Volvo Group magazine 3.2015

A SAFE BET

HOW THE FOCUS ON SAFETY IS PAYING OFF

EVERYBODY'S GONE SURFIN'

VOLVO PENTA'S NEW FORWARD
DRIVE IS MAKING WAVES

SERVICE PIONEERS

WHY CUSTOMER SERVICE IS -AND ALWAYS HAS BEEN - CRUCIAL

"Taking action is not optional"

Niels Lagerkvist Lehmann

Stopping copycats

New strategies are being used to defend the Volvo Group's thousands of patents and copyrights

We are all working for our customers

SIWRITE, we have just presented the result for the first half of 2015. It is very pleasing to note that we are well on the way to matching our ambitious targets for the year. A great deal of work still remains and some of the effects will not be seen until next year. It is extremely important that we continue to focus on our customers, in spite of the efficiency programmes we are implementing. They, too, are ultimately designed to give the customer a better offer.

It makes no difference what role you perform at work. If you are employed within the Volvo Group you work – in exactly the same way as I do – for our customers.

Our customers come in every conceivable shape and form for a global Group with a large number of brands. They include the haulage company that carefully evaluates the total cost and earning capacity of its trucks or the excavator operator who chooses the machine that is going to generate the whole of his income in an owner-operator business. Then there is the boatyard that selects an engine supplier, the city that purchases buses or the contractor who has secured a new waste-management contract. What is more, our customers can be found on every continent. They have many different factors to consider when they select their suppliers – costs, financing, performance, specifications and other soft and hard values.

ALL OUR CUSTOMERS have one thing in common, however, regardless of continent or the product or brand they choose. They have decided to trust us.

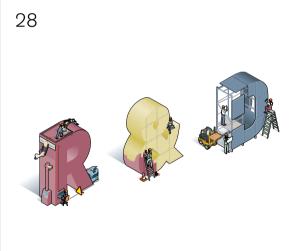
This means that each and every one of us can contribute to sales by making sure that the things we do at work every day generate confidence in the company, our representatives and our brands.

The service we offer our customers is also one of the focal points in this issue of *Volvo Group Magazine*.

JAN GURANDER
ACTING PRESIDENT AND CEO,
VOLVO GROUP

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10 Pioneers for customers

Avoiding downtime is key to the customer's business. This is why the Volvo Group has to keep up with changing customer needs.

Safety does not happen by accident

Safety Director Peter Kronberg talks about how the core value of safety has shaped the Volvo Group and how technological advances are now making it one of the hottest topics in the industry.

Lessons from RnD30 28

Since its start in 2010, the RnD30 programme has identified key areas for cutting lead times for new products. As the project draws to a close, here is a look at what has been learned and what will be carried into the future.

Surf's up!

This year, Volvo Penta introduced the innovative Forward Drive, a forwardfacing sterndrive which lets riders to surf a boat's wake. Developed with tight customer collaboration - it is creating a splash.

A structured way to generate fresh ideas

Patent Innovation Workshops are generating creative ideas for new patents by combining expertise and getting participants to think differently.

A family affair

For the Thornsberrys, some colleagues not only feel like family - they are! Four generations of the family have chosen to work at the New River Valley Plant in Virginia.



Are you keeping an eye on the compass?

I have a colleague who spends his free time devoted to renovating an old wooden boat. "With boats it's so simple," he says. "You mend a hole and it either leaks or it doesn't." It is black or white. This is in direct contrast to his workday where he is devoted to solving problems that seldom have easy answers.

This is the way things are for many of us. There are processes to follow and earlier experiences to fall back on but often we also need to face entirely new situations

We need to dare to make decisions. That is why it's important to understand where we are going - as a team, as an organisation and as a company.

Even if road signs are missing and the map is difficult to interpret you can at least take a look at the compass and start out in roughly the right direction. Later, it is often possible to adjust to the exact course along the way.

And here is why it is vital to talk about direction and goals with colleagues across functional and

organisational barriers. This type of discussion creates understanding and engagement. Volvo Group Magazine is a complement to this dialogue, by showing both where we are going and how our colleagues contribute to getting there, every day and in many



different ways.

SVP Internal Communication and Editor responsible under Swedish press law of Volvo Group Magazine



THE EDITORIAL TEAM



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Carita Vikstedt, **Editor Technology**



Tobias Wilhelm. **Editor Sales**



Lotta Bävman, **Editor Operations**



Joanna Gałczýnska, Editor **Business Areas**

ONE MAGAZINE - THIRTEEN LANGUAGES, THREE EDITIONS

- published in 13 languages and in three different editions: Sales, Operations and Technology.
- The cover page of each edition differs - at the top of the cover
- it specifies which edition of the magazine you are reading.
- While most of the magazine is the same for all readers, about one-fourth of the material is edition-specific.
- > This specialised content aims to give each target group more of an in-depth understanding of their respective area.
- All editions of the magazine can be read on Violin.















VGAS now open

The 2015 Volvo Group Attitude Survey (VGAS) is being conducted between 1-25 September and managers will get the results at the end of October. There are no changes in this year's survey.

"We believe it is very important to keep the consistency and be able to track trends from previous years," says Ulrika Jacobsson, Director VGAS Strategy and Development, Corporate HR.

A four per cent decline in the Employee Engagement Index was noted last year, which led to a number of actions.

"Our employees are the most important asset in this company and their voices are extremely important in order for us to constantly develop."



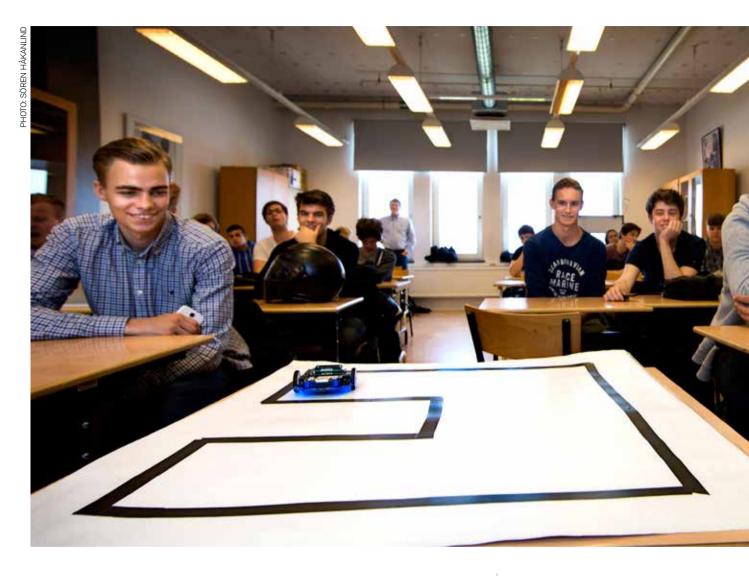


Transportation co-operation with China

Electrification, advanced safety and modular system were demonstrated when Mr Yang Chuantang,
Minister at the Chinese Ministry of Transportation (MOT), visited the Volvo Group in Gothenburg in May.
The visit resulted in a Memorandum of Understanding (MoU) between China and Sweden in the field of transportation, as well as an extension of the China Sweden Research Centre for Traffic safety, where Volvo Group is a partner.
"Both electrification and traffic



safety are high on the agenda in China and Volvo Group has a strong reputation, not least through our joint ventures with Sunwin and Dongfeng," says Mats Boll, Director Transport Policy, Public Affairs.



SDLG excavator wins prize for energy efficiency

The SDLG LG6460E excavator was named one of the best construction products in China during an event in Beijing in April. The TOP50 award, founded by the China National Construction Machinery Association in 2006, focuses on recognising advances in equipment design that improve efficiency and promote progression in the construction industry.

The LG6460E was awarded for its energy efficiency, high power, wide variety of heavy-duty applications and ergonomic cab features. "We are very privileged to receive another TOP50 award, especially given the increased competition in the listing and its growing reputation," said Guo Shaohua, SDLG's Brand Communication Director.

With more than 50 national patents in China, Shandong Lingong Construction Machinery Co., Ltd. (known as Lingong), which manufactures the



SDLG range of products, is one of China's leading construction equipment companies. Volvo CE owns 70 per cent of the SDLG brand in a joint venture with Lingong.

Donation to earthquake victims

The worst earthquake in 80 years hit Nepal on 25 April. It measured an estimated 7.8 on the Richter scale and was felt as far as India, Bangladesh and Tibet. A second earthquake struck eastern Nepal, near Mount Everest, two weeks later. The Volvo Group donated 500,000 SEK to Oxfam for their work on water and sanitation and 500,000 SEK to the World Food Programme for food distribution to the victims of the earthquake.

"By distributing the gift in this way we will be able to support with water, sanitation and food supplies," says Malin Ripa, SVP CSR Management, Volvo Group.



ENCOURAGING FUTURE ENGINEERS

The Volvo Group wants to show young people how interesting science and technology can be. In Sweden, this is being done through the School Step, a programme through which Volvo Group engineers visit secondary schools.

"We will need skilled engineers in the future, but unfortunately there is a widespread idea that it's difficult to work with engineering. Through the School Step, we want to show that it's not hard and actually quite fun," says Karl Petterson.

He works as a team leader for a support team at Powertrain Engineering in Gothenburg, Sweden. He is also one of fourteen engineers who are visiting five secondary schools in Gothenburg in order to hold lectures on what it is like to work with engineering. Here, he is visiting Lindholmen Technical School, together with his colleague Fredrik Svensson. The whole class is present and is sitting quietly as today's assignment is presented: program a robot together.

Eighty minutes later, the robot has performed volts, driven off the designated course and completed laps. The students' silence is due to concentration, says Karl Petterson who is satisfied with the lesson overall –



Olivia Linnerhag

even the volts. "A big part of the work of an engineer is to identify problems, create solutions and simplify. It's good that the students get to experience that."

Olivia Linnerhag is in her second year in the technical programme at the school and she is happy with today's class. "I haven't studied programming, so it was interesting to learn about that. It's good with lectures that give us an insight into what it looks like on the job market," she says.

Ashley Stroud (right) receives his handcrafted Johnny Cash commemorative Martin & Co. D-35 guitar from Robb Mariani (left).

