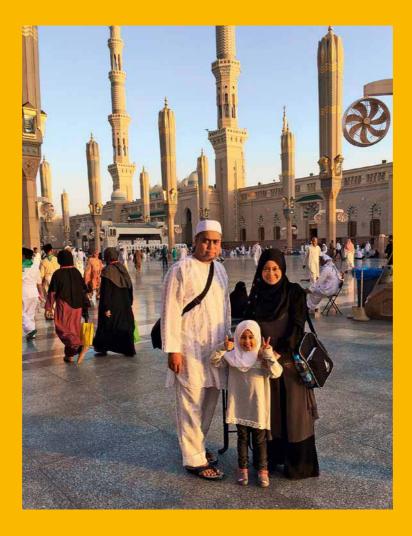


HELLO!



Riduan Deraman

Medina, Saudi Arabia, December 12, 2016, 9:15 AM CET

Hello from the holy city of Medina in Saudi Arabia!

The Prophet's Mosque in the background is a very popular place of pilgrimage for Muslims. I spent a few lovely vacation days here and had some precious quality time together with my beloved family.

Riduan Deraman is Automation Specialist at GF Piping Systems in Singapore.



Will Lim

Subang Java Malaysia December 12, 2016, 9:15 AM CET

Here we were busy setting up our trade show stand at a water conference. My colleagues and I represented GF Piping Systems Malaysia for three days at this event.

Will Lim is Sales Engineer Utility at GF Piping Systems in Shah Alam, Malaysia.

JOIN IN AND WIN!

What are you doing on March 14, 2017 at 2:30 PM CET?
Send your snapshot with "Hello!" as subject heading and a short description to: globe@georgfischer.com
All entries will be included in our competition on page 40.

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his career as an apprentice at GF Automotive
30 years ago in Werdohl,
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part of the management

Railway explorer
Tiger Zhang of
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discoveries.





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Building bridges
through language
Daniela Cameroni of
GF Machining Solutions
in Losone, Switzerland, helps refugees
settle into their
new environment.





EDITORIAL

There are many ways to get better!

Dear colleagues,

In addition to external factors, the skills of all GF employees are a key factor when it comes to achieving the goals of our Strategy 2020. But how can a company ensure that its workforce has the "right skills"? Not least by offering an extensive range of in-house training and professional development opportunities. More than 80 percent of GF employees participated in trainings in 2016 – a record-breaking number. In this issue of Globe we illustrate how employees personally benefit from these offerings.

One of us who likes to seek out special challenges is Mark Loader, Sales Manager at GF Piping Systems in the UK. In his free time he literally takes the plunge – and is not afraid to test his own limits. His motto is: be prepared to engage with the unfamiliar and try out new things – which is in fact just the right maxim for GF as we set out to offer our customers innovative solutions. One example here is GF Machining Solutions as it supports its customer Toyota Racing Development in achieving top speeds on the race track.

One thing that will be no challenge at all from now on is your enjoyment of Globe: thanks to the new online version (page 37) you can read it whenever and wherever you like on your smartphone or tablet. We are looking forward to your feedback!



Beat Römer Head of Corporate Communications

2 Jan

I hope you have an informative and entertaining read. Do you have any feedback? We look forward to receiving your input at globe@georgfischer.com

IN RETROSPECT



In addition to modern offices and training rooms, there is an innovation area where customers can experience products interactively.



New Training & Technology Center in Istanbul

GF Piping Systems opened its new Training & Technology Center in the Turkish city of Istanbul in the summer of 2016. Modern offices, training and seminar rooms and a large showroom enable both domestic and foreign customers and partners to take a closer look at products of GF Piping Systems and their potential areas of application. In addition, a special innovation area invites guests to experience the latest solutions in an interactive way. The first trainings in the new facility have already successfully taken place.

First worldwide 7 Habits Day

he time finally came on November 8, 2016:
employees of GF Piping Systems all around
the world took part in the first 7 Habits Day.
In order to strengthen teamwork and refresh the principles of "7 Habits of Highly
Effective People," special team activities were offered
at every site. The training program developed by the
American company FranklinCovey has been in place
at GF since 2004. The aim of the 7 Habits Day was to
remind everybody of the shared values and principles
of the "7 Habits of Highly Effective People." After all,
good collaboration in the company is crucial to the
successful implementation of Strategy 2020.



Hundreds of employees in Shanghai were clearly very happy with the first worldwide 7 Habits Day at GF.



For more pictures and videos, see: globe.georgfischer.com

PRODUCT IN FIGURES

Gold award for SiMo1000

GF Automotive received an award for its material SiMo1000 at the German trade show Materialica. The innovative alloy is able to withstand temperatures of about 900° Celsius. This in-house development by GF Automotive is much more durable and less expensive than other alloyed cast irons and sheet steels. The Materialica Design + Technology Award originated in 2003 and is regarded as an important award for material development and design. For more information on the development of SiMo1000, see page 20 of this issue of Globe.



15000

couplers of the product line ELGEF Plus are installed every day in more than 100 countries all over the world. They connect plastic pipes made of polyethylene (PE) carrying gas or drinking water. GF Piping Systems produces these couplers at five sites: in China, India, Japan, Argentina and Switzerland. Huge quantities of PE are required to produce the more than five million ELGEF couplers per year – all in all GF Piping Systems has used more than 5 000 truckloads of PE to date. Customers can choose from more than 60 variants with different diameters. They all have one thing in common: copper wires, so-called heating coils, are integrated on the inside of the couplers. When the end parts of two pipes are inserted in the coupler, the heating coils transmit electrical energy so as to ensure the pipes and the coupler are inseparably attached to each other. The amount of copper wire GF Piping Systems has used for its couplers to date would be enough to go round the Earth 30 times.

Production launch: 1995
Development period: 31 months
Production: fully automated injection molding
Diameter: 20-800 millimeters
Weight: 53 grams-120 kilograms

IN RETROSPECT

Third gold for Globe



For the third time in succession, the Swiss Association for Internal and **Integrated Communication** (SVIK) awarded Globe with the "Golden Feather." The jury described Globe as an "employee magazine of outstanding quality," praising its variety of topics, journalistic diversity and distinctive visual style. "Here, the employees are the stars of the company." The SVIK has been recognizing the best internal communication media for 70 years. ■

Honored suppliers

n the occasion of the Supplier Day 2016, GF Machining Solutions again awarded its best suppliers. The event took place in Losone, Switzerland, and in Shanghai, China. Trophies went to ten suppliers both in Europe and Asia. "A Top 10 Supplier not only provides consistently high-quality products but also proves exceptional flexibility and delivery reliability," says Markus Kuhl, Chief Procurement Officer at GF Machining Solutions. The Italian company TECNOLASER S. r. l. received the award for the second time in a row.



