



---

# **ABB – Robotics in the Food Industry**

Food and Drink Federation 13 September 2024

# About ABB

ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB's success is driven by about 110,000 talented employees in over 100 countries.

What Offering



Products

Technology solutions



Systems



Services & Software

For whom Customers



Utilities



Industry



Transport & Infrastructure

# Operating through four leading businesses

## Electrification



## Industrial Automation



## Motion



## Robotics & Discrete Automation



---

# Who are we in the Food & Beverage sector?

Our technologies are enabling Food & Beverage companies to tackle their challenges

## Efficiency



Power generation & distribution, energy usage & control, OEE, manufacturing flexibility

## Digitalization



Remote monitoring & plant optimization, visibility & traceability

## Sustainability



Productivity, ingredient traceability, energy & utilities, preventing wastage

## Safety



Food safety, personnel safety, cyber security

## Reliability



TCO, power quality, lifetime of plant & machinery, proactive and preventative maintenance

## Quality



Quality of output, production volumes meeting demand & deadlines

# Robotics & Discrete Automation

Our Robotics & Discrete Automation business combines our machine and factory automation solutions with a comprehensive robotics solutions and applications suite. Revenues over \$3bn and approximately 10,000 thousand employees.

## Auto OEMs



## Auto Tier 1



## Electronics



## General Industry



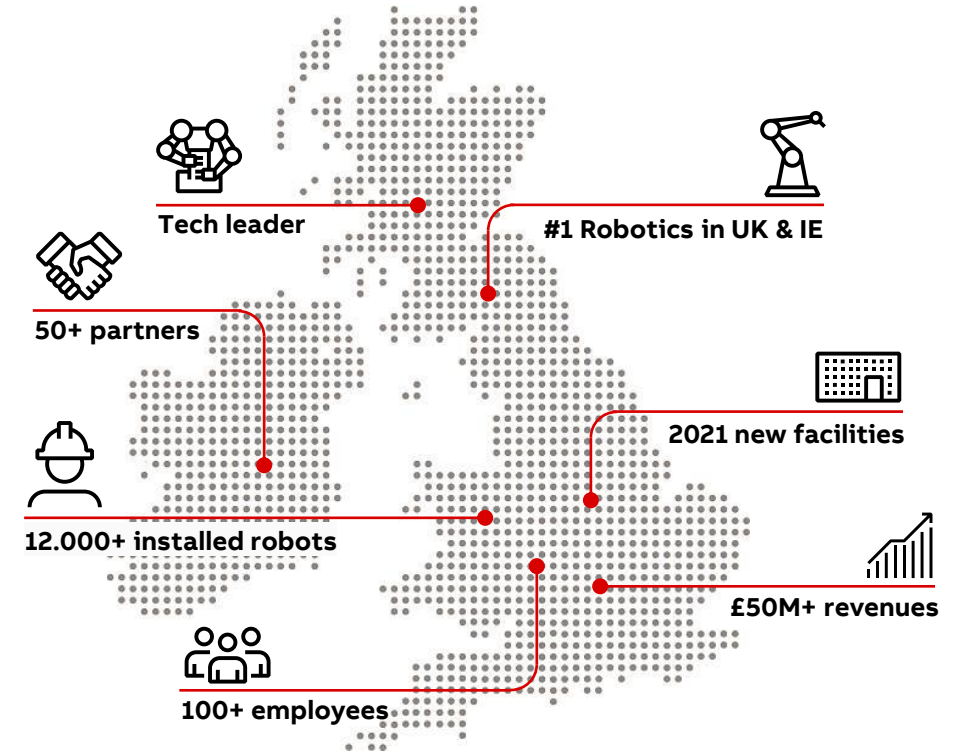
## Consumer Industries



## Machine Automation



# Robotics in UK & Ireland



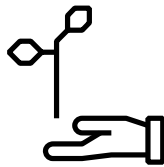
# Key industry trends

Key factors affecting food & beverage production in the UK

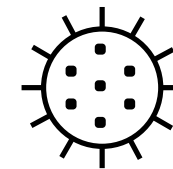
Changes in **consumer demand**, including new foods (e.g. vegan and vegetarian options) and formats



Growing public awareness of **sustainability**



**Regulations** – e.g. Govt targets to reduce fat, sugar and salt content



Need for **greater resilience** against unexpected shocks – e.g. COVID-19

# Specific challenges

**Unpredictable supply chains and impact of inflation** impacting on availability and pushing up costs for producers and consumers

