

Globe

+GF+

THE GLOBAL MAGAZINE
FOR GF EMPLOYEES

ISSUE 3-2018

Young artist

Xiaodong Yang from GF Machining Solutions in Shanghai (China) is hooked on woodblock printing



Maximum purity

GF Piping Systems provides solutions that meet the semi-conductor industry's needs

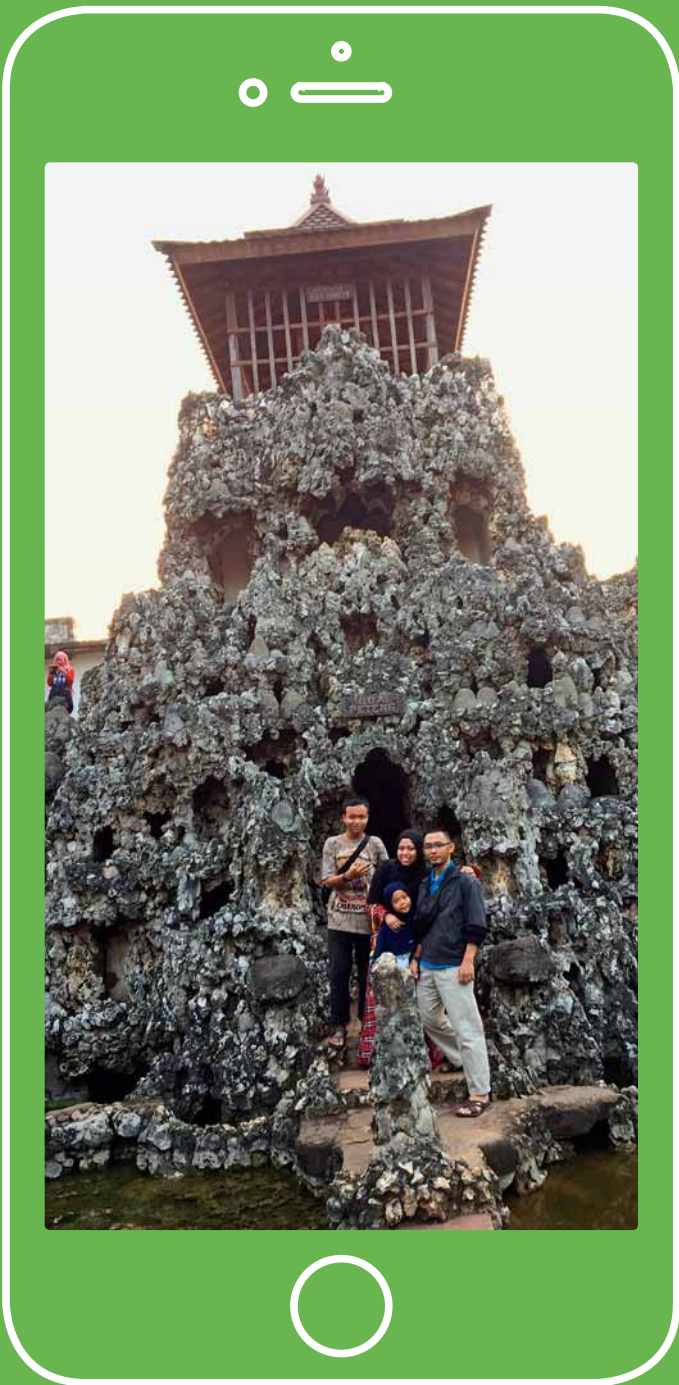
Partner network

Collaborations between science and industry can generate important impetus

Printing in XXL

GF Casting Solutions uses 3D printing to produce sand cores

HELLO!



Hari Sakti Wibowo

Sunyaragi Cave,
West Java (Indonesia),
June 18, 2018,
11:00 a.m.

In the picture, you see me (r.) and my family saying “Hello” in front of the Sunyaragi Cave (“Gua Sunyaragi” in Indonesian). It is surrounded by water and once served as a sultan’s palace. We visited it during our holidays.

Hari Sakti Wibowo is Account Manager Mining at GF Piping Systems in Karawang (Indonesia).





**JOIN IN
AND WIN!**

What are you doing on
September 20, 2018
at 9:00 a.m. local time?

Send your snapshot with "Hello!" in the
subject line and a short description to:
globe@georgfischer.com

All entries will be included in our
competition on page 40.



Angelica Garza

Apodaca (Mexico),
June 18, 2018,
11:00 a.m.

At that time, I was having a phone conference with other GF colleagues from Latin America. And I had just heard that we had already achieved our sales goal for June by the middle of the month. Congratulations to all colleagues for the great work!

Angelica Garza works in Customer Service/Inside Sales at GF Piping Systems in Apodaca (Mexico).



You can find further submissions
to HELLO! online at
globe.georgfischer.com

CONTENT

3-2018

COVER STORY

Young artist

Xiaodong Yang creates unique works of art using woodblock printing, a traditional technique that has been in use for more than 600 years. **12**

A DAY WITH

From one mold

Kathleen Windheuser is a production assistant at GF Casting Solutions – she works at a production line that can produce up to 180 cast-iron components per hour. **18**

OUR MARKETS

Maximum purity guaranteed

Solutions for manufacturing semiconductors and microchips have strengthened GF Piping Systems' position in the growing microelectronics market. **22**

OUR GOALS

Cooperation with universities

GF works with universities and research institutions around the world – such partnerships offer benefits for both sides. **28**

TAKE AWAY

Sustainability at GF

Some interesting sustainability facts and figures. **37**

MY HOME

Five meters below sea level

Leon Waller, Marketing Manager at GF Piping Systems, lives in Almere, the youngest city in the Netherlands. **38**

02 HELLO!

06 IN BRIEF

07 PRODUCT IN FIGURES

09 TWO POINTS OF VIEW

17 3x3

36 HEART AND SOUL

39 IMPRINT

40 COMPETITION



24

OUR CUSTOMERS

Singapore's chip giant

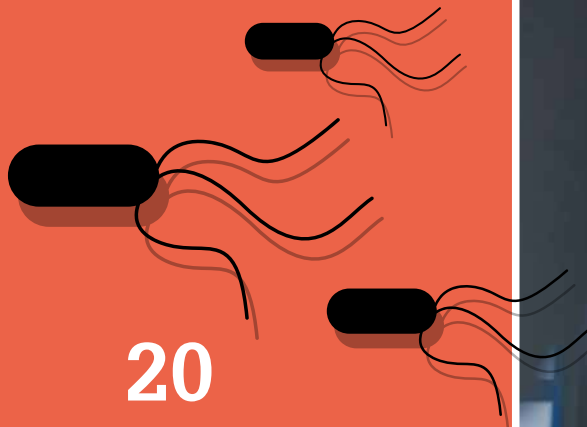
Micron, a leading memory chip manufacturer, relies on solutions from GF Piping Systems in its cleanroom production facility.

32

OUR LOCATIONS

A partner for the premium sector

With its lightweight solutions in first-class quality, GF Casting Solutions in Suzhou (China) is a trusted partner for premium carmakers.



20

THAT'S HOW IT WORKS!

A clever solution

The Hycleen Automation System from GF Piping Systems ensures top-quality drinking water.



EDITORIAL



10

MADE IT!

**Printing in
XXL format**

With the help of a 3D printer, GF Casting Solutions in Leipzig is able to manufacture sand cores for complex cast components in-house.



Fit for the future

Dear colleagues,

This issue of Globe shows once again that a lot is going on at GF. We are investing in people and markets, expertise and buildings. The implementation of our strategy is making further progress in all divisions and is also bringing us recognition from investors, as the mid-year results show. We are using the tailwind generated by the lively global economic situation and the strong position in our business areas to make ourselves fit for the future. In a nutshell: we are doing everything we can to make sure that the success we have today continues.

The fact that we are able to keep up with the fast pace of change and innovation in the age of digitalization has a lot to do with the high degree of commitment and knowledge that you as employees bring all over the world.

One important factor in this regard and likewise for the future of GF, is our partnerships. We combine the know-how of more than 60 leading universities and research institutes worldwide with our own expertise. This strengthens our innovation excellence and competitiveness (see page 28).

In everyday life this is evident from the example of the Singapore-based firm Micron, the world's third-largest producer of semiconductors and one of our long-standing customers. The company manufactures high-performance memory chips for smartphones, servers, and other high-tech products – in other words, products without which our world would not function. For years, Micron has been relying on solutions of GF Piping Systems. Our pipes distribute highly purified water and require the highest standard of cleanliness in production. An interesting and impressive story, which certainly makes us all at GF a little bit proud.

I hope you have an informative and entertaining read.

Beat Römer
Head of Corporate Communications



IN BRIEF

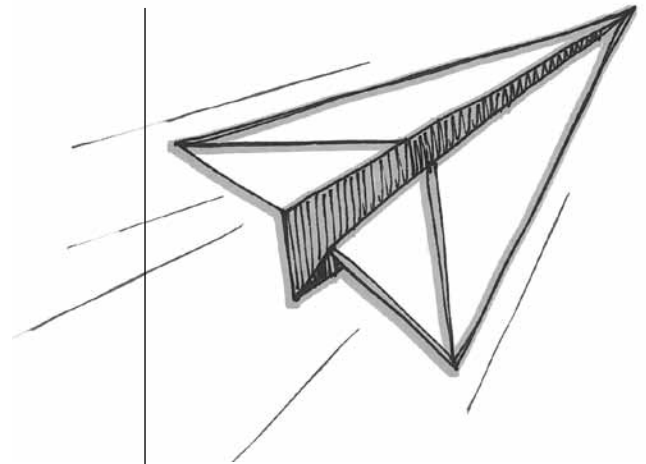
7 HABITS® DAY

Great teamwork

In June more than 3'200 employees from GF Machining Solutions took part in the division's first 7 Habits® International Day. Following a similar event back in 2016 at GF Piping Systems, it was now the turn of GF Machining Solutions: Employees at 38 locations around the world spent a day engaging in special events and team activities to freshen up their knowledge of "The 7 Habits of Highly Effective People". The training program developed by US firm FranklinCovey has been offered at GF since 2004. ■



Over 3'200 employees of GF Machining Solutions around the world took part in the division's first 7 Habits® International Day.



