



## A partner with values and vision







# A special atmosphere

## The Christ spirit

Martin Christ is a family business, with the third generation ready to continue its proud traditions. The company has its headquarters in the German town of Osterode am Harz, in southern Lower Saxony. What makes the company special is its culture, well known for taking not only new employees but also its business partners by surprise. This Christ spirit is what makes the company culture so special – as Managing Director Dr. Frank Harms explains in an interview.

**Many companies around the world tend toward a strict organizational hierarchy. But here at Christ, you approach things very differently. Customers and business partners alike are wondering: Can it really work?**

We are a family company in the most positive sense. Our commitment to what we do is as high as our decision-making processes are short. This is exceptional. We are proud of what we do.

**Products from Christ are seen as world leaders in your sector. How important is the company culture for the innovations that Christ develops?**

The team has an extraordinarily deep connection with our company. We profit from our customer proximity, flat hierarchies, and short decision-making processes. It is entirely possible that we develop an idea in a working group and decide on the spot about specific actions and implementation.

**But to do that, you need the right team.**

We let the team do its job with openness, authenticity and transparency. We also allow constructive discussions – and we especially enjoy a good debate. They sharpen the focus of arguments, and in the end everyone can stand behind the result. This Christ spirit is also felt by our customers, especially when they visit us in Osterode. For many, it's a kind of enlightening experience.

**...no doubt for customers from around the world.**

We sell 80 percent of our products in other European countries, but we also sell to America, Asia and Australia. "Made in Germany" still stands for quality.

**How are you able to maintain this spirit?**

The essential thing is that we work with the spotlight on our products – both for and with our customers. And we provide a good working environment.

**If one talks with your employees about the Christ spirit, the conversation quickly turns to how you celebrate together within the company.**

Our company celebrations are family celebrations in two senses: family shareholders and managers celebrate alongside employees and their families. Everyone has fun together, and this serves to strengthen our sense of a common bond.



Dr. Frank Harms, Managing Director

» We see a great deal of appreciation for what we do.





# Freeze drying – truly multitalented

## Far more than just a technical term

Freeze drying – there's much more to it than the technical name might suggest: emotions, hopes and wishes are all connected. It is a hidden champion, irreplaceable and truly multitalented.

For people suffering severe forms of cancer, freeze drying gives drugs a long shelf life. Burn victims can be cured with artificial skin.

Similarly, freeze drying helps in the synthesis of a wide variety of substances in the chemical industry and makes environmental protection analyses possible.

The principle of freeze drying is relatively simple. Using a medication as an example, the technology can be explained easily: the liquid medication is first frozen. Then a vacuum is created and the water vapor, as a gas, is drawn out of the product, leaving behind a solid form of the drug. The doctor can then dissolve this again with water.



Dr. Klaus Hudel, Sales Director

» Freeze drying is an exotic technology.

Dr. Klaus Hudel is a process engineer and director of the company's global sales. "Freeze drying is an exotic technology," he says, and he clearly enjoys turning customers' wishes into reality. "For a large pharmaceutical company, we built a freeze dryer in which flammable solutions were to be used, so the dryer had to be explosion-proof."

