

Volvo Group magazine

2.2017

FOLD-OUT
POSTER
INSIDE!



YOUR IDEAS MATTER

CREATING A CULTURE OF CONTINUOUS IMPROVEMENT

Your ideas make a real difference

THE VOLVO GROUP is on a journey in which we are moving decision-making further out in the organisation and closer to our customers and our daily operations.

We want you, in your role as employee or manager, to feel that you have an opportunity to take the initiative, act and assume responsibility for the result. Stepping up in this way often creates a positive spiral. We become more engaged, going to work is more enjoyable and we give energy to our colleagues in our team. I see proof of this every day.

It is basically a question of having the opportunity to contribute.

Your individual engagement and an environment that encourages ideas and initiatives are the driving forces in working with continuous improvement. The Volvo Group's system for this work is the Volvo Production System, VPS. Just like other similar methods, it consists of a number of tools that provide effective support in our improvement efforts. But the actual key is leadership, discussing why we do things in a particular way and involving everyone in the process. At workplaces where we have been focusing on continuous improvement for a long time and have done so successfully, our employee engagement level is also high. We must take advantage of this strong connection.

THE VOLVO GROUP is large and so it is only natural that we have progressed to varying degrees in our work with continuous improvement in different parts of our organisation. The most important thing is for us

to constantly strive to move forward, one step at a time, regardless of the starting point. For those of you who have just started the journey, I have some straightforward advice to help you advance.

Start! You learn by doing. Try and see what happens, accept that you will sometimes make mistakes and fine-tune afterwards.

Persevere. Time and patience lay the foundations for successful change. Take the time to understand the starting point and what you want to change, so that we combine forces and create constant improvement, not constant change.

Visualise. When you look at the flow or the work process together with your colleagues, it is often fairly easy to see what could be improved.

Measure. Transparency leads to the curiosity that is needed to find new solutions.

I am convinced that working with continuous improvement is both motivating and decisive if we are to stay one step ahead of the competition in the future. Everything begins with you and your ideas!



MARTIN
LUNDSTEDT
PRESIDENT AND CEO,
VOLVO GROUP

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Sharing ideas for improvement

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Faster service and shorter repair times. More than 95 dealerships in North America have introduced a new way of working.

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Follow a working day for the Volvo Group's team of lobbyists in Washington DC, the epicentre of global power.

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Peek inside the VLH building in Gothenburg, the first workspace designed according to the Future Workplace concept.



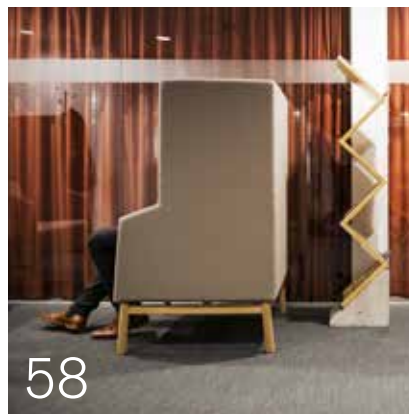
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UD Trucks launches Croner

UD TRUCKS' CRONER is the all-new medium-duty truck range developed for growth markets. It is a reliable and versatile truck range with a large number of customisable configurations for productivity and uptime.

"It is our aim for the Croner to make every moment count, by maximising productivity and minimising downtime on every run our customers make," says

Jacques Michel, Senior Vice President, Group Trucks Asia & JVs Sales.

The production of the Croner will take place at the Bangkok plant in Bang Na, Thailand. Units made will be sold locally to the Thai market, as well as being exported out to other growth markets in Asia, Africa, the Middle-East and South America.

PHOTO: UD TRUCKS



New truck assembly plant in Algeria

THE VOLVO GROUP has laid the foundation for a new truck assembly plant in Meftah outside Algiers in northern Algeria. The plant will mainly produce the heavy-duty Renault Trucks C and Renault Trucks K, but also Volvo heavy-duty trucks in the Volvo FH and FM ranges. The target is to assemble 1,000 vehicles in 2018 and double that number in 2019. Some 500 jobs will be created.

The truck assembly will be managed by Group Trucks Operations in the joint venture called SOPROVI, which is 30 per cent owned by the Volvo Group and 70 per cent owned by the Algerian BSF Souakri industrial group.



PHOTO: MOHAMED KAOUCHE

Bruno Blin and Jan Gurander from the Executive Board help lay the foundations for a new truck assembly plant in Meftah.

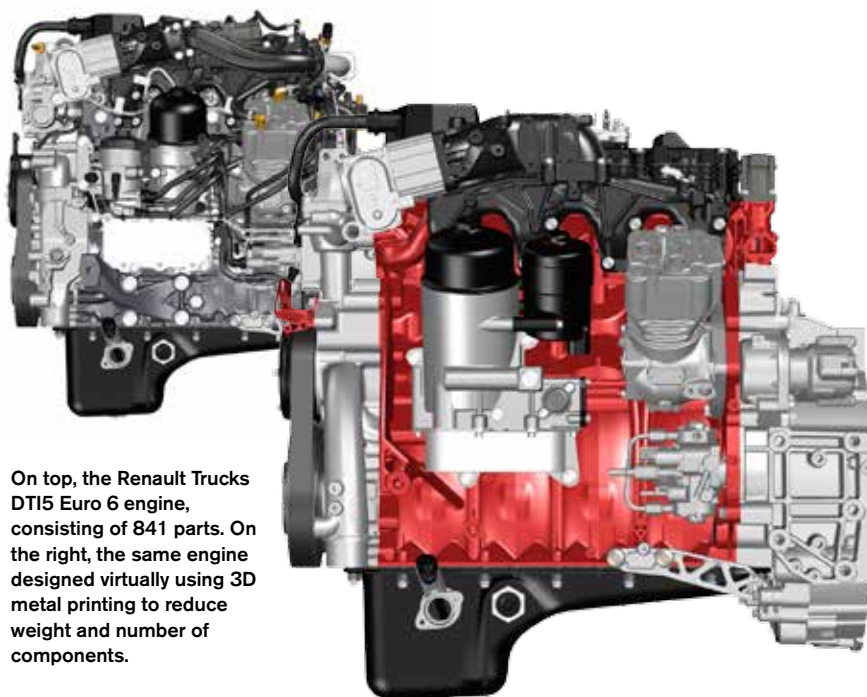


PHOTO: RENAULT TRUCKS

On top, the Renault Trucks DT15 Euro 6 engine, consisting of 841 parts. On the right, the same engine designed virtually using 3D metal printing to reduce weight and number of components.

Engine designed for 3D-printing

A TEAM AT Powertrain Engineering in Lyon have carried out a design study with metal 3D printing of a prototype DT15 four-cylinder Euro 6 step C engine. The process, which works by adding materials layer after layer,

can be used to create complex organic forms, as well as optimising the sizing of parts and reducing the number of components.

"The process has enabled us to reduce the weight of a four-cylinder

engine by 120 kg or 25 per cent," explains Damien Lemasson, Project Manager at GTT.

Lighter and more compact engines would benefit haulage companies in optimising their overall operating costs.

Unique truck on display

THE VOLVO TITAN TIPTOP, manufactured in limited numbers in 1964–1965, created quite a sensation in its time by being the first forward-control, heavy-duty truck with a tilting cab.

The Volvo Museum in Gothenburg, Sweden, has managed to get hold of this unique truck for its collection from two private owners. The brothers, Robert and Rustan Eliasson, saved the truck from being scrapped and have restored it to mint condition.



PHOTO: VOLVO MUSEUM

Volvo Titan Tiptop – the first forward-control, heavy-duty truck with a tilting cab.

7%

was the adjusted operating margin for the Volvo Group in 2016. The equivalent figure for 2015 was 6.5%.

Here are some more key numbers from 2016. (The corresponding figures for 2015 are included in brackets.)

No. of delivered trucks
190,424
(207,475)

No. of delivered construction equipment units
44,306
(44,718)

No. of delivered buses
9,553
(8,825)

No. of delivered Volvo Penta engines
37,267
(38,138)

Total number of employees December
94,914
(99,501)

VOLVO PENTA WINS AN "OSCAR"

VOLVO PENTA'S DEDICATION to bringing innovation to the marine leisure market was recognised at the Düsseldorf boat show earlier this year. The 'easy boating' concept, including the IPS joystick technology, won the 'Oscar of the boat industry'.



Volvo CE moves its headquarters

Volvo Construction Equipment will move its company headquarters from Brussels to Gothenburg during the third quarter of 2017. The relocation will impact some 40 headquarter positions.

"This move allows us to be physically closer to the other Volvo Group business areas and will facilitate closer cooperation and sharing of best practices," says Martin Weissburg, President Volvo CE.

PHOTO: MACK TRUCKS



Mack truck powered by dimethyl ether.

Mack Trucks tests alternative fuel

MACK TRUCKS IS testing the performance of a dimethyl-ether (DME) powered Mack Pinnacle in collaboration with the New York City Department of Sanitation (DSNY) and Oberon Fuels. The DSNY is the first Mack customer to evaluate this non-toxic, clean-burning alternative fuel. The evaluation is taking place at the Freshkills Landfill, located on Staten Island, New York. Results are expected to be available in mid-2017.

NEW TOOL FOR REPORTING VIOLATIONS

THE VOLVO GROUP WHISTLE is a new online tool for reporting violations or suspected violations of the Code of Conduct. The new tool will be implemented in

2017 and is available for everyone via Violin or www.volvogroup.com.



All-electric Nova Bus to tour the USA

A US TOUR of an all-electric demo bus from Nova Bus and charging infrastructure provided by ABB is scheduled for the autumn of 2017. The demo tour aims to encourage transit government authorities to see the potential of electrified urban transport first hand. It also reflects the desire of Nova Bus to pioneer sustainable urban transport in the region.

"Our goal is to always provide our US-based customers with the most reliable sustainable transit buses in the industry," says Ralph Acs, Senior Vice President, Business Region Americas for Volvo Buses and President of Nova Bus.



PHOTO: NOVA BUS

An all-electric demo bus from Nova Bus and charging infrastructure provided by ABB is scheduled for a tour of the US.



PHOTO: NICOLE LOWERY

"VFS has the most positive work environment of anywhere I have ever worked," was one of many comments from VFS employees.

This is a great place to work!

VOLVO FINANCIAL SERVICES USA has been certified by the Great Place to Work Institute, a global authority on high-performance workplace cultures. A strong commitment to wellness programmes, active community involvement and excellent employee benefits contributed to the designation. "This culture helps empower our team and foster employee loyalty, which in turn allows us continually to provide best-

in-class service to Volvo Group customers," says Tom Guse, President of VFS USA.

Earlier this year, Volvo Group North America received a Seal of Distinction for 2017 from WorldatWork, a non-profit human resources association and compensation authority. The seal recognises companies that excel in offering innovative programmes and a positive work environment for employees.

Concept truck saves 30% in fuel

VOLVO TRUCKS' latest concept truck features a hybrid powertrain for long-haul transport. Combined with improvements in aerodynamics, rolling resistance and reduced weight, the vehicle can reduce fuel consumption and CO₂ by around 30 per cent.

The hybrid powertrain works by recovering energy when driving downhill on slopes steeper than one per cent, or when braking. The recovered energy is stored in the vehicle batteries and used to power the truck in electric mode on flat roads or low gradients. An enhanced version of Volvo Trucks' driver support system I-See has been developed specially for the hybrid powertrain. It analyses upcoming topography to calculate the best choice of the diesel engine and the electric motor.

"Using hybrid technology, the potential reduction in fuel and emissions is considerable and an important step towards reaching both our and society's environmental goals for the future," says Lars Mårtensson, Director Environment and Innovation, Volvo Trucks.

The Volvo Concept Truck can drive up to ten kilometres in full electric mode, operating with zero emissions and low noise.

PHOTO: VOLVO TRUCKS



When did you last contribute to an improvement at work?

OUR WORK ON the theme of continuous improvement in this issue of *Volvo Group Magazine* has also made the editorial team think about the way we work and whether we can do it more efficiently and more effectively. Seeing the engagement of all our colleagues – from Arvika to Ageo, Ghent and Curitiba, to mention just a few, has been a real eye-opener. Together with this magazine you will find a poster to inspire your own improvement journey.

Producing a magazine involves many more people than the editorial team. Even if their work is not visible to you, the reader, it is still very important. So, I would like to take this opportunity to turn the spotlight on the colleagues who help to proof-read the 13 language versions of this magazine, together with everyone who makes sure that *Volvo Group Magazine* is available at the Group's plants and offices. You are doing a fantastic job. Thank you!



ANN-MARI ROBINSON,
EDITOR-IN-CHIEF

PHOTO: ROBIN ARON OLSSON

**BETTER
AND
BETTER**
every day

How can I make this better?
Volvo Group employees ask
themselves this question every day.
Together they are finding new ways
to improve their jobs and create
customer value. Meet colleagues
around the world with ideas
that really make a difference.



STANDING INNOVATION

At Group Trucks Technology, working with continuous improvement has made it easier to identify problems and find solutions. One successful example is the weekly stand-up meeting at the Powertrain Engineering Laboratory in Gothenburg, Sweden.

TEXT LINDA SWANBERG PHOTOS SÖREN HÅKANLIND

IT IS FRIDAY afternoon in a workshop at Powertrain Engineering, GTT in Gothenburg and 18 people have gathered in front of a large screen. During the half-hour meeting, several will give a short update on on-going initiatives and answer their colleagues' questions.

This is a **Gemba** meeting, a central feature of **Volvo Production System**, the Group's framework for working with **continuous improvement**.

Maria Bergström, Acting Group Manager Engine Verification, leads the weekly Gemba meeting. She feels this is a great way to work through and follow up on improvement initiatives. The team removes obstacles to progress and together find solutions. "As the meeting is cross-functional and the entire management team is present, it's easy to re-allocate or add necessary resources," she explains.

At the Powertrain Engineering Laboratory, engines, transmissions and other components are tested and verified. The Friday meeting is a decisive part of a large improvement programme that has produced excellent results.

IN 2013, OPERATIONS here were too costly and projects were delayed. One clearly defined objective from the very start was to increase the use of the test cells at which the engines are tested. A **root cause analysis (RCA)** revealed that the problem was not simply located in the test cells. **Waste (7+1)** was found throughout the test flow, from the drawing board to the finished test report. Thanks to the improvement programme, the use of test cells has risen from around 25 per cent to over 50 per cent.

