ROBSEN

Robotic System Integration and Investment Consulting

At Robsen, we develop flexible and intelligent robotic solutions that increase efficiency in production.

- Material Handling
- Surface Finishing
- Special Machines
- Mobile Robotics
- Assembly & Quality Control

Material Handling



Surface Finishing



Special Machines



Assembly & Quality Control



Mobile Robotics



ROBSEN

in 2013

Founded and Located
at Technology Park

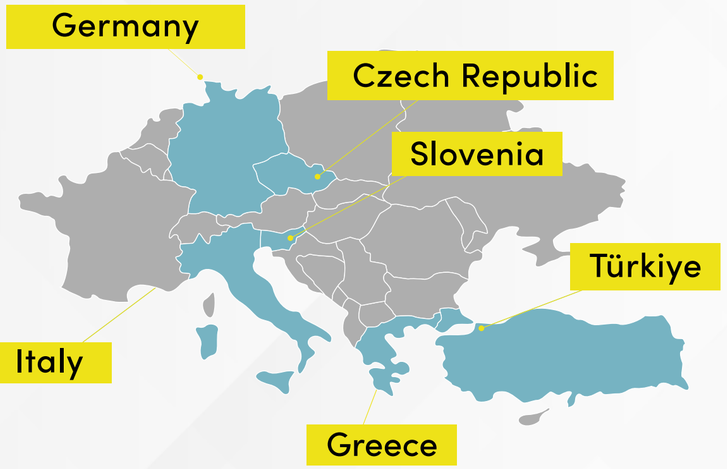
What We Do

Robsen Robotics develops end-to-end robotic automation systems for metal manufacturing, from engineering to commissioning.

15+
Installation Sites

200+
Projects

6
Countries





Technopark R&D Center



ROBSEN

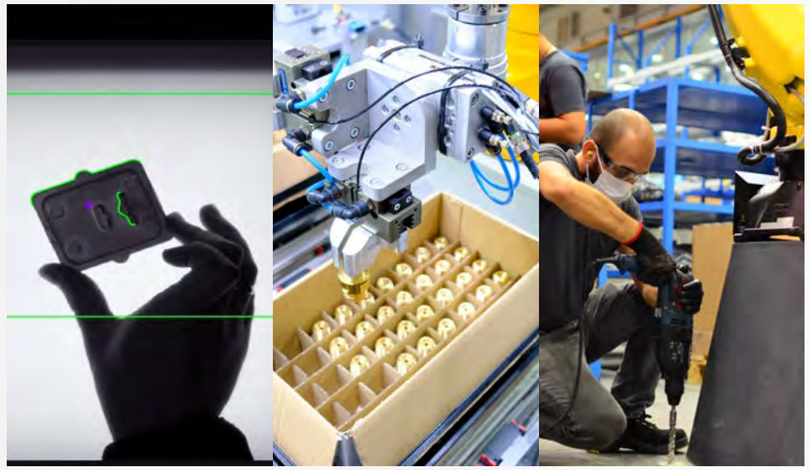
The Team
Behind Robsen

We Are 16

higher education

engineer

technician



Software

Robotic

Technic

Industries We Serve

HVAC

Fluid Power Components

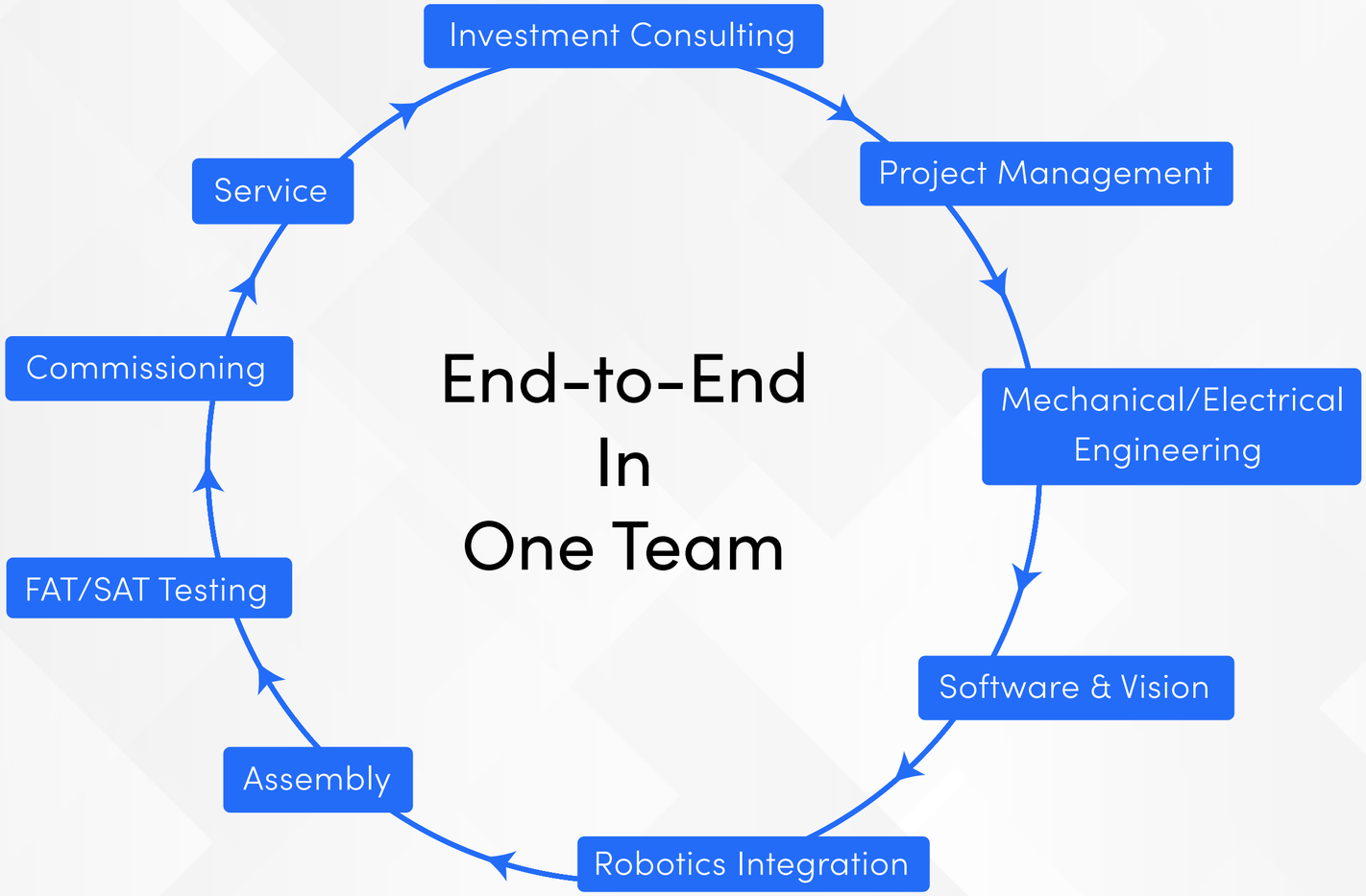
Aerospace & Defense

Automotive

White Goods

ROBSEN

The Team
Behind Robsen



ROBSEN

From First Projects
to a 200+ Application

Key milestones that reflect our in-house capability, from engineering and software to commissioning and service.



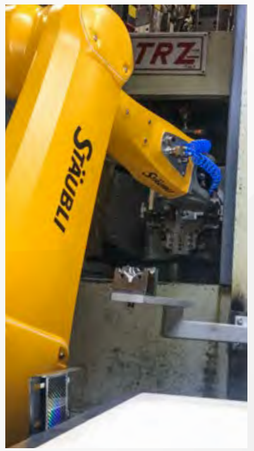
Founded and Located at GOSB Technology Park

2013

2014

iRoVision & iRoPick2D Development





Transfer Machines

ROBSEN

2015

Machine Tending IROCUBE- Fanuc Robodrill



2016

Machine Tending IROCUBE-Doosan Turning Lathes



2018

Manufacturing Automation Cells for HPDC



2019

IROCUBE MF Series Launch at EMO2019



Trimming Line For Metal Parts



2020

Machine Tending IROCUBE Plus & IROVISION 2,5D & Servo Press



ROBSEN



Equalizer Machines

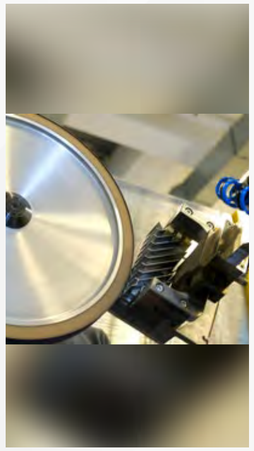




2021

IROVISION 2D Measurement & Inspection Development

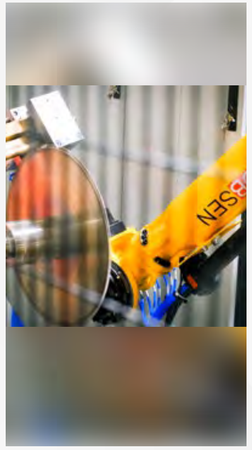




2022

Deburring & Grinding Cell

Cutting & Rough Grinding Cell



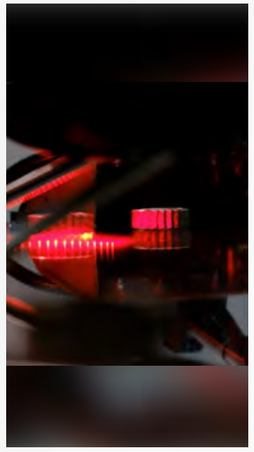
ROBSEN

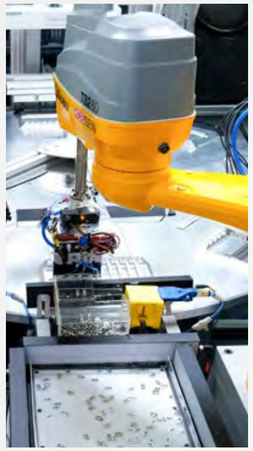


Cutting & Rough
Grinding Cell

2023

Nut Sorting
Palletizing Cell



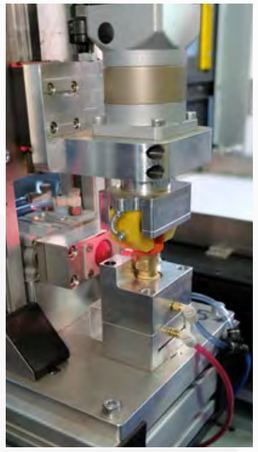


Plastic Safety
Seal Metal Clip
Assembly

2024

2025

Faucet Assembly
leak test
and marking





IROCUBE Mobile
AMR+Cobot
Integration

2026

ROBSEN

Premium
Supplier Network

Industry-leading components for consistent performance. Proven brands, strong availability, and long-term support.

FANUC
STÄUBLI
ABB
ESTUN
BECKHOFF
Schneider Electric
TwinCAT®
SCHUNK
BALLUFF
wenglor
EUCHNER
BASLER
OPTO ENGINEERING
MURR ELEKTRONIK
HELUKABEL®
Weidmüller

ROBSEN

Measurement

Investment Consulting

Industrial Robotics

Mobile Robotics

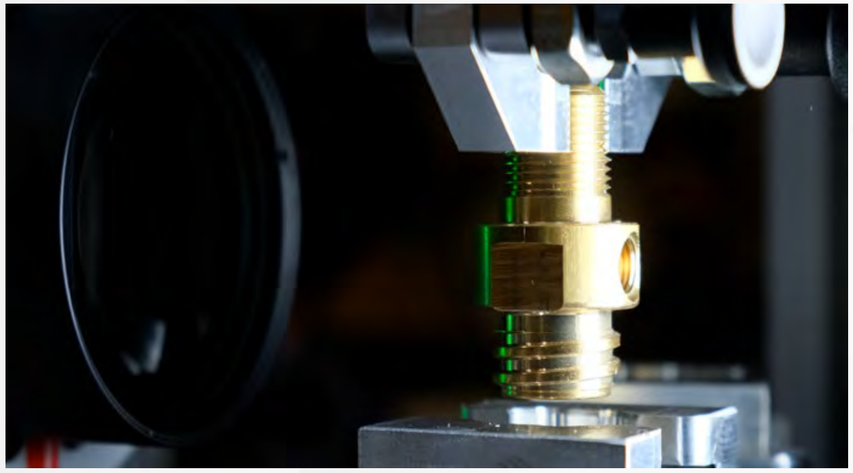
Software Development

Simulation

Service

R&D

Design



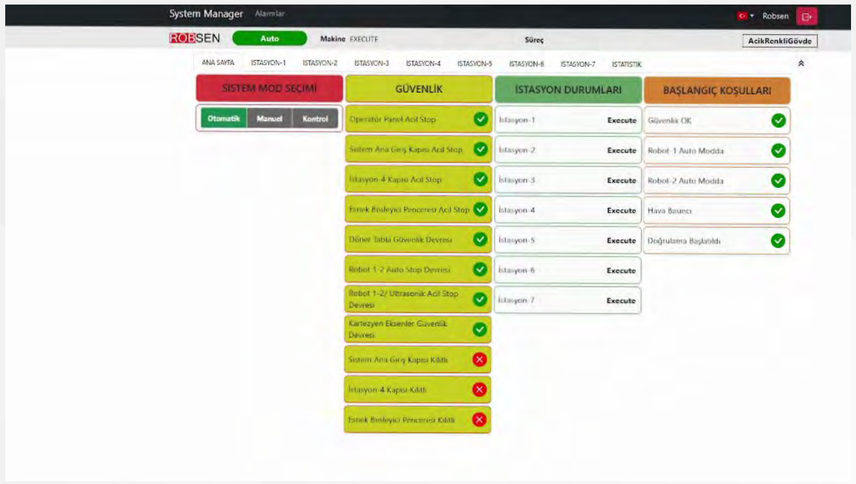


OUR CAPABILITIES

ROBSEN

Software Development

System Manager HMI



System Manager Interface

A web-based HMI that lets you monitor and manage all key signals of the robotic cell from one screen.

IROVISION



IROVISION Matching

Vision software for machine tending and quality control, part detection, pick guidance, and inspection.

ROBSEN

System Manager

Live Cell Status
See the real-time status of all stations.

Production Data
Track parts, OK/NOK, and cycle times on one screen.

Fast Downtime Diagnosis
Identify the cause of stops without walking the line.

Component Life Tracking
Log cycles, replacements, and maintenance timing.



System Manager Integrated Cell

Web-based HMI

Cross platform - Multi device



ROBSEN

Live Cell Status



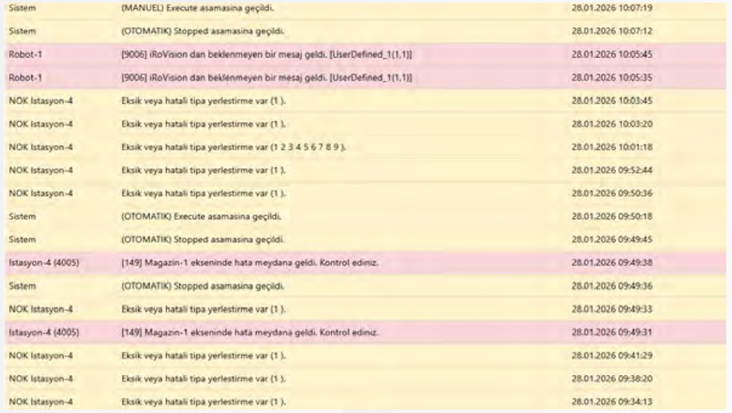
View the real-time status of all stations on a single screen.

Production Data



Monitor output, OK/NOK counts, and cycle times in one place.

Fast Downtime Diagnosis



Sistem	(MANUEL) Execute asamasina geçildi.	28.01.2026 10:07:19
Sistem	(OTOMATİK) Stopped asamasina geçildi.	28.01.2026 10:07:12
Robot-1	[9006] iRoVision dan beklenmeyen bir mesaj geldi. [UserDefined_1(1,1)]	28.01.2026 10:05:45
Robot-1	[9006] iRoVision dan beklenmeyen bir mesaj geldi. [UserDefined_1(1,1)]	28.01.2026 10:05:35
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 10:03:45
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 10:03:20
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1 2 3 4 5 6 7 8 9).	28.01.2026 10:01:18
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 09:52:44
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 09:50:36
Sistem	(OTOMATİK) Execute asamasina geçildi.	28.01.2026 09:50:18
Sistem	(OTOMATİK) Stopped asamasina geçildi.	28.01.2026 09:49:45
İstasyon-4 (4005)	[149] Magazin-1 ekseninde hata meydana geldi. Kontrol ediniz.	28.01.2026 09:49:38
Sistem	(OTOMATİK) Stopped asamasina geçildi.	28.01.2026 09:49:36
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 09:49:33
İstasyon-4 (4005)	[149] Magazin-1 ekseninde hata meydana geldi. Kontrol ediniz.	28.01.2026 09:49:31
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 09:41:29
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 09:38:20
NOK İstasyon-4	Eksik veya hatali tipa yerlestirme var (1).	28.01.2026 09:34:13

Downtime cause is visible on-screen the moment the cell stops

Component Life Tracking



Track replacement cycles for every component.

ROBSEN

IROVISION

Vision software for machine tending and quality control-part detection, pick guidance, and inspection.

Fixture-Free Picking
Detects parts in varying orientations and generates accurate pick coordinates.

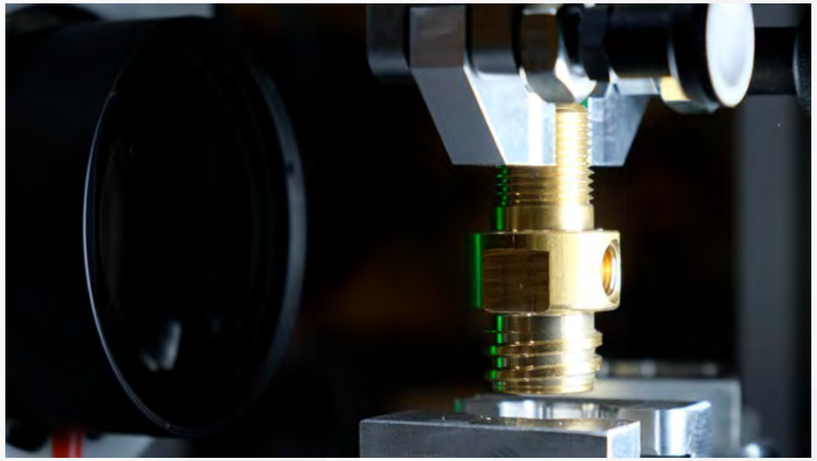
Matching & Training
Supports fast setup via 2D matching and CAD-based model training (when applicable).

Inspection & Verification
Checks critical features and detects defects to support inline quality control.

Traceability (OCR/Code Read)
Reads markings/codes and logs results for tracking and reporting



IROCUBE MF7 Aluminum Part Feeding



Surface Inspection Application

ROBSEN

IROVISION

MODULES

MATCHING

no fixture

Irovision's matching feature allows robotic feeding systems to pick parts from conveyors, ensuring flexibility without requiring fixtures.

QUALITY CONTROL

no flaw

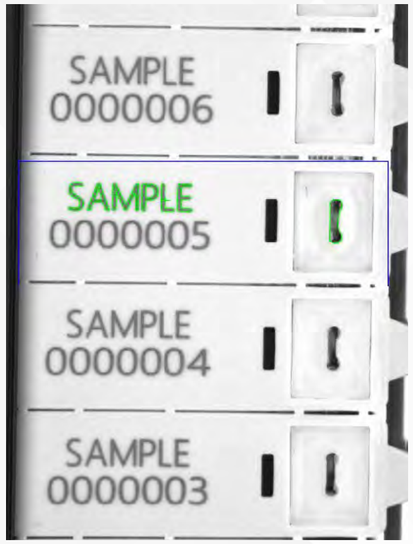
Irovision's quality control capability identifies surface defects, performs precise measurements, and ensures a flawless final inspection for parts.



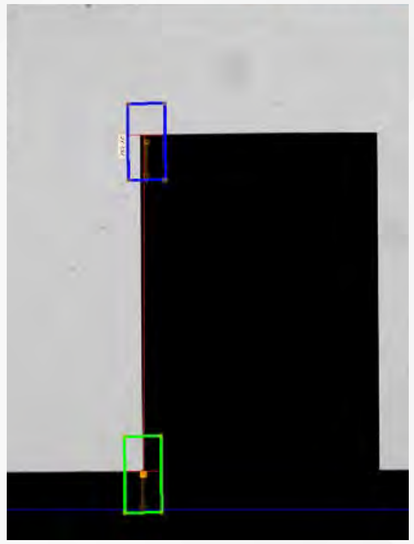
Matching Part



Training Model



OCR/CODE Reading



Inspection & Verification

IROVISION

Matching

Module



Why you need fixture-free automation?

