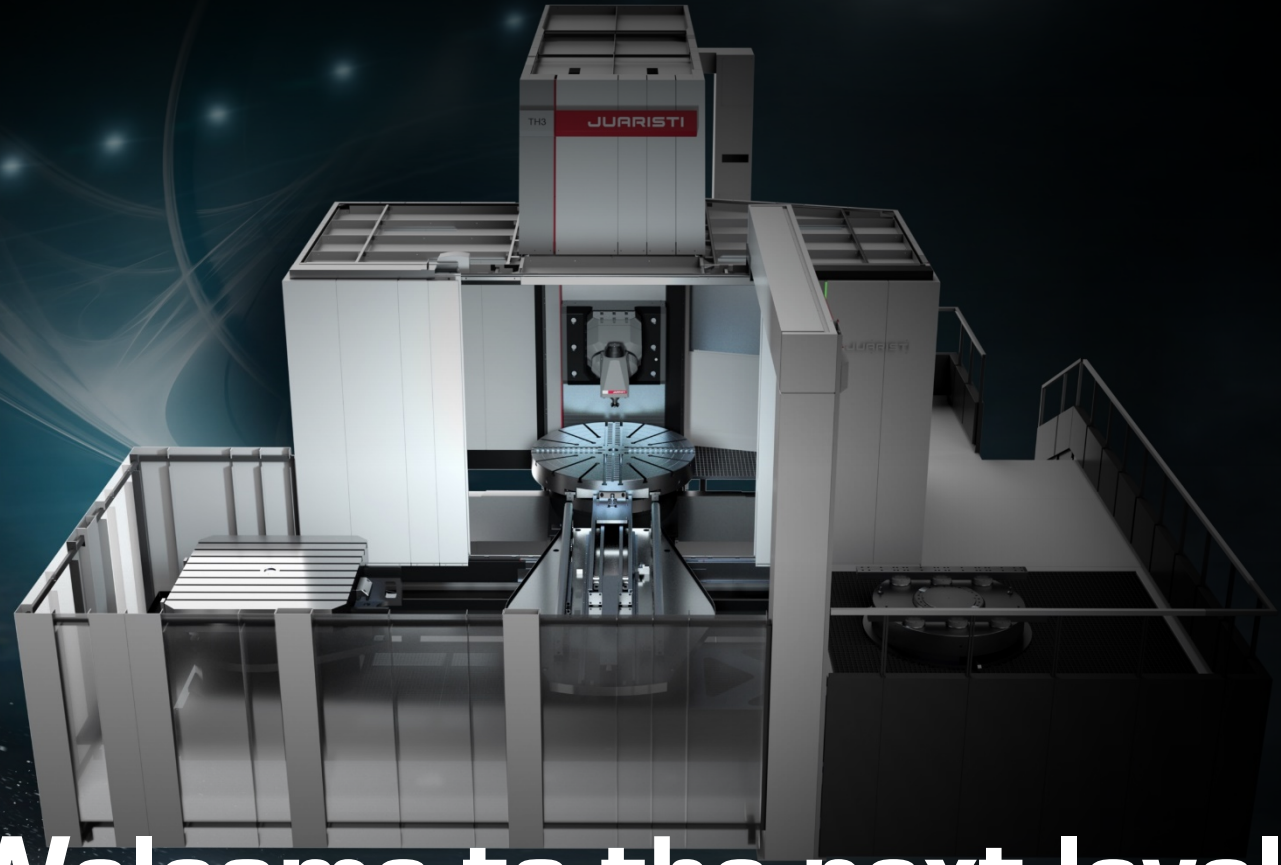


**JUARISTI**

MILLING. BORING. THE EXPERTS.



**Welcome to the next level**

**Touch the screen**



Navigate with the buttons



1. [About JUARISTI](#)

2. [Latest developments 2019](#)

3. [Accuracy Cube](#)

4. [Leading technologies](#)

5. [Product range](#)

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Navigate with the buttons

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# About JUARISTI



# JUARISTI

MILLING. BORING. **THE EXPERTS.**

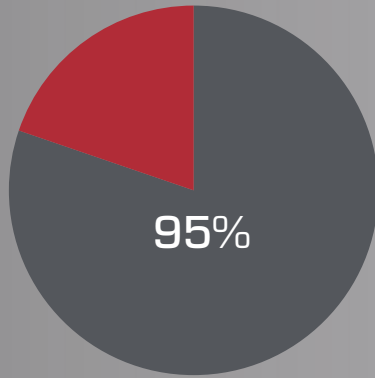
At JUARISTI, we are experts in providing solutions to all types of machining operations. Our catalogue covers a wide range of configurations of milling machines, boring machines and machining centres.

The success of JUARISTI is due to the quality and robustness of its products, its close cooperation with the customer from the giving of purchase advice to the technical service and development of innovations which provide the differential value needed to compete globally.

Our portfolio provides solutions to all types of challenges, including boring to great depths and large- volume machining. We have been leading innovation in our industry for more than 80 years and providing solutions to customers in the most demanding industries.

# € 30 M

Annual turnover



## Exports

95 percent of our turnover comes from exports, a testament of our global character



## +40 countries

Where we develop our commercial activity and provide service



## 100

People make up our staff at our headquarters in Azkoitia and at international delegations



## 10

Series of products make up our MH range and provide optimal solutions for all types of machining



**PRESENT IN  
MORE THAN 40  
COUNTRIES**

We have a network of international distributors on 5 continents. Exports account for 95% of our sales volume.

**INTERNATIONAL SCOPE**

In addition to our headquarters in Spain, we have our own offices in France, Italy, Germany, China and India.

# 2019

**GLOBAL SUPPORT**

Our network of distributors, parties in agreement and our own international delegations ensure professional technical support throughout the world.





# 80 YEARS LEADING INNOVATION IN OUR SECTOR

The company was founded in 1941. Since its creation, JUARISTI has delivered more than 6,000 machines to the 5 continents and its history is filled with multiple innovations and technological advances.

- 1941** JUARISTI begins its journey as a company dedicated to the manufacture of drills, fillers and diesel engines.
- 1943** Development of the first Boring Machine.
- 1966** 1º large-scale Hydrostatic Boring Machine.

- 1974** First NC Boring-Milling Machine produced in Spain.
- 1976** First CNC Milling-Boring Machine.
- 1981** Manufacture of Bridge Milling Machine.
- 1989** First Boring-Milling Machine with RAM.

- 1998** First boring-milling center with hydrostatic guiding.
- 2003** High speed and high dynamics multifunction centers.
- 2009** New MP10 RAM Y=8000 Hydrostatic boring machine with Tilting rotary table.

# WELCOME TO THE NEXT LEVEL

Our spirit is the force that guides our team. The same spirit that led our company's founders at the beginning of the industrial revolution.

Today, our engineers follow their example with the same artisanal attitude. Designers and technicians working together under one roof with a single objective: to build the best machine tools.

We are indebted of our tradition and live for progress inspired by the defining characteristics of the wolf: Flexible, Robust, Instinctive and Intelligent.





JUARRISITI



# CUSTOMERS AT THE CENTRE

Our customers shape our products and the service they receive



# C.A.S.T.

THE SLOGAN THAT SHAPES OUR STRATEGY  
CONNECTIVITY | AUTOMATION | SERVICE | TECHNOLOGY



Satisfy every individual need with the greatest versatility



Improve business with transforming services



Design connected machines that cooperate intelligently and efficiently



Take sustainability to the next level



Efficiently combine power and design



# C.A.S.T

Juaristi´s Strategy For The Future Industry Solutions.

# CONNECTIVITY

## CONNECTED MACHINES AND SERVICES THAT COOPERATE INTELLIGENTLY AND EFFICIENTLY



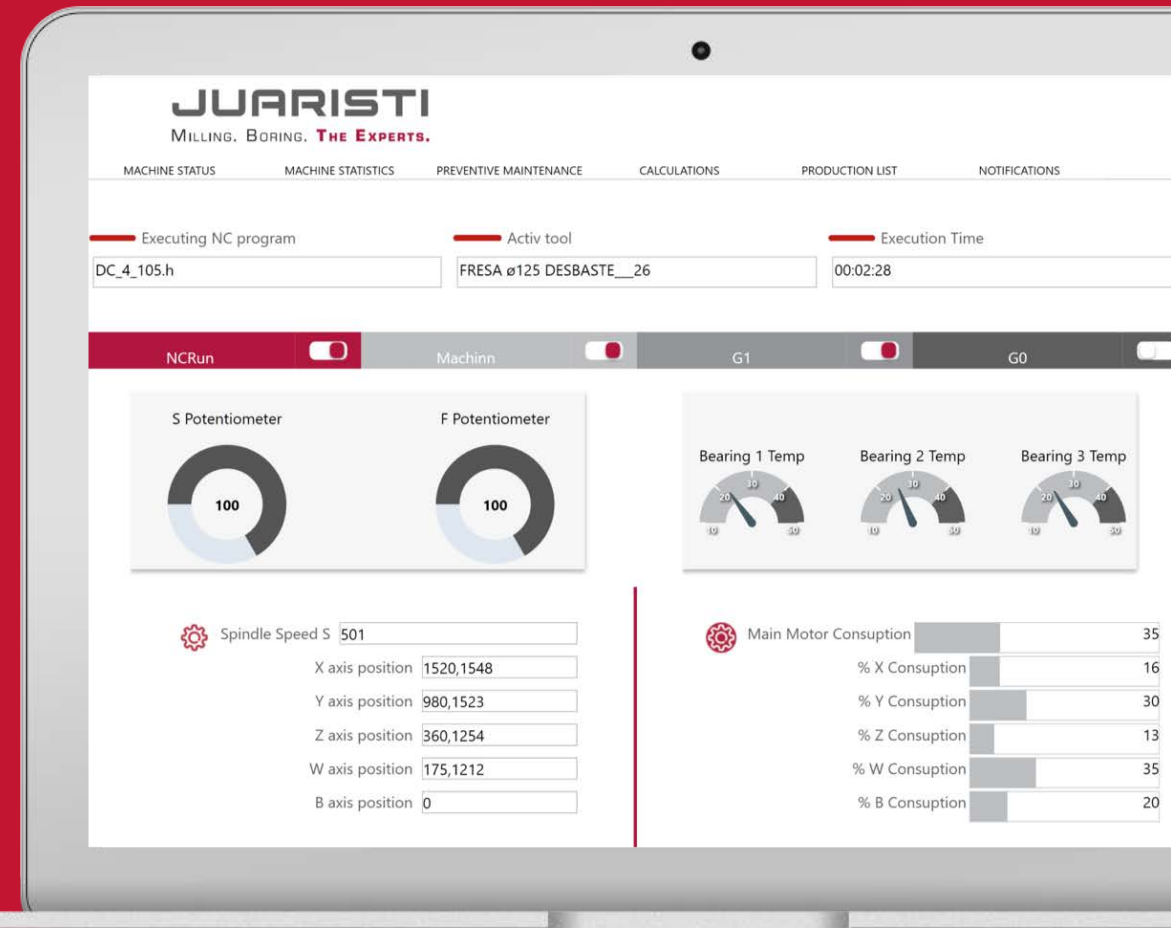
**GREATER PROFITABILITY:** The reduction of downtime and savings in spare parts and repair costs are an economic benefit for our customers.



**MAXIMIZED ACTIVITY TIME:** Predictive maintenance reduces downtime and maximizes machine performance.



**PRODUCTIVITY INCREASES:** Thanks to being correctly adapted to the requirements of each job.



# AUTOMATION

**IN EACH JOB OUR SOLUTIONS ADAPT TO  
ACHIEVE THE MAXIMUM PERFORMANCE**



**UNATTENDED PRODUCTION:** Our solutions make our machines more autonomous and Smart.



**GREAT FLEXIBILITY:** We provide solutions that support different configurations to reach great levels of versatility.



**GREATER COMPETITIVENESS:** Our customers can compete in terms of performance, thanks to the added value of our solutions.



# SERVICE

WE COOPERATE CLOSELY TO TURN OUR CUSTOMERS INTO WINNERS



**PERSONALIZED:** We support our customers right through the purchase process, from the initial advice on the solutions that best suit them to the on-going



**FLEXIBLE:** We adapt our service to the technical requirements that best suit our customers.



**EXPERT:** We have our own training programme to train all our technicians, both in Spain and abroad, on the specific characteristics of our machines.





# TECHNOLOGY



**MAXIMUM RELIABILITY:** Systems aimed at proper maintenance lengthen the useful life of tools and ensure their reliability throughout the latter.



**HIGH ACCURACY:** Geometrical precision in large volumes and automatic rapid verification systems.



**MULTIPROCESS:** Our multiprocess centres are compatible with a wide range of headstocks and incorporate mobile tables which allow them to perform all kinds of milling, boring and turning operations.

# Latest developments 2019



# New multitasking center JUARISTI TH3-MT

## Enhance your productivity

The new 5-axis multitasking center includes a comprehensive automation package and has a completely renovated design to improve ergonomics, extend its useful life, and optimise chip and coolant management.



LATEST DEVELOPMENTS 2019

# Comprehensive multitasking



Multitasking concept:  
milling, boring, turning

5-axis machining  
capacity

Thermo-symmetric  
design with column  
centred head

LATEST DEVELOPMENTS 2019

# High-precision turning, boring, and milling jobs



Quick-change matrix tool changer with expandable capacity of up to 450 tools

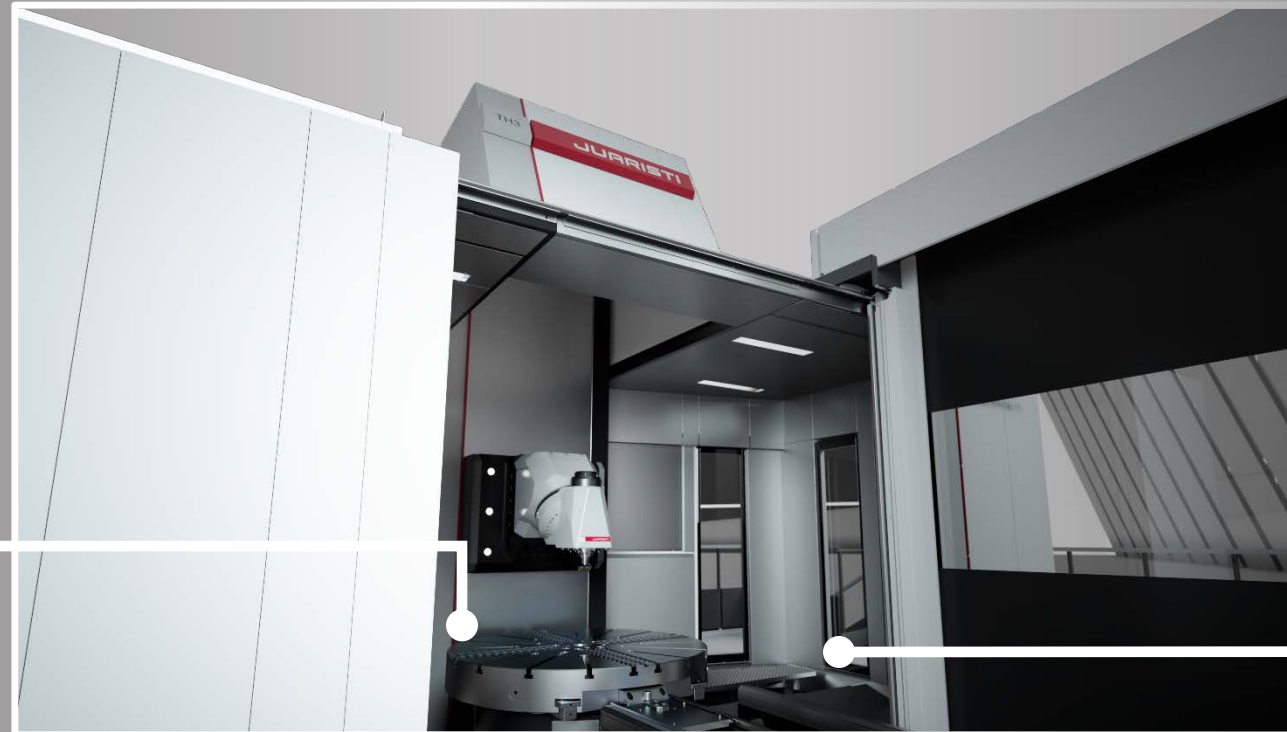
Rapid feeds of up to 40 m/min with accelerations of 3 m/s<sup>2</sup>

Flexible design, multi-pallet system

LATEST DEVELOPMENTS 2019

# Unlimited productivity: flexible and versatile

Turning table of  
Ø1,600 mm (optionally  
up to Ø2,000 mm)



Rotation speed of  
up to 400 min<sup>-1</sup>

Load capacity up to 5  
tons for turning and  
10 tons for milling

LATEST DEVELOPMENTS 2019

# Equipped with an special head



Universal head  
optimised for 5-axis  
machining

Rotation speed up to  
8,000 min<sup>-1</sup>

High power (60  
kW) and spindle  
torque (1,600 Nm)



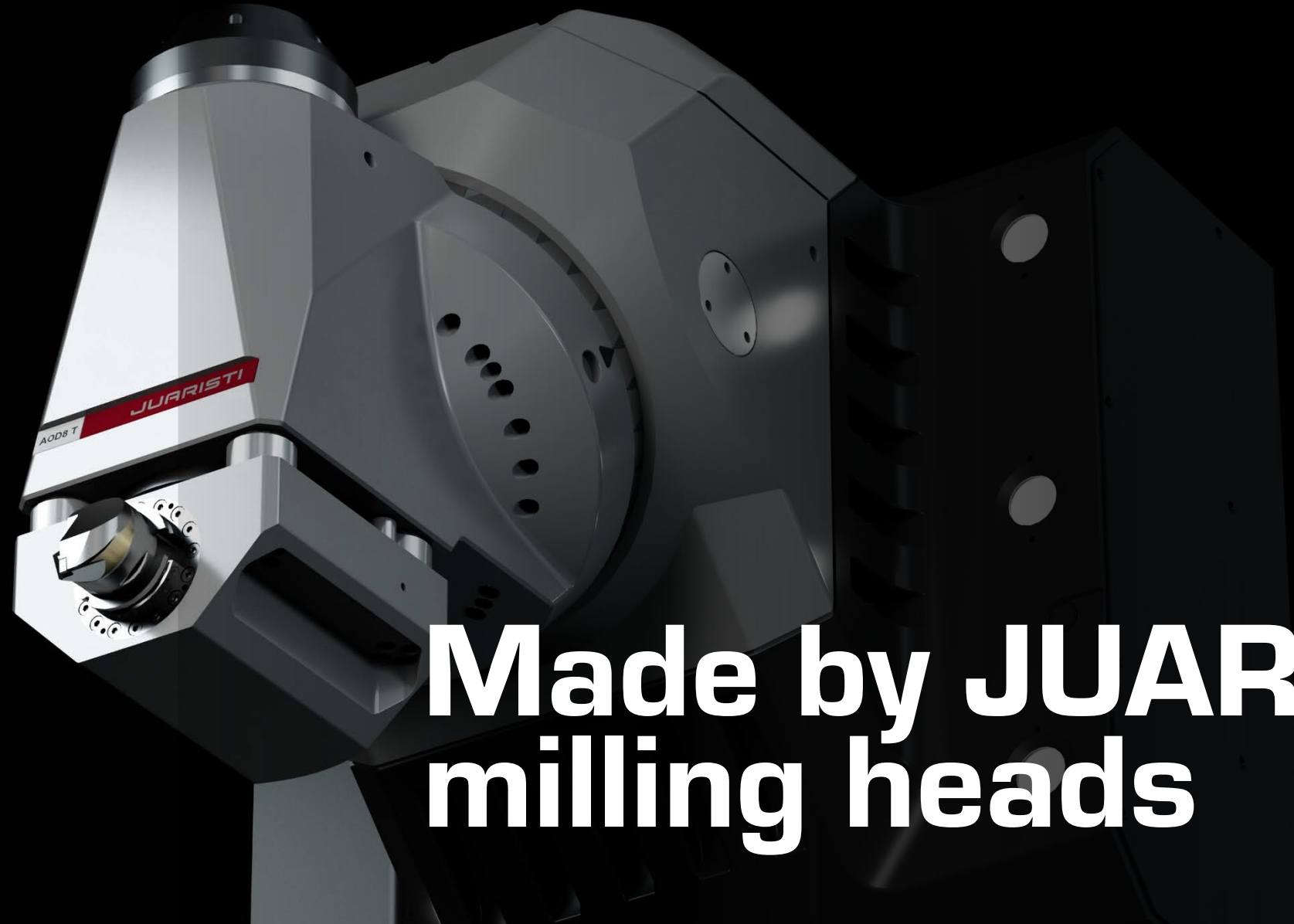
“The TH3-MT is a clear example of where our innovation efforts are going: automated machining processes, maximum precision, and greater machine availability on the market.”

