

SCM presents the user-friendly Smart Factory at Ligna

A new interaction between man and robot combined with the excellence of SCM technologies. New models for each machining stage of the wood, as well as new software and digital services to meet the needs of Industry 4.0 and Mass Customisation

The Group ended the year 2018 with a turnover of more than 700 million Euro, up 15%, of which over 70% in the Wood sector alone, confirming its solid position.

**Hanover 27 - 31 May
Hall 13 - Stand C56**

Hanover – SCM is once again at Ligna (**Hanover, 27-31 May 2019**) buoyed by its continuous and significant growth. The Group's turnover exceeded **700 million Euro** at the end of 2018 and more than 70% of this referred to its Wood Sector with a contribution of more than **500 million, up 15 %** compared to the previous year. This is thanks to the most extensive range of technological and digital solutions currently available at international level for the world of secondary wood processing, from craft work to large industries. These include the CNC machining centres for panel and solid wood processing and wood joinery which continue to register the highest performance rates on the market with a growth exceeding 30% in the last year alone.

SCM's solidity, reliability and innovation capacity find a solid base in the enormous stand of more than 4,000 square meters inside **Hall 13**, in which SCM presents the "**Smart&Human Factory**", its *vision* of the factory of the future for the furniture industry: a system of automated, modular and easily reconfigurable flexible cells, integrated with articulated and collaborative industrial robots and intelligent unmanned shuttles that can be programmed according to the production unit plant, capable of moving and working alongside the operator in complete safety. A new **digital and smart factory but one that is still user-friendly**, designed to satisfy the challenges of *Mass Customisation* even more effectively and faster and which goes beyond the traditional automated systems: indeed, the state of the art SCM cells can be put together by clients as they wish to satisfy the vastly varying processing needs.

"Boosted by its experience across the whole range of machinery and production processes, SCM develops solid solutions that are suited to market demands and the new "Smart&Human Factory" is a clear example of this - highlights the SCM Division Manager, Luigi De Vito -. In particular, the claim that makes us stand out at Ligna, "You will never work alone" refers to SCM's strength as a partner for all the companies working in the secondary wood processing industry, over and above being a supplier; an all-round consultant capable of supporting the client along his/her investment and business path, and ensuring they are never on their own. In order to achieve all this, SCM provides clients with its know-how, spanning more than 65 years, in the woodworking industry, to create wholly integral made-to-measure, turnkey solutions".

The Group is at Ligna with another large exhibition area in **Hall 16**, the one dedicated to **Superfici** technological solutions which integrate and complete **the Surface Technologies project** presented by SCM at Hanover.

“Smart&Human Factory”: a state of the art production model with highly flexible and modular automation and human-robot cooperation

The system presented by SCM at Ligna is only one example of the various configurations that the “Smart&Human Factory” can accommodate on the specifications and various requirements of the individual company, while always **deal rapidly with all the orders coming from the market, personalising them according to demand while simultaneously limiting the problems that can arise at logistics level from mass custom production**. 500 “batch one” workpieces can be produced on a single shift with two operators, a supervisor and 600 square metres of operating area, although a higher production capacity can be reached - up to 800 workpieces per shift, for example - by changing the machinery's configurations. And the investment can be done step-by-step in consideration of the market's evolution.

And that's not all: SCM's “**Smart&Human Factory**” concept can be expanded to create complete furnishings - bathrooms, kitchens, living areas, bedrooms - within the same production unit by using a series of combinations between the shuttle routes and flexible processing cells.

THE PROCESS

Visitors to Ligna will be able to see the production of **different cabinet types**, through a process that **aims to optimise as much as possible the cutting, edgebanding and drilling operations of the panels, as if it were a standard production**, in order to reduce rejects, remainders and changes to the machine set-up when changing orders, **and it recomposes the orders at the end of the process**, moving the customisation process to this phase.