CORPORATE INITIATIVE

Design Thinking is gathering speed

In 2016, GF introduced Design Thinking to accelerate the development of customer-centered solutions. So far, over 1'000 employees have been trained and more than 50 projects started worldwide. In July, a new team was established at Corporate level to help further promote the initiative. If you have questions or great stories to share, please contact designthinking@georgfischer.com



Commitment in Bolivia

In July, 16 apprentices from GF in Schaffhausen (Switzerland) spent one week in Bolivia. They worked on several projects together with young Bolivians and got to know the local people and their culture hands-on. The project week was the first of its kind at GF and took place on the occasion of "100 years of vocational training at GF". It was realized in cooperation with Caritas Switzerland. ■



Read more at bolivien-blog.ch/en



COMPLETE REFURBISHMENT

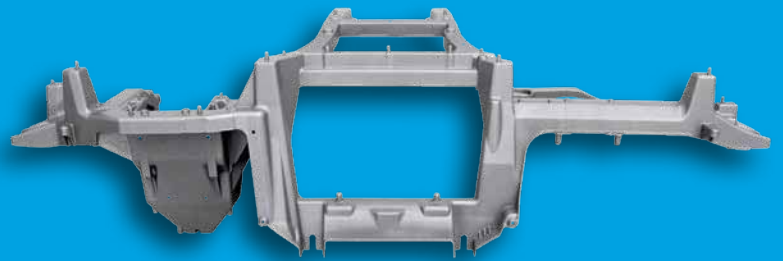
Modern headquarters

The headquarters of GF Piping Systems in Schaffhausen (Switzerland) is currently being fully renovated during ongoing operations. Construction work began in May 2018 and will take around 18 months. As part of the complete refurbishment of the six-story office building, the project will create state-of-the-art offices, training and exhibition spaces, a new laboratory, and a modern Training Center covering a total area of 3'000 square meters. The modernization costs around CHF 20 million and is one of the largest investments made at the Schaffhausen site in GF's recent history. ■



More pictures and videos on the news in brief at globe.georgfischer.com

PRODUCT IN FIGURES



20

individual parts made from sheet steel or aluminum can be replaced by one single cross car beam made of magnesium. The complex cast component from GF Casting Solutions is concealed behind the car cockpit and extends across the entire width of the vehicle. Since magnesium is an especially light material, the part weighs eight to ten kilograms less than a similar construction made of aluminum or steel. The crash-relevant component is not just extra stable but also offers a particularly high level of functional integration. Cockpit elements such as the display, air-conditioning system, ventilation channels, airbags, glove compartment, or steering console are connected to it before it is mounted onto the cross beam.

Solution: Cross car beam made of magnesium

Development: R&D at GF Casting Solutions in Schaffhausen (Switzerland) and in Altenmarkt (Austria)

Production: GF Casting Solutions Altenmarkt (Austria)

Customers: Jaguar Land Rover and BMW

Worth knowing: Ready-to-mount solution which is delivered to the customer for final assembly

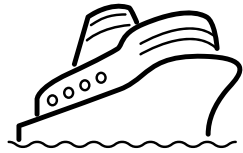


New Head of GF Casting Solutions

On 1 September 2018, Carlos Vasto took charge of the division GF Casting Solutions. Aged 54 and a dual citizen of Brazil and Italy, he succeeds Josef Edbauer, who is retiring after a very successful career at GF. Carlos Vasto has extensive professional experience in the automotive sector and in mechanical engineering and is well acquainted with GF. Most recently, from 2015 he led the set-up of the new light



metal die-casting plant in Mills River (USA) as General Manager. After his return to Switzerland at the beginning of 2018, Carlos Vasto had been in charge of the Business Unit Iron and Investment Casting Europe at GF Casting Solutions. Since 1 September 2018, Carlos Vasto has been a member of the Executive Committee. Josef Edbauer will be available to support his successor until the end of 2018. ■



362

meters long and weighing 228'000 tons, the Symphony of the Seas is the largest cruise liner in the world and has been in operation since April 2018. Not only does it carry up to 8'000 passengers and crew members, it also houses several hundred kilometers of pipes, fittings, and jointing technology from GF Piping Systems, which ensure safe and efficient transport of fluids on board. ■



HYPERLOOP POD COMPETITION

Fast and stable

The Swissloop team of ETH Zurich has once again participated in the Hyperloop Pod Competition initiated by Tesla and SpaceX founder Elon Musk. As the main sponsor, GF Casting Solutions developed a lightweight component for the chassis of this year's transportation pod, which went to the starting line in Los Angeles at the end of July. In 2017, the Swissloop team took third place in the Hyperloop Pod Competition. ■



More information can be found at gfcs.com (→ **Mobility of the Future**)



View of the construction site in Biel in June 2018.

INNOVATION AND PRODUCTION CENTER

Opening in 2019

Construction on the new innovation and production center of GF Machining Solutions in Biel (Switzerland) is in full swing. When it opens in early summer 2019, the site will become the division's new headquarters. It will provide space for approximately 450 attractive workplaces and offers great opportunities for further growth. ■

TWO POINTS OF VIEW

Which working environment motivates and inspires you?

For me, open-plan offices set the stage for a motivating working environment. I've always worked in open spaces and enjoyed the fact that they enable easy communication among colleagues.

Right now, I am working as the Interface Manager for our new site, which is currently being built in Biel. It will become the new headquarters of GF Machining Solutions and will provide workspace for over 400 employees from the Swiss locations of Nidau, Ipsach, and Luterbach. My main task is to coordinate between the different project groups involved in the construction. We have come up with a solution that will fulfill the needs for different working environments. For example, collaboration spaces will enable cross-departmental teamwork so we can develop creative ideas more quickly. Our concept also includes areas for working quietly or making phone calls. I am very much looking forward to the opening in spring 2019. Hope to see you at the new employee restaurant! ■



Anna Feiler

As the Interface Manager for the new GF Machining Solutions building in Biel (Switzerland), Anna Feiler is contributing to the realization of a modern office concept that will foster cross-departmental teamwork.



I have been the Webmaster for the GF Piping Systems online presence in the United States for two years now. I'm responsible for online content and I develop new tools to make processes more efficient, such as the quoting tool engineers use for custom products. As I see it, our office concept with open areas and partitioned-off cubicles with two or three workstations removes physical walls, and in a sense metaphoric walls, too, because hierarchy levels and department borders are not so apparent. If I need information, for example on web content to be updated, it's very easy to approach my colleagues. That speeds up processes and encourages exchange.

In the US, this kind of working environment is quite common. And in my opinion, it has been particularly well realized here in Irvine. What motivates and inspires me is the fact that I still have the freedom to choose. If I need to focus, I can book a room where I can work alone and concentrate. ■

Stephen Tran

Stephen Tran, Webmaster at GF Piping Systems in Irvine (USA), enjoys the freedom to choose between an open-plan office and a silent room as his place to work, depending on the task at hand.



More pictures of Anna Feiler and Stephen Tran at globe.georgfischer.com

With a new 3D printer, the Additive Manufacturing Team in Leipzig (Germany) is able to produce sand cores for large and complex cast components in-house. F.l.t.r.: Mario Linke, Lukas Blumenauer and Patrick Klement.



MADE IT!
3D CORE PRINTING CENTER

Printing in XXL format

At the beginning of May 2018, GF Casting Solutions in Leipzig (Germany) put a new 3D core printing center into operation. The new technology provides solid potential for the future of the site.

Particularly large and complex components are manufactured in small batches at the iron foundry in Leipzig. These XXL parts, weighing up to 1'100 kilograms, are used in trucks, machines for construction, agriculture, and forestry as well as in solar parks and wind power plants.

A number of sand cores are often required to manufacture the components. Depending on their complexity, the sand cores have to be mounted and fixed carefully in so-called core boxes before the liquid iron is poured in. In this way the castings take shape as desired. By using a new 3D printing system GF Casting Solutions in Leipzig can now produce the cores in one piece.

"The preparation of the core boxes has been expensive and time-consuming in the past. Thanks to additive core manufacturing, we were able to cut the time required for this process by more than half," explains Lukas Blumenauer, Head of Additive Manufacturing. "With the new technology we save not only time and costs, but also increase process safety," he adds. What fascinates him most are the virtually unlimited design opportunities of 3D core printing. "Today we can manufacture sand cores in all possible geometrical forms – even for extremely large and complex castings."

Innovative process

Until the roughly 1'500 square meters hall and the new 3D printer were inaugurated in May 2018, a lot of administrative challenges had to be overcome. "We're proud that we managed

to construct the new hall and set up the 3D printer with all corresponding equipment in only 18 months," says Lukas Blumenauer.

The Additive Manufacturing team, consisting of Lukas Blumenauer, Mario Linke, and Patrick Klement, doesn't want to rest on its laurels though. They are currently concerned with optimizing the printing system further and with embedding the new technology in quality assurance and production processes. Furthermore, the new technology needs to be integrated into the overarching production process across several locations. This is especially important given that GF Casting Solutions in Leipzig has decided in favor of a completely new 3D printing technology based on phenolic resin, for which there is not yet any empirical data throughout the Corporation. "Our location is one of the first users in Europe," explains Blumenauer proudly. The 3D printer installed in Leipzig is in fact the second of its kind in Germany and the first in the country to be used in serial production.

