

K-WERT

35



100 YEARS

One history. One team. One future.

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Editorial



PETER EDELMANN
CEO

Dear colleagues and friends of KAEFER,

On the eve of KAEFER’s 100th birthday and after twelve exciting months as CEO, it gives me great pleasure to contribute my first K-WERT editorial.

One hundred years have passed since Carl Kaefer began using peat to improve energy efficiency in ocean-going ships in and around Bremen, Germany. One hundred years which by most accounts have seen more and faster change than any previous era in human history.

‘Zukunft hat Herkunft’ is a German expression which reminds us that the future is shaped by our relationship to the past. If there is a single secret behind KAEFER’s success over so many years, it lies in the ability of KAEFER people to continually adapt and learn throughout a century of non-stop change, whilst maintaining a shared commitment to the values on which the company was founded: trust, integrity, mutual respect, professionalism and teamwork.

Having already served on KAEFER’s Advisory Board for four years, I was aware of the company’s many strengths, not least the quality of KAEFER people. Again and again, on numerous trips to countries in all our regions and at ‘KAEFER Mittendrin’ meetings with different groups of employees here in Bremen, I have been struck by the levels of energy, enthusiasm and confidence evident throughout the company.

Having experienced first-hand these extraordinary levels of commitment, I feel even more determined to justify your trust, to navigate this great company through the challenges ahead, and to do my part in ensuring that the future will be no less prosperous and rewarding than the past.

We at KAEFER do not deliver services as individuals; world-class teamwork is crucial for our success, and I believe that trust is the ingredient which makes it possible.

The articles collected here tell a story of KAEFER’s dynamism and about a company founded on family values that is growing into a global, unified whole and of a company of dedicated professionals in dozens of different fields who are building together on recent successes and thinking creatively and collaboratively about how to meet the challenges of the future. This has not come about by accident. I hope you all recognise the important roles you play in meeting the needs of our clients and making KAEFER such an attractive place to work.

Thank you for your hard work so far. I hope you enjoy this year’s K-WERT, and wish you all the best for a successful centenary year. ←

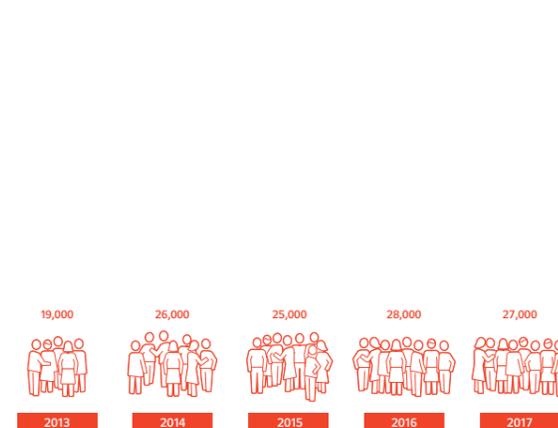
PETER EDELMANN
CEO

Turnover



Preliminary figures

Employees



Preliminary figures

KAEFER turns 100

Talking about continuity and change with new KAEFER CEO Peter Edelmann and fellow Board Directors Steen E. Hansen, CFO and Philipp Dalheimer, COO*

P. Edelmann: Since taking on the role of CEO in January 2017, I've spent as much time as possible listening. KAEFER is a family business, whose success over 100 years rests on values like trust and integrity. What's impressed me more than anything is how important these values are to people at the company. I've encountered a real desire to improve and take on more personal responsibility among both management teams and employees.

Additionally, while I already knew Steen and Philipp from my years on KAEFER's Advisory Board, a personal highlight for me has been how quickly the three of us have developed a close and mutually supportive working relationship.

“Since taking on the role of CEO, I've spent as much time as possible listening.”

P. Dalheimer: We all want the same thing for KAEFER: to secure the next 100 years! It's important that we take the time to consolidate and create a stable platform on which to build up, encourage innovation, and keep developing internally to stay on top of new technologies and changes in our markets.

P. Edelmann: It is a genuine relationship. We all feel a strong sense of responsibility for the people who work at KAEFER – we're a family company ultimately. It's our job to provide employees with security, clear opportunities to progress in their careers, and a safe working environment through initiatives such as KAEFER's Safety Culture campaign.

P. Dalheimer: Our HSE standards were already very good. To improve even more required that we make a shift from purely process-driven activities to something more meaningful. I'll admit I've enjoyed seeing the positive way in which the campaign has been received across the group.

S. Hansen: The same can be said about KAEFER's Lean Journey, which is now in its fourth year. Both programmes are gathering momentum and delivering concrete results. Transparency across the group has improved dramatically, with a real desire to share information and improve together.

“After an extended period of rapid expansion, our focus has to be on consolidation.”

The past year hasn't been without challenges, of course. After a period of rapid expansion, our focus has been on consolidation. Refining our portfolio of services, fine tuning the strategy, growing leaner and improving integration on a global level. The external challenges we face haven't really changed over the year. What's changed is that we're now in a better position to tackle them effectively.

P. Edelmann: Of course, we're all looking forward to celebrating the centenary. It's a fabulous achievement in which everyone at KAEFER should take pride, but we also need to remain realistic about the work ahead. For example, we're still putting a lot of effort into sustaining our lean journey. Meeting future challenges means ensuring that a lean mindset becomes second nature at KAEFER within the next few years. One important part of our job is helping people at every level of KAEFER understand the nature of these challenges, both externally and internally. We have a tendency to think in terms of individual services and individual projects. Moving forward, I want to find the words 'customer' and 'customer value' lodged at the heart of absolutely everything we do. Instead of going from project to project, we need to think seriously about how we can make ourselves indispensable to our clients on a more or less permanent basis and be the best performing industry service provider in our markets.

P. Dalheimer: That's a priority for 2018. Markets continue to mature. Inevitably, I think we'll see increasing concentration among both our competitors and clients over the next few years. Lean helps to differentiate us, but it won't be enough on its own. In developed markets, it's vital that we combine it with the effective digitalisation of our services. That's the greatest challenge we face right now – developing the capacity to offer genuinely integrated services to our clients, both in terms of platforms and the people who can operate them. In addition to our centenary celebrations, 2018 will see the rollout of our new Digital Project Management System (DMPS), which will be a huge support and help to our sites. It's always a good feeling when we can provide people in operations with a tool that makes their work easier.

“It's always a good feeling when we can provide people in operations with a tool that makes their work easier.”

S. Hansen: Digitalisation offers huge scope for improvement, not least in transparency across the group. It is also easier to exchange knowledge between regions and improve back-office processes to provide both a smoother service and more competitive pricing, whilst maintaining our exceptional track record in quality and safety.

P. Dalheimer: The priorities are slightly different in less developed markets, where our primary focus is on raising levels of professionalism. KAEFER's new Global Project Governance department is looking at how to improve the scalability and quality of our services, how to increase transparency, crack down on duplicate work and ensure a smaller administrative burden for our employees. We want to generate more and better information on what's happening in our markets, improve management capabilities and ensure we have the right people and resources in place to take advantage of any opportunities we do identify.

P. Edelmann: In some respects, the service industry has been insulated from the kind of revolutions that have periodically engulfed other sectors, such as the automobile industry. For all our efforts to the contrary, I fear we remain naïve about the degree of professionalism and standardisation still possible for us even in developed markets, but by adopting lean habits, embracing digitalisation and embarking on our new innovation journey (launched at the past International Management Meeting) we are certainly moving in the right direction by developing new customer benefits and further differentiating ourselves from the competition.

S. Hansen: Compliance is another topic I want to focus on in 2018. Six years have passed since we introduced KAEFER's Code of Business Conduct. It's important to shine a spotlight on issues like this at regular intervals, look with fresh eyes and reinforce good habits.

“People enjoy working at a business with values.”

P. Edelmann: I don't think it's an overstatement if I say we have plenty to keep us busy. But KAEFER's destiny remains firmly in our own hands, which is perhaps the best birthday present any company could hope for. Being busy moving forward on our own terms is hugely preferable to being pushed and pulled by factors over which we have no control!

As KAEFER turns 100, there's a tangible sense of confidence in the air. People enjoy working at a family company with values; it creates a strong sense of connection and trust, which is something customers respond to as well. KAEFER has set itself ambitious targets in recent years, but people have risen to the challenge, and there's a general feeling 2018 will be the year in which we begin to reap the rewards of all our hard work. ←

LOOKING BACK AND AHEAD
The KAEFER Board of Directors
from left to right:
Steen E. Hansen (CFO)
Philipp Dalheimer (COO)*
Peter Edelmann (CEO)



Happy 100th Birthday, KAEFER – here's to a hundred more!

The Directors of the Board are responsible for keeping KAEFER on course for another century of success. But what does that mean?

“You know a company is doing well when people come to work with a smile on their face in the morning, and leave in the evening with a real sense of achievement.”

PETER EDELMANN, CEO

“A place where employees, management and stakeholders all feel connected by mutual feelings of trust, pride and satisfaction.”

PHILIPP DALHEIMER, COO*

“Any company can survive; that's just a question of avoiding mistakes.” The way to make sure we really enjoy the next 100 years is simple – be the best!”

STEEN E. HANSEN, CFO

Meet KAEFER's new Chief Operating Officer

A fond farewell to Philipp Dalheimer, with thanks for his loyal service and many successes at KAEFER, and a warm welcome to Dr. Roland Gärber, his successor as Chief Operating Officer who starts on 01/01/2018 and joins us from Bilfinger SE, where he spent 12 years in a variety of roles and locations, most recently as Executive President of the Middle East Division.



“I joined KAEFER for the chance to make a genuine, worldwide impact on energy efficiency in industry. Few other companies of a similar size can demonstrate such a desire to innovate and take on new challenges.”

An enthusiastic swimmer in his spare time, Roland Gärber is keen to emphasise the importance of teamwork and fairness in everything he does. “The key to continued business success lies in encouraging people across all departments and regions to really think and act collectively.”

DR. ROLAND GÄRBER, COO

KAEFER – then and now

We spoke to three long-serving employees at KAEFER about how life has changed over the years...



At KAEFER's technical centre...



Having joined KAEFER in January 1978, Karl-Rudolf Friese led the "Zentrale Technik" (Technology and Research) department from 1991 until 2003. His career at KAEFER coincided with the development of a high-performance laboratory, which still remains one of KAEFER's key unique features.

The past 40 years have seen extraordinary advances in technology, with computers replacing the engineer's calculation book, the slide rule, the drawing board, the pencil, and the eraser, the cabinet for large-scale drawings, the light trap system and the TELEX machine.

It was almost a different world in 1978. Insulation engineers all carried notebooks with solid covers – the older the engineer, the thicker the notebook – and made their calculations on a variety of different tools – slide rules, tables, diagrams and nomograms, either plucked ready-made from books or created by individuals.

Calculators with scientific functions had come onto the German market a few years earlier, but were still seen as a status symbol. The original asking price of 2,000 Deutschmarks had fallen to about 400 by the time I started, a lot of money compared to about 60 for a first-rate slide rule.

When it came to the really complex calculations, we used a programming language called FORTRAN (Formula Translator). That meant booking time at an external data centre, where the programme was stored on punch cards and perforated tape.

“The first time I saw an actual computer at KAEFER was quite the moment.”

I'd just moved from headquarters to the shipbuilding department in Bremen, and was still learning my way around. I opened the wrong door. A worried-looking man appeared from behind a curtain. He wanted to send me away, but it was too late for that. He swore me to silence and ushered me through the curtain, where I came face to face with a Commodore PET 2001. They'd bought it without permission from central management – hence the curtain – and were using it to run technical and acoustic calculations for a shipbuilding project. There was no finished software and everything was stored on a 'datasette' (essentially a cassette recorder). Copying the results by hand was a nightmare, so the team invested in a digital wheel printer. Winter that year, we programmed the machine to print all the department's Christmas mail on adhesive labels in a single night. That was when people really began to see the potential!

