one supplier, the fast growing overall order volume, combined with order sizes down to one line -and this within a day delivery time- calls for high performance 'Goods-to-Person' stations", as Ralf explains.

"Traditionally, manual picking models, on the other hand, are phase-out models in several industries. Our CarryPick solution is the answer to that growing demand: It has huge flexibility and scalability and allows quick reaction to storage volume changes; additionally, the racks and workstations are adjustable to fit various sizes of articles. We believe the fast implementation time and easy implementation of systems into existing locations means retailers can take advantage of the latest technology without having to embark on expensive rebuilding or refitting processes."

Overall then, it is a very positive picture, concludes Ralf: "We want to inspire our customers to invest in their warehouse knowing that they can be ready for e-commerce development and the rewards it will bring."

www.swisslog.com/podcast-retail

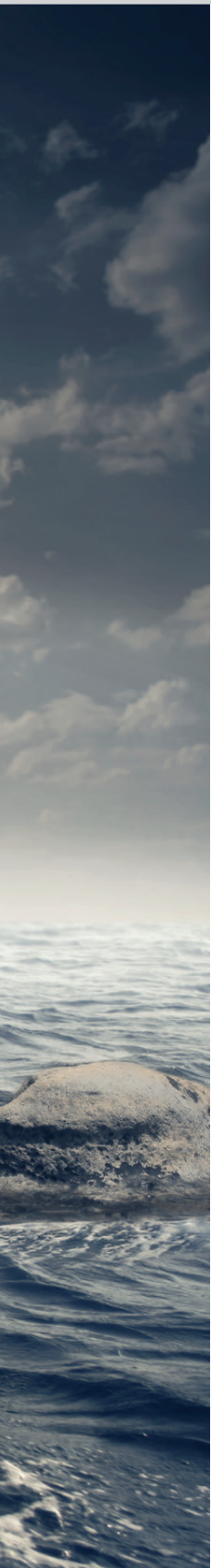
THE NEW WEATHER FORECASTERS

The power of big data lies in its very scale. Once we have strong information and knowledge (I&K) we can store this in a way to derive wisdom through regression analysis. This wisdom can be converted into algorithms in the business logic. This technology is similar to weather forecasting models.



Vladimir Wrangel / Shutterstock.com





Weather prediction was once more of an art than science.

With the advent of weather agencies collecting massive amounts of weather data combined with the use of statistical modeling, weather forecasting is now considered a fact-based science. Although there is still uncertainty in the predictions, the actual weather has a relatively small deviation from the prediction, considering the complexity of the model.

The supply chain industry will experience this phenomena simply because of the widespread use of ERP/WMS, industrial ethernet, internet of things, and social media. These are now our barometers, anemometers, and wind vanes.

Using Swisslog products such as Crystal Ball and Condition Monitoring, we have the means to collect and synthesize large amounts of data from various sources – and this opens the door to Predictive Modeling. The more data we have, the more relationships are found. This makes it feasible to identify and understand patterns.

We would then use machine learning algorithms to find opportunities for optimization which were otherwise esoteric. By analyzing Big Data using algorithms derived from Swisslog's intralogistics expertise, we can predict your throughput and ensure extremely high availability.

We are using data to see patterns in machine performance. This gives us insight into the quality of maintenance programs as well as the health of the system. Our next step is to predict failures so that you can prevent unplanned downtime by renewing parts before breakdown.

We are also looking at system throughput. We can measure and display various KPIs that drive your performance. By analyzing this information over a time series, you can adjust your behavior to maximize performance. Crystall Ball is aimed at taking this to the next level. We will be predicting outcomes based on input data so we can forecast throughput. We will also be able to prescribe actions that can further boost this outcome.

In the past few years we have seen a convergence of low-cost processing/memory, high bandwidth networks, cloud computing, and robust data centers that can handle large amounts of data. This has enabled us to do things with data that were simply impractical or cost prohibitive before.



A.K. Schultz is the Head of Customer Service for Swisslog North America.

A.K. has been with Swisslog for 10 years and has served in several management roles, including engineering, operations, and account management. A.K. received his BS in Marine Engineering from the Massachusetts Maritime Academy and an MBA from the College of William Et Mary.

