

We all contribute to our business

ost companies are set up by one or two people who are filled with enthusiasm for a concept that will create value for their future customers.

In a newly established company, the founders usually do everything themselves. It is up to them to make their customers satisfied, grow the company to make it viable and make sure that it generates a profit. If possible, this profit should cover immediate salaries and enable investment in the company so that it continues to develop.

The link between cause and effect is obvious. The founders are informed directly by customers telling them what they think and feel and they have complete freedom and sole responsibility for making the right decisions and dealing with things that need to be managed.

As the company grows, the complexity also increases. The decision-making routes are longer, customers become more distant and the freedom for individuals to make their own decisions is reduced.

During the past few years, we have chosen to decentralise decision-making within the Volvo Group because we believe in releasing the strength that is naturally inherent in small companies. We want more people to have the opportunity to do real-life business. This builds our engagement and develops our skills and ability, but it is first and foremost good for our customers if decisions are made as close to their businesses as possible.

There are a number of important areas in which we can benefit from our size and the fact that we are a group. This includes the development and production of engines and transmissions and new technological areas such as connectivity, electromobility and automation. At the same time, there are many other areas in which it is far more important to act swiftly rather than pursuing economies of scale and standardisation. In these areas, local solutions, working methods and structures that are ideal for that specific market or business are better.

Even in this large group, we can encourage everyone to think a little more like the founder of a small company. To consider the value of money, even if it is the company's money. To invest in things that really make a difference. Finally, to work to achieve good profitability, both now and in

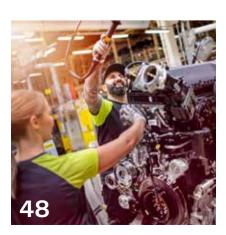
the future.

It is a question of taking responsibility and utilising the driving force that exists in each and every one of us because we all contribute to our business.



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Riding the highs and the lows

The need to be agile, sharp and responsive is a key lesson the Volvo Group can learn from its customers. Especially in a market as volative as Thailand.

Behind the scenes of a viral video hit

With the help of a Hollywood star, Volvo CE's "Pump it up" campaign helps shine the spotlight on the excavator product range.

A high maintenance market

In Japan, customer expectations when it comes to product quality and services leave no room for failure.

Mutual support in turbulent times

At the plant in Skövde, Sweden, an agreement is in place to help protect employees in a fluctuating economy.

Breaking new ground within automation

Volvo Trucks' first ever commercial autonomous solution will soon be in full operation for an actual customer.

ALWAYS INSIDE

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A premium customer experience

IN MEXICO, bus operators have identified a strong advantage to effectively communicate the attributes associated with the vehicle in which they offer their services. This is why Volvo Buses in Mexico has proactively assisted clients in communication that contribute to build

a differentiated positioning based on the Volvo brand's attributes and the coaches' unique characteristics. Volvo Buses Mexico achieved record levels of customer satisfaction in 2018 as part of the result, which also contributed to an increase in brand image.



Great places to work in Latin America

THE MERCO COMPANIES and Leaders 2018 Ranking has recognised Volvo Group Peru as the company with the best corporate reputation in the automotive sector. Volvo Group Peru also attained first place within the automotive sector in the Merco Talent Ranking, which ranks the best companies to attract and retain talent in Peru.

Meanwhile Volvo do Brazil was also deemed the best company to work for within the automotive sector in Guia Você S/A's annual national survey, conducted by one of Brazil's most renowned publications on organisational climate.

"This result acknowledges the maturity and cutting edge nature of our



Carlos Ogliari receives the Best Place to Work award from Elisa Tozzi of Guia Vocà.

people management practices. This award reinforces our excellent ability to attract and retain our best talents," claimed Carlos Ogliari, Vice President of HR and Corporate Affairs for the Volvo Group in Latin America.



Camp X by Volvo Group

The official inauguration of Camp X by Volvo Group takes place at the end of March 2019. Located at Campus Lundby in Gothenburg, it will be an innovation arena that will bring together people from different parts of the Volvo Group, as well as external partners, to explore and accelerate both technology and business ideas.





PHOTO: ROBIN ARON

Swartling, Wipro and Korn Ferry, has appointed the Volvo Group President and CEO Martin Lundstedt as "Leader of the year 2018." Enthusiasm, deep industry knowledge and extensive teamwork were factors highlighted by the jury as grounds for the appointment.





... Guillaume Perez, Commodity Buyer

You initiated the project Green Energy, what is it about?

"It's a cross-functional project with GTP in the lead, involving almost all TD/BAs in the Volvo Group. The goal was to create common requirements for green electricity in our facilities in Sweden, France, Belgium and the US. We showed the local teams two scenarios, one with regular electricity and one with green electricity. Their choice was green electricity, so for the first time we have a purchasing strategy for green electricity!"

What has been the best thing about this project?

"The team spirit is the best! And to be a part of this worldwide team working towards the same goal. I enjoyed working with everyone, especially Mylene Perales and Zachery Wentz who play an important role in the project. And of course, we can't ignore that we have an impact on the planet. With Volvo Group in Sweden, France, Belgium and the US adapting to green electricity for all their facilities, we can make a difference."

What's the next step?

"The local teams are preparing to implement new suppliers. This is a new business model for everyone except Sweden so we need to learn along the way. This is one of many steps we are taking to act in a more sustainable way. We have planted a seed, now we have to let it grow."

MARIE FALK

start

Hack Sprint gets results

THE VOLVO X HACK SPRINT

was the first hackathon cohosted by Volvo Construction Equipment and Volvo Group Connected Solutions. Multidisciplinary teams had 72 hours to develop a real world solution that can help customer inspect their machines using nothing more than a smartphone. The overall winner was a team from Sigma Software in Ukraine. Volvo Construction Equipment and Volvo Group Connected Solutions are exploring ways to build upon the solutions generated during the hackathon with an ambition to release a demo during Q2 2019.



Hack Sprint saw multidisciplinary teams develop real world solutions for inspecting construction machines in just 72 hours.



700 city buses to Colombia

Volvo Buses has won a public tender to deliver 700 city buses to Bogotá, Colombia. The buses will operate in Bogotá's BRT (Bus Rapid Transit) system. The new order is the largest in ten years for Volvo Buses in Latin America and confirms Volvo's leading position in the BRT segment.



Volvo Group University wins gold!

VOLVO GROUP UNIVERSITY

won two international gold awards for its online team training programme "Meet the Customer". The awards were in the categories of Best Learning Game and Best Design, as part of the Learning Technology Awards. "A triumph of design and technology" and "an imaginative combination of technology-led learning and social learning" were part of the jury's verdict.

Volvo Group Trucks
Technology initiated the
programme and the challenges
in the training game are based
on real customer examples from
Volvo Trucks.

If you have not played the game yet – take the time to do so with your team! The training is available via Navigator.

New showroom at Renault Trucks

ALL VISITORS TO Renault Trucks' headquarters in Lyon, France will now be welcomed in a entirely refurbished and renovated showroom. Named Renault Trucks Square, the 2,400 m² space includes exhibits of Renault Trucks current range, some historical Berliet vehicles and displays of different innovation breakthroughs. It is the perfect space for greeting customers, VIPs and the media, as well as hosting key handovers.



Renault Trucks Square is the perfect space for hosting customers, VIPs and key handovers.

THE NUMBER

8

The number of activitybased workplaces in the Volvo Group, located in Sweden, Norway, Belgium and Singapore. Ten further activity-based workplace projects are in the pipeline.



Volvo Group Magazine wins silver!

VOLVO GROUP MAGAZINE

was awarded a silver prize at the Swedish Design Awards for issue #2 2018. The magazine's main theme was "Driving prosperity through transport solutions". It featured an unusual cover, depicting an emergency

room in a Lebanese hospital that uses a Volvo Penta engine to secure continuous electricity.



EDITOR'S NOTE

More augmented reality



I HOPE YOU enjoyed all the augmented reality features we introduced in the last issue? If you did - or if you missed out, rest assured that there is new

material in this very magazine. All you have to do is download the app Volvo Group AR Stories, look for this symbol in the magazine, and follow the instructions. Augmented or traditional: enjoy your reading!

TOBIAS WILHELM, EDITOR IN CHIEF



Over the past two decades, the Thai construction industry has experienced multiple booms and slumps. Through it all, the company Rojana Pattana has always found a way to survive, prosper and come out stronger than before. TEXT ARTHUR JONES DIONIO PHOTO JONAS GRATZER







Bangkok, dozens of trucks form a line inside Rojana Pattana's depot, moving one-by-one to a gas station for refueling. The hum of engines breaks the silence of dawn to signal another busy day.

At 5:30 AM, the semi-trailer trucks snake through rural roads. The fleet is taking gravel from nearby provinces for use in the ever-expanding infrastructure and property development projects in metropolitan Bangkok.

During peak months, the trucks operate from dawn well into the night. On average, the trucks make three delivery rounds per day, bringing thousands of tons of gravel from the provinces nearby to Bangkok and its suburbs. By the company's own calculation, each truck covers a distance of about 700 kilometers per day.

"We feel that we helped build the foundation of the infrastructure and the high rises of modern Bangkok," says Nattanicha Pannapat, who runs Rojana Pattana's day-to-day operations. "We supply a good number of construction sites in the capital and our clients rely on our deliveries."

Rojana Pattana's client base recently grew to include a host of condominium developers, the Bangkok metro rail system, large industrial estates and government roadworks.

AS ASSISTANT MANAGING Director of Rojana Pattana, Nattanicha Pannapat oversees a business division that generated 300 million baht (USD 10 million) in revenue in 2017.

She was practically groomed by her father to become the company's future leader. "This wasn't a career that I really liked at first, but I knew I could do the job. My father made sure I learned how to reach out to all types of people, make proper judgement and turn challenges into opportunities."

Rojana Pattana's history is full of stories about overcoming challenges and about being able to consistently provide a trustworthy service

Nattanicha Pannapat, once an reluctant heir to her family's trucking business, now oversees revenue of around USD 10 million. "We supply a good number of construction sites in the capital."



ROJANA PATTANA CO., LTD. (THAILAND)

Established: 1995

Number of employees: 270 Number of UD Quester Trucks: 39 (other trucks are from Fuso and Hino)

Revenue in 2017: 300 million THB or USD 10 million (estimate)



NATTANICHA PANNAPAT, ASSISTANT MANAGING DIRECTOR, ROJANA PATTANA

Bangkok."

to clients. When the company was founded in 1995, it was in the midst of a property bubble in Thailand that eventually triggered the 1997 Asian financial crisis. The property and construction industry crashed along with swathes of other industries. Thousands of companies went bankrupt.

But being a new company meant Rojana Pattana's base was still small, so the financial impact was not overwhelming. Nevertheless, surviving the economic collapse was everyone's main preoccupation at the time.

