scm

HITS

70TH ANNIVERSARY
SPECIAL EDITION


scm
woodworking technology
scmgroup

index

SMART PRODUCTION INSTALLATIONS

CASE STUDIES

FURNITURE

CONTRACT FURNITURE

DOORS&WINDOWS

WOODEN HOUSES AND CONSTRUCTION ELEMENTS

STAIRCASES

DESIGN

Gian Luca Fariselli Scm Group Communications Director

Arcurdev Bèin (Don't ever forget)

We are in Rimini, in the distant 1952. At that time, the company, run by **Lanfranco Aureli** and **Nicola Gemmani**, produced cast iron castings recycling scrap iron left over from the war. As early as the 1930s, the Aureli and Gemmani families shared personal and professional events and even today, the SCM Group is still run by the third and fourth generation.

SCM's history and later that of the Group's started 70 years ago thanks to Lanfranco Aureli's intuition which, on seeing that houses were springing up everywhere and needed everything from beds to kitchens, doors and windows etc. - **asked Giuseppe Gemmani,** son of Nicola and recent graduate in mechanical engineering, **to design a "combined" machine for wood machining.** The engineer worked day and night to create the new machine: it had to be special, different from what was already on the market, much simpler and more practical.

And that is how the Invincibile came about, in a workshop in via Marecchiese in Rimini. Such an innovative machine, destined to be used by carpenters and artisan workers, proved itself an instant success.

A story of Italian genius, passion and courage that allowed Scm to rapidly become a benchmark for the woodworking industry and later for the machining of other materials.

Not even a book would suffice to describe the events that followed in seventy years of the company's life. I would, however, like to share with you the principles and values that our founders handed down to us and that still accompany current and future choices and strategies even today.

"Arcurdev bèin" was an expression always used by Lanfranco Aureli before pronouncing the words that would underline SCM's fundamental values to his workers, thus emphasizing the importance of impressing them on their mind and never forgetting them.

These include, *"The customer takes first place"* which always drove all the company's business choices. Indeed, now more than ever, SCM has "**Customer centricity**" as its primary focus, that means always being at the customer's side as a trusted partner, to accompany them in the development and growth of their business by anticipating market trends. A topic that is examined in-depth in an interview with **Luigi De Vito**, Scm Group's General Manager, who places the focus on how SCM interprets the concept of staying by the customer's side with a valued relationship that is increasingly closer and the use of advanced digital tools.

A proximity, even physical, as mentioned by **Pietro Gheller**, SCM's Sales Director who explains how much the Group is investing in the various areas around the world, in terms of HR growth and the strengthening of "Customer Care", as well as opening new branches and the adoption of state-of-the-art services in the sector, such as e-commerce.

Of course, once again this edition of SCM Hits is full of stories and statements from some of our most loyal international customers. Artisan and industrial excellence that selected us and has placed its trust in us - in some cases for decades - to develop solutions to optimise their production processes and make them more efficient. There are those who, thanks to SCM, have managed to re-invent themselves and successfully identify new business opportunities; those who have diversified their production and implemented extremely courageous choices to overcome difficult circumstances; those who have extensively expanded their plants by relying entirely on SCM's direction.

All this, confident in the knowledge of being able to count on state-of-the-art technologies and an enthusiastic, competent team, always ready to stand by the customer's side pre and post sales. **People are another pillar upon which SCM has always based itself** and this is why we wanted people to present the technological new entries and product strategies that we have developed to satisfy market demands as much as possible.

Those who know us know that all this is a genuine philosophy, a passion for work, a cultural approach that SCM's people have applied and continue to apply every day.

Because as our founder said, **"to do things well and be successful, using your head is not enough, it also requires heart".**

Happy anniversary Scm Group!







Some historical shots of the origins of Scm Group. Among these, the creation of L'Invincibile, the first joinery machine, in 1952. This year also marked the birth of the Group by Lanfranco Aureli and Nicola Gemmani, and the first international successes carried on by the second generation, with Alfredo Aureli, Adriano Aureli and Giuseppe Gemmani.

WATCH THE VIDEO OF THE GROUP'S HISTORY

A moment of the Scm Group's 70th anniversary celebrations at Oltremare Theme Park in Riccione.

Luigi De Vito Scm Group General Manager and SCM Division Director

Even closer to the customer

Seventy years of success alongside the entire wood-working industry.

SCM proudly celebrates this prestigious goal of accompanying the customer through each production process linked to the world of panels, solid wood, timber construction and woodworking. In seventy years, the Group has acquired well-known brands specialising in different fields of application, from sizing to surface treatment, without forgetting assembly and packaging. This means they can offer not only **the most extensive range in the world**, but also be a one-stop partner to companies with varying production needs. We are talking about SCM's *main pillar*s and future strategies with **Luigi De Vito**, SCM Wood Division Director as well as the Group's General Manager.

What is the first mission that SCM has on an important occasion such as Seventy years of achievement?

"Without doubt, a full-on proximity to business partners looking to optimise their production processes and develop new business projects. We have done so to date, but we are taking a further step to guarantee an even more direct contact from consulting and sales to after-sales. For us, this represents a continuous support and one of greater value to our customers, having a deeper understanding, anticipating, pro-actively and more accurately making suggestions on what they really need; so, calibrate our product and service support to make them more *customised*".

> ***We aim at guaranteeing an even more direct contact, from consulting and sales to after-sales.***
>
> *To us this means offering continuous and more valid support to our customers, fully understanding and anticipating what they really need, as well as offering even more pro-active solutions.*

How can you achieve all this?

"We are investing in people, in the skills of our global team, at sales and *after-sales* level and this is where our Campus training centre plays a key role. Simultaneously, we are accelerating the digitalisation process both of our organisational models and interaction with the client along the *customer journey*, and the services we offer. We aim to be even closer to their business needs and devise the best strategy together".

Connectivity, what role do IoT connections play?

"They are essential, and we are investing in this area, but more is needed. A team is needed that knows how to make the most of these opportunities with the adequate skills and a range of technological solutions and services that can genuinely meet the needs in terms of price/performance.
SCM has worked vigorously on both of the following fronts and will continue to do so: assessment of our professional resources and talents, and R&D investments. Not only do we set aside 7% of the Group's annual turnover to R&D, but we can also rely on an innovation team with multi-disciplinary skills that allow us to have an open, forward-thinking approach that goes beyond the specific applications of our sectors, once again to the full advantage of the customer".

The Scm Group Hedquarters in Rimini

> ***The centrality of the customer and a Smart&Human approach***
>
> *are the values that guide us in our daily work in the industrial plants in Italy and the branches abroad*

SCM's ORIGINS

*The Group's history dates back to 1935, when **Nicola Gemmani** and **Lanfranco Aureli**, experts in mechanics and foundry work, started working together. In 1952, the first woodworking machine was created, the **Invincibile**, designed by the engineer, **Giuseppe Gemmani**, Nicola's son. This machine, which in the eyes of the founders had to be special, much simpler and more practical than those already on the market, managed to meet the needs of a market in the throes of a building boom and firmly in need of every kind of furniture.*
Scm quickly created a complete range of woodworking machines that paved the way to conquering all the global markets.
*In the 1960s, **Adriano** and **Alfredo Aureli**, Lanfranco's children, joined the founders. Together with Giuseppe Gemmani they led and expanded the company even further with the opening of directly controlled branches across the globe.*
*In 1976, Scm developed the first machining centres and systems for solid wood windows and doors. In the mid-80s, they started acquiring well-known brands in different wood-working environments, that would consolidate the company's global leadership: **Mahros** for automation systems (1984), **Minimax** for carpentry (1985) and at the end of the '80s, **Gabbiani, Dmc** and **Morbidelli**, leaders respectively in sizing, sanding and cnc panel machining centres. In 1992, the **Routech** brand, that marked the entry of Scm into the timber construction industry, and **Stefani**, an international pillar in edgebanding, were absorbed into the Group. In the years that followed, thanks to the development of other leading technologies and other acquisitions (**Superfici** in 2004, **CPC** and **Sergiani** in 2006, **Celaschi** in 2007), the Group further expanded its range to cover all the production requirements in the industry.*

On the subject of innovation: what are the key objectives?

"Making our customers' processes increasingly smart, efficient and sustainable. On the subject of sustainability, we are investing both in internal processes as well as products and services, to offer solutions that reduce the space occupied in the factory, machining times and margins of error, and keep down costs linked to energy consumption and waste of resources and material".

In seventy years, SCM has managed to establish an increasingly more direct and capillary presence internationally. How do you keep a global team united?

"With a very strong team spirit; the same one that allows us to continue along our growth path with a convergence of objectives that is not automatic, even at the most difficult times as has been the case in recent years marked by the pandemic.
The centrality of the customer and a *human* as well as *smart* approach, are the values that guide us in our daily work in the industrial plants in Italy and the branches abroad. As well as this, we would like to continue to be open to collaboration and partnerships in every field (research, information technology, training, sales support, technical support, etc.) keeping customer value as our key goal".

What are the up-and-coming investments at the SCM plants?

"We are increasing the production capacity of our industrial sites that currently record an average production of **20 thousand machines per year.** As well as expanding the plants' surface areas, we are carrying out modernisation work - like the work currently ongoing in Rimini - to achieve more eco-sustainable spaces congenial with our human resources. Another important *driver* is the digitalisation of our production lines, that sees the spread of lean processes and *Factory Control Systems* in the various plants, in line with Industry 4.0 requirements. The aim is to improve industrial organisation by enhancing integration of the factory with the IT systems.
At the same time, we are investing in the sales branches abroad. This year the expansion of the new headquarters in Moscow was completed and other investments were made in Canada with the modernised headquarters in British Columbia (West Coast) and the opening of new branches in India and Turkey to guarantee an increasingly more direct and capillary presence in strategic markets".

Stability, internationalisation, innovation and people: the values that have always been a part of SCM GROUP, as much today as in the past.

***SCM** is increasing the production capacity of all its industrial sites in Italy. Major modernisation work is also underway in Rimini for increasingly leaner and smarter processes*

> ***+ 20,000 machines produced on average per year and 100% made in Italy***

Innovation
"Not only do we set aside 7% of the Group's annual turnover to R&D, but we can also rely on an innovation team with multi-disciplinary skills that allow us to have an open, forward-thinking approach".

Pietro Gheller SCM Commercial Director

2021 was a year worth remembering for SCM with a 22% growth in turnover compared to 2020 and higher even than pre-pandemic levels. Orders reached even higher levels with a significant share of engineering projects valued overall in excess of over 100 million Euro. The good news covered the entire international wood-working market, in general, with a very high demand from end clients of products linked to furniture and construction and, as a result, a strong desire for businesses in the industry to re-modernise and optimise production processes and equip themselves with more efficient technologies to deal with orders, in some cases, in unprecedented numbers.
Nowadays, as is well known, certain critical aspects linked to the increase in energy costs and significant problems in procuring raw material supplies and electronic components are taking their toll. The market continues to grow, but it needs to deal with different challenges, and not just those mentioned above...How can they be dealt with? SCM can rely on several strong points: **seventy years** of exclusive experience and know-how of the industry; a network of 400 distributors, so, **the most widespread sales network in the world** in technologies for wood; an **ever more direct international presence**; a brand-new **e-commerce project** that sees the Group as an industry pioneer. Here to talk us through the Group's main investments on the market front is SCM's Sales Director, Pietro Gheller.

What are the new trends making their mark on the woodworking market?

"We are experiencing evolutions linked to customer expectations and these changes are mainly due to a gradual transformation in our target market. Generally, the concentration processes under way in the sector and throughout the entire manufacturing industry are leading to businesses that are increasingly more structured, larger in size and ever more sophisticated when it comes to choosing the technological solution best suited to their projects. All this implies a series of challenges for machinery manufacturers in terms of performance, quality, prices and costs. Another important aspect is the lack of specialised professional resources: the companies tend towards greater automation, while keeping their own processes flexible.
Lastly, the context in which we work is ironically becoming less global: it is essential for customers to be able to rely on a local and direct service at Sales and Services level and this factor also has a significant bearing on the choice of trusted technological partner".

How is SCM facing these challenges?

"In two ways: by continuing to believe in the made in Italy as a guarantee of quality and, on the other hand, investing in a capillary and direct presence in every strategic market".

On the subject of made in Italy and quality, the so called 'bar' is being raised. What is your solution??

"To be a one-stop *supplier*, an all-round partner across the globe.

> ***"We have developed a new integrated e-commerce portal of machines, spare parts, software and services and we are the first manufacturers in the world in the woodworking industry to launch a project of this kind".***

“Made in Italy and a widespread presence throughout the world: by your side”

Working with SCM means interacting directly with those who have dominated technology for seventy years, providing excellent solutions for every application and each capacity, as well as increasingly more advanced automation systems that are equally flexible, modular and reconfigurable in line with production needs.
Even the commercial acquisitions and agreements taken forward over the decades have been strategic. Above all, I believe in integrating an excellence in finishing such as Superfici into the Group and the possibility that SCM alone has to develop a complete range of products and services for finishing, sanding and pressing. However, I also believe in the most recent partnership sealed with the Swedish company, Randek AB for the commercialisation of all the solutions needed for timber construction across the globe. With this agreement, we can offer the widest range of technologies for beams, walls, frame walls and X-lam/CLT panels".

The other *main pillar* is a widespread presence worldwide, how is this interpreted in SCM's strategies?

"This concept for us is defined both in the opening of new branches, as has been the case in recent years in India and Turkey, and the strengthening of existing ones, some of which have been around for over forty years.
One clear example is the project launched for the **DACH Area** that involves the integrated management of all the customer care activities implemented by the SCM subsidiaries in Germany, Austria and Switzerland and aims to further strengthen customer care, guaranteeing a direct, punctual and all-round service in every market. We have reinforced the synergy between the subsidiaries by relying heavily on the German one, strengthened by forty years

Subsidiaries investments:

*with the new **DACH project,** an integrated management of all the customer care activities at Sales and Services level implemented by the SCM branches in Germany, Austria and Switzerland with a view to further strengthening customer care. "A cluster model that can potentially be applied to other markets"*

***The SCM Deutschland headquarters in Nurtingen,** one of the directly managed subsidiaries working in the DACH market together with the Austrian one in Ansfelden and in Lucerne in Switzerland.
2021 saw record orders for the market of 58 million (+59% on 2019).*

***SCM Turkey**'s Headquarters in Istanbul. The new Subsidiary was opened in 2021 in line with the constantly growing demands of the Turkish market and those of the entire eastern Mediterranean region. After many years of experience at the side of local businesses widely specialised in the woodworking sector, SCM took a further step towards investing in a branch with 100% Italian capital to provide direct and capillary Sales and Services support.*

of experience on the market. But at the same time, we have upheld local identities and the specific natures of the Austrian and Swiss markets. This is a cluster model that can potentially be extended to other strategic markets with similar characteristics".

Investing in directly managed subsidiaries means investing in people and the team...

"Precisely. In recent years, we have increased the resources used overall in the subsidiaries worldwide by 22%, going from 734 employees in 2020 to the current figure of 898.
At the same time, we believe in continually providing our team with professional training. In 2020 alone, we organised over 24,300 hours of overall sales and services training via Campus, for a total of more than 1,100 participants that included employees, dealers and customers".

At Sales level, another key topic is e-commerce: what are the recent developments on this front?

"We have developed an integrated e-commerce portal of machines, spare parts, software and services and we are the first manufacturers in the world in the woodworking industry to launch a project of this kind. It is a well-structured marketplace offering up to 200 machines and 600 thousand spare parts, presenting them in a process logic, another distinctive feature compared to existing portals. It will also be linked in a customer centricity logic to the **My SCM** portal that gives the customer access at any time and via any tool to the extensive services offered by the Group.
We start in two markets that have always been strategic for SCM, Italy and the United States, with the aim of expanding the service worldwide".

> ***Training is an integral part of SCM's sales strategy***
>
> *in 2021, over 10 thousand sales training hours and more than 14,300 hours of service training were organised via Campus for a total of 1,154 participants that included employees, dealers and customers.*

SCM People and innovations: Automation systems

Bruno Tommasini SCM Engineering Director

The strenght of a Smart&Human approach

In 2021, SCM recorded record levels of orders totalling **100 million Euro**, for automation systems - cells, cell systems, integrated lines - and 'turnkey' factories. This is the result of the technical and expert skills of a team of over 25 engineers who work alongside the customer throughout the project, from the layout of the plant or the entire site to analysis and optimisation of costs and completion times. This, together with the technological level of SCM solutions, is the strength of the Group's Engineering Department, led by its Director Bruno Tommasini "Our skills, the innovation of the SCM range and the many years of experience alongside the most renowned companies in the industry, mean we can satisfy numerous production demands. In addition to effective and reliable design, development and manufacturing systems, the significant experience acquired in project management allows us to take on projects of any size anywhere in the world".

Smart manufacturing: how does SCM interpret this concept that plays an increasingly more crucial role in the production processes of wood/furnishing businesses?

"Our integrated cells and lines meet all the criteria for Industry 4.0 and mass customisation, placing the automation at the service of the customer's need for production flexibility. The interior design sector is characterised by the increasingly more demanding need for sophisticated, customised furnishing solutions, that are produced with different practical and high-quality materials (glass, wood, steel, etc.). All this needs to be satisfied by maintaining fast delivery times and competitive prices. So, a production system is required that can deal with all the orders quickly, customising them to meet demands while simultaneously reducing waste, remains and retooling times for an order change, optimising processes, logistics and keeping down costs and consumption as best as possible. The answer lies in **technologies that are easy to use and above all flexible, modular and reconfigurable.** This is how our *Smart&Human* Factory production model was created, already adopted by leading businesses in the furniture industry at international level, especially in Europe, China and the United States".

How does the made in SCM's automation stand out from market standards?

"SCM provides highly personalised integrated solutions, designed and developed in close contact with the customer. The strength of these systems lies in putting together sturdy, reliable stand-alone machinery that covers the entire furniture production process, with *world class manufacturing* digital products and services: MES systems for the production management and control, accessible to the entire woodworking industry, line and cell supervisory software to monitor the state of each of the products being machined throughout the entire process, and IoT (*Internet of Things*) systems to gather

> *Our integrated systems, just like the machines that make them up,*
>
> ***are designed to reduce the space taken up in a factory as well as machining times, energy consumption and waste"***

and analyse data from SCM technologies, for complete control and implementation of intelligent and prognostic maintenance models. Ours is a "user-friendly" automation because it involves more accessible, modular and scalable solutions".

Another important requirement is process sustainability: what are the advantages of SCM's engineering solutions on this front?

"Our integrated systems, just like the machines that make them up, are designed to reduce the space taken up in a factory as well as machining times, energy consumption and waste. The MES systems of strategic planning also play a key role in determining the reduction of cycle times and waste, backed by line supervisors, thanks to whom the production flows remain steady even with flexible machining. A concept that is implemented even in the *Smart&Human Factory* production system mentioned above where the panel cutting, milling, edgebanding and drilling work is optimised as though assembly produced, putting the orders back together at the end of the process, in order to reduce machining times and waste".

On the subject of logistics, how are factories changing and, as a result, SCM's offer?

"Furniture manufacturers, though we could say the same about industries producing fixtures, stairways, flooring and parts for timber construction, need to reduce the logistical complexity arising from the proliferation of orders and manage them with reduced costs, times and space while preserving the quality of the pieces. The factory rids itself of traditional, bulky transport systems of stacks of panels and is increasingly turning to intelligent AMR unmanned shuttles, AGV or LGV robotic handling systems etc.
These are systems that can be arranged in an array, with automatic loading stations, and can handle large amounts of material by considerably simplifying the logistic operations and the operator's work who can, in turn, dedicate himself to more high value-added tasks, to become the 'conductor' or 'director' of the entire process".

Essential, digital, efficient and flexible: the factory of the future takes shape.

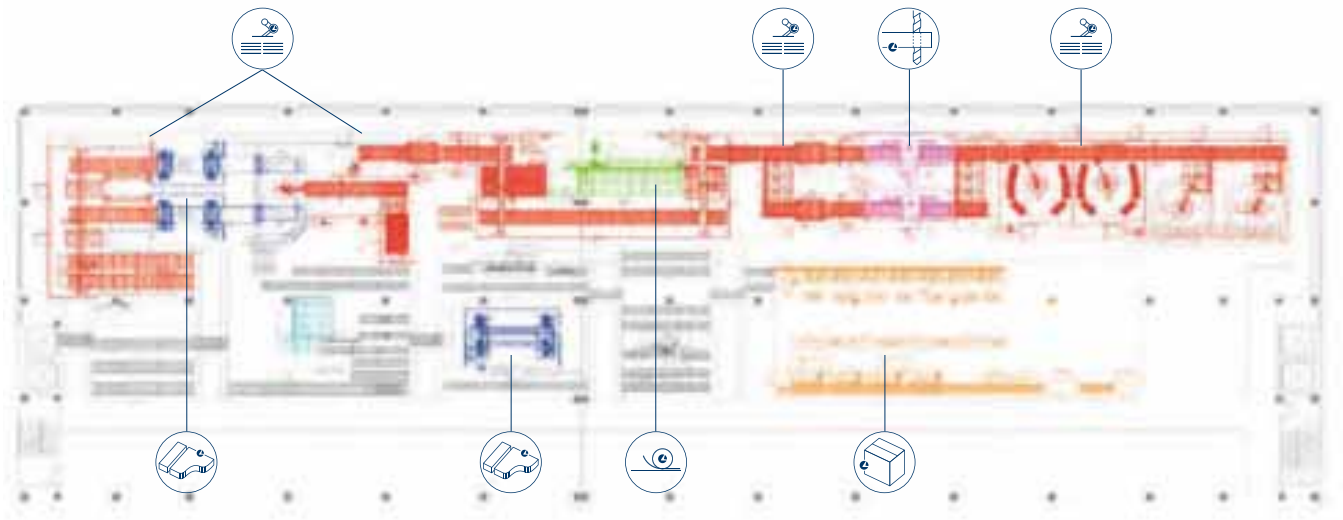
> ***"Ours is a "user-friendly" automation because it involves more accessible, modular and scalable solutions"***

STAR RIVER BAY I China

INTEGRATED LINES

One of the most recent Lean cells developed by SCM in last few years has arrived in China at one of the country's giants in the contract sector.
It is an integrated flexible line of **more than 2000 m2** for the production of furniture components, installed in the early months of 2021 for the Star River Bay Group and its new YuFeng Factory established in Conghua in the province of Guangdong.

WATCH THE VIDEO OF THE INTEGRATED LINE



Nesting Area
Drilling Area
Sorting Area
Edge banding Area
Automation Systems

SCM's Smart&Human Factory for the Chinese giant, Star River Bay Group

It is its technological configuration that makes this solution especially advanced in terms of **automation** and **production flexibility**, a concrete example of **Smart&Human Factory** devised by SCM to meet the needs and critical situations of mass customisation. A system of automated, modular flexible cells and easily reconfigurable, connected via automatic handling systems and integrated with industrial articulated robots, by an evolved double sorter at the end of the line, supervisor software both for the entire line and for each cell and a MES system, again supplied by SCM.

Furthermore, all the technologies have been integrated by Chinese partner companies under the control and guidance of SCM's Engineering team which in China, thanks to a specific structure, already has numerous completed projects in turnkey factories, in line with the most advanced market demands.
All this stemmed from a specific need. The Chinese group, a giant with a turnover of 2 billion Euro, needed to invest in new factories to internally produce contract furniture for its tourist and commercial structures. This is how the **YuFeng Factory** project came about: an actual district for machining wood covering 200 thousand m2 overall, that includes eleven warehouses on three floors, each one specialising in a specific product area (furniture, sub-assembly, doors, etc.).

For this new and ambitious project, SCM supplied not only an integrated flexible line for the production of cabinet components, but also five Superfici lines for painting and another 50 stand-alone technologies for different fields of application, representative of SCM's vast and varying range.

The integrated flexible line for the production of cabinet components

Top precision, automation and production flexibility are the backbone of the Smart&Human plant developed by SCM for an average production of **1000/1200 pieces/shift.**
The line includes cells for **nesting, edgebanding** and **drilling**, all managed by **Maestro active watch** supervision software that allows for the production process to be managed and controlled by monitoring the status of the individual machines in real time and of the whole line, optimising production performance. **Maestro active watch** also creates a two-way interconnection with the factory's IT systems, allowing part programs to be loaded remotely from office to factory and returning production reports that can be analysed in the office.
The factory's MES is also from SCM and is another fundamental jigsaw piece in this project.

Nesting area

This cell sees two machining centres in action for "**morbidelli x200**" state-of-the-art nesting that combines top speed with maximum flexibility in the cutting outlines of the panel. Both are fitted with input roller conveyors with QR code labelling system. Even before this, the cell has a gantry system for loading the stacks of unfinished panels that can be **as long as 800 mm.** The stacks are loaded automatically using a forklift truck.
All the data and information sent to the labelling machines come from an optimisation software via the cell supervisor.
Once the nesting is completed, the cut to size panels are directed towards two outgoing conveyor belts. A first articulated robot picks up the panels one by one to be unloaded at an average speed of 4.5 pieces per minute. A second robot sorts the panels and directs them either towards the edgebanding area or, in the

case of subsequently recovered scraps, to an offloading storage station ("porcupine").

Edgebanding area

In this area, we find a "**stefani cell H+**", synonymous with maximum personalisation, top productivity levels and excellent machining quality. This highly flexible cell means the various parameters of the panel (shape, thickness, edge, gluing quality, etc.) can be changed without stopping the production flow. Furthermore, thanks to the supervisor software, it is possible to track all the process information on each individual panel continuously and remotely.
The "stefani cell H+" is preceded by a **30-level vertical buffer** that acts as a store for depositing the incoming panels from the nesting area and is integrated with a "mahros brush" automatic loading station and by another "**mahros brush**" outgoing unloading and panel return device.
The process functions like a closed machining cycle: each time an individual edge is completed, the piece is unloaded from the line while other pieces will complete the process. This optimises and speeds up the machining of panels with different edges.
This cell is also controlled by Maestro active watch supervisor software that allows for continuous 360° control of the process and each machining phase using the QR scanning code.

Drilling area

Once the edgebanding is completed, the panels are conveyed in two 30-level vertical buffers (for an equal number of pieces to be machined), that again in this case, act as a "plenum" (holding area) between the edgebanding cell and the subsequent drilling area. In order to guarantee higher production levels here, the client has selected to install two lines operating in parallel, both made up of a highly flexible automatic drilling centre and ideal for "batch 1", "**morbidelli ux200"**. The flow speed of the material temporarily deposited in the buffer, is automatically adapted according to the availability of the drilling machines. This occurs thanks to the software that manages the movement systems.

After drilling, the panels leave and converge in a single roller transporter that transfers them to a machine designated to cleaning the surface. Subsequently, all the pieces are transported to the sorting station.

Sorting and unloading area

This area in the line developed by SCM is strategic. Indeed, to date, the various panel cutting, edgebanding and drilling operations have been optimised as though it were a production line, in order to reduce scraps, remains and re-tooling of the machines with a change of order. It is at this fully automated sorting station that, based on the information supplied by the factory **MES**, the individual orders are put back together, and the customisation of the cabinets' components is completed.

This advanced storage system is made up of two articulate robots that work at a speed of **3.5 pieces per minute**, two multi-storey warehouses and a system with double layer roller conveyor that allows the pieces to be received from the drilling machine and simultaneously sent to the unloading area.

When all the components in an order arrive in the warehouse, the MES software gives the order: the components are directed towards the unloading area where, thanks to another two robots, will be placed in transfer trolleys. These in turn are manually moved to the packing line where the MES software coordinates the work of those in charge of packing so that each box is well balanced in terms of weight and final size.
A second sorting area is reserved for the preparation of the smaller panels that will be integrated into the packing operation.

With this solution, SCM has managed not only to meet the needs of Star River Bay Group, but supply a highly innovative plant in line with the most advanced demands made by the Chinese market.

The Superfici finishing lines

Star River Bay wanted to dedicate even **5 lines for their finishing**, 2 spraying lines completed with "**magnum**" spraying machine, "**contivert**" vertical dryer and **UV system**. These lines are studied for high volumes like Star River Bay production. The colour change is integrated directly in the software which make simple changing application and colour in the shortest possible time. The line is completed with "contivert" vertical dryer specific to guarantee a hot air drying with a long drying time needed and the UV system for the final curing of the panels.

Another finishing line is equipped with the rotary spraying machine **Rotomagnum**, where all the advantages of "magnum" are added to a special carousel completed with up to 20 guns, which can be managed individually at the height of the carousel which can be set according to a recipe. The optimization of application is realized for those critical products such as colours, where uniformity of application is the basis of the final result. After the spraying the pieces are dried inside to contivert vertical dryer for completing the finishing cycle.

Star River Bay has chosen also Superfici like partner for **two Paternoster Lines dedicated to doors and large panels applications**. The first one is for the touch up with 2 anthropomorphic robots, to manage the finishing of the 2 sides of the panel in a short time, the cabin is completed with a drying area and a manual touch up for ensure always a perfect product. The other line is specialized for the finishing, with one anthropomorphic robot dedicated to the spraying of edges, groove and a reciprocator for the panel surface, after the lacquer application the panel go thought a specific drying area before completing the process with the UV dryers.

Since Star River Bay is very sensitive to the topic of the environment friendly, Superfici has provided only waterbased lacquers lines in order to preserve health of its employees and od the environment.

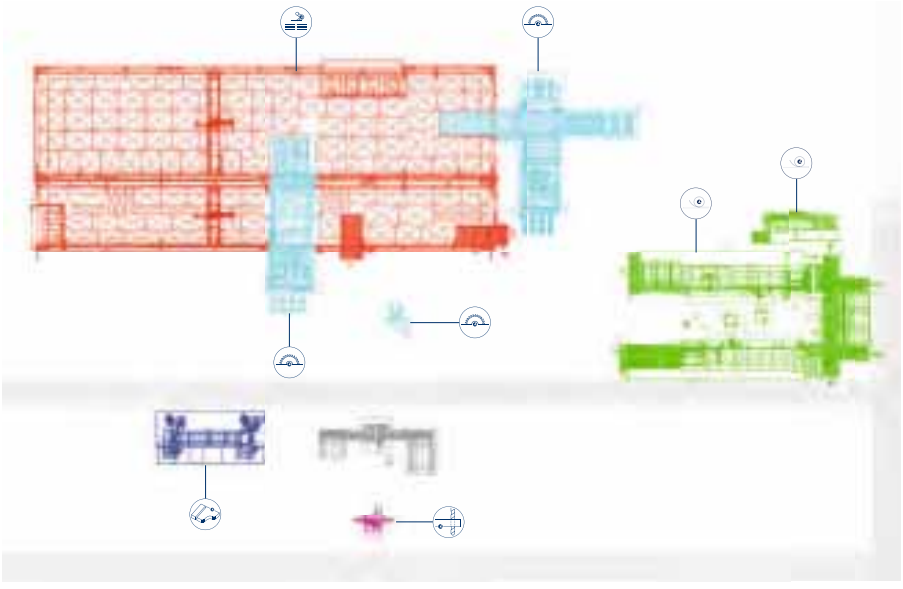
Superfici collaborated side by side with Star River Bay to create a plant customized on its needs, providing only state-of-the-art solutions and guaranteeing the highest achievable quality for the perfect finishing.

«The SCM-Superfici combination for a high-end and 360 degrees supply»

LOFERHOME I Spain

SYSTEM OF FLEXIBLE “BATCH 1” CELLS

Together with its Engineering team, SCM has developed one of its most advanced solutions for the Spanish company’s new plant: a “batch 1” flexible cell system for beam saw and edgebanding, plus stand-alone machines to complete the production process.



Automation System

Sizing

Edge banders

CNC Machining Centres

Drilling Solutions

Loferhome, more than just a furniture manufacturer: specialists in custom-design

A long-standing tradition and experience in the production of furniture, combined with an increasingly more open approach to state-of-the-art technologies. This combination lies at the root of **Loferhome**'s success which, with its "**Tua Casa**" brand, stands out as one of the best-known and respected businesses on the Spanish and European markets. Adult and children's bedrooms, cupboards and wardrobes, bathrooms, living rooms and accessories: it offers a truly extensive range while continuing to guarantee maximum care with its finishings and design thanks to 3D simulation software.

At the helm of this outstanding business organisation is the **López** family. Active in the industry since the 1970s, it opened a new "record-sized" plant in 2018, in **Albacete** with: over **14,000 square metres** of which 8,000 set aside for its production area with state-of-the-art "made in SCM" technological solutions.
What was the reason for this change? In order to guarantee a whole range of requirements such as process automation, production flexibility, quality machining and a significant reduction in delivery times which, in the case of "Tua Casa" products, can be as short as eight working days from the moment the order is confirmed. If we then consider that Loferhome creates custom-designed projects by covering the entire production process - from design to delivery - it is clear how **high technology is the key factor** for competing successfully.

A customer's need, SCM's answer

When the owner, **José Luis López** and the production Director, **Martin Tebar** contacted the **SCM Spain** team, which has been a partner to Spain's most advanced businesses in the furniture and wood-working industry for thirty years, they already had a clear idea of how the new factory should look. The most important aspect was that it had a **sizing cell with two separate storages** to ensure intelligent material handling: one for shaped panels and the other exclusively designated to managing off cuts, in order to avoid invalidating the effectiveness of the main storage. Indeed, manufacturing custom-designed products, the company needs to keep a vast range of materials, colours, thicknesses and finishings in mind, and all this risks generating a huge amount of scraps. So, avoiding waste and reducing production costs was of the utmost importance.
SCM had the upper hand over other competitors as it presented a state-of-the-art sizing cell that takes up only a part of the vast **8000 m2** plant **overall**, with a production capacity of more than **1,500 panels per shift**: a "batch 1" flexible cell system for sizing and edgebanding, plus other stand-alone machines to complete the production process.

Sizing

The cell consists of two automatic three-axis "**flexstore el**" storages, integrated with two "**gabbiani g 2**" and "**gabbiani gt 2**" sizing machines that both perform well in terms of speed and machining quality. There is also a machine for cutting the smallest off cuts and finest material: the "**class si 400**" sliding carriage sizing machine.

Not only does the system have a separate magazine for managing the off cuts that are automatically re-introduced but it is also **highly versatile** and can adapt to production needs. While the three sizing machines are equipped with specific functions, they can be interchanged depending on the amount of material being machined and the kind of re-usable off cuts. Indeed, in the case of small amounts, the "gabbiani gt

2" specifically designed to machine off cuts, can be automatically powered by the main storage, so it can back up the panel sizing machine for shaped panels. In turn, the "si 400" can support the "gabbiani g 2" if there is an abundance of small sized off cuts.
Integration with the "**Maestro active watch**" cell supervisor software and the "**Maestro active store**" storage is also key as they allow you to manage warehouses outside of the cell, used to store materials in other areas of the factory or the smaller rejects and thin panels.

Squaring-edgebanding

Flexibility is the keyword even for the square-edgebanding cell consisting of two "**stefani sb one**" single-sided edgebanders with automatic feed system for perfect panel sizing and squaring.
The strength of these solutions designed for big industry lies in their ability to work panels in sequence and just-in-time with different sizes, applied edge and machining, with small or pure "batch 1" batches. These machines are fully electronic and can achieve three radii automatically thanks to the **Multiedge** system.

They have 24 roll edge storages, ensure a rapid and automatic change of glue colour and perform routing inside and outside the feed tracks.

One other key element of the cell is the "M**aestro active watch" supervision software**: thanks to the bar code on each panel, the software can match the right machining program and track and control all the process stages to each piece, as well as further control functions and production reporting.
The edgebanding of special and prototype pieces is done in another cell, made up of a "**olimpic k 800**" single-sided edgebanding machine with "Touch 7" control interface and panel return.

Stand-alone machines to complete the process

Loferhome selected two, state-of-the-art technological solutions from SCM: a "**morbidelli p800**" CNC machining centre for drilling, routing and edgebanding, ideal for machining and producing "just in time" panels ready to be assembled, and a "**morbidelli cx220**", a compact CN drilling solution designed precisely for "batch 1". The "morbidelli p800" which is also highly versatile, can be used in two ways: to apply the shaped edging to panels already squared or to drill, route and edge the unfinished panel. If the pieces being machined are mainly curved, the machining centre allows you to skip the passage in the squaring-edgebanding cell proving itself to be a real "wild card" in any factory. Some of its key advantages include its extremely fast set-up times thanks to the Matic automatic table with suction cups and bars that move automatically and simultaneously with anti-collision check.