"Through Gemba meetings, we have succeeded in making the flow

■ **Gemba** is a Japanese word that means "the real place". At Powertrain Engineering, weekly Gemba meetings are held in which leaders of improvement initiatives have direct contact with managers from the different areas in the organisation.

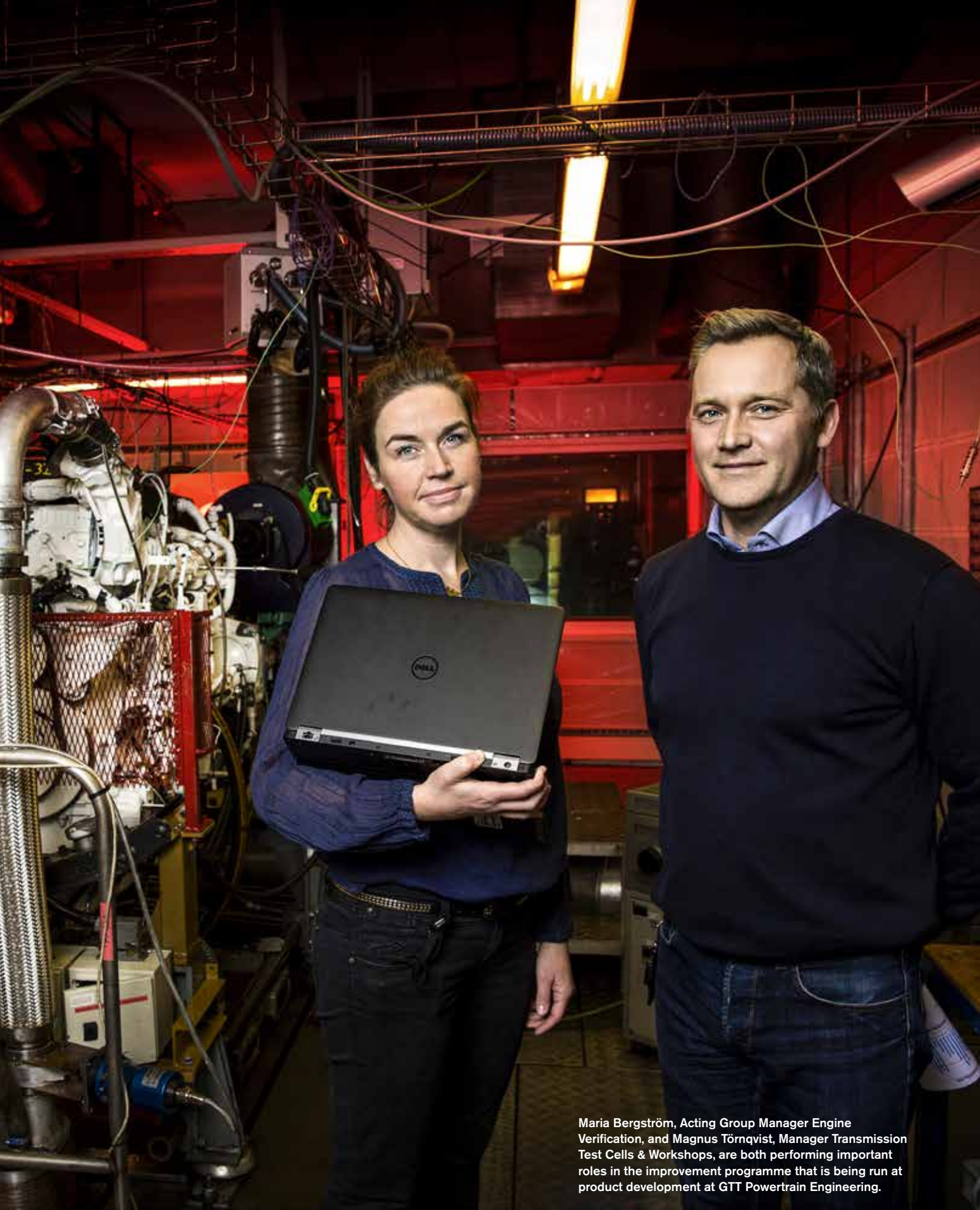
■ **Volvo Production System (VPS)** is the Volvo Group's framework for working with continuous improvement.

■ **Continuous improvement** means improving work, day by day, in small steps.

■ **Root cause analysis (RCA)** is a method for identifying the root causes of a problem.

■ **Waste (7+1)** In VPS, everything that does not contribute to the creation of value is considered to be waste. Activities in the process that do not add value are divided in 7+1 categories.





Maria Bergström, Acting Group Manager Engine Verification, and Magnus Törnqvist, Manager Transmission Test Cells & Workshops, are both performing important roles in the improvement programme that is being run at GTT Powertrain Engineering.



THE LAB

► At the Powertrain Engineering Laboratory in Gothenburg, engines, transmissions and other components are tested and verified.

► Around 140 people, including technicians and engineers, work here. The laboratory is part of Powertrain Engineering, GTT.

Every Friday, there is a Gemba meeting at the workshop at Powertrain Engineering, GTT.

visible and have created a greater understanding of everyone's part in the delivery and how it impacts the end product. As a result, testing has been given higher priority," explains Per Hellberg, Director, Powertrain Engineering Laboratory.

MARIA BERGSTRÖM HAS been working at product development for ten years. She thinks many positive changes have taken place during the past few years.

"In the past, we worked a great deal in silos and everyone was most interested in his or her own area. The test engineers, for example, often began their tests by finding the components and test equipment that was lacking. Today, we can see a clear-cut improvement. The flow is far more effective and everyone knows what needs to be done. This doesn't mean that we have finished the work,

however. There's development potential in everything we do," she says.

Maria Bergström has a coaching role and is expected to make sure that initiatives are driven forward and that the changes that are made become part of the culture.

"I think working on improvements is incredibly enjoyable. Meeting in cross-functional teams to analyse a problem, arriving at a united approach and solving the problem together is so rewarding," she adds.

To date, the department has focused most heavily on improving engine testing. A similar project is now in progress at transmission testing,



Per Hellberg

where Magnus Törnqvist has been the responsible manager since the beginning of 2016. He previously worked at GTO in Tuve, Gothenburg, where the VPS and continuous improvements were an integrated part of daily work.

"JUST LIKE PRODUCTION, we are also part of a flow. Our contribution is to provide customers with the measurement data that are needed to make the right decisions in the rest of the chain. I can sometimes see that the focus on customers is missing, so we spend a lot of time talking about it. I think it's incredibly important that everyone understands why we are here and the objectives we have for our operations. All the decisions and priorities are designed to lead to benefits for the end customer," says Magnus Törnqvist. ☉

WINNING TEAMWORK

UD TRUCKS HAS a 30-year history of continuous improvement. Currently, 607 employees in 58 teams are working in a community called VPS Circle, which is mainly driven by Operations. Defined roles are working cross-functionally and there is also collaboration outside UD Trucks to share information.

Employees present their activities and achievements at an annual event. The award-winning team in 2016 made an outstanding performance with the goal to eliminate a chronic defect in the angle of starter cable terminals.

"Working as a team has a big advantage over tackling this alone. By using the different skills, knowledge and joint

experience, we were able to grasp the current situation, define the issues and find the solutions," explains Circle Leader Kazufumi Uchino.

The team was ultimately able to realise its goal through the trial and error process. Its mission was completed when the solution was incorporated in the production process.

What advice can you give other teams?

"We use an improvement approach method called Quality Control Story, which is used to identify fault patterns. We also gain problem-solving skills through Seven QC Tools. It's important to enhance soft skills like teamwork and leadership, as well as developing technical methods."



PHOTO: JUN TAKAGI

From left to right: Tatsuo Saitou (Trainer), Kazufumi Uchino (Circle Leader), Masahiro Hosoya (PTA) and Shinichi Kojima (Promotion Secretariat).

What is the greatest benefit and effect?

"Continuous improvement initiatives are not just aiming to improve business performance but also to develop our human resources and reinforce the Gemba spirit. Working together builds teamwork, respect and

an active exchange of opinions," says Shinichi Kojima, promoting the initiative as a whole.

"We cherish the phrase 'To build things is to build human resources' and we believe that these activities are essential to help people develop." ◎

ANN-MARI ROBINSON

What is your best tip for people who want to start working with continuous improvement?



"Give it a chance. At first I didn't like it. I thought 'they think we don't know how to do our jobs'. But now I can see the benefits – when I go

to my area, I see big differences thanks to continuous improvement initiatives. Now, it's not only me appreciating that each thing has its own place, but it also becomes easy for newcomers to orientate themselves within our area. It might not be easy at first, but the benefits are huge."

JASON BREON, ASSISTANT TEAM COACH,
VOLVO CE SHIPPENSBURG, USA



"Don't be afraid of something new and making mistakes. The results make it worth it! We use VPS as a main tool. We include daily meetings,

Gemba site visits and a virtual dashboard, among other things, to allow our team to be informed and to participate actively. Another thing, don't expect instant results. Results come from systematic, collective work. It's important that each team member understands the importance of his or her contribution to the general success."

TATIANA TROFIKOVA, HR SERVICE CENTER
RUSSIA MANAGER, VOLVO RUSSIA, KALUGA



"Try not to change everything over night. Start by taking small steps instead. Focus on your particular job and on the things you can influence

and do something about. In this way, you can end up influencing much, much more. It's also important to give the operators the right conditions to work on improvement programmes and let them participate and make a contribution. No one knows the best way to do the job better than they do."

FREDRIK ROSÉN, TEAM LEADER, POWERTRAIN
PRODUCTION, SKÖVDE, SWEDEN



Operator Michel Bueno has just been awarded Operational Excellence Award 2016. In May, he will go to Lyon, France. "I'm taking my wife!" Michel Bueno says, amid laughter and applause from his colleagues. It will be his first trip outside Brazil.



IN

BEST CLASS

Powertrain Production Curitiba is among the best when it comes to continuous improvement. Last year, it was the first unit in the Volvo Group to be awarded Platinum level in the VPS assessments.

TEXT ROGÉRIO JORDÃO PHOTOS EDUARDO MARTINO

OPERATOR MICHEL BUENO rises from his seat at the Volvo Hall, a conference auditorium inside Volvo do Brasil in Curitiba. This is a special moment. Michel Bueno has just been announced as the winner of the **Operational Excellence Award 2016**, a distinction given to the best continuous improvement idea of the year at GTO Powertrain Production Curitiba (PTP).


"I would like to thank, first of all, my team. I didn't make this improvement alone," Michel Bueno says into the microphone.

His improvement idea, put into practice, was to bring working teams from the gearbox assembly line closer to the auditors who evaluate production at the end of the process.

Michel Bueno's idea was chosen from a total of 5,600 improvements – or **Quick Kaizen** – that were suggested by operators and staff members at PTP Curitiba in 2016.

■ **Operational Excellence Award** is a recognition programme for all GTO Powertrain Production plants that started in 2011.

■ **Quick Kaizen.** Kaizen is a Japanese word that means improvement. Quick Kaizen is an improvement that can be made in a short time.



Luiz Bohatch, Plant Manager at Powertrain Production Curitiba, has been working with continuous improvement for a long time. "There's no cake recipe. It's an ongoing process and you have to learn by practice," he says. He can be seen here talking to Judite França and Alexandre Assis.

■ **Volvo Production System (VPS)** is a way of working with continuous improvement that is used throughout the Volvo Group. In 2015, a new VPS system was developed that can be adapted to any kind of environment.

■ **VPS Assessments** give an independent view of a business entity. It reflects the extent to which the continuous improvement culture is embedded across the organisation and reflected in its results.

“The Platinum level reflects the way we work with continuous improvement in all areas of the plant.”

LUIZ BOHATCH, PLANT MANAGER

ENCOURAGING NEW IDEAS is a key part of the strong culture of continuous improvement at the Curitiba Plant. Now that the Volvo Group is encouraging all its employees to adopt a continuous improvement mindset, many are turning to PTP Curitiba for inspiration.

In August last year, PTP Curitiba was recognised as the most advanced Volvo Group plant, when it comes to working with the **Volvo Production System (VPS)**. In the **VPS Assessments**, which are carried out to establish performance at different sites, the PTP Curitiba was the first unit to reach Platinum level.

“We are certainly very proud. It is recognition that comes from years of hard work. Reaching

Platinum level reflects the way we work with continuous improvement in all areas of the plant, even at support functions. It is also a result of having a consistent purpose and clear direction,” says Luiz Bohatch, Plant Manager.

The town hall meeting this Friday afternoon is one of many activities that help him and other leaders to communicate the direction in which the plant is heading.

One of the speakers is customer Jorge Luiz Buneder. He is the CEO at Stemac, a Brazilian company that produces emergency power generators for utilities such as hospitals, airports and data centres. “It's important that everyone knows our customers. When listening directly ▶



Avelino Baldin MANUFACTURING ENGINEER

"Propose what is the best and not what is the easiest. This is what I understand to be engagement. In the area where I work, in machining, there are a lot of opportunities for improvement. Every production process has losses, so we need to improve. In this sense, problems can actually represent opportunities. We have a goal to identify where the losses are and try to solve problems in a thorough way. Our products change over time, so our way of working always needs to evolve. Our focus is on proposing less costly solutions that achieve the best results."



Jean Kalton Ribeiro ENGINE OPERATOR

"We have the freedom to communicate, to raise a hand and say that something is not good, that it needs to be improved. If there's a problem, you feel encouraged to give your opinion. We talk a lot with the managers. At the end of the day, I am always working to improve my own work conditions, whether it's in ergonomics or safety. Continuous improvement, for me, means being proactive. This way of working certainly contributes to ensuring that products are produced with the right quality and on time. It's good for us and good for the customer."

3 QUESTIONS TO EBLY SANCHEZ

IN 2016, EBLY SANCHEZ LED A TEAM OF ASSESSORS TO EVALUATE THE POWERTRAIN PRODUCTION CURITIBA.



Eby Sanchez

What makes Powertrain Production Curitiba stand out?

"The assessors evaluate performance, result orientation

and their commitment to continuous improvement. The plant scored highly in many areas, such as people engagement, best practice sharing and top management coaching behaviour. The employees we interacted with were very motivated. Each employee has contributed and implemented around 10 improvement ideas during the year. Just imagine how many improvements that is! That's incredible! Everyone shares a common understanding of continuous improvement and has the same goals."

