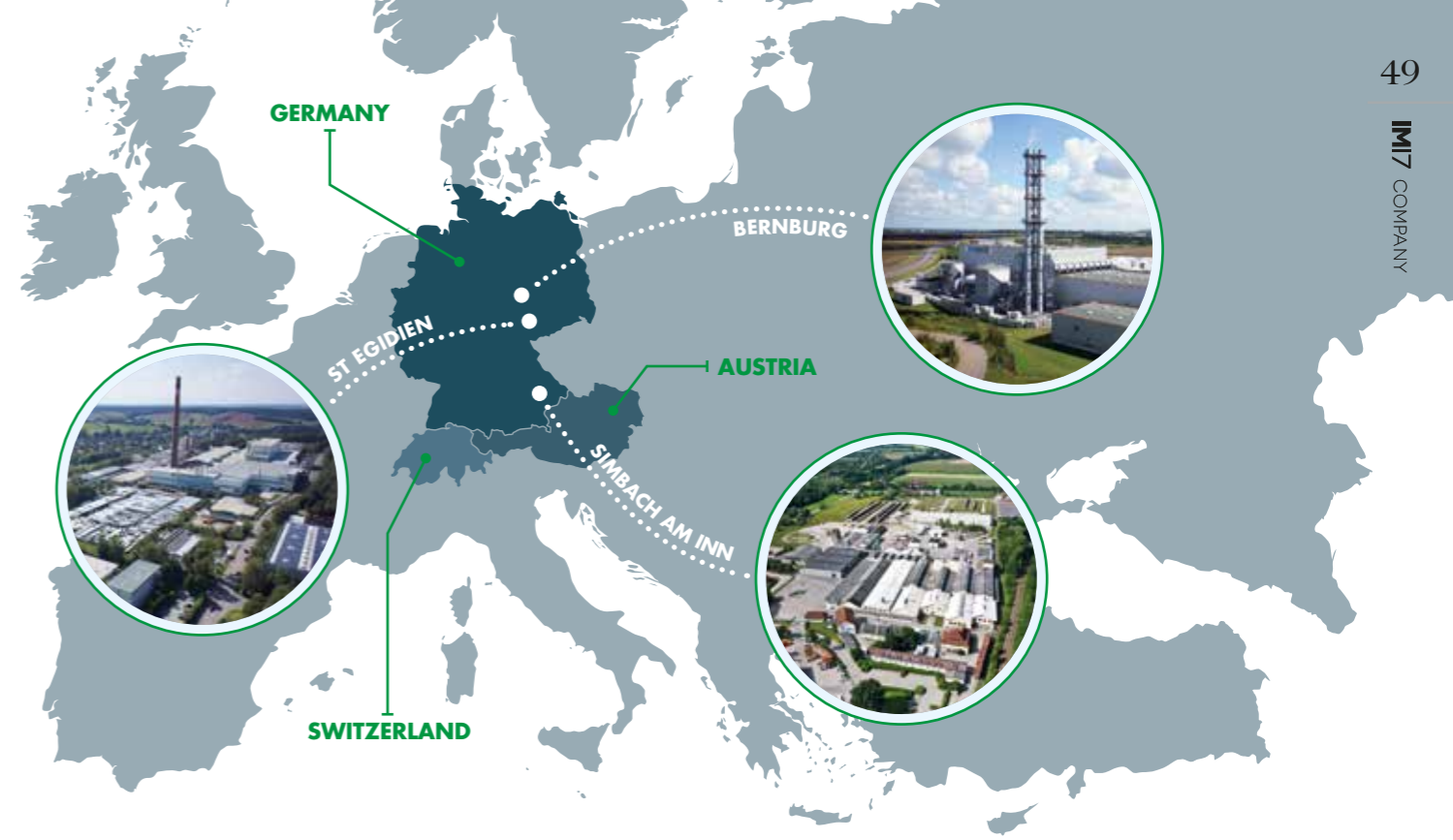


EMPOWERING CUSTOMERS



At Knauf Insulation's Central European Headquarters in Simbach, Germany, Regional Managing Director Michael Huesmann discusses the transformation from a production-led company to one led by customers.



WHAT ARE THE KEY AREAS OF FOCUS FOR KNAUF INSULATION AND THE KNAUF GROUP IN GERMANY AND CENTRAL EUROPE?

On a wider societal level, we want to play a pivotal role in bringing the 2050 German Climate Action Plan to life. This is an ambitious national framework that includes the reduction of CO₂ emissions in buildings by 80% by 2050.

From a business perspective, we want to be the preferred partner of branded insulation solutions. We want to anticipate the needs of our customers and excite them with innovative products and services.

HOW WILL THIS BE ACHIEVED?

By putting the customer at the centre of everything we do. We are employing highly talented people and we are constantly questioning the status quo from the top to the bottom in every department and finding new opportunities to do things better. It may sound straightforward, but even by ensuring the basics are right you set a competitive advantage because the basics are sometimes quite difficult in this industry.

WHY IS THE GERMAN MARKET SO IMPORTANT TO KNAUF INSULATION AND THE KNAUF GROUP?

It's our largest market in Europe in terms of population and the amount of buildings. The country's insulation requirements are also particularly demanding. Compared to other national markets, for example, our average lambda building value is 035. The good news is that a demanding market fosters innovation and that helps us drive forward improved solutions.

THE 2050 CLIMATE ACTION PLAN MUST BE A SIGNIFICANT DRIVER IN GERMANY AS WELL.

Of course. In Germany, our renovation rate is below 1% per year at the moment. Deep renovation is the key to achieve Germany's targets and needs further political support as well as funding. The whole industry is behind this action plan because it is helping drive the economy.

WHAT HAS BEEN KNAUF INSULATION'S IMPACT ON THE GERMAN MARKET?

Since starting operations in 2002 we have grown quickly to become a formidable competitor. In addition to our rapid organic growth, the acquisition of Climowool in 2013 and Heraklith took the company to a whole different level to provide a complete portfolio of Rock Mineral Wool, Glass Mineral Wool and Wood Wool insulation products. The acquisition of our Bernburg plant strengthened our position by ensuring a self-sufficient local capacity.

INNOVATION HAS PLAYED A KEY ROLE TOO?

Absolutely. In 2009 when our bio-based ECOSE Technology was launched it was a huge step forward and made our Glass Mineral Wool much more competitive. Constant product innovation in every segment – especially in flat roofs and ETICS – has helped position our products and systems as premium solutions. The market takes us very seriously now.

THROUGHOUT THE EVOLUTION OF KNAUF INSULATION THE KNAUF NAME MUST HAVE BEEN A SIGNIFICANT MARKET BONUS?

The Knauf Group has a lot of positive connotations in Germany and Central Europe because it has always been associated with the trade and in particular quality trade – since it was founded in 1932. It also has a lot of credibility because the strategy has always been to build strong loyal relationships with the industry. The financial strength of the company also drives constant investment which has been a huge success factor over the years.

AND ADDING THE INSULATION PORTFOLIO EXPANDED THE KNAUF GROUP PRODUCT RANGE SIGNIFICANTLY.

Yes. And there is a lot of synergy between the group and Knauf Insulation. We are working to produce more system solutions using the entire Knauf portfolio to tackle the challenges facing our customers.

CAN YOU GIVE EXAMPLES?

We are working across different technologies. For instance, Heraklith is a Wood Wool that can be available with a different core such as rock and for pitched roofs and we have insulation systems that include LDS foils to improve airtightness and moisture control. We have a unique advantage because we leverage our market position by working across the huge range of technologies available from the entire group. It's an important key to success.

HOW ARE THESE SOLUTIONS MATCHED TO CUSTOMER NEEDS?

In several ways. For instance, the needs of a dealer are different to those of an architect so we have segmented our teams to provide tailor-made technical expertise to specific customer segments and taken out layers to speed up decision making. We also segment our expertise by application – we have a Blowing Wool team, an Urbanscape® Green Roof team, flat-roof team and so on – to provide customised support. If you build an industrial flat-roof it's completely different to building a single home, so we adapt to specific markets. We talk to people to understand how we can improve things for them and we have a vast portfolio so we can look at different applications to see how to make their jobs easier.