Investment in the future

The new 3D printer is to run 24 hours a day, six days a week. It can process up to 60'000 cubic centimeters of sand per hour, which corresponds to between one and several hundred cores a day, depending on the geometry. "This might not sound like a lot. But thanks to the new process, we are able to increase added value enormously when producing the castings," Lukas Blumenauer explains. He is convinced: "The 3D printing process will open up totally new prospects for our location, with around 250 employees, as well as for the entire company." ■



AT A GLANCE

The site:
GF Casting Solutions in Leipzig
(Germany)

The task:
Setting up a new 3D printing
center for the serial production
of sand cores

The aim:
Increasing flexibility, freedom
of design, and efficiency in the
production of castings

The timeframe:
18 months

The result:
Inauguration of a new produc-
tion hall and a 3D printer in
May 2018 that is unique within
Germany



More pictures at
globe.georgfischer.com

COVER STORY
**WOODBLOCK PRINTING ARTIST
XIAODONG YANG**



With his back slightly rounded and his head bent forward, Xiaodong Yang sits at a plain table. The silence in the bright workroom is broken only by the quiet scraping of metal on wood. Using a sharp knife, the 25-year-old, who works as a marketing specialist at GF Machining Solutions, carves into the wooden block in front of him. He runs the blade accurately along the contours of the motif, which he has carefully drawn onto the block. Sometimes he applies the tool low down, sometimes at a steep angle in order to remove broader or narrower slivers of wood.

Step by step he reveals the delicate figures and motifs of his composition: the particular form of a building, tongues of flame, a distinctive character. Focusing on the lines, he is highly concentrated as he cuts the wood, over and over, countless times. It is this meditative and at the same time physical dialog with the material which fascinates him. "Cutting the wood demands my full attention. When I'm doing it, I enter a state of complete relaxation. It's extremely satisfying to see how the work of art gradually takes shape," says Xiaodong Yang about his love of woodblock printing – a craft spanning several centuries that has lost none of its fascination to this day; and which has also fascinated Xiaodong Yang for almost five years.

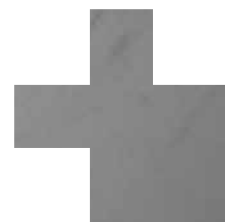
What makes a young man for whom it is totally normal to share marketing content from GF Machining Solutions via the social media platform "WeChat" dedicate much of his spare time to such a traditional handcraft? "A friend of mine inspired me with his enthusiasm for this special form of printing. At that time we were studying drawing and painting together at university," Xiaodong Yang reminisces. Out of curiosity, he attended >

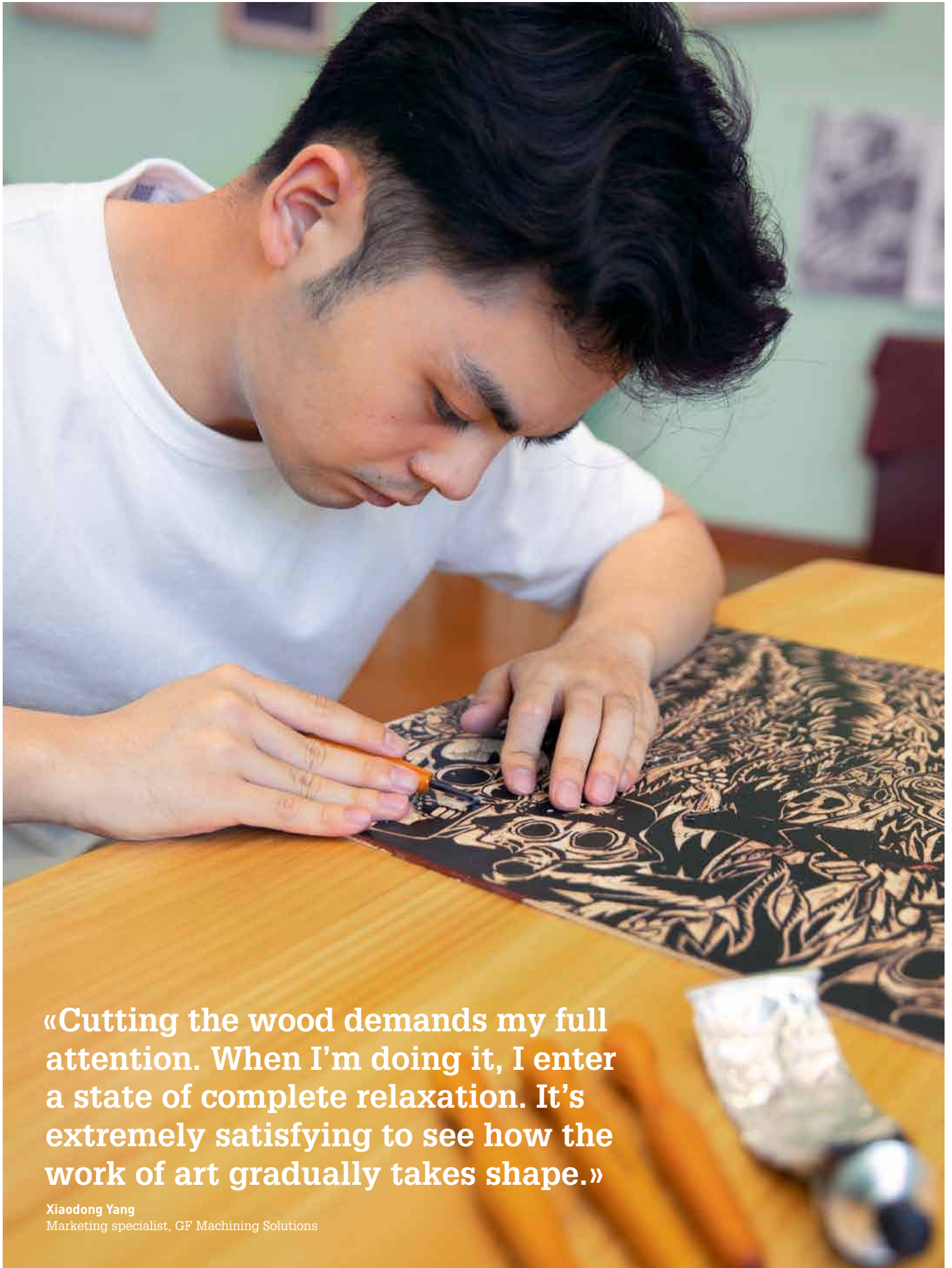


Name: Xiaodong Yang
Position: Marketing specialist
Division: GF Machining Solutions
Site: Shanghai (China)
At GF since: 2016
Remarkable: It takes around three weeks to turn an initial sketch into a finished work of art

Young artist

Xiaodong Yang from GF Machining Solutions in Shanghai is hooked on woodblock printing, a traditional hand-craft that dates back over 600 years. The 25-year-old marketing specialist brings the technique into the modern day with joy and passion.





«Cutting the wood demands my full attention. When I'm doing it, I enter a state of complete relaxation. It's extremely satisfying to see how the work of art gradually takes shape.»

Xiaodong Yang
Marketing specialist, GF Machining Solutions

› a course and was immediately hooked. The graphic and sculptural opportunities woodblock printing offers opened up a new world for him in which to indulge his creativity. The motif is engraved into the wood as a mirror image. Only the prominent shapes are shown in black and are transferred to the paper when printed. "All of the areas cut away with the knife are shown as white. The contrast between dark and light therefore gives rise to an almost sculptural image," Xiaodong Yang explains.

Traditional technology enters modern age

When looking at his works of art, one can feel the creativity and passion with which he translates the technique, which is several hundred years old, into the modern day – with images that surprise and draw in the observer. Xiaodong Yang gets his ideas from everyday situations, such as going to the cinema and traveling. His favorite works of art include a series of images that dynamically recount chaos and fights between humans and unreal creatures in a city setting. "I get most of my ideas from the movies. I'm a big fan of superhero comics, such as Thor or Iron Man. The films are extremely popular here in China and have inspired me," he explains.

It takes around three weeks on average from the first paper sketches until the images are printed. Every new work of art excites and challenges him. "Woodblock printing requires precision and planning. Once you have cut something out, you can't add it afterwards. So you already have to have an idea of the overall composition in your head before you start to draw," says Xiaodong Yang. To prepare the print form he sands the wooden block until the surface is completely smooth. He then applies a dark color. "The primer already gives me a realistic impression of what the result will look like later on when I cut the wood," Xiaodong Yang explains. After copying the paper pattern onto the wooden block, he painstakingly and meticulously produces the print form using a number of different knives. He black rolls the prominent parts, puts the form on a press printing table, and places a special art paper on it. "The printing process is an adventure every time – you can never quite predict the outcome," says Xiaodong Yang.

Graphic print meets laser technology

He also benefits from his artistic talent as marketing specialist at GF Machining Solutions. The 25-year-old arts graduate provides support at trade fairs and coordinates marketing measures for print media and digital channels. He publishes content on the internet and organizes materials such as ›



Xiaodong Yang tells stories through his artworks. He gets his ideas from everyday events, such as going to the movies and traveling. He has even depicted the history of GF Machining Solutions as a comic.





› brochures, posters, or sales ads. When it comes to implementing messages creatively, Xiaodong Yang is full of ideas and enthusiasm. "When I'm doing woodblock printing, I train my imagination and my ability to focus on the essential. Both skills help me to carry out my tasks at work," says Xiaodong Yang.