**Eneko Ariznabarreta,**  
Technical Director of  
**JUARISTI**







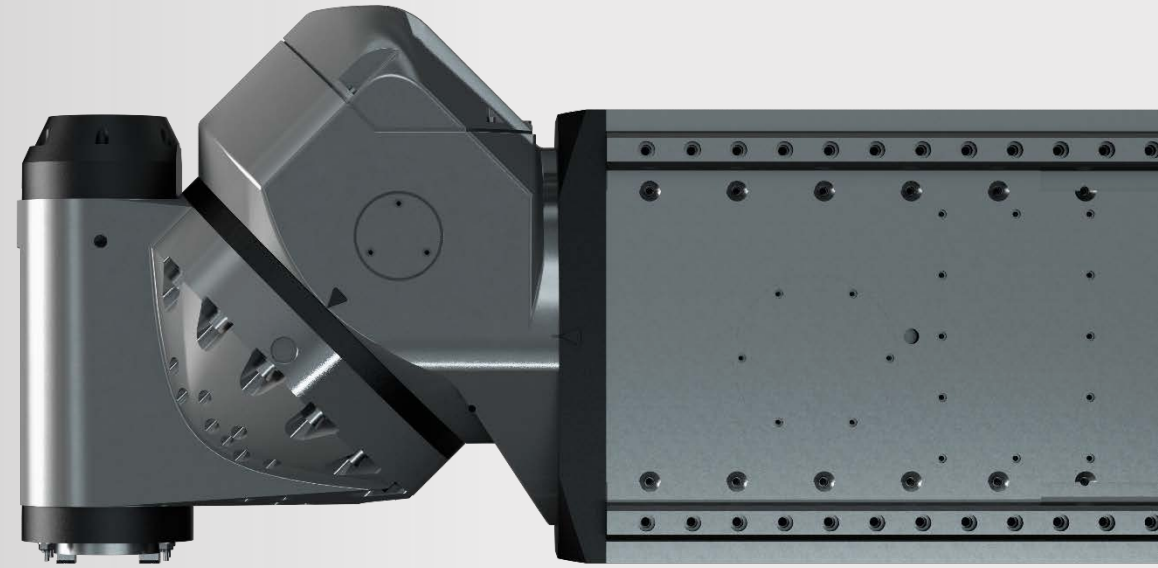


# Made by JUARISTI milling heads

LATEST DEVELOPMENTS 2019

# Leaders in universal heads

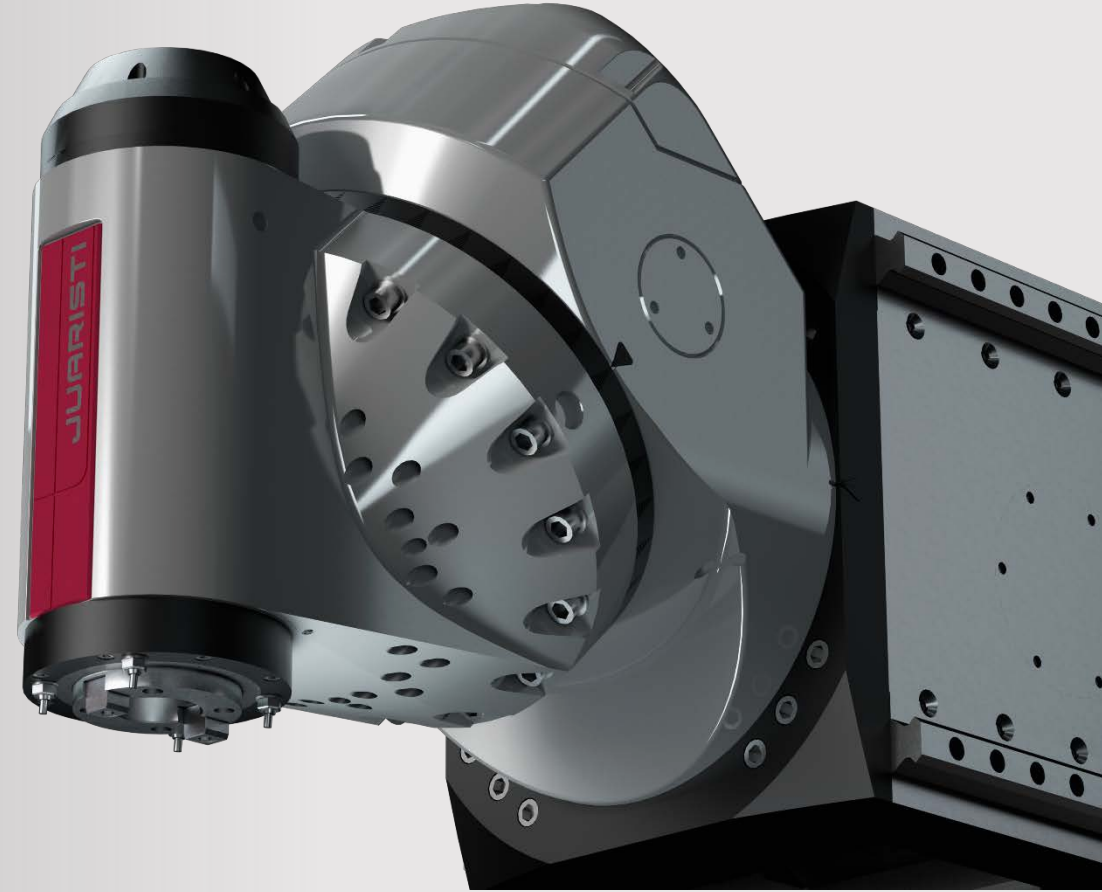
- 5-axis machining.
- Optimised for milling, boring and turning operations.
- Rotation speed of up to 8,000 min<sup>-1</sup>.
- Quick repositioning: from 0 to 180° in 7 seconds.
- Quick tool change.



LATEST DEVELOPMENTS 2019

# New **ACD7**

Continuous double rotation axis milling head



LATEST DEVELOPMENTS 2019

# High precision

- Continuous double rotation axis.
- Direct measurement magnetic drums:  $\pm 3''$  precision.
- Quick repositioning: from 0 to 180° in 7 seconds.

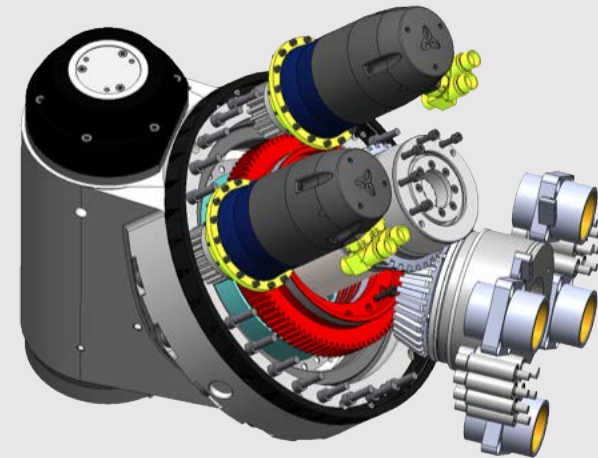




LATEST DEVELOPMENTS 2019

# Productivity

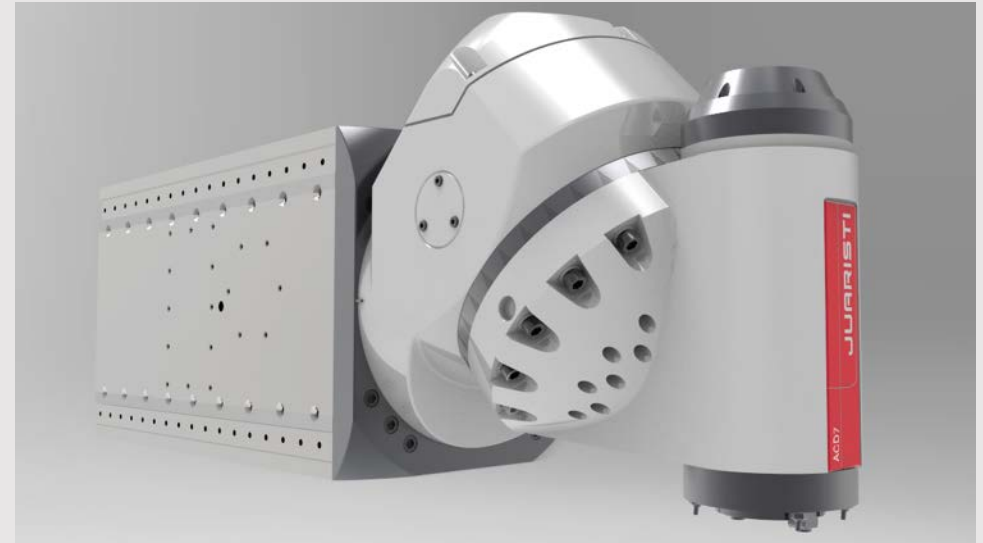
- Rotation speed up to 6,000 min<sup>-1</sup>.
- High spindle power (60 kW) and torque (1,600 Nm).
- 2 motors + 2 pinions on each axis.
- Closed circuit cooling for spindle bearings.



LATEST DEVELOPMENTS 2019

# Robustness

- Contouring torque A&C axes: 3,000 Nm.
- Clamping force A&C axes: 20,000 Nm.
- C axis integrated in the RAM or headstock on T-type machine.
- More compact and robust head.
- Possibility of using C axis integrated in vertical heads.



LATEST DEVELOPMENTS 2019

# New **ACD8**

Optimised head for turning operations



LATEST DEVELOPMENTS 2019

# Comprehensive multitasking

- Continuous rotation on 45 ° plane.
- Double pinion system.
- Spindle rotation up to 8,000 min<sup>-1</sup>.
- Automatic change of the accessory for turning operations.
- High turning capacity: turning accessory clamped to the body of the head.







Ready to enhance  
your performance

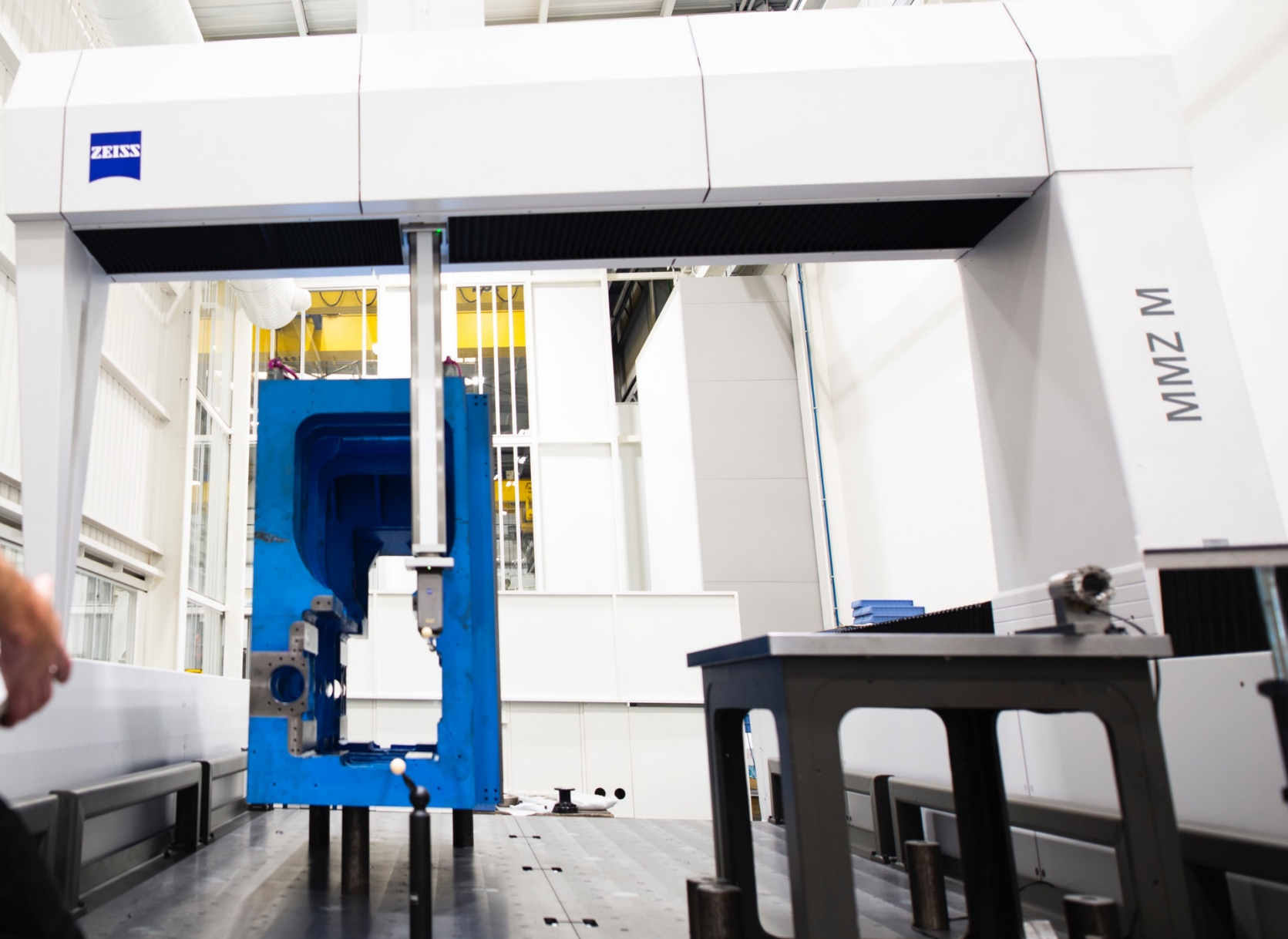
ACD8 T JUARISTI



---

# Accuracy Cube: advanced manufacturing center







# Setting the pace of production

As a customer-value oriented company, our claim to high-quality workmanship and innovative technology is unmistakable. Our leadership lies in aligning both the product and production system to the heartbeat of the factory, inspiring customers worldwide.

**ACCURACY CUBE**

Today's inspiration is tomorrow's innovation

EN | ES | DE



# Accuracy cube





## The JUARISTI Intelligent Manufacturing Center

Accuracy Cube  
is a promise of  
precision and  
reliability to our  
customers.



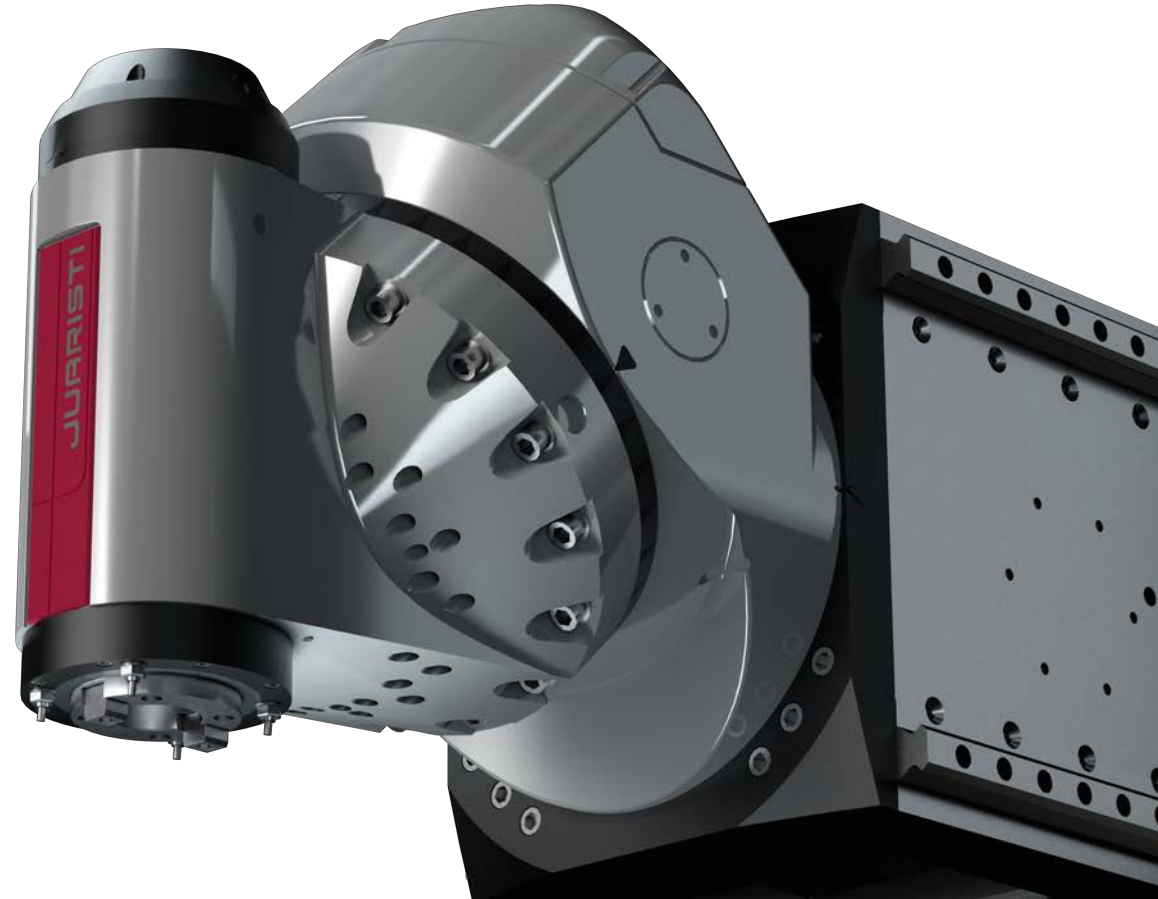
EN | ES | DE  
**ACCURACY BEST** +

# Quality is the rhythm at which we beat

Quality is the rhythm at which we beat. JUARISTI is proud to provide customers around the world with solutions that take full advantage of the latest technologies; adapting to the constant change that characterizes the modern factory and providing ever greater customization and faster cycles. We only succeed when we help you evolve, lead, and thrive.

**Precise  
adjustment  
before and  
after assembly**

Our cutting-edge laboratory ensures that our products can deliver maximum productivity and precision. It is the place where we collect and analyze data to consistently improve our proprietary AccuracyBest+ process: the intelligent assembly line method developed by JUARISTI to guarantee precise adjustment before and after assembly. This laboratory has been designed to make our solutions exceed customer needs.



# Innovation for our customers needs

# ACCURACY CUBE

360  
Quality  
process



## Precision Parts Center

### Machining Workshop

Perfect finishes on all the critical components of our customers' products



## 3D Verification Lab

### Geometrical Measurement Room

A space devoted to dimensional verification with advanced systems



## The White Room

### High Precision Head Assembly Bench

All our heads are assembled and tested in a clean room kept at a constant temperature



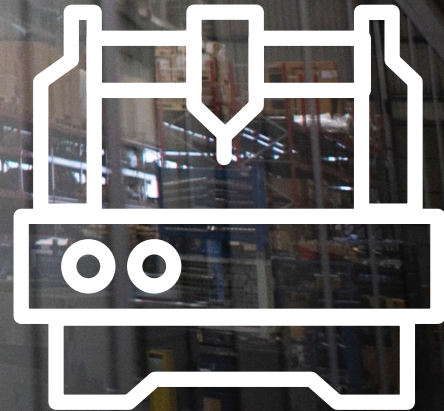
# Precision Parts Center

ZEISS

X

MMZ M

Machining  
Workshop







Precision Parts Center



3D Verification Lab



The White Room

## Machining Workshop

At JUARISTI we leverage the combined skills of our in-house designers, and production and quality engineers to reinvent the most basic principles of production. In this space we can get the most out of our high-performance Jig Borer TH3 and two top range grinding machines. This equipment guarantees perfect finishes on all the critical components of our customers' products, resulting in greater precision and reliability.



# Precision Parts Center







Precision Parts Center

3D Verification Lab

The White Room

EN | ES | DE

## TH3 multitasking center

Machining of precision parts with quality assurance.

This center is designed to ensure high dynamic properties as well as utmost stability and durability, with 40 m/min rapid feed and 3 m/s<sup>2</sup> acceleration on XYZ axes. The TH architecture is symmetrical with centered headstock in the column: 4 vertical guides (2 front + 2 rear) ensure the perfect behavior from the thermal and mechanical point of view, being all structural elements made of cast iron.



# Jig Borer JUARISTI



Precision Parts Center

3D Verification Lab

The White Room

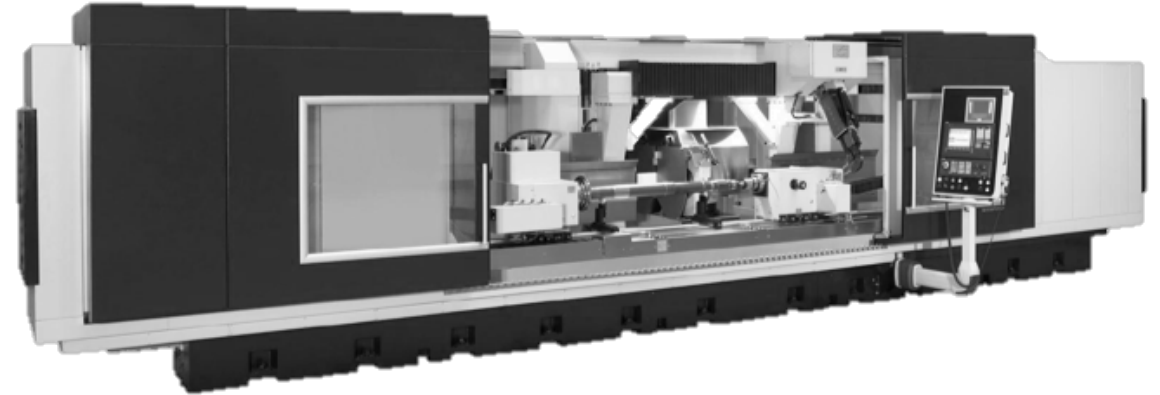
## High Accuracy Cylindrical Grinding Machines

The Precision Parts Center has two High Accuracy Grinding Machines for the most important pieces of our JUARISTI machines :

- Boring Spindle.
- Hollow Shaft.
- Cooling bushings.
- Main Spindle and high accuracy internal shafts and pieces of the Automatic Milling Heads.

Both the machines, are capable to complete the total grinding process:

- External Cylindrical Grinding.
- Internal Cylindrical Grinding.
- Tangential Grinding of the faces.



Workpiece length: up to 4,000 mm



Workpiece diameter : up to 650 mm

# High-precision grinding machines

# Precision Parts Center

---



Machining of precision parts with quality assurance.