What can others learn from Curitiba?

"At other plants, continuous improvement is something that a few teams do well and others less well, but, at the Curitiba Powertrain Plant, it involves everyone. Continuous improvement is a culture in Curitiba.

"The teamwork is outstanding. They are also looking to improve every day. Managers go out on the shop floor and talk to employees daily. They ask 'What do you need?'"

How important is it that the individual employee is included?

"It's all about the people. Employee engagement is a prerequisite for continuous improvement to take place. It's people that do the work and it's people that generate ideas. Sometimes, this means that there are differences of opinion. That's not a problem, diversity of ideas is part of the continuous improvement work." ☉



Team leader Maria Lucas next to operator Célia Gabardo who makes many of the sketches in the Kaizen forms. From her observations, she produces drawings that make continuous improvement part of PTP Curitiba's DNA.

Platinum Level, VPS Assessment

"Continuous improvement is embedded across the organisation and in place at all levels. The result has to show major improvements, with minor variation and positive trends."

to a customer, operators and staff feel that their day-to-day work has a greater purpose. Our products are part of many people's daily lives. Understanding this increases awareness of quality, safety and respect for the environment in what we do. It also creates engagement among employees, which is one of the foundations of the continuous improvement culture," explains Luiz Bohatch.

WORKING FOR THE Volvo Group in Brazil for 18 years, Luiz Bohatch has witnessed the long journey that PTP Curitiba has made to reach the Platinum level. "In our case, the journey was linked to the industrial process that has become more complex, requiring greater competences," he says.

Events, such as the beginning of the production of electronic engines and the production of the I-Shift transmission, have led to new ways of working and new opportunities for improvements.



Customer Jorge Luiz Buneder, CEO at Stemac, was invited to the town hall meeting to give a presentation of his company.

Being close to other Volvo Group business areas has also been a big plus. In Curitiba, the Powertrain Production plant is only a few steps away from the CVA COE plant that produces the trucks, bus chassis and stationary



GTO POWERTRAIN PRODUCTION CURITIBA

- ▶ Volvo do Brasil is located in Curitiba in southern Brazil. Group Trucks, Volvo Bus and Volvo Penta units operate here.
- ▶ Powertrain Production Curitiba produces 11 and 13 litres engines, as well as the I-Shift transmission.
- ▶ It has 255 employees and an area of 18 thousand square meters.

engines. “We go there in person. The feedback is immediate and we certainly gain from this interaction,” says Luiz Bohatch.

Interaction is also a key word in the everyday life of Maria Lucas, team leader at transmission assembly. Each morning, before work at the line begins at 7:45 am, she brings together operators for a quick discussion to go through the daily safety checklist.

“When the operators see a problem, they give a warning and they take it seriously. This is a part of the culture. Not only in safety issues, but also in environmental, quality and, of course, improvements related to the workplace,” she says.

Maria Lucas started working as an operator nine years ago. By circulating among the work stations, she now acts as a ‘filter’ between the assembly line workers and the rest of the staff. “You must speak in a way that everyone understands. It is a way of communicating that generates trust and closeness,” she says.

AT PTP CURITIBA, the Platinum level is considered an important landmark on the continuous improvement journey. However, it is far from being a destination.

“The challenge now is to sustain what we have achieved and follow the VPS roadmap to the next level. Pursuing excellence is our target and it’s what motivates us to continue improving,” says Luiz Bohatch. ☉

GTO IS GOING FOR GOLD

Group Truck Operations is aiming to have all its sites reach at least Gold level in the VPS assessment by December 2018. Jan Ohlsson, Executive Vice President, GTO, describes what it means.

Why has GTO decided on the Going for Gold initiative?

“Going for Gold is our continuous improvement initiative, combining a joint VPS approach with the local drivers, needs and priorities per site and function. Continuous improvement is our major productivity contributor going forward. It’s also the best opportunity for all of us to improve our close work environment for the better.”

What does it mean for the organisation? Does it apply to both industrial and office environments?

“Absolutely. The industrial environment is naturally more mature, but we are getting up to speed in our offices too. Working with continuous improvement as an office worker is a bit trickier, but I am very impressed by our global function Quality and Engineering reaching Bronze level in December 2016. I’ve had the opportunity to see how they are using VPS at the office and it works very well.”

How do you work?

“We have a joint approach through the Going for Gold initiative. But the sites and functions are fully accountable for resource allocation, progress and results. They are all trusted to act. We assess the maturity per site and function for guidance and we have coaching resources for that purpose. We also actively share between sites and functions. The most important thing is that you follow your own progress and your own direction, improving your own work stations and your department.”

How much progress has been made?

“The Going for Gold journey is moving at a very good pace, with strong results at a number of sites. When visiting teams at different sites, I meet passion, involvement, engagement and also the drive to really perform and improve. It gives me a lot of energy.” ☉



WHY

The benefits of Volvo Production System

In the Volvo Group, everyone is expected to work with continuous improvement through the Volvo Production System (VPS) framework. Three colleagues talk about why this is good for the company, employees and customers.

TEXT MARIA SKÖLD PHOTOS PATRIK OLSSON, ROBIN ARON OLSSON & GAIL VADIA

Malin Hane Hagström

DIRECTOR, VPS GOVERNANCE, VOLVO GROUP

Why is the Volvo Group working on continuous improvement?

"It's an improvement engine in three ways. Firstly, it can enhance the customer experience. Secondly, it improves internal efficiency by doing the right things. Thirdly, the Volvo Group becomes a better workplace when employees have more influence."

What are the benefits?

"When we make large-scale structural changes, it's a one-off delivery, whereas continuous improvements make a difference every day. We are well invested, but we can obtain an even greater return on what we do. Continuous improvement involves everyone, as everyone is an expert at his


or her job and knows how it can be performed even more effectively. The potential is enormous! At the same time, the executive management team also needs to prioritise to ensure that what we do actually creates value."

How do things look in other parts of the industry?

"Very few other companies have an improvement system for the whole company, in production and at offices. We are very much at the forefront in this area."

How much interest in continuous improvement do you encounter?

"It has increased tremendously since Martin Lundstedt took over as CEO. He makes it very clear just how important this is. Many people are really eager to get going." ☺



"There is enormous potential."

Jenny Gustavsson

TEAM LEADER, EXTERNAL WAREHOUSE, VOLVO CE ARVIKA

How do you work on continuous improvement?

"Here at the external warehouse, it's a natural part of our daily work. We work using clearly defined standards and measurable targets. If things don't move smoothly here, the production system to which we deliver is disrupted.

"Everyone is determined to make sure that 'I deliver correctly' – the fewer mistakes we make, the better the value stream moves."

How long have you personally been working on continuous improvement?

"When I joined Volvo CE in 2011 as an assembly worker, we had problems with material availability, which was very low. At that time, there was no point identifying deviations, because no one was responsible for doing anything about them.

But, around 2012–2013, we started working in a new way."

What are the advantages?

"Many people were relieved that a clear process was introduced. Their engagement grew when it was worthwhile pointing out problems. The atmosphere also improved and we now help one another and everyone feels a sense of responsibility. This makes our daily work easier and reduces the risk of occupational injuries."

Do you have a top tip?

"Think together. After all, everyone is an expert in his or her field, so everyone's experience must be utilised. It is then simply a question of trial and error to see what works. It's never too late to learn and make improvements." 🍷



"It makes our work easier."

"VPS is good for customers."

Deron Johnson

DIRECTOR OF FLEET CREDIT FOR VFS USA



Why does working with continuous improvement and VPS benefit customers?

"We differentiate ourselves from the competition in four areas: the depth of our customer relations, our speed of execution, the ease of doing business with us and our knowledge and expertise. In the past four years, we've worked with continuous improvement in a more structured way, enhancing processes to give our customers the best experience possible."

In what way?

"We formalised the process, creating an online submission form to track, measure and demonstrate results. This is key to the success and effectiveness of our process improvement strategy. Everyone who submits an idea gets feedback."

You chair VFS USA's Process Improvement Steering Committee, what is this?

"It is a cross-functional committee that was started in 2012, with a rotating membership. We meet three to four times a month, receiving ideas and facilitating connections between departments. We also prioritise ideas, to find those that are easily implemented. It's been a huge success! So far, some 60 per cent of employees have submitted ideas, resulting in 42,000 hours saved. Engagement has also gone up as a result."

What's your best tip?

"Make process improvement part of your culture and your DNA. Ideas should always be communicated, feedback and support are very important. It's just like when you lose weight or quit smoking, you need to have people around you to cheer you on!" 🍷

HOW

Keys to continuous improvement

Christ De Baere has been instrumental in spreading the message of continuous improvement to all employees. After heading the Volvo Group's central VPS function, he shares his thoughts on the subject.

TEXT LINA TÖRNQUIST PHOTO BELGIAN CHAMBER OF COMMERCE

What is continuous improvement and what is the Volvo Production System?

"Continuous improvement is about improving what you're doing, day by day, in small steps. This must be done in a systematic way, otherwise you won't achieve the right results and the results won't be sustainable. The Volvo Production System (VPS) is the framework for how we work systematically with continuous improvement within the Volvo Group. You can say it's the common language that we should all use, but the dialects may be slightly different in different parts of the organisation."

What are the most important principles?

"Continuous improvement doesn't give exact tools and methods, it's a way of looking at things. The key is learning to see what creates value and to cut waste. You should welcome problems, not hide them, since problems give us an opportunity to learn. And you should constantly strive to improve. Some people are happy with 90 per cent delivery precision.

But let's turn it around: would you like 90 per cent delivery precision when you get a vaccination? At the Skövde Plant, for example, they ask 'Why not 100 per cent' and we want that mindset in all the Volvo Group, both in offices and at plants."

How can continuous improvement be applied in an office environment?

"It's about learning to see waste and mapping value streams. Today, we accept too much waste in white-collar settings. Making continuous improvement work in an office environment is harder but not impossible. For example, we facilitated the value stream mapping of the fuel economy management process for GTT two years ago and they found 70 improvement opportunities which they are still working on, in both Gothenburg and Lyon. It was also a good team-building exercise."

What common misunderstandings and pitfalls have you come across?

"Especially in office environments,

Value stream mapping

is a presentation of the flow of materials from supplier to customer through an organisation, as well as the flow of information. It enables people to see at a glance where there are restraints, delays and waste.

many people still say 'I don't have time for this, I have to do my job' – but it is our job to improve. We should not only carry out our tasks but also look for ways of improving how we do it, develop ourselves and help our teams improve. This is a major mindshift, especially for managers.

"One trap that a lot of groups fall into is that there is a lot of talk about how to do it – but it takes too long to start. Many people feel like there is an exact formula. But you can't make





“You must learn by doing.”

a science of it. You must learn by doing. So, it's important to get things moving.”

What role do managers play in continuous improvement?

“Managers are essential; without leadership commitment, continuous improvement won't work. They need to gather their team, show where we are heading and how people in their team can contribute. There is an almost perfect correlation

between dedicated leaders and high performance in this area.”

Why is it important to be a learning organisation?

“It is essential to be a learning organisation to transfer experience and to improve. Otherwise you keep making the same mistakes again and again. What we hope is to build a culture where managers welcome problems, to improve the outcome for customers.” ☉

New VPS organisation

AS OF JUNE 2017, the central VPS function will be dissolved and its resources will be transferred to different departments within GTO as well as the other Business Areas and Truck Divisions in order to work with VPS hands on.

Everybody within the Volvo Group is still expected to drive their own continuous improvement journey and GTO will remain the owner of the central VPS framework that should be used by everybody in the Group.

YOUR IDEAS MATTER



In 2017, Roman Folk (foreground) and the VFS team in the Czech Republic, are aiming to reduce credit approval time by 50 per cent.



Lesja Vašková is part of the VFS back office team in Prague that supports all Volvo Group Truck Centers in the country.



The Czech Republic won VFS Market of the Year in 2015. L-R: Robert Grozdanovski, Vice President Group Trucks, Central East Europe; Martin Pisko, VFS Sales Director, Central East Europe; Roman Folk, VFS Sales Manager; Vladimir Slar, Volvo Trucks Sales Manager; and Stefan Krajci, Renault Trucks Sales Manager.

STRIVING FOR EXCELLENCE

In the Czech Republic, Volvo Financial Services is applying the principles of continuous improvement to its business. The results are improved services and product offers, and an enhanced customer-centric culture.

TEXT NIC TOWNSEND PHOTO MICHAL CIZEK

SINCE 2015, WHEN Volvo Financial Services EMEA launched its strategy to become the best captive finance company in the industry, there has been a renewed emphasis on being more customer focused. For the VFS team in the Czech Republic, the first step was identifying what exactly customers want.

Now, every year a CSI (Customer Satisfaction Index) survey, consisting of up to 100 questions, is sent out to dealers and customers. This is followed up with a customer feedback forum which involves in-depth, face-to-face interviews with selected customers, all of which have been invaluable in identifying areas of improvement.

"If we are to become a world-class finance company, we need to have a customer-first culture," says Martin Pisko, Sales Director for VFS Central East Europe. "After analysing the responses from the survey and interviews, we quickly concluded that our only way forward is excellence in

service – both to our customers and to our dealers."

Some of the improvements implemented in 2016 include:

- A new credit line approval process that enables customers to have access to open credit for a whole year, rather than apply for every transaction.
- A Rent & Buy campaign, whereby customers can test a Volvo or Renault truck on a short-term rental lease, before deciding if they want to commit to a long-term contract.
- A fast track approval process for used trucks, where customers can be approved for financing immediately if they meet a set of simple criteria.
- Introduction of a smartphone

VFS IN CZECH REPUBLIC

In the Czech Republic, VFS has a small team of ten people, with back office staff located in Prague and sales representatives located in all the other Volvo Group truck centres in the Czech Republic. They can also rely on support from the VFS service centre in Warsaw, Poland.

application that enables sales representatives to prepare quotes on the spot.

■ Customer First training for all VFS employees in EMEA markets, which will be completed in 2017.

AT THE DEALERSHIPS, these improvements are making a big difference. "Our product offers are already quite strong, though where we can improve is being closer to our customers and their needs," says Roman Folk, VFS Sales Manager, Czech Republic. "Our customers really appreciate the new changes, especially the faster approvals. Now, if a customer applies for financing, it's quite common to get a decision on the same day and the next day we can sign the contract."