001

You work with complex part geometries – such as hot-forged or HPDC components.





002

Batch sizes are small, and changeovers are frequent.

Production Schedule

Part	Qty	Part Preview
PRT1	1250 pcs	
PRT2	750 pcs	
PRT3	1500 pcs	

003

Customer demand shifts – more variants, lower volume per model.



Same product family.
More variants.

004

Contracts are shorter and less predictable than before.



ROBSEN

No Fixture
Just Efficiency

To date, 95% of our 200+ commissioned projects have been vision-powered, flexible robotic systems.

IROVISION has processed 500M+ parts



Watch IROVISION in Action

VISION POWERED ROBOTIC CELLS



ROBSEN

IROVISION

Quality Control

Module

Surface Inspection

Detect scratches, cracks, stains, defects

Dimensional Measurement

Measure length, diameter, angles, distances

Thread & Pitch Check

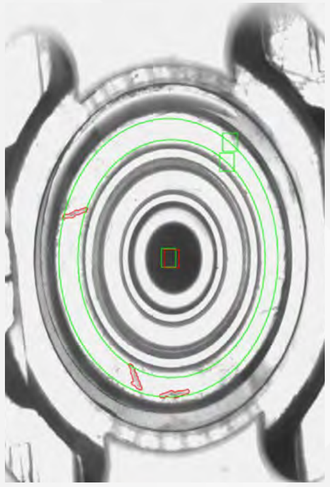
Verify thread count/pitch and spacing

Presence / Absence

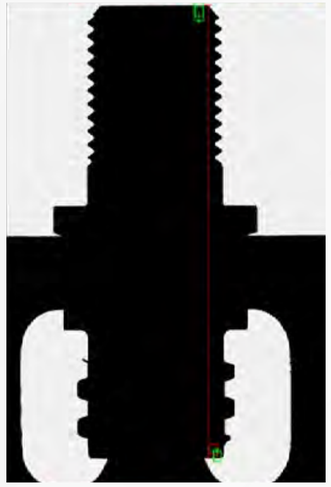
Hole/no-hole, feature check

OCR & Code Reading

Read barcodes, data matrix, serial number, symbols



Surface Inspection



Thread Counting



OCR & Code Reading



Verifying Thread Spacing

ROBSEN

Training & Enablement

Knowledge transfer that turns your team into confident cell owners.



Robot Operation & Programming

Different training levels for operators and engineering teams.

Fixture & EOAT Design

Tooling and fixture design principles for repeatable handling.

Maintenance Training

Preventive maintenance, troubleshooting, and spare-part replacement routines.

IROVISION Modules

Model setup, calibration, and quality control workflows.

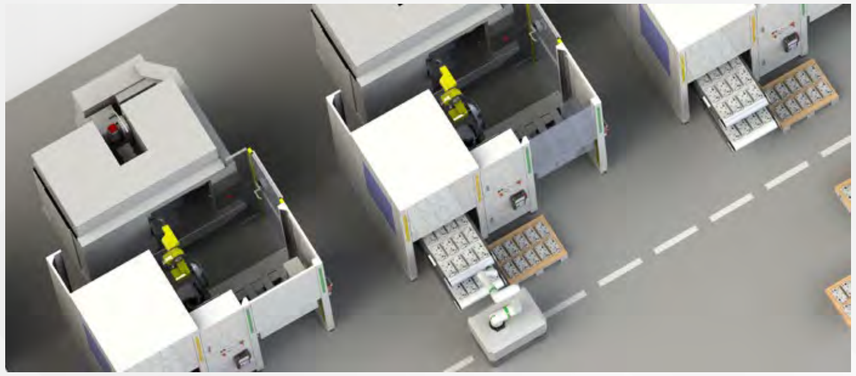
Simulation Workshops

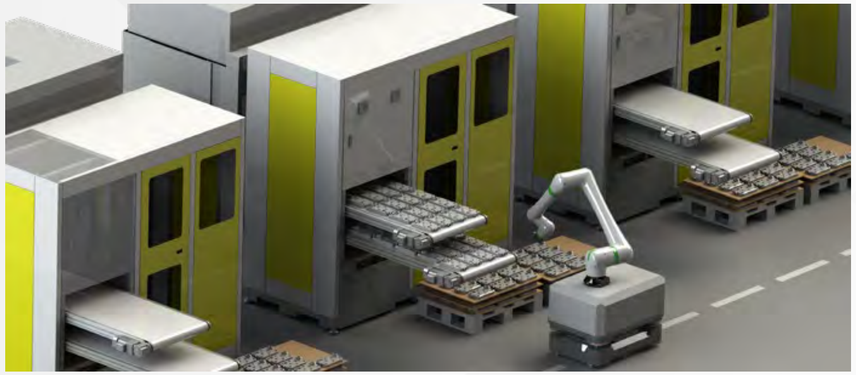
Layout validation, reach checks, collision prevention and cycle-time logic.

ROBSEN

Investment Consulting

From shopfloor reality to a clear automation roadmap. We help manufacturers make the right first step-technically and financially-before committing to a robotic investment.





01
Process & Habit Analysis
We map current routines, constraints, and real production behavior.

02
Goals & Investment Perspective
We clarify targets: throughput, quality, staffing lead time and risk.

03
Concept Options
We develop multiple automation concepts with different technologies, capacities, and budgets.

04
ROI & OEE Impact
We validate cycle time assumptions and quantify ROI/OEE impact per concept.

05
People & Organization Readiness
We advise on roles, staffing needs and the night operator/engineer profiles.

ROBSEN

Advanced Robot Integration
& EOAT Engineering

01 Simulation &
Cycle Time Validation

02 EOAT /
Gripper Engineering

03 Precision Handling &
Sensor-Backed Assurance

ROBSEN

Simulation &
Cycle Time Validation

We validate reach, paths, and cycle time before build - to de-risk delivery.

FANUC ROBOGUIDE

STÄUBLI Robotics Suite

ABB ROBOTSTUDIO®

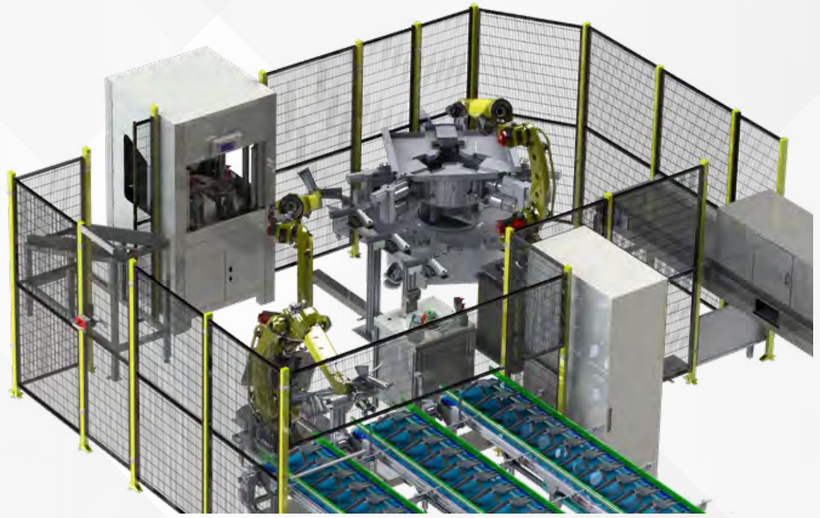
Cycle Time Validation
Simulated cycle times give realistic throughput estimates before build.

Reach & Layout Verification
We verify robot reach, clearances and workstation layouts in the target footprint.

Collision & Safety Check
Collisions and interference points are detected early and eliminated in the model.

Tooling & EOAT Confirmation
We validate EOAT geometry, approach angles, and grip strategy against real part constraints.

ROI & Capacity Forecasting
Accurate cycle times feed reliable capacity planning and ROI calculations.



ROBSEN

Simulation

We use simulation to validate key project assumptions and support healthier project management before commissioning.

Supported Robot Platforms

FANUC ROBOGUIDE

STÄUBLI Robotics Suite

RoboDK

ABB ROBOTSTUDIO®

ESTUN

FANUC ROBOGUIDE



STÄUBLI Robotics Suite

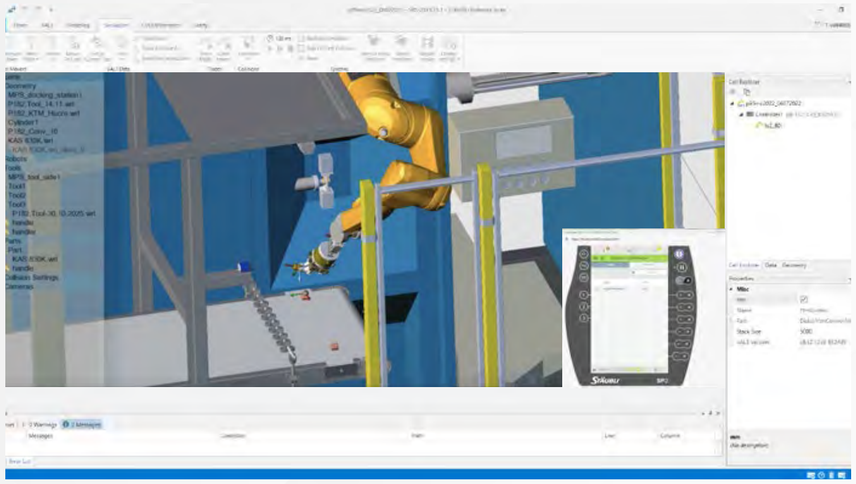
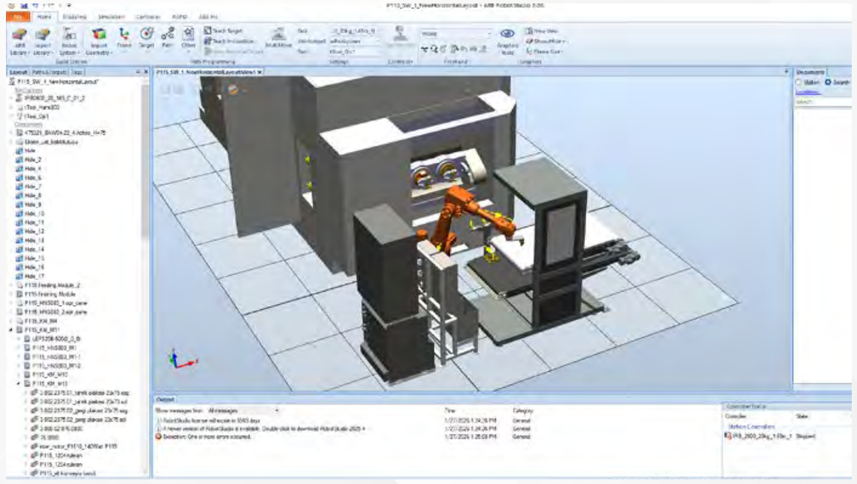


ABB ROBOTSTUDIO®



ROBSEN

End-of-Arm Tooling (EOAT) Engineering

Designed for complex geometries and harsh shopfloor realities - in-house.

Complex part handling

Our machine-tending focuses on complex geometries (HPDC & hot-forged), prioritizing repeatable, robust, and fast-changeover EOAT designs



Examples of complex parts we handle across various machine-tending projects.

Materials & surface considerations

Supporting aluminum, brass, magnesium, and plastics, our EOAT contact surfaces ensure part protection and grip stability

Gripper & finger design options

Pneumatic or electric grippers are selected based on flexibility and takt time. We use workpiece-specific finger materials, like aluminum or castamide, with replaceable wear pads.

Gripping technologies we use

We offer pneumatic, electric, magnetic, and vacuum gripping, selected by part geometry and cycle time. Vacuum solutions range from Venturi ejectors to high-flow pumps (e.g., Busch).



e.g. In trimming applications, we use vacuum handling when parts have no reliable clamping surfaces before trimming.

ROBSEN

Precision Handling
& Sensor Assurance

We confirm grip and positioning using signals from the tool, robot, and fixture.

Grip verification (analog feedback)
OK / Not OK checks before machine loading
Prevents mis-grips and wrong loading.

Force / torque capability
Controlled contact for sensitive operations
Improves repeatability in tight tolerances

Reference touch-off & clamp confirmation
Touch a reference point to correct part offset before the machining cycle starts.
Read chuck fixture clamp state via pressure thresholds

Compliance & collision protection
Compensators / compliance devices handle minor misalignment. Protects robot, EOAT and fixtures





ROBSEN

Precision Handling
& Sensor Assurance

We confirm grip and positioning using signals from the tool, robot, and fixture.

1. PART
Part geometry & variability

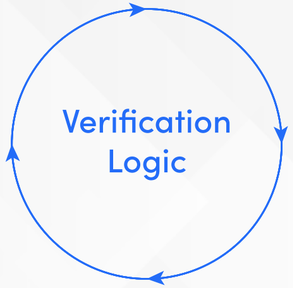
2. EOAT
EOAT / gripper design & verification

3. PATH
Reach & path safety

4. ROBOT
Robot selection (payload, reach, speed)

5. FIXTURE
Fixture / chuck readiness & clamp verification

6. SPECIAL
Process-specific requirements & rules



ROBSEN

Verification Logic

1. PART

Part geometry & variability

We assess the workpiece geometry, surface condition, and orientation range. We also account for batch-to-batch variation to keep handling repeatable.

2. EOAT

EOAT / gripper design & verification

We design the EOAT around the part geometry and critical contact surfaces. We then verify correct handling using sensor signals (grip state, vacuum/pressure, and contact checks).

3. PATH

Reach & path safety

We validate reachability, clearances, and collision risks in OEM simulation tools — with the part and EOAT. We then lock loading/unloading paths and cell positioning before build.

ROBSEN

Verification Logic

4. ROBOT

Robot selection (payload, reach, speed)

We select the right robot brand and model based on payload, required reach, speed, and process-specific needs. This ensures stable handling performance and the cycle time target.

5. FIXTURE

Fixture / chuck readiness & clamp verification

We review the chuck/fixture for robot loading readiness and define required clearances (relief/pocket machining) for safe access. We then verify correct seating and clamp state using pressure/volumetric sensing and thresholds.

6. SPECIAL

Process-specific requirements & rules

We integrate pre- and post-machining requirements such as delicate handling, non-contact stacking, and orientation rules, directly into our process and handling logic

ROBSEN

Project Management

Agile delivery with clear scope and predictable milestones.

01 Agile Delivery (SCRUM)
Short iteration with regular reviews.

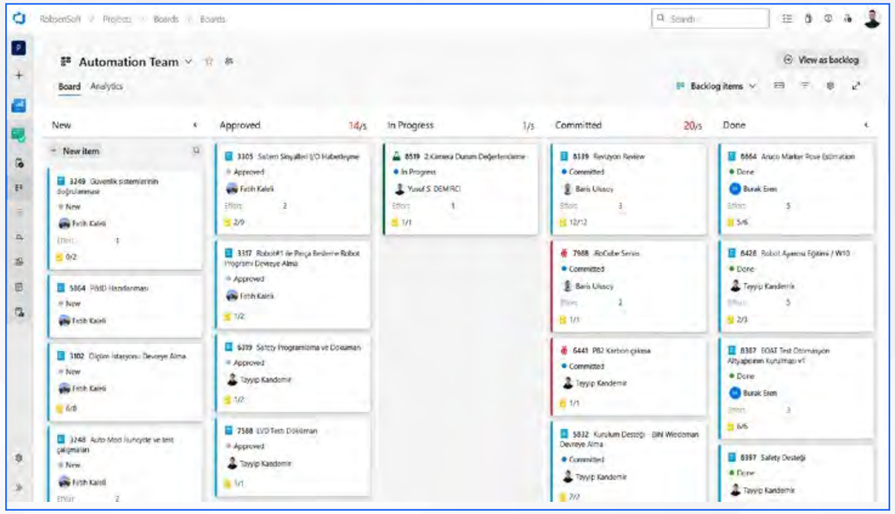
02 Transparent Tracking (Azure DevOps)
Shared board for tasks, progress, blockers.

03 Milestones & Acceptance
FAT/SAT-ready milestones & criteria.

04 Change & Scope Control
Change requests documented and approved.

05 Risk & Issue Management
Risks logged early, owned and closed.

Azure DevOps



Weekly cadence: Plan → Update → Review/Demo → Next steps

ROBSEN

Service

Designed for uptime, supported for the long run.

Spare Parts Availability

Critical spare parts are identified and planned to support fast replacement and reduce downtime

Remote Support Ready

Secure Remote access enables fast diagnostic and support without waiting on-site.

Service Plans & Subscriptions

Choose a service plan that fits your production needs-preventive, responsive or full coverage.

Preventive Maintenance

Scheduled checks and replacements keep performance stable and reduce unplanned stops.

On-Site Intervention

Scheduled checks and replacements keep performance stable and reduce unplanned stops.

Service Assessment & Prioritization

We assess your line, identify bottlenecks, and prioritize the service actions that reduce downtime fastest.



Service Support

ROBSEN

01 Material Handling

02 Surface Finishing

03 Mobile Robotics

04 Assembly & Quality Control

05 Special Machines





OUR SOLUTIONS

ROBSEN

Material Handling

Machining Centers
Fanuc, SW, Chiron

Turning Lathes
Doosan, Sala

Transfer Machines
TRZ, YTM, KTM

HPDC
FRECH

Press Tending
Hot-Forging, Trimming Press

Palletizing



Aluminum Part Feeding Application



Magnesium HPDC application

ROBSEN

IROCUBE

Vision-powered robotic machine tending

A compact, single-platform robotic cell for flexible CNC tending, integrated conveyors, fixture-free handling, and operator-friendly operation.

- Vision-powered picking (IROVISION)
- Small Footprint Cell
- Single-Platform Architecture
- Fast Commissioning
- Operator-Friendly Operation
- Remote Service



From simple load-unload to multi-operations

ROBSEN

IROCUBE

Vision-Powered

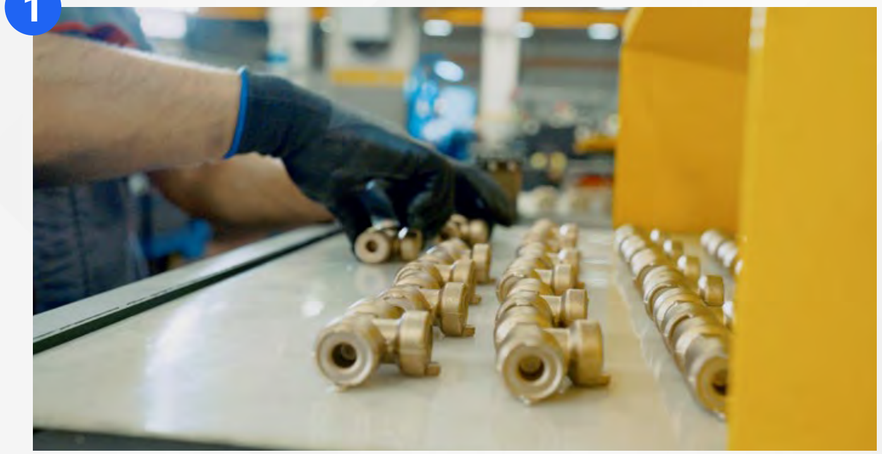
How it works

1. Drop parts on the conveyor no dedicated fixture.
2. Select the part model in IROVISION. Train once.
3. The robot picks reliably from random orientations.

When Parts Change

- New part? No fixture, no rework—just select a new model.
- No fixture manufacturing or storage cost.
- Fast changeovers between part variants.
- Works for short runs or long runs (50 to 5000+).
- Less setup effort, more uptime.
- Ergonomic part presentation - no precision loading.
- High-mix flexibility without complexity.

1



Feed parts on the conveyor - no dedicated fixture

2



The robot picks reliably from random orientations.

ROBSEN

IROCUBE

Single Platform & Fast Setup

Single Platform

Plug-and-play commissioning with standardized, proven modules.

Remote support ready for faster ramp-up and troubleshooting.

Fast Setup

All-in-one platform: Robot, conveyors and cabinet in one cell.

Machine-side footprint: fits the CNC’s neutral working area.

Advantages



- Save floor space.
- Move the cell when the layout changes.
- Lower relocation and transportation cost.
- Start production sooner.



ROBSEN

IROCUBE

Three Concepts. Different Needs.



IROCUBE MF Series



IROCUBE Plus Series



IROCUBE TF Series

ROBSEN

IROCUBE

Three production dynamics, Three IROCUBE concepts







PLUS Series

Drawer-based compact cell

Fast, compact, and cost-effective for space-limited, quick-deploy setups.

- cost-effective
- drawer based picking

MF Series

Conveyor-based flexibility

Built for complex geometries and expandable process steps.