As information technology developed, and the slide rule gave way to the PC, the telecaster to the e-mail, the telephone to the internet, and the trial-and-error experiment to the computer simulation, I'm proud to say that KAEFER's Technology and Research department has always provided a constant source of ideas and innovation for the company.

On project and maintenance sites...



Project Leader Reinhard Müller began his career as an apprentice at German KAEFER Industrie in 1973. Since then, he has accumulated more than 40 years of experience on project and maintenance sites around the world.

Today, there are three central workshops in Germany, where all the sheets are prepared before being delivered for installation on site. But when I started most sites had their own sheet metal workshop, and the men who installed the insulation would also have prepared it themselves. There were really only two insulation materials in those days – mineral wool and sheet metal – and a simple equation for working out how they should be applied to the pipes.

We still use mineral wool and sheet metal, which sometimes feels like the only thing that hasn't changed on site! The quality of insulation has improved beyond all recognition in the last 40 years. There are dozens of different insulation materials now, all assessed in ways we had hardly dreamt of in the 70s. New technologies, from mobile phones to the MABI cutting machines, mean we can pass on massive time and cost savings to our clients and offer overall a more reliable service even if it is less personal. We used to deliver tenders by hand rather than online, and raise a glass at the completion of a contract. Transparency is crucial, but I do sometimes miss the less formal relationships we used to have with clients.

“Change is change, neither good nor bad. Only when you look back do you realise how much of it there has been!”

I grew up in a small village – Bremen seemed a metropolis when I first arrived, and 12 years later I was training workers in Saudi Arabia.

KAEFER has been good to me, and I'm in no hurry to retire. I still find the job interesting and am proud to work for a company that offers proper training, a good wage and solid career prospects. We have a mentoring system on site for newly qualified insulators; the two I'm looking after at the moment are great, but it's not easy for them with everything run on the 'just in time' model. You can't stop progress, but I do think we had more time to develop in the old days, and perhaps a little more autonomy when we could decide for ourselves how much wool sheet was required for a given pipe, then cut and install it ourselves.

In the IT department...



Ute Klätte-Marth joined KAEFER in 1983 and is currently the Licensing Manager and Assistant to the Corporate IT Management Team. As much as anyone at KAEFER, she's been at the sharp-end of developments in information technology that have taken place over the last 34 years.

I'd just qualified as a legal assistant when a friend suggested KAEFER. I immediately liked the feel of the place. It seemed very future-orientated, though these things are relative, of course – unmarried women were still addressed as 'Fräulein' in those days, and there was a dress-code: suits for men and skirts for women. I remember one young man being sent home for wearing a pair of Bordeaux red corduroys.

I started on the first of February 1983. The department wasn't called Corporate IT then – for the simple reason being that the concept hadn't been invented. My first official role was secretary to the Head of Central Data Processing (Zentrale Datenverarbeitung), but within a few weeks I was also operating the huge Siemens mainframe. We printed literally miles of paper each month. A secretary from the HR department stood guard when it came to doing the payroll and then she physically transported the magnetic tapes to the bank to transfer everyone's wages.

The Siemens mainframe gave way to PCs, and one operating system after another – SINIX, AMBOSS, MS DOS. Issuing KAEFER employees with mobile phones became another of my responsibilities. To begin with, it was only people in management positions, but these were men who'd spent years working with their hands. The first generation never stopped complaining about the size of the buttons.

“Initially we were making major changes every few years, whereas these days managing and incorporating non-stop change is the job.”

We're used to it now, not just in the department but generally. People use information technology all the time, in their private lives as well as at work, and the software has become much more user-friendly. No more rows and rows of numbers scrolling across a blue screen!

We were a team of seven when I started, four women and three men all based in Bremen, and only responsible for KAEFER in Germany. Now there are more than 130 of us, dealing with KAEFER's IT requirements right around the globe. We're spread all over, but we're still a team, which I don't think would have been possible without myKAEFER, MS Office (especially Skype for Business), SharePoint, SAP, global network and the move from Desktop PCs to Laptops.

Recently, we were invited to take part in a Microsoft 'best practice' film, and held up as an example for others to follow. That felt good, knowing we were doing a good job, keeping up with the latest developments and making sure we make the most of them. ←



Casinohof .. Plönnerhof
Hermann Meyerhof

Carl Kaefler & Co.
Kälteschutz Wärmeschutz

KAEFER's Roadmap to Success

There are many ways to measure the success of KAEFER's business strategy. Major new clients, new service offerings and new local or regional developments all contribute to a global picture of confidence at KAEFER. Of course, an aim on its own is just words on a page, and the greatest credit for KAEFER's success goes to our employees across the world for all their hard work in earning the trust of new and existing clients. Together we are all coloring KAEFER RED – recognised, efficient and different.



Energies 2020 – the new KAEFER WANNER strategy

K-WERT spoke to KAEFER WANNER Managing Directors Thierry Platon and Pascal Fondimare (Finance and Business Development & Innovation respectively) to learn about the new strategy plan in France.

Thank you for finding time to speak to us. Could you start by telling us, why Energies 2020?



PASCAL FONDIMARE
Managing Director KAEFER WANNER

P. Fondimare: After two years of sustained change management at KAEFER WANNER, we wanted to give our employees a long-term 2020 vision rather than short-term yearly objectives.

The name Energies 2020 pays tribute to our clients in the energy sector. We also launched a new "tagline" at the beginning of the year, "Let's combine our Energies", and wanted to stress that

this strategic plan relies on the energy of our employees. They are the people who will make it happen!

In the simplest terms, the plan is our way of explaining where we intend to be in three years' time, and how we intend to get there. We want to secure our leading market position in insulation and scaffolding, as well as actively explore new ways in which we can further stand out from our competitors, which might mean expanding into new markets. The headline target is an annual turnover of € 200 million by 2020, excluding any external growth that may arise.

That's a very specific figure. How did you arrive at it?

T. Platon: We conducted a thorough business plan review with site managers and our sales force. We looked at all of the existing contracts, as well as potential contracts on a scale of likelihood.

The important point is that we developed this figure in consultation with our employees. No one should think of this as a burden, but rather as a clear and genuine vision for the next three years, a useful way of setting a course for everyone at KAEFER WANNER. The target figure is ambitious, but we strongly believe we can get there.

Why now? Was it just a feeling that the time was right for a strategic review?

P. Fondimare: What we've seen at KAEFER WANNER over the last three years has given us all confidence. Market conditions

change continuously; the trick is to anticipate, plan and react proactively. It's impressive enough when an individual manages it, but when you have 1,800 employees all on the same wavelength, it's nothing short of inspiring.

We had an internal meeting at the beginning of the year. Different people talked about the projects they were working on – high technology engineering, major industrial shutdowns, turnkey service contracts. KAEFER CEO Peter Edelmann was visiting from Bremen, and I remember how proud I felt that he was there to see such great professionals, all determined to help KAEFER WANNER fulfil its true potential.

Could you tell us a little more about the nuts and bolts? How exactly are you planning to achieve these goals?

T. Platon: The plan has three main goals. First and foremost, we want to further develop our core, profitable activities. Secondly, we want to expand into new markets through the active development of additional services. Thirdly, we want to foster a client-focused culture of innovation at KAEFER WANNER.

To achieve these goals – which correspond to the strategic goals of the KAEFER Group as a whole – we have launched 11 initiatives with individual sponsors.

These initiatives are varied, ranging from the consolidation of a dedicated Engineering Department to the legal reorganisation of the company or the development and implementation of a digital offering.

P. Fondimare: It's a collaborative process. Workshops are ongoing and we try to keep people informed across various platforms. Anyone with ideas or questions can talk to their supervisor or email the dedicated address – energies2020@kaeferwanner.fr

Unfortunately, we don't have time here to talk about all of these initiatives in detail. Do you think you could give us some more details on just one of them?

T. Platon: We want to make the legal structure of the company more operational, to make us more flexible and to help us really stand out from our competitors and enable future development through external growth. The new structure will see us divided into a single holding company – made up of all the administrative departments and responsible for the overall strategy – and two operational companies; KAEFER, which will focus on our core businesses and existing markets, and KAEFER Navale, will be dedicated to our expanding operations in the shipbuilding industry.

It's an ambitious plan, but you sound confident.

P. Fondimare: The success of Energies 2020 relies on the passion and dedication of our employees, as well as the trust of our shareholders. Teamwork is key. This plan, together with our combined skills and energies, will lead KAEFER WANNER to an exciting and profitable future! ←

ACCESS ALL AREAS!

Access solutions are a key and a continuously growing part of KAEFER's services. For KAEFER in the UK, their international reputation in scaffolding has been considerably enhanced over the last six years through the development of an in-house Scaffold Design Team.

The original aim was straightforward – to end the company's reliance on outside consultants. Formed in 2011, when Operations Manager Paul Ferrand recruited and trained two graduate engineers in scaffolding methods over a period of 18 months, the team now boasts six Scaffold Design Engineers who among them have produced over 1,000 designs for 117 different sites, ranging from simple towers, to highly complex lifting bays and rolling platforms. Individual members of the team have also travelled to Spain, Saudi Arabia, France and Belgium, sharing their knowledge and expertise with KAEFER colleagues.

By establishing best practices, the team has exceeded all original expectations, helping create solutions that result in significant cost savings for KAEFER clients. To further realise its true potential in the UK and around the world, the team embarked on an extensive development programme in July 2016, including a complete overhaul of old procedures to reduce administration, streamline the design process and introduce real-time tracking of all ongoing projects.

“Our main objective now is integrating our services at the earliest stages of projects and potential projects. With early involvement, the Design Team can create solutions which require less material and man-hours and thus reduce the tender price.”

JONATHAN LEYLAND UK Design Manager

Case study

One recent example of the design department's value involved the pricing of a significant job at Sellafield. The client approached KAEFER with concerns over an existing scaffold design and methodology; they had a strict timeline to carry out the works and were particularly worried about overruns. In short order, the KAEFER team were able to produce an alternative design. The completely new erection methodology, which offered huge potential savings (50% when compared against the designs produced by our competitor!) resulted in KAEFER winning the project. ←

Rope Access – from the UK to Spain... and beyond

There are many instances where rope access can provide a faster, safer and more cost-effective alternative to conventional scaffolding. Convinced of the benefits, members of KAEFER's Spanish scaffolding team flew north to train with colleagues in the UK and the new skills acquired there have been in constant demand ever since. In 2016, the Spanish team were in action painting tanks, repairing fire systems, installing anchors and lifelines, conducting inspections and carrying out painting work on cruise ships. In 2017 alone, they have been awarded nearly 30 new contracts throughout Spain for both new and existing clients, including Sabic, Dow Chemical, Ferti-beria, Navantia, Agitaser, CARPAU and LEDR Ingenieria.

All in all, an extremely satisfying way to mark the 10th anniversary of KAEFER's scaffolding division in Spain! ←



CCCM

Corporate Competence Center Mattresses & Materials (CCCM) – your first port of call for material supply, insulation mattresses and cryogenic insulation

Material supply

The Corporate Competence Center Mattresses & Materials (CCCM), based in Bremen, is a crucial resource for increasing the number of internal and external clients. Led by Peter Latacz, the team exports bespoke insulation materials around the world, to sites including oil refineries, power plants and cement works.

Thanks to an international procurement network, the team can source the right materials at the best prices for every job. Additionally, experts are available to provide 'on-site' supervision, ensuring the optimum installation of materials even in the most remote places on Earth.

Success story: Yamama Cement Plant

In July 2017, thyssenkrupp Industrial Solutions – one of the world's leading full-line suppliers to the cement industry – awarded KAEFER CCCM a contract to engineer and supply insulation materials at its Yamama Cement Plant Project in Saudi Arabia.

