

GRIP

ROBOTS ON THE MOVE

MARC SEXTON - VP SALES & MARKETING

Agenda

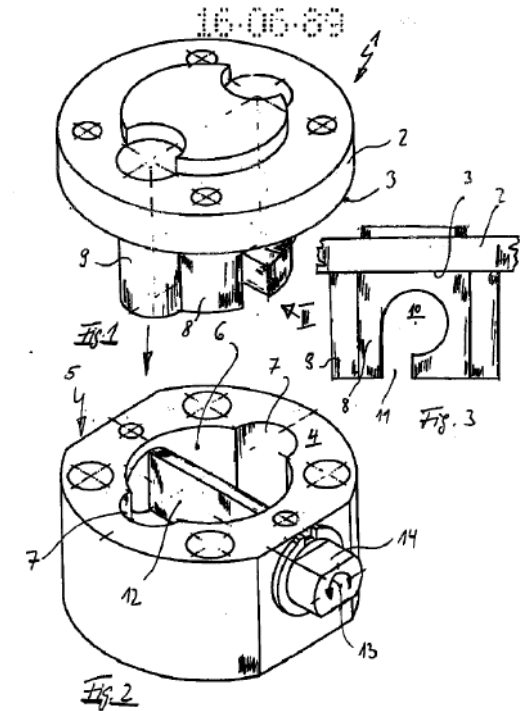
- GRIP - History
- Manual tool changers - SHW063 Connector
- Automatic tool changers – AC063 Connector
- Robot changing systems - Base Connector SHW160
- Why tool changers?
- Q & A

GRIP

Company History

- Established: 1989
- Founding Idea: Manual Quick Change System
- Focus areas:
 - Connectors – manual and automatic tool change technology
 - End of arm tools (EOAT)
 - Automation solutions

GRIP: One Connection - 1000 Possibilities



MANUAL TOOL CHANGERS

Product Name - Philosophy

- Quick change systems – We connect = Connector
 - Safe
 - Precise
 - Intuitive
 - High Quality
 - Innovative
 - Fast



SHW Connector

Advantages

- Intuitive to use
- Requires no tool
- Very Strong
- Repeat accuracy < 0,02 mm
- Durable – over 5000 application changes* **

*with no loss in accuracy or strength

**at maximum load and maximum acceleration



SHW Connector

- Available in six different sizes
 - SHW050
 - SHW063
 - SHW080
 - SHW100
 - SHW125
 - SHW160
- Material:
 - Aluminum, anodized EN AW-7075 (AlZnMgCu1,5)



