oikos xs

cnc machining centre for straight beams



CNC – machining centres for timber construction

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woodworking technology

REFLECTING YOUR NEEDS



OIKOS XS

HIGH PERFORMANCE, EXTRA SPEED

APPLICATIONS



TRUSSES

Rectangular glulam elements characterised by cutting operations only and connected together with nail plates at the ends to make up lightweight timber structures.



ROOFS

Rectangular glulam elements characterised by cutting, drilling, routing, hardware cutouts and dovetail joints, then connected together with screws and/or natural joints to create timber structures such as roof parts.



PREFABRICATED WALLS

Rectangular glulam elements characterised by cutting, drilling and routing operations, then connected together with hardware and/or natural joints to create timber structures such as timber-frame prefabricated walls.



BLOCKHOUSES

Rectangular glulam elements characterised by cutting and routing operations to create joints. The elements are then stacked on top of each other and finger-jointed at the corners to make up walls of blockhouse timber buildings.

8
TECHNICAL FEATURES

SPEED



High speed of execution is certainly the main feature of the machine, designed and manufactured to guarantee high productivity.

The **combined movements of the operating units** cut down unproductive time due to axes repositioning.

Tools always ready.

Workpiece feeding system built to achieve a maximum speed of 187 m/min.

CUSTOMISATION



High configurability thanks to **several strategically collocated units** within the work area.

Automatic **loading and unloading systems available in different sizes,** with the possibility of extending the corresponding buffers.

Compatibility with packs of beams.

TECHNOLOGY



The **innovative and technological revolver unit** is able to perform machining on all workpiece faces.

A special internal device allows to use each tool of the revolver unit at the optimum speed, ensuring a longer tool life and a perfect finish quality.

PRECISION



Specially designed structure to allow rapid movements of the moving parts that make up the machine.

Pressure rollers in proximity of the work area allow stability of the workpiece during processing.

Use of the **laser touch probe** to execute routing operations with maximum accuracy.

Machine base fixed firmly to the ground without any need of masonry work.

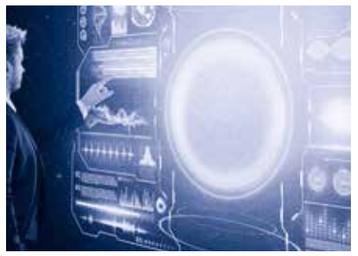
COMPACTNESS



Machining centre designed and manufactured to provide the customer with **a compact solution in terms of footprint.**

Optional kits allow to increase the length of the loading and unloading systems without affecting floor space.

EASY TO USE



eye-M operator console is always available for quick and precise control of the machine.

Maestro beam&wall is the proprietary SCM software compatible with the most popular CADs design systems in the timber building industry. It allows programming both in the office and directly on the machine.

Thanks to the new HMI software **Maestro active beam&wall,** control and optimization of the production flow are even simpler and more intuitive.

26
SOFTWARE

30
TECHNICAL DATA

TECHNICAL FEATURES OVERVIEW

TECHNOLOGICAL ADVANTAGES

High-speed workpiece feeding, *thanks to rigid clamps with vertical pressure device to eliminate bending of the workpiece.*



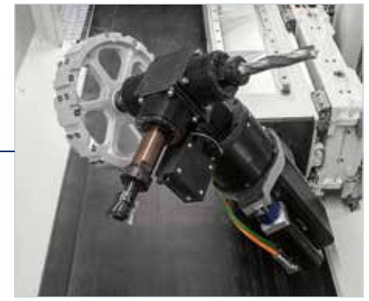
Rapid loading of the timber *into the machine, thanks to the automatic loading system.*

