

# WIN LINE 16

NUMERICAL CONTROL  
MULTI-CENTRE

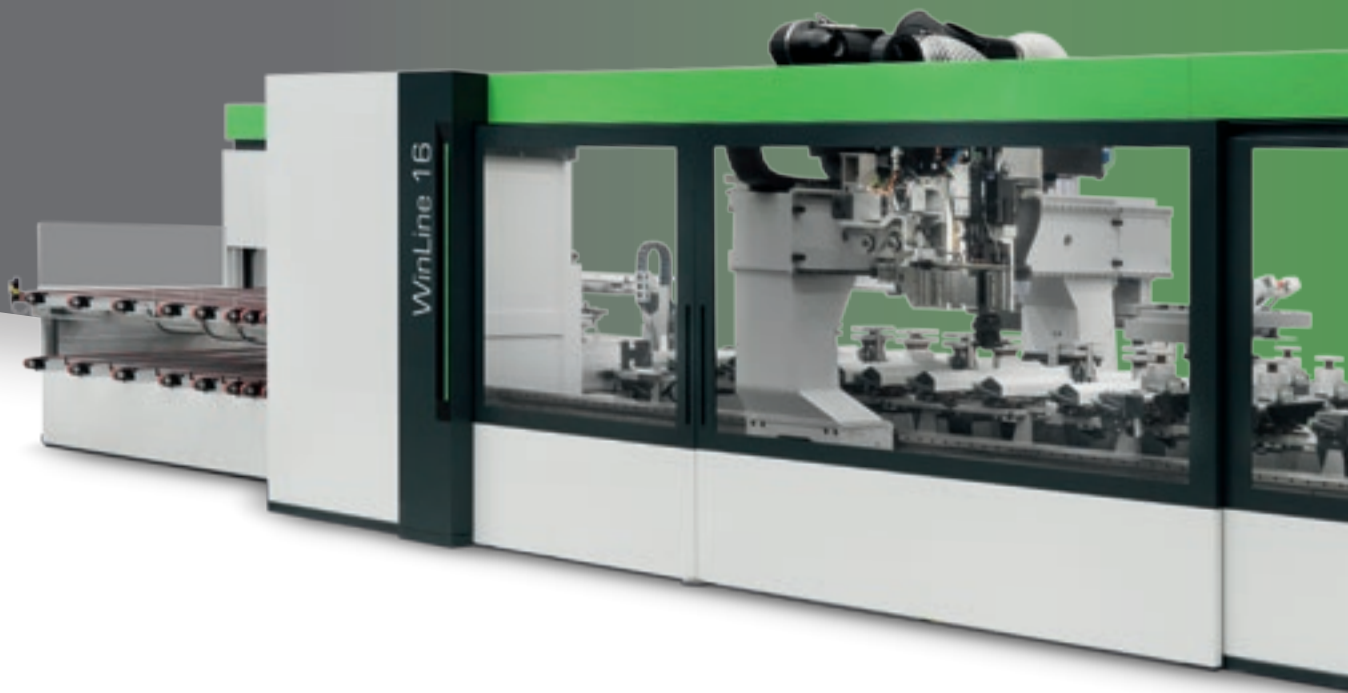


 **BIESSE**

YEARS  


 **BIESSEGROUP**

# AUTOMATION OF PRODUCTION



## 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 and customisation of products with **quick and defined delivery times**, as well as responding to the needs of highly creative designers.

## BIESSE MEETS

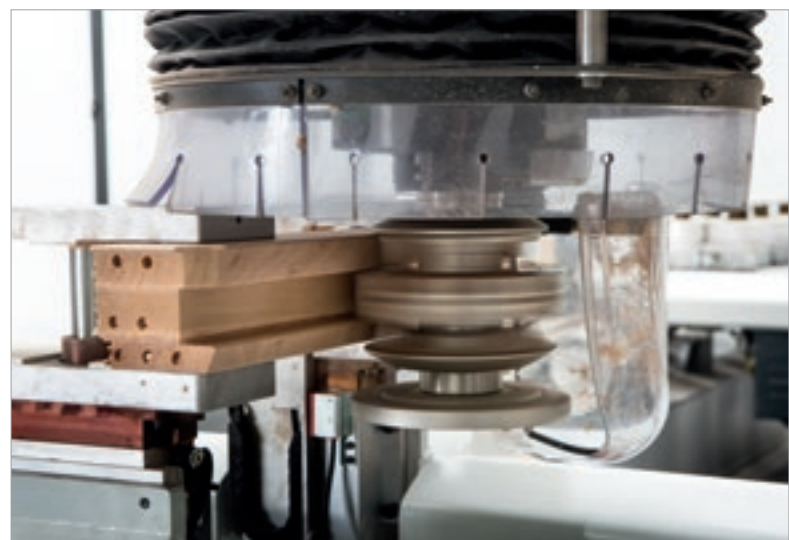
these requirements with **high-tech** and **user-friendly** solutions, which combine technical expertise with a deep understanding of processes and materials. **WinLine 16** is Biesse's new NC multi-centre for the production of doors and windows, designed for artisans and small industries aiming to increase production and for medium and large industries who need to produce small batches of unusual size or remakes. The system produces both standard and special doors and windows with the utmost simplicity while the operator handles other tasks; the machine only takes up a small area and handles the loading, unloading and positioning of pieces autonomously and with extreme precision.



