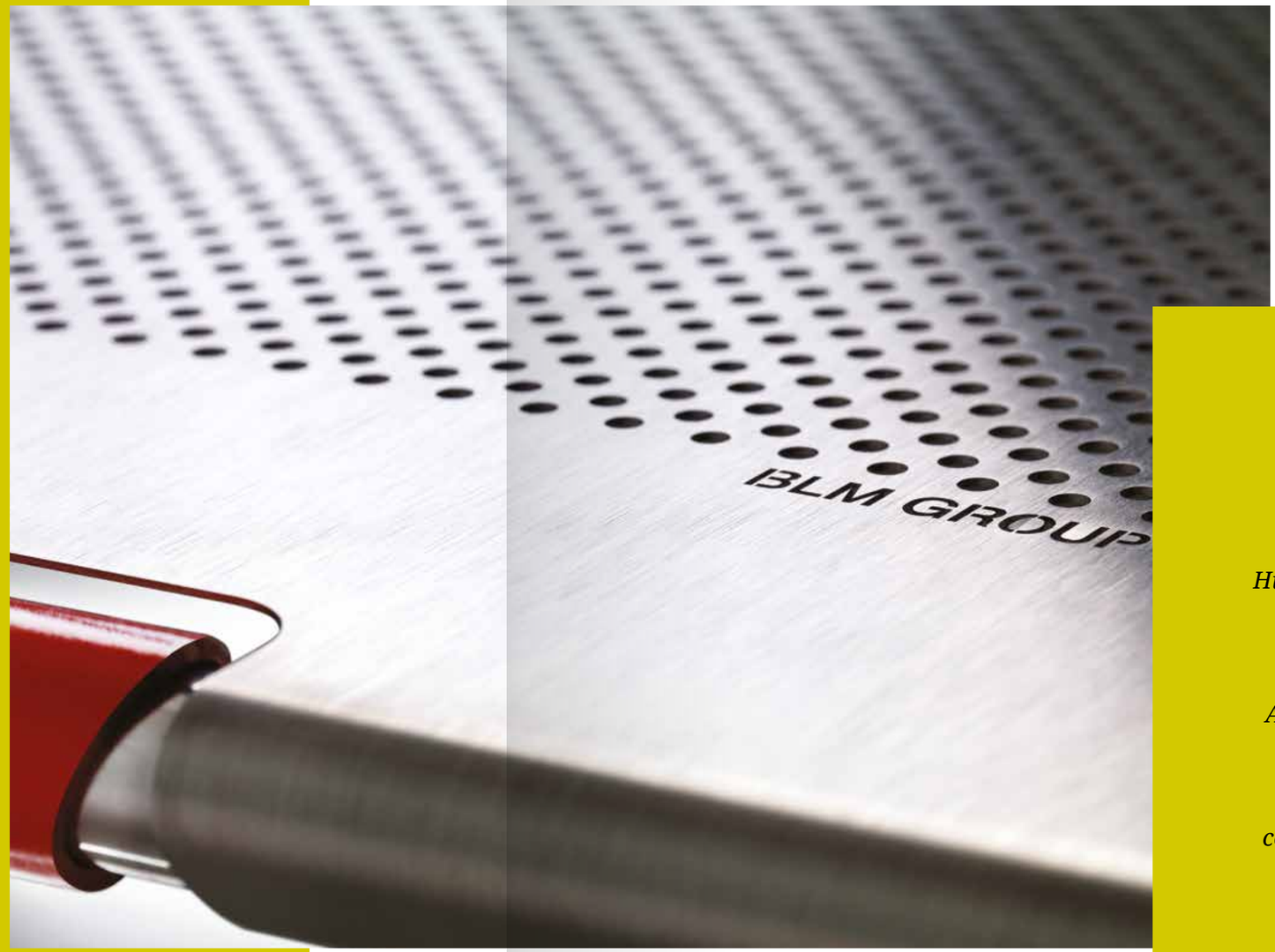
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INSPIRED for TUBE

October 2022
N. 27

Fisheye
Lasertube to grow

Kobex
High production volumes at a reasonable price

Leku-ona
A global customer service

Meiko
Tube bending, the cornerstone of integration

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PUBLISHED BY
BLM GROUP
Via Selvaregina, 30
22063 Cantù (CO) – Italia
www.blmgroup.com

DESIGN AND GRAPHICS BY
WIP ITALIA S.r.l.
V.le Monza, 1
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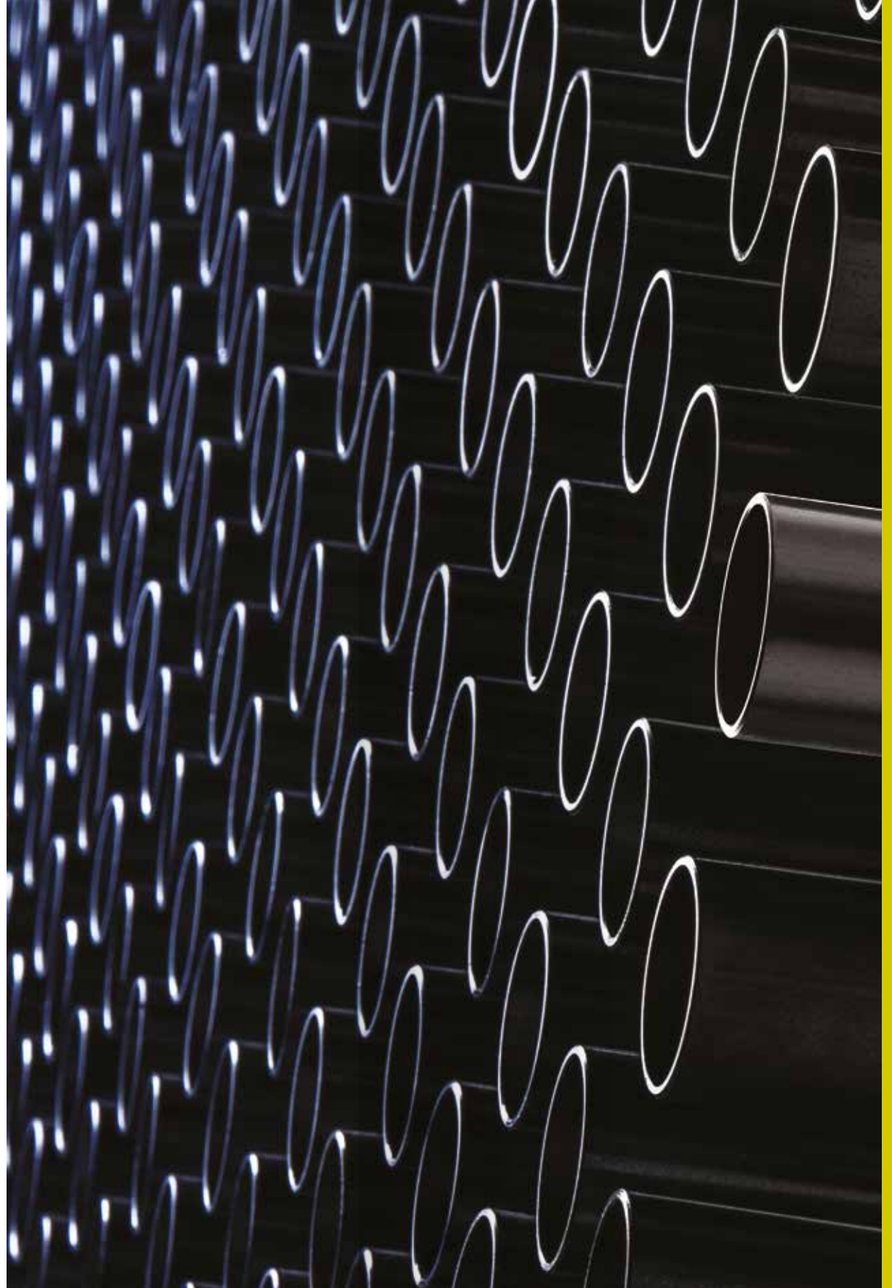
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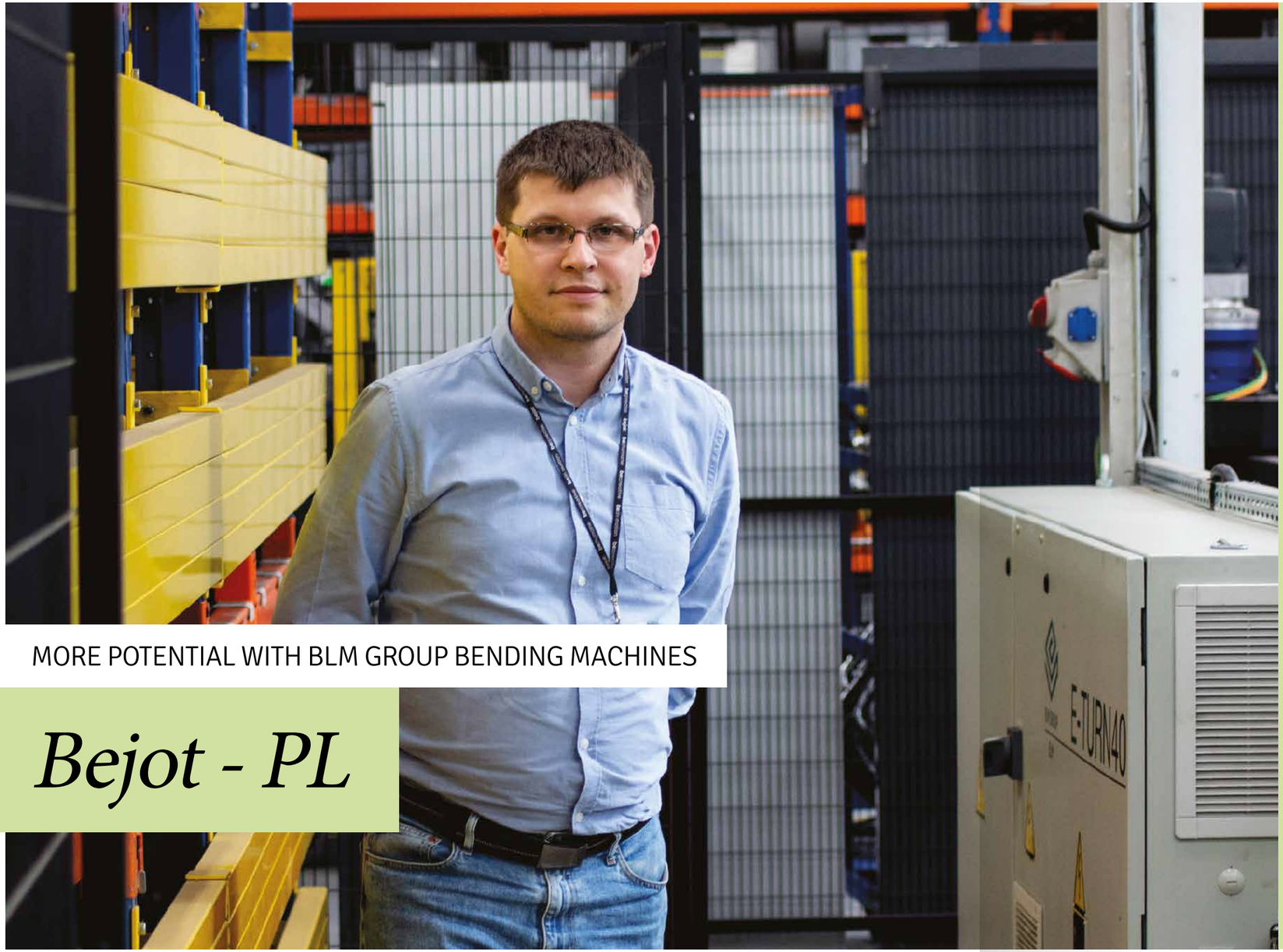
Technology to overcome difficult times