The picture shows the top European suppliers at the Supplier Day in Losone, Switzerland.

New CFO

Andreas Müller has started as the new CFO of GF at the beginning of the year. His career at GF has involved a wide range of different positions: Andreas Müller joined the company in 1995 as Product Manager at GF Piping Systems. He also headed the finance and operations department in Australia and, after holding a number of other posts, most recently spent eight years as CFO of GF Automotive.





HOW DID IT GO? 30 YEARS AT GF

Ralf Bachus

Head of Business Administration and Process Planning at GF Automotive in Werdohl, Germany

30 years ago ... was when Ralf Bachus' success story at GF began: at the Werdohl site, where he started his apprenticeship as Energy Plant Electronics Technician. Over the next 14 years he was never afraid of hard work in his job maintaining machines in the foundry. "From that period of my career I know every nut and bolt here," he says with a laugh. But that was just the beginning: at evening school he trained as a technical business manager and continued to develop his skills. After working in production, work preparation, controlling and business development, he is now part of the management team at GF Automotive in Werdohl. As the Head of Business Administration and Process Planning, he can be seen as the company's helmsman. He calculates hourly rates for customers, draws up work schedules and monitors manufacturing costs in production. About Werdohl he says: "I must say I'm very attached to the place. This was where I got to develop my skills and demonstrate that there's nothing you can't achieve without dedication and enthusiasm."

And in the upcoming years? A keen hiking enthusiast, he intends to tackle the so-called "Karwendel March": a day-long hike stretching 52 kilometers through the Tyrolean Alps. He sees "his" Werdohl site on the right track towards the future: "We're gearing ourselves up for electric mobility – for this purpose we'll have another new die-casting machine for producing larger, more thin-walled parts from 2017."

PROJECT STANDARDS DATABASE

Bringing clarity to the standards jungle

Last year, a project team made up of employees from all three GF divisions took the initiative to set up a shared database for standards. The project involves a lot of work, but it's worth it: in the future the new system will save the entire company a lot of time and money.

S

ome standards are quite simple – such as the stipulated size of a screw, for example. But there are others that are more complicated, such as the resilience of steel. Whatever the specific application, standards have to be met. And that's no easy task – certainly not for an international corporation such as

GF with more than 120 companies worldwide. "If a machine is being exported and there is no proof documenting that it meets all local requirements, it won't get through customs and we can't deliver on time," as Harald Küchler, Division Quality System & Sustainability Manager at GF Machining Solutions, explains. "Incidents like this can generate losses in the tens of thousands."

In the past, each division worked on its own to ensure it has all the necessary standards at hand. There's a lot of work involved – after all, it's easy to get lost in the standards jungle. "Sometimes we even need external specialists to support us," says Harald Küchler. A lot of countries have hundreds of specifications.

Central access

Urs Amacher also knows how complex the topic is: at GF Piping Systems, he is responsible for standards and approvals. "In our division alone we deal with at least 1 000 standards," he outlines. "Most of them are product and testing specifications for our piping systems. We have to comply with these standards, otherwise we wouldn't be able to sell our solutions." Moreover, there are general standards which all divisions need. "For example for quality management, environmental management and occupational safety," he adds. Up until now, these were ordered and paid for individually by each division at different online shops. Their utilization incurs annual license fees.

In order to simplify this process, Urs Amacher initiated the "GF NOR-DB" project last year. The goal was to introduce a cross-divisional standards database for employees at all production sites. In addition to the five experts for quality management and standards, IT expert Michael Neubert from GF Piping Systems was also involved. The project was initiated in January 2016.

The result is a multilingual platform specially tailored to the needs of GF. Authorized users will be able to find all the relevant standards in one place, with all information clearly structured. The best thing about this solution is the fact that the database is automatically updated. This is based on software that compares the data with the world's most important standards lists. And if a standard has already been purchased by a division, this is visible in the system. So in the future it will be possible to benefit from synergies, avoid duplicate and triplicate purchases and save a good deal of money.

Saving time and costs

"The new database will enable us to minimize annual license fees. And we'll save time on research, too," as Urs Amacher enthuses. By the way, it didn't take a lot of persuasion to get his idea accepted: "Everyone quickly realized that the time required to set up the new system would be well invested."

All project participants are proud to have been involved in this joint project: Urs Amacher and Andreas Neubert, who is now in charge of the project, from GF Piping Systems, Harald Küchler from GF Machining Solutions as well as Jörg Nawrocki and Fritz Meiller from GF Automotive. The official launch of the database will take place in the first quarter of 2017 and they all agree: "The project has already strengthened team spirit. And thanks to the new solution, cross-divisional collaboration will be a lot easier in the future, too."







A passion for the deep blue sea

Mark Loader is constantly in search of new adventures.

As Sales Manager at GF Piping Systems in the UK, he loves to push himself to the limits – preferably by diving to the unknown depths of the oceans.

Having done almost 350 dives, Mark Loader has certainly seen a lot in his time, but the underwater world with its colorful creatures continues to fascinate him. One of his highlights was an exploration tour to an old shipwreck off the coast of the Indonesian island of Bali. No matter where the 47-year-old goes diving: having the right equipment is absolutely vital to him.



itting calmly at his desk, Mark Loader admits that he probably is a little crazy. And as soon as he starts talking about his passion for diving, you begin to realize what he means. He has done almost 350 dives in total, including two at the notorious "Washing Machine" dive site off the coast of Mindoro in the Philippines, with its powerful ocean currents and dangerous, swirling

eddies. "The moment you get in there, there's just one thing you want: to get out again as quickly as possible," says the 47-year-old.

The first time he dived the "Washing Machine," an undertow began to pull him in all directions, dragging him down to a depth of 45 meters in just a few seconds. The dive computer immediately sounded the alarm. Mark

Loader's heart was racing, his oxygen consumption soared and bubbles of air spread in all directions as he breathed out. He tried to stabilize his body position, let some air into his diving jacket and gradually climbed back to the surface meter by meter, paddling evenly with his fins as he went. A "wash cycle" such as this takes just under two minutes. So why does he do it? "You have to test your limits now and then to see what you're capable of. It's the only way to improve."

Mark Loader loves the thrill of an adventure, but is certainly not reckless. He is more the kind of person who is happy to engage with the unfamiliar and try out something new – as happened 17 years ago when he learned to dive while on vacation in Malta and discovered a totally new world: a weightless, silent world full of brightly colored, bizarrely shaped living beings. "You hover past shimmering coral reefs in many different colors as if in a trance, and cross the path of huge sea bass, multicolored parrot fish and other exotic marine species. Down there, time becomes a never-ending moment and you're at one with the sea," he says. It was this sensation that took hold of him that first time, and has not let him go since.

