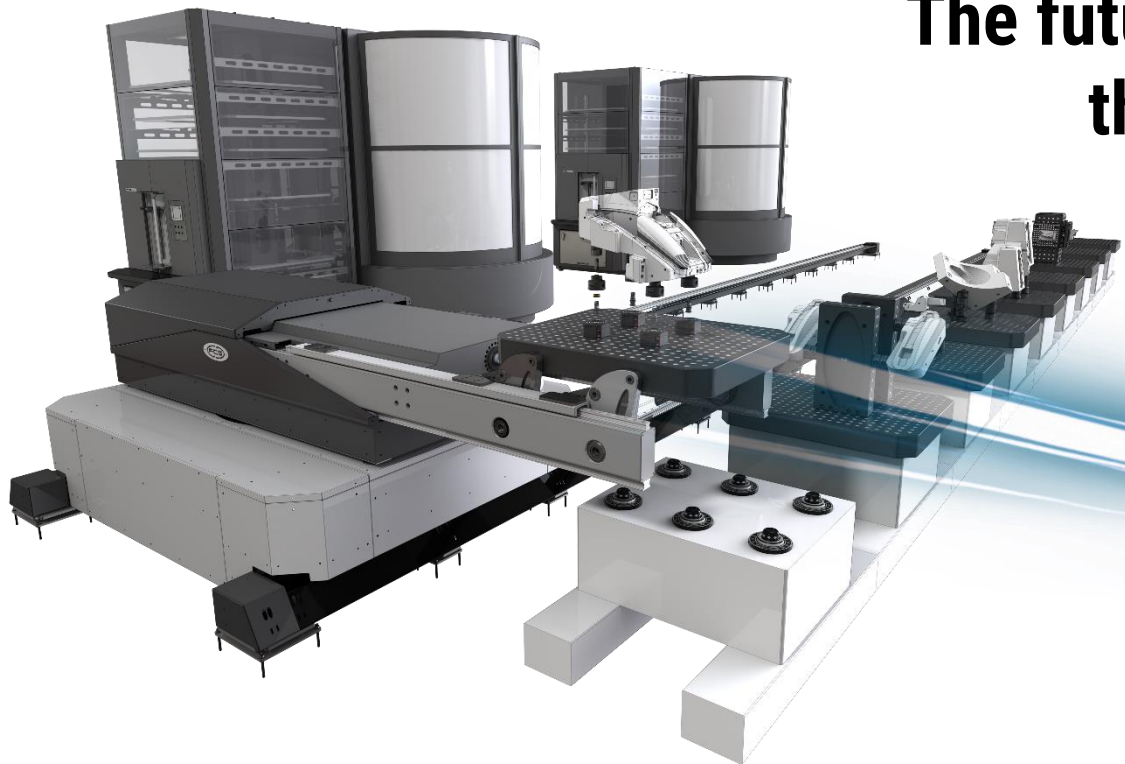




Integrated systems for production

The future of manufacturing in the era of **INDUSTRY 4.0**

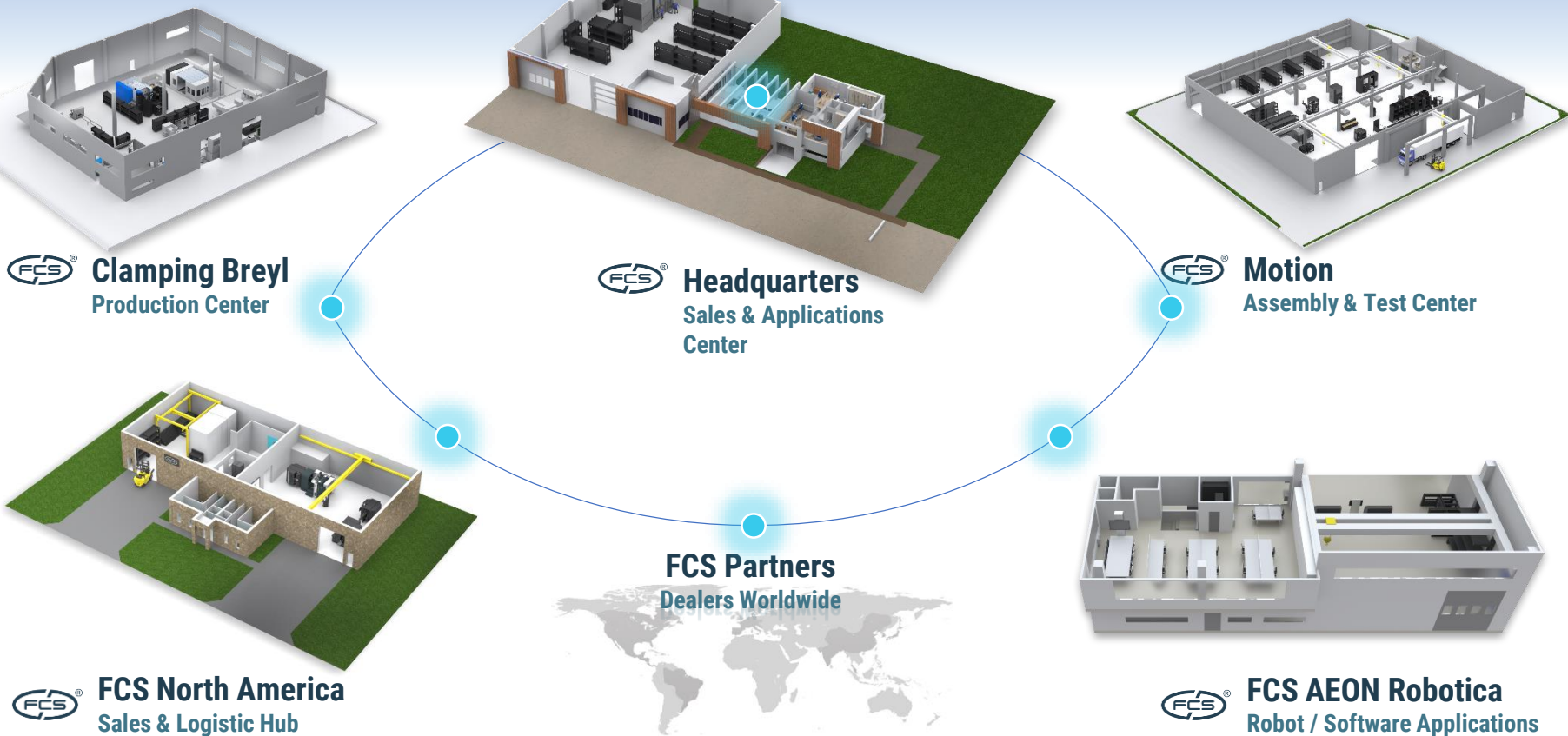
www.fcssystem.com





Integrated systems for production

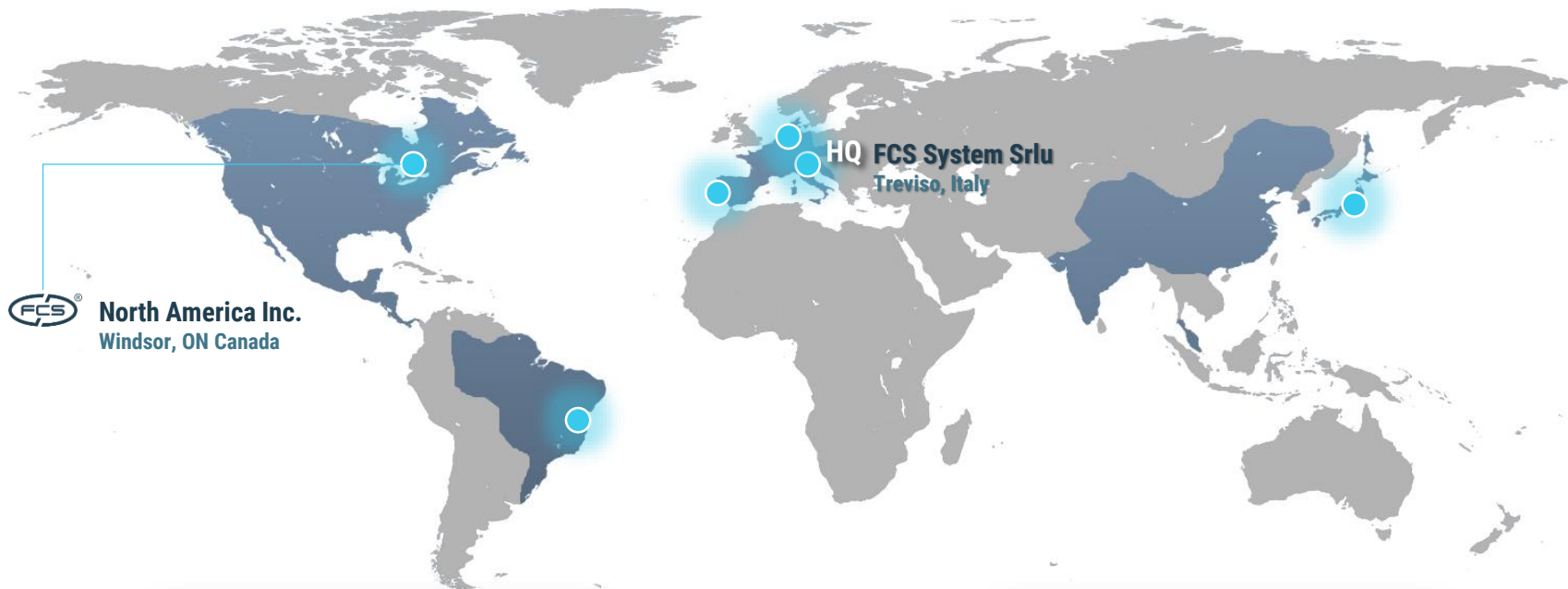
FCS System | COMPANY STRUCTURE





Integrated systems for production

FCS System | COMPANY STRUCTURE



MORE THAN 1.200
WORLDWIDE USERS

MORE THAN 12.000
MACHINES EQUIPPED

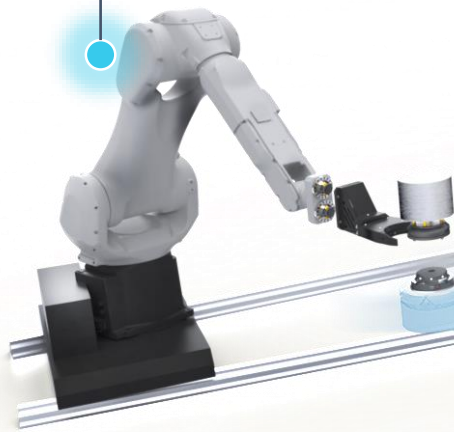


Integrated systems for production

FCS System | PRODUCTS LINES

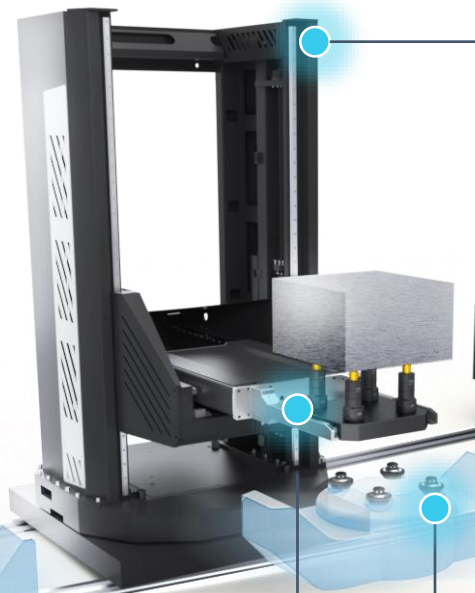
AEON ROBOTICA

Anthropomorphic Robot Solutions



MOTION

Automatic Handling Systems



SOFTWARE

FMS Control Applications



STANDARD BREYL

Manual Clamping Systems



MODULAR VISES

Seatless Clamping



AUTOMATIC CHUCKS

Air/Pneumatic Clamping Systems





Integrated systems for production

FCS System | **CHANGE** The Working Method