It is natural that in turbulent times like these, we are bombarded with information in the press, on television and social media about so many worrying events. In the economic world, we see, hear and feel the effects of some of the difficulties in procuring raw materials and components. An unnatural rise in the cost of the raw materials and energy pushes up inflation with higher prices, which has rippled throughout the supply chain.

The temptation to become overwhelmed with discouragement is not part of the entrepreneurial mindset rather it is precisely in these moments that forward-looking companies see the opportunity arises to create the conditions for a restart, by investing.

It is business as usual for the technology suppliers. The sea is a little rougher, but the plotted course is clear and heading straight towards innovation capable of providing greater benefits for the user. New technologies do not stop, automation and software are providing solutions that are ever more efficient in terms of performance, automation options and software features.

The customers we spoke to on this issue are excellent examples of this business mindset.



MORE POTENTIAL WITH BLM GROUP BENDING MACHINES

Bejot - PL

BEJOT is a Polish family-run company specializing in the production of office chairs and armchairs. To meet the growing expectations of its customers in terms of design, quality and ergonomics, they need machinery that is adequate and capable of achieving precise goals. Marcin Durzyński, Director of Production and Logistics at BEJOT, shared more about these aspects and how the company has developed.

“The beginnings of our company dates back to 1984, when the Jerzy Semeniuk Joinery, specializing in the production of wooden accessories, was founded in Mosina near Poznań. The production of office chairs started seven years later when the management was taken over by the current CEO, Dariusz Wilk,” said Durzyński, who went on to tell the story of Bejot’s evolution. “In the following years, investments were made in the construction of a new production building, warehouse and office space. We first obtained ISO 9001 certification, then ISO 14001, and adopted an ERP information system providing a quantum leap in both production and customer management for us.” Today, the company employs about 230 people and collaborates with the AGH University of Science and Technology in Krakow and the University of Life Sciences in Poznań. The exchanges with the academic staff were very enriching and a major source of inspiration.

Increased production and new challenges
The development of the company and the increase in the product range has resulted in an expansion of the models available in the catalog of office chairs and armchairs and complete soundproofed office workstations for open-plan environments and meeting rooms. “However, the high construction complexity of these products meant that the various production stages, such as the preparation of individual elements for welding, took a long time. Soon production times became a bottleneck for the company’s growth and the solution was to modernize our machines,” Durzyński explained.



New investments to support the company’s fast development
Durzyński stated that the choice was a very careful one. “We evaluated a wide range of machines, from modern milling and saws to laser systems; the latter turned out to be what we needed. So we started a comparative analysis of the market, mainly among our partners and the companies with whom we collaborate or have complementary product models. Very soon there were only two suppliers left in the running, one of which was BLM GROUP. The final decision was made after consulting companies that had had the opportunity to work with both machines by comparing performance and listening to the opinion of people using the software. BLM turned out to be far better for the user.”

500 different pieces

One investment leads to another
The ability to laser cut practically any profile shape offered designers and the product development team completely new possibilities and an additional need arose. “We wanted to bend the profiles after laser-cutting them with a machining processes that allow the joints to connect the tubes precisely. Initially, we tried to bend the profiles with the hydraulic bending machines we had, which were simple, hydraulic and reliable for making conference chairs. Unfortunately, it quickly became apparent that the force (required to bend on the flat side of a rectangular profile) and precision were not sufficient to exploit the full potential offered by the Lasertube system.”
After another market analysis conducted in the same comparative manner as for the laser and evaluating several manufacturers, the choice fell again on BLM GROUP. “The analysis showed that the BLM E-TURN40 solution was the most effective, which of course does not mean that it was the cheapest at the time of purchase,” Durzyński pointed out. “Three things prompted us to buy the E-TURN40. Firstly, set-up time and post-set-up calibration. We produce around



“The choice fell on E-TURN40 for three reasons: fast bending tools changeover, the rotating bending head that reduce steps and the ease of use of the software.”

Thanks to the BLM GROUP solutions we have shortened processes, reduced the size of the warehouse and improved production precision



500 different structures, or elements of them, in small batches and the changeover time with our wide range is a very important aspect. With electric handling, the clamping device calibrates itself the first time and then stores the parameters for later use. The second item was the rotary head with a double set of tools, which allowed us to reduce the number of elements in the product by bending longer and more complex sections and reducing the number of further steps. And finally, the software is very readable, easy to configure, integrated into a single environment with a 2D laser and combined in the so-called All-In-One. From the outset, it significantly reduced the set-up time of a curved cut product by eliminating errors due to springback and elongation of the tubes during bending."

Tubes and sections. And wires, too

As is often the case in the world of furniture, Bejot also used wire. They purchased pre-straightened material in approximately 6-meter-long pieces, which was very difficult to handle when loading and unloading. The wire was cut, producing waste, and finally bent on tube benders with special tools. "We saw the DH4010 system from BLM GROUP at a trade fair and, after careful analysis, we estimated that with that wire bending system we could reduce production time by four times, not to mention zero waste and better quality." Durzyński continued, "Now, we load the coil of wire into the machine and do not think about it anymore. We perform cutting, straightening and bending in one step. In addition, we also configured the tip chamfer module to strengthen the weld seam."

Why was a twin-head wire bending machine necessary?

The twin-head wire bender is faster than a conventional bender, but this is not the only and most important advantage. "In the single-head machine, the wire rotates during the feeding phase, generating vibrations that affect the quality of the final part, which, especially when long, suffers from the vibrations, particularly in the last bends. The twin-head machine, on the other hand, cuts the wire after feeding and bends on both sides, generating a very precise and repeatable process, especially concerning the flatness of the parts."

The problem, however, was that Bejot wire has a diameter of 11 mm and it is not easy to find twin-headed bending machines for this wire size. Even BLM GROUP's DH4010 had a maximum diameter of just 10 mm. "However, BLM decided to take up the challenge and, based on our facility drawings, made modifications to the wire bending machine to meet our requirements, and finally was able to bend Ø11 wire," Durzyński concluded.

About 9 months after installation, all wire parts were made on the DH4010. "The work previously done by four employees is now done by one, part-time, who also works on the E-TURN40. We have shortened processes, reduced the warehouse size needed to store the wire and save money because we buy it in coils. We have also improved the production accuracy because, as with the E-TURN40 bending machine the DH4010 is fully electric and very accurate, in line with BLM GROUP standards."



A LASERTUBE TO GROW

Fisheye - BE

Speeding up the process from the conceptual idea to the end product and saving time in the different steps of the production cycle. These are the reasons why the creative company Fisheye in Belgium invested in a Lasertube system from ADIGE - BLM GROUP.

Work time

from 4 days to 9 minutes

“For us, outsourcing has never been an option. Where previously it took us four days to cut and drill tubes for a project, now the Lasertube system does the job in nine minutes,” said company co-founder Stijn Slabbinck. “This has allowed us to grow as a company,” he added.
Fisheye is a multidisciplinary production company that makes creative pieces from a sketch to the final product for museums, festivals, the entertainment industry and institutions. An inspiring example is the “Star in Motion”, a stunning light structure about six meters in diameter, hanging 257 m above the Kingdom Tower in Ryhad, Saudi Arabia. Fisheye made the steel and aluminum structure with the Lasertube as well as managing the LED lighting, control software, transport, installation and commissioning.
Another example is the Holiday on Ice arena. A metal inspired igloo made of modular elements consisting of 25x25 mm square tubes connected in a play of interlocking segments that occupies a total space of approximately eighty square meters. The multidisciplinary nature of the company is confirmed by the fact that Fisheye’s engineers developed and manufactured everything, both the mechanical and the digital components. “We are a close team of designers, technicians, engineers and software developers who live to energize companies, productions and events,” declares the company’s website.



> *“Everything fits together perfectly, there are no more errors to correct and we can implement a project more quickly and efficiently”*

Exploiting the possibilities of high-end CNC technology
“Since all projects are tailored to individual requirements, according to the final result, we always carefully choose which production technology to adopt to achieve the single project. That is why it is important to have different production technologies at our disposal and to thoroughly know the peculiarities of each of them to get the most out of each situation. The same result cannot be achieved by outsourcing production.
We have a waterjet machine, a 5-axis milling machine and, as our latest arrival, we bought an LT8.20 from ADIGE - BLM GROUP.
Design engineers also spend time on the machine. Over time they specialize, understand how it works and how to make the most of its potential,” Stijn Slabbinck added. In this way, a creative idea is no longer limited by technical feasibility.

The possibility of smart joints
“The possibility offered by the BLM GROUP’s Lasertube system in terms of interlocking multiple elements is a crucial aspect for organizing production and creating projects. We cut fins and holes that match perfectly on the tubes to be assembled so the welders can focus on the quality of the welding without first having to measure the correct position. In practice, this means that everything fits together perfectly, there are no more errors to correct and we can implement a project more quickly and efficiently.

Our engineers also make great use of the ability to cut tubes on three sides, so that the cut tube can be bent and welded (Cut & Bend technique). This allows construction parts to be quickly assembled without cutting, measuring, clamping in place, etc.,” added co-founder Kris Goubert.