## WINLINE 16

- ✔ EFFICIENT ACROSS ALL MACHINING OPERATIONS
- ✔ OPTIMAL CLAMPING OF THE COMPONENT FOR EXTREMELY PRECISE PROCESSING OPERATIONS
- ✔ HIGH TECHNOLOGY WITHIN EVERYONE'S REACH
- ✔ ELEVATED PRODUCTIVITY WITH A MINIMAL FOOTPRINT.

# EFFICIENT ACROSS ALL MACHINING OPERATIONS



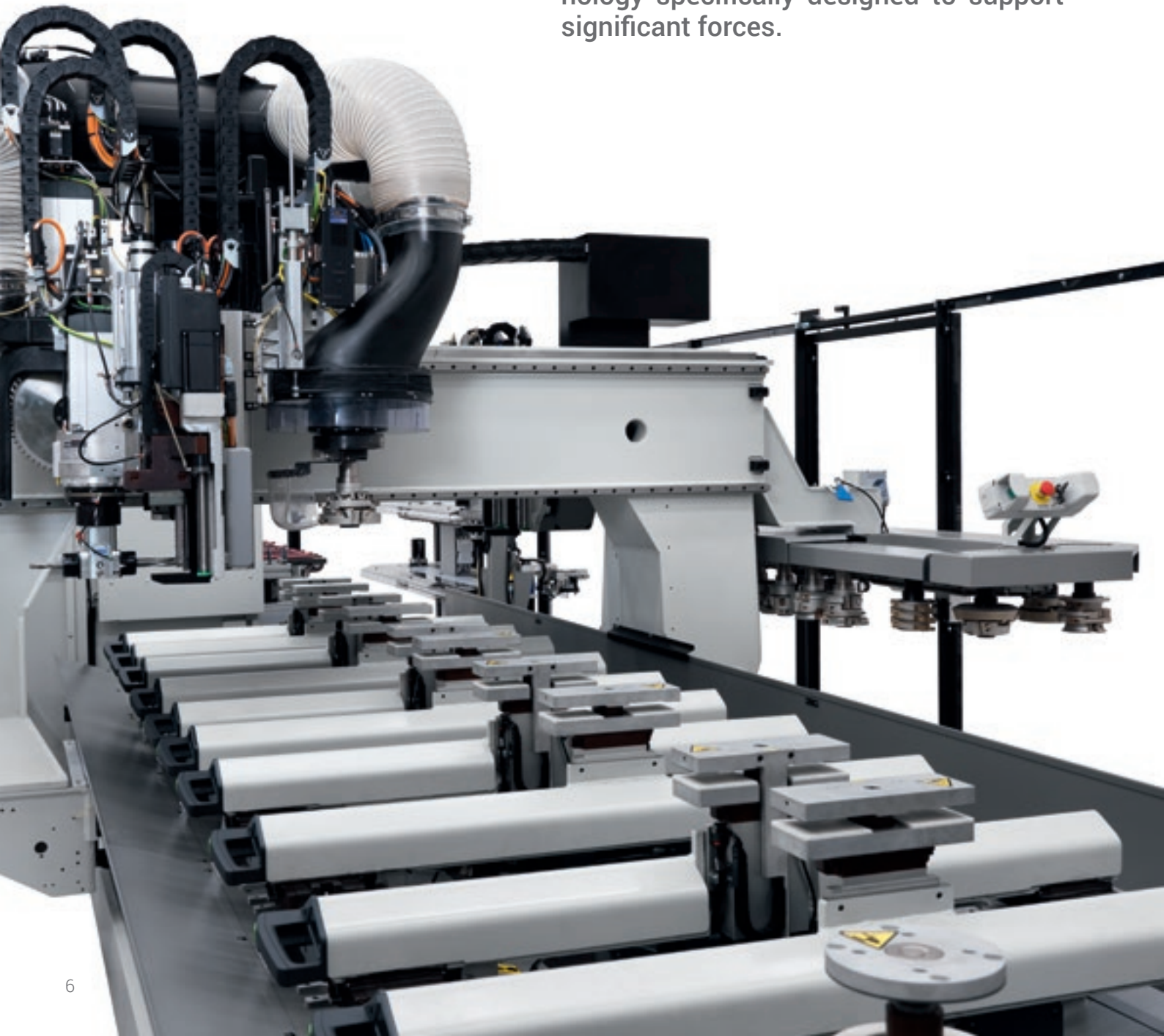
WINLINE 16 ALLOWS FOR ALL MACHINING OPERATIONS, FOR BOTH STANDARD AND SPECIAL DOORS AND WINDOWS, TO BE CARRIED OUT ON THE SAME SYSTEM.



# PRECISE AND RELIABLE

The new multi-centre has a double drive gantry structure, guaranteeing greater sturdiness and therefore precision.

The structure was specifically designed for the production of doors and windows. The beam and the work table apply technology specifically designed to support significant forces.