In the largest cement contract between thyssenkrupp and CCCM to date, the team is responsible for supplying materials for two turnkey cement clinker production lines with an overall insulation surface of 80,000 m².

In order to achieve the best possible value for our client, materials are being sourced and procured from around the world, and we remain on schedule to complete material delivery in 2017.



STEAM TURBINE
Tailor-made insulation by KAEFER

Mattresses

Developed and manufactured at our production facility in Hungary, KAEFER's tailor-made mattress insulation systems ensure that steam and gas turbine insulation is effective, easy to maintain and reusable. The CCCM team works closely with manufacturers, ensuring every one of our modular mattresses is a perfect fit.



KAEFER STANDARD INSULATION MATTRESSES
For industry applications

“A turbine is the heart of a power plant and just as complex as a real heart! Unusually, it has to be insulated for both hot and cold to deliver optimum performance at all times.”

PETER LATACZ Head of CCCM

Cryogenic repair without costly shutdowns

Traditional cryogenic insulation solutions (in use at LNG, ammonia and fertilizer plants, among others) can only be replaced during plant shutdowns. Continuing to operate with imperfect insulation while waiting for the next scheduled shutdown inevitably leads to significant additional costs for operators.

With KAEFER's unique on-line insulation system, however, cryogenic insulation can be replaced or repaired while the plant is still in operation (in systems operating at temperatures down to -163°C / -261.4°F)

For more information on this or any of the services provided by CCCM, please contact the Head of Department Peter Latacz at peter.latacz@kaefer.com ←

Materials supplied for a LNG vessel in China

Exceeding client expectations in the Middle East

KAEFER's manufacturing and prefabrication facility in Jubail continues to grow by leaps and bounds. Building on last year's developments, including the in-house production of flexible jackets and PIR manufacturing, in 2017 the KAEFER Jubail Paint Shop went live, with the capacity to apply an estimated 600 square metres of surface protection paint (to pipes, beams and other parts) in a single day.

“It's all about identifying the needs of our clients, then working out how to meet them as efficiently as possible,” explains Rajan Nair, Managing Director, KAEFER in Saudi Arabia.

Diversification in Saudi Arabia – in partnership with WTR

Last year's K-WERT brought news of a joint venture between KAEFER in Saudi Arabia and Walker Technical (WTR), a composite repair company whose patented Technowrap Composite can be used to re-instate or improve the design integrity of piping systems, tanks and vessels. It is resistant to corrosion and can be applied while pipelines are still in operation. Industry analysis shows that composite repairs cost on average 25% less than welded steel sleeve repairs and 70% less than replacing a damaged section of steel pipe.

Now well into its second year, the partnership is proving to be a resounding success. After establishing the required inventory and training operatives, an initial marketing push generated

almost SAR 34 million (approx. €7.5 million) worth of inquiries. Since then, in just one year, we have captured fully 45% of the existing market in Saudi Arabia and achieved significant savings on behalf of our clients.

With Technowrap's technical advantages and KAEFER's resources in the region, both partners are more than satisfied and are already looking at expanding into other countries in the Middle East. ←

Major new contract awarded to KAEFER Energy in Norway

Owned and operated by Statoil, the Mongstad plant supplies electricity and heat to the renowned Troll A platform, which is Norway's largest crude oil refinery and a gas processing plant at Kollsnes.

KAEFER Energy started work at the plant in May, providing Insulation, Surface Protection and Scaffolding (ISS) services. This two-year maintenance contract deepens KAEFER Energy's long-standing relationship with Statoil, which already includes ISS activities on the Troll, Åsgard and Kristin fields and at the plant in Kårstø.

The Mongstad plant contract is also the first in which KAEFER Energy will implement lean methodology from day one, a key consideration in Statoil's decision-making process. As Vice President Sigve Aabø says, “These are the contracts which really give KAEFER the chance to demonstrate the quality of our services and solutions.” ←

STATOIL'S MONGSTAD REFINERY
Photo: Statoil – Helge Hansen



DOW TARRAGONA

The highest tower ever scaffolded in the history of KAEFER in Spain



Brazil – a masterclass in client management

Part of the worldwide group of KAEFER companies, RIP in Brazil was delighted to win a major two-year contract with new client Arcelor Mittal Tubarao (AMT) at the end of 2015. The project involves deploying an average of 280 people per month on the hot repair of coke oven batteries, something which posed significant technical and logistical challenges. As with all projects for new clients, it also required the RIP team to come to grips with new scheduling, quality and safety standards. The difference on this occasion was the speed and creativity with which RIP met and exceeded client expectations.

Recognising early that there was room for improvement, the team initiated a lean programme, beginning with a Quick Wins workshop and continuing through a number of process improvement projects involving people from all departments and levels of the company. The results were remarkable as productivity increased significantly, overtime was reduced and planning grew more assertive.

“Lean provides a new way of conducting projects and prioritising improved management and planning.”

DICK ROGER Operations Manager

The team were no less proactive when it came to meeting AMT's stringent safety standards. Taking advantage of the fact that the Olympic Games were then taking place in Brazil, the team created its own 'Olympic' programme, designed to motivate employees to achieve medal-winning performances in safety documentation, suggestions and actions.

This ongoing programme has been a great success, with AMT singling it out for praise at their own annual Health and Safety Day. Together with RIP's commitment to lean, this has led to a much-improved client / contractor relationship. Talks are already under way on new contracts to run over the next six to eight years. ←

Strategic new client acquired in Spain

The year 2017 was an excellent year for KAEFER Servicios Industriales in Spain, which was bookended by two hugely satisfying new contracts.

Early in the year, when CEPSA tendered to find a new scaffolding maintenance partner for two oil refineries, three other contractors offered to perform the work at a lower price than KAEFER. Our success in winning the contract was largely based on the team's presentation, which included details on recent lean projects carried out for various clients. This was particularly satisfying as CEPSA are a new client for KAEFER in Spain, and have long been regarded as an important target by the team.

Then, towards the end of 2017 came the news that KAEFER Servicios Industriales had been awarded a new, three-year contract by long-standing client Dow Tarragona to supply multidisciplinary maintenance (including scaffolding, insulation, painting, passive fire protection and rope access work).

The goals agreed in both three-year contracts are ambitious, but the team is highly motivated, determined to exceed client expectations and make the most of these hard-won opportunities. ←



THE WINNER TEAM
Safety Olympic Games at RIP

KAEFER hits the Balearics

Two years ago, KAEFER in Spain had no presence on the island of Mallorca or on the Balearics for that matter. Thanks to hard work and KAEFER's reputation for excellence, the company is now providing 80% of insulation, surface protection and scaffolding work (maintenance and shutdown) on the islands. This extraordinary growth started with a single project on Mallorca which was scaffolding work on a shutdown at the Endesa power plant. Not long after that, KAEFER was awarded a maintenance contract at the same plant and the rest is history!

Or it would be, but the team aren't ready to rest on their laurels yet, having already identified opportunities for further growth at the islands' shipyards. ←

KAEFER in Belgium – new maintenance contract with key client Borealis

The KAEFER team in Belgium started to work on a new long-term maintenance contract with client Borealis in April 2017. Spread over five locations, the contract includes all scaffolding and insulation work.

“Our resources and our strong track record of co-operation across KAEFER entities, mean clients can trust us. It also means we're often able to offer significant cost-savings compared to our competitors.”

JOHAN BUYS Business Unit Manager

Determined to offer Borealis a 'full package', the team also offers services not directly specified in the contract, such as steam tracing and PFP. ←

KAEFER Thailand – new contract at the Mae Moh Power Plant

Superb collaboration from the KAEFER Estimations and Sales teams in Thailand and Malaysia has led to a major new contract at the Mae Moh coal-fired power plant. Owned and operated by Thailand's state-owned power utility, the plant is being expanded to meet the country's increasing energy demands.

This is KAEFER's first large-scale project with the leading global turnkey contractor Shin Eversendai Engineering. In total, the team in Thailand will install 19,000 m² of flat duct insulation across four new units at the plant, all constructed with the latest, most efficient and environmentally responsible technology. ←



Investing in KAEFER people – for a strong and sustainable future

People are KAEFER's most important asset. Finding and retaining the best people and helping them realise their full potential is fundamental to ensuring a strong and sustainable future for the company.

Eyes on the future – KAEFER in 2050



What will a KAEFER site look like in 2050? How will jobs at the company evolve over the next three decades? When K-WERT asked four young managers to provide us with answers, they sensibly replied with more questions of their own!



SIMONA POVILAVIČIŪTĖ
Procurement Manager,
Lithuania



TRENT NORTHOVER
General Manager,
Eastern Australia



PERRINE LECOSTEY
Project Manager at Flamanville Nuclear
Power Plant, France



RENÉ WENZEL
Lean Leader & Project Manager
KAEFER Construction, Germany

Will our world soon be powered by new forms of energy?

In 33 years' time, will KAEFER insulators travel to distant planets as members of multi-disciplinary terraforming teams?

Will new machines propel us around the world in the blink of an eye?

The implications for KAEFER's core services, whether we're talking about insulation, access, passive fire protection, surface protection or interior outfitting are potentially enormous. Based in four different countries, Simona, Trent, Perrine and René know each other well through their involvement with KAEFER's Junior Leadership Programme. All are aware that leading KAEFER through some, or all, of the above possibilities may form part of their future responsibilities at the company.

René: *We're still young, but we only have to look back at our own childhoods to realise how impossible it is to predict the future. There will be changes we can't imagine now, which means that sometimes we'll have to adapt rather than anticipate. It's a question of having the right attitude – head up, eyes open and always on the move.*

Trent: *But while it's impossible to plan for all eventualities, that doesn't mean we can't take an active role in shaping the future. Off the top of my head, I can think of a dozen new technologies which will have an impact on the way KAEFER operates.*

Suggestions come thick and fast from our four participants. Looked at together, these can be broken down into three broad categories. →

1

Big data and digitalisation

Trent: *Google can predict what I want before I know it myself. By engaging with big data, KAEFER can become similarly proactive in anticipating the needs of our clients. Today, everything is done in a hurry, which results in additional pressure on KAEFER. With proper analytics and predictive maintenance regimes, clients and service providers can align on a fit-for-purpose service that's cost effective, safe and innovative.*

Perrine: *In the nuclear industry, we're obliged to use a 'traceability system'. In practice, that means management, team leaders and workers all spend time creating documents, capturing data and filling out forms. Digitalisation should save us hundreds of man-hours – time which could be better spent seeking productivity gains and delivering a more efficient service for our clients.*

Simona: *The expectations of our clients are growing, which is absolutely right given the new tools we now have available. In addition to reducing the time we spend on repetitive tasks, digitalisation will provide us with a constant flow of information on how we can improve our services. The key is to have the right change management tools in place to make sure these improvements are properly implemented.*

2

Robotics and remote operations, including drones

Trent: *Whether it's the installation of insulation, fire proofing or scaffolding, our industry has been relatively resistant to mechanisation until now, but we can't expect that to continue.*

Perrine: *Robotics is a topic which worries people, but I'm hopeful the new technology will be used to reduce accidents and make work less physically demanding for our employees, through the use of exoskeletons for example. In the future, machines could be used for repetitive tasks, such as sorting and storing scaffold equipment, allowing people to spend more time on tasks which bring added value. And machines will still need to be supervised and operated.*

René: *There will be more remote and comprehensive observation of plant facilities, with cameras and drones feeding real-time images to operators and suppliers. Projects will soon be executed much more rapidly, as a result of better planning and given the longer hours that machines can work.*

3

Materials and logistics

René: *In terms of durability, materials are improving all the time, as is our ability to monitor degradation. Digital inventory tools, 3D imaging and laser-cutting machines will lead to improvements in how accurately and quickly we produce pre-fabricated insulation materials. And we've barely begun to get our heads around the implications of 3D printing!*