Facts and Figures

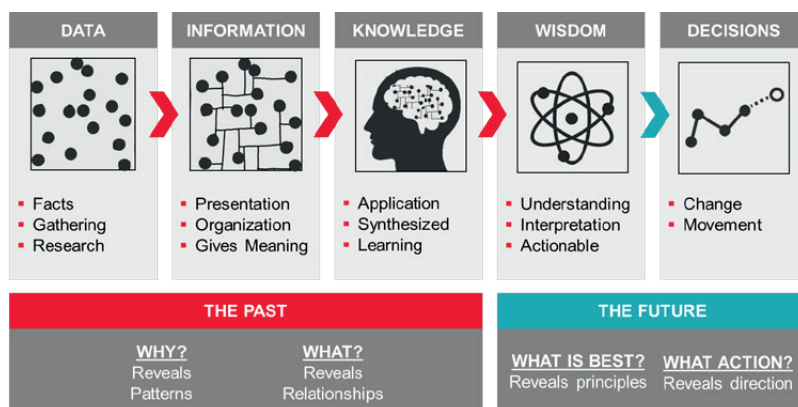
60%

According to management gurus McKinsey – a retailer using big data to the fullest could increase its operating margin by more than 60%.

60 seconds

Did you know that every 60 seconds 1 820 TB of data are generated? That is 957 billion TB annually!

www.swisslog.com/monitoring



READY, STEADY, CLICK!

HAVE YOU EVER TRIED TO PURCHASE A PRODUCT ONLINE ONLY TO FIND IT TRICKIER THAN YOU EXPECTED? WHY DO THEY DO THAT? **STRATEGIC CONSULTANT, MALTE POLZIN,** BELIEVES HE KNOWS WHY...

At Carpathia Consulting we believe it is important for every online retailer to look closely at its own offering from the customers' perspective.

We have seen a trend in e-commerce business projects which make them increasingly complex, with project teams ever larger and ever more diverse stakeholders.

The risk is that excessive internal processes allows business leaders to lose sight of the customer's view. All the points of contact between an online merchant and its customers are important and it is easy to determine where the need for action is greatest.

UNDER THE MICROSCOPE

Of course, it also makes sense to put one's own industry under the microscope, or even look at other sectors for comparison. Only once the customer's requirements have been identified – for example, quick delivery, fast and no-hassle returns processing, or mobile commerce solutions – is it the right time, in my opinion, to address technical implementation.

Online is one of the biggest growth areas for retail in recent years, but has brought with it its own logistical challenges. Large and successful internet-only players have helped to demonstrate three major stages of development.

In the start-up phase, companies were focused either on building up third-party shipping systems or handling logistics via manual systems. Secondly, offers were expanded and margins were improved,

whilst logistics service providers were added to run the warehousing and logistics operations. In the third stage of development, the management of the entire supply chain comes under scrutiny.

RAPID RESPONSE

Here's where looking to automation can prove extremely useful, as the response times required to react to changing customer demands become lower.

When using a highly automated warehousing solution, the retailer has the advantage of being able to respond rapidly and flexibly to customer requests. The extent to which a company-owned integrated logistics system is the best solution can be accurately determined by looking at the business model, the product groups, the returns volume, as well as the level of development already achieved.

Other avenues of businesses are also made available, thanks to the flexibility of automation – particularly other sales channels. In the physical retail world, full cross-channel integration requires a fairly extensive reorganization or expansion of the retail store logistics. For example, it is important for bricks-and-mortar retailers to have real-time information about the inventory in their stores.

CENTRALIZED LOGISTICS

These companies meanwhile need to focus on building centralized logistics systems in order to service the online channel from a central inventory. Of course, the requirements for SKU range and depth, return rates or the ability to encourage customers



Malte Polzin is a senior consultant and partner at Carpathia Consulting.

Launched in 1999, Carpathia works with leading online retailers in Switzerland. Malte regularly appears as a conference speaker on e-commerce matters.

|| THE ONGOING NEED TO DO MORE WITH LESS IS WHAT KEEPS US MOVING FORWARD. ||

to purchase items throughout all channels are very different from industry to industry.

