

The elumatec AG magazine



# YOU HAVE TO SEE IT TO BELIEVE IT.

elumatec TechDays 2017 20-22 Sep. 2017 in Mühlacker

# Introduction



Dear customers, business partners and friends of the elumatec Group,

We are facing challenging times as the election of Donald Trump to the US presidency and the decision for the departure of Great Britain from the EU will shift a number of important coordinates in the economic and trade landscape. At the moment, however, the Eurozone economy is growing more strongly than ever since the world financial crisis, and we hope this trend will continue in the near future.

Things are also looking good for elumatec, both in this and the previous financial year. We were once again able to increase our sales revenues in 2016. Our new products which generated enthusiasm amongst professionals at trade fairs around the world were significant driving factors. One highlight was BAU 2017 in Munich. There we presented additional models from our best-selling SBZ 122 series as well as the world premiere of the eluCloud, the joint product

of elumatec and elusoft dealing with the topic of Industry 4.0. Moreover, and I am especially proud of this, elumatec received the 2017 Adamas Award from the trade journal mbz in the category "Exemplary Corporate Culture."

In the current issue of 360° we will be taking a behind-the-scenes look at sales in Germany. Two user reports feature our long-standing German customer, Medicke Metallbau GmbH in Glauchau, and the Dutch enterprise Driessens Group B.V. We are also providing information on further, interesting developments and things worth knowing about elumatec AG.

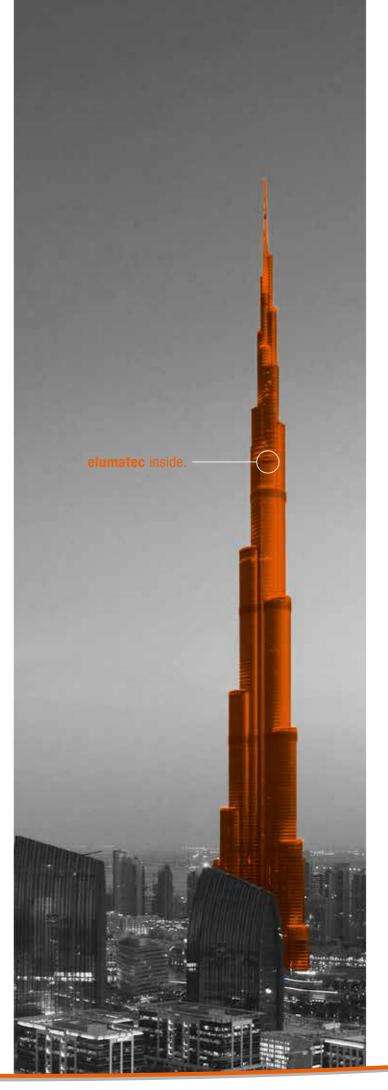
At the moment, our preparations for the elumatec TechDays in September are already in full swing. After the great success enjoyed two years ago, we have decided to carry out the event in 2017 as well and to broaden the spectrum of topics offered there, especially with regard to our software partners. With company tours, machine demonstrations and talks by our software partners, we will take a look at the future of profile processing in the areas of aluminium, PVC and steel, all in keeping with the theme "YOU HAVE TO SEE IT TO BELIEVE IT." Be prepared for a surprise!

I and all of the elumatec Group staff are looking forward to welcoming you. We'll see you in Mühlacker for the TechDays from 20 to 22 September 2017!

Best.

Ralf Haspel, CEO elumatec AG

P. Harpel



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# Behind the scenes: Sales in Germany "For us, sales means expert advice"

Customers don't just want machines, they want a system for higher productivity, reports Volker Klüber, head of sales for Germany, concerning his own observations. 360° spoke with him about the concept employed by sales at elumatec.

Every sales department is in competition. Catchwords are intended to show the potential customer how a company and its products are positioned: elumatec is the market leader for machining centres and saws for aluminium and PVC profiles, elumatec sells the majority of machines in this area of application, elumatec sells about 20% of its machines in Germany and about 80% are exported. These facts are correct and represent a successful concept. No question.

But that's not enough, head of sales Volker Klüber is convinced, for an elumatec customer in the metal construction sector or in industry to make a purchase. The customer does not always need the best machine, but rather, the right system for the application at hand. That sounds a bit like rhetoric from a salesman. But what's behind it? Skilful argumentation, aggressive pricing or the company's tradition? No, that's not the approach one needs to take to get to the bottom of the matter. So let's just take things one at a time.

# "Customers want productivity."

elumatec has a tradition of banking on "Made in Germany." The machines are produced solely in Germany and the focus is clearly on performance. "Our machines are designed for technical excellence and quality, but not for a low price. That's just not who we are," says Volker Klüber concerning the brand essence. What customers expect is this: The machine needs to operate reliably and last a long time. That means economy. "Customers want to buy productivity," emphasizes Klüber. But he qualifies the remark promptly, pointing out, "that doesn't mean its enough to simply be a good machinery manufacturer."

