B/S/H/

Technology as competitive driver.

—

i4.0@BSH

2022-07-21
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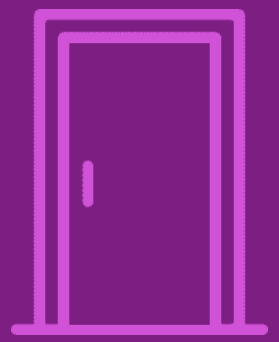
 # 0 The Challenge, the opportunity and ...

...what is always there

Remaining competitive

against lower cost locations and competitors with large economies of scale.

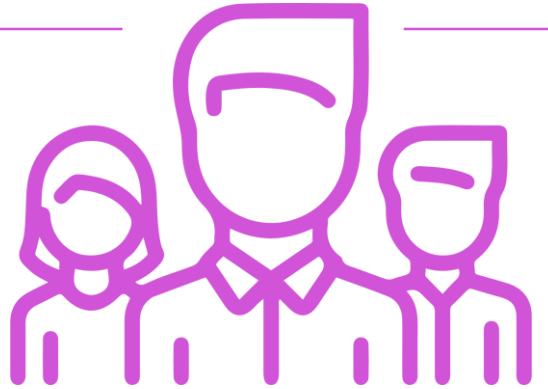


The new technologies

as a lever to achieve operational excellence

The team

is the starting point and the key



1 Activate the organization

Clear vision
Factory of the future

- *Augmented Employee*
- *Flexible Factory*
- *Advanced Engineering*
- *Digitalization*
- *Sustainability*

Focusing the organization
there, where we want to invest most of our efforts

- Data Analytics & AI
- Connected Automation and Smart Devices
- Digital Engineering & Digital Twin

Identify your Champions

2 Expand the partnership Network

Consulting services for start-ups

B/S/H/ IndustrialiZa
SHARE FOR WIN

Venture Client Unit

B/S/H/ START/UP KITCHEN

Start-ups incubators

LANZADERA | Ecosistema Más Empresa | ANCES Asociación Nacional de CEEI Españoles

Startups

are a valuable source of innovative technologies and solutions for our industrial processes.

2 Expand the partnership Network

Learning by imitation

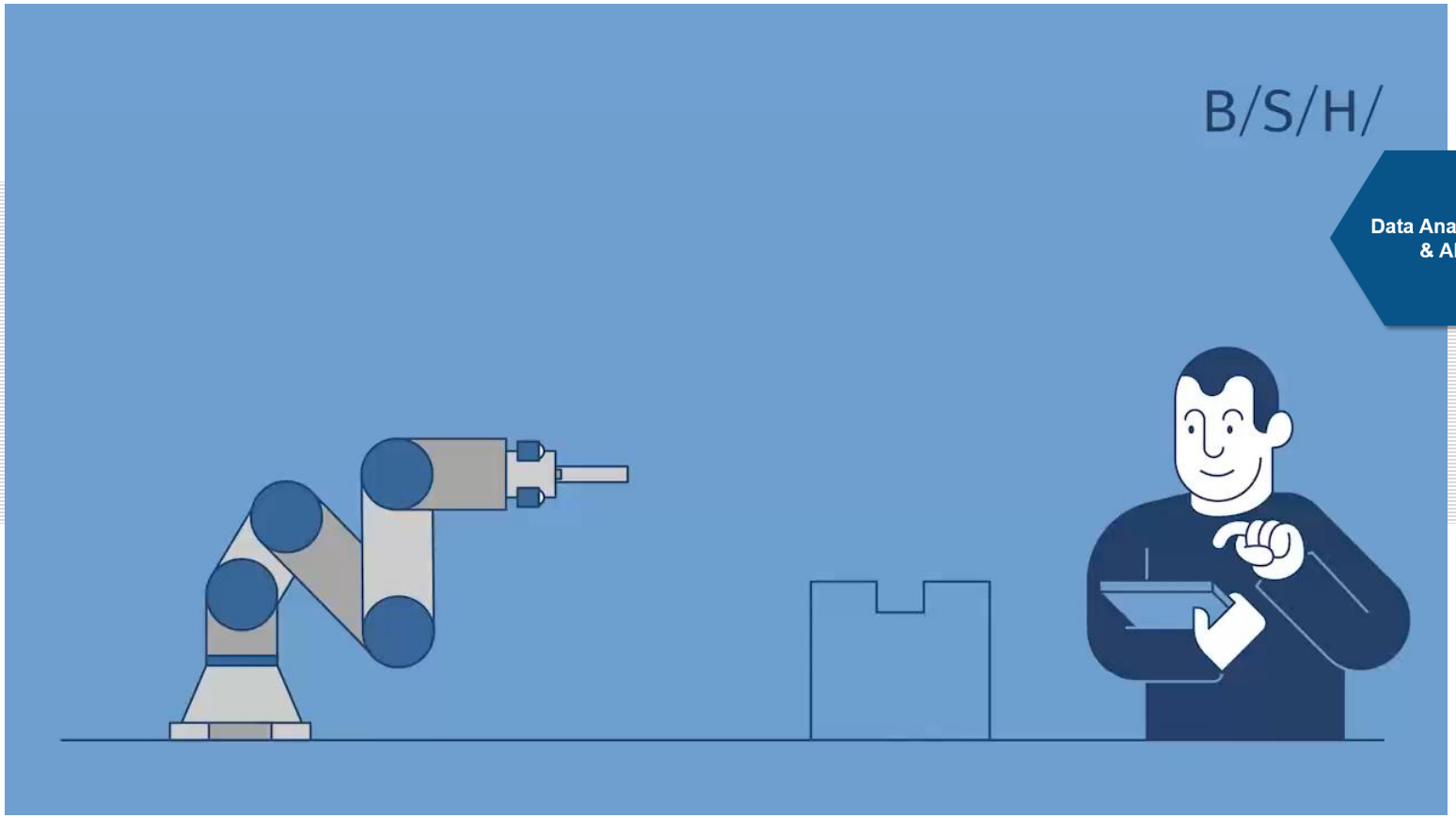
Cobots programmed using machine learning techniques

we use images and robot motion vectors to generate data for the artificial intelligence