**High input and production costs and a lack of resilience** have impacted on competitiveness

Products and production processes need to **meet strict quality and safety regulations**



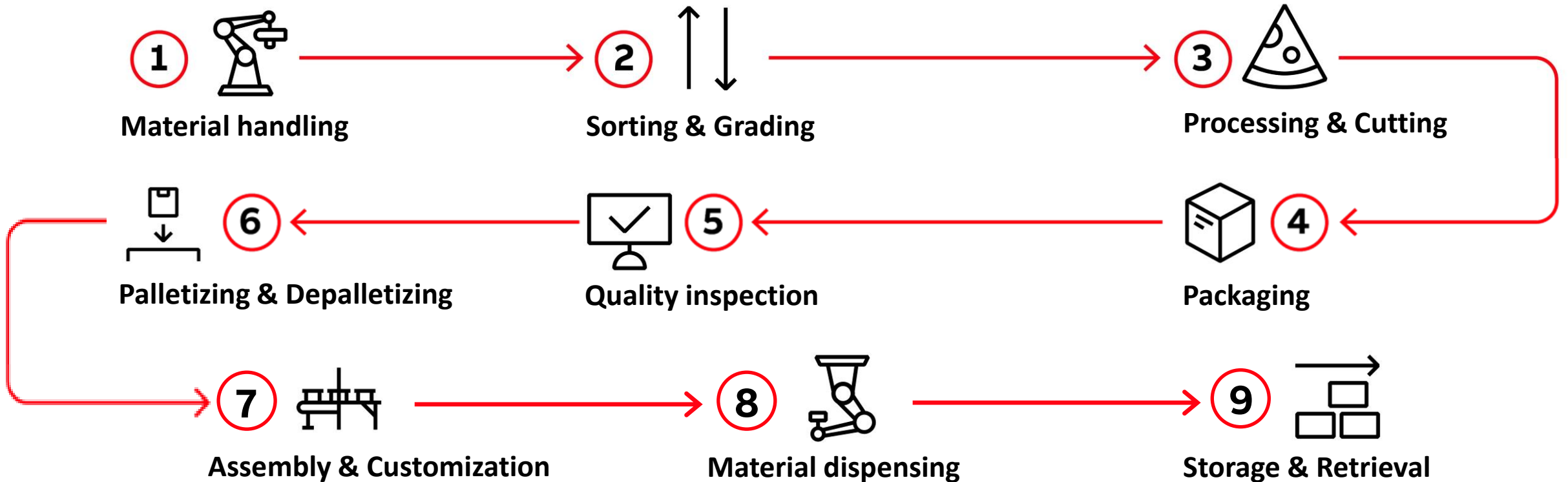
**Lack of flexibility in production,** making it difficult to respond to changing demands

**Many companies are still reliant on manual labour,** impacting on order processing and potentially increasing the risk of contamination

**Labour and skills shortages** – 2023 estimates by the FDF show **the food industry lost £1.4bn due to lost output caused by labour shortages**

# Towards smarter factories

Where can robots add value?