1

Capacity to manufacture perfectly cylindrical surfaces in-house.

2

Cutting-edge technologies at the service of the highest rigidity, precision and productivity.

3

Our high quality grinding and Jig Borer machines can grind and mill parts to an accuracy of 1 micron providing our customers a precise, high-quality finish.

4



# 3D Verification Lab

Geometrical  
Measurement  
Room



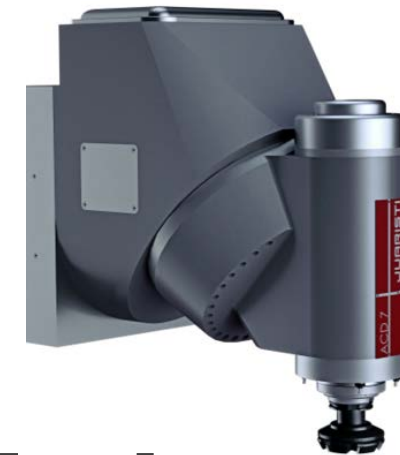


## Geometrical Measurement Room

A space devoted to dimensional verification with advanced systems capable of detecting infinitesimal errors. JUARISTI parts must meet strict criteria for precision before they make it into the machines. We test each part to ensure that it meets the design specifications, providing our clients with the ultimate recognition of exactitude and reliability.



Título		Ajuste engranes Klingenberg delanteros ACD1/ACD2			Proyecto	Código	
Codigo	Concepto	Valormas	Valormen	Valor	616	2	Observación
114	Medida cuerpo1 teórico 217.3 ACD1	217	218	217,287			
115	Medida cuerpo1 teórico 3.5 ACD1	3	4	3,486			
116	Medida Klingenberg eje teórico 136 ACD1	135	137	136			
174	Medida Klingenberg 45º teórico 177 ACD1	176,5	177,5	177			
118	Cota A Klin1 ACD1	14,5	15,5	15,485			
119	Cota B Klin1 ACD1	94,5	95,5	94,97			
120	Cota C Klin1 ACD1	55,5	56,5	55,95			
121	Absol. Cota D Klin1 medida arandela regulación ACD1...+116+11...	9	8	8,951			
122	Cota E Klin1 ACD1	9,5	10,5	9,975			
123	Cota F Klin1 ACD1	6,5	7,5	6,99			



# 3D Verification Lab

# 3D Verification Lab

ACCURACY BEST +



Use of most accurate Coordinate Measuring Machine (CMM) for this volume (3-5  $\mu\text{m}$  whole volume and less than 1  $\mu\text{m}$  in 1m) in the market (Zeiss).

1

High Volume Measurement Capacity (up to 6,000 x 3,000 x 2,000 mm) for all parts.

2

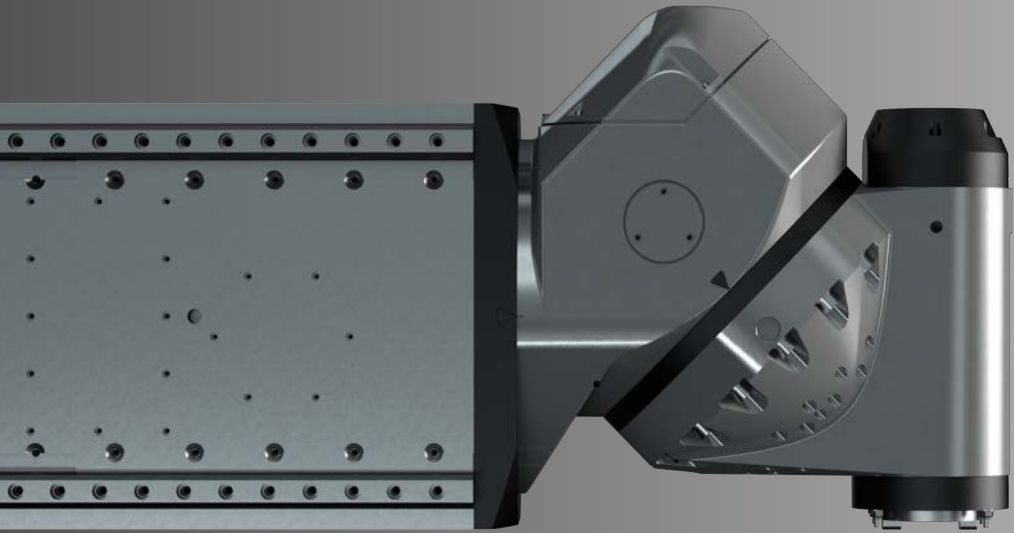
Parts traceability and Computerized Quality Control.

3

AccuracyBest+ process: data analysis and computerized precise data filling of each assembly adjustment parameter.

4

# The White Room



**High precision  
Head Assembly Bech**





Precision Parts Center

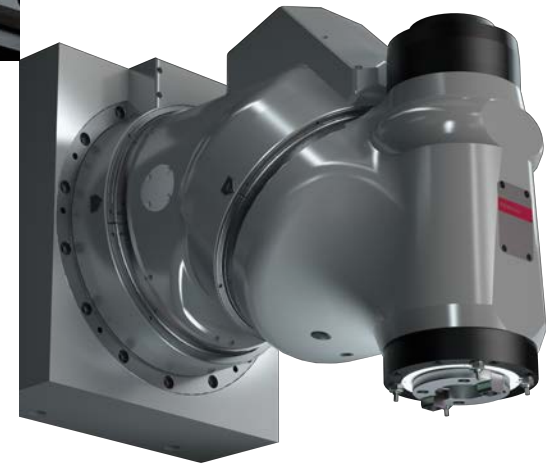
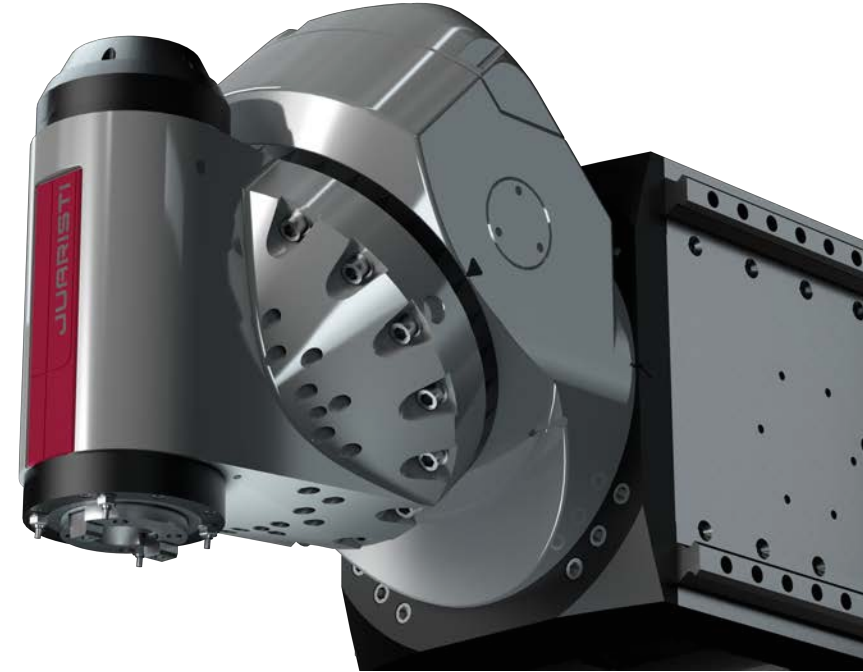
3D Verification Lab

The White Room

EN | ES | DE

## High Precision Head Assembly Bench

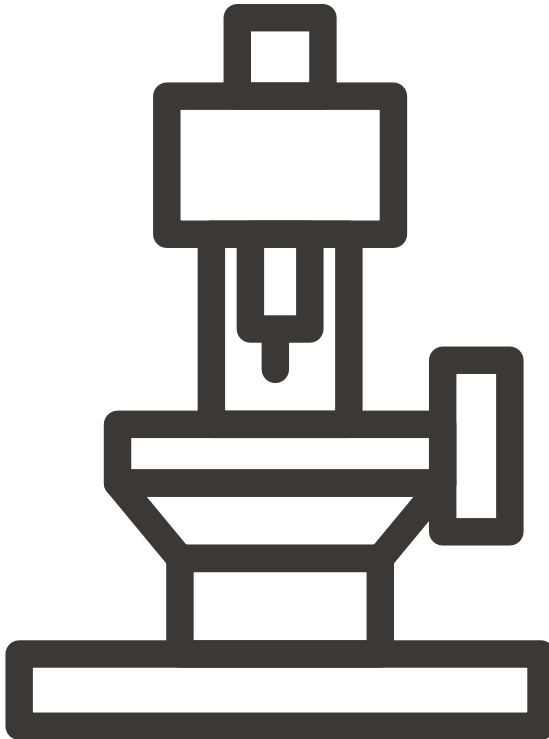
All our heads are assembled and tested in a clean room kept at a constant temperature in order to guarantee maximum reliability. Moreover, once mounted, heads are proved on the test bench, where the head and spindle are rotated throughout their entire range. This process guarantees maximum precision in all our heads.



# The White Room



# The White Room



Through JUARISTI's exclusive All in House method, the whole assembly process is monitored to deliver the highest quality.

1

Head assembly in a cleanroom held at 20°C to achieve the industry leading precision.

2

High precision heads and high-end spare parts storage.

3

High-tech test bench for our latest developments in heads and accessories.

4



# Leading technologies

**BALANCE CONTROL**

# Balance control

Table-top workpiece location processing

This software detects and corrects imbalances generated on turning tables by uncentred work pieces or unbalanced masses.



## TECHNOLOGIES

**BALANCE CONTROL**

## Benefits

- Technology for turning operations.
- Reduced vibrations; safer machining.
- Increased table life through better balancing.
- Reduced risk of bearing breakage as it safely stops the table if imbalances are detected.



Watch video

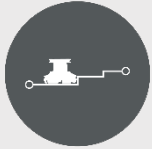




# BALANCE CONTROL

made possible by

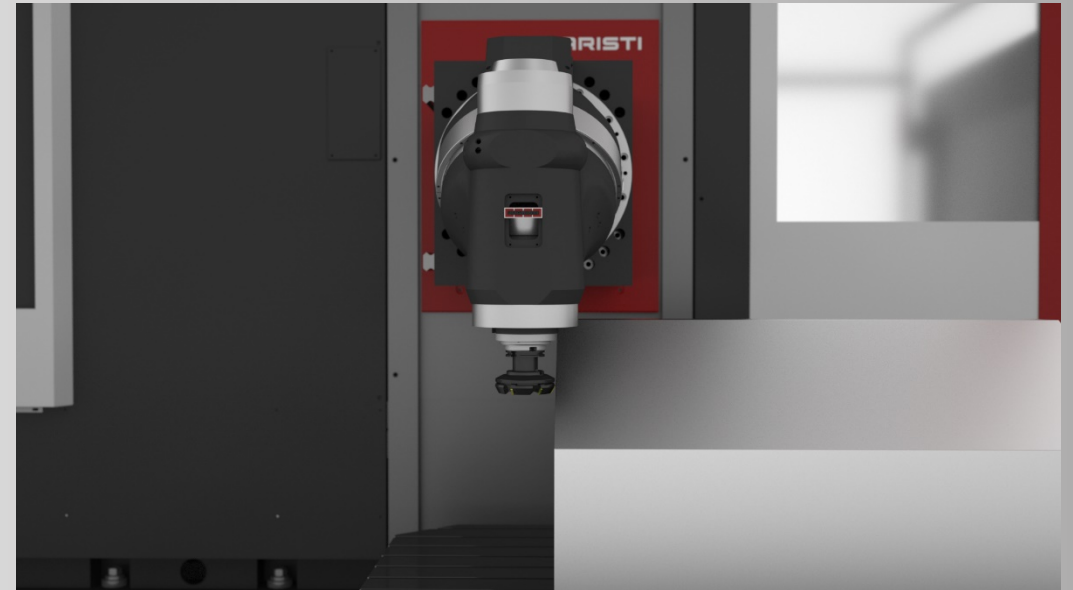
JUARISTI

**ADAPTIVE CONTROL**

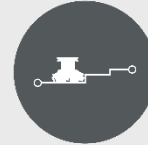
# Adaptive control

Adaptive control and anti-collision system

It adapts the machine's performance to current conditions, increasing the power in favourable situations and reducing it in adverse conditions.



## TECHNOLOGIES

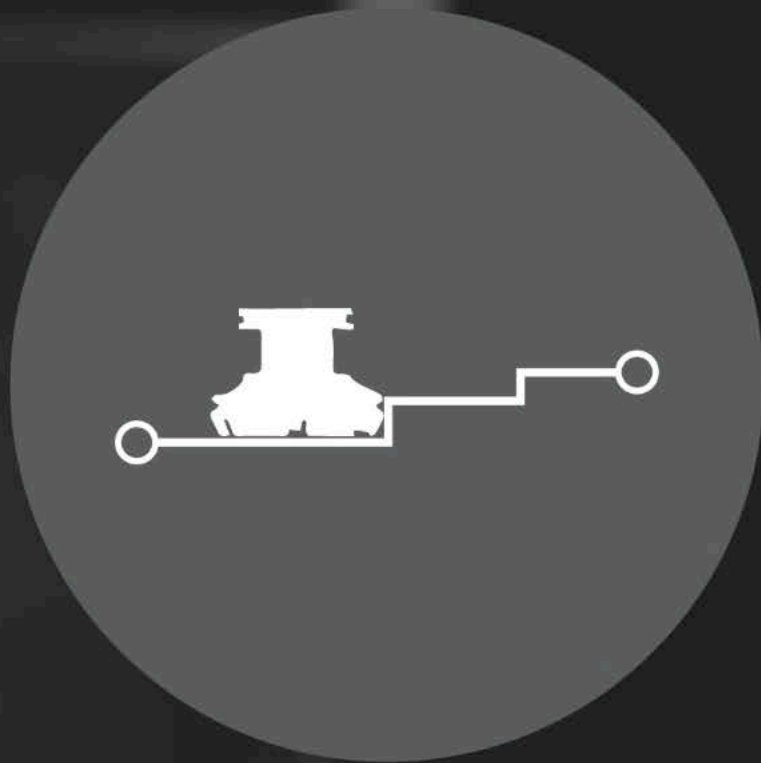
**ADAPTIVE CONTROL**

## Benefits

- Process optimisation and reduced cutting times.
- Machine protection and overload prevention.
- Easy-to-use: maximum permitted vibration is set and the machine acts accordingly.
- Increased tool life ensuring optimum machining conditions.



Watch video



**ADAPTIVE CONTROL**  
made possible by

**JUARISTI**



**OSASUN**

# Osasun

Continuous monitoring of machine health

Integral system for machine monitoring, self-diagnostics and predictive maintenance.

TECHNOLOGIES



## TECHNOLOGIES

**OSASUN**

## Benefits

- Automatic generation of predictive maintenance plans.
- Reduce unscheduled stops.
- Boost productivity by reducing downtime due to conflicting processes.
- Increased machine life through better monitoring and maintenance.



Watch video



**OSASUN**  
made possible by

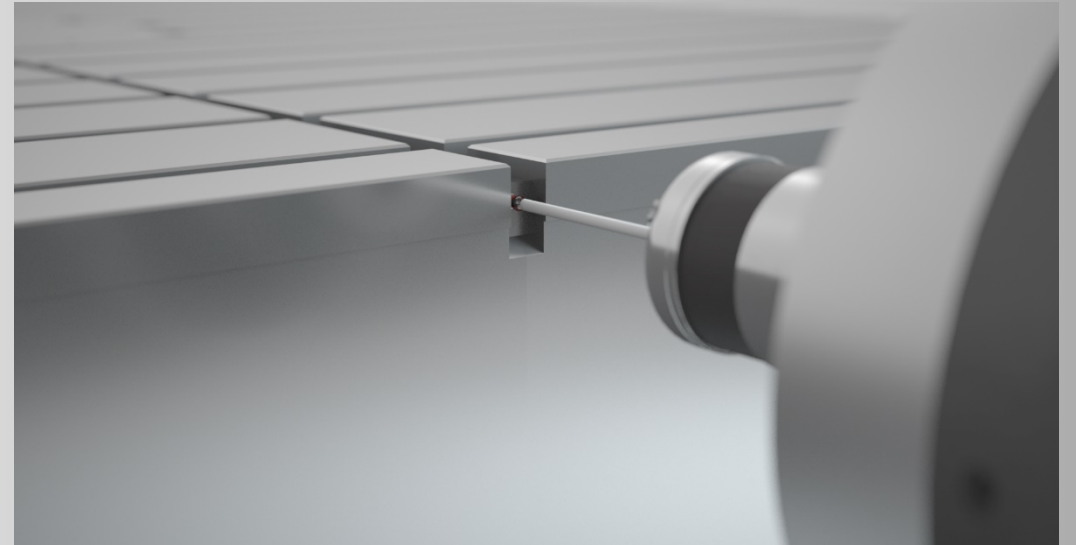
**JUARISTI**

**GPS**

# GPS

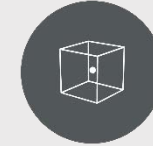
Detection of the table center through geopositioning

Allows for greater machine precision, resulting in a drastic improvement in the handling of complex workpieces.





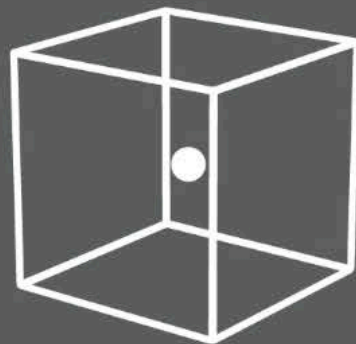
## TECHNOLOGIES

**GPS**

## Benefits

- Increased precision in parts requiring high table rotation accuracy (gearboxes, motor blocks, etc.).
- Time savings in searching for the table centre.
- Automatic cycle that can be used by any non-expert operator.
- Easy part programming with many table rotation phases.

**Watch video**



# GPS

made possible by

**JUARISTI**

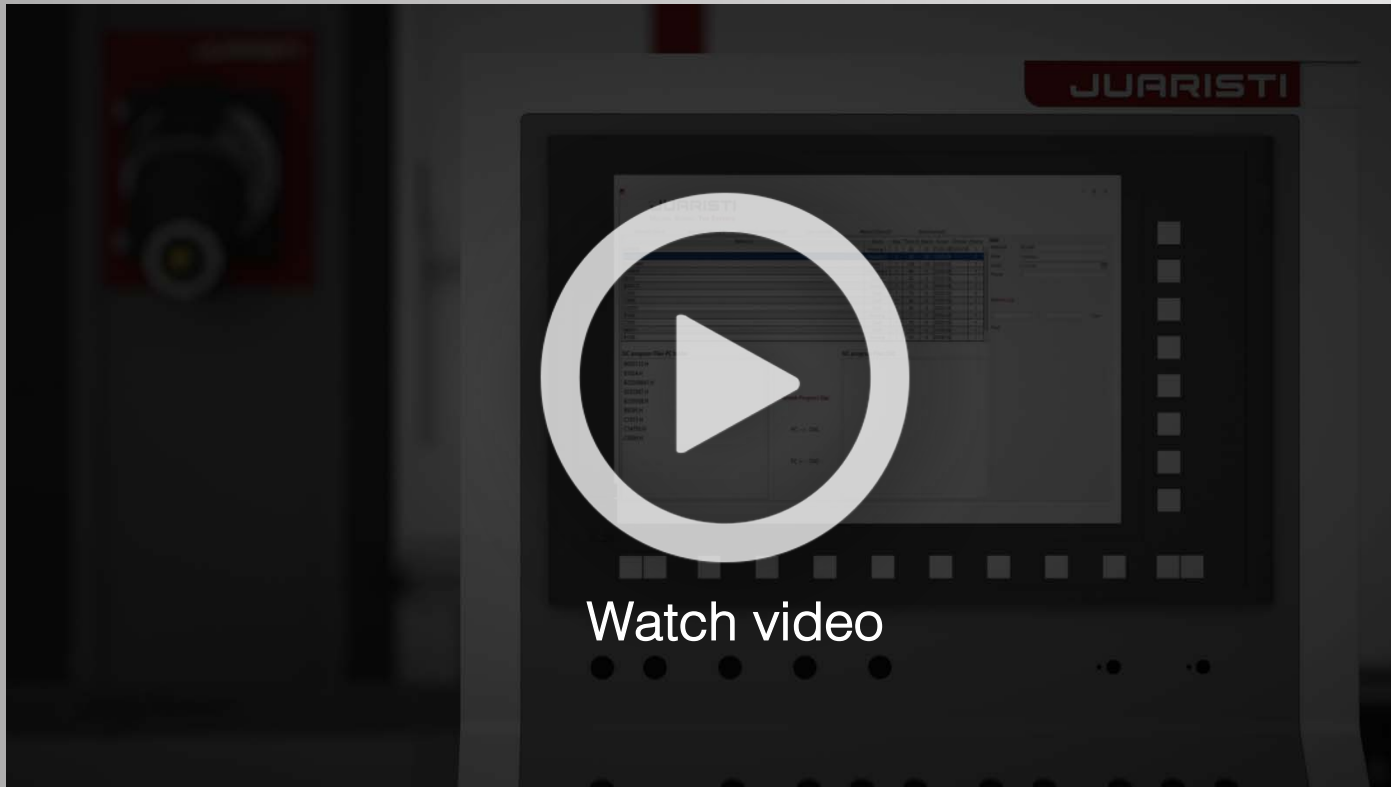
**SUPERVISOR**

# Supervisor

Generation of production plans and requirement calculations

It unifies the activity of all the production teams and facilitates their easy and straightforward management from the customer's integration systems (ERP).