micropsi industries

Democratizing

the use of technology



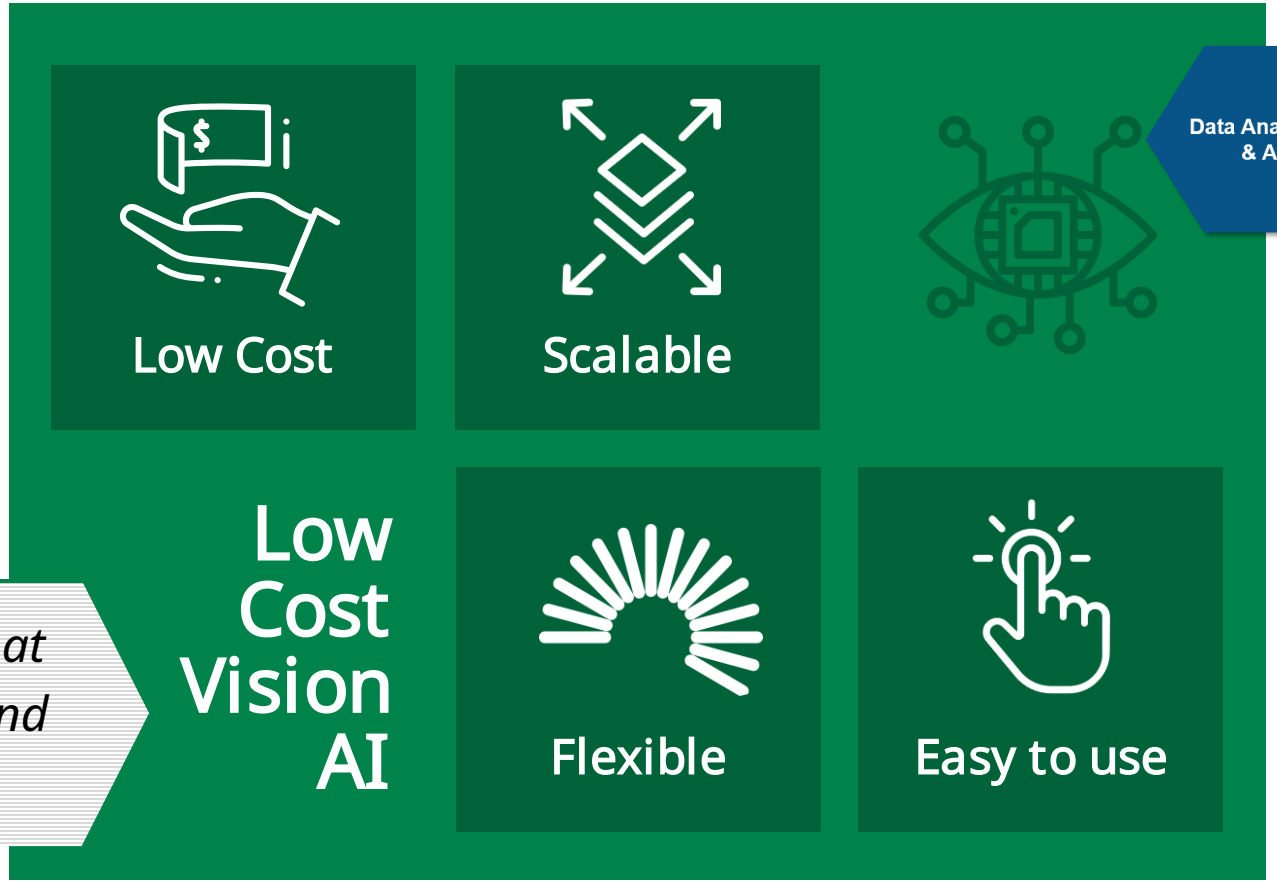
3 Democratizing and generating knowledge

Artificial vision systems with AI

- *Profit does not compensate investment*
- *Integration with infra. and systems*
- *Lack of internal know-how (=fear)*

Low Cost Vision AI

*is a **flexible**, **scalable** and **easy-to-use** solution that guides step-by-step in the realization of medium and low complexity machine vision projects.*

