

Future of Manufacturing With Collaborative Robots

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More than 85 years
of Experience in sensing & control



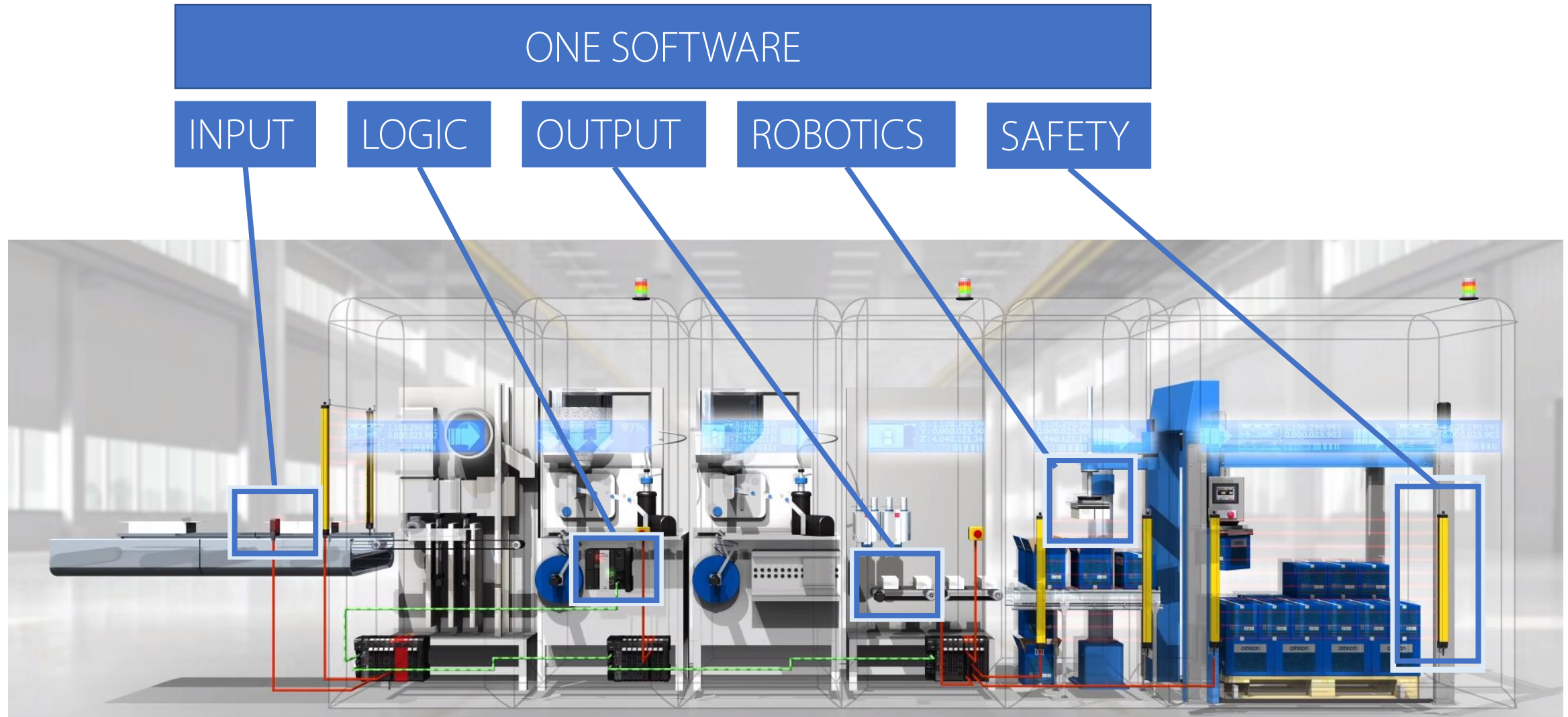
Founded in Osaka in 1933



Global employees

36,000 across **110 countries**

Core Competence of OMRON



The background is a complex digital collage. It features a night-time cityscape with illuminated skyscrapers. Overlaid on this are blurred, motion-captured images of people walking, suggesting a busy urban environment. A prominent white network diagram, consisting of numerous nodes connected by lines, is superimposed across the lower half of the image. In the center, a semi-transparent blue circle contains white text.

Key social needs & technologies

that factory
automation must
address

Shortage of skilled labour

Globalization

Manufacturing closer
to market

Social

Environment

Technology

Robotics

IoT

Artificial intelligence

Climate change

Environmental damage

Speed of
technological change



A woman in a light-colored business suit stands in profile, looking out over a vibrant city skyline at night. The city is filled with illuminated skyscrapers and buildings, creating a dynamic and energetic atmosphere. A semi-transparent blue circle is overlaid on the image, containing the text.