4

Change management – the key to controlling our destiny

Simona: *It's a world of possibilities. The onus is on us to develop the right processes for implementing these new technologies. We need to start thinking much more clearly about how rather than what. How can we standardise learning processes across KAEFER as a whole? How can we improve knowledge sharing and deepen the sense of a common culture at the company?*

Perrine: *I'm excited about what's to come. We all are, which makes us the lucky ones. But whether you're excited or nervous doesn't really matter. Change is going to happen regardless. To survive, we'll all have to develop new skills and take on different roles simultaneously and work at mastering new technologies. The challenge is to stay flexible and learn fast.*

Simona: *Yes, it's possible to argue that mechanisation will cost jobs. And yes, it's possible that drones or hover platforms might reduce the need for scaffolding and rope access services. A new generation of fire protection paints might require zero maintenance. A new, clean and abundant energy source might be discovered – let's hope so, but until that happens let's continue to make energy production as efficient and cost-effective as possible. When you actually look at current trends in energy production, the outlook for KAEFER is positive.*

René: *At a time when energy consumption around the world is growing exponentially our core services are all about energy efficiency.*

Trent: *The projects are there, and we will win more and more of them if we stay focussed on continuous improvement by engaging with new technologies and becoming more attuned to the needs of our clients. KAEFER is an amazing company with an incredible global brand, but we can improve even more by increasing our footprint on existing sites. Currently in Australia, we manage approximately 30% of client site requirements. By 2050, we need to have made ourselves indispensable, which means upping that 30% figure to well above 50%. With that, we will be a genuine 'full service' company that offers engineering, project planning and management services. That way, we also protect ourselves against fluctuations in demand.*

Simona: *The new communications and knowledge sharing technologies will help us become a more structurally dynamic company, allowing us to manage employees less closely, to show trust and encourage personal ownership over processes. Training is a huge part of this. People will be worried about increasing mechanisation. They need to see that we're actively planning for the future and making sure KAEFER employees always have the right mix of skills.*

Perrine: *Whether we are talking about clients or employees, everyone at KAEFER wants a company they can trust, particularly as they contemplate an uncertain future. It's not about any one thing. It's change management generally. Get that right and everything else will fall into place, up to 2050 and beyond. ←*



TWI SESSION IN SAUDI ARABIA
Classroom training at KAEFER's Jubail facility

Training Within Industry launches in the Middle East

In March 2017, KAEFER in Saudi Arabia successfully hosted the company's first Training Within Industry (TWI) session in the Middle East. Led by Head of Corporate Operations Excellence Dr. Alexander Faber, and held at KAEFER's Jubail facility, the two-day workshop was attended by 21 members of the operations team.

Closely connected to lean, TWI delivers in-depth training to large numbers of people in a short space of time. The four-step method was developed by the US military during the 1940s and then perfected by Toyota in Japan.

Step 1

Break the job down into closely defined steps

Step 2

Demonstrate while explaining key points

Step 3

Demonstrate while explaining key points and the reasons for the key points

Step 4

Trainees perform the task under close supervision

The potential advantages for KAEFER are numerous. As a company, we are often required to put large teams together to work on complex projects at very short notice. Inevitably, some members of a team might not have worked together before and may be accustomed to different workflows and processes. Occasionally, they may also lack a common language. TWI can help overcome all these potential obstacles thereby ensuring we deliver our services on time, without incident and in the most cost-effective way.

Following the initial success of the two-day workshop in March, four pilot projects were launched in the region to explore the benefits of TWI in more detail. ←

Staying in the Kingdom of Saudi Arabia...

The Saudi Government recently declared its 2030 vision for independent economic growth in the oil and gas industries. This programme, known locally as 'Saudisation', is part of a wider drive to help more Saudi nationals into skilled blue-collar jobs, and KAEFER is playing its part through the creation of a dedicated Scaffolding & Access unit.

So far, 40 Saudi nationals, nearly all of whom were existing KAEFER employees, have completed KAEFER's in-house Basic Scaffolding – Level 1 course, and are currently deployed at the Aramco site. ←

KAEFER UK in the local community

Determined to act sustainably, KAEFER in the UK strives to create and maintain partnerships within the communities where we work.

Over the last two years, we have formed a close working relationship with Nottingham Trent University, aimed at providing students with valuable work experience and the chance to make a difference in our business. The first joint initiative took place in late 2015, when four students spent a week at the South Normanton offices as part of the #Grads4Nottm initiative.

This successful collaboration continued a year later, when students were asked to design a process for implementing a KAEFER UK Customer Survey as part of the Nottingham Business School MSc Consultancy Project.

Whilst this was ongoing, we also supported Nottingham Trent University undergraduates in their "£10 Challenge". Starting with just £10, students had to raise as much money as possible through various entrepreneurial challenges. The KAEFER team raised a total of £394 for the John van Geest Cancer Research Centre.

"We've had great success working with Nottingham Trent over the last couple of years," explains Business Development Director Trevor Woodward.

"KAEFER gets a boost by working with bright young minds, and the students receive valuable work experience."

TREVOR WOODWARD Business Development Director

Rhys Buxton, who worked on the second #Grads4Nottm initiative in June 2016, recently started full-time at KAEFER; a perfect example of how the relationship with Nottingham Trent is proving to be a win-win situation for everyone involved. ←



#GRADS4NOTTM TEAM
Rhys Buxton, Trevor Woodward, Rezarta Dauti and Emmie Studencki (from right to left)



KAEFER APPRENTICES AT SELLAFIELD

Ryan Dixon, Elliot Armstrong, Callum Toole, Jake Moore, Owen Charlton, Greg Hewitt, Harvey Stainton, Richard Clarke (Access Contracts Manager)

KAEFER UK apprenticeships on the Sellafield site

At Sellafield, one key strategic objective includes a whole-hearted commitment to identifying and developing individuals from the local area. Determined to support this commitment, KAEFER offers various apprenticeships to the local community, including six young trainee scaffolders who started work on site in January 2017. All have made a great start to what we hope will be long careers at the company.

Elizabeth Atkinson, our Social Impact Manager for Magnox projects, explains the advantages of KAEFER's commitment to apprenticeship schemes:

"This kind of investment in people helps us achieve our business objectives at the same time as enhancing the skills of the local workforce. We recruit through a fair and open process, and we always offer feedback to unsuccessful applicants to assist with their future job search." ←

ELIZABETH ATKINSON
Social Impact Manager for Magnox

Launched in 2017 – the KAEFER WANNER Insulation Academy

KAEFER WANNER's core business is insulation. Earning and maintaining the trust of our clients demands that we keep pace with all the latest developments. In mid-2016 Pascal Fondimare and Eric Bacot (Business Development & Innovation Director and Lean Director respectively) kick-started a technical training programme designed to cement our position as France's undisputed market leader in industrial insulation.

The course was created over a period of months by a joint HR / Operations team, with particular thanks owed to trainer Jean-Noël Medelices, Technical Director Matthieu Blanquet and Method Coordinator Yann Quesnel. Then, in March 2017, the first intake of 17 highly motivated volunteers from all operational areas of the company arrived at our newly renovated training centre at Petit-Couronne to begin the year-long course, which will be continually improved and refined as we receive feedback from each successive group.

Our aim at KAEFER WANNER is to be the best. As a first step, we intend to benchmark our progress at the French national and at international insulation contests at the beginning of 2018. ←

WE Are KAEFER, YOU Are KAEFER – the Canadian road to success

In Canada, the results of KAEFER's second group-wide Employee Survey revealed room for improvement when it came to employee engagement and trust in the company and in its leadership. This prompted management to embark on a road trip in autumn 2015 to present these results in person to all employees at all office locations and project sites. These meetings developed into true vision sharing sessions, helping everyone gain a better understanding of KAEFER's strategic aims and his or her part in making them a reality.

One concrete result of these meetings was the following definition of employee engagement, arrived at collectively by our teams:

- We are team members who are self-motivated, interested, diligent and own our role in the company.
- In our day-to-day interactions with each other, we are ambassadors and aspire to demonstrate dignity, integrity, fairness, cooperation, tolerance, openness, respect and mutual appreciation.

Another result was the development and implementation of employee engagement workshops under our Road to Success banner – a clear visualisation of the formula: Employee Engagement + Team Building = Interconnectivity / Sustainability.

Designed to improve trust between management and employees, and open up new lines of communication, the workshops make extensive use of team building exercises such as scavenger hunts and structured explorations of how all the roles performed by KAEFER employees at all levels in Canada are interconnected.

Feedback from employees has been excellent, with people at all levels of the company asking for the programme to be continued. ←

Thailand – developing talent at KAEFER

Since joining KAEFER in 1997 as a clerk in the accounting department, Yaowares Santornsinsin (known as Noi) has developed into a truly dynamic leader, rising to the position of Maintenance Manager (projects). Noi leads one of the country's strongest departments that is responsible for nearly 50% of turnover.

"Noi has a knack for understanding the needs of our clients and making sure they're met. Her leadership is one reason we have repeat orders and maintenance contract renewals with clients like PPTGC, PPCL and TPC."

KRITTANAN AUAMKUL Operations Director KAEFER Thailand

As the only female Project/Maintenance Manager in the ME-SEA region, and one of relatively few at KAEFER as a whole, Noi has had to overcome more significant hurdles than many of her colleagues. As she herself acknowledges: "Any leadership position is a challenge, both in terms of personnel management and technical expertise, but I'd be lying if I said that being a woman in a male-dominated industry didn't add to the challenge. My philosophy is to be patient, work harder and demonstrate a 'can-do attitude', first to myself and then to my team. And, of course, I'm lucky to have great colleagues."

Noi's ambition and ability to thrive on ever-increasing levels of responsibility is something KAEFER values. We are proud of what she has achieved and remain as committed as ever to helping all our employees fulfil their potential and career goals. ←

YAOWARES "NOI" SANTORNINSIN
Maintenance Manager at KAEFER in Thailand



A new look for the Corporate Finance and Controlling department and a bespoke trainee programme

KAEFER operates in dozens of jurisdictions in a wide variety of fields and industries. Because it's vital that finance at KAEFER reflects this multi-faceted reality, a single Corporate Finance and Controlling (CFC) department was established in 2017, bringing all central finance related topics together under one roof for the first time.

The team of 15 acts as business partner to KAEFER entities worldwide and reports directly to the Board of Directors. This collaborative, inter-disciplinary approach gives KAEFER a true competitive edge in the marketplace; to make sure this continues long into the future, the team have designed their own unique trainee programme.

Divided into equal six-month periods in three key disciplines – Controlling, Treasury and Accounting – the programme also includes periods of off-the-job training with established external partners. On completion of the course, the successful candidate will be offered one of three positions – Business Controller, Treasury Manager or Junior Accountant – depending on personal strengths and preferences, as well as KAEFER's commercial requirements. ←

Technically, the best! Innovation at KAEFER

Since KAEFER was founded 100 years ago, innovation has been at the heart of everything we do. Whether pioneering the use of new insulation materials, leading the way on digitalisation or conducting unique experiments at the technical centre in Bremen, our goal is to provide clients with levels of expertise and professionalism impossible to find elsewhere.

One step ahead – brainstorming on ‘innovation culture’ at KAEFER



THE PARTICIPANTS (from left to right)
Dr. Alexander Faber, Head of Corporate Operations Excellence; Tobias Zaers, Regional Director Central and Eastern Europe; Peter Edelmann, CEO; Thomas-Peter Wilk, Head of Innovation & Technical Excellence; Andreas Pöppinghaus, Head of Corporate Competence Centers; Sabine Manig, Managing Director KAEFER Construction / Regional Director CONMAR

After nearly a year in his new role, KAEFER CEO Peter Edelmann has identified several key areas that require close attention, and prominent among these is innovation.