In order to machine special panels and prototypes, the drilling is done with the "morbidelli cx220", whose worktable allows you to drill even delicate surfaces

with excellent finished results. The new, **shaped hold-down grippers** mean that panels can be machined even in positions inside the grippers, greatly reducing cycle times and optimising workpiece clamping.

The flexible cell system designed and developed by SCM for Loferhome is an example of how a factory can be **increasingly more versatile**, adapting to changing production needs and those of the market. All this with maximum process optimisation, and a considerable reduction in costs and energy consumption.

«Loferhome has chosen versatile solutions, which can be easily adapt to changing production and market needs, reducing market, reducing costs and consumption.»

morbidelli p800

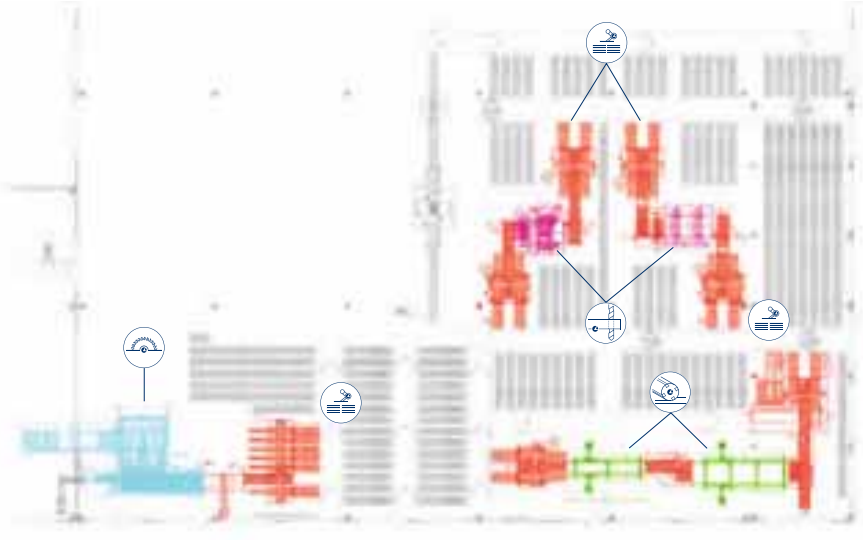
A picture of the "stefani sb one" squaring-edegbander with automatic feed system

GIESSEGI INDUSTRIA MOBILI | Italy

HIGH PRODUCTIVITY INTEGRATED LINE

Numerous strategic choices have accompanied Giessegi's success over the years: speedy production and large volumes, yet with a superior custom design and quality, compared to the standards of mass furniture distribution. A connected, integrated and autonomous factory. A state-of-the-art SCM engineering project to machine panels, capable of creating **two thousand living spaces per week,ready for delivery in 10 days.**

WATCH THE VIDEO OF THE CASE STUDY



Automation

Sizing

Squaring-edgebanding

Drilling

Giessegi's philosophy is leading the way in "made in Italy" furniture

Not everyone could take over a large company as an employee, taking the helm and transforming it into one of the largest furniture empires in Italy. Because that is what **Giessegi** Di Appignano is today; located just a few kilometres from Macerata in the heart of the hills in the Marche Region.

This could be a way of summarising **Gabriele Miccini's** most recent life story - electronic engineer and CEO of Giessegi Industria Mobili. He faced one of the most important challenges of his life when, in 2015, he ended up taking the helm of the company where he was working for as a programmer.

From that point onwards, he involved his sons Federico and Giacomo in the project. Most of all though, he revolutionised the factory and expanded it, fully reorganising production in an Industry 4.0 logic, and making more eco-sustainable choices, like the use of methane heating. He even had a road built, while impacting as little as possible on the surrounding environment, to provide the company's numerous warehouses with a logistics that measured up to the standards of their significant figures. We are talking about a unique organisation, in a town of no more than 3,000 people, with more than **500 employees**, a **turnover of 110 million** and an overall production area of **100 thousand square metres**, where around **two thousand living spaces are produced each week**, including bedrooms, kids' bedrooms, living rooms, wardrobes, contract and office furnishings. **Being big** was the engineer's key objective and to say that he was successful is an understatement. All you need to do is think of the **expansion of 24 thousand square metres** brought to a conclusion in recent years. Behind all of this, a clear logic and philosophy.

The first strategy is the product. "*Our focus has always been on offering a wide range of mid-high quality products at a highly competitive price*" explains Miccini some of whose clients include a number of the best well-known large-scale furniture retailers in Italy. "*We have always manufactured modern furniture for the home, though we have never wanted to deal with kitchens or modular furnishings. Ours is an industrial production of large volumes, but we offer better quality than standard products and more custom design".*

Almost 90% of our turnover is generated in Italy but Miccini's next challenge is to increase the amount destined for export with contract work.
Uniqueness is also the logic behind our production processes. At Giessegi, there are basically **three factories working in one**, all with the same sizing, square-edgebanding and drilling technologies, and differ only in the thickness and size of the panels they work on. This organisation means **production can be speeded up and waste reduced to a minimum.**
One choice that proved successful from the outset was the decision to dedicate an ad hoc department entirely to "customised production" for those "**special pieces**" that allows for significant flexibility without compromising the production standards in other departments.

SCM has been a part of these strategic choices for a number of years. *""We wanted a single technological partner and we*

Gabriele Miccini

have always had excellent relations with SCM" confirms Miccini "Having a single supplier means better understanding of the philosophy, how the machines 'reason' and how they have to be handled. Anyone dealing with large volumes must make high quality technical choices: this is the case with the sizing machines and squaring-edgebanding machines, drilling machines and machining centres". Miccini has always been a pioneer. To mention just one example, it was one of the first furniture manufacturers in Italy to adopt the laser edgebanding to excel in the quality of the finished product and, a few years ago, they chose an extremely powerful, precise line: **"stefani ssb laserline"**.

The automation lines purchased recently following its latest expansion are also SCM manufactured. *"We chose to be autonomous and opted to incorporate semi-manufactured production into our plant which was previously purchased externally. This allows us to be faster nowadays, with delivery times of ten days and, as a result, to be more competitive in a market where, with the increase in on-line sales, the time factor is ever more crucial". Furthermore, Miccini, managed to recover margins originally set aside for suppliers, by improving the company's balance sheets.*
"By recovering assets, we have managed to pay off the new plants in a shorter time period than previously expected". The logic of Giessegi's helmsman is very clear: "A line has to be complete, so it should include sizing, square-edgebanding and drilling".

All of SCM's automatic lines are equipped with **Maestro active watch** supervision software, integrated into the

company's IT system. Maestro active watch allows the production process to be managed and controlled, for example, by monitoring in real time the state of individual machines and the entire line, optimising production performances. Maestro active watch also creates a two-way interconnection with the factory's IT systems, allowing part programs to be loaded remotely from office to factory and returning production reports that can be analysed in the office. The sizing line with a production capacity of **140 cubic metres per shift**, sees the "**gabbiani a 3**" angular panel saw take centre stage with "**mahros stacker**" unloading station to further speed up the process times. The line includes two different loading areas depending on the size of the machining panels and a cutter unit to further differentiate the panels before they are sorted and stacked. The "gabbiani a3" angular sizing machine, for its part, stands out thanks to its high level of automation and offers all the benefits of the range such as the **FlexCut** device that allows for complex cutting diagrams to be achieved in a shorter space of time. The squaring and edgebanding line processes **6000 panles per shift**, consists of automatic "**mahros brush**" loading and unloading systems, two double-sided "**stefani sb**" squaring-edgebanding machines and another automatic "**mahros**" system to rotate the panels by 90 degrees. As well as its high productivity levels, other advantages of the "stefani sb" include the high level of precision and versatility with which the machine permits the use of different gluing techniques, always producing excellent aesthetic effects. The process is completed with two automatic lines with drilling centres ideal for large batches. The first line has a production capacity of **5000 panels per shift** and includes two "**morbidelli z100**" drilling machines that stand out for their top quality finishing and precision, one of them being entrusted with dowelling functions. The second line, turning out 2**000 panels per shift**, has two "**morbidelli pwx100**": a high level of electronic automation, high level of productivity and machining quality and the possibility of even processing panels that differ from one another, are the main advantages of these SCM solutions for drilling.

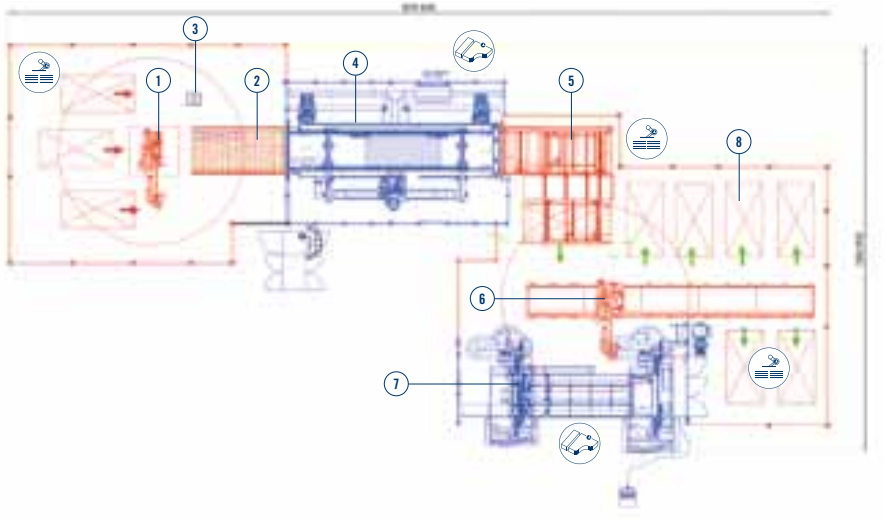
The engineering project devised by SCM for Giessegi also includes two "**morbidelli p200**" machining centres for drilling, routing and edgebanding, with the innovative edging unit capable of applying edges on panels that can be as thick as 80 mm and the exclusive HE-POD suction cups that allow for the size of the work table to be used to the full thanks to alternating lifting of the panels. Being big was our aim and who knows whether the choice of advanced technological solutions and adoption of a forward-thinking production strategy will not push Giessegi towards new and even more ambitious goals. mo le dimensioni del piano di lavoro grazie al sollevamento alternato dei pezzi.Essere grandi era l'obiettivo e chissà che la scelta di soluzioni tecnologiche evolute e l'adozione di una strategia produttiva lungimirante non spingano ancora Giessegi verso nuovi traguardi ancora più ambiziosi.

Some of the solutions chosen by Giessegi: the "gabbiani a 3" angular panel saw, the "stefani sb" squaring-edgebanding line and the "morbidelli pwx100" drilling machine

NORDIC DOOR | Norwey

FLEXIBLE INTEGRATED CELL FOR MACHINING SPECIAL DOORS

The flexible integrated cell developed by SCM for the leading Norwegian manufacturer Nordic Door, allows the routing and drilling of square doors weighing over 120 kg with a productivity of **250 doors per shift.**



Automation systems

Routing

Special doors, never again efficiency problems!

There are **doors for residential purposes and architectural doors** that are much more difficult to produce than others. Doors that require even more complex drilling and routing because they need to comply with specific characteristics in terms of thickness, size and weight. This is even more so in the case of doors for the hospital or tourism-reception industries, to give just a few examples, that need to meet the technical standards set out in safety and fire prevention regulations, even achieving a size and weight above market standards.

Matters complicate further when we are talking about producing doors with **machining work and profiles that also differ considerably** one from the other. How is it possible to deal with all these problems while continuing to produce and deliver **efficiently and rapidly**? Thanks to the decades of experience that SCM's Engineering Team has in researching and developing customised and turnkey solutions, SCM offers **a flexible integrated cell for drilling and routing special square doors, in excess of 120 Kg.** The cell has already been adopted by state-of-the-art industry businesses, including the Norwegian company, **Nordic Door**, the main door manufacturer in Norway and one of the market leaders throughout Northern Europe.

Key advantages

- While continuing to meet the needs of "**batch 1**" machining, the cell still has a **rapid set-up and productivity of 250 doors per shift.**
- The cell complies with **Industry 4.0** demands with interconnected SCM technologies and integrated with software systems and IoT.
- **Fully integrated and automatic process management with** bar code identification of incoming doors, handling robot and control supervisor software, with the option of connecting to company ERP/MES.
- **Great versatility:** while being fully automatic, the cell can be taken over by an operator as required for more sophisticated manual machining work.

The process

The cell's main strong point is its **ability to deal with doors of varying size and weight**. This is thanks to a top-performing **articulated robot** that picks up the

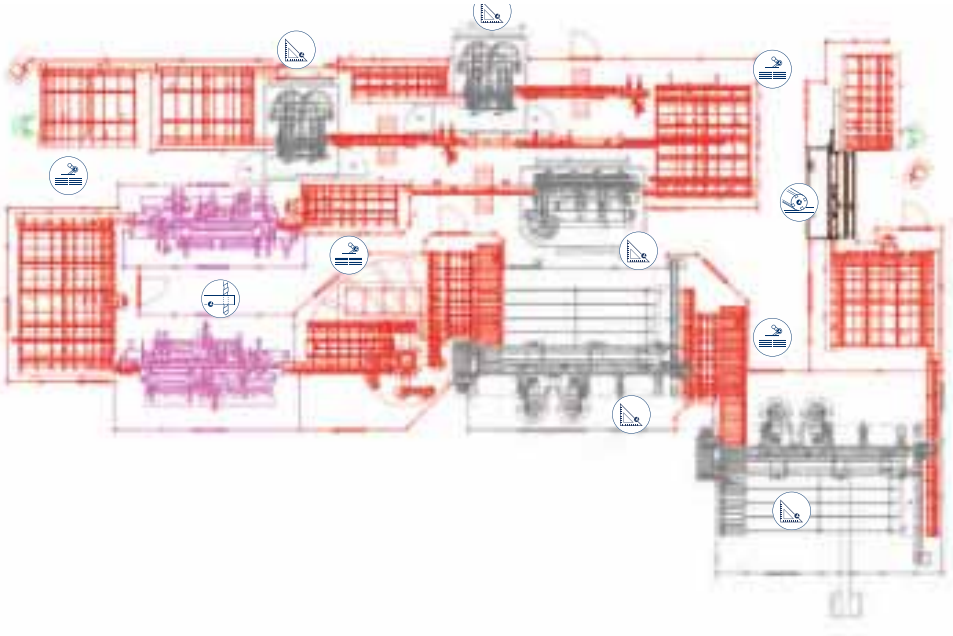
doors from the different loading stacks and places them on the SCM **"aries prt" feeding conveyor.**
A bar code on the conveyor is used to automatically check that the door conforms with the machining program and the data is sent to the line supervisor software that runs a check and calls up the implementation programs of the cell's machines.
If **routing a peep-hole** is scheduled, the door is transferred directly to the "aries prt". If **no peep-hole**, the door is once again picked up from the conveyor by the robot and transferred to a specific position where a fixed spindle performs the routing of a peep-hole on the door manoeuvred by the robot. At the end of this operation, the robot once again places the door on the motorised conveyor to transfer it to the "aries prt".

"Aries prt" is a special machine that allows for **parallel operating on both longitudinal sides** with several operating units, to create routings on the left side for the hinges and machining work on the right side for the lock and handle **holes**, guaranteeing **machining times of under a minut**e.
Once the machining work on the "aries prt" has been completed, a second articulated robot picks up the door from another conveyor belt and places it in one of the unloading stations (**identification** number can be personalised to suit the customer's requirements) in compliance with the program instructions.

If further special machining work is scheduled, for example, glass fitting, the second robot loads the door onto the "**accord 25 fx**" drilling and routing CNC machining centre. Its key advantages include the highly flexible **MATIC** bar work table capable of automatically positioning itself in just a few seconds in line with the program and door size. This guarantees **a notable reduction in cycle times.**
The process is completed with sorting on an unloading station, where the doors are stacked in accordance with the order it belongs to.

Hi-tech windows, maximum productivity

SCM has been a partner to Internorm for over twenty years. After several investments aimed at producing special windows, the company invested in an integrated, high-productivity window production line to solve every throughfeed moulding, drilling-routing and profiling requirements and anticipate market trends.



- Automation
- Double end profi ling
- Moulder
- Drilling solutions

The world of windows and doors is evolving in order to keep pace with the latest market trends and the new intelligent domotics systems. The windows are enhanced with ever more advanced technical solutions and specifications to make our homes even more attractive, safe and comfortable. **Technological innovation** is once again the key to the success of industry manufacturers.

Internorm knows something about this. A leading Austrian company at European level in the production of windows and doors, for whom SCM developed a **full line of throughfeed moulding, tenoning, drilling-routing and profiling**. In practical terms, a complete high performance system for the production of high-tech wood/aluminium windows, like the ones responsible for placing this company at the top of the market over the last few decades.
SCM has been a partner to Internorm for over twenty years. Following an initial integrated line installed in 1995 to deal with the growing production in the standard wooden window sector and, after numerous other investments aimed at the production of special windows, in 2011, the company invested in an **even more advanced, integrated and high performance line, a "System 8"**, to anticipate quantity and quality market trends.

The advantages of this line

From the outset, the SCM Engineering team aimed to satisfy the need for a line dedicated to the production of doors and frames, capable of achieving **maximum levels of productivity** that were above standard (**8 door elements and 6 frames a minute**) and to simultaneously guarantee **excellent flexibility** in the case of "**batch 1**" machining of elements with varying lengths: from 220 right up to 3500 millimetres.
All the SCM technology supplied guarantees **fully automatic set-up with times of less than a minute.**
In addition, the work is further optimised and simplified by the Maestro active watch line supervisor software that allows for the entire production process to be managed, the status of each individual machine and the entire line to be monitored in real time and a two-way interconnection with factory IT systems.

Throughfeed moulding

Higher productivity is already being achieved at this early stage of the process. Thanks to the "**superset tx**" automatic throughfeed moulder, with innovative set-up system which, when using tools of different diameters, reduces the machine's set-up time by up to 20 times.

A connection transfer conveyor with buffer function and 180° tip-over function of the pieces, allows for the temporary accumulation and dispatch of pieces to the next machines as soon as they are free, thus balancing production based on their machining times **and keeping them constantly powered**.

Tenoning

Once the pieces have been moulded, they are transferred by the transfer conveyor to the "**celaschi tlv**" tenoning area with two **single-sided, symmetrical and complementary tenoning machines**. These allow for tenoning on the head of the piece to be carried out,

Processing detail on "superset tx"

and then on the tail, after the piece has been properly positioned to guarantee the perfect length. Thanks to the use of single-sided tenoning machines, pieces of differing lengths can be machined, just as is done in "batch 1" production.
Once tenoned, the pieces are loaded onto another connecting and buffering table and then rotated 90° for the next stage in the drilling-routing centres.

Drilling-routing

The "**fleximat**" passing through drilling and routing centre takes centre stage in this process. performing all the accessory machinings such as routing for the lock and holes for the handle, meeting and connection positions, required for the next assembly stage of the window.
Designed around the customer's production requirements, "fleximat" can take on different configurations, based on the number and position of the machining units, to the point that it permits simultaneous machining of the units to be drilled and routed, thus drastically reducing cycle times.

Profiling

Another transporter with buffer function, essential for balancing the flow frequencies, conveys the piece to a "**profitech**" profiling machine to externally profile door and frame elements. Numerous advantages of this SCM solution include the 12-position tool storage and highly versatile electro-spindles that allow you to move from one profile to another without the intervention of an operator.
Subsequently, other two "profitech" profiling machines deal with the internal profiling of the door and frame.

The frames and doors are, therefore, completed on each side and transported on a connecting bench as far as the unloading station where they will be subject to a visual and quality inspection by the operator.
The line is completed by a number of other SCM technological solutions designated to special functions or other stages of the process.
This is the case - to mention just one example - of the "dmc system t7" wide belt sander with seven operating units: thanks to its modular structure, it can provide a solution for every calibrating, sanding and structuring production requirement. Thanks to the planetary unit's multi-directionality, excellent finishing results can be achieved that are structured and closed-pore even on window shutters.

Detail of the profitech" profiling machine
Below, the "celaschi tlv" tenoning machine

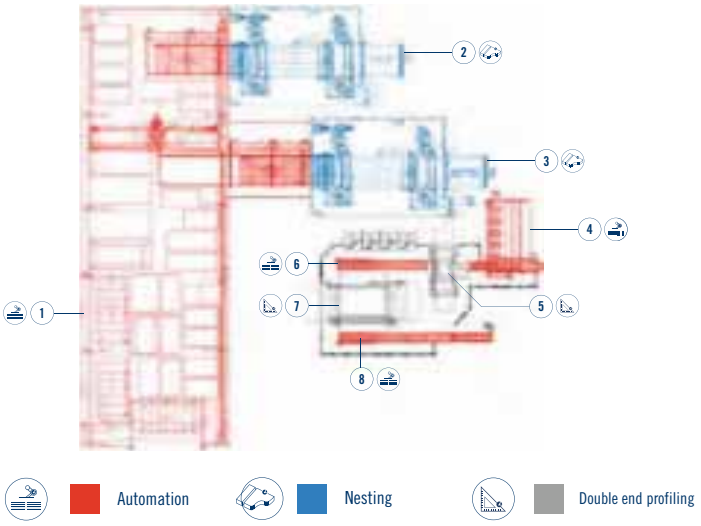
INTEGRATED SOLUTION FOR STAIRCASE PRODUCTION

Design staircases to climb higher and higher

A staircase is often the best introduction to a home, if not the first piece of décor that attracts your attention as soon as you enter a house. This is why it is essential for manufacturers, architects and designers involved in the production of staircases to pay close attention to every detail and create a product that is as “custom-designed” as possible and fully reflects a customer’s personality and practical and decorative preferences.

SCM offers an **integrated solution for the production of staircases.** This involves a cell for the nesting cut, consisting of an automatic "**flextore el**" magazine integrated with two "**accord 30 nst**" machining centres and a double "**celaschi**" squaring line.

This engineering solution has already been successfully adopted by leading customers in the industry which automates the machining process, increasing the quality and production capacity that can mean **60 staircases with 16 steps and landing can be completed in a single 8-hour shift.**
In addition, the entire system is designed to be subjugated, on the customer's request, by an articulated robot positioned on a "seventh axis" that increases the operating range to complement the integration of the two cells, automatically managing the nesting machine unloading and loading onto the "celaschi" line, without the intervention of an operator.

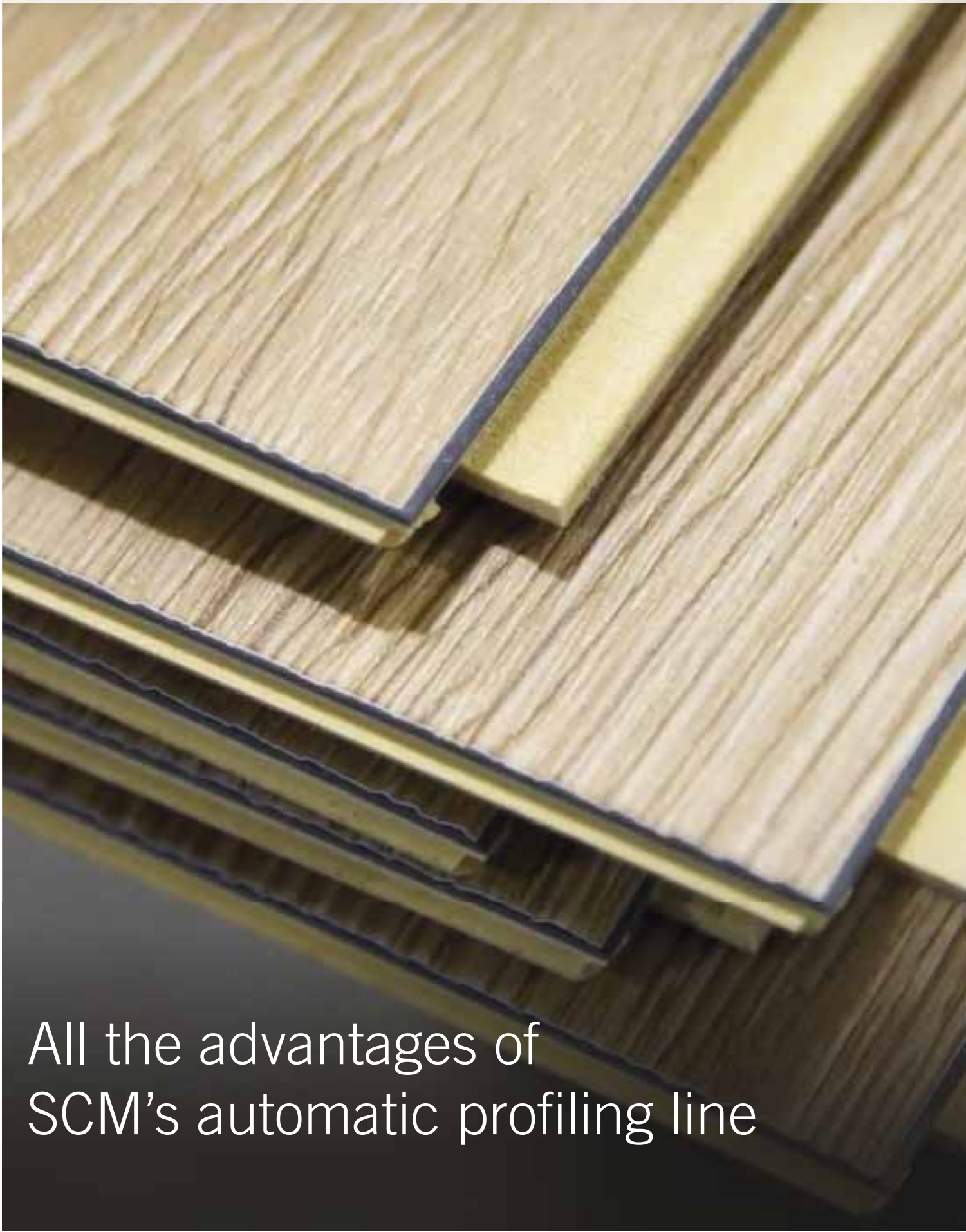


The engineering project in detail

Nesting Cell
Starting with the unfinished panel, the **stair** strings, landings, risers and treads are produced. **This SCM solution is ideal for optimising and simplifying made-to-order productions** because it handles both uniform stacks as well as mixed stacks, consisting of panels of different sizes and colours, and unfinished panels and/or with a minimum thickness of no more than 3 mm, depending on the material.
The core of the cell is the three-axis "**flexstore el" automatic magazine** that guarantees a considerable increase in productivity and a significant reduction in the cost of running the raw materials magazine.
The "**Maestro active store**" software plays a dual role of man-machine interface for the flexstore automatic storage as well as acting as supervisor to the cutting cell, allowing control to be centralised and simplified. Furthermore, automatic panel labelling is done in this area, in accordance with the cutting diagram subsequently carried out by the operating machines. This operation is extremely important as it means the panel can be constantly tracked during the integrated automatic processes and the work programs associated with each element can be called up at later stages in the machining process.
Of the two "**accord 30 nst**" machining centres, the first one is mainly used to manufacture the risers and steps, while the second one is used for the **stair** strings on the staircases and the landings. By maintaining the manual loading function, special **one-off** pieces can also be machined.
The main advantages of this solution are high powered routing and intelligent programming thanks to the "**Maestro" software** suite. This results in excellent performance in terms of speed as well as quality and implementation accuracy. The main advantage of the cell lies in its **modularity and scalability**: indeed, even though each of the two machining centres are assigned to specific machining jobs, just one of them can be used if there is a reduced production capacity requirement. Equally, if there was a fault on one of the two machining centres, this solution would ensure that production did not stop completely but that it continued on the other one.

"Celaschi" double squaring line
This line allows you to trim lengthways and outline the risers and treads previously created. It consists of a manually powered automatic loading system, a longitudinal "**celaschi p60**" double squaring machine for profiling the long sides, a "**celaschi tr 90**" automatic transport system, a second transversal "**celaschi p60**" to trim and square the short sides and **unloading rollers**.
The contribution from "**Maestro active watch**" software is also important for the supervision and control of the entire squaring line, that means program management can be optimised and simplified as well as the work lists, machining commands and parameters, the process implementation and all the work involved in diagnostics.

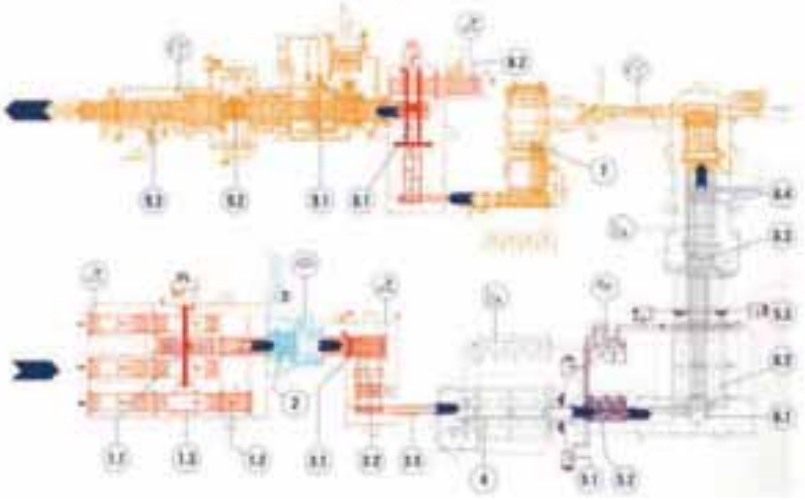
AUTOMATIC PROFILING LINE FOR PVC FLOORING



All the advantages of SCM's automatic profiling line

Attractive, long-lasting and easy to lay. **PVC floors** are as good as "100% wood". The **high definition finishing** reproduces wooden planks of various types of wood, ceramics and marbles, with extremely elegant details, that are not commonly found in other floorings. And that's not all: as well as its appearance, another advantage is its **practicality,** because it is the ideal material for an eco-compatible, sound-absorbing, antibacterial and anti-skid flooring. These are the reasons why market demand is continually on the rise at international level.

SCM has seventy solid years of experience in technologies for the flooring industry, with the research and development of complete, customised machining lines carried out by its Engineering team, and offers PVC flooring manufacturers a **completely automatic line for the profiling of composite planks**, from the individual sheet to the pallet ready for shipping. It is a line integrated with a "**mahros**" loading system with automatic pallet control.
For the continuous trimming, split and cut of the panels, the SCM solution has an integrated sizing cell that trims both edges of the panel, splits it in two lengthways and unloads the cut sheets into single and double stacks. The machining speed can reach 15 metres per minute, but equally high is the cutting precision level, with a tolerance of +/-1 mm. The cell consists of a special "**celaschi**" machine, a well-known SCM benchmark for profiling and cutting technology, and a particular saw for rapid cutting.
The profiling part, on the other hand, is done using two "**celaschi tm**" squaring machines successfully adopted by different market leaders capable of machining **up to 100 pieces per minute.**
An ideal combination for machining a large number of different sized panels with maximum productivity, accuracy and flexibility, and all with a rapid return on investment.



Manuela Andreani e Sergio Castro Product Managers

SCM's integrated digital vision

Digital transformation: at what stage is the world of woodworking?
We are talking about a significant technological, cultural and organisational change that SCM supports with an integrated digital software and services offer that works alongside the customer at each stage of the production process. We are talking to **Manuela Andreani**, SCM's Software Product Manager, and **Sergio Castro**, Digital Services Product Manager.
There have been a lot of new SCM entries in the last few months. As well as the new MES (*manufacturing execution system*) **Maestro easyFlow** that extends the most advanced management systems of production processes to a wider target than occurs in this software category, there are also digital services enabled by the IoT **Maestro connect** platform and, for the world of artisans, SCM **Thundercut**, the app that brings the use of a circular saw closer to that of the more powerful panel saws.
There are also several new entries in technology software: from **Maestro power TMS** for optimising tool management on machining centres, to **Maestro beam&wall** that further increases the power and functions in a sector - that of wood constructions - where the demand for CAD-CAM design and simulation software that helps prevent costly errors is exceptionally high. The **Maestro opti wise** to optimise cutting for single blade and angular panel saws, is also brand new.
Space also for the new **eye-S** touch control panel applied to sanders in the **dmc sd** range and the circular saws and spindle moulders for artisan woodworking in the **Invincible** and **class range**: this helps further strengthen the machine's performance, simplifying its use and the *user experience* thanks to an attractive design and a completely new HMI, in line with the HMI design in the **Maestro active** unit.
Also highlighted is SCM's adhesion to the up-and-coming European platform, **Woodworking made izy**, that sees the most important manufacturers involved in finding a common language for their technologies, as part of a complete integration into the customer's machines.

What is the approach that makes SCM's digital solutions stand out?

"They are **integrated, scalable and intelligent solutions** - says Manuela Andreani -. We aim to provide integrated machine systems, software and services that are increasingly profiled around the customer's needs that remain at the heart of our vision.
This means proposing a relationship based around the creation of value, that starts with the purchase of the machine and continues with assistance and services that, day by day, articulate the customer's experience and make having chosen SCM even more

> ***"Nowadays, we can combine CAD-CAM systems, technology simulators and process optimisers with control software for the entire job order on several machines, by integrating different technologies and software into the office and factory. This allows us to dramatically reduce cycle times"***

> ***Maestro easyFlow is a scalable MES to manage the production in all its complexities, accessible even to companies without huge production volumes.***
>
> *This MES can be the first step on a path to integrating the office with the factory and with the same principles and potentials that can be found on the MES of large lines and factories".*

profitable. We started off with a vertical specialisation in process software, specific to every kind of technology and woodworking, subsequently growing and looking at the process from a transversal and integrated angle, from the idea to the finished product, and this allows us to considerably cut down on cycle times: nowadays, we can combine CAD-CAM systems, technology simulators with control software of the entire order on several machines, integrating various technologies and software into the office and factory".

Is complexity increasingly shifting into the hands of automation and software?

"Precisely. If, up until a few years ago, one had to write lines of codes to follow a specific machining which required specific training, nowadays, all you need to do is design what you want. This design will automatically become a machine program to machine the piece in as short a time as possible and with the best possible result. At this stage, all that remains for the operator to do is position the material on the worktable and launch production by interacting with the machine via the touch control panels and simple, intuitive interfaces".

Is this a principle that is as good for large installations as it is for standalone machines?

"Yes but it is essential to preserve the specific features of each process: for example, at the cutting stage, in nesting or single blade sizing, the key topic will be the optimisation of the order per type of material and cutting optimisation; in edge banding, optimisation to minimise changes in thickness and width of the panel to avoid machine vacuums, and so on".

What are the distinctive features of the new MES Maestro easyFlow?

"This is a scalable MES that deals with controlling production in all its complexities. And it is available to so many more operators because it is also accessible to companies without huge production volumes. We offer the chance to look at your factory or workshop from a more transversal angle with a tool that can, for example, arrange the order between the various machines based on their ability or the delivery times to be met. One solution capable of 'distributing' the programs to the machines and then gathering data to control the order's progress. The name easyFlow indicates a simple software, plug&play, accessible even with a minimum investment, that can be the first step on a path to integrating the office with the factory and with the same principles and potentials that can be found on the MES of large lines and factories".

What are the key objectives of SCM digital services??

"To reduce the growing complexities of factories in current times

- explains Sergio Castro -. Via the **Maestro connect** platform, we can establish a continuous relationship with our users who can connect their machines with our general headquarters and access a vast number of services to obtain much more: from monitoring to maintenance, from opening a ticket to performance analysis, and so on. Valuable data and information that has been stored for some time in a new **My SCM** app that makes everything manageable via a simple smartphone from where you can access a wide range of services".

Can these tools be used to attract youngsters to professions linked to wood?

"Yes, most definitely, and with growing roles of responsibility. Implementing technologies on a digital front, whether we are talking about dedicated software or digital services, means the operator's skills can be put to use in activities with a greater added value - says Andreani - from the optimisation of the production cycles, to improving factory material flows, right up to the possibility of concentrating on data analysis and information that will help monitor and achieve working times and production costs. Let's not forget that an artisan is always a 'genius', the artist who creates and transforms material into something unique and exclusive".

Is the world of wood/furniture really ready for this digital transformation?