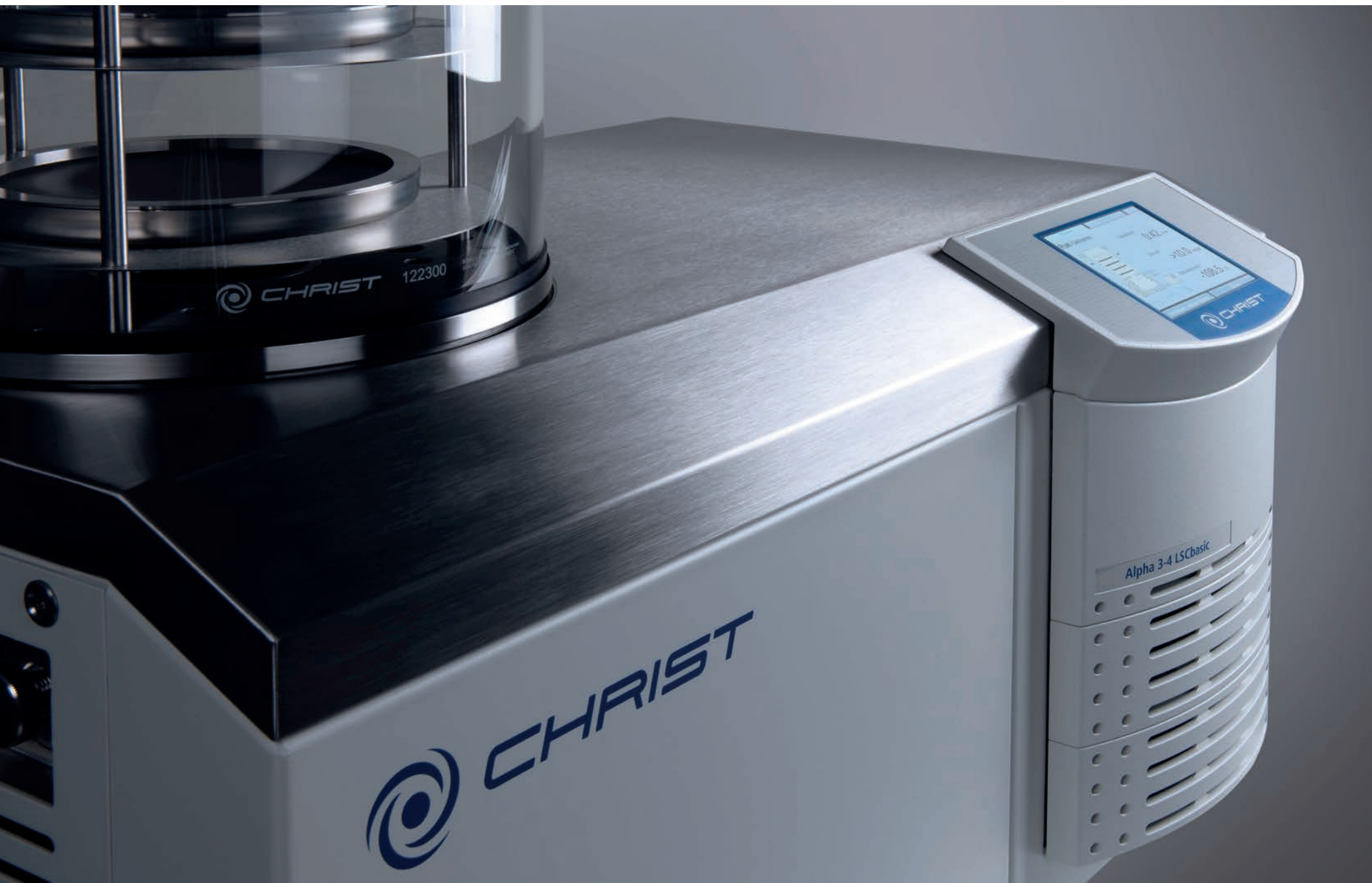
He is excited about Christ's innovative strength, an asset only fostered by the flat hierarchies in the company.



Petra Knerr, Head of Business Development

» In our Application Lab, we test the best ways to freeze dry different substances.

Petra Knerr is Head of Business Development, which also includes the Application Lab. "Our work includes carrying out tests for our customers on the best ways to freeze dry their substances. That may be for a large drug manufacturer looking to optimize the process, or for a Michelin-starred restaurant in England that would like to use freeze drying to spice up its molecular cuisine." As a scientist, she is fascinated by the freeze drying innovations Christ is developing.



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# The perfect connection

## Christ products unite design and functionality

All Christ products have one thing in common: they are focused on both the users and the processes involved in freeze drying. "That is at the heart of our product philosophy," says Michael Umbach, head of development at Christ.

The Christ product range is aligned not only to the needs of today's pharmaceutical manufacturers, institutes and universities, "We also have the future zeitgeist in mind." This works because the Christ developers have an excellent rapport with their customers and the company is fearless in bringing new product ideas to market.

Design is focused on the long term. All of Christ's customers benefit from this. "Take, for example, a pharmaceutical developer who uses one of our pilot freeze dryers to dry the first small batches of a new drug," explains Project Manager Alexander Kromer. "The drying process he has developed can then be easily transferred to a commercial production freeze dryer."

In addition, Christ also develops intelligent solutions that offer customers enormous advantages.



Alexander Kromer, Project Manager Pilot and Production Units

» The working atmosphere is uncomplicated and very family-friendly.

Alexander Kromer is a project manager for pilot and production freeze dryers. An mechanical engineer by profession, he is primarily fascinated by the physics of freeze drying. He is responsible for the rapid production and problem-free installation of Christ equipment at the customer's place of business. He gave up his job at a large corporation, making a conscious choice to work with the Christ family business. Besides the uncomplicated working atmosphere, he is thrilled by how family-friendly the company is towards its employees.