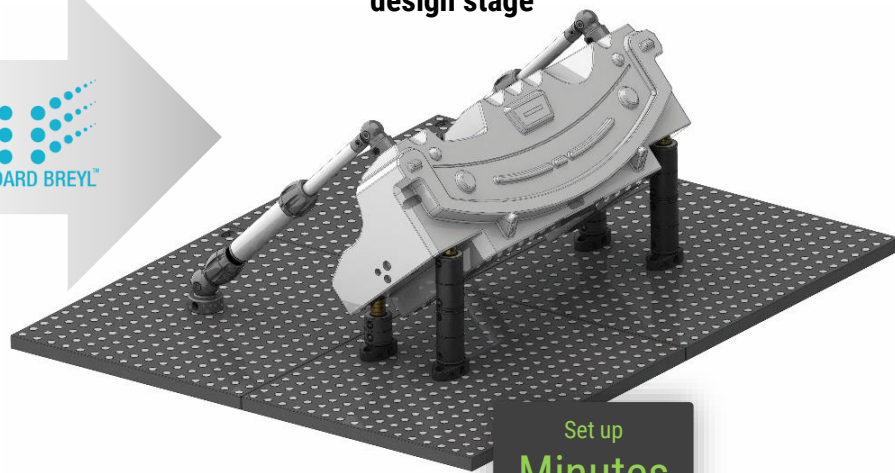
STANDARD BREYL | Manual Clamping System

From the workpiece fixed with brackets in the tool shop
by machine operators...



Set up
Hours

...to **STANDARD BREYL™**:
standardized & modular clamping provided in the
design stage



Set up
Minutes

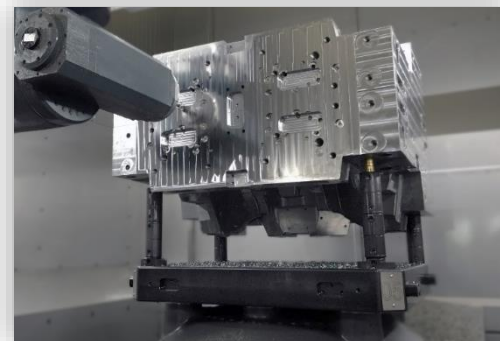
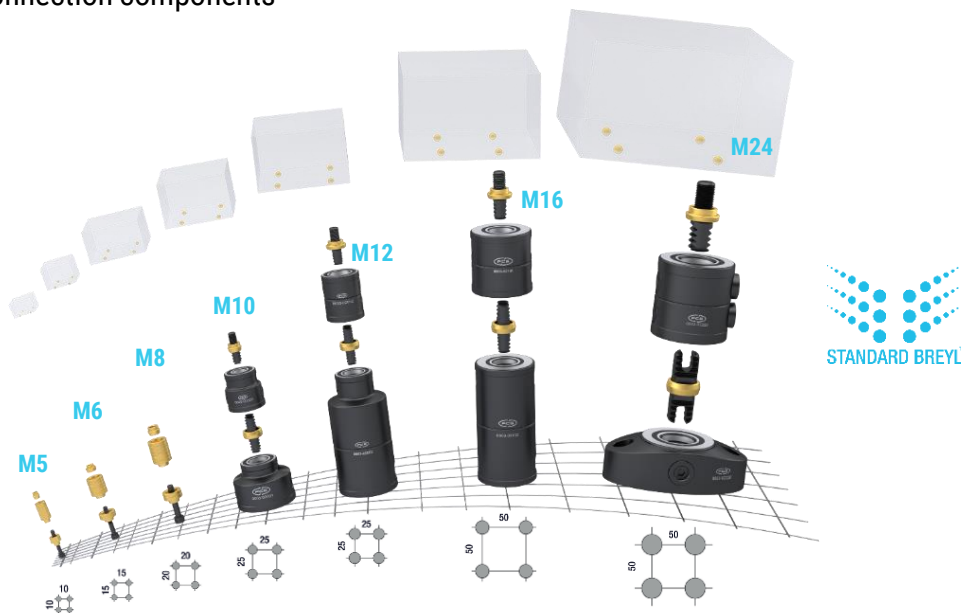


Integrated systems for production

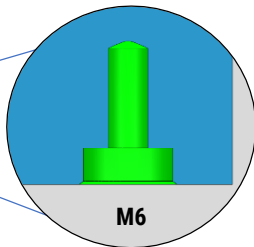
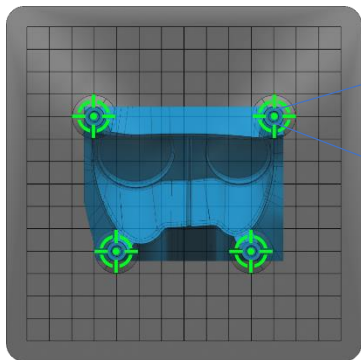
FCS System | **CHANGE** The Working Method

STANDARD BREYL | FCS Manual Clamping System

The standard aims to manage a big range of workpieces size; the designer chooses the most adequate clamping seats to connect the part to the base support using the interconnection components



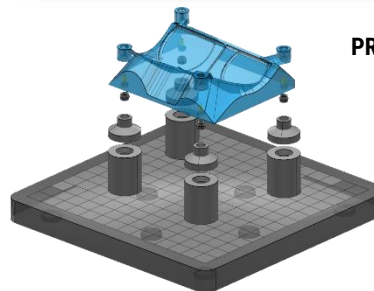
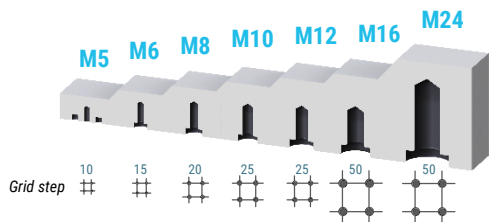
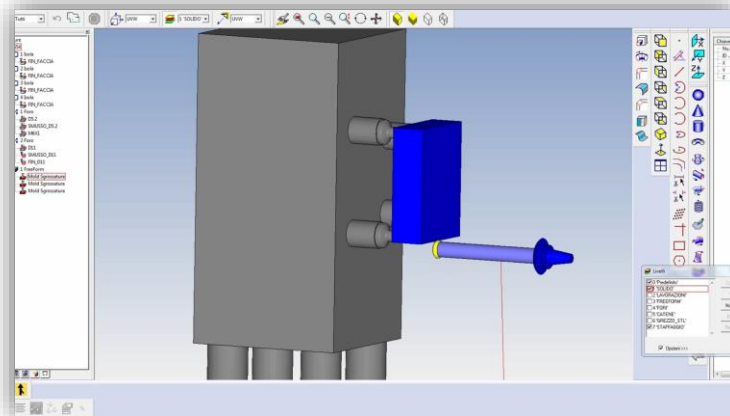
Everything starts from the Virtual Stage