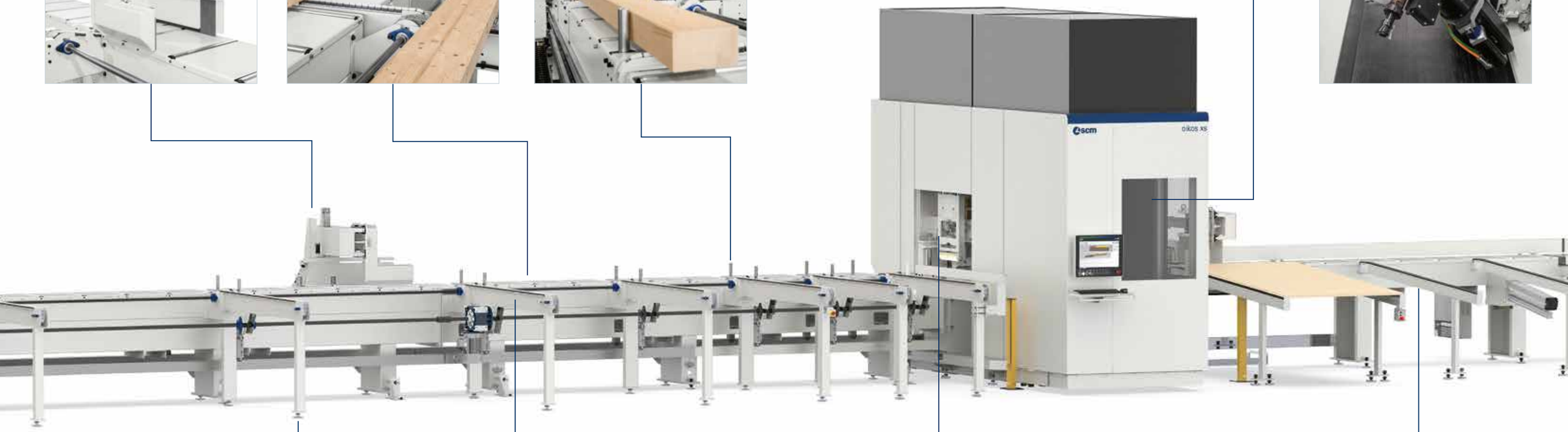


Retractable rear mechanical stops for referencing the timber at the end of the loading phase and ensuring ***high precision.***



Work area can be equipped with several operating units, ***satisfying all customer's needs.***





Possibility of adding, in front of the loading chains, convenient removable supports for ***accommodating packs of beams.***



Possibility of positioning a series of beams *by means of the motorised chain loading system with buffer.*



High precision *ensured by horizontal and vertical pressure rollers that avoid vibrations of the workpiece during processing.*



Simple unloading of the processed element. *Easy storage and retrieval of elements, thanks to the parallel-branched unloading buffer.*

TECHNICAL FEATURES OVERVIEW

TECHNOLOGICAL ADVANTAGES

Maximum ergonomics *thanks to the new* ***eye-M*** *operator console with 21.5" touch screen.* ***Maestro active beam&wall*** *Human-machine Interface.*



Lexan panels allow the operator to have ***wide visibility of the machining phases*** *in conditions of maximum safety.*



No tool changes. ***Tools and operating units*** *specialised in certain types of operations* ***always ready.***



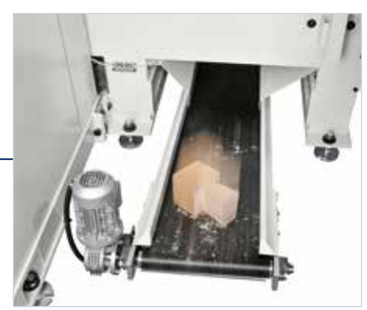
Maximum operator safety, *cleanliness of the work area and dust containment thanks to the full protection cabin.*







Firm base on the floor.
No masonry work required.



Easy pick-up of short workpieces *by the operator, thanks to a special system located in front of the machine.*

CENTRAL MACHINE BASE



MAXIMUM SPEED

The work area is enclosed within a very strong supporting structure made of electro-welded steel. The rigidity of the main body allows very precise operations even though the machine parts move at high speed.

HIGH CONFIGURABILITY

The work area can be equipped with several operating units, each specialised for particular types of operations, depending on the production mix. The combined movements of the operating units cut down unproductive time due to axes repositioning.

OPERATOR SAFETY

The metal enclosure and transparent panels separate the work area from the outside environment constituting a full protection cabin.



SAW BLADE UNIT



5-axis operating unit dedicated to the use of a saw blade of maximum diameter 760 mm to carry out cutting operations on the 5 faces of the element.

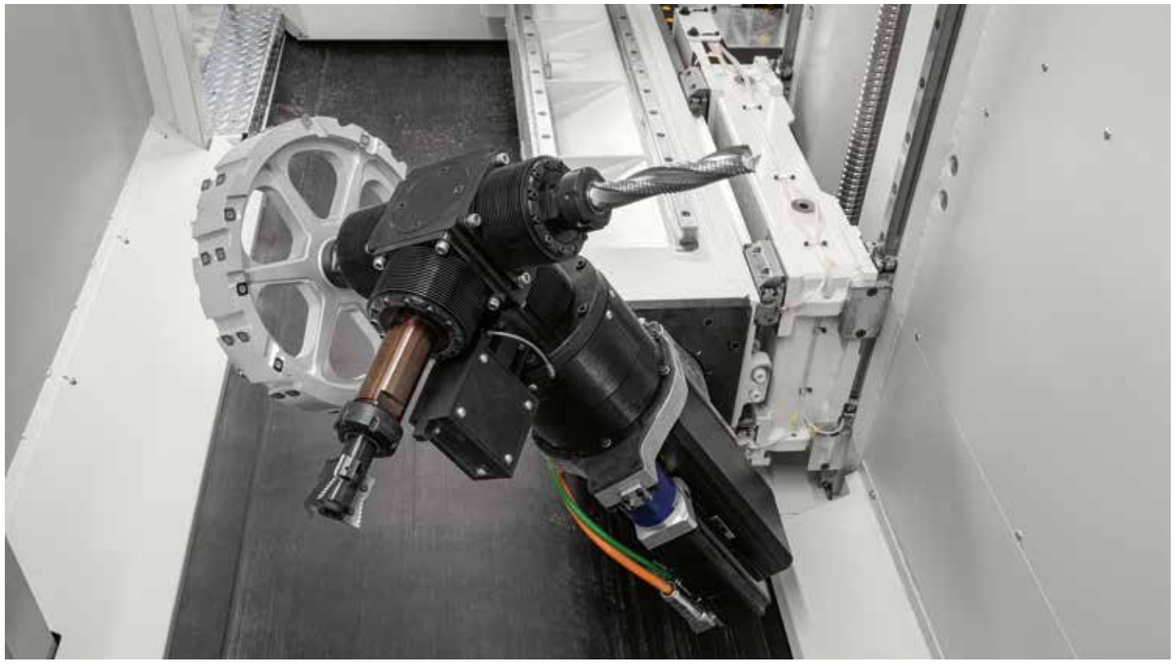
The motor develops a power of 10.6 kW allowing the saw blade to plunge the entire thickness of the workpiece, equal to 240 mm, in a single positioning.