He has been working at the head office of GF Machining Solutions China in Shanghai for around two years. More than 100 employees work at the site in the areas of sales, marketing, customer service, logistics, finance, and HR. Xiaodong Yang came to his current position in marketing via an internship. Right from the start, he had a sense of well-being in his team, which deals primarily with marketing in China. He really enjoys the varied and creative work he carries out as it gives him the opportunity to try out new things and develop further professionally. The fact that he is eager and committed to taking on new challenges gets around: "A while ago one of our product managers heard about my creative skills. He proposed that we work together to find out whether our laser technology can be combined with my printed graphics to produce thrilling effects. For example, we had the idea to create special boxes for our promotional gifts with a high-quality finish," Xiaodong Yang proudly explains. The tests for this idea are in progress. It is not yet clear whether it will really come off. But one thing is sure: Xiaodong Yang will be at work again with great passion and creativity. ■

For the past two years, Xiaodong Yang has been working as a marketing specialist at GF Machining Solutions in Shanghai: his job includes creating brochures and sales advertisements. He felt right at home in the team from day one.



More pictures and a video of Xiaodong Yang at globe.georgfischer.com

3x3

1. Globetrotter or happy on your home turf?
2. My life's motto:
3. In my first job I was ...



Joe Joseph Bailie
Product and Process Development
Manager, GF Piping Systems,
Calmar (Alberta, Canada)



1. Definitely on my home turf.
It's my happy place!

2. Work hard, play
hard, have fun!

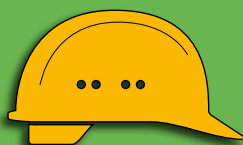
3. ... on a farm and
I learned a lot from
taking care of
livestock and crops.



Simone Eder
Designer,
GF Piping Systems,
Traisen (Austria)

1. A bit
of both. :)

2. May the wind be
always at your
back and the sun
upon your face.



3. ... a machine fitter.



Andrea Ronchetti
Heat Treatments Responsible,
GF Casting Solutions,
Novazzano (Switzerland)

1. A globetrotter with
a weakness for the
traditions of wherever
I am at the moment.



2. I can do things that you can't.
You can do things that I can't. Together,
though, we can achieve great things!

3. ... dressed up as
Santa Claus and
handing out gifts.

**JOIN IN
AND
WIN!**

Here are the new questions:

1. The last film I saw at the movies:
2. Summer or winter?
3. At the end of a working day...

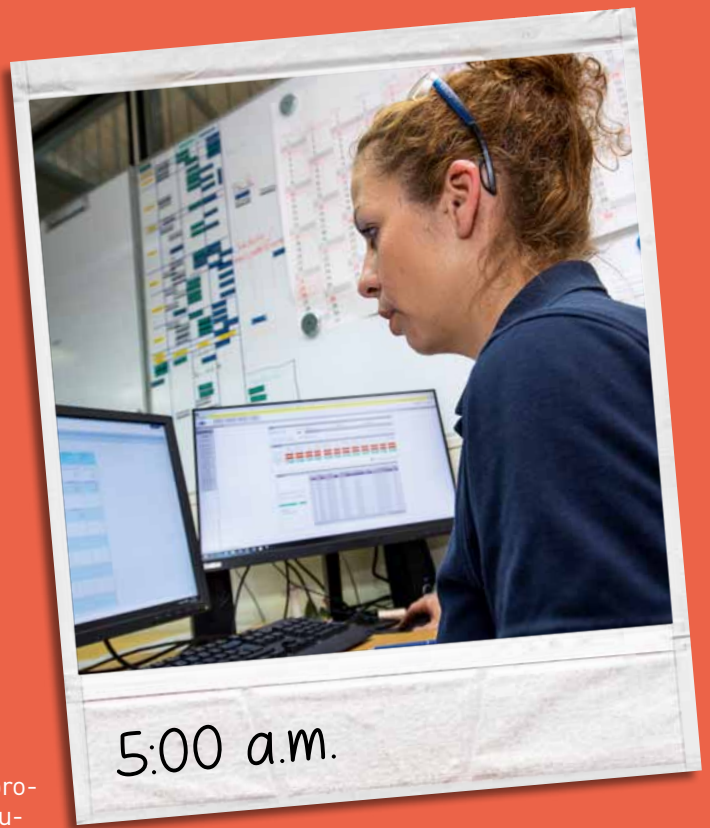
Take part and send your answers along with a portrait photo and "3x3" in the subject line to: globe@georgfischer.com
All entries will be included in our competition on page 40.



You can find further sub-
missions to 3x3 online at
globe.georgfischer.com

A DAY WITH
KATHLEEN WINDHEUSER

Name: Kathleen Windheuser
Position: Assistant at molding and casting production line
Division: GF Casting Solutions
Location: Singen (Germany)
At GF since: 2005



5:00 a.m.

Kathleen's working day starts early. While her night shift colleagues prepare to end work, she checks the computer to gain an overview of last night's production. For example: What was produced for which customer? Were the numbers of pieces achieved as planned?

From one mold

With about 1'000 employees GF Casting Solutions in Singen produces some 350 different cast components for automotive manufacturers and suppliers. Steering gear and gearbox cases, wheel hubs, and frame parts, for example, are manufactured on three production lines in three-shift operation. Up to 180 molds per hour can be filled with liquid iron on the newest production line PL2. As an assistant on PL2, Kathleen Windheuser supports her team in its efforts to achieve the production targets.



9:00 a.m.

Together with Jens Müller (l.) and Alexander Jungmann, Kathleen closely examines the rejected brake caliper. After possible causes have been analyzed, it is obvious that the pattern plate and the casting parameters need to be reviewed to prevent similar defects in further production.



10:00 a.m.

Kathleen and the shift supervisor examine the pattern plate used for current production on PL2. They discuss the amendments that have to be made to avoid further surface material defects.



5:30 a.m.

Shift handover. Kathleen in discussion with her supervisor Jens Müller (L.), who is responsible for the approximately 130 employees who work on PL2. Together, they examine today's production plan with the shift supervisors. A total of 6'000 brake calipers are scheduled for production during Kathleen's shift.



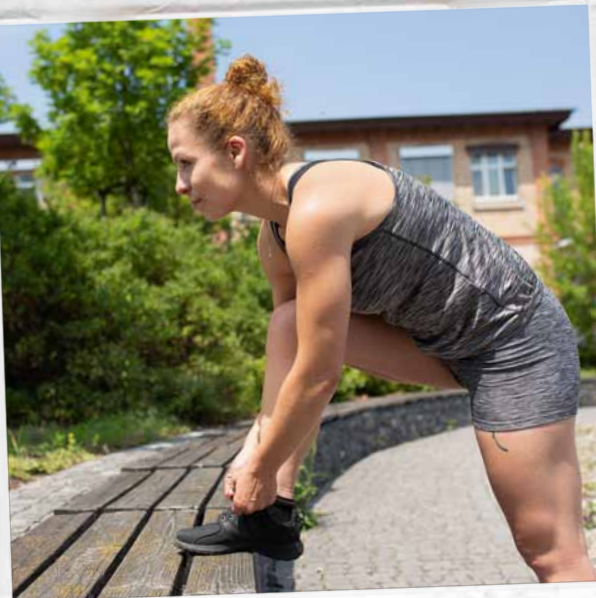
6:15 a.m.

After the cast components have cooled down, Kathleen examines the so-called raw castings. She discovers a surface material defect on one brake caliper and removes it for a more detailed check.



12:30 p.m.

After lunch, which Kathleen most enjoys spending with her colleagues, she checks the current status of production. Several monitors show the most important figures in real time. Just before the early shift ends, all process steps are running optimally so that the specified daily target can be achieved.



3:00 p.m.

At the end of this working day, Kathleen changes out of her work clothes and into her running gear. As she is meeting friends later for dinner, she will take a somewhat shorter route today – through the woods on the outskirts of Singen.

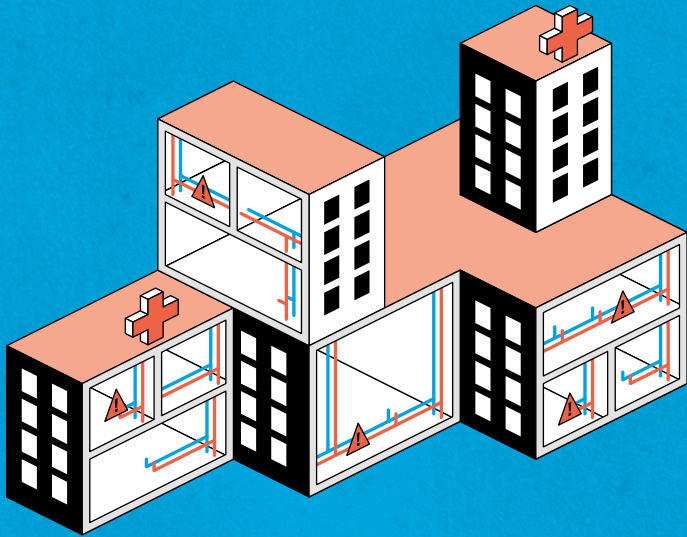


More pictures of Kathleen Windheuser's day at globe.georgfischer.com

THAT'S HOW IT WORKS!
HYCLEEN AUTOMATION SYSTEM

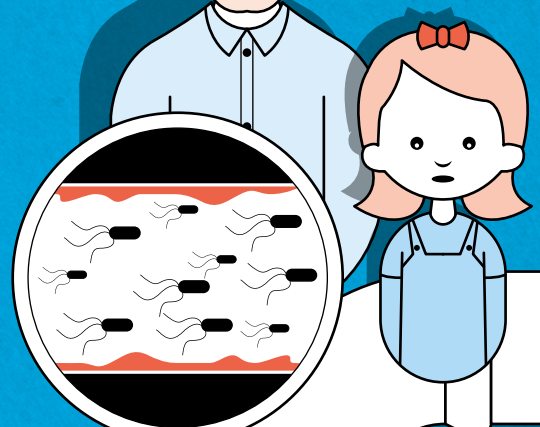
A clever solution

The **Hycleen Automation System** from GF Piping Systems prevents harmful bacteria reproduction in the piping, and thereby ensures a perfect drinking water quality. The revolution in the Sanitary Automation guarantees optimum hygiene standards for drinking water!



