

emissions

THE SCHEUCH MAGAZINE FOR
VENTILATION AND ENVIRONMENTAL
TECHNOLOGY

IS THERE A PLANET B?

Scheuch is working on
a positive future for
generations.

→ FROM PAGE 4

Green meadows,
clean air

→ PAGE 10-15

Stronger
together

→ PAGE 26-29

DEAR READER,

Over the last five years, Scheuch's growth is something we are proud of. With the support from customers, partners, and employees across the globe we have successfully completed 9,000 projects. And this hard work is reflected in our financial figures. About eight years ago, we had a revenue of approximately 100 million euros (\$109M); today, revenue is 216 million euros (\$236M). At the same time our workforce doubled. We now employ more than 1,200 people worldwide.

Despite our internationalization strategy, we are not losing sight of our roots. We hope to shape the world of tomorrow by pursuing our clean-air mission, constantly innovating to become more and more effective. To do this, we need motivated and well-trained employees. We provide our employees with opportunities for professional development. Our employees can grow together with the company



Kind regards,

Stefan Scheuch

Stefan Scheuch,
Managing Director,
Scheuch GmbH

and have a variety of career paths open to them. We have also launched Scheuch Campus, breathing new life into our internal training offering program (see pages 34-35).

Acting with foresight and implementing the right strategy have also played their part in the positive developments we have seen in the USA. You can find out more about our American companies Schust and CAMCORP on pages 26-29.

Our environment-friendly solutions capture the spirit of the climate change era we are living in. Unlike many companies, we do not need to fake our green credentials. After all, with 57 years of experience under our belt, we are a leader in protecting the environment. And we can only achieve this by making sure we are always one step ahead with our technology.

Protecting the environment and people from harmful emissions is our top priority. It is also important for us to seek out new opportunities where Scheuch's clean air technology can improve air quality. Customer satisfaction is also important to us. The Scheuch Service app is one tool we have recently rolled out. You can find more information about it on pages 32-33.

Please enjoy the latest edition of Emissions.

Jörg Jeliniewski

Jörg Jeliniewski,
Managing Director,
Scheuch GmbH



IMPRINT

Media owner, editor and publisher: Scheuch GmbH, www.scheuch.com, editorial team: Edith Freilinger, Barbara Reiter-Bruha, Zin Duong, design: Britta Wienroither, photographs: Scheuch GmbH, printing: www.estermann-druck.at, typesetting and printing errors excepted. Please note that masculine pronouns are used to refer to both men and women in this report to ensure better readability.

COVERSTORY

Page 04

**IS THERE A
PLANET B?
TIME IS
RUNNING OUT.**

GREEN MEADOWS, CLEAN AIR

Page 10

One of Europe's, most
environment-friendly bio-
mass heating power plant

CONSISTENTLY SUSTAINABLE

Page 16

scr-technology in
biomass sector

MORE THAN WORDS

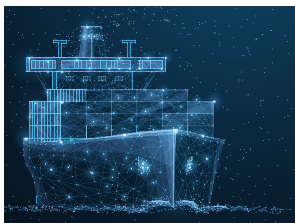
Page 20

German cement
industry investing in
Scheuch plants

CARTRIDGE FILTER GOES BIG

Page 24

Project management at
the highest level



STRONGER TOGETHER

Page 26

Business Unit
North America

HIGHLIGHTS

Page 30

The 2018/19
fiscal year

SCHEUCH SERVICE APP

Page 32

New app reduces
workload

SCHEUCH CAMPUS

Page 34

Personnel development
at Scheuch

SCHEUCH SETS SAIL

Page 36

Maritime flue gas
desulphurization

QUESTIONNAIRE

Page 40

International customer
satisfaction survey



IS THERE A PLANet B?

Simply leaving one's problems behind and starting again somewhere new – is that utopia or reality? But where exactly is PLANet B? Is it in our solar system or do we need to make our way to far-off galaxies?

It takes 450 to 490 days to travel to Mars. At this distance, manned space missions would encounter insurmountable problems. For decades now, research projects have been working on plans to establish colonies in habitats other than on Earth. There are lots of different ideas, ranging from stations in open space to habitats on celestial bodies, whether with or without an atmosphere. Is that the plan we want to follow for our future? Have we really given up on Earth already? Hardly. Instead we should be putting all of our efforts and resources into preserving our atmosphere because it gives us the air we need to breathe.

We only have one planet.
The Scheuch Group is part of a worldwide environmental movement.



TIME IS RUNNING OUT

If anyone still has not grasped that fact, they are clearly putting their faith in PLANet B. But no one can deny the facts anymore – our planet has been sending us clear signals.

The world has always undergone change and there have always been extreme events. But climate change is the biggest global challenge facing humankind today. In recent years, CO₂ emissions have risen to record highs, global warming is continuing, and the glaciers and polar ice caps are melting and making sea levels rise. Entire climate zones are shifting, thus leading to higher numbers of extreme weather events such as hurricanes, torrential rainfall, droughts and forest fires all over the world. It is not just climate change, but other forms of environmental pollution too that are destroying ecosystems and adversely affecting the places where billions of people live. Filthy oceans, poisoned rivers, cleared forests, over-exploited land and huge mountains of waste – the list goes on and on.

The consequences for people and animals alike are serious, and there are plenty to choose from: Uninhabitable landscapes, flooded regions, famine and disease. More and more biodiversity is being lost because animals are being forced back into unfamiliar territories and are being threatened with extinction or have already become extinct. We are in a cycle that it will be hard to break. Especially serious is the way in which our most precious resources – water and air, which are vital to our very survival – are being contaminated and put at risk. →

”*It is not only for what we do that we are held responsible, but also for what we do not do.*

- Molière



But there are also rays of hope on the horizon. More and more people are committed to fighting for the environment and climate protection. The „Fridays for Future“ protest movement has increased awareness and is offering up hope that things will get better. The initiative was the brainchild of Sweden's Greta Thunberg and has created buzz around the world. For months now, Greta has not attended school on Fridays, opting to protest instead. Although she has been criticized by many people, she has created a movement and is now a climate change leader. Thousands of students across the globe are emulating her and showing solidarity in the fight to protect the climate.

It is about future generations, since they are the ones who will pay the price for over-exploitation of Earth. The initiative has shown that we are responsible for our own actions. Front and centre is the slogan: „Fighting climate change together“. Those involved in the movement see themselves as the last generation that can do something to tackle climate change before it is too late to prevent catastrophic consequences. Their main concern is to ensure that the Paris climate agreement is complied with and that the 1.5°C (35°F) goal is met (i.e. that any increase in global average temperature is limited to 1.5°C).

Alexander von Humboldt (1769 to 1859) was a botanist, geologist, chemist, meteorologist and the world's first environmental activist. He understood mankind and nature to be part of a whole, with everything interconnected.

Climate policy needs pressure

Everything is connected and affects everything else. It is difficult to point out these connections, but it is even harder to reverse processes that have already been put in motion. The longer we wait, turn a blind eye and fail to act, the more difficult the situation will become. We owe it to the future generations who are not going to stand for it any more. Young people are showing us what is important; namely, that something finally has to be done and the time for downplaying the crisis is over. We all have to do whatever we can to save our planet. If everyone were to change their own behavior, be more environmentally and resource-conscious in their day-to-day lives and ask themselves how their lifestyles are impacting the planet. We are all responsible for building the necessary awareness and, above all, remaining consistent. The change has to start with every single one of us.

Even so, we have to be honest and say that there must be more political pressure on industrial production in order to facilitate positive change. Here too, everyone must play their part in complying with climate goals.

There is no one specific area that is solely responsible for air pollution and that's what makes the situation so hard. The list is long, but some fields are more prominent than others: the transportation, agricultural and energy sectors, the automotive and aerospace industries and so on. →

Climate change affects the world's poorest

We only have one planet. Everyone feels the effects of climate change in one way or another. But frequently, it is those in developing countries who suffer the most. In crisis-ridden regions it is often simply a question of survival. The consequences of climate change are particularly dramatic for these people, since it is often their very means of existence that is at stake. The inhabitants of these countries make barely any contribution to environmental pollution or to the greenhouse effect, but they feel their impact. The majority of CO₂ emissions are produced by industrial and emerging nations. An Australian, for example, is responsible for generating 16 tons of damaging CO₂ every year, whereas an Ethiopian creates just 110 kilograms (243 lbs.). The experts agree that this unfair situation has to be off set in some way.