The most common operations that can be performed with the saw blade unit are straight and inclined cuts, slots for hardware, slopes and notches.

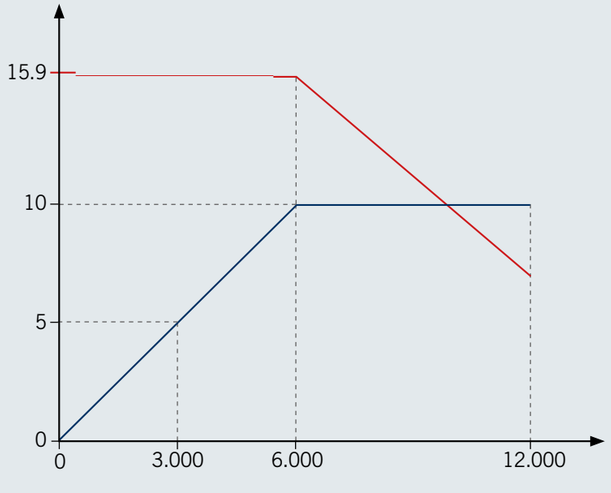
REVOLVER UNIT



EXCLUSIVE SCM SOLUTION

4+1 axis operating unit, dedicated to routing and drilling on all workpiece faces, with no need of repositioning or turning the workpiece during processing.

CHARACTERISTIC CURVES - REVOLVER UNIT



The revolving axes are obtained by means of brushless motors and precision gearboxes; this technology allows interpolations of great precision and absolute rigidity.

The motor is capable of developing a power of 10 kW at 6,000 rpm.

TOOLS ALWAYS READY FOR USE

The revolver unit has three different outputs, each dedicated to a specific tool: end mill, dovetail cutter and hogger.





6-FACE MACHINING

The presence of the additional rotary axis, which distinguishes it from solutions on the market, allows the revolver unit to machine the six faces of the workpiece with each type of tool.

DIFFERENTIATED SPEEDS

A special system inside the revolver unit allows to use each tool at its optimum conditions of rotation speed, thus maximising the degree of finish on the workpiece surface.
No splintering.



VERTICAL UNITS



The 3-axis vertical drilling and routing units, compatible with drill bits and end mills, are dedicated to the execution of through or blind machining operations on the workpiece upper face.





HORIZONTAL UNITS



The horizontal drilling unit, positioned on the same crossbeam as the revolver unit, allows the execution of deep holes up to 450 mm from the workpiece front face. The operating unit includes a drill guide system in order to guarantee machining accuracy.



Thanks to the horizontal mortise chain unit, it is possible to execute through or blind hardware slots of up to 450 mm depth.

LASER PROBE



The laser probe allows to detect the exact position of the face on which the dovetailing is to be carried out, thus to ensure high precision.

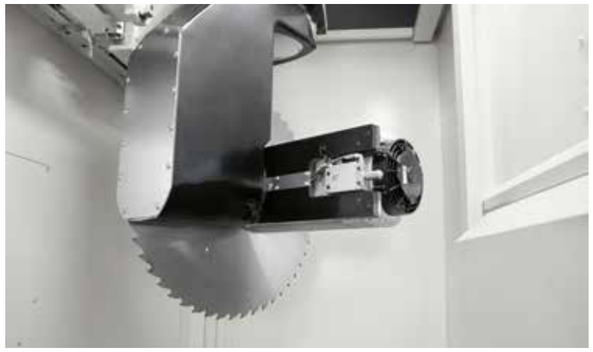


It is a device that is always ready for use as it is integral to the revolver unit and protected from dust thanks to a dedicated housing.