In such a system the operator is relieved of the low-added value repetitive tasks, thanks to the use of industrial anthropomorphic robots and assisted by collaborative robots in the final stages of the process (assembly, inserting the hardware, dispensing the glue and surface finishing) in complete safety and without enclosures. Moreover, the process logistics is made flexible thanks to the use of AMR (Autonomous Mobile Robot) intelligent autonomous mobile shuttles. The whole system is managed and optimised by the **Maestro active watch** supervisor software, to monitor the state of each product being machined, from the start to the end of the process. This is integrated with the IoT **Maestro connect** system that collects and analyses the data from the SCM technologies that ensures, on the one hand, full control of the production flow and, on the other, the implementation of intelligent and predictive maintenance models.

The process begins from the software and digital services area that reproduces, like a veritable design office, all the details of the cabinet being produced. It also manages the sale and acquisition of the order as well as generating the data and machine programs for production.

The machining process starts in the **cutting area** where the raw material, stored in the **flexstore hp**, the high performance automatic storage for shaped panels, is loaded into the sizing machines (integral part of the storage) for the cutter and blade sectioning. The first type of cut is made by a **gabbiani s** beam saw machine which stands out thanks to its **Saw-Set** device for a increasingly more rapid and accurate tool setting. The nesting, on the other hand, is done in the new **morbidelli x400** CNC machining centre, previewed for the first time at world level, designed to apply the best performances of the “All-in-one” technology of the SCM 5-axis machining centres for the panel, to this kind of machining as well.

The cut panels by the machining centre are unloaded by an anthropomorphic robot on an AMR shuttle and taken to the **next edgebanding area**. Here, the machining is done on a **stefani cell H** edgebanding cell, the new generation of cells for “batch 1” processing, with high-tech solutions, even with minimal investment, and the new “pickback” bridge system for the automatic return of panels, that guarantees simple, “just in time” production management.

After the edgebanding, the shuttle transfers the panels to the **drilling/insertion area**, where the panels are not only machined in the new **morbidelli ux200d** CNC machining centre, but also processed with the exclusive new system with double dowelling unit with variable axis, which can be adjusted based on the distance between the holes.

Once the machining process has been completed by the sizing machinery, the panels are conveyed on a roller conveyor towards the articulated robot, that recomposes the kits ready for the assembly of each single order, thanks to the instructions from the **Maestro active watch** supervision, control and data acquisition software.

Another AMR (Autonomous Mobile Robot) then transfers the kit towards the **assembly area** where the operators are assisted by three cobots in assembling the bases and applying glue to the panels. The process ends with the passage of the pre-assembled cabinet in the **action e** clamp, to achieve an accurate assembly of the furniture. The finished product is then transferred on another shuttle towards the warehouse.

Visitors will also be able to see the "Smart&Human Factory" model in the **surface treatment area** where, along with the production of the different types of furniture in the other areas in the SCM stand, the cupboard doors are finished with a **dmc system** wide belt sander, designed to meet the requirements of mid to large-sized companies that demand maximum quality in sanding and finishing operations. At the sanding machine outfeed, another collaborative robot makes further improvements to the cupboard finish.

The "SCM Surface Technologies" solutions, the renewal of the software and digital services range and numerous "new entries" for machining the panel, solid wood, joinery and timber construction

At **Ligna 2019**, SCM is presenting more than sixty technological solutions from its ranges, if we also consider the Superfici stand in Pav. 16, with **important new features with regard to models, devices, optionals and software**. Whether they are integrated into the "Smart&Human Factory" automated process or in *stand-alone* mode, the aim of the solutions on display is always to meet the most varied demands of a **custom and integrated production**, to satisfy the demands of a specific company without forgoing the advantages of industrial production.

SCM SURFACE TECHNOLOGIES

The range of **technologies for sanding, pressing and finishing** which SCM is taking to the fair is vast. This will stand them apart as a unique partner in complete surface treatment: all-round products and services and exclusive, sought-after finishing solutions to meet all the process needs and end product type.

From the innovative dmc system machining heads that transform the sanding machine concept into a flexible abrasive modular centre, to spray painting and glue application **surface** systems complete with robot, right up to the **sergiani 3d form** presses that laminate uneven surfaces: all these solutions allow for the preparation and treatment of the surfaces to create finished products with **3D finishing effects** like wave, hand smoothed, structured and saw cut designs, capable of providing unique touch and visual sensations.