SHW050 Connector

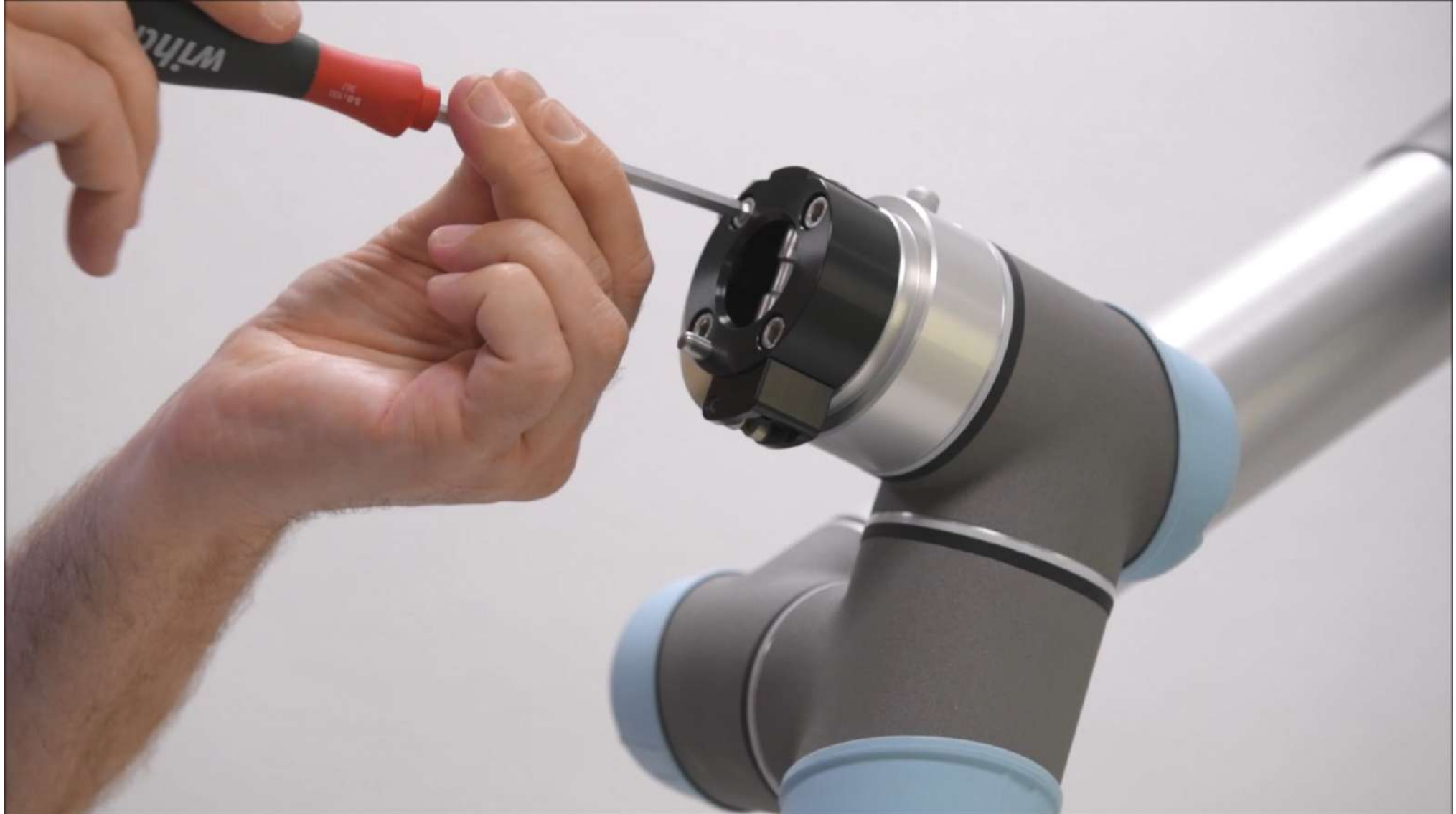
- GRIP's smallest tool changer



SHW-P Connector (P=Pneumatic)

- **With integrated pneumatic feed-throughs**
- SHW063 - 3 integrated pneumatic feed-throughs (expandable to six)
- SHW080 - 3 integrated pneumatic feed-throughs
- SHW100 - 4 integrated pneumatic feed-throughs
- SHW125 - 6 integrated pneumatic feed-throughs
- SHW160 - 6 integrated pneumatic feed-throughs
- Material:
 - Aluminum, anodized EN AW-7075 (AlZnMgCu1,5)





AUTOMATIC TOOL CHANGERS

Auto Connector

- AC063
- Fully automatic end of arm tool change
- Six integrated pneumatic feed-throughs
- Module for electric actuated tools is optional
- Sensor technology
 - Signal: „locked and safe“
 - Signal: „tray is occupied“
- Material:
 - Aluminum, anodized EN AW-7075 (AlZnMgCu1,5)



Auto Connector

Advantages

- Fully automatic end of arm tool change
- No external energy such as compressed air or electric are required
- The robot's own movement activates the locking and unlocking mechanism
- Mechanicals are located in the upper assembly (robot side) – results in a cost reduction in multiple tool systems
- Six integrated pneumatic feed-throughs
- Module for electric actuated tools is optional
- Repeat accuracy < 0,02 mm
- Durable – over 1,000,000 application changes



Auto Connector

Advantages

- Six integrated pneumatic feed-throughs



Auto Connector

Advantages

- Module for electric actuated tools is optional
 - SEK100-FE
 - 12 pin electric feed-throughs