The company ended up subcontracting from the Siam Cement Group (SCG), Thailand's

VOLVO GROUP TRUCKS IN THAILAND

Total market (HD/MD/LD): 27.373 units

Deliveries: UD Trucks 635 units, Volvo Trucks 273 units

Market share: UD Trucks 5%,

Volvo Trucks 2%

Main customer segments: UD Trucks building and construction segment, Volvo Trucks petrochemical segment

VOLVO GROUP TRUCKS ASIA & JVS

Established: 2016

Headquarters: Singapore Employees: Approx. 1900

Brands: UD Trucks (Quester, Croner, Kuzer), Eicher and Dongfeng

JVs: Dongfeng Commercial Vehicles (DFCV), Volvo-Eicher Commercial Vehicles (VECV)

Market coverage: More than 40 countries in Asia, Africa, the Middle East and Latin America

Production: 170,000 m² plant in Samutprakarn, south of Bangkok



largest cement company, which was expanding its sub-brand of ready-mix cement. Even at very low profit margins, the company kept working with SCG to keep the business afloat and avoid degrading its assets.

The strategy struck some luck.

"Business took off. SCG wanted to change its service by adding the new aspect of ontime delivery. But many of its old partners were resistant to change. This opened a major opportunity for our company. Our partnerships also expanded because people trusted us," recalls Nattanicha Pannapat of the company's breakthrough.

Building trust meant Rojana Pattana had to always deliver on time. This required reliable equipment at a price deemed reasonable for a startup company. It became an early adopter of UD Trucks in Thailand.

The new UD Quester trucks, specifically

built by the Volvo Group for the Asian market. gained immediate praise from the company's drivers and technicians. Detchai Chairat, Rojana Pattana's head mechanic for the past nine years, says: "The new UD Quester trucks are quite durable. We hardly have to do any repair during the first few years of usage. Our drivers find them comfortable, smooth to handle and are quite stable during deliveries."

Fuel savings are notable, he adds, because UD Quester runs between 3.5 to 3.9 kilometers per liter of fuel, giving it a significant edge over other brands in the fleet.

Apart from technically-sound vehicles, Volvo Group's aftermarket services have also impressed Rojana Pattana. A mobile maintenance service is available for trucks within the warranty period. Drivers can call for onsite repair if needed, a very convenient solution especially if problems arise on a weekend.

Aggregate being unloaded in a Bangkok suburb. Rojana Pattana's clients include condominium developers, the Bangkok metro rail system, large industrial estates and government road contractors.



"Volvo Group executives actually understand our need to be able to conduct business properly. We like that we can call their key people directly when we need support. They've also been accurate about delivery times for spare parts and repairs. This is important because our business requires certainty," Nattanicha Pannapat explains.

IN PAST YEARS, political turmoil has cast economic uncertainty in the country. For Rojana Pattana, the impact was a ten per cent decline in revenue in 2018 because a significant number of government infrastructure projects were put on hold.

However, the outlook for Thailand may change after the current military led regime announced that elections will be held this year. There is a sentiment in the business community that strong economic performance can be propelled by a democratically-elected government, bringing back normal governance in political and business affairs.

Nattanicha Pannapat beams with optimism on future prospects. "After the election, there will be a new wave of investments in construction and property development. We will be ready to respond to these opportunities and break into larger markets." ■

A quality revolution

UD Trucks' Quester and Croner represented a huge learning curve for GTA & JVs. Yet the levels of quality delivered by the young organisation are among the best in the Volvo Group. This is how it was possible.

TEXT NIC TOWNSEND PHOTO UD TRUCKS & SANNA TEDEBORG

HE LAUNCH OF the Quester in 2013 and the Croner in 2017, were significant milestones, not just for UD Trucks and GTA & JVs, but for the whole Volvo Group. These were the first models to be fully developed in Asia, specifically for emerging markets.

"Historically, we have sold trucks that had already been launched in Europe or Japan, and all the hurdles that come with a truck launch had already been taken care of," says Franck Massardier, Quality, Warranty & Dealer Support Director, GTA & JVs. "But the Quester and Croner were completely new products. A new design team, a new supplier base predominantly based in Asia, a new assembly plant in Thailand

and lots of new processes and systems. During the Quester launch, we basically completed a journey that most other business areas did over ten years."

DURING THE INITIAL launch period, the team at GTA & JVs dealt diligently with all the challenges that inevitably come with any new product introduction. However, as a young and relatively inexperienced organisation, they were not fully aware of the exceptional level of quality and reliability they were delivering. Today, the fault frequency and warranty payments of both models remain among the lowest in the Volvo Group.

The key to this success was a mixture of adopting Volvo Group quality tools combined with some locally adapted initiatives. "We have







Serene Ong and Franck Massardier are both part of the team that delivered exceptional levels of quality with the launch of UD Trucks' Quester and Croner.

taken everything we could from the Volvo Group – from Volvo Trucks, Renault Trucks, Volvo Buses – if we find a good idea, we take it," explains Franck Massardier. "But we also develop processes and governance adapted to our challenges."

One key initiative that proved particularly successful was Intensive Runs. Trucks were given to selected customers who were then visited monthly for a complete audit, covering 138 different items. This enabled 50 per cent of all quality issues experienced so far to be detected in the first six months after launch.

"I can go and meet a customer in the middle of nowhere and I already know exactly what has happened to his trucks."

FRANCK MASSARDIER, QUALITY, WARRANTY & DEALER

ANOTHER BIG ENABLER has been the use of big data to monitor warranty claims and quality in each market. In essence, multiple databases have been integrated and connected, and made accessible via one user-friendly interface. "I came across a tool in the Volvo Group that enabled us to analyse data and drill down to small details in seconds," says Serene Ong, Senior Manager Warranty, who was instrumental in developing GTA & JVs' own version of the tool. "We were able to connect our data with the warranty and quality databases and, all of a sudden, we instantly know what is going on in the markets. We can detect warranty claims earlier, react faster and reduce warranty costs in the process."

Big data has proven invaluable for monitoring dealer performance and ensuring all necessary repairs and services are performed as and when they should be. "She has changed my life!" says Franck Massardier, only half-jokingly about Serene Ong's work. "I can go and meet a customer in the middle of nowhere and I already know exactly what has happened to his trucks. Quite often, I am even more aware than they



Manu Sathyan

are, so I can anticipate their concerns and already have a solution before we meet. In the 30 years I've spent in the Volvo Group, I think this is the biggest revolution I have witnessed."

However, the biggest factor in making such rapid and comprehensive quality improvements is

the cross-functional team behind the scenes. "Quite frequently, team members from Sales and Technology are away on the front line with



CRONER

The Croner was launched in 2017 and is a medium-duty truck also designed and developed specifically for emerging markets. It includes a number of unique features in its segment, most notably an automatic transmission.



QUESTER

Launched in 2013, the Quester range of heavy-duty trucks was the first model developed by the Volvo Group specifically for emerging markets in Asia, Africa, the Middle East and South America.

customers to resolve issues as quickly as possible. The collaboration between Sales, Purchasing, Operations and Technology is a real asset," says Manu Sathyan, Vice President Quality, GTA & JVs.

"I have never witnessed such talented and committed people," says Franck Massardier commenting on the team. "They were continuously coming up with ideas, nothing was deemed impossible and they were extremely motivated. The high quality standards set by the Quester and Croner confirm the old adage - 'it's all about people'." ■

Three ways to improve quality

A total of 15 key initiatives helped GTA & JVs deliver exceptional product quality. These are just the top three.

Appointment of the new product service Quality Senior Manager during the development phase. One year before the launch of the Croner, Thilak Baluchamy and Jagadeesan Subramaniam were appointed Quality Senior Managers and were able to secure accountability throughout the project handover, as well as during the first year of launch

Market Quality Analysis Report. An application for collecting information on quality issues that are system related. This shortens the analysis lead time and develops competences for complex system analysis.

Big Data Analytics. By connecting multiple databases together with one user-friendly interface, detailed information and market insights were instantly made available.

Read more about big data on pages 39-43.





JAN YTTERBERG, CFO VOLVO GROUP

Keeping things in good order

Jan Ytterberg, the Volvo Group's new CFO, sees himself as a financial navigator. It is his job to make sure that the people responsible for operations are able to make the right decisions in a business environment that is moving at an increasingly rapid rate.

TEXT SUSANNE HANSSEN PHOTO MAGNUS GÖTANDER

HEN Volvo Group Magazine met Jan Ytterberg at the Group's headquarters in Gothenburg, he had been in his new job for just over three weeks. Among other things, he had found time to make a trip to Brazil and meet colleagues in different business areas. It was an added bonus, as Jan Ytterberg had previously spent two years in the country, a place he really loves and feels very much at home in.

What are your impressions of the Volvo Group so far?

"Well, first and foremost, all the positive, skilled individuals who are really ambitious and have a great deal of experience. This is a professional organisation and it's going to be incredibly enjoyable to work here. I have also been struck by the size of the Volvo Group compared with my last two workplaces."

Does that worry you?

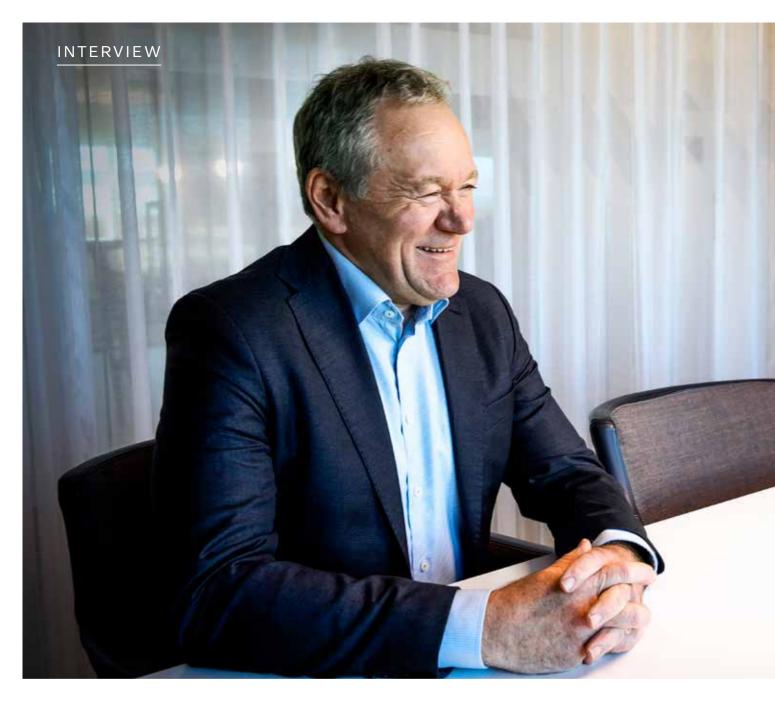
"No, quite the reverse. It was the Volvo Group's size and global reach that attracted me in the first place. What's more, the Group is currently in the midst of an exciting journey."

Could you explain what you mean?

"Operations will continue to be decentralised and decisions will be made closer to customers. This represents a change in behaviour and culture which is really important. I took part in a corresponding journey at Husqvarna and I know how much power is released by a process of this kind."

You have joined the Volvo Group at a time when it is reporting fantastic results. How does that feel?

"It goes without saying that it's great to start when things are going well. At the same time, it's also important to remember that we are all responsible for the results. I am going to contribute in the best possible way, but it is our operations that actually generate the result.