Michael Umbach, Head of Development

» The freedom in the development unit is one of the reasons for the company's success.

Michael Umbach studied mechanical and precision engineering, a combination that still stands Christ's Head of Development in good stead today: optics and micromechanics, with which he was involved during his studies, are specialist areas in demand at Christ. "The freedom we have in the development department is one reason for our company's success," says Michael Umbach. This freedom, combined with the enthusiasm of Christ's workers for technology and the company's products, "can be seen in the machines we make."



Andreas Vihs, Area Sales Management



# The customer in focus

## From project idea to operation

Customers such as pharmaceutical companies need the largest of the freeze dryers that Christ builds in Osterode. These production freeze dryers sometimes extend over several floors. Customers are fully integrated into planning both large-scale projects like these as well as the planning of smaller pilot units. "Our thinking begins with their needs," says Andreas Vihs. "That's our strength. In our industry, we are well-known for quality and flexibility, all the way from the customer's idea, through the design and assembly in Osterode and finally to on-site operation."

When he started at Christ, Andreas Vihs worked in the project business, followed by a stint in sales. What Vihs appreciates about Christ is the collegial atmosphere at work and the company's joint celebrations. The two combine to create a Christ spirit from which customers also benefit: "We want them to be satisfied – that is priority number one." Company management also embodies this ethic, focusing on delivery reliability, customer satisfaction and quality. "Everyone pulls together to achieve this."







# No downtime

## Quality service, a lifetime long

The high service quality behind Christ's laboratory, pilot and production units does not come from nowhere – it comes, in fact, from our highly experienced service staff worldwide. They are what makes Christ's service unique.

From the very start, service requirements are kept to a minimum by perfection at every stage of production. "In the vast majority of cases, when we visit, it is only to replace worn components," says Sascha Dempwolf, who heads the servicing of laboratory units. Some problems can be solved on the phone or remotely, while others require a visit from a technician – wherever in the world Christ equipment is reliably doing its job.

Quality service, a lifetime long – this is the core of our service philosophy. At Christ, this includes organizing special courses and regular training for our global sales and service partners. "We also run hands-on seminars with external instructors to share state-of-the-art research and technology," says Kurt Beyger.



Kurt Beyger, Support for Pilot and Production Units

» I know most of our customers personally.

