morbidelli x100

CNC nesting machining centre for drilling and routing
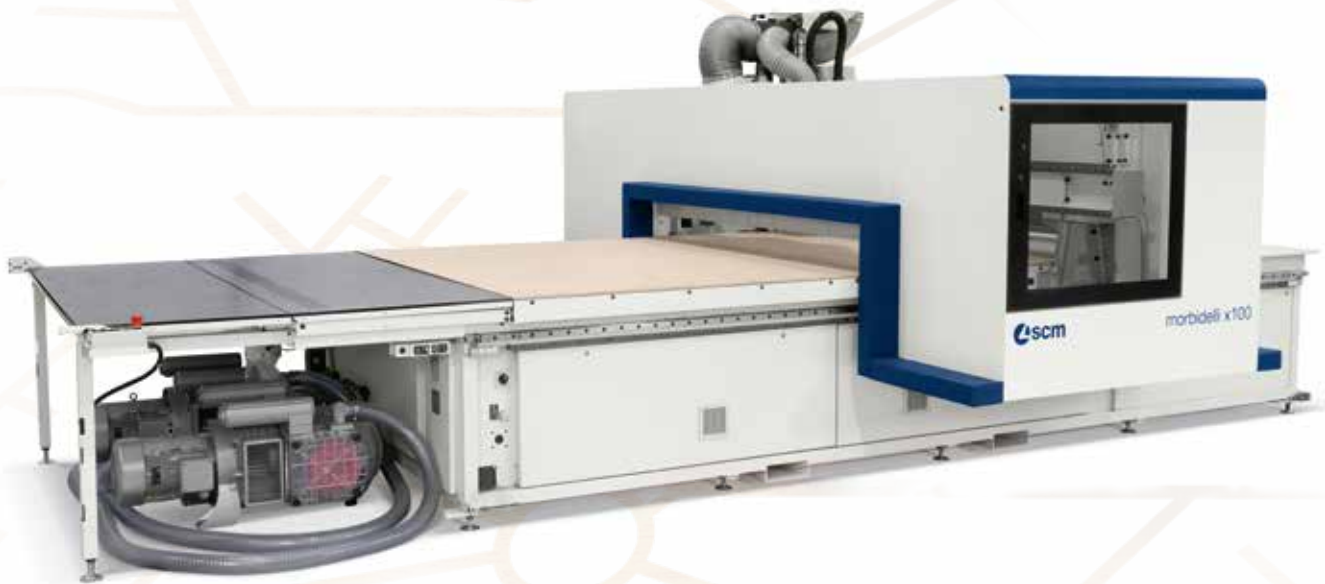

scm morbidelli x100

scm
woodworking technology

THE NEW NEXTING FRONTIER

FIND YOUR X

SCM NESTING MACHINES
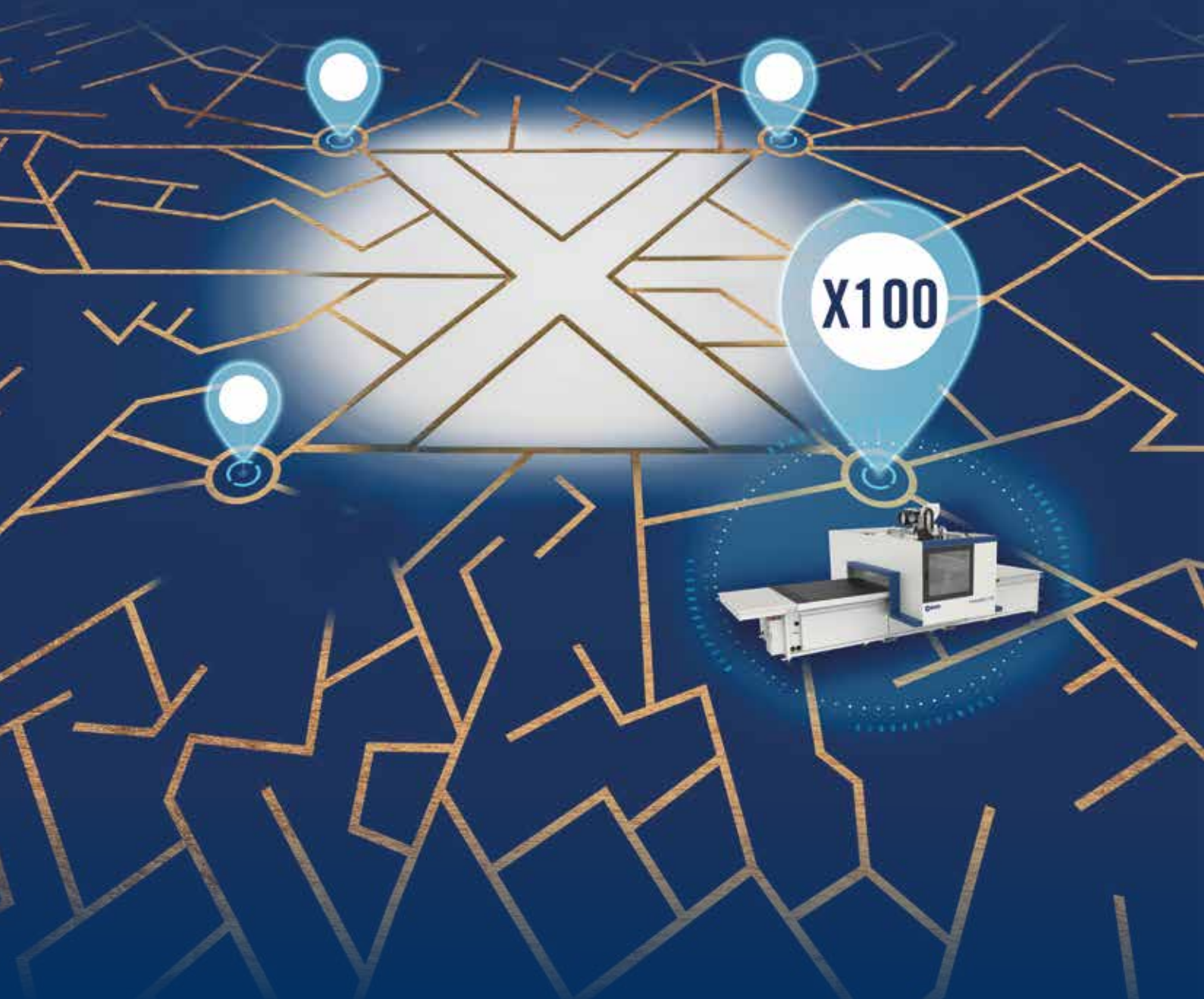
X100

MORBIDELLI X100

THE NEXT STEP
TOWARDS INNOVATION

FREE

Fully safe machining in PRO-SPACE version with bumpers safety system.

TOP QUALITY

SMS - Spoilboard Management System: advanced solution to ease the spoilboard panel management by the operator.

Reduced maintenance, thanks to the **RO.AX** (Rotoaxial spindle technology) drilling bits, recommended only after more than 1,000 hours of machining.

SMART

Vacuum management: Innovative vacuum management, only when needed and where needed.

FLEXIBLE

Stand-alone, mat, push, flex and **cell:** one version for every production requirement.

PRECISION

X-POD reference system: perfect pieces and pods positioning with no limits, due to the advanced laser device.

SOFTWARE

Maestro lab with **Smart cut** for an effective and automatic management of the nesting cut, by optimising the holding of workpieces of any shape and dimension.

AVAILABLE VERSIONS OVERVIEW

AND MUCH MORE

FIVE PRE-CONFIGURED VERSIONS TO ASSIST THE CUSTOMER IN CHOOSING THE MOST SUITABLE SOLUTION FOR THEIR PRODUCTION NEEDS

From the stand-alone up to the most integrated version which eases the loading and unloading operations in a completely automatic way.

X100 CELL: complete cell version with automatic loading and unloading table.

Total recovery of occupied space with the electrical cabinet integrated into the machine base together with vacuum pumps.