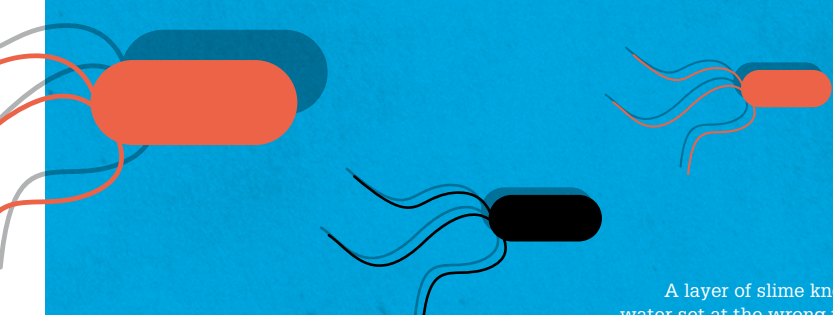
① Who needs it?

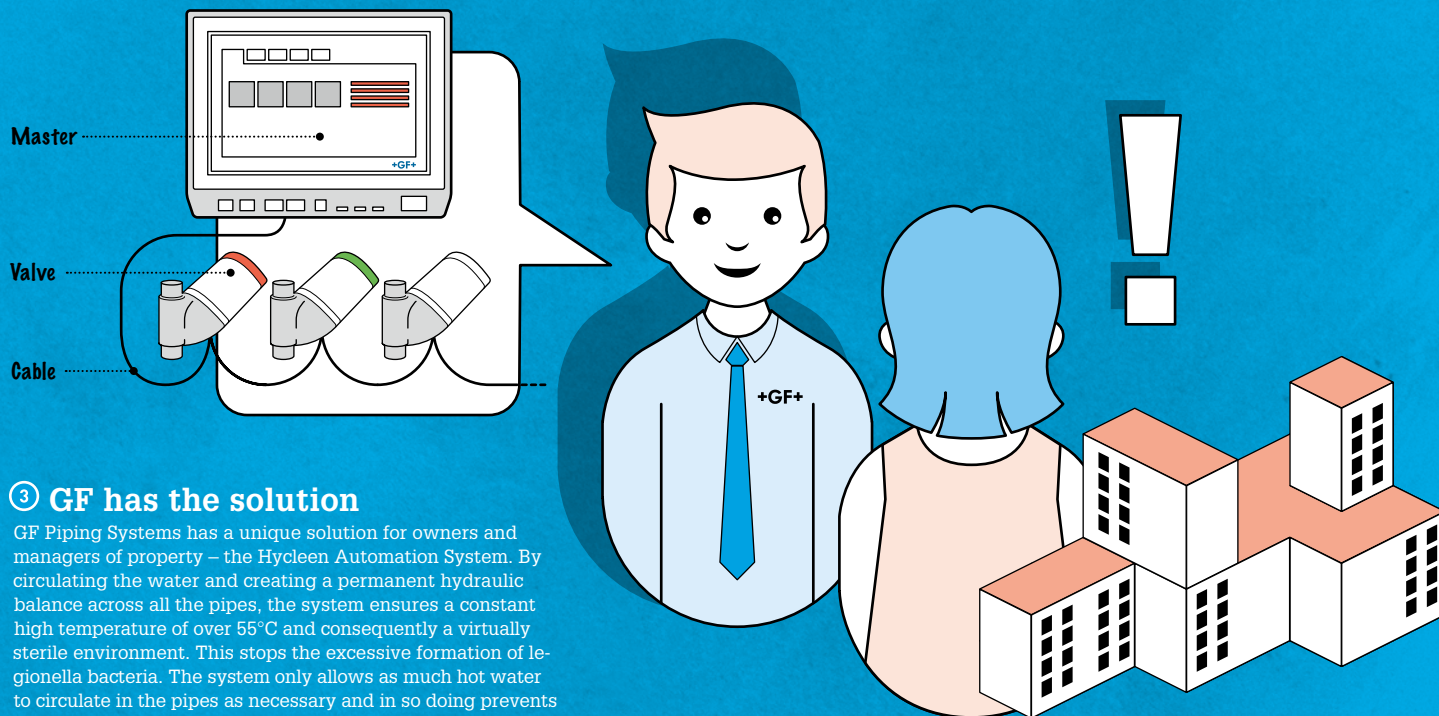
Hospitals, retirement homes, hotels and schools all rely on perfect drinking water and thus want to avoid contamination from legionella bacteria and other harmful microorganisms. For those buildings with particularly strict regulations, sophisticated technical solutions are required.



② The risk

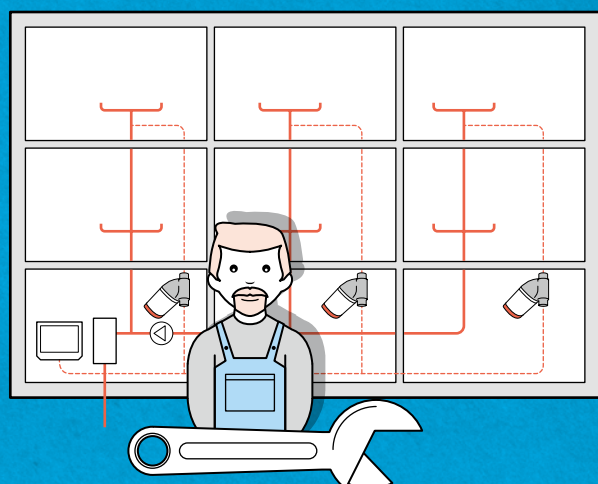
A layer of slime known as biofilm forms when drinking water set at the wrong temperature stagnates in the piping system for too long. Bacteria reproduce very fast in biofilm. The elderly, children, and people with a weak immune system are more likely to contract Legionnaire's disease – a severe form of pneumonia – by inhaling water droplets or steam.





③ GF has the solution

GF Piping Systems has a unique solution for owners and managers of property – the Hycleen Automation System. By circulating the water and creating a permanent hydraulic balance across all the pipes, the system ensures a constant high temperature of over 55°C and consequently a virtually sterile environment. This stops the excessive formation of legionella bacteria. The system only allows as much hot water to circulate in the pipes as necessary and in so doing prevents the loss of warmth and energy that would have been necessary to reheat the water. This helps to save up to 15 percent in energy consumption.

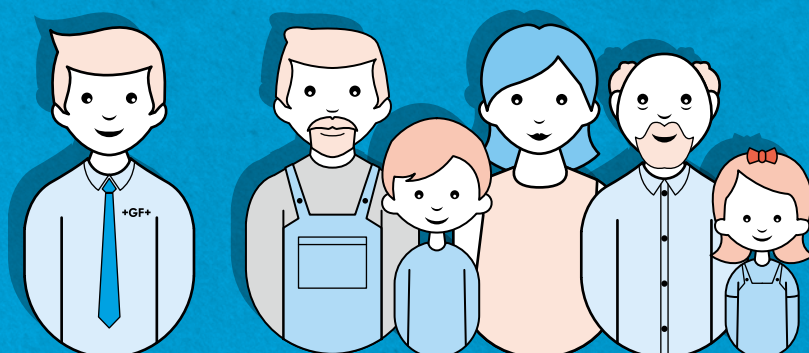
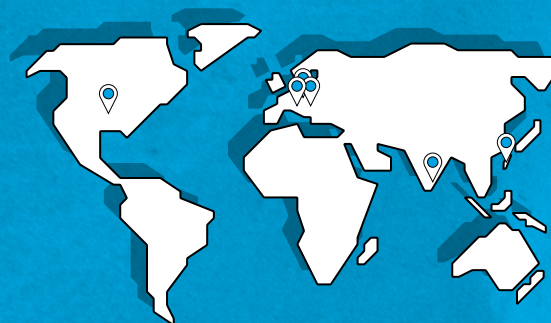


④ How it works

The Hycleen Automation System is particularly suitable for established buildings, from family homes to large building complexes with extensive and varied piping systems. Following the calculation of pressure ratios in the pipes by the planner (in the case of new buildings), the entry of data and the connection of components by the installer, the system master automatically recognizes all the valve connections and starts working. The installer inputs the data and fits the components, while the system master automatically recognizes all the valve connections and starts working. Everything is now running automated. The hydraulic balance manages the temperature to prevent legionella bacteria reproduction, while the automatic flushing ensures that the water does not stagnate. The operator can display the measurement data from the system master on a PC at any time, and address any irregularities as required.

⑤ Ready for new markets

Installing, operating, and maintaining the Hycleen Automation System is easy. In addition to Germany, Austria, and Switzerland, GF Piping Systems has its sights on many other European markets, but also Taiwan, India, and the USA.



⑥ A German success story

The GF sustainability report 2017 tells of the first Hycleen Automation System, which was installed in a major German hospital. Read more online at: sustainability-report.georgfischer.com

OUR MARKETS
MICROELECTRONICS

Maximum purity guaranteed

Manufacturing microelectronics and semiconductor chips is a highly delicate process. GF Piping Systems delivers components that comply with the strict requirements for cleanroom production. For the division the microelectronics segment is a strategic growth market.

From smartphones and connected household appliances to vehicles – smart microelectronics are undoubtedly making their way into more and more aspects of daily life. Therefore, the demand for powerful processors and memory chips continues to increase. Microelectronics is considered to be one of the fastest-growing markets worldwide.

GF Piping Systems is benefiting from this boom. The division delivers high-quality piping systems and solutions for the production of high-tech components. “GF Piping Systems first began developing special plastic solutions that fulfill the stringent requirements of the semiconductor industry around 25 years ago. GF was a pioneer in this market and remains a leader of innovation to this very day,” explains Dominik Scherer, Team Leader Product Management at GF Piping Systems.