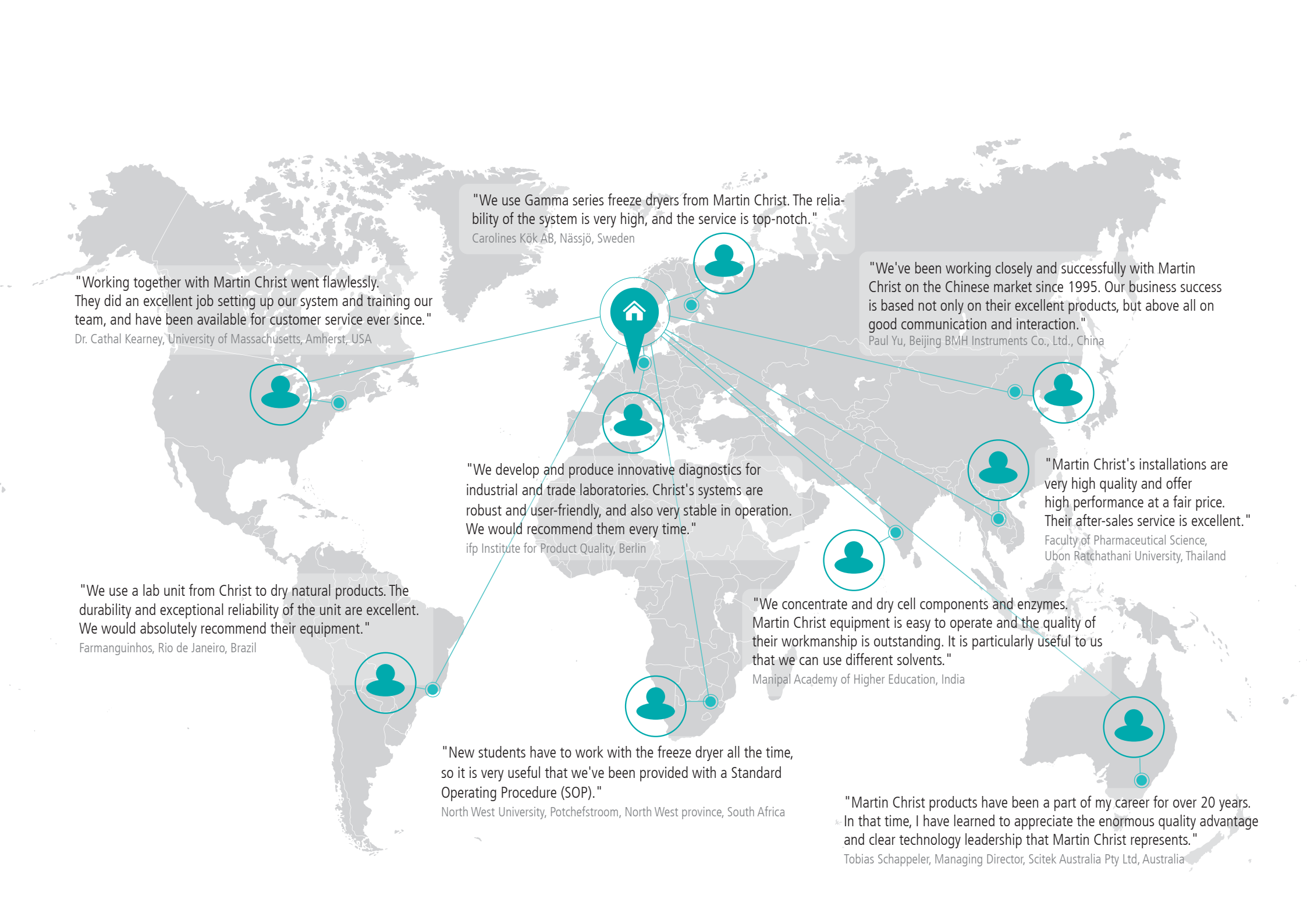
Kurt Beyger supports and coordinates service for Christ's pilot and production units. He is a pure-bred service technician. "I know most of our customers personally," says Kurt Beyger. He is fascinated by just how durable Christ's products are. His connection with Martin Christ runs deep, spanning generations. For more than fifteen years, his daughter has also worked for the company.



Sascha Dempwolf, Service Manager Lab Units

» Working at Christ is worth more than winning the lottery.

For Sascha Dempwolf, the work at Christ "is worth more than winning the lottery," he says. He lives close enough to walk to work. Starting out as an electrician in production, he now heads service for Christ's laboratory units. "Christ has grown tremendously since I joined the company but has still managed to keep its family character," he says. He loves the teamwork and problem-focused interaction between service, development and production.



"Working together with Martin Christ went flawlessly. They did an excellent job setting up our system and training our team, and have been available for customer service ever since."

Dr. Cathal Kearney, University of Massachusetts, Amherst, USA

"We use Gamma series freeze dryers from Martin Christ. The reliability of the system is very high, and the service is top-notch."

Carolines Kök AB, Nässjö, Sweden

"We've been working closely and successfully with Martin Christ on the Chinese market since 1995. Our business success is based not only on their excellent products, but above all on good communication and interaction."

Paul Yu, Beijing BMH Instruments Co., Ltd., China

"We develop and produce innovative diagnostics for industrial and trade laboratories. Christ's systems are robust and user-friendly, and also very stable in operation. We would recommend them every time."

ifp Institute for Product Quality, Berlin

"Martin Christ's installations are very high quality and offer high performance at a fair price. Their after-sales service is excellent."

Faculty of Pharmaceutical Science, Ubon Ratchathani University, Thailand

"We use a lab unit from Christ to dry natural products. The durability and exceptional reliability of the unit are excellent. We would absolutely recommend their equipment."

Farmanguinhos, Rio de Janeiro, Brazil

"We concentrate and dry cell components and enzymes. Martin Christ equipment is easy to operate and the quality of their workmanship is outstanding. It is particularly useful to us that we can use different solvents."

Manipal Academy of Higher Education, India

"New students have to work with the freeze dryer all the time, so it is very useful that we've been provided with a Standard Operating Procedure (SOP)."

North West University, Potchefstroom, North West province, South Africa

"Martin Christ products have been a part of my career for over 20 years. In that time, I have learned to appreciate the enormous quality advantage and clear technology leadership that Martin Christ represents."