Much more than just another green marketing campaign

Companies have long recognized that projects with a good environmental impact present a favorable marketing opportunity. But we have now reached a point where mere lip service, such as a climate certificate displayed at a trade fair stand or eco-friendly giveaways, is no longer enough to heal a guilty conscience. It cannot just start and end with a marketing campaign – the time has come for genuine steps towards environmental protection.

We all have a responsibility to think about what things we can change, how energy and resources can be saved and how emissions can be reduced. Sooner or later, politicians will have to have to listen to their constituents and respond with environmental protection legislation. The gravity of the situation is becoming clearer all the time. We should expect a dramatic increase in the political constraints to protect the environment, especially regarding CO₂ and fine-dust emissions.

Scheuch is part of this environmental movement

Scheuch has been working in the area of environmental protection for 57 years – we are proud leaders in this field. And as a leader in minimizing industrial emissions, we are always doing our part to protect the environment. Scheuch is active in a sector that really does have a huge impact on how people and the environment are protected. We support our international customers across continents, because climate and environmental protection is important to them. Our solutions not only serve to dramatically reduce fine-dust and pollutant emissions, but our forward-looking and energy-saving technologies also help to lower CO₂ emissions. Our technically sophisticated solutions for industry offer our customers enormous benefits, both ecologically and economically.

We hope to shape the world of tomorrow by pursuing our clean-air mission, constantly innovating to become more and more effective. To do this, we need motivated and well-trained employees. Scheuch employees understand that





their work means something and that it is needed now more than ever before. We feel responsible for our actions and want to actively shape a positive future for the generations to come. And we will do it – together with our partners, employees and customers. ■

” *We are working towards a positive future for the generations to come.*

– Jörg Jeleniewski and Stefan Scheuch,
Managing Directors of the Scheuch Group

GREEN MEADOWS, CLEAN AIR

Mountains, forests, meadows, lakes – Austria is famous for its beautiful, pristine landscapes. And to ensure that it always stays this way, Scheuch is always developing innovative air pollution control systems. In 2018, two new filter plants designed to conserve nature in all its purity were built in the company's home country of Austria. Lush, green meadows and pure, clean air; the way it should be – for future generations too.

But the reality is often a little different in nations with rapidly growing economies. Smog that simply will not go away and dust pollution that far exceeds European limits are a fact of life, but sadly, they have a real impact on the population's health. It is something that scientists and doctors agree on. The negative impact on health such as cancer, asthma, heart attacks and strokes is serious for humankind.

In Austria however, the air is in good health because of environment protection requirements in place. Scheuch is proud to stand for clean, unpolluted

air and want to ensure that our air pollution control technology is made available across the globe to do its part and to contribute to making the air free from pollutants.

Aiming to produce zero dust pollution

Clean, unpolluted air, this is exactly what the residents of Carinthia (federal state), a southern region of Austria are doing their best to achieve too. A fact that was never clearer than when plans were afoot to build another power plant on the edge of the city of Klagenfurt. A biomass power plant that would supply heat to around 25,000 residents was going to be built



in the middle of a greenfield site, but the operators had to fight against a great deal of opposition. The project only went ahead after much persuasion and thanks to the crucial benefit that the power plant had to offer – its dust emissions are practically zero. It was these impressive figures that ultimately led to final construction approval being granted.

Austria: a high-quality partner

For Dr Cornelius Grupp, owner of Bioenergie Kärnten, it was clear that there was only one filter plant good enough for the new heating plant, and it was from the Austrian experts in this field. Engineering

partners Ing. Dietmar Riegler and Dipl. Ing. Otto Zechmeister also backed that decision: the countless plants run by these two successful pellet producers are already home to several Scheuch filter plants. As regular customers of many years' standing, they continue to be impressed by the quality of Scheuch's products. So this time too, they are putting their faith in the company's sophisticated technology. And with good reason, as the specialists from Austria's Innviertel region really got to grips with the specific requirements of the project, enabling them to achieve fantastic emissions figures for the Klagenfurt firm. →

ercs for more power

The energy minimizing concept (emc) technology fabric filter plants installed in the building have managed to achieve low flue-gas dust content. "With a limit of three milligrams per standard cubic meter of flue gas, the dust emissions could not be any better," says a delighted Markus Grünseis, Scheuch Senior Sales Manager for the Energy & Metals division. What's more, the built-in ercs heat recovery plants are able to recover up to 24 % of the boiler power. This enables the power plant to provide Klagenfurt with 50 megawatts of heat and 10 megawatts of elec-

tric power. Up to 12 megawatts recovered solely by the heat recovery systems can then be added to those figures. A plume removal system was also installed downstream of the Scheuch ercs heat recovery plant, so the view of the provincial capital is not ruined by plumes of white steam. This can sometimes give the impression that the power plant is not operating or has even never been commissioned in the first place.

Even the water used in the plant is good for the environment. Scheuch's team of developers have managed to employ cutting-edge expertise to clean-up



wastewater almost to near drinking water quality. This process is based on the idea that the water can be cleaned via a biological and mechanical treatment stage. The new technology was initially developed in-house at Scheuch and now works with a bacterial clarification stage. The system was first used in power plants in the year 2018. The cleaned wastewater reaches such a high level of cleanliness that it is possible to simply discharge it onto greenfield sites to seep away or to release it into a watercourse.

All-inclusive

"It is unusual for everything to come from a single source when there is such a variety of cleaning plants and methods to choose from, and that's what sets Scheuch apart. We also save time, money and stress by working with them, since a set-up time of

INCREDIBLE!

6,700,000 kg bone dry fuel saved annually

→ thanks to the ercs heat recovery plant

Longer service life for filter bags

→ thanks to offline de-dusting of the fabric filters using emc technology

More efficient heat recovery

→ thanks to the built-in absorption heat pump

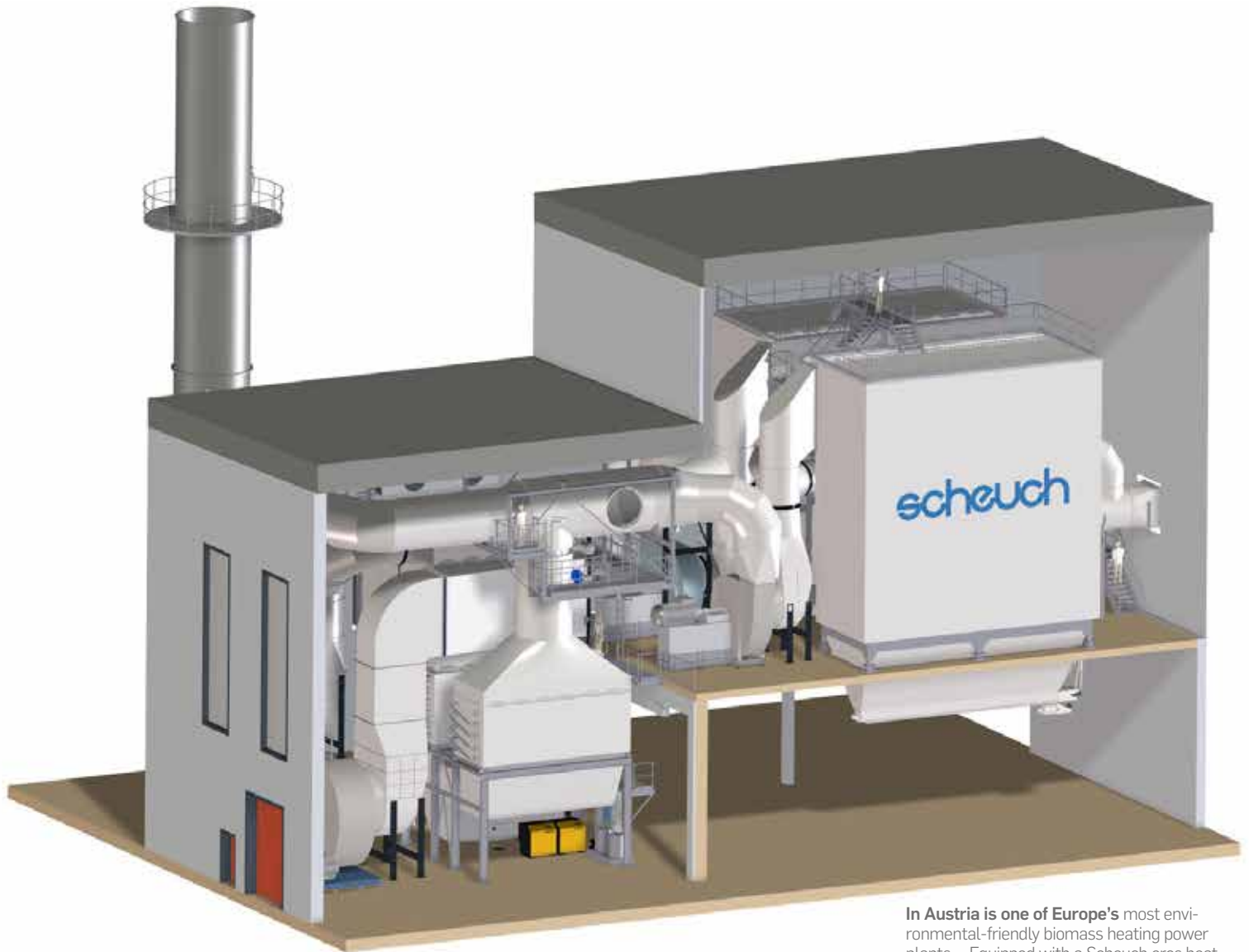
six months for the entire system is very short indeed. The control system, pipes, filters, heat recovery plant and even the water treatment system are all included. And on top of all that, we get a professional project team led by Christoph Medwed. There's nothing more a customer could ask for!" say the power plant operators, who have been really impressed.