Building on these improvements, VFS is aiming to reduce the time needed for credit approval by 50 per cent in 2017, whilst maintaining the quality of credit underwriting standards. New initiatives in the pipeline include the establishment of a customer service desk for monitoring customer needs and feedback, as well as the introduction of new web-based solutions.

"The market today is very competitive and customers are searching for fast and easy solutions," adds Roman Folk. "I believe this is something we can offer and we can excel in providing quality, speed and, last but not least, satisfaction and good relationships with our customers." ◎

TAKING THE INITIATIVE

Less than three years after embarking on their continuous improvement journey, the GTO plant in Ghent has already seen big gains in quality and safety. Here employees share their experiences.

TEXT NIC TOWNSEND PHOTOS SIMON VAN BOXTEL

Ghent's continuous improvement

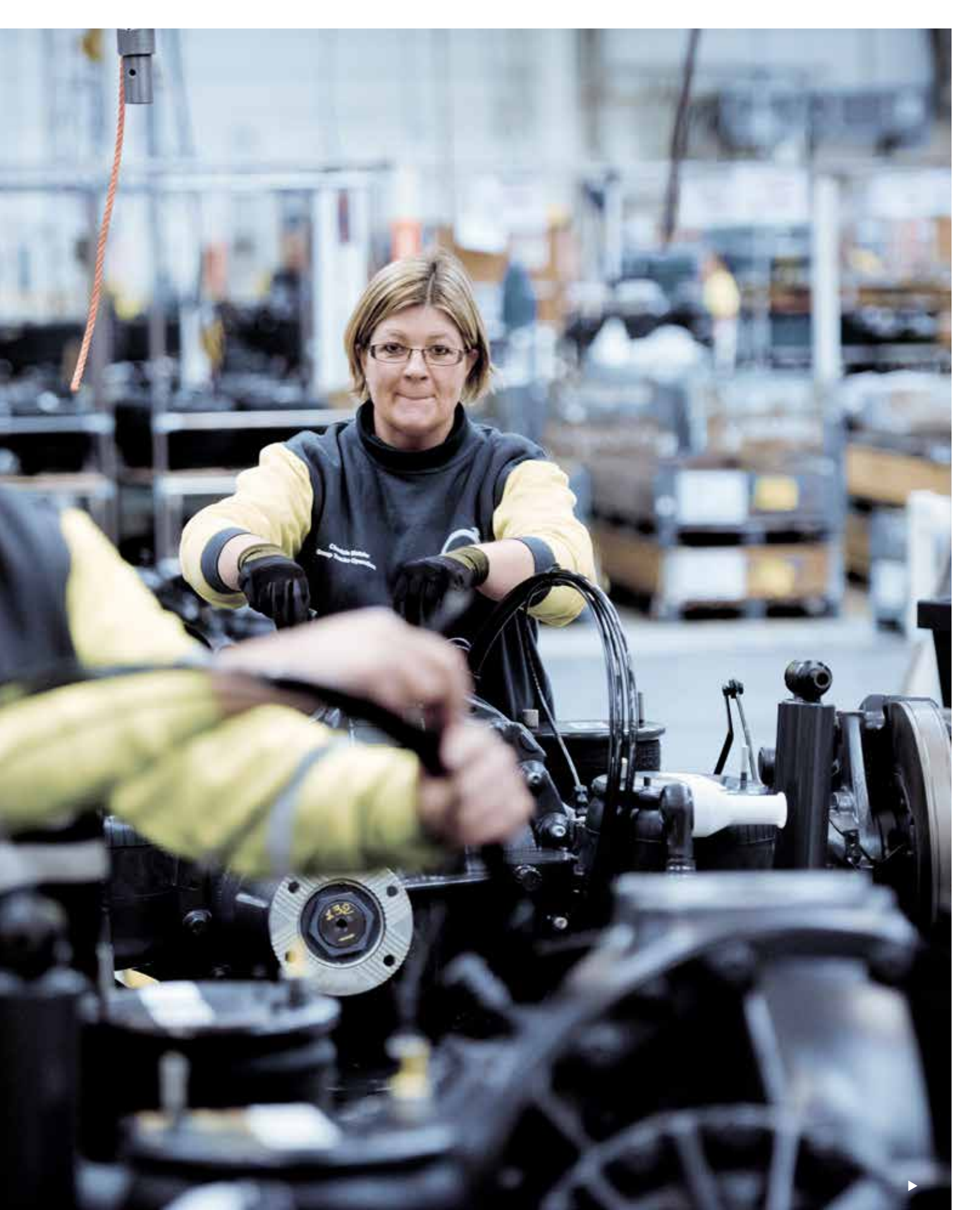
- ▶ Started three years ago.
- ▶ Hundreds of Kaizen events have been held in which people from the same stations discuss improvement ideas.
- ▶ On average, each employee submitted seven improvement ideas in 2016.
- ▶ Since 2013, days lost due to accidents have been reduced by 80 per cent.
- ▶ All other KPIs have also improved over the years.
- ▶ The plant aims to achieve Gold level in VPS assessments already by 2017.

Chantal Metzler



Chantal Metzler was one of the first women to work at the Ghent plant, when she first started 22 years ago. "I actually studied to be an accountant, but I did not like it – I must have people around me," she explains. Last year she spent three weeks working at the GTO plant in Bourg, France, as part of an exchange. "I was interested to see how they work and what was different. But I was surprised at how similar the two plants are. Everyone here could work there tomorrow and vice versa. The exchange was a valuable experience for both me and the plants, and should be something that is organised more often."







Gianni Becque



Employees at the Ghent plant can book time at the Kaizen Workshop, where they can access materials and tools to design and build their own work stations and trolleys, specially customised to their specific needs. Gianni Becque, an operator in the riveting area, built his own trolley for bolts and rivets, which he can wheel under the chassis for easy access. He estimates this saves him 20-25 seconds per chassis. It might sound small, but, if each operator makes a similar saving, multiplied by 80 plus trucks assembled each shift, it quickly adds up to a significant saving in time.



Sofie Geirnaert



Through a Kaizen event, Sofie Geirnaert and her colleagues were able to completely redesign the loading area to make it much safer and ergonomic. "Before all the pallets were stacked too high and too close together. There was a risk of boxes falling on people and it was difficult for forklift drivers to see people. Now, it is much more organised and we have height limits, so it's much safer. We are able to propose improvements and we are listened too and that's a good feeling."



Leslie de Souter



Through a number of small changes, Leslie de Souter has greatly improved her work station's ergonomics and, as a result, she now suffers from a lot less back and muscle ache. One improvement simply involved elevating the work bench slightly, so that she could fit her trolley's wheels underneath and minimise movement and lifting – which has made a huge difference. She is impressed by the speed and responsiveness to her suggestions. "I submitted my idea and our work leader said 'yeah, it's a very good idea, we're going to do it'. The next day it was fixed. If your idea costs just a small amount of time or effort, then it can go very quickly."



Nick Buysse



Since working with continuous improvement, Nick Buysse has seen his work environment become cleaner and more efficient. Some of the improvements that have been made in recent years include covers and protection to prevent dirt getting into the engine line tracks, floor markings to keep trolleys and cabinets in place and extra holders and boxes for tools and parts. "It's really important to keep this area clean, tidy and orderly, otherwise it's no longer functional. We have 15 colleagues working so it can easily get rather messy very quickly. Through continuous improvement, we work systematically every week, as a group, to make improvements. Since then, we have a lot less failures and a lot fewer incidents."

THE GTO PLANT IN GHENT, BELGIUM

Type of plant: Cab & Vehicle assembly

Produces: Volvo FH16, Volvo FH, Volvo FM and Volvo FMX

Number of employees: 2 600

Claim to fame: In 2007 Ghent became the first CO₂ neutral plant in the automotive industry.

NIKLAS MODIG, RESEARCHER:

“The company needs to create a flow”

Where does the concept of continuous improvement actually come from? Niklas Modig, an expert in management culture, has been studying how the idea spread from Japan and conquered the world. He thinks the Volvo Group is at the forefront.

TEXT MARIA SKÖLD PHOTO LASSE LYCHNELL

FOR SOME TIME now, Niklas Modig has been conducting research on management culture. He has written the international best-seller *This is Lean*, after studying Toyota dealerships for two years from the inside. As he sees it, it is obvious to start with Toyota when he explains why so many companies have chosen to focus on continuous improvement.

“Many of the ideas come from Toyota and they were the result of a resource shortage in Japan following the Second World War. Toyota realised that it couldn’t afford to build an American-style plant with economies of scale and large vehicle stocks. It had to produce cars quickly and be paid immediately, in order not to risk cash-flow problems. It was also important for customers to be satisfied, so that they kept buying cars. Toyota was forced to focus on flow and quality. Now the Toyota Production System – or *lean* as it is called in the west – is an established theory in business all over the world,” says Niklas Modig.

What does it take to create a culture of continuous improvement?

“Everything is about focusing on customer needs. Unfortunately, this isn’t always self-evident. The company needs to create a good

flow in order to realise its objectives as effectively as possible. That’s what we mean when we say that an operational strategy is lean. Everyone has to focus on the end user’s needs and understand their role in the big picture. Continuous improvements are essential to succeed.

“When focusing on flow, hand-overs are extremely important. It’s like a relay race. Everyone has to be ready when the baton is handed over. If the second runner falls over, everyone suffers. That’s why the company needs a good structure for rapid problem solving. Everyone is dependent on everyone else.”

What are the most common pitfalls?

“There are so many! A short-term approach is a common problem. It takes time to establish a new way of working. The management also needs to support it wholeheartedly. Standardising work can seem boring, but, in order to work in *one* flow, it’s vital to work systematically. It’s not about being static – standardisation should create a more dynamic way of working. The key is that those involved are able to influence the standards that are used.

“Most of us usually start with a standard when we don’t want to fail. If we invite people to dinner, for example, we prepare a signature

■ **Lean** is a management philosophy in which the organisation is designed to be perfectly fit for its purpose.



Niklas Modig is an expert in lean management from Stockholm School of Economics. He has studied how the ideas have spread from Toyota to sectors such as health care, technology and start-ups.

dish we know we're good at. We have chosen and refined a dish that suits us. That isn't boring, because we've developed a personal standard."

Which industries are doing well?

"The automotive industry is definitely one of the leaders and so are parts of the health-care sector. The software industry is another pioneer, where the ideal is to be 'agile' and create responsive structures. We can also learn a great deal from today's lean start-up culture. Start-ups continually get feedback on their business plan from potential customers."

How have the trends changed over time?

"When I returned to Sweden from my studies at Toyota in 2008, the focus was often on tools and

methods. This was followed by a counter-reaction when principles and values took over. After that, the trend was to talk about leadership. The focus now is on organisational structures, routines and learning systems. The ideal is a target-oriented organisation in which every individual experiences self-realisation by taking responsibility."

How is the Volvo Group doing compared with other companies in the industry?

"The Volvo Group is one of the forerunners when it comes to a long-term, smart industrial approach and in my opinion it has made huge strides. I am not familiar with all the details as far as the Volvo Group is concerned, but the material I have seen looks extremely ambitious and impressive." ◉

WHAT

The purpose of VPS

“To create a culture where we continuously make **sustainable** improvements to become best in our business. We do it by increasing customer value and removing waste in a **systematic** way through **everyone’s** involvement.”

VPS

Volvo Production System is a way of working with continuous improvement that is used throughout the Volvo Group. In 2015, a new VPS system was developed that can be adapted to any kind of environment.

VPS assessments

gives an independent view of a business entity. It reflects the extent to which a continuous improvement culture is embedded across the organisation and reflected in its results.

Learn to talk the talk

Here is some of the vocabulary mentioned in the articles on continuous improvement. Many of the terms and ideas have their origins in Japan.

● **3M** In lean philosophy, waste is divided into three categories (Muri, Mura, Muda):

MURI: any activity that leads to unreasonable stress or effort from personnel, material or equipment.

MURA: any variation leading to imbalance (for example, inconsistencies and irregularities.)

MUDA: any activity in the process that does not add value. (This is divided into 7+1 categories, for example waiting, over processing, overproduction.)

● **5S** is a way to organise your work practice and workplace. It is split into five phases, each named after a different Japanese term beginning with the letter “S”. It includes Seiri (Sort), Seiton (Set in order), Seiso (Shine), Seiketsu; (Standardise), Shitsuke (Sustain).

● **GEMBA** is a Japanese term meaning “the real place”.

It is normally a place where value is created, such as the production line or workshop floor. In lean philosophy, when a problem occurs, a manager or engineer must go to the site to understand the impact and gather data.

● **LEAN** is a management philosophy in which the organisation is designed to be perfectly fit for its purpose.

● **ROOT CAUSE ANALYSIS** is a method for solving problems used to identify the root causes of faults or problems.

● **VALUE STREAM MAPPING** is a presentation of the flow of materials from supplier to customer through an organisation, as well as the flow of information. It enables people to see at a glance where there are restraints, delays and waste.

More than **30** assessments

have been carried out since VPS Assessments started in 2016. The levels are Diamond, Platinum, Gold, Silver, Bronze, Foundation and Not Started. So far, only the GTO Powertrain Production Plant in Curitiba has reached Platinum level.

Four tasks are assigned to all employees in the Volvo Group

- 1 To do your job as described
- 2 To develop and improve the job
- 3 To develop yourself
- 4 To develop your team

改善 KAIZEN

A Japanese term that means improvement. In business, it refers to continuous improvement activities that achieve competitive advantages. It is a way of working that involves all functions and all employees. By improving programmes and processes, Kaizen aims to eliminate waste and increase value.

Half full or half empty?



The
OPTIMIST:



*"The glass is
half full."*

The
PESSIMIST:



*"The glass is
half empty."*

The VPS
CHAMPION:



*"The glass is
twice as big
as it needs
to be."*

7 reasons to work with continuous improvement

- 1 Increased employee engagement
- 2 Better customer satisfaction
- 3 Improved employee competence
- 4 Better product quality
- 5 Fewer safety risks
- 6 Shorter lead times
- 7 Better decision making



Josh Hammers, Bruckner Truck Sales' Service Advisor, runs diagnostics on a newly arrived truck. The uptime process lets him provide drivers with time and cost estimates for repairs upfront, which puts customers' minds at ease.