Highly specialized solutions

In the production of microchips, extremely tiny circuits that measure just nanometers are etched into a board made of materials such as silicon. This process involves the use of acids and other corrosive chemicals. For the transportation of such tricky liquids, GF Piping Systems has developed the CONTAIN-IT PLUS double containment system. It guarantees maximum protection against contamination by these hazardous substances.

Ultra-pure water also plays an important role in the manufacturing of semi-conductor chips, as it is used to clean the boards after etching. Solutions by GF ensure that it remains ultra-pure as it makes its way to the production plant. The product portfolio includes the systems PROGEF Plus made of polypropylene (PP) and SYGEF Plus made of polyvinylidene fluoride (PVDF) as well as special diaphragm valves that are not susceptible to microbiological contamination. GF also delivers corresponding sensors that allow microelectronics manufacturers to ensure the purity of the water by monitoring the PH value, temperature, and conductivity, for example.

In addition, GF offers the perfect solution for connecting the piping systems reliably: the infrared welding machines IR-110 A and IR-315 A join components with precision and maintain high quality in assembly. Special training on the installation of these systems rounds off completes the division’s offering.

Enormous growth potential

GF Piping Systems is one of only few providers with solutions that meet the strict specifications of the microelectronics industry. For this reason, GF products can be found in the production facilities of well-known chip manufacturers all around the world. In order to provide its customers with products that are free from any impurities, the division produces

and packages its solutions under cleanroom conditions at the GF Piping Systems site in Ettenheim, in the south of Germany.

The microelectronics/semiconductor market has enormous potential for GF Piping Systems – and is therefore also of great strategic importance. Today, the market accounts for around 20 percent of the division’s business in the field of industry applications, estimates Dominik Scherer, adding: “We are well positioned and well prepared to further grow above average in this area.” ■



Dominik Scherer
Team Leader Product
Management at GF Piping
Systems



CLEANROOM PRODUCTION

The cleanroom production facility of GF Piping Systems in Ettenheim (Germany) is not only the largest in Europe, but also one of the most modern in the world. The products are manufactured under very strict conditions, and with special measures such as air filtration, entrance zones and protective clothing for employees. Here piping systems and valves made from fluoropolymers such as PVDF are produced for the microelectronics and semiconductor industries as well as for other demanding sectors, including the pharmaceutical industries and chemical process engineering. Approximately 50 people are employed in extrusion, injection molding, machining, and assembly at this site, supplying customers around the globe with solutions of the highest quality and an exceptional level of purity.

OUR CUSTOMERS
MICRON TECHNOLOGY



Singapore's chip giant

Singapore is a key location for the Asian microelectronics industry – and for Micron Technology, which is the third-largest manufacturer of semiconductors in the world. At its production plants, Micron Technology relies upon the highly specialized solutions from GF Piping Systems.



Experts on microelectronics: as Market Segment Manager for microelectronics at GF Piping Systems in Singapore, Jo Lim (L.) has been responsible for the customer Micron for several years. She provides advice and support to her counterpart Elin Teo, Ultra Pure Water Program Manager.



SYGEF Plus in action: The system of pipes, valves, and measuring instruments carries highly sensitive processing fluids safely around the Micron cleanroom facility. (Top right; f.l.) Elin Teo, Jo Lim, and Ramesh Dhanabalan, Global Facilities, Construction & Engineering, Senior Manager at Micron, are all very proud of the result.



We are surrounded by digital data in all areas of our lives: in our communications, at work, and in our spare time. In order to be able to process and use this data, high-performance memory chips – also known as flash memories – are used in computers, smartphones, servers, and many other high-tech products.

Micron Technology is a major manufacturer of these memories. The company was founded by four men in 1978 in the basement of a dental office in Boise, Idaho (USA). Today the semiconductor manufacturer produces memory chips for PC working memories, SSD hard drives, USB sticks, SD memory cards, and smartphone memories in 18 countries and with more than 30'000 employees. Absolute cleanliness is required during the complex manufacturing process for these semiconductor chips, as the slightest contamination can damage the extremely tiny circuit boards. In its ultra-modern cleanroom production, Micron therefore relies on solutions from GF Piping Systems.

Microchip boom in the tiger state

Singapore is one of the key locations with regard to the semiconductor industry. In 2017, 11 percent of all semiconductor chips in the world were produced here. Microelectronics

accounts for around 20 percent of the gross domestic product of this southeast Asian city state. Micron has been active in Singapore for 20 years and from there it serves the large electronics manufacturers in Asia and around the world. The company currently operates three production sites in Singapore as well as a test laboratory, with a total of more than 7'500 employees. In 2016, Micron invested USD 4 billion in expanding one of its chip factories, increasing the cleanroom production capacity by 23'000 square meters and virtually doubling it in size.

Perfect solutions for memory production

As part of the new cleanroom facilities, GF Piping Systems supplied plastic pipes and valves from the PROGEF, PROGEF Plus, and SYGEF Plus series as well as the CONTAIN-IT and CONTAIN-IT Plus systems. The products from GF are not only used for the safe transportation and disposal of chemicals such as acids. The piping systems are also primarily used to distribute ultra-pure water. Valves ensure the right amount of water and the right pressure at all times. As ultra-pure water is completely free from minerals, microorganisms, and other substances, it plays a fundamental role in the manufacturing of semiconductor chips.

"As part of this project, not only did we supply all the important piping systems, we also ensured their seamless assembly," explains Jo Lim, Market Segment Manager for Microelectronics in Asia at GF Piping Systems in Singapore. She has looked after the GF customer Micron since 1998 and knows the business well. "The semiconductor industry in Singapore is a close and trusted circle," says Lim.

Next project on the horizon

GF Piping Systems did not supply the products and new systems to the end customer Micron directly, but to the plant constructor and installation companies in charge. In addition, GF provided support with the planning and calculation of the piping systems and with welding training for the installation of GF products on site. Since the equipment went into operation, GF has also been supplying Micron directly, especially in terms of maintenance services.

Micron is in the process of setting up another factory in Singapore for the latest generation of its 3D NAND flash memory. The new production facility will start operations in summer 2019. "Here, too, our solutions will be part of the ultra-pure water system. We have just been awarded the corresponding contract," says Jo Lim. ■



"Ultra-pure water is the lifeblood of chip production"

Elin Teo, Ultra Pure Water Program Manager at Micron Technology, is responsible for the design, installation, and operation of the ultra-pure water systems in the chip manufacturer's production plants in Singapore. As part of her role, she works closely with GF Piping Systems.

Ms. Teo, why is ultra-pure water so important in semiconductor chip manufacturing?

Ultra-pure water is the lifeblood of chip production. It is indispensable during the countless cleaning steps, such as after the chemical mechanical polishing of the wafers, i.e. the silicon plates that are used to create the individual chips. This process leaves behind very fine particles that are rinsed away using ultra-pure water. There must be no residue left behind as this could cause a short circuit or other damage in the chip.

What role do the products from GF Piping Systems play in this process?

The pipes we use in our ultra-pure water system must meet the highest chemical cleanliness standards. The products from GF fulfill these requirements and are extremely reliable. Further advantages are the large product range at GF Piping Systems as well as its comprehensive after-sales services.

What can you tell us about the collaboration with GF Piping Systems?

Whenever we have a problem or a question, the after-sales team at GF is always willing to help. I have known our direct contact, Jo Lim, for many years and I am certain that she does all she can to offer us the best possible support. We are continually working on new projects and we look forward to cooperating with GF in the future, too.



More pictures and a video at
globe.georgfischer.com



OUR GOALS
COOPERATION WITH UNIVERSITIES

The GF partner network

GF today maintains various forms of partnership worldwide with more than 60 leading universities and research institutes. Both partners benefit from the other's strengths: While GF gains scientific know-how for new or advanced products and technologies, its cooperation partners gain important insights and impetus from practical experience.

University of Texas,
Austin (USA)



Prof. Kash Gokli
Harvey Mudd College,
Claremont (USA)

Our students gain valuable experience

Our undergraduate engineering program is ranked first in the USA. Thanks to our close cooperation with companies, the students gain valuable practice by working on real problems. Last year we worked with GF Piping Systems on a project dealing with pH sensor data transmission. For our students this provided a great opportunity to further develop their technical know-how and to practice professional skills such as project management, team work, or budgeting. We are already planning the next project with GF.

Universidad Nacional de Mar del Plata
(Argentina)



Prof. Gotthard Wolf
Foundry Institute, TU Bergakademie
Freiberg (Germany)

We are constantly learning through practical experience

We have been working together with GF Casting Solutions for over 25 years, mainly in the area of materials and process development. We provide support with capacities or know-how, such as in projects on environmental protection or metallurgy. In return, our graduates and doctoral students benefit from the exchange with experienced engineers from industry. Our latest project was a feasibility study for thin-walled steel casting. GF had the product idea and we had the test facilities. The bar is set very high, but that is precisely why we are constantly learning more.



Prof. Zhao Wan Sheng
Shanghai Jiao Tong University,
Shanghai (China)

We highly appreciate the exchange of information and ideas

We appreciate working on the technical challenges that manufacturers are facing today. This enables us to extend our practical knowledge and we can support companies in solving their problems based on our research. For more than 20 years, we have been exchanging knowledge and maintaining a strong partnership with GF Machining Solutions. Last year, we made a joint agreement: Together we aim to develop advanced EDM technologies for the gas turbine and aerospace engine industry – an emerging sector in China. We are already working on software that helps engineers with the complex tool design process.



Please note that the universities and research institutes listed here give only an insight into the worldwide GF partner network. The illustration does not claim to be complete.

Achieving more together

Collaborations between science and industry can generate important impetus for developing innovations. For this reason, GF has been working together with notable universities and research institutions for many years. In the following interview, three R&D experts of GF explain how their divisions benefit from these partnerships.

Why is the collaboration between science and industry important?

