



Integrated systems for production

CORPORATE

COMPANY Overview - PRODUCT Lines

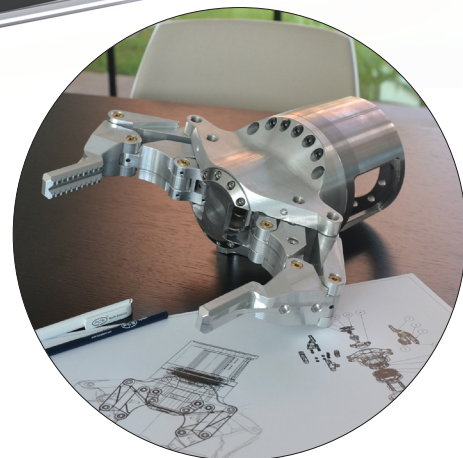
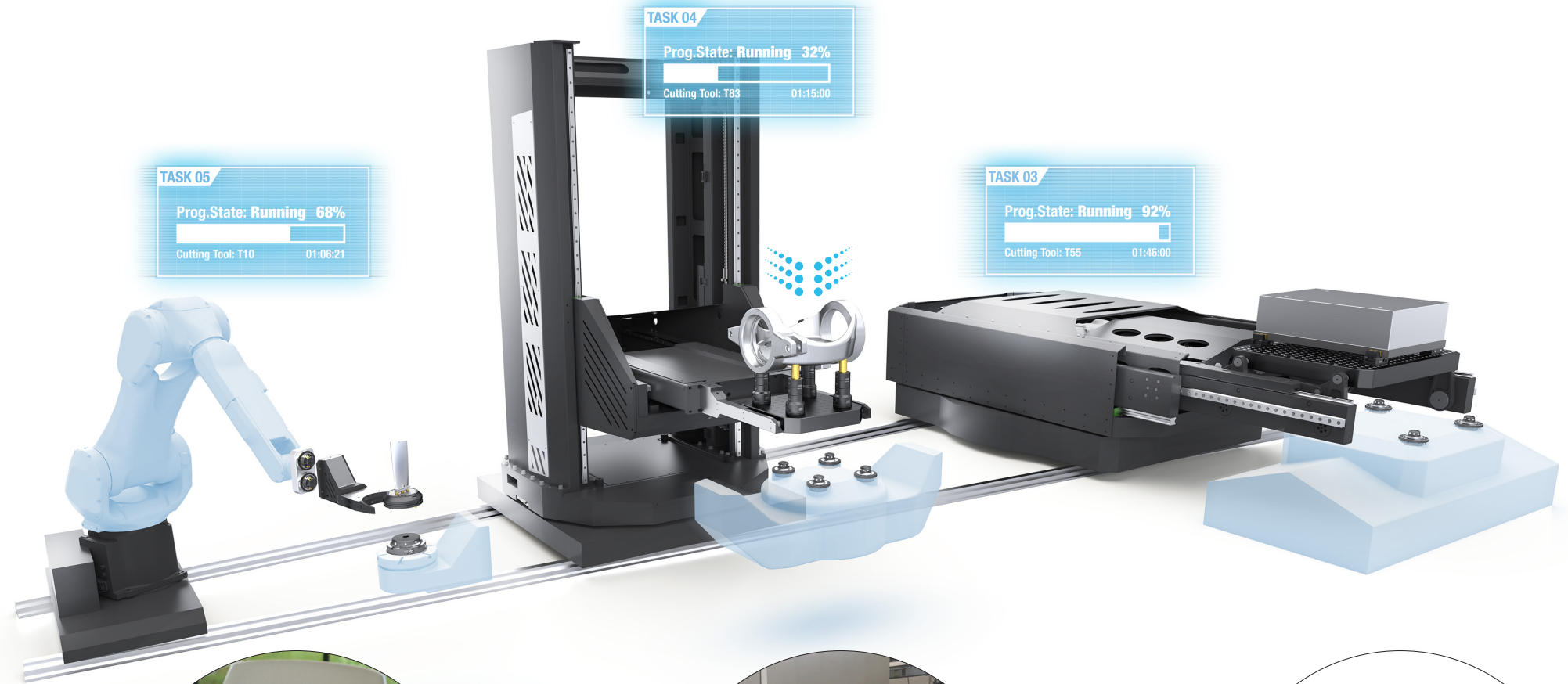


Integrated systems for production

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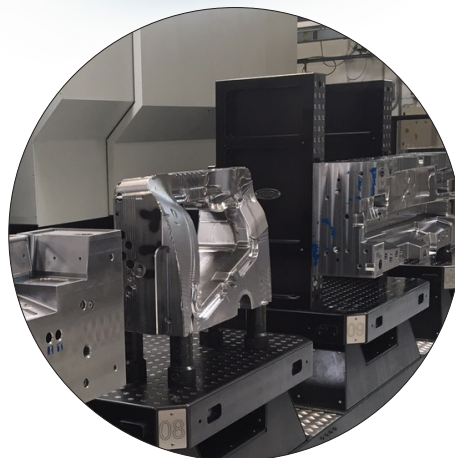
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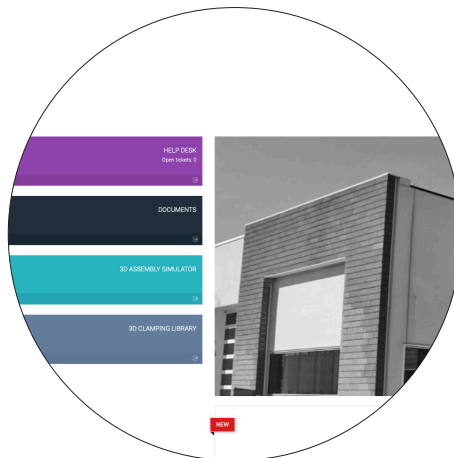
Capability

Cutting-edge solutions based on real needs for improving the production process efficiency.



Quality and Reliability

We are the first users of our products.



Support

Prompt technical support enriched by an on-line dedicated service.



Founded in 2003, FCS supports the companies technological evolution through innovative systems for the production process optimization, introducing the Industry 4.0 principles

More than **1.200** worldwide users

More than **12.000** machines equipped

Strategic product solutions covered by **patents**



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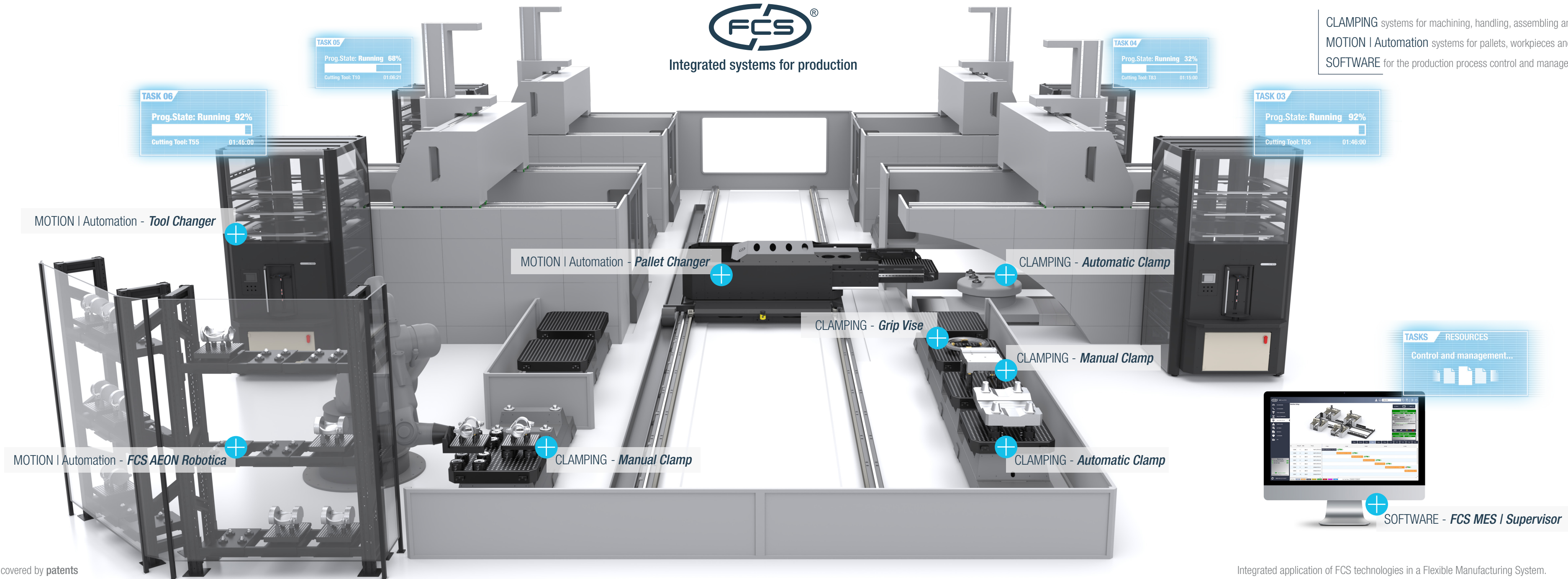
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Strategic product solutions covered by **patents**