The deciding factor for trouble-free production today is the transfer of the design data to the production control systems. The proprietary software, eluCad, delivers the data for all processes and machines on a common basis. It is open for all profile systems, which many customers value highly because it guarantees independence. At the subsidiary, elusoft, work on the future is already under way. Using the eluCloud, complete monitoring of the production processes becomes possible.



Volker Klüber, Head of Sales, Germany

"We don't see ourselves merely as a machinery manufacturer, but as a supplier of production systems."

# Finding the right solution: Expert technical advisers and applications engineers

Here, it becomes apparent that elumatec is both a manufacturer of machinery and a service provider. This is a must for anyone who wants to not only follow but also shape the transformation taking place both in craftsman's enterprises and industry. Consequently, Volker Klüber places a strong emphasis on customer orientation in his sales team: "For us, sales means expert advice, or in other words, technical competence." That's a simple concept and a clear statement. Typically Klüber. His team consists of nine technically trained expert advisers.

These team members all have between 5 and 25 years of experience in the company. This means that know-how is multiplied and serves as the basis for consulting competence which allows an economical solution to be found for specific requirements. The applications engineers come into play in a supporting role. They take care of training the customer's staff on site in their own production facility. "There's more involved than just a piece of machinery," emphasizes Klüber. "For us, a sale isn't completed with the delivery, but only when operational readiness is a given for production." Production and application consulting concerning the machine model, tool selection and range of possible uses are becoming more and more important. Because what use is the best machine if it can't be put to productive use? Customers are able to see for themselves in the Info Center in Mühlacker before making a purchase and can have samples from their own production fabricated there.

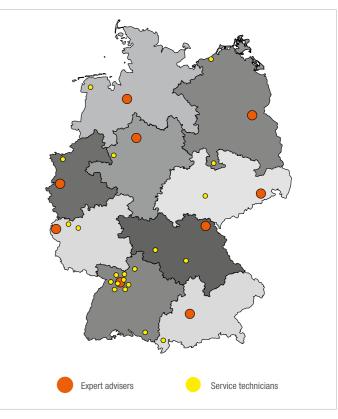
The product range also includes intelligently designed operating equipment which enables effective organization of the profile assembly tasks after completion of machining. This kind of thinking gave rise to elumatec's self-concept which Volker Klüber formulates like this: "We don't see ourselves merely as a machinery manufacturer, but as a supplier of production systems." That means everything, starting with the transfer of the design data in eluCad which delivers the data for all processes and machines on a common basis, to the development of special tools and clamping techniques for profiles and right on to the planning and delivery of operating equipment for customers' individual production processes.

## Consistent, reliable, Swabian

The sales figures don't lie. Klüber laughs. Of course he is also a salesman who likes to tell customers that the elumatec concept really works. The SBZ 151, for example, has been in production at elumatec since 2005. The 500th machine will be delivered this year. The model has been optimized continually in the context of product updating and now, after technical revisions, the second generation is in production.

# "We have quite a number of machines like the SBZ 151 on the market that remain in service for 10 years or longer at the customer's site."

The basic design and the ergonomics have proven themselves over the years making it certain that many SBZ 151s will still leave the plant in the future. "We have quite a number of machines like the SBZ 151 on the market that remain in service for 10 years or longer at the customer's site," remarks Klüber. Many years of product consistency do not exclude continuous technical refinements and innovations. Both the broad distribution of service technicians throughout all of Germany and the long-term availability of spare parts as well as the compatibility of all systems and software versions ensure a high level of production reliability. That's just the way elumatec is, observes Klüber, but it also belies a touch of Swabian conservatism. He likes to bring that into play, although he is not a Swabian by birth.



Expert technical advisers and service technicians at work for you throughout Germany

# Medicke Metallbau GmbH: "elumatec delivers what others promise"

The flexibility of the machine pool is the decisive factor for the long-term sustainability of production. 360° visited the Medicke Group, a medium-sized metal construction firm in Saxony which uses elumated exclusively for production. Managing director Marcus Medicke provided some insight into his investment decision.

Medicke is a full-service provider for high-quality, durable building shells, whether for offices, retail sales, hotels, or administrative, residential, athletics or cultural purposes. In the company's own production facilities, 180 staff manufacture and assemble windows

and doors, mullion and transom facades and facades using special profiles as well as curtain wall and element facades. The business successfully acquires large contracts regularly for the development, production and assembly of facade solutions in Germany's population centres with a volume of 2-6 million euros (2016 annual performance: 32 million euros).

Medicke conducts development and production work at three sites in Saxony: Glauchau, Borna and Leipzig. There is also a branch in Berlin which opened in 2016 and manages large-scale projects in the capital and surroundings. The core expertise of the metal construction firm includes the design, production and assembly of aluminium and glass facades. In the 25 years since the reunification, the enterprise has been able to establish itself on the market as an individual, full-service provider of facades.