In Klagenfurt, Scheuch guarantees a low flue-gas dust content of just three milligrams per standard cubic meter, by using the very latest filtration technology. It was only thanks to this ecofriendly measure that the power plant in Carinthia received the go-ahead and is now supplying Klagenfurt's residents with clean energy. →

"*We are proud to have played our part in creating one of Europe's most environment-friendly biomass heating power plants."*

- Markus Grünseis, Senior Sales Manager
and Christoph Medwed, Project Manager





In Austria is one of Europe's most environmental-friendly biomass heating power plants. – Equipped with a Scheuch ercs heat recovering plant.

ERCS – ENERGY RECOVERY AND CLEANING SYSTEM

Energy from flue gases

The first Scheuch flue gas condensation plant for heat recovery was commissioned as early as 1996. Today, the highly efficient system can be relied upon to deliver maximum heat extraction in power stations for boiler power ratings of up to 200 MW. To meet different requirements, the energy recovery and cleaning system is available in four types, which can be combined as desired.


The ercs recovers the heat from the combustion gas in the boiler, which would otherwise be lost out of

the chimney. Degrees of efficiency in excess of 100 % can be achieved.

There's more

Heat utilization can also be achieved by decoupling the thermal energy at different temperature levels. As a unique system on the market, the ercs provides one part of the heat at 85-105°C (185-221°F), for example, and another part at 40-65°C (104-149°F), for example – ideal when combined with a heat pump.

Scheuch technology even comes complete with the ability to reduce the proportion of fine dust in the exhaust air by 30-60 %.



In just six months Scheuch delivers new technology packages for the bioenergy center in southern Austria.



CONSISTENTLY SUSTAINABLE



scr (selective catalytic reduction) is gaining momentum in biomass sector - Eneco has opted for clean air technology from Scheuch.

Sustainable energy generation using biomass aligns with the latest trends because it neutralizes CO₂. Scheuch combined multiple clean air technologies that can now separate dust, acidic exhaust components, dioxins, furans, and

NO_x and render them safe, meeting the most stringent limit requirements. Modern flue gas cleaning technologies therefore make a significant contribution to maintaining a clean environment.

Unlike fossil fuels, biomass is CO₂-neutral. This means the combustion process releases only the same amount of carbon dioxide as the plants have absorbed during their productions. This quantity of CO₂ would also be produced during the decomposition of the biomass, making biomass an attractive and logical fuel choice. Nitrogen oxides belong to what are referred to as reactive nitrogen compounds and are responsible for a variety of negative health and environmental effects. Nitrogen oxide (NO_x) in waste gas is produced during the combustion of biomass primarily due to the nitrogen contained in the fuel. There are significant differences depending on the fuel used. Untreated wood has very low nitrogen content. Other fuels, such as field crops, have a relatively high nitrogen content.

Eneco places great value on sustainability

Eneco has a strong presence in the energy sector and values sustainability and took an environmentally conscious path when planning their new biomass plant. It was only natural to look for a respected partner who shares the same values. For the new biomass heating plant located in Lage Weide situated in the area of Utrecht, Eneco chose Scheuch because they were impressed with the experience, we have in the energy market. The plant was successfully completed in early 2019 and has a capacity of 30 MWth. Because emission limits were met or measured below requirements Eneco approved the construction of a second plant at the same site. The overall capacity of both plants once fully completed will be 60 MWth and they will supply electricity to around 45,000 Eneco customers in Utrecht and Nieuwegein, Netherlands. To achieve this, annual volumes between →

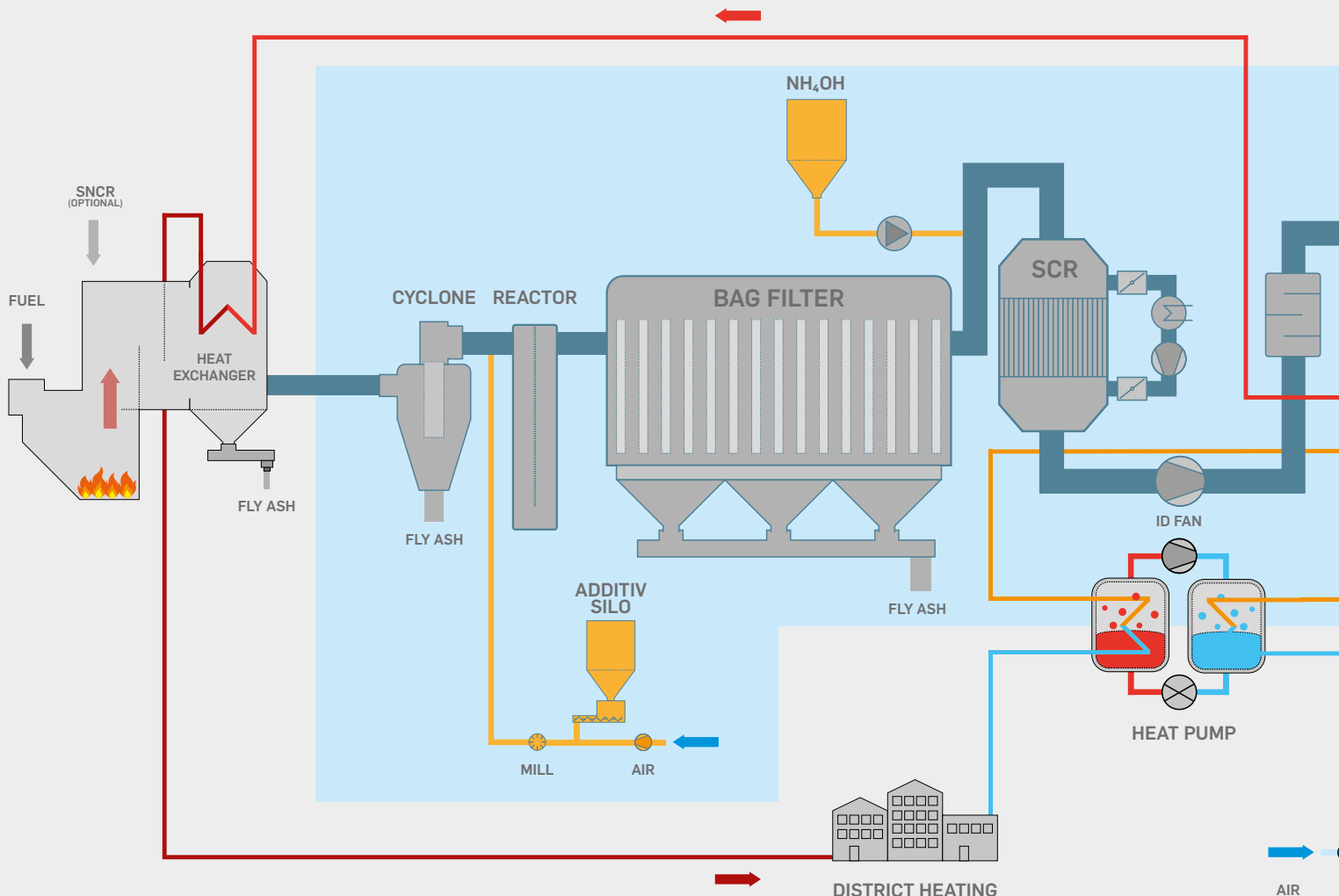
180,000 and 225,000 maximum tonnes of biomass will be processed.