Virtual commissioning

gr

Application cells

Intelligence & Vision

Inti

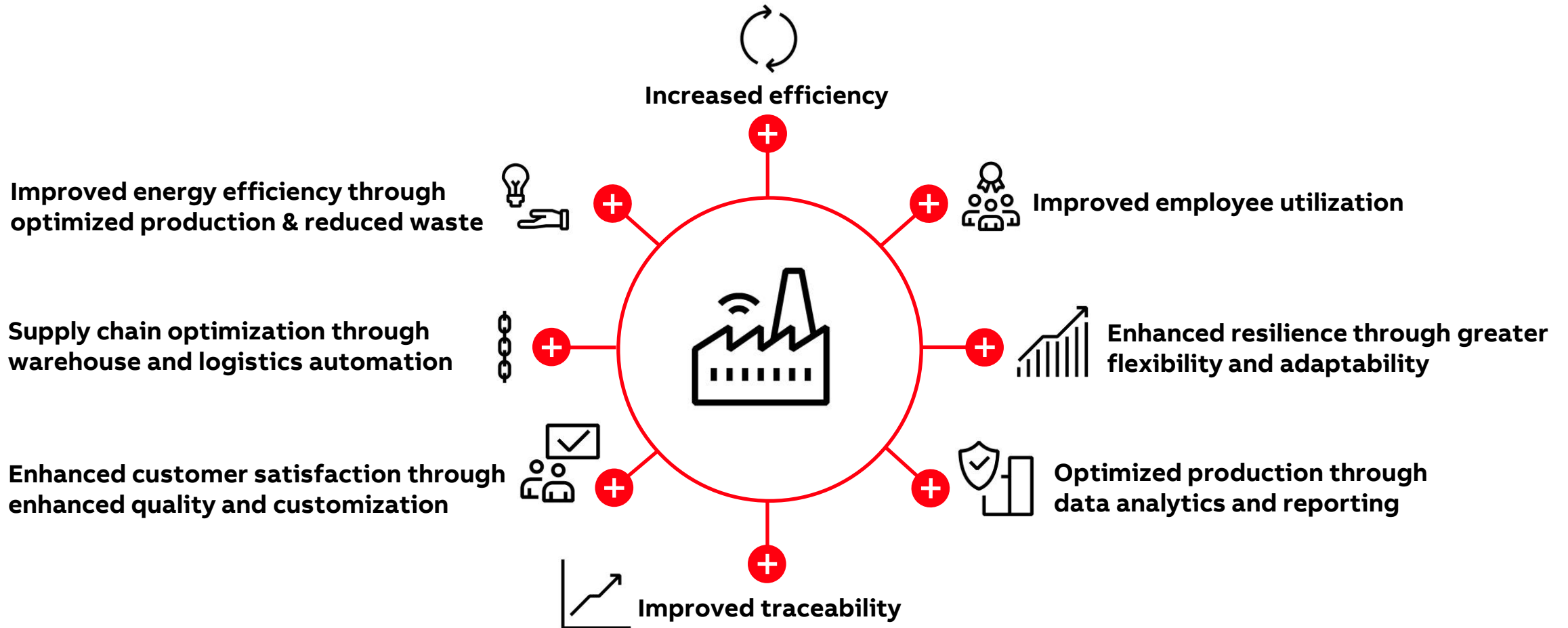
Data collection & analysis







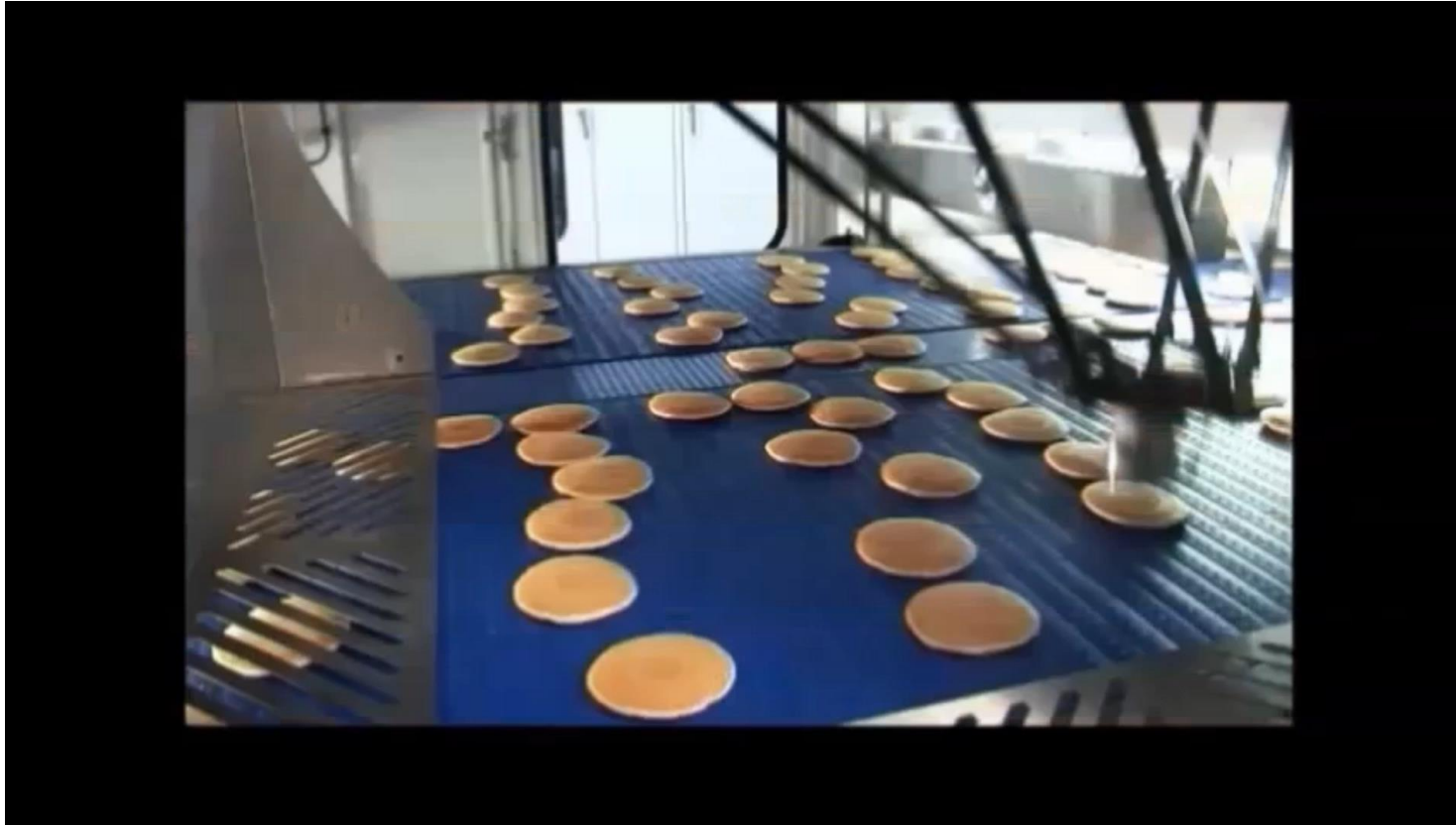
# How could you benefit from a smarter factory?