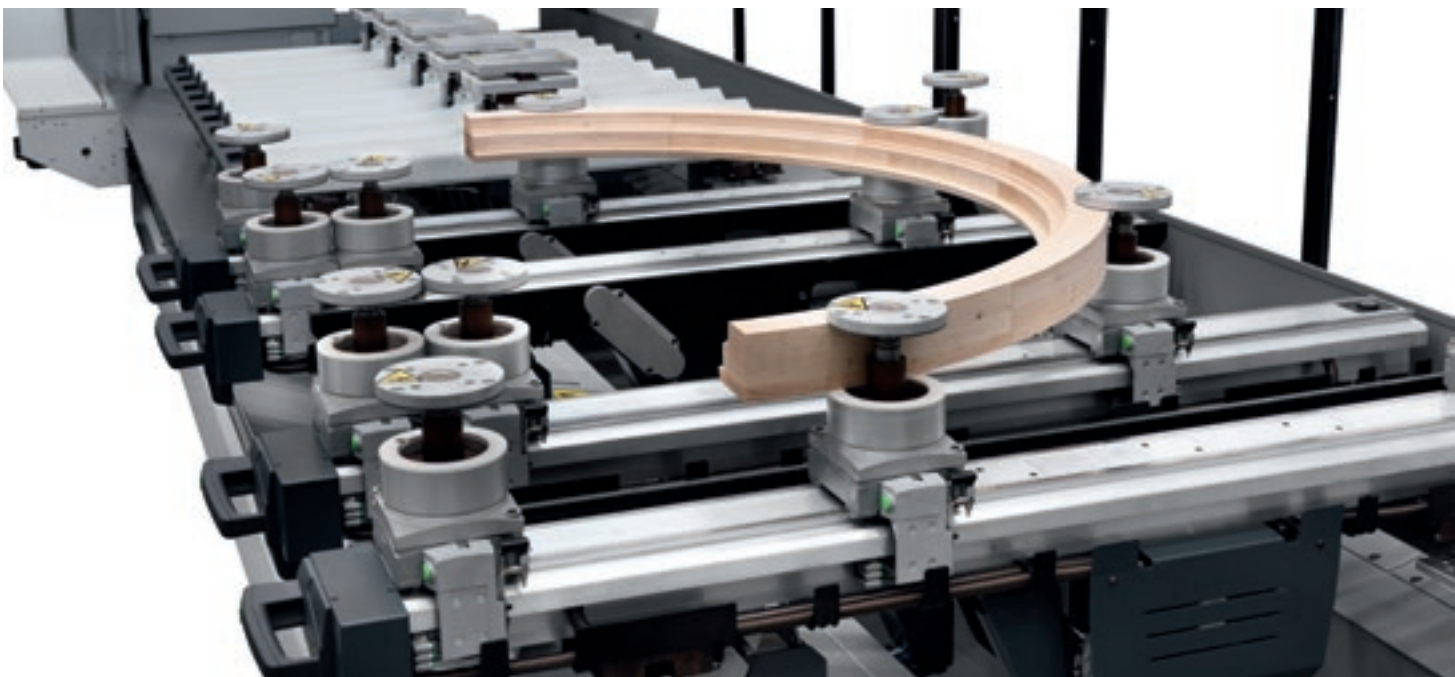


COMPONENTS ARE ALWAYS POSITIONED BY THE NC TO ENSURE MAXIMUM POSITIONING PRECISION AND A MORE EFFICIENT USE OF THE MACHINE.



# OPTIMAL CLAMPING OF THE COMPONENT FOR EXTREMELY PRECISE PROCESSING OPERATIONS

The work table was specifically designed for door and window applications. A section of the work table is dedicated to linear processing and a second to the manufacturing of custom windows and doors (arches, hollow-core doors, squaring).



EPS table for arches, squaring and special machining operations, to be equipped with Hyperclamps or vacuum modules. Two machines in one: a multi-centre for doors and windows and a machining centre.



**Finger Clamps** always enable optimal clamping of the component. Even the shortest work piece is always secured using 2 clamps.

**Blowers** positioned on each clamp ensure that the component is held securely in place in a totally chip-free environment, thus supporting the processing of components that have already been sanded.





**Pressure regulators** on the clamps provide control over the force applied to various pieces. This helps avoid any denting.



The **“Safe Locker”** sensor verifies that the piece is clamped. It allows the optimisation of cycle times and prevents the risk of collisions.

**Continuous run to block 20-140 mm thick components.** High clearance under the base of the piece allows the processing of more substantial windows and doors even with double tools.

# HIGH TECHNOLOGY WITHIN EVERYONE'S REACH

Winline 16 was designed to facilitate the operator's work. It requires no specific skills, and works with the utmost efficiency.