- complex geometries
- flexible cell
- handles multiple variant parts
- vision-guided picking
- machining centers

TF Series

Drawer-based compact cell

Fast, compact, and cost-effective for space-limited, quick-deploy setups.

- turning lathes
- vision guided picking

ROBSEN

IROCUBE Plus Series

Compact Cobotic Cell

Mobility

Pallet jack / forklift handling
(quick relocation)



Compact Footprint

Designed to fit in one
Euro-pallet area
(1200 x 800 mm)



ROBSEN

IROCUBE Plus Series

Compact Cobotic Cell

Compact, fence-free automation you can deploy across the shopfloor — with collaborative safety built in.



Key Specifications

Footprint (L×W× H)
1200 × 800 × 1150 mm (enclosure only, cobot excluded)

Drawer count
Configurable: 2 drawer (expandable)

Drawer pitch / spacing
Adjustable to match part height and access

Drawer usable area
450x600 mm

ROBSEN

Vision-Guided Handling
for Complex Geometries

01 Configurable Robot Options

Select the right robot for your payload and application needs.

Easily configurable for different reach, payload, and cycle time requirements.

02 Enclosed, Operator-Friendly Design

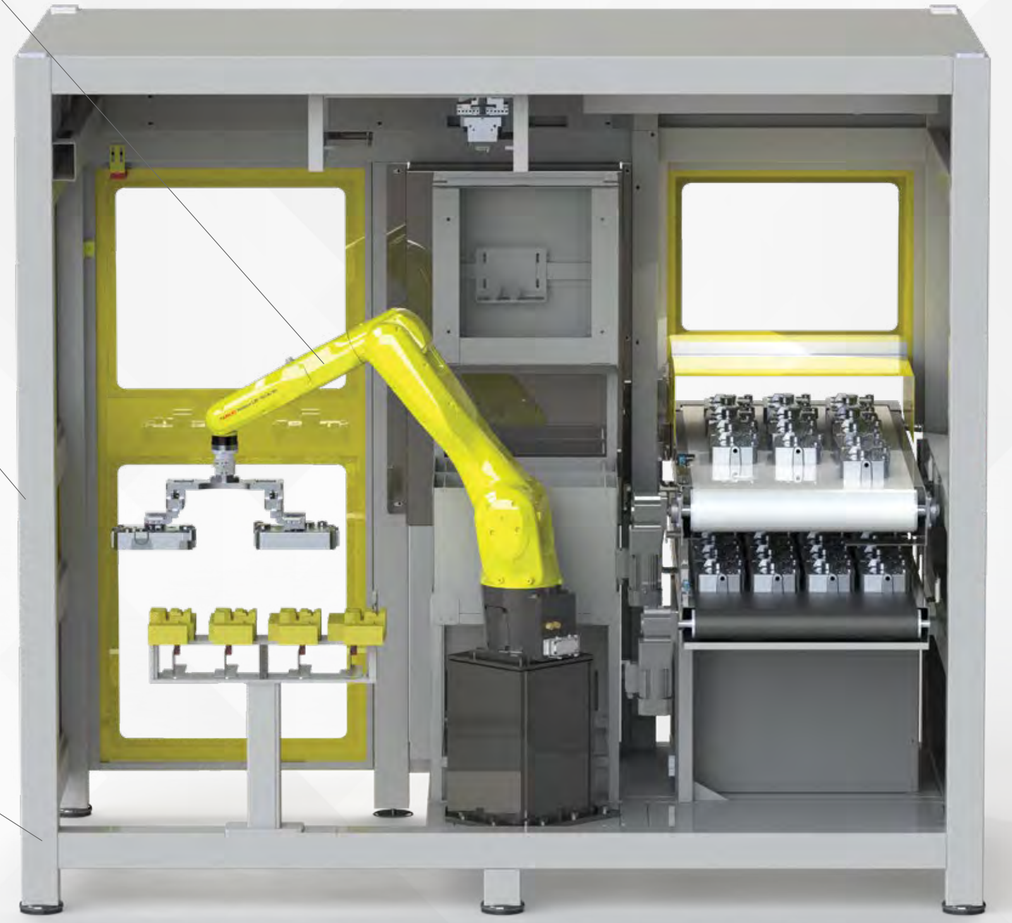
No additional fencing required.

Designed to fit naturally into the machine environment with built-in safety

03 Single Platform Design

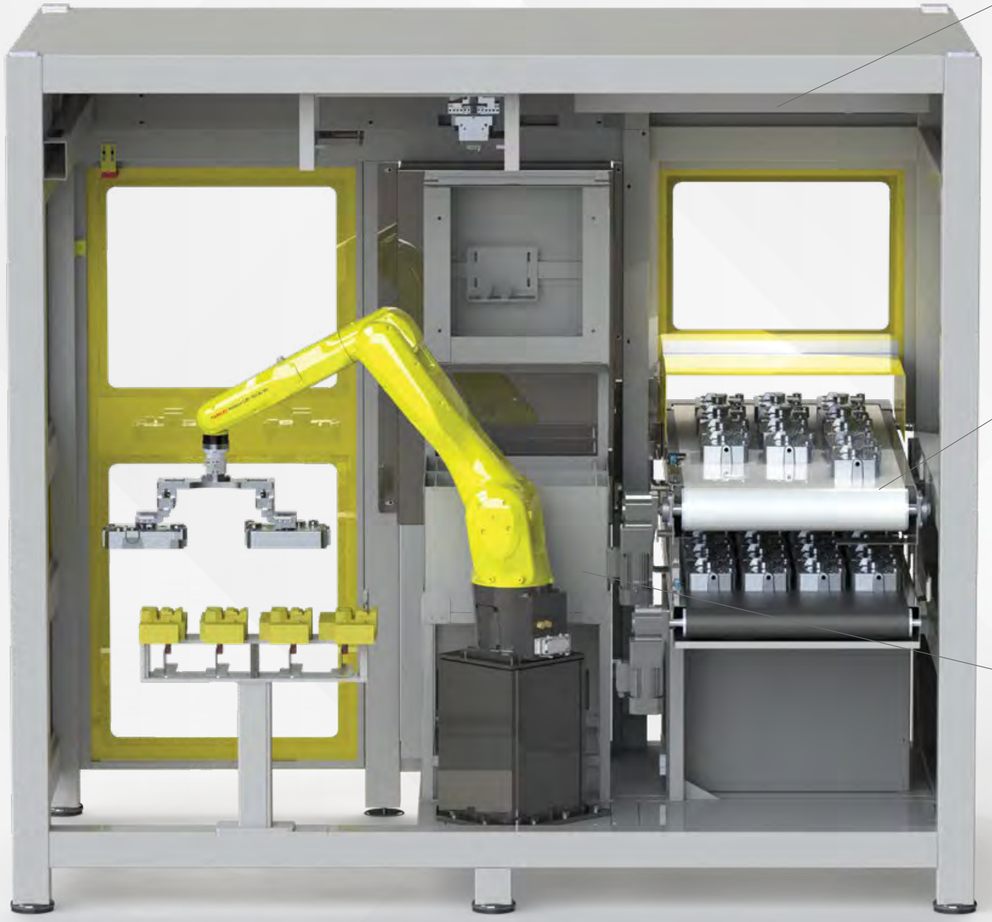
All components integrated into one compact and unified system.

Plug & play structure ensures fast installation and minimal setup effort.



ROBSEN

Vision-Guided Handling
for Complex Geometries





04 Vision-Guided Picking

Reliable part picking across varying positions and orientations.

IROVISION detects the position and guides the robot for reliable picking.





05 Flexible Conveyor System

Drawer-free and fixtureless design that supports complex parts

Enables fast changeovers for high-mix production.



06 Modular Stations Scalable System

Easily expandable with integrated stations such as washing, testing, and laser marking.

This flexible platform evolves alongside your process.

ROBSEN

Key Specifications

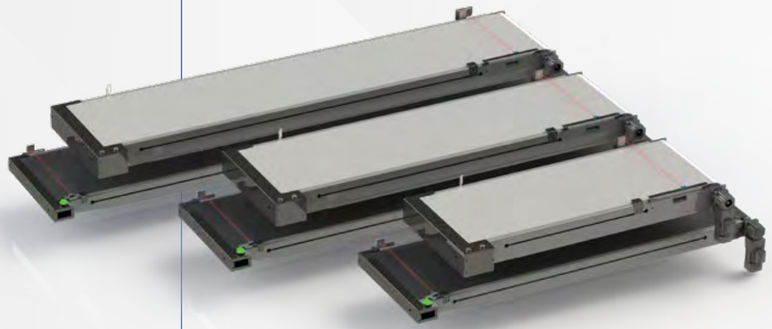
1 Footprint (LxWxH)

2400x2600x2400 mm
(incl. standart conveyors)

2 Standard conveyor sizes

Load: 1800 × 600 mm
Unload: 2200 × 600 mm

Extended: up to 3250×600
Max: up to 4000×600



3 Available Options & Configurations

- Tool changer station
- Rinse + dry station
- Additional gripper finger set
- Dimension check camera
- Leak / sealability test integration
- Laser marking & vision validation
- Roboguide simulation license
- Conveyor cleaning brush



4 System Manager Options & Configurations

- Production Data & OEE Measurement
- Quick Stop Diagnosis
- Component Life Tracking
- Browser Access (PC / Tablet / Mobile)
- Event Log

ROBSEN

A reference story of success with TORUN METAL



> "With Irocube investments, the availability of our machines increased. We gained the ability to plan delivery times more effectively. Thanks to ease of use, our operator requirement on this line decreased. As a result, we started to utilize our trained personnel more efficiently in other areas of production."
>
> **Murat Dönmez,** Plant Manager, *Torun Metal*

TORUN

Click or scan to read the interview

Torun Metal Robodrill Line
In Numbers



60 Robodrill



60 IROCUBE

9 Operator



Torun Metal Fanuc Robodrill Irocube Line

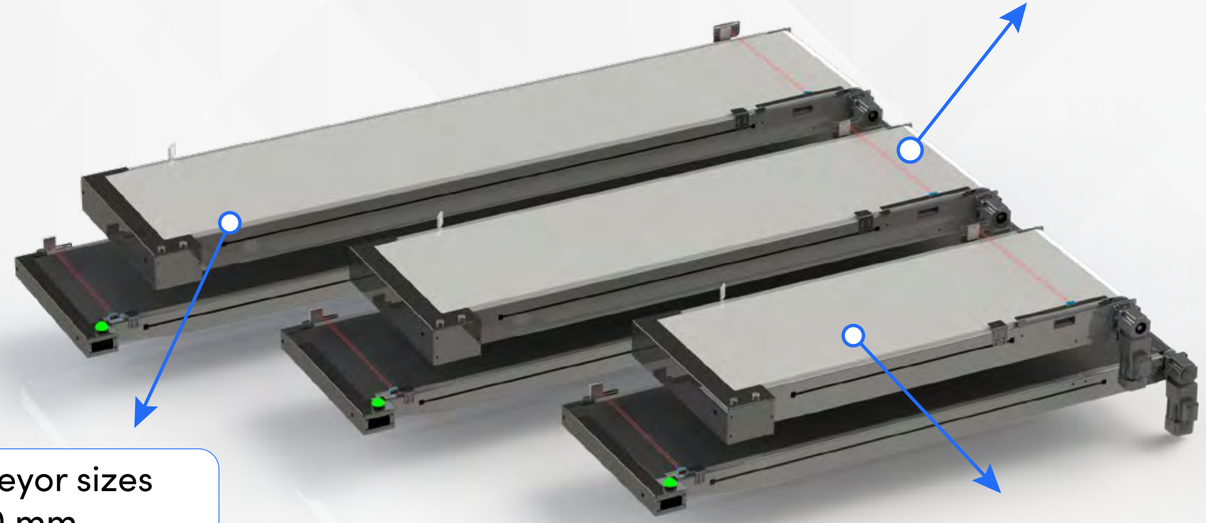
ROBSEN

IROCUBE MF SERIES

Available Options & Configurations

Option 01
Extended Conveyor Length

Extended conveyor sizes
- Load: 2500x600 mm
- Unload: 3000x600 mm



Long-range conveyor sizes
- Load: 3250x600 mm
- Unload: 4000x600 mm

Standard conveyor sizes
- Load: 1800 × 600 mm
- Unload: 2200 × 600 mm

Standard: 1800×600 | Extended: up to 3250×600 | Max: up to 4000×600

ROBSEN

IROCUBE MF SERIES

Available Options & Configurations

Option 02
Tool Changer Station

Automatic EOAT changeover to handle multiple part types or process steps within one cell.



Option 03
Wash • Rinse • Dry Module

Integrated cleaning flow before downstream steps such as leak testing, measurement, or packaging.



ROBSEN

IROCUBE MF SERIES

Available Options & Configurations

Scan the QR code to see how the IROCUBE MF Series (10L) works with these optional add-ons.

Option 04
Leak Test Unit

Verify sealing integrity of machined parts with an integrated leak testing station.



IROCUBE MF10L Mastering Production Efficiency

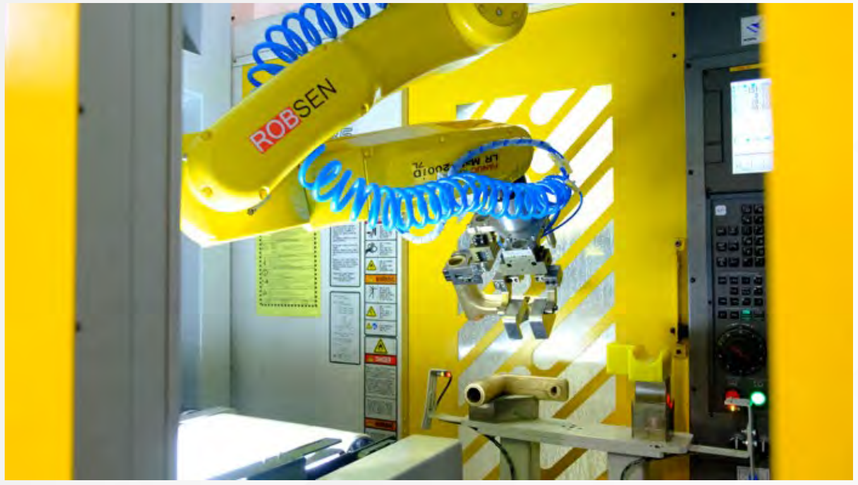


scan to watch

ROBSEN

Machining Centers

Fanuc





Machining Centers

IROCUBE MF Series

FANUC ROBODRILL

Automatic CNC loading designed for FANUC ROBODRILLS.

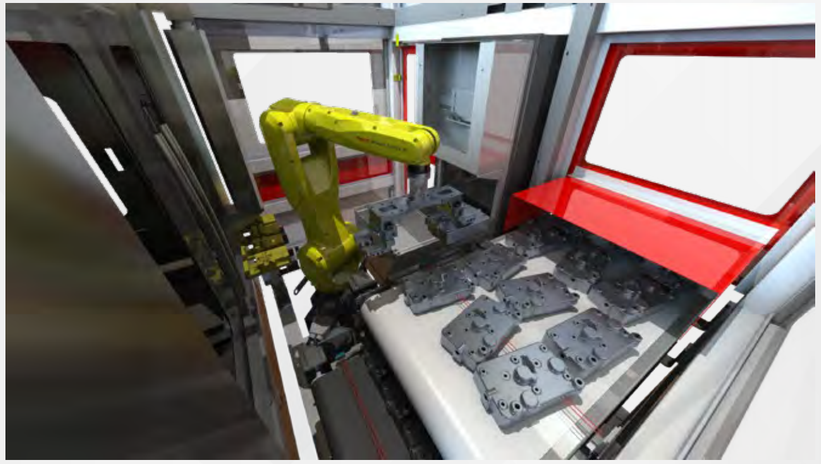
Compact Footprint
1.5 m × 2.6 m × 2.3 m (59” × 102” × 91”)

Conveyor-Based Part Flow
Loading: 1800 x 600 mm
Unloading: 2200 x 600 mm

Robot Payload
7-12 kg

Optional Modular Stations
Wash/ Rinse/ Dry/ Leak Test
Measurement Station
Laser Marking

Vision-Guided Picking
Camera-based part detection
Works with mixed presentation





IROCUBE MF7

ROBSEN

IROCUBE MF Fanuc Robodrill Series

Photo Gallery

FANUC ROBODRILL









ROBSEN

IROCUBE MF Fanuc Robodrill Series

Video Gallery

FANUC ROBODRILL

IROCUBE MF7L Test Video



scan to watch

IROCUBE MF10L Mastering Production Efficiency



scan to watch

ROBSEN

Machining Centers

SW MF Series

Automatic CNC loading designed for SW Machining Center

Part Feeding System

Conveyor-based flow

800x1400 mm

Payload

12-40 kg

Footprint

3510x2030 mm

Optional Modules

Rinse/Dry Measurement Deburring

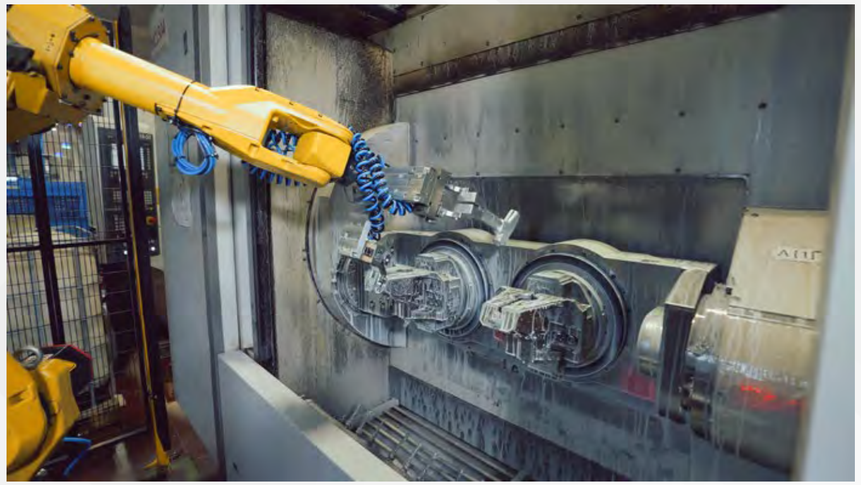


ROBSEN

IROCUBE MF SW Series

Photo Gallery

SW









ROBSEN

Machining Centers

Chiron MF Series

Part Feeding System

Conveyor-based flow

800x1650 mm

Payload

12–40 kg

Footprint

2850x2250 mm

Optional Modules

Rinse/Dry Measurement Deburring

In this project, long machining times + the conveyor enable up to 8 hours of unattended production.

Operator input: ~10 minutes per 8-hour shift.



IROCUBE MF Chiron Series

Photo Gallery





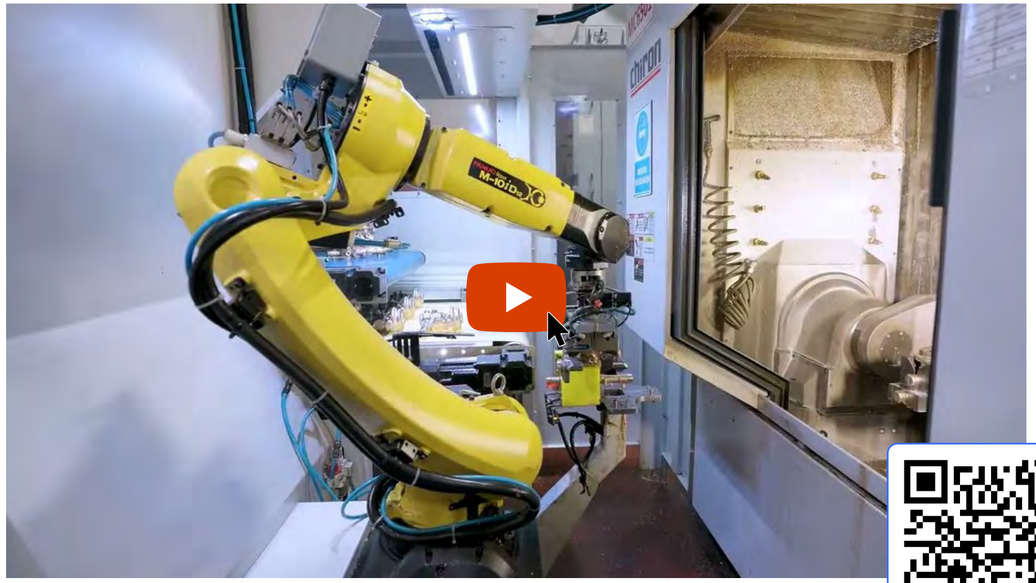




IROCUBE MF Chiron Series

Video Gallery

Complex Geometries?



scan to watch

Machining Centers

Sala MF Series

Finished parts were fed directly into the customer's assembly line.