X100 MAT: semi-cell version with pusher and unloading belt.

X100 FLEX: it is the evolution of mat version with predisposition for automatic warehouse connection.
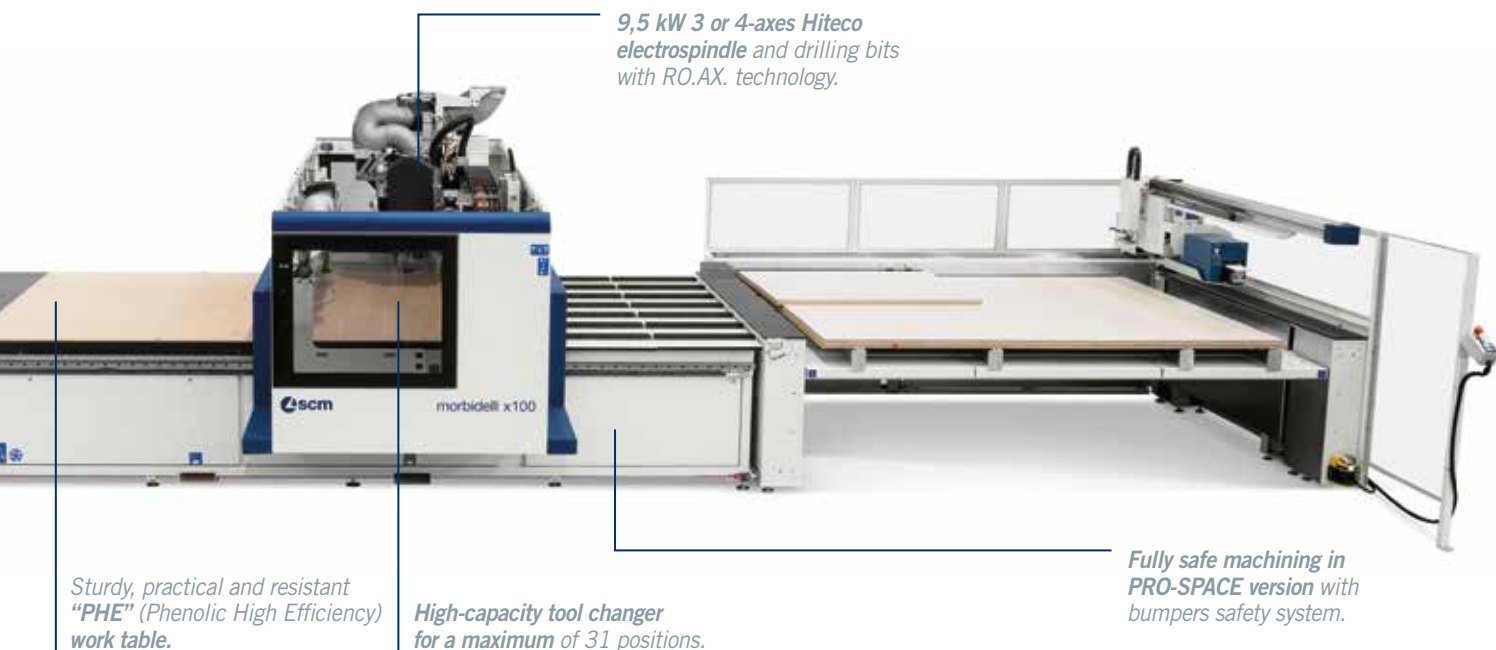
X100 PUSH: version that comes with pusher and stop pushbuttons for those companies that have reduced space but don't want to compromise on an automatic unloading solution.

x100

9,5 kW 3 or 4-axes Hiteco electrospindle and drilling bits with RO.AX. technology.

Sturdy, practical and resistant **"PHE"** *(Phenolic High Efficiency)* **work table.**

High-capacity tool changer for a maximum of 31 positions.

Fully safe machining in PRO-SPACE version with bumpers safety system.

X100: stand-alone version.

SOFTWARE

Maestro lab

From the office, the Maestro lab design and programming system ensures that all machining can quickly and easily be programmed.
Transforming an idea into a finished product has never been so easier.
More than 150 already integrated apps allow to generate cnc programs with just a few mouse clicks.

Office

THE SOFTWARE THAT SIMPLIFIES THE WORK

CAD/CAM programming software to design all the production processes.
Developed in Windows environment it ensures easy programming with an advanced, simple and intuitive sketching environment that features all the tools necessary to design the parts, tools management and the relative machining operations.
All the procedures are contained in a perfectly integrated and high performance software.

SUITE

Maestro pro view
3D Simulator that allows users access to a three dimensional model of their machine in their office and view the operations that will be carried out during the production in advance on their PC.

Maestro 3D
The module integrated in the Maestro suite is designed to program three dimensional objects on 5-axis machining centres.

Maestro apps
Maestro apps is a library of programming functions that are always available and easy to use, developed by SCM for the production of parts for doors, windows, stairs, furniture and furnishings.

Maestro msl connector
Connector for third-parties design software to grant high integrability.

Maestro nesting
The module integrated in the Maestro suite provides all the functions necessary to manage the "nesting" process: from a simple "rectangular" piece to the most varied and complex "free form" geometrical shapes.

Maestro label
Integrated module to manage label templates. Developing labels by inserting texts, images, parameters and the main barcode formats.

Maestro active cnc

Maestro active is the interface that the operator easily uses on all SCM machines: Maestro active interface software maintains the same look&feel, the same icons and the same approach to interaction.

EASE OF USE
The interface has been specifically designed and optimised for immediate use via touch screen, for a simple and comfortable navigation.

"ZERO" ERRORS
Improved productivity thanks to integrated help and recovery procedures that reduce the possibility of operator error.

A REVOLUTIONARY APPROACH TO INTERACT WITH YOUR SCM MACHINE

FULL CONTROL OF PRODUCTION PERFORMANCES
The creation of customisable reports by operator, shift, program, forecast period (and much more) allows to monitor, optimise and improve the performance.

FULL MACHINE AWARENESS AND KNOWLEDGE MANAGEMENT SYSTEM
Recording of maintenance, training and other events, tracing all the activities in a database. The operator's know-how is also stored and made available to other people inside the organisation thanks to the possibility to comment and document all production events or notifications.

ORGANISE YOUR PRODUCTION
Creation of different users with different roles and authorisations (e.g.: operator, maintainer, administrator, ...). Possibility of defining the work shifts on the machine and then detect activities, productivity and events that occurred in each shift.

TOTAL QUALITY OF THE FINISHED PRODUCT
The quality of finished piece is no longer put at risk by worn tools. The new Maestro active Tool Life Determination system sends notification messages as the tool reaches its end of life and recommends its replacement at the most appropriate time.

TOOLS? NO PROBLEM!
Maestro active guides the operator during the tool change phase, taking into account the programs to be executed.
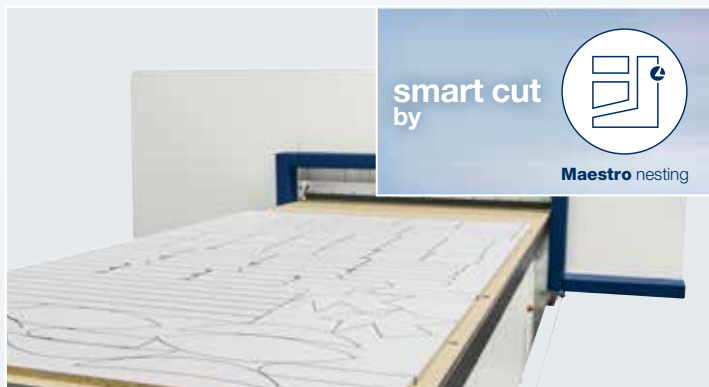
SOFTWARE

Maestro nesting

Goal
Saving time and material scraps reduction.

How?
Through an optimisation software able to create cutting schemes always more compact keeping maximum machining quality.

smart cut by
Maestro nesting

Smart cut: the allied cutting strategy for nesting small pieces

It applies optimised cutting sequences and technologies that, without affecting the speed or layout of parts in the program, improve finish quality and reduce machining cycle times.