Design as the foundation for production
Time saving starts from the beginning in the design phase. “With Artube, we directly import the 3D models and process the design in 3D, so that we can show it to the customer and can immediately derive the working programs for the machine. The software was a decisive factor in choosing ADIGE as a supplier. We spent a lot of time looking for the right supplier and soon realized that software played a special part and that BLM GROUP differs in this respect.”

Automation with room to grow
“The standard version of the LT8.20 is equipped with a tube bundle loader with a capacity of five tonnes, but this was not very important for us because we do not work on large batches. Therefore, we set up a one-piece loading system with a 6.5 m stepper loader (or chain loader) that the LT8.20 provides at the front and which we fill with many different tubes to be cut one after the other. This saves a lot of work both before and after cutting. It is no accident that automation like this means being able to work with fewer people and grow as a company,” concluded Kris Goubert.



LASER SHEET: NEW CHALLENGES FOR THE BLM GROUP

LS7

The BLM GROUP presents the laser sheet-cutting system called LS7. After many years of combined sheet and tube laser cutting systems, the company is back with a system uniquely designed for sheet processing, continuing a tradition that has its roots far back in time when ADIGE was one of the early pioneers of this technology.
We spoke to Mauricio Gutierrez, Product Manager for sheet metal laser systems at the BLM GROUP, about the evaluations that led to this choice and the main features of the new product.

LS7 is a high-end product, but with an attractive price.

Why is the BLM GROUP investing in sheet processing?
There is a large area of overlap between the tube and sheet processing worlds. Many subcontractors and OEMs produce parts and semi-finished products made from both tubes and sheets. Laser machining has further contributed to this by freeing designers from rigid constraints in the use of tubular elements and fostering the emergence of innovative and effective solutions in terms of usability and cost containment.
BLM GROUP, the undisputed leader of the laser tube world, also has a long tradition in the production of sheet cutting systems. The first laser system for sheets made by ADIGE dates back to the late 1980s. Since then, ADIGE-SYS has been responsible for ensuring the development and growth of this know-how, which has always remained a company asset.
Over the past 20 years, ADIGE-SYS has produced a series of combined, modular, configurable laser cutting systems capable of laser cutting both tube and sheet metal, and now with the LS7, it is firmly entering the world of sheet metal only.
LS7 will allow the BLM GROUP to implement useful cross-selling business strategies, acting as a single supplier for every customer who needs, both types of machining, now or in the future.

Was a new product really necessary?
LS7 is a new system entirely redesigned and optimized for sheet metal working, marking a clear break with the recent past of ADIGE-SYS characterized by combined sheet and tube processing systems. The aim is to supply superior quality performance at the lowest possible price. To achieve this, we focused on sheet metal cutting functionality by eliminating all elements of modularity and solutions to integrate tube processing.
LS7 will be appreciated by companies that need a quality system with excellent performance at a reasonable price. This includes, customers who do not process tubes or who do so with dedicated laser systems. In an increasingly competitive market, part cost is a crucial factor requiring the right machine for each piece, only then can cost optimization be realized.
The structure, technology and functionality of LS7 takes into account BLM GROUP's 30 years of experience, shaping it into an innovative and reliable system.

What are its main features?
As before mentioned, the LS7 was designed as an entry-level product in the high-end system segment, i.e. a product with all the features and devices of a high-end system, but at an attractive price.
It has a conventional aluminum mobile gantry structure mobilized by a rack and pinion system, which slides on a very strong metal structure, filled with polymer concrete to ensure high stability even with high accelerations up to 2G.
The processing line was raised to avoid known problems, like protecting the bellows from sparks released from the cutting area, particularly during drilling operations. Access is only from the short side and the entire machine remains completely enclosed for safety reasons related to the fiber laser source.
The cutting area can be viewed from the outside using a camera.
Pallets are changed on the long side with an exchange time of just 9 seconds using an innovative mechanical solution that provides for the simultaneous exchange of pallets without pneumatic or hydraulic actuators. All handling is fully electrical.
Other small touches driven by our experience were added to improve the reliability of the system, such as the scrap conveyor belt, which was designed without screws to avoid the problems of fouling and blockage.
All the features that characterize a high-end system will be present.
The focusing head differs according to the maximum power of the laser source used. The ProCutter Thunder head is used up to 4kW and the ProCutter Zoom 2.0 head is used for power greater then 4, up to 12kW.
The ProCutter Thunder head is designed to simplify service operations, such as checking protective slides and calibrating the focal position.
The Zoom head, as the name suggests, allows for greater beam magnification, making it particularly suitable and effective for working in different conditions. The beam size varies to accommodate different materials, thicknesses and work steps. It is particularly effective in reducing drilling times. The head is fitted with sensors allowing control of pressure, temperature and slide cleaning with a reaction time of around one microsecond, guaranteeing extremely fast and effective intervention.
Finally, the LS7 is available in two versions: 1500x3000 and 2000x4000. The newly designed loading and unloading systems provide the most commonly used functions, including loading-unloading and a one or two tower configuration with the new, fully interchangeable loading or unloading boxes.
The system is also designed for easy transport. Installation takes just one week, including training.





QUALITY FURNITURE IN CHINA

Jiaxing Haihong - CN

Mr. Li, owner of Jiaxing Haihong Electromechanical Technology, a company operating in the office furniture sector about 80 kilometres from Shanghai, believes that premium quality furniture is not sufficiently appreciated in China, and exports over 80%. For its high-end production, the company needed machines capable of guaranteeing the necessary quality.

Before opening his own company in 1995, Mr. Li worked as a sales agent in the food industry and cultivated a passion for designing wooden furniture as a second business. The first pieces were designed personally by Mr. Li, who started with around 30 workers and today heads a workforce of over 500 employees and a hard-working design and R&D team.

Jiaxing Haihong makes office furniture, height-adjustable electric desks, chairs, shelves and bedside lamps, 90% of which are exported to the US, where Mr. Li has a partner who operates a leading online platform for retail office furniture, with whom he has been working with for 20 years.
“Sales processes in China are too complex, one often has to go through long, laborious and time-consuming tender processes, with no guarantee of success.” Mr. Li prefers a more direct, pragmatic and timewise approach which is why he has increasingly focused on Western markets, where business decision-making processes are leaner and more direct, even when dealing with large distributors. “I have recently found a partner for the distribution of our products in Germany as well,” stated Mr. Li, who wants to replicate the same model that has been successful in the US in Europe.

High-tech machines for the highest quality
The conscious decision to turn to the US and Europe was also made for market reasons. “This type of high-end office furniture is not sufficiently appreciated and valued in China,” explained Mr. Li. This means needing to offer products that comply with very high-quality standards. American (UAO) and European (TUV) certifications are needed to export to the USA and Europe, for instance. Production is characterized by a trend towards the highest level of automation and the use of high-tech machinery, imported mainly from Europe.
In Mr. Li’s vision, the production process for maximum profitability must be as automated as possible with humans employed in the design and R&D departments, where creativity and imagination- that machines do not have at least for the time being – are needed.
With a product catalogue that is very large, designers are careful to use similar profiles and modular components. The result is that production is organized to process the same section in large volumes and then move on to the next profile.

> *“Thanks to the automatic detection and compensation systems of all tube deformations, the system guarantees precision in the holes and slots that are made on the tube.”*



A leading product for tube processing
“Laser cutting a tube is very different from laser cutting a metal sheet. Tubes are three-dimensional elements that have to be moved during the process and any imperfections resulting from manufacturing or twisting can affect accuracy,” explained Mr. Li, who is well acquainted with the issues having tried his hand at tube cutting with a system from a local supplier before switching to the LT FIBER system from ADIGE - BLM GROUP.
“The BLM GROUP expertise in tube handling was evident when compared to low-cost systems,” Mr. Li said. “By supporting the tube along its

Exports

80%

of their products

entire length during the job and the automatic detection and compensation systems for any deformation of the tube, the system guarantees precision in the holes and slots that are made" This aspect is very important to Jiaxing Haihong, which makes great use of joints and also the insertion of tubes (one inside another) for electrically adjustable desk legs. "We used to waste a lot of time and material to be able to get parts that met our quality standards," concluded Mr. Li.

Scheduling jobs is easy

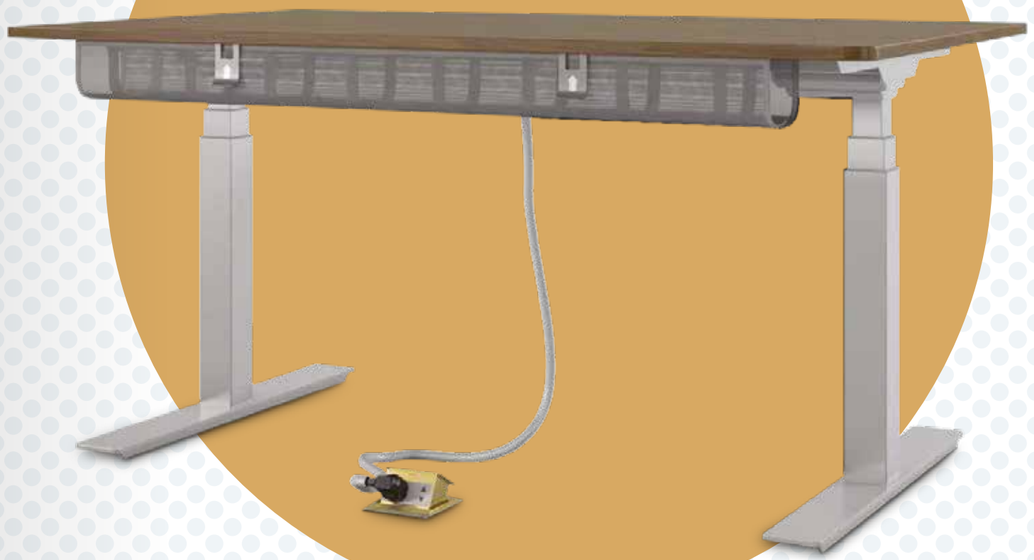
The software provided by BLM GROUP together with the LT FIBER system is a key asset. "ArTube, the ADIGE CAD/CAM program, can import 3D models of complicated assembles automatically recognizing the single components and creating the respective work programs. This hugely facilitates the job of programmers at Jiaxing Haihong," said Mr. Li, who also particularly appreciates the monitoring functions offered by Protube Enterprise. "Given the many activities I follow every day in the company, it is very important for me to be able to be updated at any time on the status of the plant and what it is doing," he said.