WHAT OTHER NEW CUSTOMER INITIATIVES ARE IN THE PIPELINE?

Our Fachunternehmer Club, for example, offers trades people extra loyalty club benefits and information, so we are building on its success. We are also working with a collaboration of different manufacturers to create digital information platforms for consultants, homeowners or tradespeople so they can find the best solution for them. We are also looking at different ways to support Building Information Modelling (BIM) platforms.

TO WHAT EXTENT IS SUSTAINABILITY IMPORTANT TO KNAUF INSULATION?

It will always be critically important. Externally we want to contribute significantly to a more energy-efficient building stock and drive the agenda of energy efficiency in our industry and beyond. We are also in the process of creating new environmentally responsible products and systems that will revolutionise the industry in the future and we are constantly working to ensure that all our solutions deliver on their promise of energy efficiency at every level.

AND INTERNALLY?

We want to ensure continuous improvement of our energy efficient production processes, expand the Knauf leadership principals to have the best in class performance of our organisation, build on the success of our health and safety environment and continue to expand environmentally responsible initiatives such as our recycling programmes.

KNAUF INSULATION CENTRAL EUROPE IN FIGURES

2002
OPERATIONS STARTED

3
TECHNOLOGIES
ROCK MINERAL WOOL
GLASS MINERAL WOOL
WOOD WOOL

3
PLANTS
SIMBACH AM INN
BERNBURG
ST EGIDIEN

3
MARKETS
GERMANY
AUSTRIA
SWITZERLAND

800
EMPLOYEES (APPROX.)

EXCELLENCE GUARANTEED

Understanding the needs of our customers is central to the sustainability of our business.

Customer care is a journey of continuous improvement. We are constantly upgrading our expertise through internal and external training to ensure we speak the language of specifiers and installers fluently.

The needs of the construction industry are becoming increasingly sophisticated and it is vital that we understand what information our customers require when it comes to sustainability issues such as Life Cycle Assessments (LCAs), Environmental Product Declarations (EPDs) and Building Information Modelling (BIM).

Customers are also increasingly demanding technical input on subjects such as building physics which covers key topics such as acoustics or fire resistance and a better understanding of technical performance.

Thirdly, understanding how our systems and products can make life easier and more effective for our customers is a core characteristic of many of our training sessions. It is not enough to simply understand a product's unique benefit, it is vital that our customers understand how to maximise its performance.

Finally, it is critical that our colleagues understand the challenges facing our customers and are empowered to find the solutions that provide long-term support.

Here's what we have learned so far from our Customer Excellence Programme.



TELYUKOV DENIS,
NATIONAL RETAIL & DIY LEADER,
SAINT PETERSBURG, RUSSIA

What training sessions did you organise?

We have carried out a wide range of training for sales teams in Russia to improve their knowledge of our products and how to substantiate their performance. There has also been a seminar on pitched roofs as well as external training to fine-tune sales presentation.

What are the benefits of this training for our customers?

They receive expert advice about the right insulation products for the right job – 24 hours a day, seven days a week – supported by a specialist who understands the demands of their business.

How has the training made a difference?

For our colleagues, the training has been an important KPI accomplishment and we have been able to confirm their core competences. For our customers there has been a greater level of satisfaction.



SUSANNA FARNES,
MARKETING MANAGER FOR
THE MEDITERRANEAN AREA

What training sessions did you organise?

We organised training in Spain for the Spanish and Italian technical and specifier teams with a focus on the importance of sustainability as a critical trend and key benefit of our solutions.

What are the benefits of this training for our customers?

Our teams have a vastly improved insight into Green Building Rating System topics that are important to our customers and are able to provide more effective solutions and support.

How has this training made a difference?

Our sales teams are even more confident. They can offer more support to our customers and talk in detail about subjects such as EPDs, LCAs and specific green building areas of interest which means they have a lot to offer specifiers and architects.



STIJN THIELEN, MARKETING
MANAGER, THE NETHERLANDS

What training sessions did you organise?

We have conducted talk-track training for our new innovative Mineral Wool MW35 solution. Talk-track allows our colleagues to understand the benefits of our innovations and enable them to present them effectively to potential customers.

What are the benefits of this training for our customers?

What is most important is that our colleagues can better support customers because they can clarify needs and advise customers on the right solution during a relaxed but informed conversation.

How has the training made a difference?

MW35 is a great success in The Netherlands. I'm sure training was a major contributing factor.



STEVE DUKE, COMMERCIAL
DIRECTOR, UNITED KINGDOM

What training sessions did you organise?

The UK sales teams have undergone customer engagement training which is delivered in two stages, two months apart, to enable our colleagues to use their new skills and review them at the second session.

What are the benefits of this training for our customers?

The course focuses on helping us better understand our customers' needs. It also helps focus attention on areas that have value for them such as technical support, specification activity, product attributes, supply chain, security and so on. Often we tend to take these aspects for granted when they should be highlighted as often as possible.

How has the training made a difference?

The training process has just started but those who have attended have come away inspired and determined to start driving a shift in the way we engage with our customers.



MARKUS ELSPERGER,
MARKETING DIRECTOR
FOR KNAUF INSULATION,
CENTRAL EUROPE

What training sessions did you organise?

We carried out training for the whole sales team in Germany in 2016 and training will take place in Austria in 2017. At every meeting our focus is on technical sections which also includes technical training for the sales team. Four times a year we give new employees general product training.

What are the benefits of this training for our customers?

We carried out a customer satisfaction survey in December 2016 and our customers confirmed that we have the most knowledgeable technical support in the market.

How has the training made a difference?

We see the training paying dividends particularly at construction sites where customers may have a specific technical issue that they need to resolve.



JEAN-PIERRE PIGEOLET,
PRODUCTS & BUILDINGS
SUSTAINABILITY MANAGER

What training sessions did you organise?

In Germany, we arranged trainings in ETICS and for flat roofs. In Italy and Spain, 'train the trainer' involved giving training to those who can share the information with colleagues as well as training customised to dedicated markets. For example, we compared EPDs and their impact related to specific markets and applications. They were highly dynamic sessions.

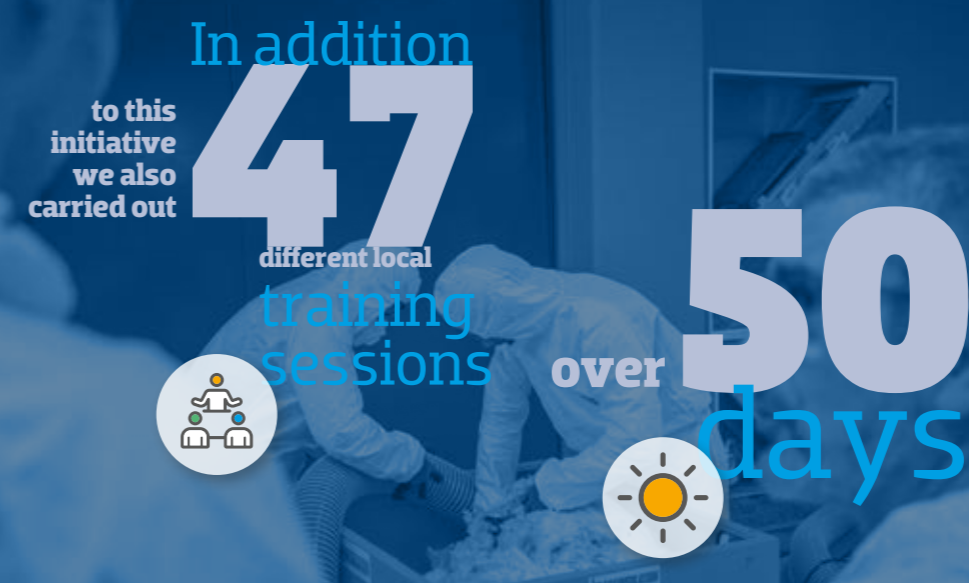
What are the benefits of this training for our customers?