Tobias Schappeler, Managing Director, Scitek Australia Pty Ltd, Australia



# At home anywhere in the world

## Christ products are in demand around the globe

Technology from Osterode is in use in more than 80 countries worldwide.

Sales and service offered by carefully selected partners around the world has more than proven its worth. In many cases, the connections have existed for decades and go well beyond a purely business alliance.

Training courses keep our partners up to date at all times and ensure a constant exchange of knowledge and experience.

Quality support, a lifetime long. For more than 70 years, the name Martin Christ has stood for cutting-edge technology and reliability – this is also reflected in the opinions of our users.



### Interview with Dr. Michael Wiggenhorn, Coriolis Pharma Research GmbH

How does a new pharmaceutical active ingredient become a new drug to be used in hospitals or by patients at home? The answer comes from Coriolis Pharma Research GmbH, from Martinsried, near Munich – and relies on Martin Christ's laboratory and pilot freeze drying equipment. Dr. Michael Wiggenhorn is the Technical Managing Director.

#### Who are your customers?

Our customers include research pharmaceutical companies but also small and medium-sized enterprises. We operate globally as a service provider for research and development in the formulation of active pharmaceutical compounds and vaccines.

#### What role does freeze drying play in the development of a market-ready drug?

Freeze drying allows active ingredients to be kept stable for a long time. Risks can be minimized and at the end of the process, the products are safe, all of which argues in support of this technology whenever we develop a new drug.

#### You have been familiar with Christ equipment for fifteen years. What is it about Christ's freeze drying technology that excites you?

I've actually been working with Christ equipment since I got my doctorate. It's the technical details and Christ innovations that really inspire me, for example the built-in wireless temperature sensors and the LyoCam camera system developed by Christ.

#### Why do you buy Christ equipment?

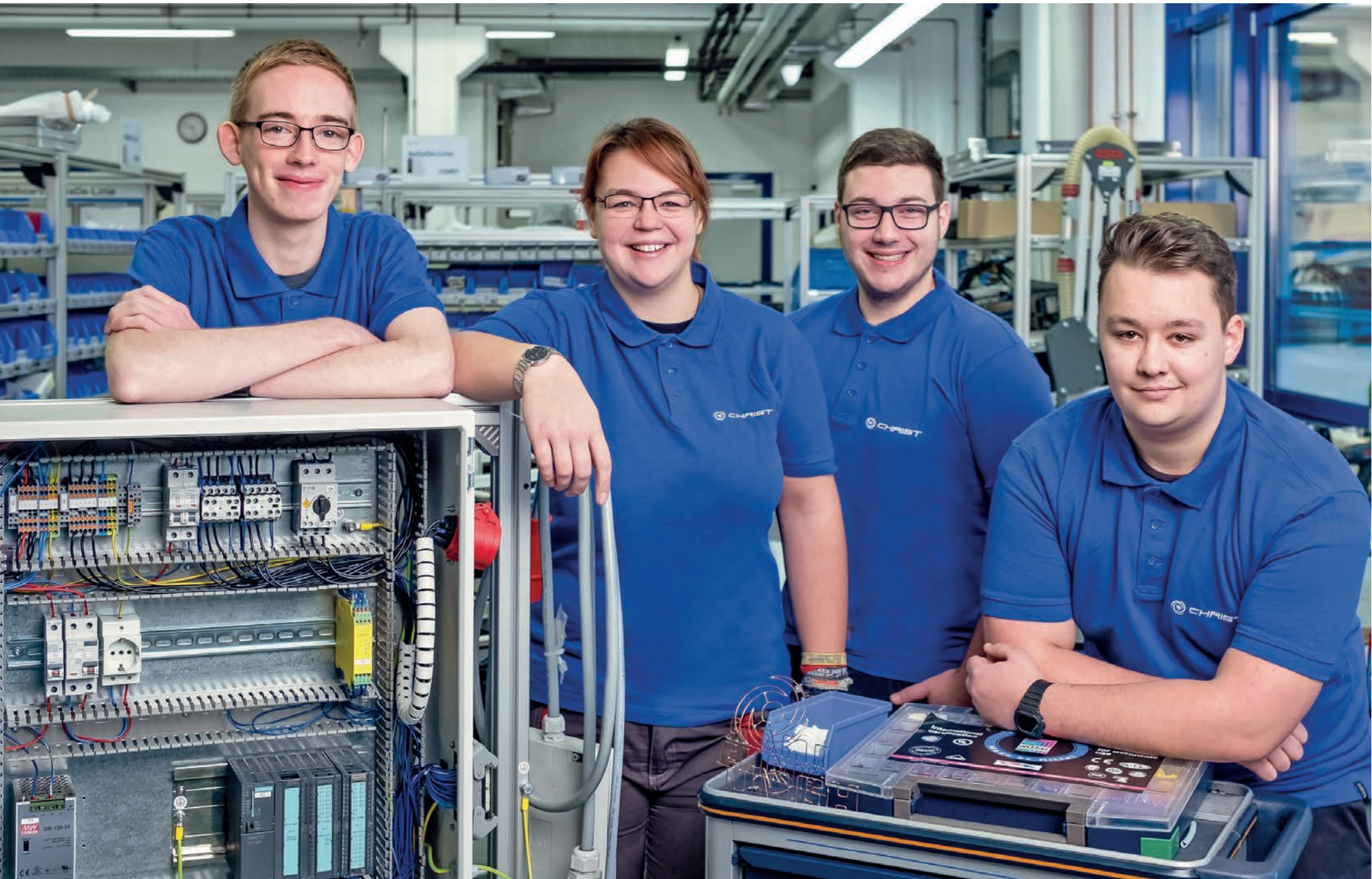
Simply because it is good! We know other manufacturers and systems, and side-by-side comparisons have only reinforced our loyalty to Christ's technologies.