New challenges that will make the company grow

Simplifying the lives of designers also means leaving more time for research and development activities on which Mr. Li relies on for the future growth of his company. "We plan to develop the business commercially by finding new partners and by opening a small assembly plant in the USA to cut transport costs. However, growth will be driven by the technological innovations we are studying to apply to our products. We want to create smart offices by adopting the principles of home automation applied to workspaces. We are designing smart desks from which users can automatically control the workstation and also open and close the blinds and windows. In general, it is the ability to monitor the entire office from a desk."



The software supplied by BLM GROUP together with the LT FIBER system is an essential strength.





HIGH PRODUCTION VOLUMES AT A REASONABLE PRICE

Kobex - PL

Some entrepreneurial skills are discovered by chance, like in the case of Kobex Sp. z.o.o. a company from Kamien, in the Subcarpathian Voivodeship of Poland, which has a prominent place in steel construction, mainly of industrial buildings, which it makes at the rate of one every three days.



> *When we buy a machine, it is very important to find a product that allows us to deliver the best quality in the shortest possible time.*

The company's CEO Rafał Wąsik revealed that the company started about 27 years ago and for the first half of its existence produced willow baskets and bags with such success that it required an expansion of the facility in which it operated. When the time came to build a new factory, the owner Stanisław Rembisz approached several suppliers and received several wildly different quotes. So, he decided that he could do it himself. With the help of an architect he drew the blueprints and started the construction. Before the building was finished an acquaintance asked him if he would sell it instead of using it, and he did. When Mr. Rembisz designed and started working on a second factory building for his business the same thing happened again. This occurrence continued until the design and construction of industrial and steel buildings became the core business of Kobex, whose name, by the way, is inspired by the German word for baskets which were the company's original product.

Today, Kobex is one of Poland's largest steel construction companies. The Kamien plant currently employs approximately 160 people, 100 of whom work on the production floor. Construction is outsourced to external companies employing a total of 200 additional people. "We are one of the biggest companies and certainly one of the fastest producers in Poland," said Wąsik. "During the past eleven years, we have completed more than 2,500 buildings and today we are running at the rate of 150-180 buildings per year, which means that one new buiding is produced every three days."
The market is mainly domestic, but about 30-35% of construction is done abroad, including in the USA.

High technology to guarantee service
Kobex can follow all stages of the construction of an industrial building from design to final installation, Wasik explains. "Some larger customers, for whom we make the prefabs modules, come with a project already done, but most customers choose our blueprints. The buildings are large, like the over 10,000-square-metre one we are currently building in the UK."

Kobex's customers want high-quality results and the company needs to satisfy this demand on time. "Customers recognize our high level of technology in production. When they visit us they see one of the best machines in Poland and this is also thanks to BLM GROUP's contribution." Investing in state-of-the-art machinery is not only a way for Kobex to work under the best conditions of efficiency while respecting time, cost and quality. It is also a marketing action toward customers who gain confidence in the company by seeing how they work.

While talking about the importance of investing in modern machinery, Wasik is keen to emphasize one aspect that is by no means insignificant. "Investing in machinery does not mean not investing in people. Behind a machine, there is always a person who operates it. Actually, more than one person because the systems work on several shifts. It's necessary to train them on how to use the machines correctly and operate them. That is why, when we buy a machine, it is very important to find the product that allows us to make the best quality as quickly as possible."

High volumes at reasonable prices
Our philosophy has always been to produce large volumes at a reasonable price. That is why we are moving in the direction of automation with these state-of-the-art machines.

Our principles stem from the origin of the company that made retail products and the same philosophy has also been applied to the production of industrial buildings by focusing on a high number of creations maintained at a competitive price.

The choice of machinery

“To choose machinery, together with the company owner we visit trade fairs to keep abreast of the latest news and understand which the best brand on the market is, then, if the budget allows, we buy from them.” This is how Kobex found BLM GROUP and decided to purchase three systems at once: an LT24 for cutting large structural tubes, LT7 for light tubes and LS5 for cutting sheets.

“For the cutting and processing of tubes and beams of supporting structures we chose the LT24, a laser cutting system that has allowed us to be at least twice as fast, but above all allows us to be able to do many more processes that were not possible before, and all automatically in a single cycle.”

The right machine for every job

Kobex’s customers use round tubes, square tubes, and bundles of various shapes and sizes, combined with proposed features that previously had to be analyzed one by one with great care and skill to separate those that could be done from those that couldn’t be done or would cost too much to do.

“Now, most of those machining operations are feasible from the start with the LT24. We have no restrictions and given a project we can confidently say that we can make it exactly as it appears on the drawing.”

The same reasoning applies to the LT7, the Lasertube system for medium-sized tubes that provides performance unmatched in the market







“With BLM GROUP solutions we have no more restrictions and in front of a project we can confidently say that if the design is foreseen in a certain way we will realize it exactly in that way”

ONE NEW BUILDING IS PRODUCED every 3 days

and, as the latest addition to the Lasertube family, brings together all the best features of the BLM GROUP systems.

Finally, the LS5 for cutting sheet metal was a must. We used to have a plasma cutting system, but the precision was not comparable and it did not make sense to have the laser for tubes and continue working with plasma for sheet metal. “It is normal for most companies to work in construction without the need for great precision, but our customers are often large companies that still demand precision in machining. We are talking about prefabs after all and if we are talking about thin gauges, plasma is much slower than laser,” Wasik concluded.

The designers at Kobex immediately realized the potential of the new systems by adapting the designs to make their constructions lighter and to generate joints between sheets and tubes that were previously unthinkable with traditional manual methods due to technology constraints or cost.

Revolutionizing the production system in a single investment is certainly financially demanding, but the flexibility and efficiency gained from design to final implementation certainly made the effort worthwhile.



A GLOBAL CUSTOMER SERVICE

Leku-Ona - ES

Alex Zabala is the owner of Leku-Ona Global Solutions, a Spanish company whose mission is encapsulated in its name - Good Place - which expresses their goal to be the global solution for their customers providing exceptional services and products. Zabala is a positive person with the keen ability to communicate his enthusiasm about his company, which is growing and developing in many different business sectors.

The company was founded in 1973 under the name Comercial Leku-Ona by Miguel Zabala, Alex's father, for marketing products for hydraulics and pneumatics. "At first, hose assembly was the only machining job we used to do ourselves," explained Alex Zabala, who saw the business grow and comprehended that the market was changing. He realized that the company needed to evolve by offering a global service to customers and not just products. Comercial Leku-Ona changed its name to Leku-Ona Global Solutions in 2008. "The new name emphasized the attitude of offering a complete service to customers," explained Zabala. If you come into our company to ask for a bent tube, we make sure that you leave the company with the bent tube in your hand. This is what complete service means for us."

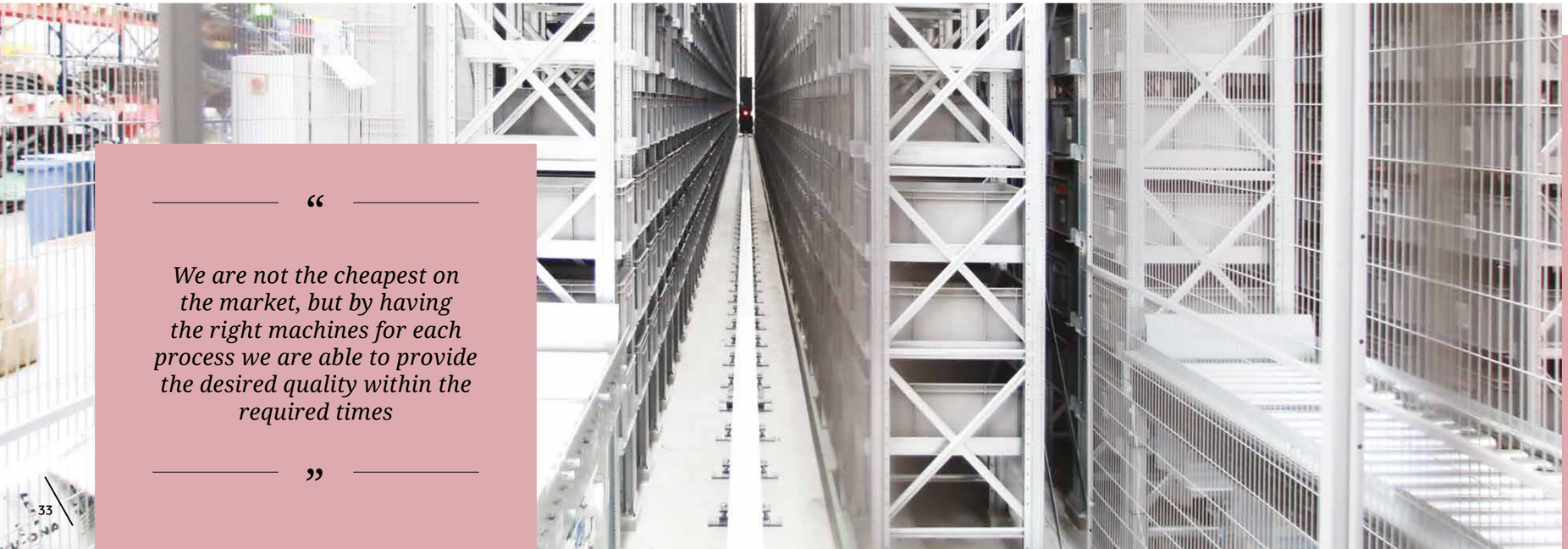
The current results of Leku-Ona confirm the success of this business idea with over 3600 regular customers in sixteen different sectors: machinery, shipbuilding, renewable energy, furniture, environment, automotive and more. The group counts nine companies, all located in Spain, and employs approximately 190 total employees.
The business is divided into four business units (Distribution, Manufacturing, Logistics and Innovation), which have taken shape over time through the creation of new companies or the acquisition of existing ones. Zabala describes the latest example of this growth strategy. "We acquired a company in 2019 that manufactured hydraulic hoses, which until then we had only been trading, and we started a new production."

The collaboration with BLM is based on the many systems supplied by the BLM GROUP, but also on the relationship of mutual admiration and trust that has been established over time between the companies. "It is the same relationship we try to establish with our customers. I consider it very important, but if the machines did not meet the correct price-performance ratio we would definitely have bought something else," Zabala clarified.
Purchases started with tube bending machines and sawing machines. "When we started tube processing, we acquired a company that had a hydraulic tube bending machine, and we added others by focusing on fully electric bending machines, choosing BLM GROUP. We started with a SMART system, immediately followed by a second one. Then, as the tube diameter grew, we went on to purchase two E-TURN52 systems and finally an ELECT102."

