

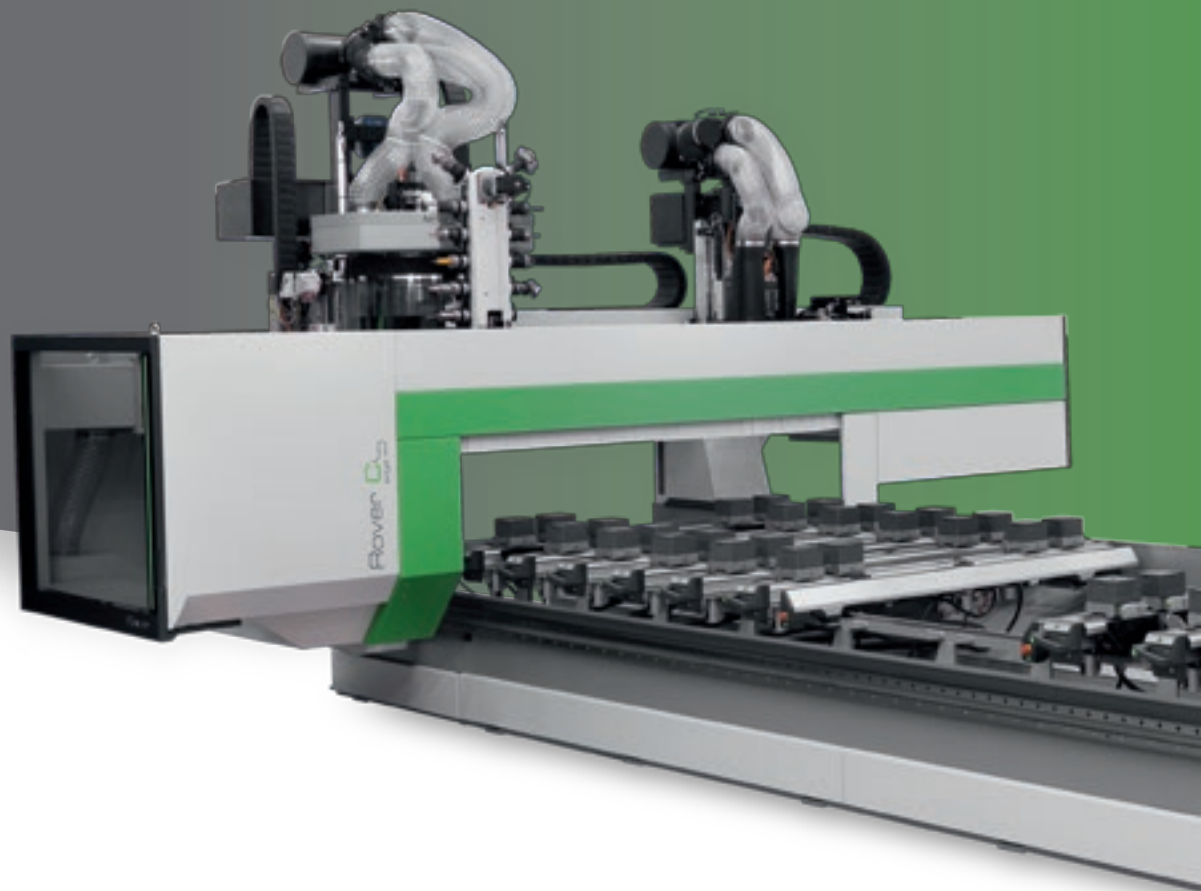
# PRO VER C EDGE

NC EDGEBANDING  
MACHINING CENTRE

 **BIESSE**

 YEARS  
 **BIESSEGROUP**

# SHAPING AND EDGEBANDING WITHOUT COMPROMISES



## THE MARKET DEMANDS

a change in manufacturing processes which enables companies **to accept the largest possible number of orders**. This is coupled with the need to maintain high quality standards whilst offering product customisation with quick and defined delivery times, as well as responding to the needs of highly creative designers.

## BIESSE RESPONDS

with **technological solutions** that enhance and support technical expertise as well as process and material knowledge. **Rover C Edge** is the new edgeworking processing centre that offers the possibility to use a single machine for carrying out all the operations on a shaped, edge-banded panel. It's designed for heavy-duty operations that call for large tools and aggregates.



## **ROVER** C EDGE

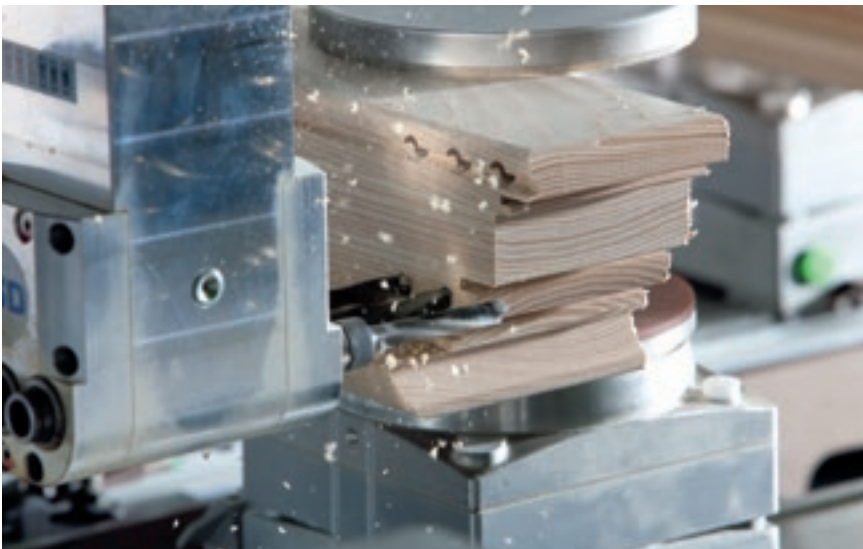
- ▶ PERFORMANCE ABOVE THE INDUSTRY STANDARD
- ▶ MORE MACHINING OPERATION OPTIONS
- ▶ PERFECT EXECUTION OF MACHINING OPERATIONS
- ▶ CYCLE-TIME REDUCTION FOR HIGH PRODUCTIVITY
- ▶ FULL WORKABILITY WITH LARGE PANELS
- ▶ HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE.



# MORE MACHINING OPERATION OPTIONS

The technology of the new Rover C edge supports the machining of complex-shaped pieces, guaranteeing quality, precision and absolute reliability over time.







# OPTIMAL EDGE GRIP

Optimal edge pressure quality during gluing on shaped panels thanks to the twinroller edge pressure system.



Similar to straight line edgebanding machines, **the glue is applied directly onto the panel** in order to ensure optimal adhesion quality. It supports the use of thin or transparent (3D) edges, as well as thicker and sturdier edges.



**Glue feed** occurs during the machining process via the granule feeding system within in integrated glue head. With the glue being stored in granules, only the required quantity is released for melting. This ensures optimal adhesion whilst preserving the glue characteristics.

# FIRM, STABLE ADHESION

Biesse offers specific solutions for the use of polyurethane glues resistant to heat, humidity and water.



PU granule adhesives.