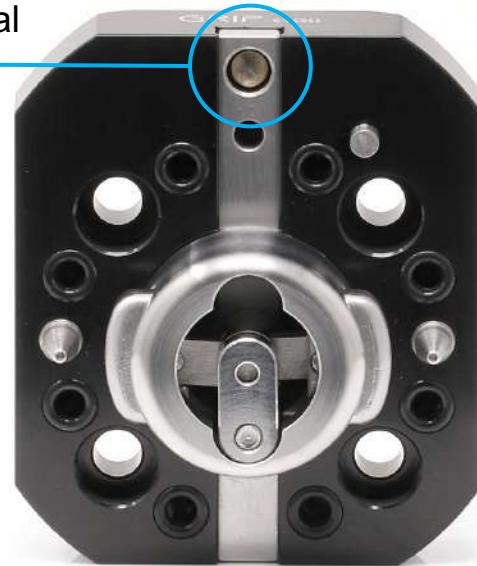
Auto Connector

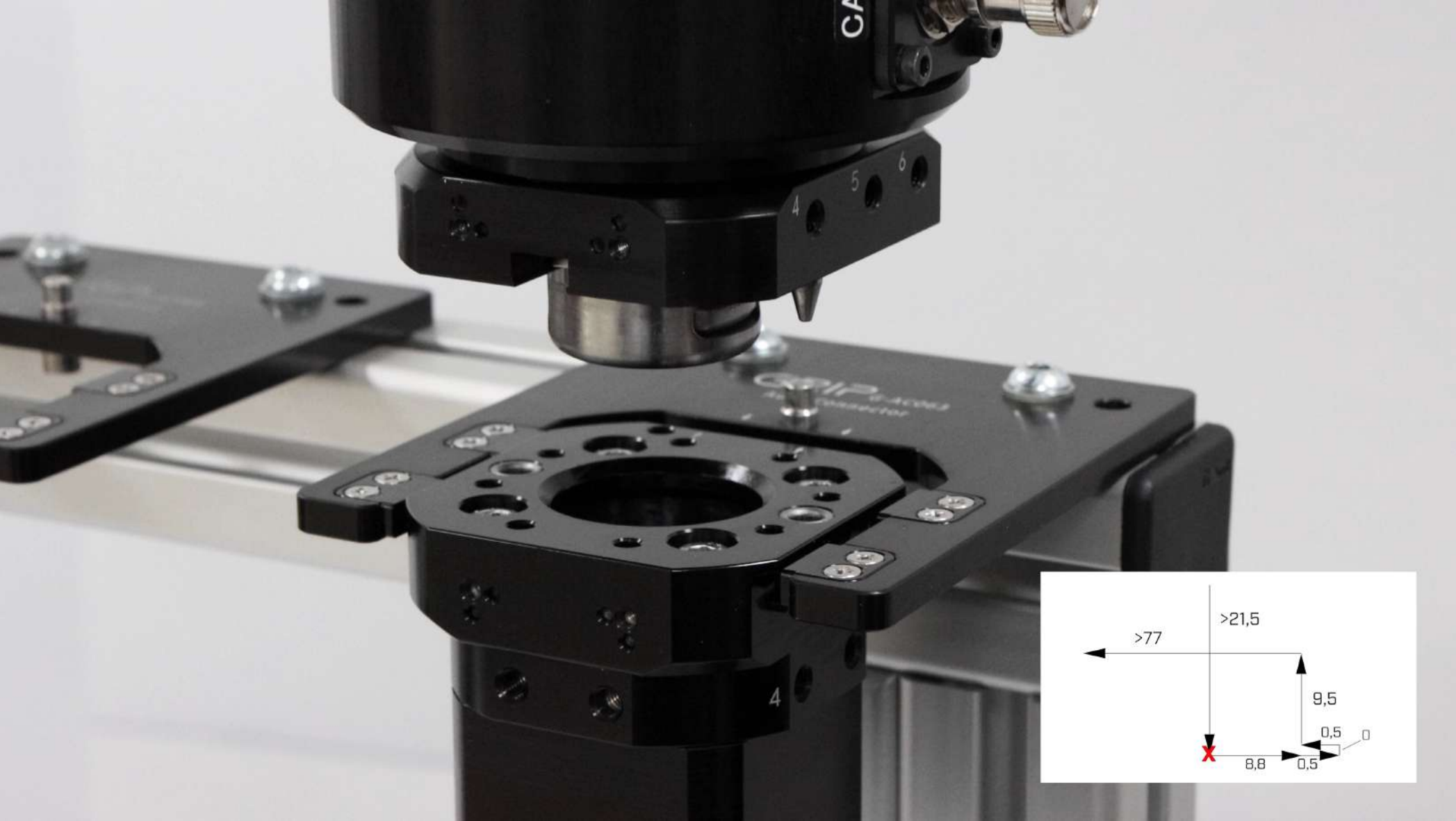
Locked position

Unlocked position

Safety

A spring actuated pin ensures additional safety during operation





ROBOT CHANGING SYSTEMS

Base Connector

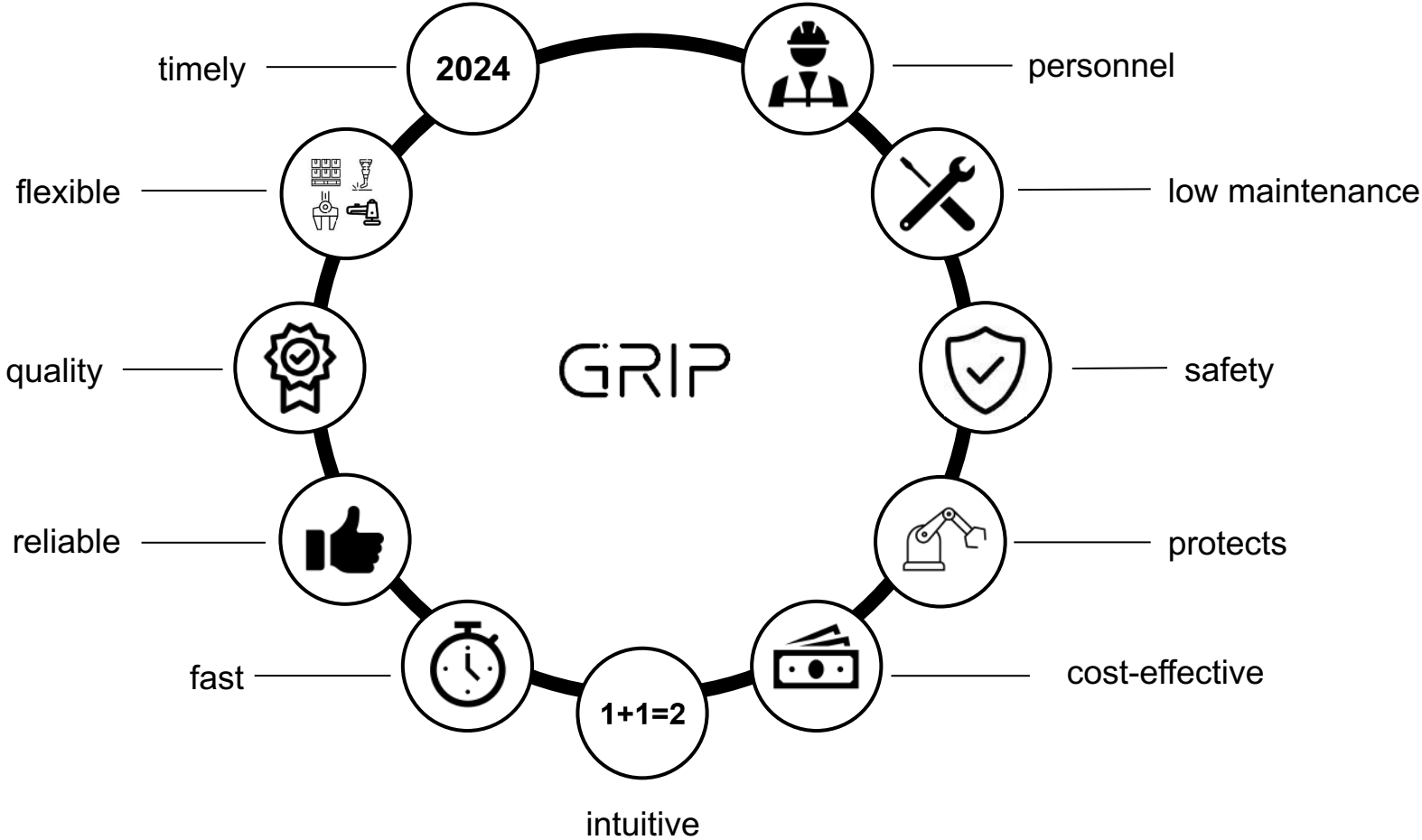
Advantages

- Allows transfer of entire robot arm
- Optimization of robot cells and resources
- Intuitive to use
- Requires no tool
- Very Strong
- Repeat accuracy < 0,02 mm





WHY TOOL CHANGERS



Personnel

- Skilled Labor shortage
 - Limited skilled labor
 - Employees are difficult to find
- A technician is not required to change the application