Integrated systems for production



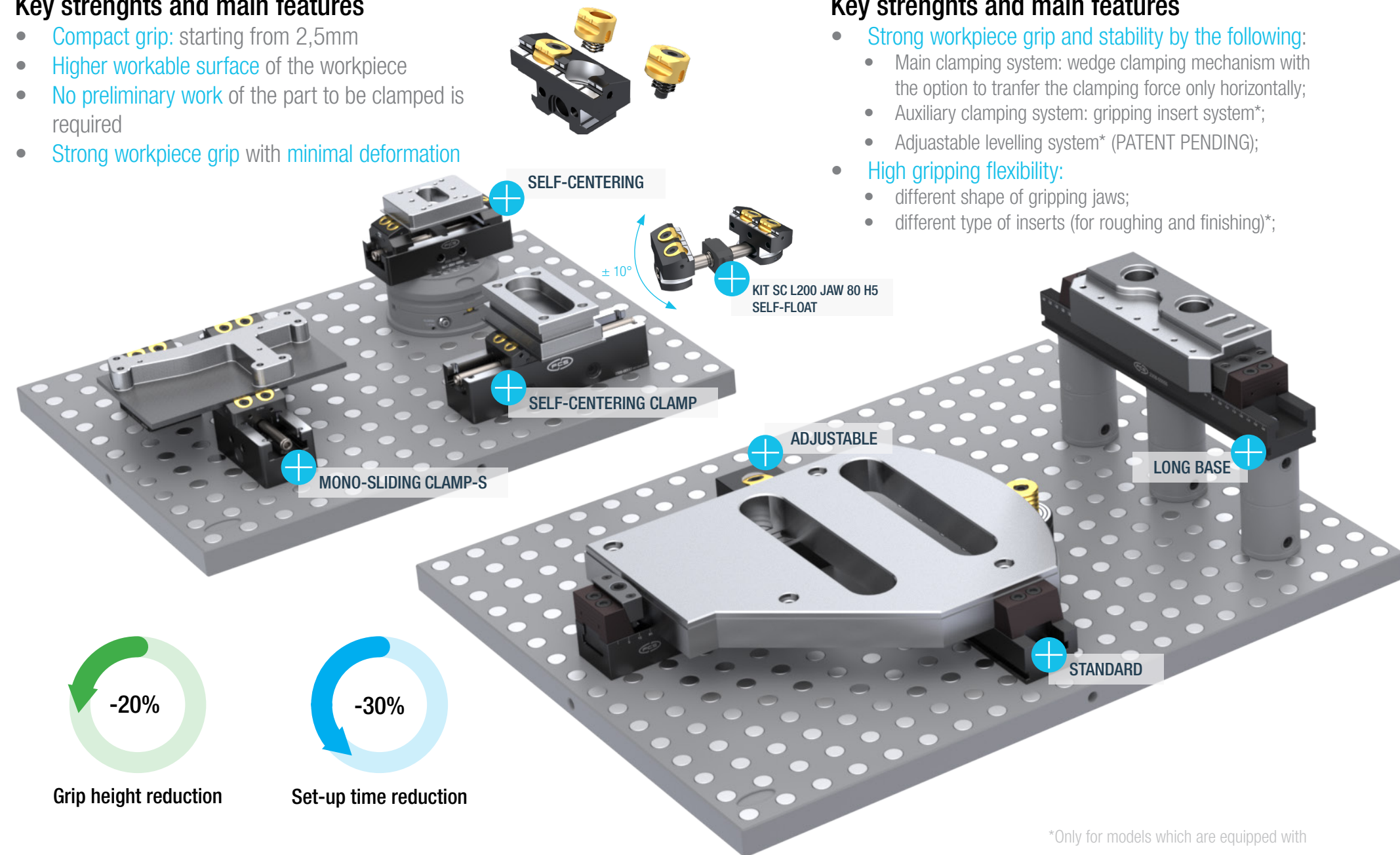
CLAMPING systems for machining, handling, assembling and testing.
MOTION | Automation systems for pallets, workpieces and cutting tools.
SOFTWARE for the production process control and management.

Integrated application of FCS technologies in a Flexible Manufacturing System.
The FCS products can be gradually implemented supporting the production process improvement.

SYSTEM GRIP VISE

Key strenghts and main features

- **Compact grip:** starting from 2,5mm
- **Higher workable surface** of the workpiece
- **No preliminary work** of the part to be clamped is required
- **Strong workpiece grip** with **minimal deformation**