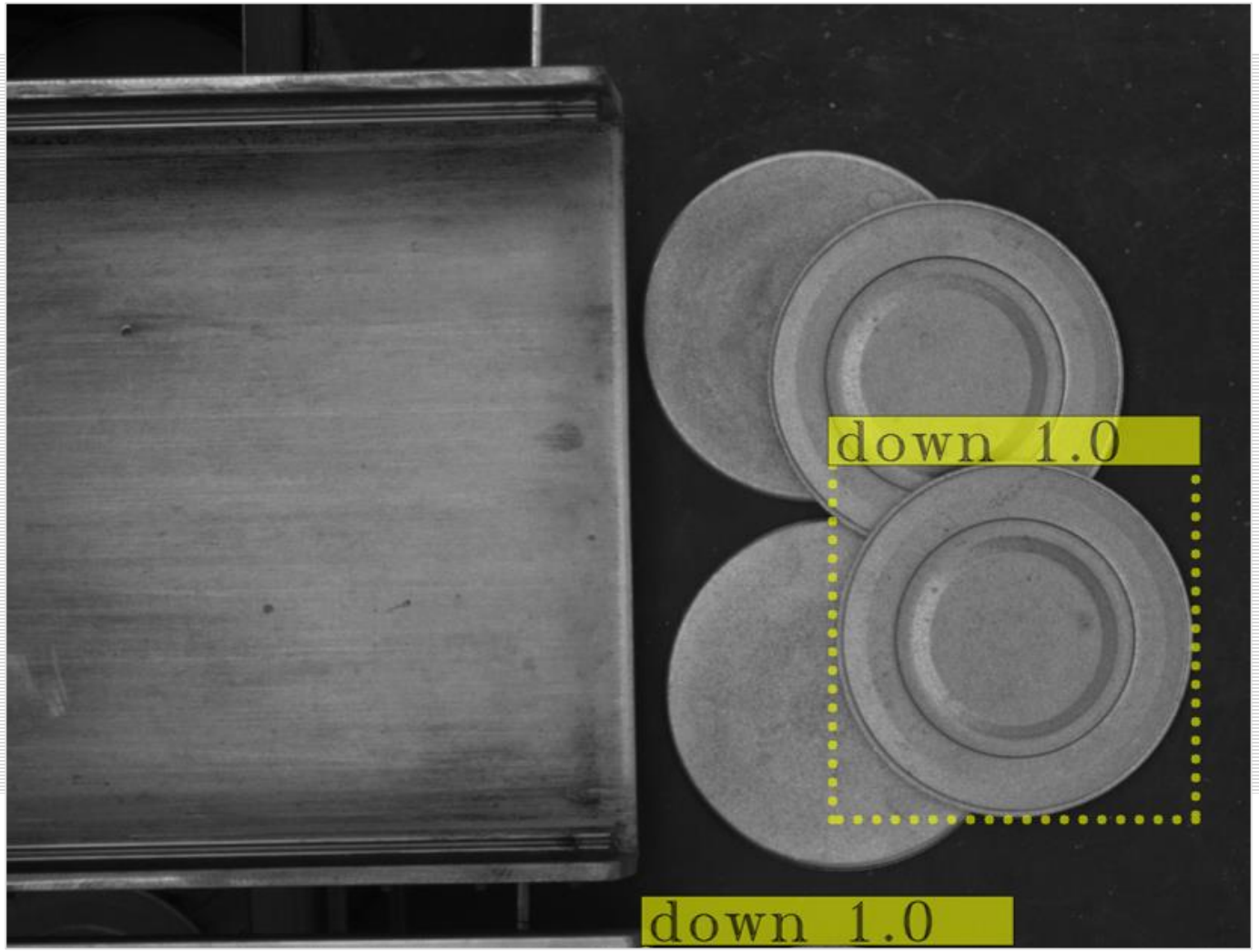


3 Democratizing and generating knowledge

In less than 1 year, 14 use cases have already been implemented.

2 use cases
< 200 €

More than
100 use cases
identified in all our
BSH factories



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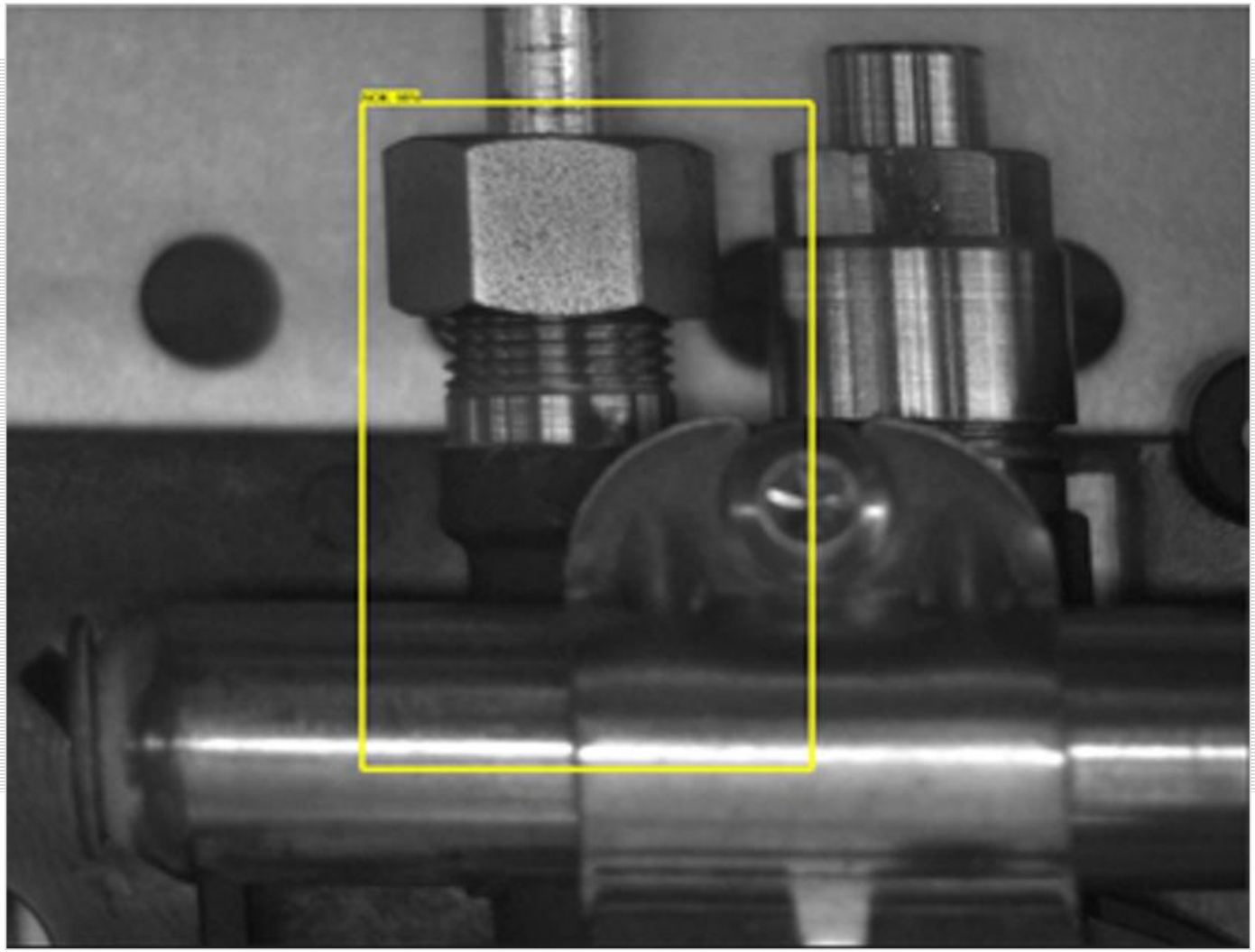