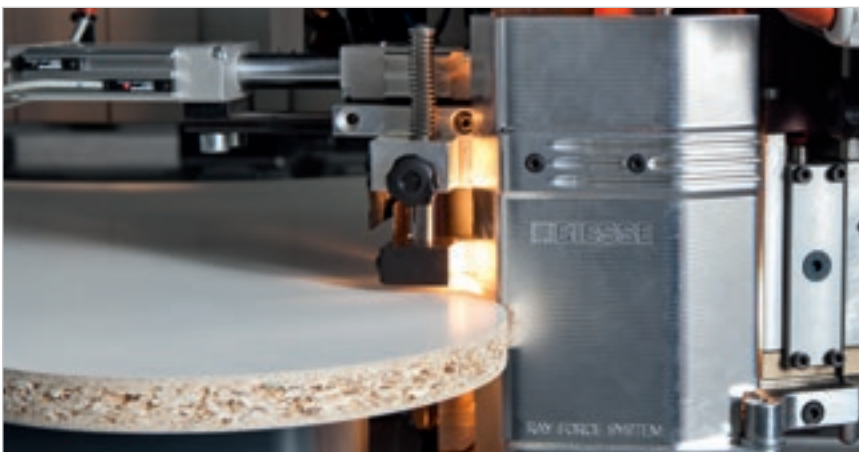


Additional glue pots fitted with quick-release electrical system for PU granule adhesives.



Nordson pre-melter for high production needs. An exclusive direct injection system for non-stop machining operations at high speed and consumption levels.

Biesse offers specific solutions for the highest quality of the finished piece through the use of RayForceSystem zero-joint technology.



RayForceSystem equipment, interchangeable with the use of EVA or PUR glues, for the highest quality of the finished product.

# ROVER EDGE

## ROBUST EDGEBANDING

**Maximum bonding, possibility of applying thin edges and 3D transparent edges, easy maintenance and panel cleaning during the machining cycle.**

Edgebanding has always been based on applying glue directly to the panel; Biesse has followed this principle and applied it to straight edgebanding as well as shaped edgebanding performed by machining centres.



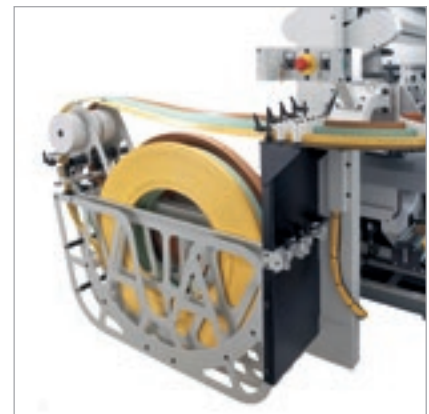


# SOLUTIONS THAT INCREASE MACHINE PRODUCTIVITY

The automatic edging feeder, mounted on the X carriage, allows the user to change between thin or thicker edges during the same machining cycle.



Quick change of the coils with the banding material container positioned outside the safety fences.



Thin or thick edges, either pre-cut or coiled, with automatic or manual feeding.

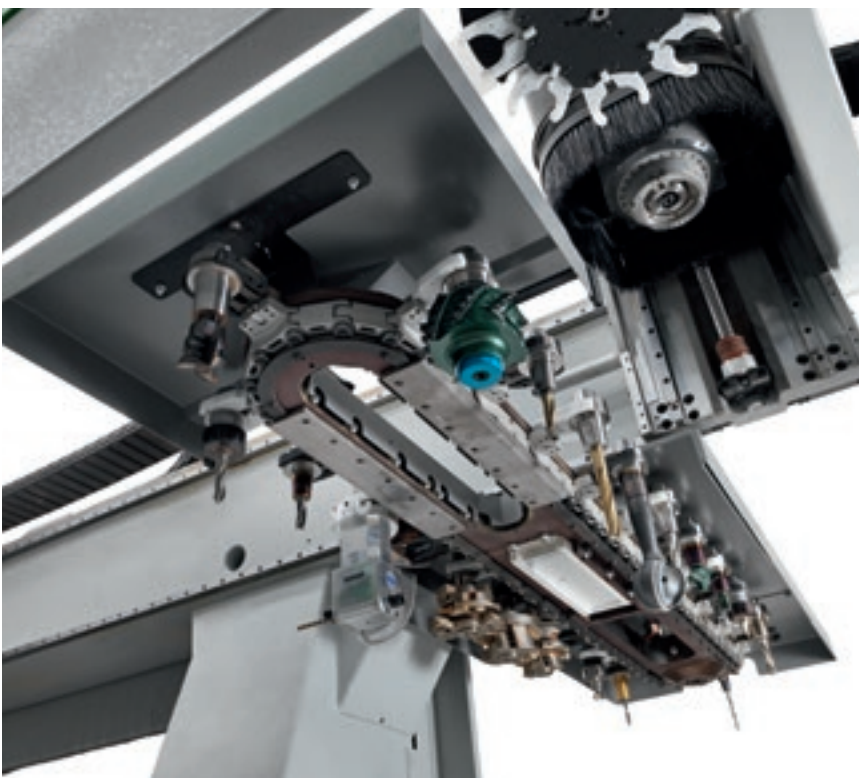




Vertical chain tool magazine on Y axis with 10-15 positions.



**Independent Y axis** allows tool changes whilst the machine is running, using the largest possible number of tools available in the magazine. The shuttle in the vertical chain magazine speeds up the tool change operation.



Quick and easy drill change due to the exclusive spindle snap-on coupling system.



It is possible to switch from one machining operation to the next with no need for operator intervention for tool changes, thanks to the large number of tools and aggregates available in the tool magazine.



# MANY SOLUTIONS FOR PERFECT FINISHES

## AGGREGATES FOR THE FINISHING OF THE UPPER AND LOWER PART OF THE EDGE APPLIED ON THE PANEL

ET60C



Trimming aggregate, 30 mm or 18 mm minimum internal radius with flat knives.

ETG60C



Trimming aggregate, glue scraper, 30 mm minimum internal radius.

ETS60C



Trimming aggregate, non-stick liquid, 80 mm minimum internal radius.

EGS60C



Edgebanding strip scraping aggregate, glue scraper, 30 mm minimum internal radius.

EF60B









Edgebanding strip finishing aggregate with three functions: trimming, edgebanding strip and glue scraping; 30 mm minimum internal radius.



Bench to facilitate the adjustment of the edgebanding strip finishing aggregates and can be used externally to the machine.

## A COMPLETE RANGE OF AGGREGATES FOR ALL MACHINING OPERATIONS

					
Trimming/rounding tool	Trimming aggregate, 215 mm blade	260 mm blade for 5 axes edge trimming	300 mm blade for 5 axes edge trimming	Edge trimming/rounding aggregate with horizontal copying function	Finishing aggregate of the edgebanding applied on corners that end up on post-formed shapes.

# TOP-QUALITY FINISHED PRODUCT



Blower and anti-adhesive liquid dispensing aggregate.



Trimming aggregate with non-stick liquid delivery.



Brusher aggregate with glue removal liquid dispenser.



Cold or hot air blower unit to brighten up the colour of the edgelanding strip.



Blower unit.



4-outlet blower unit for edgelanding strip finishing aggregates.

## A COMPLETE RANGE OF AGGREGATES



Aggregate for milling of 90 internal corners.



# RAY FORCE SYSTEM

## UNPARALLELED TECHNOLOGY

Biesse's high technology responds to increasingly complex market demands by developing an all-new technology like none other of its kind for the application of edges on shaped panels: RAY FORCE SYSTEM. Its revolutionary nature is based on an exclusive technique which uses infrared lamps to fuse a reactive layer. A solution that is comparable to Air Force System technology applied to linear edge.