BENEFITS

ZERO UNPRODUCTIVE TIME
No need for any second routing passes for fast and efficient production.

ZERO WASTE
No compromise in nesting cutting quality, to grant always precise and perfect machining with no defect.

REDUCTION OF ENERGY CONSUPTION
Thanks to the optimisation of routing paths/layouts and shorter machining cycles.

SMS - Spoilboard Management System

Advanced solution to ease the supporting panel management by the operator. The software is able to proactively report when it is necessary to rectify or replace it.
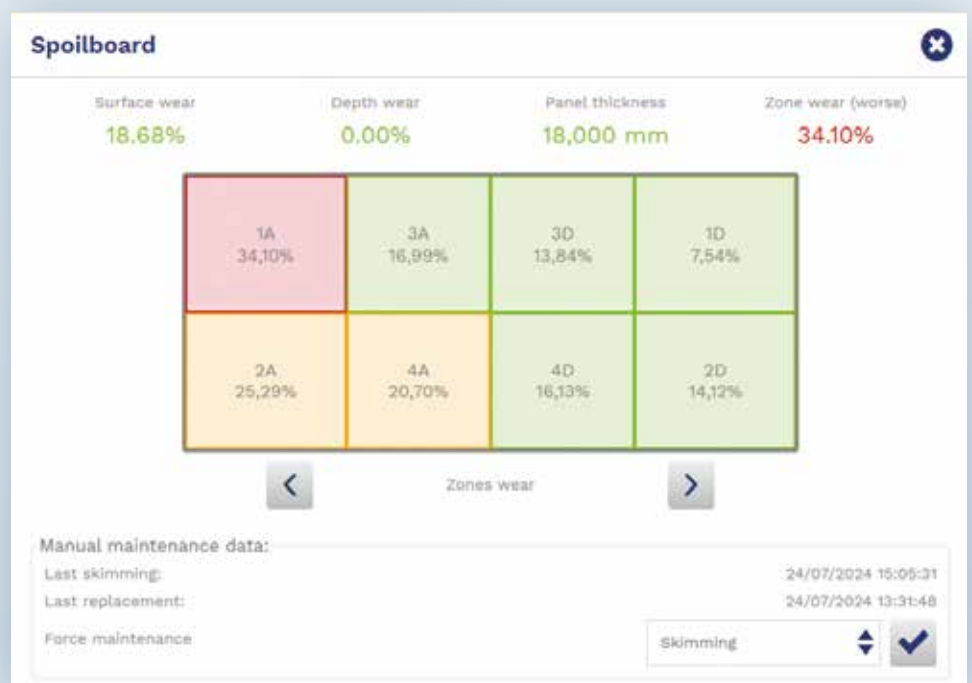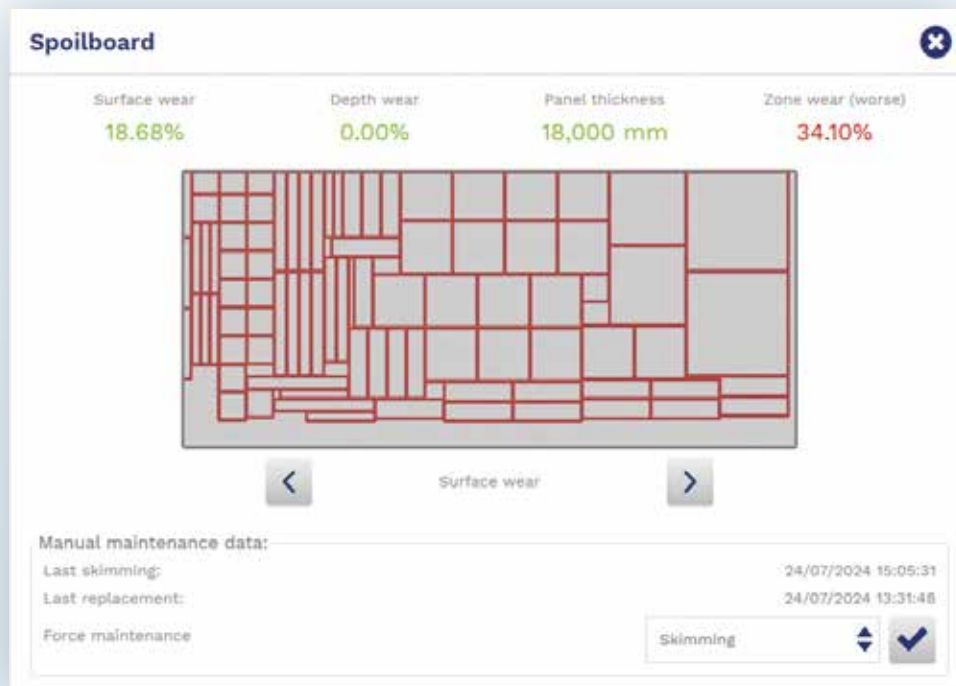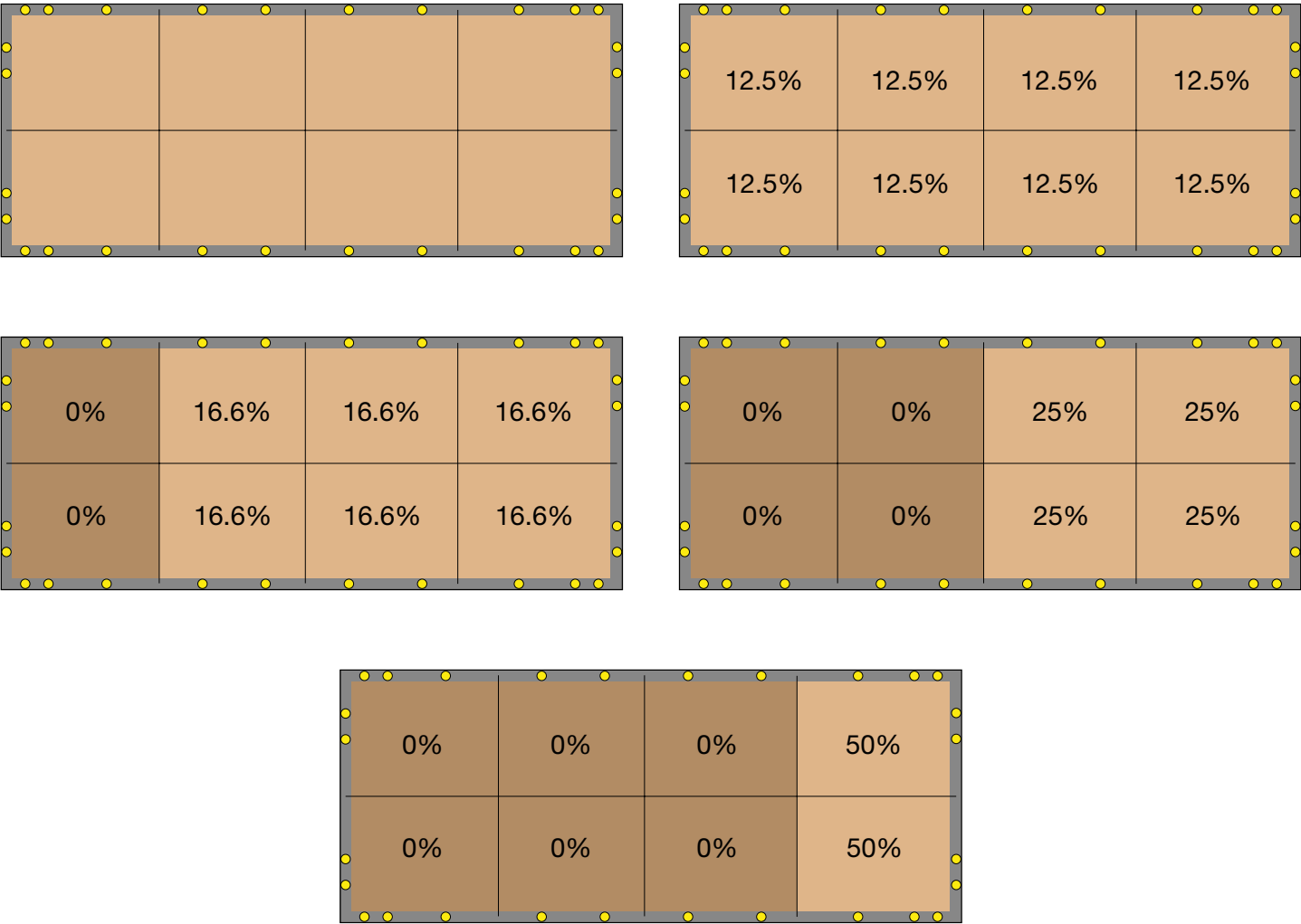
VACUUM MANAGEMENT

MACHINE-INTEGRATED SYSTEMS TO IMPROVE VACUUM MANAGEMENT WITH NO WASTE.