#### Christ is the market leader in the freeze drying field. What has your experience been of Christ as a family company?

The long-term view toward reaching an agreement and establishing contacts within the company is what characterises our cooperation. This is a quality and a value that only comes with experience. In the projects we work on together, our debates can get very lively, and yet we always find a way to agree in the end.

#### Describe Christ in two short sentences.

Christ is international but also down-to-earth. Christ is exceptionally open to constructive ideas.





# Taking responsibility

## Traineeships at Christ

Giving young people prospects for the future is also part of the Christ family business. In this, the company takes on an important and socially responsible role.

In this rural area of southern Lower Saxony, Christ provides training in high-tech professions. Every year, young people have the opportunity to train as an industrial management assistant, mechatronics technician or technical product designer.

The chances of continuing in the company after training are excellent. In past decades, Christ has continued to employ many of its apprentices. When Ilona Tenzer goes looking for new trainees, her cooperation with schools in the region is of great benefit.



Ilona Tenzer, Head of Human Resources and Finance

» There are relatively few written rules here.

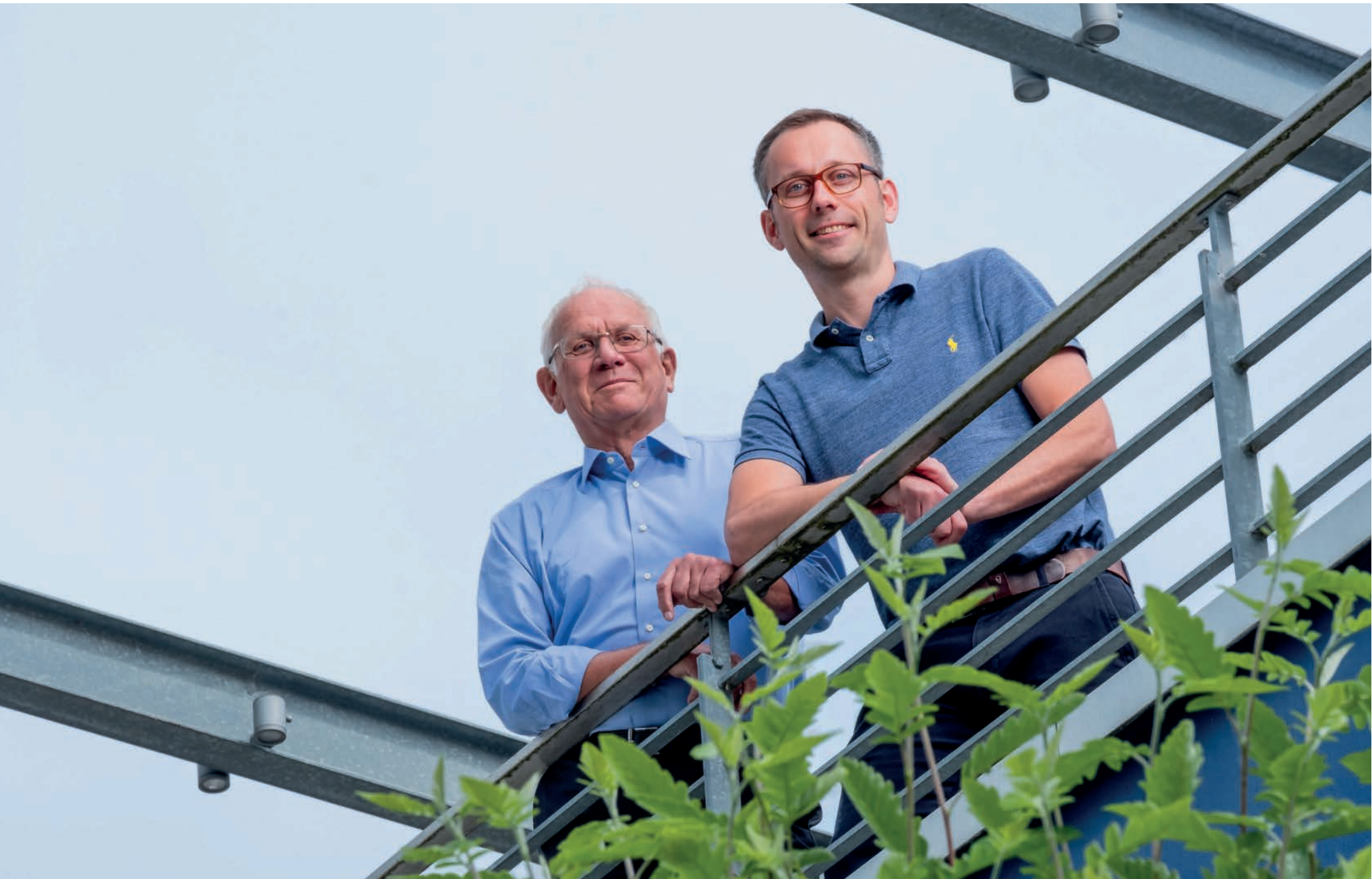
When she talks about her work as HR manager and finance head, Ilona Tenzer's eyes begin to sparkle. "There are few written rules here," she says. "If things need to be discussed, we discuss them face to face. Our trainees and other new employees are surprised by this at first but they soon see the benefits." It isn't just young school leavers who are offered the opportunity to do a traineeship at Christ. Christ also supports on-the-job training to become a master craftsman or technician, as well as to start a degree program alongside one's job.