## SUPERVISOR

### Benefits

- Centralised management of tools, pallets, production orders and tools.
- Production plans generation and automatic calculation of tool needs.
- State-of-the-art part and tool inspection systems, adaptive control and machining measurements.
- Status control of machines and auxiliary systems.
- It includes assembly instructions, control sheets and quality deviations, if wanted.





# SUPERVISOR

made possible by

JUARISTI

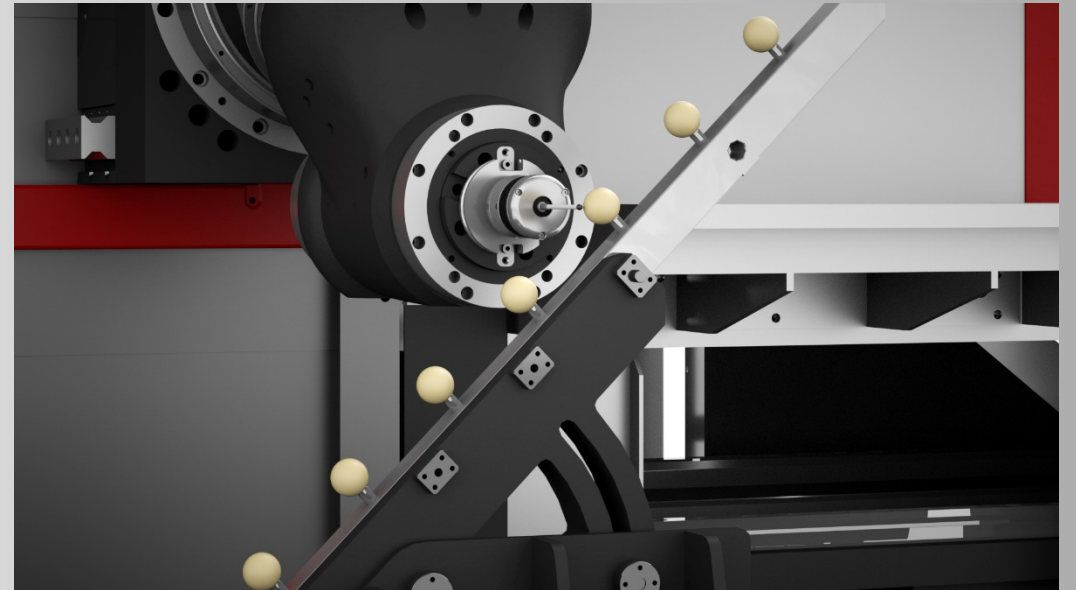


# Quick Machine Verification

Instant correction of potential geometric machine errors

It enables the user to know the machine's real-time status to improve machining precision.

TECHNOLOGIES





## Benefits

- Automatic verification of the machine's geometric condition.
- 100 % guaranteed final product quality.
- Reduces delivery time.
- Increases productivity by up to 30 %.
- Guarantees serial repeatability.





**QMV**  
made possible by

**JUARISTI**



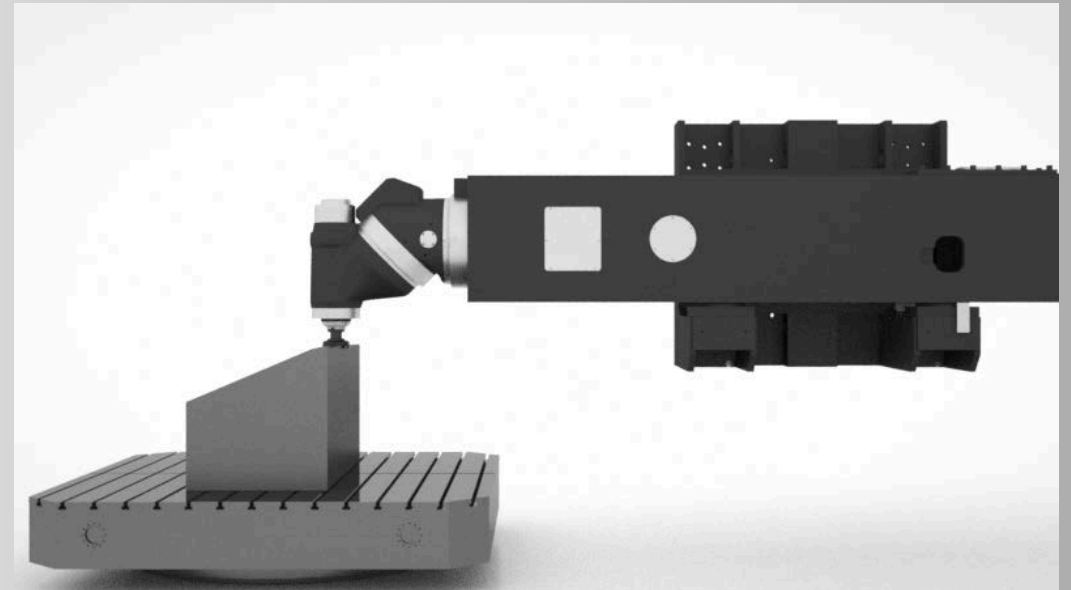


# Hydrostatic Damping System

Antidamping technology

Reduced vibration and increased cutting capacity due to hydrostatic damping

TECHNOLOGIES



## TECHNOLOGIES

**HDS**

## Benefits

- Reduced vibration/chatter level.
- Increased machine cutting capacity.
- Reduced costs due to longer tool life.
- Improved surface finishing quality.





**HDS**  
made possible by

**JUARISTI**

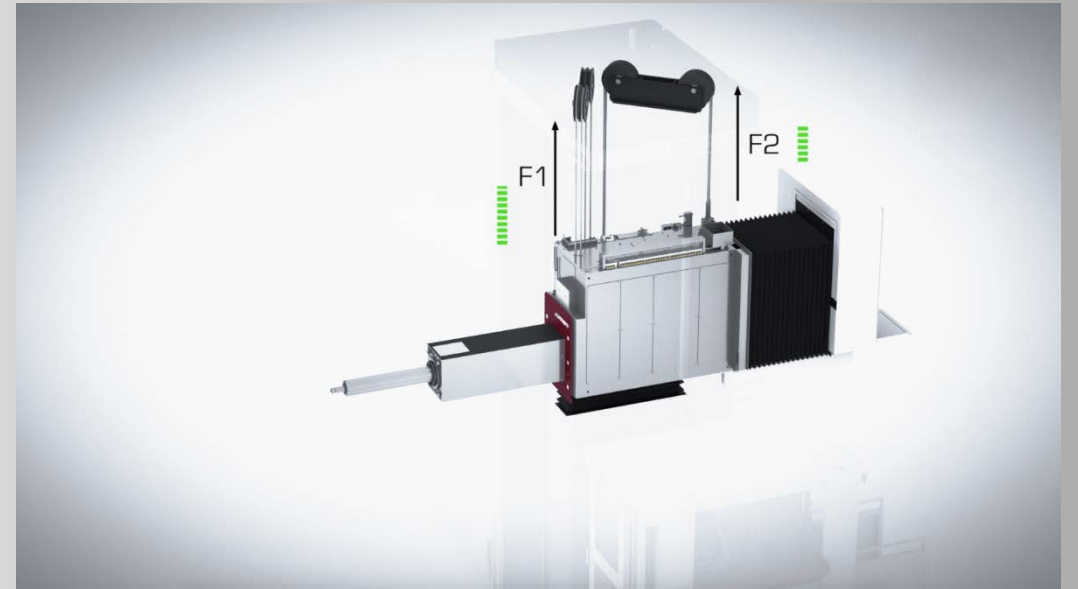


# RAM Precision Technology

Geometric RAM output compensation system

High level of precision throughout the entire machine volumen.

TECHNOLOGIES



**RPT**

## Benefits

- Guaranteed geometric precision throughout the entire RAM and RAM – column axis.
- High-precision machining of large-volume parts.
- Allows deep drilling and boring operations with extreme precision.



Watch video





**RPT**  
made possible by

**JUARISTI**



# Product range



**Milling machines**



**Boring machines**



**Multitasking centers**



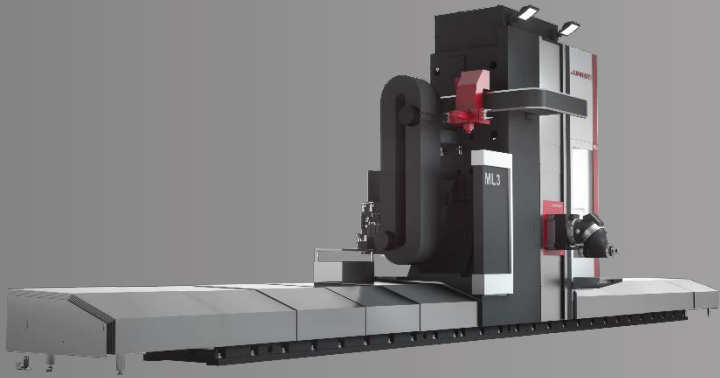
**Milling – boring centers**



# Milling machines

JUARISTI designs bed type or mobile column milling machines with lateral or central heads adapted to the needs of all industries.





## ML series

Mobile column universal milling machines



## MX series

Mobile column milling machines with central head



## TX series

Planer type Milling Center



## BL series

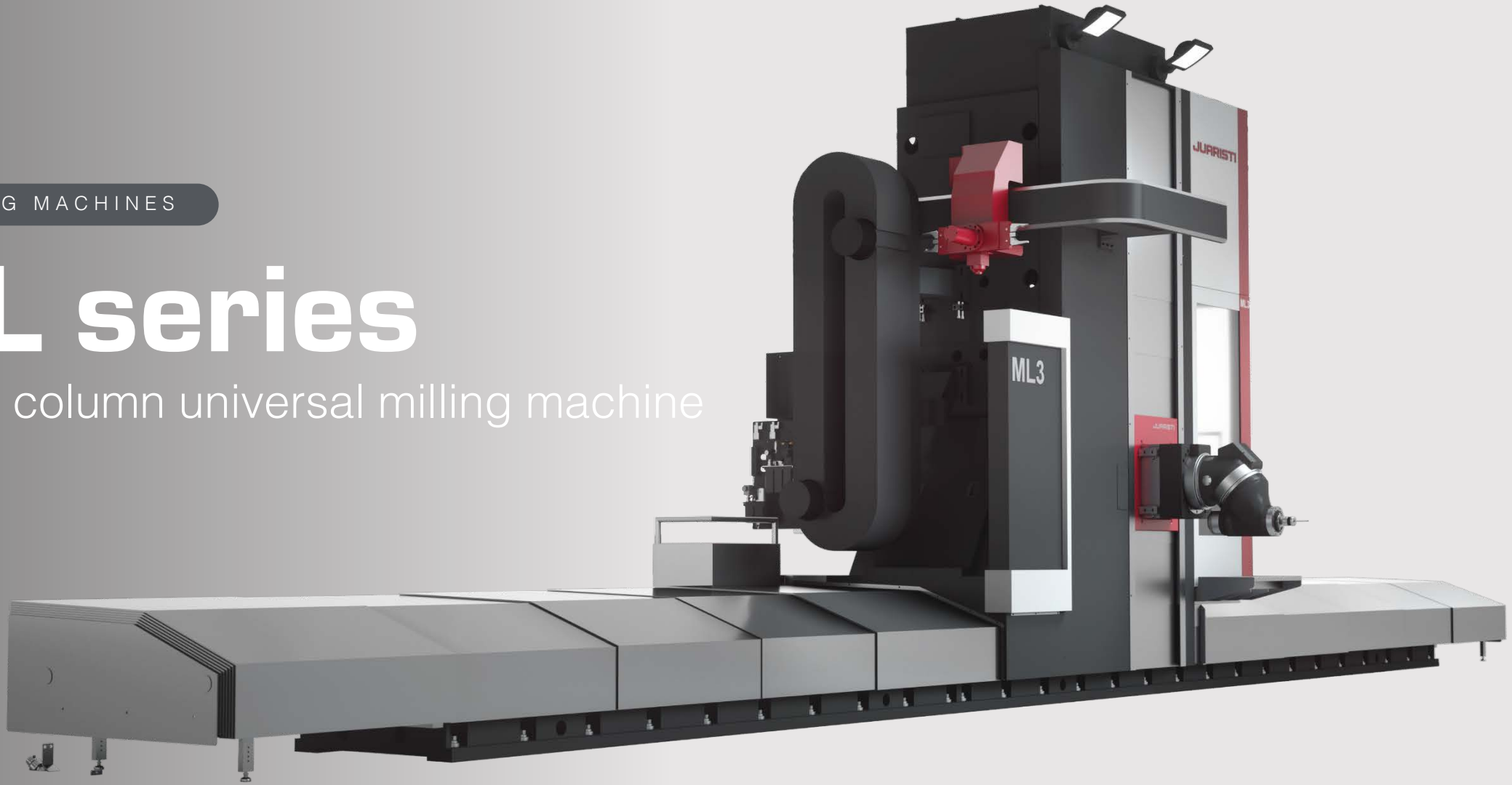
Bed type milling machines



MILLING MACHINES

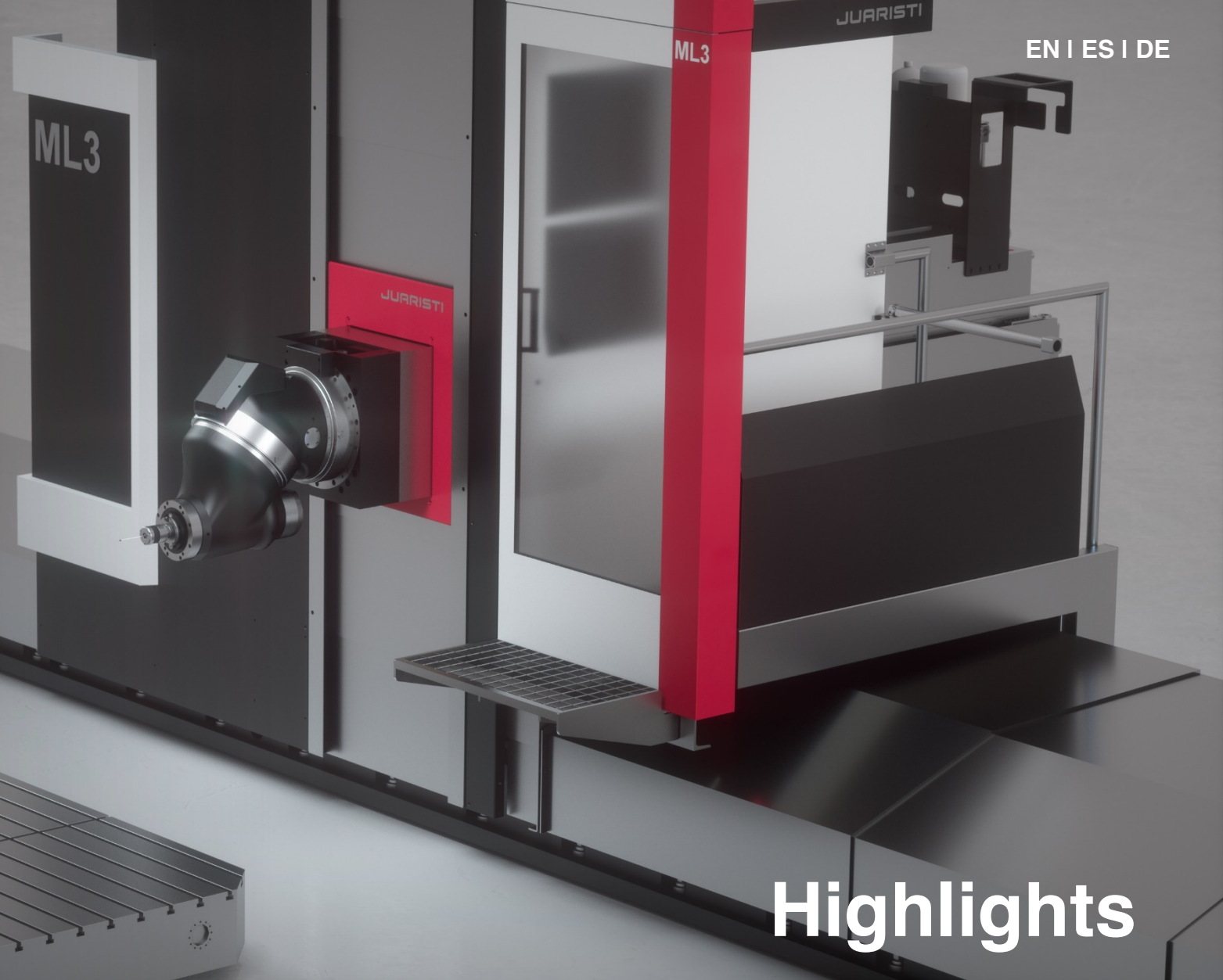
# ML series

Mobile column universal milling machine



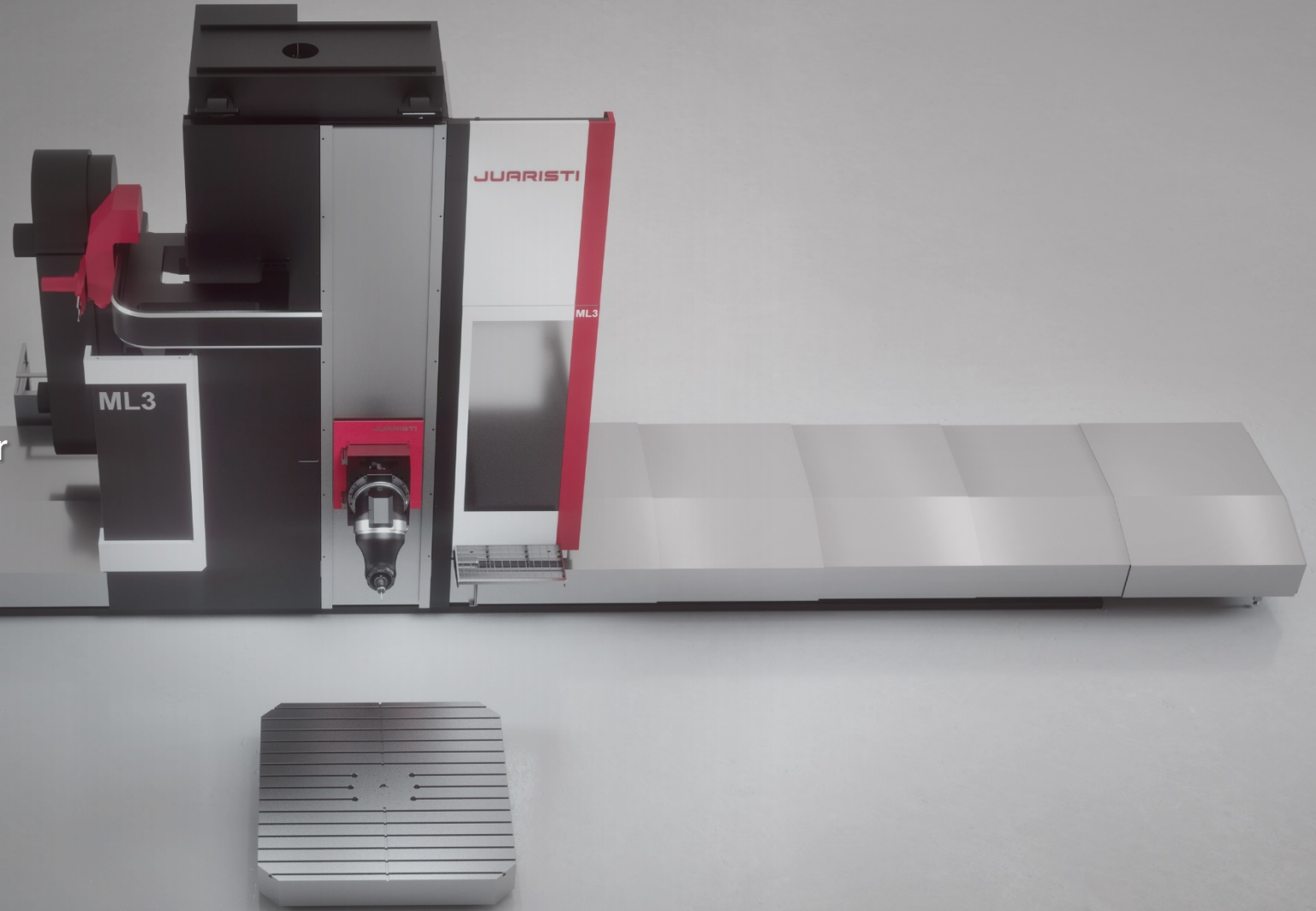


- High performance in universal milling machines.
- Dual RAM guiding: linear and hydrostatic.
- Flexible configuration with milling and turning tables.
- High dynamics and power and torque on spindle and motor torque.



# Highlights

- Design focused on ergonomics and straightforward operations.
- Option to operate in a mirrored position.
- Compatible with various types of rotary tables from 8 to 100 tonnes, for both milling and turning.
- Table with double rotation system for turning and milling.