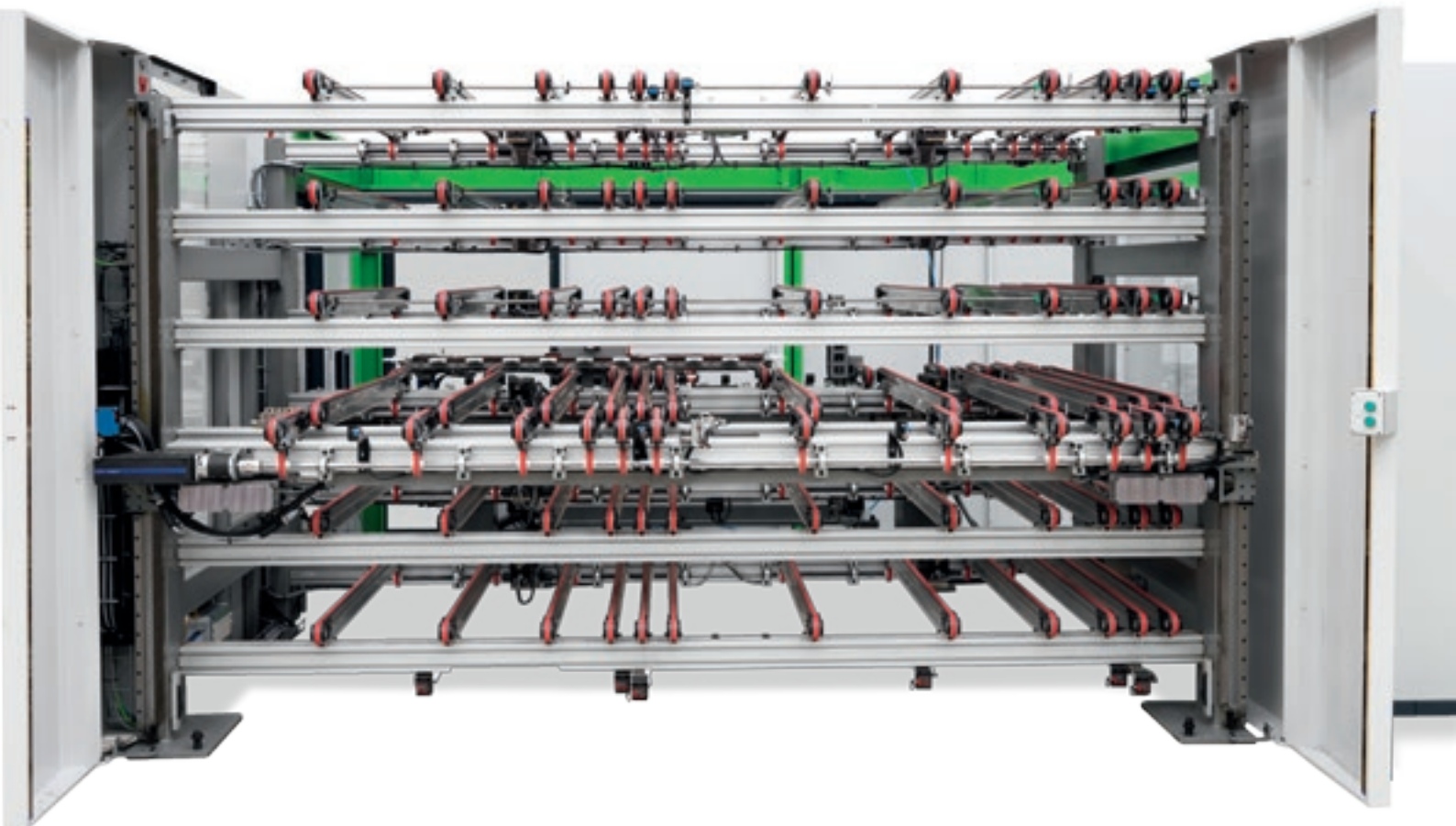
The operator loads the pieces into the machine following the software indications, and unloads the finished piece. The machine is fully autonomous, excluding any risk of human error.



# FROM ONE HOUR TO A WHOLE SHIFT OF TOTAL PRODUCTION AUTONOMY

**With the standard loading pallet, WinLine 16 produces autonomously for up to 50/60 minutes and machines up to 280 pieces per shift.**

The Modular Multilevel Buffer is an automatic magazine (a solution exclusive to Biesse) which ensures long system autonomy. The operator can load/unload a very large number of components from a single access point during machine operation. Moreover, the operator can load the components and keep the system running without supervision also after the end of his/her shift, which results in a further increase in machine productivity.



The length, width and height of the piece are always measured prior to loading to ensure that the operator has loaded the correct piece.

# WINLINE 16

## MODULAR SOLUTIONS

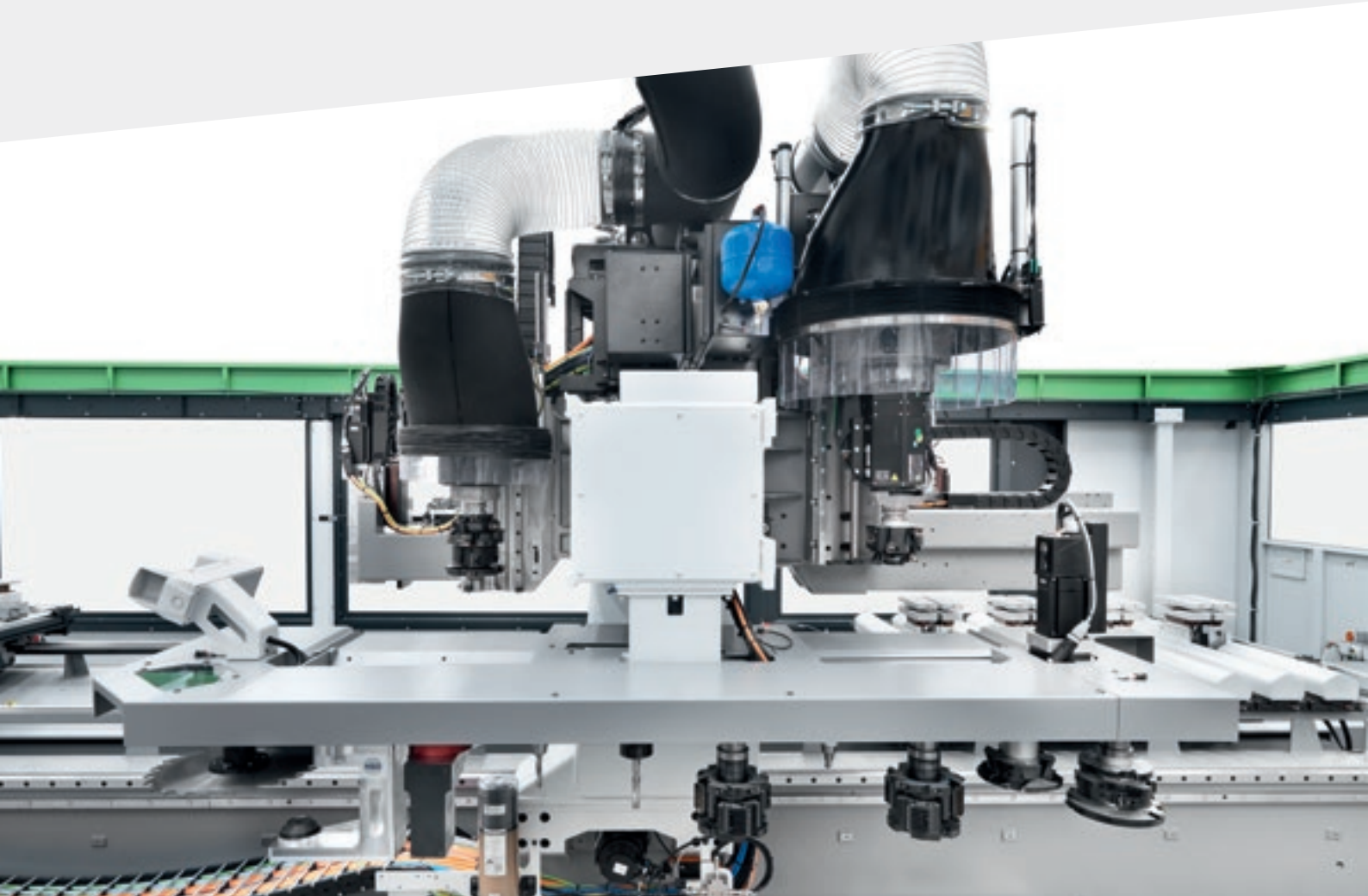
Multi-centres for WINLINE doors and windows are modular and can be integrated into multiple cells. A competitive advantage that makes Biesse's solutions beneficial for large companies with a focus on long-term investment.