SMART VACUUM: VACUUM ONLY WHEN NEEDED AND WHERE NEEDED

Smart system which, by column switching, allows the vacuum to be concentrated only on the parts that are being processed or still to be processed. In this way, the areas that have already been machined are disconnected from the vacuum, which is redistributed in equal parts to the remaining ones, so that the tightness of the workpieces is always kept at its maximum.
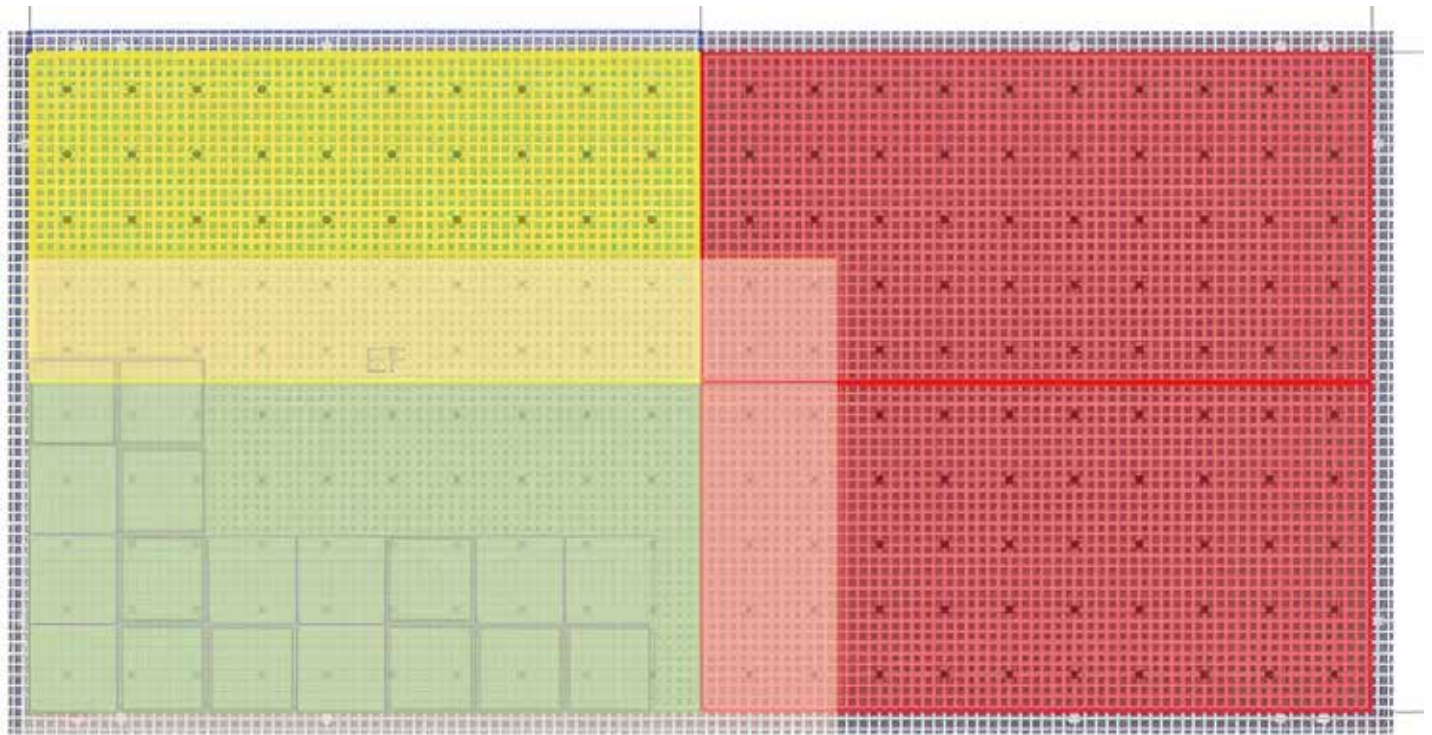
VACUUM MANAGEMENT: NO VACUUM LOSS IN AREAS WHERE IT IS NOT NEEDED

During programming, it is possible to manually or automatically define which vacuum zones need to be activated or deactivated when the machine is operating, for the efficient handling of irregular shaped panels with dimensions below the machine work table.

WORKTABLE

"PHE" (PHENOLIC HIGH EFFICIENCY) WORKTABLE: STURDY, PRACTICAL AND CRUSHPROOF

A special system of air ducts and deflectors grants high-efficiency to the table, by enhancing the gripping force of the workpieces on the entire worktable surface while processing.

Any machining without removing the supporting
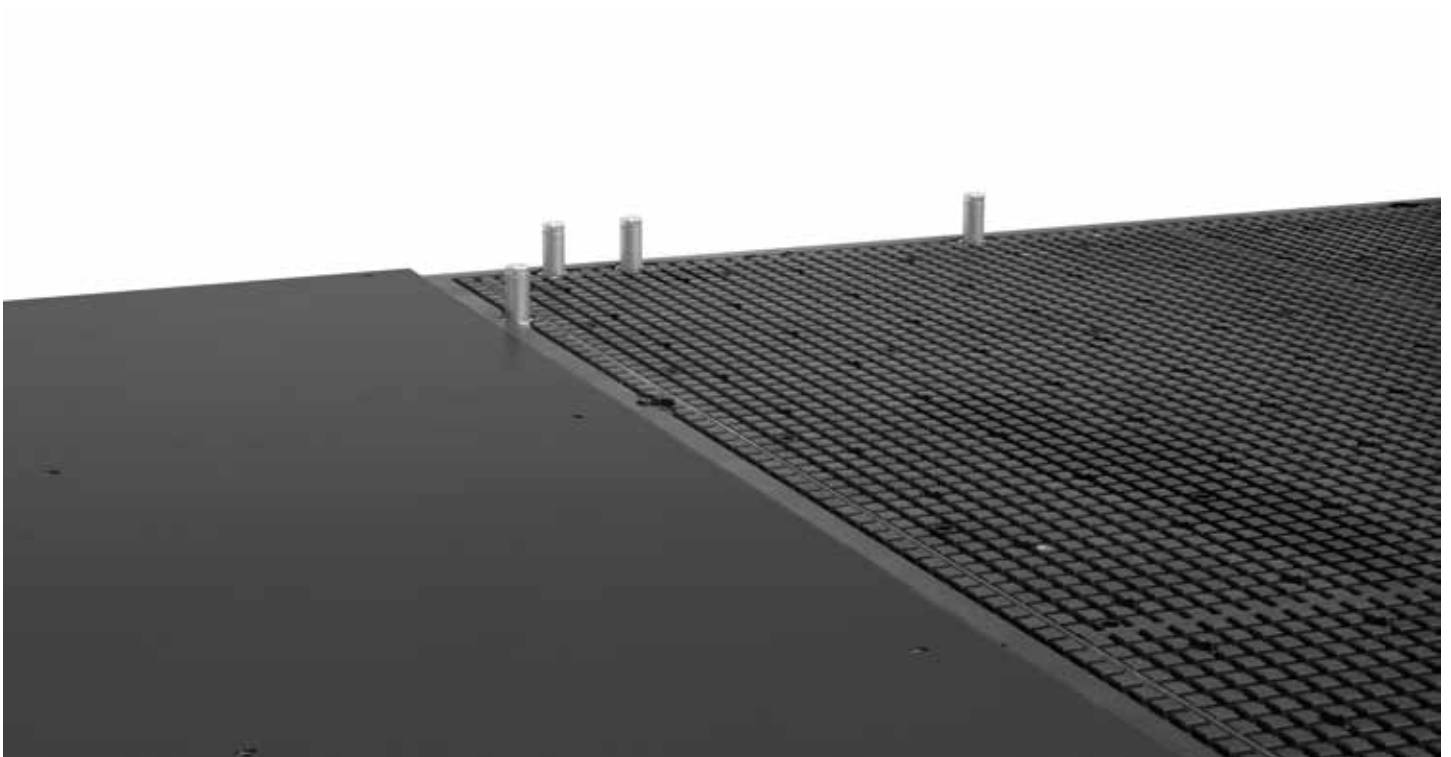panel and no obstacles due to the tubeless **X-POD pods.**