It really helps our colleagues understand their market and take advantage of our product and service's benefits in terms of sustainability. These include ECOSE Technology, EPD availability, LEED, DGNB and BREEAM factsheets and recycled content. With training and additional tools our colleagues are better equipped to have face-to-face discussions with potential customers who need information about, for instance, indoor air quality or LCA. Our teams know where to get that information.

How has the training made a difference?

In Italy and Spain, for example, we have experts who can have detailed conversations with customers about sustainability issues at product and building level. They have also had deep conversations with LEED assessors who have come back and requested product information for specific construction projects. The questions coming from trained people are now detailed and focus on particularities we didn't even think about – proof that they are becoming experts and know where to take advantage of sustainability to get better buildings.

CUSTOMER EXCELLENCE IN NUMBERS



OUR JOURNEY TO SERVICE EXCELLENCE

Service Excellence was introduced several years ago after a forensic examination of every aspect of service within our company from the placing of orders to delivery to our customers.

It was vital that customers were central to this process so we began implementing continuous improvement at every stage.

We rolled out the programme gradually, piloting new ideas, bringing all our teams up to speed and stress testing every aspect to ensure our promises were watertight.

Customer service

For our customer service centres, extensive training and new online systems created instant clarity in terms of service delivery lead times, order processing and support. All clearly communicated.

Production planning

Our plant processes have been streamlined to ensure best possible safety stock levels as well as a sharper focus on achieving the best possible availability for highly popular product mixes.

Warehouse and transportation

Warehousing processes have been revised and the booking systems of our transportation networks and partners as well as their performance are always under review. Extra services such as unloading at site or the organisation of cranes or forklifts are tailored to customer needs.

Country catalogues

In many countries we also publish catalogues to clarify exactly what our customers can expect from Knauf Insulation. These include information about lead times, prices, available services and transparent details about what can be expected from order to delivery.

CASE STORY

Martin Siegwart, is the purchaser for insulation boards for Sto in Germany. Sto SE is the country's leading provider of external wall insulation systems.

Why is delivery important to Sto's success?

Delivery reliability is a critical because quality and timely delivery is vital to our clients. Most deliveries have to be made direct to their building sites so it essential to deliver on time and with quality.

How has Knauf Insulation's Service Excellence helped contribute to the success of these projects?

A high volume of orders was placed with Knauf Insulation and Knauf in 2016 and 2017 and the delivery performance has been exceptional, consistent and reliable. The internal sales teams and Knauf managers were always friendly and available to help. Even when there were critical situations they were able to find high quality solutions. We have also managed several huge building sites for our customers with Knauf.

FIVE KEY BENEFITS OF SERVICE EXCELLENCE FOR OUR CUSTOMERS

- 1 Our service to customers is flexible.
- 2 Every department in Knauf Insulation contributes to service and this guarantees we continuously give the best possible support to our customers — promises we can keep.
- 3 Consistent lead times mean reliable planning options for customers and ourselves, make us more efficient and increase product availability in our stocks.
- 4 Time slots are offered for job site deliveries to allow smooth planning. Mobile Order Management is an ongoing project to allow us to improve our delivery service and provide real time communication with our customers regarding the arrival time of their shipments.
- 5 Extra services such as small loads, specialised products, the collection of packaging or site support in the form of forklifts or cranes are standard available service options.

QUALITY LEADERS

At Knauf Insulation we are pioneering new definitions of Quality Excellence. The focus? The needs of our customers.

The Oxford English Dictionary definition of the word 'quality' is straightforward: "The standard of something as measured against other things of a similar kind; the degree of excellence of something."

At Knauf Insulation this definition is not enough.

One of the core values of our brand is a drive for Quality Excellence that ensures our products go far beyond being either 'measured' or just 'excellent'.

What is Quality Excellence? Very simply, it's understanding what our customers perceive as quality and then delivering. This means identifying their needs and then improving our product specifications, testing procedures, auditing progress and establishing new quality benchmarks. It is not just about looking at the technical specification of a product, but also examining the way it is used to achieve the best possible performance.

"In the construction industry, quality can be measured by meeting regulations or achieving specific standards that are universally recognised and understood," says Mark Thompson, Knauf Insulation's Head of Market & Product Development – Non Residential.

"Of course, our products meet these standards but we need to take them to a higher level by talking to the people who use them, understanding their challenges, adapting our products to the market and giving our customers the quality that they really need."

We have spent time with customers on construction sites to watch, learn and ultimately understand how our products are installed and used. This has led to external and internal audits followed by new quality controls and manufacturing benchmark recommendations to ensure our customers get the quality they need.

Ultimately, this has led to a laser-sharp focus on real performance — in the real world — at every stage of product development.

"You may have a product that was good 10 years ago and was used in a specific way," says Mark. "But the world of construction changes, buildings change, ways of doing things change. At the heart of our Quality Excellence programmes is the need to track these changes and make sure that customer requirements are constantly factored into everything that what we do."

CASE STORIES

RAFTER FRICTION FIT INSULATION

The challenge: In Germany friction-fit insulation is highly popular for installation between roof rafters. However, not all rafters are equal, distances between them in modern buildings are increasing.

The solution: We visited many sites across Germany to establish the modern realities of this market and updated our testing procedures and products to meet these new requirements.

MINERAL PLUS

The challenge: Installers in Turkey required high standards when it came to the real thermal and acoustic performance. They also needed an insulation solution that saved time during installation. We carried out extensive research to understand exactly the challenges they faced.

The solution: We developed Mineral Plus to offer the ideal balance of a level of stiffness that makes it simple to cut and an ease of flexibility that ensures it fits easily into the most demanding spaces. It does not break or chip during installation and offers excellent friction fit. A slab of Mineral Plus is also half the weight of our Rock Mineral Wool and this makes it easy to move around a site in fewer trips.



- PEOPLE
- LEADERSHIP
- IMPROVEMENT SYSTEMS
- VISION & GOAL ALIGNMENT
- WORKPLACE STANDARDS

Continuous improvement, or CI, is a philosophy which looks to engage and empower front line employees to continuously improve business processes. Health and safety (HSE) is embedded in a CI culture.

Disorganised, inconsistent, hectic and exhausting. These were just some of the words that our colleagues used to describe working conditions in our plants at St Helens, Cwmbran and Shelbyville in the days before Continuous Improvement.

Productivity, morale and most importantly health and safety performance were all in need of improvement. For Ian Gornall, Knauf Insulation's Industrial Performance Director GMW Europe & CIS, empowering front line employees was a logical step. "Managers are only around for 30% of the time, so it is obvious to devolve expertise to the people running the processes 24/7," he says.

This was the starting point for the CI journey which started in St Helens in 2011 and fits perfectly with Knauf Insulation's values of commitment, entrepreneurship, partnership and menschlichkeit.

So, how does it work? First, through workshops, and by asking the people at the sharp end of production (operators and engineers) to create standards for their workplace, their processes and the maintenance of their equipment. Creation of standards which all of the teams buy into provides a strong foundation for future improvement and results in more reliable performance (so less fire-fighting) and increased understanding and partnership between production and engineering teams. Critically, this is a process which is supported by but not led by managers.

"If we do a workshop and a number of actions come out of it – it's imperative that those actions are delivered on by the management team. This starts to form a kind of virtuous circle – operators keep their promise to maintain the standards and managers keep theirs. It's how you build trust," says Ian.