Machining without direct supervision complemented with automatic loading and unloading systems, expandable solutions that meet production types and volumes dictated by the market.





# ELEVATED PRODUCTIVITY WITH A MINIMAL FOOTPRINT



The **double electrospindle** allows for all changes to happen with no downtime, regardless of the working cycle. The two spindles, placed on either side of the carriage take turns tooling, one changes tools while the other works.



**Chain-type tool magazine** 22 positions and 44 positions (opt) with 180 mm between centres.



**Flexstore** 44, 66, 88 positions with 180 mm between centres.

THE ELECTROSPINDLES AND AGGREGATES ARE DESIGNED AND MANUFACTURED FOR BIESSE BY HSD, A GLOBAL LEADER IN THE MECHATRONICS SECTOR.



**C Axis Torque:**  
more precise, quicker, greater rigidity.

**FlexyWood PLUS:**  
NC tilting engine for inclined machining with three independent vertical boring bits.

The NC **multi-function unit** can be infinitely positioned on a 360 (degree) rotation. It can also be used to house aggregates for specific machining operations (edge trimming, hardware boring, lock drilling etc.).



New **metal-reinforced collet** for loading tools up to 10kg.



A 16.5 kW 5-axis head aimed at the hardwood: powerful and sturdy for laborious cutting.

# SOLUTIONS DESIGNED FOR DAILY WORK

- Fully enclosed working units
- Maximum machine visibility during machining operations
- Total safety for the operator
- Clean and dust-free working environment
- Low noise levels



**LED:** the user identifies the machine's status from the colour of the LED bar.





# OPTIMAL CLEANING OF MACHINED COMPONENTS AND WORK AREA



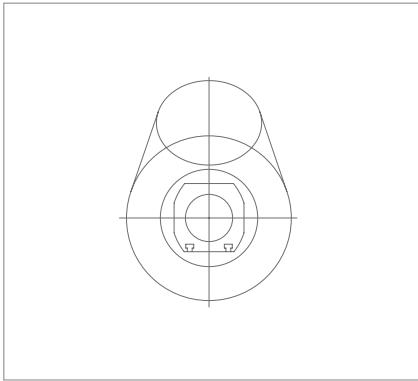
**Motorised conveyor belt** for the removal of chips and waste.



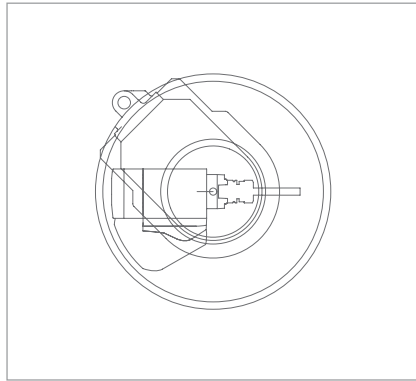
**Cover with encoder** allows for positioning on a single continuous run, selecting the most suitable height.

NC controlled chip **deflector**.

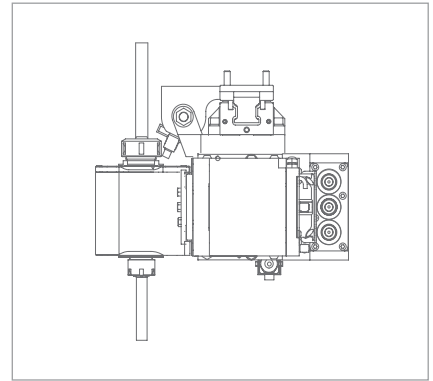
# CONFIGURATIONS



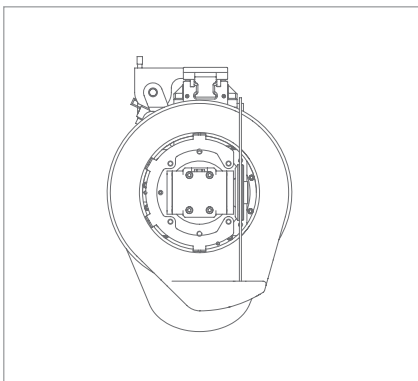
Electrospindle 19.2 kW (30 kW opt).