"We are on the right road - says Sergio Castro - and the number of people enthusiastic about this experience is growing rapidly. Customers catch on immediately to the importance of these new tools that provide them with control over the machine and the work they are doing.
For us this means receiving a great deal of input and new ideas on how to devise different functions and even better for the individual stages of the process, as with corporate management systems. We have created a genuine network with the customers and our software and product specialists to constantly feed this dynamic: all our customers, no matter what size their company is, want tools to machine more easily and digitally, to interact with us, check predictive maintenance work or request a spare part.
We are in the midst of a cultural change that will lead us all along a path of ongoing comparison, to continually share more knowledge in a simple way: I reflect on what remote assistance in augmented reality with **Maestro Smartech** has meant, what new opportunities it has given us and how many new services we are developing...."

With SCM, the digital transformation of the Industry 4.0 is open to everyone.

By Luca Rossetti (Xylon)

> ***Via the IoT Maestro connect platform***
>
> *we can establish a continuous relationship with our users who can connect their machines with our general headquarters and access a vast number of services to obtain much more: from monitoring to maintenance, from opening a ticket to performance analysis, and so on...*

Alessandra Benedetti, Luca Maggiani and Lorenzo Monti

People: this is the keyword that best sums up SCM's vision according to **Alessandra Benedetti**, Customer Care Manager.
It might seem like an almost dated concept compared to the widespread algorithms of digital transformation, Internet of things and artificial intelligence.... In reality, that is not the case. Behind those "people" is a clear corporate strategy that does not rest on its laurels as a leading high-tech machinery manufacturer for the past seventy years but aims to first and foremost present itself as a supplier of all-round, highly specialised services, at each stage of the relationship with the customer: from installation to production start-up to services and maintenance; from training to the supply of specific original spare parts.

A Group that blends the opportunities from both the worlds of digital and human to combine them in a new winning Service solution.
"We believe that technological progress is key to meeting our customers' demands with increasing efficiency - says Benedetti -. At the same time, however, we are sure that our people are, and always will be, the added value of SCM's product and service offering.

People is the word that guides us and implies both the enhancement and transformation of the skills of our team and an ever growing and lasting relationship with the customer. Our figures also demonstrate this: **700 technicians** working on field internationally, more than **5000 service cases** followed and **17.000 callouts** in the space of just one year. Without forgetting the continuous update of skills, with more than **17,700 hours of training** given by Campus and e-Campus and more than **1,000 participants** in the service training courses".

Service is another key concept: increasingly more integrated into the product and decisive in determining the value...

"That's exactly the case. A new business model is taking hold in the wood-working industry and SCM is evolving from a product-based company to a business partner that places the customer at the centre, its effective needs and experiences of daily use to offer focused and customised services with a pro-active approach.
The *digital transformation* assists us because it offers touch point tools and channels with the client that are increasingly more advanced and collection and analysis of data and information systems on the use of our machines, that can be extremely useful in helping the customer maximise production performance and keep and enhance their technologies throughout the entire life cycle.
The concept that best explains our approach is '*data driven empathy*': encompassing core data and skills to better understand the context and meaning of different requests, recommending in

> ***"700 technicians operating on field at international level (+22% in 2021)***
>
> *More than 5000 service cases followed and 17.000 callouts made in the space of just one year. More than 17,700 hours of training given by Campus and more than 1,000 participants in the service training courses".*

From the left, Lorenzo Monti, Process&Competences Improvement Manager, Alessandra Benedetti, Customer Care Manager, and Luca Maggiani, Service&Parts Business Development Manager

Digital and human: “our winning combination”

advance technical solutions and documents of use to the specific needs, informing the team in time of the most urgent priorities.
Support, skill and efficiency are our mission, and all this improves if it's digital. This is our idea of digital transformation".

Digital services: what is SCM's response on this matter?

"Our Digital Services solution, **My SCM**, is a powerful, scalable platform in continuous development, capable of offering services, skills, tools, spare parts, and all this in one click anytime, anywhere, even from a smartphone. SCM's digital solutions can handle maintenance work, recommendations on spare parts, quick access to documents, manuals and instructions: everything needed to work and manufacture easily. The **new SCM marketplace** will also be connected to this platform for the online sale of machines, spare parts, software and services".

Remote connection: how is the Service activity changing?

"In 2019, an important programme was launched to re-design the main Service management systems and, by adopting a strongly customer-centred approach, the main Customer Service and Field Service processes have been revised and improved", adds **Lorenzo Monti** who handles Process&Competences Improvement for SCM's Customer Care department.
Once again, the digital&human combination is essential. "*At human level*, we are working to develop, assess and trace the hard and soft skills of the SCM team's human resources in various global markets, so that these resources can intervene locally though always with a global coordination. At digital level, we are strengthening the connection systems to the customer's production site and its machines via remote presence technologies and remote access, sometimes reinforced by augmented reality systems. And that's not all: we are also, and above all, imagining new ways of *knowledge management* for a more effective sharing of specialist knowledge, with our colleagues and customers.

The growing attention to CRM processes and the introduction of digital twinning, that allow you to work on digital models of assets, are dramatically changing traditional SCM services, but that's not all: they are already enabling new service models that range from a proposal of experiential yet virtual training solutions of technicians, maintenance workers and machine operators right up to the introduction of new lines of advisory services and control rooms offered to our customers intending to connect with our skill centres".

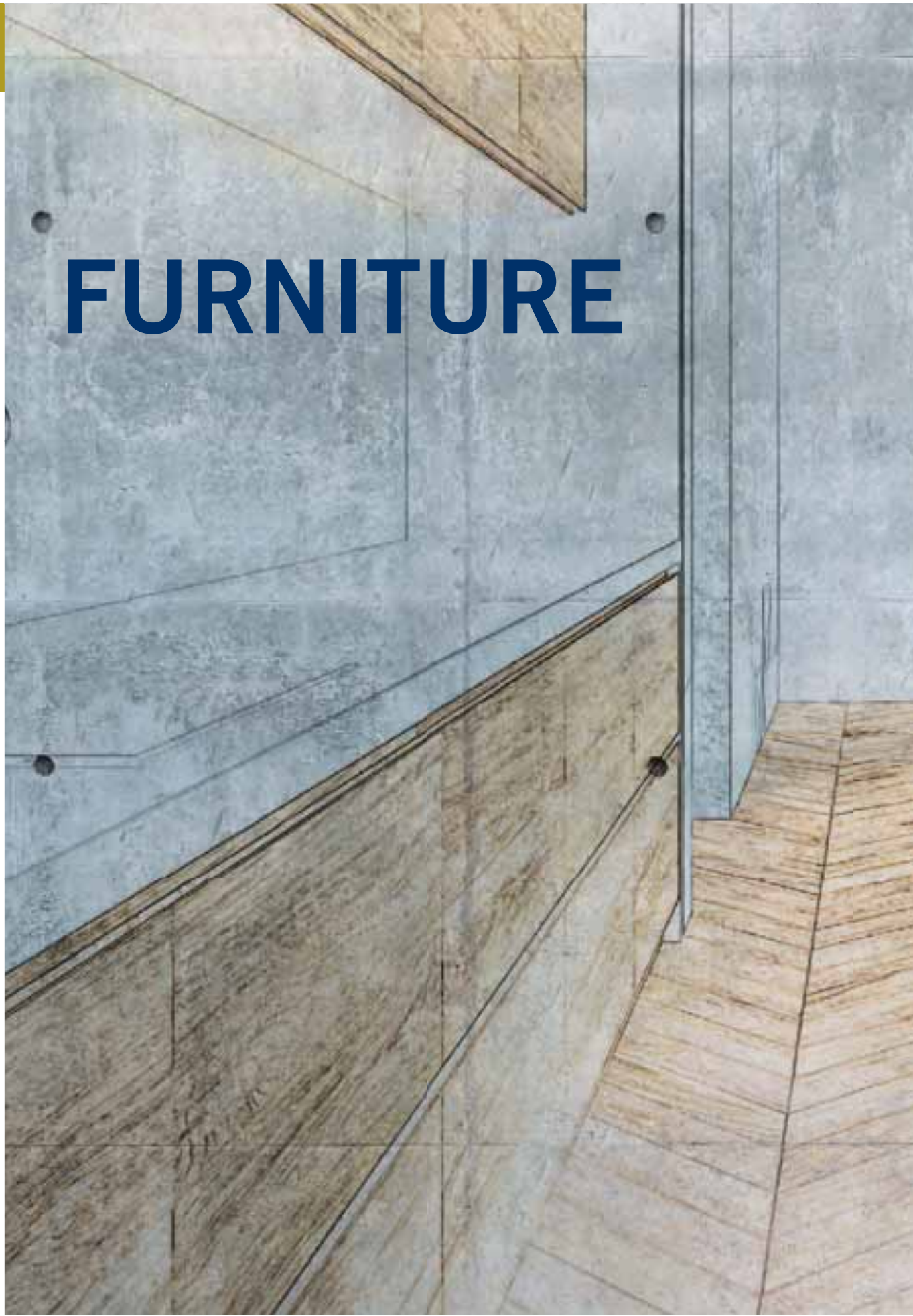
In all of this, **SCM's investments continue to make the presence of the Service team increasingly more direct and capillary at global level.**
In the last year alone, the Team of technicians operating on the worldwide field has grown by 22% and that's not all. There is a growing number of specialised Service Centres, as is the case in Italy, with a **partnership between SCM and Fratelli Bodei** that strengthens the Group's presence in Lombardy and across the whole northern area of the country. And this is what's happening in other strategic markets, from Poland to Mexico.

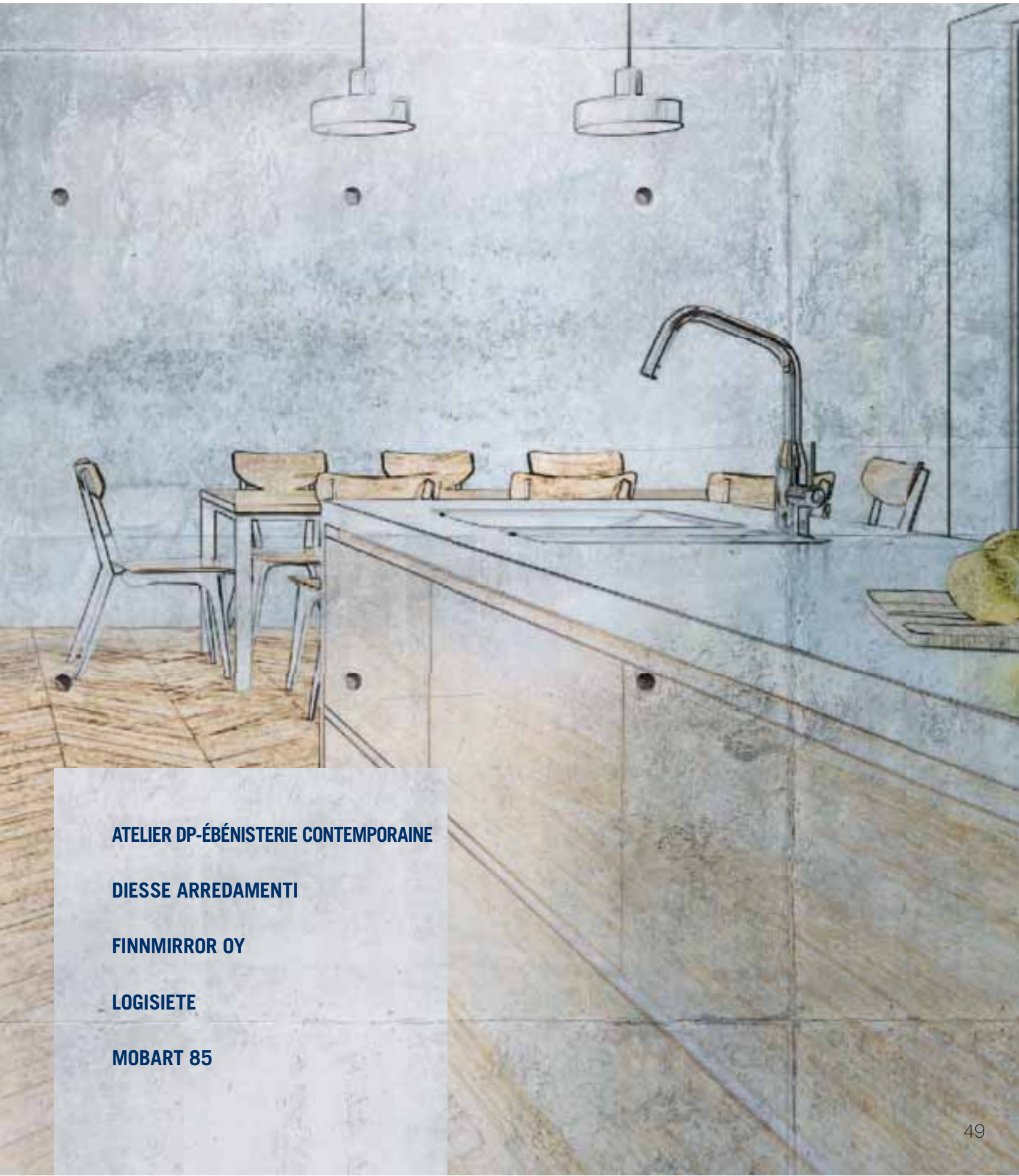
Autostore
the new SCM's spare parts warehouse

Go digital, stay human is the claim at the heart of SCM's other new important entry: Autostore, the new automatic warehouse, operational since January 2022 and established in the area of the Foundry in Rimini.
Luca Maggiani, SCM's Service&Parts Business Development Manager illustrates its strengths and vision. "We wanted to take another step forward by choosing the best that logistics management has to offer, a technology that, to date, had not yet been applied to the management of spare parts in the sector for wood technologies". A futuristic project: **30 thousand items** handled in a structure covering **900 m²** for a height of **5.5 metres**, over **13 storage levels** and with **24 thousand** modular **boxes** capable of holding up to **30 Kg** of pieces each. The new system allows for considerable gain to be made in terms of space occupied, if we consider that the traditional warehouse next door, for larger sized spare parts, contains 4,000 in an area that is more or less the same size. Above all, it means SCM can provide a more efficient, better-quality service by speeding up by 75 per cent the pick-up operations and **reducing dispatch times by 30 per cent**. Every day, around **300 shipments** are handled containing thousands of components with a maximum lead time of 48 hours from the time the order is placed.
All this is possible thanks to **19 robots** powered by two 12-volt rechargeable batteries capable of picking up **one piece every 45 seconds,** 24 hours a day, seven days a week.
The other important advantage is achieving **maximum energy efficiency** and a long duration over time, with an energy consumption **lower than 0.1 kWh** per robot. There is improved value even for SCM operators because even if Autostore makes use of 19 robots for the picking operations, the number of resources employed in the Service&Parts team has remained unaltered.
"The operators are the same as before, but now they perform handling and control duties that are undoubtedly less tiring or repetitive. According to our 'Go digital, stay human' project, it is the people who make the real difference, even in customer services. Indeed, we encourage the re-skilling of our team, promoting all those activities that AI cannot reach".
Another important advantage is the possibility of storing up to **200 orders** in a continually updated and stocked database. This makes it simpler to handle all the data concerning the activity, track each individual element delivered and perform advanced analysis that can be useful, for the future, even in terms of prognostic maintenance.

Case Studies

FURNITURE





ATELIER DP-ÉBÉNISTERIE CONTEMPORAINE

DIESSE ARREDAMENTI

FINNMIRROR OY

LOGISIETE

MOBART 85

Atelier DP-Ébénisterie Contemporaine | France

FURNITURE

A cabinetmaking business with an innovative vision

Established in 2012 by David Polleau in Doué-la-Fontaine, Atelier DP-Ébénisterie Contemporaine specialises in the production of high-end wooden furniture. After ten years in business, artisan work has dramatically changed thanks to state-of-the-art design and manufacturing tools.

Some youngsters have a clear idea of the professional path they want to take. **David Polleau** had always loved wood and knew from early on what he wanted to do in life: “I started as an apprentice at the age of 16 and I instantly focused my attention on cabinetmaking.” A classic route on a schoolwork placement: CAP and BTM certificates and then a final diploma. After learning the trade in companies in Angers and Nantes specialising in contemporary furniture, in 2012, he decided to set up a cabinetmaking workshop in his hometown. Thanks to a partnership with the Town Council, he set up in a temporary headquarters of 1,250 m2 and with a bank loan of 150,000 Euro, he hired two cabinetmakers...A few years later the cabinet making company started training apprentices, some of whom then decided to stay on in the company.

Today, the company employs 26 people, 21 in the workshop including 4 former apprentices. The company is doing well: its order portfolio is full and, despite the pandemic, in 2020 it made a turnover of 2,350,000 Euro. In 2021, the cabinet making company moved to a **new building of 3,000m2** whose workshop is double the size of the previous premises. It is a huge investment - 2.5 million Euro - but for David Polleau it is time to take a leap forward: "We didn't have enough space and it was essential to improve our working conditions in order to concentrate on expanding the company."

Target market

Atelier DP's customers are **interior designers, architects and furniture brands...**"It is an industry that I know well and the quality of what we manufacture has allowed us to hold on to these partnerships and find other customers", explains the businessman. The market is exclusively high-end contemporary furniture at international level.

A product of excellence

Design tables, made-to-measure cabinets, bookcases, desks, lamps, sofa tables, nautical furnishings ...The orders are continuous and all different. The workshops only uses solid wood purchasing logs cut into panels: oak, walnut, spruce wood, ash, elm, rosewood and American pinewood ...."For our creations, we use the most attractive part of the log, but we also try to enhance the rest of the material". explains David Polleau. 80% of our products are manufactured using oak. "Customers generally already have their preferences and we advise them on finish: customised shades, creation of colours and patina...."
The orders are neither unique pieces nor assembly line; each piece can be produced in a different way. Personalisation becomes the keyword in this industry. If some customers prefer sober, clean-cut finishes, others love to keep the knots visible and have a more natural finish. Sometimes, different materials other than wood are used such as leather, brass, wrought iron or steel... Some highly complex projects require a great deal of work: it can take up to 60 hours to produce a table, for example!

Artisan and proud of it, but not without advanced technologies!

"After setting up the company, I started to create a traditional workshop with lots of second-hand machinery: squaring-edgebanding machine, spindle moulders, surface planer and planer unit..." explains

our interviewee. At the time there was no plan to install machining centres, as that required a great deal of investment. “Initially, I designed everything, I did all the finishes and I had to know how to do a bit of everything.” Digital made its début in the workshop a few years later, in 2016, with a design software (AutoCAD) and, in 2018, with a CAD/CAM software. At the same time, the businessman purchased an SCM **morbidelli m200** machining centre. “It was a genuine revolution that allowed us to move to the next level in terms of production capacity”, explains David Polleau. “The furniture that we manufacture has organic shapes that require a certain regularity at the machining stage. They are all works of the designers’ imagination and we really work on 5 axes. A lot of work would be inaccessible if we did not have this equipment.”

A balance in tradition and modernity

The machine selected by the cabinetmaker was configured around his specific needs. The **Pro Space safety system** offers complete freedom of movement because it means there is no need for perimeter protection; this way **the worktable can be accessed from all sides.** Another significant advantage is the ability to change tools in under 15 seconds thanks to the **FAST14** magazine.

“When you have efficient machinery, the work changes dramatically”, explains the cabinet maker. “When producing standard furniture, that does not go through the machining centre, there is a need for manual skills, going back to the trade’s origin. With the 5-axes technology, a performance research office was needed, with a good designer and skilled programmer. In fact, this piece of equipment has allowed us to acquire greater skills.”

Nowadays, the company’s research office employs three people who cover both design and programming. Thanks to the new space, Atelier DP will be able to expand the company’s activity in line with changing demand.

“We need to try and understand what furniture of the future will be like and decide which tools will still be needed”, explains David Polleau. “In any case, we are lucky enough to work for customers who offer products with high added value, which is very motivating.”

by Anna Ader for Woodsurfer

Detail images of the “All-in-one Technology” cnc machining centre morbidelli m200”

FURNITURE

Diesse Arredamenti, luxury on the waves

A continually developing company that specialises in exclusive interiors for luxury boats, and was brave enough to change production mentality, face up to the new digital challenges and renew its production lines with SCM

WATCH THE VIDEO OF THE CASE STUDY

It is when you hit rough seas that a company like **Diesse Arredamenti**, experts in the production of **interiors for luxury yachts** and mega yachts since 1990, manages to get the best out of its fleet to keep on course towards success and innovation.

Indeed, if we take a look at the history of this industrial organisation in Romagna, responsible for the production of customised furnishings for the **most prestigious brands in the nautical industry**, it doesn't take long to realise that some of the most difficult moments over the last few decades were followed by a dramatic change of direction for **Paolo Ravaglioli**, owner and sole director of Diesse Arredamenti, and his team.
With around one hundred employees, a **turnover of 20 million** and a new **11 thousand square metre** headquarters opened in 2020 at the height of the pandemic, Diesse Arredamenti stands out from the crowd for its advanced production processes, aimed at achieving maximum efficiency, flexibility and quality when creating **exclusive solutions, no matter what kind of yacht it is.** Each project is followed right up to the final assembly stage on board with expert professionalism in each department: the technical department in close collaboration with the design, production and quality control department. All done with the aid of advanced logistics and a MES system that guarantees full tracking of the

parts and machining work and optimisation of times and performances.

A story in continuous development

It was 2009, in the midst of the global financial crisis, that Ravaglioli chose to change course. He changed the company's production outlook, establishing new priorities, focusing on a more customised production, and opted for an even more aggressive investment in technological and digital innovation. While holding firmly to his passion for artisan craftsmanship and manual skills, at the heart of the company, Ravaglioli strengthened the technical department, acquired advanced software, including **programs for three-dimensional machining**, and purchased state-of-the-art numeric-controlled machinery.

Another important change came about in 2011, when the Italian economy was further hit by the aftermath of the global financial crisis of 2008. At that time, Diesse Arredamenti Spa was part of the **Ferretti Group**, a global nautical giant in Forlì. Ravaglioli decided to buy out all the Limited company's shares and take full control. As a result, the company broke away from a global benchmark in the luxury yacht industry, to embark on a new journey that would lead it to adopt new growth and development strategies and conquer new market sectors and impor-

Diesse, The new headquarters

Operator working at the "ergon nt" machining cell

tant clients, while continuing to maintain fruitful relations with the Ferretti Group. Brave choices that have continued over the last year, marked by the Covid-19 health emergency, with the transfer of all its offices and departments from three existing headquarters to a **new state-of-the-art production and logistics centre.**

New efficiency and production objectives with SCM

""Our industry is continually developing from a design and technological evolution point of view – explains Ravaglioli -. Our customers look for perfection, precision, as well as fast manufacturing and delivery times, and this is why the use of the most advanced technologies is essential". Evolving becomes a priority because the market is continually and rapidly changing. It is essential to adopt **organised industrial processes,** as well as improve efficiency and productivity.

As a result, the choice of a technological partner is not random. "Our relationship with SCM started with the expansion of our company - continues Ravaglioli-. Over time, the need for precise, fast and advanced machinery grew. We felt the need for a reliable partner and we found this in SCM".
The Diesse Arredamenti production plant boasts different technological solutions from the Rimini-based Group, including numeric control machining centres, sanding machines and joinery machines. Working at some of these state-of-the-art technologies, we find a number of female operators, demonstrating how the production work is evolving and modernising.

Daniela is one of them. We see her at work on an "ergon nt" cell, one of the SCM purchases that Ravaglioli says he is most satisfied with. It is a particularly advanced system for **nesting machining, with an automated loading and unloading system.**
"Our biggest requirement was to deal with unloading all the cut panels in the nesting cell as best and efficiently as possible, as our components are completely different from one another and it is not possible to remove them from the worktable by pushing them out - adds Paolo Ravaglioli -. We needed a solution designed around our requirements, that could take both the finished parts and production scraps and transport them along the conveyor belt, on which they would then be separated and labelled".
SCM's "ergon nt" solution gave Diesse Arredamenti the opportunity to achieve this, and that's not all. **We are talking about a cell capable of machining non-stop and without any drop in productivity,** over a number of years, while doing several shifts per day. Thanks to the double worktable and the presence of several operating units, it's like having two machines in one, as well as the relatively reduced bulk for cells in this category.

The "morbidelli p800" CNC machining centre for drilling, routing and edgebanding

Furthermore, its integration with the automated loading and unloading system is the best way possible to machine delicate parts, as the panels to be machined can be placed directly onto the machine's worktables, with the considerable added advantage of further protecting the operator.

Alongside the "ergon nt" we find another of SCM's state-of-the-art machining centres, the "**morbidelli p800"**, for drilling routing and edge treatment. A solution that allows for "just in time" work and for the highest standards of quality to be achieved on the panels ready to be assembled. *""SCM provides positive consulting and after-sales relations because our company works on double shifts and technical support is an essential factor for us - concludes the owner of Diesse Arredamenti -. Thanks to the new digital services, we can interface with SCM technicians simply and rapidly to solve any problems and this helps us a great deal to keep the production flow running".*

Paolo Ravaglioli

"Over time, the need for precise, fast and advanced machinery grew. We felt the need for a reliable partner and we found this in SCM"

Finnmirror Oy | Finland

FURNITURE

Finnmirror Oy, the power of “batch 1” production

Interview with Rami Suuronen, Head of storage systems product development: “We chose SCM and ‘stefani cell E’ because this new flexible ‘batch 1’ edgebanding solution responds at the best to our present and future needs. Now it is possible for us to produce a more consistent quality”.

DISCOVER MORE ABOUT THE CELL

With 35 employees and 8 million Euro of turnover, **Finnmirror Oy** is the largest mirror manufacturer in the Nordic European countries and one of the leading fixture manufacturers in Finland.

Established in 1923, the operation of this family enterprise combines long traditions, modern production technology and environmental consciousness. Their goal is to obtain **the highest quality results** possible in all production through their almost 100 years of experience, genuine materials and responsible production.

The company’s core business is the manufacture of **decorative mirrors and bathroom fixtures** but the range of products has expanded in recent years, including the processing of s**liding door cabinets, wardrobes** and **walk in closets** with the **Inaria** brand.

All the production is intended mostly for top and medium range customers, a clientele that is highly sensitive to focusing on the design and product. The target market is mostly national but about 10% of the annual turnover includes other countries in Scandinavia, especially Sweden and Norway.

The "stefani cell E" with "Pickback" gantry panel return system

The new market trends

The design manufacturing trends are deeply and rapidly changing and Finnmirror Oy understands this well. It is a clear example of how a company can transform its way of processing to keep up with the ever new needs coming from the market. Finnmirror Oy wanted to be flexible, but at the same time it also needed to be fast, increase its productivity and have total control of the production process. So it started to look for a flexible automation for "batch 1" machining which combined the advantages of customised production with large volumes.

"Consumers demand practical and high quality products and they are free to design the size and fittings", explains Rami Suuronen, Head of storage systems product development. "This is the reason why our production is 'batch 1': orders come from reseller directly to machine".

SCM's answer: "stefani cell E"

The meeting with the SCM commercial team proved to be decisive. The SCM product area managers, supported by **Innomac** dealer, have been able to assist the company, fully understand its needs in terms of productivity and business, up to advise the best solutions to its demands. The Finnish company chose to adopt a "**stefani cell E**", the new synthesis of "entry level" SCM flexible edge banding cells for "batch 1". Configured with the **reloop kit**, it consists of a **stefani xd** single-sided automatic edgebander, designed for industrial production, and the new "**Pickback**" gantry panel return system.

The use of **numerical control high technology** allows the company to always accommodate the ever new and diversified production scenarios. All the panel's parameters can be changed easily and quickly (type, colour, edge thickness, position and mortise depth, handling of the protective film, sizes...) while never having to stop the production flow.

The risk of error on the part of the operator is minimal. He has just to launch the program from the Maestro software and the cell automatically adapts to the machining program.

Furthermore the new "**Pickback**" gantry panel return system guarantees a simple, "just in time" production management. This way, the operator can focus solely on feeding the panels back into the edgebander, as simply and ergonomically as possible.

"Advanced machines and automation are very important to improve productivity and we expect that in the future this point strength will become more and more decisive in satisfying market demands" comments Mr Suuronen. "We chose SCM and 'stefani cell E' because this new flexible 'batch 1' edgebanding solution responds at the best to our present and future needs.
Now it is possible for us to produce a more consistent quality".

Another technical feature that is most appreciated by this client is that all units are controlled by **servo motors with a high level of automation** also in the edge finishing stage. "This system allows us a more flexible batch one production".

An all-round support and advice

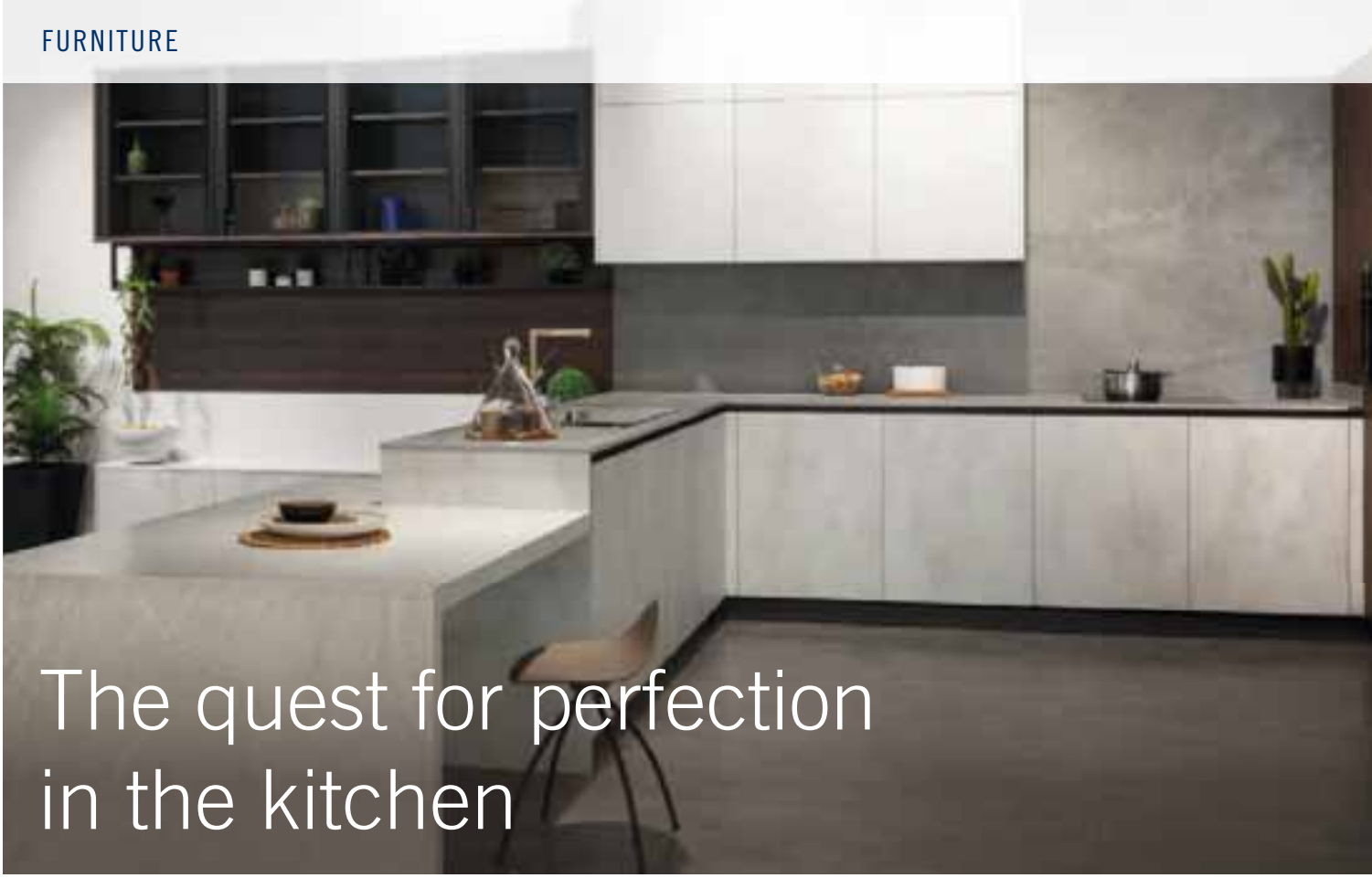
Thanks to the "stefani cell" edgebanding solution Finnmirror Oy has been able to increase its productivity up to reach the target of 450 "batch 1" panels processed per shift. "And there's still extensive room for improvement" state **Davide Fracca** and **Francesco Bottini**, SCM Product Area Managers.

SCM has been chosen with respect to its competitors, including those that already had commercial relations with the client, for the reliability of the brand, the technological level of the new flexible industrial edge banding cell, but above all for the ability of SCM and Innomac professionals to listen to the customer, to meet its needs, to respond quickly to its requests both in the pre- and post-sales phases.

An **all-round support and advice from both the commercial and service team**, which well reflects the "SCM approach": always being at the side of the woodworking companies. "*The owners of Finnmirror were very happy with the installation, testing and support provided by our technicians, who have done a really good job*", says Fracca and Bottini.

The relationship with the customer is as important as the technology, and sometimes it can really make the difference.

FURNITURE



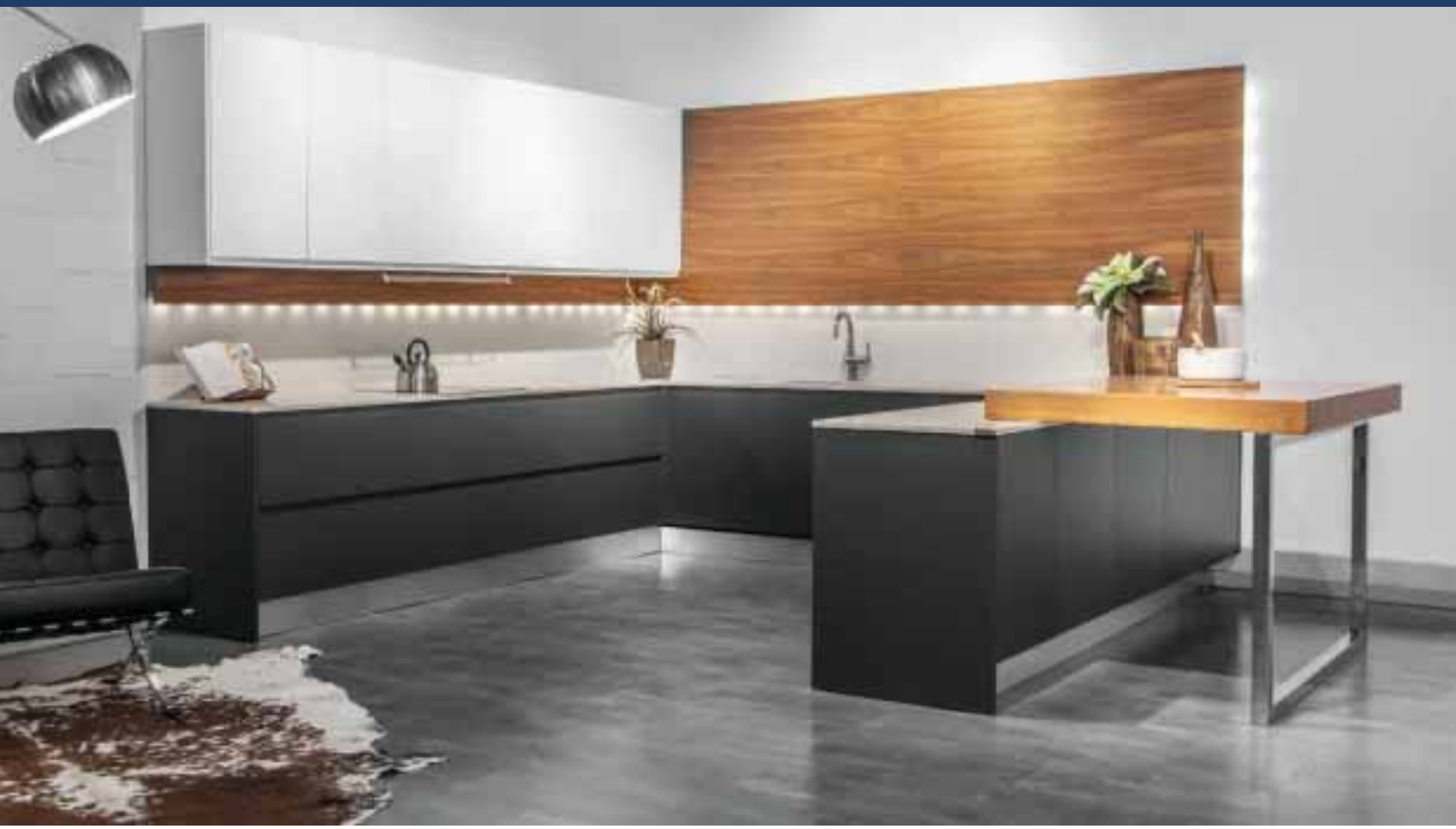
The quest for perfection in the kitchen

Specialising for over thirty years in the production of furniture components for kitchens, the Spanish company Logisiete has invested heavily in technology, digitalisation, and automation to provide top-quality products in just 24 hours. One of the most recent purchases was a flexible “stefani cell E” edgebanding cell.