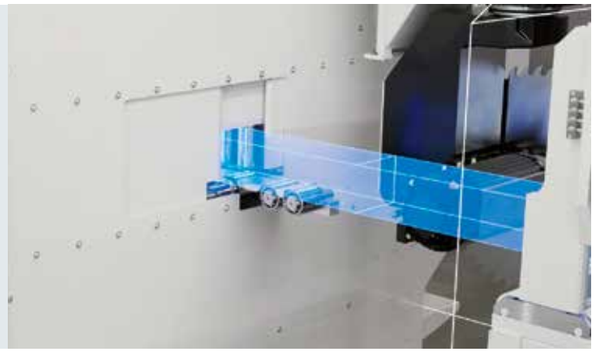
The probing cycle is very fast: the reading speed of the laser device is such that everything is done in 2/3 seconds.

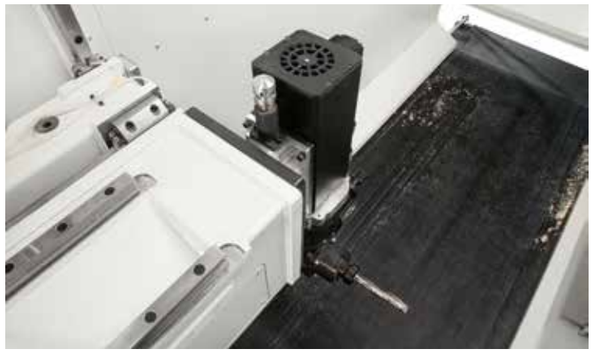
MARKER



Possibility of executing markings on the 4 faces of the workpiece by means of marking devices assembled respectively on the edge of the saw blade unit and the revolver unit.

The positioning of the two markers enables the marking operation to be optimised with a simple 90° rotation and with no tool change required.





The pressurised ink pen is accommodated in a device that can take it out of the way when not in use.

A special ink-holding system makes possible the complete marking of the workpiece without leakage.



LOADING SYSTEM

The loading system allows for a series of timber workpieces to be placed side by side on the infeed buffer and automatically manage the feeding of the single piece quickly and accurately.





Consisting of a series of supports with variable spacing, it allows the loading of timber up to 16 metres long, 450 mm wide and 240 mm thick.

The singularised bar is brought onto the roller conveyor until contact is made with a series of automatically activated rear mechanical reference stops.



UNLOADING SYSTEM

The unloading system manages the unloading of the elements from the work area. The unloading cycle is fully automatic for all workpieces longer than 250 mm.

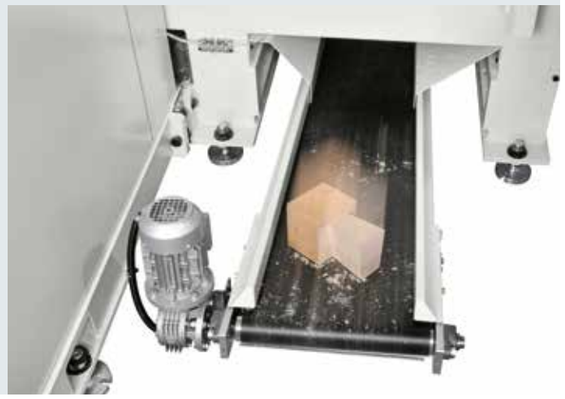




A mechanical pusher pushes the element onto the storage buffer, composed of fixed supports arranged at variable spacing. Their inclination and the presence of idle rollers allow rapid retrieval of the elements.

A special motorised belt is able to convey short elements, less than 250 mm long, to the machine front, in an area where the operator can pick them up easily in total safety.