DESIGN THE CLAMPING SEATS
ON THE WORKPIECE
USING THE
FCS 3D MODELS LIBRARY



DEFINING IN CAD/CAM THE CLAMPING SETUP
AND WORKPIECE POSITION ON THE GRID



PROVIDING 3D/2D SETUP INSTRUCTIONS
TO WORKSHOP OPERATORS
AND START MACHINING

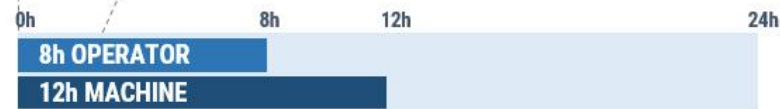
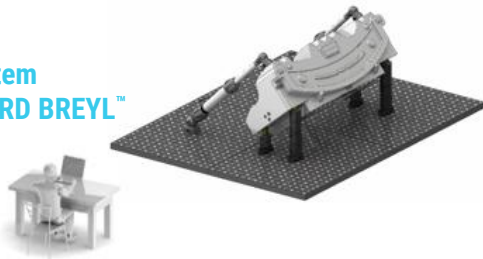
CHANGE the Working Method

Providing 3D instructions to the workshop, and optimizing in the CAD/CAM stage the clamping setup to optimize the machining performance, companies can **increase the daily spindle hours and the efficiency of the plant**

1 TRADITIONAL CLAMPING



2 FCS System STANDARD BREYL™



**-75%
SET-UP
TIME**

FCS System **Clamping**

- ✓ **3D DESIGN** Provides precise coordinates about where and how to fix the workpiece (Reduce mistakes)
- ✓ **FLEXIBILITY & REPEATABILITY** Different combinations of the components meet different clamping needs (It can be used for EDM machining also)
- ✓ **5 WORKABLE SURFACES** More steel to be exported for each single set-up
- ✓ **ADAPTABILITY** Managing of workpiece deformation after roughing or heating treatment (**PATENTED**)





Integrated systems for production

FCS System | STRENGTH



FCS System Clamping

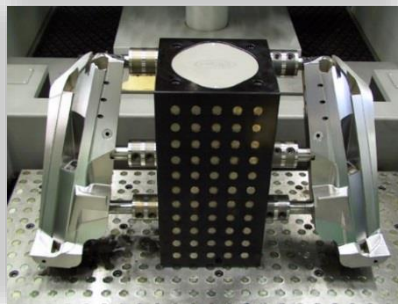
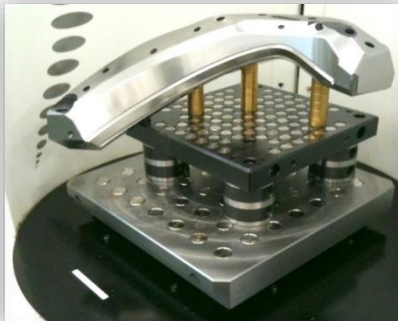
- ✓ **PERMANENT REFERENCES** In case of reclamping, the system keeps the zero point reference
- ✓ **WORKLOAD OPTIMIZATION** The system provides a more accurate set-up time estimation
- ✓ **INCREASE SPINDLE HOURS** Reduction of machine downtime
- ✓ **MAXIMIZE AUTOMATION** It is possible to provide more setup while the CNC machine is running (SMED)



Integrated systems for production

FCS System | STANDARD BREYL

CHANGE the Working Method

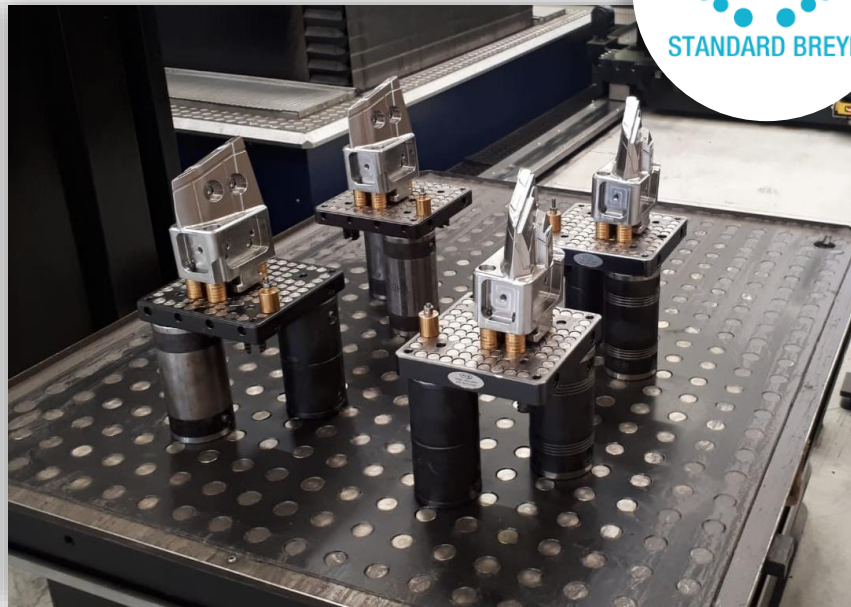
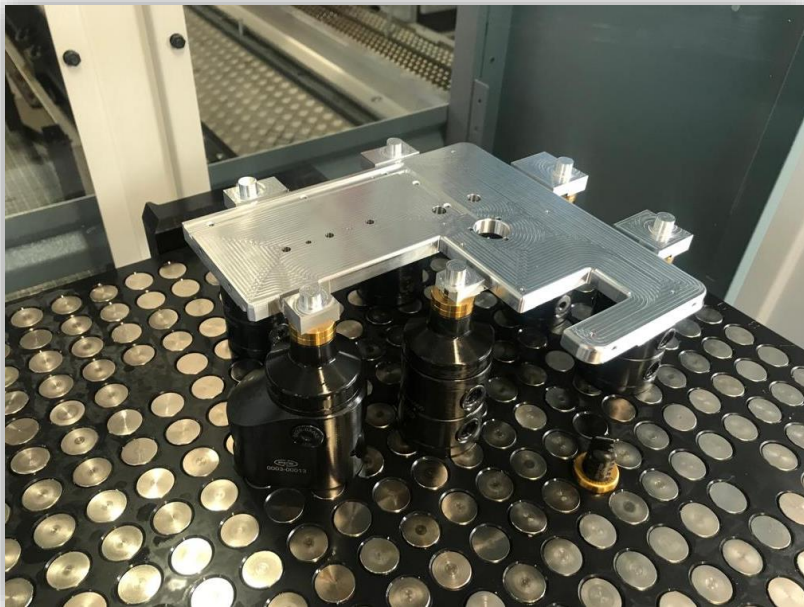


The modularity allows you to create configurations for each machining process giving also the possibility to **recover** the **deformation after heat treatment**



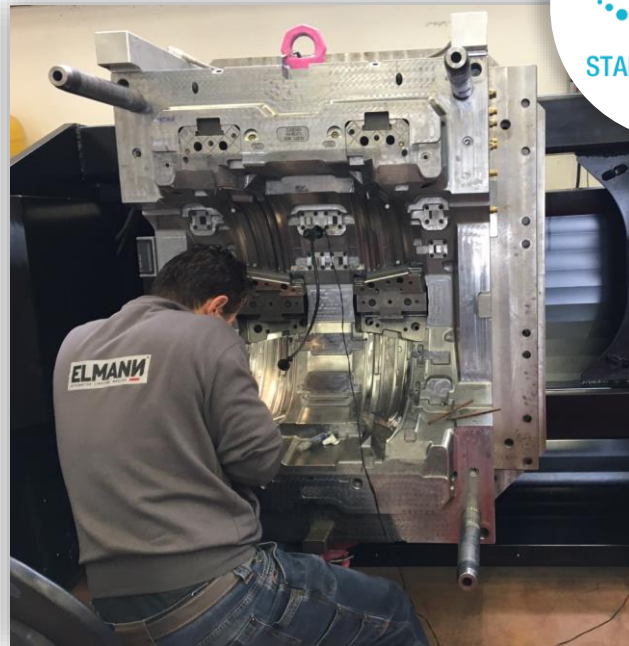
Integrated systems for production

CHANGE the Working Method



The modularity allows you to create configurations for each machining process giving also the possibility to **recover** the **deformation after heat treatment**

CHANGE the Working Method



The clamping seats are **permanent references** on workpiece for reworking; the same modularity is applied in the **EDM** wire and sinker processing