LIFE IN THE FAST LANE

More than 95 Volvo Trucks and Mack dealer locations in North America have redesigned their service process from the ground up. The new way of working has cut days off repair times. *Volvo Group Magazine* visits Dallas, Texas, to find out more.

TEXT LESLIE J. THOMPSON PHOTOS ANDREW KLEIN

AS THE 18-WHEELER eases in under the metal awning at Bruckner Truck Sales, Service Advisor Josh Hammers stands at the ready just inside the glass doors. Within minutes, he is outside with the driver, Dave Smith, plugging in a tablet PC underneath the truck's dash to run diagnostic software while the driver shares his concerns. They briefly look under the hood, then walk around the truck together for a visual inspection, as Josh Hammers takes notes on a clipboard.

With the intake complete, the driver pulls into an open stall near the service centre entrance. He has been at the dealership for about 20 minutes, and already a technician is running diagnostics on his vehicle.

Bruckner's dealer along the I-20 highway in Dallas is one of more than 95 Mack and Volvo Trucks dealer locations across the US and Canada that have become Certified Uptime Centers, a new initiative to improve the speed and quality of service. Bruckner's has implemented the uptime process at 20 of its 22 Mack and Volvo Trucks dealerships, spearheading the programme's early success.

"Customers notice a difference," says Josh Hammers, adding that the uptime process lets him provide drivers with a time and cost estimate for repairs up front, which puts their mind at ease. "If they can't drive, they can't make money, so we get them back on the road quicker," he says. ►



Dave Smith drives the largest vehicle in Western Concrete's fleet. When there is a problem, he relies on the Certified Uptime Center at Bruckner Truck Sales in Dallas, Texas, to get him back on the road quickly.



Glenn "Clay" Claiborne, Corporate Service Manager of Fixed Operations at Bruckner Truck Sales (left), and Eric Kananen, Dealer Uptime Development Manager at Volvo Group (right), helped implement the new way of working.

JUST A FEW years ago, most Mack and Volvo Trucks dealerships in North America were servicing vehicles on a first-come, first-serve basis. But a stronger economy and more complex vehicles were leading to major backlogs at workshops, with quick jobs getting stuck behind longer jobs.

Despite drastic increases in the number of technicians on staff and its bay count, the Volvo Group's dealer network found that workshops faced challenges in getting trucks through efficiently. On average, trucks were down for four days, while the average time for a repair was only 3.5 hours.

The solution has been to introduce the Certified Uptime Center, a certification programme that dealers can implement to change their way of working. The initiative involves several changes, including new ways of managing workflow, a new service process and redesigned service bays.

MANY ELEMENTS OF the Certified Uptime Center Program have been inspired by best practices at high-functioning dealers. One of the key solutions, a quick lane for the smaller repairs, came from a dealership in Canada that had implemented a fast-lane approach to routing trucks for service, inspired by the 10 items or less line at the supermarket.

"We started going to some of our really high-functioning dealers and asking what they had done to solve this," says Eric Kananen, one of five Dealer Uptime Development Managers who train and audit service centres for certification.

After piloting the programme at a couple of strategic dealership locations, Volvo Group rolled out the initiative on a broader scale.



BRUCKNER TRUCK SALES

Established: in 1932 by B.M. "Bennie" Bruckner. Today, it is the biggest dealer group for Volvo Trucks and Mack in the USA.

Locations: 26 locations across the U.S., including 22 service locations, of which 20 are Certified Uptime Centers, and 815 employees.

Owners: The company is run by the founder's two grandsons, Brian and Chris Bruckner.

A RAPIDLY EXPANDING INITIATIVE

THE CERTIFIED UPTIME Center Program was initiated in late 2015. Now, over 95 locations across North America are Certified Uptime Centers and the initiative is expanding rapidly, as more dealerships request training.

A check-in is performed on every truck, during which a code read is completed. This allows the truck to be routed to the right bay. Uptime Bays are

used for quick diagnostics and repairs. Advanced Bays are used for diagnostics that take more than 45 minutes and repairs taking more than four hours.

The ASIST software is key to communicating throughout the process. For example, it is used to send requests for parts, which are delivered directly to the bay. Additional procedures, such as keeping work areas clean and organised,

and implementing service check-in consultations, further improve efficiency and enhance the customer experience.

After training and implementation, service centres are audited by a Dealer Uptime Development Manager. Those that successfully meet the programme's eight standards (28 requirements) are designated as a Certified Uptime Center.



Bruckner Truck Sales has implemented the uptime process at 20 of its Mack and Volvo dealership locations. The dealer group's Dallas locations have seen an 8 per cent rise in labour sales and a 22 per cent increase in parts sales after implementing the programme.

“It’s not a structure that somebody sat down in a conference room and hashed out. It’s a best-practices programme that makes sense.”

GLENN CLAY CLAIBORNE, CORPORATE SERVICE MANAGER OF FIXED OPERATIONS AT BRUCKNER TRUCK SALES

“What I like about it, from the dealer point of view, is that it’s not a structure that somebody sat down in a conference room and hashed out,” says Glenn “Clay” Claiborne, Corporate Service Manager of Fixed Operations at Bruckner Truck Sales. “It’s a best-practices programme that makes sense.”

ALTHOUGH THE PROGRAMME has been widely embraced by dealerships, implementing the change has had its challenges. Technicians at one Bruckner service centre were reluctant to adopt the new “clean and organise” protocols designed to drive productivity and customer satisfaction, admits Clay Claiborne, joking that he was *persona non grata* during training. When he returned shortly after the programme was fully implemented, the technicians thanked him for the change.

“It’s given them a sense of pride they’ve never had before,” he says. “Plus, naturally, it makes them work faster, because they’re not tripping over the clutter.” ☉

WHAT’S NEXT?



Phillip Swaim

“THIS YEAR, WE are targeting dealerships that impact the customer the most and completing the larger market dealerships. We are using remote diagnosis to understand where trucks are running into problems. In this way, we can pinpoint areas

where dealers need to implement the new process. We are also focused on finding the best ways to measure outcomes. With accurate measurements, it’s easier to drive continuous improvement and take steps to make the programme even better.”

PHILLIP SWAIM, DIRECTOR NETWORK UPTIME DEVELOPMENT, VOLVO GROUP, NORTH AMERICA

CUTTING COSTS WITH EMAILS

In the space of just a few years, GTT has reduced its mobile phone costs by more than 50 per cent. The secret is personal emails informing users of how they can lower cost by modifying their ways of using their mobile phones.

"HII YOU HAVE been identified as a 'top spender' in the data roaming category."

This is the kind of mail Ingela Thalin, GTT Process & IT, sends every quarter to some of her colleagues at GTT. These emails are playing a central role in a campaign that began just over three years ago. At that time, GTT had high mobile phone costs.

Instead of a general appeal to everyone, GTT Process & IT decided to send personal emails every quarter to "top spenders" with information about their consumption in different categories, such as foreign calls and roaming. "Most of the people who receive these emails are not aware of the costs as they don't see the invoices. People that travel a great deal at work

can easily run up high mobile costs. It's very much a question of becoming aware and trying to work differently, to get the job done while limiting costly data roaming fees for example," explains Ingela Thalin.

She now sends an average of 100–150 emails every quarter. To begin with, it was frequently the same names that appeared, but this is no longer the case. "I regard this as proof that the work we are doing is really making a difference."

STIPE MAGDIC, BUSINESS

Infrastructure Manager, Group IT, is responsible for the analyses on which the emails are based. Since the campaign began, the information has become increasingly detailed. "Knowing that your costs are the fourth highest among 4,000 users sends a very clear message and we can see a real change of behaviour when the emails are dispatched. It's important for people to be given an insight into the big picture and the way individual employees can influence it," he says.

Since the campaign began, mobile phone consumption costs have been reduced every quarter. GTT now has the lowest mobile phone consumption costs within the Volvo Group. Stipe Magdic has also introduced this working method in other parts of the Group. In 2016, he led an activity that resulted in total savings of 6.4 million SEK.

"We have received a positive response. It's important to remember that the purpose isn't to point fingers. It's a question of informing people," says Stipe Magdic. ☺

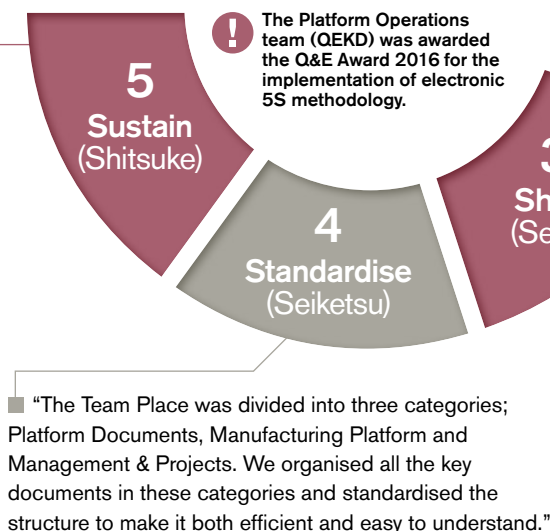
LINDA SWANBERG

Ingela Thalin and Stipe Magdic both work with an awareness campaign in which "top spenders" receive a personal email with information about their mobile phone costs.

TEAM PLACE IN 30 SECONDS

Do you spend a lot of time searching for documents at Team Place? The Platform Operations Team at the former GTO Quality, Engineering & KD created a smarter structure last year, using 5S methodology. Maria Lafallisse, Director CAST, explains how they did it.

■ "We identified a time plan to maintain the Team Place in a better way. The idea was to review it every three months and make improvements. When this step was completed, for most of the documents, we were far better than our target of finding a document within 30 seconds!"



■ "We had a lot of different Team Places and old documents which generated confusion and wasted time. We started by identifying all the documents that were no longer useful or needed. A final list was presented to the group and after that we started the removal process."

■ "In this step, we put all the documents into the proper order. We renamed files and all folders were named using Volvo Group terminology and sorted across the three main group functions."

■ "We now had to find a structure for our new Team Place. The ideas were discussed in our target image meetings and it was quite a process to adapt and decide the final layout. Since we had no Team Place creation experience, there was a lot of trial and error. The whole group helped to find the structure."

Name a continuous improvement initiative that you are proud of?



"We are working in a new way to improve our supply chain cross functionally. It can be anything that causes a disturbance or affects our supply

chain, for example a selected packaging causing unnecessary handling. Cases are brought up in cross-functional decision forums called Supply Chain Optimization Governance (SCOG). The objective is to find the best solution for the Volvo Group. During the first year, we have implemented savings of 113 MSEK for GTO and GTP."

CECILIA HELLNER, DIRECTOR INBOUND, GTO, GOTHENBURG, SWEDEN



"In the process team, we analyse what we do every day and discuss proposals for improvements. We are currently planning production on some

of the paint lines based on the demand for colours. Using this working method, we can gather metallic cabs, for example, and apply colour series, after which we close the ventilation and ovens. In this way, we can save up to SEK 400,000 in energy costs every year and reduce our environmental impact at the same time."

ERIC OHLSSON, SEGMENT COORDINATOR AT GTO CAB & VEHICLE ASSEMBLY, UMEÅ, SWEDEN



"We've initiated a job rotation programme within the HR team in Korea. That means, for example, that someone who is in charge of salary and

compensation gets a new role overseeing benefits. The experience turns you into more of a generalist. Personally, I feel that it's helped broaden my view of the business. We've also noticed that, when we introduce new HR initiatives, we can solve problems more quickly since we've all worked with different tasks within the department."

EUNJOO HWANG, HR ADMINISTRATOR, HR SERVICES, CHANGWON, KOREA



GETTING EVERYONE ONBOARD

The Volvo CE plant in Arvika, Sweden, is at the forefront of continuous improvement. To improve even further, it is now taking the next step and engaging suppliers.

TEXT NIC TOWNSEND PHOTOS ROBIN ARON OLSSON



Left: Klas Linden, Michelin Nordic AB, steps off the wheel loader after his test drive.
Below: Mikael Svensson, Logistics Manager at Volvo CE Arvika.



For many sites, continuous improvement (CI) is essentially an internal process, but often external actors need to be taken into consideration. This is why Volvo Construction Equipment's wheel loader plant in Arvika, Sweden held a Supplier CI Forum earlier this year, which brought together 30 of its key strategic suppliers.

"We are very dependent on our suppliers, and we only need one of them to fail – either time-wise or in terms of quality – and our whole production line can stop," says Mikael Svensson, Logistics Manager, Volvo CE Arvika. "It is

important that we have good collaboration – without it, we are severely limited in how far we can improve ourselves."

Within the Volvo Group, the Volvo CE Arvika plant is a benchmark site when it comes to continuous improvement and it is one of the few sites to reach Gold level in the VPS assessments. During the Supplier CI Forum, participants learnt about the plant's continuous improvement journey and all the changes that have taken place in recent years in order to achieve its current status. This was followed by a tour of the plant, where suppliers could meet people on the shop floor and see real examples of continuous improvements for themselves. Finally, they got the chance to test-drive Volvo CE wheel loaders.

Klas Linden, Key Account Manager, Michelin Nordic AB, relished the chance to learn more about how the plant operated on a more detailed level. "You get more into the details of how they are working here, which gives us a better understanding about what they need and what they do, so I'm sure we can now find ways to improve in our way of working."

VOLVO CE ARVIKA

Employees: Approx. 900

Production: Volvo CE wheel loaders L60-L350

Suppliers: Approx. 300 globally



Stefan Leimbach, Pacoma, test drives a Volvo CE wheel loader. The purpose was to give suppliers a greater overview of the final products that they help build.

Continuous improvement at Volvo CE Arvika

In November 2016, Volvo CE Arvika was awarded Gold in the new VPS grading system. In three years, productivity has increased by 26 per cent. The Employee Engagement Index has increased by 18 per cent since 2012. To read more about continuous improvement in Arvika, see the article 'Room for improvement' in *Volvo Group Magazine*, issue 4/2016.

"It's a good reminder that we're not just supplying plants, but supplying people," says Tomas Prazak, Manuli Hydraulics.

Many of the participants were already familiar with the concept of continuous improvement having worked with similar programmes within their own companies. Nevertheless, seeing it so successfully applied in practice was greatly beneficial. Stefan Leimbach, Plant Manager at German hydraulic cylinder suppliers Pacoma, found it interesting to see practical examples to support the theory. "Continuous improvement is deeply involved in our management system, but seeing the best practices gives us confirmation that we have the right tools and are working in the right way."