The fact that the finance department works out exactly how well the Group does is just part of the job."

What is your role as CFO?

"I have to make sure that the finance team at the Volvo Group are given the best possible conditions to do their jobs. As finance people, we have three different roles. We support operations with information and analyses, as experts, we give advice proactively, challenge operations from time to time and make sure that the frameworks are followed. What's more, we have to ensure that the work is done as efficiently as possible and that the Volvo Group puts in a top-class performance."

When will there be a downturn?

"Unfortunately, that's impossible to predict. The only thing we know is that it will happen and that we need to be prepared."

In which way?

"We need to apply the brakes at the right time with the right braking distance and make sure that there are no unpleasant surprises in store, such as bad debts or large stocks and credit. Money is in short supply in a way we are not used to. So we need to keep things in good order now, when times are good. When demand declines, we encounter new problems. I experienced this in the recession in 2008 and I saw the consequences."



How was it?

"Dreadful! Liquidity was the worst thing. Customers were unable to pay and the company where I worked didn't have enough money in the coffers. In a large organisation like the Volvo Group, one week's payments to suppliers can total many billion kronor, for example. If our customers run into problems paying us, the liquidity quickly disappears."

What advice would you give the Volvo Group's employees prior to a potential forthcoming downturn?

"Well, right now, it's a question of being careful and creating flexibility. When we see the signs of a downturn, we cannot simply sit and wait. Be

"I enjoy working in teams. No one can achieve something great on his or her own. Groups succeed in achieving the best results."

JAN YTTERBERG, CFO VOLVO GROUP

JAN **YTTERBERG**

Born: 1961 in Stockholm

Education: Master's degree in business administration and economics at Stockholm University

Career:

1987-2006: Different positions in finance and accounting at 2006-2015: **Executive Vice** President and CFO at Scania 2015-2018: CFO, Husqvarna AB

Interests:

"I like cooking good food. I enjoy good wine, something I learned from the four years I spent in Spain. I like exercising when I have time - running, cycling and golf."

prepared to make decisions, when it comes to reducing volumes and deliveries or cutting back on activities, for example. It's also important to help people understand the consequences of a downturn, even if the message is depressing. So that they understand why their particular project is unable to begin or needs to be shelved."

What kind of leader are you?

"I try to be open and transparent, with no thoughts of prestige. I think people are fun and I enjoy working in teams. No one can achieve something great on his or her own. Groups succeed in achieving the best results. I would also like to think that I am competent and experienced within finance."

What are you proud of?

"First and foremost, I'm proud of my four children and the fact that my wife and I have succeeded in creating a good life. I'm also proud that I have obtained in-depth experience and skills in my job and that I'm able to share them with other people."

What are you less proud of?

"The times I made poor decisions which have harmed other people. As a leader, it's obvious that you need to make difficult decisions without having all the cards on the table, but that doesn't mean that you lack empathy."

As a young man, you wanted to be a sports teacher. Do you regret not doing that?

"No, I'm sure working as a sports teacher would have been interesting and stimulating, but then I wouldn't have experienced all the exciting things in this job. Everything has its pros and cons. I am now really looking forward to working at the Volvo Group." ■

moments SNAPSHOTS FROM THE VOLVO GROUP





RISING STARS

With action hero Dolph Lundgren as the gruelling drill instructor, Volvo CE's excavators show that they are ready for any challenge. They now plan to conquer the world.

TEXT LINDA SWANBERG & NIC TOWNSEND
PHOTO VOLVO CE ILLUSTRATION KEN NISS



"Excavators are strategically important, but we do not have the market position that we want.

We need to make more people aware of both our existence and what we do. So we chose to reach outside the traditional core target group with a campaign that is both entertaining and spectacular," says Per Åkerlund, Project Manager at Volvo CE.

In "Pump it up", Volvo CE collaborated with the same advertising agency that produced Volvo Trucks' successful film, *Epic Split*, with Jean Claude Van Damme in 2013. A Hollywood star was once again given the leading role.

"We wanted someone who is associated with action who could both stretch and challenge





our excavators. It was also important that it was someone who would be immediately recognised by viewers. And just like Volvo CE, Dolph Lundgren has Swedish roots," says Per Åkerlund.

IN THIS 90-SECOND film, Volvo CE's excavators tackle a number of gruelling challenges requiring stamina, strength and precision. With Technotronic's hit, *Pump up the jam*, as the soundtrack, excavators both large and small perform push-ups, pull-ups and tyre flips, as well as pulling heavy blocks of concrete.

The film was recorded in a quarry outside Volvo CE's home town of Eskilstuna in July last year. Even if Dolph Lundgren plays the leading role, broad-based collaboration within Volvo CE has made everything possible. As the film was launched globally, it was important that all four sales regions were included.

"There are large differences when it comes to the way things are expressed in both communication and culture. We put a lot of



Per Åkerlund

work into establishing the campaign internally and very many people have been involved – from sales staff to engineers, operators and social media experts," explains Per Åkerlund.

Just four weeks after the launch, the film had been seen by 50 million viewers on

media platforms including Facebook, Instagram, LinkedIn and Volvo CE's webpage.

"Both engagement rate and play-to-end rate are perceived as very high and the content has been picked up by many different verticals beyond our traditional industry magazines. The campaign has definitively 'pumped up' the Volvo organisation and our dealer networks. The next step is to make sure we capitalise on the awareness that has been created and attract non-Volvo customers to buy our hero excavators," says Per Åkerlund.



KEY PLAYERS

THE PEOPLE BEHIND THE ACTION



"To begin with, I was both nervous and afraid"

Adam Lindberg

INSTRUCTOR, MARKETING & SALES SUPPORT

"Performing pull-ups with a compact excavator ten metres in the air is like nothing I do in my everyday job. To begin with, I was both nervous and afraid, but those feelings disappeared once the bucket was firmly attached to the iron girder. My assignment during the recording was to drive the machine upside down, while parrying the bucket angle. Keeping the excavator in the same position the whole time was the principal challenge.

"Pull-ups are not actually something you should do with an excavator. At the same time, this stunt demonstrates the quality and strength of our machines – the fact that a 2.5-tonne compact excavator is able to lift its own weight is really cool.

"As an instructor, I drive everything from asphalt pavers to compact excavators and, from my viewpoint, Volvo CE's machines are totally outstanding, not least when it comes to safety and driver comfort. I really hope this film will make more people aware of us and what we do."



"Awareness building is a long-term goal"

Elodie Guyot

GLOBAL PRODUCT MANAGER FOR COMPACT EXCAVATORS

"What we have tried to do with the 'Pump it up' campaign is to communicate in a completely different way, by making a strong, impactful movie. Our goal is that when someone wants to buy an excavator, they think of Volvo. Today, it is too early to see the full impact of the campaign, but it has been seen by millions of people, so that is a really big achievement! They will not all go out and buy an excavator, but awareness building is a long-term goal. Maybe it will impact a friend or relative, or someone else a few years later? If we can make more people aware that we exist, we will become even stronger on the market.

"I think it's a really effective film because there are no special effects. Everything we do with the machines reflects what they can do in reality. It's a perfect balance between being fun and credible. Dolph Lundgren is also a perfect fit for our company: Swedish, strong, intelligent and with a global impact."



"Once customers know us, they love us"

Sungmo Yang

VP EXCAVATOR PLATFORMS AND ON THE CAMPAIGN STEERING COMMITTEE

"Excavators account for more than 50 per cent of construction machinery sold globally, yet Volvo CE's market share is less than ten per cent, so we see huge opportunity for growth. What we're trying to do is to build pullpower from the market. Many of our customers do not even know that we make excavators. But in segments where awareness is high, our market share is good and our conversion rate with prospective customers is also very high.

"So, in short, once customers know our products, they love our products. That's the starting point of this market awareness campaign. Hopefully, by reaching out to so many people and generating so much publicity, the 'Pump it up' campaign will help make Volvo CE better known as a manufacturer of excavators."

PUMPING IRON

HOW DOLPH KEEPS THE MACHINES IN SHAPE



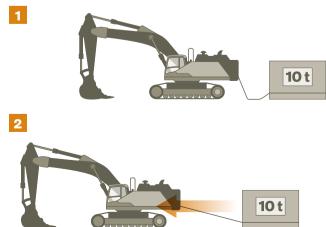
EXERCISE 1

CONCRETE HELL

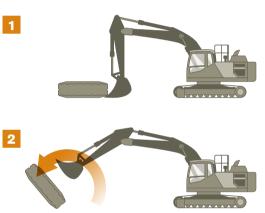
"In this scene, one of our largest excavators can be seen pulling a 10-tonne block of concrete with Dolph on top.

"Every day, Volvo CE's excavators are really put to the test on construction sites worldwide. This calls for strength, stamina and skilled drivers.

"This challenge is designed to demonstrate the enormous power our large excavators have. With a Volvo D16 engine in combination with Volvo CE's hydraulic pumps, they can handle virtually any challenge. According to the operator who drove the machine, he could hardly feel the weight of the block," says Per Åkerlund, Project Manager.







EXERCISE 2

MUD ROLLIN'

"The tyres used in this challenge weighed between two and three tonnes. Flipping them requires huge precision, as the edge of the bucket has to be directly under the tyres.

"With the hydraulic system Volvo CE uses in these machines, this was no problem. In fact, with an excavator like this, you can almost crack an egg without breaking the yolk!

"As a stunt, this was perhaps not a huge challenge, but, in combination with clay and water, it gives you a great feeling after a challenging day at work," says Per Åkerlund.

EXERCISE 3

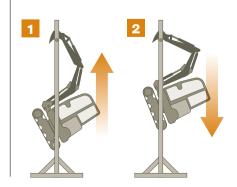
PULL-UPS

"This is the most spectacular stunt in the film. Our skilled instructors had to adapt the machine to some extent. Among other things, they replaced a combustion engine with an electric motor and the arm cylinders were replaced by a boom cylinder.

"To enable the machine to grip the girder, they also cut a circle out of the bucket. For safety reasons, the machine was fixed with chains to a crane. It was not used to lift the excavator, but, if something happened, the crane would catch it.