Only one thing is really true across all industries and product groups: Logistics has to be ready to support a rapidly growing e-business.

THE WORLD'S MOST EXPENSIVE ONLINE PURCHASES

1. \$140 million

A 405-foot Mulder Design yacht sold on eBay in 2005. The yacht comes complete with a helipad, a cinema room, a gym, a salon, an office, 10 multi-level suites offering panoramic windows and 8 guest cabins.

2. \$10 million

Sold at a private online auction held by Christie's in 2002, Edward Hopper's painting *October on Cape Cod*, was said to have been bought by an anonymous art collector.

3. \$4.9 million

A Gulfstream II private jet sold on eBay in 2011. This private jet seats 12 people and was sold to a charter flight company.

INSIDE YELLOWCUBE

AUTOSTORE-CENTERED CLICK&PICK SOLUTION FOR SWISS POST

In 2013, the package volume of logistics business, Swiss Post, reached a record high of 114 million units, thanks in no small part to the rise of e-commerce.

"Over the last several years, e-commerce has climbed steadily by between 4 and nearly 10% a year," explains Patrick Stucki, Head of Business Development at Swiss Post.

The demands of online shoppers for fast shipment, delivery and return services as well as multi-channel options have grown in equal measure, encouraging Swiss Post to invest in their own e-commerce logistics solution.

"The goal was to offer companies a full-service logistics package for e-commerce business," continues Stucki.

INTRODUCING YELLOWCUBE

The heart of the YellowCube is a logistics solution, a compact, fully automated storage and picking system, to allow even

smaller and medium-sized shippers to benefit from marketable logistics structures. "YellowCube gives online retailers the ability to fully focus on their core business of product sales," states Stucki.

The idea is simple. Swiss Post adds customer goods to the fully automated AutoStore facility implemented by Swisslog, accepts orders through a system linked to its own ERP system, and delivers the ordered items to online shoppers without making a detour through the retailer. Automatic handling accelerates the logistics processes and allows next-day deliveries, even if orders arrive late in the day.

Return processes are another important part of the concept. If a recipient returns an order, it goes directly back to YellowCube, where Swiss Post checks the items and returns them to storage.

IN-DEPTH PLANNING PHASE

The detail planning phase was devoted to fine-tuning the material flow concept developed by Swisslog. The team toured existing facilities, conducted real-time

simulations, and specified all the components.

"Visiting several reference sites during the analysis phase had already given us a good idea of the dimensioning possibilities," states project manager Patrick Stucki with satisfaction as he recalls this important aspect of the pilot phase. "We were able to very quickly define the facility's required initial size."

||

WE COULD INCREASE THE SYSTEM PERFORMANCE TO 240 BIN MOVEMENTS PER HOUR AND PICKING STATION.

||

Patrick Stucki,
Head of Business
Development at Swiss Post



THE CLICK&PICK SOLUTION

Built in one year, the YellowCube facility offers 4 320 cubic meters of space – enough for 32 000 AutoStore bins. 35 robots quickly and efficiently transport stored items to ten picking and packaging stations attached to the sides of the grid structure.

"We are achieving 70 bin movements per hour and picking station. If the system



proves itself and we decide to go to the next expansion stage, we could increase its performance to 240 bin movements per hour and picking station," explains Stucki.

PROVEN SAP CONNECTION

When launching the project, one of the most important requirements for the Swiss Post project team was interfacing the YellowCube facility to the existing SAP EWM (Extended Warehouse Management) system.

"For the first time in an AutoStore project, we had to map a third-party logistics provider in SAP," says Res Bernhard, Senior Consultant for IT & Process Planning.

Swisslog IT experts mapped all the processes in such a way that no deviations from the SAP standard were necessary. They also designed the system for easy and reliable operation, so even those without

special SAP knowledge could comfortably run it.

"One shipper works with serial numbers, for example, while another uses IMEI numbers or information that is totally irrelevant to other shippers," explains Bernhard.

"AutoStore employees need to be familiar with all three scenarios so they know exactly what data to enter."

HIGH PROCESS RELIABILITY

The YellowCube facility based on the Click&Pick solution concept offers several advantages. Smaller and medium-sized online retailers gain access to logistic structures that otherwise only large companies could afford. They also benefit from the speed and quality in vital picking and returns processing. Plant expansions are easy to implement, during ongoing operations, whilst the goods-to-person picking strategy ensures a high degree of process reliability.

