

THE ALL-ROUNDER



## SherpaLoader<sup>®</sup>

Camera-guided CNC automation  
for small and medium-sized batches



# Challenges for SME Contract Manufacturers

Decreasing  
**Batch Sizes** often 20-500 parts

Increasing  
**Production Cost**

Fluctuating  
**Order Intake**

Shorter **Delivery Periods**  
at no extra margin

Lack of  
**Skilled Operators**

**Price Pressure**  
from low-cost countries

The solution: a camera-laser-dual-gripper-six-axis-robot, or simply:

## SherpaLoader®



**Camera-Guided**

SherpaLoaders® see  
what they load



**Intuitive**

Easy-to-use touchscreen  
replace robot programming



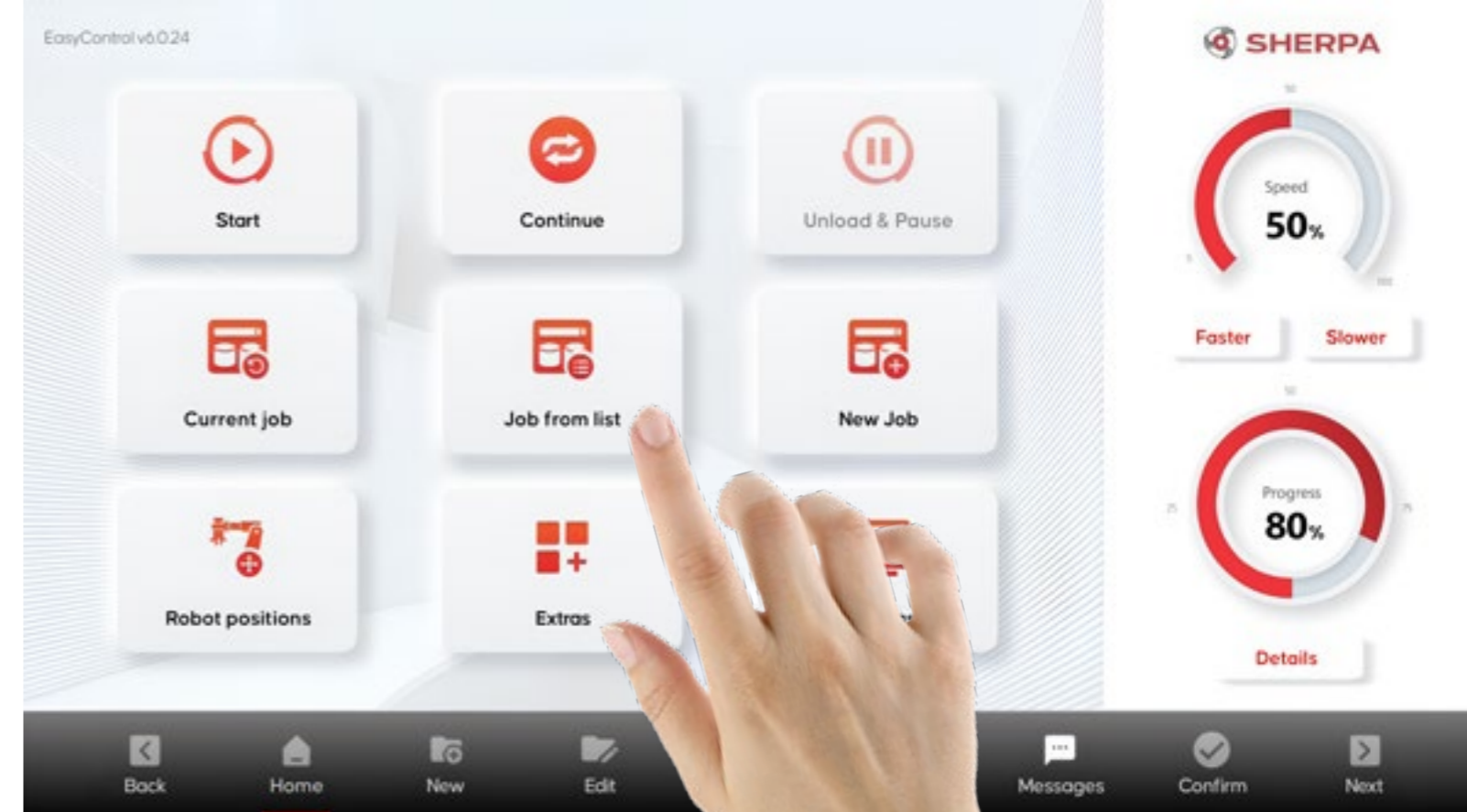
**Flexible**

Since you don't know  
what you'll produce tomorrow

## Camera-Guided

The Heart of the System: SherpaVision<sup>®</sup>, i.e. the camera-laser system, is designed to detect workpieces without the need for grid plates.

It eliminates constant retooling of grid plates, error-prone programming of magazines, and the high costs associated with automated rotary and stacking tables. A protective cover keeps the camera lens clean, ensuring a clear view even in harsh operating conditions.