# Design



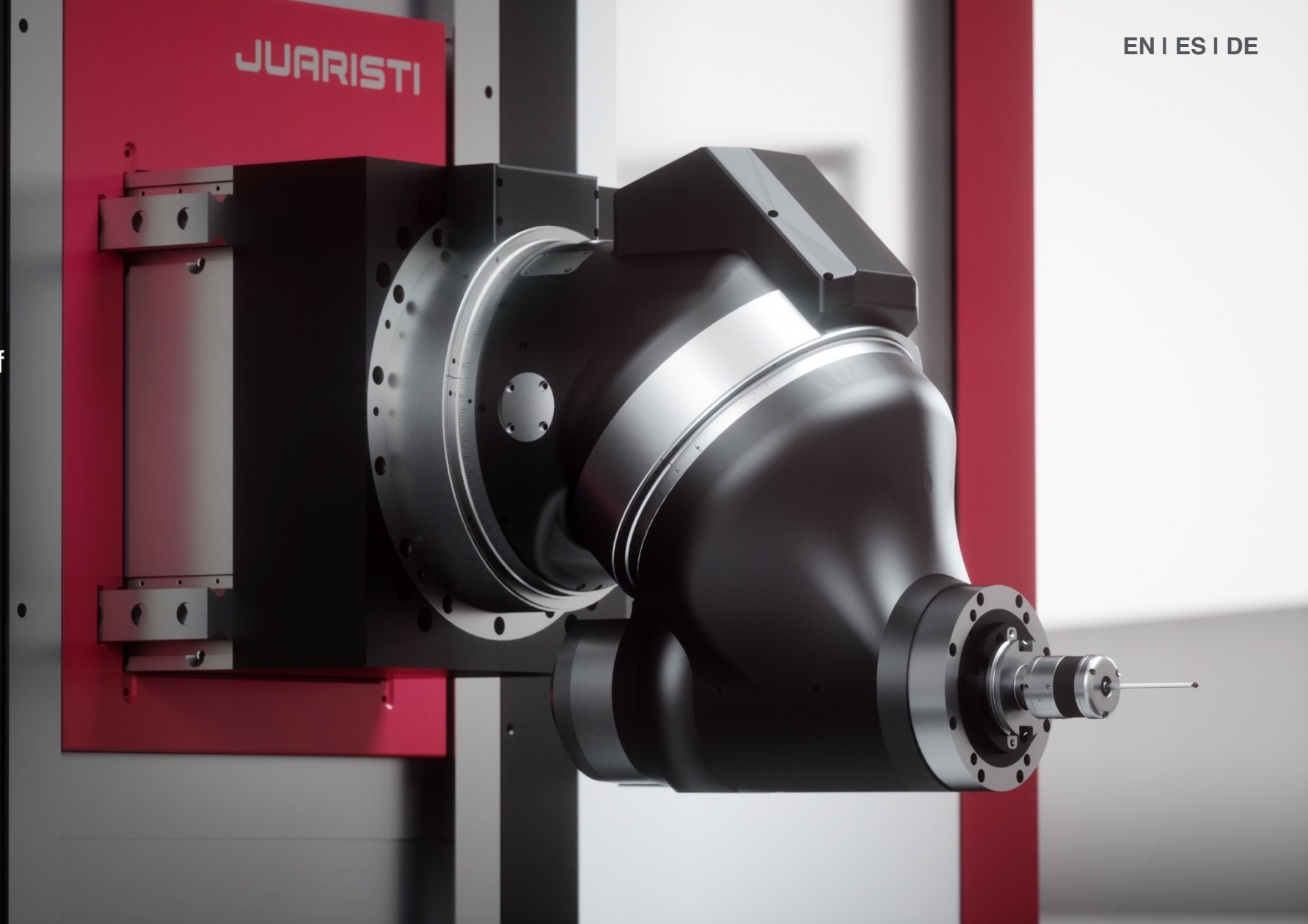


- Good results for heights up to 3 meters.
- High performance chip removal and excellent finishes in large volume work pieces.

# Performance



- Capability to carry out milling and turning operations with a single head.
- Compatible with a wide range of milling heads: universal, ortogonal and horizontal.



# Multitasking



MILLING MACHINES

# TX series

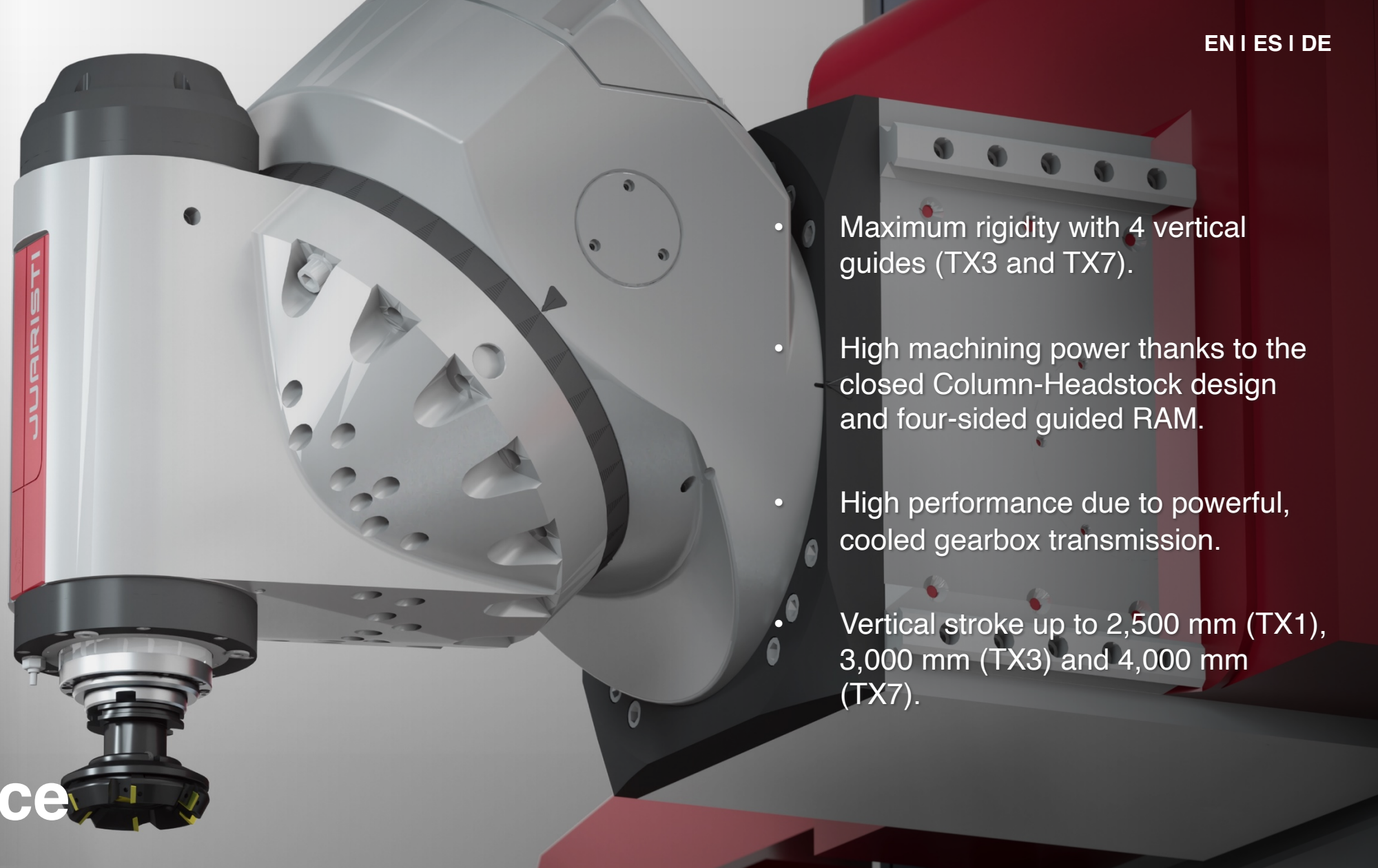
Planer type Milling  
Center



- Thermo-symmetric design with centered head.
- Oversized cast iron structural components.
- Hydrostatic rotary table with double pinion anti-backlash.
- High-precision and rigid linear guides.



# Highlights



- Maximum rigidity with 4 vertical guides (TX3 and TX7).
- High machining power thanks to the closed Column-Headstock design and four-sided guided RAM.
- High performance due to powerful, cooled gearbox transmission.
- Vertical stroke up to 2,500 mm (TX1), 3,000 mm (TX3) and 4,000 mm (TX7).

# Performance



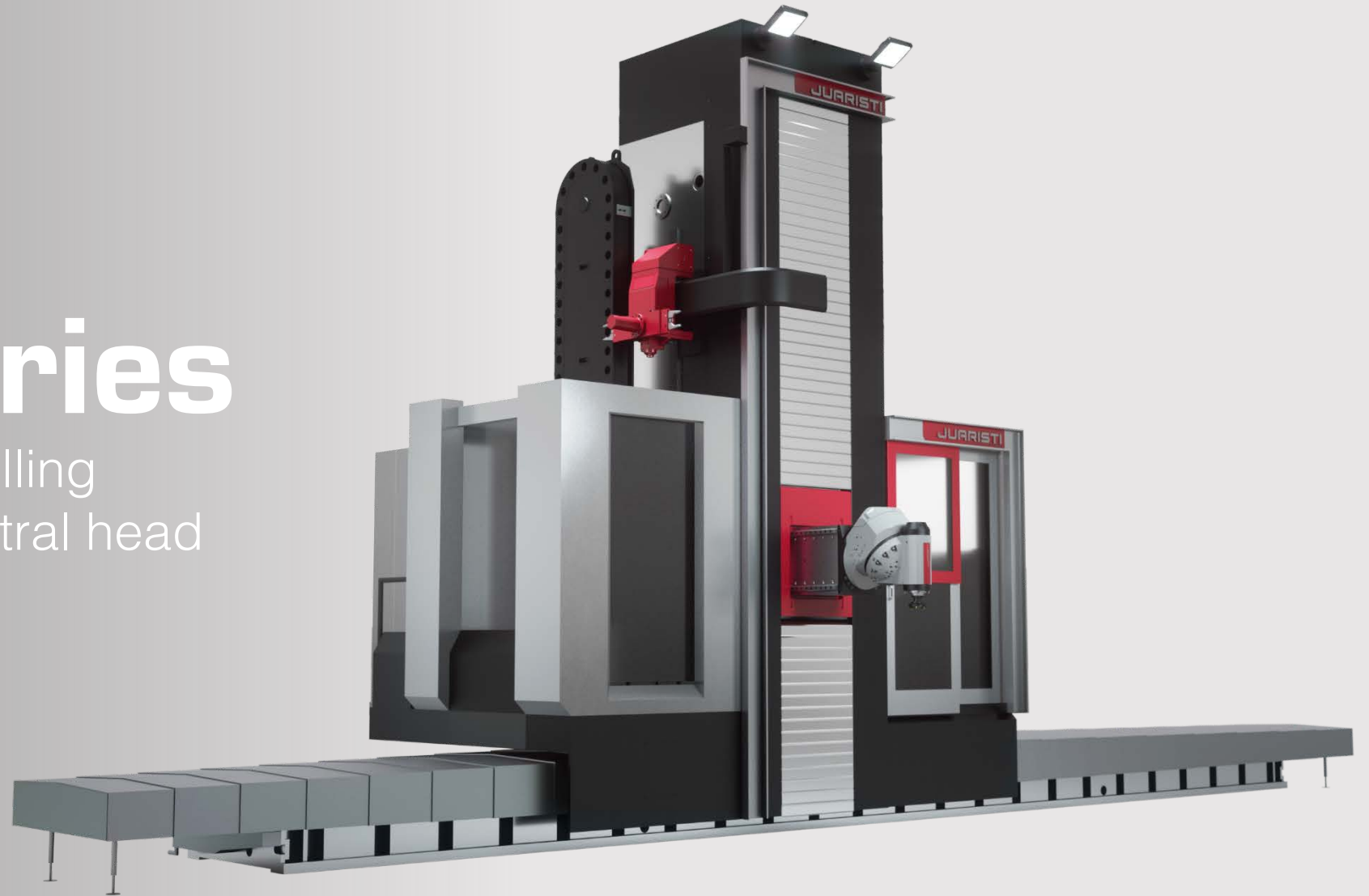
- Various machining configurations: with boring bar, fixed horizontal spindle, automated universal head, 5-axis continuous rotating head.
- Customisable with a wide range of accessories: facing plate, heads, vertical dividing plate, automated head loader, etc.

# Multitasking

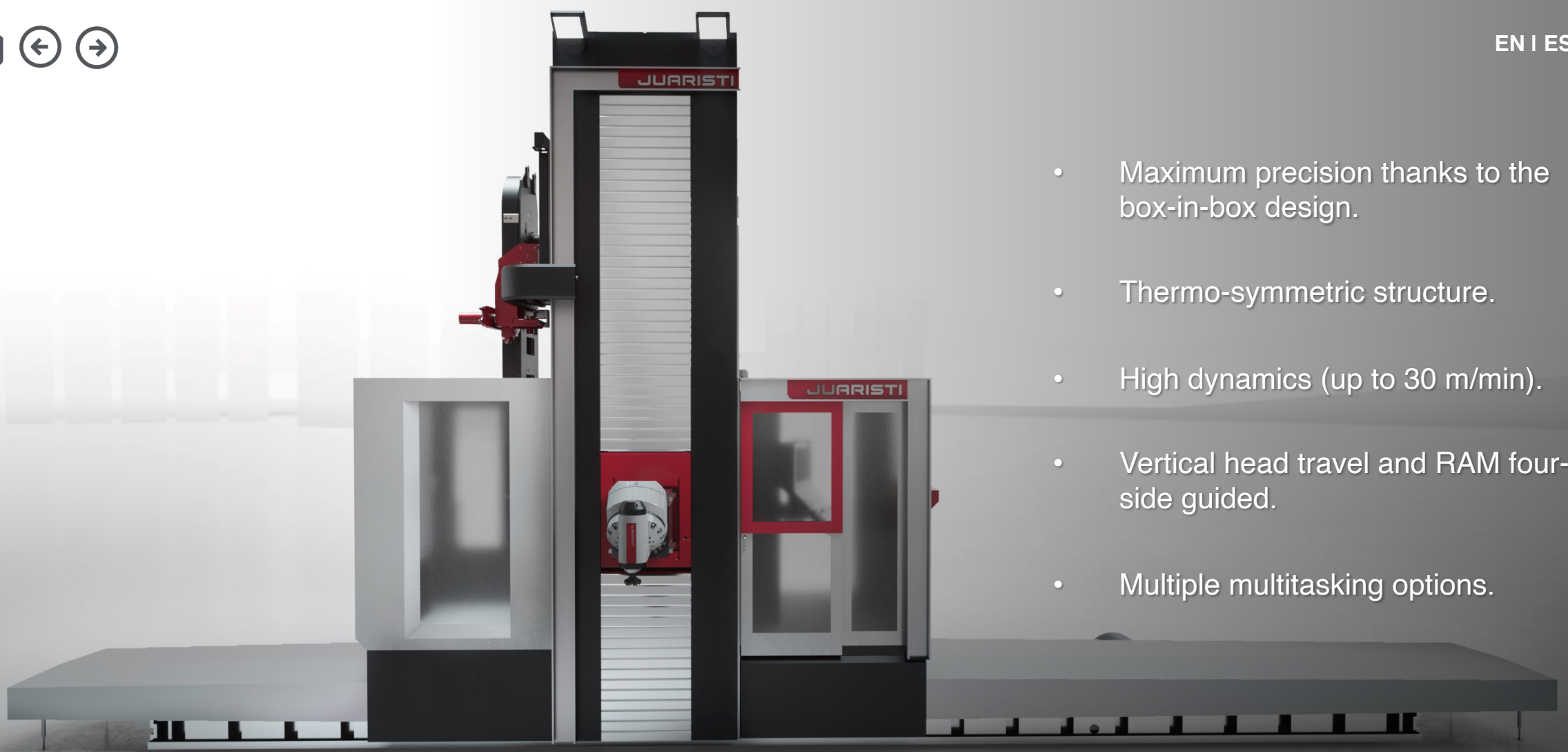
MILLING MACHINES

# MX series

Mobile column milling machine with central head







- Maximum precision thanks to the box-in-box design.
- Thermo-symmetric structure.
- High dynamics (up to 30 m/min).
- Vertical head travel and RAM four-side guided.
- Multiple multitasking options.

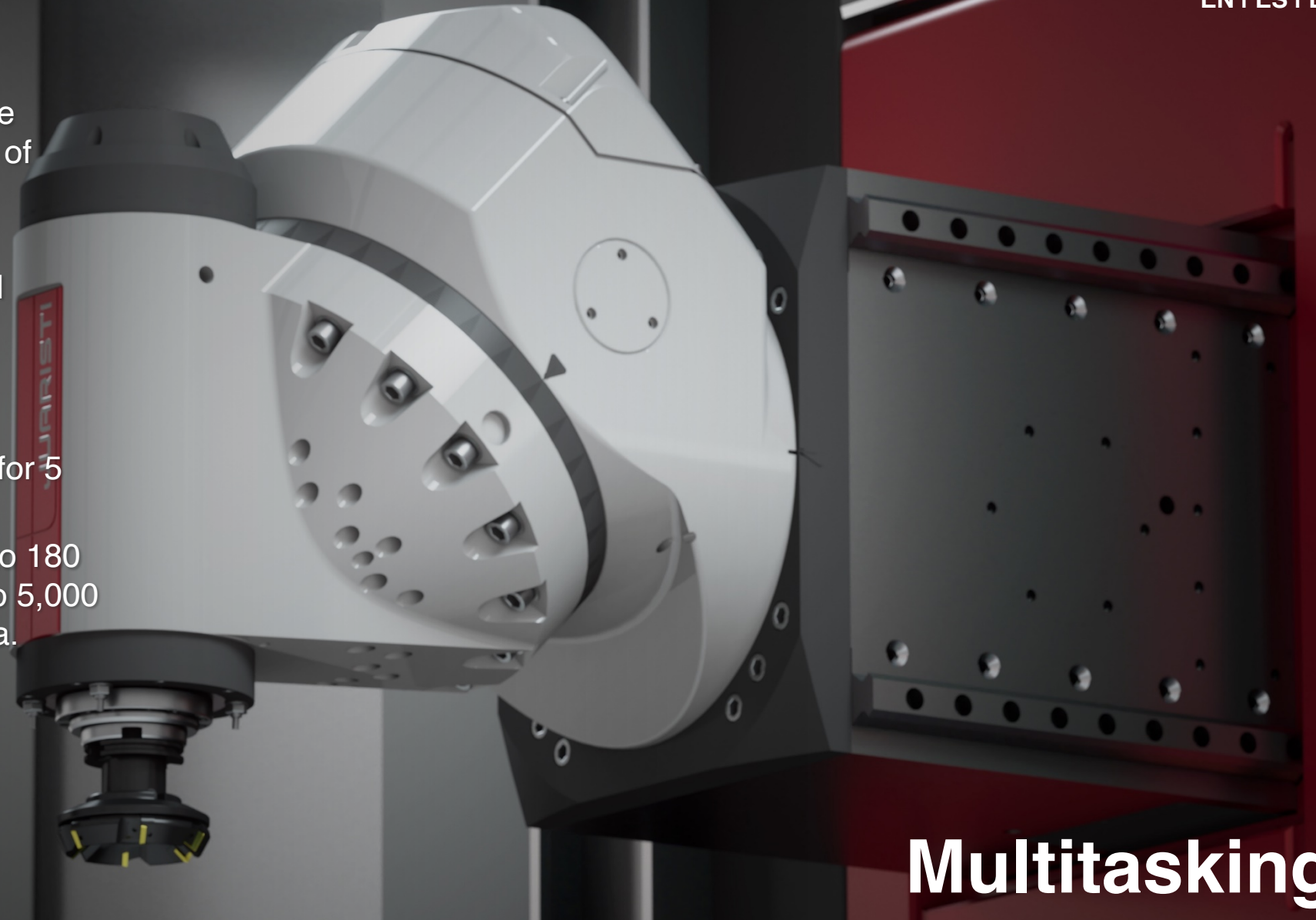
# Highlights

- High machining power and efficient thanks to the closed Column-Headstock design and four-sided guided RAM.
- High power (40 and 96 kW) and high machining torque (1,300 to 8,650 Nm).
- High performance due to powerful, cooled gearbox transmission.
- Double real-time geometrical compensation system.



# Performance

- Flexible configuration machine compatible with a wide range of heads and tables:
  - Universal (45°) ACD and Othogonal AOD Heads.
  - AV Vertical Heads.
  - Facing heads.
  - Continuous rotary head for 5 axes.
  - Rotary tables with an 8 to 180 tonne capacity with up to 5,000 x 6,000 mm surface area.