Facts and Figures

35 robots

- Speed of robots: 3 m/sec
- Speed of robot lifts: 1.6 m/sec

32 000 bins

- 25 bins/h per robot
- 120-500 bins/h per port

10 ports

- Can be set up along any side of the grid
- Can be expanded with a great deal of flexibility

www.swisslog.com/yellowcube

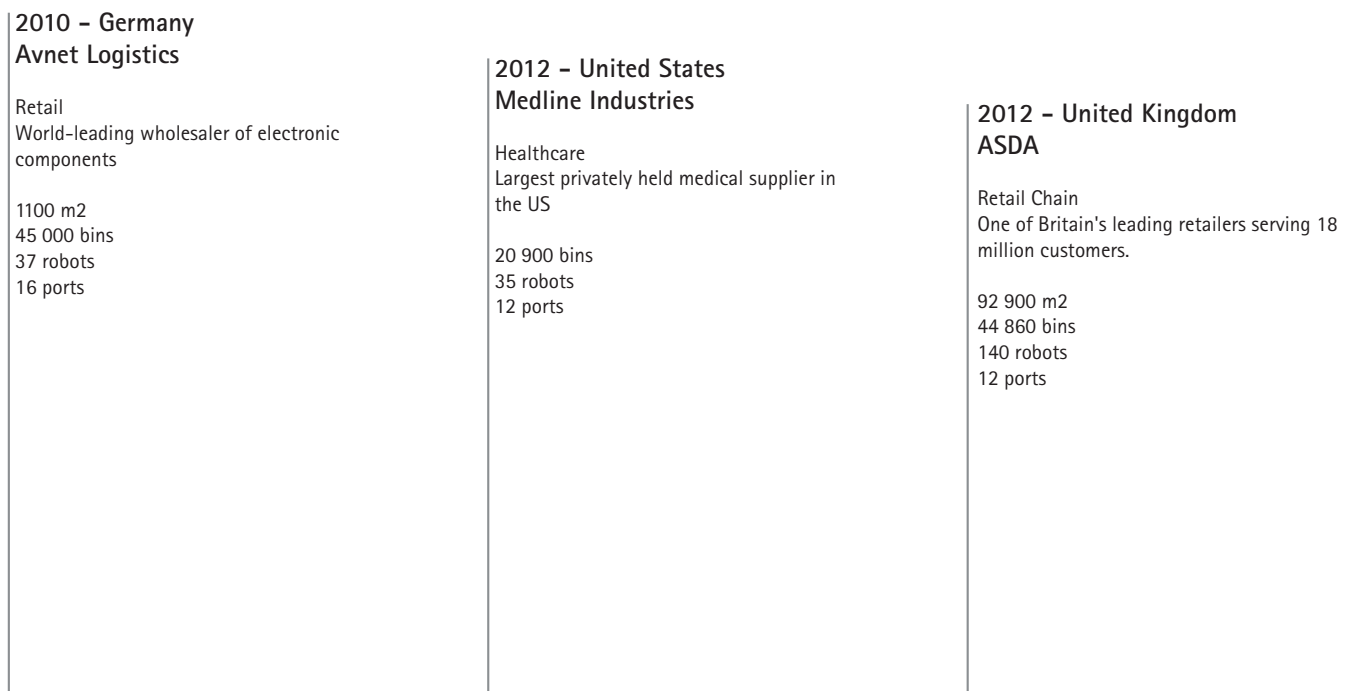


THE RISE OF THE ROBOTS

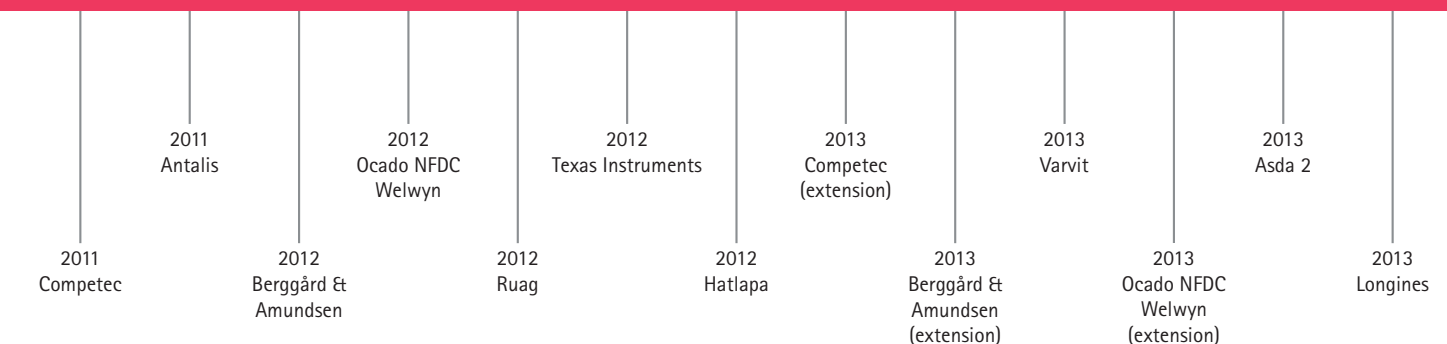
IN 2014 SWISSLOG RECEIVED THE ORDER FOR THE 1 000TH AUTOSTORE ROBOT. IN TOTAL, MORE THAN 1 500 ROBOTS HAVE BEEN SOLD. LET'S TAKE A LOOK AT THE MILESTONES IN THIS SUCCESS STORY.