scr technology is gaining traction in the biomass sector

Technologies for separating dust, acidic exhaust, and NO_x using snrcr has been used in biomass power plants for a long time and has become standard practice. Unfortunately, due to increasing NH₃ limit requirements (4.5 mg/Nm³) this is no longer enough. This power

plant integrates additional NO_x separation with low-dust scr technology. With the aid of an scr catalyst and the addition of ammonia (NH₃) the NO_x that results from combustion is converted into harmless nitrogen (N₂) and water (H₂O). Now the lowest NO_x values can be reliably maintained with low NH₃. This would not be possible when using snr technology.

When scr is used, it requires a relatively high temperature over 200°C (392°F). A system for



“Compliance with emission limit requirements is a top priority and therefore any flue gas treatment must be reliable. We're glad to see that when in operation, the emission readings are much lower than the emission limit requirements.”

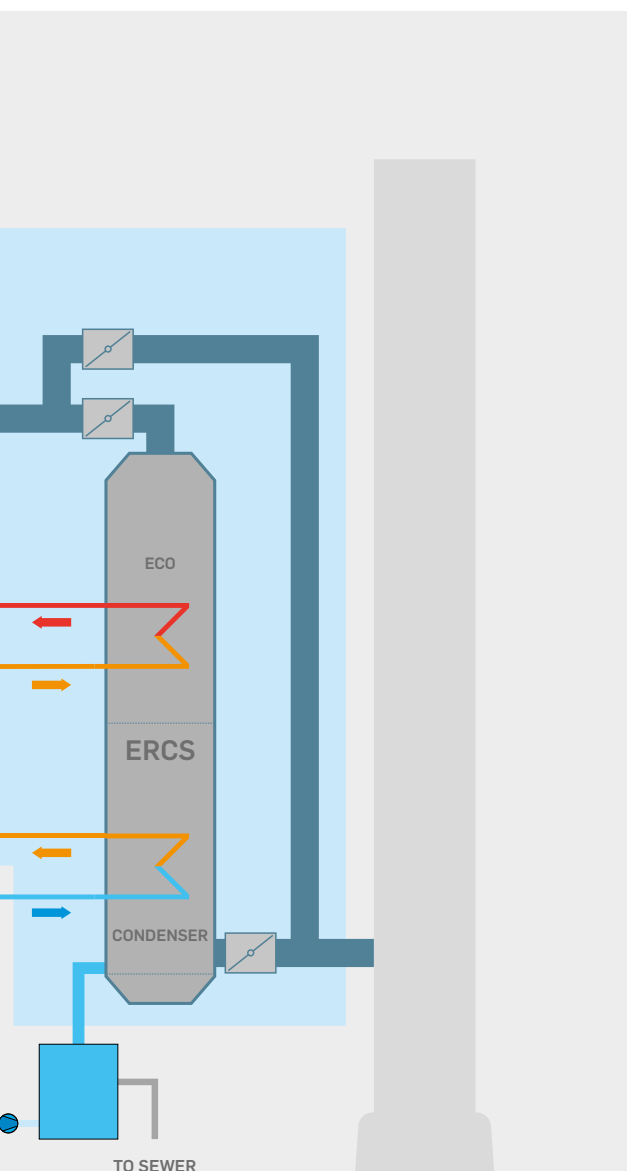
- Jan Hakemulder,
Sr. System Engineer Eneco Solar

utilising the residual heat in the flue gas can be integrated for flue gas cleaning. For this project, Scheuch installed an Energy Recovery and Cleaning System (ercs) where heat is extracted to two energy levels (90°C or 45°C) (194°F or 113°F) via the downstream connection to an Economizer (eco) and condenser in a tower design. When the boiler is in operation, an average heat extraction of 7.6 MW (with a maximum of 9.5 MW) can be expected. The condensation energy is transferred

to a heat pump in order to raise the relatively low temperature level and to transfer the heat to the existing district heating network. This is an advantage that more than pays off for the operating firm in the short term, and in turn protects the environment.

Meeting emission level requirements

This ingenious combined use of a wide variety of processes from Scheuch ensures the lowest emissions and an energy-efficient increase in efficiency thanks to the use of downstream flue gas condensation. In addition, the use of the ercs system also puts the company one step ahead in terms of the energy efficiency of the overall system. ■



MORE THAN WORDS

Dyckerhoff GmbH and HeidelbergCement AG, two giants of the German cement industry, are always investing in better, environmentally sound production processes. Their responsibility to future generations is anchored in their company philosophies. Scheuch, based in Upper Austria, knows exactly how to clean air and is also helping to have a positive impact on climate protection in neighboring Germany by supplying two new exhaust-gas cleaning plants.

Impressive and forward-looking: the high-dust scr plant from Scheuch at HeidelbergCement AG in Geseke, Germany.

The world is living through an unprecedented construction boom at the moment. Wherever you look, new buildings, roads, housing and skyscrapers are springing up. Cement is the most widely used building material worldwide and seems absolutely essential to the growth of the construction sector. Without a doubt, there are some welcome consequences of this boom. Economic output is on the rise and new jobs are being created. But progress is not without its complications. Global warming and pollution are not only buzzword issues on everyone's lips; for some, they are already a tangible reality.

Thinking of tomorrow – and beyond

Northern Germany's big businesses want to counteract these negative side effects of growth. The cement industry's greatest entrepreneurs are already thinking not only of tomorrow, but beyond that; they want to

change the future in a way that will really last. Additional development, particularly in regard to the environment, is part and parcel of what they do every single day. On the one hand, they are constantly improving production processes to decrease the amounts of fuel and power that are used. And on the other hand, these specialists in the field know that the cement industry is making an important contribution to ensuring that future generations will have a habitable environment in which to live. They want to do more than just meet current national environmental regulations; their vision is much more far-reaching in scope. Cement manufacturers from the Geseke region are stepping up and recognizing their responsibilities not tomorrow, but today, as they understand the environment is essential to our continued survival. As such, lowering emissions and using natural resources carefully in all activities and across all areas of the business are at the forefront of what these companies are about. →

Just a stone's throw away:

In 2018, two different technologies for air pollution control were successfully commissioned at the same time.



Precious treasures

Limestone and the age-old quarries from which it is mined dominate the landscape today in the Geseke region. As early as the end of the nineteenth century, the cement industry in Germany's northwest, in the

area between Dortmund and Paderborn, has been growing in importance. The precious limestone to be found in and around this region has been mined for approximately 120 years, before being used to make cement. Two of the most influential companies in this sector help to shape the market for building materials. They have always taken steps to reduce the emissions they produce and are still investing in such measures even now to ensure they can continue supplying the building material in demand.

The search did not take long for the German cement companies to find the expert to help them fulfil its mission. It fell on the pioneer from neighboring Austria. Scheuch was awarded the contract to provide two different air-pollution control plants in mid-2017.

Manufacturing with a good conscience

Two cement works are now creating the perfect conditions for clean air. Situated a mere 500 metres apart, one side of the street is dominated by a complete deconox system, which takes the form of a five-tower configuration, at Dyckerhoff GmbH, whereas a distinctive high-dust scr plant soars over HeidelbergCement AG on the other side of the street. Scheuch is able to provide the right solution for each cement manufacturer. The requirements that must be met will depend on many factors within the company. The specialist from Austria's Innviertel region can develop customized plants according to the manufacturer's production process, available space, budget and other strategies. However, Scheuch's and its customers objective to reduce exhaust gas emissions will never change.