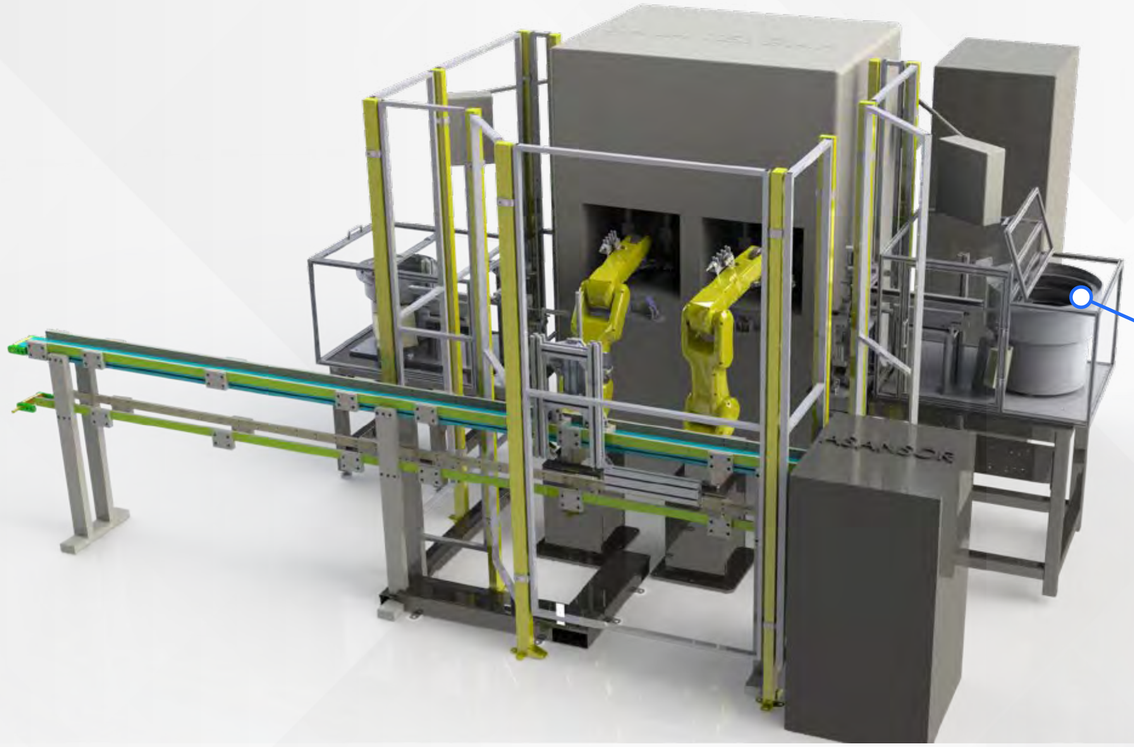
In the manual setup, feeding delays could interrupt the flow of a long downstream process.

With the dual-robot system, parts now reach the line in a more consistent and uninterrupted manner.

Dual-Robot Setup

Vibration Bowl

3s Cycle Time



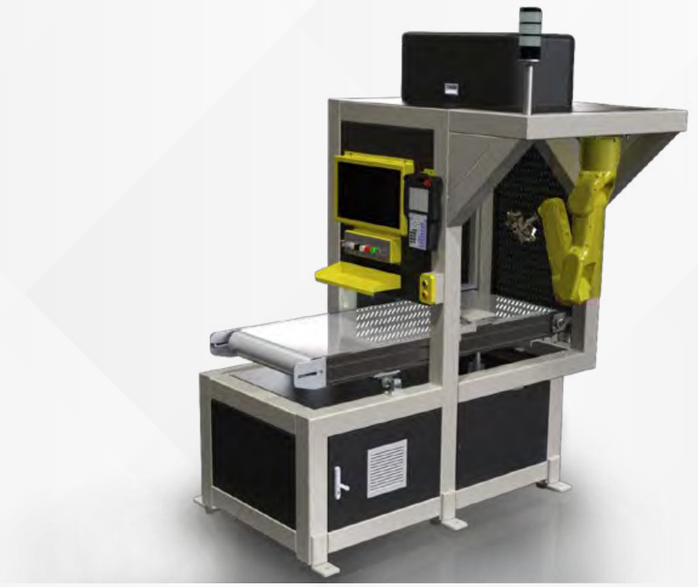


Turning Lathes

IROCUBE TF Series

Compact turning lathe automa-
tion with rotary outfeed conveyor.

- Minimal footprint, built into lathe work envelope
- Rotary outfeed conveyor: no long conveyor required
- IROVISION-based pick & place: no fixture



Rotary Outfeed Conveyor
(Compact Design)



Rotary conveyor | IROVISION | No fixture needed | Easy set-up | Single Platform | Minimal footprint

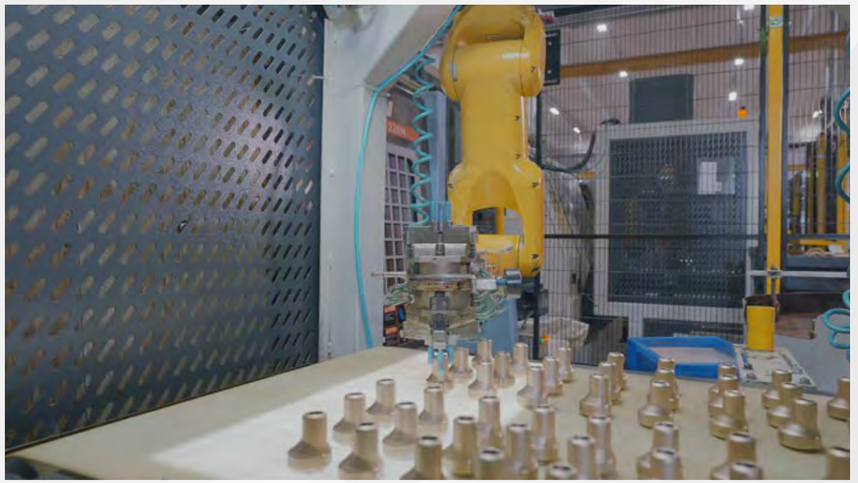
ROBSEN

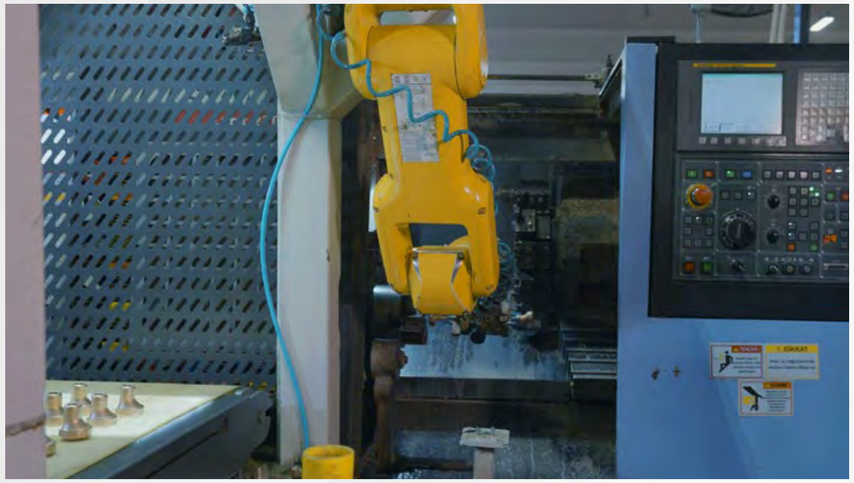
IROCUBE TF Doosan Series

Photo Gallery

DOOSAN









ROBSEN

IROCUBE TF Doosan Series

Video Gallery

DOOSAN

This Doosan Line Didn't Need Another Machine



scan to watch

Introducing IROCUBE TF7



scan to watch

ROBSEN

Transfer Machines

Robotic Solutions

Feed 1 ton of parts In a single pass.

High feed capacity
(up to 1 ton per load via metal bin tipper)

Coolant-resistant setup
(oil/coolant-ready robot + protected cell design)

High-mix capable
(handles frequent part changes and variants)

Vision-powered picking
(IROVISION for random orientation pick & placement)

Stable, continuous flow
(buffering that keeps the transfer machine running)



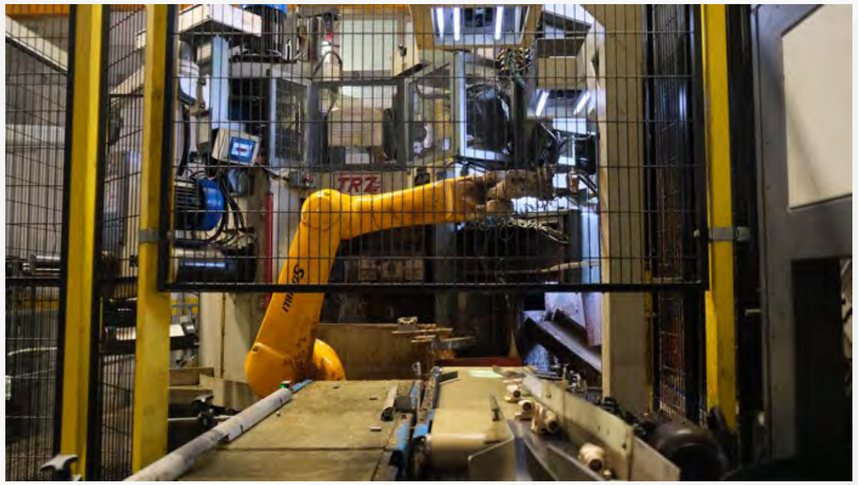
ROBSEN

Transfer Machines

Robotic Solutions

Photo Gallery









Transfer Machines

Robotic Solutions

Video Gallery

ROBOTIC CELL FOR TRANSFER MACHINE



scan to watch

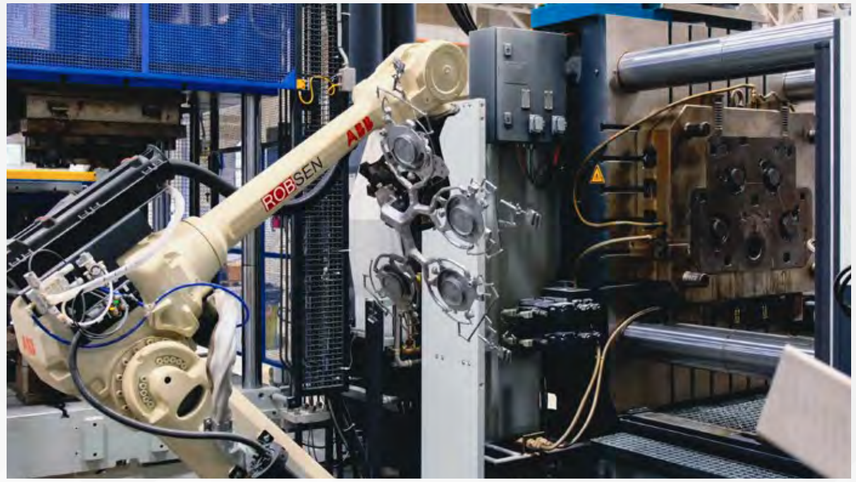
HPDC Robotic Solutions

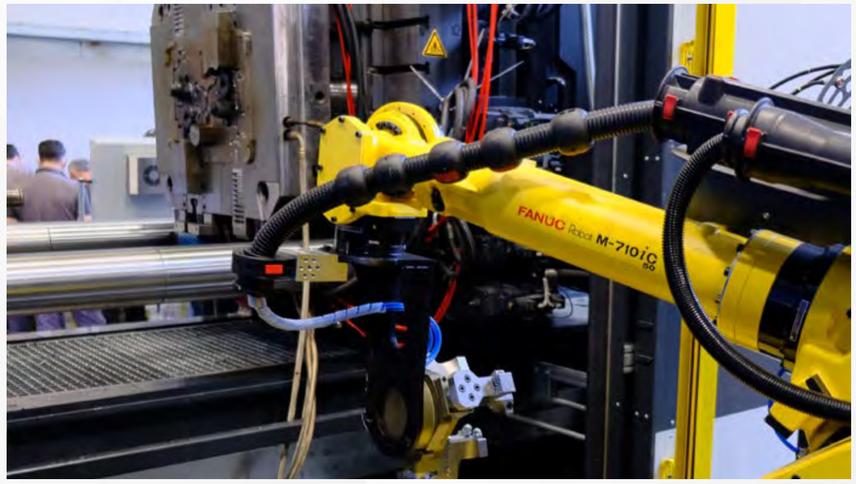
Casting Extraction

FRECH

Keeps operators away from direct contact with hot, oily, and sharp cast parts.

- Cooling Tank Integration
- Cast Part Monitoring
- Insert Feeding
- Communication with Press Cell
- Fast Commissioning





ROBSEN

HPDC Robotic Solutions

Photo Gallery

FRECH

01 Robotic Part Extraction



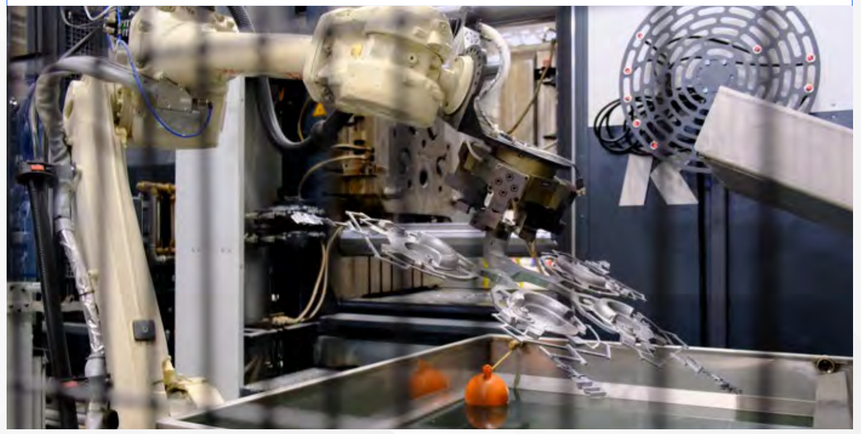
03 Press Feeding



02 Part Inspection & Verification



04 Cooling Tank Integration



ROBSEN

HPDC Robotic Solutions

Video Gallery

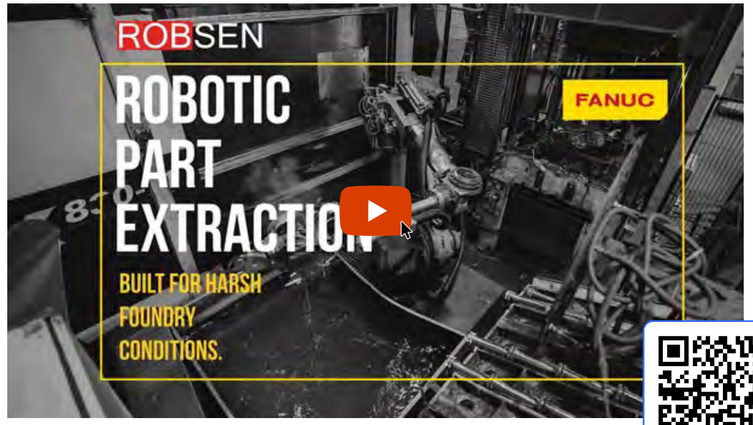
FRECH

ROBOTICS CELL FOR DIE CASTING // ABB FOUNDRY



scan to watch

Casting Extraction // HPDC // Fanuc



scan to watch

ROBSEN

Press Tending
Robotic Solutions

01 Hot Forging



- ✔ Load & unload heated billets
- ✔ Control process and die lubrication

02 Trimming Press



- ✔ Load forged parts into the trimming press
- ✔ Engineered end-to-end for 2.0–2.5 s cycle times

ROBSEN

Hot-Forging

Robotic Automation Cell

01
Furnace Outfeed Conveyor
Custom wire-mesh conveyors for red-hot extrusions.

02
Heat Protection Package
Robot covers & guarding designed for harsh environments.

03
High-Temperature EOAT
Dedicated tooling for hot parts – stable grip, repeatable release.

04
Press Load & Unload
Robotic infeed / outfeed synchronized with press.

05
Die Lubrication
Automated, repeatable die spraying integrated into the cycle.



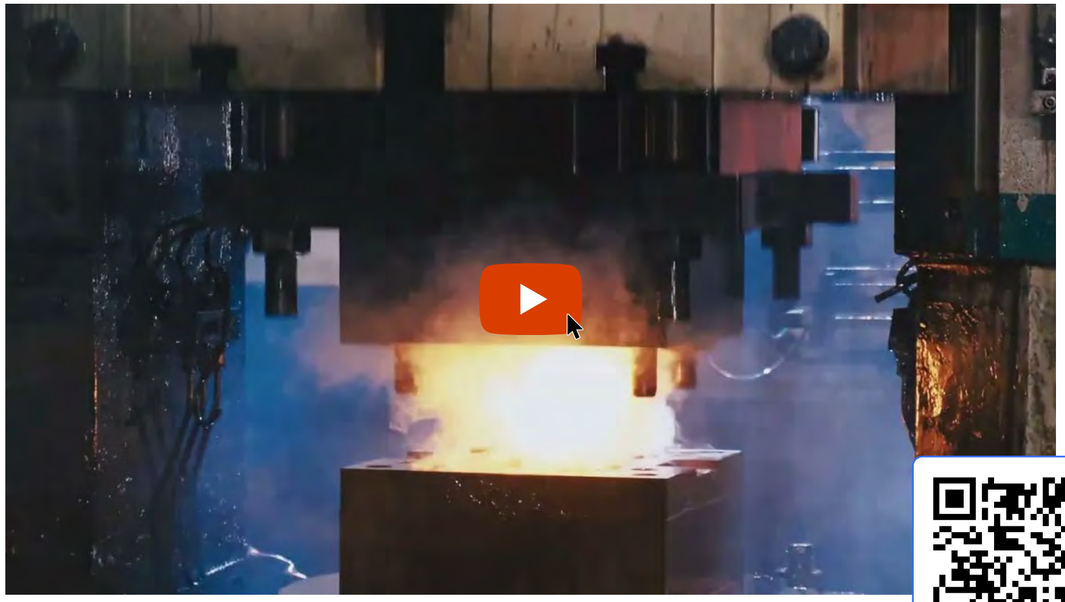


ROBSEN

Hot-Forging

Video Gallery

Hot Forging Press Tending Robotic Cell



scan to watch

ROBSEN

Press Tending

Robotic Trimming Cell

From bulk bin feed to final outfeed - engineered as one complete cell.

01 Bin Tipper Feed
High-capacity tipping for bulk storage feed

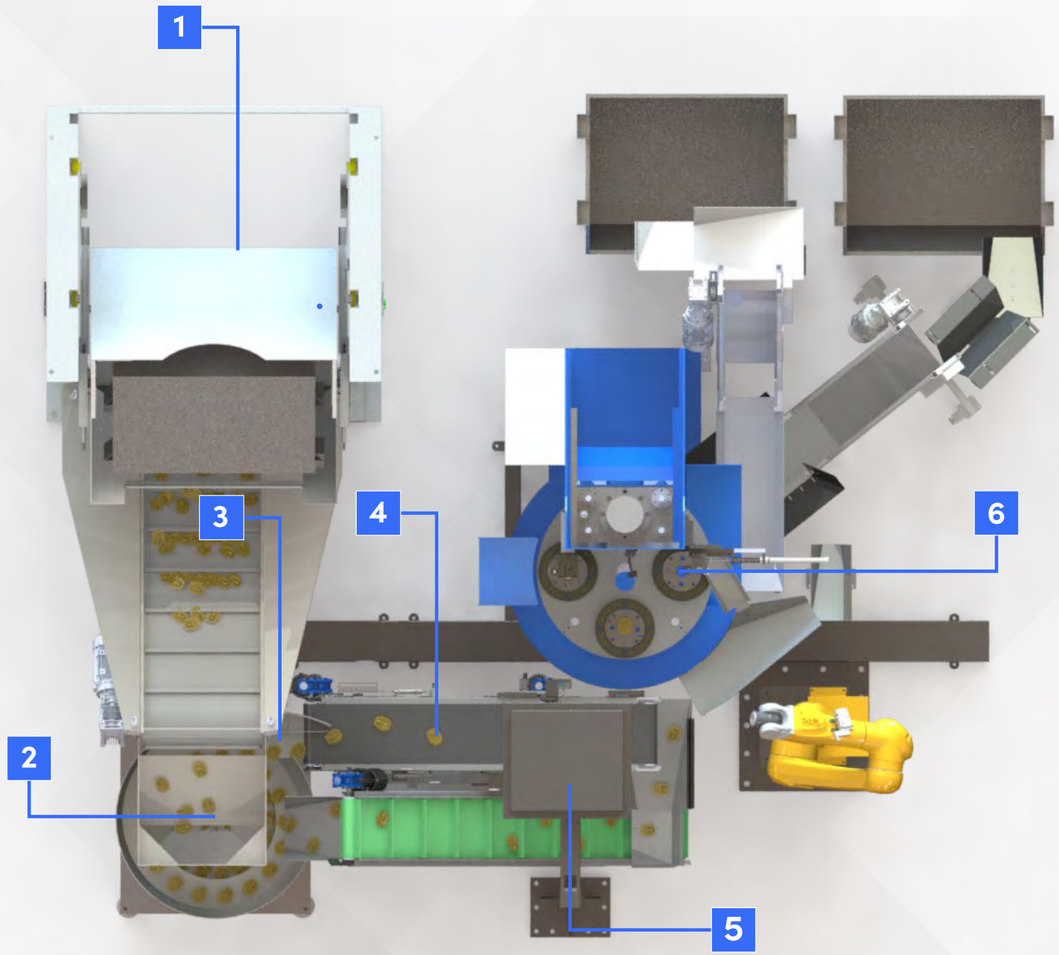
02 Vibratory Bowl
Controlled part flow and orientation.