The advantages are unmatched:

- ✓ maximum quality of finish,
- ✓ lower electrical consumption,
- ✓ ease of use.



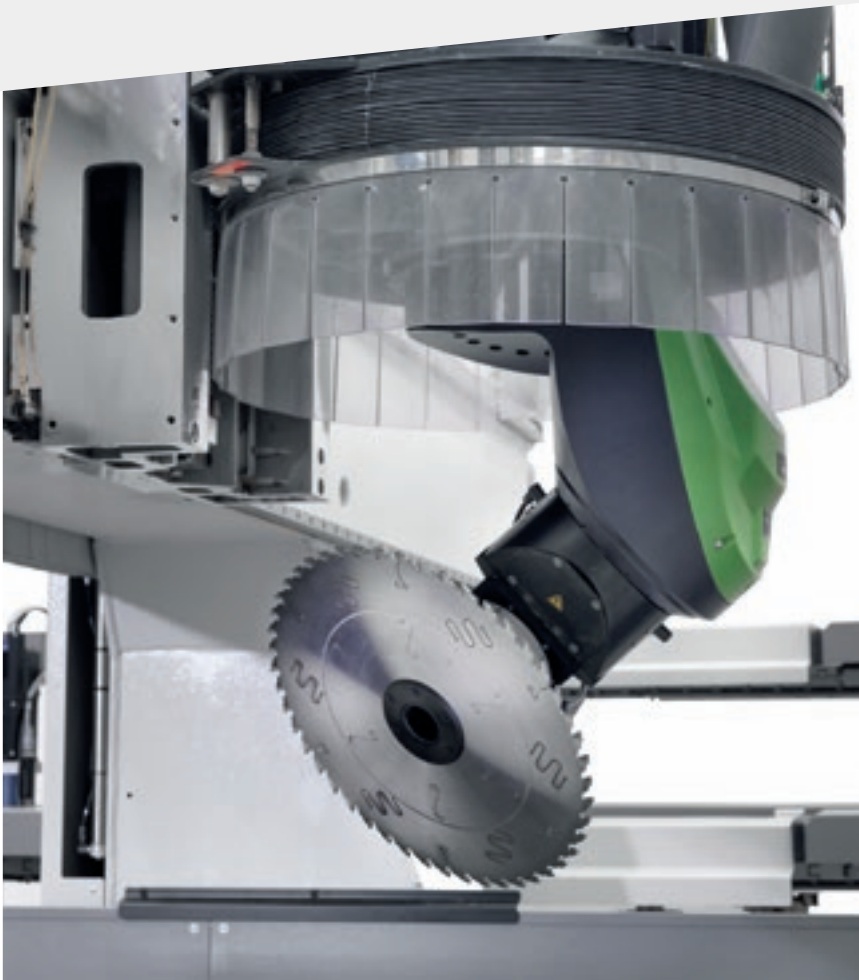


 BIESSE

RAY FORCE SYSTEM

# PERFORMANCE ABOVE THE INDUSTRY STANDARD

Unique technological solutions to meet productivity and flexibility requirements of the most demanding manufacturers.



Operating section with 5 interpolating axes (21.5 kW and 8000 rpm), the most powerful on the market, which supports complex processing operations whilst ensuring quality and precision.



The solutions developed for Rover C Edge enable quick tool changes coupled with reduced cycle times.

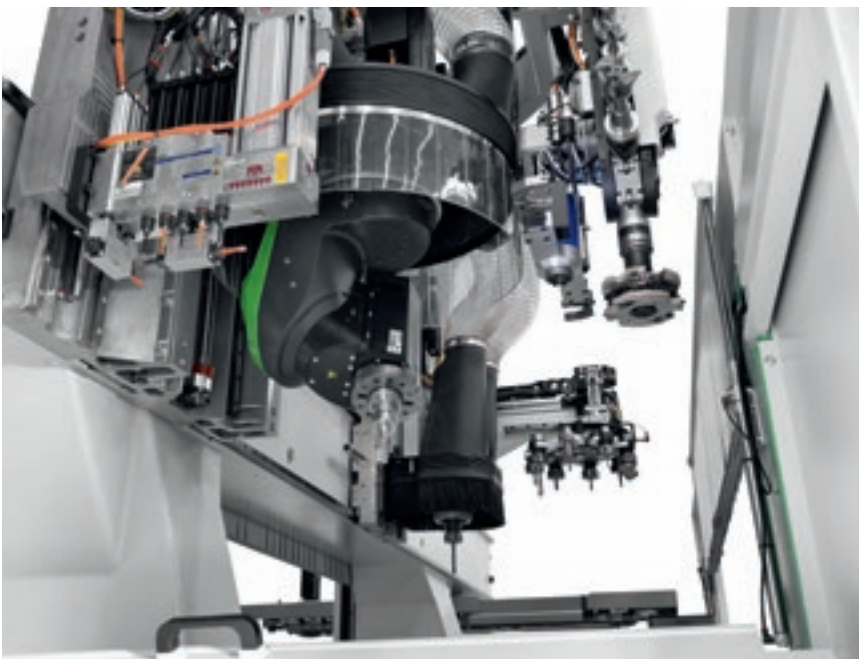




Processing of very high components thanks to 400 mm working height.



The possible combination of 5-axes and 4-axes units enables the processing of any type of product. Independent Y axes support tool changes whilst the machine is running, using the largest possible number of tools available on the machine.