Cashing in on precious first prize

One lucky Mack Trucks fan walked away from the Mid-America Trucking Show earlier this year with an extra special souvenir: a handcrafted Johnny Cash commemorative Martin & Co. D-35 guitar.

Ashley Stroud, a heavy-duty truck mechanic from Wilmington, North Carolina, was named the winner.

"My girlfriend got the call that we had won, but we both thought they were kidding," Stroud said. "We ran over to the Mack booth and, sure enough, we won. The next thing you know, I was being handed that beautiful guitar."

"The Mack Trucks Guitar Giveaway was the perfect blend of three American icons: Johnny Cash, Martin Guitars and Mack Trucks," said John Walsh, Mack Vice President of Marketing. "We couldn't be more excited to have someone like Ashley, a true Mack enthusiast, win the grand prize."

100

years ago the name Volvo was first registered. An application was handed in to the Swedish Patent and Registration Office on 11 May, 1915.



Global brands receive collaborative award

When two global brands join forces, they can create amazing things, not least for the younger audience - as shown through a collaboration between LEGO® Technic and Volvo CE.

Now the collaboration has won the Volvo CE Communicators Award 2014, for best overall communicative effort and for best marketing

campaign. The ambitious project involved building a LEGO® Technic model of a radio-controlled L350F wheel loader that doubles as an A25F articulated hauler.

The project was launched in steps and was highly praised when it was unveiled at ConExpo in 2014 and later at toy exhibitions.

"The global exposure exceeded our expectations," says Mats Bredborg, Director Global Brand Management, Volvo CE. "Supported largely by social media, this multi-channel awareness campaign was aimed at a wide target audience. Thousands of children and their parents will now associate Volvo CE with construction equipment."



Mack launched its new LR model refuse truck at WasteExpo 2015

Mack Trucks launched the new Mack LR model low-entry cabover refuse truck on 2 June at WasteExpo 2015 in Las Vegas. Following the customer event, Mack conducted launches for employees in Greensboro and Allentown. Mack product experts and managers used the opportunity to explain the product planning and commercialisation efforts leading up to the LR's market entry and its

importance to the Mack brand.

The LR series was designed and engineered using customer feedback to highlight key characteristics important to customers who transport refuse - outstanding driver comfort, efficient operation and exceptional visibility and safety.

The LR will initially be available in three-axle 6x4 configurations powered by diesel or natural gas.

2,000

Volvo hybrid buses have been sold since its introduction in 2010. This reinforces the Volvo Group's leading position in electric buses, as reduced exhaust emissions, low energy consumption and quieter operation are increasingly valued by cities all over the world.

Consistent customer service is all about uptime

Uptime is the name of the game in aftermarket operations. At a recent Uptime Aftermarket Event in Dallas, USA, dealer parts and service managers from throughout North America met to discuss how to deliver this to customers. The GTS North America aftermarket team and industry suppliers and vendors shared the latest trends

with dealers to help them address heavy-duty trucking's most pressing concern: how to keep trucks on the road and functioning at optimal capacity. Participants heard from Dennis Slagle, Head of Group Truck Sales North America, who spoke on using uptime as a differentiator in providing consistent customer service.



Off to a roaring start in life

In April, a trio of Amur tigers cubs were born at Nordens Ark, a zoo in Bohuslän, Sweden. With only around 400 left in the world, Amur tigers are one of the world's most endangered animals and they are also Volvo Trucks' "icon animal".

The Volvo Group is one of the main sponsors of Nordens Ark Foundation, which helps to save and protect several endangered species.

Both the cubs' mother and father were transported safely to Nordens Ark in Volvo trucks.



Teaching children about safety around trucks is vital work.

Be part of Volvo Group's road safety campaign for children

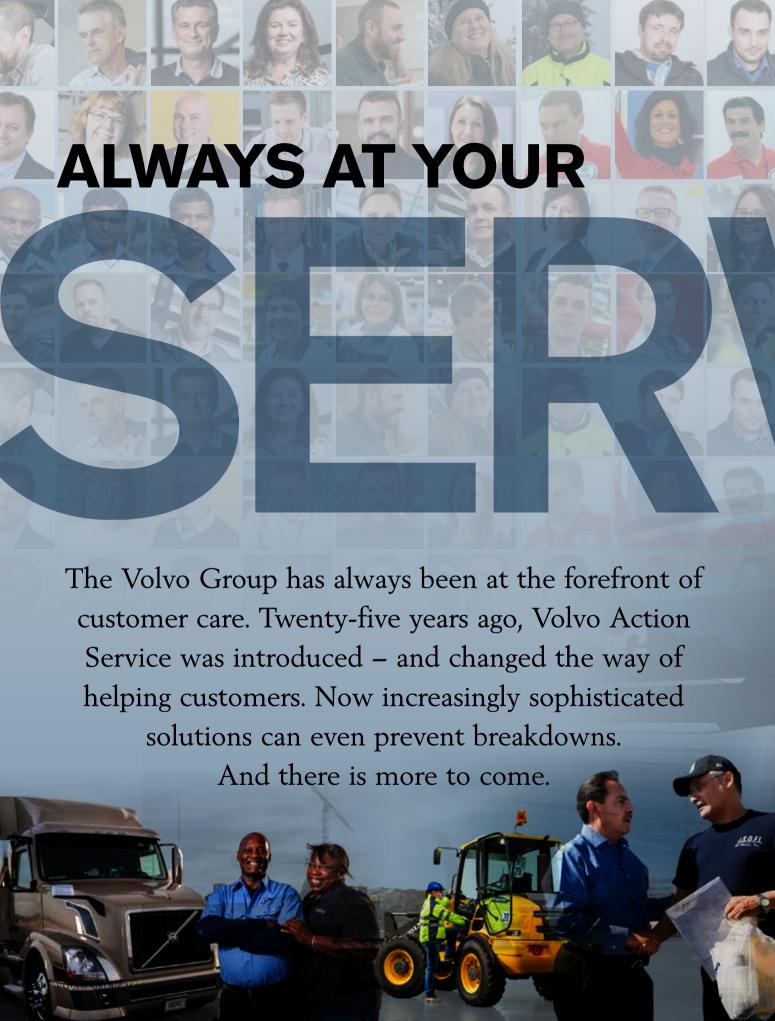
Every day, more than 3,400 people are killed in traffic accidents around the world: this is well over 1.2 million fatalities per year. The World Health Organisation estimates that, without drastic action, the number of road traffic fatalities will increase by 45 per cent by 2030.

Since the cause of the majority of road accidents involves human behaviour, the Volvo Group has decided to work on raising children's awareness of how to behave safely in traffic through its Stop, Look, Wave campaign. This campaign is based on activities developed by Volvo Trucks and executed since 2001 in several

countries. For example, in Denmark alone, 80,000 schoolchildren have been trained in traffic safety with the help of Volvo Trucks.

"Volvo Group employees – based all around the world – are encouraged to get involved in promoting safety awareness sessions, to help children in their immediate environment understand how best to behave around trucks, buses and cars to stay safe," says Peter Kronberg, Volvo Group Safety Director.

Turn to the last page to find out more about Stop, Look, Wave.







a central pillar for the Volvo
Group, but ways of working
within the service field are
constantly evolving.

Technological breakthroughs,
trends in society and new
business models influence both
what customers want and the level of support that
can be provided.

As Senior Vice President Volvo Group Strategy, it

As Senior Vice President Volvo Group Strategy, it is part of Hans Ristner's job to identify game-changers and make sure the Volvo Group really delivers the support that customers need. We talked to him about how this is done and what to expect from the future.

What are the major trends in customer service?

"In the last twenty years, we have seen a major advancement in technology. In 1993, around 10 per cent of a car was software enabled, now it is 60 per cent. The same goes for trucks.

This has led to two major changes. Firstly, by using Remote Diagnostics we can see if trucks are about to break down and can catch them in advance. This has enabled us to be proactive instead of reactive, thus increasing uptime. Secondly, this is leveraging a lot of data, which is also helping us to develop our service offerings and increasing our customers' productivity."

Why is it important to know the customer?

"We now know our customers much better, we



know how they use our products, the distances they travel, the cargo they carry etc. This not only makes it possible for us to prevent breakdowns and facilitate planned workshop visits, but it has also enabled us to advice the customer on the proper configuration of the vehicle. This enables the customer to increase productivity and in many cases can help to reduce the number of variants, in turn reducing the cost of operations. And we can use this knowledge when we develop products and services."

Is there a big difference between mature and developing markets as regards the service sector?

"Yes, in a way you can say that there is. Most importantly, in developing markets you often don't

The target is 99 % product availability

More than two million trucks, manufactured by the Volvo Group in the past ten years, operate on roads worldwide. Efficiency behind the scenes at Volvo Group Trucks will ensure product availability for the customers. The ambitious target is set at 99 per cent.

Why is product availability so important to focus on?

"The customer buys the truck to have it on the road, not at the workshop or at the wayside due to an unscheduled stop. To have the truck running increases customer satisfaction and of course also the customer's earning capacity. A lot of effort has been put into increasing product availability over the last couple years. It can be a real differentiator, improving our customers' total cost of ownership and also warranty costs," says



Fredrik Högberg

Fredrik Högberg, SVP Aftermarket at Group Trucks Sales, GTS.

There are three key success factors to reach the objective and

by that strengthen customer business relationships; avoid unplanned stops, make sure repairs are done quickly and strive to prevent maintenance through improved design and effective planning of services. Availability to spare parts is also essential to avoid delays. All of these factors require collaboration among GTO, GTT and GTS, including learning from each other.

"Global sharing of regional best practices, and all of the resulting benefits, offers further assurance that our customers have a positive service experience," says Rich Ferguson, SVP Aftermarket and soft products, GTS in North America. "In the future, we'll continue to see further sharing of processes and services. For example, in North America, we've recently incorporated the Volvo Production System and 5S, concepts we saw work in the United Kingdom and France. We believe this integration will result in increased throughput capacity, allowing dealers to be more efficient, offering a direct benefit to our customers."