Dynamic
market

that is constantly
changing



...are more connected

Consumers

...are more impatient

...use many different
purchasing channels

...more demanding

...want more unique requirements

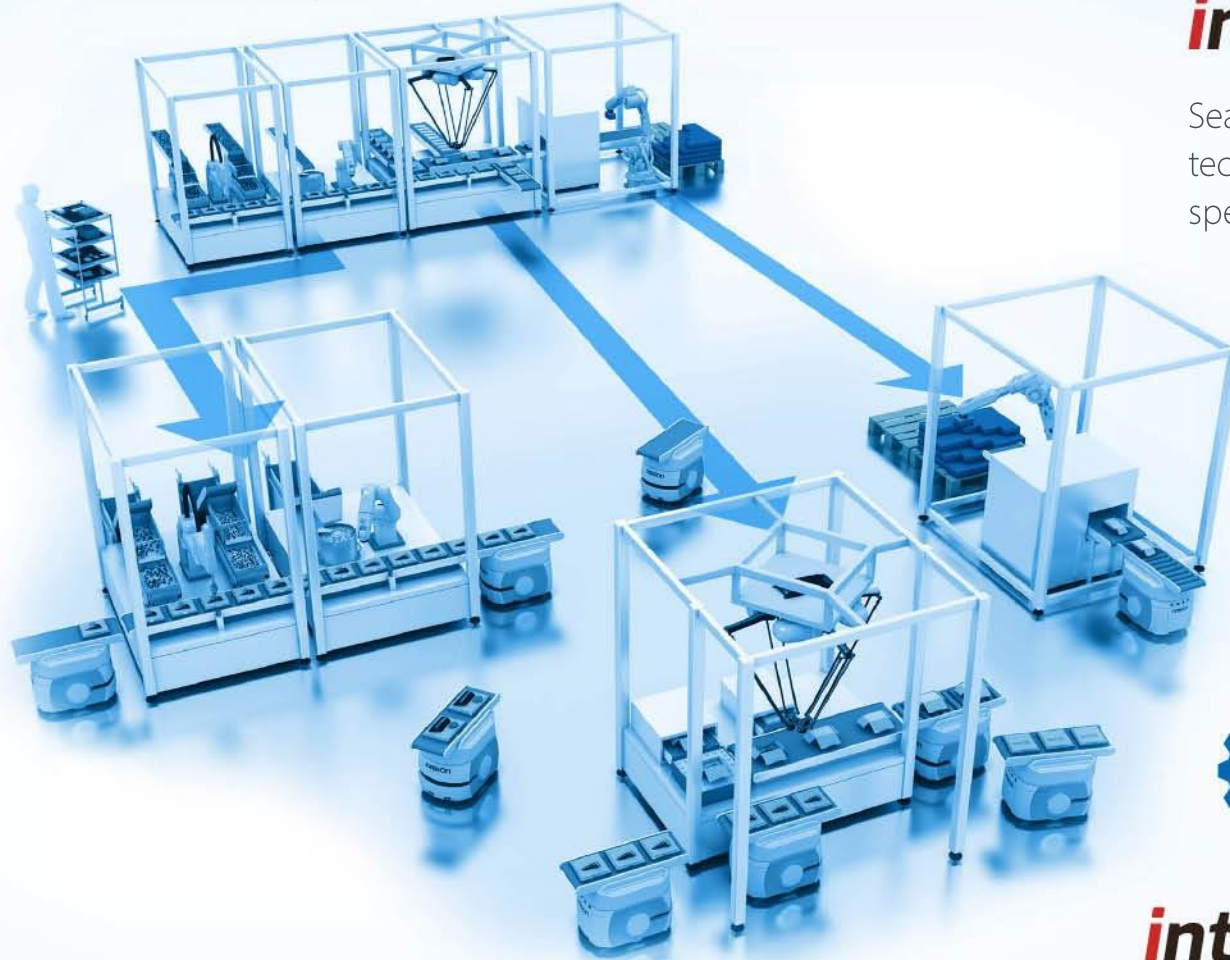
i-Automation!

Creating the future of manufacturing



intelligent

Turning factory floor data in to high value information



integrated

Seamlessly integrating different technologies & disciplines with high speed control & accuracy



interactive

Creating safe & easy interaction between humans & machines

i-Automation!

OMRON

Innovation

Creating the future of
manufacturing

TODAY

Why Collaborative Robots?

OMRON



Why Collaborative Robots?

OMRON





Why Collaborative Robots?



1

Safety

- Traditional robots cannot share a workspace with workers due to safety requirements

2

Deployment

- For many companies, traditional robotic automation is difficult to program and integrate:
 - Programming requires specialized personnel
 - Need for safety cell adds to integration cost
- As result: Long Return on Investment

3

Change-over

- Repetitive tasks in high-mix very low-volume applications are often done by workers due to robots not being cost effective for regular production change-over.