“Every day we improve our production processes, so we become infallible in our end objective: offering our customers their dream kitchen”.

This is how **José Landaluce**, CEO at **Logisiete**, describes this Spanish company’s mission. It has been specialising in the production of kitchen furniture for over thirty years and exports to more than thirty countries. It has managed to evolve over time, starting as a commercial agent for kitchen furniture components, doors and accessories and then becoming a manufacturer capable of producing and offering **complete, “turn-key”, kitchen furnishing projects.** Its strong point along the way has been technological innovation both in machinery and logistics. For example, Logisiete has equipped itself with a **fully automated warehouse** covering 14 floors - the first of its kind in the whole of Spain - which, thanks to an exclusive management software, means it can monitor and collect as many as **150 thousand catalogue products** in a matter of minutes.

A company with its eye firmly focused on the future, and forward-thinking in its choices that over the decades have accompanied its growth both in Spain and abroad.



Innovation and top-quality machining

"All our processes guarantee an excellent quality/price ratio and the chance to deliver our standard kitchens in 24 hours", pcontinues Logisiete's CEO.

The company has recorded significant growth in turnover in recent years, both in Spain and the countries it exports to. A significant increase was recorded in the restaurant industry with the sale of highly professional kitchens, although the market in question is much vaster and the company collaborates both with artisan woodworking businesses as well as large industries.

In answer to the question of what makes their products unique, José Landaluce is in no doubt: *""Logisiete has always opted for top quality materials and machining. We are at the forefront in the design of our kitchen furnishings and this is why we only deal with leading suppliers in the European market".*

This Spanish company regards product finishing, quality and durability as key to offering what it has always set its sights on: top-quality furnishings.

Over time, market demand has also dramatically changed. "Nowadays, anyone looking to buy a kitchen, as with any piece of furniture, first and foremost looks for something exclusive and top-quality. Logisiete meets these needs by offering a sophisticated, design product on a par with luxury brands but with the additio-

The Logisiete Headquarters

nal advantage of offering it at a competitive price and one that is accessible to a wider target audience.

Optimising processes to be more competitive

Technological innovation and **continuous improvement** at product and process level: for Logisiete these are essential guidelines in developing new business projects and gaining the upper hand over competitors. *"We are a highly technological company. At logistical level, we have a very powerful software, a robotic warehouse and all our processes slot perfectly into one another. This means that we can count on efficient production processes, capable of guaranteeing top-quality, design products that maintain their appearance and functional features for many years".*

Edgebanding: the key to success

IThe edgebanding process plays a key role and Logisiete has **very precise ideas and requirements** in this area. *"What we want most nowadays both from an edgebander and from other essential machinery for our production process is excellent flexibility - explains José Landaluce -. We aim to be increasingly more flexible when machining panels that vary greatly from one another, both in colour and size. And flexibility should not obstruct productivity because we also need to be very fast at the same time. Lastly, one other key requirement when purchasing our machinery is that the software integrates perfectly with our company management systems".*

Logisiete chose SCM way back when it decided to open its first production plant and can now boast a wide range of the Italian Group's technologies.

The "**stefani cell E**" flexible industrial edgebanding cell is its latest purchase. *"It slots in perfectly with our standards of quality, and we chose it because it offers an excellent quality/price ratio and means we can achieve excellent finishings".*

Specialising in the "batch one" edgebanding of already squared panels, "**stefani cell E**" concentrates the advantages of customised production and large volumes into a compact design.

In line with future market scenarios, this cell allows you to choose and change type, colour, thickness of the edge, position and depth of the groove, and deal with the protective film and panel measurements without ever interrupting the production flow. In self-learning mode with the Bar Code/QR Code or by programming from the office, "stefani cell E" easily adapts to any kind of production you have in mind. Thanks to the **new "Pickback" gantry panel return system** for the automatic return of the panels, the panel is automatically rotated to speed up the next re-introduction.

It will also be possible to unload at the end of the cycle in masked time with the next loop load. Another advantage is the **SIDE FINDER technology** which, via a display in the operator's area, shows the operator how to position the panel so that it can be properly machined thus completely eliminating any risk of error.

"SCM's technicians have always assisted us when commissioning the machines, we have always received an excellent response from the after-sales service and, more than anything, each time we have always been given great advice when choosing new technologies. We place our full trust in a company like SCM and will continue to do so in the future".

Mobart 85 | Italy

FURNITURE

State-of-the-art finishing

Three generations and a constant attention to design. Mobart 85 is a specialised artisan business producing furniture and offering high-end interior design.
After acquiring two SCM's CNC machining centres that brought considerable advantages in terms of productivity and machining quality, the Caslini family visited the Surface Tech Lab at Villa Verucchio to see the application advantages in the vast range of SCM sanding solutions, for themselves. The result? Another purchase, for even more ambitious horizons.

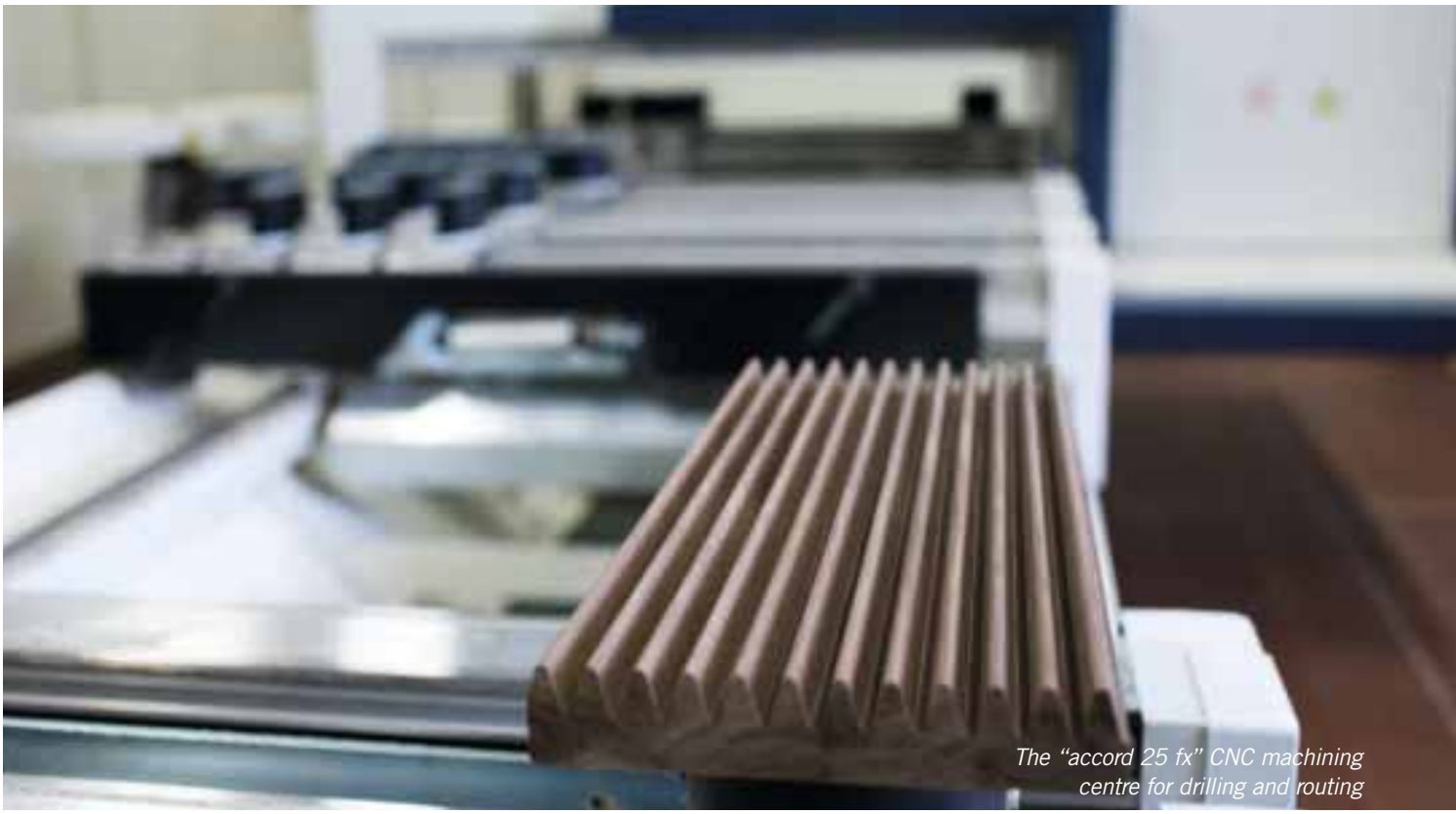
WATCH THE VIDEO OF THE CASE STUDY

Alongside the most important design brands in the world with exclusive, quality furnishing ideas. Whether it be a table, a chest of drawers or a smaller magazine holder, there is always something that strikes us as we enter the Mobart 85 showroom: a unique attention to detail.

Product uniqueness and quality are the absolute mission for this artisan company specialising in the production of furniture and interior design. We are in Inverigo, in the province of **Como,** in an area like **Brianza** which, for the international furniture industry certainly needs no introduction. **Giuseppe Caslini**, has been running his family business with a passion since 1985, after working for a period alongside his father, Renzo.

But it all began long before that. As far back as the early 1940s, his grandfather, Mario, was already producing his first pieces of furniture in a small workshop.
"In 1985, after I finished school, I had two choices: start up a business of my own that was not furniture production, or take over the family business. I chose the latter and launched Mobart 85." Caslini tells us, now with his sisters Betty and Maria working alongside him as well as his nephew Daniele, representing the fourth generation and who is already very active in the "Mobart 85 Factory". Their work develops along two parallel channels, but always for **an exclusive clientele**. On the one hand, we have third-party production of quality furnishings, which is distributed across the globe through some of the best known and respected companies in

Giuseppe Caslini (on the left) with his father Renzo and sister Maria



The "accord 25 fx" CNC machining centre for drilling and routing

the industry. More than 80 per cent of these products is sold abroad. On the other hand, there is the running of an interior design service and customised production, especially for villas, designed to tailor fit the personal requirements of clients and architects. Everything **from the project to delivery.**

Production that is increasingly more flexible and "just-in-time"

From the peak of its lengthy experience, Mobart 85 has a clear vision of how work has changed in the furniture industry from the past to the current day. *"Our clientele has become increasingly more demanding. They request a well-controlled, quality product; they want delivery times met, that are increasingly tighter and they want you to work more in "batch 1" and "just in time" mode. The requirements are, therefore, greater flexibility and speed, while always ensuring a high level of quality".*

Increasingly more difficult challenges for a company that produces everything internally. *"We start with the preliminary design or rendering which is then developed at technical and production level. We focus carefully on the details of each individual element and product on the piece of furniture - adds Caslini. It is then sent for production, controlled by an innovative software that allows us to track the entire flow with rigorous quality control: from wood working, for the more manual work which an artisan company like ours should never overlook, the product moves on to be machined on the drilling and routing machines, then to sanding, polishing and, finally, to the assembly and packaging department, with labelling and shipment to the customer".*

How important is technology? "Over the last ten years, we have had to keep up. We have improved some plants by acquiring new, better performing machinery. At the same time, we have also acquired state-of-the-art 3D phase design management programs, to ensure better control of production and examine each minuscule detail. With the new technological solutions adopted - continues the owner of Mobart 85 - we have managed to achieve a better product with faster machining times. It is difficult to calculate it, but I think that over the years, thanks to this machinery, all of which is 4.0 controlled, we have seen a 20% rise in productivity".

A limitless sanding with "dmc system"

The "**dmc system**" sanding machine is our most recent purchase from SCM. *"An extremely important machine for us as it allows us to distinguish and improve the sanding of a panel, whether it be unfinished or painted - explains Caslini -. As it is a high performing solution, with various operator units, this also allows us to work and sand doors on furniture that is slightly hollowed as well as inlaid wooden furniture without marking the panel".*

Thanks to SCM's "**dmc system**", Mobart 85 has achieved better machining quality at this process stage, even managing to win new and very interesting orders. To complete the process, the Como based company also has another SCM "dmc sd 70" sanding machine to calibrate the unfinished panel.

"morbidelli m800" and "accord 25 fx": the first SCM purchases

We first "fell in love" with the Group from Rimini in 2016, thanks to a machining centre for drilling and routing which was to replace a 4-axis copier we had already been using for a number of years. *"We wanted to increase quality and productivity, so we purchased a "morbidelli m800" with automatic worktables – continues Caslini-. We are extremely satisfied from a precision and accuracy point of view of the machining, controlled to the decimal. The automatic-set-up of the worktables has also allowed us to speed up the machining of the panels by considerably reducing process times".*

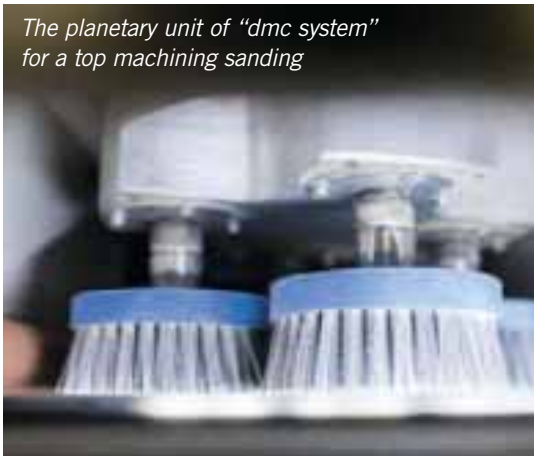
In 2018, the need for a second machining centre arose. So, Mobart 85 purchased an "**accord 25 fx**" again with automatic tables, in order to further increase productivity and machining quality.

"I chose SCM because we believe they offer more advanced technological solutions. I'm not just talking about the technical specifications for machinery and machining centres, like the automatic tables which perform better than other technologies in this category. I'm also talking about their structure, an aspect I have always taken into consideration before making an investment: how the machine was built, how it is controlled, cleaned, its tooling, its tools.... These are all key details for us and ones where SCM came out tops compared to other potential suppliers".

Caslini and his co-workers were also particularly appreciative of the chance to visit the Rimini Group's Technology Center and the Surface Tech Lab, to see the machines first-hand, as well as test them in the company of SCM experts.

"It happened recently when we bought the dmc system - concludes the owner of Mobart 85 - We spent an entire day at the Surface Tech Lab for a practical demonstration of all the machinings on the panel that are key to us, even the most complex ones.
SCM experts allowed us to test them out, and I really appreciated that because it meant I was making a more informed purchase".

There is no surprise in the fact that, for a company that places so much focus on detail in its machinings, that it is the details that make the difference. Especially when we are talking about investing in technology to modernise one's plants and optimise one's production processes.



The planetary unit of "dmc system" for a top machining sanding

"We chose SCM because they offer more advanced technological solutions both in the technical specifications and in the structure"

Bruno Di Napoli Business Unit Manager

It might seem like a contradiction, a mission impossible: to combine All-in-one technology that can meet a machining demand whether for furniture or fixtures, with solutions designed around the customer. How is this possible? **Bruno Di Napoli**, SCM's Business Manager for CNC machining centres explains the key concept of SCM's *R-Evolution*. "Making the most of our seventy years of history and the lengthy experience matured alongside acclaimed businesses in the furniture and fixtures industries, we set ourselves a goal: to provide a specialised and complete proposal, that is the answer offered by experts, that only those with an in-depth knowledge of customer needs can offer. Each CNC machining centre can do everything, by definition. We aim to be different, offering that 'everything' from the customer's point of view".

What does this mean exactly?

"For SCM it means supplying a wide range of modular and customisable solutions based on specific needs, so that the furniture manufacturer, just like the manufacturer of fixtures or staircases, doesn't need to impose limitations on either performance or volumes, irrespective of the level of investment. And if they need to increase productivity, they can easily do so because we provide them with the same machine with a different configuration, at an investment for them which is accessible. It is what we call the *affordable one*: providing the 'right' answer no matter what the spending capacity".

Foreseeing market demands and translating them into "special" technologies at an accessible price. Can you give us an example?

"We did it with the Nexting generation, offering a new range of solutions for nesting - the **morbidelli x200/400** range - that by applying the All-in-one solutions of our CNC machining centres to this specific machining, satisfies the need to achieve production levels that were unthinkable in the past for shaped panel cutting, even in the case of 'batch 1' machining.

Another example is the **accord 500/600** range for the production of fixtures, staircases and solid wood parts: the new integrated magazine inside the machining centre allows you to have more than 100 tools constantly and rapidly available, reducing machining times dramatically. It therefore offers performance that, in the past, was a prerogative only for the 'few' who could afford to invest heavily. This also occurs with the new software we have developed for tool management, **Maestro power TMS**, that by maximising the capacity of the magazine and optimising the programming, allows you to have the right tool ready for use, at any time".

> ***"Each CNC machining centre can do everything, by definition. We aim to be different, offering that 'everything' from the customer's point of view"***

SCM's R-Evolution

At the heart of the new* accord 500/600** *models lies the need for the customer to regain control over their time, making significant gains in productivity while still achieving excellent quality on finishing. Some of the key advantages include the exclusive* ***Caddy 35 *magazine that ensures you always have more than 100 tools ready to be used and the new shavings* ***conveyor*** *automatically positioned to suit the machining program, in order to have maximum suction efficiency under any condition.*

Another requirement is that of technological solutions that are also accessible to less expert operators...

"So, the market has to increasingly reckon with a lack of skilled manpower. Again, on this front, we have aimed to provide a customised answer and a concrete example is the new **Flexdrive** work plan, unique in its kind on the market that will also allow the less skilled operator to equip the machining centre table with the most suitable suction cups and locking systems, guaranteeing the position with absolute certainty and without any risk of error. This is also the case with our software, designed to be simple, intuitive and - another key aspect - can be integrated with any other software existing on the market already used in the customer's offices and factory".

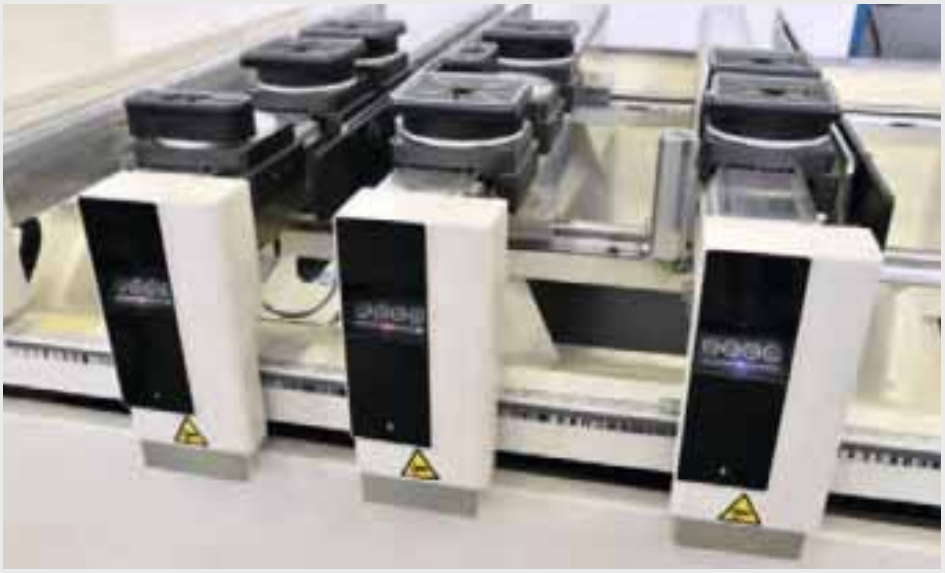
From the CNC machining centres to specific solutions for drilling: what are the answers on this front?

"Market demands waiver between two extremes: high production standards per shift and extremely flexible 'batch 1' machinings. Customer expectations of having the 'best machine' without compromising, also need to be interpreted here. We do this by providing a wide range of vertical and horizontal boring machines with several units but always scalable based on need. With medium-batch machining, we offer greater productivity per shift with **morbidelli pwx**, a solution increasingly used by contractors. And for drilling, we also offer a software - **Maestro powerset** - that is completely unique in its ability to guide the operator when choosing the best tool set up for production needs".

Let's finish up with objectives: what are SCM's new challenges?

"With regard to drilling, we will further complete the range with new solutions for inserting hardware. For CNC machining centres, the real challenge will be to offer high-tech, advanced performance solutions while ironically being increasingly simpler and accessible to all: machines that are almost remotely guided that require minimal intervention both during the work and at the maintenance stage, including new services that are accompanying our digital transformation".

SCM's R-Evolution continues…



Reliability, speed and practicality. *These are the features of* ***FlexDrive*** *which, thanks to an innovative positioning system, allows you to manually set up a worktable with integrated illuminated indicators on bars and locking system.*

With the morbidelli x200/400 cnc centres for nesting, *productivity reaches new heights in shaped panel cutting, even with 'batch 1' machining*

Up to 20 piece of furniture per shift with the new morbidelli cx220 d*rilling cell designed to produce a* ***panel a minute*** *and up to more than* ***400 panels per shift,*** *with a single operator, in just 50 m2 and with a short-term investment. Usable with the sole assistance of the robot or with partial supervision, the cell offers all the advantages of SCM's compact drilling range.*

Fabio Cernoia Business Unit Manager

SCM's industrial centre in Thiene (Vicenza) at the heart of the Industrial district in the Northeast of Italy, is the Group's technological centre for excellence on edgebanding and squaring-edgebanding. A specialisation that dates back to the early 1950s with the foundation of the Stefani company and has continued successfully over the decades.

In the early 1960s, when furniture started to be produced with chipboard panels, Stefani was one of the first companies in the world to develop technologies to automatically glue the edges. In the decades that followed, the first high productivity lines for squaring instantly became a point of reference for the main manufacturers in the industry in Italy and Europe and, at the same time, the first solutions were patented for softforming and postforming of shaped panels in the production of furniture and doors.

As the Business Unit Manager, **Fabio Cernoia** explains, this growth path has continued incessantly up to today as part of the SCM Group with investment on the production site, now extending over **30 thousand m2** (up 35% in the last three years), **almost 2000 machines** manufactured on average per year and **the most extensive range of solutions in the world for edgebanding** and squaring-edgebanding, available to the entire woodworking industry, from artisans to colossal industrial groups.

What are the key leading points on the technological innovation path?

"Our aims are in line with key market demands: easy use even for less expert operators; development of solutions that can be integrated with other systems that the customer has and with company management systems for a digital, connected and integrated factory; production flexibility, with systems that know how to adapt automatically and rapidly to any working requirement; reliability in guaranteeing maximum end quality and accuracy".

Which new entries best meet these objectives?

"Electronic advancements assist us most in offering the customer efficient, automated machinery that can - we could say - set itself up in line with the machining program.
Our new high end electronic units (like the **Y-SE 1000/1200 Servo** trimmers, the **Round 2 Servo** rounding unit, and the **RC-E Multileaf** glue scraper) are designed to optimise even the most complex machinings and achieve a series of advantages: impeccable finishes every time, automatic, fast and flexible set-ups that allow for continuous machining change-overs; optimal glue application that guarantees adhesiveness and ensures the seal between the edge and panel is invisible; maximum precision, being able to correct the *just in time* machining parameters".

> ***30 thousand square metres of production surface. Almost 2000 machines manufactured on average per year.***

The most extensive range of solutions in the world for edgebanding and squaring, available to the entire woodworking industry: from artisans to colossal industrial groups.

New heights in quality-design edgebanding

The new stefani x industrial edgebander encompasses all these advantages...

"Exactly. It is a highly innovative technological solution capable of working intensely every day even over three shifts, at a speed of up to 30 metres per minute. Stefani x can be selected in standalone mode or integrated into lines or 'batch 1' machining cells. It is a top-of-the-range solution for high standards in quality, but also accessible to small companies. The new *electronic touch* systems limit work by the operator to a minimum and even allow delicate materials to be machined to perfection.

We have also developed a new *high end* HM2002 gluing unit that is the true pulsating heart of the edgebander: some of its functions include the exclusive **Glue switch** option that allows for a just in time change of colour and glue type without interrupting the process. Furthermore, while one tank is operating the other can be removed and cleaned or maintenance work carried out, without slowing down productivity.

Without forgetting the software, with the **Edge Store Manager** function that ensures the operator always has a correct and efficient control of the edges, recording the actual edge metres available and all the data needed to launch the order in the machine and set the relative parameters. All this by sharing every piece of information with the software and company management systems".

*The **Easy Cart** device for optimising the control and maintenance of polyurethane glues was chosen by a leading manufacturer in the kitchen industry, **Arclinea**.*

***Stefani x** was awarded the prestigious **Eurobois Awards** at the famous Trade Fair held in June in Lyon. The award is recognition **for the high level of innovation** that makes SCM industrial edgebanding stand out. Some of the advantages that the jury appreciated most include, "the reduction in consumption of the edge thanks to electronic gluing and the amount of glue saved with the automatic adjustment of the dose during application".*

"Electronic advancements assist us most in offering efficient, automated machinery to the customer that can set itself up in accordance with the machining program"

Another popular customer requirement is preserving the gluing systems as best as possible over time. What is SCM's response on this matter?

"Our edgebanding and squaring-edgebanding machines can be integrated with **Easy Cart,** a device that ensures optimal, simple and safe management of the polyurethane glues that are increasingly widespread thanks to new, low-emission glues, and to optimise and facilitate all the cleaning, maintenance and pre-heating work of the glue tanks. This means the sealing and polyurethane gluing properties can be perfectly preserved, even in damp surroundings. It is not just a simple cart, but a system fitted with electronic control and - a distinctive SCM feature - advanced control display of the glue tanks, making them available at the required times".

Nowadays, customisation is increasingly the order of the day. How do SCM's flexible industrial cells stand out from the rest of the market?

"Our strength lies in offering highly customised solutions, produced in close collaboration with the customer and this is also the case with 'batch 1'. Flexibility, integration and automation are the cornerstones of the **stefani cell** range, developed to fully meet demands for efficiency, high production and customisation. The edgebander and squaring-edgebanding machine, fitted with IoT sensors to guarantee immediate digital services supporting the optimal functioning of the machine, can be integrated into cells and machinery fitted with movement systems, panel return devices, automatic loading and unloading systems and assisted by robots".

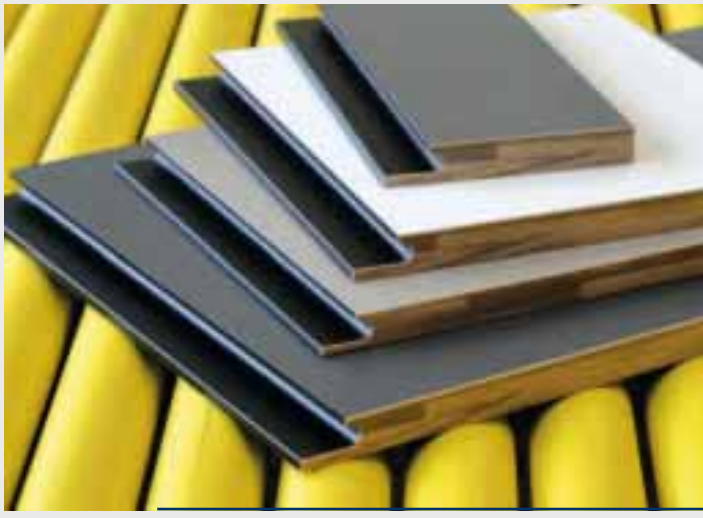
SCM's latest products also touch on Shape technology, what new advantages does this bring?

"Our new solutions are dedicated to softforming machining of shaped profiles in the latest design trends. The aim is to allow for the use of **edges that are 0.6 mm thick with no incision.** This adequately covers the irregularities in the sub-layer, improving the end look of the profile even when using chipboard panels. Key advantages include: optimising the cut on excess edges thanks to the new end **trimming unit; the possibility of also machining** cabinet doors already cut to size; the excellent level of quality guaranteed by the new **Round J-Side rounding unit** even for the transversal side of softforming profiles; rapid positioning when making machining changes thanks to the NC axes finishing units".

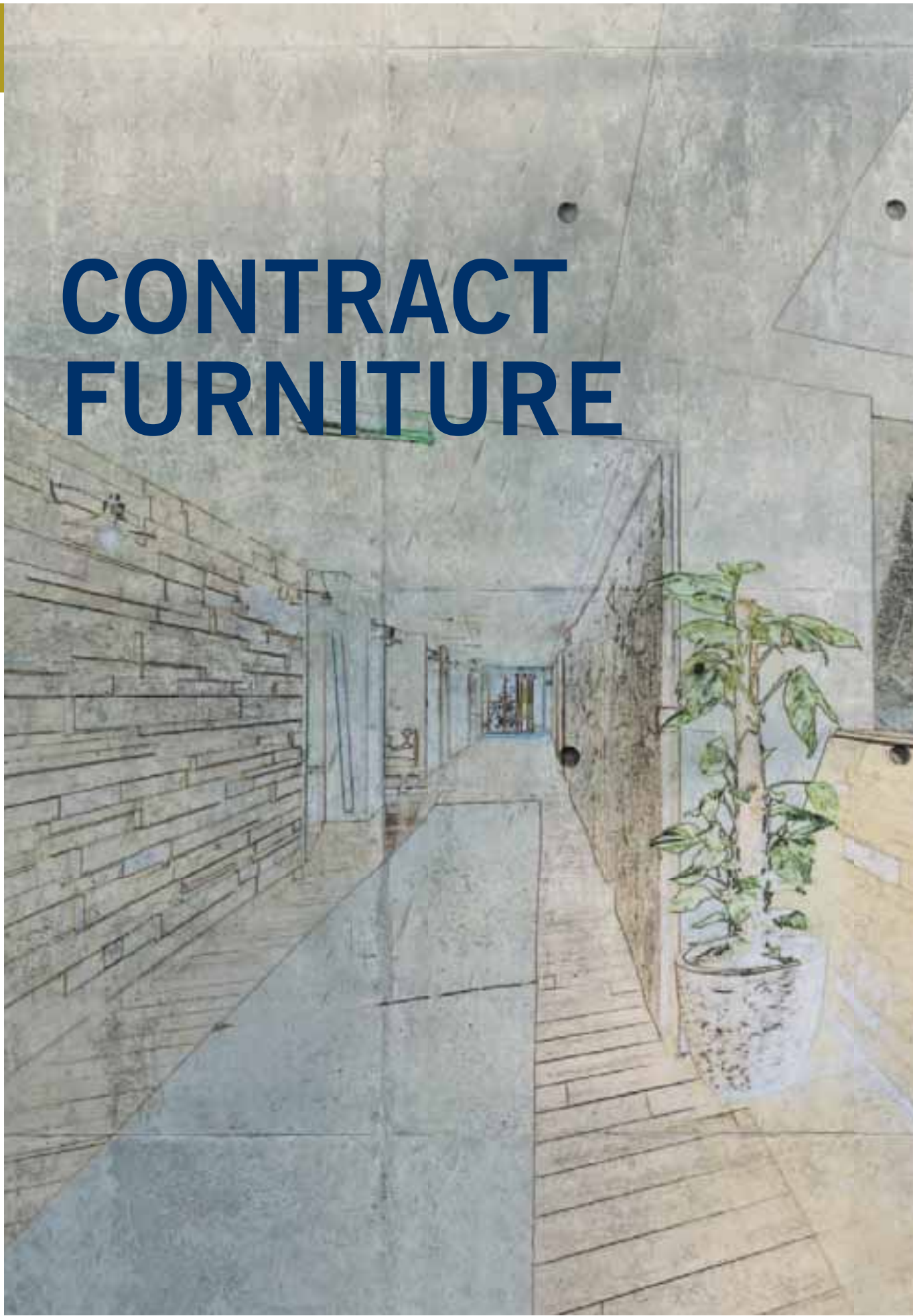
On the leading edgebanding: all the power of SCM solutions for top-design furniture and endless collections of colours, finishes and shapes.

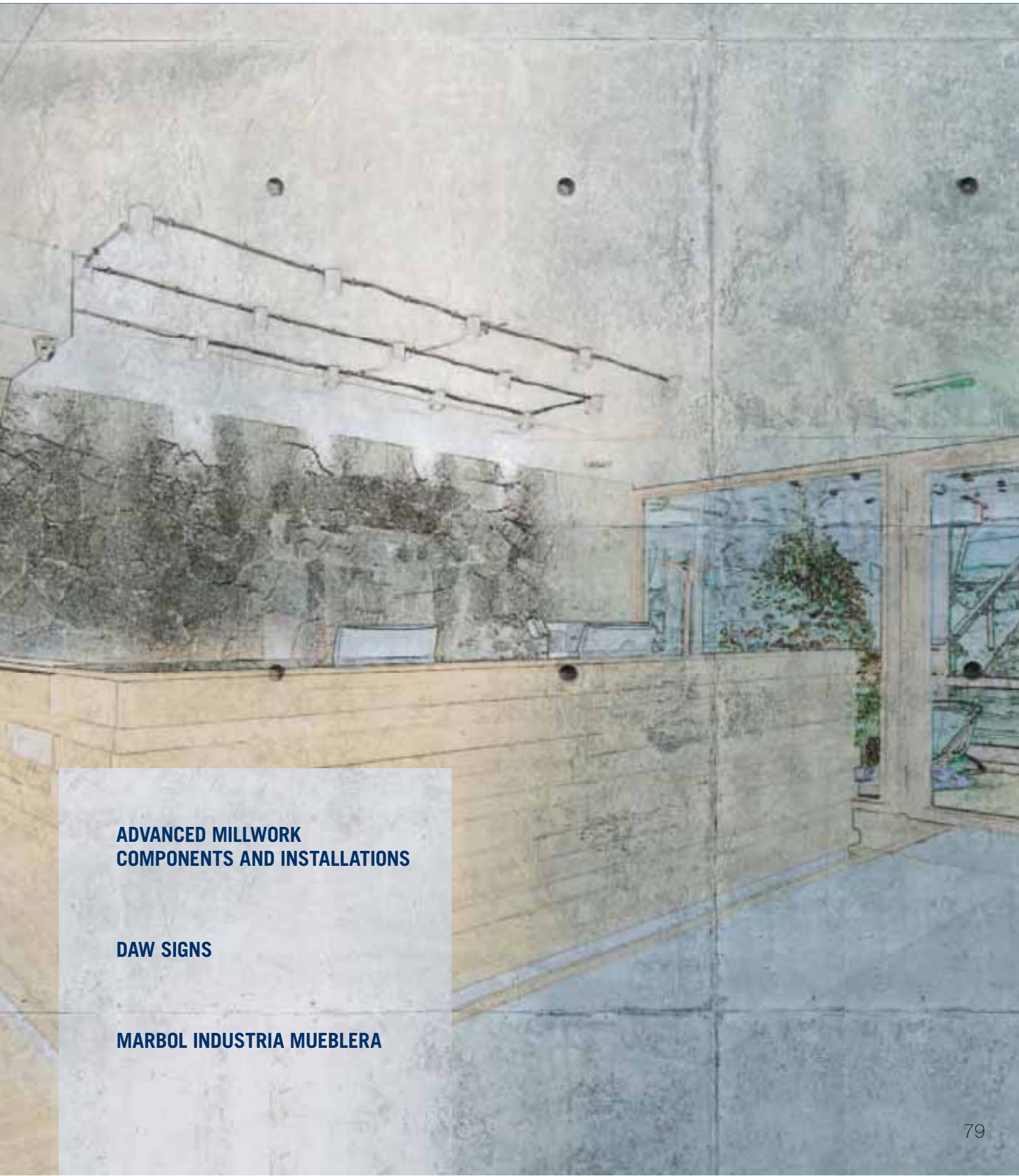
*The new **stefani sbx** squaring-edgebanding machine incorporates all the most advanced technological solutions developed in recent years by SCM for the sector, such as the Servo electronic units and other optimisations aimed at achieving higher levels of panel finishing and squaring quality than current market standards.This SCM innovation guarantees high productivity and consistent top performance in all machining operations.The price/performance ratio is among the best on the market.*

*SCM's new solutions for **softforming** are dedicated to machining state-of-the-art shaped profiles like the **J-shape** profiles of edges with a thickness of 0.6 mm with no incision.*



CONTRACT FURNITURE





ADVANCED MILLWORK COMPONENTS AND INSTALLATIONS

DAW SIGNS

MARBOL INDUSTRIA MUEBLERA

CONTRACT FURNITURE

A Superfici "mini plus" for maxi projects

In the era of automation (Industry 4.0), many manufacturers are discovering the advantages to being smaller. Automation technology has levelled the playing field and now smaller means nimble, niche and for the first time heading in the same direction as the big guys.