Out of the comfort zone

Mark Loader is someone who needs experiences like this to break out of his comfort zone. He loves immersing himself in foreign worlds and cultures, in fact it is something from which he draws strength. "I have to keep moving forward – without this drive for new adventures I would come to a standstill in life." This is why he is constantly on the go: under water, on land and in the air. More than once he has spent several months traveling around the world – the first time at the age of 32 and then again when he was 38. He has flown a helicopter, climbed over 5 000 meters to the Everest Base Camp in Nepal, enjoyed paragliding in Turkey and white water rafting in New Zealand, before joining GF Piping Systems as a Sales Manager two years ago.

In London, Mark Loader heads up a team of four and is responsible for ensuring that sales targets are met. He also evaluates all new products in the area of building technology in terms of their sales potential in the UK and how they can best be marketed. For Mark Loader it's a dream job – one in which he genuinely thrives, as he says. "The company is constantly developing. This means we're able to adapt to the market and launch new products which make a real difference to our customers. This is exciting."

It therefore comes as no surprise that Mark Loader is a passionate team leader who believes it is important to listen to others. He wants to understand what his colleagues need and what's on their minds. "It's like when you're diving: if you don't notice that someone is unsure of themselves and feels they're not getting enough support, something is bound to go wrong," he says. This is why he talks to his team every day about current and upcoming projects to sort out which products are to be used and what the plan is for achieving sales targets – even if he is not at the office. And that happens frequently, since he is often out and about visiting customers. He likes dealing with different people and finding out what's important to them. It is something for which he has developed a fine instinct, not least as a result of his diverse experience.





> The magic of the unknown

Mark Loader has pursued ongoing personal development ever since his first dive. He wanted to expand his capabilities and experience all the facets of diving in the fascinating world under the sea. He has explored underwater caverns, night dived with sharks and has had numerous encounters with barracudas, manta rays and moray eels. That was before his time at GF, when he took one diving qualification after another and eventually passed the exam to become a dive master. For two years he ran a sports bar in the Spanish city of Almeria with his wife. Mornings were spent helping out at the local diving school, assisting the instructors and leading the recreational dives. The rest of the day was spent working tirelessly at their bar to ensure its success. "I'm ambitious, I like being a leader and a teacher," he says. "But it only works if you stay true to yourself and can convey the necessary self-assurance."

The more he went diving and the better he became, the more he longed to achieve a goal all divers have: the perfect dive. His dream finally came true one day off the coast of Bali close to the pebble beach in Tulamben bay, where the wreck of the USAT Liberty, a cargo ship that was

torpedoed and sank back in 1942, lies on a sand slope. In beautiful sunshine and with the sea at a temperature of 29° Celsius, Mark Loader entered the water and after just a few kicks he could make out the upper section of the ship. Inside the wreck he was in for a real surprise: all around him he saw an abundance of marine life, including a barracuda manning the stern, its jaws opening to reveal sharp predatory teeth that made Mark Loader's heart stop for a second. "At moments like that there are only two things you can do: keep your distance and avoid potential provocation," says the underwater expert.

Mark Loader continues to seek fresh inspiration and energy on discovery trips in the underwater world. It still magically attracts him, even after 350 dives. Last year he dived in Vietnam and Ibiza. Has he ever been on vacation without diving? He thinks for a moment. Yes, when he traveled through South Africa in 2015 where he was able to explore the indigenous wildlife by enjoying a safari and a few hikes. On one occasion he even made friends with a cheetah.

3x3



Thye Sim Tee
Projects & Contracts Coordinator,
GF Piping Systems,
Riverwood Australia



Susann Kühne
Internal Auditor,
GF Corporation,
Schaffhausen, Switzerland



Yash Marathe
Supply Chain Engineer & Analyst,
GF Piping Systems,
Bakersfield, USA

My favorite subject at school was ...

This put a smile on my face today:

I'd like to visit this GF site:

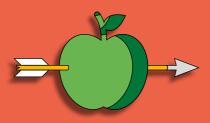
Schaffhausen! It's always been my dream

to visit my employer's

headquarters one day.

Thye Sim Tee

Believe it or not: science.
Thye Sim Tee



Local history.

Susann Kühne



My little ten-month-old daughter before I left for work this morning. **Thye Sim Tee**

The sun and my morning cup of coffee.

Susann Kühne

A picture of a Scottish researcher playing to a penguin a on the bagpipes.

Yash Marathe

TAIPEI IN TAIWAN.
Susann Kühne



Dautphetal-Mornshausen in Germany. **Yash Marathe**

History.

And here are the new questions:

- 1. I like traveling with ..
- 2. My favorite GF team event
- 3. I think the most useful invention in the world is

Take part and send your answers along with a portrait photo with "3 x 3" in the subject line to: **globe@georgfischer.com**All entries will be included in our competition on page 40.



PORTRAIT
TIGER ZHANG

Railway explorer

Travel educates, says Tiger Zhang. This is why the Project Engineer at GF Automotive in Kunshan, China, likes to travel – and does so frequently. Preferably by rail. And he is careful to keep all his train tickets – that way he has a perfect souvenir of all his railway adventures. His collection currently extends to more than 400 tickets.

or Tiger Zhang, the journey is as important as the destination. And each train ticket introduces him to his own personal travel adventure. Most people carelessly throw their ticket away when they arrive at their destination. But not Tiger Zhang. He keeps every single one carefully in a drawer at home that now contains more than 400 stamped mementos of his travels through the provinces of China. "Each train ticket bears my name and marks the beginning of a new journey – that's what makes it unique and precious for me," as he relates.

A stack of memories

Tiger Zhang works as a Project Engineer in sales at GF Automotive in Kunshan. In other words he is one of the direct contact persons for customers who purchase components from the foundry. His tasks also include providing aftersales service support. He developed his passion for collecting train tickets more or less by chance. A few years ago he discovered a pile of used railway tickets when he was cleaning up and he was instantly reminded of his favorite travel experiences. Since this day he has kept every train ticket. He has accumulated an impressive collection because he uses virtually all his vacation days for railway trips through his home country of China. This makes at least 20 trips per year.

Pulling out the oldest ticket from his collection he thinks back to that particular journey, which is dated April 27, 2008. It was a long public holiday weekend and he traveled to the province of Sichuan to visit the Jiuzhaigou nature reserve. "It's a beautiful area with lots of mountains and dense forests – and there are pandas living there," he recalls.