One key aspect that impressed participants was the level of engagement and commitment from the plant's employees. "I am really impressed

by the level of pride people display in working here," says Tomas Prazak, Operations Manager, Manuli Hydraulics. "In our experience, people by nature dislike change, so it was interesting to hear about the methods used to get people engaged and involved in the improvement process. This is something I would like to discuss with our local guys when we return."

Overall, the event was a success, with the level of enthusiasm even surprising the organisers. "Virtually every supplier we invited accepted and some even asked if they could bring extra attendees," says Mikael Svensson. "We got a lot of positive feedback and heard some good ideas on what we can do better, so it was a learning experience for all of us." ☺

RESOLVING ERRORS EARLIER

THROUGH THE introduction of a cross-functional production clinic, staff at the Nova Bus plant in Plattsburgh, USA, have been able to significantly reduce the number of production hitches when starting new contracts. Jean Cote, Team Leader, explains how:

"Historically, the first few buses of a new contract experience a spike in snags due to work instructions, incorrect balancing and other engineering-related errors. This results in secondary rework operations, which delay delivery.

"For the last VPS cycle, we decided to change our work style so we could be more proactive. To accomplish this, we created a process where we review the build documentation prior to each contract.

"First, our team, which comprises mechanical, electrical and industrial engineers, reviews the documentation internally and resolves any errors found. Then we review the material with our internal customer: the production department. This is done through a production clinic, which is typically held two weeks before laydown and the sign-

off is required two days before the new contract is introduced to the production line.

"Over six months, the team has reduced the number of snags from an average of 18 per cent of operations to only 9.7 per cent. And our most recent contract only saw three per cent of operations snagged on the first bus.

"As a result, our customers are receiving higher quality buses because we are able to complete more operations in station as opposed to reworking them later. This also means we are able to move the buses through the final assembly process quicker, which ultimately leads to the customer getting the bus sooner." ●



PHOTO: NOVA BUS

The team from Nova Bus in Plattsburgh, USA. From left to right: Erich Klaiber, Joel Rabideau, Amber Watkins, Kevin Delisle, Kristen Manabat, Sean O'Connor, Jean Cote, Richard Redmond, Michelle Sahai, Harold Primard, Xavier Da Cunha Faria and Mike Barcomb.

What is your best tip for people who want to start working with continuous improvement?



"Don't hesitate to use the VPS, more specifically the Kaizen approach. It's more than a technique or a management style,

it is a philosophy. In Marseille, the internal ways of working have been fundamentally changed in a soft and progressive way thanks to everyone's efforts and commitment. It was not a radical change decided by one single person."

WALTER MARCONNET, WORKSHOP MANAGER, RENAULT TRUCKS MARSEILLE DEALERSHIP, FRANCE



"Get top management support first. If leaders aren't fully engaged, people tend to return to old ways and change doesn't happen. The bigger

and more cross-functional an opportunity is, the more important management buy-in is if you want to drive improvement. Otherwise, the probability of successfully concluding the project is greatly diminished."

GERRIT POTGIETER, DIRECTOR OF CORPORATE QUALITY, MACK TRUCKS, GREENSBORO, USA



"Identify a current process and fully understand what we have to work with. After that, try to think how to reduce loss and waste in

transportation, movement, parts handling, machine and equipment, idle and waiting time. Continuous improvement is a great way to identify opportunities and integrate improvements in the day-to-day work to reduce loss and waste. We can support the company with more productivity, more output and control operating expenses."

THANASES KONGMAN, SENIOR PRODUCTION MANAGER, PAINT SHOP, GROUP TRUCKS ASIA & JVS, THAILAND

Everything you want to know about *continuous improvement** (*but were afraid to ask)

As VPS Assessors, David Palmérus and Tomas Norlenius have visited sites all over the world in an attempt to make the Volvo Group better. *Volvo Group Magazine* asked them to unravel some of the secrets behind continuous improvements.

QUESTION: I would really like to work on continuous improvement, but I don't know how to start.

ANSWER: The important thing is to start where you are, even on a small scale. Within the Volvo Group there is a process in seven steps for creating a culture of continuous improvement. This can be a good starting point. Step one requires the leader to be a driving force. This is where everything must begin. Step two involves making an assessment of the organisation's current situation. It is then a question of developing a target image, a roadmap for

the future and a plan to get there. These are steps three, four and five. The last two steps involve executing the plan and evaluating the result.

QUESTION: My boss isn't particularly interested in continuous improvement. What should I do?

ANSWER: Everyone within the Volvo Group is expected to work on continuous improvement and managers and leaders play a key role. However, you can also think about how you, as an individual, can improve your work. Start by thinking about

your actual job. How do you know how it is supposed to be done? What results do you achieve? What do you do when you are confronted by a problem? This kind of self-reflection is the starting point for improving your work, developing yourself and making a greater contribution to your team.

QUESTION: I would like to learn more. Where can I find information?

ANSWER: There is a fair amount of information on the Continuous Improvement and VPS Section on Violin. Everyone



should be able to find what they are looking for there, regardless of whether they are simply curious and want to get started or whether they have been using the VPS for a long time.

QUESTION: Do I need to know a long list of Japanese words to work on continuous improvement?

ANSWER: Only if you speak Japanese! Many people lose interest when they are faced by words they do not understand and it is not the words but the thoughts and ideas behind them that are important. In spite of this, some Japanese words appear very often; they include Kaizen, which means making gradual improvements, and Gemba, which means "right place". When we talk about "going to Gemba", we mean being at the place in the Group's operations where the work is actually done.

QUESTION: Aren't continuous improvements simply a way of making staff cutbacks?

ANSWER: No, that is not correct. Quite the reverse, in fact. To avoid large cut-back programmes, we all need to work on the right things at all times and do things a little better than we did yesterday. For example, VPS and continuous improvements are useful for improving the work environment and counteracting sick leave.

QUESTION: My colleague says that the VPS started in 2015, but I think it's older. Who is right?

ANSWER: You both are! In 2015, it was decided that the whole Volvo Group was going to work on continuous improvement. At the same time, an updated Volvo Production System, VPS, was adopted as the framework for conducting the work systematically. However, many people in the Group have been working on continuous improvement for a long time and they have then used different frameworks, tools and methods.

QUESTION: Can continuous improvement really be fun?

ANSWER: Many people think so! It is fun to be able to influence things and, for many people, continuous improvement is a way of understanding both their own and their colleagues' work even better. The work environment improves if the things that were previously regarded as frustrating or

ineffective are dealt with. Many teams think that their collaboration improves and that they are given more energy by finding new ways of doing things.

QUESTION: My work can't be measured. So how can I work on continuous improvement?

ANSWER: To improve, it is important to be able to describe your work and measure how well you succeed. Regardless of where in the company we work, the starting point has to be the value we can offer our customers. We must strive only to do the things that create value. Through creative dialogue between colleagues, we can almost always find a good way of evaluating our deliveries and our service.

QUESTION: I get really tired of listening to all the talk about continuous improvement. What's wrong with simply continuing to work in the usual way?

ANSWER: A good question! There is a risk that we spend so much time talking about continuous improvement that we ignore all the good work that is already being done. So we must try to avoid doing this. However, we are all responsible for improving the work we do, developing ourselves and the teams of which we are members. It is both inspiring for each of us and it produces more satisfied customers.



Tomas Norlenius
and David Palmérus



ANDREA FUDER

Education: Two German degrees equivalent to an MBA in Economics and an MSc in Mechanical Engineering.

Career: 1992–2012: Various leading positions at Volkswagen's Quality and Logistic's departments, as well as senior positions within Purchasing. 2012–2016: Head of Purchasing at Volkswagen-owned Scania. Since 1 January, 2017: EVP GTP and member of the Volvo Group Executive Board.

Hobbies: "Of all things, I most love spending time with my family".

Andrea Fuder started working in the automotive industry 25 years ago.

SEEING THE BIG PICTURE

With an annual spend of some 120 BSEK and management of 30,000 suppliers globally, Group Trucks Purchasing has a substantial influence on customer success. Meet Andrea Fuder, Executive Vice President GTP as of 1 January.

TEXT ANN-MARI ROBINSON PHOTO PONTUS JOHANSSON

GTP is one of three divisions supporting the truck brands, together with GTT and GTO.

How do you collaborate?

"It's important to start with the mission, vision and strategy of the Volvo Group and see how we can support each truck brand in the best way, as well as the Volvo Group. Each brand has a sharp profile and they all bring in the voice of the customer.

"However, at the same time, we have to use the synergies of the Volvo Group and define our backbone. This is a key task of GTP, GTT and GTO. We also take care of new technology scouting, motivating cost consciousness, improving quality continuously and so on."

How visible is the customer for GTP?

"The customer is always on our agenda. More or less two thirds of the cost of our products is made up of purchased parts, so what we do and how we perform as a purchasing team impacts the customer directly. If we don't have proper delivery precision in the supply chain, it will have a negative impact on the delivery date to our customers. Poor quality and poor project maturity

will decrease the uptime of our customers. We need to be able to offer the expected values at the right cost levels; even the most wonderful technical features must be competitive."

What has your initial focus been?

"The first months have been spent listening, understanding and meeting my team at the main sites in the USA, Europe and Asia. I have encouraged a dialogue and from this I set the direction together with my management team, but the base is already there, with a highly professional, global purchasing division.

"I have received a warm welcome and already feel very much at home. This inclusive culture is a great asset for the Volvo Group. People don't talk in terms of us and them but rather of we; a fantastic foundation for any company."

Describe yourself and your values.

"I really like to see the word 'Change' as one of the culture values for the Volvo Group; it fits well with my personality. I like to move out of my comfort zone and challenge myself. I am also passionate and emotional. What I do, I do with all my heart. I value transparency and I am straightforward – some might even find me a bit too direct. I am not afraid of tough discussions



“From what I have seen, the Volvo Group is well prepared for the future.”

if they are needed to reach the right decision for the Group. I prefer to work cross-functionally rather than in silos.”

What's your background?

“I grew up in Germany and studied there. A lot of my friends went into consultancy firms, but I started as a trainee at Volkswagen. Since then, I have worked with quality, logistics and purchasing but always in different roles and for different brands. The automotive industry for sure is my industry!”

What's your view of future mobility?

“GTP has to be one of the key functions to support future mobility, as we are the ones scouting for suppliers. We need to develop good methods to find the right partners for new technology and this will also impact how we work with the supplier base. Historically, we have always had long-term partnerships, but in the future we may need some suppliers for only one project and others for the next; especially for new technologies where the world is changing daily.”

What about new competence?

“We might find it among suppliers in Silicon Valley, Japan or right on our doorstep. We also need to decide what we should keep as core

GROUP TRUCKS PURCHASING (GTP)

GTP is the newly created stand-alone purchasing division for the Volvo Group. Approximately 1,300 people at more than 50 sites around the world cover all truck brands (automotive purchasing), as well as all purchasing for the Volvo Group (non-automotive purchasing). GTP has a total spend of 120 BSEK and 2,600 suppliers deliver almost 2 billion parts to Group truck plants each year.

Andrea Fuder has been EVP of Group Trucks Purchasing since the beginning of the year. “I will always try to motivate my colleagues to look at the big picture in everything we do.”

in-house competence that can be a game changer and what competence we should purchase. This is a typical discussion between GTP, GTT and GTO.

“From what I have seen, the Volvo Group is well prepared for the future; we have understood what is coming and therefore allocate more resources in certain areas.”

At GTP, you also cover parts. What further business opportunities do you see here?

“The availability of parts is vital for our customers' uptime, I think we can also explore more new technology here, such as 3D printing of parts. We need to see what's available in the



market and be able to have correct forecasts. Here we can learn from companies like Amazon which are good at analysing masses of data.”

Looking ahead, what challenges do you see for GTP?

“Times are changing and we need to change with them. We cannot be content with yesterday’s solutions but always need to check if we have the right strong partners today and tomorrow. We must take into account the direction for the Volvo Group, the needs of individual brands, the dynamics with new technology, the developments in society, our sustainability goals and the geopolitical changes.

In the end it’s the success of the whole Volvo Group team that matters.”

What is your impression of the Volvo Group?

“It is a company that has the highest respect and Volvo Group is one of the leaders in the industry. I really like the complexity of multiple brands and several regions. I put a lot of effort, in addition to being head of Purchasing, into understanding all the mechanisms of the Group. I experience this with my colleagues on the Executive Board as well; everybody is interested in understanding the broader sense of the business and this is definitely what is also close to my heart.” ☺

Jonathan Miller (left) and John Miceli make frequent trips to Capitol Hill, home to the US Congress. It is important always to keep on top of proposed legislation.



Part of the agenda

Jonathan Miller and John Miceli spend their days in meetings, to make sure that the Volvo Group has a presence in the American centre of power.

TEXT MARIA SKÖLD PHOTOS MATTHEW BORKOSKI

PUBLIC AFFAIRS

The public affairs team in Washington consists of six people (although one of them belongs to GTT). The office was founded in 2004.

THE US CAPITAL, Washington DC, is a hub for thousands of lobbyists. Three of them, Kelly Bobek, Jonathan Miller and John Miceli, are employed by the Volvo Group.

"We focus on Congress, the White House, US governmental agencies and the states in which the Volvo Group has activities. We also have contact with different embassies, not least the Swedish Embassy, and the European Union representatives in Washington," says John Miceli.

For him, a normal day is made up of meetings – very many of them. He frequently visits

members of Congress and their staff in their offices on Capitol Hill to communicate the Volvo Group's views on legislation and policy. It is important to express the Group's opinions about the proposals at an early stage. US policies in areas like transport, the environment, safety, taxation and trade have a major impact on the Volvo Group.

"**ONE IMPORTANT PART** of our work is staying informed so that the Group is able to plan. We have to pass on what we know to colleagues. ►



08.32 a.m

John Miceli and Jonathan Miller discuss the upcoming meetings for the day and the message to be communicated on behalf of Volvo Group.



09.15 am

Jonathan Miller has been a Mack Trucks fan all his life, inspired by his grandpa who was a fleet owner. This brand affection can be clearly seen in Jonathan Miller's office, which is filled with Mack memorabilia.



The Volvo Group's public affairs office in Washington is located in House of Sweden, which is also home to the Swedish embassy.