New product ranges are a challenge to introduce in several aspects, not least when it comes to detecting and solving quality issues that may impact the high requirements on uptime. Quality Action Group, QAG, a team with specially selected representatives from GTO, GTT and GTS, is working to secure speed and precision from detecting the issue in the field up until there is a solution in place. There is also a lot of focus on proactively safeguarding the availability of spare parts.

"In the event of a back order we spare no expense at tracking down spare parts, and we fly out spare parts to any place in the world if it's really necessary," says Göran Eriksson, Vice President Materials Management at Logistics Services, GTO.

ANN-MARI ROBINSON

3 success factors ...

- ... to reach 99 per cent product availability:
- > Avoid unplanned stops
- Ensure quick repairs
- Doptimise preventative maintenance

VOLVO GROUP MAGAZINE 3.2015

"All of us, whatever we do, need to think of what is important for the customer. How will this product be used? Not just now, but in ten to fifteen years."

HANS RISTNER, SVP VOLVO GROUP STRATEGY









make as much money from your business, so you can't pay for the same service offerings. At the same time, we live increasingly similar lives. More people than ever live in cities. Most people in India have a mobile phone. Customer service is important in every market, so the big challenge for us is to adapt our service offerings for different markets."

How is this achieved?

"That is a tricky question. Just distinguishing between mature and developing markets is often too simplistic. Rather, we need to look at both industry segments and geography. If you compare construction equipment used in mines in Africa and in Europe, they use the same, very advanced, machines. Yet if you compare long-haul in Africa and Europe, you see much greater differences. It is therefore key for the Volvo Group to understand the customer context and what industry it is operating in."

5 TRENDS SHAPING CUSTOMER SERVICE

- ➤ Telematics enables maintenance to go from reactive to preventive.
- Data makes it possible to offer industry specific services in collaboration with partners.

- integrated and sensitive to disruptions, customers will look for support to ensure uptime and productivity leveraging information across their value chain.
- Customers want to operate their own devices and will demand that they work flawlessly with our vehicles. The Volvo Groups will need to ensure interoperability and support.

How do the Volvo Group further strengthen its customer service?

"All of us, whatever we do, need to think of what is important for the customer. How will this product be used? Not just now, but in ten to fifteen years. We must have a lifecycle focus. When one encounters a quality problem, it requires a cross-functional effort to solve it. Quality and customer care are everyones' responsibilities."

Which future trends do you believe will be most important?

"The leveraging of information via new technology and the proactive nature of dealing with customers will still be in focus. This also makes it possible for us to pinpoint problems and act accordingly. For example, we are able to see if there is an engine problem in trucks that drive at a certain speed and altitude. Before, we would have had to look at all the engines.

Automation will be increasingly important in the future. Often we can learn from other businesses, since many go through the same technology shifts.

IT is also increasingly important for customers. They expect to be connected wherever they are, they expect us to understand this development and have the right partners to solve their problems. The customers expect that the vehicles should be easy to integrate into their system environment. As an important player, Volvo Action Service will no doubt be dealing with such issues in the coming years."

"When your trucks don't drive, you're losing money"

Lauser Transporte has been transporting goods in Germany's Baden-Württemberg region for 35 years. Philipp Lauser took over the company from his father, and while much has changed between the two generations, uptime remains absolutely vital.

How would you describe your business?

"I think what makes us unique is that we offer that little bit extra. We don't just drive from A to B like all the others - we also equip our trucks with extra features to help with the unloading as well. To deliver beverages, we have trailers with collapsible side doors for easier access. We also have trucks with forklifts, which enable us to unload anywhere without any additional equipment."

How does uptime affect your business?

"In my opinion, uptime is the most important factor when it comes to profit, because if the truck doesn't drive, you lose money and you will lose your customers. Our customers also have to satisfy their customers, so obviously uptime affects their service. Ultimately the biggest

Did you know?

day downtime € 1.000 loss of revenue for the customer

consequence is lost income, because you're not earning money, you're spending money on repairs, and it's much harder to satisfy customers with fewer trucks."

How important is servicing to maintaining high uptime?

"It's the easiest way to achieve high uptime. Just service your trucks the best you can and it will automatically reduce downtime. At the moment, we have service agreements with some of our trucks and in future I think we will have this agreement with all our trucks."

What is the advantage of having a service agreement?

"Because of all the electronics in a truck, when you have downtime, you often can't say what's wrong. It takes time to check all the electronic parts and the result is that you can't calculate the cost of a repair. But a contract is something we can calculate. In addition, there is less stress for us because everything is managed at the workshop." NIC TOWNSEND

LAUSER TRANSPORTE

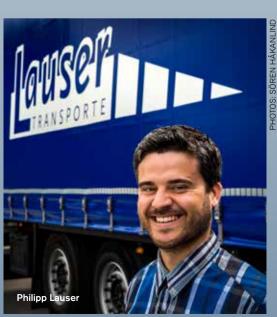
Location: Wiernsheim (near Stuttgart), Germany

History: Jürgen Lauser started the company in 1980 and originally delivered milk in the Baden-Württemberg region. Today he runs the company in conjunction with his son,

Fleet: of approx. 50 trucks, roughly half of which are Volvo trucks

Assignments: transporting beverages and building supplies throughout Baden-Württemberg and beyond.







25 YEARS FROM CALL TO ACTION

In 1990, a small team in Warwick, UK, set up the Volvo Group's first purpose-built breakdown call centre. It proved to be the beginning of Uptime Solutions, which today provides 24-hour multilingual support worldwide.

TEXT NIC TOWNSEND PHOTOS CRAIG ECCLESTON

when greg williams joined the Volvo Group back in 1988, he was given a daunting challenge: establish a new purpose-built call centre for Volvo Trucks and Volvo Buses in the UK. At the time, a domestic breakdown service was outsourced, while, internationally, a number of dedicated individuals were managing an informal arrangement with other markets using one of the company's first ever mobile phones.

"It was very ad hoc and we needed something more professional," recalls Greg, who today is CAS Product Sales & Marketing Manager, GTS. "But running a call centre was not part of our expertise at the time. We had no experience, no infrastructure, no personnel – everything had to be created from scratch."





Peter Bryant, who took the first ever VAS call in 1990, with a photo of the original team.

Over the next couple of years, Greg put together a team and began assembling all the necessary components and resources, while simultaneously educating himself on call centre management. Their tasks included sourcing equipment such as phones, computers and desks; designing new IT systems; establishing work processes; recruiting new staff and establishing a new working environment complete with staff facilities. "It was a fascinating challenge to take on," says Greg. "It's a rare privilege to be given an opportunity to create something new from virtually a blank sheet of paper."

THE NEW CALL CENTRE WAS based in a converted office in Warwick and was equipped with what were then state-of-the-art phones and videodisc touchscreen mapping systems, as well as voice recording onto VHS video cassettes and a purpose-built computer system based on System 38 IBM mainframes. "I recall spending quite a lot of time locked away with a computer programmer, he writing the programme, me describing what I wanted. Between us, we finally got what I thought would be a workable solution."

On 1 July 1990, Action Service Europe (ASE) – as it was originally called – was ready to start taking calls

and the switch-over was scheduled for midnight. It was an anxious wait for the first call, which came in at lam and was taken by Peter Bryant, who continues to work at the call centre today. From that point onwards, everything went smoothly. Pretty soon, the new call centre was fielding thousands of calls and customers were noticing a marked improvement in service.

"Volvo Trucks was the first to bring its breakdown service in house, and it gave us a real competitive edge in the UK," recalls Carl McQuistan, who originally joined the team in Warwick in 1989 in the role of call centre supervisor and later succeeded Greg Williams as manager. "Immediately, we started getting positive feedback from customers, who really appreciated getting support from people directly involved in the company rather than from an external supplier."

The success of ASE attracted attention from Volvo Trucks' head office in Sweden and other European markets. Based on the Warwick template, a new call centre was opened in Ghent, Belgium, in 1993. Originally housed in a small building near the Volvo Parts central warehouse, it quickly grew into a 24-hour multilingual call centre and training facility and remains central to Uptime Solutions' operations to this day. Now the Volvo Group Uptime Solutions



"Whilst many things have changed over the years, we've retained a consistent focus on taking care of customer needs in the best possible way."

JEANETTE MOORE, MANAGER, UPTIME SOLUTIONS







provides support to Volvo Trucks, Volvo Buses, Volvo Penta, Renault Trucks and UD Trucks, while additional call centres have since been opened in France and South Africa. Meanwhile, the Warwick call centre has relocated to Rugby and now takes calls for Renault Trucks' customers as well as breakdown calls from Australia.

"The Uptime Coordinators make a fantastic team, with a wealth of experience from varied backgrounds," says Jeanette Moore, Manager, Uptime Solutions, who is based in Rugby. "Everyone has the same mission: offer the best solution in the quickest time. Whilst many things have changed over the years, we've retained this consistent focus on taking care of customer needs in the best possible way."

NATURALLY, A GREAT DEAL HAS CHANGED in 25 years, not least the technology. The original ASE team in Warwick relied on pagers and faxes and in some cases even physical maps when it came to locating dealerships outside of the UK. In contrast, Uptime Solutions now uses telematics, GPS mapping and satellite tracking.

Killy Sandhu started as a breakdown co-ordinator for ASE in 1992 and stayed for 13 years. During that time, he believes industry demands and expectations increased, but so too did Customer Solutions' services. "When I started, our customers faced challenges like limited working hours for French truck drivers on Sundays and siestas in the

middle of the day in Spain," recalls Killy, who is now a Claims Operations Supervisor in Warwick. "But gradually each market started to understand that truck drivers and bus operators required a 24/7 round-the-clock service, which was something that was offered within the UK & Ireland. Over my 13 years, we saw a huge increase in call volume and the level of service has increased with it."

However, while much has changed, Warwick's legacy remains strong. "There have been some major improvements over the years, but, at its heart, Uptime Solutions still has all the hallmarks of what we created 25 years ago," says Greg Williams. "Developing a robust process for managing calls was very important when we started, since, in a call centre, you have constant shift changes. We developed a process revolving around status points for each of the various stages a breakdown had to go through before completion, which you can still see in use today."