MAXIMUM WORKPIECES TIGHTENING WHEN IT IS REQUIRED

Pneumatically activated static vacuum with the possibility to select from 4 to 8 vacuum areas according to the worktable dimension.

X-POD REFERENCE SYSTEM: NO SET-UP TIME

The laser device allows the perfect positioning of X-POD pods as well as the workpiece to be machined, avoiding the spoilboard removal.

morbidelli
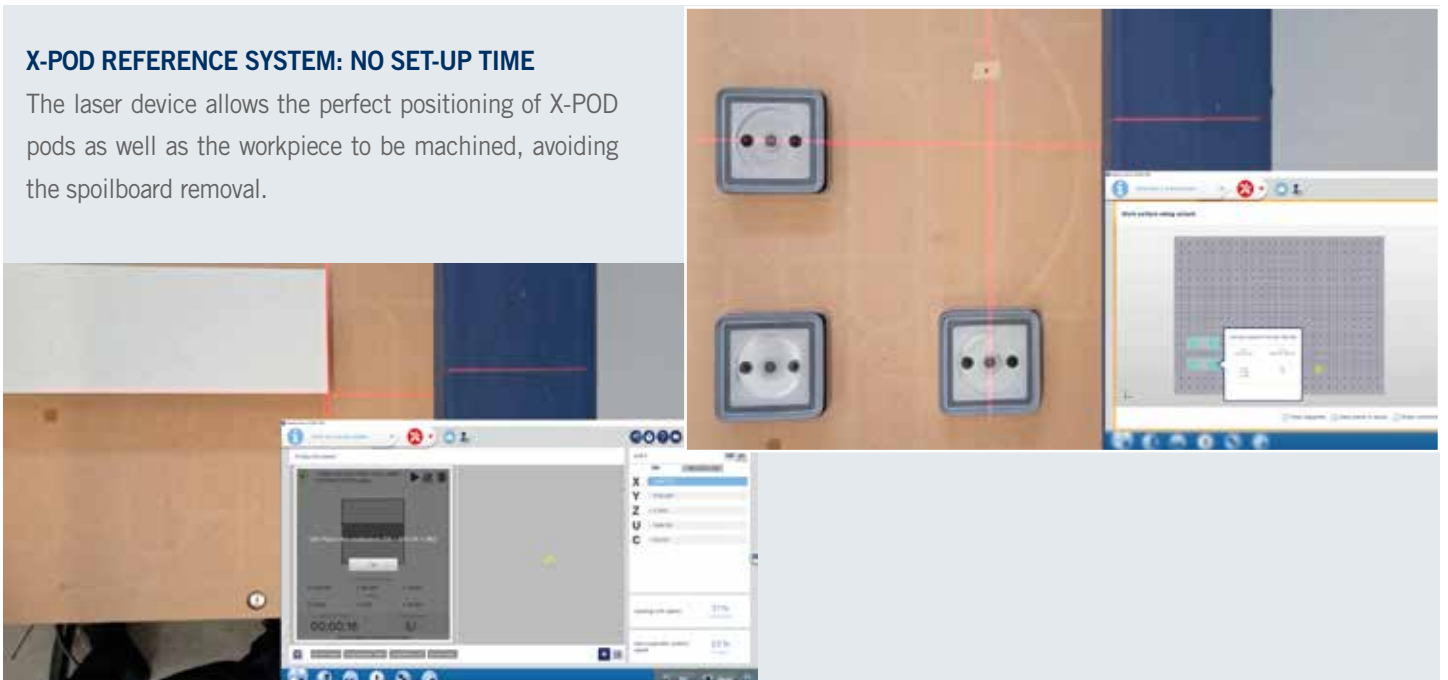
OPERATING UNITS

DRILLING AND ROUTING UNITS

PERFORMING DRILLING HEADS

Minimum drilling time, due to the accurate study of spindles position, combined with high-quality drilling, as they can rotate up to 8.000 r.p.m.

- Minimum drilling time (8.000 r.p.m.)

- Top productivity with maximum machine uptime ensured by drilling heads with RO.AX technology, which minimises the maintenance time to be carried out every 1000 working hours.
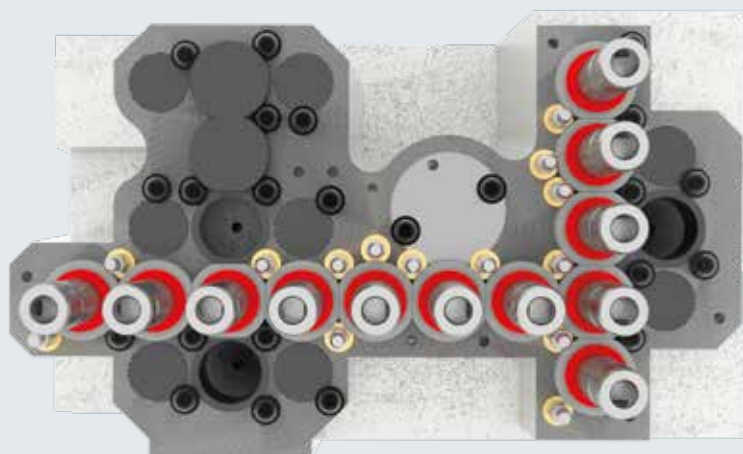
EXCELLENT MACHINING PRECISION

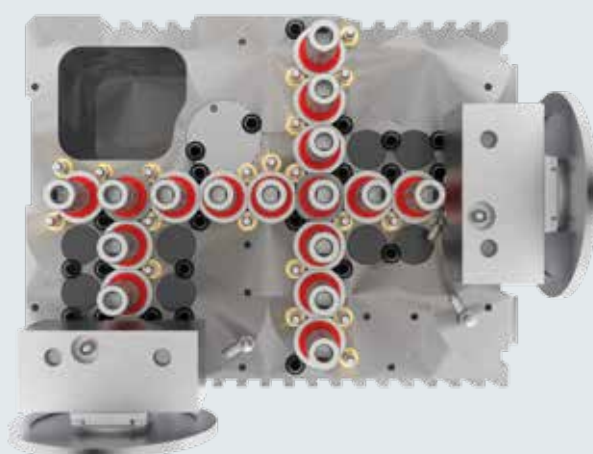with the 9.5 kW 3 or 4-axes electrospindles up to 24.000 rpm.