Thanks to decades of experience and comprehensive expertise in the field of dust separation, Scheuch



Ready for the future

this deconox plant will comfortably meet all limits laid down by the German Environment Agency for the next 20 years.

A FORAY INTO THE WORLD OF CEMENT

is a pioneer with its plants for separating pollutants. Dyckerhoff chose a deconox plant that had been adapted to fit the company's particular process. This system considerably reduces the quantity of various organic carbon compounds and nitrogen oxides that are emitted. Two technologies that have proven their worth over the years are combined in a single, sophisticated system, as NO_x is removed by catalytic reduction and CO by thermal incineration. That alone was a good enough reason for the successful cement manufacturer to choose the Scheuch brand. What is more, the deconox method provides yet another crucial advantage: "Achieving lower emissions means an increase in production efficiency, which creates economic added value. This convinced our customers across the board," explains Stefan Kronberger, a project manager at Scheuch.

Advantageous timing

Completely independent of the Dyckerhoff plant, the Scheuch experts were working to produce more clean air during the manufacturing process at HeidelbergCement AG too. As a result of the underlying production process, a high-dust scr plant was the solution chosen here. This meant that two highly esteemed Scheuch experts were sent out to oversee the respective installations at the same time. Karl Hangler was the site manager for the high-dust scr plant and Günter Stelzer was the site manager for the deconox plant. The latter was successfully commissioned by a team led by Hans Peter Thomae, and the scr plant by Christoph Scherzer, with everything running smoothly.

Teamwork was the heart of the project

Scheuch project managers Stefan Kronberger and Dominik Bauchinger were able to deliver this major

Did you know?

Dyckerhoff was founded 155 years ago in Wiesbaden-Amöneburg on the banks of the Rhine. In 1931, Dyckerhoff took an innovative new product to market in the form of white Portland cement. Dyckerhoff Weiss today used as a synonym for white Portland cement. The company is now part of the Italian Buzzi Unicem Group.

HeidelbergCement AG evolved from a Heidelberg mill, which brewer Johann Philipp Schifferdecker converted into a cement works in 1873. In 2010, the company was listed on the DAX (Deutscher Aktienindex) stock exchange.

project to perfection. Sebastian Hagn, Scheuch Process Engineer, lent fantastic support when it came to process design. Only through great teamwork, where everyone looks out for everyone else and the individual tasks are specifically defined, can such projects run without a hitch. Many years of experience and feeling an 'affinity with one's role' also have a major part to play here. Not only technical expertise, but also a great deal of mutual trust are required to build such complex constructions and keep a clear overview of everything. There is no doubt that the project team really made its mark in this respect.

Georg Lechner, Head of Scheuch Industrial Minerals, is also happy with the perfectly delivered projects: "I would like to say a huge thank you to all those involved, particularly the customer project teams, who have shown such dedication and professionalism in bringing these two plants to life." ■

CARTRIDGE FILTER GOES BIG

Althofen, a city in the Austrian province of Carinthia, is home to an innovative large Scheuch cartridge filter of Treibacher Industrie AG, a chemical processor. The company was founded in 1898 and employs around 900 people and make chemical and metallurgical primary products for a range of industrial applications. They were looking for a filter solution to reduce the amount of fugitive dust in their facility. System requirements:

- 01. Reduced fugitive dust
- 02. Permit crude-gas dust values, which are relatively high for cartridge filters
- 03. Achieve extremely high volumetric flows
- 04. Reduced footprint
- 05. Quick installation

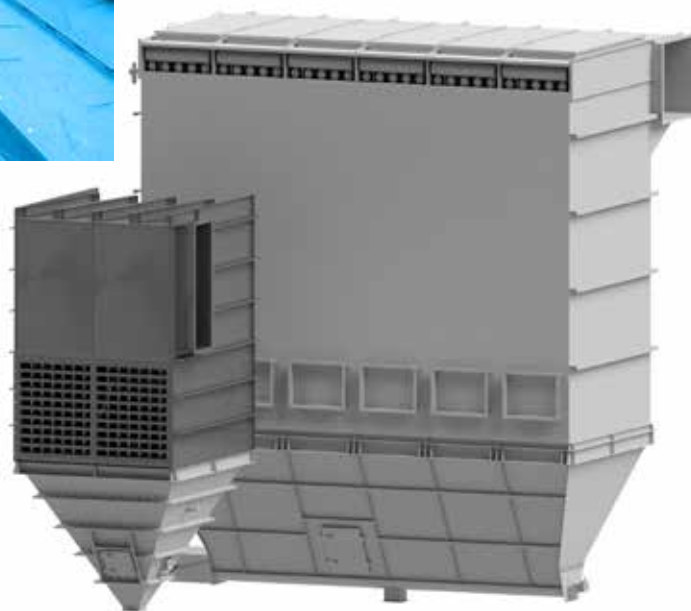
The required system could not be designed using conventional technology. Instead, Scheuch needed to design a larger cartridge filter.





Although Scheuch has successfully sold cartridge filters for several decades, this project presented us with an opportunity to design an innovative solution that was new to the market. "It's especially noteworthy that our cartridge filter technology allows comparatively high volumetric flows that can reach up to 600,000 cubic meters per hour at operating pressure," says Klaus Emprechtinger, Head of Sales at Scheuch. But the new, larger cartridge filter has been designed to fit a smaller footprint. While the compact design does require additional pre-assembly, the shipping costs are much lower. The louvered structure allows the cartridge filter to match the performance of any other conventional bag filter.

As you can see below, the new cartridge filter area is much larger than the traditional round-bag filter.



Andreas Blassnig from Treibacher Industrie AG:

"Over the last few months, as this project has unfolded, the Scheuch team has shown time and again that not only do they have high-quality hardware, they also offer a top-notch project management service by communicating with the customer every step of the way. We kept in contact throughout, from design to assembly and commissioning, and were always very happy."

Treibacher Industrie AG is now equipped with one of the most modern extraction systems available, in which innovative cartridge filters are installed. These ensure that, at the end of the production process, fugitive emissions (crude gas, mainly oxide smoke) under one milligram per standard cubic meter can be exhausted. This is good news not only for the employees working in production, but also for the plant owner and the environment. ■



1 cartridge

(150 cm tall) = 40 m²
(5 feet tall = 431 ft²)

STRONGER TOGETHER

Scheuch USA targets the North American market focusing on building synergies and driving profitable growth.

It's hard to believe it's been nearly three years (2016) since Scheuch Group acquired CAMCORP and Schust in North America, forming Scheuch USA, Inc. (BU NAM) that had a combined 28 million euros (\$32 million) in order intake. For 2018, it has quickly become a successful 40 million euros (\$45 million) order intake business unit for the Scheuch Group. CAMCORP contributed 18 million euros (\$20 million) and Schust 22 million euros (\$25 million) to that total. In 2017, CAMCORP had 15.6 million euros (\$17.8 million) in order intake and Schust reached 7.0 million euros (\$8.0 million) – a 72 % increase in 2018.

"We set some pretty aggressive goals for the two companies last year," says Joseph Whelan, President Scheuch USA, Inc. "Both dug down deep, worked hard and met their goals. It's quite an accomplishment that we are very proud of."

CAMCORP saw a 23 % increase in equipment orders above \$100K and its aftermarket parts and components department increased orders by 29 %. Schust saw more than 50 % increases throughout the entire organization particularly in projects valued above \$400K and larger.

Achieving success

Several factors contributed to the success of 2018, one being the strong U.S. economy that has many of the CAMCORP and Schust's key industries manufacturing at capacity.

Another factor is the additional support from Scheuch USA. Joseph (Joe) Whelan joined Scheuch USA in late 2017 as President and he quickly began to grow his team. This team is now comprised of: Donna Rosenbaum, Chief Financial Officer, Sarah Buckingham, Director of Marketing, Krista Savage, Director of IT Services, Katja Preuer, Contract Management, and Josh Rieken, Senior Accountant.

