

BLM Open House

INTUBE^{XV} proves to be an electric experience for South African visitors

“Technology is your business partner - Make it happen: it opens doors to new opportunities and widens your horizons.” This was the theme for the Italian manufacturer BLM Group’s open house exhibition that took place in Levico Terme, Italy from 4 to 18 June 2015.

The BLM Group holds its biennial open house exhibition at the premises of subsidiaries Adige and Adige-Sys, both located in the picturesque town located in the Trentino province in the northern Italian region Trentino-Alto Adige/Südtirol.

This was the 15th occasion of the open house held by the Group, which has its headquarters in Cantù in the province of Como and is led by chairman Peter Colombo.

The BLM Group sets itself up as a global partner for the whole tube processing industry, from laser cutting to cold saw, bending, end-forming and measurement, with a worldwide presence. This wide range of solutions are manufactured in dedicated production sites, and thousands of applications have been installed all over the world.

Situated in the north of Italy, on the outskirts of Lake Como, the BLM Group is a worldwide technological and market leader in the design, manufacture and sales of tube processing machines such as laser tube cutting systems for heavy beams and tubes up to 508mm outside diameter, circular sawing machines for tube, bar and profile, as well as tube and wire benders. The company has three factories. One is located in Lake Como where the bending machines are manufactured, and the other two are in Levico where the laser and cutting equipment is manufactured.

With more than 540 employees, the BLM Group is represented in Italy by the following companies:

BLM SpA (parent company): Specialises in the production of CNC-bending machines, end-forming machines, measurement systems and related automation and handling systems.



Adige SpA: Manufactures tube laser cutting machines and cold saws for the machining of tubes, solids and profiles. The production range includes de-burring machines, measurement systems, washing machines and collectors.

Adige-Sys SpA: Specialises in the production of combined laser cutting machines for tubes and sheet metal, and of laser cutting machines for big tubes.

The Group’s products and services include CO2 laser and fiber laser cutting machines for tube, integrated tube cutting lines, tube short length cutting machines, cutting and end machining lines, CNC tube bending machines and CNC wire bending machines.

Established over 50 years ago BLM's E-Turn, Elect and



The BLM Group’s range of solutions for cutting and end-machining of tubes and bars is being further expanded. The presence of an EM80 is not only to demonstrate the new radial drilling capability, but also to have an opportunity to compare its characteristics with the new machine from Adige-Sys, the BC80. The BC80 is similar to the EM80 as far as the concept is considered but its target market is different



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Smart ranges of all-electric tube bending machines are evidence of the innovation made by the group. These machines reduce bending costs (80% reduction in power consumption), and noise levels are significantly reduced, with the working environment also enhanced by the lack of hydraulic oils, says the company.

BLM also continues to develop the laser cutting sector, with several fiber laser machines introduced recently. Fiber laser delivers high performance, low cost per cut laser processing and reduces running and maintenance costs. It is particularly suited to cutting highly reflective materials such as aluminium, brass and copper.

In addition, the company delivers its own 3-D graphical programming software – BLMelements. When a component's bend coordinates are input, the software provides programmers with real-time simulation of the bending operation and automatically corrects for possible collision points.

The BLM Group has recently appointed First Cut to be their sales, marketing and service distribution agency in South Africa, after deciding to close their subsidiary in South Africa.

The BLM Group has been active in the South African market for many years. For the last 18 years the company has had a local subsidiary, which was based in Germiston, Gauteng. This subsidiary has now been closed and First Cut has employed the remaining personnel, while also honouring all existing service contracts.

First Cut study tour to BLM

First Cut employees and 11 of the company's customers recently visited the manufacturing facilities of the BLM Group in Levico Terme. The visit was timed so that it coincided with the BLM Group's open house exhibition - INTUBE^{XV}.