Cobots are designed for Quicker ROI



- 1.) Safety
- 2.) Easy to develop
- 3.) Faster implementation



Same
Function



Different “performance VS complexity” commitment



Same
Function



Different “performance VS complexity” commitment

High performance

Complex for non-experts

Lower performance

Accessible for non-experts

Application examples



Quality Inspection



Testing



Screwing



Assembling



Gluing



Loading & Unloading

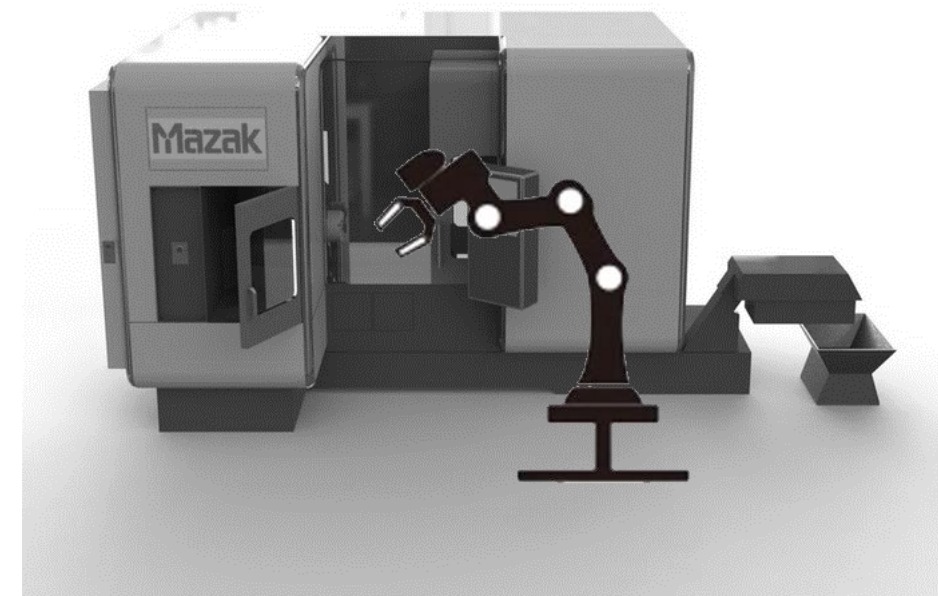


Machine Tending

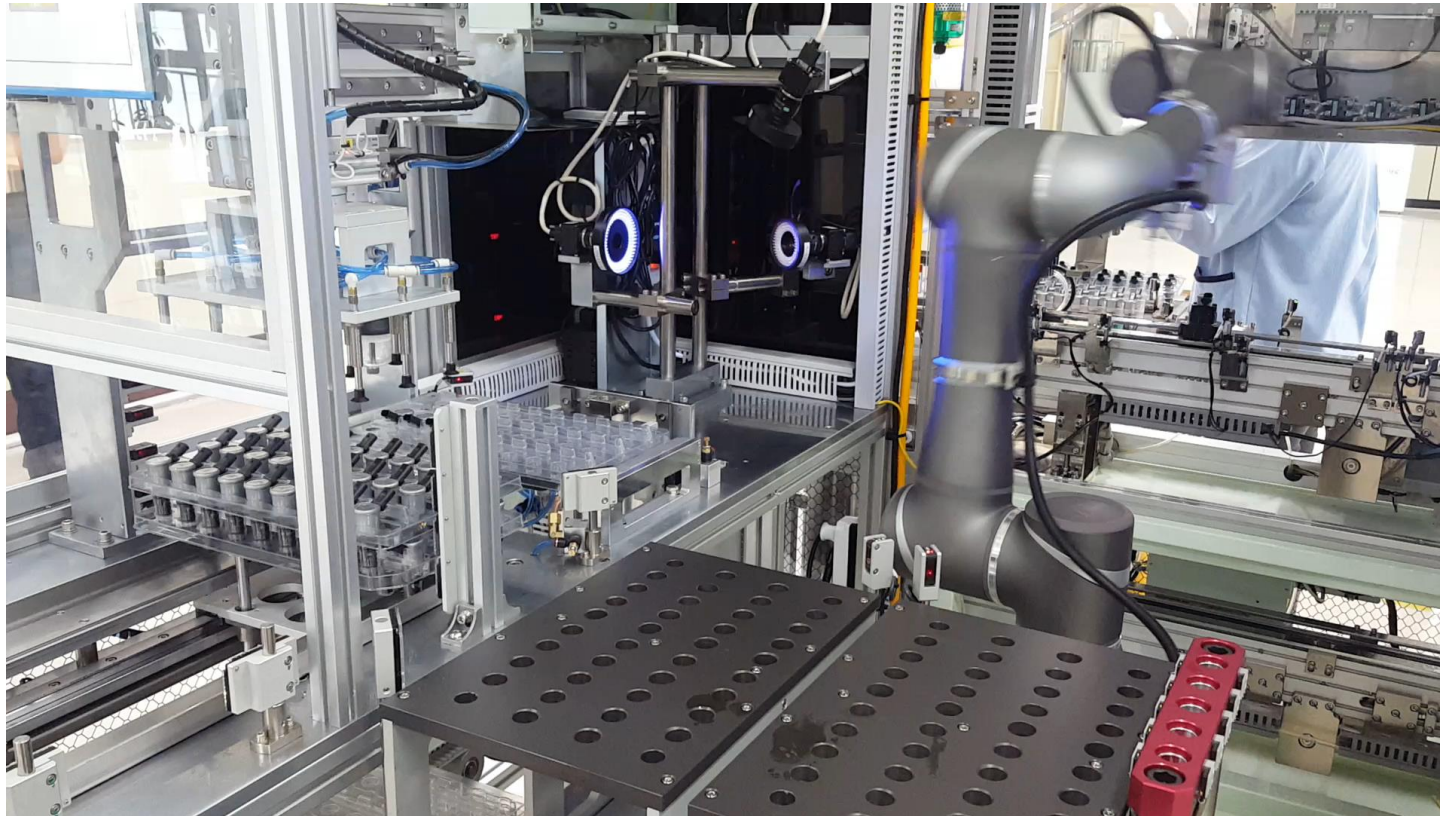


Packaging

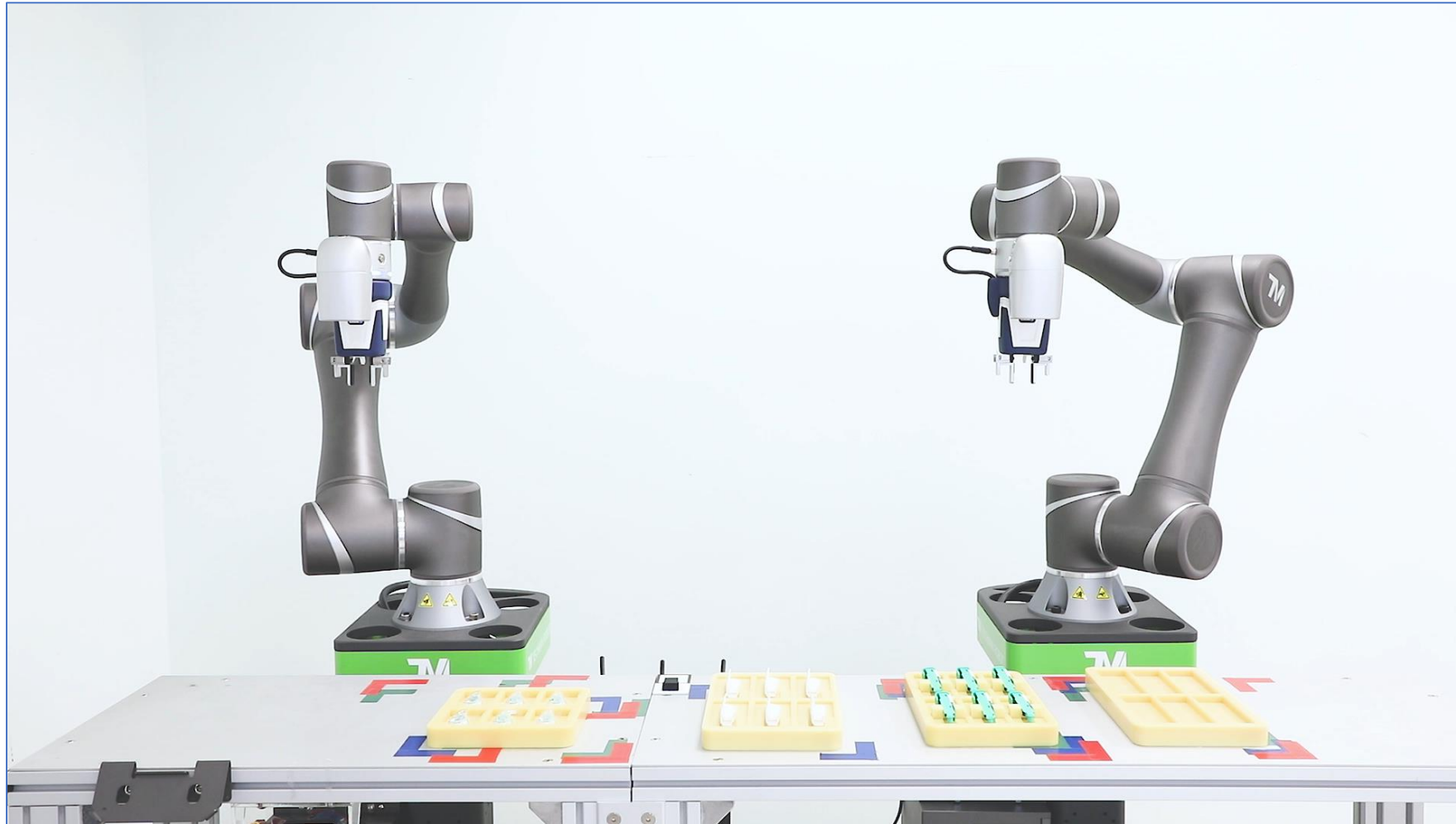
CNC Loading and Unloading



Quality Inspection