CARL MCQUISTAN, WHO IS NOW based in Japan and is currently involved in establishing a new call centre for GTS, can still draw on his experiences in Warwick. "Many of the discussions we are having right now are the same as we had 25 years ago. It shows that our concept has stood the test of time. The technology has changed rapidly, the operation has gone global in scope, but at the end of the day the basic principle remains the same: supporting customers with good service, 24 hours a day." •

Greensboro

handle an average of 19,000 inbound calls and make approximately 30,000

GREG WILLIAMS JOINS VOLVO TRUCKS UK AND IS TASKED

IS THE EMERGENCY ACTION SERVICE FOR VOLVO TRUCKS, MACK AND COUNTRIES INCLUDING ARGENTINA, CHILE, PERU AND PARTS OF BRAZIL.

TAKING THE LEAD



Every year, the Volvo Group teams up with a range of external partners, including universities, research institutes, local authorities and infrastructure providers, for research collaboration and development work.

NIC TOWNSEND

PHOTOS CHRISTER EHRLING

N ITS ATTEMPTS TO TAKE the lead in innovation, the Volvo Group has built up a global network of partners and often collaborates in public research programmes that address societal challenges such as climate change, resource efficiency, congestion and traffic accident prevention. These projects have made an invaluable contribution to the Group's research and development work.

"We have good in-house capability to conduct research and to innovate, but it is still important to have the possibility to team-up with other strong partners from industry, research institutes and academia," says Monica Ringvik, Director Research & Innovation Policy, Volvo Group. "By partnering with the best and collaborating in public programmes, we can evaluate more ideas at a

quicker pace than if we were to do it all alone. In short, we can innovate faster."

MANY OF THE VOLVO GROUP'S partnerships are with universities and research institutes where the key benefit is being able to access additional skills, knowledge and resources. "We can't have all competences and technologies in-house, so we need to complement our efforts with additional intelligence and infrastructure," says Mats Rosenquist, Director External Research Collaboration, GTT. "It's also hard to achieve our ambitions on our own funding alone. But, by participating with partners in public funded programmes, we can multiply the available funding twofold, sometimes even onehundredfold."

Other partners also include government agencies

"Traditionally we have simply sold machines, but now we are working with university researchers to design a business model where we sell production capacity instead."

RIKARD MÄKI, DIRECTOR, TECHNOLOGY
FUNDING & ACQUISITION. VOLVO CE

and local authorities. For example, the ElectriCity project, which sees Volvo Electric Hybrids and full electric buses operating on a new bus route in Gothenburg. The project is the result of a collaborative effort between the Volvo Group and local and regional governments, public transport providers, electricity providers and universities.

The Volvo Group is also one of five partners, including one institute under the Chinese Ministry for Transport, in the China and Sweden Research Centre for Traffic Safety, which has been set up to investigate ways of improving traffic safety in both China and Sweden.

REGARDLESS OF THE PARTNER, the key to any good collaboration is having a common interest, mutually beneficial outcomes, trust and transparency.

"We have built up a very strong network of partners – in some cases we even know each other personally and have a proven track record in delivering results," adds Mats Rosenquist. "Innovations such as the hybrid electric bus and some of our advanced safety systems, all started out as basic research projects with one or more of our partners."

However it is not only product development that has benefited from partnering. Luleå University in Sweden is currently helping Volvo Construction Equipment change the way it does business, through its Faste Laboratory.

"For the past six years, Luleå University has been helping us make the transition from transactional sales to functional sales," says Rikard Mäki, Director, Technology Funding & Acquisition, Volvo CE.



Mats Rosenquist and Monica Ringvik both believe partnerships and collaborations help the Volvo Group innovate faster.

"Traditionally, we have simply sold machines, but we are now working with university researchers to design a business model where we sell production capacity instead. For the university, this gives them an opportunity to apply its research in practice."



Rikard Mäki

APART FROM GAINING ACCESS to research results and expertise, Rikard Mäki also believes partnering with universities helps with recruitment. "We can see that many of our engineers come from the same universities – often our partners," he adds. "This is because we're visible on campus and students are experiencing the Volvo Group. We can raise awareness of what we do and show that we work with interesting research questions."

In fact, due to the importance of universities, in 2009 the Volvo Group set up the Academic Partner



Programme, which consists of 12 institutions that have been specially selected as preferred research and talent partners. "By creating this network of universities, we can create a closer and more strategic dialogue and together ensure research becomes innovation," says Monica Ringvik, who is also managing the research programme.

FROM THE VOLVO Group's perspective, the benefits of collaboration are clear. But what does the Volvo Group contribute to the partnership? "The Volvo Group is seen as a very attractive partner to work with, because we are seen as a reliable and committed partner with great know-how," says Monica Ringvik. "It's difficult for a university to turn its research results into actual innovations. But we develop and produce products that are out there operating in society every day. We have strong competences and capabilities, as well as extensive experience and knowledge of the transport sector. This is highly valued by our partners."



Public programmes involving the Volvo Group

Horizon 2020

Horizon 2020 is the largest European Union research and funding made available over seven years, with the objective of creating sustainable growth and jobs.

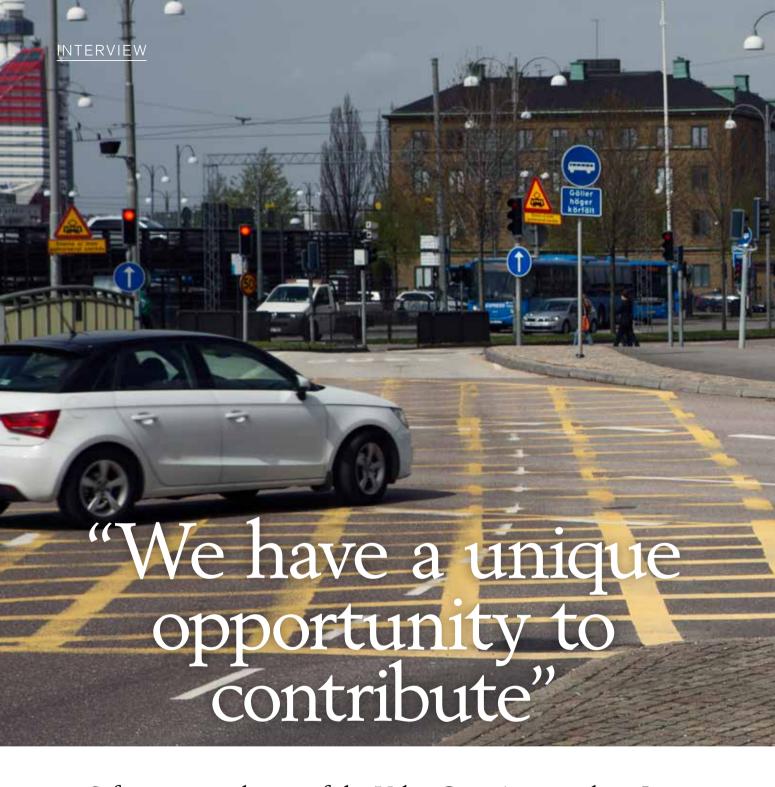
FFI

FFI (Strategic Vehicle Research and Innovation) is a research and development project jointly funded by the Swedish government and the automotive industry, including the Volvo Group. Its focus is on climate and safety, with the aim of improving the environmental impact of the transportation industry and reducing injuries and

More INVOLVEment with students

with its APP (Academic Partner Programme) partners. In 2014 OLVE competitions were held in India, China and France. In 20 competitions will be held in the US, China, France and Sweden

Each INVOLVE competition enables students to submit their ideas for new innovations, with the winners earning an internship with the Volvo Group.



Safety is not only one of the Volvo Group's core values. It is also a cornerstone of the company's product development and global social engagement. What does the future look like? **Peter Kronberg**, Safety Director, talks about the Volvo Group's opportunities – and obligations.

TEXT HANNA ZAKAI PHOTOS JONAS TOBIN



ou are responsible for the core value of safety. What does this actually involve?

"The Volvo Group's core values represent a natural focus on the issues that characterise everything we do. Developing the world's safest products is *one* way of living up to our core value of safety –

others include our involvement in social issues, our active sharing of know-how and expertise and our responsibility for the safety of our co-workers. The Volvo Group's joint core values are also what the Volvo brand represents. It is primarily through Volvo-branded products that we make our greatest investment in advanced safety technology. But, we also have a responsibility to ourselves and to society as a whole to work on traffic safety in every part of the Volvo Group."

The word "safety" can have many different meanings. What does it mean in your world?

"You get different answers to this question depending on who you ask. A customer buying a vehicle will probably think about the safety of the driver or other road users. But a plant or an office within the Volvo Group has to work to live up to the expectations we have set for ourselves. If we are scrutinised by others - and this happens all the time - we need to be able to stand tall and be confident we perform well in all parts of our operations. So, our core values need to characterise everything we do."

Why is it so important for safety programmes to be run on several fronts?

"If we fail to deliver world-leading solutions, it will be difficult for us to claim that we stand for safety. At the same time, we influence the communities in which we operate. We have the knowledge - and the duty - to help to increase safety. Our involvement at a societal level opens doors. For a long time now, we have had a high profile at a high political level and this helps us to deal with important issues. We are able to influence the way transport investments are made on an international and national level, the way research funds are allocated and to ensure that future regulations generate clear-cut benefits to society. Not everyone has the chance to do this. When the Volvo Group speaks, people listen. We have credibility because, time and time again, we have demonstrated that we do things that produce proven benefits to society. But credibility doesn't simply fall from the skies! It's also fragile. We must never stop working with the facts of an issue or deviate from our systematic approach."

Why are safety programmes a social responsibility for the Volvo Group?

"Our vision is to be a world leader in sustainable transport solutions and we have our core values. If we consider the challenges facing the world - many fatalities in traffic, poor mobility, climate change, it's obvious that we need to work on these issues. We have a unique opportunity to contribute thanks to our credibility, effective solutions and expertise. Some of our markets are on their knees as a result of problems in the transport network and traffic. More than 1.2 million people die in traffic every year and 50 million are injured for life. In markets where we are looking to expand, these are gigantic problems and they are a real obstacle to social development. We have to help and we are doing this with products that contribute to greater safety and through social involvement. Good examples include our work on driver training in India, our traffic safety programme in Brazil and the current 'Stop, look, wave' concept, which teaches children how they should behave in traffic."