At Leku-Ona, the decision to invest in a particular machine or technology is made quickly because it is based on entrepreneurial intuition regarding the new markets that machine can open in the future rather than the specific urgent need for one or more specific projects. "If a customer comes to me with a project that offers me a glimpse of an opportunity, the decision to invest is quick even if the project in itself would not justify the investment," explained Zabala, clarifying the concept with an example. "The ELECT102 was purchased for a project for an agricultural machinery manufacturer. That project didn't come to fruition, but I saw opportunities to expand the market to larger tubes and the investment proved to be worthwhile because of the new customers it brought."

Customers find in Leku-Ona an excellent mix of service, quality and price, but Zabala focuses mainly on the first two. "We are not the cheapest in the market, but by having the right machines for each job we can deliver the desired quality in the required time." It is not the first time that we have been told that having the right machine for every job is the key to efficient and profitable production.

The approach to laser systems came about in a way that might seem random, but in reality, is the ability to seize the opportunity when it presents itself. "We were working for the wind



> *"We are not the cheapest on the market, but by having the right machines for each process we are able to provide the desired quality within the required times"*

OVER 3600
REGULAR CUSTOMERS IN 16 DIFFERENT SECTORS



power sector when the crisis hit in 2010 and a supplier of laser-cut sheet metal parts went bankrupt. We took over their laser machine and incorporated this new technology into our production process," Zabala explained. When the work then increased, it was only natural to turn to the trusted supplier of tube bending and sawing machines, BLM GROUP, which has, incidentally, not only the widest range of Lasertube systems available on the market but also sheet metal laser systems and was able to meet the needs in both areas.
"The LS5 sheet metal cutting system is mainly used in the wind power and agricultural machinery sectors, while the Lasertube LT8.20 system is mainly used in the renewable energy sector."
Again, the potential of the systems was carefully evaluated beyond the specific project. "The LT8.20 allowed us to enter the world of special profiles and expand the market sectors we serve. Some special profiles required the collaboration of ADIGE, which gave us the required support until the desired result was achieved," Zabala concluded.

Automation in a forward-looking company is a not insignificant aspect, and it is no chance that



> *"If today we did not have the tube benders and laser systems working together, we would not be able to do the project we are currently carrying out."*

Leku-Ona has also invested heavily in automated warehouses for efficient logistics management. The integration offered by BLM GROUP's All-In-One, which unifies bending and laser cutting into an optimized work cycle, is particularly appreciated. "If we didn't have the tube benders and laser systems working together today, we couldn't do the project we are currently doing," explained Zabala referring to the handrail of a staircase, a piece of furniture that requires high-quality, precision finishing. The BLM GROUP offer is still unsurpassed for precision in a process requiring two technologies.





THE INNOVATION SHOWCASE

SMACT competence center

BLM GROUP is the leading character of the innovation showcase demonstrated through its installed “Machine-to-machine” technology dedicated products and design, engineering and development at the Mechatronics Center of Rovereto by SMACT (Social, Mobile, Analytics, Cloud and Internet of Things) Competence Center. SMACT is an ecosystem of research, companies and public institutions, gathered to create value in digital transformation.
Matteo Faggin, General Manager of the SMACT competence center, talks about the partnership with BLM GROUP.

SMACT is a Competence Centre where research and industry meet. How does the Rovereto Live Demo project in cooperation with BLM GROUP, Trentino Sviluppo, FBK and Ruota Libera fit into the picture?
SMACT is one of eight Industry 4.0 Competence Centers in Italy created to facilitate collaborations between innovators within universities and industries. Our Competence Centre, located in a vast and diversified district, has chosen Live Demos of digital enabling technologies applied to specific sectors and use cases as the main tool for interacting with innovators because they also make sense to local SMEs.

In Rovereto, we teamed up with the University of Trento FBK Foundation and industrial partners such as BLM GROUP to create a mechatronics factory school Live Demo. It is a miniature factory with a handful of workstations that exemplifies a typical Italian manufacturing process. Obviously, the challenge was to make this miniature factory relevant to SMEs. To do so we chose to make it productive by mitigating the perception that it is a mere display of technologies and making it easier for small business owners to fully comprehend. We picked Ruota Libera, a local business that plans on making bicycle frames in this factory.



> *“Machine to machine” is the dominant theme. A practical example is clearly demonstrated by BLM GROUP in the exchange of data between laser cutting and bending, which enables cut optimization according to the deformations introduced in the subsequent bending.*

The concept of a simple production cycle using laser cutting, tube bending and welding equipment is complemented by “machine-to-machine” digitization use cases developed by our research and industrial partners and implemented here. The business owners who come to visit us will see the technologies but more importantly will see their application put into practice in a production cycle that is not too different from their own. This is meant to help them imitate what we did in Rovereto and also through collaborations with the partners who assisted us in setting it up.

A lot of interest was sparked at the Rovereto showroom opening by observing the exchange of information between the BLM GROUP tube bending machines and Lasertube systems which “talk to each other” to produce the bike frame component and to the SMACT software that displayed the entire process. But specifically, what do the machines say to each other?
“Machine-to-machine” is the key theme of this SMACT live demo. In practice, it is about the technologies that enable direct and indirect data exchanges between the various machines in a production cycle. In simple terms, the machines talk to each other. A practical example is the one already demonstrated by BLM GROUP in the data exchange between laser cutting and bending jobs for optimizing the cutting according to the deformations introduced in the subsequent bending operation.
But the opportunities of the “machine-to-machine” concept do not stop here. They can extend to sharing the data from environmental sensors or probes whose inputs can be used by various machines in the production cycle to adjust their operating parameters and maintain the highest level of product quality or sharing production batch data that can be used for programming individual machines and by the mobile robots that prepare re-tooling kits for each machine. Ideally, we will be able to demonstrate the potential of a so-called “lights-out” factory in Rovereto, which means that it can continue to produce without dedicated personnel being present at night.



Why is the interconnection between systems and dialogue with machines so important?
In a global scenario where production chains have been under stress for years to deliver what customers want when they want it, down to single item batches, a company's ability to respond quickly has become an essential competitive factor. If you add the recent supply chain difficulties to this, you can see how the need for production flexibility is increasing rather than decreasing. However, this ability to produce higher quality products in an increasingly flexible manner clashes with the difficulties and resources required to manage complexity. The horizontal and vertical integration of systems has become an essential tool for responding to market needs and maintaining or improving company competitiveness, reducing the burden of people managing complexity and shifting it to the machines themselves. Of course, it is not always feasible but in our Live Demo, we can demonstrate that it can be achieved successfully in some application areas, with technologies that are now also commercially available or through the development of new technologies in collaboration with academic research or specialist companies.

What Industry 4.0 applications have you implemented with BLM GROUP equipment and software, and what further developments should we expect?
BLM GROUP provided us with two important machines: an LC5 laser cutting machine and an E-TURN52 tube bending machine. We have already started to implement some demo use cases with our partners on these machines, including the unmanned joint process connection and integration, the creation of dedicated dashboards for scheduling production on the different machines, and plant OOE efficiency monitoring on individual machines and the plant as a whole. In the near future, we are planning to make more use cases that highlight how machines with sensors and data-sharing capabilities, such as BLM GROUP's, can optimize production and perhaps, more importantly, achieve higher product quality and potentially implement new business models.

The quality of finished products is a key element for standing out from increasingly aggressive competitors. How can Industry 4.0 applications and the dialogue with BLM GROUP machines in Rovereto lead to high-quality production?
Industry 4.0 is simply the implementation in production of the promise of more and better productivity enabled by digitization. The data produced by machines are used within the individual production station and shared throughout the entire production cycle facilitating increasingly intelligent and proactive production management. Obviously, this improves product quality in addition to lowering production costs.
Product quality is the strength of much of Italian and European manufacturing and the fact that digitization of processes allows greater control over the quality of final products leads to even more competitive companies.

We are experiencing difficult times of geopolitical tensions, critical environmental issues and energy transitions. Do you think the Italian industrial system needs to be rethought? How does the Live Demo workshop experience fit into this context?
It has become increasingly apparent that the Italian industrial system has great potential and needs to tackle equally great challenges. The energy bill is a major concern for small and large business owners but, on the other hand, the changes taking place in global supply chains allow a production system like ours, which has traditionally not focused on the segments struggling the most today, to find new market opportunities. However, companies must become more flexible to produce at ever lower costs per unit and market products of ever higher quality to meet the challenges and seize the opportunities. This can also be achieved today by digitizing processes. The intensive use of advanced automation has promoted some the major reshoring events reported by the press.
Our live demo in Rovereto can help small and medium companies see and understand how to respond to these current times by building increasing competitive capacity. In addition to demos, SMACT and its partners can accompany companies in research and innovation plans and for training their workforce, which is essential to take full advantage of the potential of new technologies.

> *"We plan to create other use cases highlighting how sensorized and data-sharing machines such as BLM GROUP's allow SMEs to optimize production and also them to pursue higher product quality and, potentially, new business models."*



TUBE BENDING, THE CORNERSTONE OF INTEGRATION

Meiko - DE

When we integrated a high-performance tube bending machine into our production process, we expanded our core competence and opened up a wide range of optimization potential in the production of our machines. With this goal in mind, leading industrial dishwasher manufacturer MEIKO opted for an E-TURN40 tube bending machine from the BLM GROUP.

“Since the commissioning of the E-TURN40, we have been able to produce many of our parts significantly easier, faster and more cost-effectively,” said Eberhard Kopf, Production Manager in MEIKO’s Warewashing Technology and Plant Assembly department in Offenburg, Germany. The company now produces nearly 450 different workpieces with the E-TURN40.

In the production of the latest conveyor dishwashing machines of the M-iQ family, assemblies are used whose design could be greatly simplified with the BLM GROUP’s bending machine. “Today, we manufacture the steam and heating coils from a single piece,” says Mike Wittmann, team leader for installations. In the past, this component consisted of several individual parts welded together. In other components, such as manifolds for heating components, pipe sections with lengths of just a few millimeters had to be welded in. The production of such workpieces was extremely time-consuming and cost-intensive.

Significantly shorter lead times

“Beyond the higher quality of the workpieces, the process optimizations made possible by the E-TURN40 are enormous. The new bending machine makes an important contribution to shortening the production times of our machines,” says Jonas Huber, MEIKO’s Head of Installation and Assembly, emphasizing the importance of productivity gains. “Especially for smaller machines, short delivery times are an important decision criterion for customers today.”

MEIKO is one of the market leaders in large dishwashing machines and systems for, among others, the foodservice industry, hotels, hospitals, cruise ships and airport catering. These machines are individually manufactured and equipped.