 - Every employee is able to operate the system
 - Does not require any technical or special skills



Low maintenance

- Easy tool installation and removal
 - Simplifies the servicing of applications
- No disconnecting the pneumatic connection
- No disconnecting the electrical connection
- NO need to reprogram the robot (TCP)



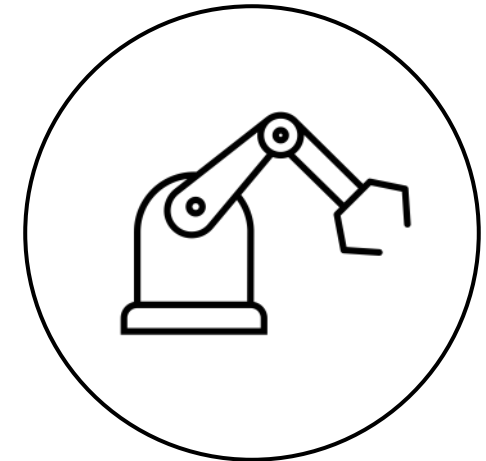
Safety

- Protects employees
- Does not require tools that could have sharp edges
- Easy to change the application even with limited space
- Ergonomic - everything is accessible (360° accessibility = GRIP tool changers)



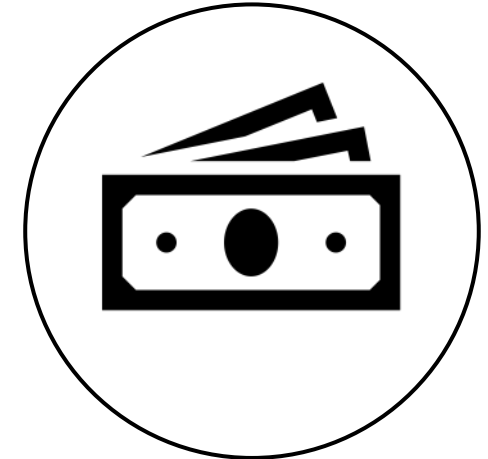
Protects - protection for robots and machines

- GRIP system provides the exact torque each time
 - Impossible to strip bolts/threading due to improper torque
 - Eliminates the need to change a damaged flange
- Impossible to damage threading due to wrong screw
- Impossible to damage robot tool due to improper tool usage
- Insurance for your robot



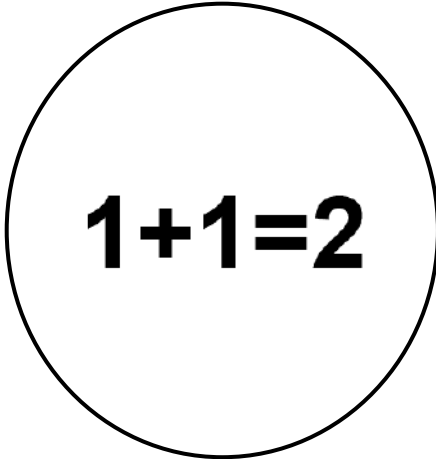
Cost-effective

- Very fast application changes / very short set-up times
- Flexible – Robot / Machine
 - Allows for machine optimization
- Greatly reduced downtime
 - How much do 10 minutes of downtime cost?
- Excellent cost/performance ratio