The open house exhibition took place in a new 6 000 m² building that has just been completed and will be used as a showroom and a manufacturing and production facility



South African visitors to the BLM Open House INTUBE^{XV} Jabulani Ndleve, Pieter Smit, Neil Labuschagne of First Cut, Dorien Labuschagne, Morne Nel and Garth Haig of First Cut. Third left is Gabriele De Marchi of the BLM Group who is responsible for the South African market

after the exhibition.

The INTUBE^{XV} open house event

Visitors to the event were able to see 21 machines on display, some of them new, some with new and additional specifications as well as new process options developed by BLM.

“It is time to break the patterns and overcome the technological limitations that until now have bound the tube processing industry only to some application fields. A new production philosophy based on an advanced technology is now available, making those manufacturing processes possible that were either not

possible earlier or were too expensive,” said Giovanni Zacco – Communications and Market Development Manager at the BLM Group.

“What till yesterday followed rigid sequential logic of production, has today become flexible thanks to the several innovations introduced in the machines, the tube processing technology and in the new software suite BLMelements.”

“It is no longer required to think of single, distinct production steps for cutting, bending and forming of tubes, but rather one can think of a tubular component designed to be manufactured in one integral process where the different technologies are interconnected as never before in order to obtain the best possible finished component.”

All-In-One: To dominate different processes

“Out of these, one is of special importance as it demonstrates the production of one component that is produced on three different machines in three separate phases.”

“The “All-In-One” process demonstrates one Lasertube machine for cutting straight tubes, one tube bending machine and a 5 axis laser cutting machine with a handling robot. These three machines produce a single component that is first cut, then bent and then cut again on the third machine to complete the cutting operations that are not possible before bending.”



The new LT24 equipped with a 3.5kW CO2 laser extends the laser tube cutting capability to 24” diameter i.e. from actual 508mm to 604mm diameter tubes



Laser tube systems are manufactured in the BLM Group facilities in Levico Terme, Italy



Tube bending machines are another one of BLM's specialties

“Another very interesting demonstration is in the bending area where the processing cell has three separate machines: an LT5 Lasertube, an Elect102 tube bending machine equipped with B-Right for automatically measuring and correcting the errors coming from variation in material properties and an LT-Free system for cutting holes right on the bends on the tubes bent on the Elect102.”

“The B-Tools and B-Right technology developed by BLM allows a user to obtain a correctly bent component right from the start. The batch-to-batch variations in material properties that cause different spring-back and elongation of the material can be measured either manually or automatically on the machine. Then the necessary corrections to the bending program for getting a correctly bent component are automatically calculated and the bending program is corrected. In addition, if the tube being bent is previously cut on a LaserTube machine, the cutting program is also automatically corrected to get good parts right from the start.”

“The complete production process is defined starting from a 3D model of the final component. This model is imported by BLMelements, the required operations are identified, and relevant machine programs are automatically generated for each of the machines.

BLMelements: When technologies cross the borders

The software suite BLMelements is an ensemble of software tools for designing tubular components, programming the machines necessary to manufacture them and monitor the production process in real time. All these tools see different processes like laser cutting, saw cutting, bending and end-forming in an integrated manner and with the same logical flow. They work under one single software ambient. So now it is not necessary to deal with these different processes in different ways at different times and with different software that uses different logic and languages. Now all can be done with BLMelements.

“Components requiring one or more processes mentioned above are all managed in the same way, starting from a 3D model generated by an external CAD system. It is also possible to use the in-built CAD features to generate a component.”

“The machine programs are automatically generated and for multi-technology components (components requiring different processes), if the different machines are connected in LAN, the respective machine programs are automatically sent to individual machines.”

Production planning and batch optimisation is also possible using BLMelements

“At the heart of BLMelements software is the latest version of Artube3, the



Adige-Sys presented major innovations, like the new LT14 fiber. This machine belongs to the Jumbo series and was equipped with a 3 kW fiber laser source and the new 3D TubeCutter head for the first time

proprietary CAD-CAM software specifically developed for tube processing. Artube is a complete instrument that has seen continuous and coherent development. Apart from Artube, the other modules of the BLMelements suite are VGP3D dedicated to bending processes, ProTube for production planning and control, Composer the module to exchange production planning information with customers' ERP system, and Partviewer to have realistic cycle time and cost estimates based on the data coming from machines installed on the shop-floor.”