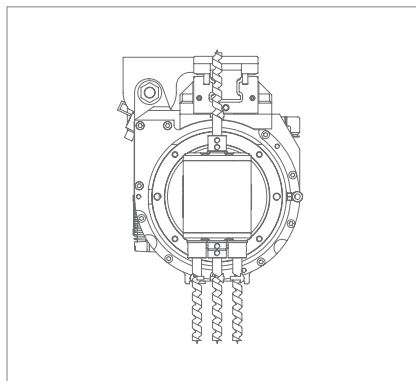
5-axis milling unit with powers from 16.5 kW.



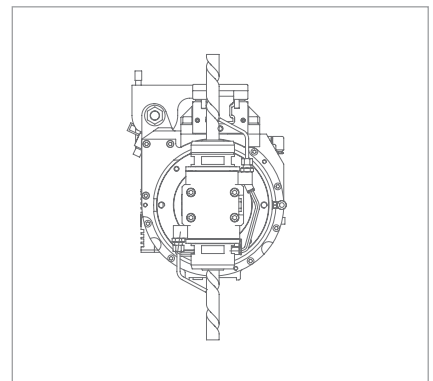
FlexyWood Plus Unit.



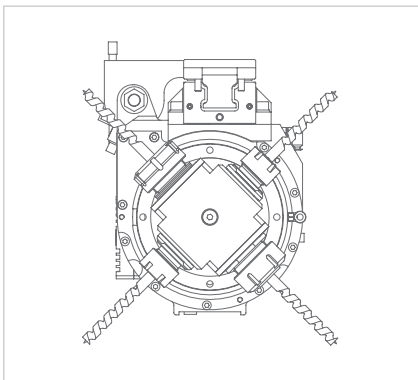
D300 blade unit.



Unit 3+1.



Milling unit with 2 horizontal outlets.



Drilling unit with 4 horizontal outlets.

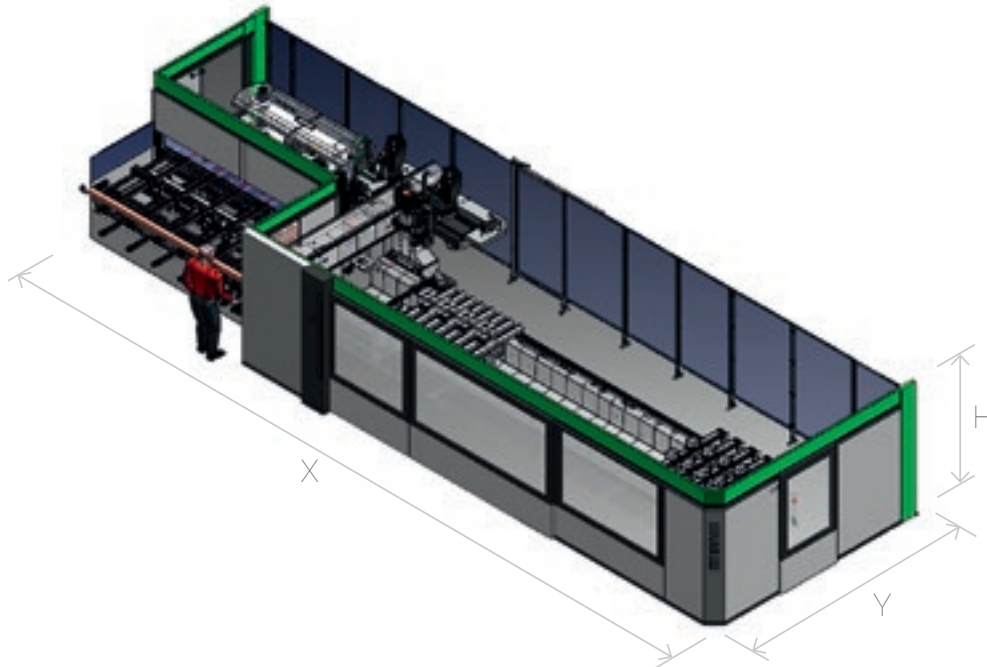


Electrospindle, 19.2 kW.  
D300 blade unit.  
Unit 3+1.



Electrospindle, 19.2 kW.  
FlexyWood PLUS.  
Unit 3+1.

# TECHNICAL SPECIFICATIONS



	X	Y	H	H MAX
	mm	mm	mm	mm
WinLine 1638	9900	4713	2230	2605
WinLine 1650	11100	4713	2230	2605
WinLine 1667	12780	4713	2230	2605
Component machining thickness			mm	20 - 140
Component machining length			mm	210* - 3200 / 4500
Component machining width			mm	40 - 260

\* minimum raw piece loadable 300 mm.

The technical specifications and drawings are non-binding. Some photos may show machines equipped with optional features. Biesse Spa reserves the right to carry out modifications without prior notice.