03 Linear Vibratory Tracks
Reliable part singulation & spacing.

04 Conveyor Transfer & Spacing
Parts carried to vision cell.

05 Vision Pick Zone
IROVISION identifies & stabilizes parts.

06 Robot Press Loading
Accurate press infeed and parts handling.



Press module designed & built in-house — matched to tonnage and part needs.

ROBSEN

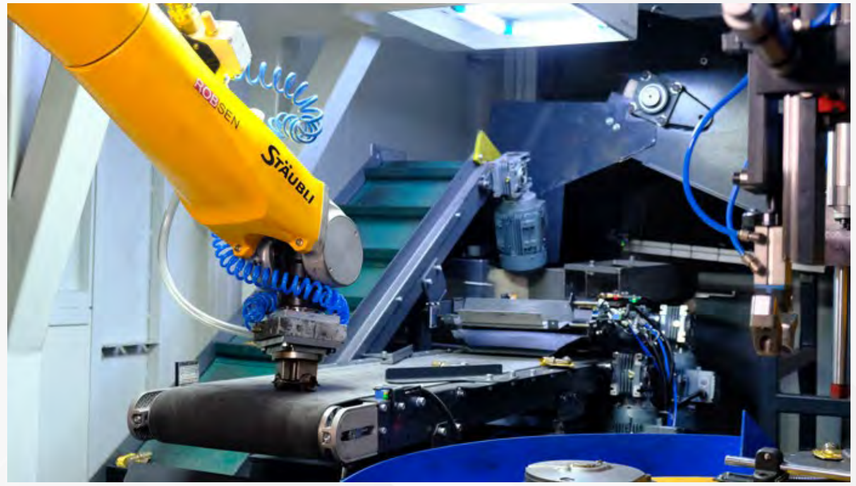
Robotic Trimming Cell

Photo Gallery









Robotic Trimming Cell

Video Gallery

Trimming Line For Metal Parts



scan to watch

ROBOTIC CELL FOR TRIMMING LINES



scan to watch

ROBSEN

Assembly & Quality Control & Packaging

From small components to complete sub-assemblies-robotic assembly, inspection, and end-of-line packaging in one flow.

01 **Copper Water Fitting**
Inspection & Robotic Packing Cell

02 **Nut Sorting**
4 parts/sec, palletizing cell

03 **Valve Body**
Assembly & Quality Control & Packaging Cell

04 **Plastic Safety Seal**
Metal Clip Assembly + Ultrasonic Welding + OCR

05 **Faucet Assembly**
Assembly of 7 components, leak test, and marking

o-ring assembly | leak testing | Vision cameras

Liquid gasket dispensing | Torque-controlled fastening

Cartsian robots (gantry) | Vibrator bowl feeders

SCARA robots | 6-axis robots | Telecentric lenses

OCR (Optical Character Recognition) | Bin tipper

Laser marking



ROBSEN

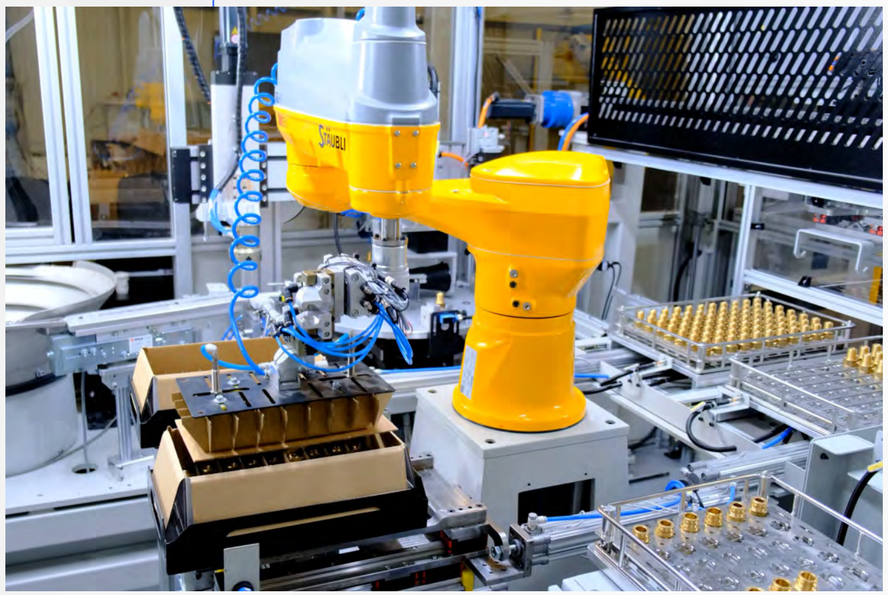
Copper Water Fitting
Inspection & Robotic Packing Cell

Customer Request

We currently process brass fitting parts coming from the washing line in baskets. 7-person team assembles O-rings, then parts are inspected for surface defects, burrs, hole presence, and thread condition before being packed into boxes.

In manual operation, we face frequent misses and inconsistent quality.

The Solution

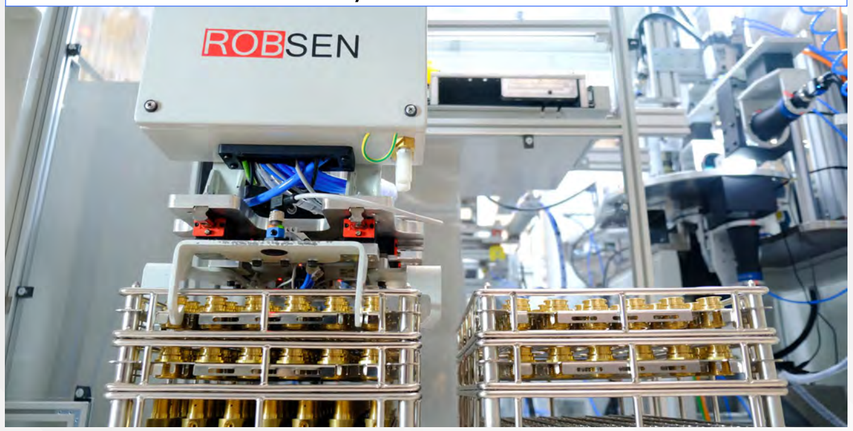


- Cartesian Robot Handling
- SCARA Robot
- Vibration bowl
- Box / Tray Seperators
- Burr Detection
- O-Ring Assembly
- Telecentric Vision Inspection
- Surface Defection
- Thread & Pitch Check
- Dimensional Measurement
- Presence / Absence Check
- Robotic Packing

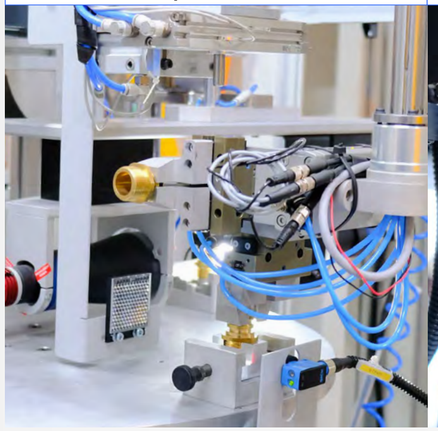
ROBSEN

Copper Water Fitting
Inspection & Robotic Packing Cell

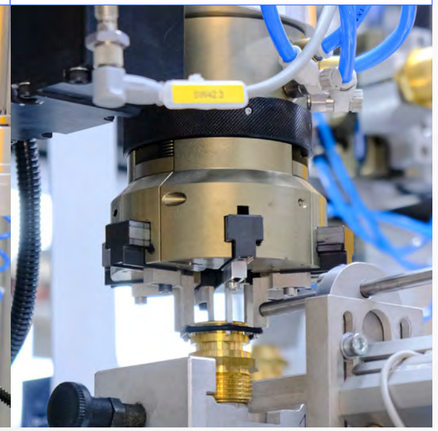
01 Load baskets into the system



02 Robot feeds parts onto the rotary table



03 O-ring assembly



04 Inspection with telecentric lenses



05 SCARA places OK parts into boxes



06 Operator unloads full boxes from the cell



ROBSEN

Copper Water Fitting
Inspection & Robotic Packing Cell

All-in-one platform
plug-and-play commissioning.

Footprint: 3200 × 2300 mm | Height: 2400mm
single-platform cell.



Designed to fit on a standard truck trailer.



ROBSEN

Copper Water Fitting
Inspection & Robotic Packing Cell
Video Gallery

All-in-one platform
plug-and-play commissioning.

Final Control and Packaging Machine



scan to watch

ROBSEN

Nut Sorting
4 parts/sec, Palletizing Cell

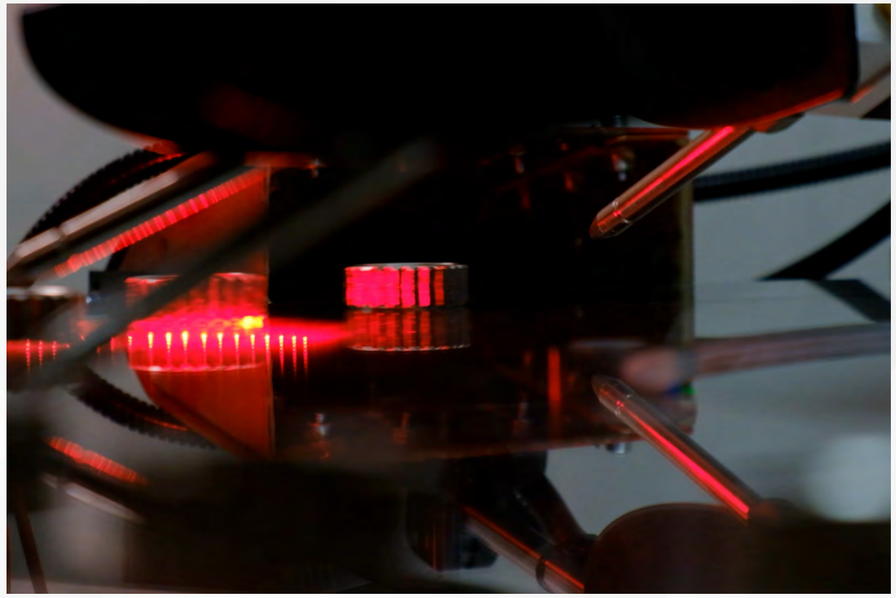
Customer Request

We want to ship nuts with 100% inspection before dispatch.

We need to verify:
- Overall dimensions (incl. inner diameter)
- Outer diameter & wrench flats (across flats)
- Surface defects on side walls (scratches, cracks)
- Thread verification (thread count / thread integrity)
- Bottom seating face inspection (cracks / damage)

Our target is a one-operator solution:

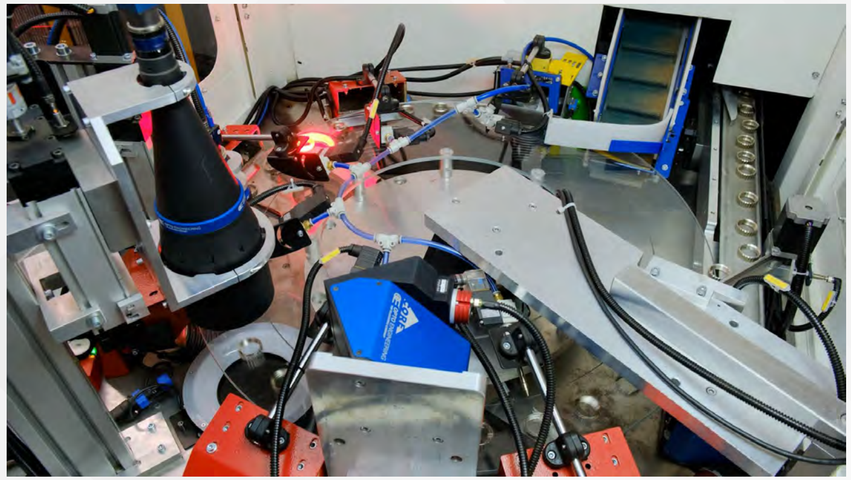
Parts are fed in bulk via a metal bin, and we want to receive them boxed and palletized as finished output.

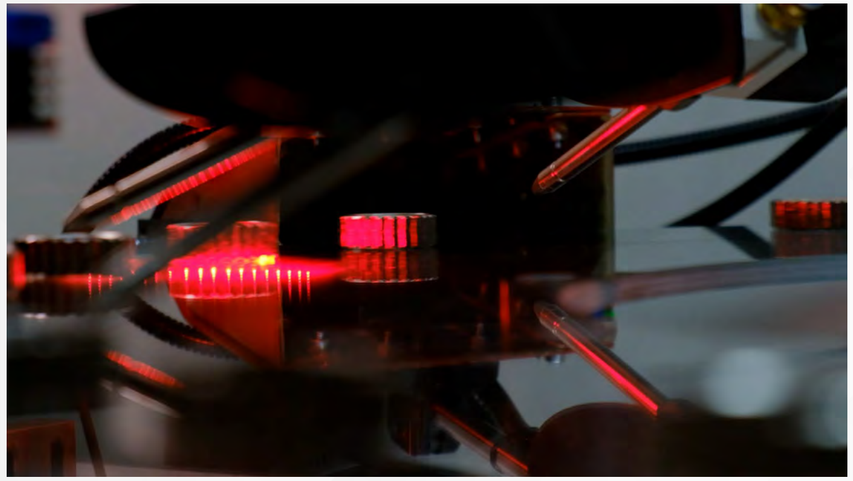


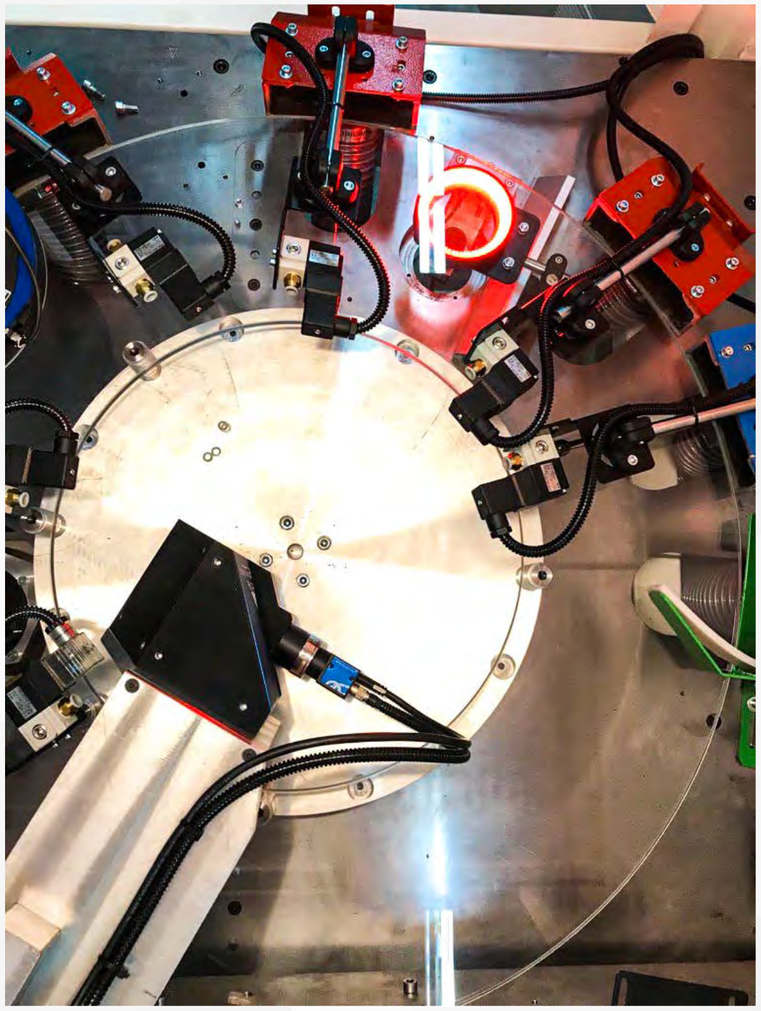
Torun Metal Fanuc Robodrill Irocube Line

ROBSEN

Nut Sorting
4 parts/sec, Palletizing Cell
Photo Gallery

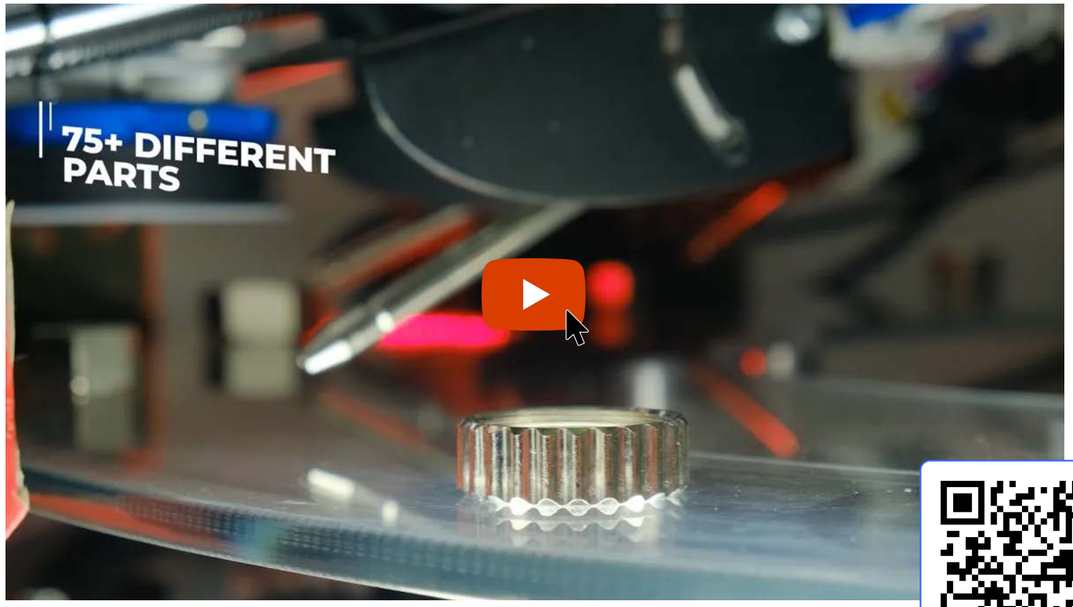






Nut Sorting
4 parts/sec, Palletizing Cell
Video Gallery

Nut Sorting Machine



scan to watch

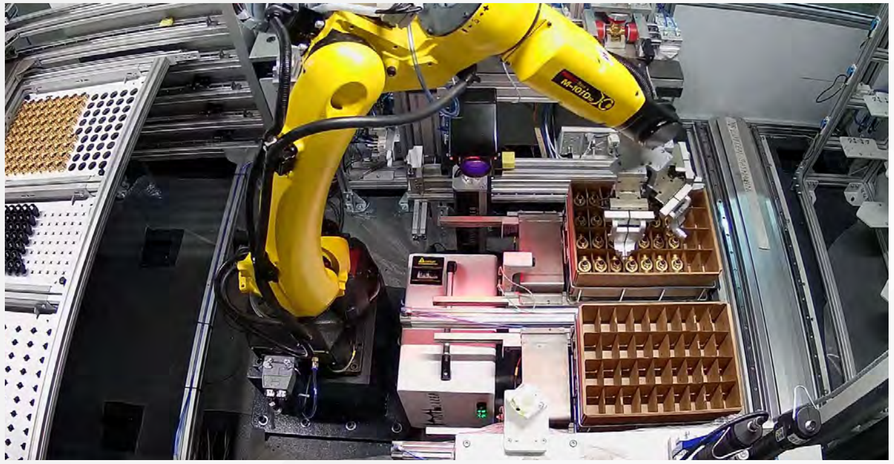
ROBSEN

Valve Body
Assembly & Quality Control & Packaging Cell

Customer Request

I want to automate my manually operated valve body assembly process.
I want the robot to run a full shift without operator intervention. By loading the parts in advance, I want the system to operate for up to 8 hours.
I also want each valve body to go through a leak test and then be laser marked. With this marked code, I want to store the leak test result together with all related production data, so that every valve body can be fully traceable.