DRILLING HEADS FOR VERTICAL PROCESSING

F12V

F16VLL

morbidelli x100

CNC nesting machining centre for drilling and routing

LOWERED HORIZONTAL DRILLING HEADS:

ability to execute horizontal drilling without removing the spoilboard.
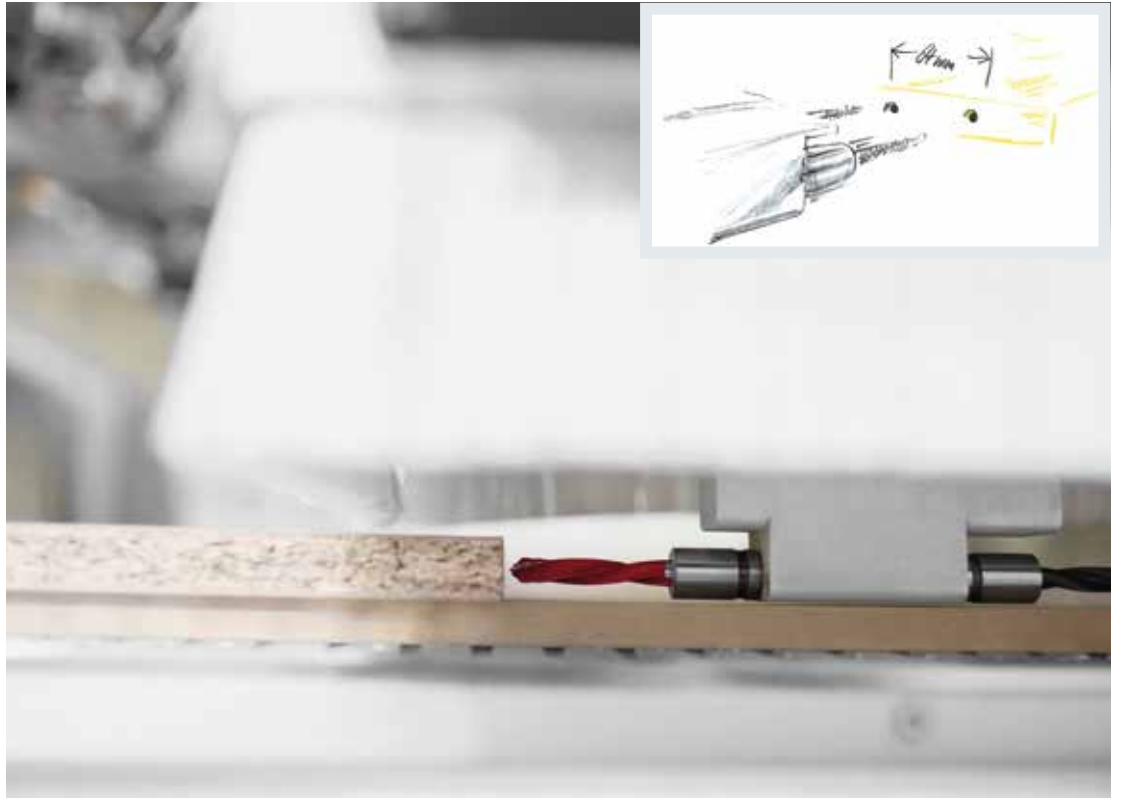
FULL DRILLING HEADS FOR VERTICAL AND HORIZONTAL PROCESSING

F18LR
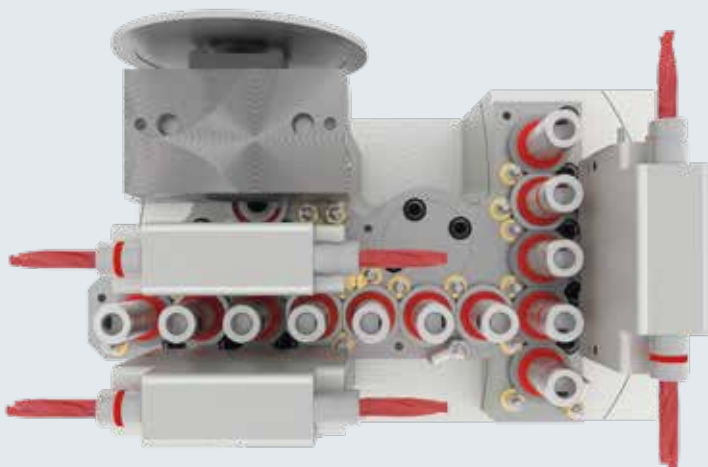
F20LLR
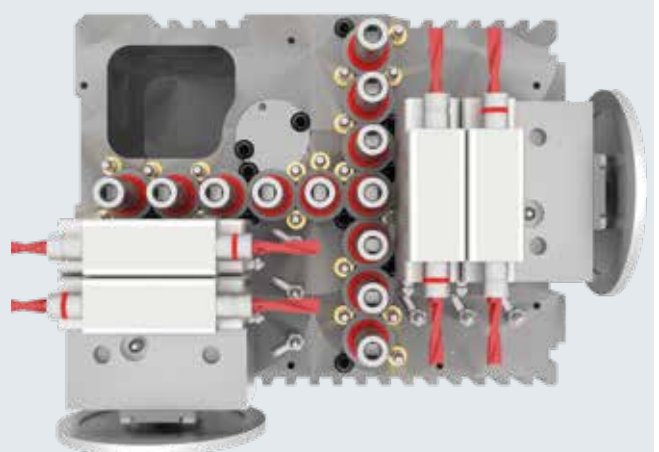
TOOL CHANGERS AND DRILLING HEADS

TRB SIDE TOOL CHANGER
with up to 19 positions.
Standard for versions without
loading automation.

**TOOLS ALWAYS
AVAILABLE**
thanks to the
R12 rear tool changer.
Standard for versions with
loading automation and as
an option on the others.

x100

morbidelli x100

CNC nesting machining centre for drilling and routing

POSSIBILITY OF EXTENSIVE CUSTOMISATION

With angular heads having 1, 2 and 4 outlets with HSK taper couplings for angled routing, drilling and blade grooving machining, with plays elimination system or fixed mechanical couplings.

SMART SOLUTIONS

XS DEVICE

Plug&Play device **to refer all the pieces directly on the spoilboard**, even the smallest one that would not reach the reference stops of the machine.

NO DUST

with **four air blowers positioned on the electrospindle** and X-Y orientated, to ease the waste extraction.

LARGE-DIAMETER TOOL LENGTH DETECTION DEVICE

Positioned on the machine base side, it allows to automatically detect the length of the tool.

morbidelli x100

CNC nesting machining centre for drilling and routing

EYE-M CONTROL PANEL

Modular control panel that combines ergonomic and flexibility to the SCM's high technological performances – all in an iconic design.

WIRED TECPAD

7" color touch-screen remote control.

BAR-CODE READER

Quick and simple scanning of the label associated to the panel by means the bar-code reader.

OVERALL DIMENSIONS

		STAND ALONE	MAT/FLEX UNLOADING AUTOMATION	PUSH LOADING AUTOMATION
		A	A**	A**
morbidelli X100 1224	mm/feet	5990 / 19.7	8300 / 27.2	6150 / 20.2
morbidelli X100 1536	mm/feet	7190 / 23.6	10700 / 35.1	7350 / 24.1
morbidelli X100 1836	mm/feet	7190 / 23.6	10700 / 35.1	7360 / 24.1
morbidelli x100 2231	mm/feet	6590 / 21.6	9500 / 31.2	6750 / 22.1
morbidelli x100 2243	mm/feet	7790 / 25.6	11900 / 39	7950 / 26.1