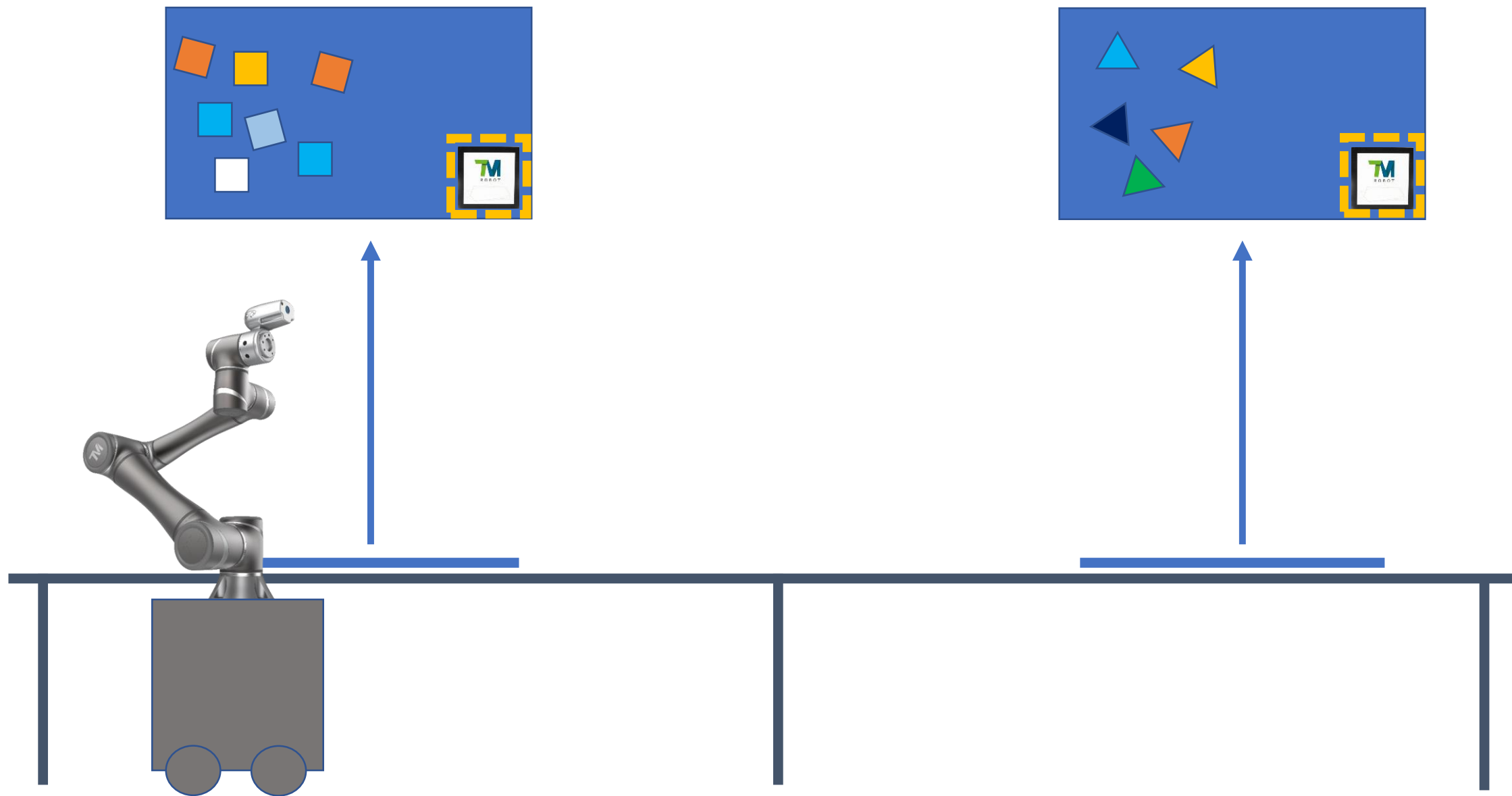


Assembly

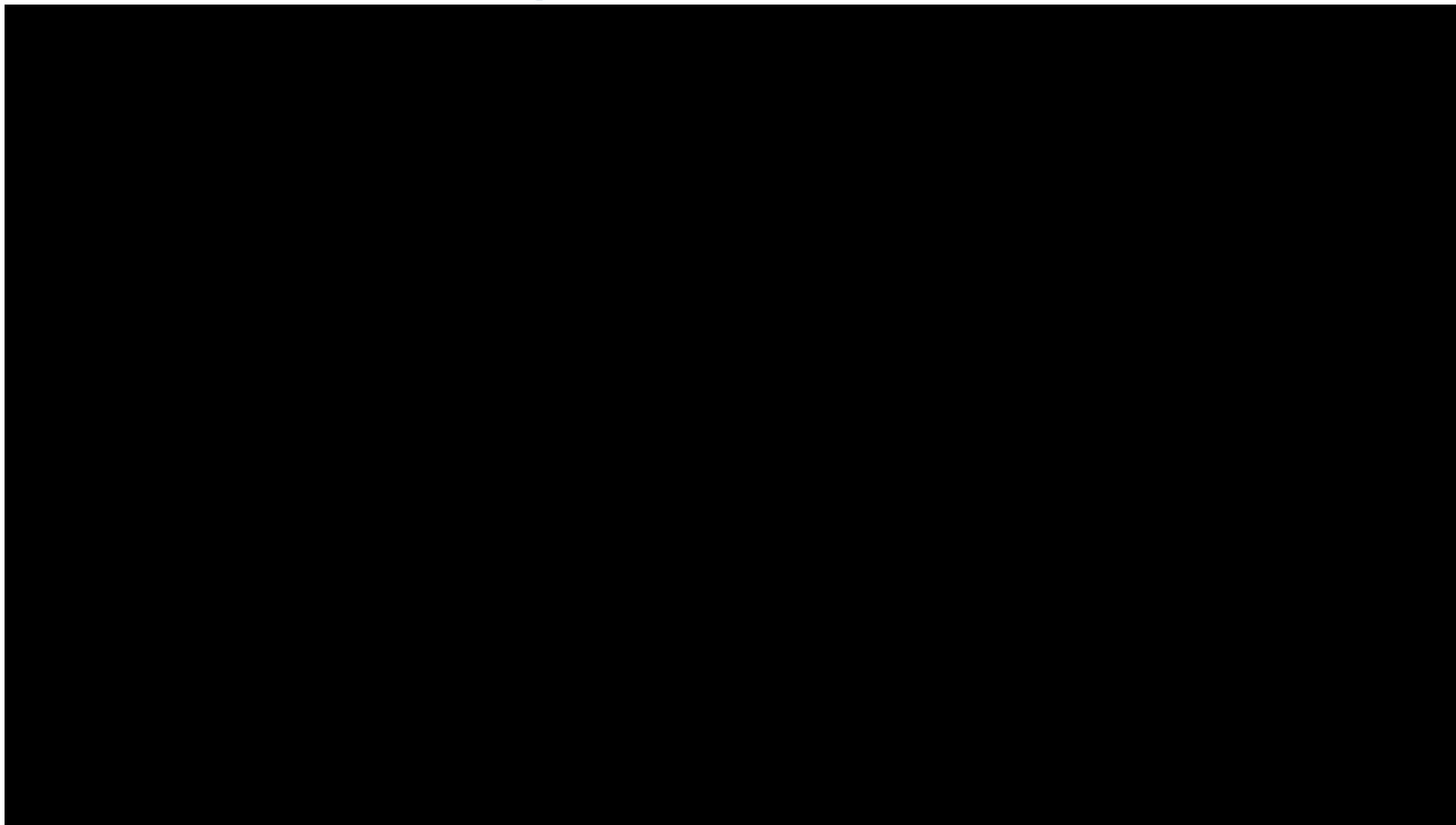


Easy to change Cobot location

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Mobile Bin Picking



It's safe, right?



It's safe, right?