Konrad Papis: For us at GF Castings Solutions it is important to keep our knowledge up-to-date. In fundamental research in particular, we need access to the expertise of our institutional partners and the resources they provide in order to develop our own simulation models, for instance. The insights we gain in this way help us to predict the durability of highly stressed engine components or how a material will behave in the event of a crash.



Sergei Schurov is Chief Technology Officer at GF Machining Solutions and knows the division's research projects well. Currently, around 25 projects with academic partners are running across the globe. He particularly appreciates the fact that universities may open doors to key customers.

Sergei Schurov: For GF Machining Solutions, three aspects are key. First of all, the exchange of important findings allows us to see which direction the engineering industry is heading in. Secondly, we benefit from the research knowledge of new processes and technologies. And thirdly, academic partners can help open doors into new market segments. They are well connected with potential or existing GF customers and have

the necessary scientific expertise to validate our products. Many customers make their choice of new machinery and technologies based on the results of our projects with renowned research institutions. For example, RWTH Aachen University provided a comprehensive analysis of material integrity after the EDM erosion process, which substantiated our machines' performance for the production of air engine components. This helped us to win contracts in the aerospace segment.

So academic partners help your divisions to grow their portfolios?

Bastian Lübke: Definitely. Especially in fields that are still relatively new to us, or that lie outside of GF Piping Systems' core area of expertise. We are currently in the process of making our products "smarter". In this regard, software, sensor technology, and electronics are becoming crucial and we need partners like the University of Applied Sciences Rapperswil, which is at the cutting edge in the areas of electronics and mechatronics. Together, we developed an intelligent device for the optical inspection of welding seams that is now in the testing phase.

There are various cooperations between GF and universities or research institutions. Which collaborations are familiar to you in your particular division?

Sergei Schurov: Currently we are engaged in 25 different research projects. These range from validation assignments, through students' master and doctoral theses, to projects for developing products that fulfill specific customer needs. With all our collaborations we aim to enhance our competitiveness by improving our products and processes, by raising awareness for GF Machining Solutions in the market, and by building relationships with industry customers through our well connected partners.

Konrad Papis: At GF Casting Solutions, it is often about developing scientifically sound methods in the course of student projects. In this respect, we particularly benefit from the way students think outside the box. In return, we can provide graduates with practical experience and position ourselves as an attractive employer. To debate key questions for our industry, we are involved in different research networks. In



Konrad Papis

is Team Leader Iron Casting at GF Casting Solutions in Schaffhausen (Switzerland) and works on innovative developments in iron castings, among other topics. Results from research help him advise internal and external contacts.

these networks, manufacturers and suppliers are working together with universities and other research establishments on current topics, like energy efficiency. We gain an insight into trends and see what our competitors and customers are working on.

What are the criteria for selecting cooperation partners?

Bastian Lübke: Key criteria include the potential partner's research focus and expertise. In addition, a good infrastructure and geographical proximity are important factors for projects that require intensive personal collaboration. With their facilities and equipment, universities and research institutions often have the ideal framework for conducting small-scale test runs or for creating prototypes. Such test runs would be much more expensive and complex if we realized those tests on our highly automated production machinery.

Sergei Schurov: For us, a research project must deliver valuable insights or innovative solutions for our customers. Therefore, the research quality and valuable industry contacts of the institutions are the key factors for selecting our partners. Finally, we work closely with our Design Thinking team, which helps identify users' needs or pain points.

In what respect does your division benefit, in particular?

Konrad Papis: Due to a rising demand for increasingly complex components and due to tougher requirements for lightweight construction, we cooperate closely with research partners to develop new solutions. In the areas of simulation, material analysis, and jointing technology especially, we rely on the knowledge gained from research in order to develop solutions that meet the market needs.



Bastian Lübke

has been Head of global R&D at GF Piping Systems since 2016. Based in Schaffhausen (Switzerland) he coordinates research projects worldwide. The division's current research focus is on the development of digital and smart products and solutions.

Bastian Lübke: Our general aim is finding out how to transfer new technologies to concrete industrial applications. In this regard, we are concerned about questions like: What new materials should we use for which products? Or: How can we make piping systems even more efficient and smart? In the context of our Smart Cities & Infrastructure project, we also consider the question: What will piping systems be like in the future?

Sergei Schurov: For us, interesting areas include industry 4.0 topics and model-based machine design, including the

modeling and simulation of different machining processes. In this context, we recently joined forces with ETH Zurich to further increase the accuracy of our machines. We were able to do so thanks to a jointly developed advanced modeling method for optimizing mechanical components. The exciting thing is that virtual simulation enables us not only to evaluate new technical design solutions, but also to develop them much more quickly. This allows us to cut the time to market.

Who in your division decides whether to enter into a collaboration?

Sergei Schurov: After the initial validation of the responsible Technical Unit, the potential project or partnership may enter its feasibility phase. When it comes to major investments, approval is needed from the Management team of GF Machining Solutions.

Bastian Lübke: There are 15 development teams at GF Piping Systems worldwide. As our local companies are in close contact with the universities, the respective development leads decide on concrete collaborations as required. It is my task to combine the different efforts and create synergies on a global scale.

Konrad Papis: At GF Casting Solutions the R&D team decides which projects to pursue. The Innovation Advisory Board, which is made up of members of division and business unit management, approves the necessary budgets after a successful project presentation. ■

OUR LOCATIONS
SUZHOU (CHINA)

A partner for the premium sector

Only the best is good enough for BMW, SAIC, and other top automotive brands. With its focus on lightweight solutions of first-class quality, GF Casting Solutions in Suzhou (China) has become a trusted partner for premium carmakers.

GF Casting Solutions in Suzhou is a key supplier for China's growing automotive market. Recently that growth has become increasingly green, driven by the megatrend of e-mobility: in 2016, China overtook the United States as the country with the most electric vehicles. And because GF Casting Solutions in Suzhou is dedicated to meeting market needs, the site has been adapting continuously since it joined the GF family in 2005.

Back then the die-casting facilities were shifted to a new site and expanded to include a further die-casting machine. Just one year later, in 2006, the next expansion became necessary, to be followed by additional investments in 2010 and 2015. Each time, new production lines and facilities were added to adapt to customer demands. Today, 16 high-pressure die-casting machines produce lightweight components in aluminum and magnesium. In order to provide ready-to-mount solutions, GF Casting Solutions in Suzhou also offers heat treatment, machining, coating, and assembly. To further expand its value

creation, the site opened its own tooling shop in October 2017. Since then, machining equipment from GF Machining Solutions and supporting software for mold-making have enabled GF Casting Solutions in Suzhou to respond to customer requirements quickly and efficiently thanks to customized tools.

A winning combination

The majority of the components made in Suzhou – 87 percent – are for the automotive sector. The customers of GF Casting Solutions have a high demand for ready-to-mount components and lightweight solutions that are locally produced – whether they are for conventional vehicles or for the emerging e-mobility segment. For R&D activities, support comes from the GF Casting Solutions R&D Asia Center, which works closely with the R&D team in Schaffhausen (Switzerland). In addition, there is a lively exchange of technical know-how with the sites in Altenmarkt, Herzogenburg (both in Austria), and Werdohl (Germany). It is a winning combination: the shock towers, steering components, and power train parts, including the engine block, bedplate, and gearbox housing, from GF are >





GF Casting Solutions uses 16 die-casting machines to manufacture lightweight aluminum and magnesium components in Suzhou. Customers from the automotive segment account for 87 percent of the components, while the remainder goes to escalator manufacturers.



Wenhao Yu – the garden lover

There are two aspects to Equipment Engineer Wenhao Yu's job: One is getting faulty equipment up and operating again. "In an emergency, I have to come up with a solution quickly in order to ensure that the production process is not down for long," he says. In addition, he contributes to keeping machinery operating highly efficiently through continuous adjustments and optimizations. For him, winding down after work means spending time with his family, preferably in Suzhou's UNESCO-listed Classical Gardens. "That helps me reboot so I can bring even more passion to my job," he notes.



Zhigang Li – the fisherman

How to achieve quality targets? Zhigang Li, Project Supervisor for Structure Parts, thinks about this question often – particularly when a part goes from trial runs to serial production. However, he does not have to find the answers all on his own: "I can count on my team when we have quality issues to solve," he says. Zhigang Li sees some parallels between his job and his hobby of fishing: Not only do both require a high degree of focus, but there is also cause for celebration when a solution is found or a fish is caught.





**Fanghua Qian –
the karaoke singer**

When Fanghua Qian, Tooling Shop Supervisor, sees a block of metal, he sees potential: “If I see a block of metal, depending on its size I know how to make dozens of automotive parts from it.” He can tell from his 11 years of experience at GF Casting Solutions in Suzhou that manufacturing automotive parts requires tight coordination between people and process steps – and it involves a lot of data. Fanghua Qian’s favorite after-work activities are playing tennis and singing karaoke. The first is for health, the second as a release.



**Nikki Zhang –
the hand-craft enthusiast**

As a Quality System Engineer, Nikki Zhang is in charge of the quality system at GF Casting Solutions in Suzhou. One of her primary tasks is to ensure that GF Casting Solutions in Suzhou complies with the necessary standards and regulations, such as ISO. “I like the precise and systematic work,” she says. This is also why she continues in the evenings and on weekends with hand-craft projects. Whether it is origami, making flowers from fabric, or diverse sewing projects, she keeps her hands busy. Apart from these hobbies, she loves spending time with her daughter.

The Suzhou manufacturing facility employs around 380 people. One factor in the plant’s success is the extensive range of training courses on offer. Training is a real priority for Managing Director Weijun Zhao (shown below).