Experiences expanding the horizon

What he most enjoys about his trips are the scenic beauty and the company of the many interesting fellow travelers he meets on the way. He particularly remembers a trip to Tibet in August 2013. "There I met people who have a completely different world view, a different appreciation of life," he says. "Getting to know other points of view and cultures expands your own horizon." On the 2 600-kilometer route to Tibet he met one man who especially impressed him: "He told me that when he gets up each morning, he thinks of a specific destination. Then he packs his rucksack and sets off. I immediately took a liking to this attitude," says Tiger Zhang. The two men have stayed in contact to this day.

Now and again Tiger Zhang has less pleasant experiences: "Once my wallet was stolen," he says. Nonetheless, even this kind of experience enriches his life, and that's exactly what is important to him. "It's important to me to remember what I learn during my travels," he says. "A trip is especially memorable for me if the landscapes and the people I get to know en route appeal to my soul."

Tiger Zhang will be setting off to discover new horizons again this summer. His plan is to travel to Nepal via Tibet – his longest trip to date. When it's over he will be able to place another ticket in his drawer, and it will certainly have a special place among the other 400. And when Tiger Zhang looks at it again later, it will bring back lots of precious memories.



WHO INVENTED IT?
CAST IRON ALLOY
SIM01000

Special formula for hot irons

SiMo1000 is a cast iron alloy with nodular graphite developed by GF Automotive which can withstand the extremely high temperatures in modern vehicle engines. The secret lies not just in its special formula but also in the casting technique.

ownsizing – this is what the automotive industry calls the trend towards ever smaller engines. As they have the same or an even higher performance than their larger predecessors, they are much more efficient and help reduce CO_2 emissions. However, the increased power also means that temperatures inside the engine are rising – to levels of 900° Celsius or more. This is too hot for exhaust manifolds and turbocharger housings made of conventional materials. At these temperatures they would lose their stability and deform.

For this reason, GF Automotive has developed a special cast iron material for its customers that not only meets the requirements of modern engines but also offers significant cost benefits: SiMo1000. The abbreviation stands for an innovative alloy including silicon and molybdenum that is capable of withstanding temperatures of nearly 1000° Celsius. "But the key ingredient is something else: aluminum," says Werner Menk. As Head of Material Development at GF Automotive in Schaffhausen, he was the one who initiated the development of this complex new metal.

Aluminum gives the cast iron enormous resilience, even at extreme temperatures. "In our research department we have the right conditions and the expertise to develop modern alloys such as SiMo1000," explains Werner Menk. He and his team hit on the perfect composition after numerous lab tests.

However, the material is very difficult to cast in serial production. With its very high aluminum content, SiMo1000 tends to form oxide layers, especially in the liquid state. These can cause material separation in the solidified casting. For this reason, the GF Automotive research department in Schaffhausen worked very closely with the foundry in Herzogenburg, Austria, where the experts developed a special casting technique for SiMo1000. How does this work? It's strictly confidential, says Werner

Menk. "But certainly the very close collaboration between ourselves in material development and our colleagues in Herzogenburg was the basis for enabling serial production with the innovative alloy."

Even though SiMo1000 has been available to customers since 2008, GF Automotive is working intensively to take development of the material a step further. "We want to increase the application temperature even more," says materials engineer Konrad Papis, who took over development of the material six years ago. He and his team have also been using computer simulations for this purpose. "SiMo1000 has enormous potential," he explains. "During the last development stage we were able to increase its application temperature already to 930° Celsius. But there are still a lot of possible customer-specific adaptations in terms of strength and oxidation resistance."

Werner Menk

initiated and oversaw the development of SiMo1000 as the Head of Material Development at GF Automotive. Today, as Senior Scientific Expert, he is responsible for innovations and new development projects.



Konrad Papis

is the Team Leader Iron Casting and responsible for the ongoing development of SiMo1000. The materials engineer has been working with his team to further optimize its heat resistance.



IT'S THE MIXTURE THAT COUNTS

SiMo1000 is the first cast iron material alloyed with aluminum that is suitable for serial production of spheroidal graphite iron components. The elements on the right give the basic spheroidal graphite iron material, composed of iron, silicon and carbon, the appropriate properties. The new material is based on a tried and tested alloy with increased amounts of silicon and molybdenum which has existed for some time. But the additional aluminum endows it with greatly improved heat resistance. SiMo1000 also contains nickel. The combination of all these elements makes the material very strong and prevents scaling, i.e. damage to the material due to oxidation. It is these positive properties that make SiMo1000 ideal for parts that have to permanently withstand high temperatures, including exhaust manifolds and turbocharger housings.



Iron

This is the main component of the alloy.



Carbon, 3.0-3.9%

Carbon optimizes the casting properties.

The alloy melts at much lower temperatures than steel, for instance, and is easy to process.



Aluminum, 2.5-3.9%

Aluminum forms very stable oxides at high temperatures, which is why it is mainly responsible for the excellent oxidation resistance of SiMo1000.



Silicon, 2.0-3.2%

Silicon gives the iron greater strength, and in combination with aluminum it enables the material to resist higher temperatures.



Molybdenum, 0.5-1.0%

Molybdenum improves the material's creep resistance due to the fact that it forms finely distributed carbides, preventing deformation at high temperatures.



Nickel, 1%

A small proportion of nickel makes the material less brittle at low temperatures.



Magnesium, 0.03-0.06%

Very small amounts of magnesium are required to ensure that the graphite solidifies in spherolitic shape, resulting in ductile iron. CUSTOMER PORTRAIT TOYOTA RACING DEVELOPMENT

With high speed to success

In the American motorsports series Monster Energy NASCAR Cup, it all comes down to speed – both on the track and in the production of the highly engineered racing engines. In order to keep up with the leaders in both disciplines, manufacturer Toyota Racing Development (TRD) uses fully automated production – which is enabled by GF Machining Solutions.

he smell of fuel is in the air.
Roaring engines and fast cars
chasing each other bumper to
bumper at speeds of more
than 340 km/h over distances
of more than 500 miles: the
Daytona 500 in Florida is the
most prestigious race in the Monster Energy
NASCAR Cup, itself the top racing series run
by NASCAR, the US motor racing association.
The mega event attracts thousands of racing
fans to Daytona Beach every year. Last season, a particularly outstanding win took everyone by surprise.

It was the first time in the history of the Daytona 500 that a Toyota won the race. And not just that: the drivers in second, third and fifth position also crossed the finishing line in their Toyota Camrys with Toyota Racing Development (TRD) engines. "Toyota didn't just win the race, they completely dominated it," says Martin Gorski, Key Account Manager at GF Machining Solutions in Irvine, California. He is obviously proud of this - after all, TRD's success at the Daytona 500 is in some measure proof of the successful relationship between TRD and GF Machining Solutions. The key components of the highly engineered racing engines are made using high-performance milling machines produced by GF Machining Solutions.