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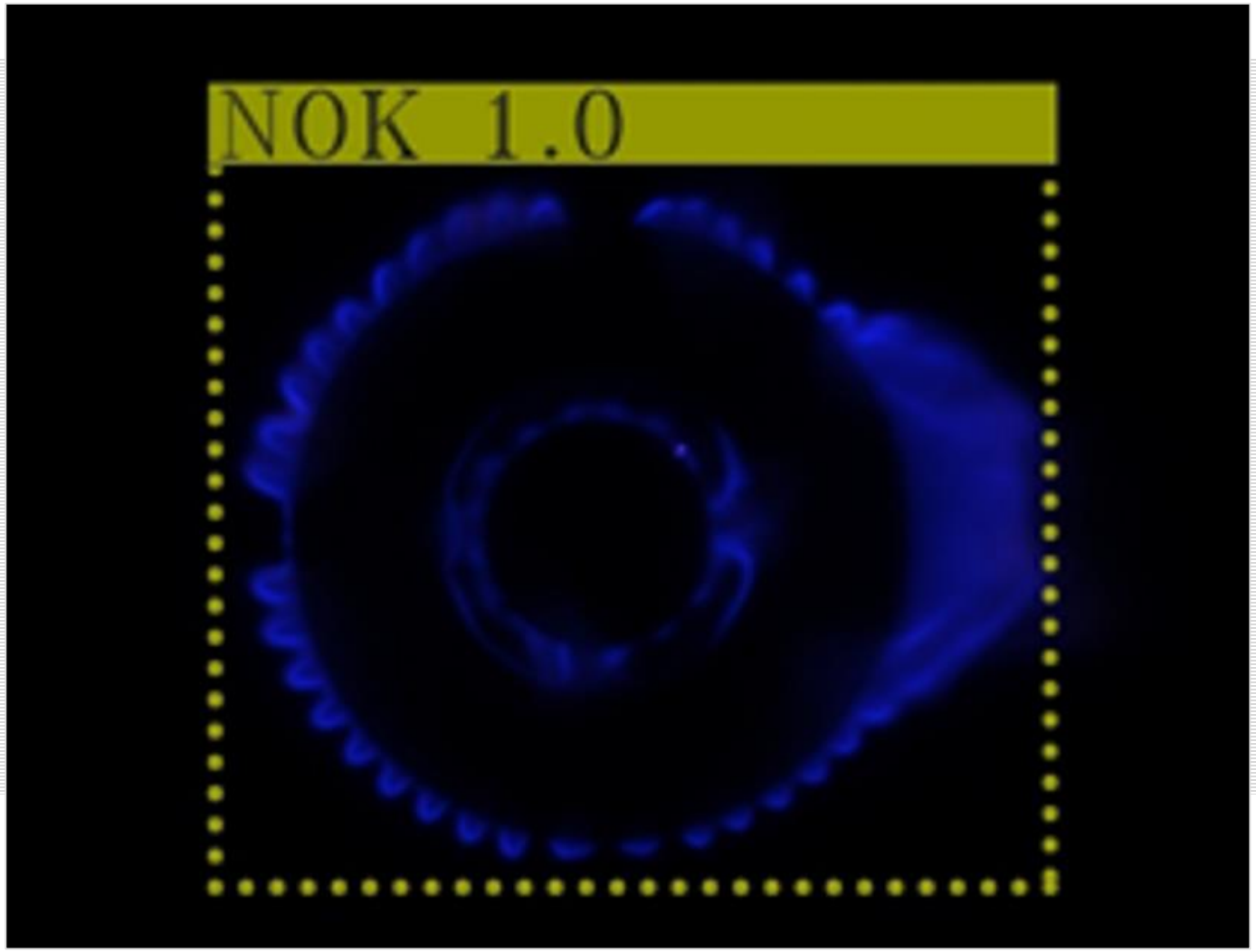

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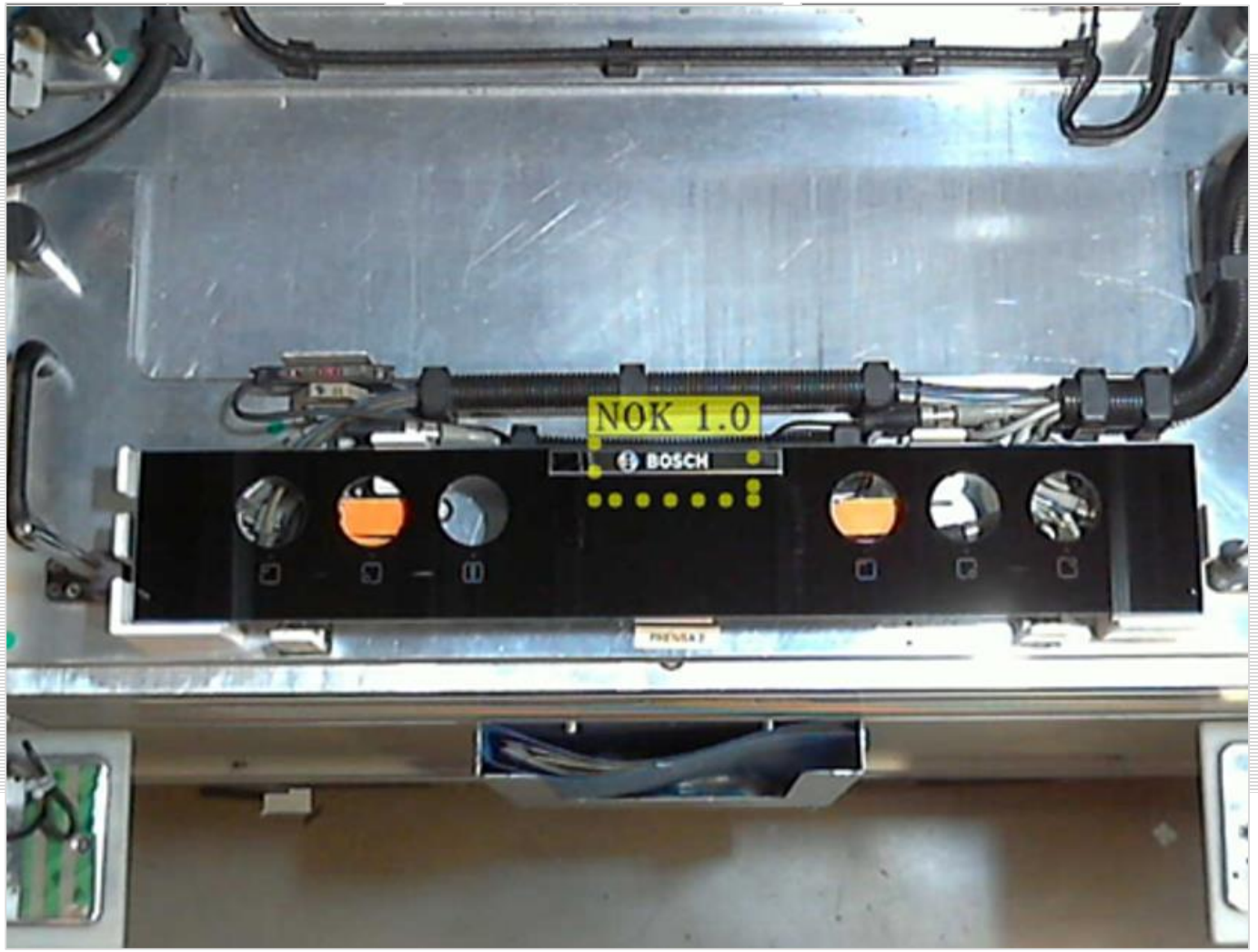