"I knew I had to have an experienced team that could hit the ground running and start influencing change within the organization," Whelan says. "Each one of us serves an important role in supporting the CAMCORP and Schust teams to drive revenue and profitability."

There have been obstacles to overcome that have had an immediate positive impact that have helped the teams win more orders.

Information Technology (IT) is helping drive growth and efficiency through both process and system enhancements. "Initiatives for 2018 were focused on implementing a consolidated Network and upgrading outdated hardware and software," says Krista Savage, Director of IT. The BU NAM Network was launched in September of 2018 which centralized files and applications in the Lenexa, Kansas Headquarters. In November, AutoCAD and Inventor 2019 as well as Vault were launched across CAMCORP and Schust. →





Finance has focused on finding efficiencies in back office functions and where possible moving to single solutions across the business unit as well as completing annual audit, tax and reporting requirements. This has included moving BU NAM all to one bank and implementing Positive Pay (automated fraud detection tool), electronic funds transfer, and corporate credit cards. "For the remainder of the year we will focus on moving to one payroll processor, completing work for research and development tax credits, and enhancing reporting out to the business units," says Donna Rosenbaum, Chief Financial Officer.

Katja Preuer is a transplant from the Scheuch Group contract management department and has been in the United States since 2017. Preuer has introduced the formal contract review process from headquarters and adapted it to each company. "It's been a good learning experience," Preuer says. "The sales teams now look at high dollar project contracts in a different way and are required to evaluate the possible risks." Also, of great value has been Preuer's ability to communicate the company culture from Austria to the Americans and vice versa. "I think it's important to try and educate CAMCORP and Schust about the cultural differences to avoid possible misunderstandings," Preuer says. "It's also helpful to me to understand the company culture here in America and take that information back to Austria so we can all help the business grow."

Marketing has also made an impact. A consistent brand and lead generation plan has been laid out for both CAMCORP and Schust that supports re-

venue generation. "I interviewed about a dozen of CAMCORP and Schust customers to find out what their thoughts were of the companies," says Sarah Buckingham, Director of Marketing. "I also wanted to find out where they go for information. I knew this would be vital to creating meaningful marketing plans that positioned the companies where their customers were. Tradeshow, email marketing, advertising in digital and print trade journals, and content generation are being used to drive immediate sales leads as well as helping to attract prospects to build the backlog or future revenue."

New leadership

Naturally, after an acquisition changes often happen. In December 2018, John Luttman, President of Schust retired, and in April 2019 Mike Milberger stepped down as President of CAMCORP. Milberger continues to consult on CAMCORP Manufacturing projects. John Rothermel is now President at Schust. Rothermel brings over 20 years of sales and operations leadership in industrial markets. He has helped in scaling engineering, fabrication and installation businesses that serve a global client base. Tony Thill is the new President at CAMCORP. During his 20 years of successful experience as a leader in the dust collection and filtration industries, he has driven profitable growth domestically and internationally.

Getting the right teams in place sets the foundation for Scheuch Group to transfer technological knowledge as managing directors Stefan Scheuch and Jörg Jeliniewski had envisioned. "The North America business unit is the best way of offering turnkey projects, including customer support and project management," Jeliniewski says. "Together with our other business units this gives us a crucial competitive advantage." Scheuch also added, "We can only grow successfully if we learn from one another and work as equals."

The emc filter head with long bag technology was a natural fit to transfer to North America since many

From left to right:
John Rothermel –
President Schust Engineering Inc.,
Joe Whelan – President Scheuch USA Inc.,
Tony Thill – President Camcorp Inc.

of Scheuch's cement kiln customers have facilities in Canada, Mexico, and the U.S. The emc opportunities have allowed CAMCORP to supply equipment and, Schust and Scheuch to collaborate in designing and providing a turnkey system that together supports the growth of the three brands.

Going forward

The next four years' combined order intake goals are to reach 87.7 million euros (\$100 million) and will challenge the teams to find additional opportunities for synergies that drive additional growth and revenue sources. CAMCORP sees itself increasing the amount of air pollution control equipment it provides to Schust and Scheuch. Schust will be expanding its turnkey services such as maintenance and installation to CAMCORP and Scheuch customers.

The timing is ideal for BU NAM leadership to leverage the outstanding brand reputations of each company while bringing fresh ideas to the table that help the company grow stronger together. ■





HIGHLIGHTS

The 2018/19 fiscal year showed us positive trends and records. Jörg Jeliniewski, Managing Director, plans and manages the figures. In this interview, he tells us about his highlights from the past 12 months.

| | Unit | 2018/19 | 2017/18 |
|--------------|------|----------------------|----------------------|
| Order intake | TEUR | 254.043 (\$277,249M) | 208.430 (\$227,470M) |
| Employees | | 1.226 | 1.171 |

Interviewer: Mr Jeliniewski, how would you describe the last year from your point of view?

Jeliniewski: The Scheuch Group has successfully reached the next stage of planned growth. For the first time in the company's history, we have broken through the 250 million euro (\$273M) mark in our order intake. It is great news that the US. companies have all reached their order intake goals too, despite their somewhat uncertain economic situation.

Interviewer: What went well and what didn't go well for the company?

Jeliniewski: Free cash flow has improved considerably, thanks to targeted working capital initiatives. Our ability to finance from internal earnings is our strength and we were able to grow accordingly. The return on earnings rose compared to the previous year, but still lagged behind our forecasts. So we got the ball rolling on some specific initiatives to overcome this issue. Our project timelines mean that we will not see the results immediately, but they will have a positive impact on results in the long term.

Interviewer: What will your team be focusing on now?

Jeliniewski: Our goal is to improve the return on earnings while maintaining stable order intake. Everyone's priority is to keep to a strict budget and focus on activities that will ensure 1) increased efficiency in production; 2) stringent management of project costs; and 3) professional risk management.

Interviewer: What does the future look like?

Jeliniewski: Global economic conditions are already having an impact on investment confidence in our domestic markets – that much is clear. The tendency for some countries to go it alone from an economic point of view and the ways in which nations handle environmental issues are giving investors and companies pause for thought. At the same time, the public's interest in environmental protection is increasing (see cover story), which leads to new business models and fresh ideas. Combined with dynamic developments in Industry 4.0, we can look forward to enormous growth in the near future.

We are currently using all the resources available to us to finalize our work on integrating our system landscape and on our key focal points as quickly as possible. Just as in previous years – it's certainly exciting!

SCHEUCH SERVICE APP

6,000 SHEETS OF PAPER

will be saved annually by the "Hourly records" module alone.

With 60 field service employees visiting customers at a plant, or construction site create an endless paper trail of time logs, corrections, customer requests and customer documents. This past year, we took steps to reduce the amount of paper being used and began programming the innovative Scheuch Service app.

over 6,000 sheets of paper will be saved annually at Scheuch Service GmbH alone; and that's just in the "Hourly records" module.

The Scheuch Service app is web-based, so all transactions take place in real time. A whole host of automated functions make the time-consuming process of changing time logs a thing of the past.

From now on, overtime can be categorized, expense allowances and tax concessions can be calculated, and statistical analyses can be run at the touch of a button or the click of a mouse.