## Intuitive

The robot cell is controlled via a 17-inch touch display, featuring a user-friendly graphical interface similar to a smartphone. Clear symbols and intuitive input screens offer context-sensitive guidance, making the setup process efficient for technical staff. Operators can set up new jobs without any programming knowledge. It's as easy as 1-2-3!

## Flexibel

When upcoming jobs are uncertain, flexibility is key. Designed for batch sizes ranging from 5 to 5,000, the SherpaLoader<sup>®</sup> provides unparalleled versatility. Its adaptable layout fits seamlessly into any production environment, while its modular interface integrates effortlessly with all major machining centers.



 **SHERPA**

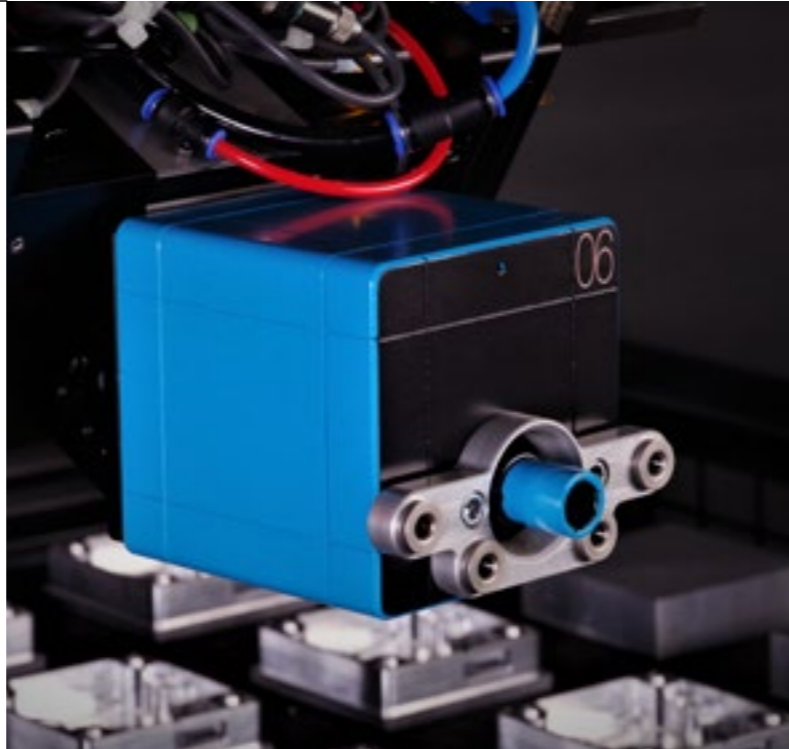


## Adaptive Grippers

As a long-standing system partner, SHERPA Robotics equips its robot cells with ZIMMER handling technology. Cylinders are clamped with 3-jaw centric grippers, while cuboids and shafts use 2-jaw parallel grippers. The gripper fingers are quickly and accurately adjusted over a wide range with fine-tooth gearing.