MODULAR GRIP VISE

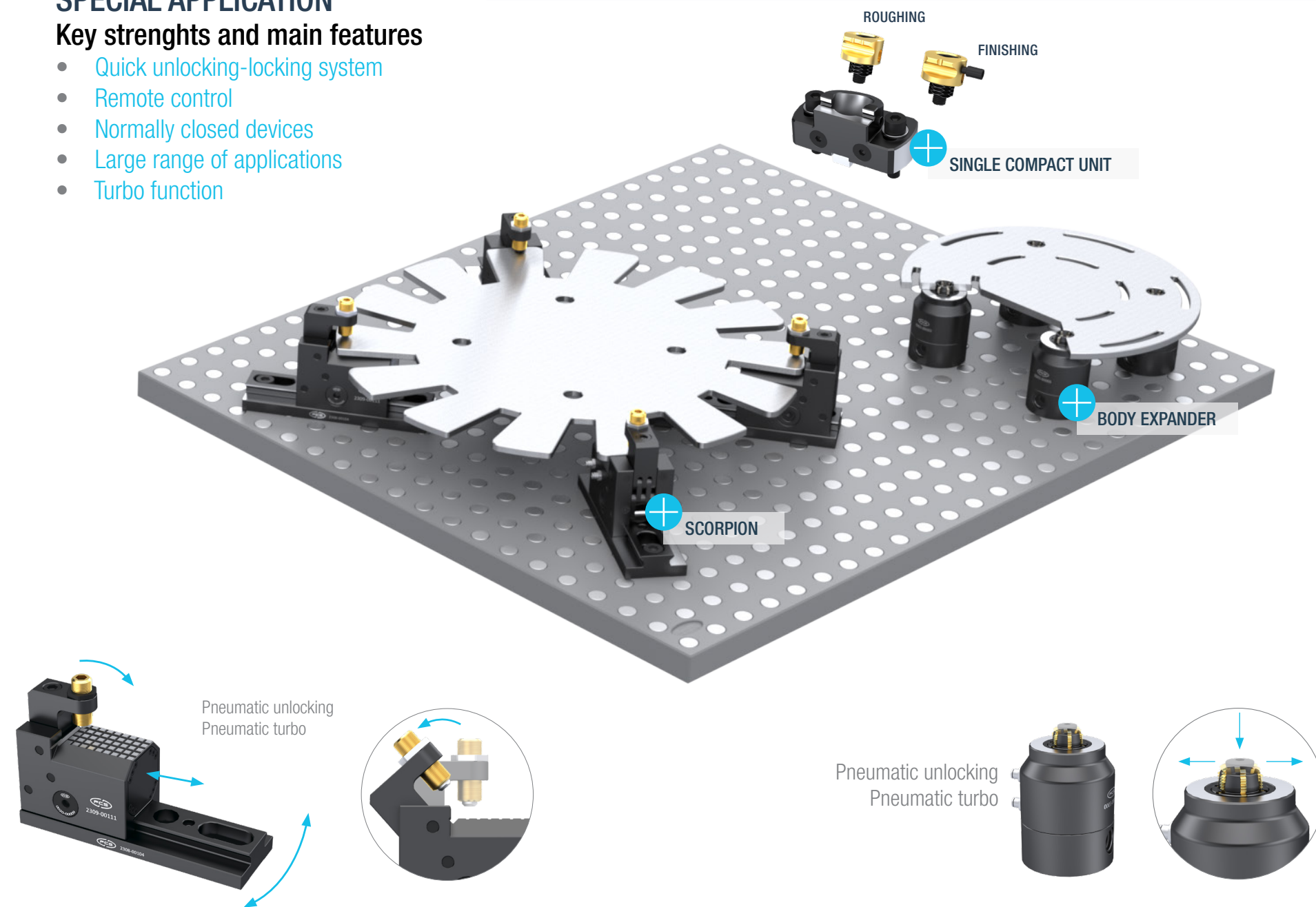
Key strenghts and main features

- **Strong workpiece grip and stability** by the following:
 - Main clamping system: wedge clamping mechanism with the option to transfer the clamping force only horizontally;
 - Auxiliary clamping system: gripping insert system*;
 - Adjustable levelling system* (PATENT PENDING);
- **High gripping flexibility:**
 - different shape of gripping jaws;
 - different type of inserts (for roughing and finishing)*;

SPECIAL APPLICATION

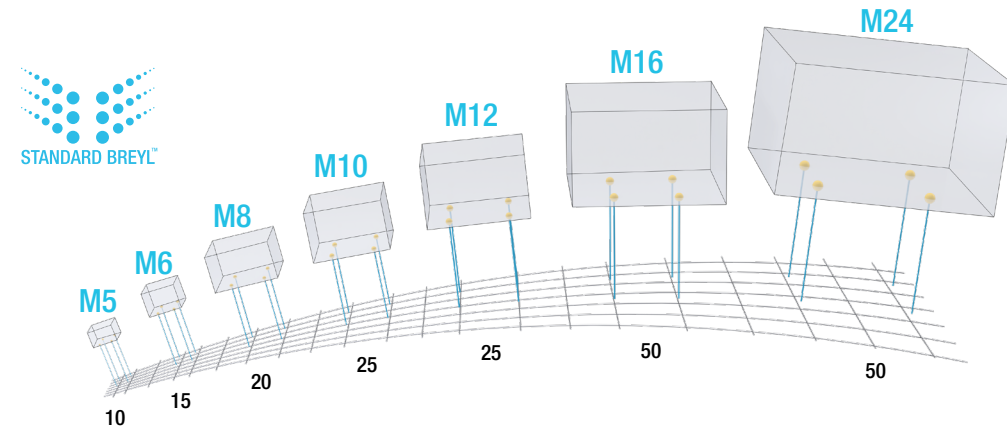
Key strenghts and main features

- **Quick unlocking-locking system**
- **Remote control**
- **Normally closed devices**
- **Large range of applications**
- **Turbo function**



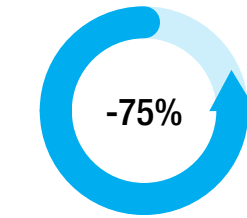
*Only for models which are equipped with

CLAMPING - *Grip Vise*



Key strenghts and main features

- Workpiece always in an **accurate known position** and **orientation**
- **Modularity** in design and **different sizes** of components
- **High clamping forces** with **low torques** and **without forcing** the workpiece **geometry**
- **Minimized vibration**
- **High accuracy**
- **Set-up readjustment** and **adjustable components**
- **Free 5-faces**
- **Low and easy maintenance**



Set-up time reduction



Higher machine utilization

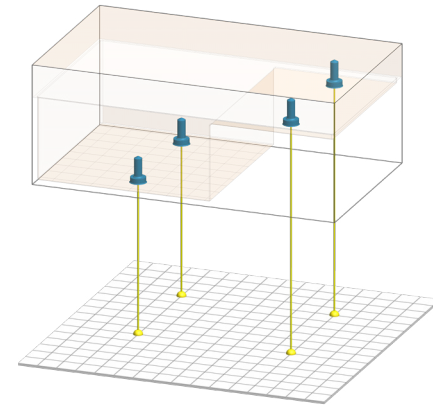
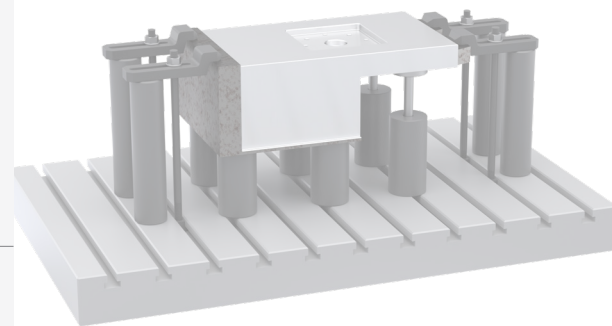
Traditional method