"The machine hanging from the girder weighs 2.5 tonnes and is one of our smallest compact excavators. It's also one of the smoothest excavators, but perhaps it isn't as impressive as

the large machines. This challenge demonstrates how much strength this small machine has. The bucket, boom and arm is supporting the entire weight of the excavator," says Per Åkerlund.





looking back STORIES FROM THE ARCHIVE





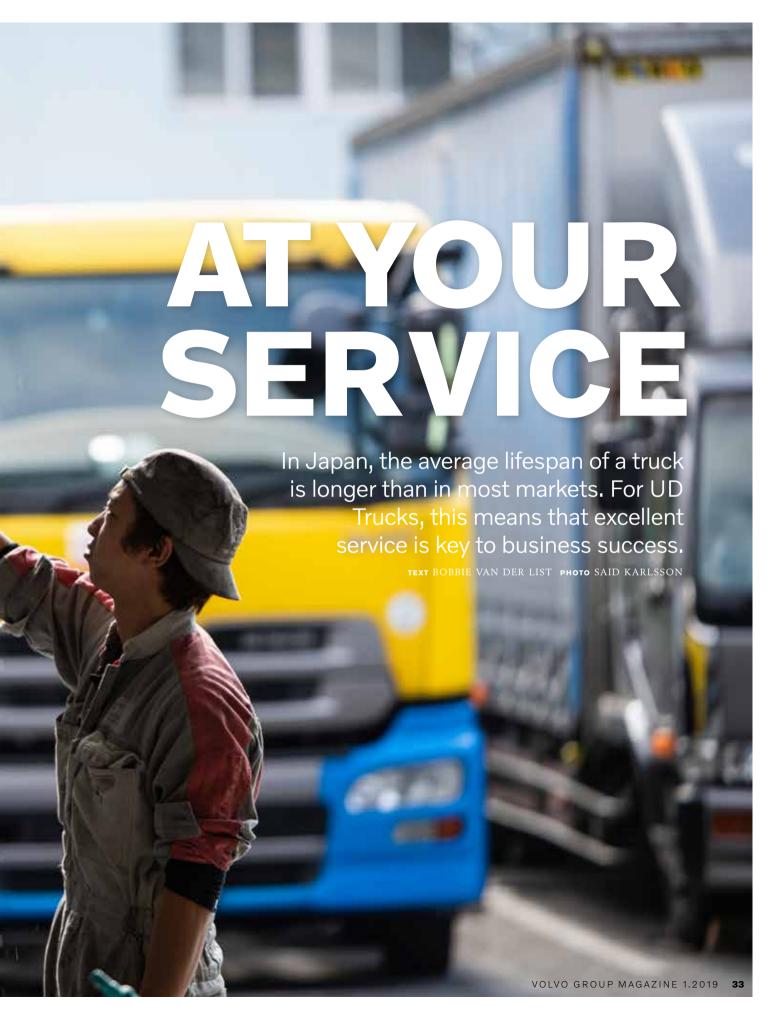












t is early in the morning when around 40 workers line up in front of UD Trucks' Atsugi Customer Centre. It is time for their morning gymnastics. Service technicians in overalls and office workers in formal attire start stretching their arms. Among them is Nobuyuki Otsubo, manager of the Atsugi workshop.

"I'm a big supporter of our morning ritual. It prevents workers from getting seriously injured during the physical work," he says.

The Atsugi Customer Centre is located in Kanagawa Prefecture, one hour south of Japan's capital, Tokyo. It is one of UD Trucks' 133 fullyowned workshops, specialising in the service market. When it comes to the Japanese truck market, there is one thing that really stands out.

"In Japan, the average lifespan of a truck is fourteen years," says Nobuyuki Otsubo.

That is a lot longer compared with many other regions in the world. Why is that? Well, Japanese roads are well-kept, trucks are inspected annually,

"In Japan, the average lifespan of a truck is fourteen years."

NOBUYUKI OTSUBO, MANAGER, ATSUGI CUSTOMER CENTRE

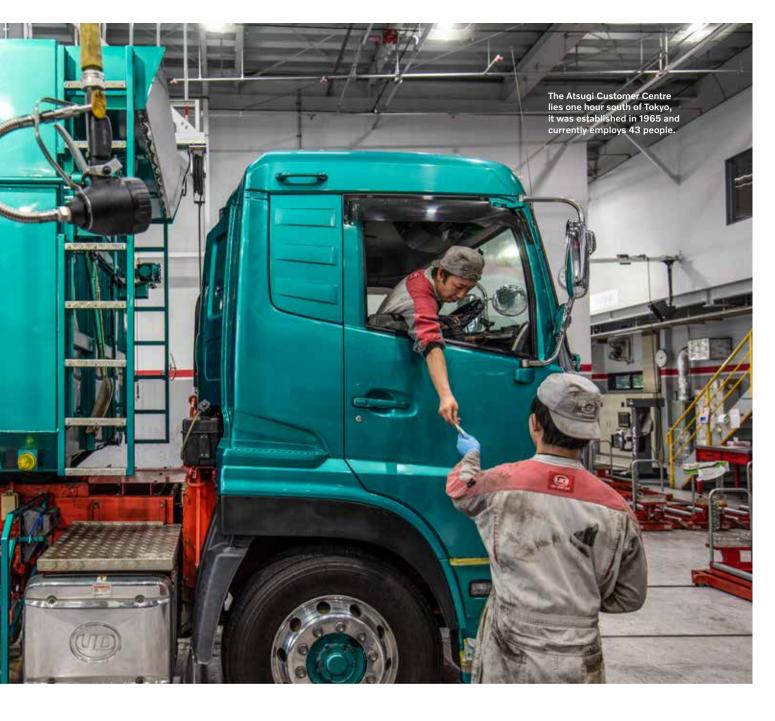


Morning gymnastics is an everyday routine for the service technicians and office workers at the Atsugi Customer Centre.





In 2017, the Atsugi Customer Centre underwent a renovation, to better cater to its customers' changing needs.



the highways are urbanised and assignments typically cover shorter distances with lighter loads. Then there is the fact that a European medium-duty truck is the equivalent of a Japanese heavy-duty truck.

WHEN OWNERS KEEP their trucks longer, the importance of the service offer increases. Another factor that affects the demand for service is legislation. Japanese law requires that every truck – regardless of brand, age or model – has to undergo a yearly routine inspection called "Shaken". Combined with the fact that UD Trucks owns 80 per cent of its service network, this means that the service market plays a large role in the financial results of the company.

UD TRUCKS

Established in 1935. 6,210 employees. Development, manufacture and sales of commercial vehicles, manufacturing and sales of vehicle components, maintenance of trucks and buses, and related parts sales.



Noboyuki Otsubo

78 per cent of the Atsugi workshop's customers are regular clients from the local area, so building relationships is a part of the job.

"In 2010, the market for trucks changed. At the time, there was a shift from medium-duty vehicles to heavy-duty trucks. As a

member of the Volvo Group, UD Trucks decided to focus on larger trucks, mainly in the cargo industry. To be up to date with the regulations for heavy-duty trucks, we decided to renovate our facilities in 2017," says Nobuyuki Otsubo.

When talking to the people working at the

"A visit to UD Trucks got me interested in commercial vehicles."

ISAMU OTSUKA, SERVICE TECHNICIAN

Atsugi Customer Centre, one sentence keeps emerging: sales sell the first truck, but service ensure the second sale. It makes sense in a market where truck owners hold on to their trucks for longer. The first owner is very often the sole owner. Having a skilled team of service technicians is vital.

ONE OF THE younger service technicians, Isamu Otsuka, stresses the importance of good relationships with customers. However, the work is challenging.

"Clients who work in cargo are not always patient. We need to help them quickly, as they are under huge pressure to get back on the road. So communication is very important," says Isamu Otsuka.

Finishing school four years ago, Isamu Otsuka

received many job offers. In the end, he chose the Atsugi Customer Centre.

"Originally, I was interested in passenger cars, but a visit to UD Trucks got me interested in commercial vehicles," says Isamu Otsuka. "I like the combination of old-school repairing and working with state-of-the-art computers and software to find defects."

The shortage of service technicians is one of the greatest challenges facing the Japanese truck market. Fortunately, UD Trucks has several initiatives to address the matter, ranging

The Star Program

To improve service UD Trucks deploys the "Star Program". It essentially means that customer centres can be awarded with up to three stars, based on the quality of their operations, customer satisfaction and level of execution.



from certification programmes to international internships.

"We have three foreign technical interns and their work ethic is superb," says Nobuyuki Otsubo.

To attract new employees and improve labour conditions at the Atsugi facility, working hours have been changed and employees have more days off.

"Work-life balance is becoming more and more important. Thanks to the changes, the motivation has improved, which is reflected in our productivity and sales," he says.

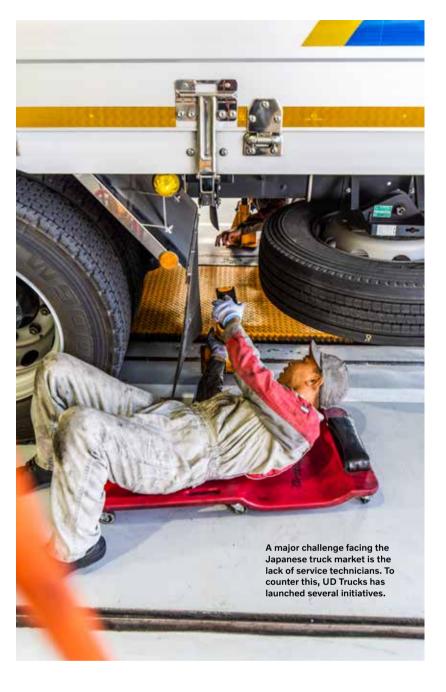
One of the Atsugi Customer Centre's main clients is Akatsuki Transportation, a transporter of carton boxes. With a sum total of 100 trucks, service and uptime are key to their operations.

WITH CHANGING TECHNOLOGY and growing potential to fix defects using state-of-the-art computers and technology, it is becoming more and more difficult for drivers to understand what is wrong with their trucks.

"When it comes to our relationship with UD Trucks, the quality of service is crucial," says Mari Wada, President of Akatsuki Transportation.

Just as UD Trucks is facing a shortage of service technicians, Akatsuki Transportation is facing a lack of drivers. This is a matter that affects both ends: the companies that run the trucks, and the ones that maintain them.

"Finding enough capable drivers to man the 100 units we have for transporting the carton boxes is very difficult. We are all responsible for promoting the great profession of truck drivers. We need to work together to accomplish this."





UD Trucks employs over 1,700 service technicians. The plan is to hire even more in the near future.



Mari Wada, president of Akatsuki Transportation, represents one of the Atsugi Customer Centre's main clients.

Turning service into sales

In a truck market where service is imperative, attracting the best service technicians is a long-term investment.

TEXT JIMMY HÅKANSSON

"JAPAN IS VERY relationship driven. If you can't deliver a good service experience and keep the quality of your truck, you will lose your customers, which is true in all markets but even more so in Japan," says Martin Jerresand, Vice President Uptime and Retail UD Trucks.

When comparing the Japanese market with other markets, Martin Jerresand identifies two main differences. The first one is the legislation.

"Every truck on the streets needs to undergo a yearly inspection that takes 16 hours to perform."

The other difference is the customer demand for quality service. This entails longer-lasting trucks, which impacts



Martin Jerresand

new sales.
"Since the

customers have this high-quality focus and require certification every year, trucks keep being maintained and can run for longer without

breaking down. More than half the trucks coming to our customer centres, are over 11 years old. In Europe, you do not typically see a truck after it reaches 11 years."

THERE IS NO shortage in the demand for service in Japan. There is, however, a shortage of service technicians.



"More than half the trucks coming to our customer centres, are over 11 years old," says Martin Jerresand, Vice President Uptime and Retail UD Trucks.



Annerie Van Wyk

Today, UD Trucks employs more than 1,700 service technicians, but that is nowhere near enough to meet demand. Martin Jerresand estimates that only 40 per cent

of the UD Trucks currently in use come to them for service. As he puts it, the maths is simple: "If we have the service technicians, our business will grow".