## Electric Spindle Drive

Automating mechanical vises, the SherpaLoader® features an electric drive to clamp and release the vise. Torque and opening angle for releasing clamped parts are controlled with the touch display, and saved with each job. This allows even machining centers without pneumatic or hydraulic rotary feedthrough to be automated.



## Air Blow

Cleanliness is key to precision work. The SherpaLoader® is equipped with an air nozzle to clean the clamping device of the machining center before loading blanks and to remove coolant and chips from parts after machining.





## Universal Interface

The SherpaLoader® is compatible with both new and existing machines. For the past decade, machine tools have offered bus interfaces for automation. The SherpaLoader® supports popular standards like Profibus, Profinet, and EtherNet/IP. For machines without a bus interface, SHERPA uses M-Functions and potential-free relay contacts. This helps customers to avoid costly retrofitting by the original machine manufacturer.



## Safety Door Automation

For machining centers without powered safety doors, SHERPA Robotics retrofits a maintenance-free electric door drive. This further reduces idle time in the machining process. Opening and closing speeds are individually adjustable, with automatic obstacle detection and secure speed and force limitation in compliance with EN ISO 13849-1, Performance Level d.



## Remote Diagnostics

Every SherpaLoader® is equipped with an online diagnostics and remote maintenance interface. When needed, service technicians access machine logs, adjust the control system, and perform software updates remotely, ensuring fast troubleshooting and minimal downtime. Customers maintain full control over the interface, which connects securely to the maintenance server using TLS 1.2 and RSA 2048 asymmetric key exchange—the same security standard used in online banking.



# 15

## Seconds\*

That's all it takes for a loading cycle with the SherpaLoader®. While the CNC machine processes the next part, the robot unloads the finished piece and picks up a new blank for the next operation. This maximizes your effective spindle time.

# 5

## Minutes\*

With this rapid changeover time, the SherpaLoader® stands unmatched. Digitalization replaces the need for complex loading mechanisms in material staging. When switching workpieces, only the gripper fingers require adjustment. While other robot cells are still being retooled, SherpaLoader® is already back in action.

# 12

## Months\*

During that time, an actively utilized SherpaLoader® will have fully recouped its investment. By eliminating costly mechanics and oversized components, it significantly increases spindle time for high-value production machines—at only a fraction of the cost.

# 3000

## Parts

Providing several days of unmanned production, the SherpaLoader® outperforms alternative systems. Its open layout, free from the constraints of rotary tables or lifting devices, offers up to 12 sqm of storage on the footprint of two Euro pallets—accommodating over 3,000 parts.