A-weighted sound pressure level (LpA) during machining for operator workstation on vane-pump machine Lpa=86dB(A) Lwa=106dB(A) A-weighted sound-pressure level (LpA) for operator workstation and sound power level (LwA) during machining on cam-pump machine LpA=86dB(A) Lwa=106dB(A) K measurement uncertainty dB(A) 4

The measurement was carried out in compliance with UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (sound power) and UNI EN ISO 11202: 2009 (sound pressure levels at workstation) during panel machining. The noise levels shown are emission levels and do not necessarily correspond to safe operation levels. Despite the fact that there is a relationship between emission and exposure levels, this may not be used in a reliable manner to establish whether further measures need to be taken. The factors determining the exposure level for the workforce include length of exposure, work environment characteristics, other sources of dust and noise, etc. i.e. the number of other adjoining machines and processes. At any rate, the above information will enable the operator to better evaluate dangers and risks.

# HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE

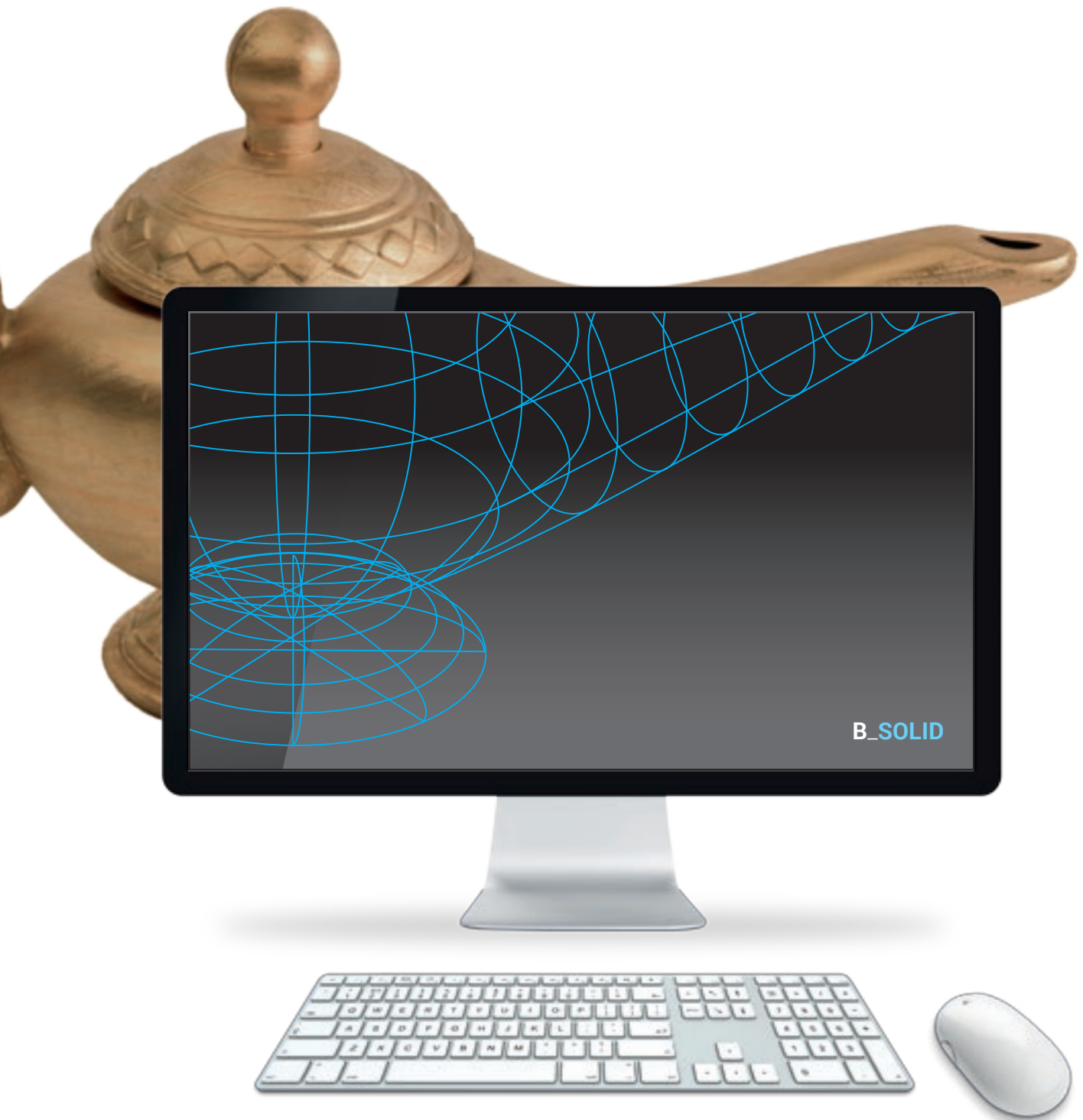


**B\_SOLID IS A 3D CAD CAM SOFTWARE PROGRAM THAT SUPPORTS THE PERFORMANCE OF ANY MACHINING OPERATION THANKS TO VERTICAL MODULES DESIGNED FOR SPECIFIC MANUFACTURING PROCESSES.**