› built into cars that roll off assembly lines in Chinese factories from BMW, Audi, Jaguar Land Rover, and Guangzhou Automobile Group (GAC) among others. Weijun Zhao, Managing Director in Suzhou, is particularly proud to be serving the premium sector. In addition, automotive parts are shipped to North America and France. The remaining 13 percent of the site's output is for the escalator market, with ThyssenKrupp as the primary customer.

Today, about 380 employees work in Suzhou. One factor in the site's success is the extensive training of its workforce: "As part of the onboarding process, our people are trained on environment, health and safety issues, products, and processes," states Weijun Zhao. He joined GF Casting Solutions in January 2008. One of his most memorable experiences was when he switched from the iron casting GF plant in Kunshan to aluminum and magnesium high-pressure die-casting in Suzhou.

More changes ahead

Manufacturing expertise backed by R&D know-how will continue to drive the successful development of the site. In the last two years, local competitors have started producing parts similar to those from GF Casting Solutions in Suzhou – but not of the same quality. "The situation is tough, but we still have the lead," says Weijun Zhao with confidence. To remain ahead, Suzhou is introducing lean processes. Plus, a further expansion is planned for the end of the year to improve productivity in the plant's mold-making business. Change is, after all, a regular part of business in Suzhou. ■



More pictures at
globe.georgfischer.com

A STRATEGIC LOCATION

Shanghai is undoubtedly the heart of China's automotive industry: Big players such as Volkswagen have operations there and the city is home to SAIC, China's largest car manufacturer. Situated around 100 kilometers to the west, Suzhou is an extended workbench for these and other renowned automotive manufacturers. Ports close to Suzhou also make it easy to ship components to other parts of China as well as abroad.



AT A GLANCE

Company:
GF Casting Solutions,
Suzhou (China)

Part of GF:
Since 2005

Employees:
380

Competencies:
Aluminum and magnesium
high-pressure die-casting

Market segments:
Automotive industry and
escalator manufacturers

HEART AND SOUL
DENISE STRAWN

**JOIN IN
AND WIN!**

Are you committed to social causes?
Does your colleague help those in need?
Then we would like to hear your story:
globe@georgfischer.com
All entries will be included in our
competition on page 40.

Making a difference

Supporting the disabled community is one of Denise Strawn's passions. For the past 15 years, she has been working with people one-on-one, gathering donations, and organizing events and fundraisers.

For Denise Strawn, Sales Administrator at GF Machining Solutions in Huntersville (USA), helping others is imperative. "There are so many people that need your help and you don't realize it until you're out there," says Denise. Eager to make a difference, she volunteers when she can.

Closest to Denise's heart is her work with the disabled. Fifteen years ago, while bringing her 12-year-old daughter to a disabled community event for the first time, Denise noticed that many were left unassisted and unable to partake. She and several others decided to form a group to help. Fast forward to 2018: the self-organized circle of volunteers organizes monthly get-togethers for the disabled that attract up to 200 attendees from Huntersville and the surrounding area. They work closely with the non-profit organization Joyful Hearts to coordinate fundraisers and help onsite at events. A yearly highlight is the Joy Prom, where members of the disabled community aged 16 and above get support to enjoy the experience of going to a prom, resplendent in dresses and suits.

"It's fulfilling," says Denise. "With the disabled community, even just the smallest gesture such as a hug makes them feel like they're worth a million dollars." ■



Denise Strawn
As a Sales Administrator, Denise Strawn assists sales projects from start to finish, from the quoting of prices to delivery. She has been working at GF Machining Solutions in Huntersville since 2010.



Denise Strawn began organizing events and meetings for disabled people in 2003. One event that brought together 200 participants gave birth to the flamingo shown above.

TAKE AWAY

Sustainability at GF

Acting sustainably is a priority at GF. The Sustainability Targets defined in 2015 are closely linked with the objectives of Strategy 2020. Did you know that ...



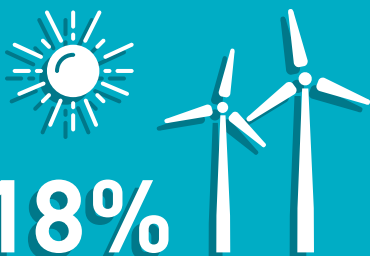
... GF filled 62% of management vacancies in the period 2016-2017 with internal candidates?



... the production site of GF Machining Solutions in Changzhou (China) celebrated three years of operations with zero accidents at the end of 2017?

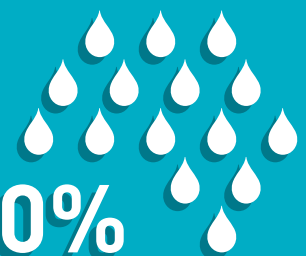


... the total number of accidents involving GF employees decreased by 13% across the Corporation in 2017?



18%

... the total share of renewable energy was 18% in 2017, and that GF intends to expand this share further in order to improve the company's CO₂ footprint?



-10%

... GF strives to consume 10% less water in areas where water is scarce by 2020?



... the amount of recycled waste increased by 6%, while the amount of hazardous waste fell by 6.9% in 2017?



You'd like to find out more about these topics? The GF Sustainability Report 2017 provides you with information on the progress made, along with fascinating projects and success stories. Learn more: sustainability-report.georgfischer.com



MY HOME
ALMERE (NETHERLANDS)



**JOIN IN
AND WIN!**

Would you like to present your home to your GF colleagues? If so, please send an e-mail with "My home" in the subject line to globe@georgfischer.com. All entries will be included in our competition on page 40.

Five meters below sea level

Can you imagine that 50 years ago you couldn't find Almere – the city I live in – on the map? Starting after World War II, a section of the IJsselmeer around Amsterdam was reclaimed as polders for agriculture and communities. That's how Almere came into existence in 1976 – five meters below sea level and today the Netherlands' youngest and fastest growing city.

More than 200'000 people live here, the majority of them young. With over 160 different nationalities, the city is a melting pot. Almere's architecture with its unusual shapes and bright colors is refreshing and sometimes

even daring. And, as Almere is surrounded by water, sports like wakeboarding are very popular. All this makes the city alive and vibrant.

From where I live, it takes me about an hour by car to reach the GF Piping Systems office in Epe, where I work as a Marketing Manager. As I drive along the straight roads lined with fields and wind turbines, I use the time to mentally prepare for the tasks ahead. When I arrive at the office, I'm ready to go. And at the end of the day, I'm ready to return to my Almere. ■



Leon Waller

began working as Marketing Manager at GF Piping Systems in Epe (Netherlands) in 1993. He has been living in Almere with his wife and two children, aged 14 and 18, since 1998.

A day in Almere



MORNING

YOUNG RUINS



In the late 1990s, construction started on Castle Almere – and then stopped midway when the project went bankrupt. Fashioned after a 13th century castle in Belgium, Castle Almere was intended to be a venue for weddings and large events. Today it is the world's youngest ruin. Not to be missed is the beautiful forest around the castle. Take a walk and enjoy the scents and colors.



LUNCHTIME

ANIMAL PROTECTION

Visit Stichting Aap, a foundation that rescues primates and other exotic mammals worldwide from abusive situations. The animals now have a better life with proper care. Adjacent to the foundation is the city farm with a nice restaurant where you can have lunch prepared with organic products from the polder. Save room for dessert, because the apple pie is delicious!



More images of Almere can be found at globe.georgfischer.com



EVENING

GOOD SCENERY – GOOD FOOD



You should not leave Almere without having tried one of our trendy restaurants. I suggest ending the day at BoatHouse, located on the outskirts of the city at the water's edge. You can enjoy a glass of chilled white wine while soaking in the marvelous view, followed by a delicious dinner. But make sure to get to bed at a decent hour, because tomorrow we have to get up early for waterskiing on the Weerwater, the lake in the center of Almere.

GLOBE 3-2018
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

globe@georgfischer.com
georgfischer.com

Project Managers

Ute Schnier, Lena Koehnen (GF)

Contributing Editors

Carsten Glose (GF),
Lorena Hofmann (GF Piping Systems),
Isabelle Scherzinger (GF Casting Solutions),
Sophie Petersen (GF Machining Solutions)

Production

Signum communication GmbH,
Mannheim (Germany)

Translation

CLS Communication AG, Glattbrugg-Zürich
(Switzerland)

Printing of the Chinese edition

DE Druck Europa GmbH, Berlin (Germany)

Printing of other editions

abcdruck GmbH, Heidelberg (Germany)

Image credits

Alexander Wiefel from the Noun Project,
Aurelien Bergot, Boathouse Almere, Bryan
van der Beek, Conrad von Schubert, David
Zentz, Dima Lagunov from the Noun Project,
Elad Izak from the Noun Project, Hermuth
Scham, icon 54 from the Noun Project,
Jackson Lowen, Maarten Smit, Mahmure Alp
from the Noun Project, Marc Gilardone, Oliver
Oetli, Peter Eichler, Prettycons from the Noun
Project, Rick Hovis, Stephen Plaster from the
Noun Project, TMD from the Noun Project

Other images: GF



Globe is published four times a year in German, English, French, Italian, Romanian, Turkish, Spanish, and Chinese with a total print run of 9'000 copies.

The next issue will be published in December 2018; the editorial deadline is September 17, 2018.

More on Globe Online!

You can conveniently enjoy reading the magazine for GF employees on your smartphone or tablet, too. Click on in and make the most of a whole new reading experience:

globe.georgfischer.com



 /GeorgFischerCorporation
/georgfischeryoungcareer

 /georgfischer

 /company/georg-fischer

 /company/georgfischer

 /user/georgfischercorp

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**, **Heart and soul**, 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.

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.

**JOIN IN
AND
WIN!**

Here are the winners of the last competition:

1st prize: Irina Stanescu (GF Casting Solutions in Romania)

2nd prize: Emmanuel Mateos (GF Machining Solutions in Switzerland)

3rd prize: Deepak Rogye (GF Piping Systems in India)

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 September 27, 2018.