The Solution



Torque-controlled screwdring module

Laser Marking

Leak testing / sealing verification

Torque tightening unit

OCR (code reading & verification)

Leak testing / sealing verification

6-axis robot

Traceability (data logging)

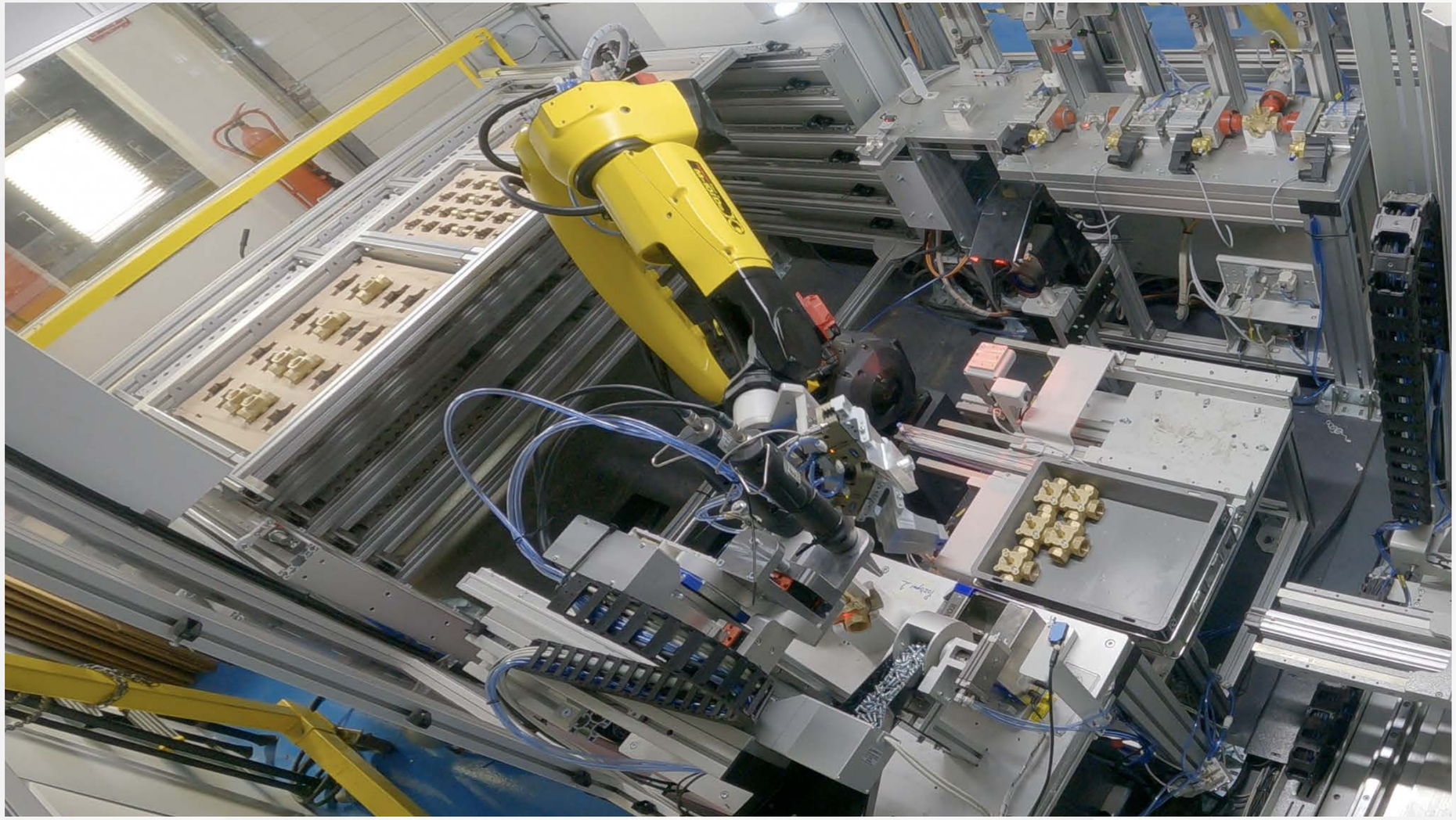
Cartesian box-handling robot

Liquid gasket / sealant dispensing

Single Platform

ROBSEN

Valve Body
Assembly & Quality Control & Packaging Cell



ROBSEN

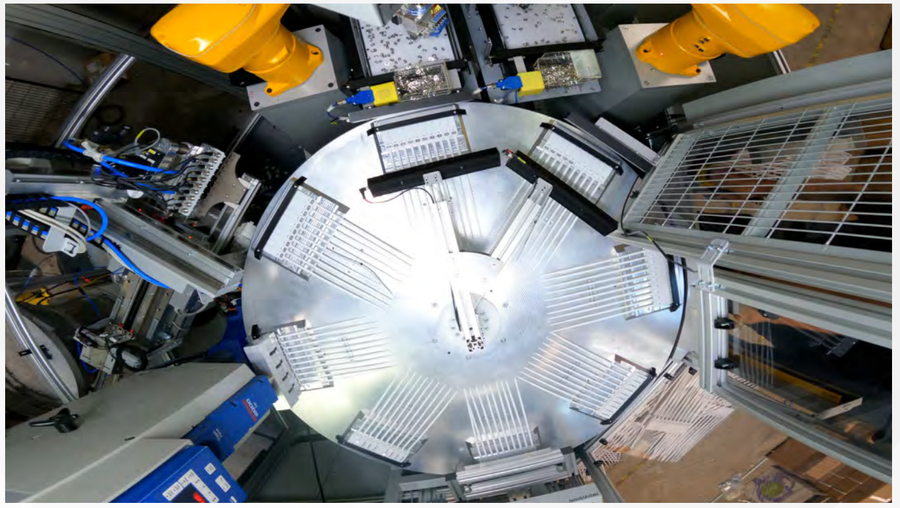
Plastic Safety Seal
Metal Clip Assembly + Ultrasonic Welding + OCR

Customer Request

We need a single-platform machine that inserts oriented metal clips into 10-piece plastic housings, then places plastic plugs and performs ultrasonic welding. After welding, the system must laser-mark a barcode and verify it with a camera. The cell should run with one operator.



The Solution

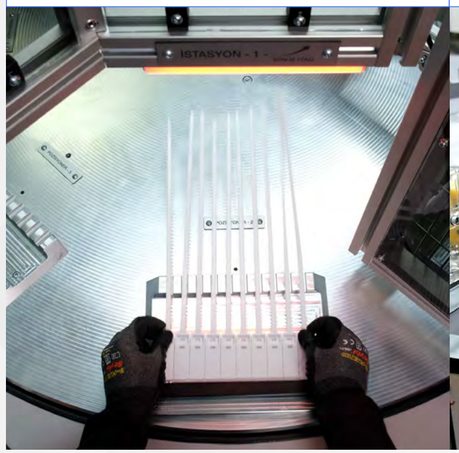




ROBSEN

Plastic Safety Seal
Metal Clip Assembly
+ Ultrasonic Welding + OCR

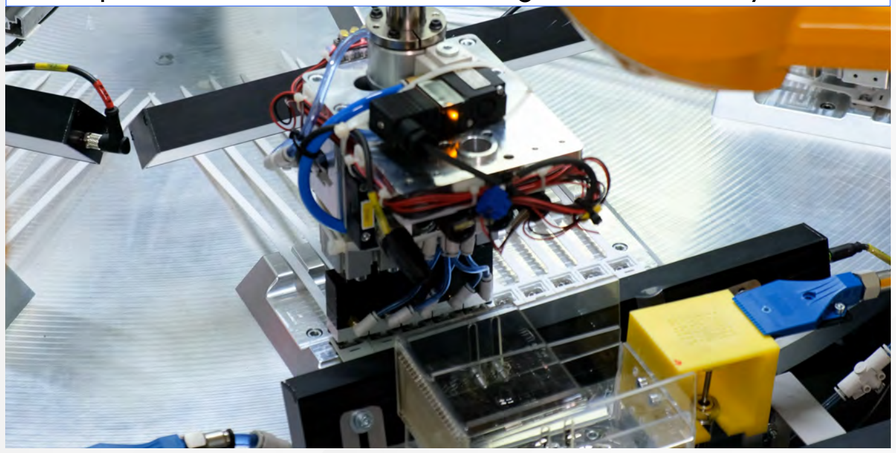
01 Operator loads plastic housings into the cell



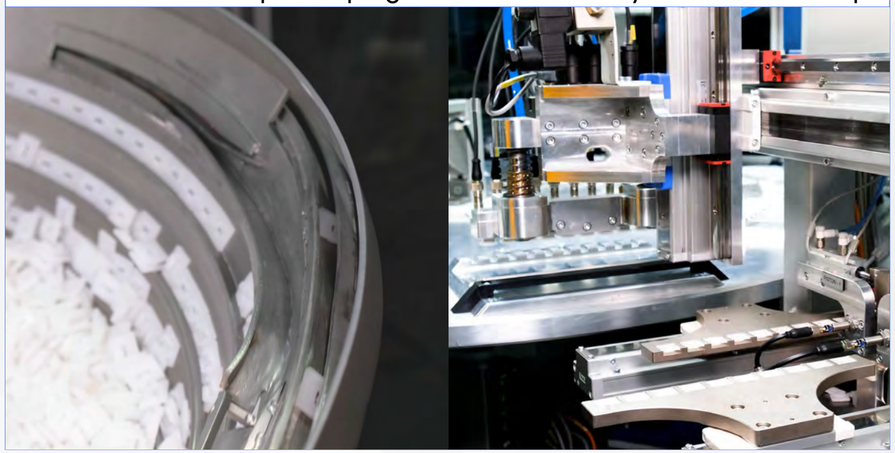
02 SCARA robots pick oriented metal clips from the flexible feeder



03 Clips are inserted into the housings and verified by vision



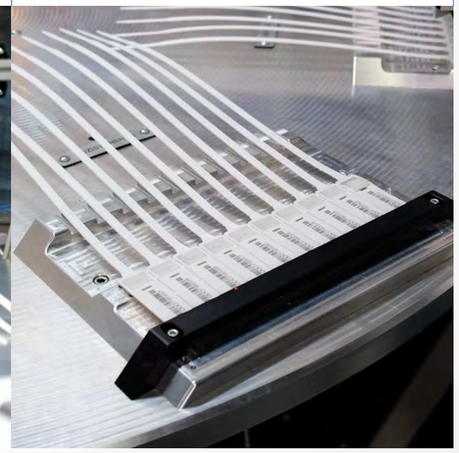
04 A cartesian unit places plugs from the vibratory bowl onto the clips



05 Parts are ultrasonically welded



06 Barcodes are laser-marked and camera-verified

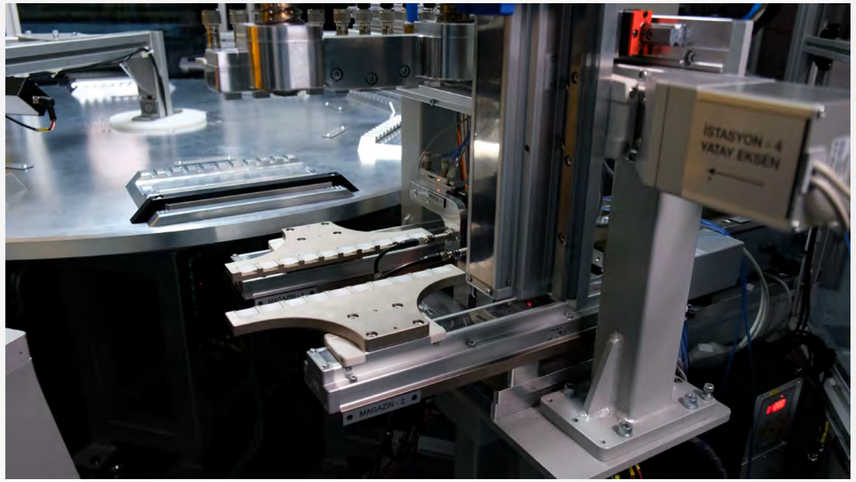


ROBSEN

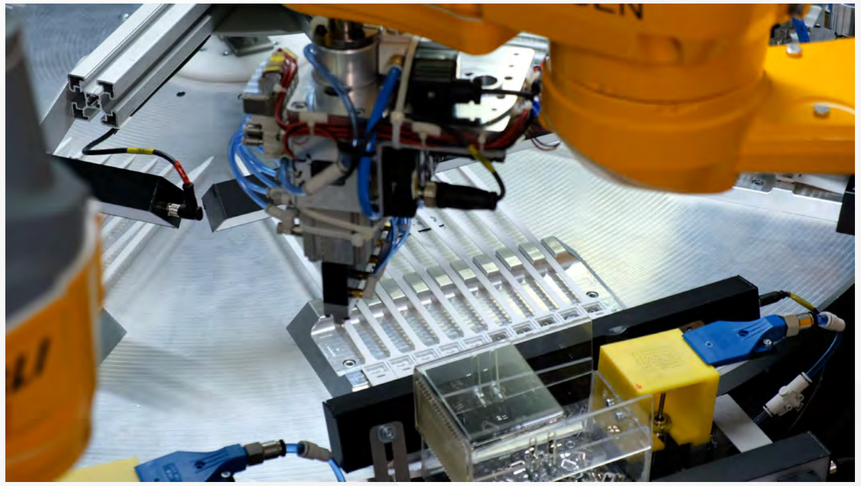
Plastic Safety Seal Metal Clip Assembly

Photo Gallery









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Plastic Safety Seal Metal Clip Assembly

Video Gallery

Plastic Safety Seal Assembly Machine



scan to watch

ROBSEN

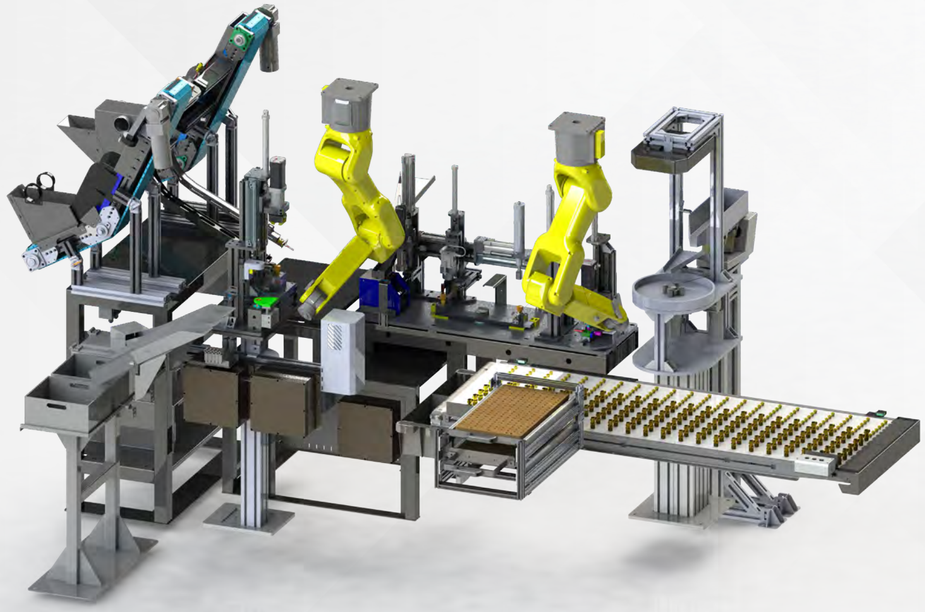
Faucet Assembly

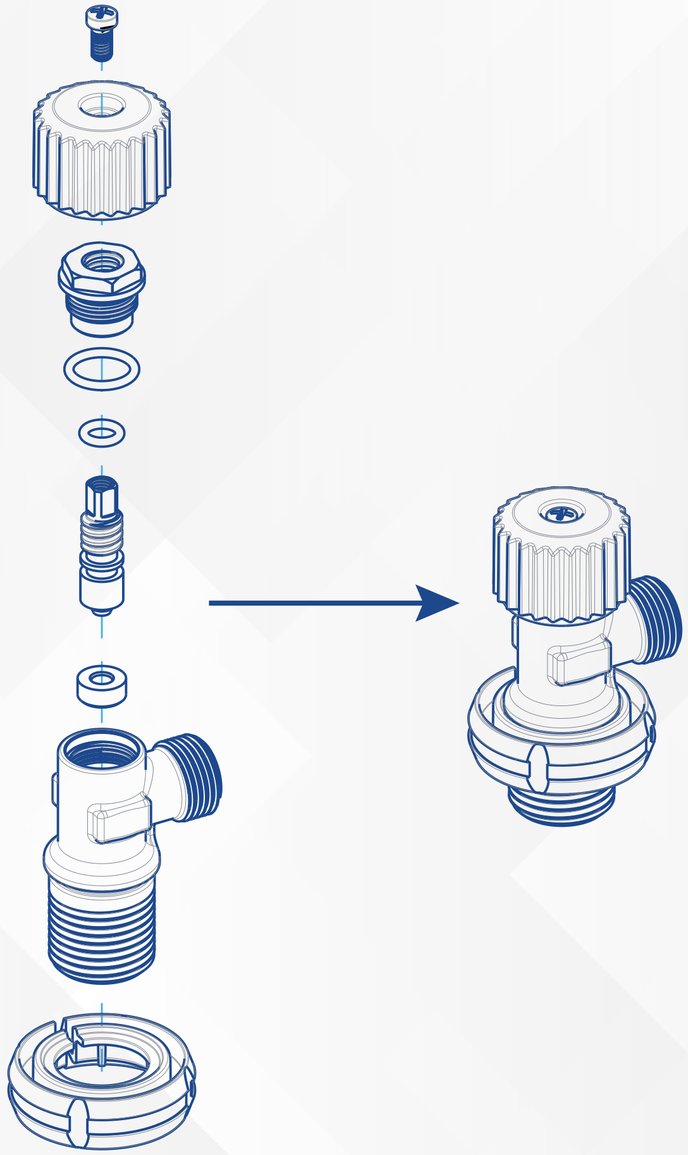
Assembly of 7 components, leak test, and marking

Customer Request

We have a 7-part faucet assembly. We need a flexible assembly system because this is a product family—components may change over time. For that reason, we want an assembly concept with minimal part-specific tooling.
After assembly, parts must pass a leak test and then be laser-marked.

Target operation: one operator.