Lasertube systems

“Eleven Lasertube systems are in action and each system has something new and one or more developments. Two versions of the Lasertube LT8 are present, one with a CO2 laser with 3.5kW power and one with a fiber laser with 3kW power. The new ActiveScan and ActiveSpeed functions are implemented on the LT8 CO2, while the LT8 Fiber is equipped with a new TubeCutter head.

“Active scan is a measurement system that measures the deformation of tube (twist and bow) along the tube's axis. Small diameter tubes are more likely to be deformed during handling and transport and with ActiveScan such a deformation can be measured and the cutting program can be automatically corrected.”

Cutting and end machining: flexibility or productivity

“The BLM Group's range of solutions for cutting and end-machining of tubes and bars is being further expanded. The presence of an EM80 is not only to demonstrate the new radial drilling capability, but also to have an opportunity to compare its characteristics with the new machine from Adige-Sys, the BC80. The BC80 is similar to the EM80 as far as the concept is considered but its target market is different.”

“The BC80 is also a fully automatic, high productivity machine that starting from a bundle of tubes or bars, cuts, chamfers and measures the length of the final component before delivering it into a bin. The BC80 can process tubes up to 80mm diameter and the maximum length of the finished component can be 350mm. The BC80 is ideal for manufacturing the high volumes required, for example bushes, not only in the automotive sector but also other applications in the engineering industry, on a 24 hour non-stop basis.”

“The Adige-Sys EM80 is, for all practical purposes, a CNC controlled flexible transfer system capable of cutting and end-machining tubes and bars of diameter from 10 to 80mm and the length of the finished component up to 600mm. The processing cycle is completely automatic.”



The “All-In-One” process demonstrated one Lasertube machine for cutting straight tubes, one tube bending machine and a 5 axis laser cutting machine with a handling robot

LS5/LC5: one choice, twice the opportunities

"The LS5 is the entry level sheet laser cutting system developed by Adige-Sys. It is a modular system capable of expansion with the customer's requirements. A new version of this system with a larger sheet cutting capability and a more powerful laser source is being presented."

"Adige-Sys's objective is to satisfy a specific requirement with the LS5 laser cutting system: to provide an all-automatic, high performance modular system which can be easily expanded for tube cutting. The LS5 is the basic module of the LC5 system, which has the capability of cutting both sheetmetal and tubes."

"At the exhibition, Adige-Sys presented for the first time, a bigger version of this new machine with a larger sheet cutting capability (4000 x 2000mm instead of the earlier 3000 x 1500mm) equipped with a new 5 kW CO2 laser."

LT5 round only: the new laser sawing machine

"The LT5, an entry level model that already offers an advantageous price/performance ratio, is being presented as an alternative to sawing machines for certain materials and a specific range of wall thicknesses and diameter combinations."

"The Adige Lasertube LT5 on show has been specifically modified and optimised for cutting round tubes only. The objective is to also make the machine economically advantageous for straight cuts, applications traditionally reserved for sawing machines with circular saw blades."

"Field tests carried out by Adige technicians have certified



Machines being assembled at the BLM Group facilities in Levico Terme, Italy

that, in some specific cases (for example cutting medium/large diameter tubes made of high-strength material or up to 2mm thick stainless steel) laser cutting can be an advantageous alternative to traditional saw cutting even for cut-to-length applications."

"The LT5 system on show has a 1 kW fiber laser and spoon to make parts as clean as if they have just gone through a washing system. In practice, this laser cutting process can replace cutting, measuring, brushing (deburring) and washing in one single step."

For further details contact First Cut on TEL: 011 614 1112 or visit www.firstcut.co.za or www.blmgroup.com ■



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