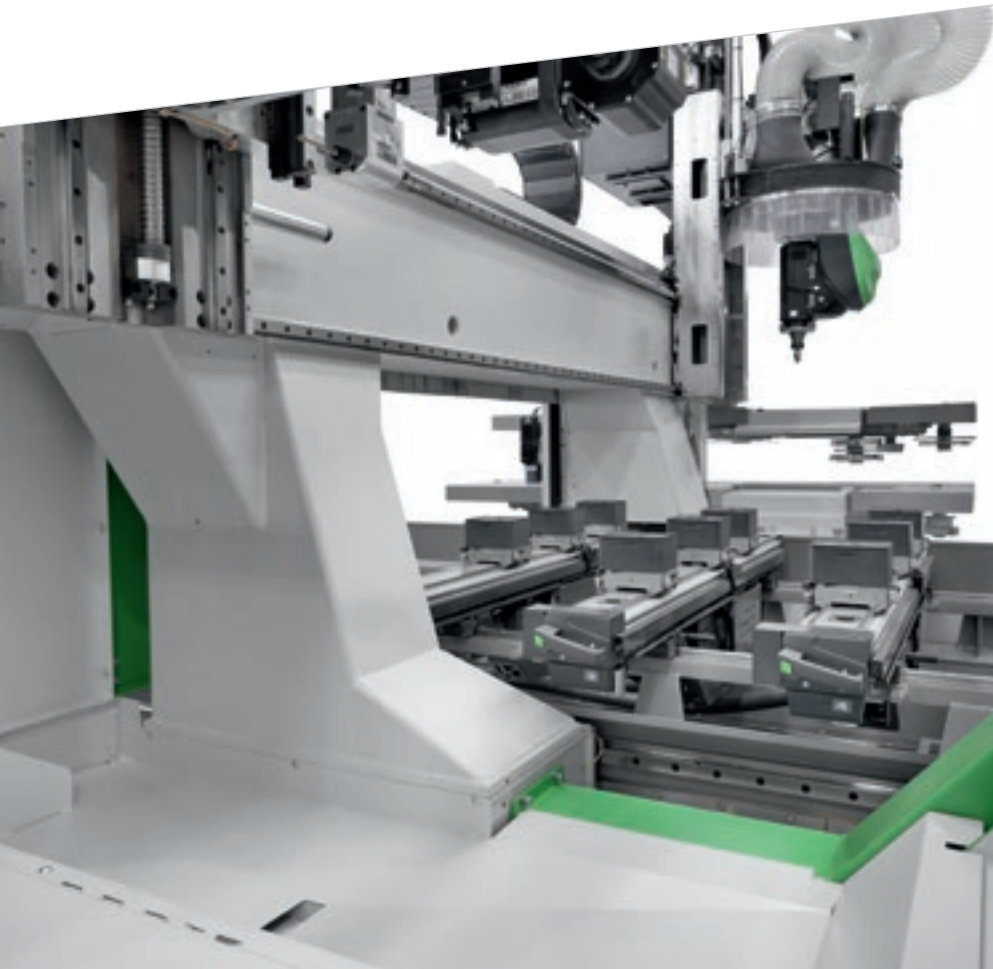


Axes vector speed from 124 to 156 m/min and acceleration from 3.5 to 5 m/sec<sup>2</sup> for high productivity.



# PERFECT EXECUTION OF MACHINING OPERATIONS

The Gantry structure has been designed to improve the precision and reliability of machining operations.



Rigidity and lack of vibration ensures consistent and reliable quality of machined components.



**Automated lubrication** ensures the continuous lubrication of the machine's main moving parts without the need for operator intervention.

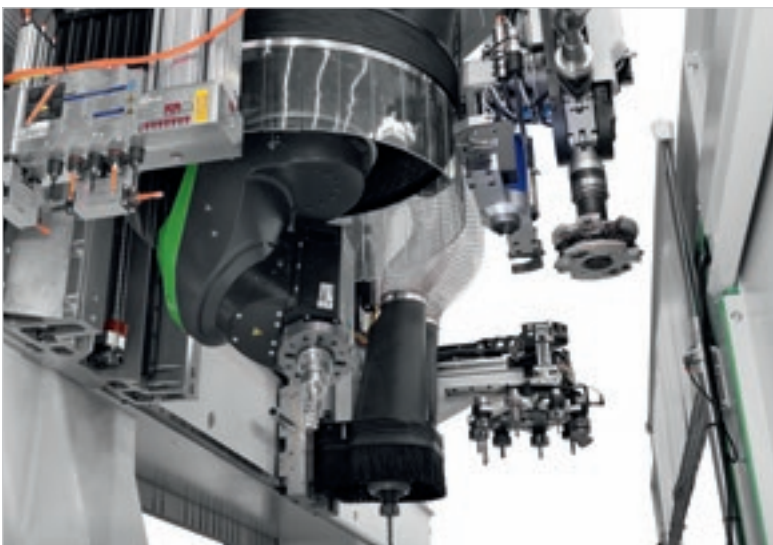


The **double X-axis motorisation** supports high speeds and accelerations whilst ensuring high quality finish and precision.

Configurations that meet the needs of production flexibility without foregoing high productivity.



Single Y carriage with 5 axes, a boring head and a tool magazine.



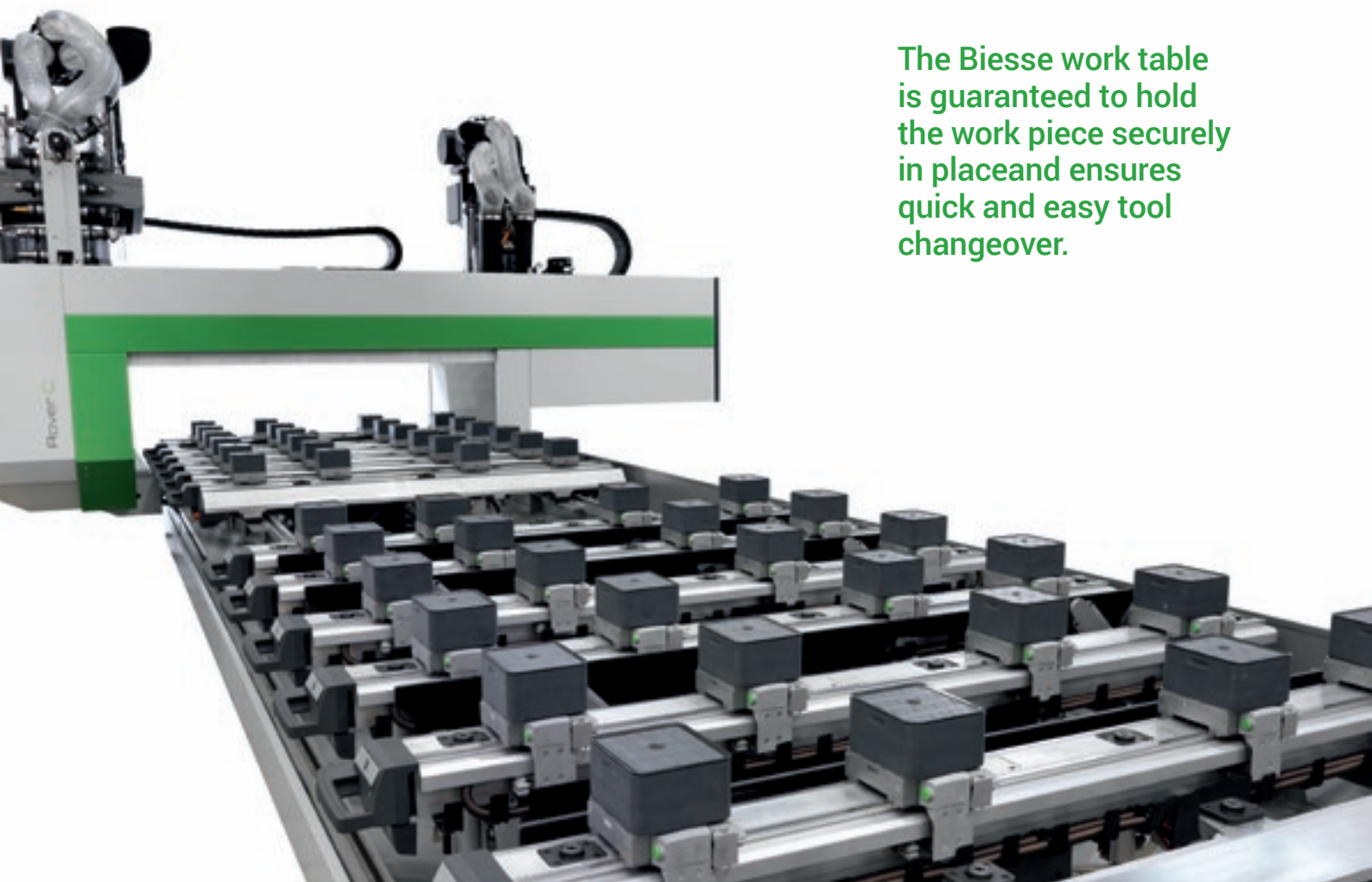
The twin Y carriage allows the 5-axis unit to be used independently of the 4-axis one.



The twin Y carriage allows the 5-axis unit to be used independently of the boring head.