WORKPIECE FEEDING

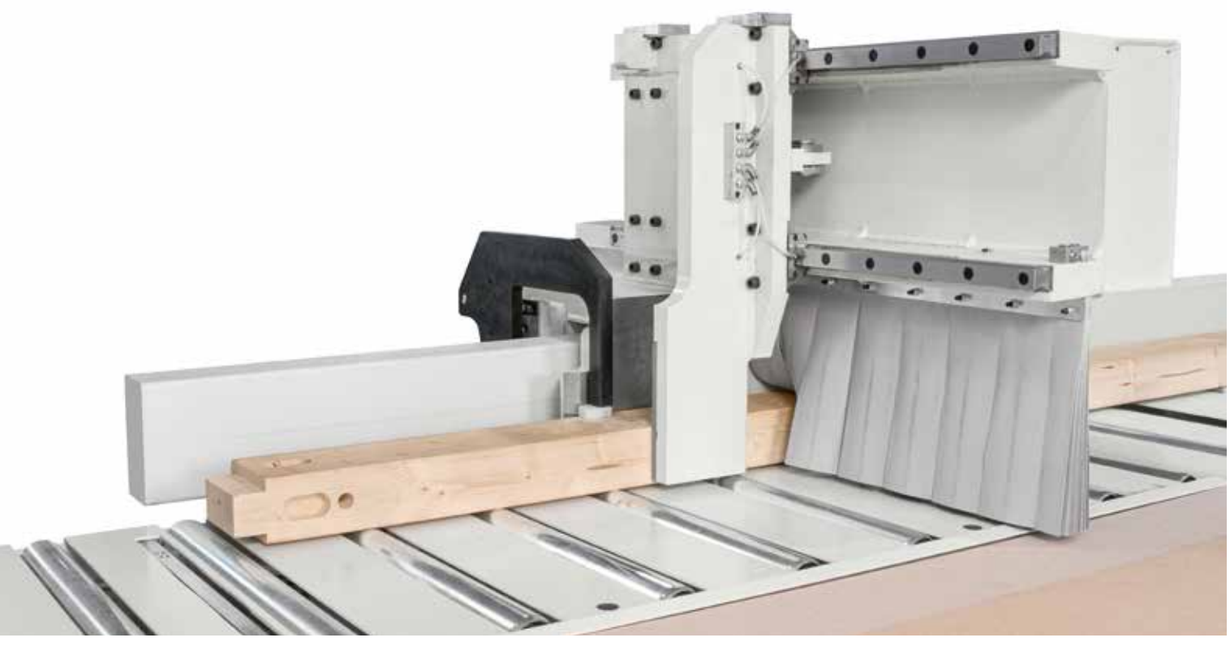
HIGH PRODUCTIVITY

187 m/min is the maximum speed at which the timber is moved along the longitudinal axis, thanks to a carriage equipped with a clamping system that ensures a sturdy and perfect hold at all times.
The workpiece is always clamped at its end, in order to avoid unproductive time due to the repositioning of the carriage.



QUICK UNLOADING

A second clamping system, with very similar characteristics to the previous one, performs the main function of quickly transporting the processed workpiece to the machine's unloading system.



Horizontal and vertical pressure rollers close on the workpiece adapting to its section and guide it to the work area. The element is always maintained in reference.





MAXIMUM PRECISION

During processing, the possibility that the workpiece bends due to its own weight and the tool on duty is reduced to zero, thanks to the workpiece support directly controlled by the numerical control.

CLEANING SYSTEMS

The work area is insulated from the outside of the machine by casings that automatically adapt to the cross-section of the workpiece and allow maximum dust containment.





A motorised belt carries shavings and scraps outside the cabin. This system is also useful in the case of the “waste reduction function”.



The extraction outlets are arranged around the perimeter of the cabin, in order to remove the the finest dust and keep the cutting area always clearly visible.

The machine can be equipped with a transverse rear belt conveyor dedicated to convey the waste to an external container.



PROGRAMMING SOFTWARE

Maestro beam&wall

It is the software developed by SCM that interprets files in 'btl' format exported by the main design CADs in the sector and automatically transforms them into programs to be executed on the machine, choosing the best machining strategies and associating the necessary tools to the paths, in order to execute the geometries of the input file.