This app boasts a modular design and is another milestone in the Scheuch digitalization strategy. The idea is to reduce hardware and paper costs and increase efficiency which will benefit the environment and for customers. Simply by doing away with paper, the process of recording hours reduces the environmental footprint. Managing paper carries a heavy burden. Paper is produced, transported, stored, printed on which requires ink and toner, scanned, archived (documentation requirement) and disposed of. To put this into numbers,

**GERLINDE HEFTBERGER
(ADMINISTRATION OFFICE, PROJECT TEAM):**

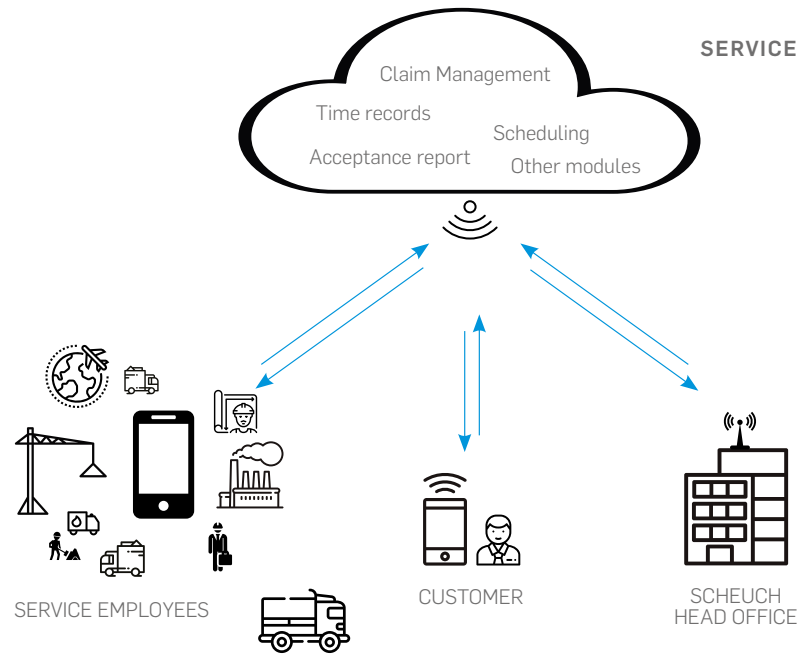
"The administrative workload that up to now had to be done largely manually dealt not only with individual time logs, but also mainly with statistical records including documents relating to hire cars, taxis and hotels. Of course, this had to be done for external temporary employees too. Thanks to the app, in future we will be able to get this work done in half the time!"

PHOTOS AND DATA

are sent to the right people in real time from a mobile phone.



The real-time transmission of data is the most significant benefit found in the "Claim management" module. In the past, if complaints were made on a construction site, for example, photos had to be taken and e-mailed to everybody on a particular distribution list. Now the photos can simply be taken using the phone's camera within the app and saved. The clearly defined processes behind this workflow ensure that the quickest route is found from a problem to a solution. The



customer has a good overview of all the steps involved and no transaction can take place without approval.

There are plans to create other modules based on similar logic and offering the same level of user convenience. These include "Acceptance report" and "Scheduling" modules. "The individual modules will be programmed and introduced in phases. This is to ensure colleagues and customers get familiar with the app technology, and any necessary modifications can be made," says Christian Hörandner, a member of the Service app project team. ■

ANDREAS WIESENBERGER (SCHEUCH TEAM LEADER ASSEMBLY):

"The app will reduce the workload of all those involved because everyone is looking at the same document at the same time. Backend processes and responsibilities are clearly defined. Misunderstandings at the construction site are greatly reduced because there are multiple versions of a document doing the rounds – and the result will be greater speed and efficiency."

The Scheuch Service app was created by a three-person project team (Andrea Schmitzberger, Christian Hörandner and Gerlinde Heftberger) from Scheuch in conjunction with PASO Solutions GmbH.



“Learning is like rowing upstream; not to advance is to drop back.”

- CHINESE PROVERB

CAMPUS

Personnel development at Scheuch

The Scheuch Group is a family-owned-company based in Upper Austria – it has been addressing the issue of global environmental protection for over half a century now, with huge success. And this mission will remain unchanged for the next 57 years as well. How do we ensure that all Scheuch ambassadors (i.e. employees) have all the skills and tools needed in the age of digitization?

Scheuch CAMPUS

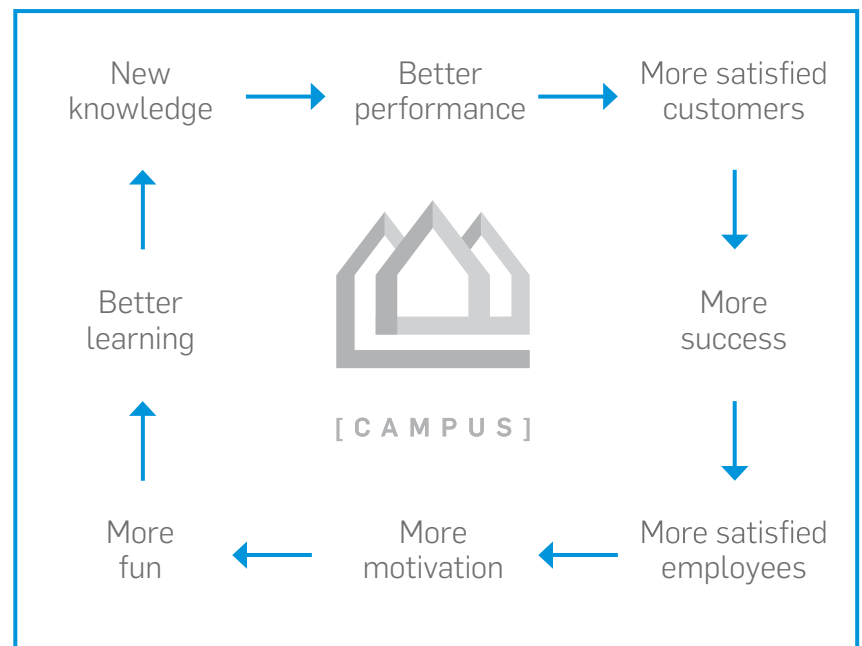
Scheuch CAMPUS, a professional initiative for personnel development, came about due to the high level of technical specialization required in our field. The CAMPUS offers customized development pathways to provide targeted support to employees, to align company and home life. Working from home, global collaboration, blended learning (a mix of electronic and traditional learning tools) and job rotation are not just transient fads of today's work environment; rather, they are an integral part of forward-looking organizations.

Investing in people

It is important to offer employees the chance to improve their skills as they move through their career. Not only are we living through a period of dynamic technological and social development, we are also

seeing signs of huge changes in the world of work and it is incumbent on both employees and employers alike to evolve with them. The evolutions go hand in hand with investments, which employees perceive as an indication of employer appreciation and trust. “Our employees are the company's most valuable asset and we will continue investing in them,” says Managing Director Jörg Jeliniewski with pride. Every well-trained worker contributes to the organization. On one hand, this happens because the operational challenges of day-to-day business can be overcome, increasing the level of customer satisfaction. And on the other hand, well-trained employees are themselves more satisfied, which in turn makes them positive ambassadors of the company's values and ultimately results in loyal and motivated employees.

CAMPUS offers development opportunities to all employees.



You could look at it this way: CAMPUS provides the right shoes to go the extra mile, but the actual running part. Everyone has to do that for themselves. The three buildings in the CAMPUS logo show how inseparable the key areas of expertise are: (1) technical skills, (2) social skills and (3) business skills. It is the interlinked paths that make CAMPUS a great place for communication and knowledge development.

First achievements

Successful product and language training courses have been held, along with large-scale training seminars on MS Excel, contract management and conflict management. In the future, we are expanding upon traditional forms of education like face-to-face lessons or seminars and move more towards e-learning;



because the technological infrastructure needed to make e-learning work properly has developed by leaps and bounds over recent years. The range of possibilities are endless, ranging from blended learning and digital safety briefings right through to augmented/virtual reality. The advantage of e-learning is that it can be accessed by anyone, anywhere, and can have a big impact on our success. ■

” *We recognize that we need to think outside the box when it comes to personnel development, so we can offer people opportunities and alternatives that may not fit neatly into the usual linear career paths they may expect. It is specifically nurturing talented individuals, since this is one way of many ways of supporting our long-term growth. We are incredibly proud of CAMPUS and are already looking forward to seeing personnel development grow.”*