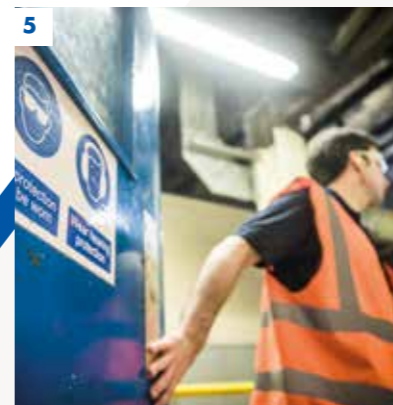
"Everyone is in this together and the improvements spread from one plant area to another as more standards are agreed. Operators become vested in CI because the solutions are their solutions. The work becomes easier and more rewarding. Operators and engineers take ownership, they become empowered and the culture starts to be 'simply the way we do things around here'."

This momentum is maintained by allowing operators and engineers to take part in the day-to-day management of their processes – the day-to-day issues, measuring their performance against targets which are aligned to business objectives, checking that their standards are being maintained and prioritising day-to-day tasks. They do this through daily meetings which are attended by area stakeholders. Support requirements are then escalated to the daily management meeting. Not only does this drive the engagement of operators and engineers, it frees managers up to focus on more strategic issues.

There is also a CI initiative that encourages all employees to submit ideas to improve their processes, equipment or work areas. Suggested improvements are reviewed on their merits and feedback is given for all ideas in a visual way so teams have access to all information. St Helens and Cwmbran plants receive in excess of 200 ideas every year, most of which are implemented.

The big question is how can you quantify the success of a change in working culture? At the end of the day there must be an improvement in the site's Measures of Performance which are usually efficiency, customer service, manufacturing cost and health and safety.

Continuous Improvement is now being implemented in all our plants in Europe and the USA. In Europe, St Helens and Cwmbran received 68 visitors over five separate reference visits between November 2016 and January 2017.



- INDIVIDUAL AND TEAM AWARDS
- AT THE SHARP END OF HSE
- THE GOOD, THE BAD AND THE SAFE
- BUILDING A BETTER CULTURE

The East European HSEEQ Leadership Award was presented to Natalija Domjanič, an HSEEQ Manager at Ajdovščina in Slovenia. A team award also went to Novi Marof in Croatia where employees achieved the most goals outlined in our annual HSEEQ KIEE & OEM improvement plan.

"When it comes to health and safety, dozens of small actions can soon add up to making a big difference," says Bernd Göckert, Health and Safety Officer at our Simbach plant in Germany.

One of those 'small things' was as simple as replacing the use of box-cutter knives with special safety knives where the blade retracts automatically when not in use. *"Suddenly, cutting packaging in the plant is a much safer occupation,"* says Bernd.

Such attention to detail has certainly paid off. As of August 30, 2017, the plant had marked 526 days without a lost time accident (LTA).

There is a lot to learn from both good and bad observations when it comes to work safety, says Jamie Cain, our HSE Manager at Shelbyville.

"Good observations reinforce proper safety behaviour and negative observations are a good coaching tool," he says. Our STEP-UP programme – or Safety Takes Every Person's Unrelenting Participation – asks for colleagues to submit good or bad observations about the plant to engage everyone in conversations about safety at work.

"This helps keep safety on everyone's mind throughout the day."

The HSE culture within our plants plays an important role. We have developed a set of expected HSE behaviours – for manager, supervisor and 'everyone' level – to create an HSE Expectations Framework.

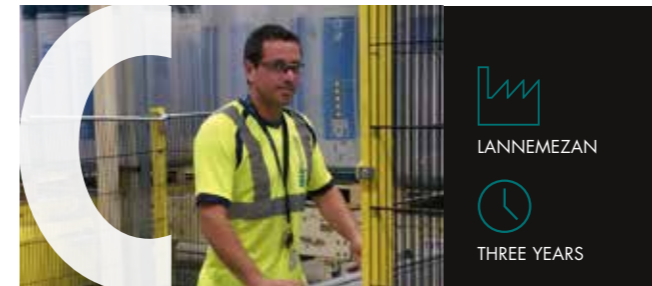
Erkan Üçok, Plant Manager Eskisehir says: *"The organisation helps to create a warm environment instead of a formal workshop. At Eskisehir, it was very positive since the voice of the employees was captured in a structured way with feedback tackled transparently."*

Jan Brazda, Plant Manager Krupka, adds: *"The message from colleagues was to improve feedback and recognition for those who contribute to HSE culture. Now any colleague without a record in the HSE area is recognised and awarded a gift and certificate."*

- PHOTOS
1. NOVI MAROF PLANT
 2. SHELBYVILLE PLANT
 3. SIMBACH PLANT
 4. KRUPKA PLANT
 5. ST HELENS PLANT
 6. ESKISEHIR PLANT

HIDDEN ASSETS

There are thousands of unsung heroes working behind the scenes to make Knauf Insulation an international success. From cooks and schedulers to event managers and laboratory workers, every contribution counts.



CHRISTOPHER DAROUX

Forklift Operator

WHAT MAKES LANNEMEZZAN SO SPECIAL?

I enjoy my work in the logistic service department because the working conditions are good and Lannemezzan is a convenient location for me.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

I have been able to grow my career because I've always been offered new opportunities. I started as a loading operator, then as a 'flying' forklift driver where I discovered Raw Materials Storage and finally end-of-line which I'm in charge of now.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

The implementation of continuous training where I had the chance to participate in the test version as well as being involved in a project for the storage of forklifts during the day.



ELLI ZEIDLER

Chief Cook

WHAT MAKES SIMBACH SPECIAL?

I've got a great relationship with everyone here and the people I work with. And I love my job. I have the freedom to plan what works best in the kitchen and have the freedom to plan meals. It is a good feeling to be given responsibility to be your own boss.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

I enjoy the challenge of planning menus for major events and meetings here, but I think the most important highlight was the realisation that this was the job for me.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

We had a whole new kitchen installed in 2017.



SARAH PROTHEROE

Battline Operator

WHAT MAKES CWMBRAN SPECIAL?

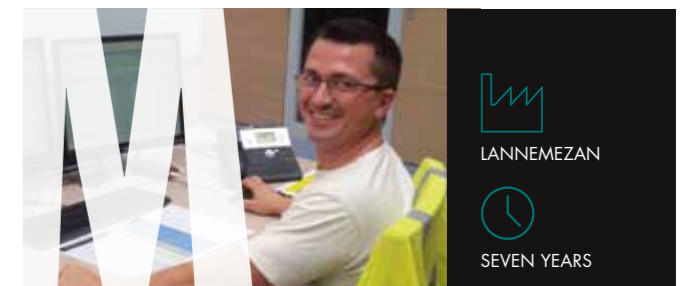
Cwmbran is special as there are opportunities for me to progress my career and everyone works as a team. I'm the only woman on the shop floor and my colleagues have made me feel happy and comfortable in my job over the past three years.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

I am now training to be a stand-in team leader which will open doors for me to progress in my career. I have also been given the opportunity to become a Values ambassador and attend meetings to discuss future projects and ways to help our community. Plant highlights include the installation of master bagger number two which has improved productivity and the time when we produced folded batts for the American market.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

It has to be the process of CI (Continuous Improvement) where everyone offers ideas on ways to improve the factory. This makes Cwmbran a safer place to work because health and safety plays an important role here.



MICHAËL DEPIS

Production Scheduler

WHAT MAKES LANNEMEZZAN SO SPECIAL?

It's a great place and Knauf Insulation is a dynamic company where I can grow professionally. It's also close to my home. Since starting my adventure here, my job has become a constant Rubik's Cube. I manage the manufacture of about 330 products in the main production line and two lines of Blowing Wool of two products each.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

When I was made an assistant to my production supervisor I saw a real opportunity to advance, improve my knowledge and production experience, as well as work on continuous improvement. Six months later I was offered the job of production scheduler.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

The increase in the skill level of the site operators. At the beginning the process of continuous improvement was difficult — even with training. But after a few months we really noticed significant technical progress with a major positive impact on the operation of production lines. Another major change was the start of Thermo046 which values our scrap — the costs of waste to landfill before were spectacular.