“In addition to the superior quality of the parts, E-TURN40 contributed to greatly optimize the production process.”



Tube bending became a core competence

The E-TURN40 replaced an old hydraulic bending machine the increasingly limited technical possibilities forcing MEIKO to purchase many tube parts from external suppliers. “Requests to suppliers take too much time and fit less than ever into today’s world. That’s why we wanted to acquire our expertise in tube bending, in particular, to be able to manufacture more complex components and assemblies ourselves,” says Wittmann.

Given the current tense situation in global supply chains, this aspect has taken on additional significance. “We are now independent. For new bent parts, we can quickly go into production and have full control over their quality,” Wittmann summarizes. From wash arms, hood handles and heating coils to supply pipes and drain lines, washing systems and countless other components made of high-quality stainless steel, the company’s engineering and production departments work more closely than ever before in the development of innovative solutions.

The tube bending step with the E-TURN40 at MEIKO fits seamlessly into the company’s strategy of securing its technically innovative position in the long term. MEIKO is a company of the Oskar and Rosel Meier Foundation tasked with maintaining jobs at the Offenburg headquarters and reinvesting profits. “This allows us to invest in state-of-the-art technology that gives us long-term competitive advantages,” Kopf explains. “The E-TURN40 has given our machine operators interesting new tasks that make their jobs much more attractive. In light of the shortage of skilled workers in the industry, this was also important to us.”

Software as a key measure of productivity
BLM Group's easy-to-use and integrated software played a key role in the company's investment decision. "We wanted to have software that did not require any programming knowledge to operate. When working with the BLMelements software suite, all you need is a little imagination," Wittmann attests to the intuitive usability of these solutions.

With the VGP3D programming software, employees can design new parts in a few simple steps. Realistic 3D representations allow them to simulate all the details of the workpieces and the production process in advance, and to adjust every position and movement.

B-TOOLS in particular are also seen as a highlight at MEIKO. "If we enter 900 as the bending angle, the machine bends exactly at this angle. With the E-Turn, the first parts are good parts," says Wittmann, explaining the advantage, which is reflected in both higher productivity and higher profitability of the process.

Finally, the company uses Tool Designer to manufacture the bending tools. This smart application can generate the drawings for the required tools online starting from the numerical model of the bent tube.

Guaranteed sustainability
The design optimizations made possible with the E-TURN40 also benefit the sustainability of MEIKO's products and processes. "We offer our customers resource-saving machines. For example, our M-iQ conveyor dishwashing machines are characterized by low energy, water and chemical consumption. This reduces operating costs enormously for our customers. The technical possibilities of the E-Turn 40 support us in achieving such improvements," Wittmann states.

Nearly 450 different workpieces

All the options for Industry 4.0
In the age of Industry 4.0, MEIKO has also thought about the future in the course of this investment decision Wittmann explains. "We took a look at the BLM GROUP's plant in Cantù in Northern Italy and, in discussions with the highly qualified experts, received confirmation that we are relying on the right partner here. This also applies in particular to the unique integration of this company's machine technology. It offers us extraordinarily interesting future options for our production process like the end-forming of the tube head and tube laser cutting." As a result, MEIKO will be able to further expand its range of manufacturing, in cooperation with the BLM GROUP, in tube processing for the benefit of its current and future customers.



"The design optimization made possible by E-TURN40 also benefit the sustainability of our products and processes."



A LASERTUBE IN PLACE OF AN AUTOMATIC SAWING MACHINE

MNM Tools - IN

MNM Tools PVT LTD is an Indian company that works primarily for a single customer providing stainless steel tube with a diameter of 42 mm to 63 mm and length of 47 mm to 140 mm, used for car exhaust systems. Established by the current CEO and majority shareholder Mahin Tikekar, the business started in 2011 with the purchase of an ADIGE CM601 cutting system from a closed German company doing the same type of work. In 2019, the company bought a Lasertube LT5 system that allowed them to increase the production volumes creating a great leap in business growth. Today, MNM has 17 employees operating in a plant of approximately 700 sqm, not far from Pune, the famous hub of the Indian automotive industry.



A hard choice
In 2019, the old sawing machine CM601 was performing its job very well, but the need to increase the production volume led Mr. Tikekar to consider adding other machines into their production. The idea of a Lasertube system in particular had been tickling his imagination for some time, as he explains: “We have been talking with BLM GROUP for many years about the possibility of using a Lasertube system to do the work of the CM610, but the hesitation was the ability to amortize, in a reasonable time, an investment that cannot certainly be compared to that of the sawing machines”.

Now production has quadrupled to

850.000
parts per month

The detail analysis
From a technical point of view the comparison was simple. A quality automatic sawing machine such as CM601 ensures speed and high volumes, but it has some limitations intrinsically linked to technology. The burr remaining on the cut requires a brushing machine and a washing system, systems that were present in Tikekar’s company. There is also the noise and blade wear, which is a cost in addition to the scrap which is not limited to the kilometers of waste each month on the length cuts of the initial and end part of the piece. The blade’s cutting thickness also uses about 2.5 mm of tube with each cut which needed be considered too. This may seem insignificant only before multiplying it by the hundreds of thousands of cuts made by the sawing machine. Tikekar explains: “Until recently, I received the material from the customer and we just made the cut, but now I also supply the material, which obviously is another business opportunity, and the numbers change as the 2.5 mm lost at each cut is now a direct cost for me”.
Laser cutting has no burrs – even though Tikekar reports that, at times, he has to remove oil inside the tubes – makes no noise, has no sharpening and blade replacement costs and definitely offers important savings on the cutting groove (about 0.5 mm). In some cases, this last point alone largely justifies the transition towards this technology.



Bet on the new technology
The desire to improve the production system by adding a Lasertube system conflicted with the need of an investment greater than the one necessary for the sawing machines: “Of course I knew that the BLM machines are the most expensive, but today, in India, Italian technology is greatly appreciated. Furthermore, I received good testimonials with more than one colleague telling me that the BLM GROUP Lasertube systems are the best in the world,” explains Tikekar who continued., “After all, my experience with BLM GROUP was positive and that’s why I relied on them. Although the CM601 was a second-hand system, they always supported me and this fact was important to convince me not to accept proposals from China and Taiwan, even if clearly more cost-effective. The support and help that I have had and continue to have were more important. Not to mention that India financial institutions are willing to support entrepreneurs investing in laser technology”.
“In short, I felt that the return on investment would be faster and guaranteed with a laser system instead of different sawing machines,” explains Mr. Tikekar. “The determining factor was certainly that I needed to triple production. My customer asked for it and therefore I was guaranteed a 70% machine utilization. If I had to start looking for customers starting from 25% utilization, I wouldn’t have trusted it.”
In conclusion, when his main customer confirmed the increase of the production volumes, he bought the LT5 system that now is working at 100%. “Initially, it was about 200,000 parts per month, now production has quadrupled to 850,000 parts and in the maximum demand period I have produced over 1,000,000 parts per month.”

Success favors the bold
With just one system Mr. Tikekar has solved all his production problems, but he confesses that before receiving the system he had a doubt: “I was really worried that at the end of training my operators, who knew only the sawing machine, could not make best use of an advanced laser system such as LT5, but the graphic interface of the system is extremely intuitive and they learned very quickly. Now they are able to operate the machine at its best and I am no longer afraid; on the contrary, I confirmed that the productivity promised by BLM GROUP was conservative and that my operators manage to produce much more and with a gas consumption lower than expected.”
Tikekar is aware that currently he is not taking advantage of the full potential of the laser tube system that can do more than just the straight cut, but currently the machine is working in a continuous cycle 7/7 and MNM, with the LT5 system, can afford to choose its jobs. “I’m convinced that the laser machine is advantageous when you work in the high-volume market and for this reason I’m not interested in markets with small numbers.”

The only problem at this point is that the machine cannot stop and MNM is already thinking about how to increase their capacity in the future. “By investing in the laser, growth has become faster and considering the payback, in a couple of years I’ll have to think about doubling the investment,” concludes Tikekar.





TAKE CARE OF YOUR PRODUCTION IN TOTAL AUTONOMY

BLMportal

Service digitization is a key factor for maintaining competitiveness. In this context, the possibilities offered by new technologies combined with the strong drive towards digital evolution in an Industry 4.0 perspective, are redefining the level of interaction between suppliers and customers with new tools aimed at maximizing production efficiency.
BLM GROUP has always been at its customers' side with innovative tools capable of ensuring they maintain a competitive edge and responding to their need for prompt answers by providing 24/7 support on the **BLMportal.**

BLMportal is a platform that exploits new technologies to offer a wide range of services in addition to production statistics for its machines.

BLMportal can be easily accessed from any device, either fixed or mobile. It offers customers a privileged access point to request immediate assistance for their machines. Customers can also **open service tickets** with a few simple clicks with the portal immediately transmitting the necessary information to the respective service team to speed up interventions and monitor progress.
With BLMportal, customers can keep track of production statistics, access their machines' active services, keep abreast of available operator training courses, obtain the latest technological innovations and software updates, and download all machine documentation (manuals, certificates, etc.).
All GROUP customers can activate their BLMportal immediately and free of charge. Access can be configured, making the portal an important tool for ensuring **each company user can operate according to their area of competence**. Customers can define different access levels with different views of the various areas of the portal according to the tasks of their employees.

A look at the main sections of the personalized area
In the "**My Machines**" section, customers have access to all the key information on the machines they purchased. Specially, they can see the name of the machine, serial number, year of purchase, warranty status and all active service and maintenance items.
On the machine page, customers have access to applicable content, technical documentation, diagrams and machine manuals. They can also access available training courses and the latest technology or, if necessary, open a service ticket with one click.
Similarly, in the "**My Software**" section, customers can view information specific to the software modules they have purchased, download updates and relevant documentation and register for available training courses for their products.
In the "**Technical Support**" section, customers can open a support ticket, monitor progress and view the history of previously processed tickets. Each ticket contains all the detailed information including time, date, who opened it and current status.
Within the last section, "**BLManalytics**", customers can monitor the production data of the machines in real-time with the aim of **optimizing facility utilization and production by monitoring general usage trends**, highlighting possible critical areas and identifying potential improvement opportunities, all to allow the customer to make quick, targeted and effective strategic decisions.

BLManalytics can also be used to compare the customer's different production systems and any one system at different moments of time to identify the events that influenced the overall productivity of the machine during the defined period of use.