OPEN AND INTEGRATED

PROGRAMMING FREEDOM

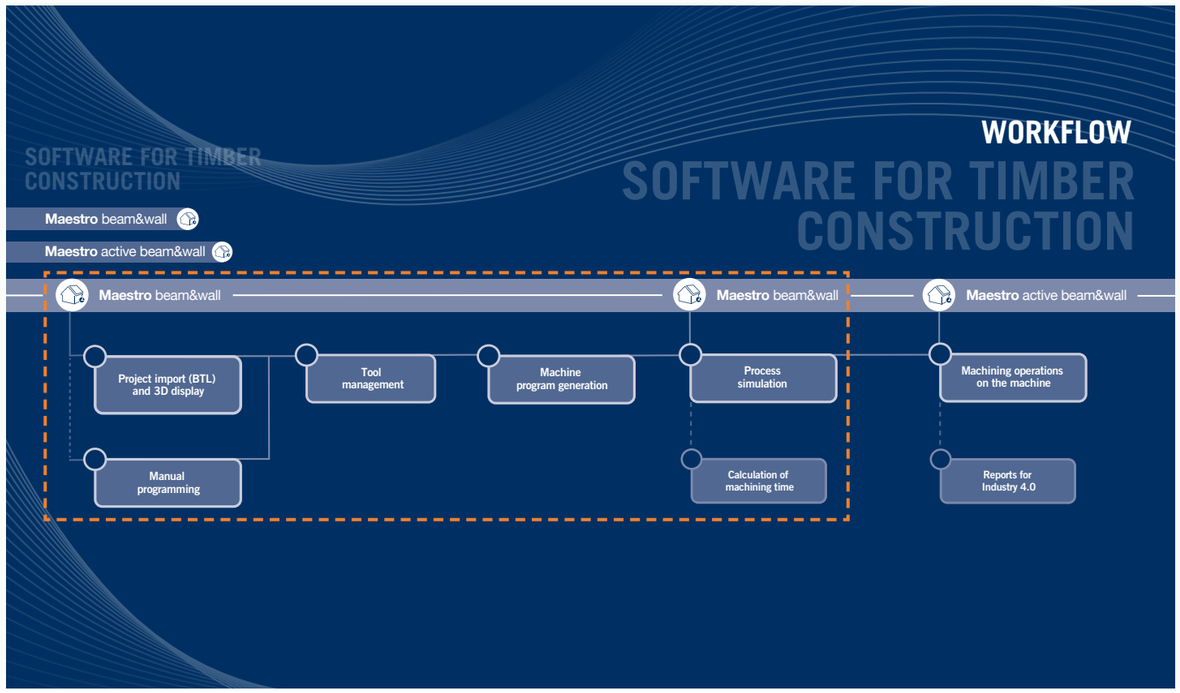
FAST WORKFLOW

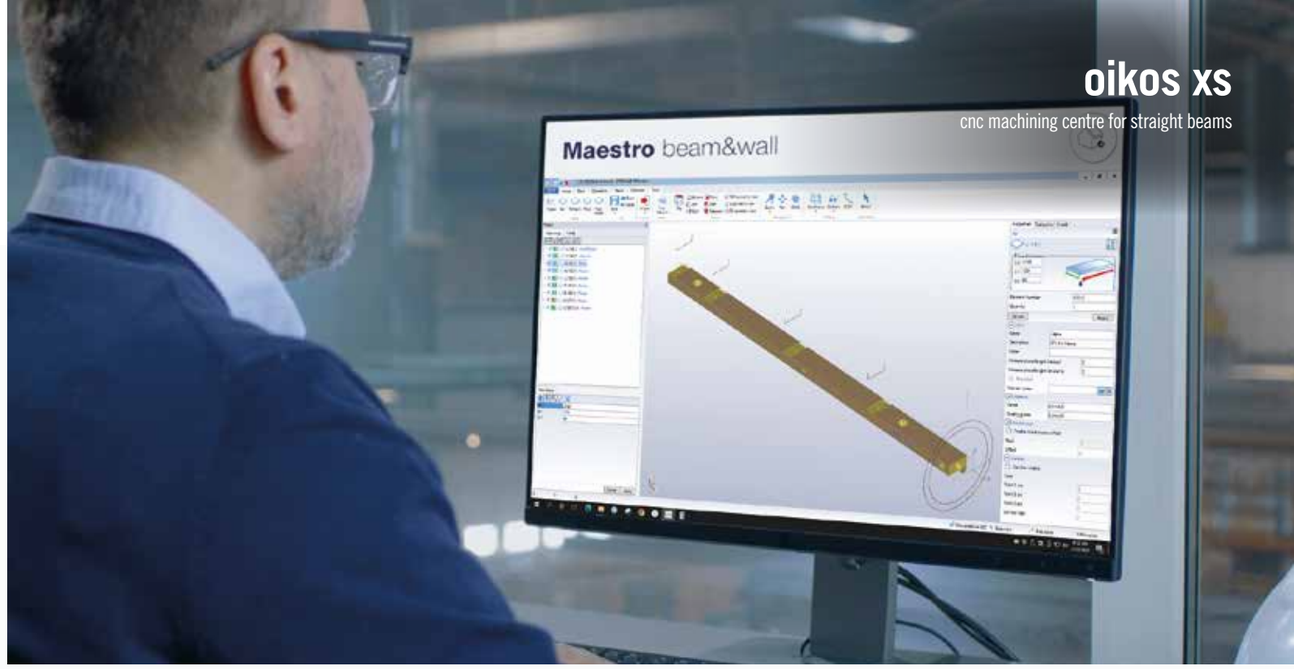
PROGRAMMING WHEREVER YOU WANT

With Maestro beam&wall, it is possible to programme either from the PC in the office or directly on the machine through the 'eye-M' operator console, with the possibility of satisfying every business organisation and leaving freedom of choice to the customer.



SOFTWARE



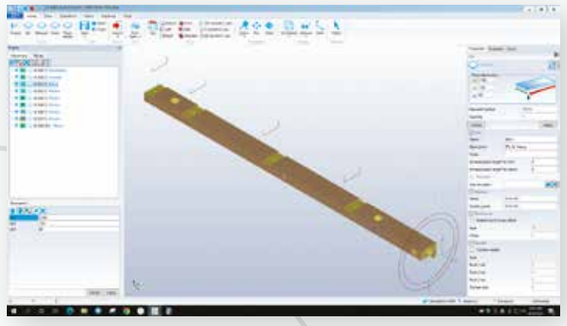


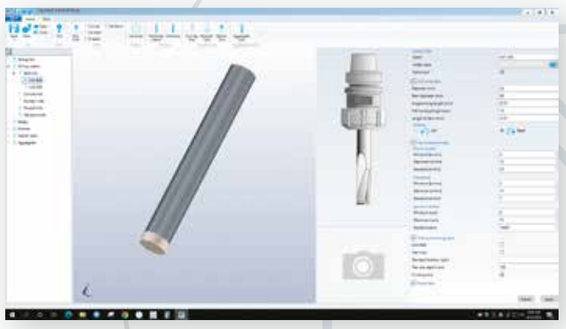
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PROGRAMMING ENVIRONMENT

Dedicated to the development, analysis and check of projects and individual machining operations. It is also possible to manually create new elements by selecting operations from the library of available macros.