# REDUCED TOOL CHANGEOVER TIME

The Biesse work table is guaranteed to hold the work piece securely in place and ensures quick and easy tool changeover.



**Modules** for vacuum locking system. Jig equipped with rubber components to increase the resistance against horizontal forces exerted during edgebanding operations.



**Uniclamp clamps** with pneumatic system.



**Easy Zone**  
Supplementary vacuum system for the quick and easy clamping of several elements on the machine.



# DIFFERENT WORK TABLE AVAILABLE ACCORDING TO DIFFERENT NEEDS



**ATS (Advanced Table-Setting System)**  
For the quick and easy manual positioning of the clamping systems.



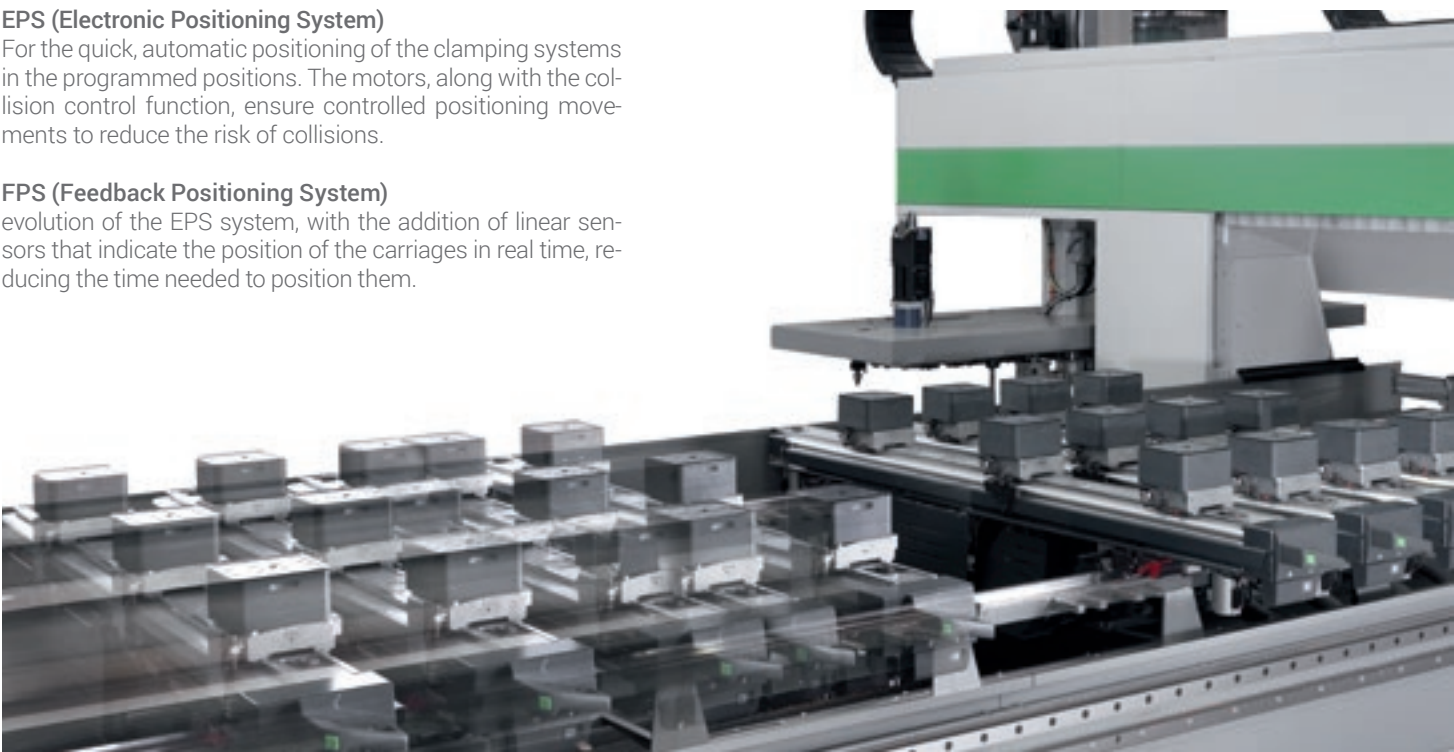
**SA (Set Up Assistance)**  
For the quick, easy and controlled manual positioning of the clamping systems. The linear sensors in the work table, along with the collision control function, reduce the risk of collisions

**EPS (Electronic Positioning System)**

For the quick, automatic positioning of the clamping systems in the programmed positions. The motors, along with the collision control function, ensure controlled positioning movements to reduce the risk of collisions.

**FPS (Feedback Positioning System)**

evolution of the EPS system, with the addition of linear sensors that indicate the position of the carriages in real time, reducing the time needed to position them.



# MAXIMUM OPERATOR SAFETY

Safety and flexibility thanks to the new bumpers combined with photocells with no footprint and dynamic tandem loading.



**Side curtain guards** to protect the working unit, which are movable to enable the machine to work at maximum speed in total safety.



**Remote control panel** for direct and immediate operator control.

**Pressure-sensitive floor mats** enable the machine to operate at constant maximum speed.

Maximum visibility of machining operation. **LED bar with 5 colours** showing machine status in real time.



# OPTIMAL CLEANING OF MACHINED COMPONENTS AND WORK AREA



**Motorised conveyor belt** for the removal of chips and waste. Worktops with hidden connections to provide excellent chip evacuation capacity.



NC controlled chip **deflector**.



6-position adjustable suction hood.



# LOADING AND UNLOADING SOLUTIONS

## Automated cell for machining a batch of panels or doors.

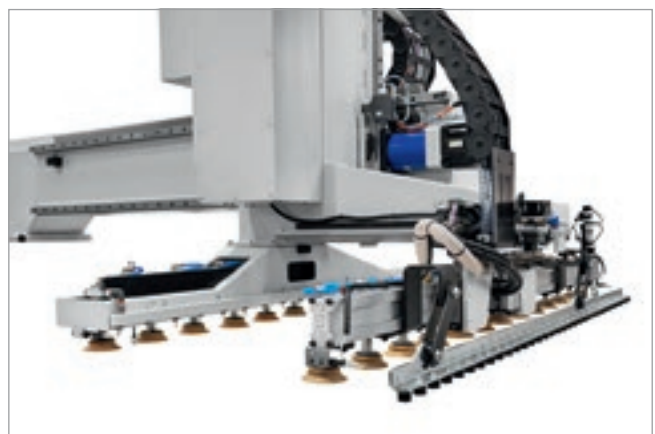
Synchro is a loading/unloading device that transforms the Rover machining centre into an automatic cell for producing a stack of panels autonomously (without the need for an operator):

- ✔ it eliminates the risk of damage in the case of heavy panels that need to be handled by 2 operators
- ✔ it's easy to use, because the machining centre program also contains the Synchro command instructions
- ✔ it has limited overall dimensions, and can be positioned to the left or right of the machining centre
- ✔ it comes with various configurations, depending on the size of the panels to be handled and the layout of the stacks.



### Device for the removal of porous panels or those with special finishes

It increases the reliability and the repeatability of the automatic cell operation cycle, even when machining porous materials or those with special finishes, which are often supplied with a protective film.



### Panel pick-up device with automatic positioning of the suction cup holder rods

In accordance with the size of the panel to be picked up:

- ✔ no operator intervention is required to attach or remove the suction cup holder rods
- ✔ Idle time during format change operations is dramatically reduced
- ✔ the risk of collisions caused by incorrect tooling operations is reduced.