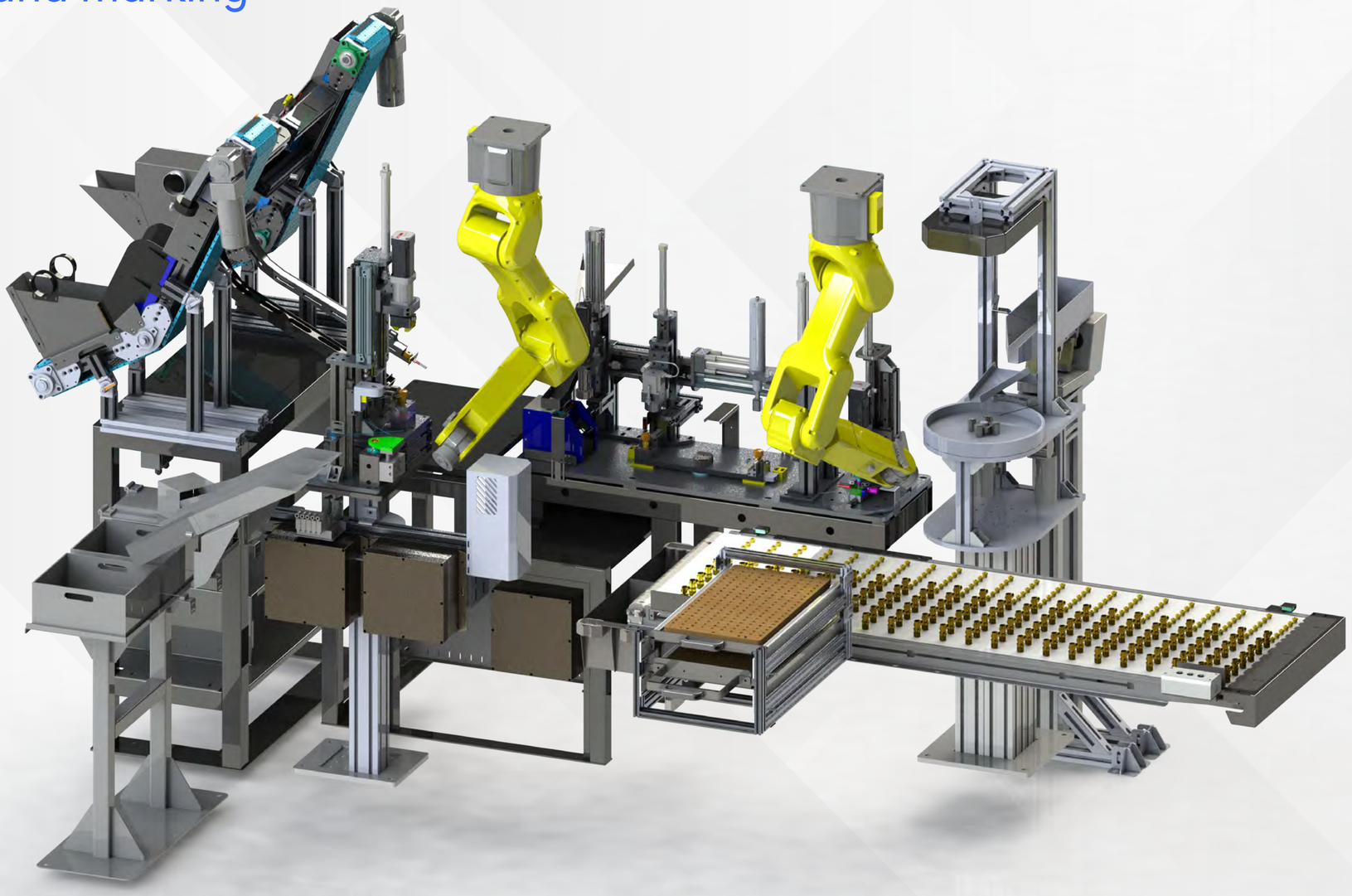




ROBSEN

Faucet Assembly

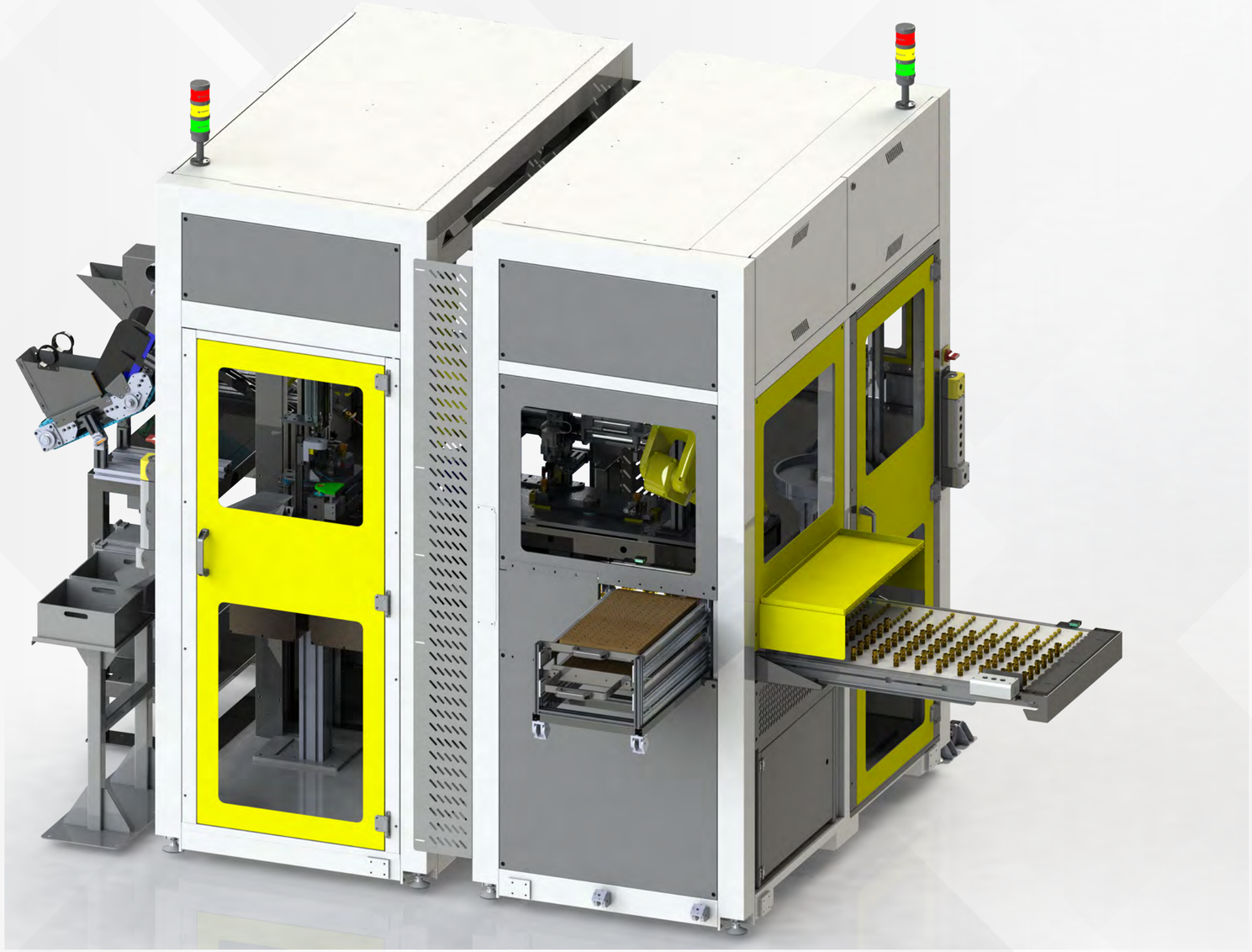
Assembly of 7 components, leak test, and marking



ROBSEN

Faucet Assembly

Assembly of 7 components, leak test, and marking

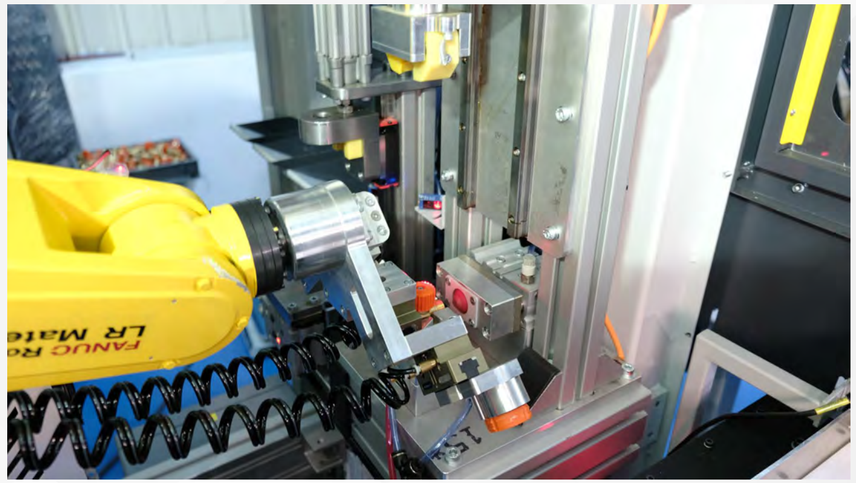


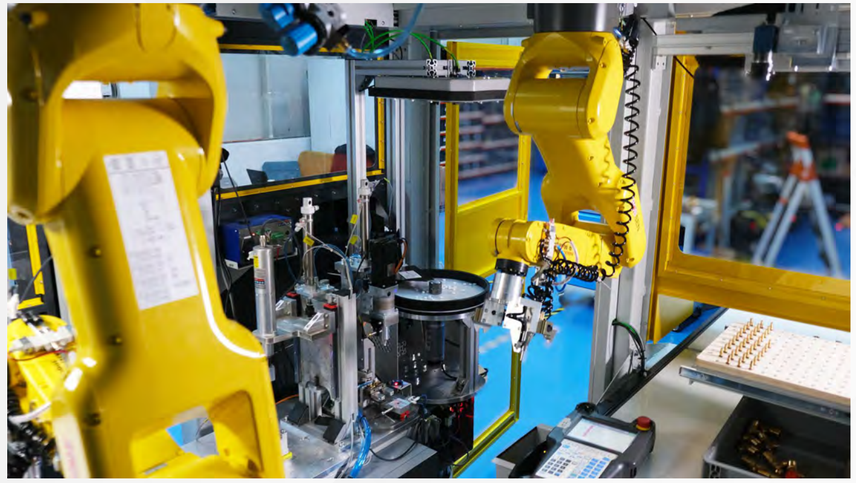
ROBSEN

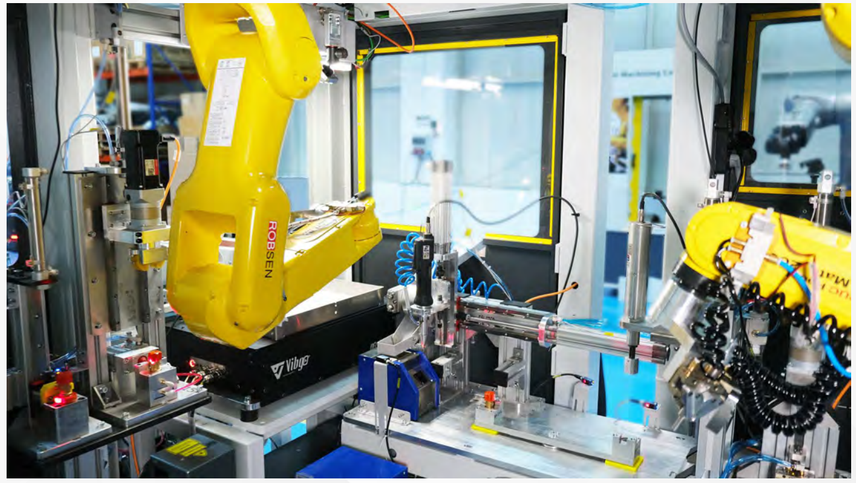
Faucet Assembly

Assembly of 7 components, leak test, and marking









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Surface Finishing

Cutting & Deburring & Grinding & Polishing

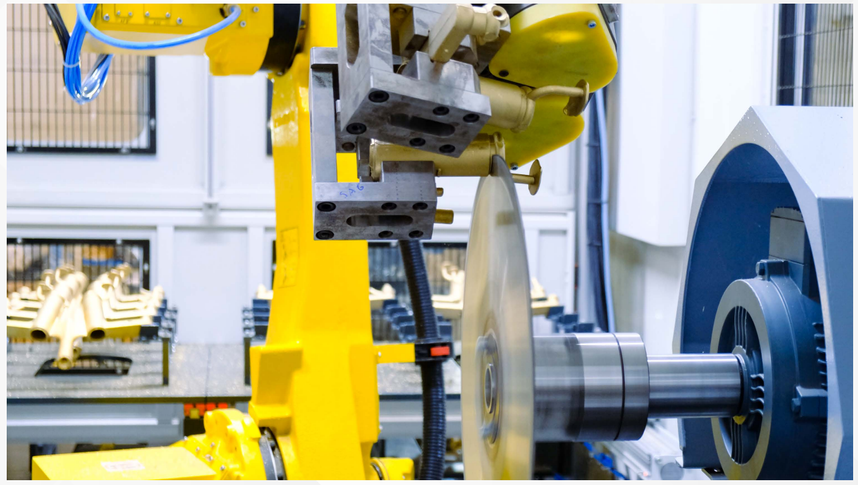
Single-platform surface finishing for aluminum and brass parts—cut, deburr, grind, and polish in one integrated flow.

01 Cutting & Rough Grinding Cell

02 Deburring & Grinding Cell

03 Grinding & Polishing Cell

o-ring assembly
Dust filtration
Risers
Part to tool
Belt grinding
Regripping
Brass
Tool to part
Part to tool
Aluminum
6-axis robot
Casting channels
Tool changer
Compensation
File tool
Deburring
Circular saw
Flawless results



ROBSEN

Robotic

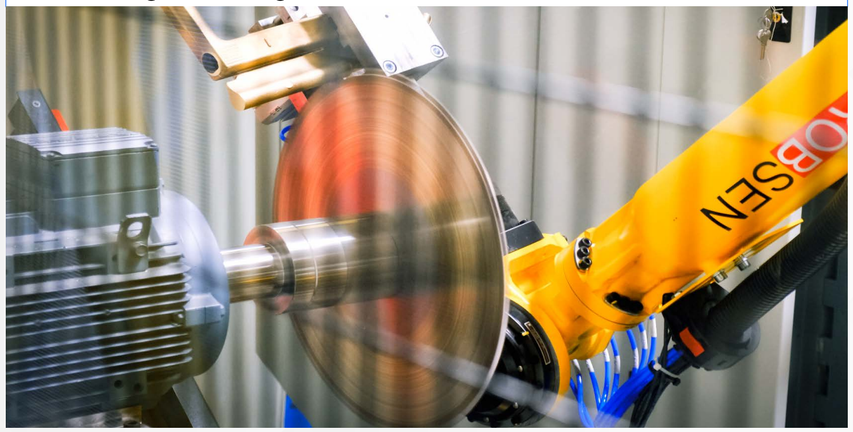
Cutting & Rough Grinding

Lower *risk,*
higher *consistency.*

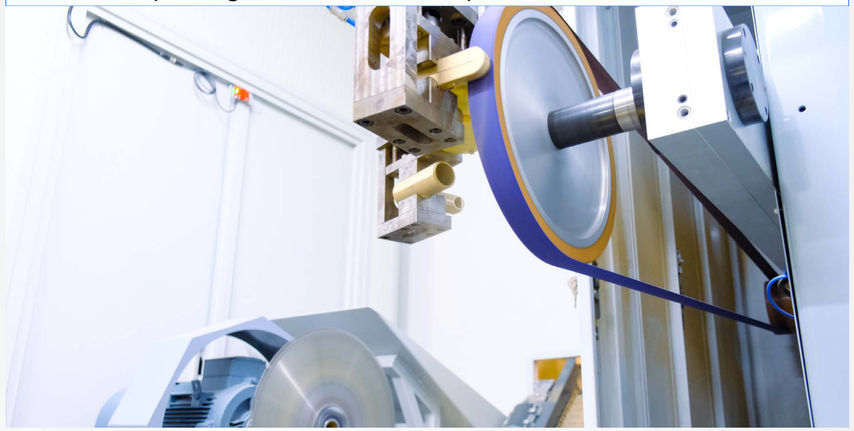
01 **Cycle Time**
Less than 70 seconds per part, including gate grinding.



02 **High Precison Cutting**
Longer cutting lifetime with circular wheel



03 **Increase Surface Quality**
Easy integration with line systems.



04 **Cycle Time**
Less than 70 seconds per part, including gate grinding.



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Robotic
Cutting & Rough Grinding

All-in-one platform
plug-and-play commissioning.



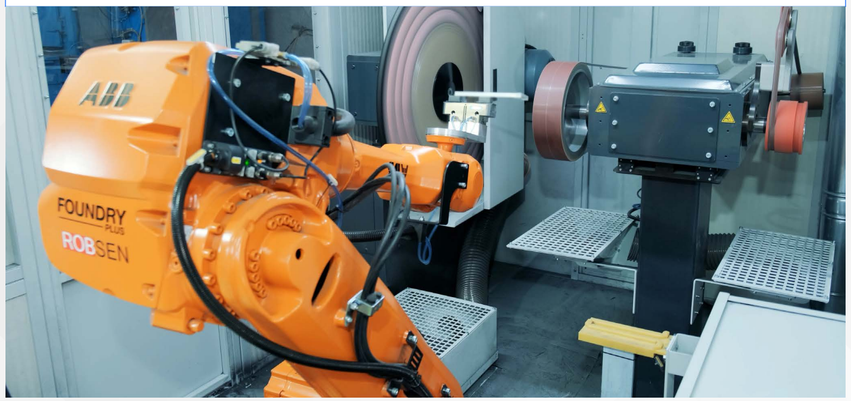
ROBSEN

Robotic
Grinding & Polishing Cell

Remove micro-burrs with sanding.
Finish with polishing for a bright surface.

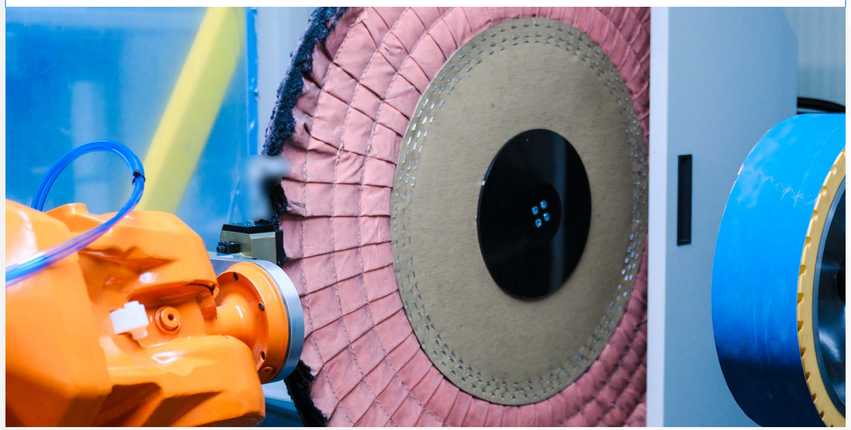
01 Adaptive sanding modules

Compensated sanding heads with multiple belt widths (matched to feature size & surface target).



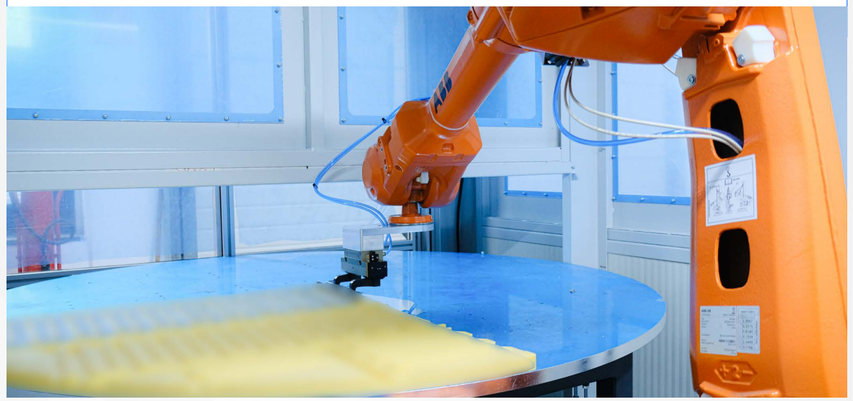
02 Polishing stage

Polishing tools for a uniform finish—consistent surface on every part.



03 Dust-isolated loading concept

Operators stay away from dust: a sealed rotary indexing table passes through the cell wall, keeping the loading zone outside while the process zone stays fully enclosed.



04 Dust extraction & filtration integration

Prepared interfaces for your filtration system—or we deliver the complete extraction + filtration package.



ROBSEN

Robotic
Grinding & Polishing Cell

Remove micro-burrs with sanding.
Finish with polishing for a bright surface.



ROBSEN

Robotic
Grinding & Polishing Cell
Video Gallery

Remove micro-burrs with sanding.
Finish with polishing for a bright surface.

Final Control and Packaging Machine



scan to watch

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IROCUBE MOBILE

Machine Tending & Palletizing & Intralogistics

Single-platform surface finishing for aluminum and brass parts—cut, deburr, grind, and polish in one integrated flow.

01 Machine Tending

02 Palletizing

03 Intralogistics



AMR + Cobot
Fleet Manager
Multi AMR
Map Builder
Digital Map Zone Management
Charging Stations
Safety LiDAR
SLAM Navigation
Docking Accuracy
High-Precision Docking
Traffic Control
Task Scheduler
Mission Dispatch
Call Buttons
Quick Changeover
Route Planning
Dynamic Routing
Auto Charging
Auto Alignment
Scalable Feet
Real Flexibility
Trackless Automation
Sub-milimeter positioning
AMR+Cobot
Quick Changeover
Repeatability
Lights-Out Ready
Vision Calibration
3D Vision

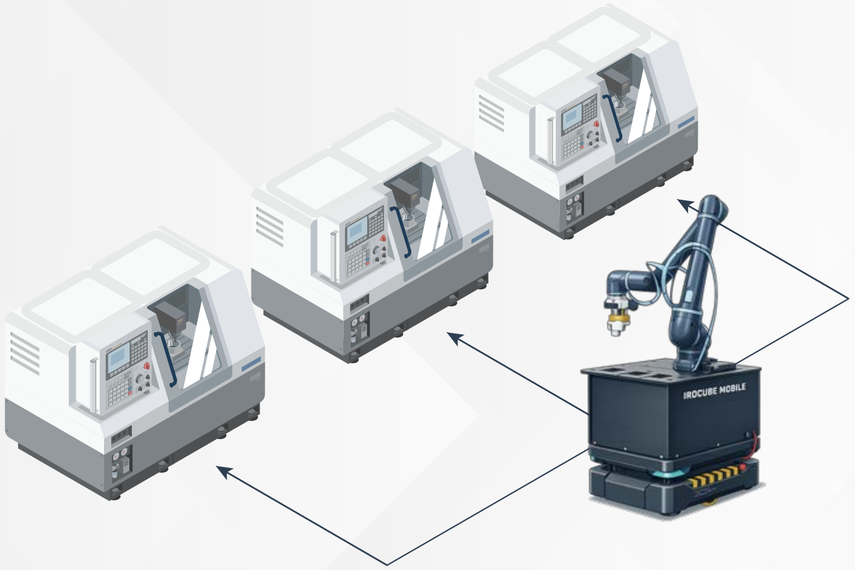
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IROCUBE MOBILE
Machine Tending

MiLVUS ROBOTICS

One robot. Multiple machines. Zero fixed layout.