ANNERIE VAN WYK, Director Retail Development at UD Trucks, is working whole-heartedly to find and further develop the right people for the job.

"Firstly, we have strong relationships with several vocational schools in Japan and work closely with them to identify and recruit new graduates every year. Secondly, we promote UD Trucks as a employer of choice through various external channels, attracting what are referred to as midcareer service technicians. Thirdly, we have embarked on a very ambitious technical internship programme for foreign service technicians, which is proving to be very successful," she says.

The initiatives appear to be working. The number of service technicians employed by the company is rising, and by 2020 they aim to have more than 2,300. For Martin Jerresand, there is no question that they are on the right track.

"The service market always needs to happen. Customers can decide not to buy trucks during a downturn, but they cannot decide not to maintain them. As long as they need to use trucks, we will be needed," he says.

Using the power of big data, artificial intelligence and algorithms, a small team at Volvo CE has developed a system that delivers market forecasts with a high level of accuracy, while consuming less time and fewer resources.

TEXT NIC TOWNSEND PHOTO SANDER DE WILDE & VOLVO CE





HE ABILITY TO foresee and anticipate market changes is fundamental to any business.

Quite simply, the better one can predict what will happen, the better one can prepare. However, for a global entity like Volvo CE, with multiple product lines, this can be a complex and time-consuming process.

"Traditionally, we have a bottom-up approach, where we question dealerships on their expectations and then systematically aggregate these responses so that we have estimates for regional and global levels," explains Marie-Helene Dumail, Director, Market Intelligence, Volvo CE. "For production and volume planning, we need to look up to 18 months ahead, but for many dealerships, their focus needs to be more short term and this affects the credibility of our forecasts."

Furthermore, the monthly process takes time from a dealership's core business – namely serving customers.

Nearly three years ago, a small team at Volvo CE was set up to see how big data, AI and algorithms could be used to develop a



"From day one, the accuracy from the statistical model has built credibility and challenged the commercial channels."

MARIE-HELENE DUMAIL. DIRECTOR, MARKET INTELLIGENCE, VOLVO CE

GLOSSARY

- big Data is the term used to describe exceedingly vast volumes of data that are too large to be processed by traditional methods. However, if analysed computationally, these data sets can reveal important patterns, trends, behaviours and insights.
- ► AI (Artificial intelligence) is when a computer or machine is able to replicate the natural intelligence found in humans and animals and has the ability to perform cognitive functions such as thinking, learning and problem-solving.
- Machine learning is a form of AI, where a computer system has the ability to learn autonomously and self-improve over time, without being explicitly programmed.
- Algorithms are processes and step-by-step instructions for systematically solving problems. They are a key component in any computer programme.

simpler, easier and more accurate process. They subsequently developed the TMSF (Total Market Statistical Forecast) model, which combines data from Volvo CE's own market statistics, with data from Oxford Economics on macro-economic trends and data from IHS Markit on construction spending.

THE MODEL THEN uses AI and defined algorithms to analyse the data and calculate forecasts for total market sales. Based on Volvo CE's market share, it then calculates the likely deliveries in each market for each product line.

In the first six months after its launch, the new statistical model has regularly proven to be more accurate than the current bottom-up TMF (Total Market Forecast).

At a global level, the accuracy is around 90 per cent each month, as opposed to just under 85 per cent using the traditional model. When excluding China (a particularly volatile market), accuracy is around 95 per cent – close to the world-class standard and within Volvo CE's objective of 95-105 per cent accuracy.

"IF WE CAN be more accurate with our forecasts, then this will help us better plan our supply chain, sales organisation, sales volumes, inventories and capacity planning, and reduce working capital," says Albert Thome, Director Global S&OP Development, Volvo CE. "Even just a few percentage points in improved accuracy can make a big difference to our profitability and, even more importantly, it helps us better serve our customers."

The TMSF model will continue to be monitored and compared with the TMF standard over the coming months, which will provide further insight into its accuracy, particularly for long-term predictions. However, another key benefit of the statistical model is its ability to use machine learning to fine-tune and improve its accuracy further. "Through self-learning techniques, forecasting algorithms are being refined month by month. Along with the implemented continuous improvement approach supported by business analysts, this should guarantee the best forecasting model possible," explains Albert Thome.

"It is fascinating to see the potential for this disruptive technology within Volvo CE. The Statistical Forecast is our small contribution to building the world we want to live in," conclude Marie-Helene Dumail and Albert Thome.

Mining for gold in big data

Big data is exactly what it sounds like: enormous volumes of information. However, the information in itself is no more valuable than a gold mine without a pickaxe. So Volvo Group IT is working to develop tools to help users find the nuggets of gold in the flow of information.

TEXT JIMMY HÅKANSSON

WITHOUT A CONCRETE analysis tool, big data is just data. It is instead the method that is used to analyse and identify patterns in these data that creates business value. The Volvo Group has been working on big data since 2015, by gathering large volumes of information from vehicles, together with statistics from dealers and service workshops, for example. With this as the basis, the Volvo Group is able to draw important conclusions.

To understand the term "big data", the experts often talk about the "3Vs". The first V stands for **Volume**, the amount of data. The second is **Velocity**, the speed at which the data are created. The third is Variety: data can arrive in different formats.

... and another 2Vs

In recent years, another 2Vs have been added. V for Veracity: not all data are reliable. Plus V for Value: the actual value of the data.



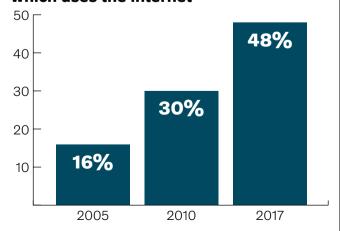
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The number of bytes of data that are created every day throughout the world (at the moment)

Percentage of Volvo Group's trucks that are equipped with data-collecting sensors.

The number of terabytes that reach Volvo Group IT's big data bank every month

The percentage of the global population which uses the internet



The year the Oxford **English Dictionary** added the term "big data". It had, however, already been used in an essay by Michael Cox and David Ellsworth back in 1997.

Sources: Forbes, Wikipedia

Big data in day-to-day use



Data-smart TV series

When Netflix decided to produce the TV series *House* of *Cards*, their customer data told them that the same viewers who liked the actor Kevin Spacey also liked the director David Fincher and political thrillers. So they worked out that *House* of *Cards*, which combined all these elements, would be a hit.

Personal advertising

Facebook's advertising system analyses your data, the sites you visit and the products you have searched for. Using this as the basis, it is able to present targeted advertisements in your flow, displaying the products in which you have shown an interest.



Shorter attraction queues

At Disney World, visitors can be given digital armbands that collect data on where they have been and the rides they have taken and then make suggestions for similar attractions with shorter queues. This system gives customers tips, while facilitating the amusement park's logistics.



... **Jina Wollinger**, Delivery Manager, Volvo Group IT

How is Volvo Group IT working on big data?

"We are developing capabilities that support 'advanced analytics' projects for the entire Volvo Group. Advanced analytics means creating business insight by studying patterns that are hidden in gigantic data volumes. Using these patterns, it's possible to develop 'predictive analysis' – in other words, predict the future. In this way, Volvo Group IT is contributing to more efficient business and new opportunities."

How can you see patterns in all the data?

"Patterns are usually hidden in different data formats. Managing large data volumes and different formats is complex and requires new technologies. LEAD2020, one of the Volvo Group's six strategic IT priorities, includes the Lake Superior project, which is aiming to create a technical platform that will enable work on big data and advanced analytics."

Why is this important?

"In today's digital reality, we have to compete in completely different ways. By collecting the right information about vehicles, components, customer behaviour and so on, we can adapt more easily to the new requirements that are imposed on us and our products. Advanced analytics makes it easier to streamline our operations, find new business opportunities and obtain basic documentation for improved products and services. If we are not at the cutting edge, someone else will be."

Predicting the future

What will shape the jobs we do, the industry we are part of and, ultimately, the world we live in? Nobody can know for sure, but it is part of Anders Petersson's job to take a shot at it.

TEXT TOBIAS WILHELM PHOTO SANNA TEDEBORG

NTHE VOLVO Group, megatrends and movements are continuously monitored in many areas and across business entities. One example is the PESTEL report*, which is compiled by a cross-functional team on a regular basis. The PESTEL report is a business-neutral, high-level trend and driver report that is applicable at all units in the Volvo Group. The purpose of the report is to create awareness and dialogue, as well as inspiring strategic planning. The current version includes both current trends and factors that will change until the year 2040.

Anders Petersson, Director Transport Industry at the Volvo Group, is part of the team that creates the report and specialises in political and economic development:

"Sometimes, I feel like my job is to go around and deliver 'doom and gloom' messages. But a fundamental insight is that the world has really become a lot better place in the last couple of decades. These are facts that you can't get around," says Anders Petersson.

Anders Petersson knows that predicting the future is a bold task: in 1968, some of the world's leading futurists, including several Nobel Prize laureates, created a report called "Towards 2018". Among other things, they predicted man-controlled tornadoes and aircraft that could fly at Mach 25. All in all, technological advances were exaggerated and social development was downplayed in the scientists' predictions, as nothing was said about the fall of the USSR and very little on the development of liberalism and equality.

"It is hard to talk about the future and be dead certain. The more I do this, the more humble I become," says Anders Petersson. ■

★PESTEL is an acronym for Political, Economic, Social, Technology, Environmental and Legal drivers.



POLITICAL

Main movements include a return to geo politics and climate-driven politics. Recently, there has been a shift in the political tone from diplomacy to arms race.

ECONOMIC

Good global growth but signs of a slowdon around the corner. A driver that is very much connected to the development of the other themes.

SOCIAL

Major drivers are the growing global population, an increasing middle class and the sharing economy. Important recent movements include the transition from social media "hype" to a realisation of the potential drawbacks of social media. Also, new concepts like "fake news" and "on-demand knowledge" have emerged.

TECHNOLOGY

The main drivers are electrification and electromobility, as well as digitalisation and automation. Recent developments include electromobility not emerging any more, but already taking place. Concepts like "systems of systems" and "quantum computers" have emerged and need to be reckoned with.

ENVIRONMENT

Climate-driven politics is a major driver, as well as decarbonisation and problems with air quality. Recently, attention on emissions is increasing and China is expected to take the lead in emission reductions.

LEGAL

Major drivers of development include compliance and trade, as well as data protection and liability. Recently, increased tensions can be seen in trade and China is striving to take a leading global role.