FCS clamping method - Production process

Multipallet system

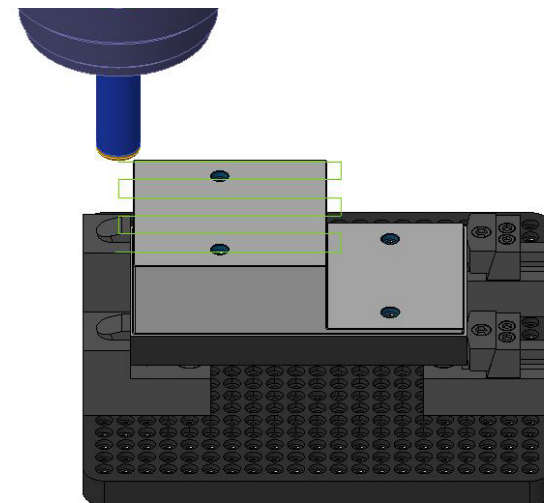
VIRTUAL activities

REAL activities



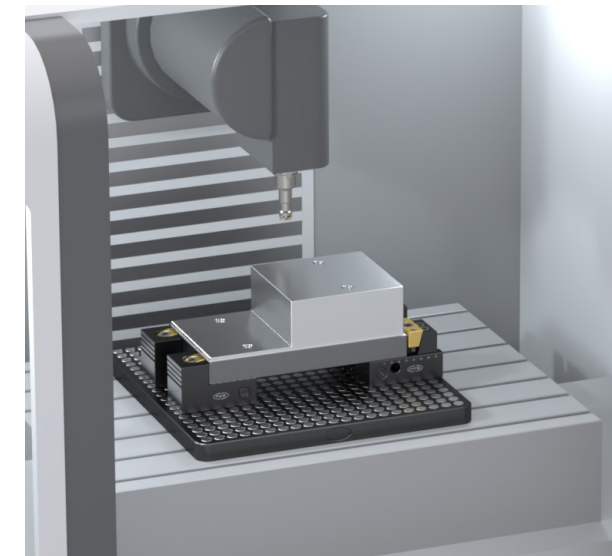
CAD

3D Modelling of the workpiece, including also the clamping seats



CAM

Virtual clamping of the workpiece per each production phase



WORKPIECE MACHINING - VISES

Workpiece clamped by Grip Vise



WORKPIECE MACHINING - CLAMPS

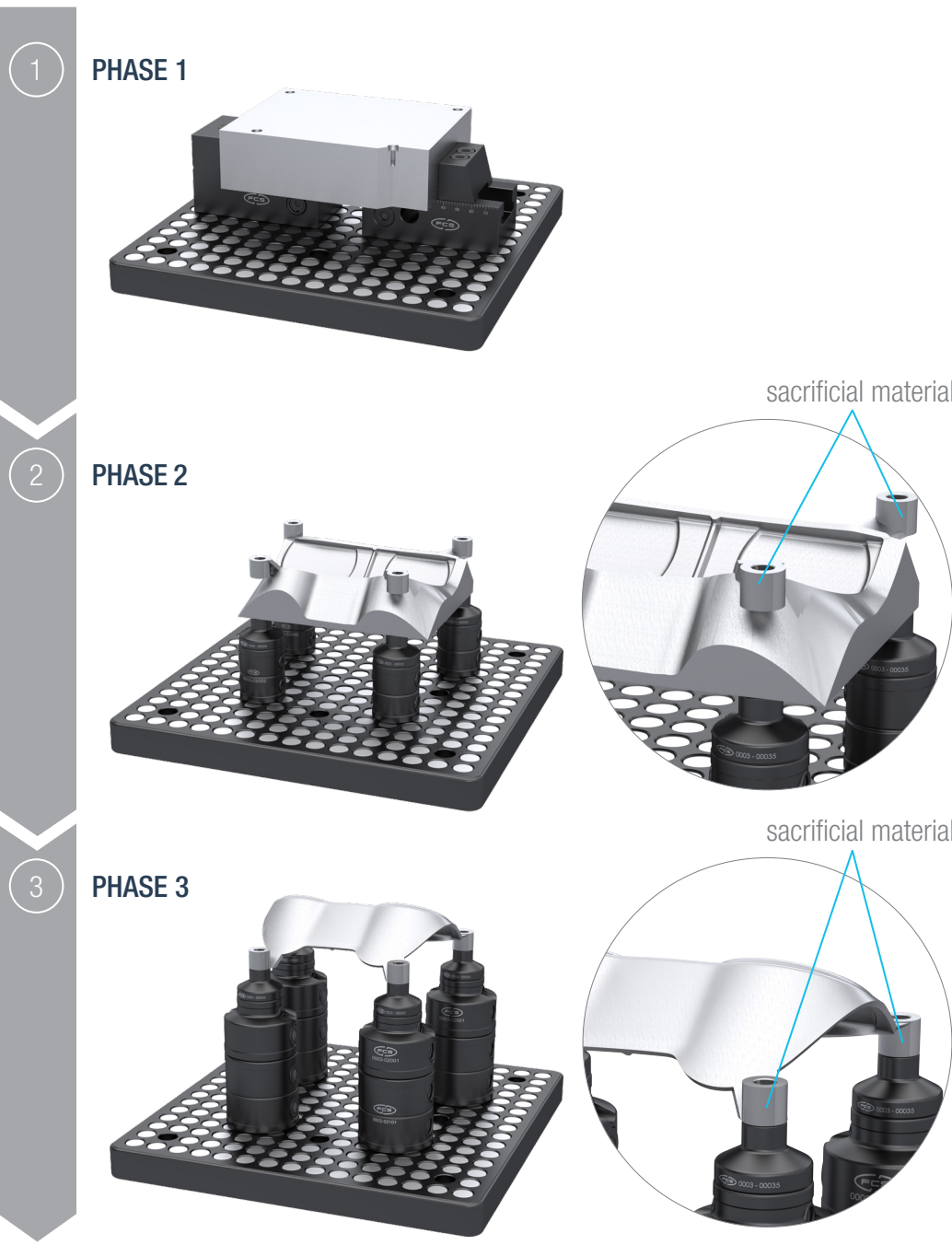
Workpiece clamped by Bodies, Rings and Rods, etc.