Medicke became a well-known name in the industry sector in 2015 when they acquired the contract for the facade of the



Medicke Metallbau GmbH in Saxony's Glauchau Photo: Stefan Hoyer

SAPPHIRE residential and commercial building by architect Daniel Libeskind in Berlin. "It was an exceptional project for our company. We entered new terrain with regard to several aspects of the construction business. It was one of the most complex construction projects we have every undertaken," states managing director Marcus Medicke in summary. The facade was completed at the end of 2016.



SAPPHIRE residential and commercial building by architect Daniel Libeskind in Berlin

"Over the long term, I wanted to engage in production for challenging projects. That's why I looked for the right machines during the investment phase."

# An investment decision in the medium-sized business sector

The sensational, irregularly shaped building cubature realizing the ingenious design of Daniel Libeskind contains an absolute masterpiece in terms of facade technology: a back-ventilated curtain wall with biologically active, self-cleaning ceramic panels. In order to realize challenging projects of this nature, Marcus Medicke decided in 2013 to undertake the largest capital expenditure in the company's history: A new facility for production and assembly was constructed at the main location in Glauchau. In September 2015, everything was finished right on time for the 25th anniversary celebration.

"Over the long term, I wanted to engage in production for challenging projects. That's why I looked for the right machines during the investment phase," says Marcus Medicke in retrospect. After extensive consultation with his production managers and machine manufacturers, he decided on elumatec. The production facility was fitted out entirely with elumatec equipment. This included an SBZ 628 pass-through centre and an SBZ 151 five-axis profile machining centre without which the complex cutting geometries and notches for the SAPPHIRE facade could not have been realized.



Profile machining centre SBZ 628 Photo: Dirk Dießel



Managing director: Marcus Medicke

Moreover, an SBZ 140 four-axis profile machining centre and a DG 244 double mitre saw were also in the package. In addition, Medicke purchased all of the operating equipment for assembly processes from elumatec as well.

# Machine pool for a diverse range of production options

As a businessman with a middle-sized, family-operated enterprise, Marcus Medicke gives considerable attention to value in his machinery. Quality, reliability and a long service life play an important role for him: "With these machines, value creation is possible over a period of many years." The practical experience gained in production operations over the last two years has shown how important a partnership with the right manufacturer actually is. Not only the machine is important, but so are maintenance, help with problems and good advice concerning the choice of tooling: "We wanted to have the right machine for each requirement in our production facility.

"Our new production facility was an investment in the future and is a mix of large capacities and flexibility."

elumatec gave us very good advice regarding the various concepts for how to structure our production operations. And that's why we decided on a complete machine pool from a single manufacturer," says Medicke, explaining his investment decision.

Of course, human interaction factors were also decisive for the purchase decision. Marcus Medicke mentions time and again the pleasant manner in which consultations were conducted. "As a medium-sized firm, you are looking for partners that are down to earth, who treat you as an equal and who clearly understand the needs that are important to us," explains Medicke. Over the course of talks, he gained confidence in the technical competence and the assurance of service and support being offered. "Our new production facility was an investment in the future and is a mix of large capacities and flexibility. We can realize high-volume projects in large-scale series as well as individualized production in small series," says Medicke.

## High variability and system availability

Apart from the machine itself and the service, the production staff at Medicke especially recognize the advantage of the eluCad software being open for all profile systems. With the multitude of facade designs and clients, this is a must in today's business environment. An additional benefit is the high level of variability in the tool range, especially in the area of compound-mitre saws as well as drills and cutters. At the moment, the dry-machining cutting tools developed recently by elumatec are being tested under actual production conditions at Medicke.



Profile machining centre, SBZ 151 with eluCad Photo: Dirk Dießel

Many fine-tuning opportunities of this nature offer potential for continuous optimization of the production flow. This applies not only in the short term through user consultation provided by elumatec, but also long-term through focused modernization of the machine pool. In times of rapid change, the resale value of machinery is also a point to keep in mind, as Marcus Medicke knows from experience: "Selling a used elumatec machine is no problem due to the high level of value retention."

# "elumatec delivers what others promise"



Operating equipment for assembly Photo: Dirk Dießel

Medicke and elumatec already worked together as a team in this connection a few years back. Continued cooperation with elumatec remains a permanent factor for Marcus Medicke. In a pointed remark, he comments on his experience: "elumatec delivers what others promise." The resiliency of a partnership becomes most evident when problems arise. But that in itself is not a problem for Medicke because virtually everyone understands the complex nature of mechanized production. If there is a problem, elumatec is at hand and re-establishes operational readiness: "elumatec doesn't leave the premises until truly everything is done. I know that I can simply rely on that," says Marcus Medicke.



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# elumatec's worldwide trade-fair presence

## MadeExpo 2017, Milan (Italy)

The international trade fair for construction and architecture was a large-scale event with 1,060 exhibitors and 106,000 visitors. "We clearly hit the mark with our new products, the SBZ 122/75 five-axis profile machining centre and the eluCloud software as well as the ContourLine welding technology from our partner Stürtz," reported Paolo Cortelli, responsible for elumatec in Italy and Malta. These machines and the software were the main attractions at the 160 square metre stand, especially as they embodied the current trend towards comprehensive automation and Industry 4.0. elumatec was able to present themselves as a strong provider of solutions in these areas.