# Multitasking



MILLING MACHINES

# BL series

Bed type milling machines

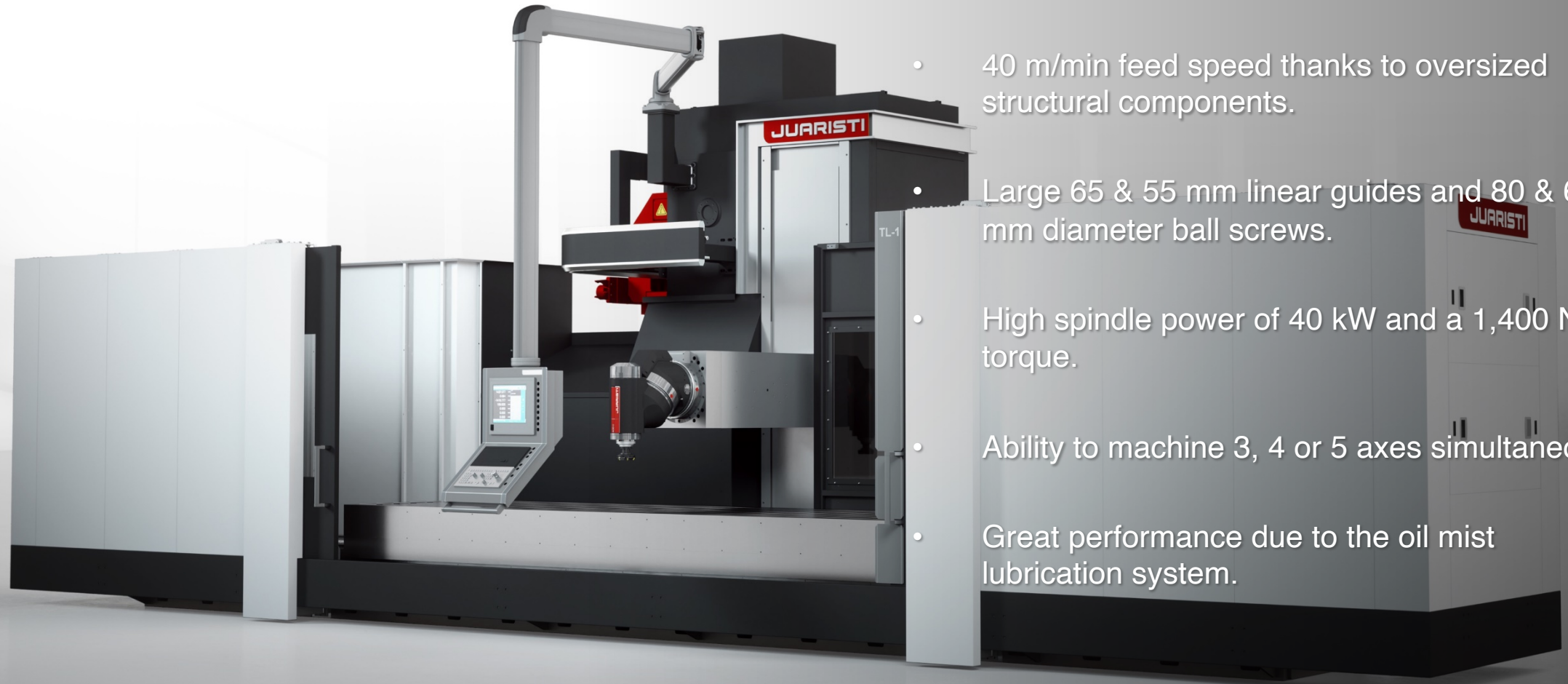




- High cutting capacity in all types of materials.
- High main spindle power and torque.
- High dynamics due to linear guiding.
- Dual linear and hydrostatic RAM guiding.
- Integral enclosure with coolant and chip conveyor.

# Highlights



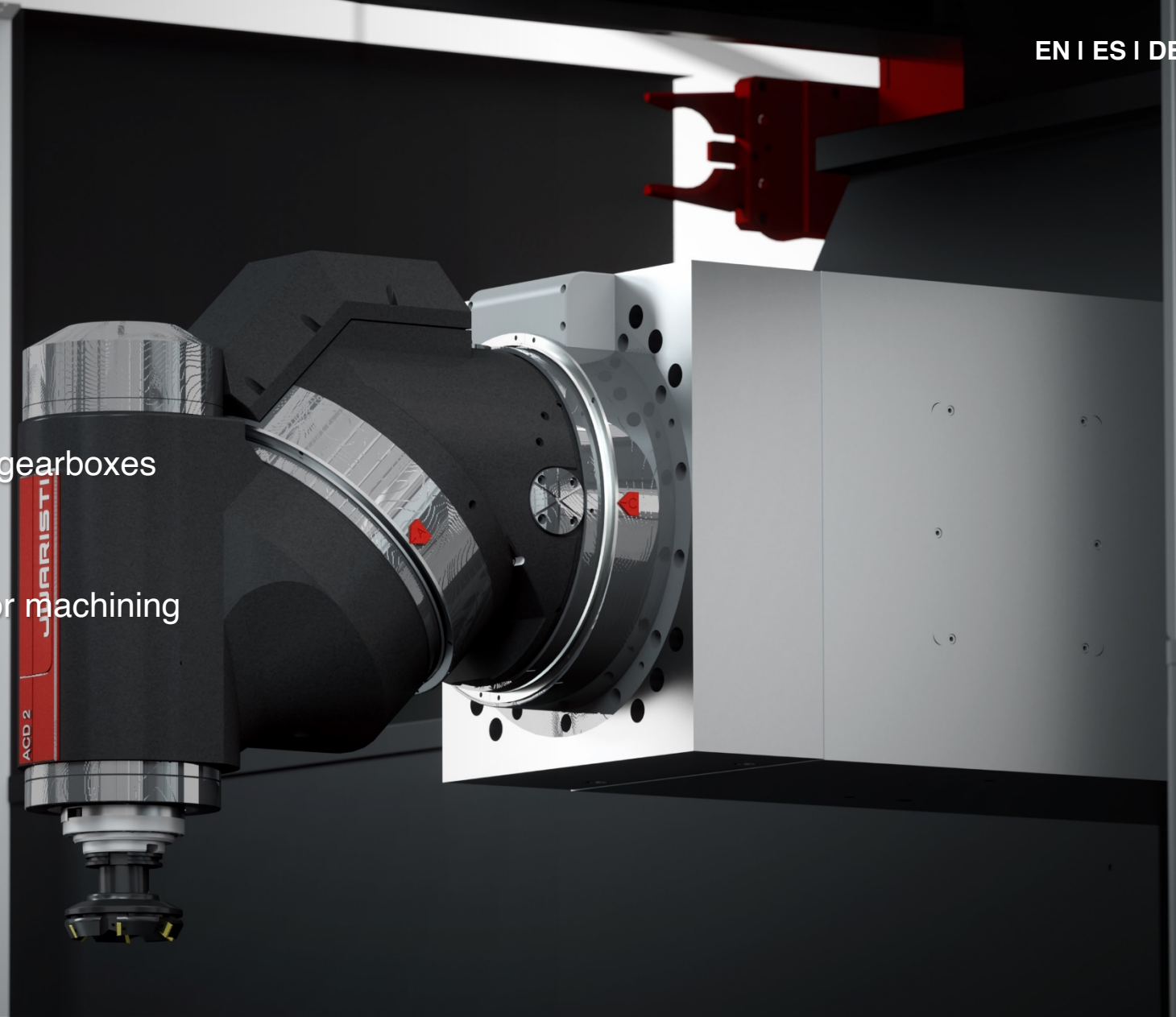


- 40 m/min feed speed thanks to oversized structural components.
- Large 65 & 55 mm linear guides and 80 & 63 mm diameter ball screws.
- High spindle power of 40 kW and a 1,400 Nm torque.
- Ability to machine 3, 4 or 5 axes simultaneously.
- Great performance due to the oil mist lubrication system.

# Performance

- Automatic Positioning Universal Head.
- Continuous Universal Head.
- Continuous Twist Head.
- Mechanical head equipped with 2 series of gearboxes with high torque up to  $6,000 \text{ min}^{-1}$ .
- Electro-spindle head  $12,000/18,000 \text{ min}^{-1}$  for machining aluminium and light metals.

# Multitasking



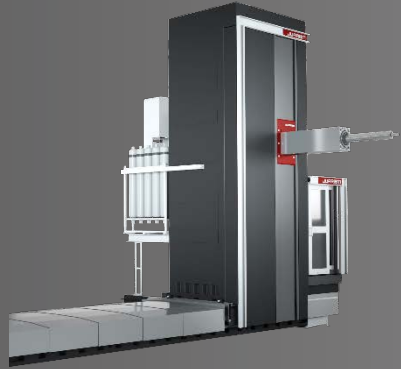


# Boring machines

One of the hallmarks of JUARISTI. The travelling column boring machines are solutions with a high-tech element that distinguish it as the best machine tool producers.

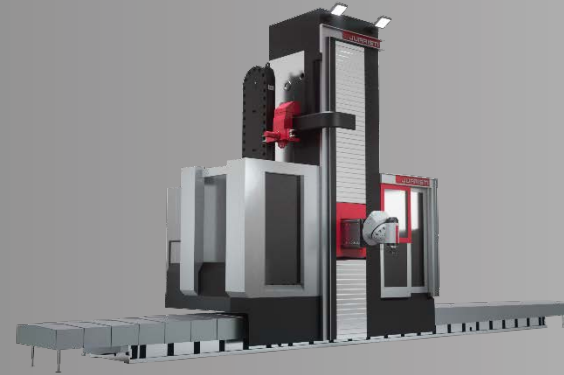






## MP-RAM series

Hydrostatic guided milling-  
boring machine



## MX-RAM series

Boring – Milling machine with  
central head

BORING MACHINES

# MP-RAM series

Hydrostatic guided milling-  
boring machine







- Premium solution with the best available technologies.
- Unbeatable cutting capacity.
- Extremely smooth movements and perfect finishes.
- Hydrostatic guiding on all axes, with wide hardened and ground guides.



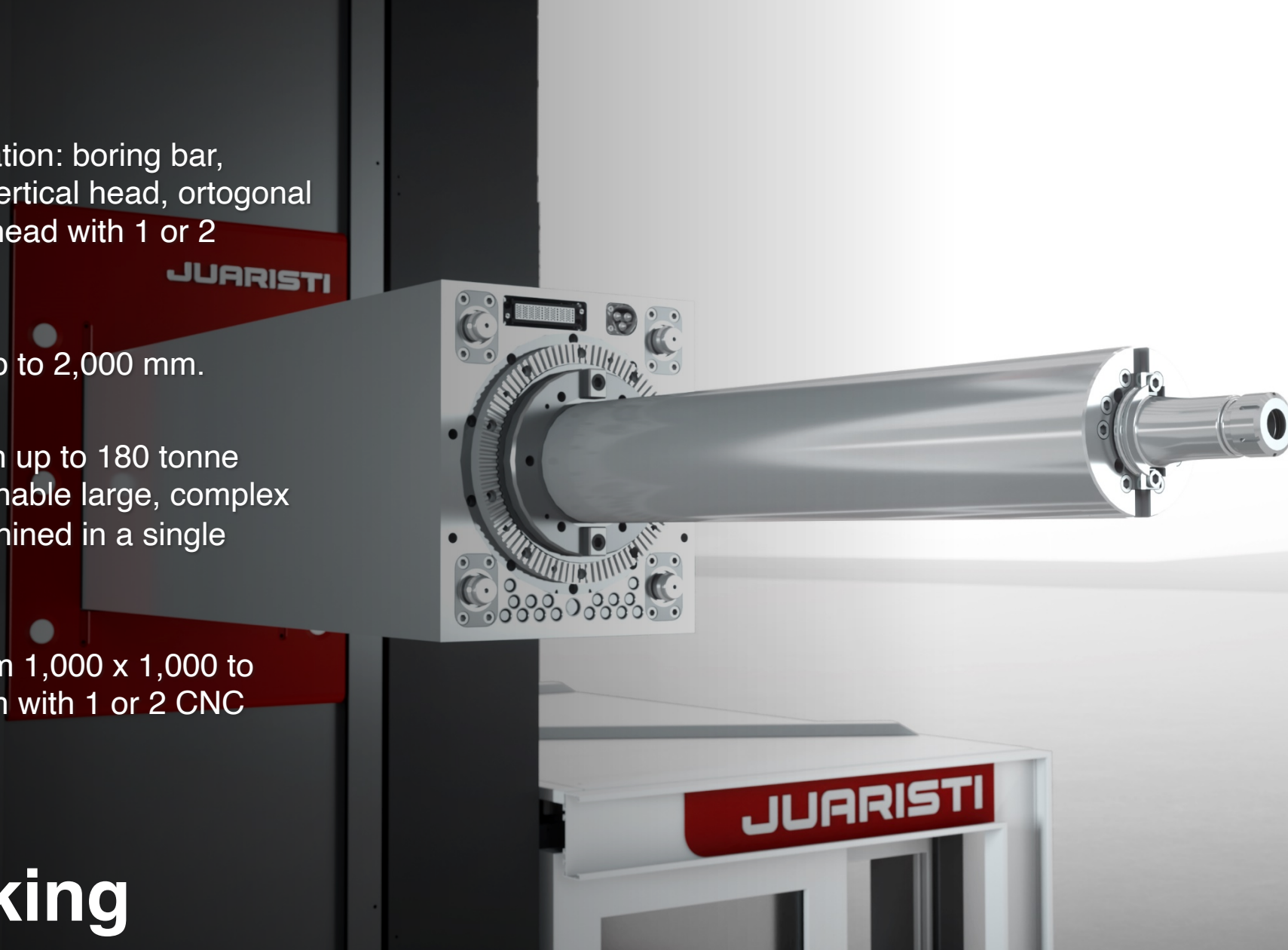
# Highlights

- High spindle torque due to optimised structural design and oversized gears.
- Main motor power 100 kW.
- RAM triple compensation system: column verticality, head + RAM centre of gravity and RAM straightness.
- Fully enclosed RAM with 4-sided hydrostatic guiding, made of ground cast iron.



# Performance

- Flexible configuration: boring bar, universal head, vertical head, orthogonal head, continuous head with 1 or 2 rotation axes.
- Facing head of up to 2,000 mm.
- Rotary tables with up to 180 tonne capacity, which enable large, complex pieces to be machined in a single clamping.
- Rotary tables from 1,000 x 1,000 to 5,000 x 6,000 mm with 1 or 2 CNC axes.

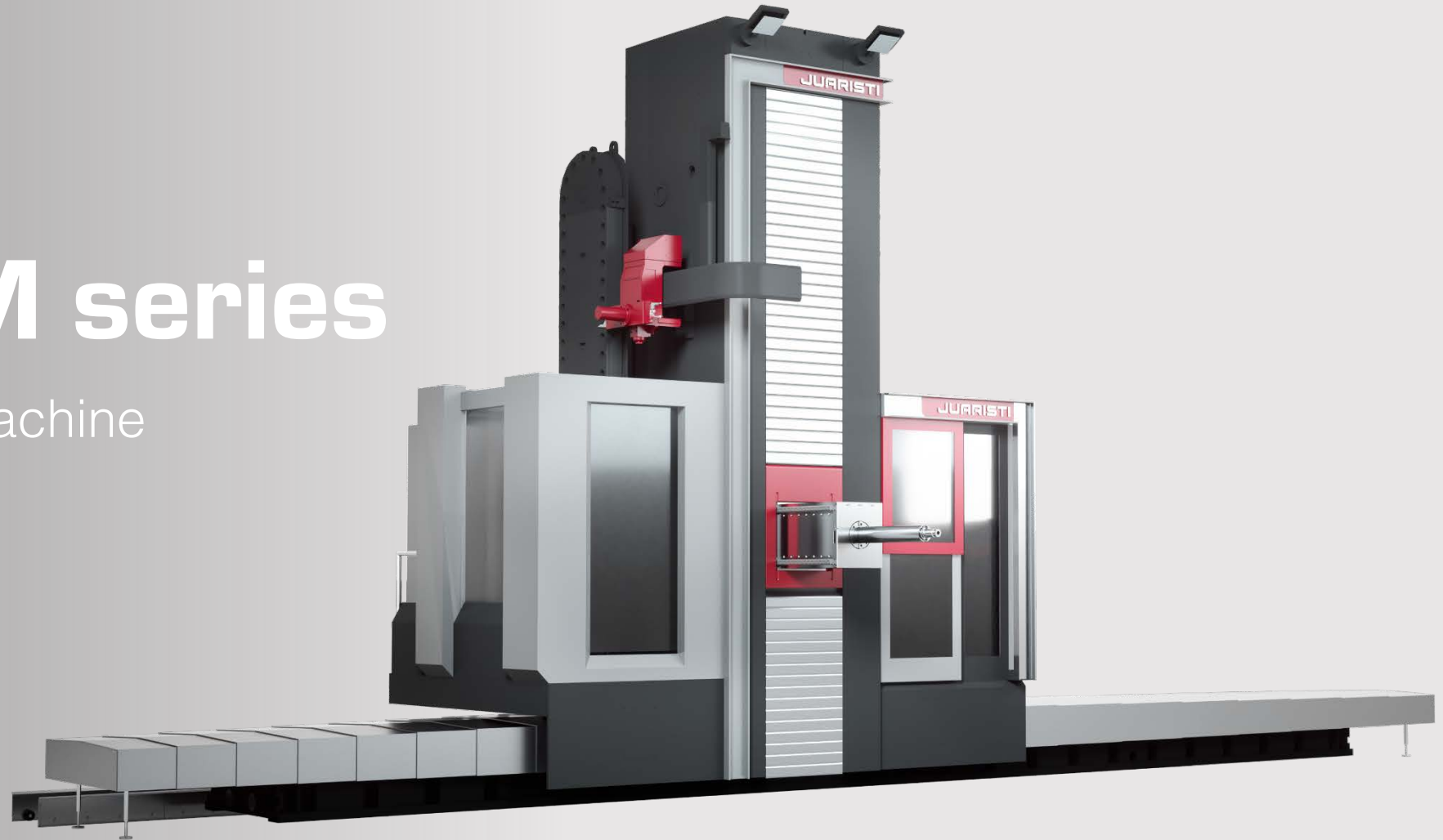


# Multitasking

BORING MACHINES

# MX-RAM series

Boring – Milling machine  
with central head

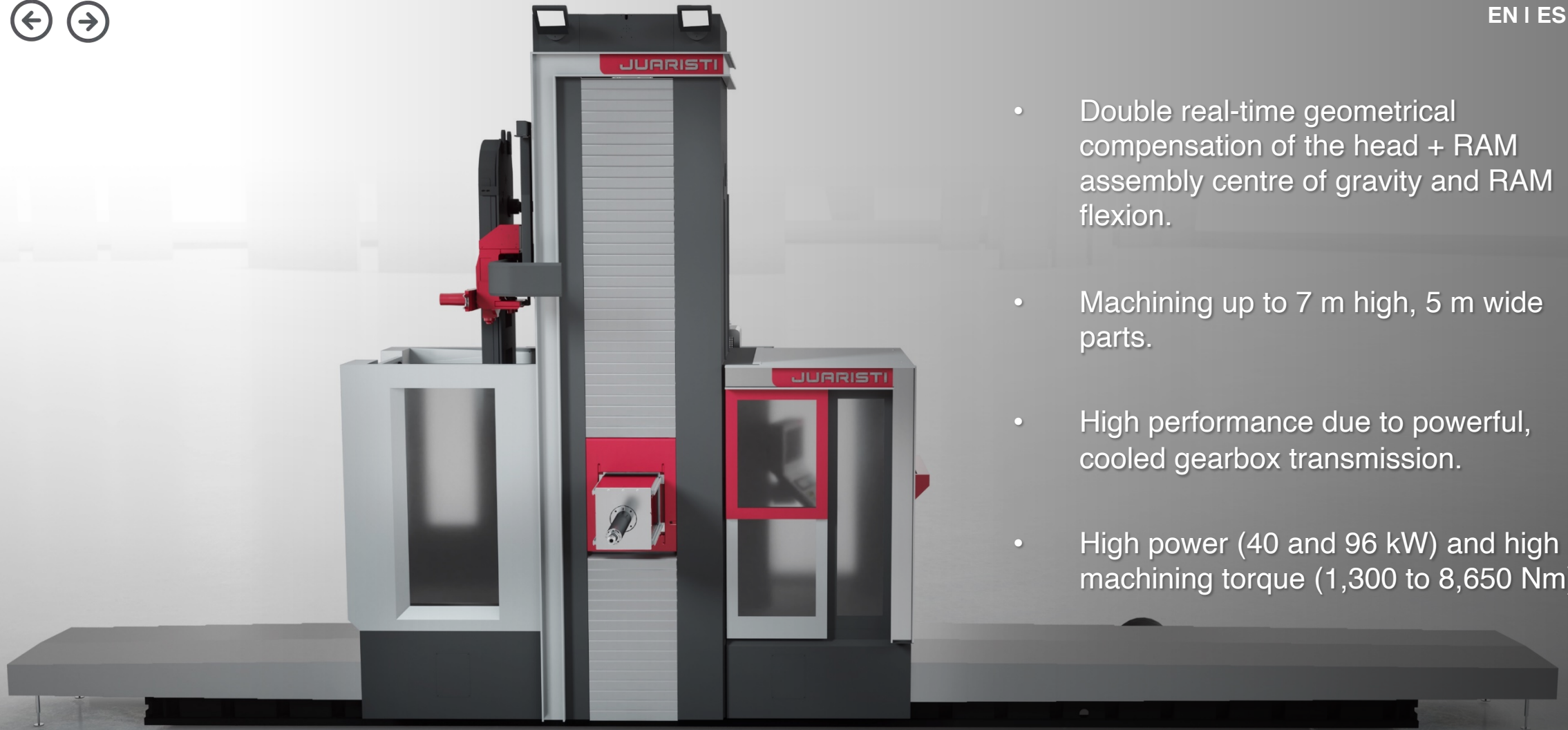




- Maximum precision thanks to the box-in-box design.
- Thermo-symmetric structure.
- 4-sided RAM and vertical stroke guiding.
- High dynamics (up to 30 m/min).
- Multiple multitasking options.

# Highlights





- Double real-time geometrical compensation of the head + RAM assembly centre of gravity and RAM flexion.
- Machining up to 7 m high, 5 m wide parts.
- High performance due to powerful, cooled gearbox transmission.
- High power (40 and 96 kW) and high machining torque (1,300 to 8,650 Nm).

# Performance



- Boring bar: Ø130 / 160 / 180 / 205 mm.
- Rotary tables with up to 180 tonne capacity and up to 5,000 x 6,000 mm surface.
- Optional configuration with turning and tilting table.