BLMportal 360° production is just a click away!
Perfect for taking care of production in complete autonomy, accessible anywhere and anytime. It offers sound support to operations and teams. BLMportal opens up a new level of interaction between BLM GROUP and its customers. It is the easiest and most immediate way to keep production at peak efficiency.





TUBE AND SHEET METAL CUTTING IN THE PRODUCTION PROCESS

Niverplast - NL

When looking for a compromise between "make or buy", a company often has to consider something more than just mathematics. In 2019, Niverplast, a Dutch manufacturer of packaging machines for the food and other industries, invested in a BLM GROUP sheet and tube laser cutting system and switched from outsourcing to internal production. "The approach was not necessarily to make it yourself at a lower cost, but instead to improve flexibility, increase speed, improve quality and get a better integration into our production process," explains the Operations Manager, Pelle de Jong.



Niverplast is owned by a global leader in its industry with development, assembly and sale of bag-in-box packaging lines and relevant consumable materials. Since its establishment in 1986, the family-run company has experienced solid growth. “We are in a niche market where we solve our customers’ problems with ready to use systems and meet the growing demand of packaging machines all over the world with our products.”

“Make or buy”?
Previously, the company produced part of its stainless steel frames and sheet metal in Central Europe. “When we discovered that we were spending a lot of time on repair work, we decided to do more on our own and to buy the necessary semi-finished products, sheets and tubes from Dutch suppliers. If you have outsourced 100 tons of cut stainless steel tubes and sheets per year, you can undoubtedly do it yourself more cost-effectively, in part because you can optimize the use of the material, but also because of the advantage obtained in purchasing and eliminating logistical movements. All in all, that advantage provided us with a sufficient margin to invest in our own machines,” explains Pelle de Jong.

BLM GROUP, the favorite
Niverplast’s journey started on YouTube. “I was not completely familiar with the process, so I started to look on the Internet. The BLM GROUP videos showed a fantastic solution for tube processing, both for the machines and the associated software. From the BLM GROUP concept we understood how their extensive knowledge of tube processing is the basis for the development of their tube laser cutting systems. Subsequently, also we contacted several tube laser suppliers and examined their systems at EuroBLECH. However, I was not convinced that they were ready in terms of hardware and especially software,” states Pelle de Jong.

High mix and low volume production
Cutting requirements of Niverplast vary from 1.5 to 15 mm of sheet thickness and primarily 3 to 4 mm of tube thickness. “We produce almost exclusively to order. This means mostly single parts and small quantities, a typical situation with small and highly diversified and batches. The Lasertube ADIGE LT8.10 was the best solution. We simply manually load the single tubes into the stepper loader at the front of the machine





> *“We produce almost only to order. Single part and small quantities, a typical situation suitable for a Lasertube: small, highly diversified batches.”*



> *With the enormous productivity of both sheet metal and tube lasers, both machines finish their work long before employees return home at the end of the day.*

for each new job. For sheet cutting, even though the choice between sheet lasers is much wider, it was obvious to us to also purchase the sheet laser LS5 from ADIGE-SYS, another BLM GROUP company."

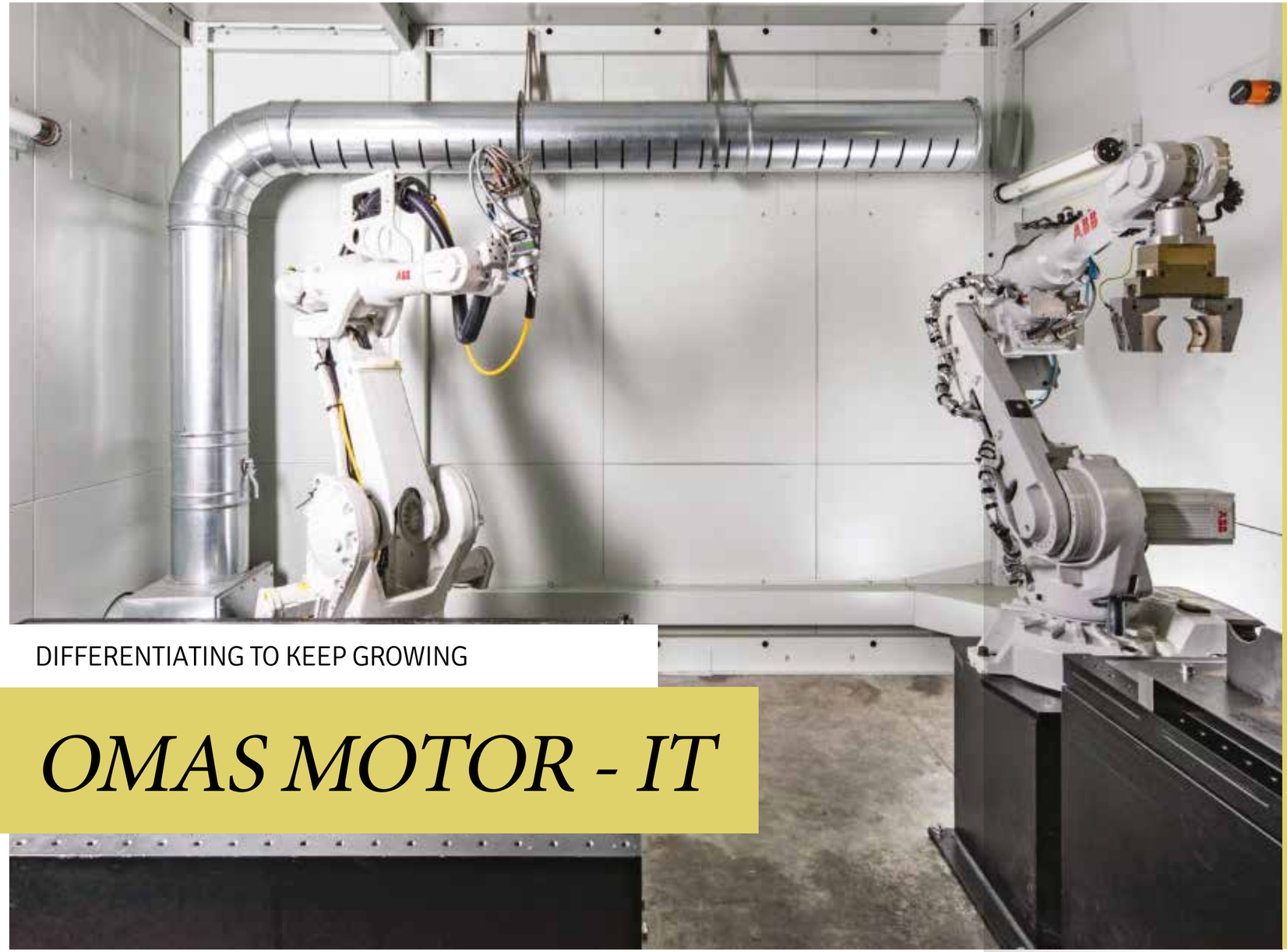
100 tons in the first six months
Niverplast had three people attend the machine and software training course at BLM GROUP in Italy. After installation, it took them a week to practice on the machines. De Jong: "Thanks in part to the support of BLM GROUP's Benelux plant in Veghel we were able to start production quickly. In the first six months we had already cut our projected annual requirement of 100 tons."

Intuitive programming with Artube and Artube Automator.
BLM GROUP has developed its own Artube software to program tube laser cutting. Artube allows you to model tube sections in 3D in a very intuitive way, particularly suitable for designing complex structures, where the software automatically calculates the intersections among several tubes. "The CAD 3D projects are imported as models in the .xt or .step formats, then Artube creates the optimum cutting paths and automatically generates the part program. Now, we are making more use of Artube Automator, that allows automatic processing of the 3D files coming from the ERP to generate the CNC program. In theory, the job planner only has to create the nesting."

ERP to measure
The job planning department works with the BLM GROUP Protube production management system and receives the orders from the ERP system. The ERP is customized and developed by Niverplast in collaboration with an external developer to optimize the delivery to Protube and other software packages. Within the software, the 3D files are separated directly into sheet, tube, bent tube and other parts. "Starting from the bent tube parts, the bending program first calculates for the tube elongation due to bending and compensates for it correctly during laser cutting. All the recurring details are registered in the Protube database and therefore their reprogramming is not necessary."

Identification of cut parts
"We wanted to label each section of cut tube with a serial number and a QR code allowing us to easily retrieve all the detail drawings in the system during the follow-up process. However, nesting optimization in Protube generates a sequence of cut parts in an unpredictable order. To ensure a label is printed when the tube section is cut, we have developed our solution for this by using the tools provided by the Suite BLMelements by BLM GROUP. In this way, now we keep track of exactly which part is cut and the label printer prints the corresponding label at the same time as the cut part. Now we can identify each cut part and provide real-time feedback to the ERP that the product has been cut."

Ready to grow further
"Basically, we are a self-sufficient manufacturing company supplying the welding department and then the mechanical workshop. Thanks to the enormous productivity of both the sheet laser and the tube laser, both machines complete the jobs long before the employees go back home at the end of the day. We don't necessarily need to fill in this overcapacity, but it offers us space for the expected growth in the next few years," concludes Pelle de Jong.



DIFFERENTIATING TO KEEP GROWING

OMAS MOTOR - IT

OMAS MOTOR is a typical Venetian company, born in 1978 from the entrepreneurial mindset and the passion for mechanics of Albino Sgarbossa, founder of the company and father of the current owner, Simone, who welcomes us in their plant in Cittadella (PD). Initially dedicated to the production of components for the exhaust systems, the company has been able to develop by diversifying its production in different sectors and by investing in next generation machines for continuous growth.





With Simone Sgarbossa we start talking about the origins of OMAS MOTOR: “We are a typical Venetian family who, in my grandfather’s time, was working the land. My father, Albino, had a passion for mechanics and after working as apprentice for a while he managed to start his own business and founded IMASAF, that even today still produces exhaust systems for cars.” The company was successful and grew considerably with the collaboration of other family members. When it became an established company with several branches and warehouses all over Italy, Albino Sgarbossa preferred to leave its management to his relatives and established a new company, OMAS MOTOR, where he could go back to work on cars giving vent to his unchanged passion for mechanics.
“Having seen the development of a company such as IMASAF, in its different phases, under the guidance of my father, has been an experience that taught me a lot,” concludes Simone Sgarbossa who continues to rapidly grow OMAS MOTOR because of that experience and his wise investments into new technologies.