What are the greatest challenges when it comes to working on safety in the future?

"From a commercial angle, maintaining our leading position. The more mature the technology associated with active safety, connected vehicles and automation becomes, the more generally available it will be in the industry. Creating a profile when the standard becomes increasingly similar may prove to be a challenge. From a social perspective, the challenges are enormous, as the number of accidents rises when transport volumes and urbanisation increase. In the most developed countries, traffic safety has improved dramatically during the past 25 years, but there are other countries in which traffic safety is deteriorating every year. We can help to improve things in these countries through our global presence and our knowledge."

How can the Volvo Group's employees help when it comes to safety programmes?

"Our co-workers may very well have applied to work for the Volvo Group because they share our values and, in this case, they are probably dedicated to the safety work as individuals. We don't have a range of processes that govern the way we think and feel about the core value of safety as such. We are building a value platform, a culture, and it's going to create a powerful driving force to take us in the





"When the Volvo Group speaks, people listen. We have credibility because we have demonstrated that we do things that produce proven benefits to society."

PETER KRONBERG, SAFETY DIRECTOR, VOLVO GROUP

right direction. At the same time, we can all influence everyday decisions at every level. People can always reflect on the core values and how they impact their work. What could benefit safety, quality and the environment in my area?"

Why is it important for safety to play a prominent role in product development?

"If the Volvo Group is at the barricades shouting 'We represent safety' and there are competitors who are better, we won't keep our credibility for long. We – and the Volvo Group's products in particular – have to be at the cutting edge. Innovation and technology also generate opportunities to further improve traffic safety."

More and more competitors are focusing on safety. What is your take on this?

"It's only natural for them to invest in safety. Everyone wants to take the lead. We can see a tendency for our competitors to make explicit claims that they are best at safety. This is a fairly recent development and probably has something to do with the fact that, nowadays, traffic safety is more closely associated with advanced technology. However, compared to our competitors, the Volvo Group has so far

taken a lead on the societal side of the issue as well. Here we have created a clearly defined niche for the Volvo Group. It's difficult to measure exactly where we stand when it comes to safety, but we can get an indirect indication by the response from our customers and other people we meet. We are able to measure the way our brands are ranked through the Brand Tracking Survey and it shows us that the Volvo branded products are in a powerful position and that all our brands are ranked quite well in general terms when it comes to safety. But we can also see that the competition is fierce."

How does the Volvo Group gauge its customers' views when it comes to safety?

"Through close customer relationships of course. But we also have a method for capturing safety-related aspects. It's a unique heritage in the form of the Accident Research Team (ART), which was set up in 1969 and investigates accidents in order to understand them in detail. This is a promise to our customers. We will learn everything there is to know about the risks our customers are exposed to. We identify the problems we need to prioritise, implement solutions, and take one step closer to realise our vision of 'Zero Accidents with Volvo Group products'."

PETER KRONBERG HAS SELECTED THREE IMPORTANT EVENTS IN THE VOLVO GROUP'S SAFETY HISTORY

1. THE STATEMENT THAT SHOWED THE WAY

"When our founders, Assar Gabrielsson and Gustaf Larson, said that safety is important to Volvo, they defined our company's direction. Without it, we would never have focused on safety in this way for such a long time."

2. A PIONEERING INNOVATION

"The safety belt is probably still the most important safety product we have in traffic. Wearing a three-point belt significantly increases people's chance of surviving a collision compared with not wearing one. Of the truck drivers who die in traffic accidents today, the majority are not wearing safety belts."

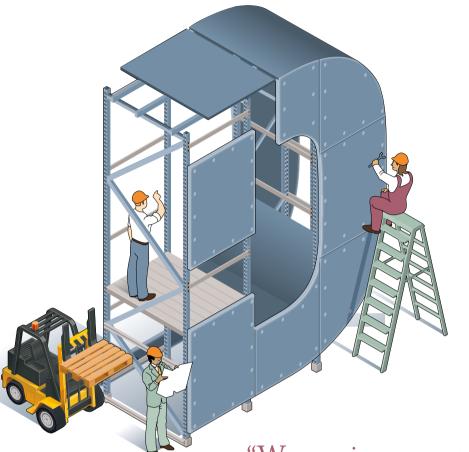
3. A SYMBOL FOR THE FUTURE

"Here, I'd like to highlight the Accident Research Team, our safety cab from 1977 and airbags in trucks... the list is incredibly long. But as a symbol for the future, I would choose the Volvo Safety Concept Truck. It pointed the way to an imminent paradigm shift in traffic safety development – advanced technology and connected, automated vehicles."

VOLVO GROUP MAGAZINE 3.20

GATHERING THE R&D STRENGTH

In 2010, RnD30 was initiated in the Volvo Group. It aims to cut costs and improve efficiency within product development by reducing lead times and creating a more balanced product portfolio. TEXT INGRID JOHANSSON ILLUSTRATION PETTER LÖNEGÅRD PHOTOS STEFAN EDETOFT



end states for effective projects

- > Predictable launch
- Stable C release (ready for industrialisation)

- ∨ Verified technology
- **▷** Balanced product portfolio
- Product project objectives aligned with business strategies

"We are in a competitive market – always aiming at a moving target."

ANDERS YDERGÅRD, SVP PROCESS & IT, GTT

IVEN THE EVER increasing competition in the automotive sector, a flexible, adaptable structure for research and development is the key to the effective product development needed to meet complex demands from different markets.

Historically, the car industry has been at the cutting edge when it comes to technology development, but the call for faster development and new products is also being stepped up in the truck industry.

"The constant competition can sometimes feel really challenging, but, when the results are seen in sales figures and income, it is simultaneously very stimulating," says Anders Ydergård, SVP Process & IT at GTT and process manager for Product Development at the Volvo Group.

In 2010, the Volvo Group therefore introduced the RnD30 programme to cut costs and improve efficiency within product development, by reducing lead times and creating a more balanced product portfolio.

"THERE ARE A NUMBER OF ACTIVITIES that are critical in a product development project, so, by making them more effective, we can cut the total project time. This is the idea behind RnD30," explains Anders Ydergård.

The programme has identified a number of key areas for cutting lead times.

"To launch new products in time with the right quality, the right cost and the right features, you need stable products that have been thoroughly tested. The starting point is a verified concept based on mature technology. All the knowledge in the project has to be fed back so that it can be re-used. The product portfolio must be linked to the product strategy and the strategic objectives," says Anders Ydergård.

So what drives the technology development?

"Right now, technology development is really fast, driven largely by electronics and software. We are following developments by collaborating with our suppliers, for example. It's important to continue developing and acquiring know-how, as well as managing, capturing and re-using the knowledge we acquire," says Anders Ydergård.

As the Volvo Group sees it, it is a question of optimising its product offer, while ensuring that the projects that are run are the most profitable.

"There's constant interaction between the market and society's needs, between the driving force that propels us and ensuring that products can actually be produced. We are making increasing use of simulation rather than testing physical vehicles, thereby reducing lead times and cutting costs."

THE FINAL PROJECT IN THE RND30 programme has now been completed and transferred to the line. Work on improving efficiency and cutting lead times will continue in the different companies and in joint forums like DCP Governance (Develop Product and Aftermarket Product Portfolio), with common tools and working methods. "I sense a growing understanding of the fact that we are operating in a competitive market and that our work must be driven through continuous improvement. We don't necessarily need to work harder, but we must be smarter in the way we work and think differently. We can't simply sit back. We are always chasing a moving target," says Anders Ydergård.

Output

Develop Product

Aftermarket Product Portfolio), with common tools and working methods. "I sense a growing in a competitive market and that our work must be driven through continuous improvement. We don't necessarily need to work harder, but we must be smarter in the way we work and think differently. We can't simply sit back. We are always chasing a moving target," says Anders Ydergård.





"I see many good examples where we have been able to learn from each other"

PELLE BOKEDAL

VP Core Values, Processes and Systems, Volvo CE

Pelle Bokedal has led the RnD30 programme at Volvo Buses, but he is now working with Volvo CE, which he describes as something of a benchmark within the Volvo Group. Several of the Volvo Group organisations have



applied Volvo CE's methods internally. Volvo CE has had a very stable implementation of projects. Between 2012 and 2015 the QDCF metric, which measures quality, delivery, cost and features, rose from 54 to 89 per cent.

"Product quality has also improved, which means in

concrete terms that uptime for our customers has improved. We use the DMAIC* improvement model both in the field and in production, which means that we can solve problems faster. Naturally, quality is a core value which we should never stop focusing on."

Volvo CE Technology is also working with continuous improvements according to the Operational Development (OD) concept, which has saved over 80 million SEK per cycle over the past two six-month cycles.

"Most importantly: through RnD30 I see many good examples where we have been able to learn from each other within the Volvo Group," says Pelle Bokedal.

* DMAIC is a model for improvement projects that are grounded on the 5 phases D (Define), M (Measure), A (Analyze), I (Improve) and C (Control).

"Cross-functionality is a must for success"

ELIZABETH HARRINGTON

Senior Project Manager, GTT

"For Group Trucks, the RnD30 programme has resulted in a change of mind-set when it comes to cross-functionality. The engineers, purchasers and the manufacturing side have been working together in the early stages of a project in order to reach stable C releases – the point in the project when it is possible to invest at suppliers and when the plants prepare for industrialisation. "Communication, expectations and objectives – it's crucial for everybody involved to communicate and synchronise expectations and objectives," says Elizabeth Harrington.



To achieve this "the stable C-release checklist" has been used. It describes what each person needs to do to make the C-release stable, helping the team to focus on one common objective.

"Mindset change is never easy. For us in North America, it took a major mindset shift to drive a huge process change. We evolve every day to find the best way to drive cross-functional work without causing

meeting overload and to ensure all functions are involved at all levels," says Elizabeth Harrington.