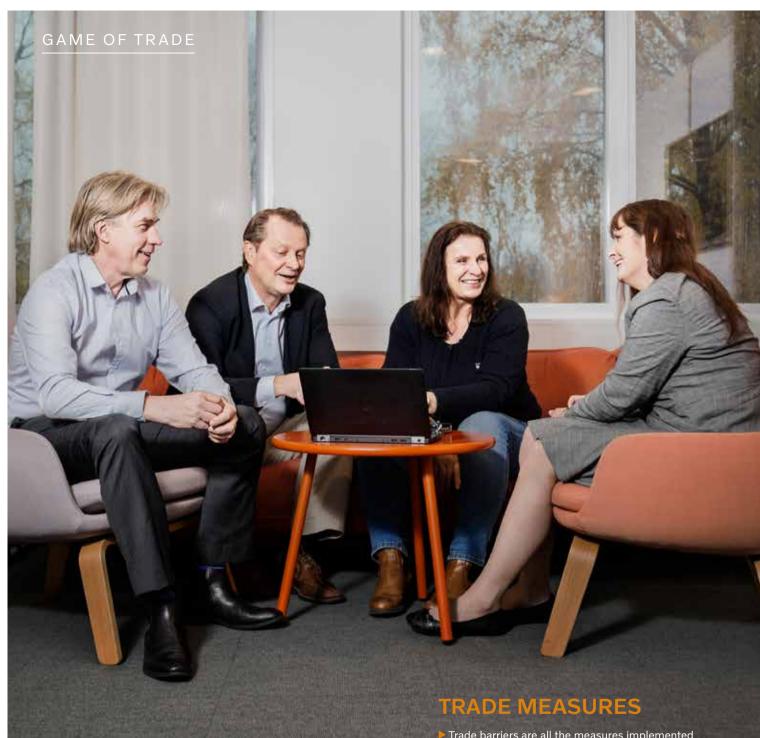
Stay updated!

Listen to the GTT Business Intelligence Pod with Anders Petersson via the Volvo Group AR Stories app (English only). You can also find it on the intranet.





Read more on how the Volvo Group navigates change in trade on the following page.



- ➤ Trade barriers are all the measures implemented by different authorities that facilitate or obstruct trade in different goods and services.
- ► There are two different types of trade barrier: tariff barriers and non-tariff barriers.
- ► Tariff barriers relate to customs duties and other charges. They are transparent and are regulated by the World Trade Organisation (WTO).
- ➤ Non-tariff barriers can range from subsidies and campaigns encouraging citizens to purchase domestic products to different certifications and complicated bureaucracies.
- Free-trade agreements facilitate trade between all parties involved.

The Trade Navigation Team, with Stefan Karlsson, Anders Ekblad, Katarina Colliander and Jennifer Varney, making a quick check prior to a presentation. The team is part of GTO, but it works for the whole Volvo Group.

Safe navigation in stormy conditions

Brexit, the USA's steel tariffs and the trade war with China. These are just some of the many trade barriers that are impacting global companies. The Trade Navigation Team has been tasked with ensuring that the Volvo Group stays one step ahead.

TEXT LINDA SWANBERG PHOTO SANNA TEDEBORG

"WE ARE LIVING in an increasingly complex world. If we are to be competitive, we cannot simply follow developments, we have to work proactively and be flexible," says Katarina Colliander, Senior Business & Trade Navigator, Trade Navigation Team.

One of the team's tasks is to collate the Volvo Group's work on trade barriers. Every month, the Trade Navigation Team holds a global meeting for its network, where participants describe what is happening and how it could impact the Volvo Group's operations. This information is then passed on to various management teams and other stakeholders.

Together with their colleagues in different parts of the world, the Trade Navigation Team also conducts studies and analyses the opportunities and risks various trade barriers can create.

"We draw up recommendations for various scenarios, which then form the basis of decisions on everything from investments in new projects and products to the choice of production countries and suppliers," explains Katarina Colliander.

THIS INFORMATION IS also decisive when it comes to discussions with authorities. For example, the Volvo Group's North America Trade Barrier Governance Team played an important role in negotiating the USMCA, the new free-trade agreement between Mexico, the USA and Canada.

"They did a great job! By collaborating on many different levels, they succeeded in influencing the content of the agreement in a way that was good for the Volvo Group," says Jennifer Varney, Senior Business & Trade Navigator, Trade Navigation Team.

Over the past year, interest has also focused increasingly on the UK's exit from the EU and the way a hard or a soft Brexit is going to impact the Volvo Group.

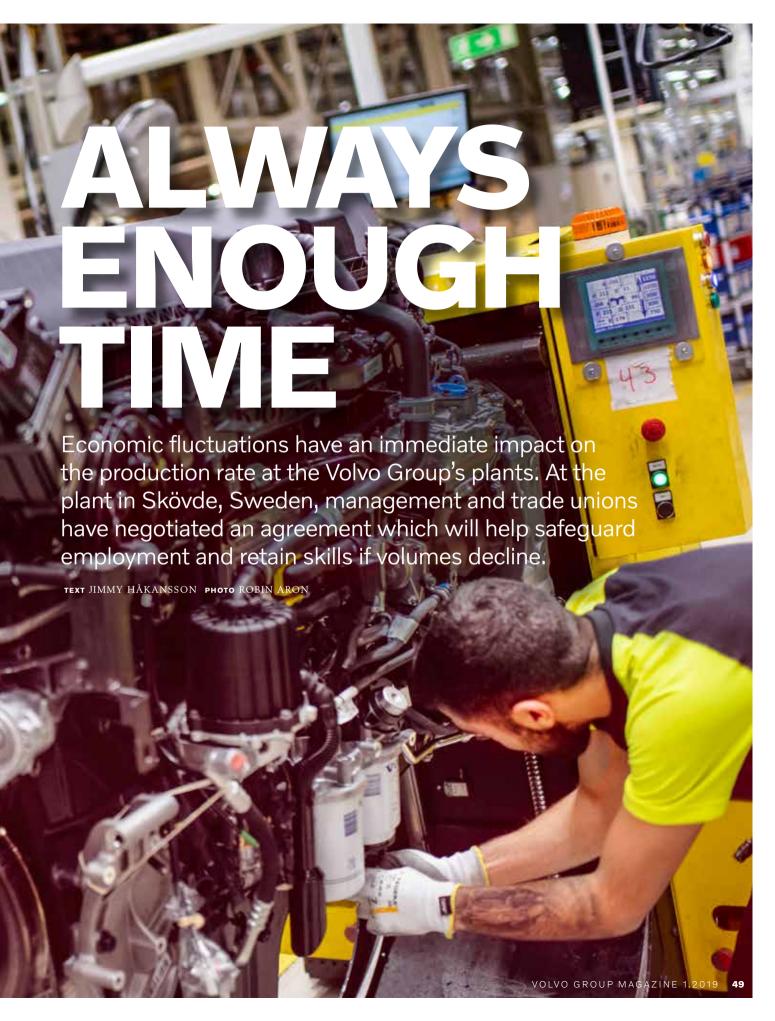
"There are an incredible number of questions, relating to the technical aspects of trade, the economy and legislation, and we need to keep an eve on them. Our main task has been to collect all the relevant information for analysis so that we can prepare effectively," says Katarina Colliander.

INTEREST IN TRADE barriers and similar issues has increased within the Volvo Group over the past few years.

"After all, trade barriers are closely linked to global politics and this is covered every day in the news. It is something we all need to take an interest in," says Katarina Colliander.

Would you like to learn more about trade barriers? On Violin, you can find links and information about different countries.







HE TOOL WHIRRS in Marie-Louise Adolfsson's hand as she fits the valve rocker arm shaft on a 13-litre engine. Compared with the complete engines a couple of hundred metres away, this one looks bare. Like a skeleton. This is because Marie-Louise is working at the basic assembly at the GTO's Skövde Plant, where engine blocks arrive from the foundry to receive their interior fittings.

Marie-Louise Adolfsson has been working here since 2004, but, when the recession hit in 2008, she was one of the people who were affected.

"The recession really punished assembly. Everything declined and continued to decline. We had no idea how many people would have to leave. I was laid off and I was away for a year," she says.

At the final assembly, Mathias Löfgren is fitting

a turbocharger and exhaust manifold on another 13-litre engine. He also recalls the recession.

"Things moved so quickly. One week, we worked overtime and the next, we had nothing to do. Entire departments simply came to a standstill," he says.

In 2013, to prevent anything like this happening again, the management began outlining a solution, together with the IF Metall trade union.

"We wanted to reduce the number of redundancies, improve job security and safeguard the income of our co-workers," explains Lars Ask, chairman of IF Metall.

AFTER TWO YEARS of discussions and negotiations, they reached the flexibility agreement that came into force in 2015. According to the agreement, every year, everyone who works in IF Metall's area of responsibility is



WHAT IS THE BEST THING ABOUT THE FLEXIBILITY AGREEMENT?

Lennart Richardsson, PLANT MANAGER



"That we try to secure our employees' future. This then impacts the plant's performance when it comes to quality and safety. We are talking about highly qualified work. It requires training. Some of the tasks take as much as six months to learn. If we invest everything in

that individual and he or she then leaves, we have to start again from scratch. However, if we can retain our co-workers and their skills, everyone benefits."

allocated a certain number of hours linked to two different time banks: the short-term bank and the business cycle volume bank

There are 110 hours in the short-term bank and they can be taken out in conjunction with production disruptions. If a critical component fails to arrive in time or a machine breaks down, the employer can send home the employees who are affected. As these hours are deducted from the short-term bank, the employees' salaries are not affected. At the end of the year, the number of hours in the bank returns to the original total.

"We have to understand that we are living in a world where demand fluctuates. If we do this, it's easier for us to handle change," says plant manager Lennart Richardsson.

Finding a method that secures jobs, even when the economy declines and volumes fall, was equally important for the company and coworkers alike.

GTO POWERTRAIN

Production in Skövde Location: Skövde, Sweden Founded in: 1868 **Number of**

employees: around 3,300

Production: engines and components

How the flexibility agreement works

All the production staff who work according to IF Metall's collective agreement are covered by the flexibility agreement. According to the agreement, co-workers have two time banks and, when necessary, they can be sent home with a full salary. The system is partly financed by an old bonus system, while the rest is covered by the company.

SHORT-TERM BANK

Every year, 110 hours can be utilised in connection with production disruptions. The hours in the short-term bank are returned to their original level at the end of the year and the employer decides when and how the hours are used.

BUSINESS CYCLE VOLUME BANK

Every year, 42 hours are added and they can be used if there is a recession. Unlike the short-term bank, the number of hours in the business cycle volume bank are not returned to zero, but the bank can contain a maximum of 330 hours.



"It's a question of survival for us. The products we are currently producing will not be the same as the ones we produce in the future. So we need to increase our employability to match future shifts in technology. By managing upturns and downturns in a humane way, we can increase engagement among our co-workers and retain their skills," explains Lennart Richardsson.

IF THE SHORT-TERM bank is used in connection with disruptions, the business cycle volume bank will take the strain during the next downturn. It ensures that co-workers like Marie-Louise Adolfsson and Mathias Löfgren can feel secure the next time the economic winds change direction.

"The most important thing for us is that the employees have accepted the agreement. When we held a vote, 85 per cent voted in favour of the flexibility agreement, even if it meant that the



"The most important thing for us is that the agreement has been accepted by the employees," says Lars Ask, the IF Metall chairman, speaking about the flexibility agreement.





"We have to understand that we are living in a world where demand fluctuates. If we do this, it's easier for us to handle change," says plant manager Lennart Richardsson. For the plant in Skövde, the flexibility agreement has meant that it can retain its co-workers and their skills.

old bonus system partly paid for the time banks," says Lars Ask.