"AutoStore not only stands out because of its high efficiency, but also because of its modularity to perfectly fit in any space and making optimum use of existing warehousing area. Another big decisive benefit was the possibility to increase system capacity during running operations."

Ludger Tillmann, Managing Director Avnet Logistics



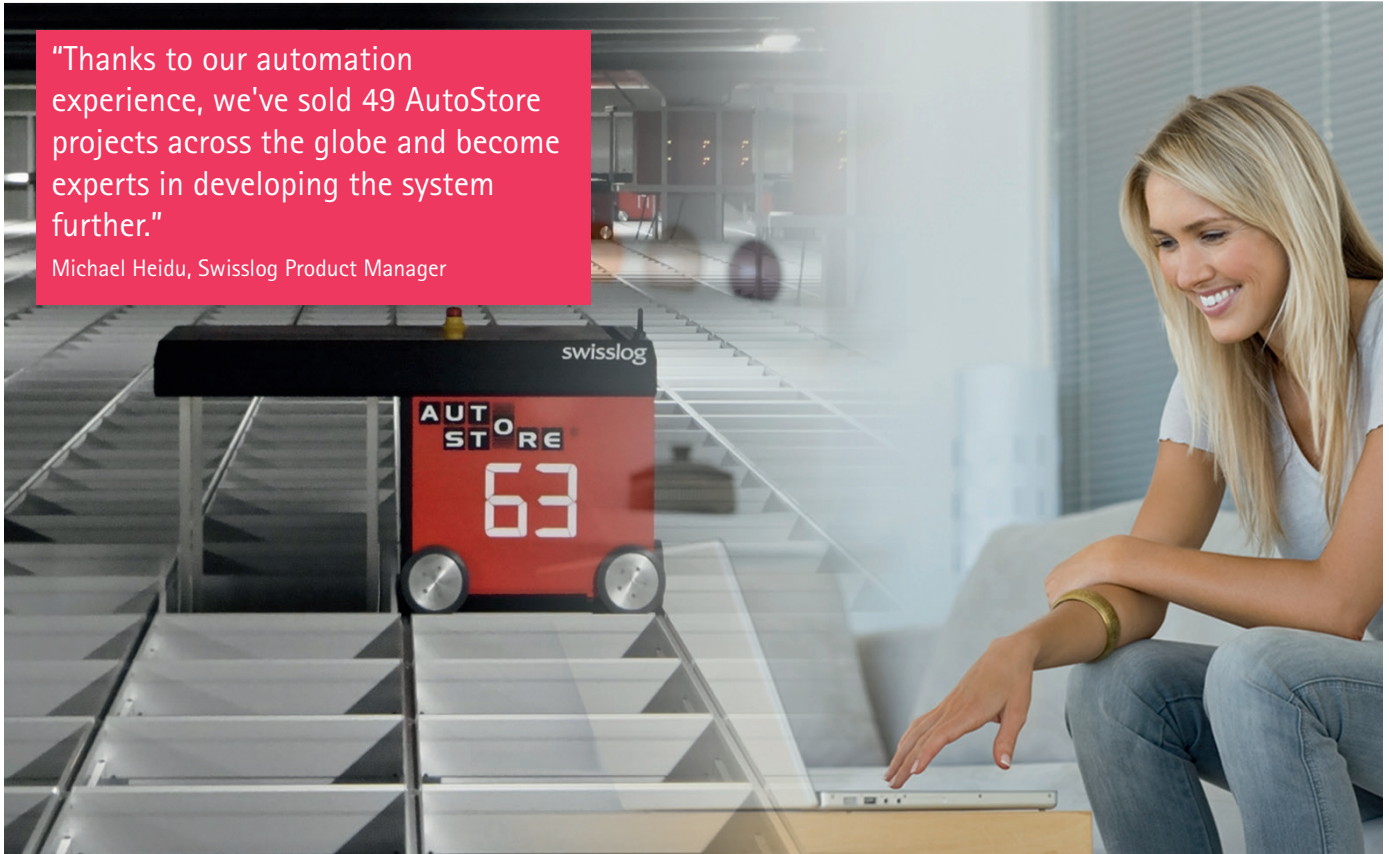
Swisslog's e-commerce solution offers the productivity and reliability for today's process,