The engines with more than 800 hp are manufactured at the TRD headquarters in Costa Mesa, California. About 200 employees

work there designing, developing, manufacturing and building TRD race engines. TRD has been active in US motor racing for many years, and is one of three manufacturers to have competed in the Monster Energy NASCAR Cup Series since 2007. In the 2016 season TRD supplied five teams with engines and aerodynamic parts based on the Toyota Camry.

Speed and precision

Speed is not just crucial on the race track: it's absolutely essential in the production of the engines and spare parts, too. Each racing weekend, complete engines are delivered to the NASCAR speedways all over the USA within a strict timescale. A demanding task – which is why since 2014, TRD has opted for the high-performance milling machines made by GF Machining Solutions.

TRD runs eight GF machines in total: in a fully automated production cell, engine blocks, cylinder heads, pistons, manifolds and other engine components are milled at an impressive speed by 5-axis machining centers of the type HPM 800 U and also a larger HPM 1350 U. Thanks to the speed, flexibility and precision of the production cell, TRD is able to turn out more than 400 engines per racing season.

"Our solution enables the customer to constantly adapt to the dynamic requirements of the racing business and meet the increasing demand for highly engineered components," explains Key Account Manager Martin Gorski. GF Machining Solutions first had to >









Fully automated production: The Toyota Racing Development workforce of some 200 in Costa Mesa, California, turns out more than 400 racing engines per racing season. This involves eight machining centers made by GF Machining Solutions, which are used to mill the necessary engine components in a fully automated production cell.



> undergo a selection procedure where it was up against four competitors. But in the demanding production tests set by TRD, the advanced machine tool technology of GF Machining Solutions emerged as the top performer. "We were very impressed by the excellent performance and flexibility of the GF machines," explains Greg Ozmai, Group Vice President of Operations at TRD. For example, a machine can be taken out of the production line at any time so that it can be used for individual tasks.

Fully automated production

The combination of high-speed machines and an automated solution enables TRD to ensure constant production and maximum output. Within the automated manufacturing cell, a

an automated solution enables TRD to ensure constant production and maximum output. Within the automated manufacturing cell, a robot loads seven machines from one hundred open pallets running along a 32-meter rack. As soon as one machine is ready, it can flexibly take on the next job regardless of the type of component. As a result of the new fully automated GF Machining Solutions production cell, TRD has been able to increase its productivity by 22 percent. "Thanks to automation, our team members gain additional capacities that we are able to reinvest in further development of our engines and components," says Greg Ozmai. "And that's something that can give our teams a decisive advantage on the race track."

Alongside the reliability of the machines, the close partnership with GF Machining Solutions was also a key factor for TRD. "TRD attaches great importance to a professional service team that responds immediately if required," says Martin Gorski. One advantage here is the division's location in Irvine, barely more than about 20 minutes from TRD's head-quarters. "This means we can respond extremely quickly to the customer's needs when it comes to test runs or repairs," explains the Key Account Manager.

The new Monster Energy NASCAR Cup season is due to kick off soon: naturally, TRD and GF Machining Solutions are set on finishing at the front of the field once again. ■



Understanding the racing business

As Group Vice President of Operations, Greg Ozmai is responsible for the internal and external supply chain at Toyota Racing Development. In this interview he explains why GF Machining Solutions is such an important partner for TRD – both today and in the future.

Mr. Ozmai, how did the last Monster Energy NASCAR Cup season go for the Toyota teams?

Fantastic. 2016 was the most successful season for TRD to date. Toyota Camrys took 16 victories and won the manufacturers' championship for the first time. With four drivers among the top five, our victory in the Daytona 500 was one of the most significant races in the history of the company.

How did GF Machining Solutions contribute to this success?

Our partnership with GF Machining Solutions and our use of their technology enables TRD to develop engines with greater speed, precision and flexibility. Thanks to automation, we're able to reduce our component lead times and gain critical machining capacity utilizing full 24/7 manufacturing schedules.

What does GF Machining Solutions have to offer as a partner?

We attach great importance to direct and fast contact with our partners. GF Machining Solutions has shown particularly strong commitment here. We were impressed at how many employees were involved in the development of our system and remain dedicated to our success. Personal relations with Martin Gorski are also important in our collaboration: he understood the demands we face in the racing business right from the outset.

What does the upcoming season have in store?

In addition to the five teams supported this season, we'll be supporting a sixth Toyota Camry team in the Monster Energy NASCAR Cup Series for 2017. In other words, we need additional production capacity. We expect to continue to grow and evolve the innovative technologies provided by GF Machining Solutions in the future. Additionally, we're currently considering new machines in the area of EDM technology and laser texturing.





Jan Bergwall is Managing Director of System 3R in Sweden; he has been with the company for 35 years.

ällingby is a small suburb in the north-west of Stockholm. It is located near the airport but is not particularly well-known. And yet mechanical engineering experts all over the world are familiar with the name – because this is where the GF Machining Solutions company System 3R produces its high-precision tooling and automation systems.

The company is also known as "The Pioneer." And the Swedes at System 3R really have done pioneering work. As far back as 1967 they specialized in very high-precision tooling for tool and mold-making as well as producing high-quality components.

In many countries, System 3R has set new quality standards that still apply 50 years later: "We were the first in this segment, before there were any competitors at all," says Jan Bergwall. He is the Managing Director at the Vällingby site, where System 3R still produces its tooling to this day, developing solutions for the future at its Automation Center. The company has operated under the umbrella of GF Machining Solutions since 2001.

The target markets for high-precision tooling solutions are mainly outside Scandinavia. "We sell most of our tooling to Asia and the US, where we're the leading supplier," says Bergwall. He is proud of the standing the site has established for itself: "We have a worldwide market share of at least 50 percent with our solutions. There is really only one serious competitor."

Moving towards the smart factory

The company's success comes down to a core team of 155 employees in Sweden who come from 21 different countries. In addition, there is an R&D site in Switzerland. But customers in need of high-quality solutions are to be found all over the world: well-known companies such as Rolex, Canon, Nikon and Gillette use technology by System 3R, for example.

Being a pioneer means being involved in shaping the future. This is why Jan Bergwall gets to travel a great deal, visiting customers all over the world together with GF Machining Solutions sales teams, product managers and developers. The aim is to provide support, but also to gain a better understanding of customers' changing needs.