Intuitive

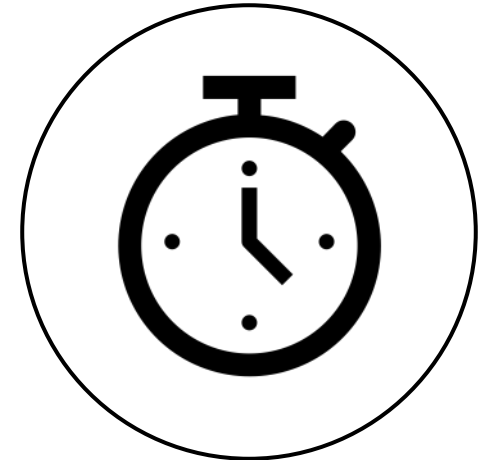
- Easy to use
- Exact head positioning every time
 - Regardless of application
 - Simplifies referencing (reference point)
- No special tools or instruments required



1+1=2

Fast

- Reduced Set-Up times
 - Saves time at every application change
 - Saves time during maintenance
- Reduced downtime in production
 - Change applications within seconds
- Advantageous during set-up or prototyping
 - Initial set-up / referencing
 - Calibrating of gripper or application
- Are the machines operating at capacity?
 - Possible to quickly use robot for other tasks/jobs or in other areas of the company



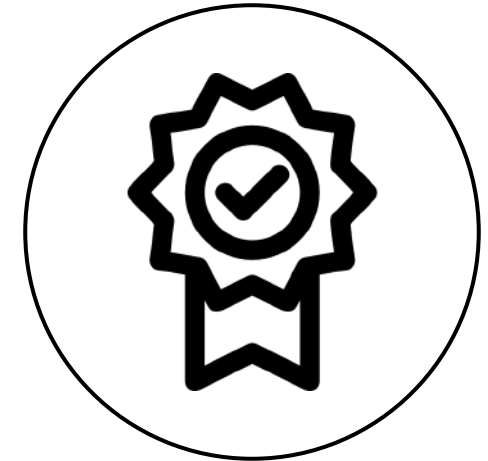
Reliable

- Precise
 - Repeatability of < 0.02 mm
- Reliable
 - We test our products to failure
 - Auto Connector test – 2,160,000 cycles



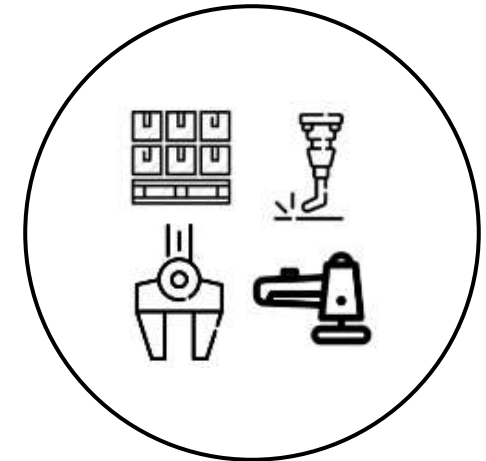
Quality

- High grade materials
 - Aluminum, anodized EN AW-7075 (AlZnMgCu1,5)
 - Steel, nitrided 1.7131 (16MnCr5)
 - Stainless steel 1.4305 (X8CrNiS18-9)