As the flexibility agreement has been in force since 2015, there has been time to put the theories into practice. Team leader Mathias Löfgren remembers being sent home the week after the summer holiday period due to production disruptions.

"We couldn't get the material in or out, so we had to go home – with full salaries," he says.

As far as the plant in Skövde is concerned, the flexibility agreement has had a number of positive effects. The plant has, for example, reduced the number of personnel from staffing agencies. Instead, several hundred new co-workers have been taken on as permanent employees, some from staffing agencies.

AT THE BASIC assembly, Marie-Louise Adolfsson has completed her part of the assembly process and attaches an adapter plate to the engine, showing that the basic engine is ready for final assembly.

A great deal has happened since the recession hit 10 years ago – for both the company and the people who work there.

"It's nice to know that these hours are available if something happens. I now have a family and children and so it's even more important for me to have a secure job with a guaranteed salary," she says, as an automated load carrier lifts the engine and leaves the basic assembly.

"We wanted to reduce the number of redundancies, improve job security and safeguard the income of our co-workers."

LARS ASK, IF METALLS KLUBBORDFÖRANDE

WHAT IS THE GLOBAL PERSPECTIVE?

Maria Rosenkrantz Sundemo, svp hr. gto



"Nowadays, we are all affected by events all over the world, both political and financial. So, as a company, in collaboration with our trade-union

colleagues, we need to find new working methods to make us less vulnerable when managing both upturns and downturns." NEW BUSINESS MODELS

Automation out to work

Later this year, autonomous Volvo FH trucks will transport limestone on a five-kilometre stretch at the Brønnøy Kalk AS mine in Norway. The partnership represents Volvo Trucks' very first commercial autonomous solution and will revolutionise productivity and safety at the mine.

TEXT ALASTAIR MACDUFF PHOTO ROBIN ARON

An autonomous Volvo FH truck being road-tested at the Brønnøy mine.



ASKO CUKLEV, DIRECTOR
Autonomous Solutions at Volvo
Trucks, is excited. "This is a major
milestone for us."

Initiated in 2016, the Brønnøy
project is at a pivotal stage, with
the four-year contract signed and
the trucks ready to create their own history in
mining operations.

The agreement follows recent successful Volvo Trucks automation projects involving mining, sugar cane harvesting and refuse collection. Yet this autonomous solution is different. As well as being the first commercial autonomous solution that the company has provided, it heralds a potentially crucial change in business model. Rather than purchasing an autonomous truck, Brønnøy are investing in a service – specifically the transport of the limestone between two hubs.

"Undertaking this project was a strategic choice. We're making a deal," says Sasko Cuklev. "We have been successful with research and technology but not yet with the commercial implementation of selling these kinds of services. There are still many unanswered questions and that's what inspires us to move forward."

When autonomous operations are fully under way at the Brønnøy mine, the limestone will be transported by six or seven Volvo FH trucks on the five kilometer stretch through two tunnels, between the mine itself and the jaw crushers. The autonomous trucks are controlled by the operator of the wheel loader using a site management system.

Tests have been carried out successfully and the solution will become fully operational by end of 2019.

THE MAJOR CHALLENGES involved in selling this kind of 'untried' solution are readily acknowledged by Sasko Cuklev. "Of course there's pressure to deliver what we have promised – a robust, safer, reliable solution that meets ambitious productivity targets. The commercial aspect is also challenging. In many ways, we are entering unchartered territory in setting up this kind of contract and business model. It requires a lot of trust from the customer."

The relationship between Volvo Trucks and Brønnøy Kalk AS has involved much open and positive dialogue to get to this stage. Originally a Volvo CE customer, Volvo CE turned to Volvo



Between mine and jaw crusher: autonomous trucks can drive continuously, revolutionising productivity in the process

"In many ways, we are entering unchartered territory in setting up this kind of contract and business model."

SASKO CUKLEV, DIRECTOR AUTONOMOUS SOLUTIONS AT VOLVO TRUCKS

Trucks to find a solution to streamline operations. As well as enabling the actual commercial transport solution, Volvo Trucks has also helped Brønnøy to assess its own future potential. "Of course we can measure costs such as autonomous hardware," says Sasko Cuklev. "Yet you cannot put a value on the increase in optimised flow, better



tests at the mine in Norway.

New technology and digital solutions are vital in an industry where competition is tough.

flexibility or improved precision. These benefits will only become quantifiable in the future."

As well as highlighting the positive partnership with the customer, the project has also demonstrated the importance of good crossfunctional communication within the Volvo Group. Driven upfront by the automation team

at Volvo Trucks, the work has also involved GTT, CPAC, Legal, Communications, et cetera, at various stages.

with the aim to sell a transport service", says Sasko Cuklev, Director Autonomous Solutions at Volvo Trucks. Here with Martin Ryd, CPM, Raymond Langfjord, Managing Director Brønnøy Kalk AS and Roberson Assis de Oliveira, Technical PM, at one of the

"The strengths of these different elements of the organisation have pulled together to deliver a transport solution that is set to revolutionise productivity in an industry where competition is tough," says Martin Ryd, Chief Project Manager.

LOOKING FORWARD, SASKO Cuklev believes that the kind of hub-to-hub service at Brønnøy can play a major part in Volvo Trucks' continued commercial success. "In the future, I believe that we will tailor each solution for each individual customer according to what they need. We must be better at selling solutions and, by driving commercial pilots, we are learning by doing, getting insights and then moving forward. It is a very exciting process."

Pointing in the right direction

Used trucks are an important part of Volvo Trucks' business model. Arrow Truck Sales Europe is testing new ways of capturing a larger share of the market.

TEXT LINDA SWANBERG PHOTO MARIUS BAUER

N A RECENTLY paved yard in Ludwigsfelde, just south of Berlin, trucks from Volvo, Renault and Scania are neatly lined up, waiting for new owners. In a grey two-storey building close by, the ten people who make up Arrow Truck Sales Europe have been working since September.

This new venture is based on a detailed analysis of the used truck market and the role it plays for Volvo Trucks in Europe.

"If we are to sell new trucks at a high price, used trucks also need to have high value. As customers are demanding increasingly flexible forms of ownership, this will probably be even more important for us in the future. For Volvo

ARROW TRUCK SALES

Arrow Truck Sales GmbH in Germany, was established in 2018. The company shares the brand with Arrow Truck Sales, Inc, a leader in trading used trucks in the USA and owned by Volvo Group Holding North America. Trucks to capture market share from other brands, we have to trade-in and sell their used vehicles too," explains Andreas Gustafsson, Managing Director of Arrow Truck Sales Europe and the person who conducted the analysis for Volvo Trucks.

OF THE 12,000 used trucks Volvo Trucks buys and sells in Europe every year, about half are sold directly to end users by local dealers and market companies. The rest are sold to independent dealers who then sell them to others.

"This often means that we give away our margins, customer relationships and the potential to sell financing. Arrow Truck Sales is one way of recapturing parts of the business," says Andreas Gustafsson.

Arrow Truck Sales is owned by the Volvo Group, but it is run like an independent truck dealership. Andreas Gustafsson and his team choose the trucks they want to purchase and the vendors.





Andreas Gustafsson is the Managing Director of Arrow Truck Sales Europe. Daniela Panneck works for VFS, Volvo Financial Services. She has a full-time job running and developing the customer financing offer Arrow Truck Sales Europe has via the local VFS companies on customers' domestic markets.



"The lead time for purchasing a new truck can sometimes be many months. From us, you can source a truck on the same day."

ANDREAS GUSTAFSSON, MANAGING DIRECTOR, ARROW TRUCK SALES EUROPE

"We are completely free to buy any truck we like if we believe it will make us money. Volvo Trucks' dealers are naturally an important source, but, over time, I think we will buy about half our trucks on the open market," he says.

ARROW TRUCK SALES sold its first truck, with financing from VFS, at the beginning of October last year – to a Finnish haulage company.

"Our typical customers are small haulage companies in Eastern Europe. For them, each truck is a large investment and they try to find the lowest possible price. However, another customer could be a medium-sized company that needs a truck quickly. The lead time for purchasing a new truck can sometimes be many months. From us, you can source a truck on the same day. By collaborating with VFS, we are also able to offer pan-European customer financing and this gives us a competitive advantage about which we are extremely optimistic."

A digital presence is another factor that distinguishes selling used trucks from new. Just like its competitors, Arrow Truck Sales is investing heavily in developing and using digital platforms. Even if it is still not possible



As digital marketing manager, Gisela Des plays a key role. Among other things, she is responsible for developing the company's digital platform and social channels.



Arrow Truck Sales Europe is operating in a knowledge-intensive industry. Carlos de la Cruz is a purchaser and he has many years' experience of trading in used trucks.

to purchase a truck directly on the web, this is where the vast majority of deals begin.

"We are focusing a great deal of attention on newsletters and sending offers directly to customers. We have actually sold some trucks before they even arrive in the yard," says Andreas Gustafsson.

BY THE END of 2018, Arrow Truck Sales Europe had sold some 30 trucks. In the long term plan this would have been a not too unusual weekly volume.

"Buying and selling a truck isn't difficult, nor is selling 20 a week from time to time. But making this a permanent feature, while creating processes and developing business isn't that easy. As we started from scratch, this is a huge challenge, but it's also great fun," says Andreas Gustafsson.



New uses for used trucks

INCREASING THE RESALE value of used trucks is a challenge faced by every truck brand and one way of doing this is to expand the potential marketplace. This is the idea behind Renault Trucks' Used Trucks Factory concept, where used trucks are adapted for new applications and markets.

The latest example is the T P-Road models, which are essentially Renault Trucks T tractors converted and customised into rigids.

The conversion takes place at the Used Trucks Factory workshop, located at Volvo Group Trucks' Bourg-en-Bresse manufacturing site. It involves first removing

the cab, drive chain and suspension, so that the existing rails can be replaced by new rails with a customised wheelbase. This guarantees vehicle robustness and suitability for any type of body and purpose. The industrial manufacturing process and quality control comply with the same demanding standards as those applied when manufacturing a new vehicle.

The T P-Road then undergoes the same strict quality control and systematic road tests as new vehicles before delivery to Renault Trucks' dealerships and it is guaranteed for one year or 120,000 km.



Insights Understanding the world around us



QUESTIONS ABOUT SUSTAINABLE URBANISATION

"We need to find new ways of planning our cities," says Professor Xuemei Bai. She is a thought leader on urbanisation and sustainability and winner of the Volvo Environment Prize 2018.

Today, more people are living in cities than in rural areas. By 2050, more than two thirds of the world's population will live in urban areas. What will this lead to?

"This trend entails multifaceted consequences. People will have very different ways of living, different ways of interacting with each other and with nature. In many parts of the world, urban living means better life through access to better jobs, higher income, better education and infrastructure. In other parts, we are seeing a rapid expansion of slum areas where people live without proper housing or access to basic services."

What must change if urbanisation continues at this pace?

"Up to 90 per cent of all future population growth will be added to cities in developing countries. Equipping these cities with the same level of infrastructure as cities in today's developed countries will use up about 30 per cent of the remaining carbon budget if we are to stay within the two-degree target. We need to explore different ways of planning and building our cities."