STAND ALONE

MAT/FLEX UNLOADING AUTOMATION

PUSH LOADING AUTOMATION

CELL LOADING/UNLOADING AUTOMATION
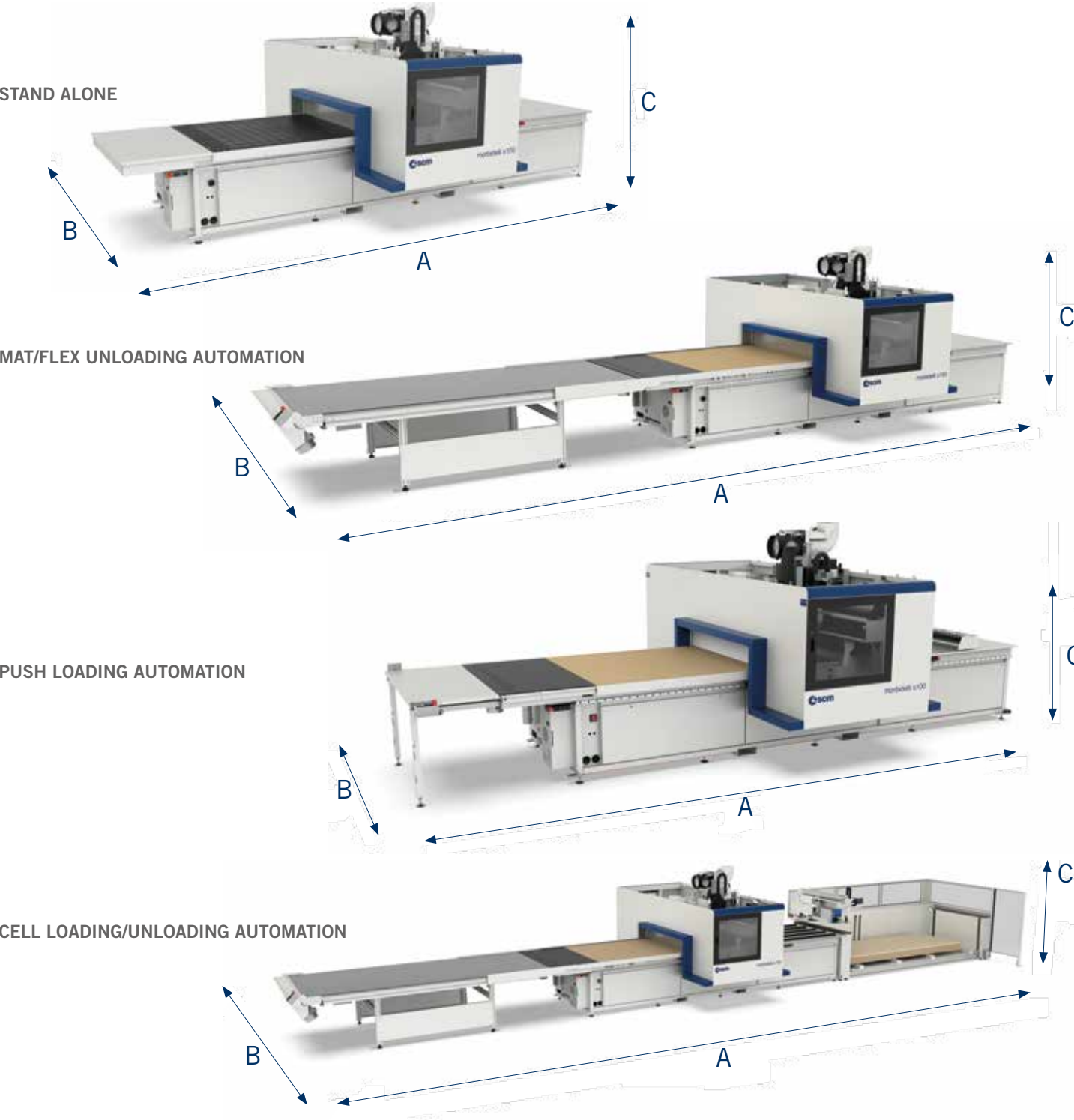
CELL LOADING/ UNLOADING AUTOMATION	FOR ALL MACHINE VERSIONS	
A**	B*	C
11020 / 36.2	4660 / 15.3	2340 / 7.7
14620 / 48.1	4960 / 16.3	2340 / 7.7
14610 / 47,9	5260 / 17.3	2340 / 7.7
12850 / 42.2	5580 / 18.3	2340 / 7.7
16450 / 54.0	5580 / 18.3	2340 / 7.7

* maximum dimension with R12
** operator working area excluded (+1m /39").

No material flow constraints, from right to left or left to right.
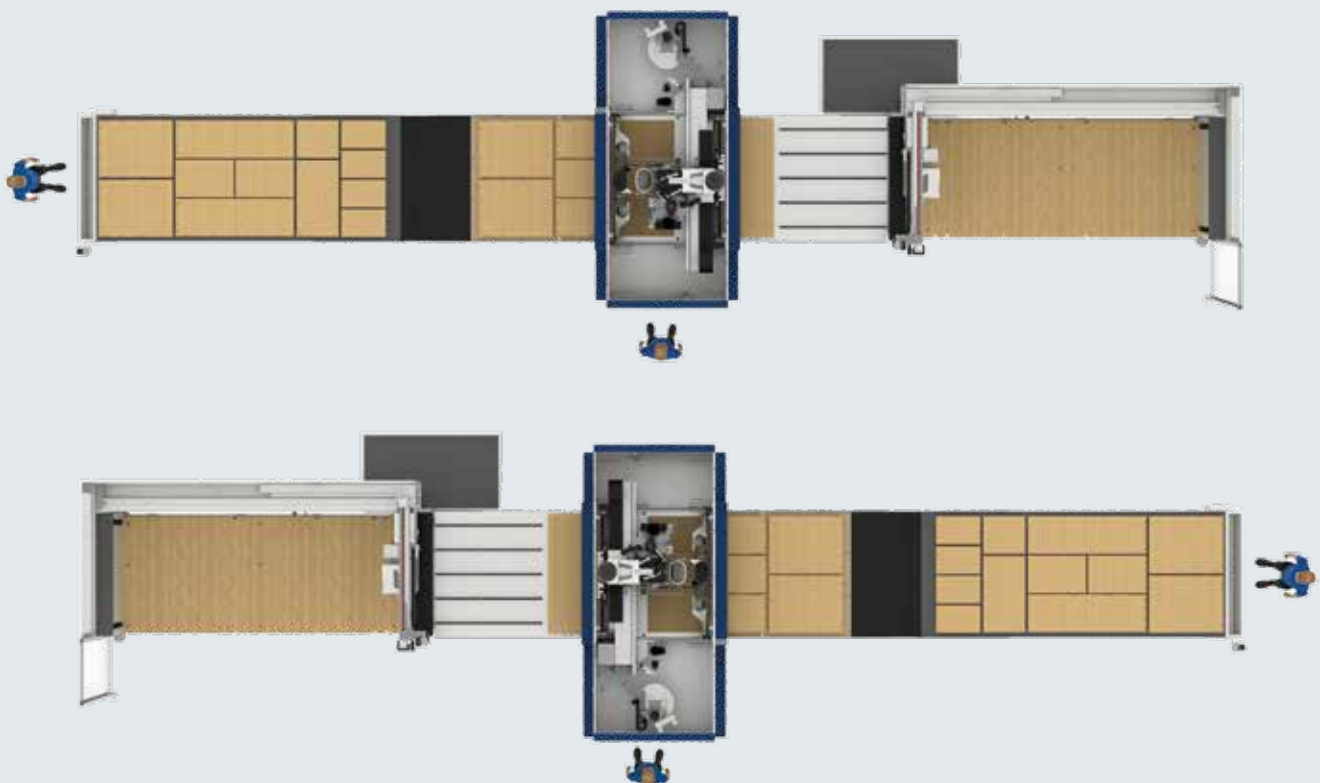
Maestro Digital Systems

SMART SOFTWARE AND DIGITAL SERVICES TO ENHANCE PRODUCTIVITY OF WOODWORKING AND FURNITURE INDUSTRIES.

design > programming and data generation

Maestro office

Office

Factory

Maestro active

cutting > routing drilling edgebanding

SOFTWARE

Simple, smart and open Maestro software are tailored on the machine technology as well as on the entire process.All Maestro software share a common mission:

easy to use, so that any operator can easily and confidently learn and use the software

smart, with algorithms and computing modules aiming at the best possible result

open in order to integrate existing software, and provide customer the coverage of all his process.

SCM accompanies woodworking companies throughout their whole process combining machines with matching software solutions and digital services, with a constant strive to enhance company productivity.

The software solutions powered by SCM are developed to optimize machine usage as well as the entire process, providing integration with the different software existing in the company.