The timeline shows a selection of projects.

"Thanks to our automation experience, we've sold 49 AutoStore projects across the globe and become experts in developing the system further."

Michael Heidü, Swisslog Product Manager



1 000th AUTOSTORE ROBOT IS SOLD

2014 - Switzerland Competec

Retail
A major e-commerce IT trading company specializing in the import, distribution and sale of computer hardware, software and consumer electronics

55 000 m2
120 000 bins
145 robots
41 ports

2014 - Australia Catch of the Day

Retail
The Catch Group, Australia's leading e-commerce group

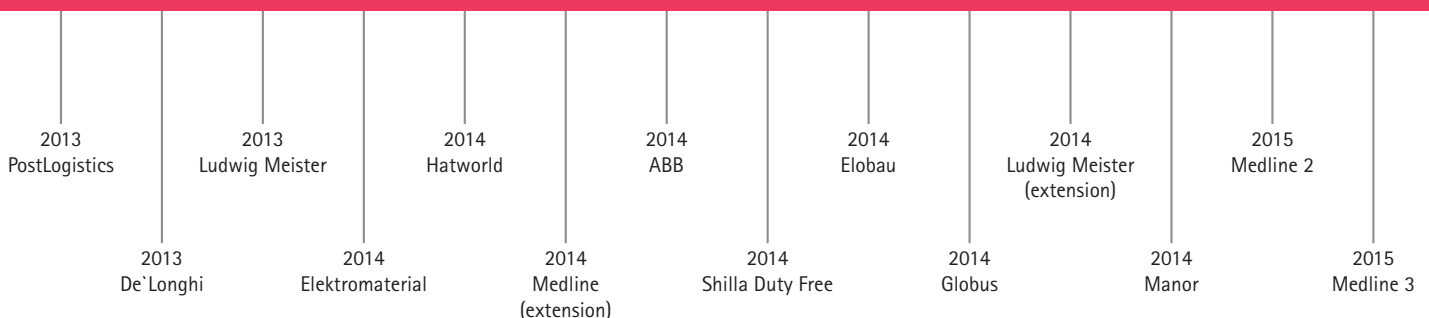
25 000 bins
70 robots
4 ports

2015 - Sweden Varner

Retail
A leading retailer and distributor of strong fashion brands in Scandinavia

60 000 bins
86 robots
18 ports

the scalability of tomorrow's growth, and the adaptability for the future's unknowns.



EAST MEETS WEST

MAKING A SUCCESS OF TECHNOLOGY DEVELOPED AROUND THE WORLD MEANS HAVING MANAGERS CAPABLE OF BRINGING CULTURES TOGETHER...