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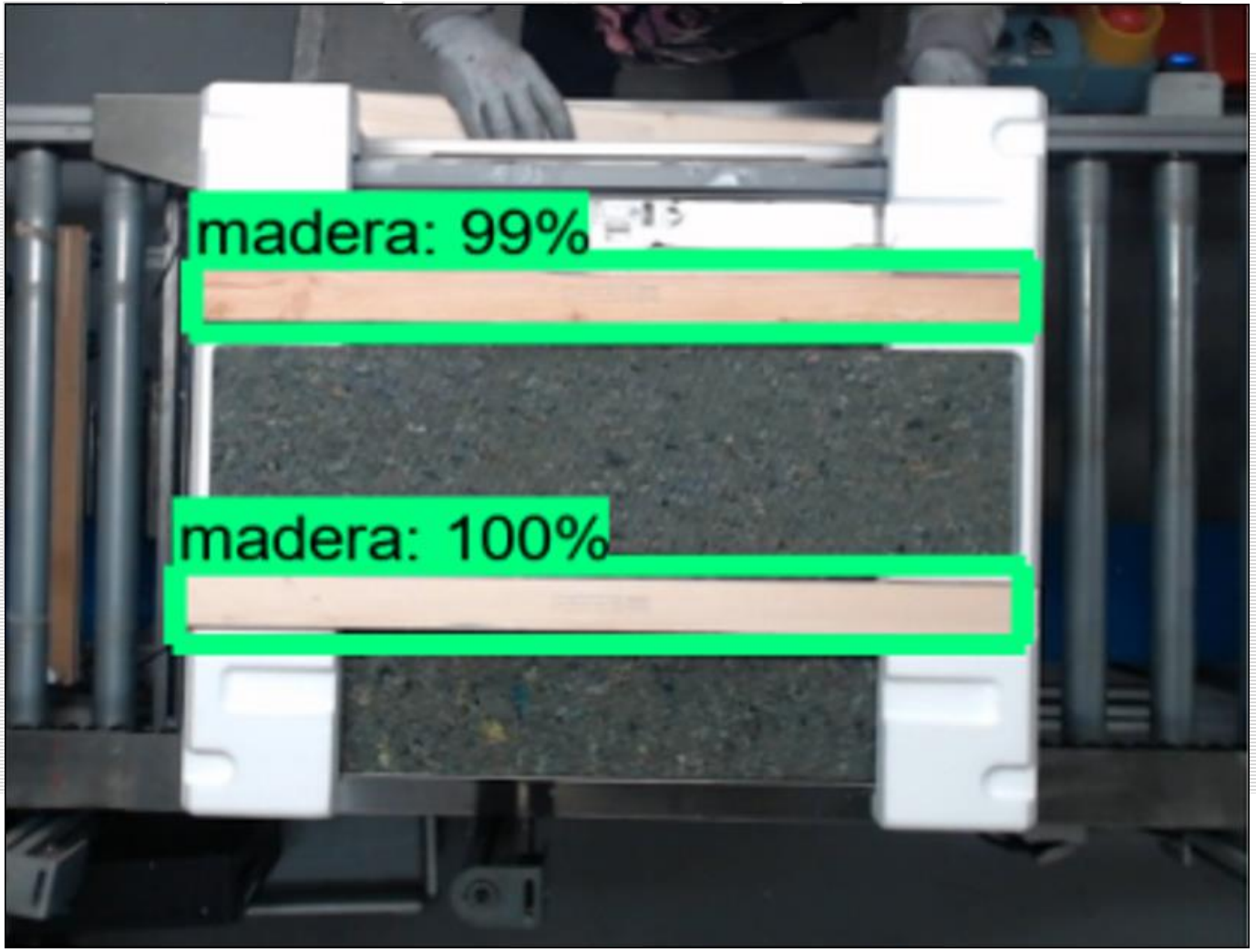