For a smaller company in the woodworking industry such as **Advanced Millwork Components and Installations** in Lindon, Utah, specialized in many services including design, production and installation of furniture for the hospitality, medical, educational and commercial sector, the move to automating their finishing was a decision based on the costs associated with subbing out their finishing work, and the need for a guaranteed consistent quality finish on their product.

"Typically in a normal week, we're doing between about twenty-five to thirty thousand (dollars) in volume" says Rich Thompson, owner of Advanced Millwork Components and Installations. *"We were subcontracting all of our spray finishing out of house, and it was costing us an extraordinary amount of dollars per month. We had no control of the finished product, and a lot of times we'd have to send parts back out for a respray" he continued. "What we love about the 'mini' and about Superfici, is that it gives us control of our finishing."*

From a bottom line perspective, taking a look at what he would be spending in subcontracting his finishing work, Rich realized that the costs to his company over a 6-month period at the volume his company is producing, would be about the same as the costs of buying his own automated spray machine from Superfici America. **Rich Thompson** - *"It would have ended up costing us about a hundred and fifty thousand dollars, and we were able to*

recapture that money by buying our own machine, and it almost paid for the machine in the first six months we've had it."

Smaller shops usually means smaller teams as well as less real estate to squeeze in a large automated finishing machine. For Rich and his team of seven at Advanced Millwork Components and Installations, when it came to selecting **the perfect finishing solution to meet their needs,** size definitely mattered. *"We only have about five thousand square feet in our facility, but because of the space savings this has, we're able to act and compete with the guys that have forty-thousand to fifty-thousand square feet."*

With a seven man shop, efficiency and operational cross-over is crucial, especially in an era when finding skilled workers that want to stay around a while is proving more challenging every year. **User friendly automated solutions such as the Superfici mini plus, enable low skilled workers to single-handedly manage the finishing process and deliver one hundred percent consistent quality.**

Although the top five benefits to automating your finishing process vary, there are a few commonalities that many experts share when it pertains to the impact the right automated solution can have on a smaller business. These include:

- cross-training / utilization of teams on all solutions;
- reduction in turnover from repetitive work and mundanity;
- reduction in labor costs, especially for solutions that enable single operator functionality;
- reliability derived from the reality that machines can work as long as someone is there to operate it;
- higher productivity / volume.

The two most common benefits touted by small businesses such as Advanced Millwork Components and Installations, are cost effectiveness when compared to one full-time hand spraying operator, and knowing their quality is at the highest standards and consistent every run. **Reed Nash**, on the Advanced Millwork Components and Installations team for only six weeks, had this to say about his experience with the *Superfici mini plus: "So I was a little intimidated because it's this huge machine, but I've learned it really quick, it's been really easy even with my limited experience compared with the rest of the industry...not hard to learn, easy to maintain, super straightforward. What stands out to me the most is the consistency. With hand spraying there's a lot of room for error, but this takes it all out, so you're getting consistent pieces every time you run them through, which is really great for me because it takes all of the mistakes out of my work."* According to a recent survey of small businesses conducted by BioQuest.com https://www.bioquestsg.com/post/small-business-productivity-improvement!, the three most common misconceptions small business owners have when it comes to considering automating their production processes are:

- this is for big companies, we are only a small local business;
- it's going to be costly! I don't have the budget to do this;
- my team is too small to do standard processes.

It will change your life!

Speaking from his experience as a business owner, Rich Thompson says the decision to automate his finishing process with a Superfici mini plus has proven these misconceptions to be just that, and had this to say to other small businesses like his, *"I would say this to any small shop, this machine is a money maker, and this is what you'll need...because of the space savings this has, we're able to push out the product a lot quicker, and it has been a big benefit to us".* Rich went on to explain the impact the improvement in the quality of his product has had on his customers, *"Over all, with the quality of our products going up, our clients have actually been able to see the difference. We've recently completed a bunch of paneling on a project, where we did the first office building and the second one, and the architect and even the owners commented how much the level of the finish has increased and they're very pleased with it."* Perhaps one of the most telling impacts on his company the decision to automate his finishing process has had on Rich's business and his team, is what it's done for their confidence after receiving such client feedback. *"Obviously that's going to help us in the future gain more work and more confidence with them, because we have better product, and eventually our name will get out there that we've got a top line finish."*

From its experience as world leading experts in automated finishing solutions, Superfici encourages all business owners, even those with only handful of people on their team like Advanced Millwork Components and Installations, to learn from Rich's experience, and take a look at the costs and benefits of automating in compared to hand spraying, as you just might be surprised to learn how much sense it will actually make.

Daw Signs | UK

CONTRACT FURNITURE

The Signs are good!

Can a sign company start to produce kitchens and, above all, do it at its best? The story of Daw Signs is the concrete proof that anything is possible! This Scottish company is experiencing a moment of strong growth and with SCM - and a wide range of solutions the Italian group - at its side, managing director Gary Daw looks to the future with even more confidence.

Gary Daw

It's always good to tell a success story, meet the people behind it and discover what's helped them get to where they are today.
Glasgow-based **Daw Signs** is a real success story; proof positive that keeping a finger on the pulse and an open mind when opportunities present themselves are always worthwhile.

When I first met Gary Daw, the owner and managing director of Daw Signs, he didn't immediately strike me as a stereotypical entrepreneur. There's no flamboyance about him. He's been incredibly successful and is clearly very shrewd but he's not one for shouting from the rooftops. Modest, unassuming, informal, quietly spoken… if you met him in your local pub, it would never cross your mind that he was the driving force behind a small sign-manufacturing company that's expanded into fit-outs for developers, the manufacture of cabinetry for their marketing suites and more recently, kitchens for housing developments as far afield as Warwickshire.
His company has recently become **one of only 20 to be accepted onto the prestigious Scale up Scotland programme**, which provides funding and guidance to encourage some of the most promising businesses in Scotland to grow. It's a sure sign that Daw Signs is a name to keep an eye on.

The big step thanks to SCM

"We started in 1990 as a general sign manufacturer," he tells me. "The signage we were producing was always for the housing industry. We developed really good relationships with our customers but it wasn't until about 2015 that we really started to grow. Our first move was into marketing suite fit-outs for our house-builder clients, then we started manufacturing cabinetry for marketing suites on their housing developments. Gradually, the business grew and we began to invest in more machinery.

The turning point for us was when we started buying bigger machines. *"We went to see SCM at the W16 show. We were on their stand for about three hours. That's where the relationship started but what we came away with gave us more capacity than we needed at the time, so, as our existing customer base was buying thousands of kitchens every year, we made the decision to offer kitchens as well. It took a couple of years to convince our customer base that a sign company really could manufacture kitchens and do it well but in the last three years we've gone from strength to strength.* ***We're making about 600 kitchens a year*** *and supplying developers from Glasgow down as far as Warwick. The business has doubled in size in the last two years and we expect it to treble from where it is now over the next two or three years."*

That's all good news for SCM's **Lee Gibson**, the technical sales guy on whose shoulders Gary heaps credit for supporting Daw Signs' growth. *"It's all his fault," he says, a broad smile creasing his face. "He keeps selling us machines. Now we need even more. We've moved from a unit of 8,000 square feet to a unit of 33,000 square feet! We think what will happen is this entire unit will eventually end up as a machine shop. Our plan is to manufacture here in Glasgow and open an assembly plant somewhere down south so we can pallet the parts and move the cabinet presses. The South is a big market for us; 50% of what we do goes south of the border."*

As a real SCM showroom!

Gary's most recent investment in machines, which adds to his existing SCM lineup, includes a "**gabbiani st 115**" beam saw with a rear loading platform that enables Daw Signs to cut five 3,200mm x 2,200mm sheets at once; a "**stefani kd**" edgebander with a fast changeover SGP gluepot; a "**morbidelli cx 220**" vertical drilling machine ("cyflex hp" before rebranding) with some pretty impressive additional features; and an "**action e**" semi-automatic cabinet assembly clamp.

"Cutting out" old patterns

The "gabbiani st", which is available with several loading platform options from 3,200mm x 1,850mm to

4,500mm x 2,200mm, is rear loaded with a powered ballscrew lifting system and an automatic pallet management device.
Thanks to **Maestro active** software, the advanced multi-touch man-machine interface, you always have complete control over production with the possibility of running programmes and programme lists in **fully automatic** or semi-automatic step-by-step mode; you can alternate between the 2 working modes as required. Programming and other control functions can be performed by the operator even while the machine is in operation.

SCM's optimisation program, **Maestro pattern** is included. It generates the cutting layouts and converts them automatically into cutting programs without any operator involvement and each cutting pattern is saved automatically in the program directory.
Throughout the cutting cycle, Maestro active provides real time graphics to illustrate each cut as it is being made as well as guidance for the operator on subsequent handling. Self-diagnosis of faults or errors is backed up by alarm messages and tips with recommended actions and at the end of the working day, the "gabbiani st" stores a **production report** on its hard drive that includes machine start and end times as well as the surface area and volume of material that's been cut.

Edgebanding for any requirements

The "stefani kd" edgebander is a machine we've reported on many times and its popularity among manufacturers who want a relatively compact (just over 5.6 metres) industrial workhorse speaks volumes. It offers many advantages in terms of versatility and quality as well as an optimal glue line. and those who have bought into the Stefani brand speak highly of the quality of the glue line they get from their KDs. Gary is certainly delighted with his and his operators find it very easy to use.
The "stefani kd" at Daw Signs – one of two SCM edgebanders in the factory – is an automatic single-sided machine equipped with a **Fastback 21-25** return system. It's an efficient system for gluing and finishing all four sides of a straight panel.

Daw Signs opted for the edgebander in HP version with Multiedge operating units equipped with electronic axes, allowing automatic setting for the machining of different radii. To improve the quality of gluing, especially when it is cold in the factory, there is a ceramic infrared lamp infrared ceramic lamp that heats the edge of the panel before the glue is applied. A quick release system enables **fast changeover of the SGP gluepot from EVA to PUR**, or one colour to the next, and dosing is completely NC controlled. Both a manual-fed gluepot and a pre-melter version are available as alternatives and access for routine maintenance is very good compared with many systems. The unit is quite compact so heat up of glue is quick – under ten minutes – and the quantity of hotmelt in the unit at any one time is relatively small, ensuring the adhesive is at its optimum immediately prior to application

"Quite a unique machine!"

When it came to choosing a drilling machine, Gary had some quite specific requirements: *"We needed a very heavy-duty piece of kit because we wanted to machi-*

ne 1800mm x 1200mm reception desks that would not go through the standard machines on the market – and we wanted to be able to put gables through it, lots of them. The 'morbidelli cx220' we bought is drilling gables at a rate of ***500 per day.****"*
"It's quite a unique solution – Lee Ginson confirms -. Most machines on the market like this have one bank of drilling heads. This has two. It can also cope with a 1300mm-high panel compared with the market standard of 900mm."

The upper and lower drilling heads are equipped with a total of 35 Rotoaxial spindles powered by a 6.6kW electrospindle with HSK63F attachment that delivers **24,000rpm**. For additional flexibility, the machine at Daw Signs has a six-position tool-changer.
The twin clamps on the X-axis are NC controlled and move independently of each other. Like the operating units in the Y-axis, they are driven by a linear guide system with brushless motors and integrated braking. Lubrication is automatic, thus it reduces maintenance time.

Professional assembly

Completing the lineup at Daw Signs are a couple of SCM assembly presses, the most recent of which is an "**action e**".
Designed for manual loading of preassembled workpieces, the operator aligns each workpiece against a fixed vertical support that's positioned by means of a gear motor. The cabinet is pressed in both directions at the same time by single bars equipped with a comb system that provides effective pressing across the entire surface of the workpiece.
When he first started looking at larger machines, Gary freely admits he did look at other manufacturers but the advice, the service and the training he's received from SCM, coupled with the reliability and the quality he's getting out of his SCM machines, have made him loyal to the brand. His next move will most likely be to add a MES software so all the machines in the workshop he expects Lee Gibson to help him grow further will communicate with each other.
The quiet entrepreneur is on a roll. Daw Signs is growing and branching out. The future is bright and Gary is confident that with SCM at his side, his business will continue to snowball.

By Melvyn Earle for Furniture Journal

From left, the rear loading system of the "gabbiani st" panel saw, the versatile "stefani kd" edgebander with the return system Fastback 21, the "morbidelli cx220" compact vertical drilling machine, and the most recent purchase: the "action e" clamping machine.

Marbol Industria Mueblera | Mexico

CONTRACT FURNITURE

Exclusive furniture for dream holidays

Marbol produces interior design projects for the best hotels and luxury resorts in Mexico and in other exclusive tourist destinations in the Caribbean. Its production boasts more than 1000 pieces of furniture a week, whose originality and combination of wood with other materials make their mark. "We hope to expand further, and we want to do so with SCM", explains the owner who, for over 25 years, has been choosing the Italian Group for the technological level of its machinery and the technical and sales support offered by its team.

With more than forty years of international experience in the production of quality furniture and doors, Marbol offers extremely high standards in quality, with strong focus on design and the extensive variety of wood and other materials such as wicker and cane. Production clocks up **more than 1,000 pieces of furniture per week** and each piece is produced with the excellent contribution of more than 450 artisans and state-of-the-art technologies.

"At Marbol – points out the owner **Martinez Bolio** - *we have a 100% industrial approach because everything we sell is produced here at our plant, starting from the project presented by the customer".*
This dynamic Mexican family-run company has a total of **750 workers** and a headquarters of **22,000 m2** - a real "complex" - 15,000 of which is production area. From here stems **high-end hotel projects** for leading benchmarks like the hotels in the Palace Resorts, Royal Resorts, AM Resorts, Hilton, Marriot, Xcare and, Barceló chains, to mention but a few. A large chunk of production also consists of furniture and doors for restaurants, public premises and conference centres.

A huge number of interior design projects have been drawn up recently or are under completion, that differ from the "lavish" ones in well-known tourist destinations. Mr Eduardo mentions a few like the Hotel

Conrad with 350 rooms and the Hilton Hotel with 750 rooms recently completed at Playa Petempich near Tulum (in both cases all the rooms, common areas and restaurants) and a fifth hotel in the Barceló chain with 850 rooms inaugurated in Tulum just before the pandemic, so the bedroom, restaurant and common area furnishings were all completed.

Over the last few months, the company has also completed an important project in the city of Merida for the Palace Group, more precisely, all the furnishing parts in wood, doors, and furniture for the customer's company offices, a Shopping Centre and Camino Real hotel, owned by the same group. That's not all: Marbol is completing other projects equally exclusive in the Cancun area, for luxury hotels with hundreds of rooms.

The best hotels and resorts in Mexico, the Dominican Republic and Jamaica bear the Marbol signature and there is no lack of "conquests" in other prestigious destinations in the Caribbean, like the Roatan Island in Honduras.

A complete service

It all stems from ideas, projects and visions of the most important customers and the dreams of the best interior designers. It is then the job of Marbol's technical team to satisfy them down to the smallest detail! The technical design study starts from a concept or rendering of each furniture component, and it is all done with maximum focus on aesthetics, ergonomics and product quality, using the best techniques so that the tourists who choose that hotel or resort can enjoy a unique experience.

Excellence is a key word. *"The high-end hotel market is extremely interesting but also particularly demanding as it is always looking for higher standards of quality and design and original, customised products - explains Eduardo Martinez Bolio - For us, every project is a new challenge, but also an incredible occasion to learn more with the opportunities and trust shown by our customers and to offer a product that is increasingly more attractive and sought-after".*

Craftsmanship and innovation

""Our hands are our greatest pride" explains the owner of Marbol referring to the work its trusted artisans are involved in every day: not just woodworking and cabinetmaking but also painting, weaving of wicker and upholstery. Equally as important is **technological innovation**, or rather, the possibility to use state-of-the-art machinery and software.

This is where the collaboration with SCM which has been ongoing for over 25 years, has proven invaluable. The Group's technological solutions chosen by Marbol vary considerably and cover different machining processes.

Included in the CNCs purchased from the Italian Group is also the "All-In-One Technology" of the nesting CNC machining centres for routing and drilling, "**morbidelli m100f**" and "**accord 25 fxm**". Their ability to deal with every kind of panel and solid wood machining requirement in a single solution is where they make their mark, guaranteeing machining precision even of the most difficult pieces, high cutting speed and maximum flexibility thanks to the wide range of drilling heads available with RO.AX technology and 3 and 5-axes electro-spindles.

Space is also given over to the state-of-the-art "**gabbiani g 2**" beam saw, particularly appreciated by the market for its speed, precision and flexibility and designed to guarantee high performance in a just in time advanced industrial production context
For edgebanding, the Mexican company also chose a "**stefani md**", ideal for an industry that needs to produce numerous and different panels continuously with an excellent finish. The main advantages include the chance to edge solid **wood panels up to 22 mm thick.**

The production process continues in synergy with SCM on the finish with three “dmc” solutions for sanding and balancing.
For more artisan jobs, there is no lack of machinery for woodworking: of these, Marbol chose a “**class ti 120**” spindle moulder and different circular saws like the “**Invincibile si 3**” whose performance is the result of decades of experience and advanced research and technology and the “**nova si 400**”, designed to be simple but equally robust and offering high performance.

“We have always received outstanding technical support from the SCM team, as well as having an excellent consulting relationship and friendship. There is no doubt that we will deal with this partner again for future purchases or upgrades to our technologies. We aim to grow further and hope to do so with SCM’.

Detail images of the CNC nesting machining centres “morbidelli m100f” and “accord 25 fxm” and, further to the right, of the “class ti 120” and “L’invincible si 3” joinery machines.

Alberto Fiorani Business Unit Manager

Gone are the days when a wide-belt sanding machine only worked on a single flat surface. The market requires finishes that can surprise visually and to the touch and offer a unique personal touch to a design product. Quality finishes typical of artisan work achieved using high-tech solutions. Sophisticated aesthetic results like the saw cut, gouging, 3D surfaces, as well as an extensive range of brushing and rustification effects.... On the topic of sanding, SCM leads the way with continuous R&D aimed at increasing flexibility, productivity, efficiency and the standards of quality.

"**Dmc** sanding and calibrating machines have a long history that continues to this day with an average annual production of over 800 machines - explains **Alberto Fiorani**, SCM's Business Unit Manager -. It is a complete range, capable of satisfying any design need: from the most accessible solutions for artisan work to the most advanced systems for large industries".

What advances have we seen in surface technology for the woodworking sector?

"Surface treatment has never played a more important role that it does today in the quality of our customers' products. The unique advantage of SCM lies, first and foremost, in the extensive and consolidated skills it holds in this field: only we can offer an integrated and complete package of sanding solutions (**dmc**), pressing (**sergiani**) and finishing thanks to the addition of **Superfici** to the Group. This is how we manage to satisfy all the process and end product type demands. In addition, we offer the customer the further advantage of accessing highly specialised workshops such as the **Surface Tech Lab** at Villa Verucchio (Rimini); in this unique atelier, our SCM experts welcome customers and together they identify the technologies that best suit their finishing projects. A scientific approach and state-of-the-art tools to achieve the best integrated process of surface treatment".

At SCM, talk is no longer just about sanding machines but about flexible abrasive modular numeric control centres: why is that?

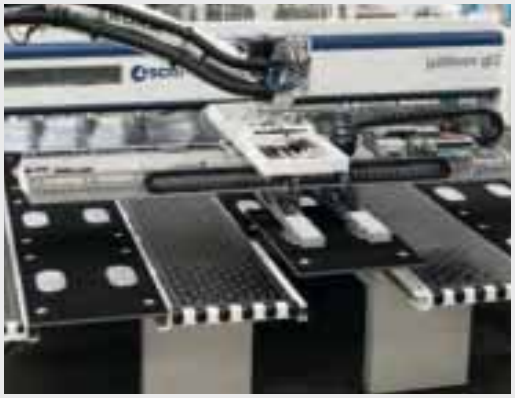
"This is the approach that gives us the edge over others: our machinery can machine a wide and varied range of surfaces, moving from one finish pattern to another completely different one, in no time at all. In each market sector, we offer flexible, customised products, setting up and configuring spaces and machining units to meet the customer's actual needs: the exclusive gouging unit for 3D patterns in the **dmc system** range; the new planetary unit in the **dmc eurosystem** sanding machines to achieve every calibrating and sanding, brushing and structuring operation possible; the **Finesand** orbital pad....These and all the new units associated with the **dmc** range have the strength to be flexible and modular for out-of-the-

> ***"Our Smart&Human technologies are increasingly more focused on the need for efficient, eco-sustainable processes"***

The secret to a perfect panel

Beam saw

*Mass customization: the **new gabbiani flexible cell with robot for automatic loading and unloading** has been designed for use with or without an operator, to optimise the customer's production shifts, and it combines 'batch 1' machining needs with high-volume production. Handling pieces and unloading them via robot ensures high production efficiency is achieved, completing the cutting operations in set, pre-fixed times and with constant quality standards.*



Sanding

*The new **"eye-S" control panel** on the **dmc sd** and **dmc eurosystem** sanders further enhances the machine's performance, simplifying its use and encouraging the "user experience" thanks to an attractive design and a completely new HMI, in line with the Maestro active design.*

Pressing

*A vast range of standalone or integrated solutions in automatic lines to meet varying production needs. This is the case with the **sergiani 3d form** that enhances three-dimensional panels. The pressing cycle is electronically adjustable and programmable at each stage in line with the material being processed, guaranteeing top quality surfaces and gluing, plus a highly versatile application.*
*There is also growing focus on the **doors** sector with pressing solutions featuring different levels of automation and productivity. These include the "**sergiani las**" continuous cycle automatic press for highly flexible intensive production of hollow core and veneered doors with a production capacity of **1 door every 20 seconds.***

ordinary applications (such as the solutions devised for sanding skis), but in complete harmony with market trends. As well as this, R&D work continues into new solutions for machining with special finish effects".

The spectrum of applications is also expanding...

"Precisely. Our many years of experience in the sanding field also extends to the timber construction sector with a new project dedicated to machining X-lam/CLT walls: **dmc system xl**. This model can machine walls up to 3700mm wide and 500 mm thick. And again, the key strength is modularity: the three modules developed by SCM (roller unit, pad unit and crossways unit) can be combined with one another to suit the customer's specific production needs, and this is just the start".

A "cut" with classic methods...

Your Business Unit also includes the beam saw: what are the main trends on this front?

"We have further expanded and strengthened our range of **gabbiani** panel saws with standalone solutions or ones that can be integrated into high-automation engineering plants.
The new **gabbiani flexible cell** with robot for automatic loading and unloading has been designed for use with or without an operator, that optimises the customer's production shifts and combines 'batch 1' machining needs with high volume production.
We have also modernised the software for the entire **gabbiani** range with the new cutting optimisers for **Maestro opti wise** single-blade and angular panel saws, developed to offer the customer a better solution in terms of scraps, time and costs and to offer a user experience that is even simpler and more effective.
The aim is to achieve cutting excellence with minimum waste for both large and small production batches. Furthermore, the close interconnection with the machine allows the application to be parametrised automatically, drawing directly on configuration parameters from the panel saw.
Another new entry is the **gabbiani v/vs/vsi** vertical panel saw range: an all-round proposal of models, 100% made in Italy, that offers

maximum cutting performance in reduced spaces; something essential nowadays in order to achieve a sustainable reduction in the spaces occupied in a factory.
And let's not forget the angular panel saws. With **gabbiani a2**, we have brought together some of the best loved advantages in the range, like the **Flexcut** unit that performs even the most complex cutting outlines simply, with new features that are highly eco-sustainable. **Zero dust system**, for example, is the innovative unit for maximum machine and environment cleanliness thanks to an automatic sector shutter system that intervenes with each cut to contain the dust and guarantee complete extraction".

Line end: leftover cardboard

Flexibility and environmental sustainability are increasingly more important for packaging. What is SCM's answer?

"Our latest new entry, **cut c 1000/200** is the solution to both needs. It has been designed for 'batch one' cardboard box packaging, thanks to the independent cutting units and longitudinal and transversal creasing that offer excellent flexibility in the shapes of the boxes, while maintaining a high level of productivity.
The operator selects the required box from the program or calls it up using the barcode, while on the more automated lines, a 3D scanner detects the size of the product. The machine can be fitted with a storage of varying widths with automatic insertion to optimise the use of cardboard according to the sizes of the required box".

We could say (and learn) much more about SCM's latest entries for the perfect panel. For now, all that remains is to follow SCM and its customers to observe the beauty of this continuous journey towards innovation.

Surface treatment:

*"Only we offer an integrated and complete package of **SCM Surface Technology** solutions for sanding, pressing and finishing. We welcome customers to our **Surface Tech Lab** with a scientific approach and state-of-the-art tools to achieve the best integrated process of surface treatment".*

Assembly

*SCM also offers a complete range of **action** clamps for **furniture, cabinet doors and windows** starting from individual components, ideal for both woodworking and industry. SCM's turnkey assembly lines have been designed to satisfy the customer's every need and guarantee reliability and ease of use by maximising productivity.*

Packaging

*With the new cut **c 100/200s**, SCM is further expanding its range of punching machines. These solutions have been developed for companies producing assembled furniture and kits. The models refer to companies with varying production needs, from the artisan worker to major industries, but share the advantage of offering maximum flexibility for batch or order by order productions.*

Gloria Valtorta Business Unit Manager

Elegant, eco-sustainable, trending surfaces

Surface treatment plays an increasingly crucial role in raising the aesthetic and practical quality of a piece of furniture, a fixture or a wooden floor.... This is why SCM was the first to believe in the importance of expanding its extensive range of products and services for machining wood, even with exclusive solutions and skills in terms of **Superfici** finishing.
We are talking about a historical design, development and manufacturing brand of complete machines and plants for painting that became a part of the Scm Group in 2004.
SCM has strongly believed in Superfici even in recent years. To highlight is the transfer to the new headquarters in Villasanta (Monza Brianza), that led to production space doubling and the establishment of a **state-of-the-art Technology Center** where the best technologies for wood finishing can be tested in person, right up to the latest in UV polymerisation and UV led.
But, above all, the inclusion of this technological excellence in the Group has allowed SCM to become a unique benchmark for the market in surface treatment processes. **SCM Surface Technologies** is an all-round, integrated range of sanding, pressing and painting products and services to satisfy each process requirement for the creation of exclusive, sophisticated and trending surfaces.
With **Gloria Valtorta**, Superfici's Business Unit Manager, we uncover what's new and the industry's key trends.

Low gloss finishes are apparently becoming increasingly more popular on the market. What's new from Superfici on this front?

"Excimer technology is undoubtedly one of the most useful solutions to these new trends. Our **Superfici Excimatt** system applies this solution to the finish on the widest range of finished products and materials. It offers incredibly smooth effects with extremely low gloss levels, meeting the latest design trends and opening up to endless possibilities of sophisticated, exquisite style.
Another significant advantage is the chance of achieving high resistance surfaces: thanks to the UV treatment emitted on specific wave lengths, extra opaque effects are achieved without the inclusion of additives which could compromise the mechanical resistance of the finished surface. Excimer technology is even more 'niche' but can offer the market a wide range of opportunities".

On the subject of UV technologies, another growing trend is led lights. What does Superfici offer on this front?

"We are talking about a technology for the polymerisation of paints that offers excellent advantages in terms of eco-sustainability, thanks to its reduced energy consumption of led light compared to bulbs. Furthermore, UV LED lights do not require special disposal because they contain no mercury which is essential for the functioning of

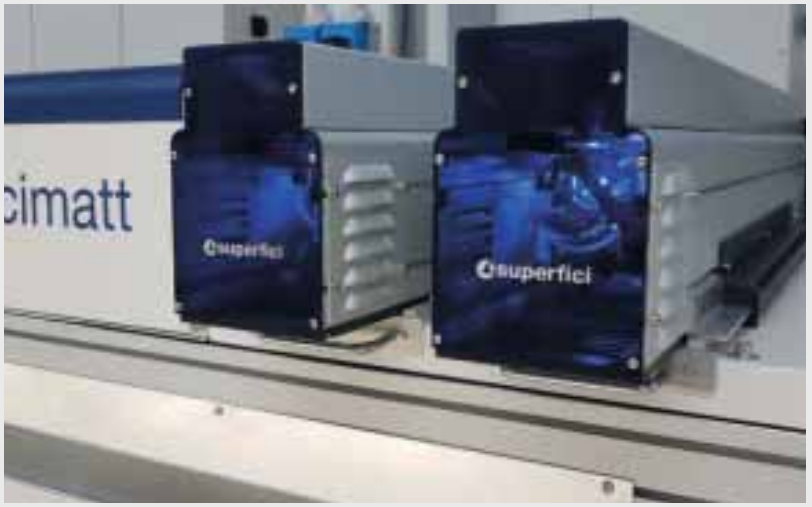
The *compact xl* sprayer is one of the most eco-sustainable new entries by Superfici

The extensive Superfici range includes complete lines of automatic and robotic sprayers, linear and vertical dryers, UV, UV led, complete lines of roller painting and curtain coaters, print and robot lines for panels and fixtures and three-dimensional elements. A path that starts with the customer's request, planning and creating customised solutions of importance to the customer.

A shot of the Superfici factory in Villasanta

A **wide range of single or multi-arm Cartesian robots** are part of the Superfici range, mainly used in panel machining, and **articulated robots fully integrated into the paint lines,** increasingly widespread in the fixtures sector and dedicated to the finishing of three-dimensional elements.

*The new **Superfici Excimatt** system applies excimer technology to the finishing of the most diverse finished products and materials.*



classic UV lights. Last but not least, the **UV Led lights** guarantee exceptional finish quality especially in the case of thermal-sensitive materials, because the release of heat during drying is at a minimum; this ensures that the number of scraps falls drastically, and the finish effect is next to none.
Superfici has engineered this technology that has proved to be versatile on a wide range of products, suited to standalone machines as well as high-productivity machinery and lines. This technology can be used in a variety of sectors such as printing and graphics, not just the wood industry".

Eco-sustainability is the order of the day, especially when it comes to surface treatment...

"That's precisely the case, and it is one of the key aspects our R&D work focuses on. The growing use of ecological paints (water-based, bio…), the increasing tendency for renewable raw materials, the need to recover heat from dryers, reduce water and electricity consumption and make use of systems that clean autonomously with as little energy usage possible: these are all priorities at the forefront of the technological innovation in our machinery and plants".

Turning to the most eco-sustainable new entries, what are the main advantages of the new Compact xl sprayer?

"Starting from the solid bases of Superfici Compact, **Compact xl** offers energy saving, a more efficient paint recovery system and an advanced recycling of air volume that optimises spraying performance. We are also talking about a sprayer with medium-high production capacity that dramatically simplifies the operator's work thanks to the new **Maestro active finishing**, that integrates the colour change, and an interface that has the same look&feel as other SCM technologies".

Digital also plays a key role in the finishing. Where is it that Superfici has been a pioneer?

"Undoubtedly in **supervision systems** combined with large plants that ensure all-round control of the entire surface treatment process. The painting system needs to be monitored and managed with full control over every machining parameter (temperature, drying level, etc.) and the customer needs to keep track of this. Another requirement is optimising the processes including very flexible machining, autonomously applying the right working recipe, and automatically and rapidly changing colour, to give but a few examples. Our technological and digital solutions were the first in the industry to satisfy these needs".

Robotics was introduced to finishing long before other wood-working application fields. What is the major difference in Superfici's robots?

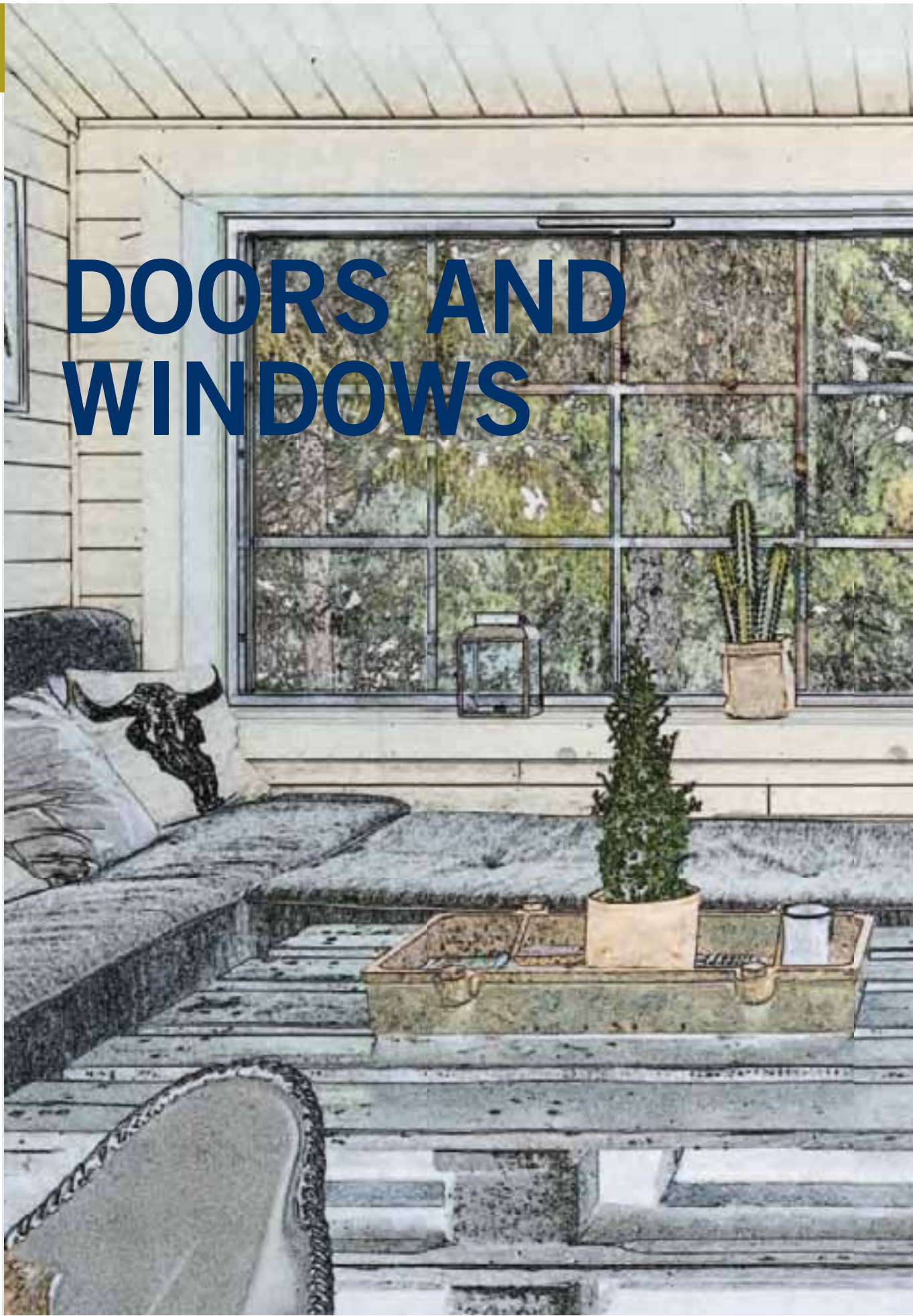
"One of the key advantages is excellent precision combined with maximum flexibility even with the most complex finishing operations. One clear example is our Maestro robot, on which our R&D work continues to make the customer's processes increasingly more efficient. Maestro provides an excellent, smooth spray even on considerable sizes and thicknesses. From the simplest robotic solutions right up to complete plants including for example RFID systems". From the artisan worker to major industries: Superfici is the "made in SCM" finishing touch of class.

Superfici installation at Masonite in the USA.

SCM Surface Technologies

is an all-round, integrated offer of sanding, pressing and painting products and services to satisfy each process requirement to create exclusive, sophisticated and trending surfaces.