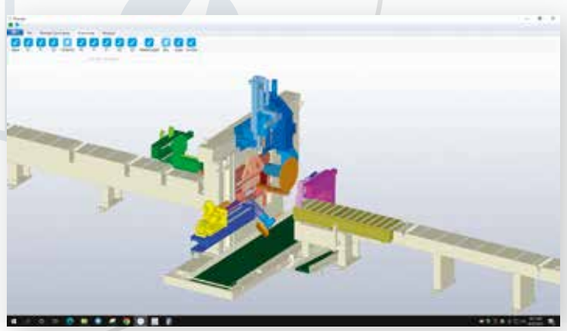


TOOL MANAGEMENT ENVIRONMENT

Dedicated to the display and setting of the tools that can be used. It is possible to create new tool sets by choosing from pre-configured types, simply by modifying the relevant geometric and technological parameters.

3D SIMULATOR

High-performance simulation environment, which allows programmes to be tested in advance, i.e. before actual processing.
The 3D simulator is optional and allows the customer to calculate production time and costs.



HUMAN-MACHINE INTERFACE SOFTWARE

Maestro active beam&wall

It is the software developed by SCM that allows the operator to manage the machine at 360°: from the simple start-up of actual processing, to the maintenance management, to the generation of production reports for Industry 4.0.



EYE-M OPERATOR CONSOLE

The interface software is installed on the **'eye-M'** operator console, positioned on the front side of the cabin.



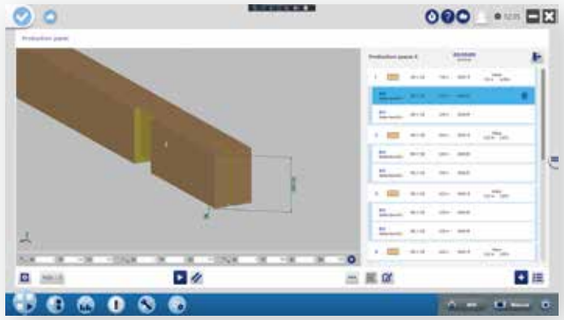
ALWAYS AT YOUR SERVICE

The new **eye-M** operator console allows connection via internet with the SCM Service. Our engineers can so access remotely to all machine levels to perform diagnostics, solve problems or update the machine logic in real time.

MULTIPROJECT

Allows the production of elements of the same cross-section but from different projects to be optimised on the same rough bars, in order to reduce material waste to a minimum. The optimisation process is fully automatic.