SIMONE SCHULZ

Dispatch Handler

WHAT MAKES BERNBURG SPECIAL?

I like the fact that work is close to my home and I feel good here. I'm responsible for warehouse bookings, inventory acceptance, handling of lorries, acceptance of raw materials and visitors. The work is diverse and my colleagues are very nice. Even when it's sometimes a little stressful, it's still fun, even after so many years.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

We had an outside warehouse near the factory for which I was almost entirely responsible. It was a great job and I had a lot of fun.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

Acquisition and management changes as well as the closure of the outside facilities.



JENS REUTER

Laboratory (Quality Assurance)

WHAT MAKES BERNBURG SPECIAL?

I have no interest in changing my job. I have a great working relationship with my supervisors and colleagues and there is a good working atmosphere here. My job is also varied. I work on raw material input control, material control, complaint handling and instrument examinations.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

The commissioning of the Glass Mineral Wool plant in Bernburg and the take-over of the previous company by Knauf Insulation in 2013.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

The take-over by Knauf Insulation, the conversion to ECOSE binder technology and the introduction of enhanced regulations for safety, cleanliness and quality by the new director David Lieberman.



LAURENT SUEL

Secondary Process Supervisor

WHAT MAKES LANNEMEZAN SPECIAL?

I love the region here and I'm passionate about my job, which is very varied. I started in 2009 training in Visé, Krupka, St Helens and Germany. In 2012 I became Secondary Process Supervisor at Lannemezan — in charge of training operators and batch automation — I'm also responsible for the management of the Thermo 046 machine and the recycling of materials.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

It is enabling operators from different zones achieve sustainability objectives, reduce costs and maximise equipment life. Acting as an interface between different teams and passing on knowledge to new generations is very rewarding.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

Through commitment and team work we have achieved great recycling results in a short space of time. Waste has decreased by 70% since 2012 thanks to commitment, team work, resource management and initiatives such as Thermo — a recycled brown Blowing Wool — or end-of-spool plastic that is sold to an external company.



PIA HEYER

Sales Travel & Events Manager

WHAT MAKES SIMBACH SPECIAL?

It's the people here. I love my job organising events, customer meetings and supporting my colleagues. I love to work with people. It's like big family at Simbach. We've know each other a long time and we've experienced each other's ups and downs and that makes our friendship together very special.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

About three years ago I visited some of our colleagues in Visé and Krupka. For years I'd been speaking to them by email and phone — it was fantastic to finally meet them to speak to them face-to-face.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

It's the building of the new Knauf headquarters here. Look outside the window you can see the work starting on a new building for our teams.



GEORG PIERINGER

Head Electrician

WHAT MAKES IT SPECIAL?

There have been constant changes and new challenges and that is very stimulating for me. I have enjoyed good companionship for many years here and that is very important. And I have always been offered opportunities to grow and take on challenging new responsibilities — from my first apprenticeship here when I was sixteen to today. I am always learning and what I learn is then taught to a new generation, that keeps everything fresh.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

Too many to mention, but the constant introduction of new technology and machines brings new challenges and the chance to learn new things.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

Definitely the technological change. Over there, we were using the forge and anvil to make parts until the 1980s, now so much has been digitised.



LUTZ MIESEN

Chief Engineer

WHY ARE YOU HERE?

After 20 years in seafaring I had run out of developmental possibilities and was ready for a change. I wanted a chief engineer job working in a complex environment and that is what I have now. When I was invited to Simbach, I saw the job as a great 'top to bottom' opportunity to combine strategic planning and maintenance with getting my hands dirty.

WHAT MAKES IT SPECIAL?

I've only been here a short time and I really appreciate the plant's fantastic atmosphere and the camaraderie.

WHAT DO YOU SEE AS A FUTURE HIGHLIGHT?

Knauf Insulation wants to develop the potential of this site and that is very exciting. I'm looking forward to playing a part in its future.



SUSAN NOVAK RAZZAKOVA

Plant Assistant

WHAT MAKES KRUPKA SPECIAL?

Our plant is a reflection of its workforce. Our people are committed, open to change, creative, talented, hard-working and highly skilled.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

I'm proud that I was an original member of the Krupka plant start-up team. It was incredible to see the transformation of a vacant site into a sophisticated plant in just 10 months.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

Krupka town has been transformed by Knauf Insulation and the plant. There was no proper bus network when we started. Now there are bus services for our colleagues and neighbours. Children's playgrounds as well as parks have also been revitalised. Our company cares a great deal about the community — particularly the elderly and vulnerable — and supports local schools, special projects and sports clubs in the region.



ALOIS ZAGELOW

Information Point Controller

WHAT MAKES SIMBACH SPECIAL?

I'm responsible for the arrival of customers, employees, trucks, deliveries... there is always a variety of things to do and I like the people who work here and the constant change of tasks involved in my job. One minute it is manning the phone the next it could be coordinating drivers and helping visitors.

WHAT HAS BEEN A MAJOR HIGHLIGHT?

It's not a traditional 'highlight', but in 2003 I was the first to make the call to the emergency services when the plant caught fire. Police, ambulances and about 30 fire trucks from 15 brigades attended the blaze. Fortunately nobody was injured and the damage was not too extensive — although the plant was closed for two weeks.

WHAT'S THE BIGGEST CHANGE YOU HAVE SEEN?

I think it's when the Knauf Group acquired Heraklith in 2006 and made the plant its headquarters.

SAFETY FIRST

We are introducing new initiatives to ensure that health and safety is the responsibility of everyone with the help of expertise from our operators.

LOST TIME ACCIDENTS AT KNAUF INSULATION HAVE BEEN REDUCED FROM 103 TO 69 IN 2016, MARKING A DECREASE OF 33%.

"We are pleased with this success, but with health and safety there is never room for complacency. Incidents still happen, for example, a near fatal accident happened at one of our plants in early 2017 so it is absolutely vital that we constantly question ourselves about how and why such situations can occur," says Jef Snackaert, Knauf Insulation's Group HSE Director.

2017 has been designated the year of shop-floor improvement — an integral part of what is known as Continuous Improvement which is designed to tap into the expertise of operators to make plants more efficient and safer places to work.

"Constant self-analysis of health and safety is vital to Continuous Improvement and that is why we continue to streamline, simplify and improve our procedures and programmes," says Jef.

New health and safety initiatives are being rolled out to help reinforce this process. These include:

STEPPING UP TRAINING

The Institution of Occupational Safety and Health (IOSH) 'Managing Safely' training certificate is respected throughout the industry. Following a pilot IOSH training programme at our Skofja Loka plant, the plan is to roll out the training across key company leaders, including Plant and Regional Management Teams.

SAFETY FOCUS

The courses provide the critical skills and knowledge to take practical action to improve health and safety management in the workplace.

SHARPENING SAFETY AWARENESS

The Guidance to Personal Safety (GPS) programme was developed by our North American division and is designed to sharpen safety awareness and commitment for colleagues who are new to the company but also for those who have intentionally violated one or several critical safety rules. At the beginning of a three-month programme these colleagues agree upfront with their supervisor a detailed Individual Safety Plan, including activities such as reporting safety ideas, performing a number of hazard spotting tours, taking part in a risk assessment or root cause analysis investigation.

SAFETY FOCUS

The aim is to roll out the programme to all plants in 2017.

TAKING TIME OUT FOR SAFETY

Looking for input from the workforce produces new ideas and opportunities to further develop a strong health and safety culture. The aim of a Safety Time Out is to stop production and bring all employees together in one place and discuss openly opportunities to further improve the site's safety performance.

SAFETY FOCUS

Safety Time Outs are an ideal platform to engage with employees, seek their input and make them part of a solution.

PROTECTING PEOPLE WITH LIFE-SAVING RULES

Our Life Saving Rules protect people from proven hazards that can result in serious injury if violated. Working safely is a cornerstone of our company and a condition of employment for anyone who works with us.