DOORS AND WINDOWS



JONGBLOED TIMMERFABRIEK

PRINCIPAL DOORSETS

VIVENTO

Jongbloed Timmerfabriek | Netherlands

DOORS AND WINDOWS

A factory in continuous “evolution”

The Dutch company Jongbloed Timmerfabriek is a permanently open door to new technological trends. It is run by a family which, in the space of two generations, has focused on quality raw materials and innovative, flexible processes to make its mark on the market. It has been working with SCM for decades. One of its purchases is a true piece of excellence in the range for the production of windows and doors, the "**pro evolution**" automatic cell that works in sync with a multifunctional "**dmc system**" sanding centre and the new entry "**accord 42** fx" CNC machining centre for routing and drilling.

A family run business which has been operational for over 45 years and whose key to success lies in the continuous innovation of its products and production processes.

The Dutch company, **Jongbloed Timmerfabriek** is a leader in the production of **wooden windows and doors** for residential, commercial and industrial construction, as well as one of SCM's long-standing customers. At the heart of this relationship, based on strong friendship, trust and reciprocal respect, is a common and genuine vocation for wood. There could be no other material at the heart of work produced by Jongbloed in its modern factory in **Winschoten**, in the province of **Groningen**: unique in its ability to bring warmth, style and hospitality to a room, wood plays an increasingly more important role in the windows and doors industry which requires material that is increasingly more resistant, good quality and eco-sustainable. As well as that, the company **exclusively uses quality wood** for the production of **frames, windows and doors**, originating from certified, responsibly managed forests.

Constant state-of-the-art technologies

Product and process sustainability is a genuine trademark, but that is not all. Every year, the Jongbloed family invests in new machinery to stay abreast with the latest technological evolutions and equip itself with production systems that are faster and more flexible. A constantly open approach to innovation that **Bruun Jongbloed**, current general manager, inherited from his father Klaas, company president. It was, in fact, **Klaas** who purchased the first SCM machine in the 1970s and who selected many more after that, for different machining processes, including throughfeed moulders, machining centres, sanders and panel sizing machines. Internalise and optimise the entire production process is an advantage in terms of time and money. Even more so when the client does not fit a single identikit: in the case of Jongbloed, production is aimed at both large-scale tout court construction projects as well as smaller sized businesses doing renovation work or simply replacing single elements on the façade, a job which is no less difficult in terms of the rapidity of delivery times and the quality and resistance of the end product.

Pro evolution: the SCM cell with maximum flexibility

A company of the calibre of Jongbloed requires **automated production processes, speed and flexibility.** The aim is to strive towards the ability to personalise which is not, however, always easy if fast delivery times and competitive pricing are to be upheld. This is where the latest "made in SCM" purchase comes into play: "**pro evolution**". This is one of the technological excellences from the Italian group best suited to the production of windows and doors and delivered to Jongbloed last winter.

The customer had already purchased a previous model in 2015 and, based on the excellent results achieved in terms of efficiency, quality and productivity, chose a second state-of-the-art version: Cause for all-round satisfaction that rewards the work done by the whole SCM team in researching and developing solutions for the market that are increasingly more custom

The 'pro evolution' automatic cell allows sequences of workpieces to be machined completely different from each other.

based and sophisticated, even for the varied world of windows and doors.
But let's find out more about this product. "pro evolution" is an automatic cell that allows for the machining of sequences of pieces that are completely different from one another.
The vast area of the loading and unloading systems of pieces reduces operator intervention to a minimum.
The worktable with exclusive and individually programmable grippers, guarantees maximum clamping during the machining on all sides of the workpiece.
Another distinctive "plus" of the cell comes from the possibility of the two operator groups to work in splitting, for an excellent **quality and exact finishing.**
Furthermore, the cycle time speed is further supported by the capacity of the tool magazines and vast centre-to-centre between the positions. The machine is **always ready to produce any kind of piece**, eliminating fixturing times.
"We chose the "pro evolution" automatic cell because SCM has been our technological partner for over forty years" explains Bruun Jongbloed. "We have been working closely since the 1980s to optimize all the different parts of our production process. From a shared passion for wood as a beautiful and sustainable natural raw material, we seek to combine speed, flexibility and customization as efficiently as possible with the latest technologies".
Thanks to the SCM cell, the company has managed to handle all parts of its products with the same production solution, thus considerably simplifying its production processes.

State-of-the-art sanding with "dmc system"

Sanding is also a key part of the process. In 2012, after almost 20 years of loyal service, the SCM Sandya CLK sanding machine with three contact rollers was replaced by a "**dmc system t**", a multifunctional sanding machine with seven workstations. A truly valuable purchase for Jongbloed: with a single passage through the machine, the newly assembled window can be sent directly to the paint department and all thanks to a calibrating roller, a finish sanding roller, a superfinishing electronic pad (with lamellar belt), a planetary unit for chamfering, two counter-rotating brushes for sanding the profiled parts and lastly a second planetary unit to remove any possible marks left on the crossgrain by longitudinal sanding units.

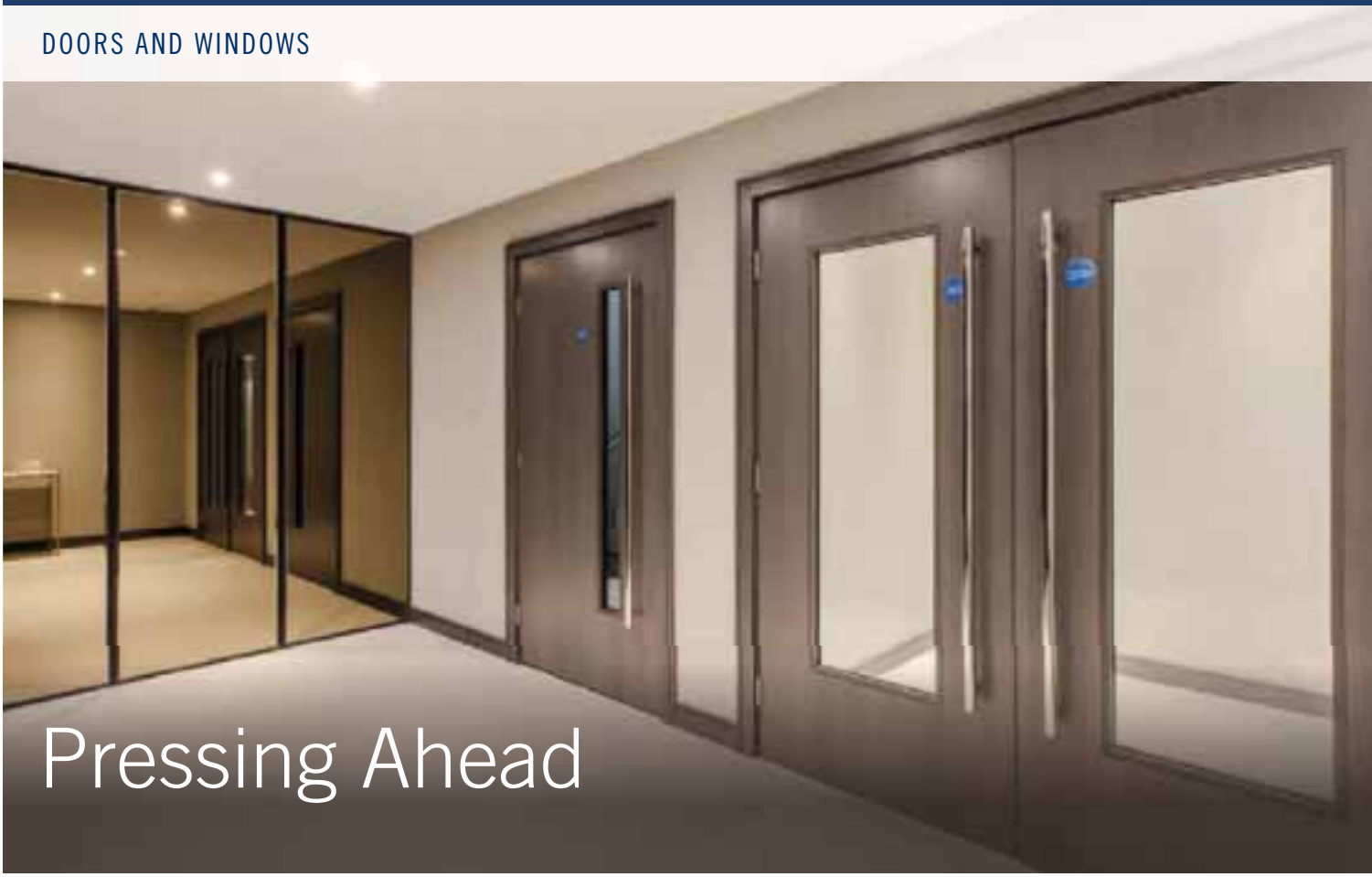
And that's not all: the effective removal of wood fibres from the surface of the rough windows dramatically reduces the time spent on subsequent sanding operations of painted parts. Indeed, if this fuzzy is not previously cut, it tends to absorb the water-based paint products, then swells and hardens with drying, leading to a long and difficult sanding process.
Furthermore, the **two planetary units**, specifically fitted with steel or abrasive nylon wire discs, can be used to create distressed effects on the assembled windows (without any machining difference between

The "dmc system" chosen by Jongbloed is a very multifunctional sanding unit

rails and stiles), that here too are instantly ready to be painted. Lastly, the superfinishing unit with "EPICS" electronic pad and lamellar belt is also used to sand flat panels, both rough and base coated.

Bruun Jongbloed is also satisfied with the assistance and technical support they received from SCM. *"There are always teething problems with new developments. After all, the 'pro evolution' and the dmc system t selected with this specific configuration, are not standard machines. But these issues have been jointly registered and quickly resolved. SCM also has a good team of technicians who carry out maintenance with us".*
Jongbloed is so satisfied with SCM that it has also recently chosen an "**accord 42 fx**" CNC machining centre for drilling and routing with two independent 3- and 5-axis routing units. A solution that allows to achieve high productivity without reducing flexibility.
Continuing to invest and innovate: this is the key that has always opened the doors of success to Jongbloed.

DOORS AND WINDOWS



Pressing Ahead

With huge diversity in its product offer and some very stringent standards to comply with, Principal Doorsets turned to SCM for a turnkey pressing solution: **“sergiani gs-a”**.

Principal Doorsets is well known for the manufacture of fire doors, acoustic doors, x-ray and security doors, along with associated wall panelling. The **Barnstaple**-based company provides for the needs of clients that include architects and specifiers working on anything from hospitals and schools to high end residential projects, leisure complexes and commercial premises. Its products have to meet the most stringent of standards – up to FD120 for fire doors, Rw43Db for acoustic doors and PAS24 for residential security doors. Specifiers who need a seamless finish with no visible bead or joint to the face either side of the door rely on Principal Doorsets to provide solutions.

“When we moved into our new factory in 2018, we carefully laid out the manufacturing to accommodate a new pressing line - Director, Stan Bond, told Furniture Journal - We were looking to include as much product handling, cleaning and preparation within the line as possible and wanted to significantly increase our panel pressing capacity whilst managing labour increases and ensuring quality was not adversely affected.”

Stan and his team took the opportunity to visit a number of factories and see various pressing lines in operation before settling on a custom-built **“sergiani gs-a”, a turnkey solution from SCM.**
“After a thorough evaluation and visits to manufacturers, we discussed with SCM their offer. SCM were engaging and assisted us in understanding the press solutions fully. Their approach was professional and comprehensive and had us engaged from the outset. The price was competitive, as was the delivery availability. It was a no brainer.”
Requiring **only one operator to run the line with loading** handled by a fork lift, the new automatic line at Principal Doorsets comprises a scissor lift at the feed end, a brushing unit, a glue spreader, a motorised disc conveyor and a double laminating holding carriage ahead of the composition station, press and roller outfeed.
The operator deposits a stack with a maximum height of 1,200mm on top of the lifting platform. The scissor lift was supplied with special seats for the fork lift that allow the operator to deposit the stack directly on it. The stack is automatically positioned at the working height by a levelling photocell, and a pneumatic feeder automatically feeds the line, pushing the core from the stack inside the brushing unit. Once the core is pushed into position, the feeder returns and the lifting platform raises to allow the next loading cycle.
The panel, now in the brushing unit, advances by means of dragging and pressing rollers. Two brushing rollers clean it, conveying the dust into upper and lower suction hoods. This phase ensures **perfect cleaning** of the core before glue application to remove any loose particles so there are no inclusions within the glue line that might show through a facing.
Once inside the glue spreader, glue is applied to both sides of the core simultaneously. This machine is equipped with four rollers – two spreading rollers and two doctor rollers that ensure the correct glue quantity is spread on the panel. They provide perfect control of the glue quantity during application, resulting in better gluing quality and glue savings.

Principal Doorsets specified two additional options to further enhance productivity: an automatic chilling unit that ensures consistent glue temperature and an automatic glue feed system.
“The automatic chilling unit provides better control of the process, even in different ambient conditions, while the automatic glue feed system avoids downtime associated with glue feeding.”
By incorporating stainless steel discs in the motorised disc conveyor that self-clean by rotating in a water tank, SCM’s design engineers have been able to prevent the build-up of glue deposits. They’ve also restricted the area that’s in contact with the core, reducing the risk of unwanted glue transfer to the product – and made loading and unloading of the fixed level easier by including a double holding carriage, one fixed and one movable.
For increased productivity, the open composition station includes a manual positioning device that’s placed above the conveyor for accurate alignment of the glued core on the bottom laminate before it enters the press. **Even when heavy panels are involved, one operator can perform this operation quickly and easily.**

Up to 250 doors per shift

The “sergiani gs-a” automatic hot press is the perfect solution for doors and veneered panel producers, and it is the heart of the line at Principal Doorsets.
From its control panel, the operator can manage and set all the line functionalities. The system is equipped with **dedicated software that makes the use of the press quick and easy.** The operator can save all the

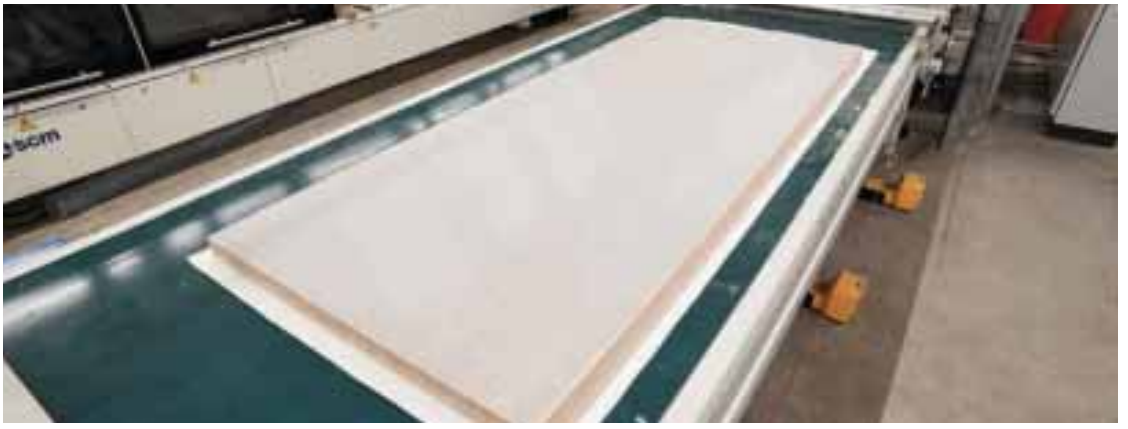
working programs and recalling them sets all the line parameters. According to the product dimensions and the specific pressures required, the control panel sets the hydraulic pressure of the press and the cylinders that need to be activated. The temperature of the platens, the pressing time and the feeding unit can all be set from the control.
Once pressed, the finished door or panel passes to a roller outfeed conveyor that allows it to cool down prior to unloading. Principal Doorsets' "**sergiani gs-a**" press line, like most solutions supplied by SCM, was **designed and built to fit perfectly with the company's needs**, some of which were quite specific.

With products ranging from 6mm up to 98mm in thickness, widths of up to 1200mm, panel lengths that could be anything up to 3100mm and weights of up to

120kg, **versatility was key**, and careful consideration had to be given to both the handling and processing stages. Added to that, SCM's design engineers had to take into account the v**ariety of different materials to be laminated** and the numerous single and two-component glue types demanded by an immensely divergent product range. The solution SCM provided has enabled **productivity increases of up to 30%**. The line is capable of producing around **200-250 doors per shift**. This press model is really flexible. According to its configuration, it can be used by different customers from small to medium-sized joineries that are producing doors, veneered and/or hollow core panels up to big manufacturers that need a flexible line where they can produce batch one supplies. It provides a uniform specific pressure and heating, and it can be used to glue very different types of materials.

"The SCM press fits very well into our panel process," said Stan, who is clearly as pleased with the outcome as he is with the service he gets from his long-term partner, SCM. "With the new line installed we can run with one operator at the rate we ran with two. We also have the benefit of a glue application line that meters the glue onto both faces of the product simultaneously, providing consistency in replication of the product and consistent quality. The set up and engineering during installation was helpful with training for our operative. We have not needed SCM's support since," he said, concluding "The training was successful."

by Melvyn Earle for Furniture Journal



All the style of a modern, sophisticated door

Flexibility: this is the keyword for the latest SCM solution supplied to Vivento, a company with more than 35 years of experience in the production of state-of-the-art doors with sought-after design. Thanks to the "**stefani flex**" squaring-edgebanding machine with two "**mahros**" automation plants, high industrial productivity becomes a possible objective even with small batches

Personalised, unique products to meet the demands of every market niche. Flexibility: this is the keyword that opened the doors to success for **Vivento.**

And in fact, this company, a symbol of "made in Poland" excellency, manufactures doors. It was originally known as **Sękpol**, a family run company with **more than 35 years of experience on the market.**
With a turnover of 50 million PLN (approx. 11,500,000 Euro), Vivento currently employs around **190 workers,** exporting across Europe and United States.
Its strong passion for wood and its variants, from MDF to laminate, is a constant for this well-known Polish brand that has been making use of the most modern technologies from its outset in order to provide its clientele with a vast and varied product range.
"Nowadays, the customer is not just looking at the price - says **Justyna Kowal-Wierzbicka**, member of Vivento board - but wants to choose between a variety of modern, sophisticated options. As a result, we need to constantly renew our processes so that we are increasingly more flexible".
Production revolves around ever smaller batches and it is essential to be able to change each parameter easily and rapidly when machining a door. **As a result, automation plays a key role** in eliminating "bottlenecks" that could arise from handling more than one order simultaneously.

This is where the partnership with SCM comes into play

"Thanks to SCM, we perfectly combined their technological automated solutions with our production needs and all this at excellent value for money" continues **Justyna Kowal-Wierzbicka**. Full marks as well for the technical service provided by our Italian partner at the various support stages, both pre and after-sales.
For Vivento, SCM developed a specifically designed line for the **flexible edgebanding of doors**. Internally, the "**stefani flex**" squaring-edgebanding machine can guarantee continuous, independent loop productivity irrespective of the machining profile. This occurs thanks to the integration of the squaring-edgebanding machine with two "**mahros brush**" automatic movement systems, one for loading, the other for unloading the doors. One specific feature of this line is its excellent versatility that allows for the machining of numerous

different profiles and finishings with a high level of productivity and ability to adapt even to the customer's future production demands.
One other key element in the line is the "**Maestro active watch" supervision software**: thanks to the bar code on each individual door, the software can match the right machining program, trace and control the process stages, as well as further control functions and productivity reporting.

The SCM line in detail

Core of the "**stefani flex**" squaring-edgebanding machine line, equipped with **external router** with automatic insert and exclusion for the parallelism and correct measurement of the door width. This particular arrangement allows for **high speed positioning**, but above all, for the **machining dimensions of the door to be changed continuously**, without having to wait for the entire machine to empty. If there are variations in the sizes of the doors being fed-in, the upright rapidly positions itself at the height of the next door, reducing feed-in times and **increasing productivity**.

Some of the other advantages of "stefani flex" include its **significant ability for finishing and accuracy** at the squaring stage, **automatic set-up of the gluing zone** and the **12-roll magazine** that guarantee a high level of line flexibility and autonomy. Furthermore, this SCM solution means **each individual door can be automatically labelled** and this continues to be traced throughout each of the subsequent process stages.
Boosted by seventy years of experience in high technology alongside the most innovative wood-working companies, SCM's Edgebanding Business Unit has once again shown its ability to be at the customer's side with highly customised, innovative solutions.

Our partnership with Vivento is ready to throw open new doors onto the future of woodworking!

With 'stefani flex' a continuous and efficient production loop, regardless the machining profile

Walter Biagi Business Unit Manager

A “window” that’s always open to innovation

Styles, sizes, profiles and materials may change but one thing is sure: wooden fixtures are increasingly becoming an integral part of a fashionable interior-design project, that is practical as well as great looking. But, above all, the windows and doors change to make way for more up-to-date construction techniques in terms of safety and energy sufficiency. Nowadays, "customisation" is the key to success, but combining the needs of highly flexible machining with those of a high productivity becomes almost impossible. State-of-the-art technological solutions are required to continue to be fast even with small batch or "batch 1" machining as well as keeping down costs and waste of consumables and materials. SCM's R&D work for the sector is heading in this direction as **Walter Biagi**, Unit Manager of SCM systems for fixtures, explains. "Being technological partners for seventy years with important fixture manufacturers around the globe, has allowed us to continually examine customers' needs up close and come up with new solutions every time. Our new automatic **windorflex** cell for the production of fixtures, is the most recent example of how SCM is interpreting market demands, not only in terms of production flexibility but also the quality of the finishing".

What is the main difference with this new cell on the market?

"Creating the window in its entirety irrespective of type. The cell cuts down on the production flow because it can machine all the parts of a fixture without splitting up production. This helps achieve greater machining accuracy and quality, and downtimes are completely eliminated thanks to the alternating use of two milling units: while one works, the other can make a masked tool change. Another significant advantage comes from the new work plan, where the exchange of pieces comes about directly between the grippers without third-party elements, to guarantee an excellent finish, and also from the modularity of the table that allows the pieces to be managed in three different lengths: 3,500, 4,500 and 6,000 mm.

Is automated and unmanned machining possible?

"Exactly; with windorflex, we offer a modular, versatile solution that can machine even in complete autonomy. Indeed, there are various solutions for loading/unloading pieces including the option to integrate the cell with an articulated robot that picks up raw materials and unloads the finished pieces onto specific trolleys. We can say that this flexible cell perfectly reflects SCM's Smart&Human approach: it isn't just a standard automated solution but can give way to other production solutions; it can, for example, be combined with automatic magazines and supervisory software and state-of-the-art management control systems that are increasingly more performing for flexible production processes. Without forgetting the **Maestro**

> ***Our new automatic windorflex cell***
>
> *for the production of fixtures, is the most recent example of how SCM is interpreting market demands, not only in terms of production flexibility but also the quality of the finishing*

Some images of the event organised last summer in Rimini for the launch event of the new windorflex.

> ***The objective with which we make our mark is always the same, irrespective of the target:***
> *to provide a highly personalised solution that is simple to deal with even at the maintenance stage and meets 4.0 Industry requirements*

active windoor software designed specifically for this machine. It can be fully integrated with the other software existing on the market and can meet any requirement linked to the production of fixtures thanks also to SCM's IoT system, **Maestro connect**".

What is the target market of the SCM solutions for doors and windows?

"In a number of European countries, especially in Northern Europe - Germany, Poland and France - leading companies successfully use our integrated lines and they have all been extremely satisfied with what we offer. Of the many examples, I would really like to mention the one with the French company MéO, a French manufacturer of customised wood-aluminium windows and entrance doors for over 40 years; after providing a high production integrated line for machining windows, we are now supplying a second high automation line, that will give them a 60% increase in production volumes by 2024.
As well as high and very high-end industrial systems, SCM's offer includes standalone solutions ideal for artisan businesses, like the

In the latest upgrade of *superset nt,* the eye-M console was integrated at the base and can be directed to assist the operator in controlling the machine.

> *As is the case with our technologies for doors and windows,*
>
> ***so it is with our* balestrini *solutions for table and chair manufacturers that are designed to reduce the complexity of times, consumption and costs linked to small-batch machining***

superset nt moulders that we have considerably updated in recent years to optimise performance both in terms of use and productivity. The aim that makes us stand out from the crowd is always the same, irrespective of the target: provide a highly personalised answer that is simple to deal with even at the maintenance stage and meets 4.0 Industry requirements".

SCM's Solid Wood Business Unit also includes technologies and CNC machining centres for the production of furnishing components and design objects: what are the main trends on this front?

"The manufacturers of tables and chairs, as with businesses producing hardware, furnishing items or musical instruments, hope to achieve even more sophisticated design levels. So, solutions are required that can create personalised artefacts efficiently and simply and that continually differ from one another. Just like our technologies for fixtures, our offer of CNC machining centres, **balestrini** tenoning and mortising machines are designed to reduce the complexity of times, consumption and costs linked to machining small batches, and is increasingly more integrated with IoT systems that can detect any inefficiencies or faults for rapid after-sales intervention.
Another widespread requirement in solid wood furnishing and design is that of machining elements with highly voluminous, complex geometries. The machine's structure is essential for guaranteeing simplicity and safety in all the loading/unloading and machining operations; requirements at the heart of our machining centre with, **hypsos** built-in cabin".

All the appeal of solid wood, from the fixture to the furnishing components, is enhanced to its maximum with SCM.

A few machining details in the range of balestrini solutions to produce tables and chairs.

Tommaso Martini Business Unit Manager

Building the future

Deep-rooted technologies and a know-how strengthened by seventy years of experience in developing and manufacturing advanced, flexible CNC machining centres. The importance of SCM's long history is also reflected in the systems for timber construction, a technological area to which the Italian Group dedicates a highly specialised industrial centre in Sinalunga (SI) in the Tuscan hills.
From this production plant, extended last year to 6,000 m2 (+50%), new models in the **area** and **oikos** ranges continue to be created, already selected by renowned customers in the sector, proof that SCM is investing to increase its production capacity and accompany the steadily expanding timber construction industry with state-of-the-art solutions. **Tommaso Martini**, SCM Business Unit Manager for numeric control machining centres for timber construction, gives us his insight into the industry.
"Timber construction continues to record a steady and significant growth, right across the various types of construction, enhanced by the considerable advantages offered by timber constructions compared to traditional techniques: these include a simpler use of materials and parts on the building site and the possibility of living in a comfortable home with a high energy saving and one that is safer and more efficient. Furthermore, you will have a more accurate guarantee on times and costs, both at the planning and construction stage".

We are also witnessing an increase in multi-storey buildings both for private construction as well as public: what is SCM doing to meet market demands?

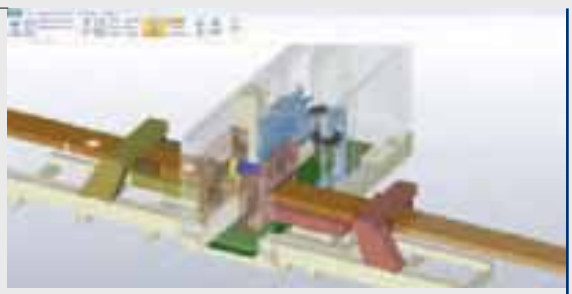
"Yes, the North American market is where this trend is most visible, especially USA and Canada where we can boast partnerships with leading industry companies. Our area xl and oikos xl CNC machining centres are perfectly in line with this trend because they can machine CLT panels of up to 20x4.5 m and with a thickness of up to 400 mm and columns up to 1,250x500 mm. These solutions can combine the needs of an ever-growing productivity with the high levels of quality, precision and reliability.

How does SCM navigate this area?

"The use of CLT is on the rise in 'traditional' markets like North America and the DACH area in Europe, though interesting signals are also coming from other countries like France, Italy, right up to Russia where, with the CNC machining centre area xl, SCM has been part of creating the first plant for the production of CLT in the country at the Segezha Group's industrial plant.
The latest new entry in SCM's product offering in this sector is also dedicated to the production of CLT panels, the **area x**, a 5-axes CNC machining centre with mobile gantry structure to produce finished parts (panels for walls and lofts and curved beams) ready for assembly at the work site.

> ***Multi-storey buildings in timber are on the increase:***
> *Our **area xl** and **oikos xl** CNC machining centres are perfectly in line with this trend because they can machine CLT panels of up to 20x4.5 m and with a thickness of up to 400 mm and columns up to 1,250x500 mm*

> ***The latest new entry's product offering in this sector is also dedicated to the production of CLT panels**, the **area x**, a 5-axes CNC machining centre with mobile gantry structure to produce finished parts (panels for walls and lofts and curved beams) ready for assembly at the work site*



***Maestro beam&wall** software has been designed to process structural elements and, more specifically: **roofs, structural beams and columns, wall and floor panels, solid wood beams including round ones, blockhaus, curved glulam beams and insulation panels.** As well as offering all the advantages of a proprietary software, entirely developed by those who knows both the machine and the machining process, Maestro beam&wall was born out of years of experience in the field and continuous collaboration with customers to find the best solution to their needs for **optimised workflow** and **increased production flexibility.** The new 3.0 software version features a completely modernised graphic programming interface, in line with the design CAD systems used by architects.*

In the last two years alone, three new CNC machining centres have been launched, and the software?

"It is a key element in our R&D work and stems from years of experience in the field and from having listened carefully to our customers' demands. Our proprietary software, **Maestro beam&wall** has been designed to simplify and optimise the machining of all the structural parts of a timber construction (roofs, structural beams and columns, wall and loft panels, solid wood beams, including round ones, blockhaus, curved blackboard beams and insulating panels). The new 3.0 version dates back just a few months and enhances the software of new functions for advanced nesting and 2D freehand drawing, as well as presenting a graphic interface of even more intuitive programming".

> ***The partnership** with the Master's degree in 'Timber Construction Architecture' at the Politecnico di Torino is an example of just how much SCM wants to contribute to constructing solid bases for an industry that still has ample growth margins*

What are the next goals?

"As well as product development (we are already researching new solutions to help customers achieve more efficient, flexible processes), we will continue to invest in the skills of our technical and sales team, to provide a highly specialised answer and an increasingly more direct and capillary presence in the various relevant markets. Again, on a sales level, we aim to continue to increase our product and services offered even with external partnerships. This is the case with the Swedish company **Randek AB**: a collaboration that nowadays means we can offer a vast range of solutions not only for CLT panels or blackboard beams but also for the world of prefabricated houses.

Furthermore, we will continue to cultivate the collaborations with universities and professional training centres that are increasingly focusing their attention on this sector. **The partnership with the master's degree in 'Timber Construction Architecture' at the Politecnico di Torino** is an example of just how much SCM wants to contribute to constructing solid bases for an industry that still has ample growth margins".

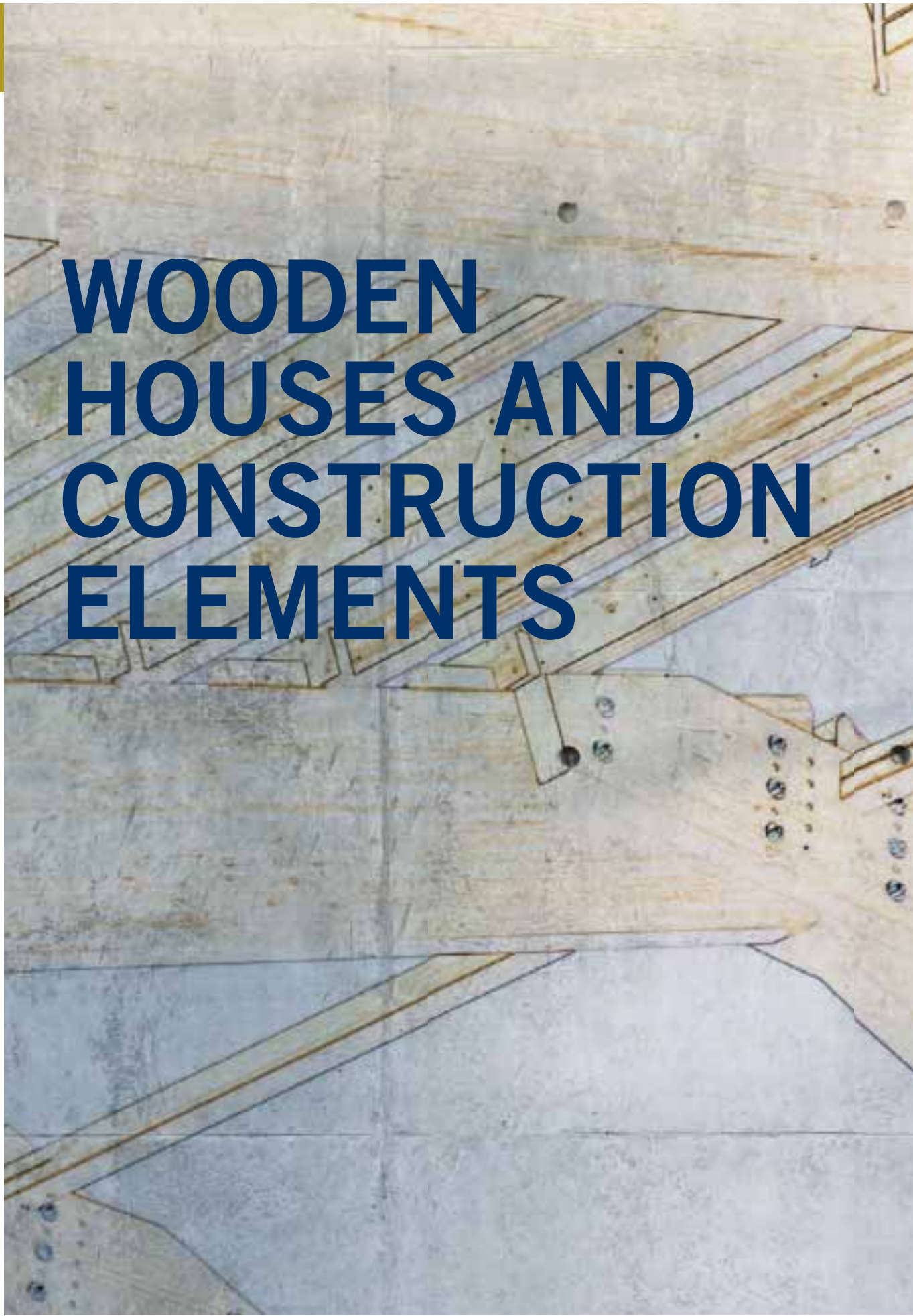
Taking the approach of a leader also means this: providing your know-how for a common and sustainable development.

SCM and Randek AB together to build the future of timber construction

*SCM and the Swedish company Randek AB have sealed a strategic agreement for the international production of **all-round, integrated solutions for timber construction.***
*The new partnership aims to further expand and strengthen the range of technological solutions already provided by both players across the globe and complementary to one another. SCM, that continues innovating to offer advanced numeric control machining centres capable of processing all kinds of different construction elements requested by today's market, and Randek AB, well-known worldwide for its high performance innovative technologies in the prefabricated house sector. A new global cooperation, where the aim is to be a one-stop supplier for the complete timber construction process offering **the widest range of solutions for beams, walls, timber frame, X-lam/CLT panels machining.** "An agreement with a global leading group like SCM, with sound industrial expertise and an extensive international distribution network, means we can further strengthen our presence on the most relevant markets, offering the customer an even more direct, widespread service" says **Ola Lindh**, CEO from Randek AB. The collaboration between SCM and Randek AB is ready to make its mark on the future of timber construction, guaranteeing **top-quality, unique solutions and expertise** even for the most complex projects.*

Two images of Randek technological solutions

WOODEN HOUSES AND CONSTRUCTION ELEMENTS



FHS HOLZBAU

MARLEGNO

MOSER HOLZBAU

TSCHOPP HOLZINDUSTRIE

TIMBER CONSTRUCTION

FHS Holzbau: so many successes together with SCM!

From staircases to the production of complete buildings in cross-laminated timber. For over twenty years, FHS Holzbau has put its trust in SCM to optimise its processes and achieve exclusive machining quality. And today, with two “area” CNC machining centres, it is ready to overcome even the greatest challenges.

FHS Holzbau GmbH is a company founded in 2017 with a view to providing perfectly processed cross-laminated timber elements. As well as the typical **FHS Treppen GmbH** production that, for over 20 years, has been producing wooden, steel, stainless steel and glass staircases exclusively for artisans, the company has also decided to supply fully finished buildings in X-lam/CLT. FHS therefore covers the sectors of cross-laminated timber and steel constructions, the production of stainless steel and aluminium staircases and balconies in a central plant in Budweis in the Czech Republic.