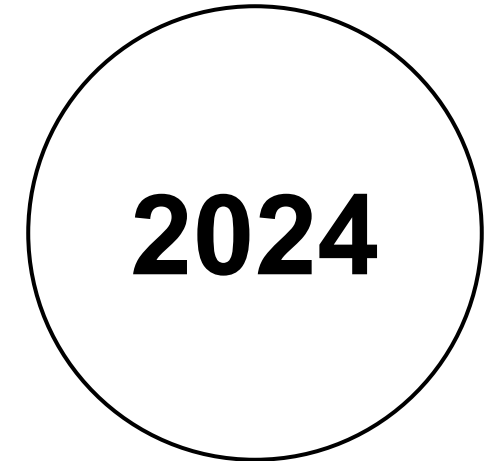
Flexible

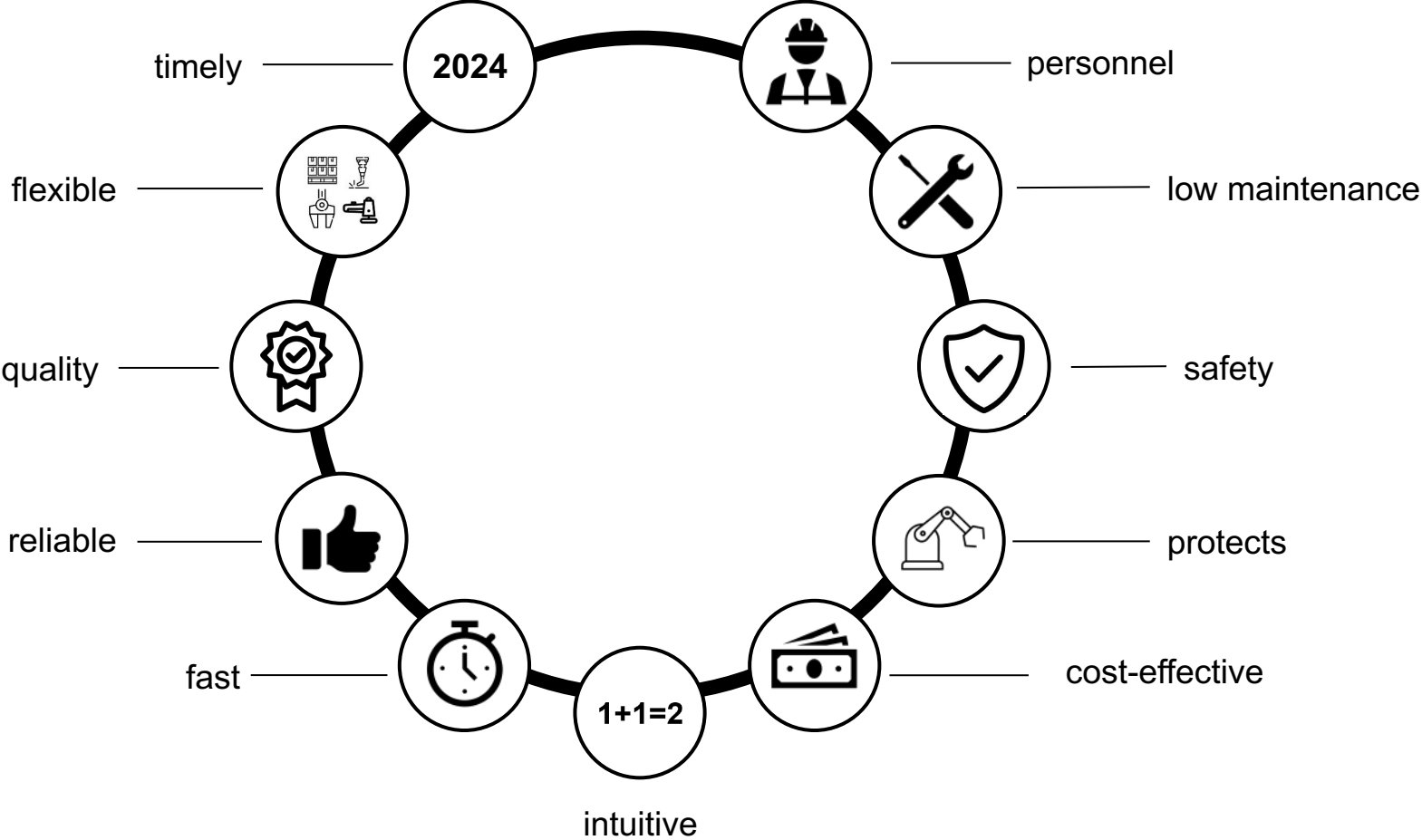
- Universal compatibility
- Compatible with all standard end of arm tools (EOAT's)
 - Palleting application
 - Welding application
 - Polishing application
 - Machine tending application
- Compatible with all standard robots
- **GRIP: One Connection - 1000 Possibilities**