Integrated systems for production

CHANGE the Working Method



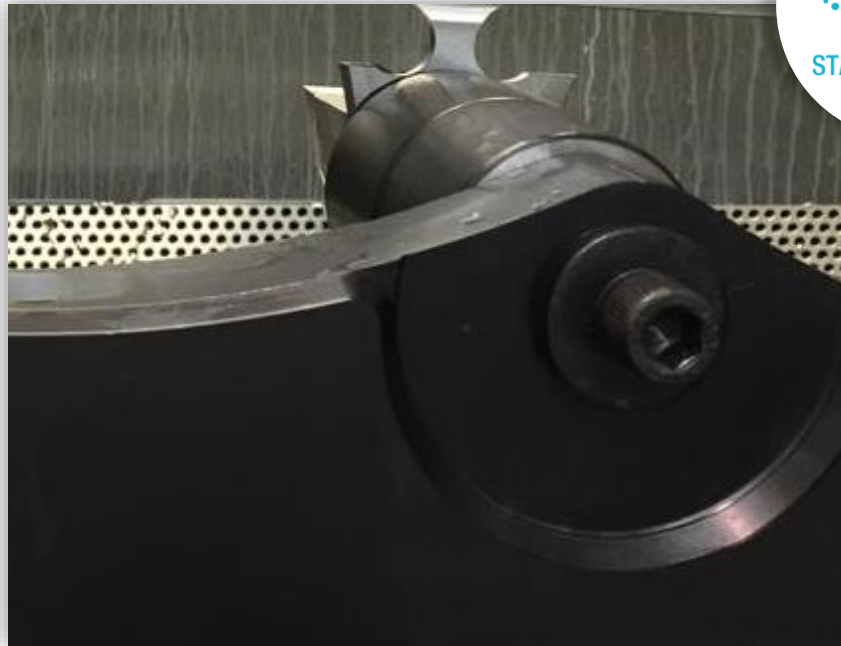
AEROSPACE APPLICATIONS



Integrated systems for production

FCS System | STANDARD BREYL

CHANGE the Working Method



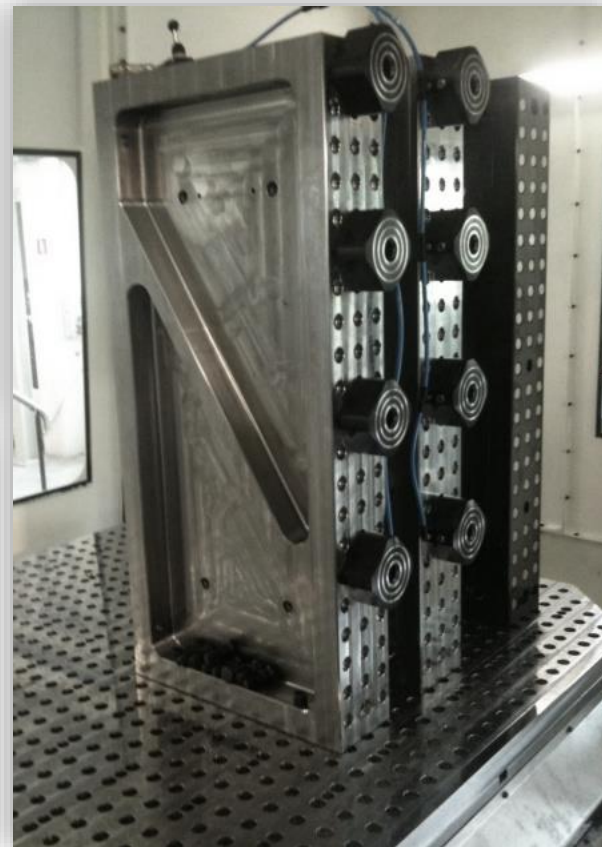
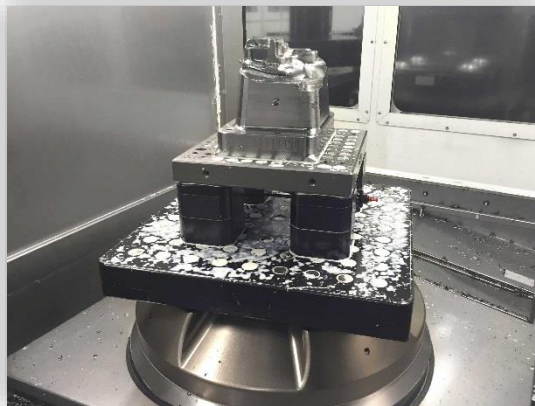
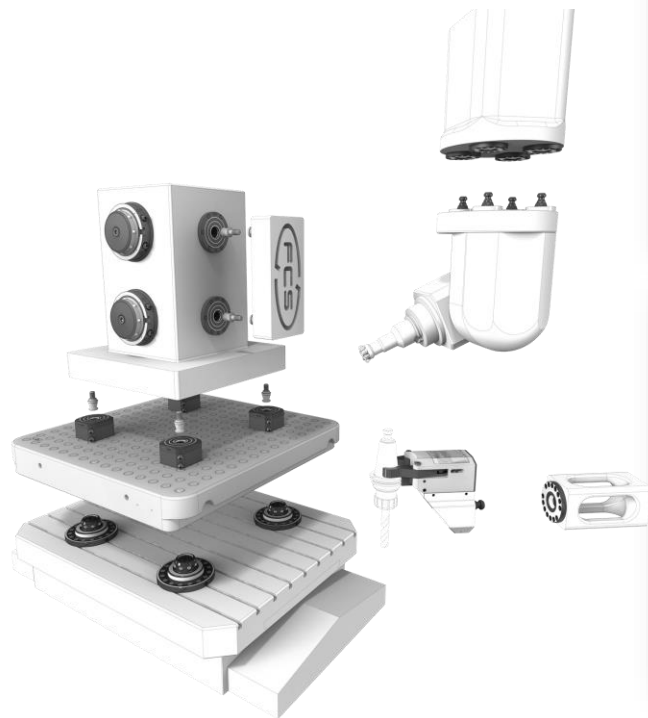
AEROSPACE APPLICATIONS



Integrated systems for production

FCS System | AUTOMATIC CHUCKS

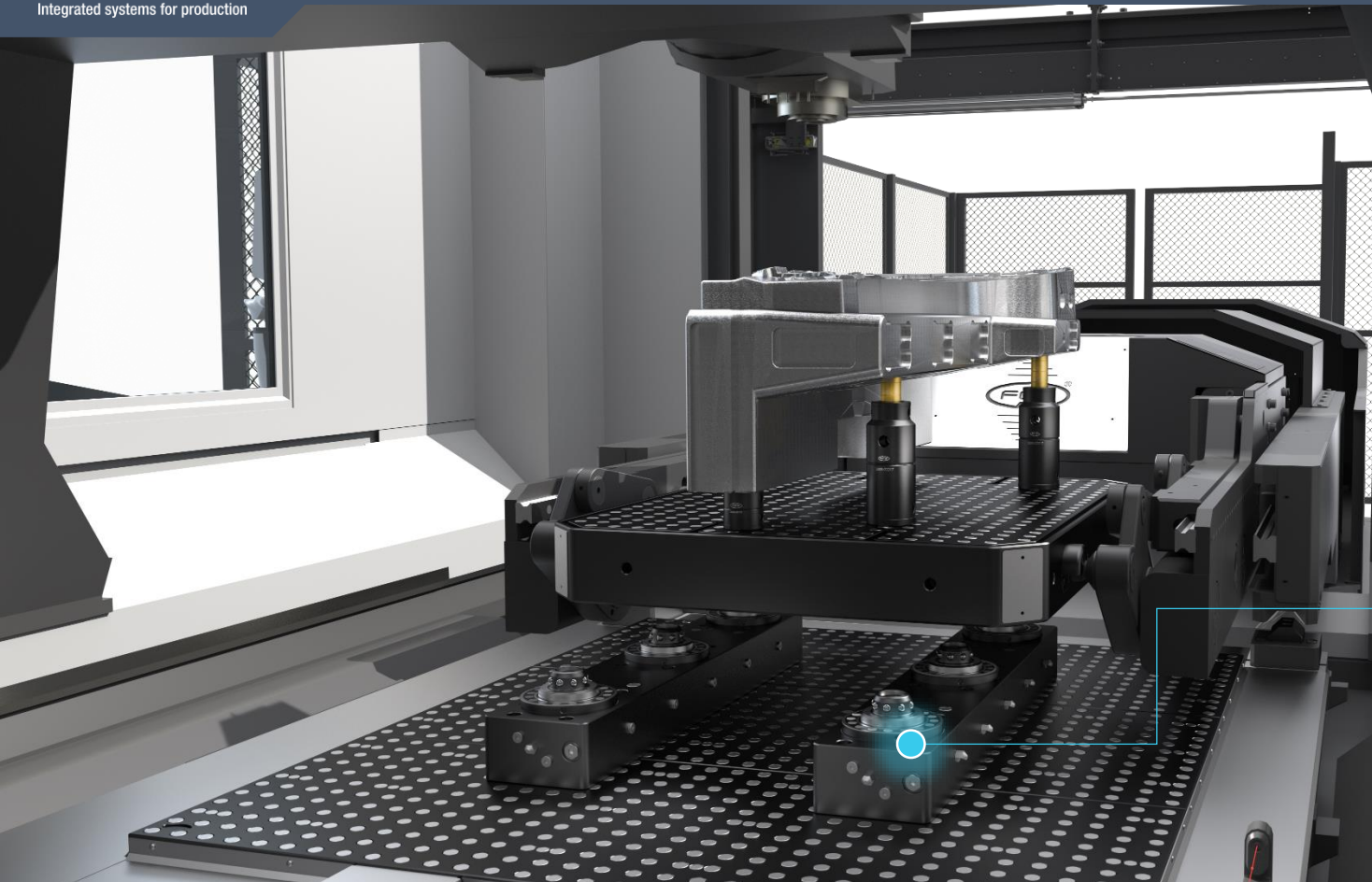
Air/Pneumatic Clamping Systems AUTOMATICALLY ACTIVATED