# Multitasking



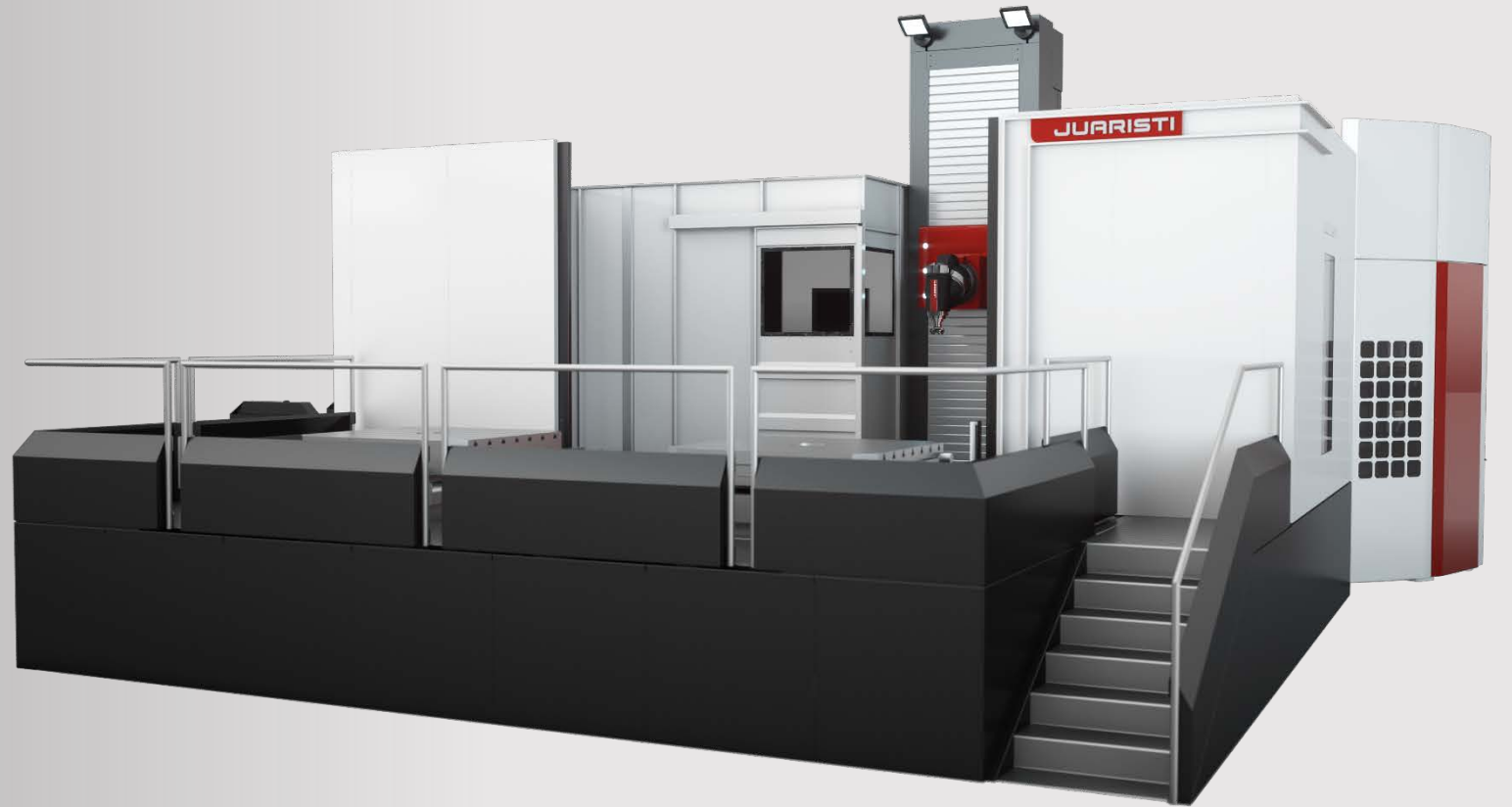
# Multifunction Centers

JUARISTI's multifunction centers have been designed with a focus on versatility, enabling a wide range of machining operations: milling, boring, turning and high-precision work on large parts.

MACHINING CENTERS

# TH series

Universal and 5-axis  
machining centers TH





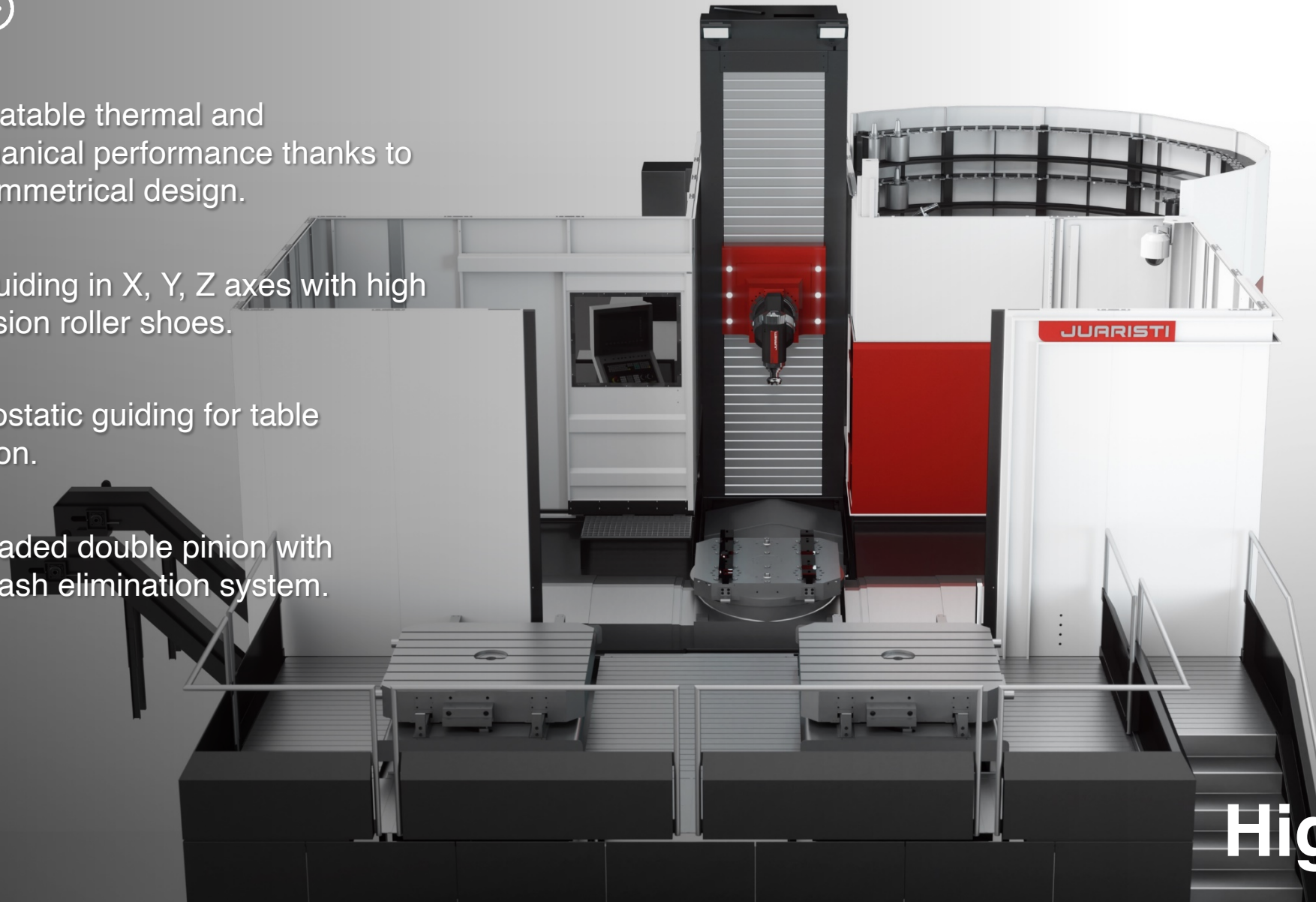


- High dynamics in a large machining center.
- Thermo-symmetric structure.
- Multifunctionality.
- High customisation and automation capacity options.

# Highlights



- Unbeatable thermal and mechanical performance thanks to its symmetrical design.
- LM guiding in X, Y, Z axes with high precision roller shoes.
- Hydrostatic guiding for table rotation.
- Preloaded double pinion with backlash elimination system.



# Highlights



- Automatic Head Changer to carry out different machining techniques reducing non-productive lead times.
- Configurable with universal head, 5-axis head and fixed horizontal head.



# Multitasking





# Milling- Boring Centers

Very versatile solutions for machining components with different techniques, improving overall productivity.



## Serie TX-S

Planer Type Boring  
and Milling Centers



## Serie TL-S

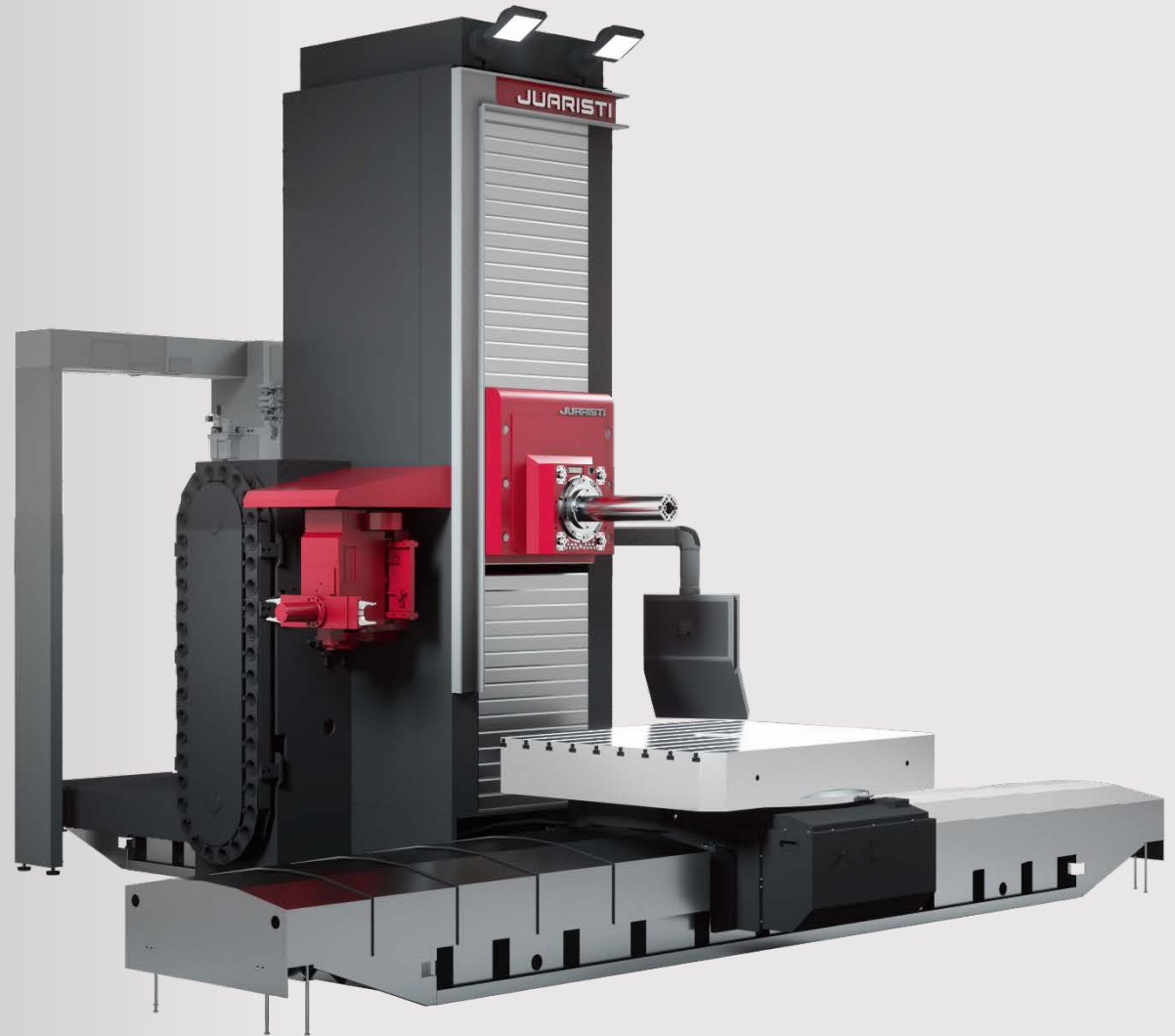
Horizontal Milling Boring  
Machine



MILLING-BORING CENTERS

# TX-S series

Planer Type Boring and  
Milling Centers



- Thermo-symmetric design with centered head.
- Oversized cast iron structural components.
- Hydrostatic rotary table with double pinion anti-backlash.
- High-precision and rigid linear guides.



# Highlights

- Maximum rigidity with 4 vertical guides (TX3 and TX7).
- High machining power thanks to the closed Column-Headstock design and four-sided guided RAM.
- High performance due to powerful, cooled gearbox transmission.
- Vertical stroke up to 2,500 mm (TX1), 3,000 mm (TX3) and 4,000 mm (TX7).

# Performance



- Various machining configurations: with boring bar, fixed horizontal spindle, automated universal head, 5-axis continuous rotating head.
- Customisable with a wide range of accessories: facing plate, heads, vertical dividing plate, automated head loader, etc.



# Multitasking



MILLING-BORING CENTERS

# TL-S series

Horizontal Milling Boring Machine



- Ideal option for boring operations.
- Quick return on investment.
- Optimum vibration damping Electro-welded structure filled with polymeric cement.
- Twin motor hydrostatic rotary table.
- ATC fixed to column.

# Structural Elements

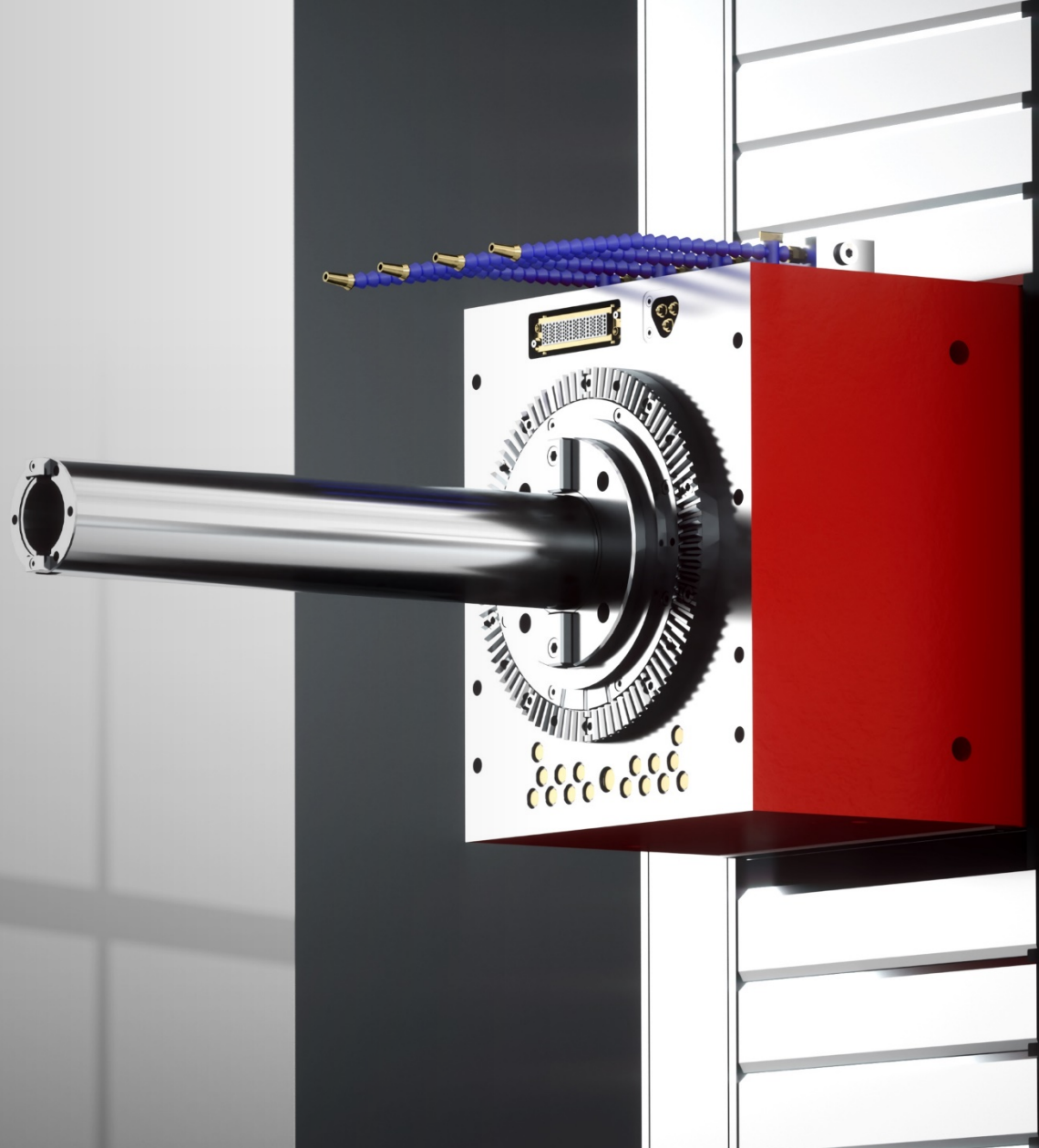


- Rapid feeds up to 30 m/min.
- Strokes of up to 3,000, 2,000 and 2,000 mm on the XYZ axes.
- Automatic pallet changer.
- Automatic tool change chain-type (up to 160 tools) or robot-type (up to 400) types.



# Performance

- Boring bar of 110- and 130-mm diameter.
- Rotary table with wide working space of up to 1,200×1,500 mm.