DIGITAL SERVICES

Transforming the way it delivers services to its customers through digital technologies and particularly, the IoT platform that collects and analyses data coming from the machine, **SCM created a world of services enabled by Maestro connect.**

Meaning that connecting an SCM machine through Maestro connect will let customer subscribe a program of fast-evolving services and access a wide range of benefits that even go beyond the machine experience and will support and assist you through the whole life-cycle of your machine.

Maestro connect
IoT Platform

1
Machine monitoring, KPIs, early warning

2
Maintenance equipment
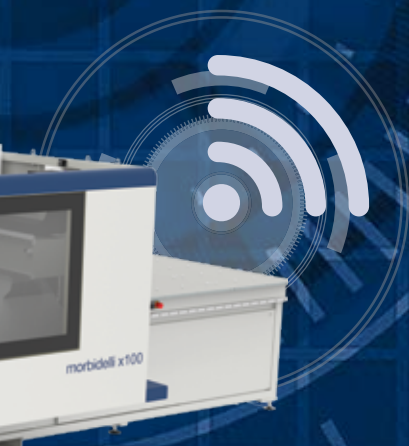
3
Predictive maintenance

4
Report and historical data export to MES

5
Warranty extension

6
Augmented remote support

7
Smart learning, SELF-HEALING, video tutorials

8
Asset management with e-shop SCM Spare Parts

Maestro connect

CONNECT YOUR MACHINE AND GAIN ACCESS TO A WORLD OF SERVICES
Connecting your machine through Maestro connect will let you subscribe a program of fast evolving services. You will access a wide range of benefits that even go beyond the machine experience and will support and assist you through the whole life-cycle of your machine.

FASTER SERVICE INTERVENTION AND PROBLEM RESOLUTION
Maestro connect provides real time data and Health Records of the Machine also to SCM Service drastically reducing its troubleshooting time.

WORKING ALWAYS IN PERFECT CONDITIONS
Maestro Connect can provide a full kit of sophisticated sensor devices to detect and warn the operator in case of alarming conditions of the machine.

DIGITAL SERVICES

SMART MAINTENANCE: DOWN TIME REDUCTION
Maestro connect reduces maintenance downtime thanks to:
• Automatic maintenance notifications and scheduling, to prevent failures and work in the best conditions of use
• Direct connection to SCM Service thanks to an automatic ticket opening function

SMART MACHINE: ANYTIME, ANYWHERE AWARENESS
Connecting your SCM machine means having your machine always at hand.
Maestro connect allows to display machine information in real time from any position and sends instant notifications to connected devices (PC, tablet, smartphones) in case of alarms or downtimes. Allowing customers to verify that recovery actions are immediate and without delay.

SMART MANAGEMENT: PRODUCTION PERFORMANCE OPTIMISATION
Reports and KPIs allow further analysis thus increasing Customer Knowledge about his performance and results.

SMART PARTS: FAST PARTS REPLENISHMENT
Repairs are scheduled proactively since the system provides Spare Parts suggestions and a direct Integration with Smart Parts e-shop.

SMART LEARNING: EXECUTE WORK AND RECEIVE PROBLEM SOLVING SUPPORT
Maestro connect provides an intuitive Problem Solving Management System to help the operator to self-solve any issue.

SMARTECH: FASTER AUGMENTED SUPPORT
Maestro connect allows augmented reality support by means of Smartech: the head-wearable computers with wireless connectivity that will bring the interaction between customer and SCM service to a higher level.

SMART WARRANTY: YOUR MACHINE ALWAYS IN PERFECT CONDITIONS
Together with scheduled maintenance contracts, you can take care of your asset by doubling the warranty from 1 year to 2 years* for complete peace of mind!
please read the complete contract to understand terms and conditions.

morbidelli x100		
AXES		
Vectorial speed X-Y axes "PRO-SPACE" version	m/min feet/min	70/1' 230/1'
Z-axis stroke	mm inch	150 9.8
Z-axis panel clearance	mm inch	150 5.9
ROUTING UNIT		
Motor power 3 / 4 axes (up to)	kW (hp)	15 (20.5)
Rotation speed (up to)	rpm	24000
Available tools on tool changer (up to)	positions	31
DRILLING UNIT		
Independent vertical spindles (up to)	no.	12
Independent horizontal spindles (up to)	no.	6
Rotation speed (up to/max.)	rpm	8000
Integrated blades (up to)	no.	2
Integrated blade, diameter	mm	125
Integrated blade rotation speed (up to)	rpm	10000

SAV€NERGY

THE USE OF POWER ONLY WHEN IT IS REQUIRED

Sav€nergy allows making things operate only when they are really necessary. It means the machine automatically enters "stand-by" mode when there are no panels to be machined.

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV
ISO 9001

The technical data can vary according to the requested machine composition. In this catalogue, machines are shown with options. The company reserves the right to modify technical specifications without prior notice; the modifications do not influence the safety foreseen by the CE Norms

Maximum noise levels measured according to the operating conditions established by EN 848-3:2012
Acoustic pressure in process (routing) 81 dbA (measured according to EN ISO 11202:2010, uncertainty K = 4 dB)
Acoustic power in process (routing) 98 dbA measured according to EN ISO 3746:2010, uncertainty K = 4 dB)

Even if there is a correlation between above mentioned "conventional" noise emission values and average levels of personal exposure over eight hours of operators, these last also depend on the real operating conditions, duration of exposure, acoustic conditions of the working environment and presence of further noise sources, this means the number of machines and other adjacent processes.

The brochure includes and refers to option devices as well.

SERVICE AND MAINTENANCE

TRAINING SERVICE

SPARE PARTS

DIGITAL SERVICES

SCM OFFERS A FULL RANGE OF **HIGHLY SPECIALISED SERVICES** WITH A QUALITY AND RELIABILITY THAT STEM FROM 70 YEARS OF EXPERIENCE IN THE INDUSTRY.

From installation and production start-up to services and maintenance. From training to the supply of specific original spare parts: **we provide solutions designed around you!**

scm | service

WE'LL GO THE EXTRA MILE FOR YOU

SERVICE AND MAINTENANCE

- Remote support
- Scheduled maintenance contracts
- Warranty extension

TRAINING SERVICE

- Courses for machine operators
- Software and programming courses
- Training in production start-up

SPARE PARTS

- Recommended spare parts list
- E-shop
- Interactive spare-parts catalogues
- Repairs on electronic parts, glue tanks and electro-spindles

DIGITAL SERVICES

- Maestro Connect - IoT platform to be constantly connected with your machines
- Smartech - assistance with augmented reality
- My Scm portal - opening of service ticket and single point of access to the apps and Services tools

THE STRONGEST WOOD ARE IN OUR DNA

SCM. A HERITAGE OF SKILLS IN A UNIQUE BRAND

70 years of success gives SCM the centre stage in woodworking technology. This heritage results from bringing together the best know-how in machining and systems for wood-based manufacturing. SCM is present all over the world, brought to you by the widest distribution network in the industry.

70 years history

3 main production sites in Italy

300.000 square metres of production space

20.000 machines manufactured per year

90% export

20 foreign branches

400 agents and dealers

500 support technicians

500 registered patents

In SCM's DNA also strength and solidity of a great Group. The SCM Group is a world leader, manufacturing

SCM GROUP, A HIGHLY SKILLED TEAM EXPERT IN INDUSTRIAL MACHINES

INDUSTRIAL MACHINERY

Stand-alone machines, integrated systems and services dedicated to processing a wide range of materials.

scm

WOODWORKING TECHNOLOGIES

Cms

TECHNOLOGIES FOR PROCESSING COMPOSITE MATERIALS, ALUMINIUM, PLASTIC, GLASS, STONE, METAL

TECHNOLOGIES

industrial   equipment and components for machining the widest range of materials.

AND COMPONENTS

INDUSTRIAL COMPONENTS

Technological components for the Group's machines and systems,
for those of third-parties and the machinery industry.

HITECO	es	steelmec	scmfonderie
SPINDLES AND TECHNOLOGICAL COMPONENTS	ELECTRIC PANELS	METALWORK	CAST IRON

scm | *is more*

woodworking technology

scm

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