Long a source of pride at KAEFER, innovation is also a complex topic because it relies, as many people might think, on the ability to harness unpredictable sparks of creativity.

However, when Peter Edelmann invited several of KAEFER's most senior managers for an informal brainstorming session on the subject, one early source of unanimity turned out to be impatience with this myth of a lone genius working in splendid isolation.

But before taking on the myths, it's important to start at the beginning which is what the participants did with a working definition of 'innovation'.

P. Edelmann: To be genuinely innovative, a product or process must be appearing for the first time. It needs to name or solve a problem and demonstrate real and measurable commercial benefits based on creating an essential customer value combined with a unique differentiation. If these criteria are not met, an idea, however good, remains only an idea.

S. Manig: I can offer a good working example of how this looks in practice. Openings in bulkheads on passenger ships have grown larger in recent years, resulting in insufficient fire protection systems available on the market and lots of frustration for shipyards and owners. That was our call to action. Our engineers spoke to clients and classification societies and experimented with various prototypes. We worked with an external partner when it came to manufacturing the new fire safety products. The result is that we're the proud and exclusive retail-

er of globally unique fire sliding doors, roller shutters and stacking barriers, all of which meet an urgent commercial need.

A. Pöppinghaus: A great piece of work, which also supports a notion in which we in the CCC departments strongly believe, namely, that the best innovations almost always come from a close understanding of our customers. People get into routines, and a certain way of doing something soon becomes the only way of doing it. The more we observe our customers, the more we generate ideas and identify issues and sticking points. Then the hard work starts which involves identifying and testing potential solutions, often in partnership with an external consultant or institute.

S. Manig: It's the same ingredients: understanding the needs of our customers and working with external partners. Above all, it's about actively looking for opportunities to innovate, rather than waiting for them to fall into our laps. Following the success of our fire safety products, we wondered whether there were other opportunities we were missing. We brought in consultants to help us understand the true position of innovation at KAEFER's Construction and Marine division. On the upside, there's no shortage of good ideas. That turns out to be the easy bit. And we've got a great workforce; curious, engaged and with deep-seated confidence in their own creativity and ability to innovate. What we have to build now is a clear and open route to realising these ideas. We've already started piloting 'design thinking', which we hope to start rolling out more widely across the division in the next few months. First, we have to create more and better opportunities for people to exchange ideas. Then we have to build an innovation structure, using the methods and tools that can turn creativity into innovation on a regular basis. Empowering our people is the key to promoting a genuine culture of innovation at KAEFER. →

A. Faber: People underestimate how hard it is to actually realise an idea. I observed a project recently where many small improvements, from many people, quickly led to a 50% increase in productivity. Each individual contribution was crucial to the final result. Many people are uncomfortable with change and will often go to great lengths to avoid it. Lean has been helpful in showing people that it doesn't have to be terrifying, and placing more value on the kind of small changes which anyone at KAEFER can make is another good way of encouraging a cultural shift. At the same time, the decisive factor in the project I'm thinking of was the fact that it was led by someone with the right mix of creativity, diplomacy and stubbornness. People like this are rare, but we're lucky to have lots at KAEFER. But we have to get better at supporting them.

A. Pöppinghaus: Exactly. As much as we need to put new structures in place, we also need to identify and neutralise the obstacles in people's way. Innovation is always a journey into the unknown. It's impossible to say at the outset whether an idea will end in success or failure. Don't forget, people still have to perform their day-to-day tasks and take on additional risk. We have to look at how we incentivise and reward innovation, ensure that people have the right support to maximise their chances of success and make certain no one hides their bright ideas for fear of being blamed if things go wrong.

T. Zaers: And that's a question of good leadership. Anyone can have a great idea; what's vital is making sure that all these ideas – wherever they've come from – reach someone with the necessary expertise to judge their true potential. How can we get better at this? People get caught up in their own daily routines, and we in senior management need to ensure they have the chance to follow up on their ideas. An innovation process needs to be established group-wide at KAEFER; it needs to become a part of the company culture. We've made a good start, with our intranet platform ONE dedicated to improving the exchange of information, but there has to be a period of sustained leadership on innovation if we want to see good ideas bubbling up from all levels of the company.

The more people who feel empowered to look, listen, ask questions, make suggestions, the better. We have to make our employees curious, place our trust in them, give them the freedom and confidence to think for themselves.

P. Edelmann: It's not a question of whether we want to embrace change or not. We must – and one of the key leadership challenges we face is making sure that everyone at KAEFER understands this. No one should be under any illusion that they can simply carry on doing things the way they've always been done, but that doesn't mean we should throw unlimited resources at every suggestion. An essential part of any innovation process has to be a quality rating system which identifies the best ideas as early as possible.

“Internally, we're making progress when it comes to sharing information, and this will improve and accelerate as our program of digitalisation gathers pace.”

A. Faber: Digitalisation will do more than just help us get better at innovation. It's going to fundamentally change our whole industry. Companies which aren't already looking at digitalising will struggle to operate at all in just a few years' time, as customers stop wanting to work with them. At KAEFER, we've already made good progress; having started at the right time,

we now have a window of opportunity to offer our customers uniquely integrated services.

S. Manig: We can still improve our mining of other sources of information. We've already talked about developing a closer understanding of our customers, and I couldn't agree more. I'd like to see us start commissioning professional market researchers to help us think more broadly, not just in terms of our own services and projects, but also forwards and backwards through the whole life cycle of a project from the client's perspective.

T. Zaers: Customers want innovation as a route to increased efficiency and cost savings. They can support us in realising these benefits on their behalf by taking a more active role in helping us understand their needs and what makes them prosper. It's about opening a broader dialogue and making sure they know all the many different ways in which we can support them.

P. Edelmann: We're building from a position of relative strength. The fire safety products developed by KAEFER Schiffsbausau are just one example of innovation at KAEFER; several more were presented at our new 'Innovation Marketplace' during this year's International Management Meeting.

But while KAEFER is fortunate in possessing a huge number of innovative individuals, we all agree there's still more to do before we can talk about an 'innovation culture' at the company. I'd like to see us act on all the suggestions we've heard today. Lead by example. Refine our platforms so they not only facilitate the exchange of ideas, but also actively help identify the best of them for additional support. Keep refining our approach to hiring and training to ensure we have the best people with the right skills and a real desire to improve.

“Our ultimate goal is not to demand innovation, but to create an environment ideally designed to encourage it like a garden where ideas spring up like weeds, rather than a hot-house where each one requires non-stop care and attention!”

Fostering this culture of innovation is a task the new head of KAEFER's recently established Corporate Innovation & Technical Excellence (CIE) department can't wait to embark on. Working closely with the Product Excellence team, Thomas-Peter Wilk sees the CIE department as KAEFER's innovation engine room, powering the ideas of KAEFER people across all regions and business units:

T.-P. Wilk: Being innovative means mastering the art of the possible. Of course, this takes time, the right systems, guidelines and platforms, but a true innovation culture is built on supporting a 'can-do' attitude among employees.

At CIE, our goal is to do everything we can to make certain that good ideas are identified, supported through development and implemented in ways most likely to achieve success in the marketplace.

How will we do this? Through offering the right training courses, introducing the right systems, data mining programmes and technologies. Above all, our role is to maintain an active dialogue with regions and business units in order to make sure that KAEFER people across the world have access to the resources and expertise they need to make their ideas reality. ←

Norway – going digital at KAEFER Energy

Processing power continues to increase exponentially. New software solutions are developed in-house or appear on the market daily. What is regarded as cutting-edge today may be obsolete in a year's time. These developments create huge opportunities for improvement at KAEFER while at the same time raising the expectations of our clients.

KAEFER generally, and KAEFER Energy in Norway, operate in an industry which is often seen as 'traditional' and 'old-fashioned'. While there is some truth to the claim that a machine cannot fit insulation or erect scaffolding, there is no reason for complacency or to turn our backs on the possibilities offered by improved connectedness, live reporting and intelligent inventories (to name only a few).

Actively embracing these opportunities is crucial if we hope to fulfil our goal of being recognised, more efficient and different (RED).

That's why KAEFER Energy, with support from the KAEFER Group, is currently investing so much time and energy in the development of a Digital Project Management System (DPMS). Phase One in the development of this internal web solution involved the rigorous analysis of onsite requirements. Various solutions were tested by users, with the software continually being refined to ensure it can be tailored to the different demands of each unique project.

KAEFER Energy is currently running the first pilot projects and is looking in particular at how the DPMS improves fire box assessment, work orders and quality control inspections. To take the last of these as an example, the new software links quality control to the relevant activity. Operators can enter data directly on a tablet where it is synchronised with documentation for the actual work order. The objective is to make the working day easier for employees and to manage projects more efficiently and use Excel and paper as little as possible.

The DPMS will also have a positive impact on administrative processes, automating and simplifying actions that were previously done by hand. ←



KIPS IN ACTION
Monitoring of pipe quality

KIPS in Australia – monitoring pipe quality without removing insulation

Corrosion under insulation (CUI) is a real threat to the reliability of many of today's industrial plants. Researching this issue, the KAEFER Australia team identified an innovative solution with the potential to add real value for clients at risk of CUI.

CUI failures are often the result of localised corrosion. These failures can be catastrophic, and at the very least will have an adverse economic effect due to the likelihood of having to shutdown areas of the plant. CUI is difficult to identify because of the insulation cover that masks corrosion until it is too late. Often, due to gravity feed and cladding overlap sections, external cladding corrosion visible during a walk through does not reveal the true location of CUI.

Accurate and portable, very easy to use and fast (in some cases up to 200 meters per day compared to the circa 15m per day with traditional methods such as Ultrasonic or Radiographic Testing), KAEFER's Insulated Pipe Scan system (KIPS) can be used on pipes ranging from 20mm to 500mm (with an insulation range of between 10mm and 150mm) and on insulation materials including fibreglass, mineral wool, closed and open cell foam injection, Polyurethane (PUR), Polyisocyanurate (PIR) and fireproofing materials such as asbestos, Chartek® and Fendolite®.

Thanks to KIPS, clients in Australia now have the ability to assess the entire pipe location of "suspect pipe" without the expensive and time-consuming need to erect scaffolding and remove insulation. This is a cost effective, safe and efficient solution and a fantastic addition to KAEFER's core service, insulation.

Able to locate and identify problems in real time, KIPS can also be used in combination with Computerised Radiographic Testing (CRT) to determine pipe wall thickness, thereby providing a comprehensive asset condition assessment (turnkey solution to CUI identification). At KAEFER, our goal is to help clients maximise potential savings, which is why our detailed reports also offer analysis, remediation and repair options through our existing core services. ←

USE OF THE DPMS
Assessment of fire box

KAEFER technical know-how – whatever the conditions!

KAEFER's Corporate Innovation & Technical Excellence (CIE) team, based in Bremen, possesses world-beating expertise in simulating real world conditions to solve problems for our clients.

In 2017, on learning of significant questions concerning the application and maintenance of cold insulation systems (deep cold LNG pipes), KAEFER CIE decided to set up an environmental test under the most critical conditions (tropical environment) within the KAEFER Laboratory.

One of the main problems within such a system is water vapour barrier integrity because if a system is not sealed, ice forms in the pipe insulation system. The potential consequences can be serious; impaired insulation in tropical conditions can trigger abnormal evaporation of the LNG, leading to significant production losses and shutdowns.

The first step towards solving a problem is understanding it. In this instance, there were literally dozens of possible causes, including incorrect installation of the materials. Or it might have been that the extreme conditions were simply too much for one or more of the materials used. But if so, which one? The insulation itself? The adhesives, cleaners or sealants?