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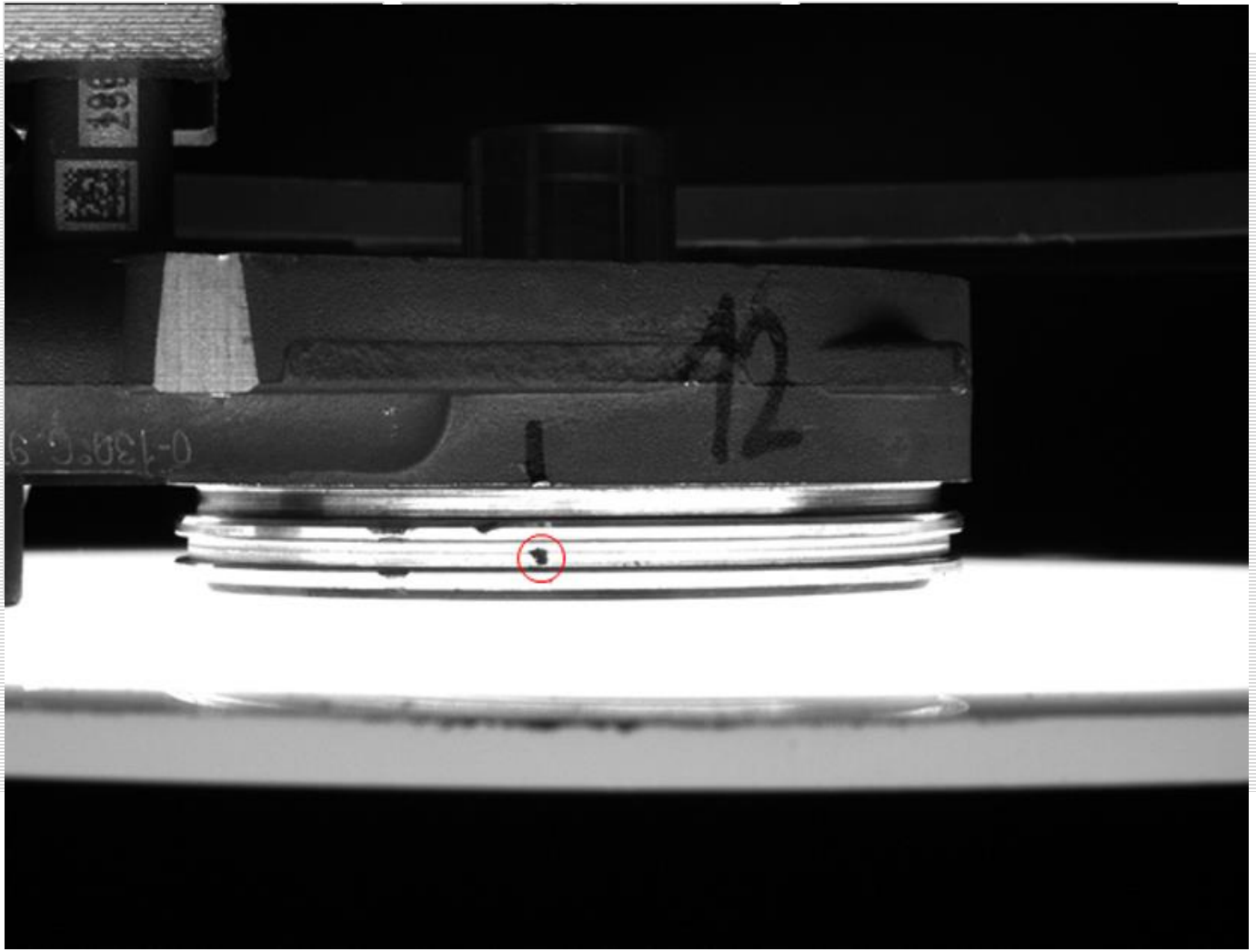

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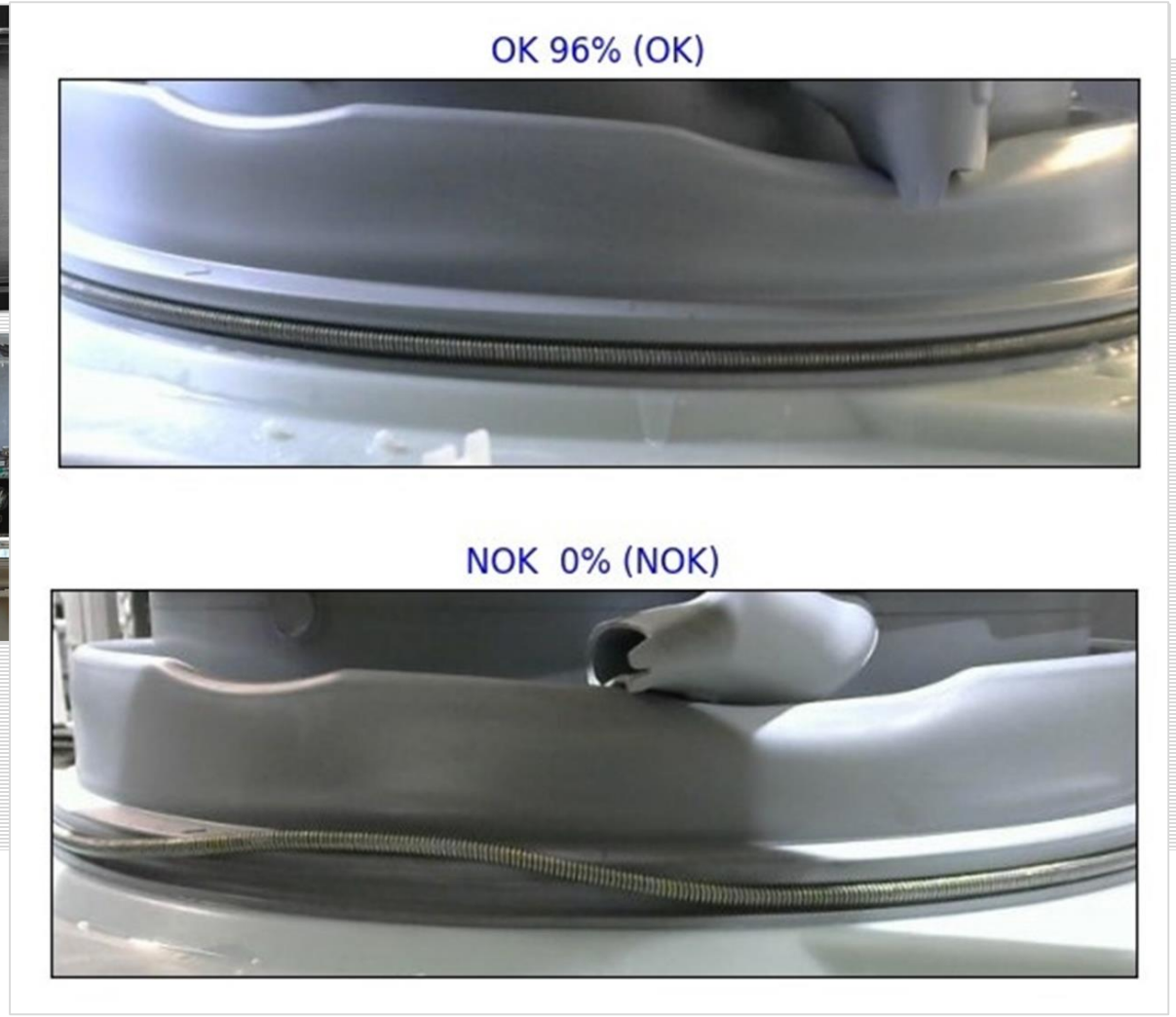