"It is important to obtain as much knowledge as possible early in a project"

PETER FRANZÉN

Chief Project Manager Electric Hybrid, GTT

"Communication, customer focus and the early involvement of suppliers have been the formula for success for Volvo Buses' electric hybrid project. The project has run in parallel with RnD30 and, along the way, some of the programme's working methods have been adopted.

"Through this parallel approach in the initial stage, we become more confident that what we are developing can really work on a larger scale and we can fix any teething problems. The customers in this case are operators, but they also include politicians, city planners and electricity companies," says Peter Franzén.

The focus has been to achieve what in RnD30 is called a verified concept. This also applies to suppliers, such as Siemens, who supply and install charging stations.

"It is important to obtain as much knowledge as possible early in a project, so we want to involve suppliers who are in possession of a lot of knowledge that we don't have," says

Communication within the project has taken place through regular so-called pulse meetings with various stakeholders present. This means following another important RnD30 principle, namely making problems visible by visualising the work flow.

Catching THE \(\lambda/\lambda/\lambda/\lambda/\lambda/\lambda|

Competitive wakesurfer Hailey Parker catches a wave behind the Forward Drive in a demonstration for journalists gathered at the Miami International Boat Show.

Volvo Penta once helped turn waterskiing into a global phenomenon. It now hopes it can do the same for the growing sport of wakesurfing. The innovative Forward Drive propulsion system allows people to surf a wake behind a boat, while it is versatile enough to attract a broad customer base.

HILE A TRADITIONAL surfer has to wait patiently for a wellproportioned wave, paddle out and catch it at just the right moment, a wakesurfer surfs on the wake created by a boat. The surfer can then keep riding the same wave until the boat runs out of fuel or they lose balance.

"It's really a lot of fun," says Ron Huibers, President of Volvo Penta Americas. "You get a lot of time on the board. Unlike wakeboarding or waterskiing, it's done at low speeds, so it can be done by almost any age group. If you fall, you mostly just get very wet, but there's very little risk of hurting yourself."

After trying the sport for the first time on a lake in Canada a few years ago, Ron Huibers, a lifelong boater, was charmed by the sport. He also saw a potential market opportunity for Volvo Penta. "My children tested it first and then got me wakesurfing. The whole family loved it."

In 2012, Ron Huibers joined Volvo Penta after twenty years of working with the Volvo Group in trucks, construction and finance. In his role at Volvo Penta, he also has global responsibility for the marine gas segment. Based on an analysis of industry trends and his boating experience, he proposed the idea of

a sterndrive with forward-facing propellers, a similar technical solution to the one pioneered by Volvo Penta with the IPS that was introduced ten years ago. With forward-facing propellers tucked under the boat away from the swimming platform, the drive would allow Volvo Penta's customers to build boats for the growing watersports market.

THE CONCEPT OF a forward-facing sterndrive had been floating around at Volvo Penta ten years earlier but never made it past an early project stage, due to the lack of a strong market case to build it.

Today, however, that case is easy to make. For the past decade, growth in the US leisure motorboat market has been dominated by pricey inboard tow-boats and ski boats specialised for watersports. A forward-facing sterndrive allows Volvo Penta to compete in the water sports market, while offering a versatile boat that is attractive to a broad range of

A year and a half after starting the design work,

THE NEW FORWARD DRIVE

- Propellers tucked under the boat
- ▶ Well suited for watersports including wakesurfing
- Up to 430 horsepower
- Fast and easy to steer
- Read more here: www.volvopentaforwarddrive.com





From left to right: Fredrik Celander, William Gremminger, Marie Hagberg, Mel Cahoon, Joakim Falck and Ron Huibers at the Miami International Boat Show

Volvo Penta's US engineering team were able to put together a ready prototype to show US boatbuilders and dealers during a focus group.

The response? Overwhelming enthusiasm. Backed by customer accolades and armed with their input, Volvo Penta's Virginia engineering team, led by William Gremminger, Product Manager Transmissions at Volvo Penta, finalised the design of the Forward Drive. The team then followed the Global Development Process (GDP) and produced and tested three generations of the drive in just over a year, with support from GTO in Köping, Sweden which helped adapt the gears and shafts inside the transmission.

"The close collaboration between the global and US engineering teams was one of the key reasons we were able to bring this technology to the market," says William Gremminger.

THE ENGINEERING DESIGN includes several patented features that make the drive stand out. For example, the Volvo Penta

US team piped engine exhaust through the drive, which keeps the exhaust in the water and prevents it from being breathed in by the wakesurfer or boat passengers. With the drive wholly tucked under the boat, it is also extremely quiet, allowing passengers to socialise and communicate with each other and the wakesurfer. Importantly, compared with inboards, the forward drive is also significantly more fuel-efficient.

"It was a lot of work," says Gremminger. "But what we delivered is a one-boat-fits-all solution. You can surf, but you can do a lot more. The drive's speed, fuel efficiency, handling and the fact that the engine is so quiet – these all make it stand out."

A key project take-away was the early involvement of customers in the engineering process.

"The fact that our customers were involved at an early stage was key," says Fredrik Celander, Product Management, Marine Leisure. "We were able to gauge interest early on and get their input on design features, which saved us a lot of time. This is an approach we are using in other technology development now."

When the new Forward Drive was introduced at the Miami International Boat Show in February, it

> shook up the leisure boat market and went on to win the show's innovation award.

"It created a lot of buzz at the show. We launched the Forward Drive at the same time as our customers presented their boats designed for the drive. We could take the journalists out wakesurfing the same day," says Ron Huibers. "We were told again and again that this is completely unexpected but makes total sense. It's really something only Volvo Penta could do."

Output

Description:



The Forward Drive was unveiled at the Miami International Boat Show in February where it went on to win an innovation award. From left to right: President of Volvo Penta Björn Ingemansson and Ron Huibers, President of Volvo Penta Americas.



Marcia Kull, Vice President, Marine Sales at Volvo Penta North America

Opening up the market for product innovation

"When you have a disruptive innovation like this, the rest of the world hasn't quite caught up yet. From the start, we knew that we not only needed to win over customers, we also needed the industry and regulators on our side. When we launched, three states in the US had regulations prohibiting wakesurfing behind a sterndrive for safety reasons. Of course, the Forward Drive isn't a traditional sterndrive, so it was a question of the rules not yet adapted to advances in technology.

"Before the launch, we started participating in a group called the Water Sports Industry Association (WSIA) in order to get to know the key players. We also hired an

independent naval architect and safety engineer that works closely with the WSIA, to do a third-party safety review of the Forward Drive. When he gave the thumbs up - it gave us a lot of credibility with the whole industry.

"We have a huge amount of interest from boatbuilders. We now have six customers that will have dedicated watersports boats with Forward Drive. Boats with the Forward Drive have already been sold to Europe and it is being marketed with special displays at key boat shows in international markets. The sport is easy to learn, so I'm confident this exciting sport can catch on worldwide. You can really say that it's a year to look forward to."



WHY FORWARD DRIVE?

The Forward Drive from Volvo Penta is the first of its kind: a forward-facing drive designed for sterndrive boats. Launched earlier this year it has already made a huge splash. This is why.

Among leisure boaters in the US, sterndrive-propelled boats have been losing market share to inboard tow-boats which are specially designed for watersports. But with its newly launched Forward Drive, a sterndrive with forward-facing propellers, Volvo Penta is aiming to expand the market.

A big selling point for the Forward Drive is that it is well-suited for watersports including wakesurfing and wakeboarding because the propellers are tucked under the boat, away from the swimming platform and boarding ladder behind the boat. At the same time, the sterndrive makes the boat easy to steer and be adapted to other activities such as fishing or cruising.

A boat fitted with a Volvo Penta Forward Drive also offers a host of other advantages. It

is quiet and significantly less expensive than most inboard boats. What is more, the engine exhaust flows into the water and is not pumped out behind the boat (and into the face of watersports participants).

Versatility is a key selling point vis-à-vis traditional inboard towboats, which tend to be more single purpose. "Our ultimate aim with the Forward Drive is to grow boating," says Ron Huibers, President of Volvo Penta Americas.

At the helm of innovation

To arrive at the Forward Drive, a new kind of drive technology, the design team leveraged the technology of three legendary Volvo Penta innovations.



Sterndrive



1982 DuoProp





A STRATEGY AGAINST COPYCATS

Piracy is a continuous threat to the Volvo Group, but a new strategy is designed to better protect Intellectual Property (IP).

TEXT NIC TOWNSEND

SÖREN HÅKANLIND & ANNA TÄRNHUVUD

I-Sync I-See Magnum Quester Titan by Mack TerraPro Bulldog Emergency Fuelwat Volvo FH brake Condor Volvo Action Service Muzzle Load

F LEFT UNCHECKED, piracy can cause irreversible harm to the whole Volvo Group. Counterfeit parts and infringements can quickly damage a brand's reputation and lead to lost customers. They undermine aftermarket businesses and negatively impact the Volvo Group's profitability. Significant resources are invested in product development and marketing, to ensure each brand represents a high level of quality and performance, and Intellectual Property (IP) rights are vital to protecting this investment.

In the battle to protect the integrity of the Volvo Group's brands, Volvo Group Intellectual Property (VGIP) is equipped with an extensive portfolio of IP rights including patents, designs and trademarks. However, the battle is global in scope and is being fought on multiple fronts.

"At a recent trade show in Istanbul, we found 71 different exhibitors, each with at least one infringement," says Niels Lagerkvist Lehmann, Trademark & Design Counsel, VGIP.

"Since there are so many, we have to prioritise and choose which to act upon," adds Susann Vahlenbreder Hecht, Senior Legal Counsel IP and Head of VGIP Trademarks, Designs & IP Enforcement. "We have to decide which are the most serious cases."

So what makes one case more serious than another? Are some IP rights more important to protect than others? It is questions like these and a number of other aspects that have led to the development of a new IP strategy, for the Volvo Group. "Previously, we had no common methodology when it comes to IP strategy," says Anna Bjerkelund, SVP Legal & Group IP, GTT. "With this new strategy, we have now aligned IP protections and other IP work with our overall business plans. In the current Group IP strategy the new methodology has been applied in certain pilot areas, but over time the IP strategy will cover all our products and main technology areas."