ON THE CLOCK

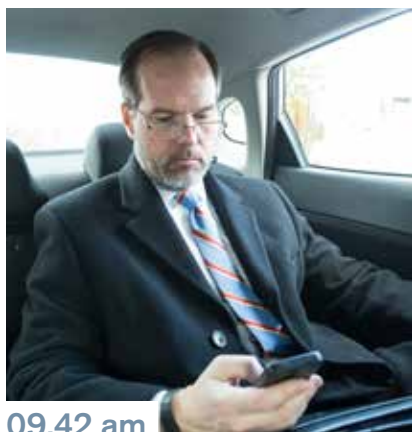
At the same time, we need to explain to the politicians the consequences different proposals would have for us. This applies in particular to the representatives from states where we operate. They want to understand our take on different initiatives,” explains Jonathan Miller.

Naturally, the public affairs team in Washington, which comprises a total of six people, is unable to analyse all the proposals in detail. They are often assisted by technical, legal or other experts from different parts of the Group.

“This collaboration is extremely important to us. We need to have the knowledge at our fingertips and explain things in a pedagogic manner. This is particularly true if something is going to have unreasonable consequences for the Volvo Group,” says John Miceli.

BOTH HE AND Jonathan Miller have worked as congressional staffers before joining the Volvo Group. Jonathan Miller has also worked for the European Union. This familiarity with and understanding of the system and the decision-making process is of course crucial.

“But personal relationships are also vital and this is especially true right now. After the elections there are so many new faces in the White House and on Capitol Hill. It’s our job to get to know them and understand their plans,” says Jonathan Miller. ☉



09.42 am

On his way to Capitol Hill, Jonathan Miller is catching up on emails.



09.55 a.m.

Jonathan Miller and John Miceli walk the impressive halls of Congress on their way to the day's first meeting. They both used to be staffers here, so this is familiar territory.



10.20 am

Jonathan Miller and John Miceli meet with US Representative Charlie Dent, who represents the Mack Trucks Plant in Macungie and the Mack Customer Center in Allentown. Representative Charlie Dent has been a huge help to the Volvo Group and is known as a leader within the House of Representatives.



11.07 am

John Miceli grabs a quick cup of coffee between meetings and catches up on recent news with another lobbyist.

01.12 pm

The Volvo Group team meets with Laura Lyon, a legislative staffer for Representative Scott Taylor. Scott Taylor is a newly elected Virginia representative who is interested in working with the Volvo Group.



FIGHTING ICE

Vestergaard sells advanced deicing vehicles to airports all over the world. As a body-builder with many specialised solutions, the company collaborates closely with Volvo Trucks.

TEXT LINDA SWANBERG PHOTOS MARTIN MAGNTORN



A newly built deicer sprays water on an aircraft wing at Vestergaard's facility in Roskilde, Denmark. The company produces about 100 deicers every year.



Søren Blum, Technical Support at Volvo Trucks, and Elo Svanebjerg, Technical Director at Vestergaard, collaborate closely.

A LARGE CLOUD of water spreads across the yard at the Vestergaard facility just outside Roskilde in Denmark. The water comes from an Elephant Beta, the deicer model that has made this Danish company a well-known brand in the aircraft industry. This particular vehicle will soon be dispatched to Russia, but, before that, all its functions have to be tested and precision adjusted.

"These tests are important. We need to know that the equipment will function safely when it's delivered to the airport," says Elo Svanebjerg, Technical Director at Vestergaard.

The company was founded in 1962 and the first deicer was built a few years later. Today, Vestergaard has some 1,500 deicing vehicles in operation all over the world and every year 100 new vehicles leave this large facility.

"Europe, the USA, Canada, Russia and Japan are large, important markets for us. We have agents and offices in other countries, but all the bodies are built and assembled here in Denmark," says Elo Svanebjerg.

Vestergaard's bodies are composed of a large number of different components. The telescopic spray boom that gives Vestergaard's deicers a major advantage over its competitors is one of the parts that is built at the ►

workshop. This boom is extra long, making it easier for the operator to get really close to the aircraft during deicing, thereby using less fluid.

"During deicing, around 200 litres of fluid are sprayed every minute and this can represent a high cost for the customer. By making our vehicles efficient, we help to make the customer's operations more economical," explains Elo Svanebjerg.

THE VEHICLE IS controlled by an operator from an integrated cabin. To enable the deicers to get as close to the aircraft as possible, rigorous demands are imposed on the trucks to which the body is fitted. Vestergaard has been collaborating with Volvo Trucks for more than 40 years and, at the present time, some 60 per cent of all its deicers are based on Volvo FE and FL trucks.

"They are short trucks that are easy to manoeuvre. It's also important to be able to drive the vehicle at low speed, with a large number of stops and starts," says Elo Svanebjerg.

VESTERGAARD'S BODIES REQUIRE many different adaptations and special integration solutions. Deicing vehicles must, for example, be able to withstand a higher axle load and have special output for power take-offs, hydrostatic propulsion and pump systems. It takes about 12 weeks to produce a body and, when the time for assembly comes, it is essential that all the chassis specifications are correct. Elo Svanebjerg and his colleagues conduct a close dialogue with Volvo Trucks in Denmark and the plant in Blainville in France, where the trucks are produced.

"We are a special customer and we impose many specific technical requirements on the trucks we order," he says. "We have an excellent

partnership with Volvo Trucks and this means that we can build the optimal solution to match our customers' needs."

ONE FACTOR THAT has become increasingly important for Vestergaard's customers is swift deliveries. The company therefore also builds deicers on spec and is able to deliver a standard vehicle in two to three weeks.

Volvo Trucks is also working hard to reduce lead times. Søren Blum works as technical support at Volvo Trucks in Taastrup and acts as a link between Vestergaard and other parts of the Volvo Trucks organisation.

"We are focusing very heavily on simplifying the process and attempting to deliver our trucks even faster. Vestergaard is more than a customer, they are a partner and it's essential that they receive the solutions and adaptations they need," he says. ©

The boom is extra long, making it easier for the operator to get really close to the aircraft.



PHOTO: VESTERGAARD

DEICING AIRCRAFT

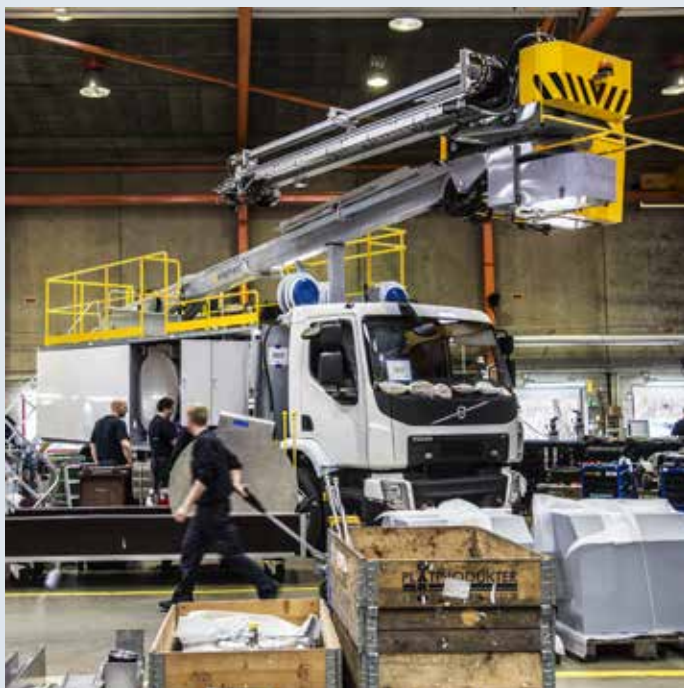
- ▶ Aircraft that are parked or waiting at airports and have been covered in ice, frost or snow during this time must be deiced before take-off.
- ▶ In step one, the deicer sprays a warm glycol mixture that dissolves snow and ice. In step two, a thicker fluid is applied to prevent new ice forming. When the aircraft speed increases, the fluid changes character and is blown away.
- ▶ During flight, the aircraft has its own equipment to prevent new ice forming.



Vestergaard's bodies require many different adaptations and special integral solutions. Niels Erik Saaby is mounting some of the components in the machine room of the deicer.

VESTERGAARD COMPANY

- **Operations:** Produces and sells deicing vehicles, as well as vehicles for water and lavatory service. It has around 1,500 deicers in operation at airports all over the world.
- **History:** Founded in 1962. Its first deicing vehicle was supplied to SAS in 1966.
- **Employees:** 260
- **Partnership with Volvo Trucks:** Purchases 50-80 Volvo trucks every year, primarily Volvo FE and FL. Vestergaard and Volvo Trucks also have a service partnership agreement.



The Elephant Beta deicer takes about 12 weeks to produce. The body is mounted onto the truck at the workshop.

A strong partnership

Body-builders are important partners for Volvo Trucks. "We are working the whole time to find methods to make their work easier," says Tor Hesselgren, Body Builder Development at Volvo Trucks.

VOLVO TRUCKS collaborates actively with some 4,000 body-builders worldwide. One important link to these companies is the Volvo Body-builder Instructions (VBI), a portal in 16 languages that is open round the clock. This portal includes drawings, instructions, wiring diagrams and information about the location of the truck in the production process. Volvo Trucks is also the only truck manufacturer to offer unique 3D models. This enables the body-builders to see how each component is designed before the truck is completed or even started, thereby saving valuable time.



Tor Hesselgren

WHILE A STRAIGHTFORWARD van body takes about 10 days to build, complex vehicles such as fire engines may require several months of work. "Shortening lead times is something we are really focusing on, using planning tools, for example, which enable the body-builder to see how a vehicle is planned. We alert them if something is changed and if the vehicle is delayed," says Tor Hesselgren.

The local support in the different markets is by far the most important factor. They do everything to ensure that the customer and body-builder are given the best technical solution. "Customer surveys reveal that the work we do is appreciated. Volvo Trucks receives a high rating on most of the rankings on the body-builder interface, such as chassis, electronics and power take-offs," says Tor Hesselgren. ☺



BODY-BUILDERS

- Every year, Volvo Trucks sells an average of 25,000 rigid trucks for bodies of different kinds.
- 3 most common superstructures: tipper, van body and hook lift



Gustaf Rydelius, who works at Communication Development, takes a phone call on the sofa next to his desk. "I think it's great to have my colleagues close by. It makes it easy to exchange thoughts and ideas."



Every floor at the VLH building has several small kitchens with coffee machines and tables to gather around. The tables can also be used for both spontaneous and planned meetings.



The conference rooms are equipped with modern technology. Here, Sylvia Wyrwinska-Junkiart and Ivy Barbosa, Group Legal & Compliance, have a meeting with Melanie Delemarle, Corporate Audit, UD Trucks in Ageo, Japan.



Karin Mossberg and Christina Jansson both work at Corporate Legal. These armchairs are located close to their desks.

CREATIVE SPACES

Welcome to the Volvo Group's office of the future, where individual rooms have been replaced with different working environments. The overall aim is to foster creativity, improve communication and open the door to new partnerships.

TEXT LINDA SWANBERG PHOTOS PATRIK OLSSON & CHRISTER EHRLING



Christian Claeson, Purchasing Director IPS, is visiting VLH and has taken the chance to borrow one of the small meeting rooms.



The new head office houses the Volvo Group's CEO, Martin Lundstedt, and his assistant, Helena Landbergsson, together with a number of other colleagues in an open-plan area on the eighth floor.

Vision Future Workplace

A workplace that...

- ⦿ is positive, engaging and fun
- ⦿ is smart for work, smart for life
- ⦿ is easy to collaborate and learn in
- ⦿ supports innovation
- ⦿ brings freedom and trust
- ⦿ creates a feeling of belonging
- ⦿ embraces the Volvo Group culture
- ⦿ increases performance

FUTURE WORKPLACE



On the eighth floor at VLH, plenty of new conference rooms are available for employees. Britt Thorbjörn welcomes visitors at conference reception.

“Open areas are based on trust and not being afraid of relying on one another”

KERSTIN RENARD, EVP GROUP HUMAN RESOURCES

AT THE BEGINNING of the year, when employees from GTO and Volvo Group head office moved to VLH in Lundby, Gothenburg, it was somewhat different. This newly refurbished building is the first example of the way the Volvo Group's future offices are going to be designed.

No one, not even the top executives, has separate offices. Part of the eighth floor is now an open-plan area occupied by Martin Lundstedt and a number of his closest colleagues.

“I really like this way of working. It's both efficient and good for communication. After all, a large part of our work is based on interaction and this set-up makes it easy and quick to get together for discussions,” says Martin Lundstedt, the Group's President and CEO.

VLH is one of the first offices to be designed according to Future Workplace, the concept that

applies to all large-scale refurbishments and new construction projects in the Volvo Group. The aim is to create smart workplaces that inspire and generate creativity and a sense of belonging, as well as facilitating partnerships.

Future Workplace also means that, prior to a refurbishment or move, every organisation has to conduct a detailed analysis of its operations.

“The solution can be a totally activity-based working method or a set-up with individual desks. It all depends on the employees' work and needs,” explains Jonas Westerlund, Workplace Management Director.

At VLH, management has chosen to allow all 700 employees to have individual desks. The workplaces are interspersed with open lounges with armchairs, sofas and seating groups. There are also a large number of small rooms for other purposes, such as meetings and individual work.

“In many offices, the employees are already sitting together. So, as far as they're concerned, the main difference will be that they have access to far more rooms for other activities and individual focus. Freedom of choice and the feeling of being in control are incredibly important. Employees need to feel that ‘I can work where I like and in a way that suits me,’” adds Jonas Westerlund.

THIS NEW WORKING approach will make the work environment more efficient for each individual, but it is also a step into the future as far as the Volvo Group is concerned. Kerstin Renard, Executive Vice President Group Human Resources, is convinced this is the right way to go.



Kerstin Renard, EVP Group Human Resources, has received many positive reactions following the move to VLH. “Many people were dubious prior to the move, but I am now hearing many of them saying that they get more done.”



Jonas Westerlund, Workplace Management Director, tests one of the armchairs in the library at VLH. "This room is supposed to be quiet, just like a normal library."

"As employees, we become more creative in inspiring environments. It's easier to accept change and it opens the door to partnership and interaction."

Future Workplace also reflects a number of the Volvo Group's values.