Carlos Bonilla Barbosa – the Spanish deep sea diver

At work he assembles robots. But in his free time he loves something that is much more difficult to access. Carlos Bonilla Barbosa, born in Malaga, Spain, is fascinated by the underwater world: "It's a whole unfamiliar universe down there," says the 21-year-old, who passed his diving license in faraway Colombia. "Off the coast near Santa Marta there are fantastic coral reefs which I definitely want to go back to." Fortunately, traveling is another favorite hobby of his.



Jasko Sabanac – the Bosnian samurai

A native Bosnian who fled from the civil war in the former Yugoslavia to Sweden in 1992, Jasko Sabanac has worked as a Mechanical Designer with System 3R for 16 years. But he took up karate long before he embarked on his career as an engineer. The 52-year-old started practicing the sport as a teenager. His interest is in true karate, based on the philosophy of the samurai: "I try to practice their principles in my job, too,' says Jasko Sabanac. "That includes always respecting others, acting very efficiently and developing as a person."



Tien San the peaceful fisherman Setting up grinding machines takes great precision and concentration. No wonder Tien San needs to let off steam. Born in Sweden but with Vietnamese roots, San likes to play soccer to keep fit. But the 26-year-old's favorite pastime is fishing in one of the many lakes in Sweden. It's a hobby he has pursued ever since the age of seven. "I like fishing because it's very calm and peaceful but when I catch a fish, the action really starts.'



Anita Mejer – the sci-fi expert

After 30 years with System 3R, Anita Mejer sees her colleagues as a kind of second family: "A lot of people have been working here for many years, like me. So that's very nice," says the 59-year-old, who is responsible for worldwide shipping of System 3R products weighing anything up to two tons. Her hobby takes her into quite different dimensions - into space, to be precise: "I've loved science fiction books ever since I was a child. My favorite author is Arthur C. Clarke, who wrote '2001: A Space Odvssev'. And where does she like reading most? Being from Sweden - in a wooden cabin by the lakeside, of course,

Dergwall regards increasing digital connectivity as the greatest challenge. "Industry 4.0 is a key element of our future strategy. We are focusing strongly on automation based on software that regulates the interaction between machines and robots. This is important in order to avoid errors." Another important point is improved analysis of all process information, such as the time required for the next work stages or when the next maintenance is due. "At our Automation Center in Vällingby we're working on presenting this data in a user-friendly way," says Bergwall.

Surprise in the USA

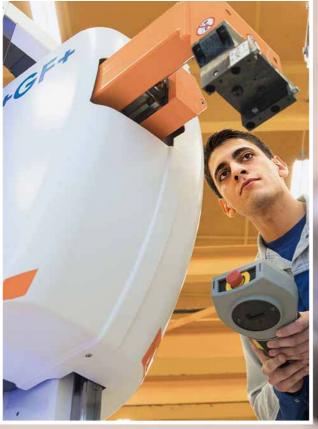
Jan Bergwall has been working in Vällingby for 35 years and is still passionate about his job. "The most exciting thing about my work is getting to meet lots of new people all over the world," says the Managing Director. "You meet nice people everywhere, and there's always lots to talk about. This is my most powerful incentive."

Sometimes meeting new people can involve surprises. A few years ago, Jan Bergwall attended a trade show in the US and met a customer he had not previously met in person. When he saw Bergwall, the customer said: "Aren't you the Managing Director of that company in Stockholm? Do you know what? Your tooling is pretty expensive. But I'll tell you something else: the investment was absolutely worthwhile. Your tooling is the best that money can buy and I have made a fortune by using it!"



SCANDINAVIA'S CAPITAL

Stockholm likes to see itself as the "capital of Scandinavia." This is meant more from an economical point of view, however, since the Stockholm Stock Exchange is the undisputed financial center of Northern Europe. And with a population of 910 000, the city is actually bigger than both Oslo (660 000) and Copenhagen (590 000). The Stockholm archipelago is a true natural wonder: it is a collection of 30 000 islands spread across the Baltic Sea, situated up to 80 kilometers from the city center. "Whenever customers visit us in the summer, we take them on a dinner cruise through this magnificent archipelago," says Jan Bergwall. "Stockholm is one of the most beautiful capitals in the world!"



At the site in Vällingby, everything is dedicated to high precision. In addition to toolmaking and automation solutions, the Swedes develop software tailored individually to customers for the coordination of robots and machines.





OUR GOALS
TRAINING AND PROFESSIONAL
DEVELOPMENT AT GF

Training the right skills

How can a global company with three different divisions prepare itself for the challenges of the future? At GF, a diverse and comprehensive training and professional development program helps to ensure that employees all over the world acquire just the right skills for future success.

hether in America,
Europe or Asia –
GF attaches great
importance to inhouse training and
professional development. The range

opment. The range of opportunities is diverse and tailored to the different needs of employees. More than 80 percent of the workforce benefit from internal training every year. On the one hand, there are training activities offered by the Corporation under the umbrella of the GF Academy. These include Corporate training on business, finance and leadership topics as well as strategic initiatives such as the IDEO training to implement a shared innovation culture and the Value Selling Initiative to strengthen sales skills. Thomas Lienhardt, Head Talent Management & Learning, points out: "Our GF Academy has advanced considerably over recent years. Our aim is not only to establish a common understanding of our business but also to develop just the right skills we need in order to achieve the goals of Strategy 2020."

Successful collaboration

But the activities initiated by the Corporation represent only one part of the GF training portfolio. Most in-house employee training takes place within the divisions in the various countries. Training programs on topics such as occupational health and safety are just as common as specialist and technical training. The divisions are also responsible for the 7 Habits program on team building and the 4DX training to strengthen execution skills: "It's important to us to provide employees with the right instruments in order to enable them to collaborate successfully across all national and cultural borders," as Peter Ziswiler, Head of Corporate HR, emphasizes.

Ensuring future success

Providing training for young professionals has a long tradition at GF. Especially in times of an acute lack of specialists, the company has to be able to ensure a qualified workforce. Therefore, all three divisions offer training in a wide range of technical and commercial professions, with more than 500 youngsters doing an apprenticeship at GF every year. Young adults can also take an internship in order to gain professional experience. Meanwhile, the successful Swiss apprenticeship model has been expanded to GF sites in the USA and China, too.

of employees benefit from internal training opportunities every year.

Corporate trainings and initiatives: GF Academy

- Corporate training programs (e.g. Industrial Business Training)
 - Strategic initiatives (e.g. 4DX)
 - Strategy 2020 initiatives (e.g. IDEO and Value Selling)

GFPiping
Systems

GF

Automotive

GFMachining
Solutions

Training and professional development in the divisions

Corporate values/Strategy 2020

CHF 6 MILLION

is invested in training and professional development each year.