"Taking action is not optional. We invest a lot in developing new technology, so we need to enforce our IP rights."

NIELS LAGERKVIST LEHMANN, TRADEMARK & DESIGN COUNSEL

By syncing IP strategy with commercial strategies, the Volvo Group will be able to ensure that IP activities are concentrated in the right areas and the protection is focused on what is commercially most valuable. "We shouldn't measure the number of IP protections," adds Anna Bjerkelund. "We need to focus on quality and not quantity when it comes to registering and protecting IP rights."

PLAN, CREATE, EXTRACT - this is how Henrik Olsson, Global IP Director and Head of VGIP - Patents & IP Strategy, summarises an enhanced way of working based on the new strategy. "The first step is to plan and acquire a strategic view, so that our IP strategy is

"The new IP strategy will help us identify which IP rights are most valuable and which infringements we should act against."

> SUSANN VAHLENBREDER HECHT, SENIOR LEGAL COUNSEL IP

dependent on our other strategies, such as the Volvo Group Technology Plan, market plans and business plans," says Henrik Olsson. "The second step is to then put the resources in place to create the IP rights we need and, finally, we have to ensure we are using those rights to extract value."

ONE IMPORTANT WAY to extract value is by enforcing IP rights. This includes forcing a violator to cease and desist from further commercial exploitation, seizing infringing goods or claiming damages – all done in collaboration with local authorities and through litigation in court. Every year, the team at VGIP – Trademarks, Designs & IP Enforcement – receives countless reports of infringements from across the globe and it is up to the team to support the investigation and subsequent actions. In addition, they also visit the industry's main trade shows and exhibitions and actively seek out offenders.

"When we get a report, we have to assess whether or not we should act upon it, and which action to take," says Susann Vahlenbreder Hecht. "This will be easier with the IP strategy, since it is intended to help us identify which IP rights are important for creating value for the Volvo Group."

The Volvo Group's brands are distinguished in their respective industries and each represents a unique and strong asset, so each has different priorities when it comes to IP rights. "VGIP treats all brands equally and, together with Brand Management, we ensure that

the various brand distinction strategies are reflected in the various brand IP portfolios," says Niels Lagerkvist Lehmann. "For example, Mack Trucks has certain highlighted parts that are brand distinctive from a visual perspective, while Volvo

VOLVO GROUP IP PORTFOLIO -THE NUMBERS

10,000 patents 2,500 design protections 2,000 trademarks





I-Sync I-See Magnum
Quester Titan by Mack TerraPro
Bulldog Emergency
Volvo FH brake Twin Y
Volvo Action Service Muzzle Load
Dynafleet Volvo FMX
I-Park cool Volvo
Dynamic
Steering

Trucks has other parts. This helps us prioritise when evaluating cases."

Having an IP strategy is also important for building a long-term view of which IP protections create value. "Many design registrations are unexamined rights, meaning that they can only be validated in a court case," adds Lagerkvist Lehmann. "The outcome of a possible court case will guide us so that we know for the long term what we should be protecting in the future."

AS LONG AS THE VOLVO GROUP continues to boast renowned brands and industry-leading products, it will be targeted by pirates. However, the new IP strategy is an important first step in ensuring that efforts to combat piracy are co-ordinated and optimised for maximum protection.

IP value models

All Intellectual Property (IP) protections need to create value for the Volvo Group and, as part of the new IP strategy, all applications for IP rights need to fit into one of the following IP value models.

- ▷ PRODUCT EXCLUSIVITY IP protection for maintaining brand differentiation and preventing competitors from producing copies.
- ▶ AFTERMARKET EXCLUSIVITY IP protection for parts against
- counterfeiters in order to secure the spare parts business.

 LEVERAGE IP protection that secures knowledge and control of technology in relation to third parties, such as suppliers.
- ▷ LICENSING IP protection that enables the Volvo Group to license technology and generate licensing revenue.
- ▷ LIBERTY IP protection that ensures that the Volvo Group is not hindered by competitors' IP portfolios.



PATENT INNOVATION WORKSHOP

Fresh perspectives can mean fresh ideas. By bringing together people from diverse backgrounds, Patent Innovation Workshops are successfully generating creative new ideas for new patents.

TEXT NIC TOWNSEND PHOTOS CHRISTER EHRLING



From left to right: Emil Jönrup, Clarisse **Chervet and Jens** Nordberg

CONVENTION DICTATES THAT working with patents is exclusively the domain of lawyers and engineers - but the whole point of the Patent Innovation Workshops is to be unconventional. By combining different areas of expertise, including product planners, patent attorneys, innovation coaches, technical experts and, most unusually of all, 'wildcard' participants from completely different fields altogether, each workshop offers fresh insights into its given area.

"If you work together for ten years, you know how

I-Sync I-See
Quester Titan by Mack
Bulldog Emerge
Volvo FH brake
Volvo Action Fuelwatch ynafleet Muzz load Fuelwatch

"By involving people from the outside, you get a real perspective change... it creates a spark."

JENS NORDBERG, INNOVATION CONSULTANT

you think and you always fall into the same patterns," says Jens Nordberg, psychologist and Innovation Consultant at Advanced Technology & Research (ATR), GTT. "But, when you involve people from the outside who don't have a clue about the subject, you get a real perspective change. A lot of the really good ideas come from the interactions between the two. The expert is forced to take a step back, take another look at the basic problem and this creates a spark."

The workshops complement the main patent generation process during the R&D phase, by focusing extra attention on technology fields in which patents are assessed to be important for the future. "Product Planning (PPL) and Volvo Group Intellectual Property (VGIP) identified an opportunity to create a new concept for creating ideas for patenting and we involved the Innovation Management at ATR, who in turn further developed the initial idea into this workshop concept," says Emil Jönrup, European Patent Attorney, GTT VGIP.

TO DATE, PATENT INNOVATION Workshops have been held in Gothenburg and Lyon. Over each two-day workshop, participants are constantly challenged to think differently and be creative. "We work in small groups because this makes it easier for people to share their ideas," says Jens Nordberg, who facilitates the Gothenburg workshops. "We then try to add to people's ideas, rather than respond with 'yes, but' statements. In other words, we focus on



what is good about the idea and build on it."

Clarisse Chervet, Innovation Management, Advanced Technology & Research, GTT, facilitates the Lyon workshops and works closely with Jens to modify and refine the workshop's format based on their respective experiences. "When you generate a train of thought, before it arrives at the final station, which is the golden idea, along the way it can also cross the tracks of another idea from someone else," says Chervet. "This can either cause a collision or the two trains can join and form one long train. As a facilitator, our job is to avoid the collisions and get everyone driving together."

AS FAR AS THE FACILITATORS are concerned, there are no stupid ideas and everyone's contribution is valued, regardless of title or expertise. "We always get the participants to present themselves by their first name and their personal interests, rather than their job titles or functions," says Jens Nordberg. "It's a way of levelling the power distance. Otherwise, you bring power discrepancies, which inhibit creativity."

Each workshop typically results in five to ten selected ideas and, after a thorough evaluation and assessment process, Emil Jönrup estimates that between two and five ideas result in patent applications filed with the patent office. "During the workshop, the teachings of interesting patents are presented by a patent attorney as stimulation for idea generation. It is often surprising for the participants that a patented solution does not necessarily differ much from earlier known solutions," he says. "Hopefully, we will get some good patents from these workshops. So far, the results are very promising."

Volvo FL
says Chervet. "This can either cause a collision the two trains can join and form one long train the two trains can join and can join the two trains can join and for





Emil Jönrup

Jens Nordber

"When you generate a train of thought, along the way it can also cross the tracks of another idea... and form one long train."

CLARISSE CHERVET, INNOVATION MANAGEMENT

Patent Innovation Workshops – the wildcard

ONE OF THE unique features of the Patent Innovation Workshop is the inclusion of a 'wildcard' – a participant from a completely different part of the Volvo Group who does not ordinarily work on drafting patents. Sebastien Sage, Sourcing Manager with Purchasing, GTO, shares his experiences as a 'wildcard'.



Sebastien Sage

"It was very inspiring to be able to step back from our day-to-day routines and meet other stakeholders. There was lots of creativity since we had such diverse backgrounds and were able to interact without boundaries or limitations.

"I now have a much better understanding of the process behind filing a patent and the different requirements from engineers, PPL and PD. Overall, the workshop created a good team spirit among people who don't normally work together, and many without a background in engineering. I was able to contribute two ideas, which are now in the filing phase."

From idea to patent

1

Product Planning (PPL) identifies a technologica field that is assessed as being important for the Volvo Group and Volvo Group Intellectual Property (VGIP) supports in identifying an area within this field where patents would be most valuable.

2

VGIP investigates the patent landscape in the field.

3

The two-day Patent Innovation Workshop is held with representatives from VGIP, PPL, Innovation Management at ATR, Product Development (PD) and 'wildcard' participants from completely different parts of the organisation. Innovation Management facilitates the workshop for generating new ideas for potential patents.

4.

Each workshop typically produces 50-60 ideas, of which five to ten of the most promising are selected. The creators of each selected idea then draft an invention disclosure, which is submitted to a patent co-ordinator through the standard Volvo Group patent process.

5.

The patent co-ordinator for that specific technical field co-ordinates a business and technological assessment. If approved, the idea is then sent to VGIP.

6

VGIP assesses whether the idea is patentable, while a Cross-functional Patent Group (CPG) decides whether or not to file a patent application. It so, a patent application is drafted and filed by VGIP.

VOLVO POLSKA - A TOP **EMPLOYER**

An innovative trainee programme is attracting new talent to Volvo Polska. But mentoring and development opportunities at work are also factors that explain why this is one of Poland's most popular employers.

TEXT TADEUSZ RAWA PHOTOS ADAM LACH



Łukasz Wieloch and Marta Zbanyszek have chosen to work at Volvo Group in Poland because of strong development opportunities there. ARTA ZBANYSZEK HAS only worked at Volvo Polska for around a week. She has just become the junior HR administration specialist at Americas & Global Deliveries department, which handles personnel matters for the Volvo Group in the United States. Prior to this, she had a two and a half month long internship in the HR department at the Volvo Buses plant in Wrocław. She felt that she wanted to stay within the Volvo Group – and this is exactly what she did.