## **BATIMAT Russia 2017, Moscow (Russia)**

At the largest Russian construction trade fair, the country's economic crisis was palpable: There were few exhibitors and elumatec's presentation utilized a considerably smaller stand footprint. Nonetheless, the attractively designed trade fair booth drew more visitors than in previous years. Especially the new generation of profile machining centres represented by the SBZ 122/71 and 122/73 generated interest. In the PVC sector, elumatec showed off products from Stürtz and presented a highlight with the ContourLine welding technology.

## **International Sign Association, Las Vegas (USA)**

More than 20,000 visitors poured into the exhibition dealing with signage, illuminated advertising and visual communication once again this year. And, once again, the DG 142 double mitre saw was the main eye catcher. "elumatec saws are the undisputed number one for sign manufacturers," says Steve Van Tongeren, CEO for elumatec North America. He recognizes a clear trend towards more production automation. Consequently, his team hit the mark perfectly with the SBZ 122/71 profile machining centre put on display. "We were able to take more orders than ever before. And the number of those interested was also up from previous years," summed up Van Tongeren.



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## FIT Show 2017, Birmingham (Great Britain)

The only trade fair for windows, doors and conservatories marked record numbers of exhibitors and visitors. elumatec took advantage of the trade fair to again position themselves as the first choice not only in the aluminium but also the PVC segment. In addition to new products such as the SBZ 122, SBZ 628, the eluCloud and the 4-head welding machine VS 704, a whole series of Stürtz products were also exhibited. "We had a great many enquiries, including from two of the largest window manufacturers in the nation for an automated PVC production line," reports Phil Heavey, UK managing director. And, the especially good news: A number of orders for the SBZ 122/71 and the DG 104 double mitre saw were placed directly at the trade fair.

# elumatec receives 2017 Adamas Award at the BAU 2017 trade fair in Munich

This distinction crowns elumatec's impressive transformation. The prize is an acknowledgement of the workers and the managerial staff for their exemplary commitment, which has put the tradition-rich enterprise back on the track of success after the relaunch four years ago.



On behalf of the entire staff, Ralf Haspel, elumatec AG CEO, received the prize at the BAU 2017 trade fair which took place in Munich at the beginning of the year. "We are very pleased at this special honour. But we can all be even more proud that we have propelled elumatec to a new level of strength," emphasized Haspel. He thanked all employees for having travelled the often difficult path to more agility, openness and innovative force with a display of exceptional commitment.

## A joint endeavour

Anyone who takes a look at elumatec's track record, especially the new best sellers such as the SBZ 628 or SBZ 122 profile machining centres, will find it hard to believe that the world market leader was relaunched as a public limited company only in 2014. The regained strength is especially the result of the joint efforts made by all employees as well as of the board's responsible actions, emphasized Karl Ruhnke-Lierenfeld, editor in chief of the magazine for the metal construction trade in his laudatory speech. The trade journal is put out by the publishing house Adamas Media & More GmbH, which has been awarding the prize in consultation with a jury of professionals since 2010.

Ruhnke-Lierenfeld described the open communication and the inclusion of the employees in the reorganization of the business as exemplary. The transformation was tackled with a high degree of motivation. Already at the FENSTERBAU FRONTALE 2014 industry sector trade fair, elumatec appeared with a new corporate design and innovations such as the SBZ 137. The strengthened dialogue with customers and partners, for instance through the customer magazine 360° and the TechDays, as well as the continuing cooperation with Stürtz in the PVC sector, initiated a fruitful interaction which found expression in a multitude of new or improved products. These include the new Contour-Line welding technology, the welding and corner cleaning Turbo-S Line and the TXR-3-2 and 2AB corner cleaning machines.

## An upward trend

The development of new solutions and services is continuing rapidly. The "eluCloud" was launched recently. This application allows customers to evaluate their machine data in real time, for example in order to optimize production processes or production planning or to increase machine availability through preventive maintenance. Ralf Haspel is convinced: "With our numerous measures and initiatives over the last three and one half years, we have demonstrated that we are only moving in one direction!"



Ralf Haspel, CEO of elumatec AG, together with mbz editor in chief, Karl Ruhnke-Lierenfeld with the ADAMAS AWARD 2017

# SAVE THE DATE: TechDays 2017





# YOU HAVE TO SEE IT TO BELIEVE IT.

Are you ready for new ideas and innovations that will propel your company forwards? Then visit the **elumatec TechDays 2017** from **20 to 22 September** in Mühlacker!

**See** through live demonstrations the opportunities for a more successful business which our solutions in the areas of aluminium and PVC will open up for you. Experience how the intelligent interaction between machines, software and services – including the products of our partner firms – can raise the performance limits of your equipment even more.

**Be astonished** at the multifaceted potential present in our products, or at the manner in which customers from around the world are employing our solutions profitably. Gain valuable insights and ideas for process improvements and business models as well as useful tips for everyday activities by talking personally with international users and our experts.