Anna Björklou is a key person in Swisslog's Technology Center and acts as entrepreneur for the pallet competence center based on two continents.

Anna, you are responsible for teams in China and Sweden. Do you face the same or different challenges in each country?

The management challenges are mainly based on the cultural differences between Sweden and China. Swedish employees are more open with their opinions towards their managers and are free to challenge opinions. Chinese employees listen carefully and usually accept what the manager says, as well as being very eager to execute what has been decided.

The industry is currently very male dominant. Where do you see the challenges for women in our business?

It is all about having the right person, with the right competence and profile, in the right positions. To be a woman in a typically male environment has both pros and cons.

At Swisslog, I believe that I am more visible in the organization since I am more recognizable, but sometimes I feel that others' expectations of me are a little higher than for men in equal positions. As a consequence women sometimes have to work harder to prove themselves and retain their Senior Management positions. The challenge from a business and a leadership point of view is the same for everyone in a management position. It is all about generating good results and being a good leader. This is valid regardless of gender.

To what extent do you agree that Swisslog supports women in management positions?

Looking at the Technology Center, I certainly can agree with this statement, as more than 40% of the management team are female. However, there is no specific initiative within Swisslog to actively search for women candidates for management positions, that I am aware of.

In your opinion, what are the success factors of leadership?

You need to have clarity on the direction and set clear goals. Also, be a role model and show commitment to the business. Encourage collaboration within the teams and support the continuous development of both your staff and yourself to expand experience and competence.

What is your greatest achievement as a manager?

This year in spring we have had a negative trend in our unit and we were behind our production plan. The mindset of the staff was that keeping to the schedule was an impossible task.

I put together a team looking into the root causes of delays and we identified a number of activities that were implemented within a short time. We have now improved the situation in the unit significantly and have also been able to change the mindset into a more positive attitude.

To see people working together in a positive way and creating great results makes me very proud!



Anna Björklou is Head of Swisslog's Pallet Technology Center.

In her position she is leading a unit of 190 people working in different disciplines, including sales, project management, design and development, supply chain, manufacturing, installation and commissioning.

150 workers are located in Boxholm, Sweden, while 40 workers are situated in Kunshan, China.

Facts and Figures

40%

The European Commission target for the proportion of women on the boards of listed EU companies by 2020

17.8%

The average number of women on the boards of listed EU companies in October 2013

38%

Women are well-represented in the leadership of Chinese businesses

www.swisslog.com/employer



CRANE MANUFACTORIES

The production unit in Boxholm, Sweden concentrates on manufacturing the Vectura pallet stacker crane, while the factory in Kunshan, China produces Swisslog's ProMove pallet conveyor system.

Both units are led by Anna Björklou, ensuring collaboration between both teams in Sweden and China, the usage of the same production system with similar processes and therefore best-in-class technology.

The history of the pallet technology center goes back into the seventies. Since 2008 more than 760 stacker cranes and 14 000 conveyor elements have been delivered globally.

Customers like Asko, Norway / Baxter, USA / Coca-Cola bottlers in Australia, China, New Zealand / Coles, Australia / GLS, Singapore / Nespresso, Switzerland / Procter & Gamble, Italy, UK / Unilever, Sweden, UK trust in our pallet technology.

MANAGING CHANGE

Managers are confronted with numerous challenges and changes every single day. Dr. Lüder Tockenbürger and Dr. Walter Koller offer some advice in this extract from their forthcoming book: "Mobilizing people – it's your turn."

"As different as these challenges are, they have one thing in common: People need to be mobilized to overcome them. How can mobilization succeed? Is it even possible to define such a process? The first task is figuring out what mobilization is.

THE SIMPLEST FORMULA IS: MOBILIZATION = PURPOSE × ACHIEVABILITY × QUANTITY

Leadership is successful when those affected internalize the purpose of the goals, believe they can be achieved, and are able to implement the required measures. A single employee is not enough; it takes a critical number of people to tackle the challenge together. Mobilized employees are those who are willing and able and "infect" others.

A mobilization process should not be viewed as a traditional business process. Instead of clearly defined steps, the process phases need to overlap, similar to the hand-off zone in a relay race.