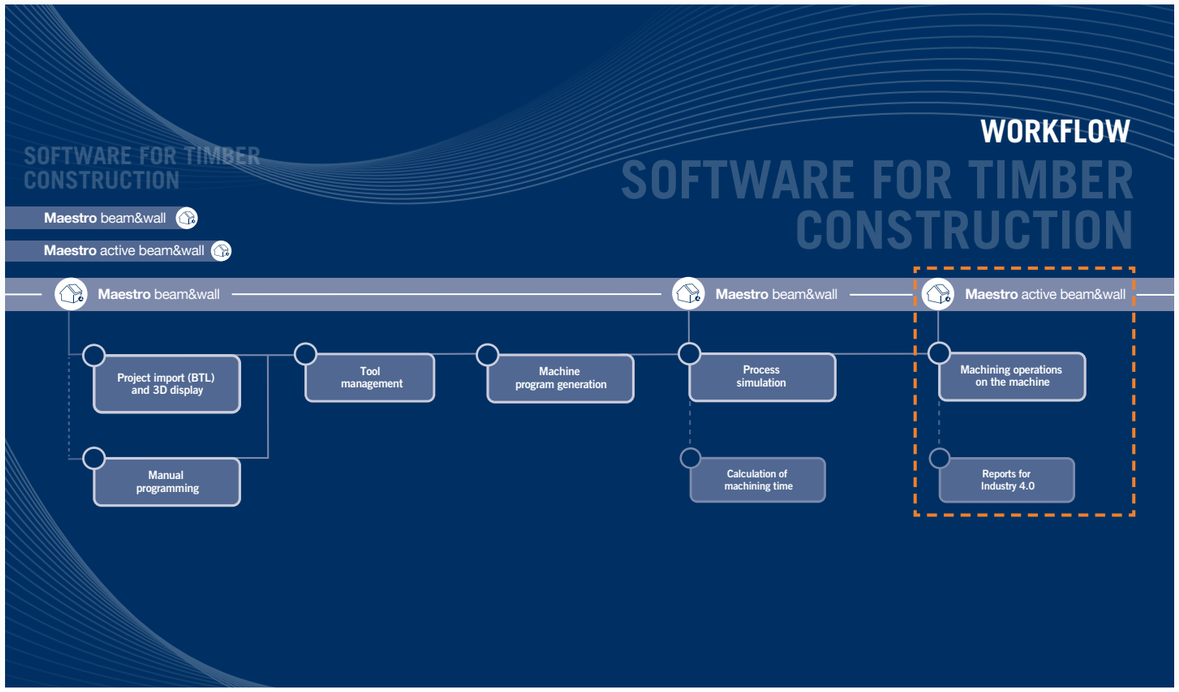




3D VISUALISATION

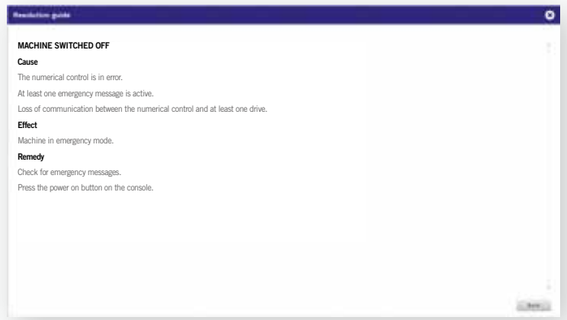
The workpiece being processed can be visualised in 3D with the possibility of exporting it and taking measurements. On the 3D of the workpiece, tool paths made by the operating units are displayed in real-time.

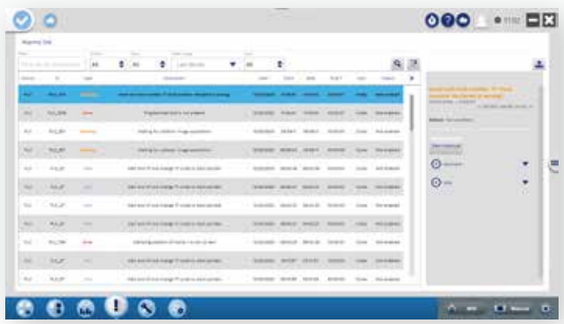
SOFTWARE



TROUBLESHOOTING

It is a new function helping the operator to analyse and solve difficulties related to the use of the machine, through text messages and images.





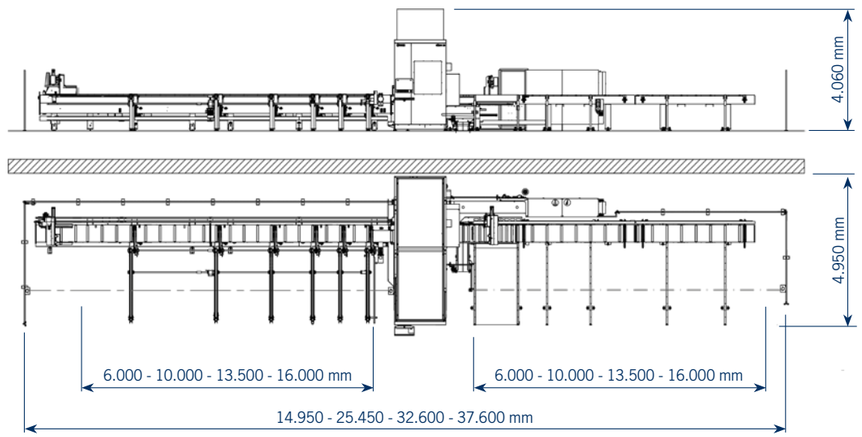
JOB MANAGEMENT

Routine maintenance management, machine alarm management, shift management, label printing and production report generation are just some of the functions that the software makes available to the operator.

TECHNICAL DATA

WORKPIECE DIMENSIONS		
Cross-section max.	mm	450x240
Cross-section min.	mm	40x20
Length max.	mm	6.000 - 10.000 - 13.500 - 16.000
Length min.	mm	1.300
Weight max. *(for the automatic loading)*	kg	800
AXES		
X-axis speed max.	m/min	187
Y-axis speed max.	m/min	104
Z-axis speed max.	m/min	45
SAW BLADE UNIT		
Axes	N°	5
Power (S1) max.	kW	10,6
Saw blade diameter max.	mm	760
REVOLVER UNIT		
Axes	N°	4+1
Power (S1) max.	kW	10
Tools	N°	3
ADDITIONAL UNITS		
Vertical routing unit	N°	1
Vertical drilling unit	N°	1
Horizontal drilling unit	N°	1
Horizontal mortise chain unit	N°	1

LAYOUT



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 recorded noise levels based on functioning parameters established by EN 848-3:2012. Acoustic pressure while working 78,4 dB(A) (measured according to EN ISO 11202:2010, K variance = 4dB). Acoustic power while working 100,6 dB(A) (measured according to EN ISO 3746:2010, K variance = 4dB). Despite the existence of a correlation between "conventional" noise emission values mentioned above and average personal exposure of the operators during the 8 hours, these also depend on the specific functioning conditions, length of exposure, acoustics characteristics of the working environment and by the presence of additional sources of noise, that is the number of machines and adjacent processes.



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!**

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

CONTACT

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