SAFETY FOCUS

Violations of these rules are taken extremely seriously and are thoroughly investigated. After weighing up facts and merits in line with what is known as a 'Just Culture Decision Tree', a violation may result in disciplinary action up to employment termination in a case of unjustifiable and intentional grave violations.

**A TOTAL OF 3,160
HAZARD SPOTTING
TOURS ACROSS
OUR PLANTS WERE
CARRIED OUT
IN 2016**

DOUBLE SUSTAINABILITY SUCCESS

Two of our key 2020 sustainability targets were achieved in 2016 following a 20.9% reduction in energy use and a 25.1% cut in CO₂ emissions.

In 2010 we set ourselves two critical aims – to reduce our energy use and CO₂ emissions by 20% by the year 2020. We are delighted to announce that in 2016 we exceeded both.

Across Knauf Insulation we cut energy use by 20.9% and CO₂ emissions by 25.1%.

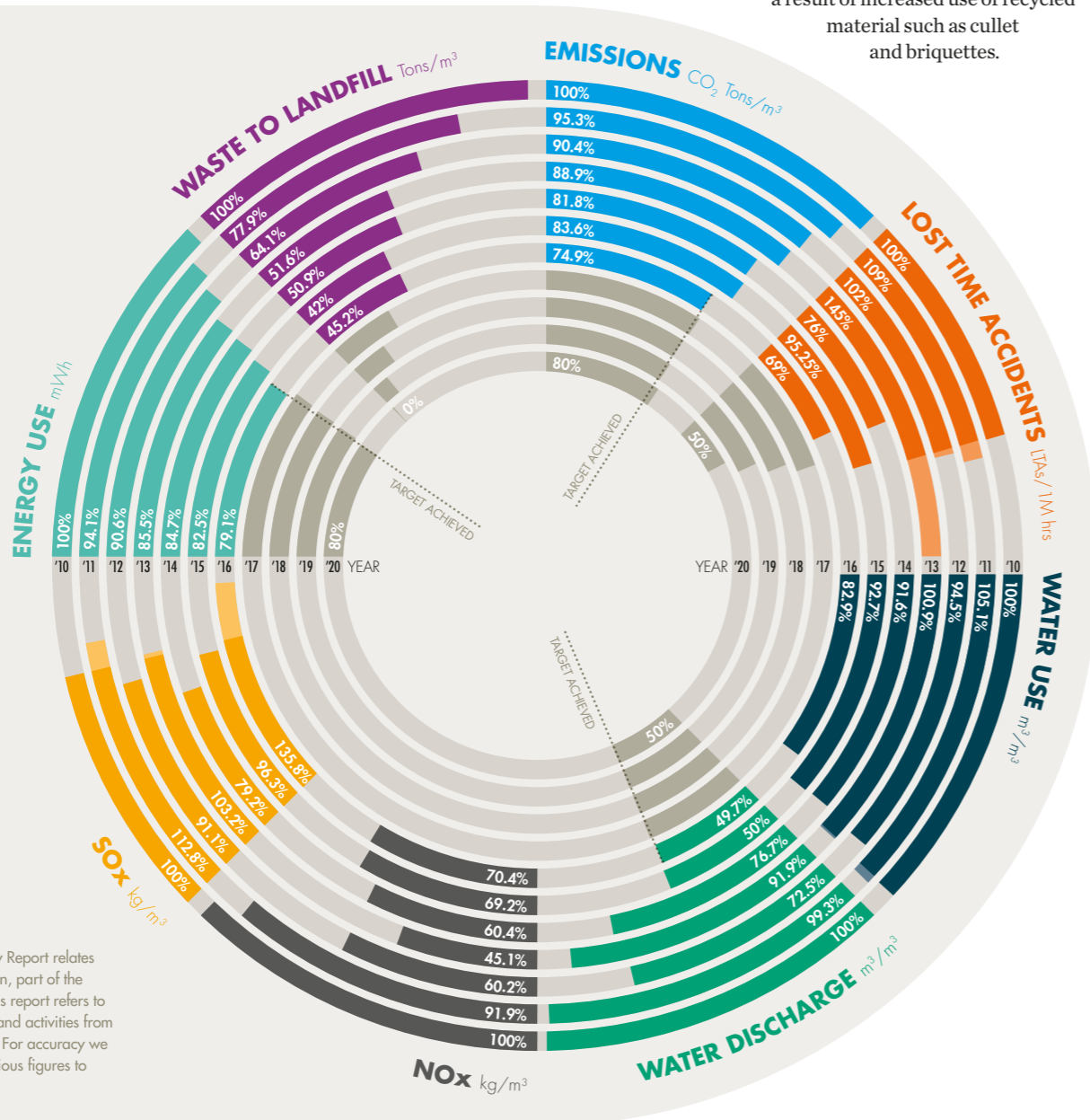
“2016 is a major landmark for the company. In just six years we have managed to achieve two of our most important 2020 sustainability goals,” said Philippe Coune, our Group HSE, Performance & Sustainability Manager.

“Such an incredible achievement is a tribute to the huge commitment from everyone across the company to improve energy management every single day and the future vision of the company to invest in cleaner, more efficient technology.”

“We should be very proud of what we have achieved in such a short period of time and I’m looking forward to building on this success in the years to come.”

In other areas, we have achieved a reduction in waste to landfill of 54.8% compared to our 2010 baseline and, over the same period, decreased water use by 17.1% and cut water discharge by 49.7%.

Our NOx emissions have remained static, but our SOx emissions have increased by 35.8% compared to 2010 as a result of increased use of recycled material such as cullet and briquettes.



This Sustainability Report relates to Knauf Insulation, part of the Knauf Group. This report refers to data from 2016 and activities from 2016 and 2017. For accuracy we may amend previous figures to new definitions.

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

United Nations countries have adopted a series of Sustainable Development Goals with the aim “to end poverty, protect the planet and ensure prosperity for all” by 2030. Here is how Knauf Insulation is contributing to these goals:



3. GOOD HEALTH AND WELL-BEING

UN goal: ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development.

We create products – such as Heraklith Wood Wool or our solutions with ECOSE Technology – that enhance building comfort and contribute to improved acoustic health and air quality. Besides our internal policy states we are committed to “ensure the health, safety and welfare of our employees and anyone else affected by our activities... and strive to continually improve our safe working environment”.

9. INDUSTRY, INNOVATION AND INFRASTRUCTURE

UN goal: investments in infrastructure – transport, irrigation, energy and communications technology – are crucial to achieving sustainable development.

Knauf Insulation is committed to the creation of near-zero energy-use buildings and supports campaigns for the energy-efficient renovation of existing building stock to be considered as infrastructure investment. Throughout our company we ensure “continual improvement in performance with regard to matters of product quality, energy, environment and health and safety.”

10. REDUCED INEQUALITIES

UN goal: to reduce inequality, policies should be universal in paying attention to the needs of disadvantaged and marginalised populations.

Knauf Insulation believes that the energy-efficient renovation of buildings must play a role in reducing the fuel poverty that impacts 11% of Europeans.

11. SUSTAINABLE CITIES AND COMMUNITIES

UN goal: to create cities of opportunities for all with access to basic services, energy and housing while improving resource use and reducing pollution and poverty.

Our public affairs teams campaign worldwide for more energy efficient buildings to create a more sustainable future for our cities and communities. Many of our products are created from recycled materials, while systems such as our Urbanscape® Green Roof Solution contribute to efficient stormwater management.

12. RESPONSIBLE CONSUMPTION AND PRODUCTION

UN goal: sustainable consumption and production aims at ‘doing more and better with less’.

Our Glass Mineral Wool is made with up to 80% recycled glass, while our Rock Mineral Wool contains recycled steel slag. We are on target to produce zero waste from manufacturing sites to landfill by 2020. We are committed to “having zero negative impact on resource use” in line with our company policy.

13. CLIMATE ACTION

UN goal: climate change is impacting lives worldwide. Implementation of the Paris Agreement – to limit global temperature rise – is essential to achieve the UN’s sustainable development goals.