Around **140 employees** work in an industrial area of over **15,000m2**. FHS covers all the process stages to guarantee a **high-quality finish** and on-time delivery. It starts in the temperature-controlled hard wood warehouse where the material for 1,000 staircases is readily available. The plant produces top-quality solid wood panels in more than 20 different wood species. The metal construction department has laser and water technology (up to 8 m in length), folding technology (sheet metal up to 30 mm thick), and equipment for robotic welding and automatic lathes for the production of special glass supports. Since October 2021, the company has also been cutting and drying its own timber elements.

The production of cross-laminated timber construction involves around 20 people who produce elements up to 12,650 mm (13,000 for ceilings) x 3300 x 300 mm on two presses in a temperature-controlled room.

A forward-thinking vision in CLT constructions

In the field of timber constructions, the market is mainly in central Europe, with particular focus on Germany, Austria and Switzerland, while the staircases are exported around the world.

FHS Holzbau mainly produces residential buildings and offices. The range spans from detached houses to four-storey residential complexes, as well as offices, kindergartens and schools.

The decision to provide complete buildings in cross-laminated wood came about by taking into consideration different objectives.

As the main new entry, the decision was taken to produce elements in different kinds of wood (spruce wood, larch, stone pine, oak, ash, maple and walnut) with a surface free of cracks thanks to a special upper covering layer, a choice that won FHS Holzbau a certification at the 2019 BAU Innovation Awards.

Another priority for FHS Holzbau was the **perfect pre-machining of elements**, that allows the carpenter to assemble the pieces with maximum ease and therefore save a considerable amount of time. This is why stops and grooves are produced on all the walls joints and, in combination with the Exclusiv surfaces, all machining operations are executed with no splintering. As with the construction of staircases, almost any kind of treatment can be achieved. This also includes, if necessary, free shape machining as well as sharp-edged corners. Furthermore, it is possible to create round shapes (for example corners for round houses) and milled metal components that adapt to the shape. These are supplied by FHS Holzbau on request with the same order, because the company is also ISO 1090-1+2+3 certified for metal construction.

Another of FHS Holzbau's strong points in timber construction is the **cross-laminated timber staircase in two versions**: as a folding staircase with steel side fastening and as a work staircase with solid panel steps. The prefabricated cross-laminated wooden staircase can be used immediately as a work staircase and can then be re-clad with a wood or stone covering. Assembly time is under an hour and the plan of the staircase is designed by FHS Treppen experts to create a staircase that can be easily climbed after cladding.

Two "area" CNC machining centres from SCM to overcome any challenge

Given that the machining of elements and panels plays a fundamental role in timber construction, FHS Holzbau chose SCM to be its technological partner and has used its machinery to produce staircases for 20 years, confirming their full satisfaction both in terms of the technological quality of the solutions and technical support.

Nowadays, at the FHS Holzbau plant, there are two "area" CNC machining centres in operation. These are solutions that can be used **to meet any machining requirement** including, for example, round windows with funnel machining, sharp edge corners on sloping beams and corners for round houses. The "area" machines are ideal for machining solid wood with a considerable removal of material. *"We mill everything that can be milled on 5 axes, we have developed our own postprocessor for this - says the owner of FHS Holzbau -. We can't wait to receive complex machining requests to make full use of this technology".*
FHS Holzbau is convinced that the level of pre-fabrication and machining precision will continue to grow, especially over the coming years.
As far as the software for building timber constructions is concerned, FHS Holzbau uses the Dietrich's program on 4 workstations where SEMA software is also available. A lot of construction projects by other software manufacturers are now read via IFC or SAT; in the coming years, further opportunities and optimisations for the exchange of data between individual programs is planned.

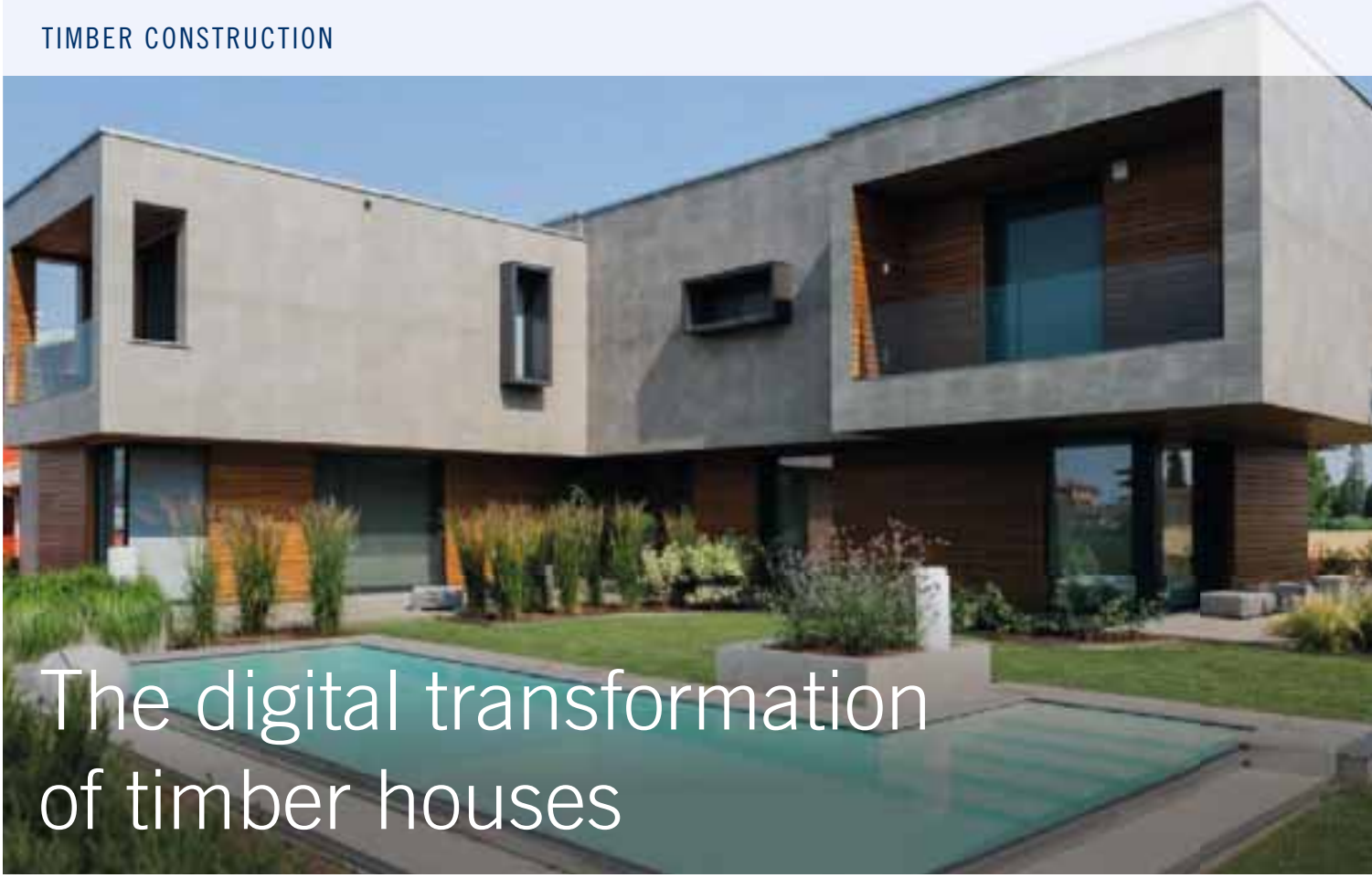
For the production of wooden staircases, the company has placed its trust in other SCM solutions: two "**accord 40 fx**" CNC machining centres with automatic worktable and a machining length up to 9.6 metres to deal with the main volume, a 6-metre "**record 100 al**" and another two "record" machines to complete the process. Furthermore, a "**morbidelli n100**" nesting machining centre was purchased in the cell version to produce cladding panels.

The advantages of a long-standing partnership

As the company confirms, SCM offers well-designed machines and with solid, rigid structures, a good service and excellent availability of spare parts. And adds that even during the Covid 19 pandemic, SCM managed to deliver without delays. In particular, for FHS Holzbau, the two "area" machines are key assets in machining laminated wood panels. FHS Holzbau appreciates its solid structure and the 5-axis operating unit that also means **300 mm thick crossway laminated wood elements can be machined in one cut.** *"To date, we have never received a request that we were unable to meet using the two "area" CNC machining centres"*, says the owner.
According to Max Frisch, the SCM service is ready-to-hand in case of need, advise and technical demonstrations are always provided in detail with a quick, problem-free supply of spare parts. *"We will continue to place our trust in SCM for the production of staircases and timber construction".*

Marlegno | Italy

TIMBER CONSTRUCTION



The digital transformation of timber houses

The collaboration between SCM and Marlegno, benchmark in the eco timber construction industry, goes way beyond the purchase of the innovative 6-axis cnc machining centre "**oikos x**". It is a journey that is taking us to new, unthinkable destinations in the construction of state-of-the-art, eco-sustainable homes, where the digitalisation of processes and predictive maintenance of technologies play a key role.

WATCH THE VIDEO OF THE CASE STUDY

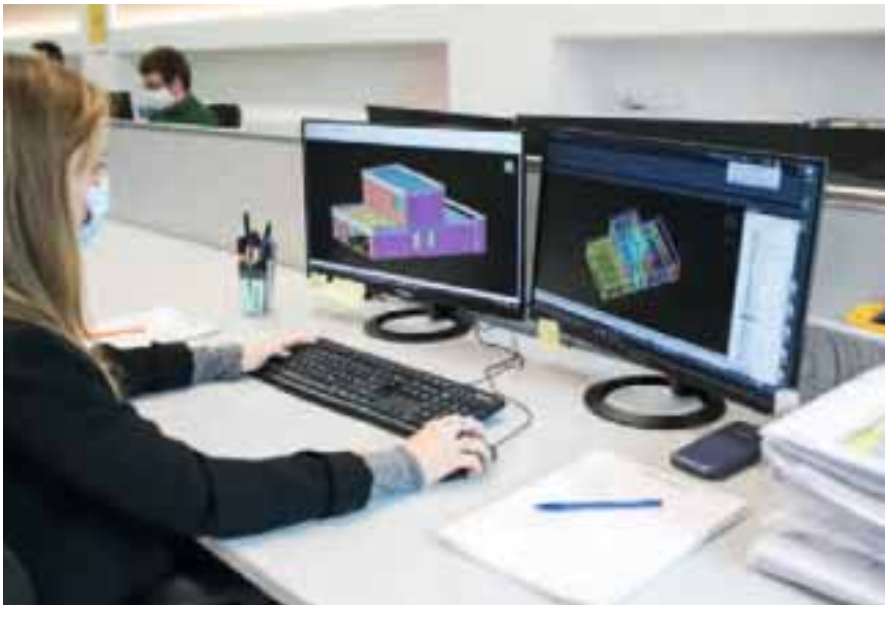
More than twenty years of technological innovation in **eco timber construction, with eco-sustainable constructions** focusing both on people's well-being and respect for the environment. Over and above being a business specialising in the design, manufacture and installation of "green" buildings, **Marlegno** is an all-round welfare project that, in its many facets, makes the quality of life and living a genuine vocation.

This becomes clear as soon as you enter its headquarters in **Bolgare**, in the province of Bergamo, which is vast, welcoming and bright, with various hints of wood and warmth that only this kind of material can give you. Confirmation comes from the projects that this business creates: whether we are talking about individual houses or entire green neighbourhoods, the objective is always to pursue the **maximum quality standards of energy efficiency** and comfort. Further proof of Marlegno's passion for all eco-sustainable things and for the virtues of the circular economy comes in its decision to use only wood from **PEFC certified forests**, a natural raw material that can be re-used and recycled, that lends itself well to made-to-measure and state-of-the-art uses like those requested by the market. Over the years, Marlegno has managed to expand its business not just in the north of Italy but to other regions with less of a cultural tradition for timber construction.

In 2020, despite it being an arduous year due to the pandemic, it completed **70 projects** and increased its turnover by **20%**. And it is still growing today, in search of - though not without difficulties - new professional figures to add to the already existing one hundred enthusiastic employees, expand its spaces, currently at over 10 thousand square metres and open up to Industry 4.0 thanks to a **research project developed in close collaboration with SCM** and another thirty partners from across Europe.

An expanding market

There are excellent signs from the eco-construction industry, says **Angelo Marchetti**, company CEO and national President of Assolegno. *"The wooden housing market is enjoying a 'Renaissance' thanks to the statement made by the President of the European Commission, Ursula von der Leyen, who described wood as a key construction material, due to its capacity to retain carbon dioxide"*,
The favourable period is not the only factor behind the growth recorded by the company in recent years. There is another key ingredient in Marlegno's recipe and that is its launch towards innovation, in both the products and processes behind every new construction. *"The design stage is the most important one*



The design phase plays an fundamental role at Marlegno

Angelo Marchetti

for Marlegno - explains Marchetti -*: it is at this point that we manage to intercept all the customer's specific demands and requirements, that are then converted into a product that is extremely comfortable and of guaranteed quality"*.

Innovation in line with Industry 4.0

By virtue of this continuous research and development, Marlegno has reinvented itself from a 4.0 point of view. *"We transformed our technologies, that we previously used as separate entities, into a connected and integrated unit, one machine after another, together with our Technical Department"*. adds Marchetti.

The **digital transformation** process is at the root of that **integration** concept that we are carrying forward in each one of our sectors: integration of information, data, processes, up to and including the entire business organisation.
SCM stands alongside this industrial project. *"For us, SCM is the leader company with whom we can move forward with our innovation planning and production digitalisation" explains Marchetti. "SCM is the leader company that, thanks to its technological know-how, has allowed us to modernise our production to the extent that, nowadays, we even use it as a showcase, to*

demonstrate to customers just how efficient our technologies are".

Digital transformation: SCM and "oikos x" at the heart of the Level-Up project

Marlegno and SCM work together on the Level-Up project financed by the **Horizon 2020** European tender that involves 32 partners from 13 different countries. The project, that was launched in October 2019 running for a total of four years, chose Marlegno as its international case study for the digital transformation of its production processes. The aim is to show how the modernisation of the production machinery via the introduction of innovative technologies, brings with it huge advantages in terms of production quality and process efficiency.

SCM's "oikos x" CNC machining centre is the technological and digital core of this challenge. It has an innovative six-axes machining head unit capable of processing elements that are up to 18 metres long and 1.25 metres wide with millimetric precision. Thanks to the **Maestro beam&wall** software that is fully integrated with the most common CAD systems used in the market, processes can be virtually simulated as a preview to ensure they are correct before execution, with considerable advantages in terms of productivity, costs and machining quality. As part of the Level-Up project, **vibration sensors** have been installed on "oikos x" that allow the integrity and efficiency of the machine's operation to be checked and measured, and any faults to be detected in real time, leading to **predictive maintenance.**

Furthermore, as **Alessandro Greppi**, Innovation Manager at Marlegno points out, not just "oikos x" but all the company's machinery, will benefit from the implementation of SCM's **IoT Maestro connect** platform, that will allow for all archive and future data on performance to be recorded, as well as the status of the various technologies, creating a genuine digital register. *"All these operations - explains Greppi - put in place a genuine digital transformation that will not have an effect just on production cycles, but will embrace all the information flows relating to a certain project or order, making them available to all company departments via a common dashboard".* The partnership between Marlegno and SCM, therefore, goes beyond the sale of "oikos x": it is an alliance that leads to new production and organisational horizons, so even the kind of relationship maintained at each stage of the supplier-customer relationship becomes essential. *"To us, SCM is a partner that not only provides us with the dependability it has given us - concludes the CEO of this Lombardy-based company - but it is also a reliable partner even at the after-sales stage because it guarantees rapid and continuous assistance over time".*

The Mestro beam&wall software works in perfect synergy with the most popular CAD systems in the industry

"To us, SCM is a partner that not only provides us with the dependability it has given us but it is also a reliable partner even at the after-sales stage because it guarantees rapid and continuous assistance over time".

Moser Holzbau | Italy

TIMBER CONSTRUCTION

From a passion for wood come beautiful “Clt” houses

In a stunning corner of Alto Adige, the Moser family decided to merge their long-standing passion for wood with the production of “Clt” houses using state-of-the-art SCM machining centres.

WATCH THE VIDEO OF THE CASE STUDY

Magnificent surroundings ... from Novacella towards Dobbiaco until, just a few kilometres after Brunico, we find ourselves in Monguelfo-Tesido with signs for Val Casies. A few more bends in the road and you can’t go wrong: the large **Moser Holzbau** sign, a stylised house with a large yellow sun, tells us that we are here. From there onwards, a valley that is embedded in our memories, a holiday destination and fantastic “cross-country marathon” skiing described to us by a dear friend to whom our thoughts immediately turn... Just enough time to cover a few kilometres and it is time for our appointment: a meeting with **Georg Moser**, co-owner, together with his brother **Alois**, of the company we are visiting today, where a powerful SCM’s “area” has been operational since 2019.

“It was my father **Josef** who set in motion our adventure over sixty years ago. He was a carpenter and started out building with wood: certainly not houses, but barns, roofs, stables, refuges....it wasn’t until my brother Alois and I took over the family business, at the start of the 1980s, that

we decided to build timber houses. We both joined the company when we were very young, just out of carpentry school, and it is here at Moser that we became masters. Back in our father's days, only the roof was made of timber, while the rest of the house was in stone, but we saw the success of the entire building constructed with timber and, in 2000 we purchased the first press to produce the "X-Lam" or "Clt" panels, we required. The transformation was a continuous one and nowadays, the only thing we buy is the timber: everything else we do ourselves, from the project to construction. We also work for other companies supplying what is requested, from a simple panel to all the components of a house, ready to assemble".

Nowadays, Moser Holzbau has about thirty employees with a turnover of around 8 million Euro, about half of which thanks to the "packages" that are sold to other businesses, including construction drawings and diagrams: **"We have set ourselves up so we can provide a complete package**, adapt the projects shown to us to the timber building technique with the aid of our technical department and, where necessary, external consultants who help us to achieve the final stage, right up to the itemised lists of the various parts for production.
We specialise in the production of houses and we also have our own small real estate company which we use to create "turnkey" projects: the most recent was right here in Monguelfo, a complex with 18 apartments which were

Georg Moser

The special "area" machine equipped with a 35-metre track, has turned Moser Holzbau's production

sold even before they were completed, because nowadays, timber houses fascinate everyone very much!".

How did you come to build with "Clt"?
"To be honest, it was purely by chance: it was a Swiss representative of glues and adhesives who invited us to visit a "Clt" company. He also introduced us to a press manufacturer and it didn't take much to convince us that this would have been a highly satisfying choice. After all, we were dealing with wood, solid wood panels, on which to carry out holes for windows or grooves and passages... it wasn't that far off the work we had always done and required skills that, basically we already had. And that is how we found ourselves in 2000, building a few houses and roofs and now, twenty years on, we manufacture something in the region of **6 thousand cubic metres** of "Clt" every year, measuring up to 3.5 by 13.7 metres".

That is really a lot...
"Yes, but with the right technology it isn't such a huge amount: we have invested a great deal, firstly in "vacuum" presses and subsequently in hydraulic presses that we designed together with our suppliers, because we had a clear idea of specifications and performances we wanted to achieve. A funny story, because with my blacksmith, we created a kind of vertical press prototype that was exactly what I was looking for, a project that proved so successful that the manufacturer, we finally selected, produced four machines for us but a lot more for other "Clt" manufacturers across the whole of Europe! Nowadays, we have everything we need starting from the still fresh plank that we dry in our systems, to the panel ready to be processed in the machining centres, in order to obtain all the finished parts with the specifications that our technical department input into the machine, ready to be taken to the building site so that the assembly work can begin. There is no lack of wood in these valleys. We have always lived alongside this raw material and have learned to understand it. We, at Moser, have created the future of our family and even today, we reflect, devise and speculate on what else we could do in the coming years: the third generation has already been in the company now for a while and we might even consider handling the wood procurement stages "by ourselves" so that we have better control over the fluctuations that, even in the wood sector, are the order of the day. Nowadays, the Moser Holzbau plants spread across a surface area of more than four hectares, of which "only" 13 thousand square metres are covered. So, there is space - if we want - to do much more. You see, I come from wood, my entire family comes from wood and our work, even though done with increasingly modern machines, still allows us to feel like artisans! Just think, that over the last few months, I have managed to achieve my biggest

dream, to build a house for myself and my whole family in wood, from the earth to heaven!".

Mr Moser, you mentioned the machines that are increasingly more modern...

"Switching to timber construction undoubtedly led us to have more advanced machines for different processes. We realised very quickly that we could no longer work with traditional machines: arduous, unhealthy work because of the large amount of sawdust and wood shavings we had to move around in. We realised we had to completely revolutionise our way of thinking and it didn't take long to understand that we needed to invest in a numeric control machining centre.

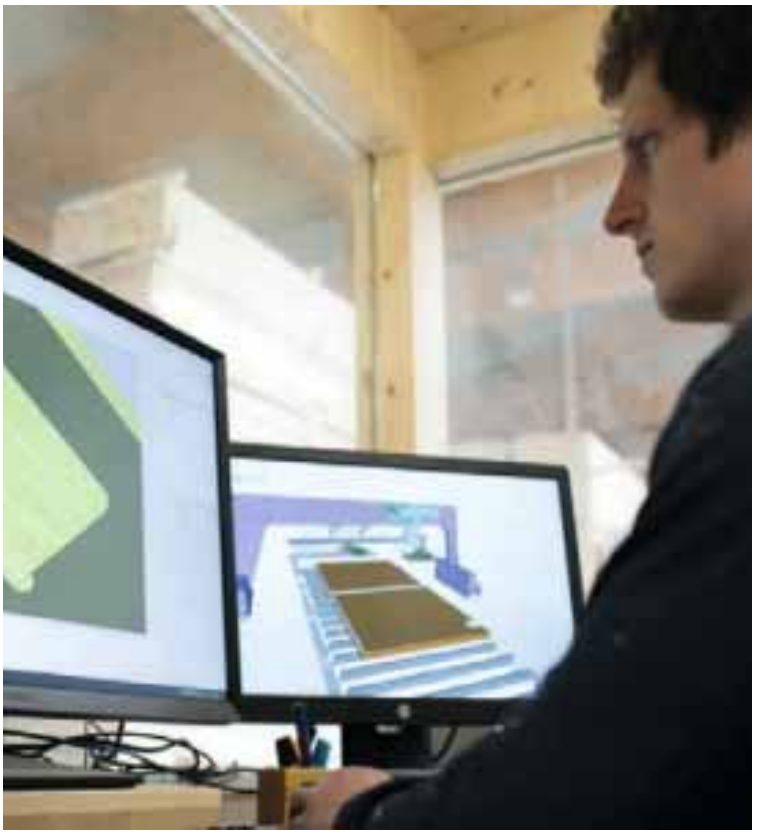
In reality, we purchased our first machining centre for beam cutting and machining in 1995, machines that I consider trailblazing but which over the next twenty years underwent a series of evolutions and became invaluable tools for our growth.

Our encounter with SCM came about later, around 2015, when we were invited to visit the plant in Sinalunga (Siena): we saw machines that instantly caught our attention, especially an "oikos" with its solid structure that worked with a logic that appealed to me from the outset. Things evolved, and in a short space of time, we decided to purchase it to process beams, while we continued to produce "Clt" panels on "our" machine, created by us a number of years ago - in 2008, if I remember rightly - calling upon different suppliers to assemble software, track, sawblade aggregate and a robot! It worked back then and still works today, but considering the efficiency of the "oikos", with this SCM technology, our production had improved and increased and we realised that we needed something more high performing.

Gradually, we realised that an "area", equipped with a 35 metre track would have given our work a further input. It was a turning point: now we can produce "Clt" panels rapidly, with absolute precision, carrying out all the necessary operations for joint and fastening systems, electrical or hydraulic Installations and for anything else required. Our productivity has considerably increased and we can stay abreast of our two presses, reaching the work site with parts of absolute precision that we assemble without any problem: a machining centre that appealed to me, as I mentioned already, for its mechanics, the quality of carpentry and how easy it is to control".

A satisfactory choice.....

"Absolutely, and it has allowed us to establish ourselves at a time when the demand for timber houses has risen considerably: to be honest, we had our doubts at the beginning, about abandoning our working method, but now that we have seen what **the most innovative technology** allows us to achieve, we ask ourselves why we didn't make the move earlier".



You mentioned that you are considering new options to enhance Moser Holzbau with new content...

"It is difficult to predict the future, but we have a very precise history, small steps taken one at a time since 1963 to the current day, one after another that have always led us forward. This, in addition to the fact that our whole family is in the company and the company is a priceless asset. We live for wood; it is in our DNA. We have learnt to understand it better and process it in different ways, but it is always in our roots, the common denominator that links us to all those who work with us and choose us for their home... We live in a land where wood is part of life, forests that need to be maintained, trees that need to be cut to make way for new ones....a resource that is renewed but at times is difficult to manage because supply and demand are not always aligned. From this point of view, we are considering the idea of investing to guarantee the supplies we need to fill the gap at that last stage which we are still missing, from the trunk to the plank....we shall see. We have found our path and have organised ourselves to do our work as best as possible. **Nowadays, we even have technology that makes it easier to achieve the best result**: in light of all this, I can tell you that, no matter what the future holds, it will be a magnificent one".

by Luca Rossetti for Xylon

Tschopp Holzindustrie | Switzerland

CONSTRUCTION ELEMENTS

Investment in the future: double-end tenoner for a new production line

Tschopp Holzindustrie AG, in the Swiss town of Buttisholz, produces **up to 6,000 formwork panels every day, amounting to over 1.5 million square metres per year.** In August 2020, a new SCM's "**celaschi p60**" double-end tenoner was successfully installed. "This plant is part of a new production line and focuses on profiling the panels' longitudinal edges", explains Daniel Ott, Country Manager SCM Switzerland

Healthy growth, continuous development, continuity, long-term thinking and fairness have characterised the history of the **Tschopp Holzindustrie AG** family company since 1920, now spanning three generations. As stated from the Managing Directors **Ronald and Daniel Tschopp,** "We think and act with foresight and sustainability. Thus, we focus fully consciously on the needs of our local business partners".

Commitment to sustainable production

All the round wood for the production comes from Swiss forests. All products (except shuttering beams) are manufactured at the Buttisholz site and sold in Switzerland. This focus on the Swiss market ensures fast response time and short transport distances.
"The 100% reuse of the raw material at a single location allows us to produce ecologically while simultaneously adding the highest possible value.
As a commitment to sustainable production, all the electricity for our company comes exclusively from Swiss hydroelectric power".

Wood pellets and green electricity

The company has been producing high quality wood pellets since 2005, thanks its many years of experience. The plant has a capacity of **130,000 tonnes**

of pellets per year and is the largest in Switzerland. The manufacturing process is highly automated and permanently monitored. In addition to their own waste wood, the company also processes untreated waste wood – such as wood shavings, sawdust and wood chips – from Swiss wood processing companies and sawmills, converting it into wood pellets.

The heat requirement for drying the waste wood is provided by the company's own wood-fired power plant. The bark from their sawmill, as well as used shuttering panels and recycled wood from their customers, are used as fuel for the plant. A perfect wood cycle – CO2 neutral. With a total storage capacity of 16,000 tonnes in bulk and in 15 kg bags, the company is a reliable supplier to the energy industry.

In addition to the bark from their sawmill, recycled wood of classes A1 and A2 in uncrushed form is used as fuel for the wood-fired power plant. The recycled wood is efficiently and professionally transformed into high-quality fuel for the power plant.

Tschopp offers their customers disposal services for their used materials. This means that the products come back and are recycled to produce energy. In total, the business converts 18,000 tonnes of recycled wood into ecological energy every year, in addition to the bark. The electricity, sustainably produced using an ORC turbine, is fed into the local supply grid. The


The owners Ronald and Daniel Tschopp

waste heat from the turbine is used entirely to dry the sawn timber for the panel plant and the residual wood for the pellet production.
Furthermore, some apartment buildings are supplied with heat via a pipeline.

Safety in construction: shuttering beams and panels

Thanks to high-quality workmanship and advanced construction techniques, the **Buttholz H20 shuttering beams have a significantly longer service life than conventional products.** The impact-resistant protective cap system on the walers prevents damage due to falling and increases the service life of the shuttering beam. The central web made of three-layer panels with predominantly standing annual rings is ideally suited for load-bearing applications outdoors.

Intensive use, temperature fluctuations and the effects of the weather take an enormous toll on a shuttering panel. **Klaus Lindner**, Manager of the Panel Plant: *"Our shuttering panels have a longer service life thanks to innovative technology and unique construction techniques."*

Quality assurance and increased productivity

The carefully finished and coated panel surface guarantees clean concrete surfaces. The panel edges have a unique, four-sided melamine-based edge sealing.

"We guarantee the highest dimensional and angular accuracy. ***Thanks to the modernisation and the new production line, we have achieved higher quality and our productivity has increased,"*** *Lindner is pleased to say.* ***"We implemented this quality assurance with SCM Switzerland".***

Double-end tenoner for a wide range of materials

The SCM's "**celaschi p60**" is the new double-end tenoner, ideal for a wide range of materials. Designed for multi-shift operation, this machine can be used for processing solid wood and panels of any type, as well as other materials (PVC, cement fibres, rock/glass wool, insulation material, plaster, etc.).
"SCM's 'celaschi p60' solution also performs other operations such as sizing, sanding, drilling, bevelling and grooving" explains **Daniel Ott**. *"It offers a wide*

range of machining options: tenoning, cutting-off, profiling, grooving of through/blind channels, squaring, sanding, drilling and chamfering."

The advantages are quantitatively high production results (both as a stand-alone version and as an integrated version in highly productive lines benefitting from the workpiece transport system with feed speed up to 60 m/min), the great variety of machining operations, as well as easy and rapid programming, thanks to the **eye-M-PRO** touch screen control panel and the **Maestro active** square machine software.

Highest precision and reliability

The "celaschi" tenoning, profiling and squaring technologies boast a very long tradition dating back to 1917, Thanks to these high-tech solutions, SCM is able to supply double-end tenoners for machining all types of parquet, doors and solid wood door elements, wooden panels and other materials.
"Our double-end tenoner is part of a production line at Tschopp Holzindustrie AG and is responsible for lengthwise profiling of the shuttering panels," says Ott. **The machine has a feed speed of 60 m/min.** It is equipped with a large 21.5" colour display, our eye-M-PRO console with integrated PC. The machine frame is designed for the highest precision, reliability and finishing quality. This is achieved using a ring-type, monolithic frame made of steel. The adjustment of the mobile beam occurs through a pair of ball screws for maximum rigidity and stability. Both the fixed and the movable beam are a solid support for the operating units, the feed chains and the top pressure belts. Two operating units are installed at each machine side for profiling operation. In fact, the machine is equipped with two high-precision electrospindles 4 kW for scoring operation, with CNC horizontal and vertical adjustment, and two hogging units with high-precision electrospindles 13,2 kW with CNC horizontal adjustment.

No unforeseen surprises

The project was started by Tschopp Holzindustrie AG in 2019. *"The planning went smoothly and the binding delivery and assembly date (2 weeks in July 2020) was met, despite the difficult time that everyone knows about", says Lindner. "At SCM, it is always important for us to involve our specialists from the plants in Italy in relevant projects. This allows us to clarify all points at a very early stage of the project and to make sure that there are no surprises later,"* Ott explains.
An important point was also the interface for the integration of the machine into the complete production line. The integration was also carried out in consult tion with the other production line partners. *"Thanks*

to the central location of SCM Schweiz AG, we can always be at the customer's site very quickly if any issues arise. Local customer service, in consultation with the plant in Italy, is of central importance to us," Ott is pleased to say. SCM is therefore currently also investing in the further expansion of the Swiss branch in Rothenburg.

By Lothar Mayer for HBS holzBaumarktschweiz

Gian Luca Giovanardi Business Unit Manager

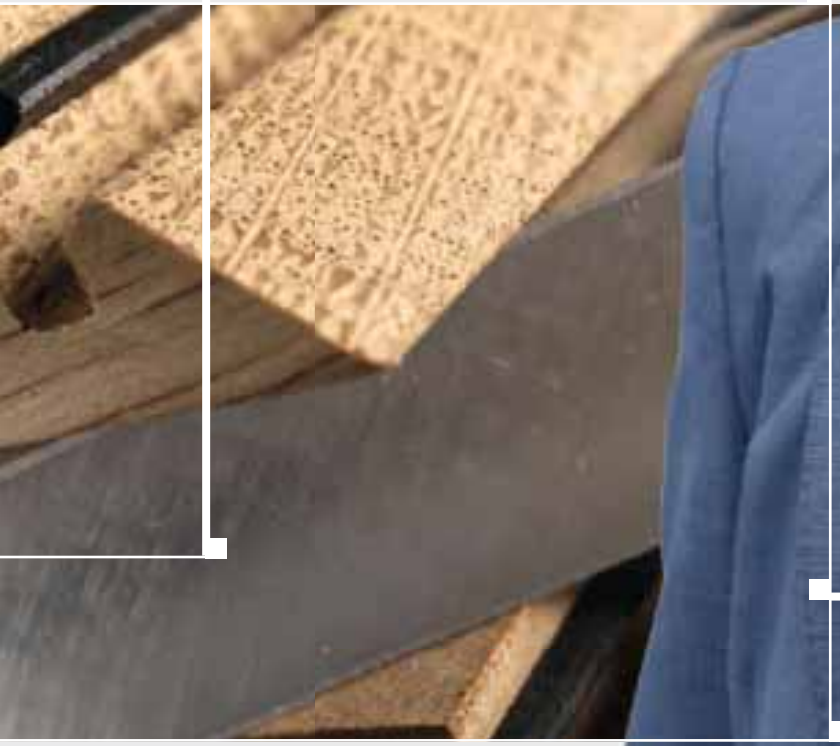
Since the early 1960s, the name **Celaschi** has been synonymous with technological excellence as far as squaring, profiling and tenoning are concerned. We are talking about one of the original brands which, over the years, has reinforced SCM's offer of highly specialised technologies in its sector. It is also one of the companies with the longest history of those incorporated into the Group, whose origins date back as far as 1917. From the time it was purchased in 2007, the wide range of celaschi solutions has allowed SCM to become a benchmark in sectors other than furniture and fixtures as well as the machining of special materials other than wood that are increasingly more common in construction. And the fields of application don't end here, because nowadays, they reach the new frontiers of click furniture, as **Gian Luca Giovanardi**, Business Unit Manager of technologies for profiling, squaring and tenoning at SCM explains.

What is the strength behind celaschi that makes it so predominant today?

"The ability to provide not just high-tech standalone machinery but special highly customised solutions patented by SCM. This is often

> ***After the first round of expansion work was completed in 2018,***
>
> *that led to production space being doubled, the site at Vigolzone will now be further expanded to 6,500 square metres as opposed to its original 2,000.*

Special solutions from parquet to click furniture



Made in SCM click furniture "arrives" in Malaysia

The collaboration between SCM, thanks to the Celaschi Business Unit, and Välinge Innovation has allowed Threespine® click technology to reach as far as south-east Asia: Malaysia to be precise.
Working in close contact with the **Matak** furniture manufacturer and thanks to this new solution, its production capacity will exceed **500,000 units per year** and will allow growing demand from end customers to be met, especially from Japan, which is becoming increasingly interested in the exclusive features of click furniture.

"The partnership between SCM and Välinge Innovation is a guarantee of excellent panel machining, that will allow even the non-professional user to assemble the piece of furniture perfectly, each time" points out Gian Luca Giovanardi. "The combination of SCM technology and Threespine® opens up numerous new design opportunities in the world of furniture, in line with the most current market trends. The panels can be of different materials and connected in different shapes or even with corners to suit your needs, depending on the designer or manufacturer's imagination. Furthermore, the absence of hardware always guarantees an essential, top-quality design".

the key to success in partnerships with the largest industrial groups that require very high production lines".

What are the main application sectors?

"Our technology is across the board for processes that may vary greatly from one another. We are partners to leading flooring businesses with a wide range of profiling lines for different kinds of parquet, designed for all-round production. As well as this, we cover numerous processes linked to the production of doors, fixtures and furniture parts, especially boxes, cabinet doors, drawers and desks. And we also offer innovative solutions for machining special, rapidly expanding materials in the building industry, like fibre-cement, polyurethane, mineral wool and calcium silicate, to give but a few examples. In this area, we focus closely on machining more abrasive materials with a reduced density that, precisely because of these features, are more complex to process".