Worldwide, KAEFER is one of very few organisations with the know-how and technical resources to simulate a real-world environment under laboratory conditions. Following the exact procedures and material specifications used in the industry, the Technical Excellence team insulated a two-metre long pipe in Bremen's climate chamber. Over a five-week period, the temperature inside the pipeline was kept at -16.4°C, while the ambient was maintained at 35°C and 80% relative humidity. This was minutely monitored by 69 thermocouples and three heat-flow sensors, placed outside the pipe, on the pipe, in the pipe, in the joints and in the insulation material itself.



ENVIRONMENTAL TEST OF COLD INSULATION SYSTEM
Experiment set-up in KAEFER's Laboratory

The simulation revealed the cause of the problem: the speed at which the adhesive dried in tropical conditions made it difficult to finish the bond and sealing process. As a result, the insulation was less than watertight.

The huge body of knowledge built up by the Technical Excellence team over five weeks of tests meant they could advise on how to mitigate this issue through employing alternative materials. This is a perfect illustration of KAEFER's competitive advantage worldwide. Our unique in-house technical expertise, particularly in the area of failure mechanics, means our clients can be confident they are deploying the most sophisticated systems in ways designed to optimise usability.

For more information on how the CIE team can help you, please contact CIE@kaefer.com. ←

Brazil – investing in the right technology wins new work in the pulp and paper industry

RIP Serviços Industriais started work at Fibria's 'Projeto Horizonte 2' (one of the largest private investment projects in Brazil) in March 2017, when the team was hired by Andritz to provide thermal insulation for the dryer plant and Fiber line.

“After several attempts, this is the first time RIP has been awarded a contract by Andritz Brazil, a globally renowned company for turnkey projects for the pulp and paper industry. To a large degree this success is owed to our innovative approach, particularly our use of a UMFC truck (mobile computerised metal cutting unit).”

ROGÉRIO CASTILHO General Manager

The UMFC, which can be operated 24 hours a day, made it possible for the RIP team of 160 employees to meet the client's exacting deadline without any loss in quality or safety. In June, the team was even honoured with a safety award. ←

Crushing tins and saving money in Saudi Arabia

The KAEFER facility in Jubail in Saudi Arabia has become a constant source of good ideas. The latest in a long line has been the introduction of a machine to crush empty paint tins.

Uncrushed tins occupy more space in the skip and increase the volume to weight ratio. Since acquiring the new machine, the number of trips to dispose of them has been reduced from 26 per year to only five, leading to a savings of €7,300 over the same period, as well as being more environmentally friendly.

Several people need to be thanked for taking this idea from the drawing board to the workshop so efficiently, including Thomas Rehberg (Corporate Operations Excellence), Ravi Subramaniya (Regional Lean Leader Middle East), Shaid Karol (Procurement Manager), RK Palani (Manager Operations of Industrial Coating) and SK Nagore (Manager of Projects). As you can see, this has been a truly international and inter-departmental effort, and will surely help us become even more innovative in future. ←



BEFORE AND AFTER

Poland – focus on quality

Initiated in November 2016, Poland's new Quality Programme has been designed to encourage dynamism, ensure flexibility, and facilitate the introduction of new materials, technical solutions and technologies in our industry. The Quality Programme is made up of several complementary initiatives, including:

- Project Management Excellence
- Lessons Learned – exchanging opinions and looking for solutions during quarterly management meetings in Poland
- Manpower quality – including the creation of an internal personnel database to improve project management, training and career development opportunities
- Tendering processes – specifying clear rules and scope of activities
- Finance Gemba – strengthening the integration of finance and project management through regular meetings at construction sites
- Contractual clauses – creating a list of standard provisions aimed at strengthening KAEFER's economic interest in Poland

These and other initiatives which together make up the Quality Programme are already showing positive results. For example, the Manpower Quality initiative has led to the creation of a database allowing different departments to assign employees to projects in accordance with their unique skill sets. Up-to-date knowledge of employee skills is also enabling us to improve training and career development planning. ←

New! Integrated Management System in KAEFER ONE – Germany

When the world's most important quality standard – ISO 9001 – was revised in 2015, KAEFER in Germany took the opportunity to review its Integrated Management System (IMS) for the first time in 15 years. In this context, 'Integrated' means one uniform system which incorporates a range of management systems in addition to ISO 9001, including ISO 14001 on environmental management and OHSAS 18001 on work safety.

After examining various options, it turned out that KAEFER's new intranet ONE, which is based on functions and apps in Microsoft SharePoint, offered the ideal solution. Without having to procure special programmes, the DSQ (Safety and Quality, Germany) Project team was able to create a structure specifically tailored to KAEFER's needs, offering improved communication, risk management and knowledge management.

Structured as a 'process-house' and divided according to KAEFER standards into three stages – leadership, key project phases and support – the complete system was set up as a 'teamsite' in just three months and released for all KAEFER ONE users in time for re-certification. Auditors from DNV-GL have subsequently praised both the presentation and management of the new system.

The new IMS can be adapted to meet country-specific requirements without additional acquisition costs, and the DSQ team at KAEFER Germany are looking forward to sharing their knowledge with colleagues abroad. ←



QUALITY PROGRAMME
KAEFER Teambuilding in Poland

KAEFER Construction – improved project life cycle management in ONE

In May 2016, a question was raised during a KAEFER Construction (Germany) Steering Committee meeting. Surely, the time had come to create a central, uniform storage system, where everybody working at KAEFER Construction could find the various project management and lean tools currently in use.

Previously, these tools and forms (many of which have to be completed for compliance purposes, at different times and under various circumstances) were stored in different virtual locations, presenting a number of serious disadvantages.

Above and beyond the mere inconvenience, people new to a project or returning after vacation or illness struggled to find relevant documents. There was also a degree of uncertainty, even among project team members, as to whether they were working on the most recent version of a document.

More generally, the system as it was previously constituted failed to offer a genuine 'whole project life cycle (PLC)' overview. This had an impact on the smooth-running of individual projects, as well as on the ability of teams to learn from these projects and then share their experiences with colleagues.

The improvement process took place in stages, including analysis, design and testing of the centralised version in its new home – the KAEFER Intranet ONE. Officially launched in January 2017, the system was first used by the Façade department in Hamburg and quickly won the support of department head, Franz Themann.

“It's really simplified the number of tasks we have to carry out each day. We have access to all relevant documents at a single glance and everything can be updated from a single point.”

FRANZ THEMANN Department Head

To keep the new PLC system fit for purpose, it has been designed so that individual users can suggest and execute further improvements as and when the opportunity arises. ←



REFINERY PCK SCHWEDT IN GERMANY
KAEFER colleagues use tablets on a regular basis on site to check on orders or to document their work

Where to next on KAEFER's Lean Journey?

In just four years, lean has already had a major impact on life at KAEFER. Indeed, even lean's most enthusiastic supporters have been surprised by how far we've come. The articles in this section of K-WERT have been chosen to give a sense of the journey to date, where we intend to go from here and why it's so important to persevere with our commitment to developing a lean mindset at KAEFER.



"All aboard!" – Discussing the future of KAEFER's global Lean Journey



Dr. ALEXANDER FABER
Head of Corporate Operations
Excellence (COE)

For this 100th anniversary edition of K-WERT, regional director Ramneek Datt, regional operating officers Cristhian Schwartzmann and Stefan Oprée, Head of COE Alexander Faber and Corporate Lean Manager Patrick Barthold got together to swap notes on KAEFER's Lean Journey so far and plot a course into the future.

On surprises – an appetite for lean at KAEFER

A. Faber: I started at KAEFER in 2013. I remember whenever lean was discussed how much skepticism there was at the International Managers' Meeting that year. I couldn't have predicted how our lean journey has evolved over the last four years, with senior management fully behind the programme now and really driving it forward.

"There's a reason for that – the sheer speed at which lean generates results!"

CRISTHIAN SCHWARTZMANN
Regional Operating Officer Latin America →



“Before joining KAEFER, I’d already been working with lean for more than ten years, and it still takes me by surprise. One day, people are fighting the new methods as hard as they can, then the penny drops.”

STEFAN OPRÉE
Regional Operating Officer Western Europe



PATRICK BARTHOLD
Corporate Lean Manager and Head of the Lean Team

Patrick Barthold, Corporate Lean Manager and Head of the Lean Team, has an explanation for the speed at which lean is being embraced at KAEFER.

P. Barthold: When people get emails or memos, they think in terms of extra work. Whenever I’ve conducted lean trainings on site, I can’t tell you how many times people have told me it’s the first time they’ve been asked for their opinion. In one workshop, I saw a scaffolder show his managing director how the layout of a storage area could be improved.

“Some of the best ideas come from our blue-collar workers, but without the active support of management they’ll remain just that – ideas.”

With the right support, not only do they become reality, but the positive impact on morale is huge.

A. Faber: There’s no doubt that lean has gained momentum at KAEFER. Every week I hear that another project has been started without any prompting from the Corporate team, which is great news for the future of KAEFER. Margins in our industries are usually low and opportunities to compete purely on price are rare. Lean is something that differentiates us from our competitors. It’s a great extra value for our clients to work with KAEFER, knowing we continuously improve our processes.

On momentum – With such a groundswell of enthusiasm at KAEFER, can anything stop us from becoming a lean company?

R. Datt: Our clients appreciate KAEFER’s Lean Journey, and our employees feel more empowered to make a real contribution to the company. We’re making good progress when it comes to operations, but we’ve barely scratched the surface when it comes to logistics, sourcing materials, managing resources and administration.

“Too many people still think of lean as an optional extra or something for other people to worry about.”

S. Opreé: To move from an ‘optional extra’ mindset to a genuine lean culture, requires us to make sure that more and more people at KAEFER are personally experiencing the benefits.



RAMNEEK DATT
Regional Director Middle East

P. Barthold: Right now, many employees are still reluctant to raise issues with their bosses, for fear of being thought of as troublemakers. A lean culture is one in which problems are seen as opportunities for improvement. Where employees are thanked for raising issues by managers who have the tools to address them.

On priorities – short and medium-term goals in Latin America, the Middle East and Western Europe

R. Datt: In the Middle East, our goal is to reach a point in the next two years where we no longer need dedicated lean leaders, because by then every site manager, line manager and project manager in the region will have become his own Lean Leader.

C. Schwartzmann: In Brazil, our priorities are similar. We’re already introducing lean at an administrative level, as well as establishing lean in the phases prior to execution. Good leadership is vital – keeping on top of what works and why, providing high-quality feedback, celebrating success and helping people overcome their weaknesses – get it right, and the number of people who understand and use lean on a daily basis will explode.

S. Opreé: I’m not sure that any of the KAEFER entities in Western Europe will be truly lean in just two years. Some are further along than others and provide their own opportunities for people to share expertise and take on mentoring roles. We can certainly still improve anticipating the needs of our clients.

On priorities – in the Corporate Lean department

A. Faber: In addition to continuing our work with Lean Training and the Lean Development Programme, our role is to do everything we can to support you in realising your goals.

P. Barthold: We have so much knowledge in the company, but we still repeat the same mistakes when we start new projects. This is one area where Corporate Lean can really help, by fostering trust and facilitating the exchange of best practices. Above all by providing people with the tools, the training (including on new programmes such as Training Within Industry) and the confidence to implement their ideas.

On teamwork – leadership and trust on the KAEFER Lean Journey

“Good teamwork starts with good leadership.”

ALEXANDER FABER
Head of Corporate Operations Excellence (COE)

S. Opreé: When we say we want to be a lean company, we really mean we want everyone at the company to have a lean mindset, to think in terms of continuous improvement and see problems as opportunities. Most employees at KAEFER could probably tell you how to make half a dozen improvements without pausing for breath. Leadership means giving them the confidence to open their mouths, and it’s hard to say how long that will take. In some respects, I think we have to be patient.