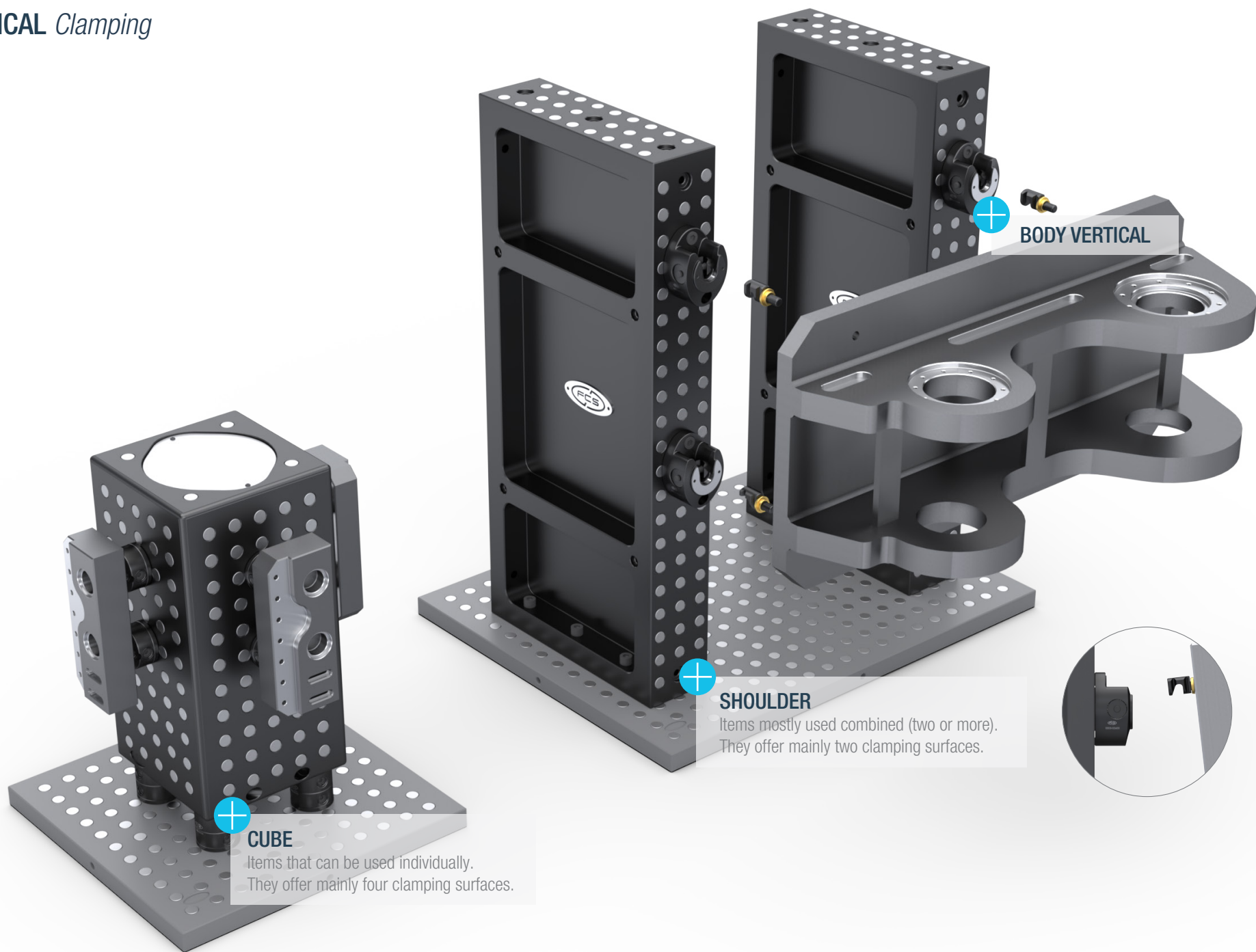
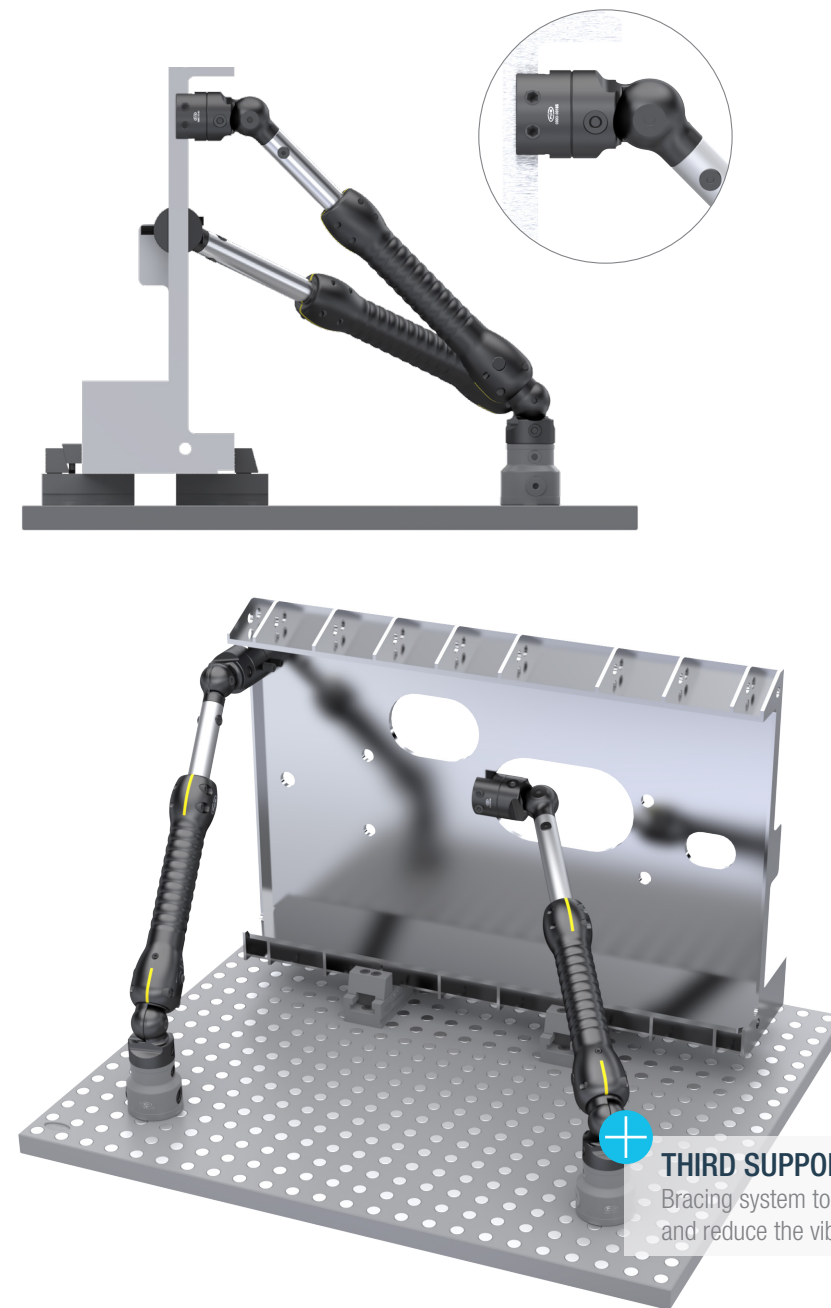
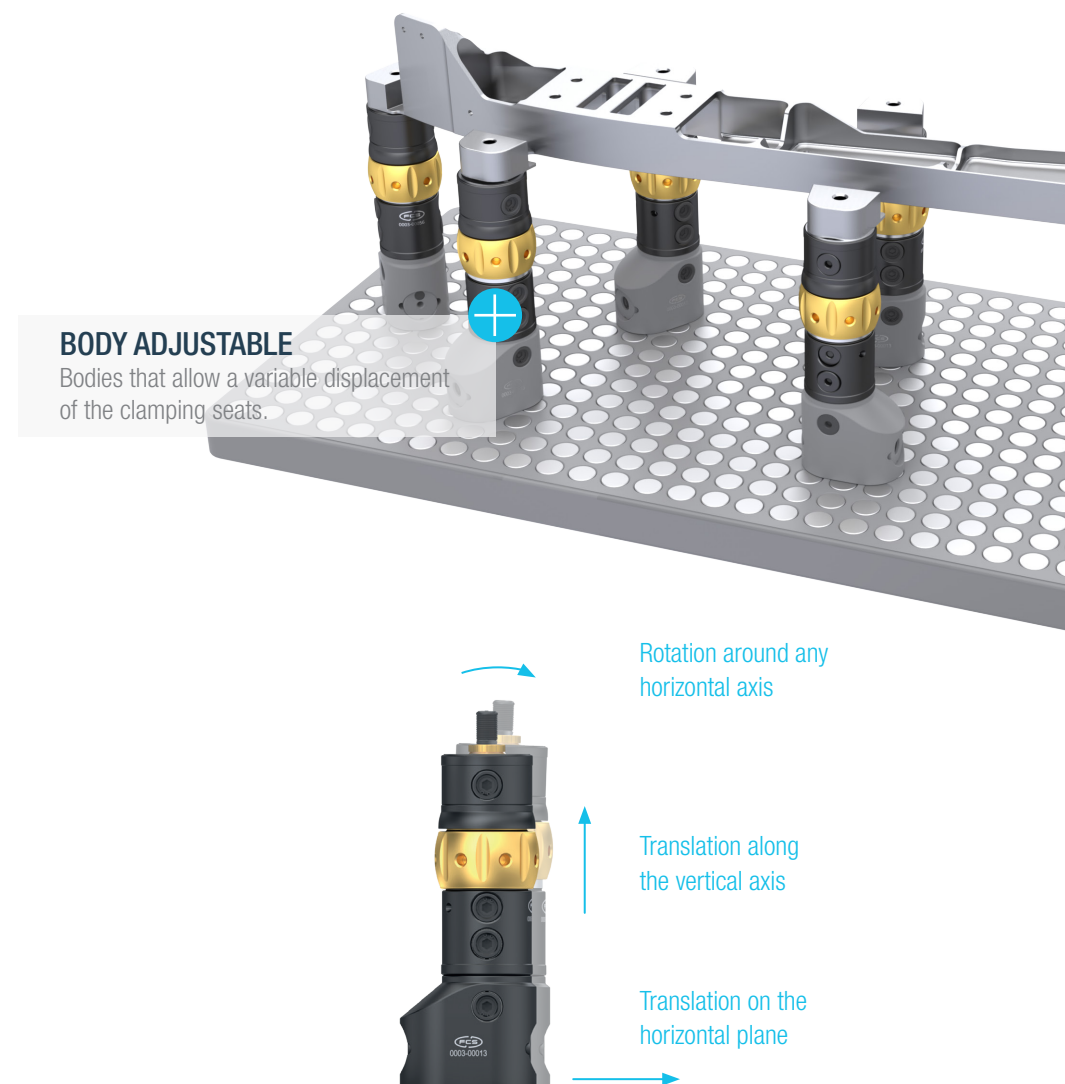