**Experience** first hand how quality "made by elumatec" is created in production and how our teams in After Sales and Design are able to assist you on your path to more productivity and profitability. Dive into the world of elumatec: The tried and true, new ideas and surprises all await you there!

Register now online at: http://events.elumatec.com

We're looking forward to your visit!

# **PVC** windows:

# SBZ 618 as the springboard to the national league

The Dutch firm driessens, a window-construction and facade renovation specialist, wants to significantly increase their market share – and invested in an elumatec SBZ 618 to do so. The reason is that only with the most modern machines can the over 200 year old company achieve its ambitious goal and also realize the high quality expectation of "putting the crowning touch" on customer's projects – all in an economically feasible manner.



The driessens company in Dutch Panheel

To speak of driessens as a company is almost a bit too modest. In light of their impressive history, "dynasty of craftsmanship" would be more fitting because the family-owned enterprise has been dedicated to carpentry for more than two centuries and across seven generations. "Whether with an individual window frame or a complete facade, we want our work to dot the proverbial i," explains managing director Sjaak Driessens. This high quality requirement is symbolic for the firm and is visible in the company logo: a five-pointed crown with the dot of an i. It is at the same time both a motivator and an obligation.

# Areas of growth: PVC windows and facade renovation

The obligation to give their best extends all the way back to the founding years. At that time, Heindricus Driessens began as a one-man operation in 1796. The contemporary of Napoleon and Goethe was the village carpenter and laid the foundation for the family enterprise with a good deal of diligence and hard work. Today, driessens employs 120 staff and is the most important employer in Panheel, a small town in the eastern part of The Netherlands. driessens manufactures windows and doors made of wood, PVC and aluminium and performs roofing work and facade renovation.

"We offer complete solutions, from consultancy and planning to production and on to installation and service — everything from a single source," emphasizes Sjaak Driessens. "That is the only way to ensure that everything meets our high standards." This uncompromising style of working has earned the company numerous prizes and nominations in the window and facade construction sector and has made them a preferred partner for architects as well as for construction materials suppliers and housing associations within a radius of 100 kilometres.

# "Consulting, planning, installation and service – everything from a single source"

Customers also appreciate the broad range of expertise offered: driessens is able to deliver every desired mix of materials for windows and doors as well as provide well-founded consultancy, for example concerning how functional specifications can best be implemented in accordance with the visual and economic requirements.



A future-oriented market: Facade renovation

As a result, the order volume is growing commensurately. Especially in the area of PVC. Its share currently amounts to 55 percent — and is on the rise. The reason is that thermal insulation is in great demand and plastic window frames offer an outstanding price-performance ratio. "We entered the market for the production and installation of plastic windows and the future-oriented market of facade renovation already in the 1990's.

That is now paying off," explains Sjaak Driessens. For the foresighted businessman, it was therefore a natural to utilize their leading position in terms of know-how and a strong market position for the next step: to aim at the entire Dutch market. driessens invested in the SBZ 618 profile machining centre for precisely this reason. The objective was to increase production capacities through the use of an automated PVC window fabrication system.



The order volume is growing in the PVC sector

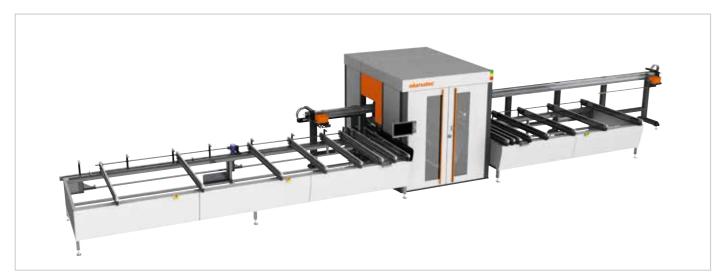
#### elumatec TechDays proved decisive

This system machines profiles from length-cutting through to weld-ready parts in a single pass. "The SBZ 618 with its flexible machine design, the high level of automation and the wide range of machining options on a very small footprint is practically tailor made for us," says Sjaak Driessens. Marcel Boender, head of sales for elumatec Benelux, made the original recommendation. "Mr. Boender knows us and our business very well and is able to judge what's a good fit for us," adds production manager, Hans Peters. The actual purchase decision was made during the elumatec TechDays 2015 event at company headquarters in Mühlacker. Experiencing the SBZ 618 live in action and the know-how involved as well as the opportunity to see first-hand on a factory tour how excellent quality in mechanical engineering is created — all these factors strengthened trust in elumatec.



From the left: S. Driessens, M. Boender, H. Peters, T. Driessens

driessens put the SBZ 618 into operation in August 2016 after a rapid setup. A short period of familiarization was adequate for the staff thanks to the ease of operation. They simply need to enter the job parameters on the generous touchscreen, position the profile and then remove the finished piece. That's all possible because the SBZ 618 processes standard jobs automatically. The system even calculates clearances for length-cutting or for hardware mounting on its own so that colleagues who are not specialists in window and door construction can also help out if necessary.