Knauf Insulation is a strong supporter of the Paris Agreement and our company is dedicated to the manufacture of solutions that help tackle climate change. Besides we have already reduced our company’s CO₂ emissions by 25% since 2010.

15. LIFE ON LAND

UN goal: deforestation and desertification caused by human activities and climate change – pose major challenges to sustainable development.

All material for our Heraklith Wood Wool is sourced from woods audited by the Forest Stewardship Council or Programme for the Endorsement of Forest Certification. Our Urbanscape Landscape Solution has also been used to help sustainable development of green areas of Middle Eastern desert.

16. PEACE, JUSTICE AND STRONG INSTITUTIONS

UN goal: peaceful, inclusive and sustainable societies are built on access to justice for all and effective, accountable institutions.

Our code of conduct highlights our commitment to ethical and lawful conduct, fair competition, a rejection of corruption and bribery in any form, a pledge to fair conditions of employment, tolerating no discrimination and an obligation to protect the environment and natural resources.

17. PARTNERSHIPS

UN goal: successful sustainable development requires partnerships between governments, the private sector and civil society.

Knauf Insulation works with policy makers and non-profit organisations to promote issues related to better sustainable buildings from improved fire safety to better energy efficiency.

The fact that we have already achieved our 2020 target of reducing energy use by 20% is a major tribute to everyone at Knauf Insulation.

In 2016 our energy use was 20.9% lower than our 2010 base year and 3.4% lower than 2015.

There have been many factors that played a role in this achievement including a company-wide commitment to continuous training, constant checks, reinforcing efficiency awareness, regular feedback from operators, the sharing of best practices and the installation of new cleaner technology.

Our North American plants in particular have contributed significant reductions to the overall figure. Production improvements have been implemented marking a decrease of 35% in US energy use in 2016 compared to 2010.

Adding further momentum to our energy-saving initiatives has been a dedicated focus on ISO recertification in all our manufacturing plants.

Berin Onur, Group HSE Manager Systems Processes & Energy, said: *“Achieving recertification of all four standards – ISO 9001 (Quality Management), ISO 14001 (Environmental Management), ISO 50001 (Energy Management) and OHSAS 18001 (Occupational Health and Safety Management) – is testament to the hard work of colleagues from across our regions to honour our commitments to continuous improvement across all key sustainability metrics.”*

In 2010, Knauf Insulation was one of the first companies in its sector to achieve all four standards for European, US, Russian and CIS plants. The latest achievement is significant because four new plants – Albion, Inwood, Ajdovščina and Eskisehir also received certification.

LOCAL INITIATIVES

VISÉ, BELGIUM

Our packaging system zone at Visé is now energised by solar power following the installation of 920 photovoltaic panels – around 1,500m² – on the plant’s warehouse roof. The panels offer a total capacity of +/-250kW peak power.

ST EDIGIEN, GERMANY

Our St Edigien plant achieved an impressive 9% reduction in energy use for compressed air resulting in 170 MWh less consumption. The reduction is the result of regular surveys, frequent plant tours and awareness training.

AJDOVŠČINA, SLOVENIA

HSEEQ manager Natalija Domjanič received our East European HSEEQ Leadership Award for her work with the team at Ajdovščina. In addition to HSE successes, implementation of KIMS for our ISO standard certification by Bureau Veritas, improvements were achieved in energy management, particularly compressed air handling and lighting performance.

ALBION, NORTH AMERICA

New power monitors and a public data base at Albion enabled the plant to balance system loading to reduce energy and cut the operating pressure of the air system from 105 psi to 95 psi. Other initiatives included leak monitoring and fixes; the installation of LED lights and energy awareness meetings. A further 7.5 million btu was saved in heating energy by closing off plant exterior walls using unsaleable insulation panels.

KRUPKA, CZECH REPUBLIC

Krupka’s energy management was described as *“well implemented and a strong part of the integrated system with improved knowledge and communication on a plant level”* by auditors Bureau Veritas. The comments came following recertification in ISO 9001 (Quality Management), ISO 14001 (Environmental Management), ISO 50001 (Energy Management) and OHSAS 18001 (Health and Safety Management)

NORTH AMERICA

Our North American plants have seen a dramatic 35% decrease in energy use in 2016 compared to 2010 as a result of production optimisation. Measures such as the reduction of fiberisation units, the introduction of variable speed fans and improved energy measuring have all contributed to the reduction.

WATER

We have seen a decrease in water use of 9.8% in 2016 compared to 2015 and our water discharge has been cut by 0.3% during the same period.

In 2015 we celebrated a breakthrough year after achieving our 2020 target of reducing water discharge by 50% compared to our 2010 baseline year.

As for water use across the company, we have cut our usage by 17.1% compared to 2010 following a series of key initiatives such as using river water instead of potable water, the installation of wells and a major project at St Edigien.

LOCAL INITIATIVE

KRUPKA, CZECH REPUBLIC

The installation of a 161m-deep water well at Krupka has released huge reserves of non-drinkable ‘ground water’ for our manufacturing processes and cut the plant’s use of city drinking water by 30%.

In a landmark year that has already seen us achieve our 2020 energy saving target – we are delighted to announce that we have also cut our CO₂ emissions across the company by 25.1% compared to our 2010 baseline year.

“Our 2020 CO₂ target was a reduction of 20%, so to surpass that by 5% is a great achievement and – as always – a tribute to the dramatically improved awareness of energy use at our plants,” said Philippe Coune, our Group HSE, Performance & Sustainability Manager.

“The reduction is also in part down to a move to better technology. We have replaced two of our coke fuelled melters with gas systems which has helped contribute to lower emissions.”

While emissions of NOx have remained static from 2015 to 2016, emissions of SOx have increased by 39.5% during the same period.

“Across the company we are using more and more recycled material in the form of glass cullet and briquettes. Increased SOx emissions are unfortunately the inevitable result of using more of this material,” said Philippe.

WORLDWIDE

Knauf Insulation is pioneering the introduction of hybrid and full-electric cars across the company. More than 900 company cars are used by colleagues in Europe, Russia and North America and plans are underway to reinforce the incentive scheme and move the environmentally-friendly car fleet to the next level. *“We have not heard of any other major company carrying out a switch to green company cars on such a scale and we are delighted to be at the forefront of such a major commitment,”* said Patrice Briol, Knauf Insulation’s Group Human Resources Director.

Our company-wide goal is to convert our entire product range to ECOSE Technology. ECOSE Technology is made without the addition of any acrylic or artificial dyes and is mainly derived from rapidly renewable materials and contains no added formaldehyde. Our Glass Mineral Wool with ECOSE, for example, is certified by Eurofins Gold as an ‘outstanding material’ according to the Volatile Organic Compounds Indoor Air Quality emissions regulation.

LOCAL INITIATIVES

ST EDIGIEN, GERMANY

To achieve our target of cutting CO₂ emissions by 20% from our baseline year of 2010 to 2020 requires a reduction of 2% each year. At St Edigien we achieved a reduction of 3% from 2015 to 2016. This was as a result of the database storage of best practice settings from all operators which show shifts’ best practice energy performance indicators and stable processes. Energy consumption is also analysed on a daily basis and deviations tackled with best practice behaviour settings. The initiative has also seen compressed air consumption drop by 9%.

WASTE

2016 saw a slight increase of 3.2% in the amount of waste we send to landfill compared to 2015.

However, we are still on track to achieve our 2020 ambition of zero waste with an overall 54.8% reduction since 2010.

Company-wide our Nova Marof and Krupka plants continue to maintain their zero-landfill status while most of our UK plants returned to zero after sourcing suppliers who are able to use our waste for other products such as tiles.

So, what is behind the 3.2% increase? The start-up of a new production line at our Lanett and St Edigien plants lead to higher scrap rate, while St Helens is now in the process of sourcing a waste-handling supplier after being zero waste to landfill for many years.