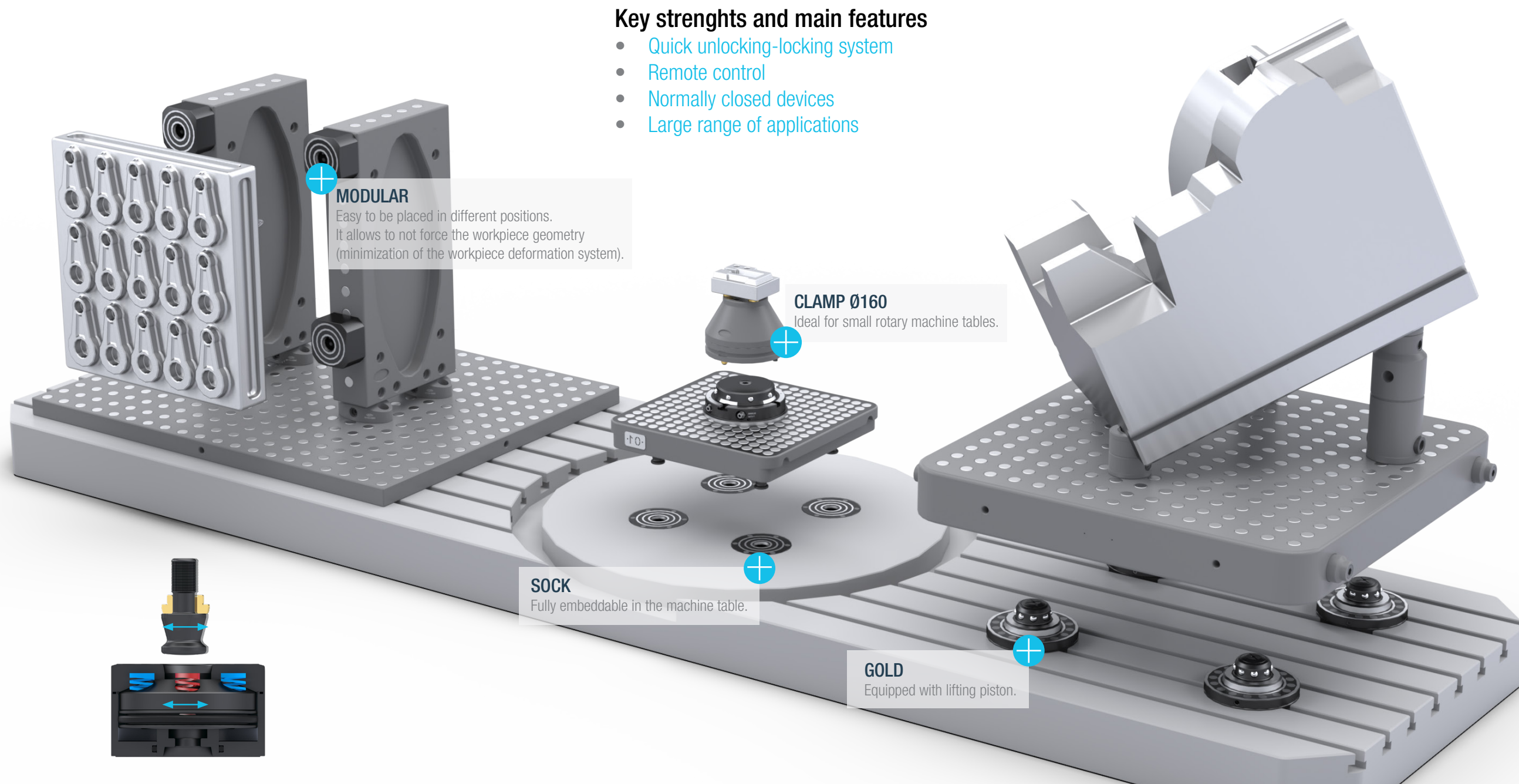
HORIZONTAL *Clamping*



CLAMPING - *Manual Clamp*



VERTICAL *Clamping*ADJUSTABLE *Clamping*CLAMPING - *Manual Clamp*



Key strenghts and main features

- Quick unlocking-locking system
- Remote control
- Normally closed devices
- Large range of applications

CLAMPING - *Automatic Clamp*



MOTION | Automation - *Tool Changer*

Key strenghts and main features

- **Modular** structure
- **Expansion** for existing tool magazine
- **Tower** structure for space-saving
- **Customized tool configuration**
- **Customized arm**
- **PLC connection** with **CNC** machine or **FCS MES**
- **Tool holder types** (Max tool length and diameter 650mm, Ø325mm):
 - **HSK** 50-63-80-100
 - **ISO** 40-45-50
 - **BT** 30-40-50
 - **CAPTO** C6-C8-C10



ST46 Tool changer

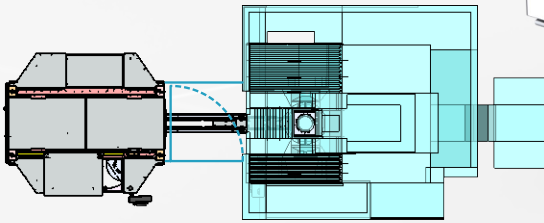
ST46 1.2 (ROTARY) HANDLING CAPACITY (MAX TOOL WEIGHT) (kg): 15 OVERALL DIMENSIONS (mm): 1300x1300 H3000-H3500 MAX TOOL SIZE (mm): Ø125, L600 STORAGE CAPACITY (mm)***: From 100 to 150 tools MACHINES ENSLAVED: MANY	ST46 1.8 (ROTARY) HANDLING CAPACITY (MAX TOOL WEIGHT) (kg): 25 OVERALL DIMENSIONS (mm): 1300x1300 H3000-H3500 MAX TOOL SIZE (mm): Ø125, L600 STORAGE CAPACITY (mm)***: From 120 to 180 tools MACHINES ENSLAVED: MANY	ST46 2.3 (ROTARY) HANDLING CAPACITY (MAX TOOL WEIGHT) (kg): 35 OVERALL DIMENSIONS (mm): 1300x1300 H3000-H3500 MAX TOOL SIZE (mm): Ø125, L600 STORAGE CAPACITY (mm)***: From 160 to 300 tools MACHINES ENSLAVED: MANY	ST46 1.5 (LINEAR) HANDLING CAPACITY (MAX TOOL WEIGHT) (kg): 35 OVERALL DIMENSIONS (mm): 1500x(2000x1680xN of modules) H3500 MAX TOOL SIZE (mm): Ø325, L600 STORAGE CAPACITY (mm)***: From 80+50xN to 150+120xN tools MACHINES ENSLAVED: MANY
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***For further details see the corresponding catalogue.

MOTION | Automation - *Pallet Changer*

Key strenghts and main features

- **Compact design**
- **Configurable pallet storage** different levels and pallets size
- **High arm elongation** y-stroke
- **Machines enslaved** 1



FIX 400
HANDLING CAPACITY (kg): 350*
MAX PALLET SIZE (mm): 400x400
STORAGE CAPACITY - WORKPIECE SIZE (mm):
24 - 250x250 H450*, 16 - 350x350 H450*, 12 - 450x450 H450*



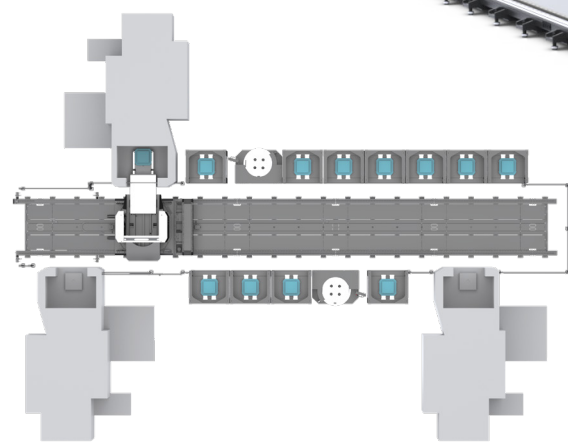
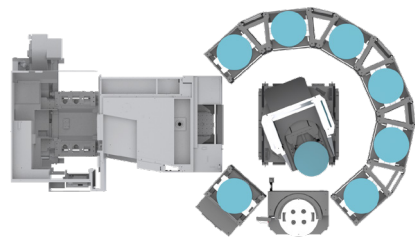
FIX Pallet changer

FIX 650
HANDLING CAPACITY (kg): 1500*
MAX PALLET SIZE (mm): 650x650
STORAGE CAPACITY - WORKPIECE SIZE (mm):
6 - Ø1000, H900*

*Pallet+Workpiece

Key strenghts and main features

- Vertical axis allows to handle different workpiece heights
- Configurable layout based on user's needs
- Enslavement of more CNC machines
- Machines enslaved 1 or 2 (rotary) – many (linear)



RP 400 (H3250, H3750) (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 500*
MAX PALLET SIZE (mm): 400x400
STORAGE CAPACITY - WORKPIECE SIZE (mm):
custom-configured - Ø600, H800*

RP 600 (H3250, H3750) (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 1000*
MAX PALLET SIZE (mm): 600x600
STORAGE CAPACITY - WORKPIECE SIZE (mm):
custom-configured - Ø900, H1000*

RP 800 (H3250, H3750) (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 1500*
MAX PALLET SIZE (mm): FROM 800x800
STORAGE CAPACITY - WORKPIECE SIZE (mm):
custom-configured - Ø1250, H1200*

RP 1000 (H3250, H3750) (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 3000*
MAX PALLET SIZE (mm): 1000x1000
STORAGE CAPACITY - WORKPIECE SIZE (mm):
custom-configured - Ø1600, H1600*

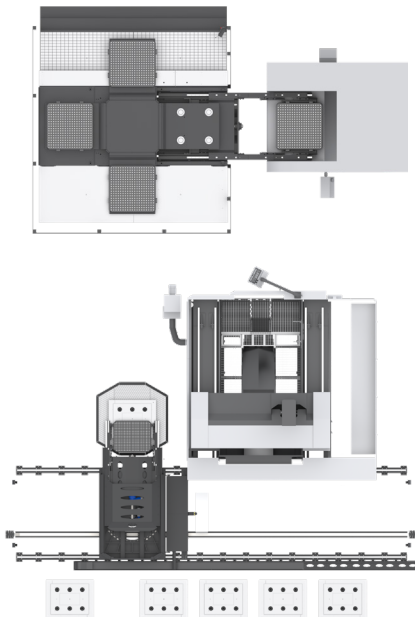
*Pallet+Workpiece

RP Pallet changer



MOTION | Automation - *Pallet Changer*

ORION Pallet changer



ORION 500 (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 1000*
MAX PALLET SIZE (mm): 500x500
STORAGE CAPACITY - WORKPIECE SIZE (mm):
8 (ROTARY), custom-configured
(LINEAR) - 550x550, H**