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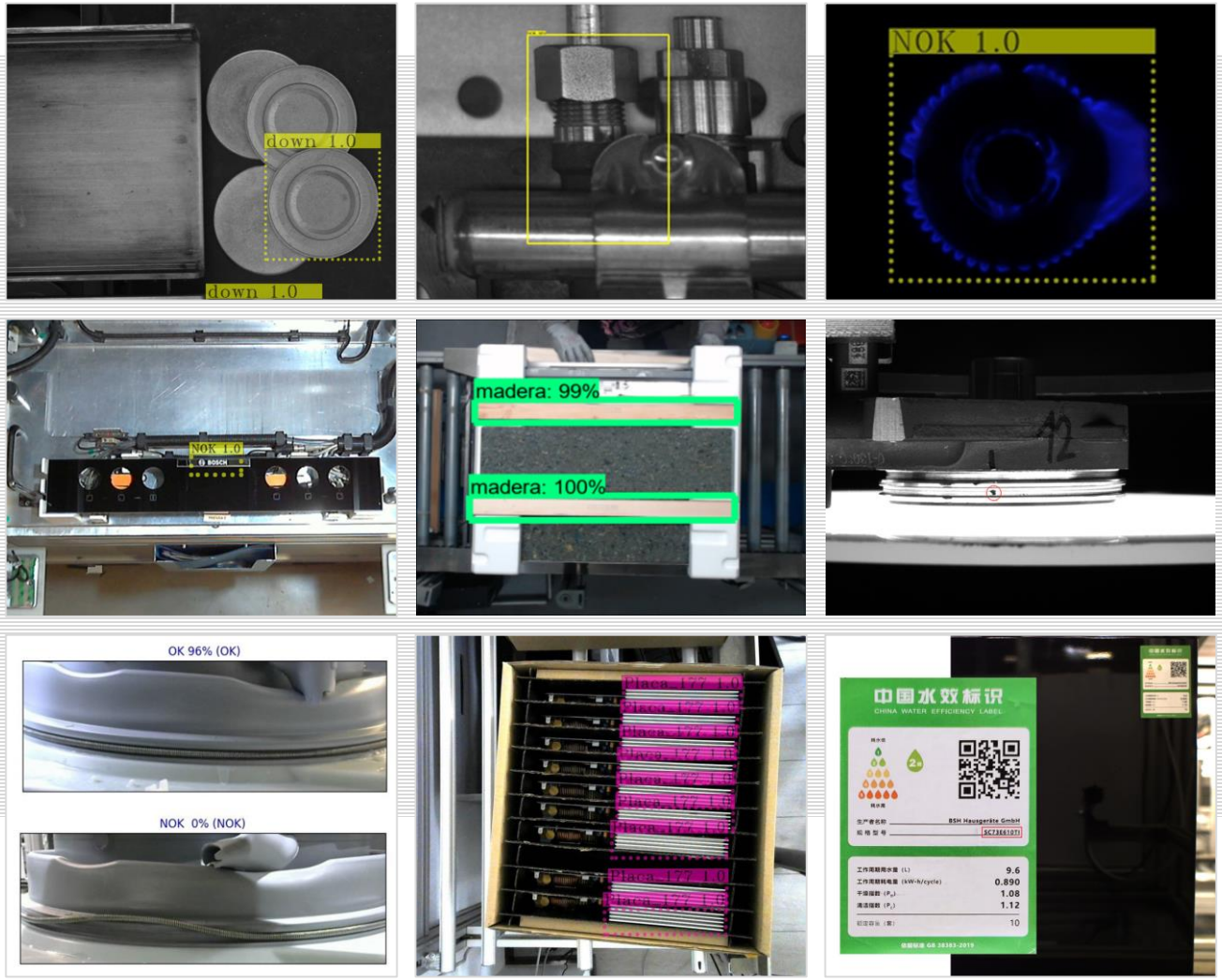


User centric

Smart solutions, where the intelligence lies in knowing how to ask the user.

4 User centric / Smart Solutions

Gadgets in Assembly lines

Employee card reader (RFID)

Connection with systems to display cycle time:

- *Operation cycle display (remaining time)*
- *Worker-Workplace traceability*
- *Check required skills for Workplace*

Screen

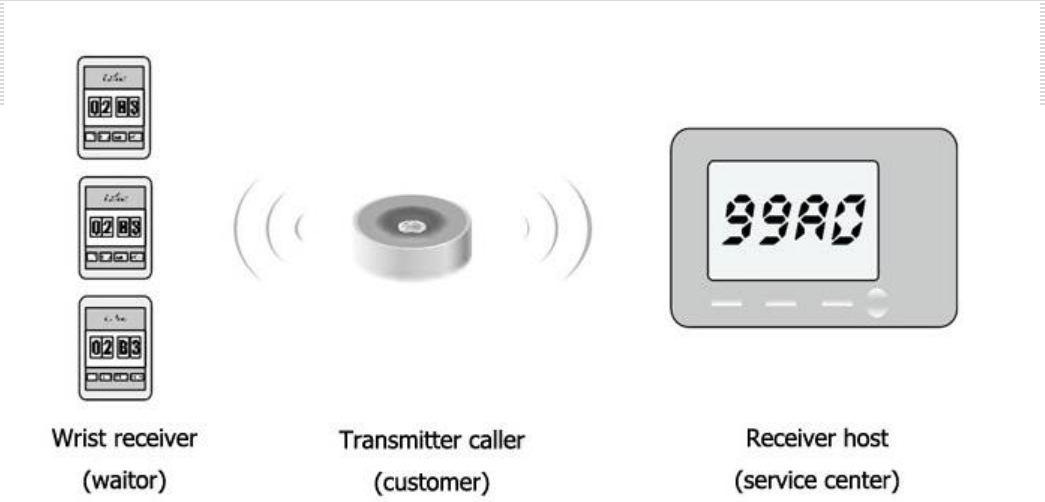
Programmable Logic Controller (C++)

RFID reader

4 User centric / Smart Solutions

Gadgets in Assembly lines

The call service uses radio frequency wireless technology. Operators press a button to request support or consultation from the team leader.