---

# The enduring benefit of robots

Proven performance that pays for itself



# Signature Flatbreads Ltd, Bedfordshire, UK



## The application

Four FlexPicker IRB 360 robots with integrated vision software are used for the picking and stacking of pancakes.

## Key drivers and benefits

- ✓ Increased process speeds – 110 picks per minute
- ✓ Significantly improved hygiene levels
- ✓ Reduced wastage - robots keep pancakes on a buffer shelf until a short stack is identified
- ✓ Greater flexibility; PickMaster 3.2 allows quick product changeover



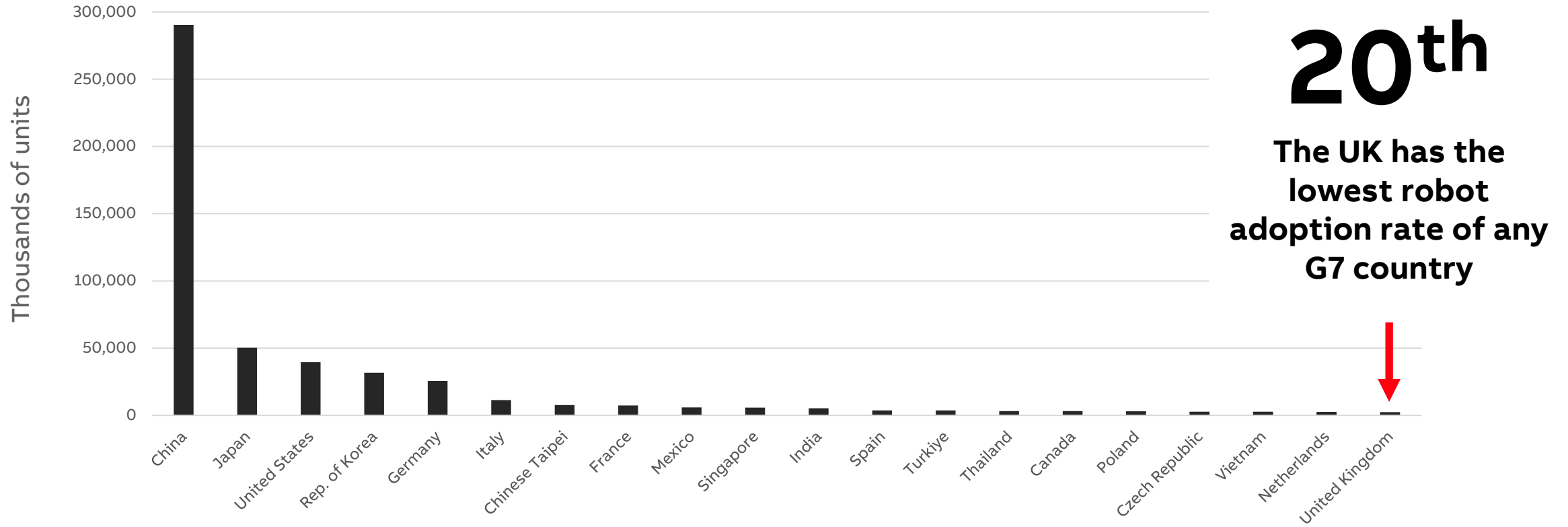
***“Turnaround time has been dramatically reduced between products and as a result we can meet our customer’s tight deadlines without delay.”***