>500

apprentices are trained in more than 30 professions.

At GF training and development has many faces

Employees from all divisions report on how they personally profit from various training opportunities.



«The variety of the apprenticeship has fascinated me right from the beginning. One special highlight for me was a stay in China. It's great that a company provides such opportunities. Actually, I have been so enthusiastic that my younger sister has just started her apprenticeship at GF, too.»

Tara von Arx

Apprentice in plastics technology GF Piping Systems Schaffhausen, Switzerland



«Thanks to the '7 Habits
Training) I now focus more
on the widely important
tasks. Even though one
might know a lot of the
recommendations in theory,
it is very helpful to be
reminded of them in the
context of professional
training. It actually helped
me a lot – both in my
private and professional life.»

Veronique Perot

Chief Accountant GF Machining Solutions Paris, France



«I had the chance to participate in one of the first IDEO trainings in China in autumn 2016.
Together with colleagues, I have learned a lot about design thinking. The training has changed my view of things: now I pay more attention to details, and think more deeply and in a long run about whatever I'm going to do.»

Ann L

Building Technology Segment Manager GF Piping Systems Shanghai, China



«For me the topic of work safety has first priority. I highly appreciate the regular trainings on safety at our production site. This helps us to recognize potential risks in time and to actively prevent accidents.»

Shuo Chen

Foreman of Molding Line GF Automotive Kunshan, China



«For me it is crucial to always keep up to date with the latest technical developments. Last year, for example, I had intensive trainings in additive manufacturing and laser technology. Having been trained by those who develop the machines, I am now very familiar with these new technologies. This way, I can provide my customers with optimum support.»

Ali Janes Field Service Engineer GF Machining Solutions Yorba Linda, USA



"The people are the heart of the company"

Peter Ziswiler, Head of Corporate HR, knows how important highly-skilled employees are for a company. In this interview he talks about why training and professional development are so vital to GF's Strategy 2020.

Mr. Ziswiler, Strategy 2020 was introduced in Globe exactly one year ago. What do training and professional development have to do with shifting the portfolio to higher-margin businesses?

A great deal. After all, the company doesn't perform and undergo change by itself: it's the people that make the company what it is and define what it stands for. Only if we give our employees the right instruments, they will be able to bring the strategy to life.

What does that mean specifically in terms of the execution of Strategy 2020? We need a well-trained and highly motivated workforce in order to be able to achieve our ambitious goals. It's important for everyone at GF to have a common understanding of what it will take to continue to build on our success in the future. This is why we have continuously expanded our GF Academy training program in recent years.

One of the strategic thrusts is to drive sales proficiency and innovation excellence. How can HR support here?

Our aim is to implement the design thinking approach by California-based IDEO at GF worldwide in order to accellerate innovation across all three divisions. In the years to come we will be introducing some 1 000 employees from R & D, product development, marketing and sales to this approach. We're also planning to roll out a sales proficiency initiative on "Value Selling" to strengthen our sales skills.

So further training of existing employees is a key requirement for the company's success. What about recruiting new employees?

Let me first say this: our aim is to fill 70 percent of vacant senior management positions with internal talents. We have been fairly successful in achieving this over the last two years. Of course, recruitment from outside has an important role to play, too. In all our divisions we need to hire external talents who can offer us new ideas, new perspectives and fresh experience. Still, it is important that newcomers fit the GF culture. My motto is: don't hire for the job, hire for the company!



Tasteful work: craft beer brewers all over the world attach great importance to a high degree of manual work in order to set themselves apart from industrial suppliers. Breweries in the USA are increasingly using products by GF Piping Systems, in particular the cooling system COOL-FIT ABS Plus, to cool their trendy new beer creations.



Fine beer, perfectly cooled

Craft beer is attracting growing numbers of enthusiasts worldwide.

Especially in the USA, where creative brewers are making a major impact on the market – much to the delight of beer lovers and GF Piping Systems. The division's cooling systems are especially popular among the new stars on the brewing scene.

beer, please! What may have been an unambiguous order just a few years ago is not so straightforward nowadays. Thanks to hand-brewed craft beer, a huge diversity of options from India pale ale to honey beer is beginning to appear on the beverage menus of tre ndy pubs and bars. And the response is very positive.

"When I started out in the brewery sector about 10 years ago, there were no more than 1000 craft beer breweries around there. Now there are more than 4500," says Dan Strömberg. As Cooling Market Segment Manager at GF Piping Systems in the USA he is very familiar with the US beer market. And it's certainly booming. According to the Brewers Association, craft beer breweries in the US increased their total sales by 16 percent to more than USD 22 billion in 2015 alone, while the conventional beer market stagnated.

Dan Strömberg sees a number of reasons for this: "Young consumers in particular want a change and are open to new products." Additionally, more and more women are discovering that they like some of the varieties, of which there are about 100 with tropical fruit or lemon flavors or a strong malty taste.

Beer has to be cold

For GF Piping Systems, this development offers enormous market potential. In order to provide consistent quality, craft beer breweries need high-quality solutions for their brewing equipment. This includes an efficient cooling system for the brewing process – which is precisely where GF Piping Systems has the ideal solution: COOL-FIT ABS Plus, a pre-insulated cooling system made up of pipes, fittings, valves and actuators. It is used in the food industry in particular.



Dan Strömberg, Cooling Market Segment Manager at GF Piping Systems, is very familiar with the booming craft beer market. He has been supporting breweries in the USA for ten years.

"Breweries use it to cool their fermentation tanks, bright tanks, cold liquor tanks and heat exchangers during production and walk-in cold rooms during storage. The production process can take between two and eight weeks, depending on the beer style," explains Dan Strömberg. Since the main yeast bacteria in the unfinished beer die at excessive temperatures, it has to be constantly cooled. In order to achieve this, the breweries pump water diluted with propylene glycol through the pipes supplied by GF Piping Systems and feed this into the outer walls of the tanks. COOL-FIT ABS Plus really comes into its own here as the system is maintenance-free and does not rust. It is also energy-efficient and easy to install.

Many breweries also use other products made by GF Piping Systems such as ecoFIT pipes for water distribution and dual piping systems for transporting chemicals. Dan Strömberg and his colleagues also advise customers on planning and train fitters. There are currently 500 breweries in the USA, Canada and Central America that are supplied by GF Piping Systems. "We've been growing for more than ten years, not least because we really have made a very good name for ourselves in the segment," says Strömberg.

A trend market with potential

This is partly due to the special relationship between the craft beer breweries, which have come together to form a kind of countermovement to the major industrial brewers. "Of course the small producers are engaged in tough competition, too. Nonetheless, many of the brewers maintain friendly relations," says Strömberg.