Integrated systems for production

FCS System | AUTOMATIC CHUCKS



FCS Automatic Chucks

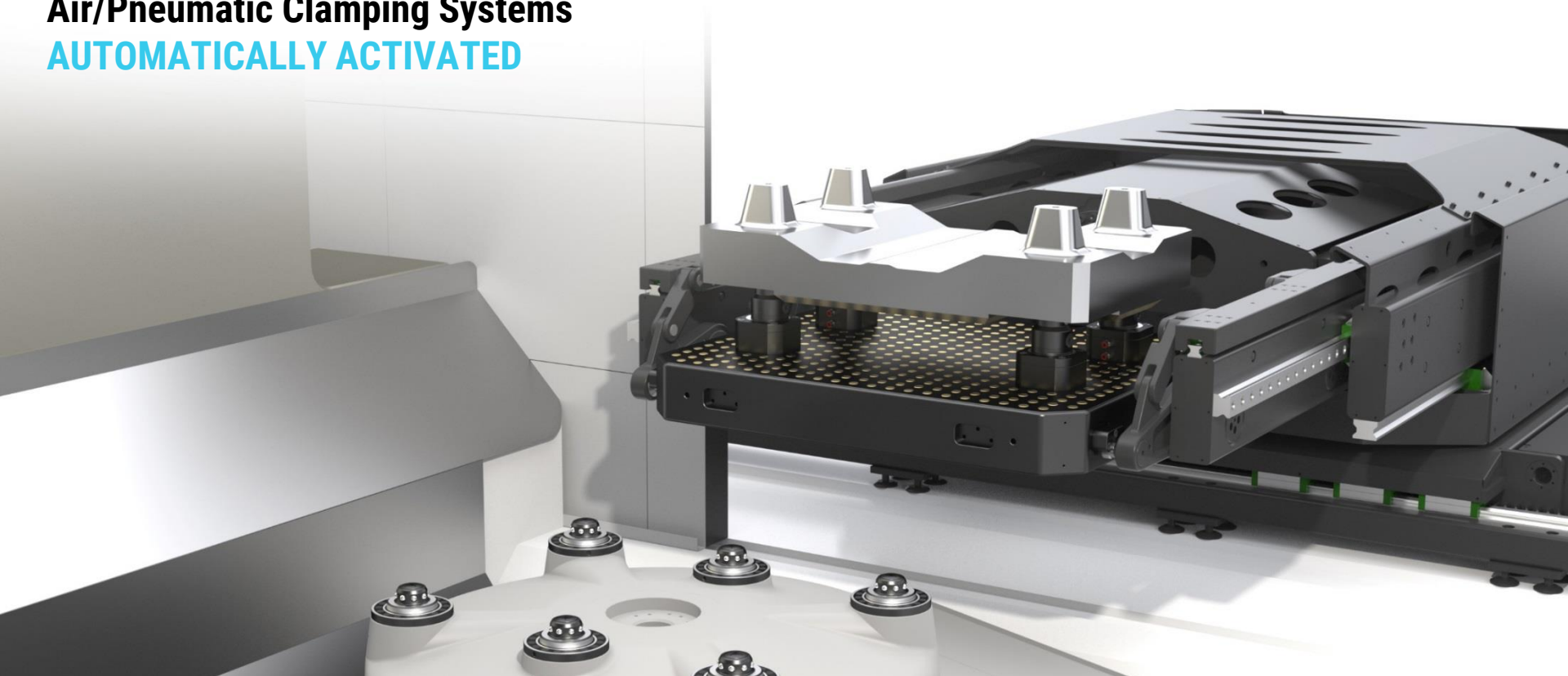
Air/Pneumatic
Clamping System



Integrated systems for production

FCS System | AUTOMATIC CHUCKS

Air/Pneumatic Clamping Systems AUTOMATICALLY ACTIVATED

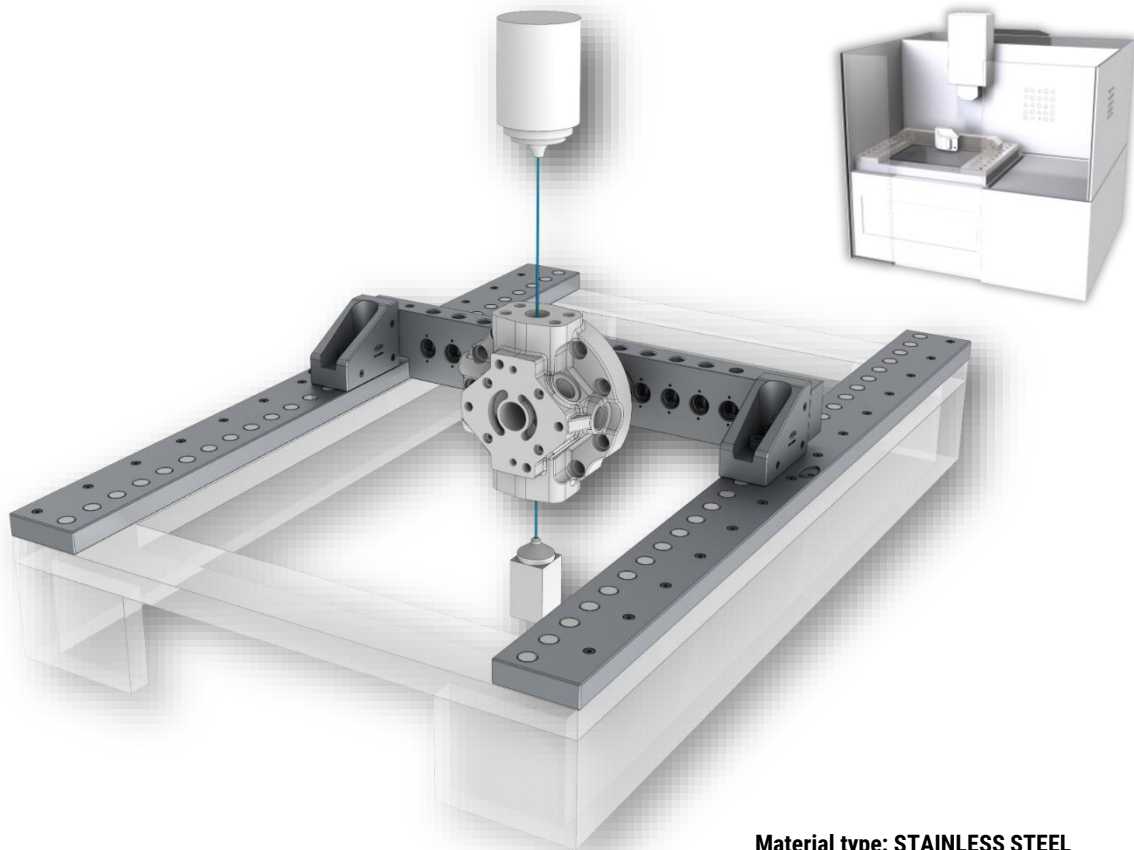
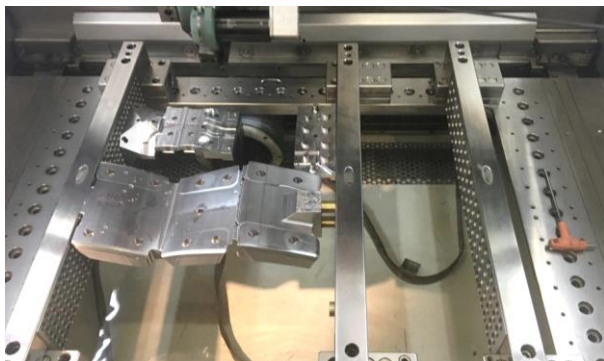


The information contained in this document are strictly confidential and not transferable to third party without FCS SYSTEM written assent.



Integrated systems for production

FCS System | EDM WIRE APPLICATIONS



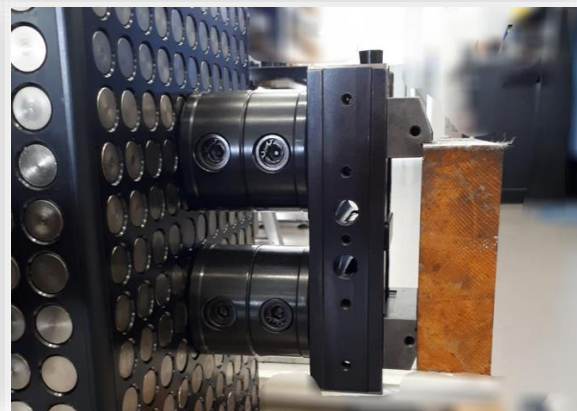
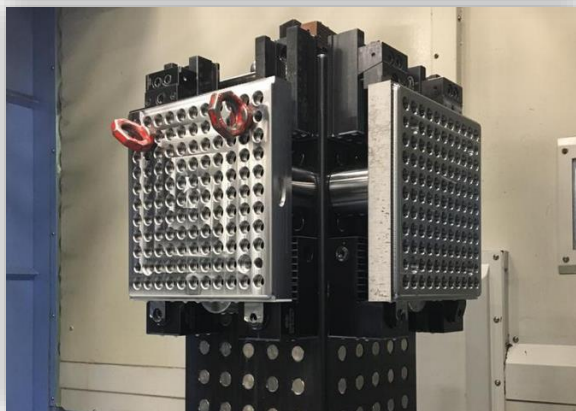
Material type: STAINLESS STEEL