William Eid, Director,  
Signature Flatbreads Ltd

# Why do we need more robots?

The global picture

Annual installations of industrial robots – an international comparison

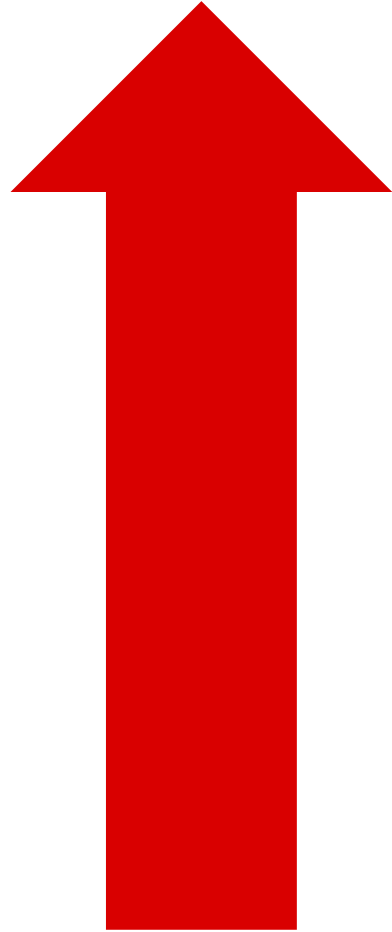


**20<sup>th</sup>**

**The UK has the lowest robot adoption rate of any G7 country**

---

## The UK is heading in the right direction...



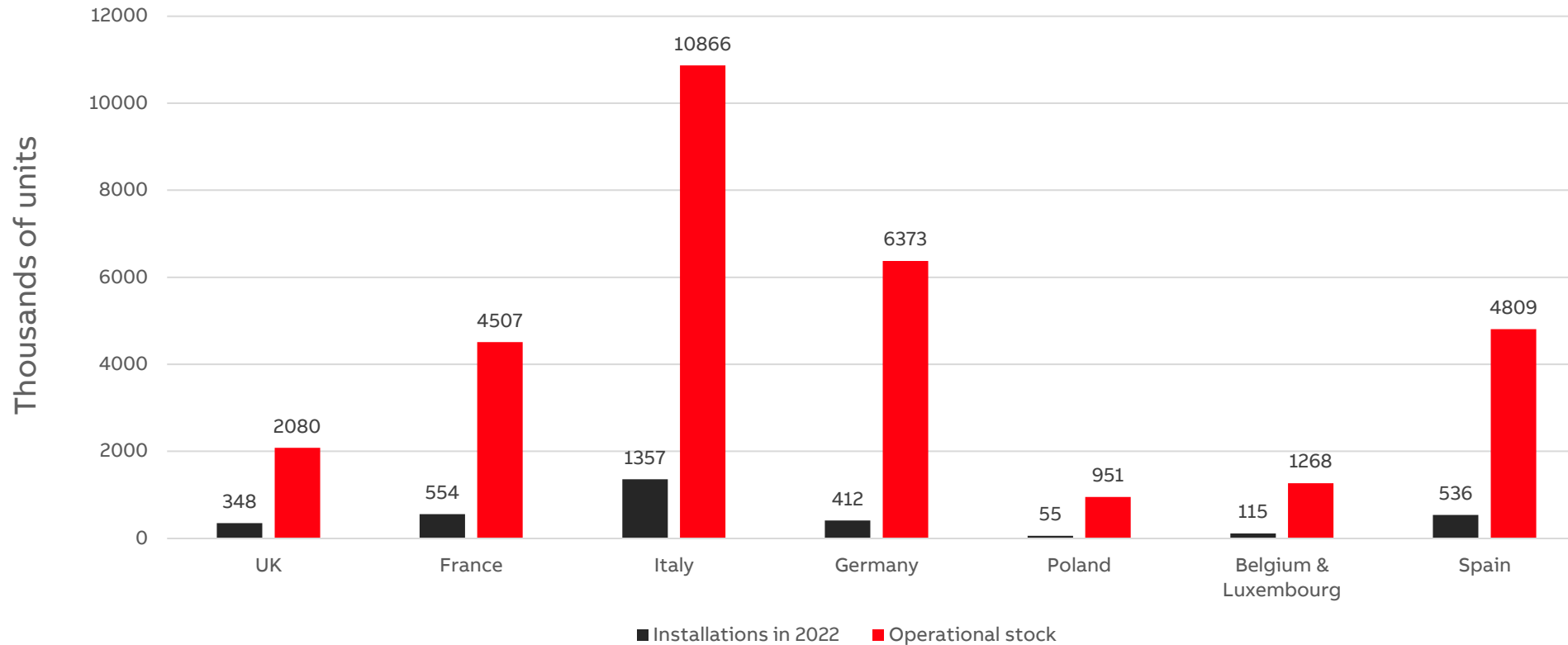
# 76%

The UK **food and beverage industry** strongly increased its installations of new robots by 76% to 348 units in 2022

But...

We still need to do more to build our international competitiveness

New installations and Total operational stock (2022) - Food & Beverage applications





**— Making your switch to robots – a guide to where to start**



# Useful tips

## How to start

- Don't set your targets too high
- Go for the 'low hanging fruit', even if it might mean a longer payback
- Recognise there is a learning curve
- If you try to do the hard thing first, then the learning curve will be steeper
- Find other people or organisations that have done it before



**Don't try to do too much, too quickly**

# Useful tips

## Where to start

- What is it you want to change?
- Where are you now?
- Where do you want to get to?