Synchro can also machine stacks of different-sized panels, thanks to stack reference device and the panel pre-alignment cycle, which is performed while the machine is running, while the Rover machining centre processes the previous panel.



Bar code scanner for automatically sending the machining program of the Rover machining centre.

Dedicated configuration for the simultaneous loading/unloading of 2 panels, to maximise machining centre productivity:

- ✔ 0 operators
- ✔ 1 machining program
- ✔ 2 panels

# THE MOST ADVANCED TECHNOLOGY CLOSE AT HAND



## BPAD

Wi-Fi control console for performing the key functions required during the preparation of the working area and the tooling of the working units and tool holder warehouses.

The bPad is a valuable tool for supporting teleservicing, courtesy of the camera and bar code reader functions.



## BTOUCH

The new 21.5" touch screen which enables you to carry out all of the functions previously performed using the mouse and the keyboard, enhancing the direct interaction between the user and the device. Perfectly integrated with the bSuite 3.0 interface (and with later versions) and optimised for touch, this solution is incredibly simple, and makes the best possible use of the Biesse software functions installed on the machine.

**BPAD AND BTOUCH ARE AN OPTIONAL FEATURE WHICH CAN ALSO BE BOUGHT AFTER PURCHASING THE MACHINE, IN ORDER TO IMPROVE THE FUNCTIONALITY AND APPLICATION OF THE TECHNOLOGY AVAILABLE.**



# INDUSTRY 4.0 READY



Industry 4.0 is the new industry frontier, based on digital technologies and on machines that speak to companies. The products driving this revolution can communicate and interact independently within production processes, which in turn are connected via intelligent networks.



Biesse is dedicated to transforming the factories owned by our customers into real-time factories that are ready to provide digital manufacturing opportunities. Intelligent machines and software become indispensable tools that facilitate the daily work of those who machine wood and other materials on a daily basis.

INDUSTRY 4.0 READY

# SLICK AND EFFICIENT PRODUCTION FLOW







## DESIGN OF INTEGRATED LINES OVER 100 METRES LONG

BiesseSystems provides a full project consultancy and management service to companies who wish to implement integrated technology solutions for their manufacturing processes.

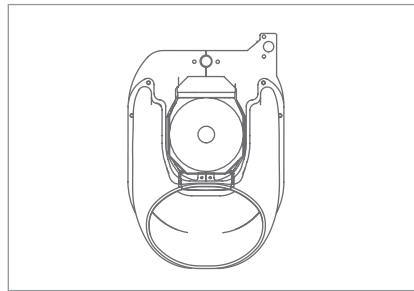
A team of sector experts, capable of understanding and anticipating company needs, work with the customer from inception through to system installation and commissioning.

## OVER 1000 SYSTEMS SOLD WORLDWIDE

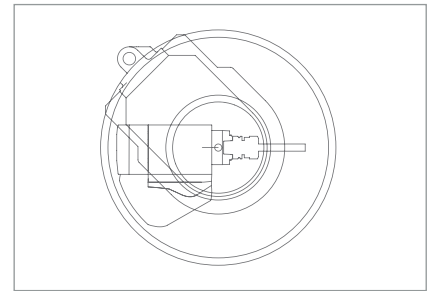
- ▣ Design and installation of turn-key systems.
- ▣ Design and installation of automated and integrated production lines.
- ▣ Upgrading, refurbishment and integration of pre-existing production systems.



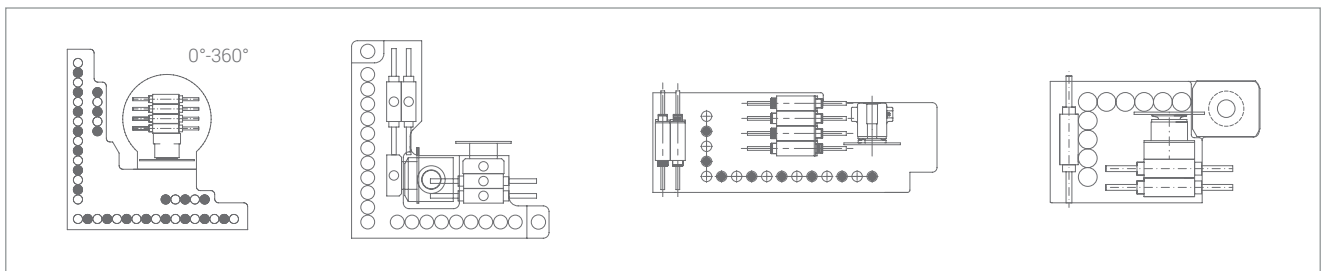
# CUSTOMISABLE CONFIGURATIONS DEPENDING ON DIFFERENT PRODUCTION NEEDS



Milling unit with air or liquid cooling, ISO 30, HSK F63 and HSK E63 couplings and power from 13.2 to 19.2 kW.

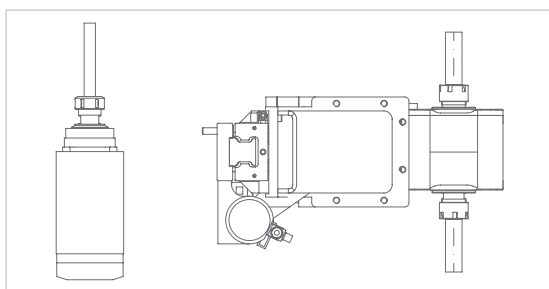


5 axes 13 kW with 24000 rpm or 16 kW with 18000 rpm.

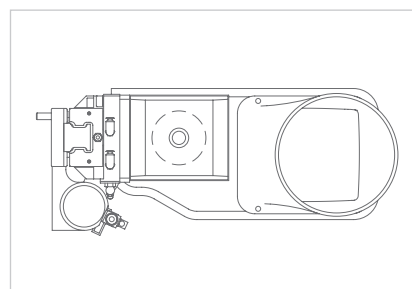


Boring head available from 9 to 56 tools.

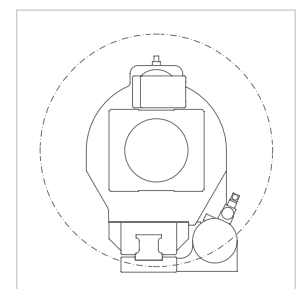
Vertical and horizontal boring solutions: BH17 L, BH29 L, BH30 2L or dedicated vertical BHC42 with units for horizontal rotary TCH9 L or fixed TCH14 2L.



1 or 2 outlet horizontal milling units.

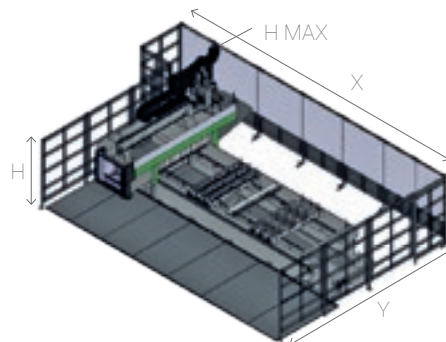


6 kW vertical milling unit.



Multi-function, with 360° rotation.