- 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



# 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**

# SERV ICE & 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.

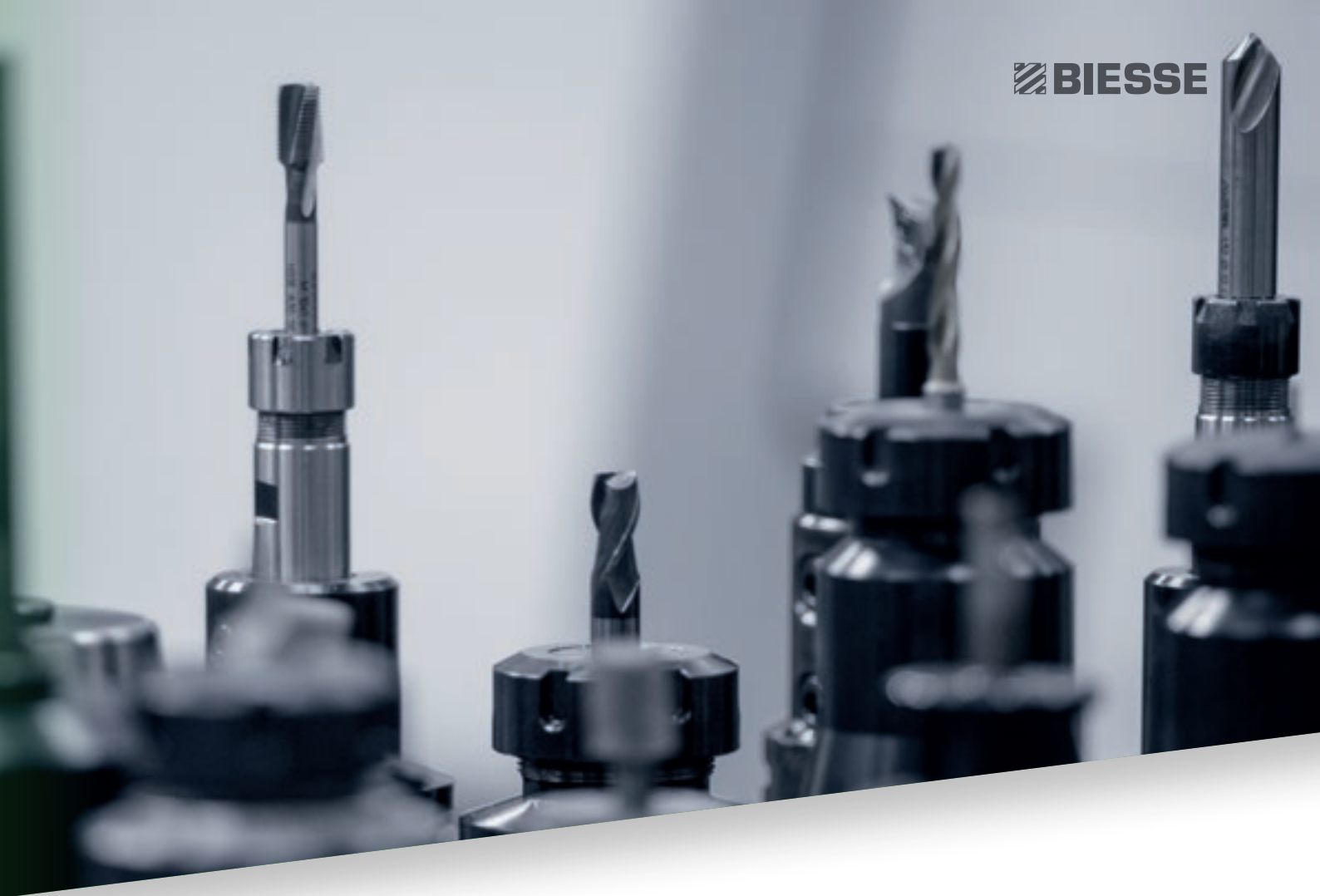
**550**

certified Dealer engineers.

**120**

training courses in a variety of languages every year.



A close-up photograph of several metal drill bits and tool components, arranged in a row. The bits are of different sizes and designs, some with black coatings. The background is a soft, out-of-focus grey.

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

## DOOR AND WINDOW MULTI-CENTER

Door and window manufacturer Michael Leopold, CEO of Leopold in Rosenfeld, has also invested in a new plant. He changed production with the new year by investing roughly half a million euros in Biesse's numerical control multi-centre, Winline 16.67. It's the first to commence operation in Europe. "The new centre will increase our standard productivity and guarantees respect for our elevated quality standards over the long term," stated Leopold. Each shift the system machines from 150 to 180 pieces loaded, depending on shape, material and composition. The stability of machining operations is guaranteed by special blocking equipment. Even the shortest pieces can be blocked with two clamps.

What Leopold admires most about the

system is the elevated flexibility it offers, making it particularly suited to the production of arches, squaring and special machining operations.

"Any specialist knows how challenging rounded shapes can be," the CEO explained. "That's why we are perfectly equipped for the future". Leopold pointed out that, contrary to the past, rounded and angled doors and windows, as well as arches for doors, are now part of everyday work: "The requests companies make are far more unusual than they were in the past, both in terms of design and of the manufacturing itself". Architects and designers don't focus exclusively on function any more, they're interested in the aesthetic appeal as well. The multi-centre, with its 5 by 15 metre base, meets all these expectations.

"We have taken a giant leap into the future", the door and window manufacturer pointed out. Thanks to the new system, our customers can benefit from high quality and a good price/quality ratio, while architects will benefit from timely delivery throughout the project, thanks to the rapid production cycles. Orders, Leopold stated, have poured in, up to capacity. Especially given the fact that the company has for years now been producing for several carpentry shops all over southern Germany who no longer handle production internally, besides orders from the company's traditional customers.

*Source: German magazine GFF alle Var Glas. "Artisans and industries prepare for the future"*



# 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.**



**BIESSEGROUP**