Integrated systems for production

FCS System | MODULAR VISES

Modular Vises SEATLESS Applications

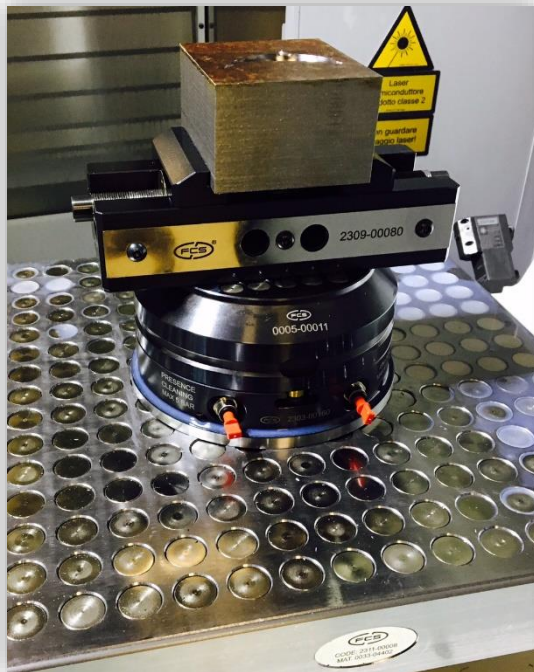




Integrated systems for production

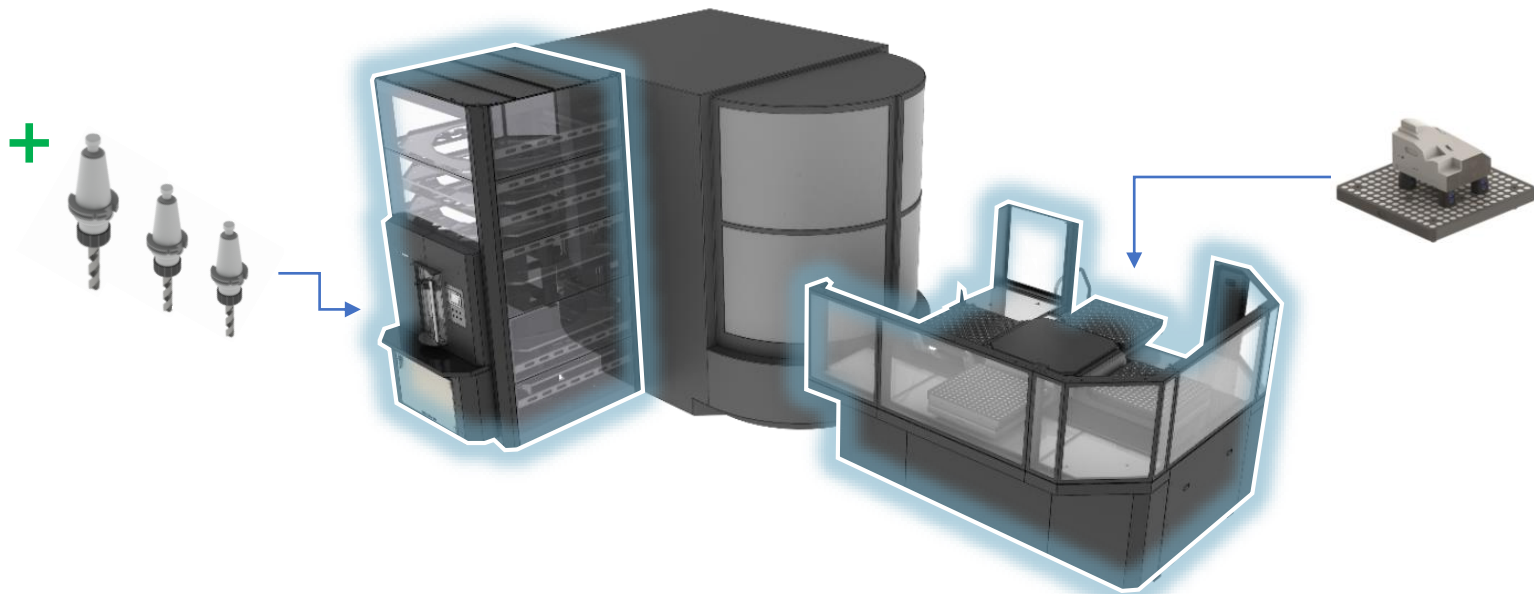
FCS System | MODULAR VISES

Modular Vises SEATLESS Applications



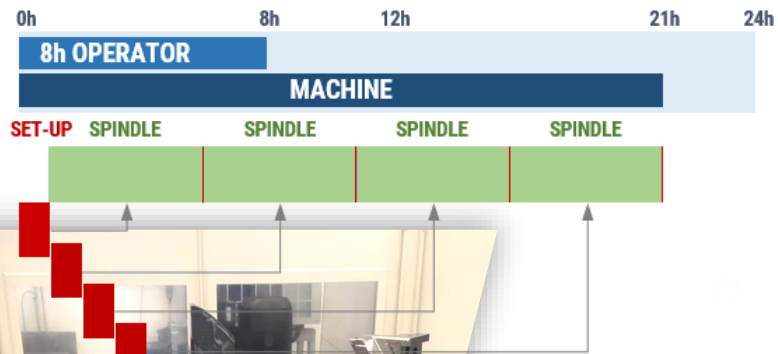
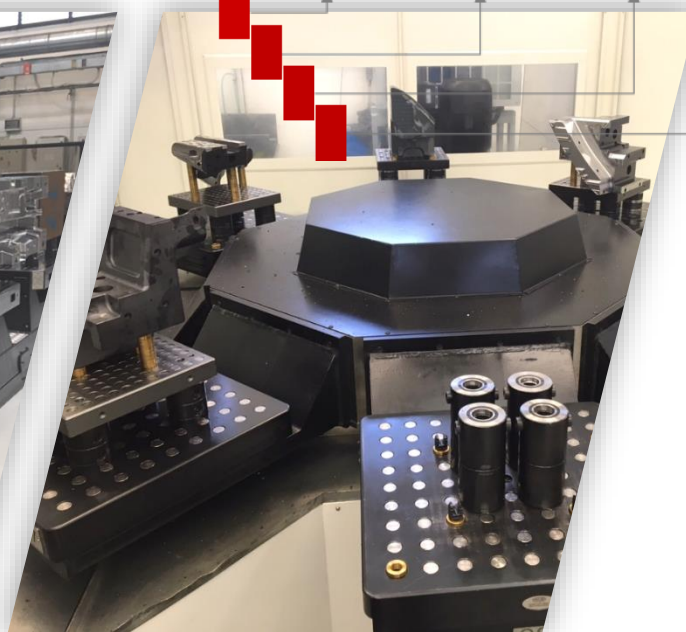
Designed for the customer's needs

FCS Supports TECHNOLOGY EVOLUTION



FCS System designs **handling systems** to enslave the CNC machines in order to create 24/7 production cells

Different layouts studied according to different production needs

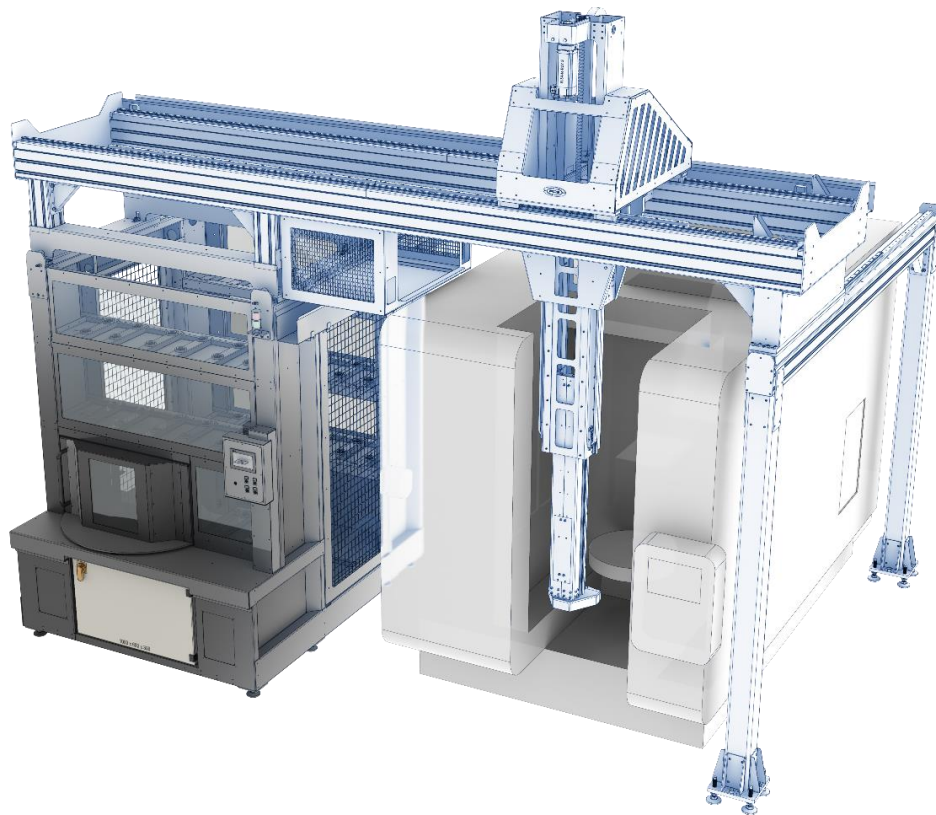


Designed for the customer's needs

FCS Supports **TECHNOLOGY EVOLUTION**

Customized handling systems can be designed according to the specific technical requirements such as:

- **HANDLING CAPACITY**
- **N. OF MACHINES TO BE ENSLAVED**
- **PALLET SIZE**
- **STORAGE CAPACITY**

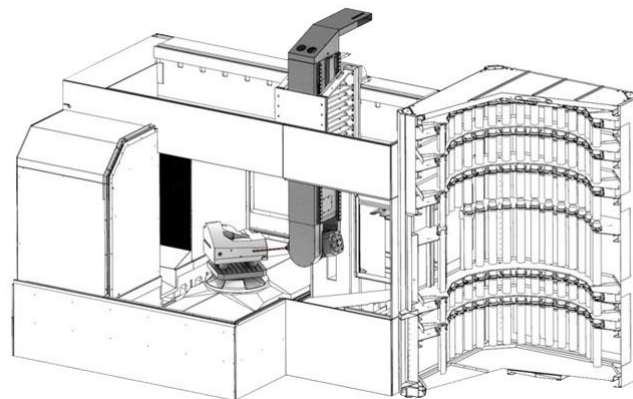


Increase in CNC machine endurance

Extended Cutting Tools **Storage Capacity**



* EXCHANGE ARM WITH
MULTI HEADS



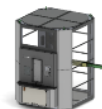
Tool changer type:



1.2



1.8



2.3

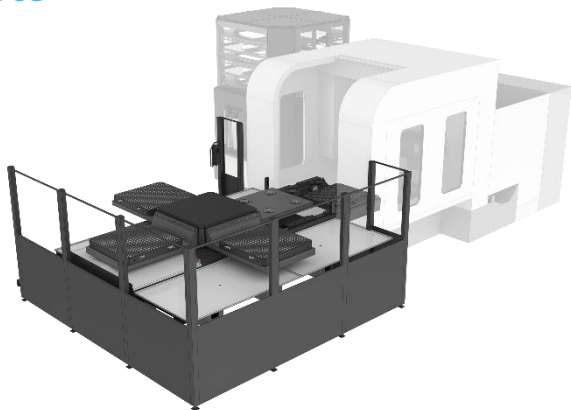
FCS System Tool Changer

- ✓ **SPACE-SAVING** Very low base area/tools quantity ratio
- ✓ **LOW MAINTENANCE** The required maintenance is minimal thanks to the use of electrical drives only
- ✓ **FLEXIBILITY** The tool changer can be customized according to the tools length and weight
- ✓ **EXPANDABLE** By applying an additional tool changer



Design to enslave different types of CNC machines

Automatic handling and storage systems for Pallets



MOD. ORION ROTARY

MACHINES ENSLAVED: 1

STORAGE CAPACITY: 8 - 4

Up to
10.000 kg



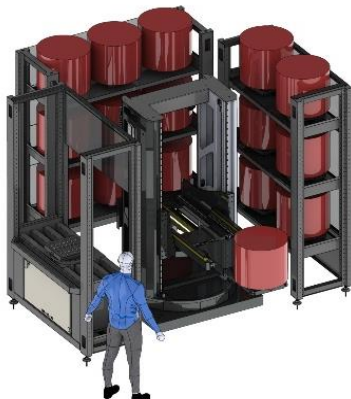
MOD. ORION LINEAR

MACHINES ENSLAVED: from 1 to many

STORAGE CAPACITY: Not limited

Design to enslave different types of CNC machines

Automatic handling and storage systems for Pallets



MOD. RP ROTARY

MACHINES ENSLAVED: 1-2
STORAGE CAPACITY: up to 18



MOD. RP LINEAR

MACHINES ENSLAVED: from 1 to many
STORAGE CAPACITY: Not limited

Up to
1.500 kg



Integrated systems for production

FCS System | MOTION

Design to enslave different types of CNC machines
Automatic handling and storage systems
for **Pallets**



Up to
350 kg

MOD. FIX 400

MACHINES ENSLAVED: 1
STORAGE CAPACITY: up to 16

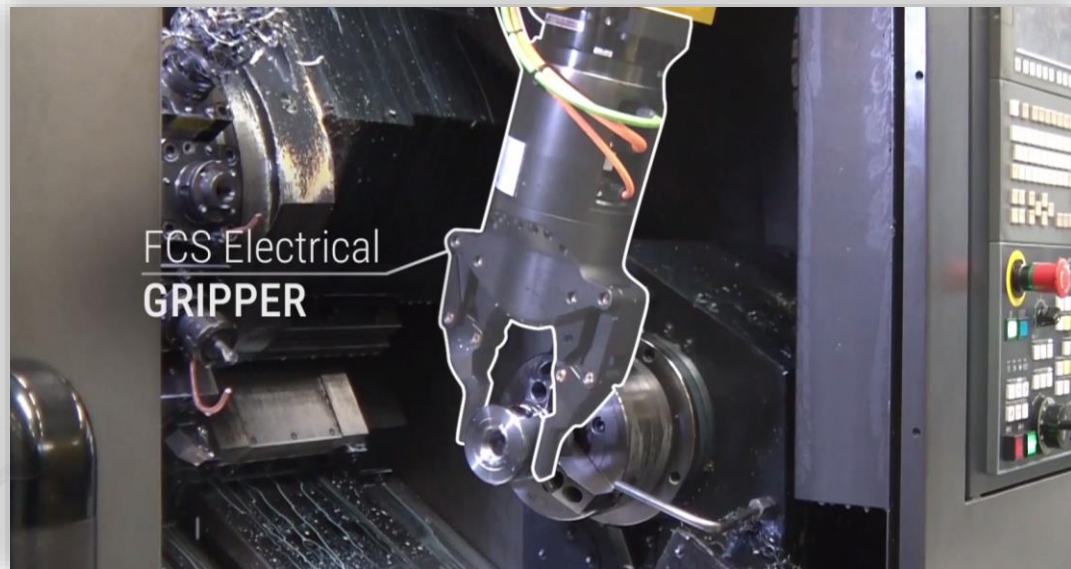
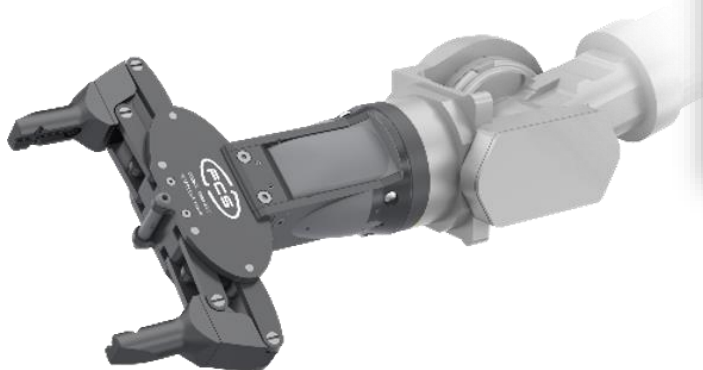


Integrated systems for production

FCS System | AEON ROBOTICA

Industrial robot applications

**Handling & storage systems
customized with FCS Gripper**



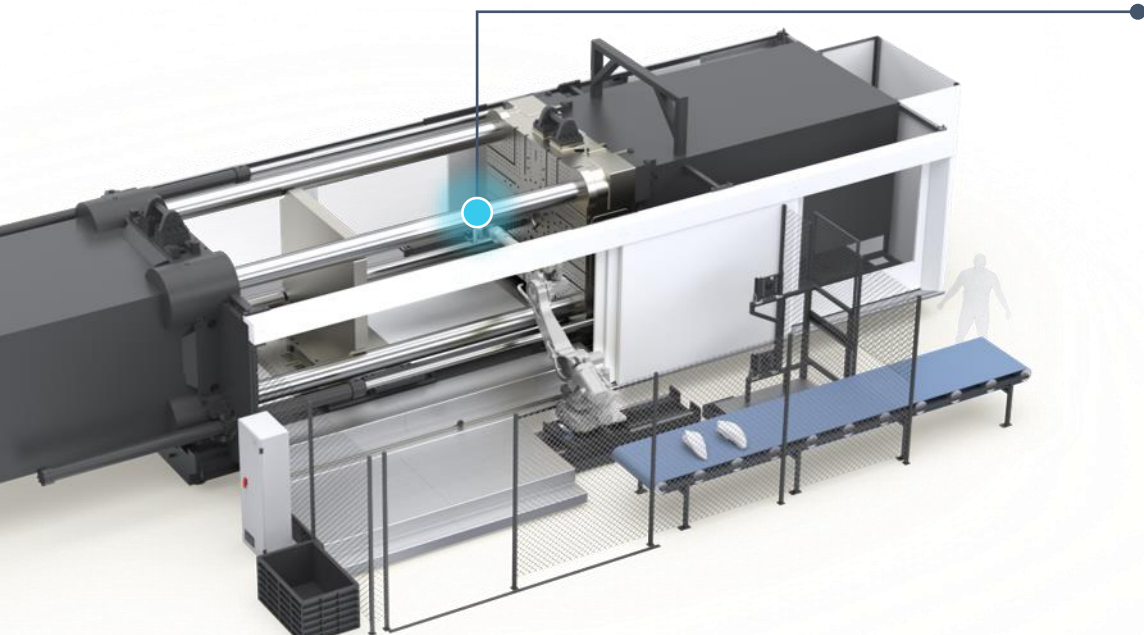


Integrated systems for production

FCS System | AEON ROBOTICA

Industrial robot applications

Handling & storage systems
customized with FCS **Gripper**



HANDLING UNIT SUPPORT

Automatic tool changer



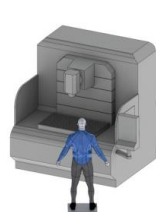
SPIDER CLAMP

New Automatic Chuck



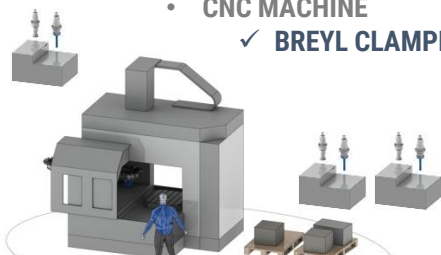
From single machine to 24h Working station FCS Supports **TECHNOLOGY EVOLUTION**