Differentiating to grow...
In the beginning, OMAS MOTOR manufactured almost exclusively components for the exhaust systems for its “cousin” IMASAF. “In the 80s and 90s IMASAF was already in the exhaust system market. The company mainly manufactures spare parts and some original equipment systems, but me and my cousin Alfredo, who joined the business, didn’t see positively the prospect of being suppliers to a single company, even an important one,” explains Sgarbossa, referring to the OMAS development strategy. He continues, “In the late 90s, we started to diversify by also adding spare parts for tractors to IMASAF components. We invested in suitable machines and managed to introduce one of our products to the market, a new line of compact push-in silencers, without welds. From the small size mufflers to the bigger ones for engines up to 700 horsepower and above, this is the product that made us known around the 2000s”.
In a short period of time they became suppliers of original equipment for tractors, then they entered the world of generating sets for which they manufacture the intake and exhaust system as well as other parts including different machine frames and anti-intrusion barriers.
Between 2010 and 2015 pollutant reduction technologies were growing increasingly more important. “The muffler was gradually replaced by fume purification systems. The world had started the journey towards electric and clean energy and we had to keep pace. The new market is that of the photovoltaic panels and support structures. It is for this market that we have leveraged the capabilities of Industry 4.0 by investing in next generation machinery. Right now we are building a 2 megawatt power plant that will supply energy to both us and to the surrounding community,” concludes Sgarbossa.

... investing to grow
To face the new challenges of the market OMAS MOTOR decided to purchase four BLM GROUP systems: one ELECT150 to bend tubes in the tractor and photovoltaic panel industry, one Lasertube LT5 and a LT360 robotic laser cutting cell to laser cut and trim tubes after the bending phase and then another tube bending machine the ELECT80 for smaller tubes. “We worked with the hacksaw and a tube diameter of 50 mm already seemed big to us, but after purchasing the ELECT150, we quickly got used to it and realized that cutting 2 mm stainless steel 150 by hand is not easy,” explains Simone describing how after a while they decided to insert laser technology:
“I was looking at the stadium where the Beijing Olympics were held, the famous Bird’s Nest, a

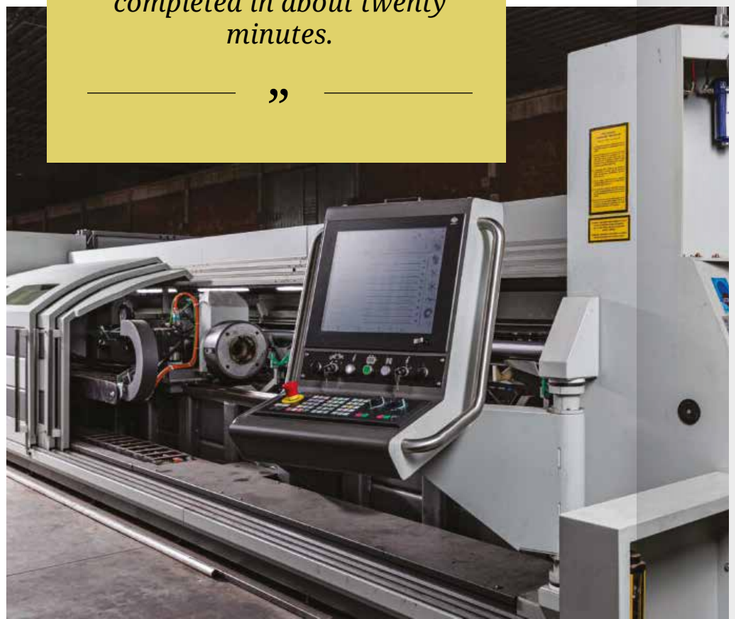


structure made with tubular elements intersected in various ways that made me think about the real potentialities of the Lasertube systems and about how ground-breaking this technology is."

A long-standing partnership
OMAS and BLM GROUP have a long history of collaboration. Simone Sgarbossa recalls that when his father collected the first tube bending machine that BLM was still in its beginning. Today, that machine is still in the factory and it is shown to us as a museum exhibit. Since then, many other machines from BLM GROUP have been purchased by OMAS MOTOR, though careful valuation of the most advantageous solutions available on the market. "When we bought the LT5 we also investigated the competitors and we noticed that they were offering systems at lower prices, but quality and service must be taken into account, and we could not risk having a service relationship different from the one we receive from BLM GROUP."
The LT5 system was immediately a great success: "We think carefully about investments well in advance of the actual needs because we want to ensure that everything is ready at the right moment. But with Lasertube, it was not like that. As soon as it was installed and we were in the process of training, the machine was already producing parts. The benefit was huge. I remember a job that took two days to be carried out that the LT5 completed in about twenty minutes. Additionally, some manifolds, first cut by hand and then treated with additional processes, were ready in a few minutes on the Lasertube. Tremendous flexibility".

LT360 a system with great potential
The robotized laser cutting system, LT360, has been considered especially useful for prototyping before production for original equipment customers. "Before, the prototyping phase was very time-consuming and expensive. Now, with the new machines and software, you start from the 3D model and all CAD evaluations are carried out in the office, bending simulation and evaluation of the production times included. The software automatically generates the program to make the support template and part check

> *"I remember a job that took two days and that the LT5 completed in about twenty minutes."*



for the LT360, whereas the LT5, ELECT150 or ELECT80, depending on the size, we produce the sample and finally we carry out the laser operations of trimming and drilling on bends). Everything is very fast," Sgarbossa explains. LT360 uses an anthropomorphic robot to move the laser cutting head working on the part that can rest on a template or be supported by another robot making the process extremely flexible in any situation, whether we are talking about bent tubes or drawn or hydroformed sheet metals. "Previously, these jobs were carried out by machine or by hand, in both cases with more expense and processes than the laser, not to mention that the older mechanics are retiring and the new ones are skillful on CAD, but are struggling with the fine mechanics," explains Sgarbossa who concludes with an example. "We use LT360 for a manifold made of two parts, one bigger but simple that is bent on the ELECT150, and the other one smaller but more complex that requires cutting and trimming for welding after bending. There are three bends in a very narrow space and maybe we can do it as a single part. The LT360 is essential for this job, it wouldn't have been possible without it, and in many other cases, without the LT360 I should have said to look for another supplier."



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LARGE INSIDE. GENEROUS IN PERFORMANCE.
HIGHLY CONFIGURABLE.

LT-FREE 4020

Result of BLM GROUP's extensive experience in the production of laser cutting equipment for tubes, sheets and three-dimensional parts, the LT-FREE 4020 is the Group's new laser cutting cell, specifically designed for large components, typical for sectors such as automotive, industrial vehicles and aerospace.

Large inside

4.100 mm x
2.100 mm x
1.000 mm



Generous in performance

- **Acceleration 1 g**
- **Active Tools**
- **5 axes + 1**
- **Laser source up to 4 kW**

One of the largest working areas on the market
Within a compact and attractive layout, the LT-FREE 4020 conceals one of the largest workspaces available on the market (it is 4,100 mm wide, 2,100 mm deep and 1,000 mm high). Designed to make the most of workshop space, its generous work area can comprise up to 23% of the total footprint of the machine. This is particularly interesting when compared to the market average whose value does not exceed 15%.
The cutting area is almost one-fourth of the area occupied by the machine.



The size and weight of the workpieces that the LT-FREE 4020 can cut may require the use of special lifting devices to handle processed material and the supporting fixtures. This is why the LT-FREE 4020 cutting tables can be equipped with extractable pallets that allow workpieces and equipment to be moved outside the footprint of the cabin so that they can be easily replaced with the help of an overhead crane or forklift. Table rails that can cause hindrance for operators are no longer required and therefore no excavation or other work on the customer's floor is needed.

Extreme performance, ideal for large stamped parts
The LT-FREE 4020 offers extremely high work dynamics with accelerations of up to 1 g during machining for machining large stamped parts. The cutting head has an additional local axis that moves the nozzle closer and further away from the workpiece, according to the distance detected by the capacitive sensor. This allows the head to easily overcome any surface defects on the workpiece, optimizing the cycle for the best performance in terms of cycle time and productivity. In terms of performance, the aforesaid features are supplemented by Active Tools technology, which, as in the Group's other laser cutting machines, optimizes the entire work cycle. The ultra-fast moving doors can open and close in less than 2 seconds, and a laser source of up to 4 kW increases productivity considerably, especially on thicker materials.
Furthermore, the LT-FREE 4020 can be integrated into any complex production system and is ideal for working 24/7. More in detail, the machine is ready to be connected to a robot for automatic loading and unloading of parts and can dialogue with the company's management system and other machines through various communication protocols, including OPC-UA.

Robot handling and double cutting zones: the strengths of BLM GROUP laser cutting cells
Like the smaller version, the LT-FREE 4020 is available in 4 different configurations, with single or double work areas and with either one or two 6-axis robots for in-process workpiece handling.
The use of a robot, which has always been one of the hallmarks of BLM GROUP laser cutting cells, is particularly effective in laser cutting of bent or hydroformed tubes and eliminates manual repositioning to the benefit of precision and a shorter cycle time.
Double work area configuration. The split cabin allows loading and unloading operations to overlap with laser cutting operations, consequently increasing machine uptime. Additionally, on the LT-FREE 4020, this configuration features a patented solution with no market equivalents in which the absence of the shutter (the device that opens and closes letting the head through the partition) creates a central space where the cutting head can position itself freely.
To be able to retain a large working area even when it is divided into two, the partition can be arranged asymmetrically so that one of the two areas can be larger than the other. This patented solution makes it possible to maintain one large cutting area for large stamped or pre-welded parts and dedicate the other to smaller parts.

Superior quality, as expected from BLM GROUP's more than 35 years of laser cutting experience
The LT-FREE 4020 is a top-of-the-range machine that offers first-class results for users in terms of cutting quality, repeatability and precision of the workpiece produced and also in terms of reliability, retaining its characteristics of excellence over time.
In this respect, the skillful design and care for materials are echoed by Dual Drive technology, which eliminates any inversion micro-gaps, ensuring consistent cutting-edge quality throughout the life of the machine.

Equally effective on small or large batches
The LT-FREE 4020 also fully meets the requirement for production flexibility, which has always been one of the strengths of BLM GROUP's 3D laser cutting cells.
Like the LT-FREE and LT360, the LT-FREE 4020 can be programmed using ArtCut, the powerful CAM software allows the upload of highly complex three-dimensional profiles and the rapid off-line programming of the entire work cycle. With ArtCut it is possible to simulate the part cutting cycle perfectly true to reality, resolve any collisions and kick off production safely.
Compact on the outside, big on the inside and generous in performance, equally effective on batches of all sizes, the LT-FREE 4020 is the ideal machine for laser cutting parts of all shapes and sizes with superior quality and speed.