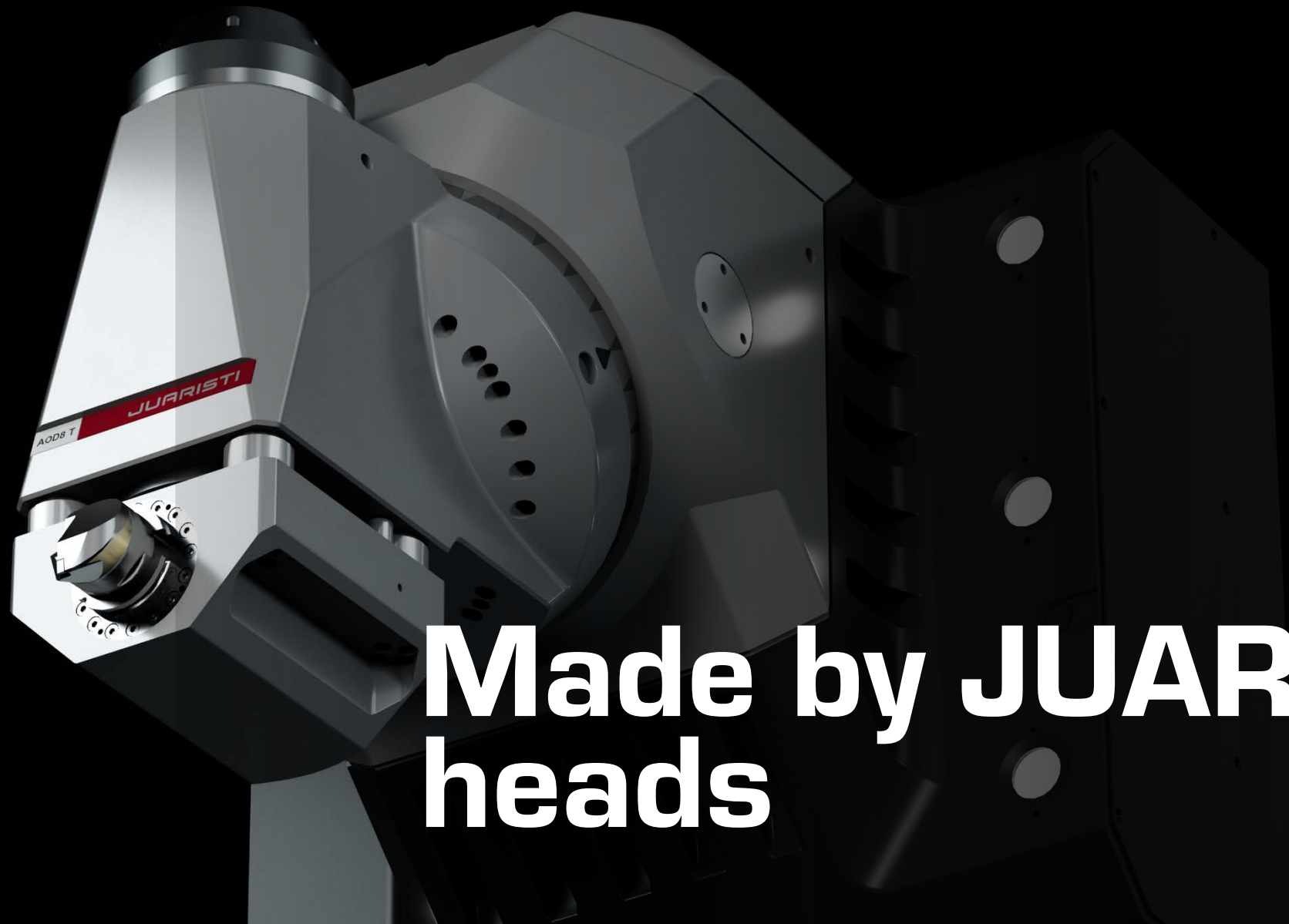


# Multitasking





# Customisation

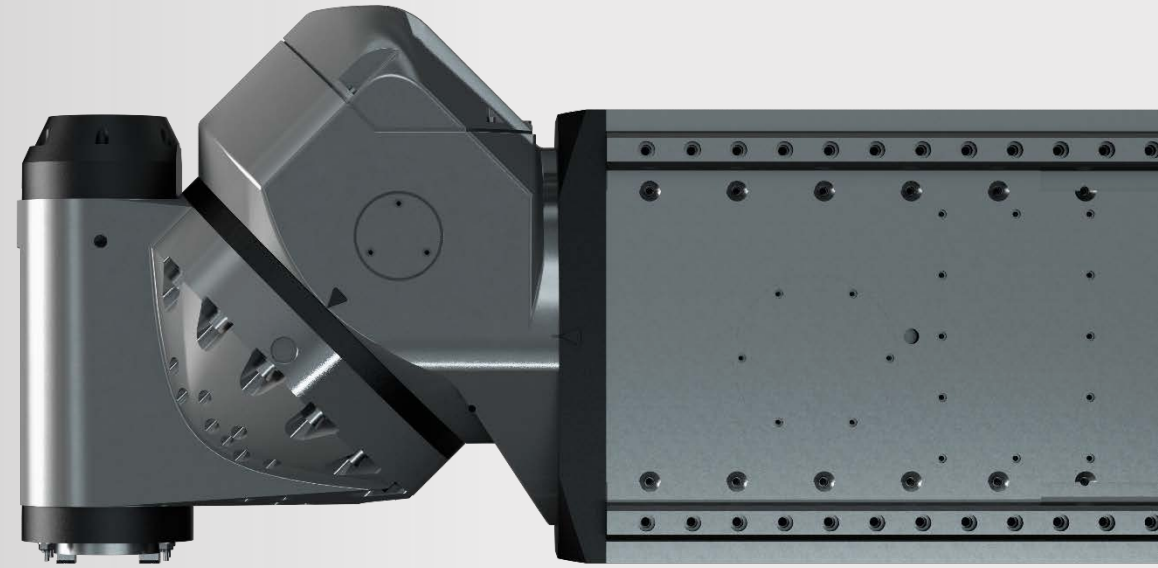


Made by **JUARISTI**  
heads

LATEST DEVELOPMENTS 2019

# Leaders in universal heads

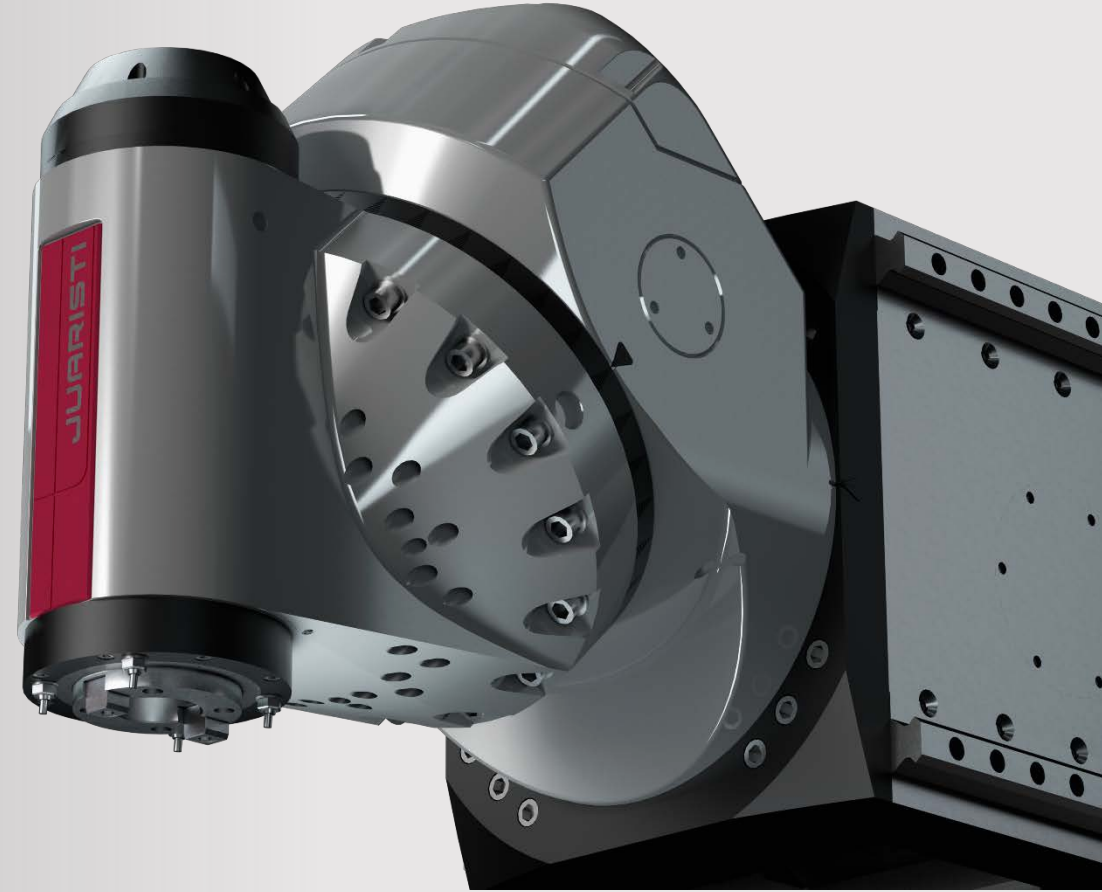
- 5-axis machining.
- Optimised for milling, boring and turning operations.
- Rotation speed of up to 8,000 min<sup>-1</sup>.
- Quick repositioning: from 0 to 180° in 7 seconds.
- Quick change times for tools.



LATEST DEVELOPMENTS 2019

# New **ACD7**

Continuous double rotation axis milling head





LATEST DEVELOPMENTS 2019

# High precision

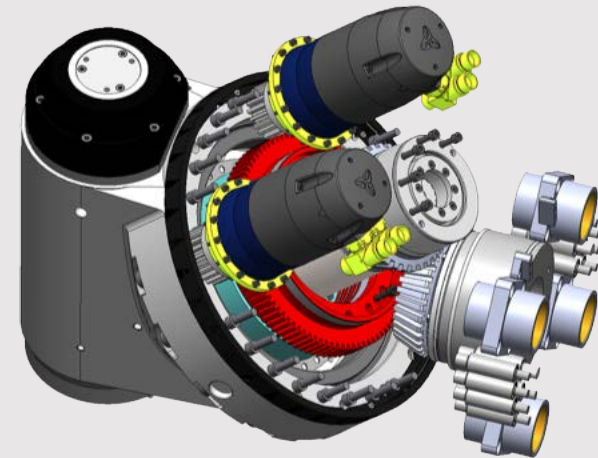
- Continuous double rotation axis.
- Direct measurement magnetic drums:  $\pm 3''$  precision.
- Quick repositioning: from 0 to 180° in 7 seconds.



LATEST DEVELOPMENTS 2019

# Productivity

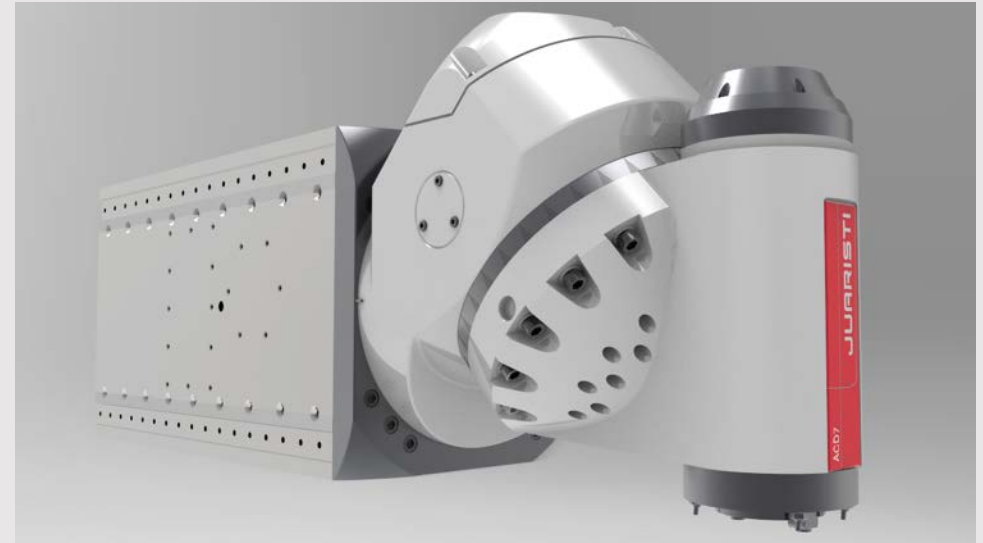
- Rotation speed up to 6,000 min<sup>-1</sup>.
- High spindle power (60 kW) and torque (1,600 Nm).
- 2 motors + 2 pinions on each axis.
- Closed circuit cooling for spindle bearings.



LATEST DEVELOPMENTS 2019

# Robustness

- Contouring torque A&C axes: 3,000 Nm.
- Clamping force A&C axes: 20,000 Nm.
- C axis integrated in the RAM or headstock on T-type machine.
- More compact and robust head.
- Possibility of using C axis integrated in vertical heads.



LATEST DEVELOPMENTS 2019

# New **ACD8**

Optimised head for turning operations





LATEST DEVELOPMENTS 2019

# Comprehensive multitasking

- Continuous rotation on 45 ° plane.
- Double pinion system.
- Spindle rotation up to 8,000 min<sup>-1</sup>.
- Automatic change of the accessory for turning operations.
- High turning capacity: turning accessory clamped to the body of the head.





HIGH PRODUCTIVE

· Fast tool change: higher productivity

HEADS

# Angular head AV

Automatic 2,5 ° x 1 ° indexing

Power 40 / 60 kW

Torque 1,400 / 2,850 Nm

Spindle speed 3,000 min<sup>-1</sup>



## HEADS

# “Twist” type head AK

Mechanical / electro-spindle

Continuous rotation 1 or 2 axes

Power 30 / 48 / 60 kW

Torque 230 / 450 / 1.000 Nm

Spindle speed 6.000 / 12.000 / 24.000 min<sup>-1</sup>





HEADS

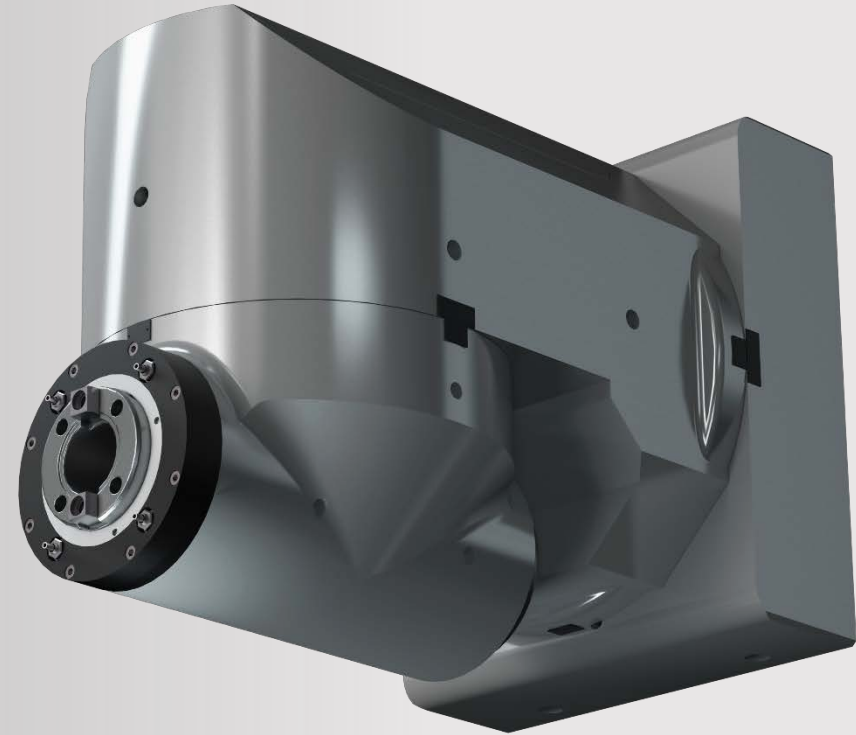
# Orthogonal heads AOD

Automatic  $1^\circ \times 1^\circ$  indexing

Power 40 / 60 kW

Torque 1,500 / 2,200 Nm

Spindle speed 5,000  $\text{min}^{-1}$



HEADS

# Horizontal head

Continuous rotation  $1^\circ \times 1^\circ$

Power 40 / 60 kW

Torque 1,500 / 2,200 Nm

Spindle speed  $5,000 \text{ min}^{-1}$



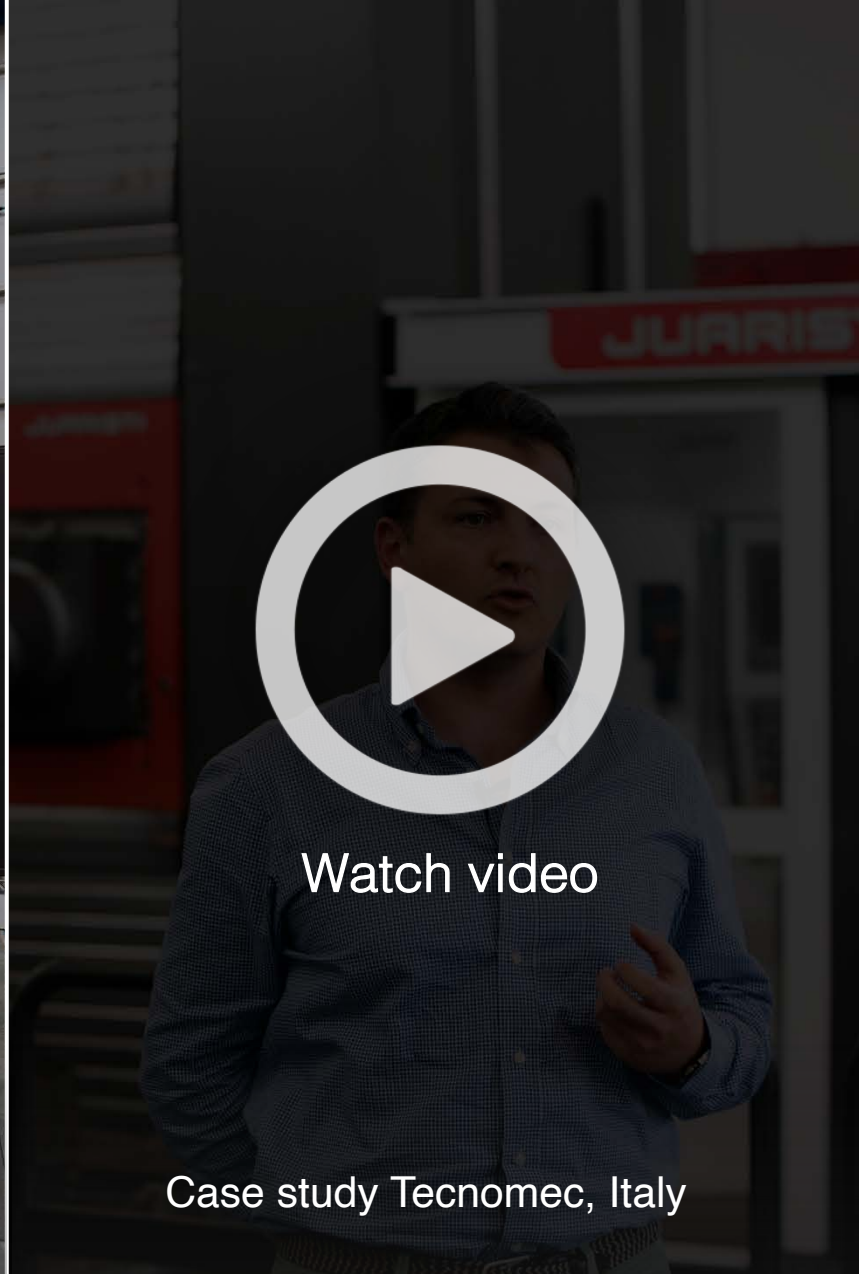


# Customer experiences



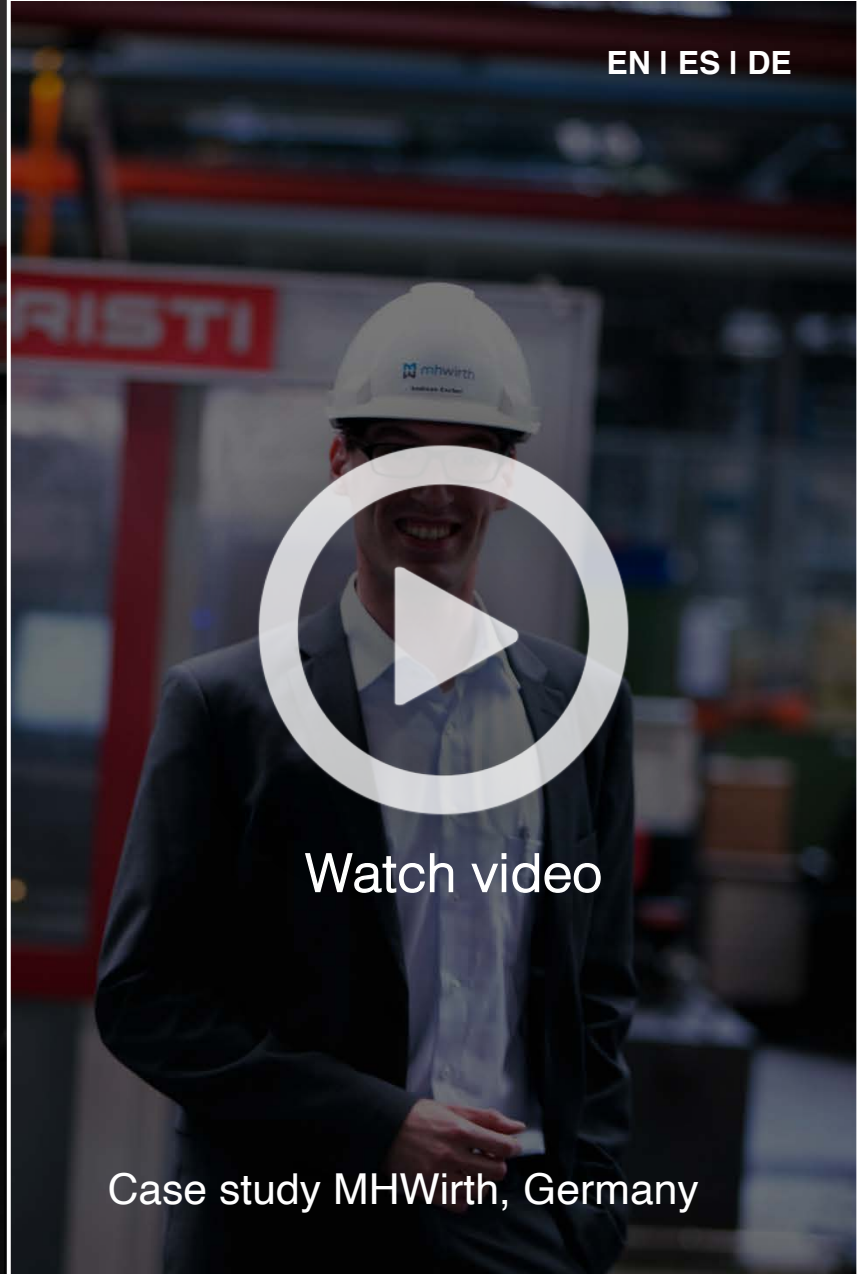
Watch video

Case study Goizper Group, Spain



Watch video

Case study Tecnomec, Italy



Watch video

Case study MHWirth, Germany







oup  
ration



**GUIBE**  
YOUR PARTNER  
IN POWER TRANSMISSION





mhwirth

Rezeption/ingang  
Reception/entrance ←

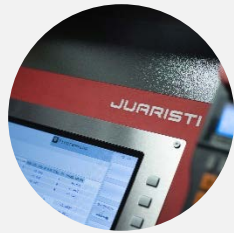
Werkstatt  
Factory entrance →

mhwirth Powerful Collaboration



# JUARISTI DIRECT SERVICE +

# Our customers model their solutions and service they receive



## Analysis

Preliminary technical analysis. We analyse our customer's business to understand the challenges and solutions they need.



## Consultation

Personalised technical advice from the initial consultation to offer our customers the solution that best suits their needs.



## Design

Engineering design. We adapt our machines to meet all requirements.



SERVICE

# Commissioning



A



## Installation

Final installation at the customer's plant by the machine's team of assembly technicians.

B



## Excellence since day 1

Standardised commissioning protocol to ensure optimum operation and performance.

C



## Training

Training on the operation and maintenance of our machines taught by our team of assembly and commissioning technicians.



**SERVICE**

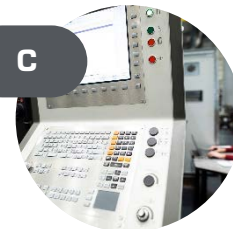
# Keep it running

**A****Spare parts**

Guaranteed spare parts availability with warehouses in Spain, Germany and dealer locations. Wide range of available accessories.

**B****Immediate assistance**

Hotline managed by specialist technicians. Comprehensive assistance system.

**C****Preventive maintenance**

Continuous machine monitoring and analysis for preventive maintenance.

SERVICE

# Continuous improvement



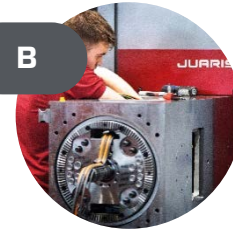
A



## Upgrades

Updating of all our machines.

B



## Optimisation

A wide range of available technological and automated options

C



## Consultancy

Technical consulting in all project phases, from before the purchase to our technical service.



SERVICE

# Always on your side



A



## On site support

Our support team has the technical training that ensures optimum performance of our machines.

B



## One step ahead

Comprehensive assistance system with remote servicing, preventive and predictive maintenance.

**JUARISTI**

MILLING. BORING. **THE EXPERTS.**



**Welcome to the next level**

**Touch the screen**