Profile machining centre SBZ 618

# Higher productivity and process reliability with lower piece costs

The machining centre replaces several individual stations, such as saw, reinforcement and transom milling. Time-consuming manual tasks are omitted, for example repositioning the semi-finished product between individual processing steps or marking the location for drilled holes using a template. This is because the SBZ 618 performs tasks that were previously downstream, like drilling holes, already during production.

The high level of automation shortens pass-through times considerably. driessens is able to produce a higher level of plastic window output with the same staff. But, not only that: The error rate dropped to nearly zero because the SBZ 618 operates with absolute precision and reliability. Drilled holes through 3 mm thick steel, for example, are made vibration-free by the compact powerhouse. The infinitely adjustable grippers secure even challenging profiles dependably. The required tools are readily available thanks to the rotating magazine and they can be positioned over the profile at any angle needed.

"Productivity has gone up by about 15 percent"

"We have been able to increase our productivity by about 15 percent so far and the elimination of rework tasks has freed up additional capacities in assembly," reports Hans Peters. The production manager is expecting additional performance increases in the future because not only the throughput has increased, but so have the planning and scheduling accuracy. This allows jobs to be scheduled more tightly and saves on costly buffers times. The enterprise with its rich tradition is very satisfied with the modern production system: "We are already producing in first-class quality with a significant gain in speed and reliability. And that is in spite of the fact that we are not yet utilizing the full potential of the SBZ 618," reports a satisfied Hans Peters. And Sjaak Driessens adds: "With this machine we are making a great stride forwards towards reaching our goal of expanding our market reach to encompass all of The Netherlands."



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# **News in brief**

## **New sales partner in Denmark**

On 1 July this year, Junget A/S (www.junget.dk/en) became elumatec's new sales partner in Denmark. The international supplier and full service provider is based in Hinnerup, a small town north of Aarhus, and employs 75 people. Junget's core business is the distribution of tools and machines for the wood, metal and plastics processing industries, including services such as consultation, customs clearance, machine installation and technical support, all from a single source. "For many years we have supplied window and door manufacturers in Denmark, so we are delighted that we can now support our many customers in this market segment with elumatec machines for aluminium and PVC profiling," says Poul Thøgersen, CEO of Junget.

#### New main office in South Africa

Higher revenue figures and increasing sales of profile machining centres are the current results of the still ongoing reorganization at elumatec South Africa. The two subsidiaries in Johannesburg and Cape Town have been consolidated to form a single main office in Cape Town. The two branch offices in Johannesburg and Durban are now concentrating exclusively on sales and service in the respective regions. "The construction boom under way here is having a positive effect on our business development," says Rudi Nel, the new director of elumatec South Africa in Cape Town after the retirement of Mr. Allan Freely. The additional benefits are the cost savings resulting from the centralization of the administration as well as in logistics due to the favourable harbour location and the shorter transportation routes. A newly implemented ERP system has also improved the control of business operations. Supplementary intensive training of sales representatives and targeted customer care are already reaping additional successes. The reorganization is scheduled for completion by the end of this year.

#### elumatec modernizes their own machine pool

In 2016, elumatec invested a single-digit figure in the millions to purchase new production technologies. Amongst other things, a horizontal machining centre and a cylindrical grinder were acquired, thereby modernizing the mechanical production facilities at headquarters in Mühlacker. The new machines will be used for producing components for motors, profile machining centres, saws and precision parts. The primary focus of the optimization is increased efficiency, productivity and flexibility. These objectives are to be reached through more automation, powerful technologies and enhanced networking between production processes in keeping with the concept of Industry 4.0. elumatec invests in up-to-date machines on a regular basis. In the final analysis, the firm possesses a very large vertical range of manufacture – the foundation for quality products "made by elumatec."

#### 2016 financial statement

The elumatec group was able to improve their very good net asset position once again in 2016 and attained an equity ratio of 84.1% (compared to 76% last year). Likewise, the earnings performance was also improved by 3% to 124.5 million euros, primarily due to an increase in revenues. This is due in great measure to the new machine models SBZ 122 and SBZ 628 and a positive turnover development in the After Sales area. From a geographical viewpoint, business operations in the USA and Southern Europe were very successful. A continued increase in revenues is expected for the year 2017, especially in light of the high demand for elumatec machines in Asia and Europe.

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# eluCloud – processing machine data to obtain decision-relevant information

eluCloud is the joint "Industry 4.0" solution from eluCloud and elusoft for the digitalization and analysis of machine and production data. An analysis of these data helps to optimize production processes and to proactively plan maintenance tasks. This allows cost reductions, increased machine availability and improved productivity.