# TECHNICAL SPECIFICATIONS



## WORKING TABLE

		X1 milling	Y1 fresatura	X2 edgebanding	Y2 edgebanding	Z1 milling H74 modules	Z2 milling H29 modules
Rover C Edge 1948	mm	4825	1950	3785	1900	355	400
	inches	190,0	76,8	149,0	74,8	14,0	15,7
Rover C Edge 1965	mm	6505	1950	5465	1900	355	400
	inches	256,1	76,8	215,2	74,8	14,0	15,7

## FOOT PRINT

		X CE mats	Y CE mats	X CE bumper	Y CE bumper	H	H MAX	
							4 axes	5 axes
Rover C Edge 1948	mm	9891	7010	9891	7040	2000	3370	3040
Rover C Edge 1965	mm	11674	7010	11674	7040	2000	3370	3040

X/Y/Z Axis speed	m/min	85 / 85 / 30
Edgebanding strip thickness	mm	0,4 - 3
Panel thickness for treating the edgebanding strip	mm	10 - 60
Coil availability		2 / 4 / 6

## WORKING TABLE SYNCHRO

Length (min / max)	mm	400 / 3200 *
Width (min / max)	mm	200 / 2200 *
Thickness (min / max)	mm	8 / 150
Weight (1 panel/ 2 panels)	Kg	150 / 75
Useful height of stack	mm	1000
Height of stack from ground (including 145 mm Europallet)	mm	1145



(\* ) the Min and Max values may vary in accordance with the configurations of Synchro and the Rover machining centre to which Synchro is linked.

Dati tecnici ed illustrazioni non sono impegnativi. Alcune foto possono riprodurre macchine complete di opzionali. Biesse Spa si riserva il diritto di apportare eventuali modifiche senza preavviso.

A weighted sound pressure level (LpA) during machining for operator workstation on vane-pump machine Lpa=79dB(A) Lwa=96dB(A) A-weighted sound-pressure level (LpA) for operator workstation and sound power level (LwA) during machining on cam-pump machine Lwa=83dB(A) Lwa=100dB(A) K measurement uncertainty dB(A) 4.

Il rilevamento è stato eseguito rispettando la norma UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (potenza sonora) e UNI EN ISO 11202: 2009 (pressione sonora posto operatore) con passaggio pannelli. I valori di rumorosità indicati sono livelli di emissione e non rappresentano necessariamente livelli operativi sicuri. Nonostante esista una relazione fra livelli di emissione e livelli di esposizione, questa non può essere utilizzata in modo affidabile per stabilire se siano necessarie o meno ulteriori precauzioni. I fattori che determinano il livello di esposizione a cui è soggetta la forza lavoro comprendono la durata di esposizione, le caratteristiche del locale di lavoro, altre fonti di polvere e rumore ecc., cioè il numero di macchine ed altri processi adiacenti. In ogni caso, queste informazioni consentiranno all'utente della macchina di effettuare una migliore valutazione del pericolo e del rischio.

# HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE



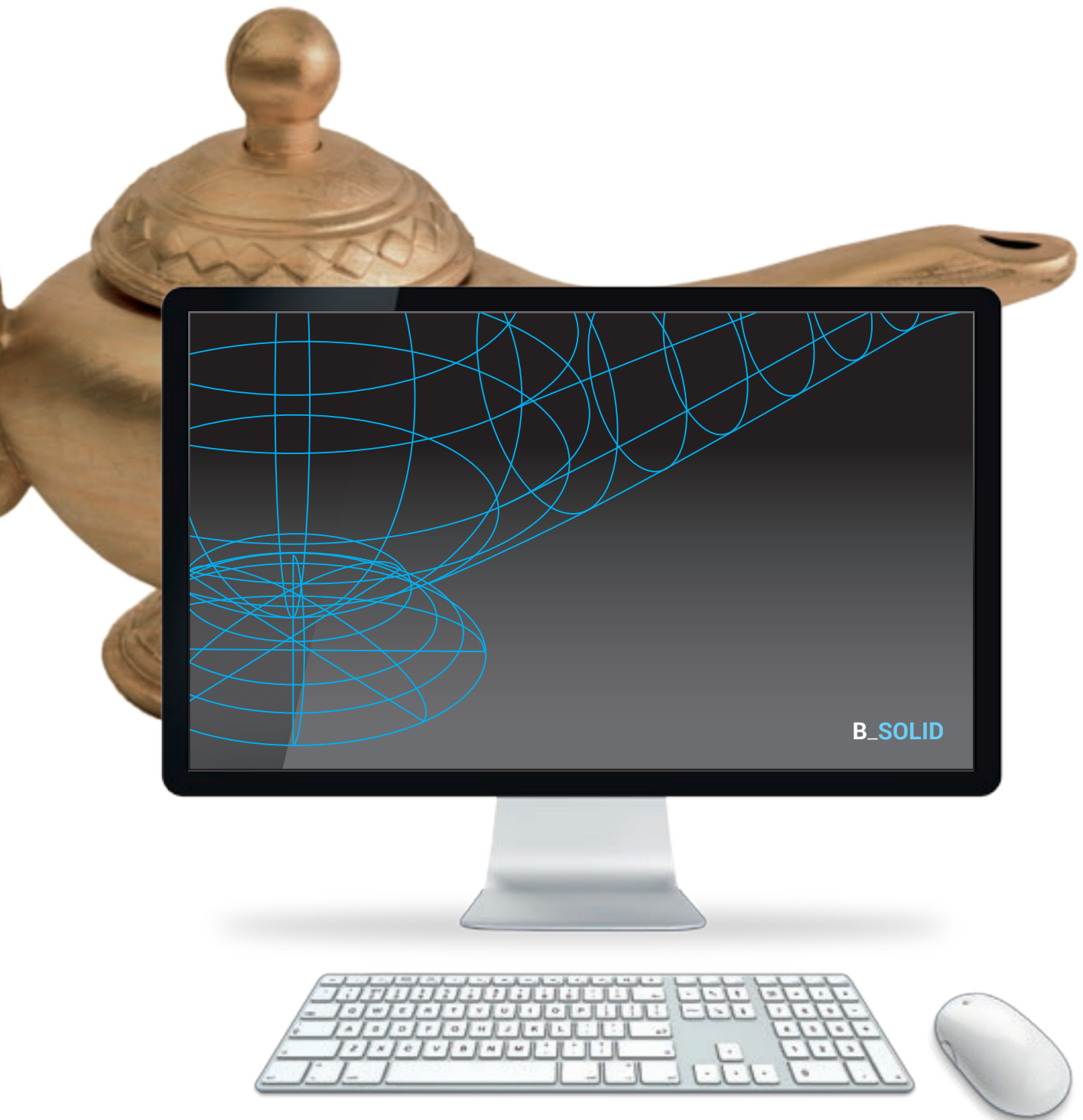
**B\_SOLID IS A 3D CAD CAM SOFTWARE PROGRAM THAT SUPPORTS THE PERFORMANCE OF ANY MACHINING OPERATION THANKS TO VERTICAL MODULES DESIGNED FOR SPECIFIC MANUFACTURING PROCESSES.**

- Planning in just a few clicks.
- Simulating machining operations to visualise the piece ahead of manufacturing and have some guidance for the planning phase.
- Virtual prototyping of the piece to avoid collisions and ensure optimal machine equipment.
- Machining operation simulation with a calculation of the execution time.