Jennifer Beyger, Mechatronics Technician, Refrigeration Techn.

» I really like the informal atmosphere in the company.

Jennifer Beyger spent three and a half years training as a mechatronics technician for refrigeration technology at Christ. To allow her to best prepare for her exams, her training supervisor gave her three months off. For good reason: He wanted to take her on as a specialist and keep her in the company. "I learned the theory and practice independently but I could always go to my training supervisor if I had a question."





# Values and vision

## A third-generation family company

"I'm passionate about engineering," says Martin Christ, his favorite place in the company is still development. His father, Martin Christ Sr., was the founder of today's global company. After the end of the Second World War he came to Osterode am Harz with no more than "a carton of cigarettes and a bicycle."

For Martin Christ the company premises were a huge workshop where he could tinker. "Discarded Dictaphones or teleprinters – whatever it was, as a child I could use it and make something new out of it," he says.

That may be one reason for Christ's technical market leadership today: Martin Christ's unquenchable urge to continually improve the equipment they make and to create innovations. Like the LyoShuttle, which automatically loads and unloads large production freeze dryers.

Martin Christ Gefriertrocknungsanlagen GmbH constantly shares knowledge with its sister company, Sigma, which develops and manufactures laboratory centrifuges. The exchange generates important synergies that benefit not only the two product worlds but also their customers.



Martin Christ, Managing Partner

» My favorite place in the company is development.

Martin Christ holds many patents and though he has now largely retired from active management – he hasn't given up tinkering.