- Martina Medwed, Member of the Campus-Teams

Eva Friedrich, Michaela Endl
and Martina Medwed

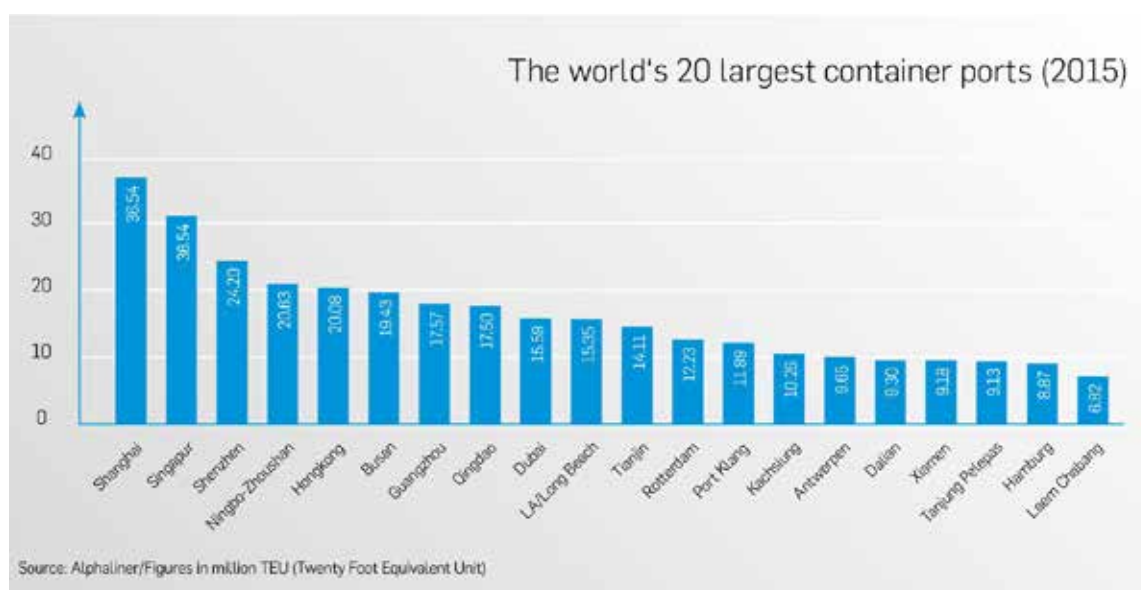


SCHEUCH SETS SAIL



Our oceans – where transporting international goods happens

Almost two-thirds of the entire Earth is covered by water. Our oceans give us the water for which our lives depend. They are important ecosystems, climate regulators and energy stores for our planet. But our oceans are also much more than that: They are essential for our global economic system because, without them, there would be no viable goods transport. Over 95 % of intercontinental trade takes place on the water. Measured in terms of capacity, ships are far and away the most environment-friendly form of transportation that are capable of transporting in large capacities with lower emissions. Every day, 100,000 containers move through the world's largest port in Shanghai. A lorry arrives at the side of a ship here every two minutes. More than 64 cranes work around the clock lifting the containers on and off the ships 24 hours a day, seven days a week. 36.5 million standard containers move through Shanghai each year.



Maritime shipping goes green

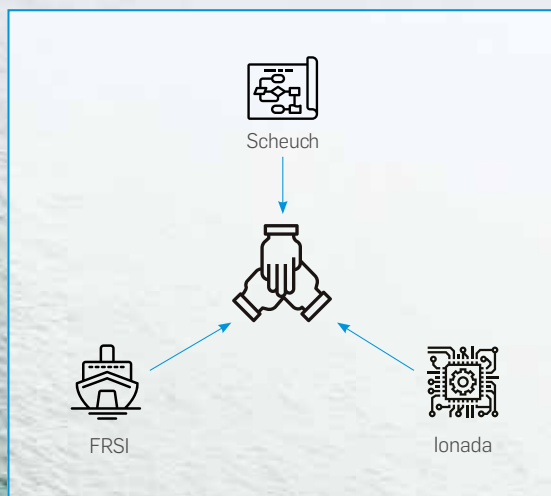
Although the shipping industry is regarded as environmental friendly in terms of its transportation capacity, it still emits an enormous amount of damaging sulphur dioxide, nitrogen oxides and carbon dioxide. These emissions have a direct impact on our environment. They cause significant harm as seen in worldwide forest destruction and smog filled megacities. →



The International Maritime Organization (IMO), headquartered in London, is a United Nations (UN) specialized agency. It co-ordinates the international economic challenges facing the commercial shipping industry, while also working to reduce the environmental pollution caused by ships. For example, it worked together with 170 countries to lower the allowable limits of sulphur dioxide released from the ships. As of 1 January 2020, IMO regulations state that ships on the high seas must only burn fuel with 0.5 % sulphur content, much lower than the previous limit of 3.5 %. Ships that use fuel high in sulphur are required to install scrubbers. In 2015, the North Sea, Baltic Sea, the East and West Coasts of North America were designated Sulphur Emission Control Areas (SECA) which has a stricter limit of 0.1 % sulphur content used in their fuel.

Full speed ahead for maritime flue gas desulphurization

The new 0.5 % sulphur content limit means challenges for today's shipping industry. According to one survey, international shipping companies expect to spend over 299 billion euros (250 billion US dollars) from 2019 to 2023 to meet



the new limit threshold. One solution is to use fuels with lower sulphur content, although these are much more expensive. Instead shipping companies are focusing on desulphurization systems. Starting in 2020, around 2,500 ocean-going vessels (5 % of the global commercial fleet) will have installed emissions cleaning systems.

Scheuch takes to the seas

Scheuch, shipping giant FRS, and Ionada an expert in maritime exhaust gas cleaning technology collaborated in developing desulphurization systems for FRS's container ships. Testing began in the autumn of 2019 and is proving to be a success. More information will be forthcoming, but it also shows how companies that believe in protecting the environment can work together and be innovative in creating new technology. ■

*Over the last few decades, **FRS** has grown from a regional passenger company into an international group of companies with 58 vessels and having more than 2,000 employees. Ionada is regarded as an expert in exhaust gas cleaning technology in the shipping industry with headquarters in Canada and Europe.

“Thank you to everyone who participated in the Scheuch customer satisfaction survey.“

- Stefan Scheuch,
CEO Scheuch GmbH

QUESTIONNAIRE - INTERNATIONAL CUSTOMER SATISFACTION SURVEY 2019

Ensuring quality is an investment for the future.

You know best what we can do for you. True to this motto, 387 of our customers used the customer satisfaction survey as an opportunity to provide us with feedback.

Scheuch partnered with the market research company, Pluswert to conduct the anonymous survey in September and October 2019. The results showed that Scheuch continues to meet or exceed customer expectations.

- ▶ In addition to expressing that Scheuch's products are high quality, customers also noted that the relationships with employees are also a significant part of being loyal to Scheuch.
- ▶ Sales, project management, installers, and commissioning engineers were rated above average.
- ▶ In terms of products, we score high in quality, reliability and customized solutions.
- ▶ The feedback from our customers also established room for improvement in areas of quotation, sales documents and the delivery time.

At the same time, we received valuable information indicating areas where Scheuch can improve. Our dedicated employees make it possible for Scheuch products to be used by customers worldwide. Experience, reliability and being responsive to customer needs are essential factors to our success. ■

THANK YOU FOR YOUR
GREAT SUPPORT!



CUSTOMER SATISFACTION SURVEY 2019

AROUND THE GLOBE

Scheuch - a global player
with an international network



| | |
|-------------------------------|--|
| Photos: | Dyckerhoff GmbH, Shutterstock, iStock, Pixabay |
| Title: Photo: | stock.adobe.com |
| Coverstory, tree: Photo: | Mopic/Shutterstock.com |
| Coverstory, bay: Photo: | woraput/iStock |
| North America, street: Photo: | miroslav_1/iStock |
| Innovations, ship: Photo: | CoreDESIGN/Shutterstock.com |
| Cargo ship: Photo: | Kalyakan/stock.adobe.com |
| Atlas / globe: Photo: | Caz/stock.adobe.com |
| Icons/Pictograms: | flaticon.com |

OUR SUSTAINABLE TECHNOLOGIES ENSURE A CLEAN PLANET FOR GENERATIONS TO COME.

This Scheuch magazine is printed on paper sourced from sustainably managed forests and produced using Climate Neutral standards.

Scheuch is proud to support the The Mai Ndombe project. This rainforest protection project, which was set up on the west coast of the Democratic Republic of the Congo, aims to create sustainable living conditions for the impoverished population. In a region suffering from deforestation and poverty, deforestation and forest degradation are reduced through a range of activities, such as the introduction of sustainable agriculture and forestry. Health centers, schools and family-run micro-businesses are also supported. Special protective measures for endangered animal species such as chimpanzees and forest elephants have been taken.



Follow us:



www.scheuch.com

blog.scheuch.com