"Open areas are based on trust and not being afraid of relying on one another. I also hope that many people will take the opportunity to make changes when they move to a new office and that they take advantage of digitalisation and new tools," says Kerstin Renard. ☉

What is Volvo Group Future Workplace?

FUTURE WORKPLACE IS a directive approved by the Volvo Group's executive management team.

It applies to every organisation which is going to refurbish, rent or build new premises. Each of them must conduct an analysis of its employees' needs and the advantages and disadvantages offered by different solutions, such as individual desks or activity-based working methods.

The common denominator for all the solutions is that separate rooms are replaced by new environments and functions which give employees greater freedom of choice.

As things stand, some 30 projects within Future Workplace have been started in different parts of the world, including Brisbane, Australia, Lyon, France, and Greensboro, USA. ☉

INSPIRATION ON THE WALLS

Picasso, Ernst Billgren, Christo and Jennifer Bartlett. These are just a few of all the artists inspiring employees at Campus Lundby in Gothenburg.

IN CONJUNCTION WITH the refurbishment of VLH and the move from the old head office, a large part of the Volvo Group Art Collection in Gothenburg was dismantled. Lotta Quist is the acting art curator and she is responsible for finding new locations for the 2,000 pieces of art in the collection. "This is a unique situation, as these paintings have never been taken down before. The idea is that they should now be hung in places where as many people as possible can see and enjoy them," says Lotta Quist, who normally works as an Industrial Designer at Product Design, GTT.

THE VOLVO GROUP has been acquiring art since the end of the 1920s and its collection contains many renowned contemporary artists. Even if the works of art are very different, the aim has always been to create beautiful settings and inspire employees. Lotta Quist is hoping that this will continue. "Every Volvo Group employee contributes and gives so much in the shape of products and service. Art is a way of giving something back," she says. ☉



Around 500 pieces of art from the collection are at VLH, while the remaining pieces will gradually be hung in other buildings at Campus Lundby. The art collection was bought between 1929 and 2013.



PHOTO: BO HÅKANSSON

Dhasarathy Parthasarathy and Jonas Hagerskans, Development Engineers at GTT, show off just some of the many wires in a truck that could potentially be replaced with wireless sensors.

Researching cable-less trucks

A research project involving the Volvo Group is looking into the potential to replace cables in trucks with wireless sensors, which would result in significant reductions in both materials and time.

FOR THE VOLVO GROUP, replacing cables with wireless sensors could save the company around 5,000 km of cables every year – the equivalent of 18 tonnes of copper and 33 tonnes of plastic.

“We believe that wireless sensors have a great deal of future potential. One important consideration is that we will no longer need to use large amounts of copper and plastic,

which is good for the environment,” says Dhasarathy Parthasarathy, Development Engineer, Hardware Technologies at GTT.

Modern trucks use hundreds of metres of different types of cable, which are used to supply power and data to various sensors that ensure that the components of the truck, including the gearbox, lights, switches and the air-conditioning system, function properly.

As well as reducing the materials needed in production, wireless sensors could bring significant benefits in manufacturing and workshop services, particularly when it comes to reducing labour. It can also simplify product development, as wireless sensors can be put in new locations that would otherwise not have been possible.

“The savings will amount to a large number of hours, sometimes even days. In the plant, the cables are awkward to handle and time consuming to fit in the right place. Wireless sensors are much simpler to install. The cables are also sensitive to dirt and rust and prone to faults,” says Jonas Hagerskans, Development Engineer.

THE PROJECT IS part of DEWI (Dependable Embedded Wireless Infrastructure), an EU centre for competence and research. While it will come to an end in 2017, the Volvo Group will continue to work internally in this area.

“We really believe in this technology and we will go on developing it in the future,” says Dhasarathy Parthasarathy. ©

SUSANNE HANSEN

Find moments to de-stress during your workday

MINDFULNESS IS A Meditative Practice which brings awareness to thoughts, feelings and the body. It is about being in the present moment. Regular practice has been shown to have beneficial effects, including reduced stress, improved decision-making skills and an improved ability to listen.

Several mindfulness initiatives are under way within the

Volvo Group. Among them, “**Mindfulness@Volvo**” is a global network supporting the Volvo Group in its work on health and well-being. The group leads two weekly 20-minute mindfulness training sessions through the Skype conference system, which are open to employees globally.

But it is also possible to incorporate mindfulness informally throughout your workday. Here are a few tips:

◉ **When drinking coffee or tea.**

Take a sip. Notice the sensation in your mouth and how the drink tastes. Notice the warmth. Be present.

◉ **While sitting.**

Sit in an upright position. Relax your shoulders. Take a few moments to be aware of your body. Feel the contact with the chair and the contact between your feet and the floor. Breathe and become conscious of your breathing.

◉ **Practise deep breathing before and after an important meeting or discussion.**

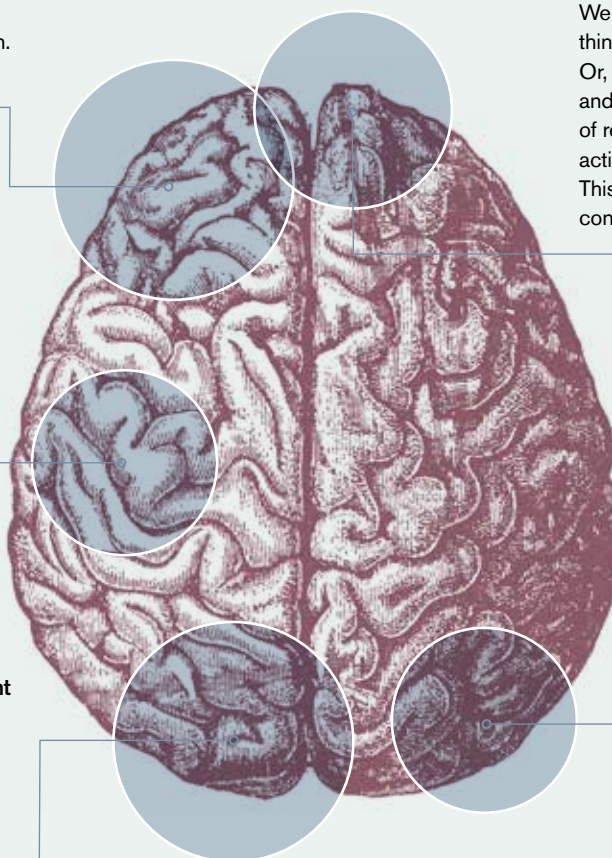
Find a quiet place to sit. Put a hand on your chest and the other on your belly. Take three to six deep breaths in through your nose so that your belly (not your chest) inflates. Exhale fully.

◉ **Talking with colleagues or participating in a meeting.**

We often think about different things when others are speaking. Or, we judge what is being said and prepare our response. Instead of reacting instinctively, try listening actively and with an open mind. This can help improve the quality of conversations with your colleagues.

◉ **When you find yourself ruminating or judging others.**

Spending too much time thinking about the past, the future or judging others is draining. Practise some deep breathing and try withholding judgement. Accept things you cannot change and focus on changing the ones you can.



LINA TÖRNQUIST

Want to join a Skype session to train mindfulness with your colleagues? The “Mindfulness@Volvo” sessions run on Tuesdays at 2pm (CET) and Thursdays at 8.30 am (CET). Find out more on Violin.

3

QUESTIONS FOR RANDY CASTILLO

WINNER OF THE VOLVO GROUP HEALTH & SAFETY AWARD 2016, TOGETHER WITH A CROSS-FUNCTIONAL TEAM FROM THE PREVOST PARTS AND SERVICE NETWORK WITHIN VOLVO BUSES NORTH AMERICA.



Randy Castillo

What was your project about?

"Quite often our service technicians work alone on repairing a bus late at night in our workshops or, even worse, alongside a highway or a country road. What if someone gets injured and is unable to call for help? We wanted to eliminate the risks of working alone and increase the safety and security of our colleagues."

What was your solution?

"We started to list situations where you typically work alone and categorised the risks into three levels. For example, work including fall arrest equipment, or electrical work at high voltages are level 3 and should not be carried out without a colleague. Level 1 and 2 tasks are OK to perform alone but with access to a communication system, such as a cellphone. All the information has been put together in a Work Alone Policy, which is what we were given the award for."

"To improve safety even further, we've developed a smartphone application linked to a third-party service provider. When you start the application, it will contact you every now and then to make sure you are OK. If you fail to enter the pincode in due time, an alert will go out to the first responder who will take appropriate action. If you get into immediate danger, you can also hit the alarm button to get help. The application can be used in all environments; service workshops, production facilities and offices."

What is the greatest benefit of your project?

"In a company with so many employees and so many large facilities, you rarely think that anyone would be working alone. Nevertheless, this is an everyday situation for many of our employees, especially in the service business. With this project, we've made everyday work safer for many of our colleagues and it can potentially save lives. That is a really good feeling!"

ÅSE HALLENCREUTZ



PHOTO: KEVIN LEE



The Work Alone Policy, which won the Volvo Group Health & Safety Award 2016, helps ensure anyone working alone can get assistance in the event of an accident.

PHOTO: VOLVO GROUP



Head-up displays are one of the safety concepts involving visual interaction HMI (Human-Machine Interface) that are under consideration by the Volvo Group.

Head-up display for use in trucks

HEAD-UP DISPLAY makes truck drivers look up as it moves information from the dashboard to the windshield area.

The technology is widely used in cars. Experts believed it was impossible to create a display of this kind for trucks due to more complex human machine interfaces, not least, powerful vibrations.

Roberson Oliveira, senior project manager at GTT in Brazil, is running the research project, together with a team that has created the largest display ever produced, with visibility seven times greater than in a car. "Our ambition is to be leading in driver interaction and this technical solution could play an important part in achieving this."

PART OF THE PROJECT involves investigating how often a driver looks away from the road while driving and what types of information are valuable to drivers. The next step will consist of road trials to test the technology over a longer period of time. The system is likely to be equally useful to bus drivers and construction machinery operators. ©



PHOTO: VOLVO GROUP



The very first time

HERE COMES JAKOB, the very first series-manufactured Volvo car. It was just before 10 am on Thursday, 14 April, 1927, when Hilmer Johansson drove out through the factory gates in Lundby, Gothenburg. The car and driver were slightly late, as, embarrassingly enough, the car was initially unwilling to go forwards! It emerged that the pinion in the rear axle had been fitted upside down. The moment this was rectified, the car rolled out of the plant as planned.

The press were enthusiastic about the new Swedish car, but it was not a sales success. Only 205 cars in the ÖV4 Series, the actual name of the vehicle, were produced. Volvo also soon began experimenting with building a truck, with the same engine and gearbox. In 1928, LV Series 1, the first Volvo truck, was presented, as well as the first Volvo bus.

SÖREN NYEBOE

The importance of our heritage

DO YOU RECOGNISE the photo on the left? It shows how everything began – with the very first series-manufactured Volvo car leaving the factory in Lundby, Gothenburg.

All of us working with the Volvo Group 90 years later can be proud of all that has happened since this photograph was taken in 1927. It is easy to feel a sense of humility and responsibility. It is now up to us to preserve and safeguard everything previous generations have created.

As curator of the Volvo Museum in Gothenburg, I am frequently reminded of just how important our heritage is, especially when I meet visitors. Some are families with children who are out for the day, some are vehicle “nerds”, while a large number are or have been Volvo employees. These visitors wander around all the vehicles on display, look at old photos and stop in front of the huge desk where the company’s founders, Assar Gabrielsson and Gustaf Larson, once sat and drew up plans for the new vehicle manufacturer.

Many employees, not least the ones who are relatively new, talk about what it means to be part of the company’s history.

CUSTOMERS ALSO THINK that heritage is important. They feel they can trust a company that has had quality and safety as its guiding principles for 90 years.

The importance of our history cannot be over-rated and, nowadays, most people understand the value of the photos from the 1920s. But what about the history we are creating right now? After all, today’s receipts, minutes and e-mails are also part of Volvo’s history and need to be preserved for future generations. In today’s digital world, there is a risk that much of it will disappear. For this reason, the Volvo Museum is attempting to ensure that current operations are also documented. We made sure, for example, that important documents were saved when the head office moved at the end of 2016.

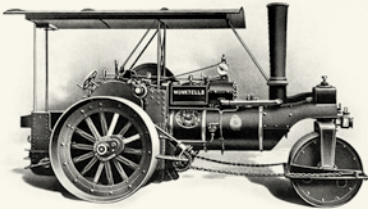
Volvo has a long and proud history to which all of us are contributing – right now!

SÖREN NYEBOE, CURATOR OF
THE VOLVO MUSEUM IN GOTHENBURG



More than 180 years of innovations

Volvo CE is the oldest company still active in the construction equipment industry. Test your knowledge and you have the chance to win a scale model of a Volvo Loader L60H!



1

Munktells, Bolinder-Munktell, Volvo BM and Volvo ME. The company has had many different names over the years. Which year did it get the name Volvo Construction Equipment?

- A. 1966
- B. 1985
- C. 1995

2

Last year, LEGO Technic launched a model of a Volvo EW160E wheeled excavator. How many individual components does the model consist of?

- A. 456
- B. 996
- C. 1,166



3

Volvo CE was the inventor of the articulated hauler machines concept, which celebrated its 50th anniversary in 2016. What was the nickname of the first series of machines?

- A. Gravel Charlie
- B. Heavy Henrik
- C. Yellow Jenny

4

Volvo, Terex Trucks and SDLG are all brands in the Volvo CE family. Where are Terex Trucks and SDLG machines manufactured?

- A. USA and China
- B. Scotland and China
- C. France and Japan

5

In what year was the first Volvo wheel loader launched?

- A. 1954
- B. 1962
- C. 1966

6

What was one of the innovative prototype solutions that Volvo CE presented in 2016 during its Xploration Forum event?

- A. 3D printing machines
- B. Electric self-driving machines
- C. Solar-powered machines



Win a scale model of a Volvo Loader L60H!

Email your answers to groupmagazine@volvo.com no later than 30 June 2017. Write "Quiz" in the subject line. Remember to include your name and address. Three lucky winners will receive a detailed scale model of a Volvo Wheel Loader L60H.

The winners of the quiz in *Volvo Group Magazine* #5 2016 were G Marasami, India, Fredrik Englund, Sweden, and Michelle Vorster, South Africa.

The right answers in #5 were: 1A, 2C, 3A, 4B, 5B, 6C.

VOLVO