A. Faber: We’ve taken huge strides in the last four years. More than 1,300 people have participated in at least one form of lean training, with over 450 line managers, project managers, site managers and lean leaders scheduled to receive a Lean Practitioner Certificate by the end of 2018. With numerous examples of international and inter-disciplinary exchanges in the last year alone, there’s a real sense that our journey is becoming a single, global lean journey. If that continues, then we can aim for a genuinely lean culture within the next ten years. With the lean journey and digitalisation, we will stay the preferred partner within the industry. ←



Latest developments on KAEFER’s Lean Journey

- Launch of the Lean Development Programme
- Module 2 Training – Improved lean site management training
- A new ‘Lean Project Approach Prior to Execution’ toolkit has been designed
- The introduction of Training Within Industry (TWI) techniques

Making lean part of everyday life – initiatives from around the KAEFER world

Poland

At the beginning of 2017, the management board at KAEFER SA – Tobiasz Zaers, Marcin Szularz and Mariusz Łotowski – together with Line Manager Tomasz Tłusty launched the ‘Lean in our hands’ competition, aimed at finding and celebrating the best process improvements developed independently by our employees. The first round of the competition has already led to exciting changes both on site and in the office, with the promise of more to come! Plans are also underway to develop a best practice booklet to ensure these initiatives become standard at all locations in Poland.

France

In France, scaffolding and thermal insulation performance is now measured each month on approximately 60 sites covering the industrial and nuclear markets. The data collected allows better site management and also makes it possible to identify monthly Lean Champions on each site, supporting our drive towards a culture of continuous improvement.

Germany

Patrick Winter (Head of Lean Management at KAEFER Industrie GmbH) organised a Lean BBQ as a way of thanking employees for allowing lean leaders to spend so many hours observing their working practices. This was a light-hearted event (though still conducted with lean efficiency – 120 sausages were grilled in under an hour and distributed to over 30 attendees!) which also served an important purpose; as management and staff spent time together in an informal setting, all were aware of the degree to which lean is becoming an integral part of life at KAEFER.

Middle East

Beginning in March 2017, all departments in Abu Dhabi get together at least once every two months to discuss new developments and challenges, and give presentations on best lean practices and initiatives at the company. The meetings are a great way of deepening inter-departmental co-operation; members of different departments can make suggestions, resolve misunderstandings and offer praise or criticism in a safe and official forum. On the initiative of Local Lean Leader Joseph Daniel, Qatar and Kuwait have begun holding meetings of their own. ←

KAEFER clients – loving the Lean Journey

KAEFER’s Lean Journey is making a significant and positive impact on how KAEFER is viewed by existing and potential clients, some of whom have become actively involved in lean projects and training.

In the UK, for example, representatives of client E-ON were present at lean meetings ahead of a planned outage at the Ratcliffe Power Station, resulting in numerous small improvements which have led directly to significant and sustained gains in productivity.

In Norway, representatives of client Aibel participated in an ‘in-house’ Lean Module 1 training, conducted at the Johan Sverdrup project and Aibel’s yard in Haugesund, where KAEFER Energy is delivering insulation, surface protection, scaffolding and interior outfitting services.

Seeing and understanding KAEFER’s commitment to continuous improvement has led to improved project planning and new levels of trust between KAEFER and Aibel, as several of the participants from Aibel were kind enough to make clear:

“The course was informative and helpful. When processes are visualised and broken down on the board, it’s possible to identify new efficiencies. I’m sure we’ll implement some of the lean principles on projects I’m involved with.”

FOREMAN, CENTRAL WAREHOUSE
Aibel

“The week’s training showed me how it’s possible to get a better overall understanding of our projects. The more people who understand the inventory capabilities of a yard, the better for everyone.” ←

WAREHOUSE COORDINATOR
Aibel

Leading KAEFER into the future – The Lean Development Programme

The Lean Development Programme (LDP) was launched in March 2017. As part of the KAEFER Academy, it has been designed to give employees the tools they need to become process improvers and coaches. It covers lean principles and methodologies, change management and coaching, and provides practical experience of lean projects. The programme is supported by experienced internal and external trainers.

“Talk to your supervisor about joining the Lean Development Programme today. Because KAEFER needs Lean and Lean needs you!”

PATRICK BARTHOLD
Corporate Lean Manager and Head of the Lean Team

Aimed at line managers, project managers, site managers and lean leaders, the Lean Development Programme helps KAEFER employees develop new skills and gain valuable insights into how lean can help us stay ahead of the game. The LDP has been designed to standardise lean levels around the world, unifying us as one group.

Applicants should already have received some training in lean methods, and ideally will have participated in at least one lean project. Every application represents a small step forward; all of us are working together and helping to make KAEFER a little bit better each day. ←



CERTIFICATION LEVELS OF THE LDP



ANDREA REHBERG, AXEL SCHULZ, SAURABH DESHMUKH, PATRICK BARTHOLD, REBECA TALAMANTES (from left to right)

Who's who in KAEFER's Corporate Lean team?

Based in Bremen, the Corporate Lean team is responsible for KAEFER's overall Lean strategy and is helping us develop from a company that does lean, into a lean company. The team prepares KAEFER's lean training programmes and co-ordinates with regional managers and lean leaders.

Patrick Barthold

Corporate Lean Manager and Head of the Lean Team

A family man, a physicist by training and the former COO of a research facility, Patrick spent two years travelling around the KAEFER world as a Global Lean Trainer before taking up his present position as Corporate Lean Manager.

“By training others in lean methods, I want to help people find creative ways of overcoming obstacles in their daily work. For me, the most rewarding part of my job is seeing someone I've trained get enthusiastic about making improvements.”

Andrea Rehberg

Lean Journey Assistant

Andrea Rehberg takes care of the administrative tasks relating to Lean and is the backbone of the corporate team. She enjoys spending time with her family and is a keen volleyball player.

“KAEFER's Lean Journey is both exciting and important, for individual employees and the company as a whole.”

Axel Schulz

Global Lean Trainer and Coach

A keen sportsman and traveller, Axel was a lean consultant for the manufacturing industry before joining KAEFER. He has a special interest in seeing how our Lean Journey, combined with increased digitalisation, helps us stay ahead of competition.

“I love my job because I can see people pass on what they've learned. If everyone improves and coaches every day, we can provide an unmatched quality of service in our sectors.”

Rebeca Talamantes

Global Lean Trainer and Coach

A dancer and swimmer in her free time, Rebeca worked as a project engineer and lean coordinator before joining KAEFER in her present position.

“At KAEFER, we're creating an environment where associates feel respected and encouraged to use their creative abilities.”

Saurabh Deshmukh

Global Lean Trainer and Coach

An enthusiastic photographer, before joining KAEFER Saurabh worked as a lean consultant across the sports, automotive and renewables industries.

“For me, one very important element of lean is that it makes our employee's life easier and keeps our customers satisfied. I believe, by spreading lean in KAEFER I can make a positive impact on many lives.” ←



EPR FLAMANVILLE
Photo: EDF

Attention to detail pays dividends in France

Having successfully run major lean projects at several sites in France, the KAEFER WANNER lean team turned their minds to a new question: How to stop people falling back into old habits and keep them actively searching for new ways to improve.

The best way to find the answer was obvious, namely, to use lean methods to analyse the strengths and weaknesses of the LMS (Lean Site Management) itself! The team spent a week at the EPR Flamanville site in April 2017, which was chosen for its impressive management and because a traditional lean project was conducted there in 2015. Using new, quality measurement tools such as “Vis ma vie” and “Focus Group” they were able to identify several opportunities to further strengthen the culture of continuous improvement at KAEFER WANNER:

→ Whilst the existing system tackled major issues with well-resourced lean projects, smaller problems (recurring errors, quality or safety defaults) were frequently overlooked or treated as “business as usual”.

→ By further developing the scaffolding performance indicator into a more practical one (easier to use in the field), it would be easier bring staff and management together in pursuit of common targets.

The next stage – experimentation and implementation – took place in autumn 2017 at two separate sites, one focused on insulation and one on access, with the stated intention of building a methodology to continually address and solve smaller problems.

Based on feedback from this project, the team hope it will become standard practice in France to follow each major lean project with another focused on making lean methods a part of the everyday culture at KAEFER WANNER. ←

NORDZUCKER
Sugar silo in Sweden



The KAEFER Industrie Best Practice Booklet

Improvement is a collaborative process, which is why KAEFER Industrie in Germany produced a Best Practice Booklet in 2017. Distributed among branch managers, project managers and site managers, the small booklet is made up of a series of lean case studies from 2015/16 and provides visual, easy-to-read summaries of a variety of proven process achievements.

“The impact of this small booklet has exceeded all expectations. Some of the process improvements it describes have already been introduced on sites where no lean projects or lean training have been conducted!” ←

PATRICK WINTER
Head of Lean Management KAEFER Industrie

Taking a lean approach to the sugar industry

As KAEFER's knowledge of lean methods continues to grow, clients and employees alike are beginning to experience new levels of planning certainty. This played an important role when KAEFER recently won a contract to provide insulation and interior coating at a 80,000 tonne sugar silo in Sweden, owned and operated by German-based Nordzucker AG.

Even before execution began in April 2017, the client and sub-contractors were involved in pre-site training, which included a lean workshop on overall process analysis, process planning and productivity targets and testing for a new status management software solution.

This lean project, which came to a successful conclusion in October 2017, demonstrated perfect co-operation between KAEFER Industrie (who delivered the insulation component), and KAEFER Montage (Wiegand) (responsible for coating). In addition, having taken daily productivity measurements during project execution, the teams learned lessons which will be of great value on future projects for the sugar silo industry. ←

International co-operation at KAEFER – South Africa in the UK, Canada in Norway

KAEFER companies around the world are making huge progress on their individual lean journeys. Some have also been discovering that opportunities for improvement come even faster through collaboration with colleagues abroad.

South Africa to the UK – shutdown planning

The team in South Africa had been attempting to apply lean methods during power station shutdowns, so when Lindile Nojontsholo (Lean Leader in South Africa) read about KAEFER UK's success in applying the same principles he was determined to learn more. The UK team, led by Bob Paduch and Graham Worsley, invited him over to sit in on the planning stages of a shutdown operation at Ratcliffe Power Station, then return a second time with Contracts Manager Johann Torre to observe the actual shutdown.

“Sharing best practices across borders results in broader benefits for KAEFER as a whole.”

LINDILE NOJONTSHOLO
Lean Leader at KAEFER in South Africa

The team in South Africa are working on plans for a lean shutdown of their own, combining what they've learned in the UK with their knowledge of the specific market and cultural conditions in South Africa. The different working cultures in the two countries were the subject of lively discussion between the teams, and Bob Paduch is currently planning a reciprocal visit.

In the meantime, Lindile and Johann would like to thank the whole KAEFER team at Ratcliffe Power Station for making their visit such a success.

Sharing best practices – Canada and Norway

“I made some great connections with other Local Lean Leaders during this visit and the sharing continues today. Time saved by not repeating mistakes is spent on moving forward.”

JO-ANNE VITEK
Lean Leader at KAEFER in Canada

As the only lean leader in Canada, spending time with colleagues abroad is a particular priority for Jo-Anne Vitek, who visited project sites at Haugesund and Karsto in October 2016. Jo-Anne was particularly keen to learn about KAEFER Energy's approach to early project planning and potential improvement analysis.

Lean Leader Trond Magne Susort arranged Jo-Anne's access at each site, where project and operational managers were happy to share the benefits of their experience.

“When I returned to Canada, we applied the concept of a ‘pre-site start’ to a pipeline project for Cenovus Energy. We were able to implement several improvements even before we arrived on site, resulting in better team performance, increased productivity and a very satisfied client.”

JO-ANNE VITEK
Lean Leader at KAEFER in Canada

A representative of the client in question, Monty Hillaby (Well Delivery Pipeline Construction Coordinator at Cenovus) was kind enough to provide a statement for this edition of K-WERT:

“The subject of lean first came up during a kickoff meeting with KAEFER. I liked what I heard and wanted to learn more.”