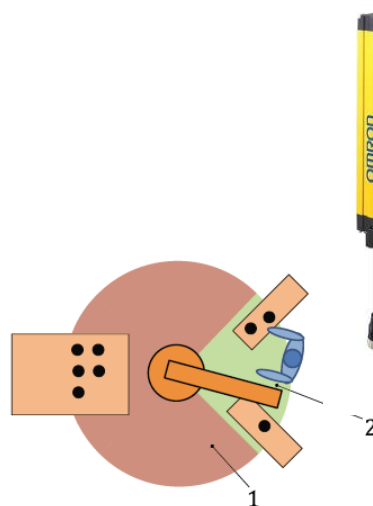
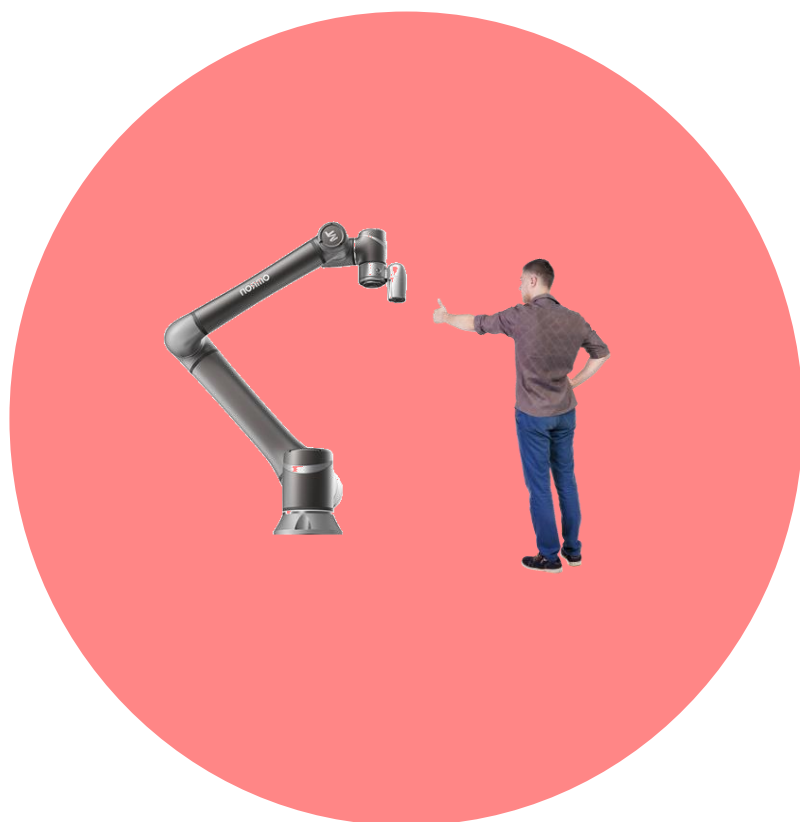
Application needs to be safe!

Risk assessment is always needed!