LOCAL INITIATIVES

ST HELENS, UK

A new £10 million facility next to our St Helens plant will refine tens of thousands of tonnes of recycled glass into ‘furnace ready cullet’ that can be fed into the plant and spun into Mineral Wool. The furnace-ready glass reduces waste to landfill and keeps high quality glass in circulation.

STUPINO, TYUMEN, RUSSIA

Stupino has cut the amount of waste to landfill by 80% from 2015 to 2016. Rather than sending line bale scrap to landfill, the plant is now selling it as raw material for ceiling tile production. At Tyumen waste to landfill has been reduced by 40% following a separate plant waste collection initiative for external recycling and plans are underway to also sell bale scrap from the line.

SIMBACH, GERMANY

Off-cuts from our Simbach plant are being used as secondary material at our St Edigien plant in Germany.

GROWING OPPORTUNITIES

A new €100 million plant and significant investment at seven key facilities in Europe and North America underline our position as a leading player in the global insulation market.

Knauf Insulation has announced plans for a new €100 million Rock Mineral Wool plant in Europe following major production upgrades at seven key plants around the world.

With a production capacity of over 110,000 tonnes of Rock Mineral Wool, the new state-of-the-art plant will be located in the border region of Luxembourg and France and is expected to create up to 120 new jobs when it starts production in 2019.

"We have seen significant market growth in the Rock Mineral Wool market in the West of Europe as the result of new regulation and this investment further affirms Knauf Insulation's position as a leading player in the global insulation market," said Mark Leverton, our Regional Managing Director for Western Europe.

"The new facility will not only meet increased demand for our Rock Mineral Wool in France, Germany, Belgium and Luxembourg but also optimise new technology and product solutions that will ultimately enhance our customers' experience."

The key focus of the plant will be on the supply of construction applications such as contact and ventilated facades, flat roofs and metallic sandwich panels.

The announcement of the new facility follows significant investment at seven other Knauf Insulation plants.

To meet increasing demand in Eastern and Central Europe, the line at our Rock Mineral Wool plant at St Egidien in Germany was upgraded in early 2017 following major line improvements at Nova Bana in Slovakia and Skofja Loka in Slovenia.

Upgrades are now also planned at our facilities at Surdulica in Serbia and Nova Bana in Slovakia and our Visé plant in Belgium will restart its second line by the end of 2017.

Our North American customers will also benefit from the restart of our second line at our Inwood plant in West Virginia to support the growing demand for insulation and a preference for Knauf Insulation solutions.

Our CEO, Jean-Claude Carlin said: *"These investments are designed to be real game changers in terms of improving service to our developing customer base and also driving product quality to new levels."*

"We remain committed to maximising our global footprint through investing in improvements and increasing production capacity where necessary particularly in Europe where there is a strong regulatory framework. However, we have also identified some exciting opportunities for geographical expansion outside of Europe in the coming years."

2016 INVESTMENTS



ST EGIDIEN



FOUNDED 1968

ACQUIRED BY KNAUF INSULATION IN 2017

INVESTMENT: UPGRADED LINE

800 EMPLOYEES AT KNAUF INSULATION CENTRAL EUROPE



NOVA BANA



FOUNDED 1907

INVESTMENT: MAJOR LINE IMPROVEMENT

255 EMPLOYEES



ŠKOFJA LOKA



FOUNDED 1959

INVESTMENT: MAJOR LINE IMPROVEMENT

400 EMPLOYEES



SURDULICA



FOUNDED 1974

ACQUIRED BY KNAUF INSULATION IN 2005

INVESTMENT: UPGRADED LINE

100 EMPLOYEES



VISÉ



FOUNDED 1979

INVESTMENT: RESTART OF A SECOND LINE

350 EMPLOYEES



INWOOD



ACQUIRED 2014 BY KNAUF INSULATION

INVESTMENT: RESTART OF A SECOND LINE

226 EMPLOYEES

WHAT'S NEXT

A NEW PLANT IN THE



FRANCE/LUXEMBOURG BORDER REGION PRODUCTION TO START IN 2019



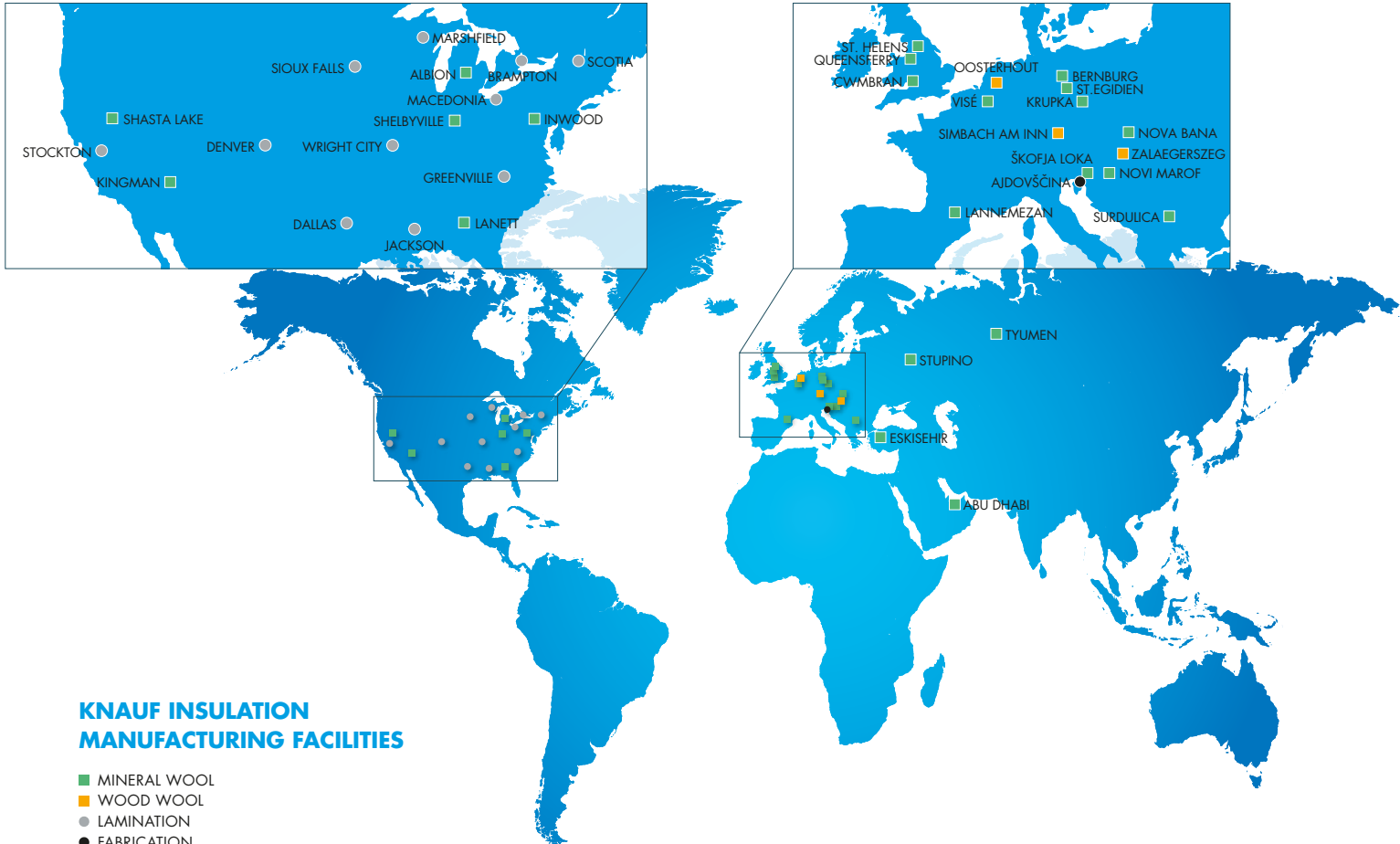
PRODUCTION CAPACITY

110,000 TONNES



120 NEW JOBS

KNAUFINSULATION



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