TYPICAL PHASES

- Develop a desirable vision of the future and a clear goal. The mobilization process is based on a desirable shared vision of the future or a goal. If they do not exist, they are developed jointly.

This requires a realistic assessment of the current situation and leaders who allow the realization of an ambitious vision in the future. The future vision has value for the company, its customers and its employees. The objectives of the mobilization process and the requirements it needs to fulfill can be derived from there.

- Employees must be introduced to the challenge gradually. Issues such as justifiability, purpose and motivation require time and commitment.
- Those affected are motivated to take on challenges if they can actively incorporate their own goals, values, motives, knowledge, emotions, day-to-day realities and experiences and if these are externalized. This creates a firm foundation for continued work and clarity for everyone involved.
- Constructive dialog is used to move the implementation forward. Internalization is successful when new concepts are accepted because they are formulated logically and can be accurately reproduced. This process is also called "communitization".

KEY QUESTIONS

Mobilizational leadership must answer the following questions:

- Do we already have an attractive vision of the future?
- Are employees and/or those affected sufficiently sensitized?
- How can we benefit from the experiences of the participants?
- What communication and leadership platforms can we use to win over the hearts and minds of employees?

"Mobilizing people – it's your turn" is scheduled for release in Spring 2015 and is published by PRO4S & Partner GmbH

 www.pro4s.com



THE ASIA PACIFIC OPPORTUNITY

JOE DOERING, HEAD OF SWISSLOG'S WAREHOUSE & DISTRIBUTION SOLUTIONS, OFFERS HIS THOUGHTS ON THE RESURGENCE OF ASIA PACIFIC POWER

Where do you see challenges in Asia Pacific and main differences to Europe?

The level of automation in materials handling varies greatly, and often warehouses and distribution centers are operated manually, driven by comparable lower labor costs. In more urban environments, such as China or South East Asia, we see a fast growing demand for higher utilization of available space and productivity.

Combined with rising labor costs, these trends are driving automation forward. In some cases operations are leapfrogging manual stages and going straight to highly automated solutions. Swisslog has a greater responsibility to design and deliver the right level of automation and enable the customer to gain the maximum benefit from the system.

What are the main selling points of automation in the Asia Pacific region?

The main rationale is productivity gains and total cost of ownership. In the e-commerce and retail segments, automation is often driven by picking requirements that could not be reached via manual processes.

In Singapore or Korea or in large cities in China, customers more often use automation solutions to better utilize available space with multi-store, high density storage and picking solutions.

In the food sector, automation is often combined with temperature controlled and ambient temperature operations, or with chilled and deep-freeze warehousing and distribution solutions. We see trace and track requirements as a driver of automation in the Pharmaceutical sector, guaranteeing full control of the material flow, conditions, time and space via the Warehouse Management System.

Is low cost labor an inhibiting factor?

Because of the low labor cost in some Asian countries, the business case for automation has longer ROI periods. With increasing labor costs throughout the region and with additional requirements that steer customers towards automation, we are experiencing accelerated market growth in Asia Pacific, justifying our own investments in the region.

Where do you see growth potential in materials handling in Asia Pacific?

The vision to deliver all types of products to the majority of people in China, Korea, Taiwan, Hong Kong, Malaysia, Australia via e-commerce fulfillment and multichannel-retail automation is surely a growth driver. But also temperature-controlled food solutions are growing strongly in the region, especially in China and Australia.

What is your vision for the Swisslog business in Asia Pacific?

Our vision is to increase our local presence to further countries with complete sales, consulting, design and full realization teams. We're also building controls and software competence and a complete customer service setup. Additionally we have increased our local manufacturing capabilities, and our vision is to enhance our local presence and drive this development yet further.

Do you believe that success factors in leadership are different in Asia Pacific?

The general rules for leadership are applicable globally and apply throughout Asia Pacific, such as consistency, transparency, open communication, competence and commitment. Beyond that, there are different success factors for leadership, due to the multitude of cultures in Asia Pacific.

When I lived and worked in South-East Asia, I found the principles of respect and team-orientation helped strong leaders to earn success. The flexibility and the capability to find win-win solutions were also prevalent, perhaps more so in Asia Pacific than anywhere else in the world.