Collaborative

Sharing the same working area

- ✓ Working at the same time
- ✓ Slow speed

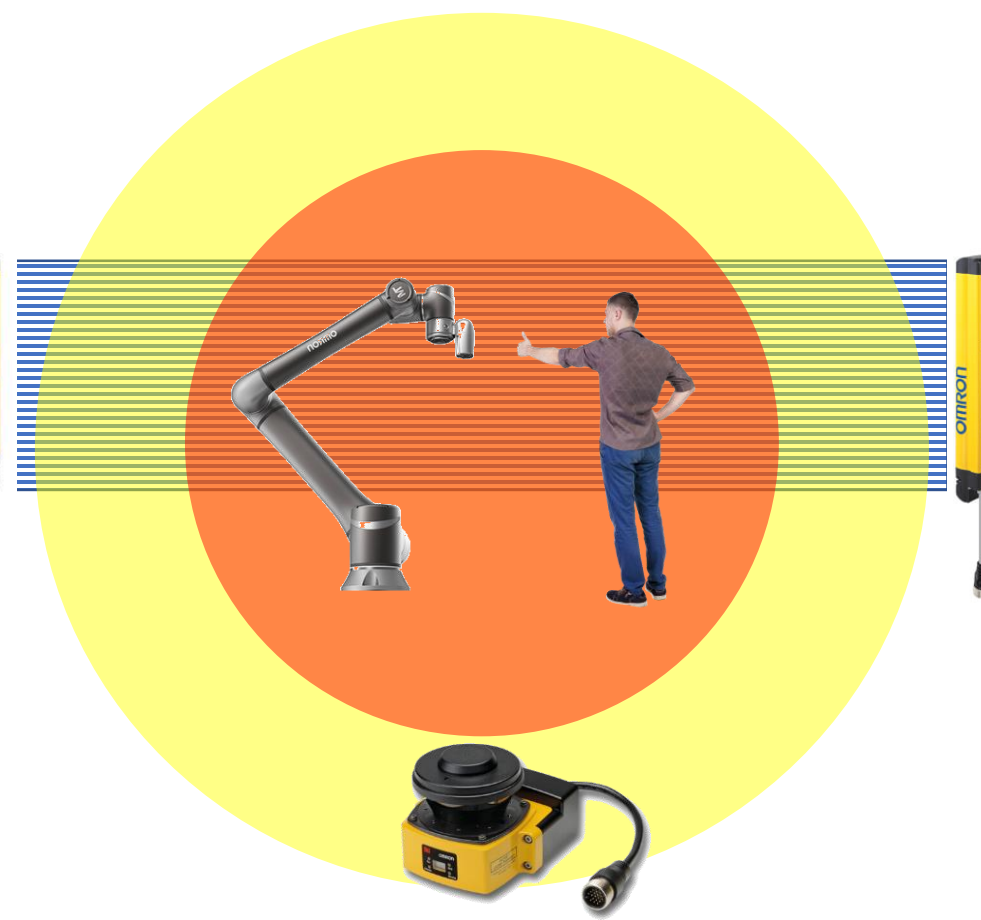


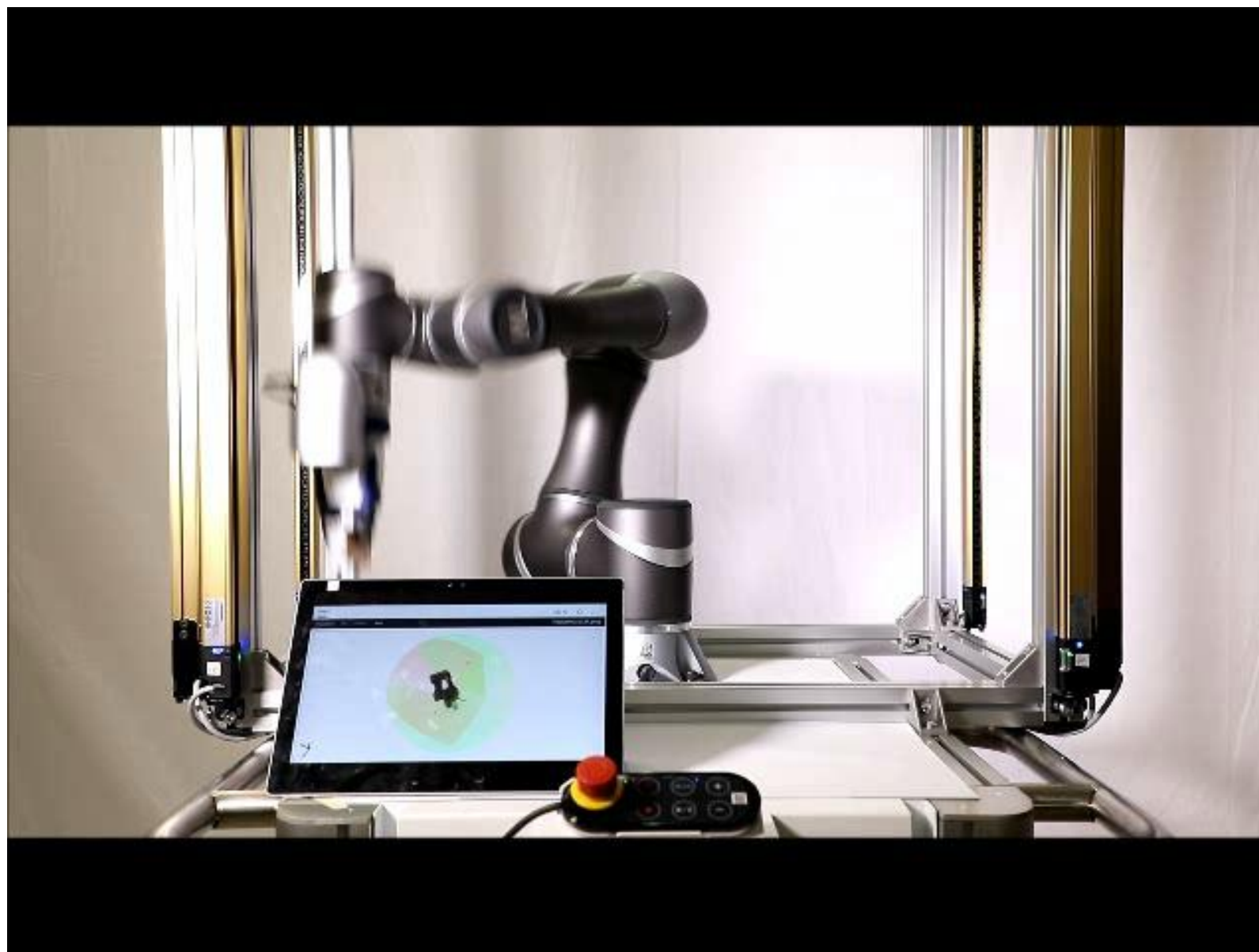
1 Operating space
2 Collaborative space

Cooperative

Sharing the same working area

- ✓ Working at the different time





Risk Assessment Services

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Questions?