This is an advantage for GF Piping Systems. At the popular craft beer festivals and trade shows in the USA, brewers don't just discuss hops and fermentation periods. "They also recommend our COOL-FIT system to others. We've received some additional orders in this way," says Strömberg.

There is much potential for GF Piping Systems in this trend market as well as in the food and beverage market in general. This is why Dan Strömberg is now receiving additional support: In summer 2016 he was joined by his colleague Angela Sampaio, who is responsible for the east of the US and Central America. As Dan Strömberg adds: "In the future we'll also be working with an expanded sales team for COOL-FIT since there are currently 350 brewery projects planned in our sales area alone." Well, there you go: cheers!



HEART AND SOUL DANIELA CAMERONI

Building bridges through language

anguage gives people the sense of belonging. This is something Daniela Cameroni is especially aware of, because she has been living abroad for eight years. The employee of GF Machining Solutions in Losone, Switzerland, helps refugees settle into their new environment by teaching them the official local language of Italian. "After fleeing thousands of kilometers and being so far away from their home country, there's nothing they want more than to finally feel settled." And this is where language is essential. Once a week she teaches between ten and 20 refugees from different countries. In addition to grammar and vocabulary, coping with everyday life is especially important: this includes administrative errands or shopping,

Daniela Cameroni started her teaching program just over a year ago. As more and more reports came in of refugees coming to Europe, she realized: "I have to do more than just share things on Facebook." She discovered the language courses through a volunteer network in her home town of Bellinzona. Through her teaching she got to know a family who has grown close to her heart. They meet for extra lessons or just cook together. Daniela Cameroni also helps three of her new friends' children with their homework. "They don't expect it at all and are incredibly grateful. And for me it's great to be able to give children the chance of a better future."



Daniela Cameroni

has been Order Processing Assistant at GF Machining Solutions in Losone for five years. She is responsible for the ordering process for EDM machines produced at the site. Therefore she coordinates the planning with colleagues from production and compiles the invoice, shipping and export documents.



More Globe on the move!



From now on, the magazine for GF employees is also available in a mobile version. This means you can conveniently enjoy dipping into the world of GF whenever and wherever you like on your smartphone or tablet. So take a look and enjoy a new reading experience – including additional pictures and videos.

globe.georgfischer.com

MY HOME TEKIRDAĞ, TURKEY

urkish raki is world famous. But very few people are aware that our best aniseed-flavored liquor comes from my home town Tekirdağ.

And in addition to a rich tradition of liquors, the region west of Istanbul has much more to offer. If you sit down on a bench in the picturesque port of Tekirdağ you'll quickly realize what I mean. Here, I can look out over the sea and listen to the gulls while enjoying the delicious smell of Turkish specialties wafting over from the little restaurants.

I myself have lived in the nearby city of Çorlu for six years now. From here it takes me about 45 minutes to get to my office at GF Piping Systems, where I work in the marketing department. During the trip you particularly notice the change that has been going on in this region. More and more businesses are being established in Tekirdağ. Development is changing the face of this rural region, though the idyllic villages around still provide an attractive contrast. I like to spend my weekends in the country with my family north of Çorlu. If I don't help with the harvest I use the opportunity to go walking or do sport – and the Tekirdağ region certainly has plenty to offer in terms of outdoor pursuits.



Bilal Dönmez

works at GF Piping Systems in Çerkezköy, Turkey. He is responsible for domestic sales, which involves coordination with a lot of other departments at the site. He passes on orders that come in from all over the country to the production, quality assurance and shipping departments and supports the ongoing process.

Not to be missed in Tekirdağ

A round treat

Köfte are small meatballs for which Tekirdağ is famous in Turkey and beyond. They are best with a typical yogurt starter and a glass of raki.

Long story

The history of the region dates back to ancient times. Visitors can find out more at the Rákóczi Museum and the Tekirdağ Museum. www.tekirdag.com/v/history

Take off and dive

Whether paragliding in the bays of the Marmara Sea or diving in crystalclear waters: sports enthusiasts have plenty to look forward to here, especially in summer. www.turkeyparagliding.com/tekirdag.html

For wine lovers

The wines of the region are among Turkey's finest: the best way to find out for yourself is by going on one of the wine tours.

www.barbarewines.com



«In the port I can look at the sea and listen to the gulls while enjoying the delicious smell of Turkish specialties wafting over from the little restaurants.» Employee in the marketing department

GLOBE 1-2017

IMPRINT

Published by

Georg Fischer Ltd.
Beat Römer, Corporate Communications
Amsler-Laffon-Str. 9
CH-8201 Schaffhausen

Phone: +41 (0) 52 631 1111 Fax: +41 (0) 52 631 2863

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Production

Signum communication GmbH, Mannheim, Germany

Translation

Baker & Harrison, Munich, Germany

Printing of the Chinese edition

DE Druck Europa GmbH, Berlin, Germany

Printing of other editions

abc Druck GmbH, Heidelberg, Germany

Image credits

Alberto Bernasconi, Antoine Doyen, David Zentz, Helmuth Scham, Jonathan Browning, Mikhail Dudarev, Olivier Hess, Peter Hoelstad, sevdin, Silvia Kriens, Timo Volz, Toyota Sports Media, Wikipedia/Benoît Derrier

Other images: GF





Globe is published four times a year in German, English, French, Italian, Turkish, Spanish and Chinese with a total print run of 14 000 copies.

The next issue will be published in June; the editorial deadline is March 17, 2017.

COMPETITION



Take your chance! *

Win an iPad Air 2, Bose wireless headphones or a JBL Bluetooth speaker. A prize draw will be held among all employees who send in entries under the sections **Hello!**, **3**×**3** and **My home.** Send an e-mail to **globe@georgfischer.com** with the appropriate subject line. We look forward to hearing from you. The winners will be announced in the next Globe.

Here are the winners of the last competition:

1st prize: Jenelle Edwards (GF Piping Systems in Australia)

2nd **prize:** Christophe Retaud (GF Piping Systems in France)

3rd prize: Nuno Da Silva (GF Piping Systems in Switzerland)

All entries which could not be included in the printed magazine can be viewed online at: **globe.georgfischer.com**

The closing date for entries is March 17, 2017.





IPAD AIR 2 32 GB



Conditions of entry

The competition is organized by GF. All employees of GF are entitled to take part. The winner will be established by means of a draw among all submissions entered within the deadline. Cash payment, payment in kind or an exchange of prizes are excluded. Participants agree to their name being published if they win. Any recourse to legal action is excluded.

DISCOVER MORE

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