# 0

## Magazines

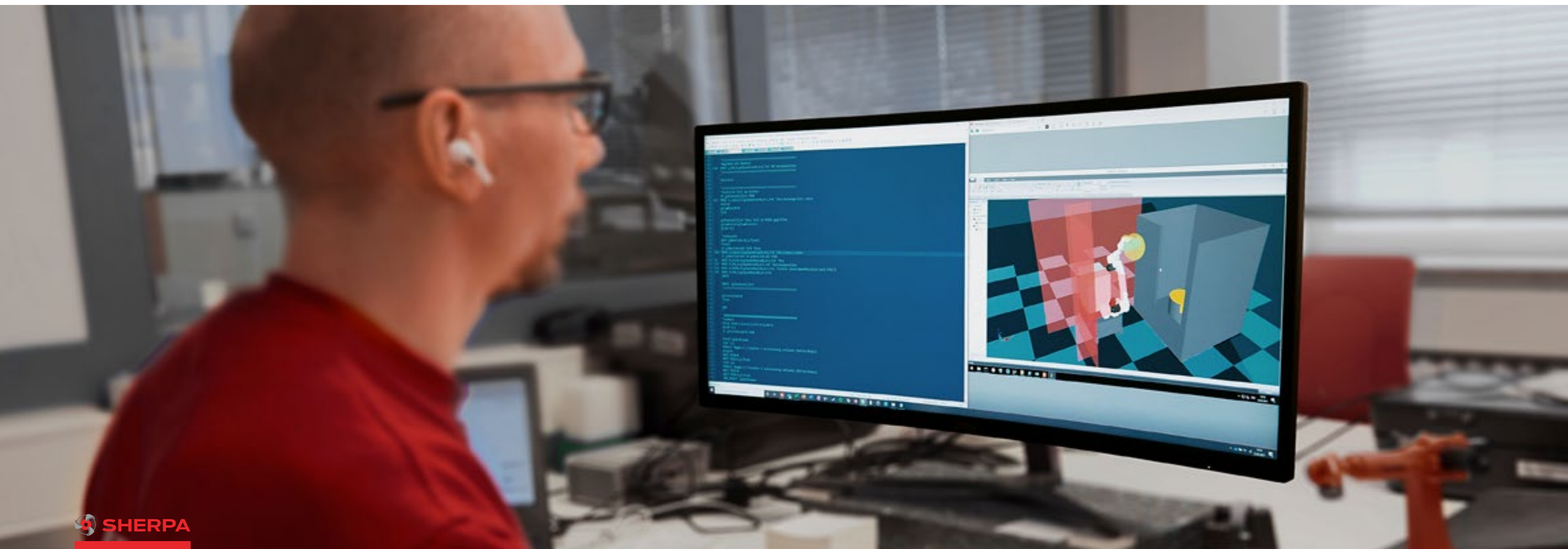
Using a sophisticated vision system, the SherpaLoader® eliminates the need for magazines, pins, and grid plates. Blanks are placed on table trolleys, drawers, or pallets and they stay in place throughout the entire production process. This minimizes manual handling, enhances ergonomics, and reduces the overall workload for your team.

# 100%

## Service

Each SherpaLoader® is equipped with an online diagnostic interface, enabling remote diagnosis and maintenance of the control system. If on-site service is needed, SHERPA or a local service partner will quickly provide support.

*\* Estimate, may vary with the specific use case*



# Technical Specifications

# Videos

## SherpaLoader®

### Workpieces

Cylinders [mm]

Cuboids [mm]

Shafts [mm]

Weight [kg]

### Workpiece Capacity

Ø or length 20 mm

Ø or length 100 mm

Ø or length 140 mm

### Storage Area

Table trolley [sqm]

SpaceBox [sqm]

Pallet [sqm]

### Supply

Three-phase current

Compressed air [bar]

### Dimensions

Length [mm]

Width [mm]

Height [mm]

Weight [kg]

## T25/M25

Ø 15 - 220

l 10 - 200

20 x 20 x 10 -  
200 x 200 x 200

Ø 15 - 60

l 60 - 400

max. 18

max. 3.060

max. 560

max. 300

1,2

12,0

1,0

400V, 16A

3 - 8

1.350

750

2.300

985

## T50/M50

Ø 20 - 300

l 10 - 300

20 x 20 x 10 -  
300 x 300 x 300

Ø 15 - 100

l 60 - 750

max. 38

max. 3.060

max. 560

max. 300

2,0

12,0

2,0

400V, 16A

3 - 8

1.500

750

2.300

1.830

## T88/M88

Ø 20 - 300

l 10 - 300

20 x 20 x 10 -  
300 x 300 x 300

Ø 15 - 100

l 60 - 750

max. 73

max. 3.060

max. 560

max. 300

2,0

12,0

2,0

400V, 16A

3 - 8

1.500

750

2.300

1.830



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SherpaLoader® Compilation



CHIRON MILL 3000



DMG DMU 65



DOOSAN PUMA TL 2400 LM



GROB G350



GROB G550a



HERMLE C20U



GILDEMEISTER CTX beta 800



GILDEMEISTER CTX 400



MAZAK INTEGREX i-400ST



MAZAK Quick Turn 250M



MAZAK VCN-530C



MORI SEIKI NTX2000



OKUMA ST LU300-M



POSmill E 1100



SPINNER U-1520

For more installation examples, follow us on [youtube.com/SherpaRobotics24](https://www.youtube.com/SherpaRobotics24)

Specifications subject to change.





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