At the **Superfici** stand (**Pav. 16**) the most exclusive finishing solutions will also be showcased. These include, **anthropomorphic and Cartesian robots for painting** panels, fixtures, a vast range of sprayers aimed at the different application requirements and production capacity, the latest generation of roller painters and UV and UV LED driers. Machines all in "4.0" version.

NEW TECHNOLOGIES FOR MACHINING

THE PANEL, SOLID WOOD, JOINERY AND CARPENTRY

The "new entries" include the much anticipated new solutions for panel drilling, the **morbidelli cx 220** and **ux200d** and the new nesting range **morbidelli x200/400**, in response to market demands, increasingly focused on "batch one" production and which need to combine high speed and maximum flexibility in the panel cutting diagrams.

Again for "batch 1" machining, another significant new entry is the range of cells for **stefani cell** edgebanding with the new **pickback** bridge system for the automatic return of panels, that allows for the simple and "just in time" management of production.

The new 5-axis **hypsos** machining centres for solid wood stand out with integral booth, designed for interior decorators and for the three-dimensional machining of complex shaped or large sized elements, and **balestrini power** in a completely new guise that makes set-up and usage easy, more powerful electro-spindles and a further reinforced structure, guaranteeing high performance, reliability and safety.

Great anticipation for the **oikos x** as well, the new machining centre dedicated to the production of structural elements and X-lam/CLT wall panels fitted with the exclusive **6-axis machining heads**.

Numerous "new entries" in the joinery machinery sector including the **px 350i**, the new mobile carriage circular saw with blade angled up to 46°, that allows you to work in complete safety, with reduced bulk and, thanks to the exclusive presser, guarantees a perfect hold on the panel.

MAESTRO DIGITAL SYSTEMS: DIGITAL SOFTWARE AND SERVICES

For Ligna 2019, SCM is further renewing and reinforcing its offer of **office and interface software, supervision and machine control, together with a vast offering of digital services**. The work of the operator is increasingly simplified and vastly increases the efficiency of the systems and machines to achieve results which to date have been inconceivable. The client "is no longer alone", as s/he can remain constantly informed no matter where, on the levels of productive performance of their own machinery, and receive all the support, consultancy and training required to optimise their own industrial processes. A direct line and an increasingly more efficient direct and exclusive service which also revolutionises after-sales activity.

In order to meet the needs of a 4.0 production, the **IoT Maestro connect platform** is extended to new technologies in the vast SCM range (sectioning, edgebanding, drilling-routing, nesting and edge treatment) in the machining of both the panel and solid wood. The data gathered and information available increase thanks to the introduction of **sensor kits** specifically for technology capable of monitoring the vital components of the machine by revealing any critical or non-optimal conditions of use in *real time*. Furthermore, the combination of Maestro connect with the **Smartech** augmented reality further strengthens the remote technical support service.

This evolved collection system and the analysis of data coming from the SCM machines offers the client excellent control of the machine or plant's production flow, the creation of rapid, intelligent and predictive maintenance and an increasingly effective planning of the spare parts strategy.

There are also **important upgrades for the machine edge software** with the launch of **Maestro active**, the latest generation HMI range (special mention at the last German Design Award). This is the new operator interface which, combined with the eye-M touch console, revolutionises the method of interaction with the SCM technologies. At Ligna, the project is launched on all the machinery, offering all these technologies a single usage environment and a common graphic likeness. This considerably simplifies the operator's work, reducing the possibility of error and increasing productivity.

There are a number of important new features for office software: as well as the latest version of **Maestro watch**, supervision software for the integrated cell systems, the **Maestro cnc 2019** version will be released with important updates for machining centres and CNC drilling machines.

Simple, intuitive software but above all software that **can be integrated**, capable of interfacing with other systems in use at the client's premises.

With a turnover of over 700 million Euro and 4,000 employees, **Scm Group** is the global leader in technologies for machining a wide range of materials: wood, plastic, glass, stone, metal, composite materials and industrial components. The companies in the group are, throughout the world, highly reliable partners for the leading industries in a wide range of product sectors, from furniture to construction, automotive to aerospace, and yachting to plastic processing.

Scm Group coordinates, supports and develops a system of industrial excellence in 3 large highly specialised production centres in Italy and it operates in all 5 continents.

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