Multiple machines, long cycle times, changing part mix—your tending solution should move with the plan.
Long cycles give you the window; mobility gives you the freedom. One mobile tending setup can serve several machines, adjust to layout realities, and stay productive even when the part mix changes.

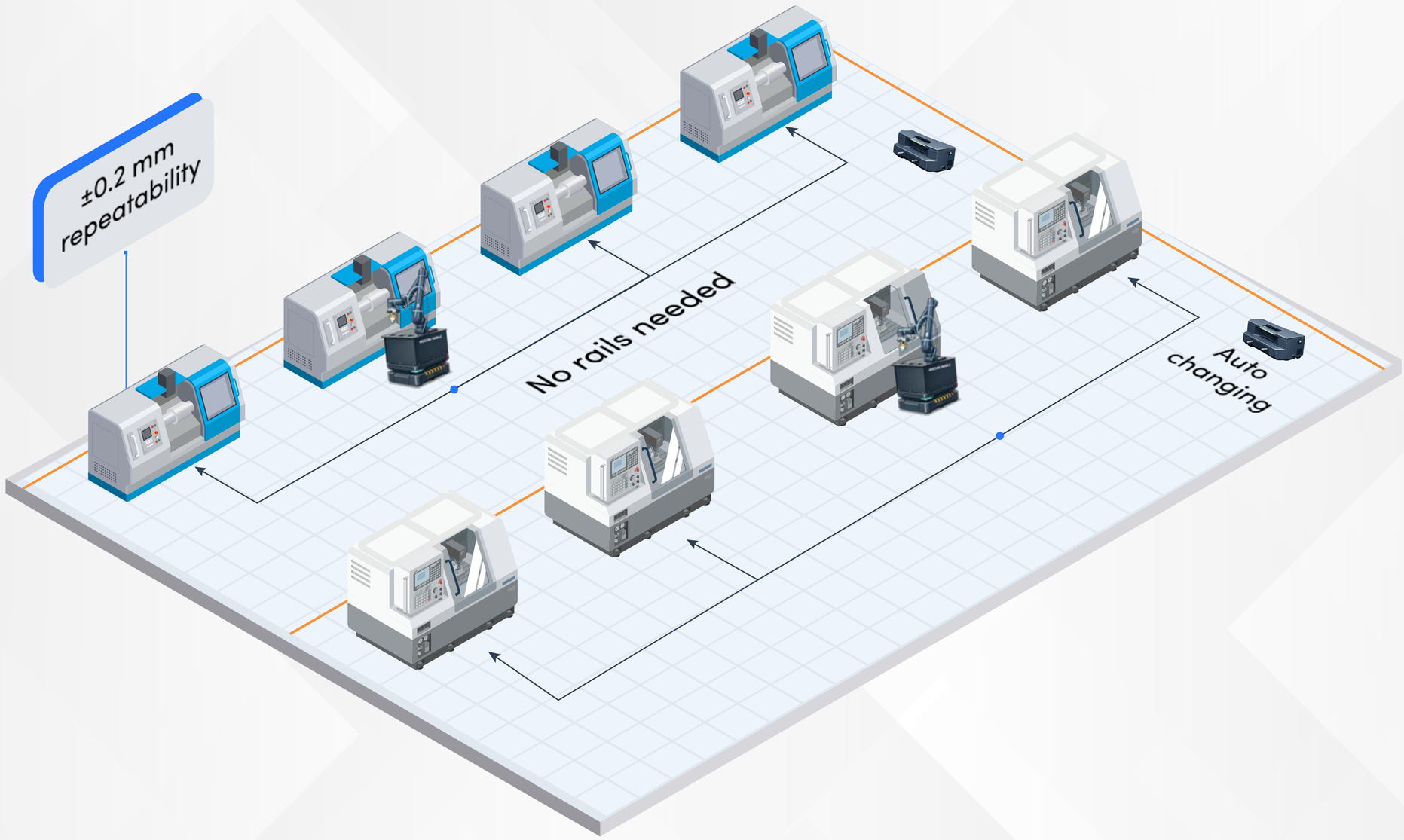




ROBSEN

IROCUBE MOBILE
Machine Tending

One robot. Multiple machines.
Zero fixed layout.



ROBSEN

PARTNER

MiLVUS ROBOTICS / ROBSEN

AMR Partner: Milvus Robotics

IROCUBE Mobile Projects powered by **Milvus AMRs.**

Milvus Robotics is our AMR manufacturing partner for interlogistics and in-factory material flow.



Why Milvus?

01 - One Fleet. 100+ AMRs
Manage hundreds of robots from one dashboard.

02 — 1000+ Robots Deployed
Proven production & commissioning experience.

03 — Layout-Friendly Navigation
Works with your existing factory layout.

Fleet Manager

Manage and coordinate your AMR fleet from anywhere with real-time visibility and smart optimization tools.

central fleet control

live mission tracking



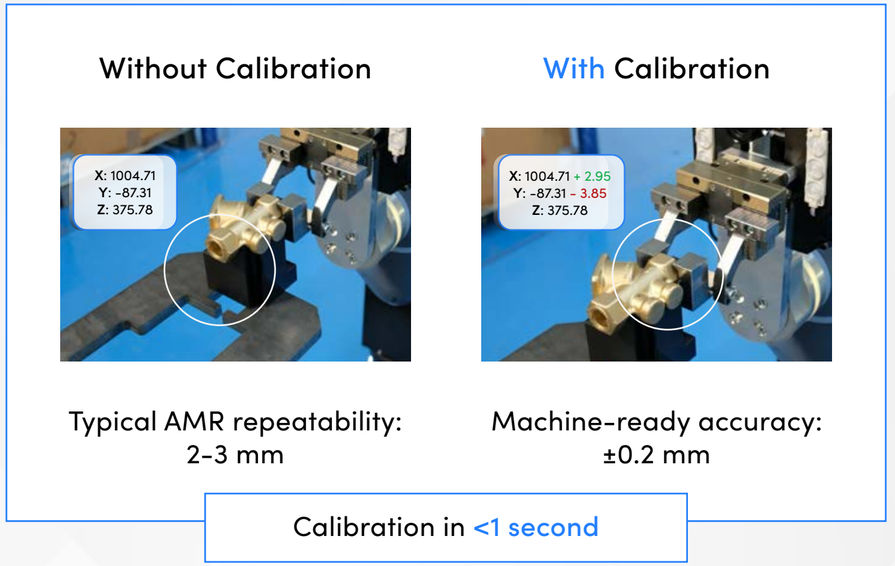
ROBSEN

High-Accuracy Mobile Tending with Fast Calibration

AMR repeatability: 2–3 mm. Robsen calibration enables cobot-level ±0.2 mm accuracy at pick & place points.

How it works?

We place a **calibration** target at pick / place stations. The robot's tool camera snapshots the target and automatically updates the offset—so every critical approach is re-aligned before handling the part.



Go to station → Calibrate → Pick the part → Go to machine → Calibrate → Place the part

±0.2 mm accuracy | < 1s auto-calibration | No fixed layout

Re-calibration is automatic and takes <1

ROBSEN

Rail Robots vs.
Mobile Cobot

Efficiency is not "one robot for many machines" -it's flexibility.

RAIL ROBOT (7th Axis)

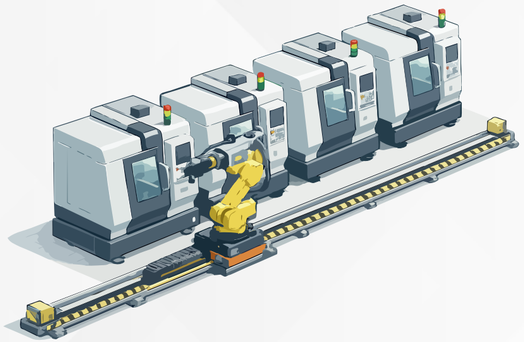
1) Repeatability Risk
Rail repeatability drifts.
Wear and backlash reduce accuracy over time.

2) Line Stop Risk
One stop stops all.
Maintenance can pause the entire rail line.

3) Layout Penalty
The layout serves the rail.
More space, more guarding, less flexibility.

4) Hard to Scale
Scaling is not modular.
Adding capacity means more rail + more complexity.

5) Scheduling Complexity
More machines, more conflicts.
Travel time and collisions complicate cycle planning.



MOBILE ROBOT (AMR+Cobot)

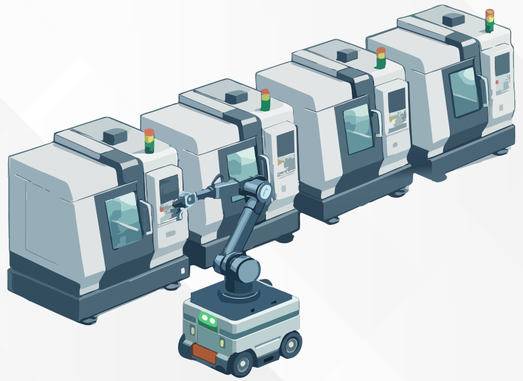
1) Stable Accuracy
Accuracy stays consistent.
Auto-calibration keeps pick/place points aligned.

2) Continuous Production
One stop doesn't stop all.
Other stations keep running during intervention.

3) Layout Flexibility
No rail, no fixed layout.
Works with your current factory arrangement.

4) Easy to Scale
Scaling is modular.
Add another mobile unit when demand increases.

5) Smarter Scheduling
Less conflict, more control.
Fleet software coordinates routes and missions.

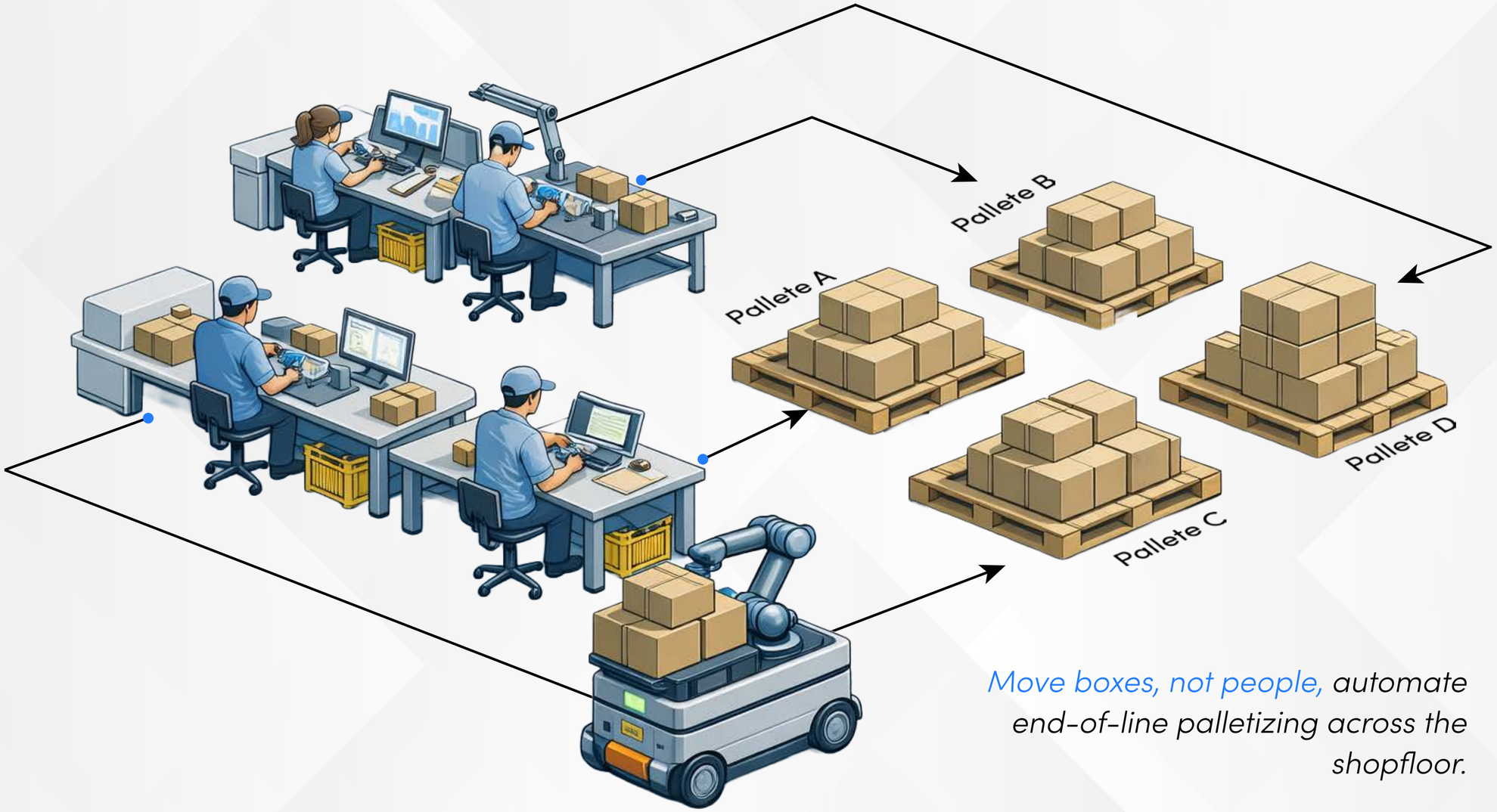


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IROCUBE MOBILE

Palletizing

One mobile cobot.
Multiple pickup points. Flexible pallets.



Move boxes, not people, automate end-of-line palletizing across the shopfloor.

ROBSEN

IROCUBE MOBILE

Palletizing

Why Switch to Mobile Cobot Palletizing?

Multi-Source, Multi-Pallet

Pick from multiple stations—and build the right pallet (by destination, order, or customer).

Lean Workstations

Keep stations clear: no waiting boxes, no floor piles—pick up directly and palletize on the move.

Changing SKU

Switch SKUs without re-layouts—pallet patterns and missions adapt as the part mix changes.

Peak Season Scaling

Handle demand spikes by adding another mobile unit—scale capacity when volumes rise.

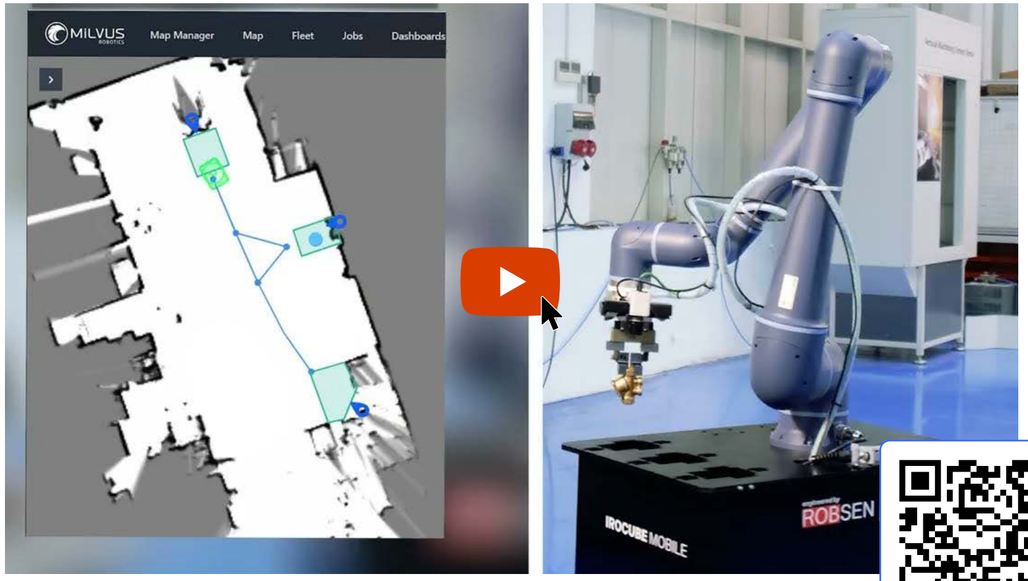


Seems like a lot of moving parts?
So how do we keep it all organized—live, in one system? Next page.

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IROCUBE MOBILE
Video Gallery

Irocube Mobile



scan to watch

IROCUBE MOBILE
Palletizing

Many stations. Many pallets. Many box types.

How do we manage all this with a mobile cobot?

Adaptive Gripper

- **Servo + Force Control Gripper:**
  One gripper for mixed box sizes and weights



FleetBridge

- **Task Dispatch**
  Auto-assigns jobs by station, order, pallet, or destination.
- **Task Optimization**
  Balances workload to reduce waiting and keep throughput steady.
- **Path Optimization**
  Selects the best route in real time around traffic and obstacles.
- **Fleet Coordination**
  Shares status and splits work to prevent conflicts and overlaps.
- **Priority & Recovery**
  Re-ranks tasks when a cobot is charging, paused, or in maintenance.

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IROCUBE MOBILE
Intralogistics

One mobile cobot.
Many internal deliveries.

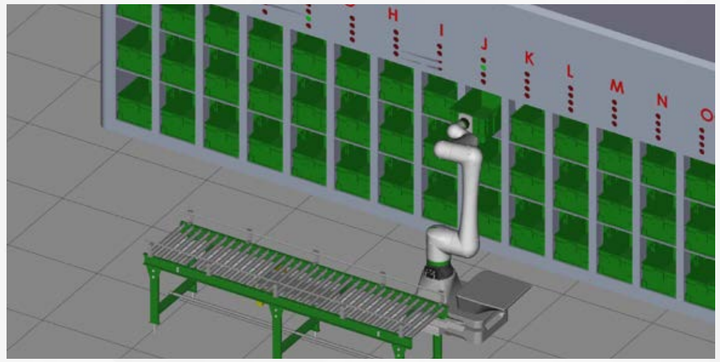
Warehouse to Line Feeding
Deliver boxes/kits from storage to work-stations on demand.

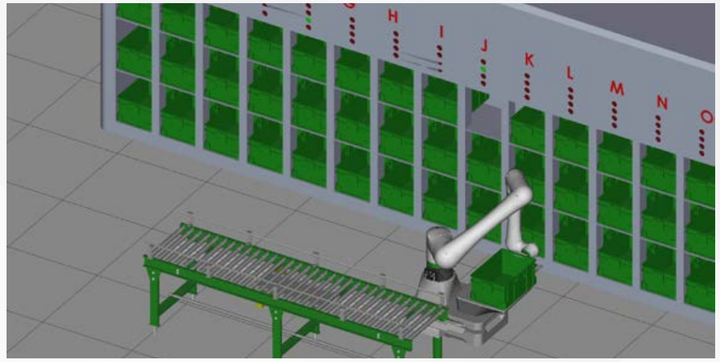
Final QC/ Metrology Runs
Move samples to inspection and bring results/parts back fast.

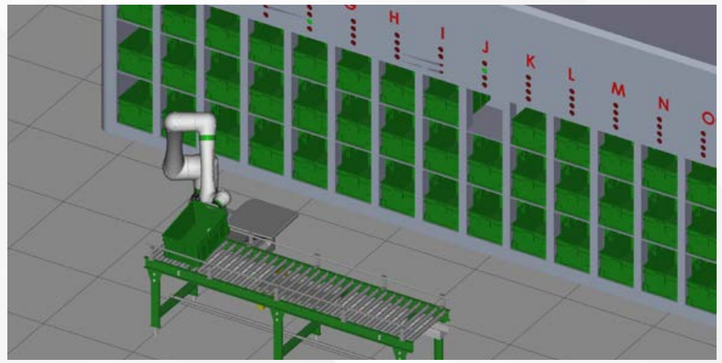
Line-to-Line Transfer
Shift WIP between stations when priori-ties change.

Maintenance Dispatch
Send tools, spare parts, or a service kit directly to the technician.

Rework / Quarantine Flow
Route nonconforming parts to a separate area—no confusion, no mixing.







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