The eluCloud captures machine and production data during active operations. This data is combined to form meaningful analysis results and are provided in real time. Consequently, what is currently taking place in production and what has already been accomplished can be viewed at any time from anywhere. In this way, the eluCloud enables responsible parties to quickly recognize deviations from the desired production flow. The live display of the current machine status and the real-time calculation of momentary machine efficiency are among

the features which provide assistance here. Problems in production become apparent very quickly as a result and the data collected help in structured troubleshooting and analysis. Moreover, the eluCloud offers an overview of currently running jobs as well as detailed information on the parts produced. This information provides the basis for exact analysis of production times and individual optimizations. The eluCloud product group also helps in demonstrating to potential clients: "We are a reliable and technologically advanced partner."

# Industry 4.0 – decision-relevant information for long-term success, everywhere and at all times

Machine data acquisition has a long tradition. Often times, the data was only available directly at the machine. Consequently, the data had to be manually exported from the machine or perhaps even recorded by hand in writing. Our new product group is called "eluCloud" because the machine data are now digitalized and transmitted to the central eluCloud server fully automatically during active production operations. Gathering the data long-term on a central server makes sense because large amounts of data are acquired and this approach avoids burdening the machine PCs with the task of storing it locally.

Of foremost importance for elumatec and elusoft is the protection of the acquired data. This is why the eluCloud solution differs from other well-known cloud products. The eluCloud server was specially developed so that it can be integrated into a company's existing IT infrastructure with no great effort. This means that the data remain safely within the company. The requirements of Industry 4.0 are met by the eluCloud with the help of various different modules which offer individualized options for accessing the saved data, analysing them, or integrating them in existing applications. This ensures that the data are always available where they are needed and can thereby contribute to long-term success.

## The eluCloud product group

The eluCloud product group comprises four different modules and one app which makes the eluCloud functions accessible worldwide from a smartphone, tablet, laptop or PC. With this app, the user can check up on the status of machines operating in the plant back home with a smartphone while travelling. For business travellers, the app is like a pair of binoculars which allow developments at home to be recognized in advance. Being well-informed, it is possible to react quickly if deviations from planned schedules arise. The four eluCloud modules are called eluCloud Monitor, eluCloud Server, eluCloud Analytics and eluCloud API.

#### eluCloud Monitor

The eluCloud Monitor is the machine's digital window. This module processes the recorded machine and production data and presents them in a clear overview. This makes the eluCloud Monitor the fundamental building block in the overall eluCloud solution. The designation is clearly derived from the verb "to monitor." The modern controllers of elumatec machines are able to capture many types of data for this purpose in real time, which you can then access with the eluCloud Monitor.

For instance, this includes information about the quantities of parts produced, error messages, or detailed time protocols concerning downtimes, production duration, spindle operating times or the service lives of the tools used. This exact time information helps in recognizing the necessary maintenance intervals in advance, allowing better planning for them.

#### eluCloud Server

All of the data from the linked machine go onto the eluCloud Server. It stores all status messages and makes them available for analysis and utilization. The eluCloud server was specially developed to be integrated into a company's existing IT infrastructure. Provided that there is free server hardware capacity in the company, the eluCloud Server can be installed on existing systems with ease. The eluCloud Monitor module and the eluCloud Server form the basic equipment for customers who wish to use the eluCloud.

The solution provided by this combination allows important key figures such as operating hours, spindle operating times or the quantity of processed parts for an individual machine or an entire machine pool to be monitored. In fact, it is irrelevant whether all of the machines are operated at the same location or are distributed across several production sites. The data are prepared and presented in the form of a web page and can be viewed from any end device with a connection to the eluCloud Server. The dashboard gives an overview of each individual item of information so that it can be seen at a glance.

## **eluCloud Analytics**

eluCloud Analytics is a supplemental module for subsequent analysis of product and machine data. This makes detailed analysis of topics such as the following possible: production utilization, progress of job processing, processing times for jobs, analysis of individual machines, analysis of the entire machine pool or processing times for individual parts. eluCloud Analytics, with the processed information and its user-friendly filter options, also supports the optimization of production times, for example.

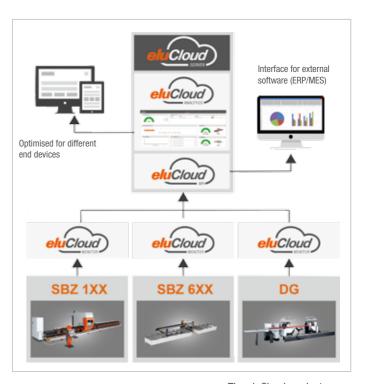
Through the capture and analysis of non-productive times such as clamp positioning operations, tool changes or part orientation changes, the techniques employed in production can be refined and the times can be reduced in a sustainable manner. The module also helps in troubleshooting and product costing analysis.

Using filter functions allows exact determination of the required production times for a job or a part. This knowledge also serves as a very good basis for the costing of future jobs. Using this information as a basis also allows questions such as, "When did which downtimes occur?" and "What was the reason for this?" can be answered easily after the fact.