- CNC MACHINE



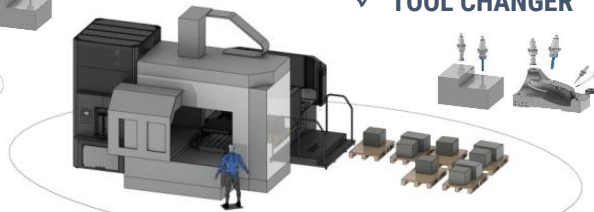
- CNC MACHINE

- ✓ BREYL CLAMPING SYSTEM



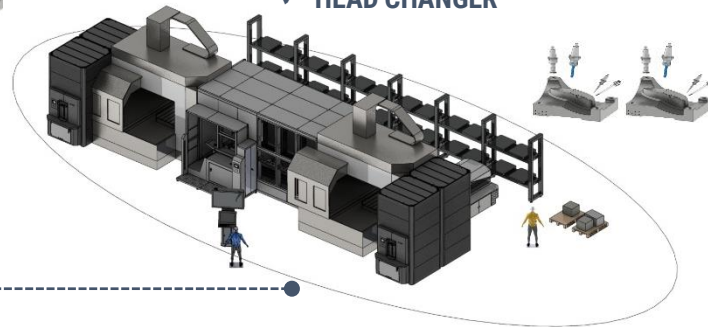
- 24h WORKING STATION

- ✓ BREYL CLAMPING SYSTEM
 - ✓ PALLET CHANGER
 - ✓ TOOL CHANGER



- GROUP OF CNC MACHINES (FMS)

- ✓ BREYL CLAMPING SYSTEM
 - ✓ PALLET CHANGER
 - ✓ TOOL CHANGER
 - ✓ HEAD CHANGER

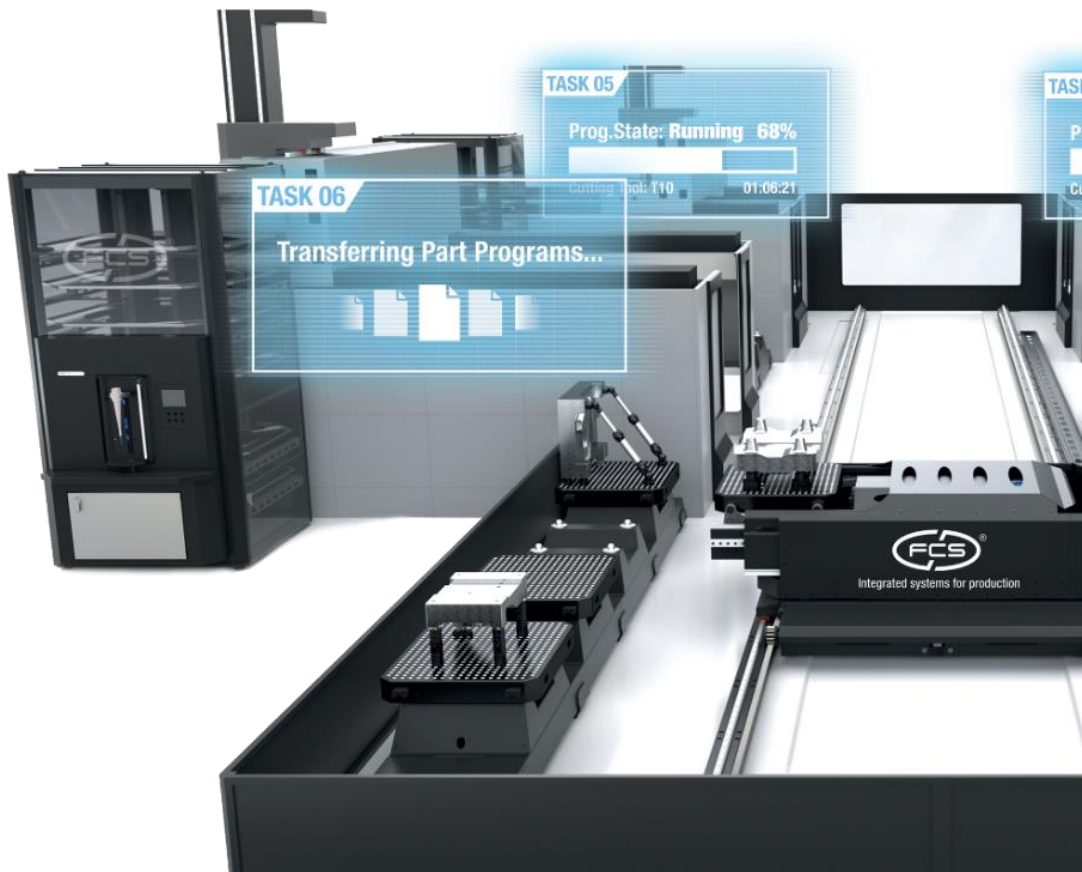




Integrated systems for production

24/7 FMS Complex CNC centers management

- ✓ Guided management of the production cycle
- ✓ Automatic scheduling of CNC operations
- ✓ Remote monitoring
- ✓ Check performance



Flexible control of the entire FMC working flow

FCS MES Software



Control panel of the status of the CNC machines and FCS automation



Task **scheduling** and real time monitoring of the **automatic execution** process



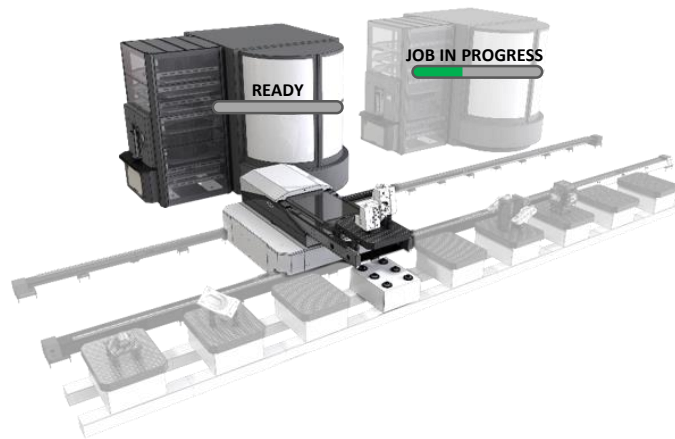
Cutting Tools management
(including tool-life monitoring / sister tools handling)



Workpieces management and direct access to the clamping instructions



KPI (Key Performance Indicators)

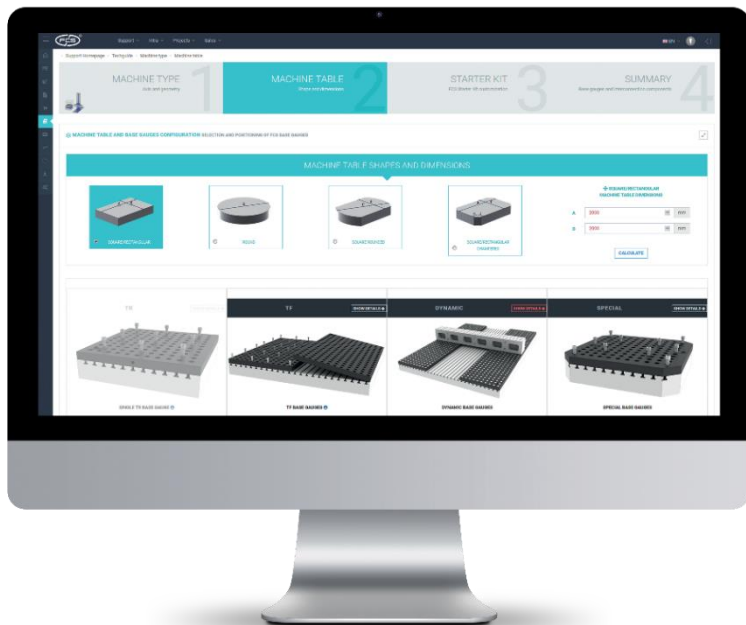


● Milling Machine - CODE 01
Machining - CODE_01 (20%)

- **Receiving notifications**
- **Remote monitoring**



Get free full access to FCS products information
Support Worldwide



- ✓ **HELP DESK** Require technical information and quick assistance
- ✓ **3D ASSEMBLY SIMULATOR** Free web App that allows to explore thousands of Clamping setups
- ✓ **3D CLAMPING LIBRARY** Clamping library are available to be free downloaded
- ✓ **DOCUMENTS** Download catalogs and technical data sheets

support.fcssystem.com



Integrated systems for production

Thank You!

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