When describing what makes a good employer, Marta says that all company employees must be met with the same respect, no matter what they work with. There should also be opportunities for development and a good atmosphere in the workplace.

"As an intern, I was the lowest in the hierarchy, but I was treated with the utmost respect from the start. I have worked with some employers before this but this was the first time I had experienced such a thing," says Marta.

Every year, 60-80 people join the Volvo Group's trainee programme in the Polish city of Wrocław.

"We are working closely with a number of colleges and universities in the region," explains HR Manager Bozena Michońska.

THIS IS ESPECIALLY IMPORTANT as there is competition for specialists in the economically strong Wrocław region. The Volvo Group needs to stand out and has so far succeeded in doing so. Volvo Polska can in fact boast about having received the prestigious Top Employers award for the sixth consecutive year.

"Many people apply for an internship with us, not least because approximately half the 60-80 trainees we take in each year are offered a job afterwards," says Bozena Michońska.

Being an intern at the Volvo Group is a question

VOLVO POLSKA

Head office: Wrocław

Number of employees: approx 3,000. The vast majority, 2,500, work in Wrocław, 1,300 of them within the manufacturing of buses. In addition, there are corporate function centres – Corporate Process & IT, Accounting & Company Control and HR Services. History: the Volvo Group has been established in Poland since the 1970s. The production of buses started in 1996 in Wrocław and is today the home of Volvo Buses' largest plant in Europe, producing city buses, intercity buses and coaches.



"We are working closely with a number of colleges and universities in the region."

BOZENA MICHOŃSKA

of not just developing skills but also understanding what constitutes the Volvo Group's culture. When she recruits, Bozena Michońska does not simply look at a person's formal skills.

"A super specialist that is too individualistic and who does not share our values would not have much of a chance of getting a job with us, even if that person had good formal qualifications," says Bozena.

Volvo Polska is also implementing several programmes helping employees develop in the workplace, which is something Łukasz Wieloch really appreciates. He has worked at Volvo Polska for three years, one and a half of which were spent as head of a department which managed personnel matters in different parts of the Volvo Group in Sweden.

LUKASZ SAYS HE WANTS to make the most of the development opportunities available at Volvo Polska. Among other things, he has gained a mentor, through the much-appreciated mentoring programme.

"Under the guidance of an experienced supervisor, you can learn about and become familiar with areas other than those you are currently working in. This offers a broader perspective and perhaps a chance to discover something that you would like to switch to.



"We are dealing with other cultures, laws and time zones, providing fantastic opportunities for the exchange of expertise."

MARTA ZBANYSZEK



Competition for talent is fierce in the Wrocław region, but the Volvo Group is working closely with local universities.

This facilitates flexibility and mobility within the company," says Łukasz.

He has also participated in the 'Exploration of Emerging Leaders' programme, which he really liked.

"It was something new, so at first I was a little unsure, but it turned out to be an amazing experience. A group of young people coached each other, got to know each other and shared their knowledge and experience, in preparation for future

leadership roles."

Both Łukasz Wieloch and Marta Zbanyszek emphasise how important it is to develop interpersonal skills. They have many contacts with colleagues in other countries, mainly in Sweden and the USA.

"The documents we work with are clearly the same within the whole Volvo

Group, but it is important to interpret them correctly. We are dealing with other cultures, laws and time zones, providing fantastic opportunities for the exchange of expertise," says Marta Zbanyszek.

THE VOLVO GROUP, INCLUDING Volvo Polska, is in a transformation period with several structural changes, one of them being the discontinued production of Volvo CE backhoe loaders in Poland, affecting approximately 150 employees. Being a good employer involves trying to support people in finding new jobs.

"When other employers in this region heard the news, we started receiving calls from other companies interested in hiring our staff. This is definitely a recognition of how skilled our employees really are," says Bozena Michońska.

Output

Description

Descriptio

TOP EMPLOYERS

▷ The Top Employers Institute is an international certification for employers meeting extremely strict standards. Volvo Polska has received its award six times, most recently in 2015.









Mobile Core Team has a clear mission: to align all mobile activity within the Volvo Group. "Mobility is more than a buzzword - it is a global revolution that we simply have to join forces to capture," says Caroline Fransson.

1. Why is there a Mobile Core Team?

"Mobile devices, including smartphones, tablets and wearables, are globally taking over from laptops and computers as the preferred way to research, purchase and interact. A wide range of different mobile services are available today and more keep coming, including many from the Volvo Group and its different brands. The Mobile Core Team was created to provide a central hub for co-ordinating mobile activity, which will only continue to grow in the coming years."

2. What opportunities does mobile technology offer?

"On one side, business opportunities are being created by all the data that is acquired through connectivity, which can be translated into improved knowledge of our products and how they are used. Mobility is already improving our services by enabling customers to optimise total cost of ownership, find dealers and obtain operating instructions on the go, to name just a few examples. On the other side, there are also opportunities to optimise our own internal operations, by enabling colleagues to perform tasks, access real-time information and interact with each other, whenever and wherever. Regarding opportunities, we could go on and

3. Why is co-ordination needed?

"At the moment, we have quite a scattered approach across the Group. Great mobile initiatives are launched, but we think these can be further leveraged and increased collaboration can optimise usage. For example, there are around 200 mobile apps published for one of

our brands. How will customers know which one to download? Each brand, function and process is naturally responsible for setting and executing its own mobile roadmap, but through consistent and cross-functional co-ordination, we can be far more efficient, provide greater user experiences and decrease time to market."

4. What can the Mobile Core Team offer?

"Our mission is to work proactively as a business partner within the Group in the mobile context. We provide guidance about various topics, from brand experience aspects to publishing standards, as well as mobile intelligence on trends and user behaviour. The team consists of specialists and experts from various business entities and corporate functions and is headed by the IT Services Solutions Delivery Unit. NIC TOWNSEND







Dhruvajit draws a crowd

When Dhruvajit Sarma started drawing cartoon strips for the newsletter produced by his Volvo Group department in Bangalore, India, his colleagues quickly got the message and he has now become something of a local phenomenon.

What got you started on using illustrations, cartoons and logos in your working environment?

"The 'Phantom' and 'Mandrake the Magician' comic strips that used to feature in the local daily newspaper during my childhood days still inspire me to this day. I was a part of a school magazine committee too.

However, the inclination to use cartoons and logos only increased after I completed my Master's in Business Administration, wherein I studied Brand Management in great detail. The concepts behind logos, cartoons and advertisements are so fascinating. And, ever since, I have never missed an opportunity to work on them."

Where and how were your cartoons first published?

"The name of the newsletter that publishes them is 'In Touch In Tune: SAP India Newsletter'. It is published within the India SAP Department. A few months ago, the idea of including a cartoon strip was considered in order to increase readability. It has been the motivation from the Department Manager and Line Managers that has kept the flow of cartoons

What is the philosophy behind your illustrations?

"Most of the time the subject is just an impulsive decision. I try to depict something that is perhaps the focus of much attention at my workplace at that point in time

Sometimes if my cartoon strip brings some issues and discussions to the fore, or perhaps helps to communicate a message or directive from higher up to other parts of the organisation, then it's mission accomplished for me!"

What has been the reaction of colleagues/readers to your work in the monthly newsletters?

"So far I haven't faced any opposition to any of the illustrations and they have received their due credit. There is a little truth behind the sarcasm and a little information behind every humorous line. It feels good when I hear people discuss the comic strips over a cup of coffee."

ALASTAIR MACDUFF







"BOLBO BHARAT KARYALAY is the name I use to show the inside of the office in my illustrations. BOLBO is used for VOLVO, BHARAT is a synonym for INDIA in Hindi and KARYALAY is a Hindi word meaning OFFICE, So. together, BOLBO BHARAT SAP KARYALAY in place of VOLVO INDIA SAP **DEPARTMENT.**"

DHRUVAJIT SARMA

Age: 33 Lives: in Bangalore, India Work: has worked at Process & IT since December 2011. Joined as a Senior Solution Consultant in the SAP **CRM Area and was** promoted to become an **Assistant Manager last** year. Currently working with the SPM Project for Trucks EMEA and NA.

JESSICA BAI

"Strong roots and a diversity of leaves"

FEEL THAT A COMPANY culture is the DNA or the soul of the organisation. Personally, I think that the Volvo Group's culture is very inspiring, attractive and unique. It is a bit like glue - it keeps people working very closely with each other. The glue has various ingredients: trust, respect, passion, seamless co-operation, friendliness, openness, energy, humour, fun, result driven, creativity, diversity, accountability, happiness...

Everyone knows that the Volvo Group is a global matrix organisation. To work towards the goals and objectives quite often requires us to work with people from different countries, different global functions, divisions and business areas. Sometimes we have opportunities to meet with other colleagues in person when we work together and it's also quite often that we do not have the opportunities. Even though we may have worked together for years through email or Lync, we may not even know what the other person looks like. The person on the other side of the Lync meeting may be of different nationality, ethnicity, age, religion, lifestyle and in a different time zone, but that does not block smooth communication. What enables us to have this smooth communication and seamless co-operation is our common core values.

IF I TAKE A TREE AS A METAPHOR for a company, the roots of the tree are like the company's culture; the trunk of the tree is like the company's strategy, objectives and operations: the branches are like small teams and the leaves are like people. If the roots are very strong, positively positioned and deeply grounded in the earth, the trunk of the tree is normally very strong and has

> that the company culture and strategy are fully aligned. Each leaf is unique, different in colour and shape. The diversity of leaves makes the tree more lively and

the potential to grow to be very tall. It is very important

Personally I feel that the Volvo Group culture is very well aligned with most people's core values, it unites us to work closely with each other. In the meantime, it also enables diversity and appreciates and respects the unique colour and shape of each leaf.

Jessica Bai

Talent Management & Competence Management Director, Staff & Support Functions, Volvo Group in China



As a company committed to safety, the Volvo Group has decided to work on raising children's awareness of how to behave safely in traffic through a global campaign. It is based on three vital ingredients; Stop, Look, Wave.









Scan the code to read more about the campaign