You were born in China, have lived in Japan and are now an Australian citizen. How has this affected your views on cities and urbanisation?

"These experiences taught me firsthand the diversity in the drivers and processes of urbanisation and the complexity of the challenges different cities are facing.

When we say urban air pollution, we are talking about totally different levels in Chinese and Australian cities. There are surprising similarities, too. Australian cities are growing much faster than most of the OECD countries and many of the challenges facing them are similar to those in China."

What role does transportation play in this?

"Low carbon, affordable, accessible, and safe mobility are always at the centre of the idea of sustainable cities. Currently, transportation systems contribute a large share of greenhouse gas emissions. Shared and automated mobility, renewable cars and solar paved highways are some major innovations just around the corner. These have the potential to completely change urban structures and forms, the way cities function and urban living."

How can businesses help the transition?

"Many things can be done. Re-examining the supply chain from a sustainability perspective, using locally sourced materials when possible, improving energy and resource efficiency in production, innovating and adopting new product designs that encourage circular economies and reduce waste streams - these are just some examples. It is also important that businesses take an active interest in their host city and support researchers, policymakers, practitioners and the community to help accelerate sustainability."

JIMMY HÅKANSSON





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INSIGHTS UNDERSTANDING THE WORLD AROUND US



On the same board

Passenger complaints, driver mistakes and road accidents. By playing an educational game inspired by Monopoly, employees at Volvo Buses in Mexico are learning about the challenges their customers face in their daily work.

IN CUSTOMER SUCCESS Monopoly, Volvo Buses takes on the classic board game. Participants own a bus and their objective is to have a profitable business. They face many of the real situations that Volvo Buses' customers experience every day, such as breakdowns, accidents, stolen vehicles and driver mistakes. The participants must also pay taxes and operational expenses such as fuel and maintenance.

Since its launch in November 2016, more than 1,000 employees from Volvo Buses in Mexico have participated in

Customer Success Monopoly. "Most employees working for Volvo Buses do not have direct contact with customers and therefore rarely visualise the impact of their work on the customer's business," says Erika Galán, Field Solutions Coordinator, who designed the game together with Lorena Callejas and Gustavo Valdez at Volvo Buses in Mexico.

IT STARTED WITH a few pilots and was adjusted according to feedback. "We wanted to create a picture of

our customers' business that was as true as possible and start to generate a consciousness around that," says Lorena Callejas, Customer Satisfaction Manager.

Now, Customer Success Monopoly has been translated into English and shared with other regions and functions within Volvo Buses.

"People's mindset has changed, increasing the sense of urgency, improving cross functional cooperation and empathy towards solving customer problems. We will continue to use Customer Success Monopoly as part of our culture tool," says Gustavo Valdez, Services Manager.

Do you want to learn more about Customer Success Monopoly? Send an email to claudia.callejas@volvo.com

This is your future workplace

By mid-2019, all Volvo Group employees will be able to adopt new tools and ways of working that will reshape their digital experience. It is all part of the Intelligent Digital Workplace initiative.

WE LIVE IN A WORLD where we struggle to make the most of our time, find the right information and work effectively with others. The purpose of Intelligent Digital Workplace (IDW) is essentially to make it easier to work, collaborate and innovate at the Volvo Group.

"There is a strong digitalisation wave in all parts of society," explains Patrik Wallmoberg, Director, IDW. "Our industry, our company and our personal behaviours are changing rapidly. At home we are used to simple, intuitive and user-friendly tools. With IDW we aim to offer our employees a similar experience at work."

Thanks to IDW, soon every Volvo Group employee – regardless of whether they work in an office, plant or workshop – will have access to Violin, email, sharepoint, documents, apps and Navigator from one single start page. It will also be available on computers, smartphones and tablets, giving employees greater flexibility to work anywhere, anytime.

"It's about providing new technology but also encouraging new ways of working such as sharing our work openly, reusing others' work with pride instead of reinventing in our own silos and engaging in active dialogue on social platforms," explains Patrik Wallmoberg. "We will be able to tap into the enormous wealth of knowledge within the company. We will have social tools to collaborate inside large projects, communities and across teams. And for the first time, employees who work in production will be able to take part in information flows, from local activities to

corporate news. All of this will bring speed to our daily work, boost cross-functional teamwork, flexibility and empowerment."

THE NEW DIGITAL workplace uses machine-learning to personalise the platform for each individual user. It will recommend content based on the user's previous searches, as well as suggest connections with

colleagues with similar interests or working on similar projects.

The Intelligent Digital Workplace will be introduced gradually throughout 2019 and will be available to all employees before the end of the year.



Patrik Wallmoberg

NIC TOWNSEND

Get better at speaking in public

Would you like to improve the way you give presentations or develop your leadership?

If so, Toastmasters could be the answer. There are several clubs with members from the Volvo Group all over the world.

TEXT LINDA SWANBERG

WHEN SONIA ARNSTEIN gave her first speech at a Toastmasters meeting five years ago, she was very nervous. "My legs were shaking as I stood in front of the audience. Since then, I have learnt a lot and now I am much more selfconfident," she says.

In addition to working at Global HR at GTO, Sonia Arnstein is currently President of the Seafront Toastmasters, one of two clubs for Volvo Group employees in Gothenburg. One morning every two weeks, the 22 members get together at the Volvo Museum, make presentations and give one another feedback.

Toastmasters as part of their personal development goals.

In addition to practising presentations and speeches, Toastmasters gives the members the opportunity to prepare for interviews, develop their leadership and the art of giving feedback.

"I think it can be beneficial for everyone, even if you don't normally give presentations at work. For example, imagine that you end up in the same elevator as Martin Lundstedt and he asks for your opinion on something. If you know how to structure a spontaneous speech, you can maximise those two minutes," says Sonia Arnstein.



Sonia Arnstein, President of Toastmasters, shares her best tips

Make sure you know a lot about the topic you are talking about and make yourself really familiar with the material. Reinforce yor message with

has prepared the presentation for you, you need to study the material and make it yours. Otherwise, you will get lost and probably miss the point.

Talk, do not read your presentation. Make sure you use your own words and give your speech a personal touch. If the context and topic allow it, it is always good to use some humorous elements in a presentation. The more personal it is,

of the audience.

Practice makes permanent Rehearse, rehearse, rehearse. If you have not rehearsed enough, you will probably use a lot of filler words like "um" and "ah". To see and hear how you are doing, it is a good idea to record your presentation with a smartphone or other equipment. Or ask a friend or your family to be your audience.

Time yourself When practising, time yourself to ensure that you do not take more time than you have for your presentation. This is very important, especially for those of us working at a company like the Volvo Group where we have a lot of meetings. Make sure you have a good structure and a time plan.

Pace yourself People tend to rush when they are nervous. Practise making your speech at a calm, steady pace.

Less is more The main goal of visual aids is to help the audience understand what is being said and reinforce the points of a speech. Make sure you do not use too many slides and too much text in your PowerPoint presentations. Use short sentences and bullet points, but never read them. Instead, use your own experience to explain what they mean.

TOASTMASTERS IN SHORT

Set up in the USA in 1924 Established in 145 countries Has some 360,000 members Volvo employees who are members of Toastmasters have their own community on Violin: violin.volvogroup.net/sites/ communities/communication/toastmasters/

Sources: Sonia Arnstein, toastmasters.org

MARCUS HÖRBERG

Working to do something good

INCE MY EARLY backpacking days I have been passionate about emerging markets. At university, I dreamed of working for the UN, but I instead ended up at the Volvo Group. Although I am not really a product or technical person, I am very happy to work in the exciting transport industry. One of the things I have learned is that there is no contradiction between working for a company that makes money and doing something good. Quite the reverse.

As I see it, our mission, driving prosperity through transport solutions, does not simply mean producing vehicles that offer high quality, safety and the least possible impact on the environment. It is also a question of creating value for our employees and society.

I am definitely not alone in wanting a greater purpose and meaning in what I do. Everywhere I have worked -Romania, Serbia, Morocco, Peru and now South Africa - I have had great, professional colleagues who want to contribute to a better society. I encourage them to come up with win-win-win ideas that improve customer success, contribute to society and grow Volvo's business profitably.

HERE IN SOUTH AFRICA, we have a number of new initiatives on the go – everything from getting local designers to use waste material from our workshops to training female truck drivers. The Iron Women training programme has already been tested with great success in Peru and it is one of the ventures of which I am most proud.

In South Africa, more than 14,000 people are killed in traffic accidents every year. Statistics shows that women are less involved in traffic accidents and with this initiative we can contribute to safer roads and at the same time support our customers' success by reducing repair costs and improving uptime. Unfortunately, South Africa has a high crime rate

> and safe stops on the road is an issue for our Iron Women. To find solutions to this, we have initiated discussions with the government. Together, we can make the world a little better.

MARCUS HÖRBERG, VICE PRESIDENT VOLVO GROUP SOUTHERN AFRICA

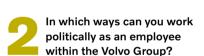


What would you do?

Are you up to date with the Volvo Group Code of Conduct? Say how you should act in the following three scenarios and go into the draw to win a an EW160E Lego Technic model.

You are at an airport and decide to use your work laptop before boarding the plane. What should you take into consideration?

- **A.** Nothing in particular. You know that your Volvo Group devices are fully protected against any malicious attempts to retrieve information.
- **B.** You avoid using public networks and make sure you do not work on confidential or sensitive material in public areas.
- **C.** If you just avoid connecting to the free airport wi-fi you can work offline with a document including prices and other sensitive information at the crowded coffee shop.



- **A.** You can support any causes you like, as long as you do not do it in the name of the company, use company assets or funding, or company time.
- **B.** You cannot be politically active at all as a Volvo Group employee.
- **C.** You can work politically if you think it is in the Volvo Group's interest.



If your colleague is violating the Code of Conduct, what should you do?

- **A.** You turn your head the other way and pretend you did not notice.
- **B.** You speak up by contacting the relevant manager or department, or by using the Volvo Group Whistleblower function available from www.volvogroup.com.
- **C.** You send the colleague an anonymous note urging him/her to stop.

CODE OF CONDUCT IN SHORT

- ➤ The Volvo Group Code of Conduct is a set of directives for how all employees globally should do business. By behaving in the right way, the Volvo Group builds trust both with customers and with society as a whole.
- ▶ It also helps the Volvo Group avoid situations that might lead to adverse legal issues or damage the company's reputation.
- If you need to freshen up your knowledge about the Code of Conduct, go to Violin or talk to your manager.

Win a Lego Technic!

One lucky winner will get a an EW160E Lego Technic model. Email your answers to **groupmagazine@volvo.com** no later than 15 April, 2019. Write "Quiz" on the subject line and remember to include your name and address.

The winners of the quiz in Volvo Group Magazine #4 2018 were Niklas Erlandson, Sweden, Adam Boyes, UK and Ann-Cathrin Olger, Sweden.

The correct answer was 1928.



The LEGO excavator model, developed in partnership with Volvo Construction Equipment, is a detailed replica of the Volvo EW160E. Read more at www.merchandise. volvogroup.com.