Like any company, we're always looking at ways to reduce our costs. We've been successful with this in lots of areas of our company, but have always struggled to make improvements when it comes to insulation. So, it was refreshing to see a contractor taking a serious look at how they could reduce installation time and costs – without compromising on safety and quality – in ways which could also lead to savings on future projects.

One thing we noticed before the project started was that manpower seemed lower than usual. We told KAEFER we'd be monitoring this closely. I'm glad we did; it meant we saw first-hand how their improvements have led to better productivity AND less manpower in the field.

One other area of concern for me was how management as well as the crew members would react to lean. Sometimes change does not go over very well. An even bigger concern for Cenovus is safety and quality, and in most cases if the change is not accepted, these two areas could really suffer. I'm pleased that this also does not seem to be an issue. The project manager, superintendent and crew members have all embraced lean and are also seeing the benefits. Safety, quality and schedule have not been jeopardised in any way on this project, and in fact this has been one of our top projects in all three categories.

The people at KAEFER have been upfront about what they've learned from lean. Once the current project comes to an end, I'm looking forward to sitting down with them and hearing about the approach they'll be taking on future projects.” ←

MONTY HILLABY
Well Delivery Pipeline Construction Coordinator at Cenovus



Health and Safety at KAEFER

Looking back on KAEFER's long history, we believe our formal health and management systems are second to none. In 2015, we recognised that further improvement required something more ambitious, namely, the establishment of a worldwide safety culture that would deepen trust at every level of the company so between colleagues, between management and staff and with our clients and suppliers.



KAEFER's Safety Culture gathers momentum

Most people are familiar with the headline figures by now: KAEFER is a global company with approximately 27,000 employees at work in over 40 countries and an even greater number of languages. Our challenge is simple yet daunting and involves establishing a positive and lively safety culture across so many borders.

Key to our success so far has been training. Working closely with a German-based centre for applied psychology, Thomas Eickhoff and the Corporate Health, Safety and Environment (CHSE) team developed a unique safety culture training course that draws on many practical examples from their own experiences.

This course deliberately attempts to shift the conversation away from rules and regulations. Safety culture is determined by everyone thinking, talking and living health and safety on a daily basis. The course seeks to ensure:

- That line managers understand their position as role models.
- The promotion of an open error management culture. Zero accidents is deliberately viewed as a vision rather than a goal because this allows us to communicate openly and honestly, to learn from our mistakes and use them to establish best practices.

"I really liked that practical approach. It's not all about paperwork and ticking boxes. It's about the safety culture in the company and how we manage that."

CHRIS HUNTER
Managing Director KAEFER Nederland B.V.

To date, 1,300 employees in 15 countries have attended the training, and we remain on course to meet our goal of having trained 75% of line managers by the end of 2017. The speed at which we have been able to roll out this training is largely due to the implementation of a 'Train the Trainer' programme.

Designed for health and safety professionals, this three-day course explains how to communicate the principles of a safety culture, how to reach out and convince people and how to cope with difficult personalities. So far, 11 internal trainers have participated in the course. All have successfully begun to hold safety culture sessions in their respective regions and in their local languages. One major advantage of this approach is that it allows us to create group-wide standards for health and safety, without losing sight of local conditions.

A personal journey

After participating in the Train the Trainer program, Jaakko Myllymaa (Site Manager at KAEFER Oy) was the first of our internal trainers to deliver a course in his home country, Finland, in August 2016. He tells us how it went:

"KAEFER in Finland is relatively small, made up of three main work sites – Olkiluoto Nuclear Power Plant, Turku Shipyard and Porvoo Refinery. This means that we were able to train almost everyone in a short space of time. More than anything else, I was surprised by

the sheer level of enthusiasm. Previous health and safety sessions have sometimes been regarded as a necessary evil, but these were characterised by vivid discussion and a lively exchange of opinions. As I was listening, I realised how much experience and knowledge we already had that wasn't being used to the best effect.

I think all of us in Finland have been converted. Now, it's just a question of walking the talk; we've put several benchmarks in place to guard against back-sliding, including taking the next step on (key-client) Shell's Hearts and Minds Culture Ladder."



JAAKKO MYLLYMAA
Site Manager at KAEFER Oy

At KAEFER, our goal is to offer this training to all employees. With so many people working at the company, this will inevitably take place over a period of years. In the meantime, a strong communications campaign is supporting the work of our trainers. Posters have been on display at offices and work sites for the last 18 months that emphasise how important our colleagues are to us. We should always be mindful of the fact that accidents at work have a greater impact on personal lives than on the smooth running of a project. Health and safety displays have recently been introduced in KAEFER meeting rooms across the world. ←

Advantages of a vivid Safety Culture

Fewer accidents

We are already observing improved awareness in line managers and blue-collar workers who have undergone the safety culture training, and we expect this to have a substantial impact on our safety figures.

More and happier clients

Our commitment to a culture of continuous improvement opens doors with both potential and long-standing clients. Several people have taken part in our KAEFER Safety Culture training and adapted the material to their own needs.

KAEFER teams in the UK and South Africa both awarded prestigious safety awards for the third year running



KAEFER in the UK has once again been successful at the Sellafield Management of Contractors Annual Safety Performance Awards. For the third year in a row, the team won a Health and Safety Performance Award, as well as the first ever Chief Executive Award for Overall Health and Safety Performance, which was introduced to distinguish the best performing contractor on site.

When presenting the awards to KAEFER, Sellafield EHS&Q Director Euan Hutton commented, "KAEFER has consistently delivered high standards of safety performance, demonstrating year on year improvements, excellent collaboration & co-operation with Sellafield Ltd and a commitment to meeting and exceeding the Sellafield Ltd contractor standards."

In particular, KAEFER has excelled in dose management through the use and adaptation of rolling scaffold technology which is more commonly used in roofing. These structures, which can be erected in lower dose areas and moved when required, have led to dramatic reductions in dose uptake on site.



KAEFER IN SOUTH AFRICA
Contractor of the Year

In South Africa, KAEFER Thermal was named Contractor of the Year for the third time running at the Richards Bay Coal Terminal (RBCT) – one of the world's leading coal support terminals. In addition, the KAEFER team on site were also named SHE representative of the year and placed second in the Peer Educator's category. While this is justifiable cause for celebration, Contracts Manager Vicki Ishwar and the team of 60 were quick to stress that this year-on-year recognition only motivates them to work harder. ←

HSE milestones 2017

Germany (Construction)
1 year without LTI

Qatar
30 million man-hours without LTI

Saudi Arabia
30 million man-hours without LTI

Malaysia
3.3 million man-hours without LTI

Thailand
18 million man-hours without LTI

Belgium/Netherlands
7.5 million man-hours without LTI

United Kingdom
1 year without LTI

Spain
5 years without accidents
(Cartagena Branch)



Apprenticeships at KAEFER – 1958 and 2017

There's an old truism that the secret of growth lies in finding the right mix of change and continuity. One reason KAEFER is celebrating its centenary in such good health can be traced to a determination – consistent across many decades – to find and retain the best people.

Walter Schubert and Milagros Orozco may have begun their careers at KAEFER nearly 60 years apart, but there are still striking similarities in their stories. One example? Both initially found their way to KAEFER via the good offices of a parent.

W. Schubert: *My father worked at a hairdressing salon in Bremen. One day, a young man came in to have his hair cut, and my father asked what he did. Heiner Finke, who subsequently became a friend, was an apprentice at KAEFER. I was just 14 at the time. My father came home that evening and informed me I was going to become an insulation fitter.*

M. Orozco: *I was studying electronics in Madrid when my mother told me about an event in the city. An employee from BAU-ABC Rostrup was explaining the opportunities available to EU nationals in the German construction industry. Straight away, it was the KAEFER approach which caught my eye because it offered the best mix of theory, practical experience and good, long-term career prospects.*

Milagros was older than Walter by six years when she began her apprenticeship at KAEFER, and had already completed a degree in science and technology, as well as a two-week internship in Bremen and an intensive, six-week German language course. Both, however, found themselves rising at 5 am and cycling through the pre-dawn light to KAEFER's facility at Bremen Gröpelingen.

W. Schubert: *I remember my first day. We were 14 apprentices starting together. KAEFER didn't provide protective clothing back then, so I turned up in beautiful blue overalls which my mother had bought me. We spent the whole day unloading three wagon-loads of glass wool and the overalls were ruined by the time I went home, exhausted.*

Not only were apprentices expected to provide their own protective clothing in those days, they were also expected to master their new trade by watching and learning as they went. On Walter's second day, he and his fellow apprentices were all given jobs at different sites, and though they met up again in the classroom every Thursday, there was no formal instruction on site.

W. Schubert: *We were just given a task each morning and expected to get on with it – no questions or exceptions.*

It should come as no surprise to learn that apprenticeships have become more structured since the 1950s! Milagros' two-year programme is divided into four rotating blocks: at the "Ausbildungswerkstatt" (training workshop) in Bremen Gröpelingen, in the classroom, onsite and at BAU-ABC Rostrup. KAEFER apprentices are still expected to show initiative, however. Currently preparing metal sheets and insulation foil for use in two nuclear reactors (one in Brazil and one in China), Milagros explains that while she was closely supervised at first, she was soon left to manage her own workload. →



WALTER SCHUBERT
at the age of 14, shortly before he started his apprenticeship at KAEFER

1958



One thing which has changed dramatically since the 50s is the emphasis on health and safety at KAEFER. Indeed, Walter doesn't remember even hearing the term until the 80s, and some of the stories he tells from his early years are truly hair-raising.

W. Schubert: *I worked at shipyards in the 60s, when ships were still held together with iron rivets. The men worked in teams. One heated a bolt until it glowed, then threw it to a second wearing something like a baseball glove, who rammed it into place. Then the bolts were driven home with pneumatic hammers, and not one of us wore earplugs.*

By contrast, Milagros' very first day as an apprentice was devoted to nothing but health and safety.

M. Orozco: *All the correct procedures for the workshops and the office were explained and demonstrated. The apprentices have regular refresher courses and always join colleagues for workplace safety presentations. We cover health and safety topics in the classroom and carry an orange safety passport with us wherever we go which contains a complete record of all the HSE instruction we've received to date.*

And, at KAEFER, the concept of health and safety extends well beyond minimising the risk of injury or accident.

W. Schubert: *"There might have been no formal health and safety instruction in my day, but our supervisors made sure we knew what we were doing. They gave us heck when we made mistakes, but they also made us feel welcome, like new members of an extended family."*

Some 58 years later, Milagros arrived in Bremen from a different country, with only a limited command of German. She is happy to confirm that KAEFER still goes to great lengths to make new arrivals feel welcome.

M. Orozco: *The company provides accommodation near Bremen Gröpelingen and language classes nearly every day. I started with five other apprentices from Spain. KAEFER held a BBQ to welcome us when we arrived; many of the company's Spanish-speaking employees came along to introduce themselves. So, there's someone I can go to with non work-related issues, like finding a good optician! I miss my family and friends, but I feel at home in Bremen. I love being able to cycle everywhere, not only to and from work, but also to the lakes around the city.*

Having completed the first year of her apprenticeship with flying colours, Milagros is on course to qualify as an insulation fitter next year. Her heart is set on earning good enough marks to be invited back for a third year. As she says, "if you finish that, then you can really call yourself an Industrial Insulation Technician."

After completing his apprenticeship in 1961, Walter worked on various sites in and around Bremen before taking on the position of foreman at the Unterweser Nuclear Power Station and responsibility for teams of up to 120 insulators! Following such a long and distinguished career, it should come as no surprise that he maintains an interest in the company. With apprentices like Milagros coming through the ranks, he can rest assured that KAEFER's future is in good hands. ←

2017



MILAGROS OROZCO





Published by
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Printed by
Beisner Druck
GmbH & Co. KG

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