# B\_SOLID



# SIMPLIFYING EDGEBANDING PROGRAMMING



**B\_EDGE IS A B\_SUITE PLUG-IN, SEAMLESSLY INTEGRATED FOR EDGEBANDING PLANNING. BY UTILISING B\_SUITE'S DESIGN AND SIMULATION CAPABILITIES, B\_EDGE MAKES EDGEBANDING EVEN THE MOST COMPLEX SHAPES, VERY SIMPLE.**

- Automatic generation of the edgbanding operation sequence.
- Easy to understand and operate.
- Simplified management of edgbanding aggregates.

'B\_EDGE





# IDEAS TAKE FORM AND SHAPE



**B\_CABINET IS A UNIQUE SOLUTION FOR MANAGING FURNITURE PRODUCTION FROM THE 3D DESIGN PHASE TO PRODUCTION FLOW MONITORING.**

**IT'S NOW POSSIBLE TO PLAN THE DESIGN OF A SPACE AND QUICKLY PASS FROM CREATING THE SINGLE ELEMENTS TO GENERATING PHOTO-REALISTIC CATALOGUE IMAGES, FROM GENERATING TECHNICAL PRINTS TO PRODUCING REQUIREMENT REPORTS, AND ALL IN ONE SINGLE ENVIRONMENT.**

**B\_CABINET FOUR (SUPPLEMENTARY MODULE) MAKES IT EASY TO MANAGE ALL THE WORK PHASES (CUTTING, MILLING, BORING, EDGEBANDING, ASSEMBLY, PACKAGING), JUST WITH A CLICK.**

**B\_CABINET FOUR INCLUDES AN ENVIRONMENT DEDICATED TO THE REAL TIME MONITORING OF THE PROGRESS OF THE PRODUCTION PHASES. THAT MEANS COMPLETE CONTROL OF THE ORDER STATUS, STEP BY STEP, THANKS TO CHARTS AND 3D IMAGES.**

# B\_CABINET



# SOPHIA

GREATER VALUE FROM MACHINES



SOPHIA is the IoT platform created by Biesse in collaboration with Accenture which enables its customers to access a wide range of services to streamline and rationalise their work management processes.

It allows alerts and indicators to be sent to the customer in real time, in relation to production, the machines used and the type of process carried out. These are detailed instructions for more efficient use of the machine.



□ **10% CUT IN COSTS**

□ **50% REDUCTION  
IN MACHINE DOWNTIME**

□ **10% INCREASE  
IN PRODUCTIVITY**

□ **80% REDUCTION IN PROBLEM  
DIAGNOSTICS TIME**

**SOPHIA TAKES THE INTERACTION BETWEEN  
CUSTOMER AND SERVICE TO A HIGHER LEVEL.**

**iOT**  
SOPHIA

IoT - SOPHIA provides a comprehensive overview of the specific machine performance features, with remote diagnostics, machine stoppage analysis and fault prevention. The service includes a continuous connection with the control centre, the option of calling for assistance from within the customer app (such calls are managed as priorities), and an inspection visit for diagnostic and performance testing within the warranty period. Through SOPHIA, the customer receives priority technical assistance.

**PARTS**  
SOPHIA

PARTS SOPHIA is the easy new, user-friendly and personalised tool for ordering Biesse spare parts. The portal offers customers, dealers and branches the chance to navigate within a personalised account, consult the constantly updated documentation of the machines purchased, and create a spare parts purchase basket indicating the real time availability in the warehouse and the relative price list. In addition, the progress of the order can be monitored at all times.

 **BIESSE**

in collaboration with  **accenture**

# SERVICE & PARTS

Direct, seamless co-ordination of service requests between Service and Parts. Support for Key Customers by dedicated Biesse personnel, either in-house and/or at the customer's site.

## BIESSE SERVICE

- ✔ Machine and system installation and commissioning.
- ✔ Training centre dedicated to Biesse Field engineers, subsidiary and dealer personnel; client training directly at client's site.
- ✔ Overhaul, upgrade, repair and maintenance.
- ✔ Remote troubleshooting and diagnostics.
- ✔ Software upgrade.

**500**

Biesse Field engineers in Italy and worldwide.

**50**

Biesse engineers manning a Teleservice Centre.

**550**

certified Dealer engineers.

**120**

training courses in a variety of languages every year.

The Biesse Group promotes, nurtures and develops close and constructive relationships with customers in order to better understand their needs and improve its products and after-sales service through two dedicated areas: Biesse Service and Biesse Parts. With its global network and highly specialized team, it offers technical service and machine/component spares anywhere in the world on-site and 24/7 on-line.

## BIESSE PARTS

- ✔ Original Biesse spares and spare kits customized for different machine models.
- ✔ Spare part identification support.
- ✔ Offices of DHL, UPS and GLS logistics partners located within the Biesse spare part warehouse, with multiple daily pick-ups.
- ✔ Order fulfillment time optimized thanks to a global distribution network with de-localized, automated warehouses.

**92%**  
of downtime machine orders fulfilled  
within 24 hours.

**96%**  
of orders delivered in full on time.

**100**  
spare part staff in Italy and worldwide.

**500**  
orders processed every day.



# MADE WITH BIESSE

## BIESSE GROUP TECHNOLOGY SUPPORTS THE MANUFACTURING EFFICIENCY OF THE WORLD'S LARGEST FURNITURE MANUFACTURERS

"We were looking for a solution that would be so innovative that it would satisfy all our needs at the same time," states the manufacturing manager of one of the world's largest furniture manufacturers.

"Most of our production was already made using numerical control tools, but now everything that we produce is made with these technologies.

This is why it was necessary to increase our production capacity. Biesse offered a solution that we liked very much, a veritable range of processing centres and automatic magazines. Innovative, fascinating and decidedly powerful.

With Biesse we defined a "turnkey" solution to be planned, built, tested, installed, inspected and commissioned within a precisely defined schedule".

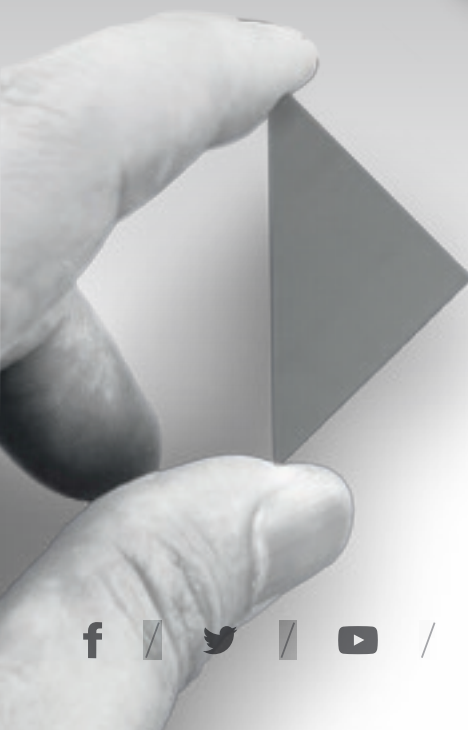
*Source: excerpt from an interview to the manufacturing manager of one of the world's largest furniture manufacturers.*

[BIESSE.COM](http://BIESSE.COM)

A photograph of a modern bedroom interior. The room features a bed with a patterned blanket, a desk with a chair, and a window with red curtains. The image is overlaid with a green gradient that transitions from the top left to the bottom right.

# LIVE THE EXPERIENCE

BIESSEGROUP.COM



Interconnected technologies and advanced services that maximise efficiency and productivity, generating new skills to serve better our customer.

**LIVE THE BIESSE GROUP EXPERIENCE AT OUR CAMPUSES ACROSS THE WORLD.**