Let's take a look at some of the main new entries over the last year like those linked to click furniture: how did SCM's specialisation in this sector come about in collaboration with Välinge?

"Click furniture technology is expanding rapidly throughout the world, thanks in part to increased on-line sales of furniture kits. It is a system that is dramatically changing the manufacturing philosophy and assembly times for a modular, practical and highly attractive design that is also sustainable and within everyone's budget.
We have made the most of our many decades of experience in squaring and profiling, to apply it to machining click panels using the Threespine® technology patented by the Swedish company, Välinge. Our solutions can be adopted individually or in combination with other technologies in the Group (like **stefani** squaring-edgebanding machines or **morbidelli** CNC machining centres for drilling and routing). In particular, for machining horizontal and vertical elements of the box, we have developed a line with a **celaschi sp** longitudinal single-sided profiling unit, a panel-rotating device and a **celaschi p60** crosswise profiling machine, designed to generate click profiles on already squared and edged panels. Our solution to machining the back of the box is the **celaschi p40**, configured with six motors specifically for squaring and profiling in two steps".

Staying on the topic of furniture and design, what other new entries are there?

"In collaboration with the Business Unit for Edgebanding, we are developing **stefani** solutions specifically for the production of drawers that allow very narrow pieces of less than 60 mm wide, to be machined. Our new splitter line with **celaschi spl30** and **stefani one** has been designed to create the front panels with J-Shape profile, while for the body of the drawer, we have designed a **celaschi sp**

squaring machineexclusively for folding, that allows you to produce the entire drawer unit starting from the machining of a single bar on which 2 or 3 'V' grooves are created".

One of the core business of celaschi technologies is, however, parquet: what are the new trends in this area?

"Chevron ('Hungarian' or fish bone) parquet is a niche application that is increasingly gaining consensus on the market. With the new **celaschi tmc** crosswise squaring machine and its automatic loading system, we can offer our best in terms of technical solutions on this front for the in-line profiling of parquet boards with different gradients. This allows us to offer the customer the chance to optimise their processes even for complex machinings like this. Without forgetting that **celaschi tmc** can work gradient parquet boards as well as traditional parquet with maximum versatility and precision".

What are the main requests made by the world of fixtures?

Versatility is increasingly the order of the day and it is no coincidence that this is one of the application fields in which our special solutions produce the best result with leading industries in the sector. In many cases, they are integrated with other Group technologies in large installations capable of combining high production and flexibility levels in the case of **system 8** and **system 9** lines that can produce 400 windows a shift, even ones that vary greatly from one another".

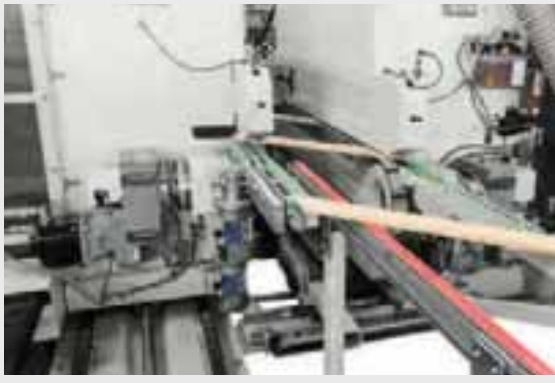
Which applications is the celaschi product evolving towards?

"Product development aims to achieve increasingly higher productivity and this is leading us to develop even more high performing systems in door and panel squaring as with the machining of timber house walls with the new **celaschi xl,** ready to machine in synergy with the **area** CNC machining centre".

Special technologies for configurations, software and applications. The world of celaschi solutions is continually evolving as is its target market.

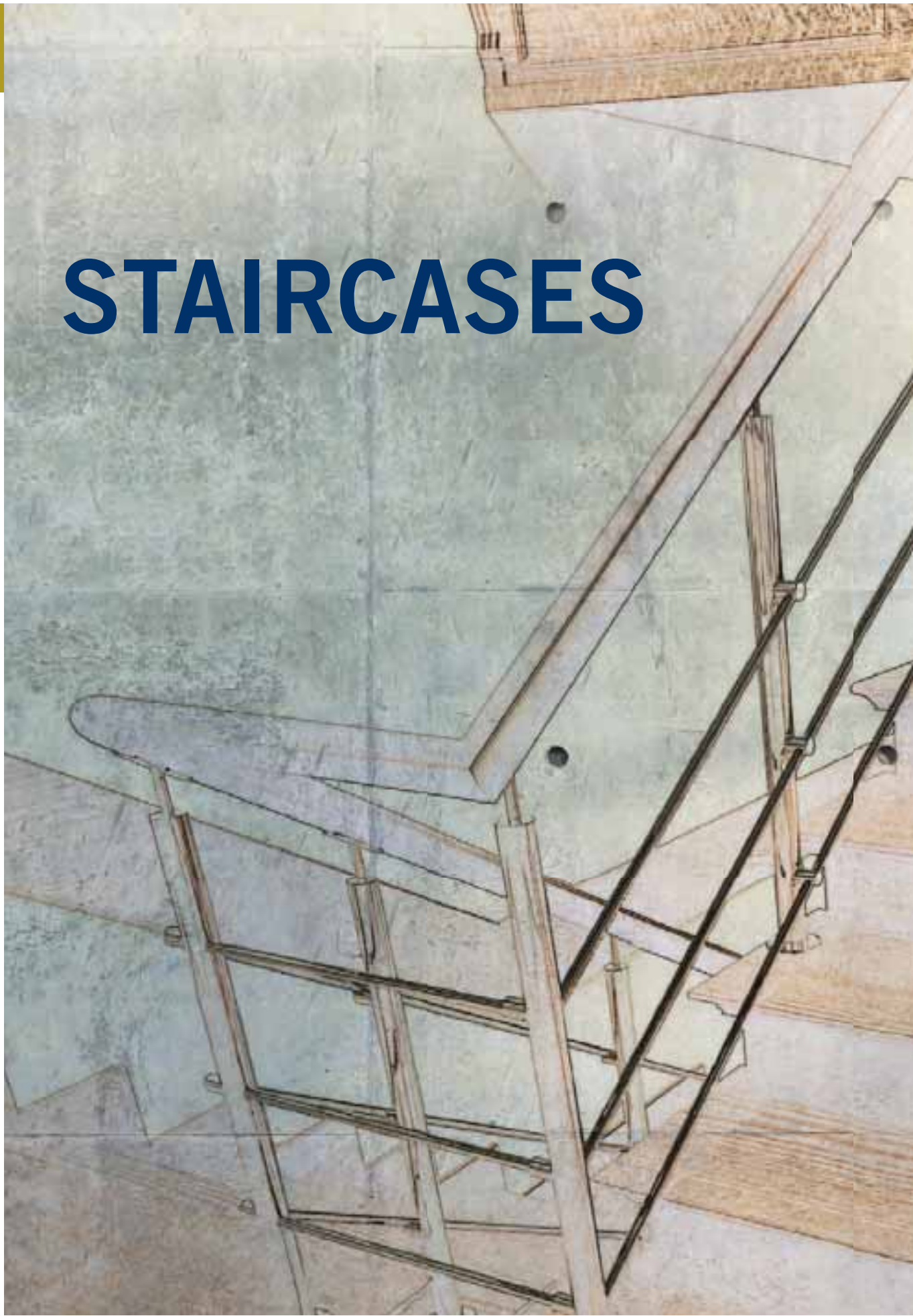
*The new **celaschi** products also involve the production of drawers with the option of machining pieces less than 60 mm wide. Like the new splitter line with **celaschi spl30** (in the photo) and the **stefani one** edgebander.*

> ***"Our strength lies in the ability to provide special highly customised solutions patented by SCM"***
>
> *This is often the key to success in partnerships with the largest industrial groups that require very high production lines"*



***Parquet:** the new **celaschi tmc** offers the best in terms of technical solutions for automatic profiling of parquet boards with different gradients.*

STAIRCASES



WIEHL

STAIRCASES

Perfect sanding, even on very thick surfaces

It is essential for a staircase manufacturer to achieve perfect surfaces. And that can mean only one thing: perfect sanding! To best achieve this process, Wiehl, the staircase manufacturing company, purchased an eleven-metre long "**dmc system bt**" top/bottom wide belt sander, that cut the cycle time by 60% and resulted in a unique quality.

Wooden staircase experts for over 75 years and now in their third generation. **Wiehl,** is a company based in **Bingen** in Upper Swabia, just a few kilometres from Sigmaringen, and is at the heart of this "Made in Germany" story of excellence. Over the decades, the production centre covering over 5,000 m2 has seen the creation of more than **70 thousand staircases**, all of them produced with the utmost precision and modern technologies.

And it is here that we will gain access to the "secrets of success" behind the Wiehl creations. Inside the plant, we instantly spot an SCM's "dmc system bt" wide belt sander, in front of which stands a trolley with roughly cut, unfinished pieces of wood. These will be used to create the stringers.
Before the stringers are machined on a NC machining centre, the Head carpenter, Thomas Vogel sands their surfaces on this exclusive SCM technological solution. The glued unfinished pieces of wood, initially rectangular, have already been shaped by his colleagues using a band saw. **Thomas Vogel** stands in front of the sanding machine's touch screen, inserts in a nominal thickness of 56 mm and selects the "Oak stringers" program. At this stage, he can see all the machine's working units on the screen in a 3D graphic and, with a few simple taps on the screen, can turn each unit on and off as well as select the relative cutting speed.

And that's not all: the graphic also provides additional information by showing which abrasive belts are worn and need replacing.

The machine sands the panel on both sides

The first part of the machine sands the top side of the piece and has a steel calibrating roller, a rubber-coated sanding roller, a crossbelt sanding unit, a planetary unit for multidirectional sanding and lastly a superfinishing pad unit. On the second part of the machine, specifically designed to sand the underside of the piece, we find a calibrating roller, a soft rubber-covered roller and a sanding pad unit.

Right from the start of order processing, Vogel's colleagues strove to ensure the side most visible on the staircase was facing upwards so it could be sanded at the end with the superfinishing pad unit. The work program used for the unfinished pieces requires 60 grit belts for calibrating rollers, 120 grit for rubber-coated rollers and 180 for pad units. Through the machine's doors, fitted with transparent panels, Thomas Vogel observes the units and makes sure that the right belts are being used.

The stringer that is almost six metres long and weighs over 70 kg is lifted by a vacuum lifter that rests one end on the sander infeed roller unit and the other on a roller table. Vogel then turns off the lifting unit's suction device and inserts the stringer into the sanding machine; at which point, he can pick up the next stringer. Behind the machine, an operator stacks the sanded stringers. The machine removes 1 mm of material from each side at a feed speed of 6 m/min. The end result is a perfectly sanded surface on both sides.

50 employees, 2,000 staircases per year

With 50 employees, Wiehl produces around 2,000 wooden staircases per year, especially for manufacturers of pre-fabricated houses. Most of the production is done on NC machines that route the edges of the stringers, handrails, treads and landings. The treads are then profiled, together with the stringers and handrails. Specific copying feelers ensure that the radius of the edges proceeds tangentially to the adjacent surfaces. In order to achieve maximum precision, Wiehl's experts calibrate the pieces before they reach the NC machining centre.

In 2019, when the time had come to replace a wide belt sanding machine purchased twenty years earlier, the CEO **Jörg Wiehl** opted for this SCM's "**dmc system bt**" top/bottom wide belt sander. Jörg Wiehl aimed to achieve even better quality for his machining work with this investment.

An SCM solution fulfilling Wiehl's dreams

The aim was to increase ergonomics and efficiency. In addition, the machine would simplify the passage to water-borne paints.

As is well known, water causes swelling and the wood fibres rise; a more precise, finer sanding contains this phenomenon. Lastly, the machine needed to have a wire brush unit for rustication of the surfaces.

The need for a more ergonomic technological solution is satisfied not only by the vacuum lifters, but above all by the working units for sanding the bottom side of the piece on the SCM "dmc system bt" wide belt sander. Indeed, the latter avoids the need to rotate the panel and it going through the machine a second time. Furthermore, while the previous sanding machine was fitted with only three traditional units, this new solution also has a planetary unit and a superfinishing unit with electronic sectional pad and lamellar belt. The latter prevents excessive strain on the abrasive belt and subsequent overheating of the surface being machined. The planetary unit, in turn, simultaneously sands or brushes in every direction. This ensures an excellent surface treatment on painted surfaces and an even, well-defined structuring.

From left to right, Rainer Reutebuch and Tomas Vogel working at the wide belt sander

Ergonomics, efficiency and cleanliness

""We regard the sanding machine as essential - says Jörg Wiehl *-. Each piece goes through twice, once to sand the raw material upstream of the CNC and once for an intermediate sanding of painted surfaces. Thanks to this SCM sander, the machine operator and assistant no longer need to bend down, lift or tilt heavy pieces and no longer need to return them to the machine infeed to go through again. In addition, the cycle time has been reduced by 60% and the surface quality has improved, and even the painting stage can be done more efficiently. My employees particularly appreciate the intuitive machine control and technological reliability offered by this solution".*

By Georg Molinski for DDS - Das Magazin Für Möbel Und Ausbau

Massimo Paganelli Business Unit Manager

The metamorphosis of the artisan 4.0

> ***A cutting Optimiser/Sequencer like ours has been designed to prevent mistakes even by non professionals, indicating exactly how to insert the panel in the machine and cut it, sequence after sequence***

Imagine viewing the entire cutting sequence to be performed on your panel on your tablet and being guided step by step by the program. A 3D sequencer, with simple, intuitive and captivating graphics, is providing you with suggestions for the correct setting on the machine for each individual cut, in order to completely eliminate the probability of error, speed up machining times and making the most of the panel surface, minimising material waste. All this is already a reality even for woodworking machines which, in the Industry-4.0 era, develop and become increasingly more digital, connected and integrated.
But above all, this is possible thanks to SCM who was the first in the industry to devise and patent the system described above with the **SCM Thundercut** App, as **Massimo Paganelli,** Business Unit Manager for Group's joinery machines, explains.

"This App stems from an increasingly widespread need: to be able to work in complete safety when using tool machines, even if one is not yet an expert craftsman. A cutting Optimiser/Sequencer like ours has been designed to prevent mistakes even by professionals, indicating exactly how to insert the panel in the machine and cut it, sequence after sequence".

Who would have thought that seventy years ago, when the Invicibile was created, SCM's first woodworking machine, that this would be the start of a glorious future for the Rimini Group...

"Precisely like this, over the last ten years, the world has changed. And yet, even today that same machine, well-known for its design and performance, is the top of the range in SCM's extensive product offering for artisan work: an average of 15 thousand machines produced per year".

> ***Our joinery machines can be found both in joinery workshops and in artisan businesses around the world.***
>
> *Just as they are still found in large industries which, alongside the most advanced technologies, do not forfeit solutions that can enhance manual work*

*Detail of the new **eye-S** control panel combined in this case with the spindle moulders in the L'Invincibile range.*

In the age of 4.0, classical machinery still plays a vital part. Why is this?

"Our machines can be found both in DIY workshops and in artisan businesses around the world. Just as they are still found in large industries which, alongside the most advanced technologies, do not forfeit solutions that can enhance manual work. Nowadays, these technologies, not only accompany customers across the globe when creating magnificent works of design but are even more appreciated because they grant access to even more services, unthinkable up until a few years ago, that are increasingly essential: even the machine for woodworking nowadays needs to communicate with the other technologies in the factory".

Digital, connected and integrated machines, but how?

"The new **eye-S** control panels for circular saws and spindle moulder in the **L'Invincibile** and **Class** ranges make numerous functions possible, like sharing work programs and tools database, self-diagnosis, remote assistance etc. All this with an interface that is even simpler and more intuitive thanks to SCM's new HMI **Maestro Active S**. We think of a carpenter who needs to make a customised piece of furniture: for him it will be useful to connect even the simplest machine with its other technologies and with the company management system, to optimise the order and precisely calculate production costs and times. At any time, the carpenter will be able to control the process in real time, even from an IoS or Android mobile device, program the production for the days to come, check if the machine is used to its maximum potential and prospectively optimise and program maintenance work in advance. Thanks to our new control panels, even the SCM joinery machines will be fitted with an IoT system - a simplified version of **Maestro connect** - to access all these services remotely".

Where do Joinery 4.0 scenarios take us?

"We continue to skilfully intercept the most detailed demands of our customer. There are particularly interesting trends which would be a perfect match with our digital new entries. The communities where users exchange information, services and even programs to create objects of design, is one example. Let's image a carpenter on the other side of the world, enthralled by a piece of furniture produced by an Italian artisan who put his project up for sale on a community. So, the former, instead of buying the piece of furniture could purchase the machining macros from the latter to make it himself. Examples such as this could become even more frequent and SCM wants to be an integral part of this and other new challenges with its technological innovations and skills that have accompanied the most creative and progressive artisans for seventy years".
A lot of water has passed under the bridge since that first *L'Invincibile* was produced in Rimini and we are sure that even what the world of woodworking has in store for us will be equally captivating.

An “Invincible” machine for a Guinness world record table

A huge, 5,000-year-old oak tree and an incredible challenge: a table stretching over 13 metres donated to Great Britain to preserve the memory of such an antique and valuable wood.

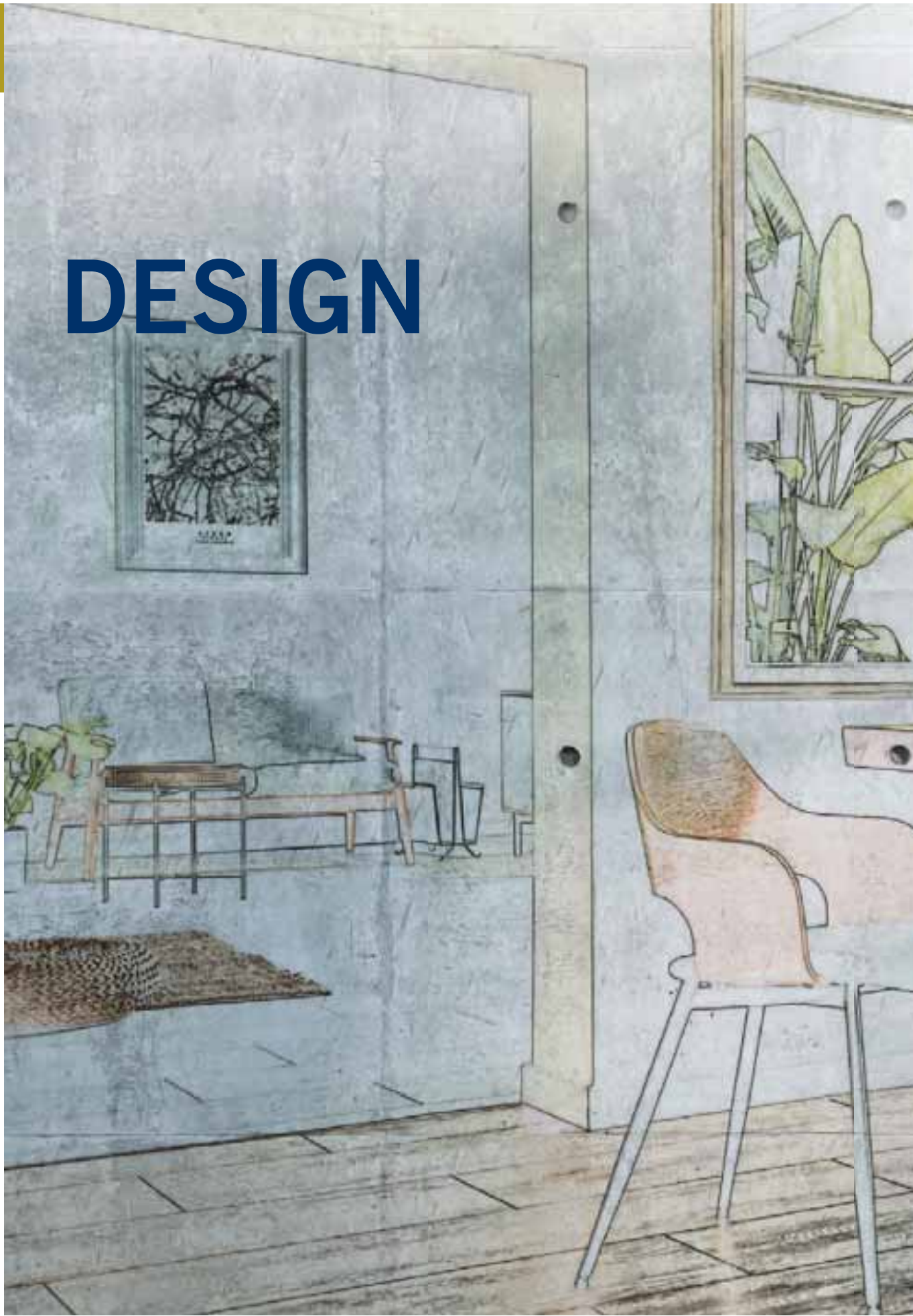
The “**Jubilee black oak**” (“Jubilee Oak”) is the rarest, most prestigious timber in Great Britain, as well as being a material with unique structural and aesthetic features. In 2012, in the Fenland countryside, a farmer came across a piece of trunk purely by accident while he was working the land. This kind of timber instantly attracted a huge amount of interest, so much so, that a group of experts began to take a closer look at its “roots”. The team finally discovered that it was a huge black oak tree which had been buried under the peat for almost 5,000 years.
Without a budget and against all the odds, a team of artisans wanted to preserve this “giant” in the Fenland, a truly genuine piece of national heritage, and the only way to do this was to create a “Guinness world record” table the length of these planks of wood stretching over 13 metres.

This is how the “**Fenland Black Oak Table**” project was founded and which led to the creation of **a masterpiece of unique design as well as one of huge symbolic value.**
The table was inaugurated on 17 May 2022, for Queen Elizabeth’s Platinum Jubilee in the presence of Princess Anne at the prestigious Ely Cathedral in Cambridgeshire. It will continue to be housed in this magnificent Romanesque and Gothic style building, North-East of London, surrounded by fields that still conceal in their depths vast numbers of black oaks dating back thousands of years.

The tree has ten sequential planks which were transported and dried at the **Building Crafts College in Stratford in a 14-metre-long** furnace specially set up for the occasion. 18 people were required to lift each plank into the furnace and almost 2,000 litres of water were extracted from the timber. The planks were then machined on a “**L’Invincibile s7**” SCM planer, a model particularly well suited to hard, quality wood like that of the Jubilee black oak.

“In order to work on planks of this size (13.4m long and approx. 0.5 wide) weighing an incredible 150 kg each, a machine with an extremely powerful motor was required and with outstanding finishing potential. This is why the choice fell to SCM’s L’Invincibile s7”, adds the architect, **Mauro Dell’Orco**, who coordinated the design of the project. *“The planks were sanded by hand, so it was essential for the surface planer to guarantee an excellent quality finishing from the outset in order to reduce future sanding time. In addition to this, the digital control of the machine means the thickness can be accurately checked and, more importantly, the speed can be modulated on time”.*

DESIGN



BÖSENDORFER

SAN PATRIGNANO

TIMBAER SKIMANUFAKTUR

DESIGN

The grand piano - a prized piece of furniture

Bösendorfer manufactures around 300 design pianos each year and 80% of its production is artisan. The "orchestral work" with the most advanced technologies means it can accomplish outstanding innovations, that considerably enhance the range of sounds in tune with each instrument. Since 2016, SCM's "**morbidelli m800**" five-axis CNC machining centre for drilling and routing has been an integral part of the production process at the Wiener Neustadt company.

The Austrian company, Bösendorfer, has been manufacturing pianos since 1828.
The hand-crafted details found in the production of these instruments is symbolic of skill and a long-standing tradition.

Each year, around 300 are manufactured in Wiener Neustadt. The 125 company employees work on each instrument for about 14-16 months, until the work is finished. Proof that they are genuine works of art is also reflected in the price: the cost of a grand concert piano can vary from 86,000 Euro for a standard version to 175,000 Euro for the largest version, the Imperial

The sound of Vienna

"Many of our clients see the grand piano as a piece of furniture, so we share some common ground with furniture manufacturers", says **Marion Alexander**, PR&Marketing Manager at Bösendorfer. Even if our clientele wants the instrument to blend in to the surrounding space, it is always the sound that takes centre stage and the company's quality standards continue to find their familiar "score" in the renowned "Viennese tradition".

Wood as a material

"Spruce allows us to achieve the best acoustic effects and is, therefore, our main material", explains Alexander. The wood is cut in winter and stored in Wiener Neustadt for years. *"Our timber suppliers then analyse it and it is subsequently checked and further selected by our Bösendorfer co-workers at our supplier's plant".* As well as **spruce**, the pianos are also manufactured using **beech, hornbeam** and **maple** wood. "The essence of the selected wood is the most important aspect for us, so we carefully follow the drying process". explains Alexander. Each instrument, together with the material used to manufacture it, has its own sound potential that the Bösendorfer experts are capable of bringing out. And that's not all: for the high-end clientele that represents the company's target market, it is important that each piece carries with it a story.

Tradition and innovation

*"We work on an instrument for an average of **400 hours, of which 14-17 hours with CNC machining centres"**,* explains **Thomas Broukal**, Technical Director at Bösendorfer. "While we regard tradition and the attention given by craftsmen as significant values, innovation and perfection are also important to us, as is the continuous improvement of products and pro-

cesses. Certain precision work can only be achieved using the CNC machining centre", explains the piano manufacturing specialist.

One particular feature of Bösendorfer is the principle of the **sound board** on which the production of each grand piano is founded and the company's "philosophy of sound" is based. Over the last four years, this long-standing Austrian manufacturer has further enhanced and innovated this principle thanks to a special routing operation performed on a CNC machining centre supplied by the Italian manufacturer, SCM.
Since 2016, the "**morbidelli m800**" five-axis machining centre has been an integral part of the production process developed at the Wiener Neustadt plant. "We chose SCM and this technological solution on the advice of some of our suppliers who also work with these machines supplied by the Italian Group. So far, we have been extremely satisfied. It was the right decision", says Thomas Broukal.

Maximum precision

One of the specific aspects of the "**morbidelli m800**" CNC machining centre used by Bösendorfer, is the automatic worktable: the piece locking systems automatically position themselves in line with the machining program previously set by the operator.
This saves a considerable amount of time and reduces the risk of errors, by optimising production.
In addition, the special version is fitted with a five-axis routing unit with a machining height of 430 millimetres. *"The equipment can hold up to 48 tools, thanks to a 24-position tool change, a twelve position side tool change and another twelve 'on board' tools which accompany the routing unit"*, explains **Stefano Buratti**, the SCM Sales Engineer.
When the sound board is being produced, a splitting frontal cutter removes the panel layer by layer, making the table flexible enough to be inserted taut into the piano frame. *"Manual processing would be impossible due to the high level of precision"*, explains Buratti.

Grand piano with no pianist

Digital technology makes its entry to the company not only on the production side but also in other areas. For example, there is an automatic piano in the selection room, which is impressive not only because it does not require a pianist, but above all for the wide selection and quality of the music.

As well as the vast "library" with numerous historical recordings which only Bösendorfer possesses, the distinctive feature of the system is that it can, not only reproduce musical pieces (there are so many on the market), but can also record them in high fidelity. This means a performance can be recorded and one can take note of the results for learning purposes. So, musicians can record and re-elaborate their pieces. Broukal and Alexander see this as a growing market.

Text by Diana Danbauer
Photo by Bösendorfer/Diana Danbauer

The "morbidelli m800" CNC machining centre: a guarantee in terms of productivity

DESIGN

The rebirth of outstanding Carpentry

For over forty years San Partignano Carpentry has offered its guests at Europe's largest rehab Community, a second chance and the opportunity for practical training in the wood-furnishings industry to join the employment world outside.
A story of top-quality craftsmanship supported by SCM, that produces prestigiously designed works for world famous designers and brands.

WATCH THE VIDEO OF THE CASE STUDY

Top-quality craftsmanship as a therapy. Design as a search for beauty, not just from an aesthetic point of view, but in a wider sense of rebirth, liberation and life.

This is an experience that has been running for more than forty years, involving the **San Patrignano Carpentry**, the largest rehab community in Europe with over a thousand youngsters staying there (more than 26,000 since 1978). This carpentry, like the other numerous activities that involves the structure at Coriano, in the hills around Rimini, appreciates **training** and **work** as key tools for giving a second chance to the youngsters involved. So many of them came to the Community after hitting rock bottom, convinced there was no more hope of them breaking free of their drug addiction. San Patrignano has offered them a free home, a chance to get back in the game, start studying again, to learn a trade, and regain the courage and skills needed to fully re-enter society at the end of their rehab. This is how so many young men and women have started to view life and themselves with passion, enthusiasm and trust, discovering talents and skills that perhaps they would never have imagined they had before entering the Community.


scm
minimax cu300c

A creative hotbed for their top-quality design works

Artisan work is key to this journey and the Carpentry is tangible proof, as is clear from the emotional stories of those involved.

Around a hundred youngsters have been involved in this work since the 1990s, amidst slots and planing: a genuine success story if you think that fewer than ten youngsters worked in the workshop at the start and even then, mostly doing internal maintenance work on the structure.

In the decades that followed, **again thanks to the partnership with SCM** that donated machines to San Patrignano and provided specialists to assist the youngsters and their teachers, the work grew until it became a carpentry selected by internationally renowned architects to produce prestigious, top-quality design works.

Passion, skills and sustainability

In close collaboration with the other workshops of the **Design Lab** dedicated to weaving, leather works, welding and the production of wallpaper, unique products are created for global "made in Italy" leading brands. Its main clients are some of the best architects, designers and interior decorators selected by **AD100** and **A List** worldwide. Some of the most successful partnerships include those with **Paolo Moschino** and the Nicholas Haslam studio (London), **Peter Marino** (New York), **Cabinet Pinto** (Paris), **Micheal Smith** (Los Angeles), **Tomas Hamel** (Sydney) and **Natalia Bianchi** (Milan).

Another jewel in the crown, as well as the passion of its cabinetmakers and top-quality design is the research into, processing and recovery of natural materials. Among the many examples of this mission, is the **Progetto Barrique, la terza vita del legno**, an initiative

devised thanks to the help of Maurizio and Davide Riva from Riva 1920 and supported by Federvini, FederlegnoArredo and Cosmit the results of which went on display at the Salone del Mobile in Milan in 2012. With a view to reclaiming the 225 litre barrels used to age wines, San Patrignano asked for help from thirty famous designers including Marc Sadler, Michele De Lucchi, Terry Dwan and Matteo Thun, to transform them into design objects.

The strong ties with SCM

From the first **L'Invincible** machine donated forty years ago, the partnership with SCM has continued in the name of strong shared values like corporate social responsibility, individuals' centrality and their talents, support for technical training and continual growth and a common love of wood and its exclusive potentials for the world of wood-furnishing. The human side of the work remains key to the Cabinetmaking activity at San Patrignano, but **without forgetting about technology**, equally essential for training the youngsters and giving them a professional future outside of the community. With SCM's technicians who, over the decades have worked alongside the youngsters and their master carpenters and with the Group's dealers and clients who come from all over the world during the tech-tours in Italy, a **reciprocal exchange and human and professional enrichment** has been established. The spirit of sacrifice, enthusiasm and desire to learn, the unique satisfaction in giving life to a work of design rarely leaves anyone coming in from outside indifferent, even more so in the case of those who share in a part of these youngsters' journey. **And once again, it is thanks to SCM that the Carpentry has a new lease of life.** The woodworking machines donated in the summer of 2021 come complete with the essential technological specifications to give life to inventiveness and creativity. This is a wide range of **minimax** solutions that can satisfy a variety of machining demands: an **ad 21** boring machine, an **fs 52es** surfacing planer and thicknesser and two **cu 300c** and **c 26g** combined universal machines.

"Wood is alive and always on the move: it arrives unfinished and is then rough-cut, machined and completed.... and without being overly idealistic, resembles the path taken by the youngsters here at San Patrignano".

DESIGN

Timbaer, top quality wood and “Swiss precision” for excellent skis

In the Swiss region of Appenzell, top-quality skis are manufactured with a patented wooden core. The company, Timbaer owned by Andreas Dobler and Dano Waldburger, makes its mark with the top-quality materials it uses, as well as extremely precise artisan machining work and strong ties to its roots. Since the start of 2021, production has been done with SCM's "**balestrini power**".

Timbaer: behind this company's name lies an insightful play on words. "Timbaer" is a combination of "timber" and "**baer**", which in German means "bear", the same animal at the centre of the coat of arms in the Swiss region of Appenzell.
As the owners of Timbaer, **Dano Waldburger** and **Andreas Dobler** pointed out, this name represents the two cornerstones of the company: on the one hand, the construction material and on the other, the home of its completely unique skis. "Our brand is synonymous with top-quality material, extremely precise artisan work and a strong tie with our origins" explain the two businessmen.

Dobler and Waldburger met at training school where they both did an apprenticeship in woodworking. As a final piece of work, Dobler built a ski from his own project. Both men were not only great lovers of this sport but shared a desire to establish their own business. So, as soon as they finished their apprenticeship, the two joiners invested all their savings in developing other prototypes and in building a press for skis.

Their dream was to create a ski model with ***natural materials*** that could be used with **as little effort as possible**, despite being used to practise sports.

Flexibility and hardness

The two young businessmen soon developed a structure with a bamboo core that could ensure both flexibility and hardness. After depositing the patent for the wooden ski, they moved on to the next stage, expanding their range of products to different models: two slalom skis and a race carver, all of these available with two layers in natural materials.
A completely innovative activity and product that would soon attract the attention of other manufacturers, interested in collaborating with them. So, Dano Waldburger and Andreas Dobler started to make the most of their knowledge to develop and build skis even for other brands. This collaboration allowed them to further perfect and enhance their know-how as well as extending their network of contacts. But that's not all: this increased volume of orders guaranteed them the capital needed to carry forward new investments and meet new and ambitious objectives. These included an increase in production volumes, at the end of 2021, of between 300 and 400 pairs of skis.
"Our capacity limit is 500 pairs, so we still have a margin for improvement" smiles Dobler, head of production. "For one pair of skis at 1,900 Swiss Francs (ed. c. 1,800 Euro) the quality can be nothing but exceptional".

Breakthrough with the "balestrini power" CNC machining centre

After moving to the new workshop, we were able to buy a new numerical control machine. So, since January 2021, Timbaer production has been done using a SCM "balestrini power" CNC machining centre. "Our first contact with SCM was through its sales engineer, Charles Locher, at HOLZ 2020 in Basel", explains Waldburger, head of the Administration, Sales and Marketing department at Timbaer.
"Andreas and I knew exactly what we were looking for: a machine that could satisfy our demands. It was also

very important for us to have trust-based relationship and excellent on-site after-sales service, that could assist us as quickly as possible with our demands or deal with any machine stops." The solution came with SCM.

Rapidity, productivity and versatility

In pointing out the main advantages of "balestrini power", the owners of Timbaer highlight the **5-axis revolver operating units** and the possibility of always having all the tools needed for the various process stages. All this guarantees unrivalled speeds during the processing.

The multifunction aluminium worktable ensures excellent work-pieces locking with the aid of specific devices and tools (suction cups and clamps). The new CE cabin with horizontal sliding doors, perfectly combines safety and ergonomic of use at each working phase. **The machine control is easy, efficient and immediate** thanks to the eye-M PRO console with multi-touch screen and the new Maestro active interface software. Furthermore, the new CAD/CAM Smart Pro software enables to design pieces and machinings, to automatically optimise the tool paths and simulate in a single work environment, significantly reducing the programming times.

Not just skis

In 2022, with this SCM machining centre, they will not just be producing skis. "*We will achieve maximum production capacity with the contract production of joinery elements. To achieve this, we will hire an assistant who will be able to deal with the other functions of the CNC machining centre as best as possible, seizing all the production potentials remained unexplored at today."* The next important step concerns marketing. *"In order to achieve our objective to sell 500 pairs of skis per year, we want to improve the position of our brand and further increase our turnover,"* explains Waldburger. Customer trust is essential for the company growing. *"Many of our customers want to see where the skis are manufactured and we are happy to show them!"*

By Lothar Mayer for HBS - HBS holzBaumarktschweiz


scm
woodworking technology
scmgroup

scm
woodworking technology

scm group