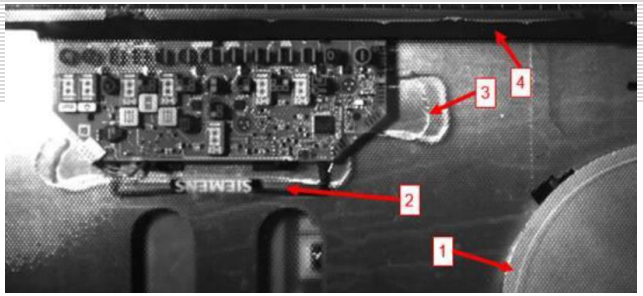
4 User centric / Smart Solutions

Gadgets in Assembly lines

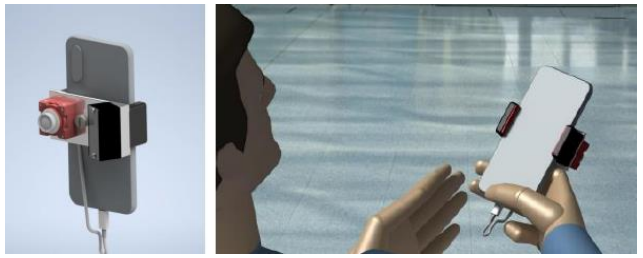
Camera with a filter for images within the width of a spectral band based on the transmittance of the ceramic glass.

With this technology we see the condition of the components inside the induction cooktop through the glass without having to disassemble it.

Checking for four types of manufacturing and assembly errors



Gadget that fits into a mobile phone



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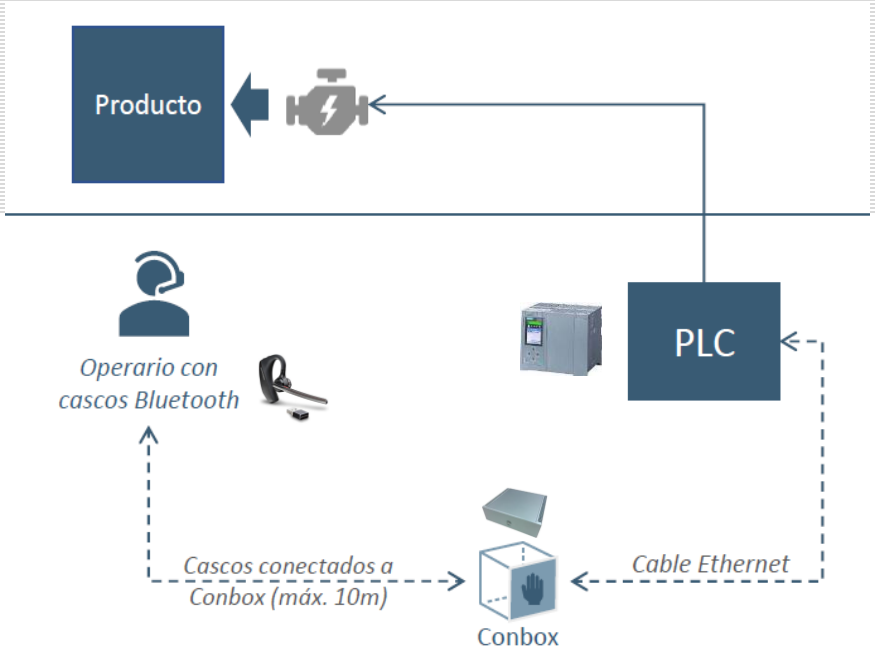
4 User centric / Smart Solutions

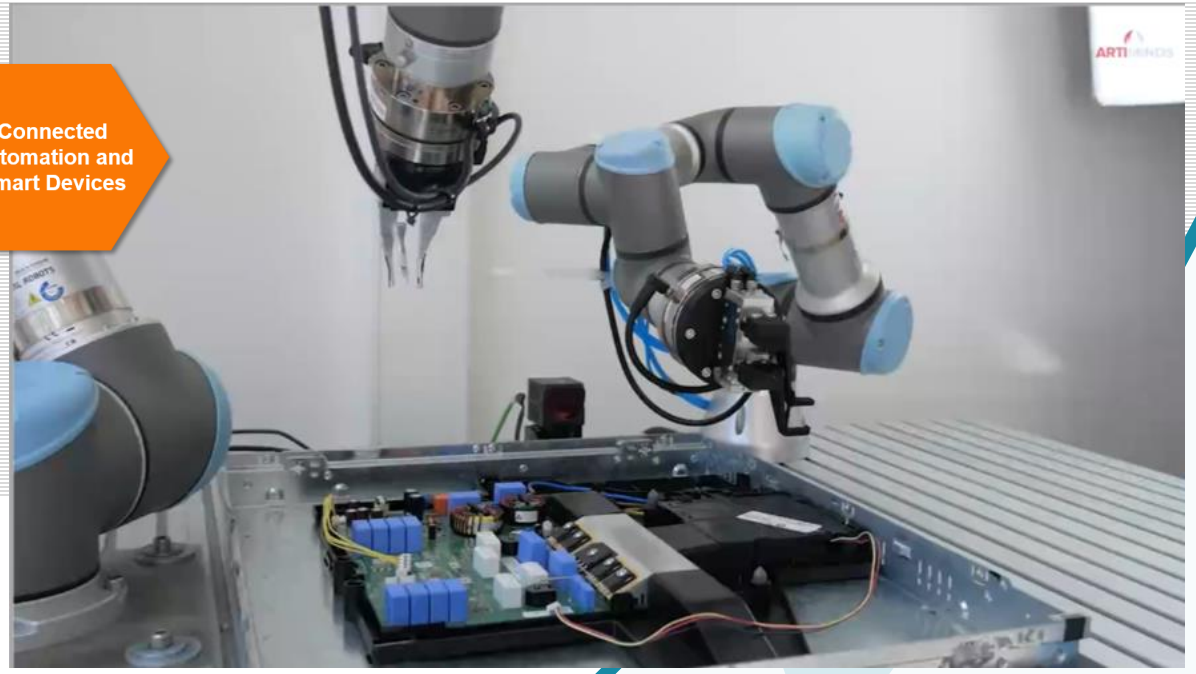
Gadgets in Assembly lines

Offline speech recognition algorithm connected to the assembly line PLC to activate workstation / bottleneck functions with multiple keystrokes



TedCas

5 Walk, get lost and learn



Connected Automation and Smart Devices

B/S/H/

#1

Activate the organization

#3

Democratizing and generating knowledge

#2

Expand the partnership Network

#4

User centric / Smart Solutions

#5

Walk, get lost and learn