ORION 800 (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 2000*
MAX PALLET SIZE (mm): 800x800
STORAGE CAPACITY - WORKPIECE SIZE (mm):
4 (ROTARY), custom-configured
(LINEAR) - 850x850, H**

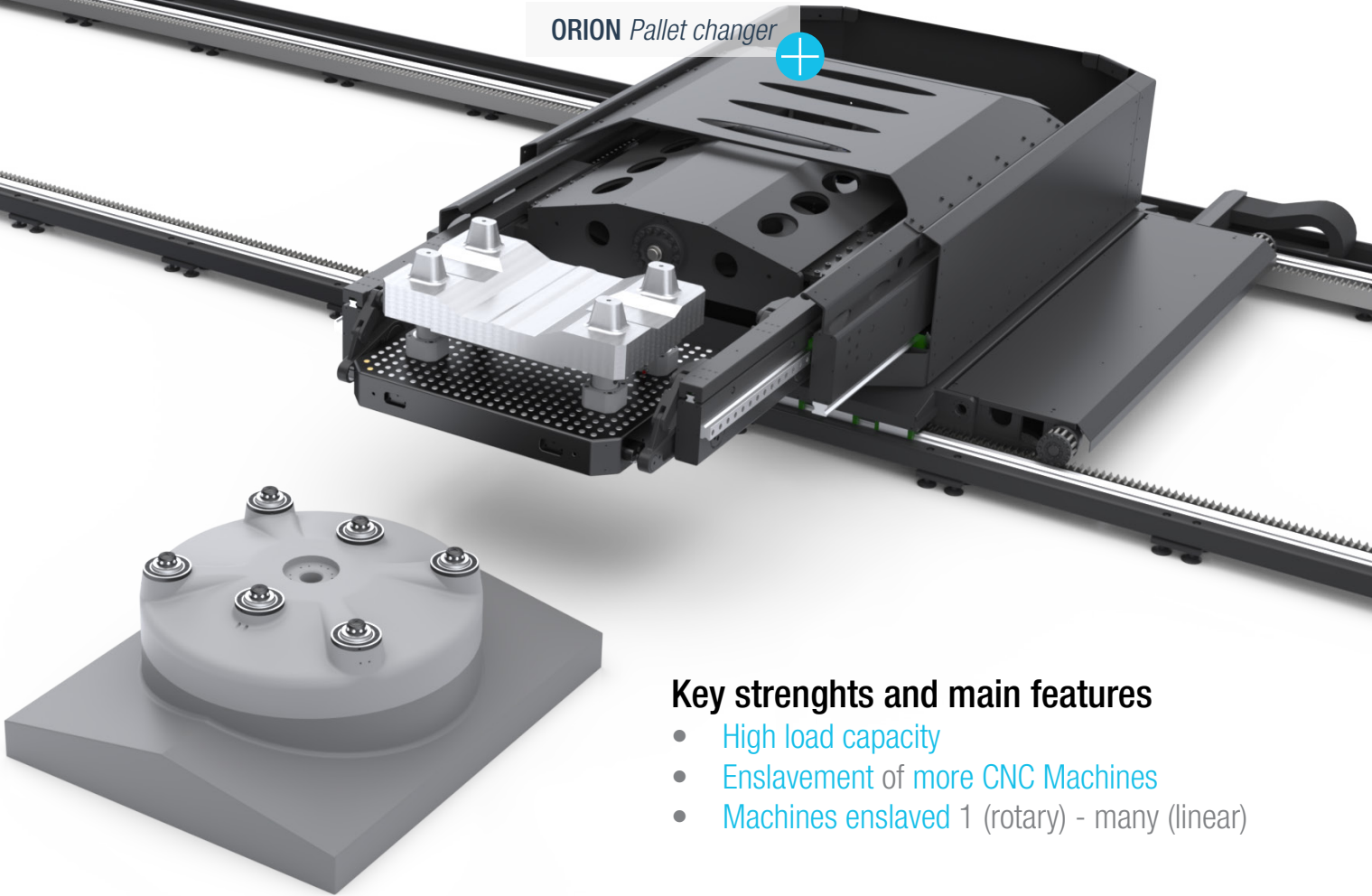
ORION 1000 (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 10000*
MAX PALLET SIZE (mm): 1000x1000
STORAGE CAPACITY - WORKPIECE SIZE (mm):
4 (ROTARY), custom-configured
(LINEAR) - 1050x1050, H**

ORION 1200 (ROTARY, LINEAR)
HANDLING CAPACITY (kg): 10000*
MAX PALLET SIZE (mm): 1200x1200
STORAGE CAPACITY - WORKPIECE SIZE (mm):
4 (ROTARY), custom-configured
(LINEAR) - 1250x1250, H**

* Pallet + Workpiece.
** Height depending on the CNC machine.