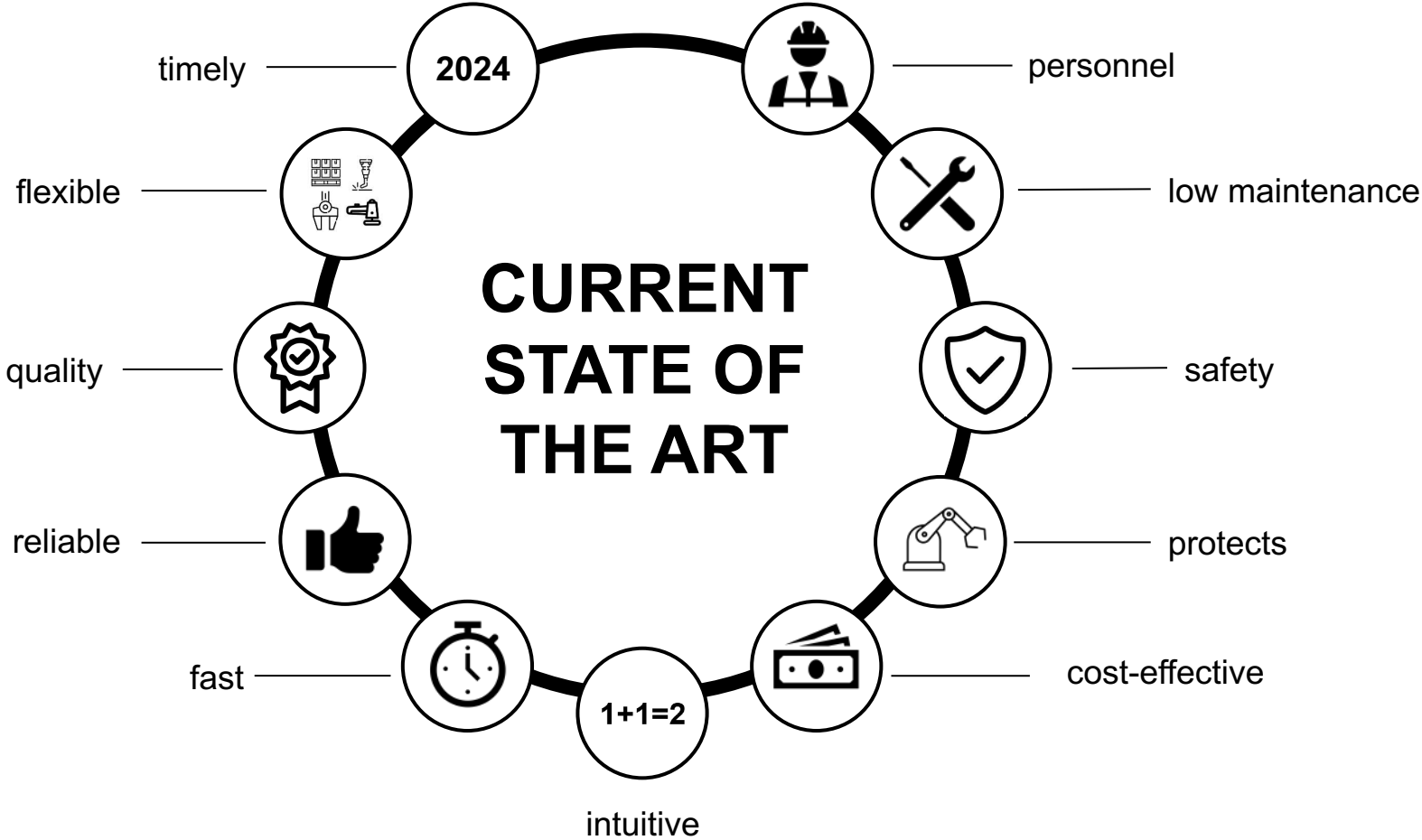


Timely

- State of the Art - the current state of technology
- Automation is:
 - To automate
 - To optimize
 - Increase efficiency / speed
 - Simplify programming
 - Increase usability
 - Reduce errors
 - Bring the user an advantage.
 - Bring the customer a benefit.







GET YOUR GRIP ON.