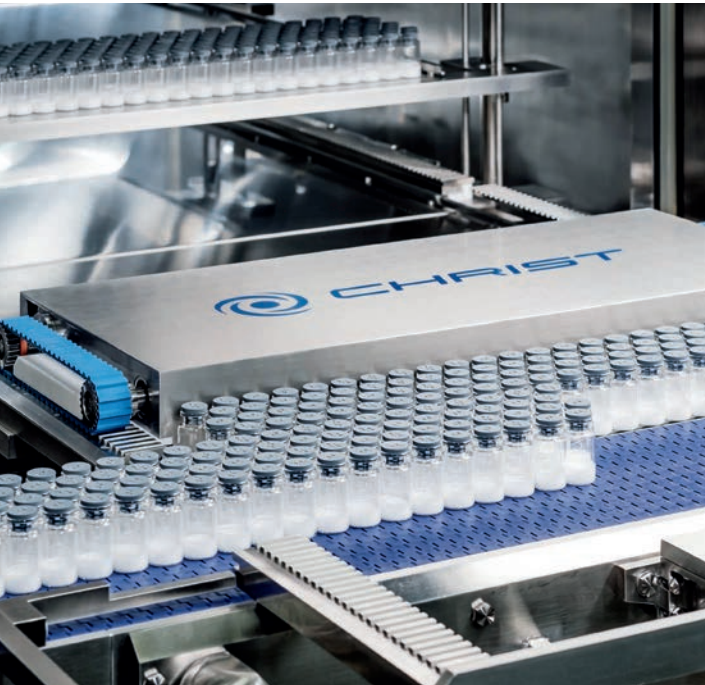
Like all fathers, he had the wish that one of his children would take over the business after him. This wish came true in 2015 when his son Malte actively joined the family business. Malte's two siblings are also committed to the company, as shareholders.



Malte Christ, Service Manager Pilot and Production Units

» It's important to know the structures already in place and to keep them in mind.

Malte Christ came back to the family business after studying industrial engineering and holding other professional positions. "To be able to make a qualified assessment of the strengths and weaknesses of one's own company, it's important to gather external experience," he says. Today, he is bringing this experience to the family business, initially working in all departments to get to know the processes, products, market segments and customers: "As my responsibilities grow, it's important for me to keep in mind the structures already in place."





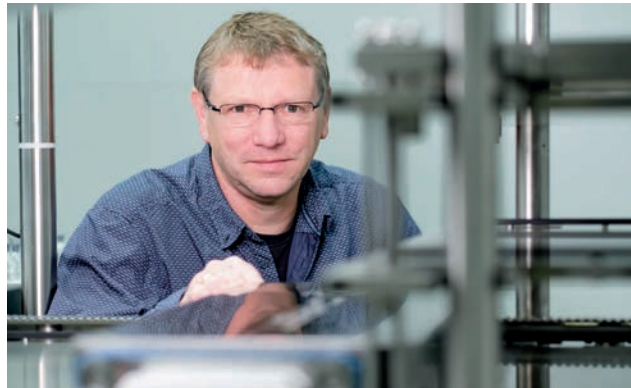
# High-tech from Osterode

## Developed in-house, perfectly harmonized

In production freeze dryers, the LyoShuttle ensures that the glass vials are safely loaded and unloaded. The wireless robot, developed by Christ, never tires and works with great precision, delivering a decisive advantage in product quality and production safety. "20,000 vials are loaded very quickly into even our largest units, with a capacity of 500 kg of ice – without being touched by a human being," says Martin Dill, head of the automation department at Christ.

To a layman, the LyoShuttle is less than spectacular: an elongated, stainless steel box moving back and forth on drive belts, carefully but swiftly pushing the vials containing the valuable medications onto the shelves of the freeze dryer. But the LyoShuttle incorporates high technology that Christ's engineers, like Martin Dill and his team, have been working on for years.

"We are driven by the needs of our customers," says Dill. This can also be seen in Christ's software solutions, LSCplus and LPCplus: control software, visualization and documentation, all developed in-house and perfectly harmonized. Whether for a laboratory, pilot or large-scale Christ freeze dryer, the software is the same and operators don't need to retrain.



Martin Dill, Head of Automation

» We are driven by the needs of our customers.

With a master's degree in electrical engineering, Martin Dill is head of automation at Christ, having joined the family company in 2009. Here, he can put his technical skills and craftsmanship to good use. Martin Dill appreciates the spirit that runs through the company. "Everybody here has internalized our company's quality standard."



Francesco Totaro, Automation Software

» For our customers, we are constantly working on making our products even better.

Francesco Totaro is the man constantly improving the LyoShuttle's automation software. "The real art lies in making the best use of the shuttle's capacity," he says. "We are constantly working to make the LyoShuttle better and better for our customers." Totaro is driven by the pursuit of perfection. He particularly appreciates the communication culture at Christ. "Everyone speaks to each other at the same level," he says. He has never experienced such an informal working atmosphere in any other company.



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