Key strenghts and main features

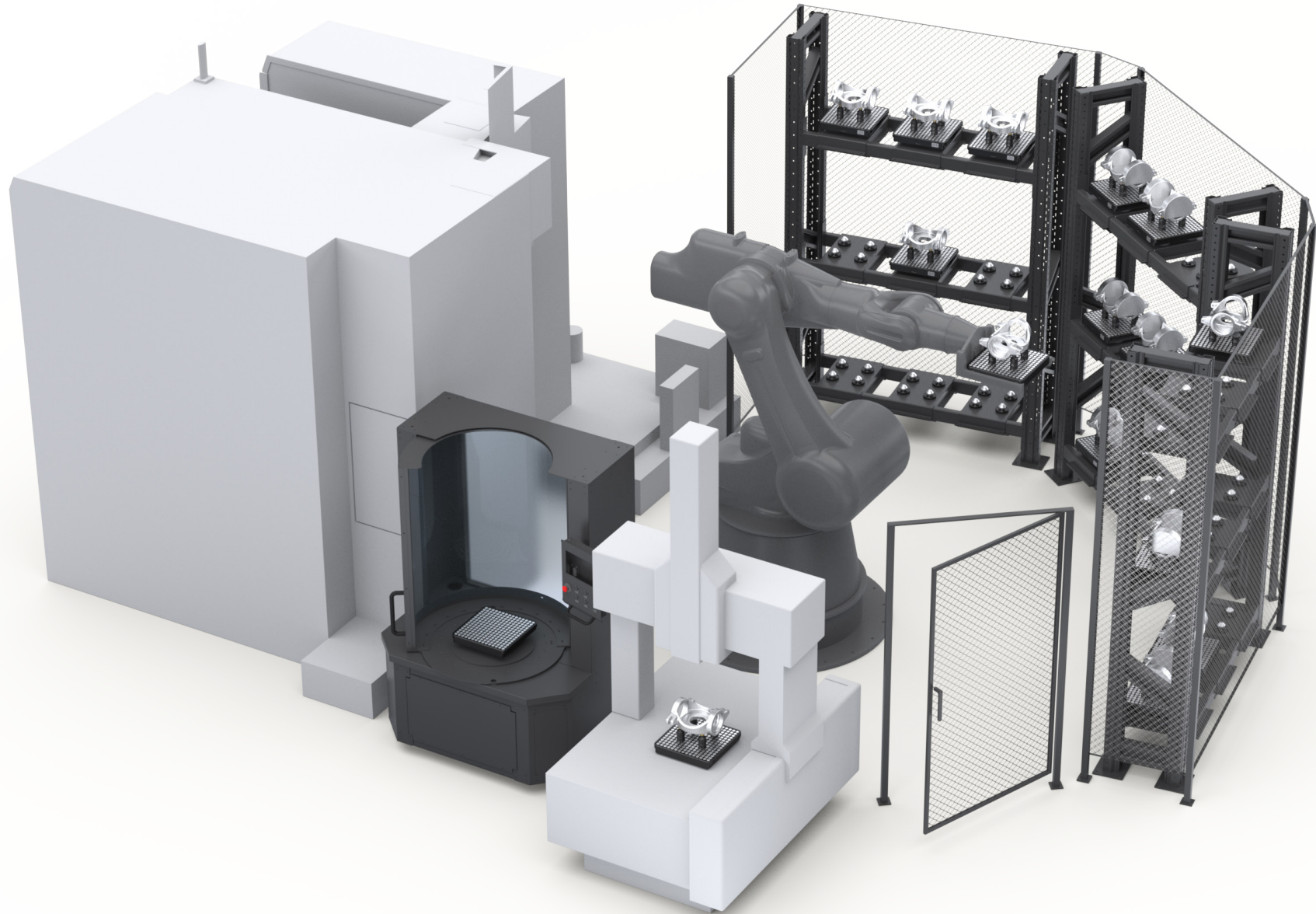
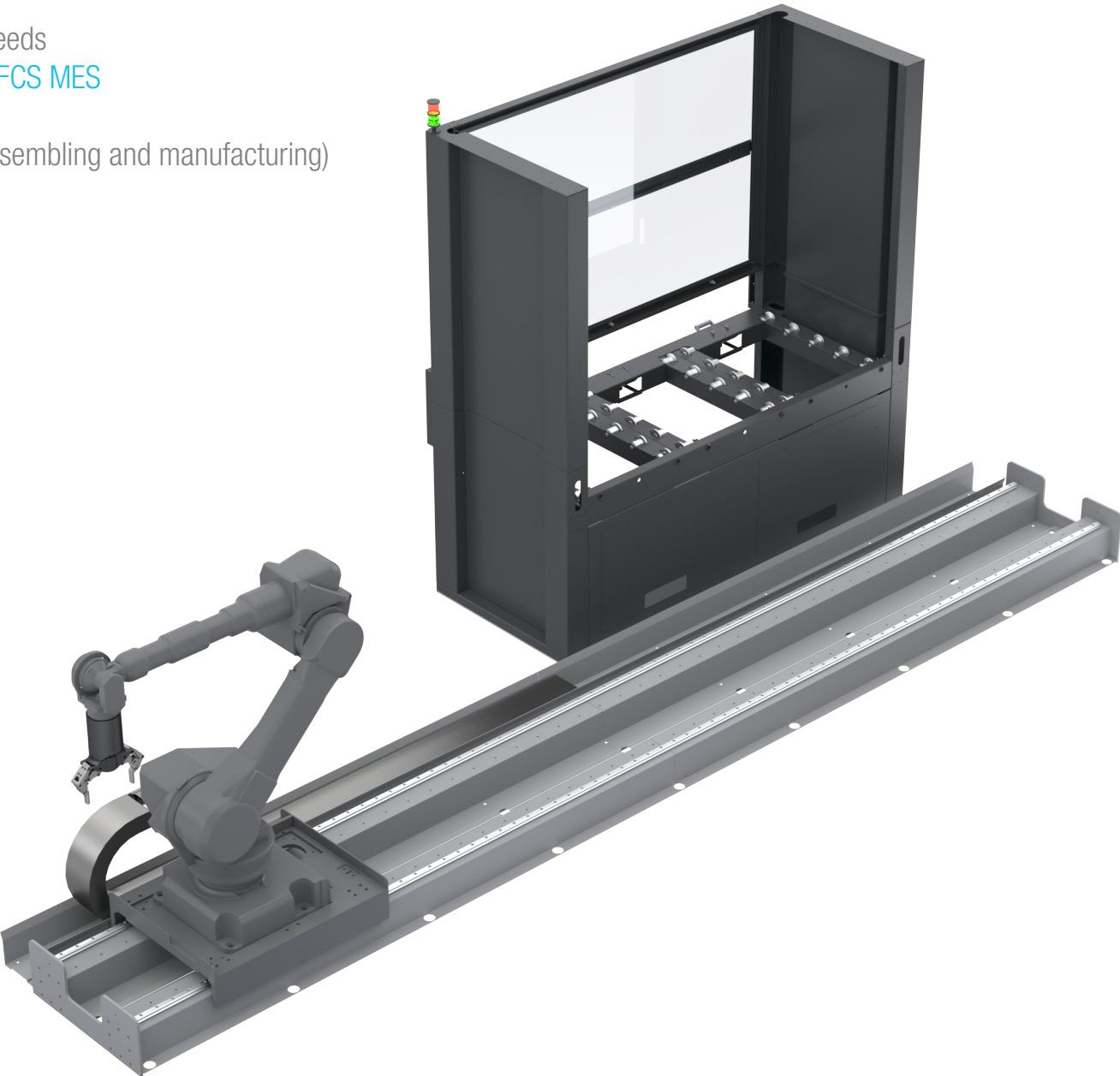
- High load capacity
- Enslavement of more CNC Machines
- Machines enslaved 1 (rotary) - many (linear)



Key strenghts and main features

- Configurable layout based on user's needs
- PLC connection with CNC Machine or FCS MES
- Customized FCS grippers
- Wide range of operations (handling, assembling and manufacturing)
- Interaction with more CNC Machines

Application examples of flexible manufacturing cells.

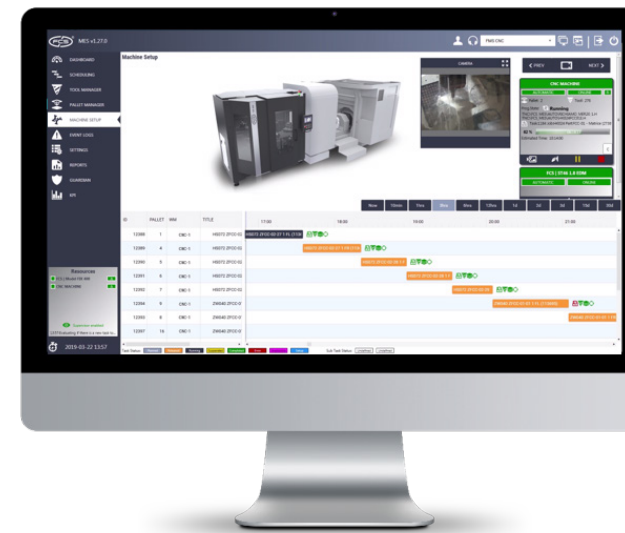




Choose the cell composition according to **your production needs**;
FCS MES will be configured based on your ideal setup

- Communication with the main CNC controls
- Automations management and monitoring
- Modular design for following the production cell expansion

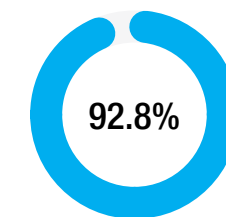
SOFTWARE - *FCS MES / Supervisor*



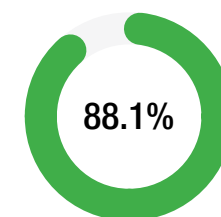
Simple and intuitive USER Experience

The user is guided in the machining setup following a safe and always controlled process

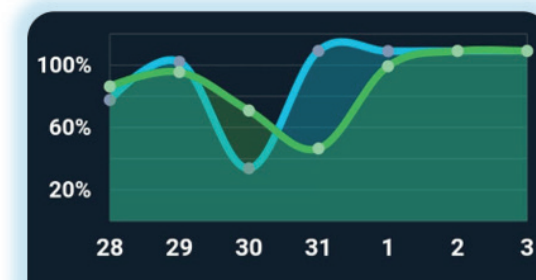
- CAM data import
- Dynamic and flexible scheduling
- Production data monitoring *(cutting tools, pallets, files, etc.)
- Automated creation of the launch file
- Notification alerts
- KPI charts for the performances evaluations



Utilization



Availability



Connected to your IT Ecosystem

FCS MES grows together with the companies and makes available the productions data to the **management systems**

- Stored Procedure communication
- Web Service communication

* The full functionality of the FCS MES software is conditioned by the information availability provided by the CNC control.



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Scan to get
full access to FCS
products information



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