#### eluCloud API

A core characteristic of every Industry 4.0 solution is the seamless communication between individual machines or between the machine and the software, which is often summarized with the term "Internet of Things." This can be implemented with the help of eluCloud API. The term "API" refers to an interface with which the eluCloud solution can be integrated into existing Industry 4.0 concepts as well as linked to other software solutions. The machine data and analysis results which are gathered in the eluCloud can be accessed and further processed for this purpose by external programs, such as cost accounting programs and ERP or MES systems.

For instance, it would also be possible to automatically send messages to an internal ordering system when the eluCloud system has recognized that the maximum service life of a tool in use will soon be reached.



The eluCloud product group

# eluCad 4.1 – New functions enhance the proven profile machining software

elumatec presents the new eluCad version 4.1 at the elumatec TechDays. In addition to many optimizations, the software also contains new functions allowing it to be used even more effectively in the customer's environment.

### 3D Measuring

The eluCad "3D Measuring" function easily allows the use of touch probes and measuring plates. They provide the required information for the exact positioning of machining operations. Aluminium profiles can have larger profile tolerances due to manufacturing constraints which can then also be influenced by temperature differences. So how can I make sure that a countersink has the correct depth and is centred on the profile? Where does an internal partition begin? How high is the web plate which needs to be milled away down to the profile surface? How can I cut a machining task at the desired distance from the upper edge in spite of the existing profile tolerances? — Often, machining operations can only be executed or positioned with precision after corresponding measurements have been made.



Measuring with a 3D probe. This allows exact positioning of machining operations even with existing profile tolerances.

The new eluCad "3D Measuring" function allows measurement values to be determined in simple steps which then have corresponding consequences for subsequent machining operations.

Users can also measure angles and distances. Moreover, relationships between individual measuring points or measuring point series consisting of several measuring points can be established. This means that an individual measuring point or a series of measuring points can be corrected by means of an additional measurement run. eluCad carries out a plausibility check before measurement runs: This determines whether the machining operation and the measurement run are correlated meaningfully. The result is certainty that the measurement is indeed relevant only for the desired machining operation. There is no need for users to enter formulas or perform mathematical calculations – the new function is very user friendly and avoids the need for extensive training.

# Notching strategies – even for profile machining centres with no saw blade

This innovative function makes it possible to create notches even on machines that do not have a saw blade available in the tool magazine. The new eluCad notching assistant is very user friendly: The user simply enters the dimensions and angle of the desired notch in eluCad and the profile machining software automatically computes various possibilities for creating the notch. Depending on the machine configuration, sawing, milling, routing or a combination of these procedures can be used. Profiles with internal partitions can also be notched. The new function even explicitly recognizes these partitions and accordingly generates milling operations only at these locations. This makes notching without a saw blade very efficient. Another advantage of this new function is the simple option of adopting notches from an upstream calculation system, such as LogiKal.



Notching is also possible on machines with no saw blade: The user simply enters the dimensions and angle of the desired notch and eluCad creates it.

#### Free-form removal

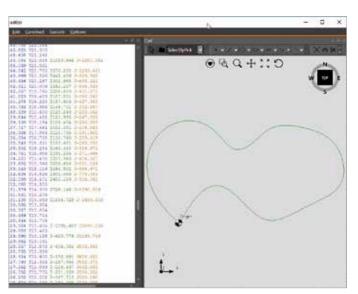
With free forms, industrial customers typically want to remove only 1-2 mm of material from the outer profile walls instead of cutting right through them – for example, when electronic components such as transistors are to be screwed on which dissipate their heat best when they lie completely flat. In the new version, eluCad now automatically computes the milling paths which are required in order to complete the full-surface removal for the specified free form. Moreover, during the removal process, previously defined "islands" can be left alone. In addition, operations such as rough-machining and finishing can also be selected in order to obtain optimal results.



The "Free-form removal" function automatically computes the milling paths required to complete full-surface removal for the specified free form. During the removal process, previously defined "islands" can be left alone.

# **Drawing free forms instead of programming them**

The new free-form editor makes it easier to enter free forms in eluCad. The user is able to enter free forms simply and easily using two-dimensional drawing as in a CAD program. A converter running in the background automatically transforms the drawn free form into a machine-readable ISO code with which elumatec machines can be controlled directly. The real specialists amongst our users generally prefer to program directly in ISO code — they are then shown the result two-dimensionally in the eluCad editor as a line path.



Free forms can be drawn and a converter transforms the result into ISO code. When programming is done in ISO code, the converter displays the result as a two-dimensional drawn path.

# 3D import of assemblies

The newly revised "3D import of assemblies" function makes it even more convenient to import several components in a single operation. Now, entire assemblies, like complete models of a window or door, can be imported.



# A preview of the next issue

In the coming issue we will be presenting exciting new developments from the areas of machines and software with which we hope to enthuse you once again at the leading international trade fair, Fensterbau Frontale 2018, in Nuremberg. We'll take a look behind the scenes to give you more insight into our marketing department. We will also report on ways that users are successfully distinguishing themselves in the market using our machines. And: Come along for a journey through time as we celebrate 90 years of elumatec!

#### **LEGAL NOTICE**

Many thanks to all of our colleagues who contributed to this issue.

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