- How efficient are you now? How efficient do you want to be?
- Do you have the right processes / equipment to achieve your long-term goals?
- How could automation help you to improve your performance?
- Where could automation best be deployed within your process?
- What would be the nature of this automation?
- What ROI are you looking for?



**Set your objective**

## Useful tips

### User requirements specification

- Helps to explain your requirements for the automated solution to potential vendors
  - E.g. production rates, parts to be handled, production standards, etc
- Helps to define how the project is to be handled
  - Timescales, reporting, testing



**Define your requirements**

---

## Useful tips

### Agree the scope of supply

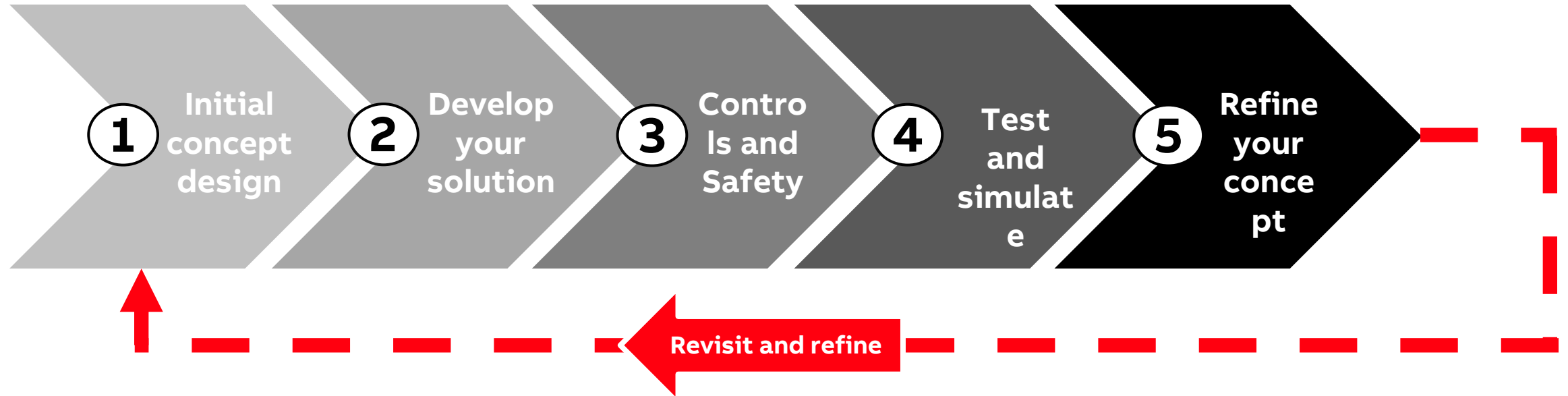
- Scope of supply sets both the buyer's and the vendor's expectations
- May include some or all aspects of design, supply, testing, training and long-term support
- Acceptance criteria should also be defined – i.e. at what point will the vendor have discharged their obligations?



**Set your expectations with your supplier**

## Useful tips

### Five key steps when planning an installation



---

## Useful tips

### Achieve the best ROI

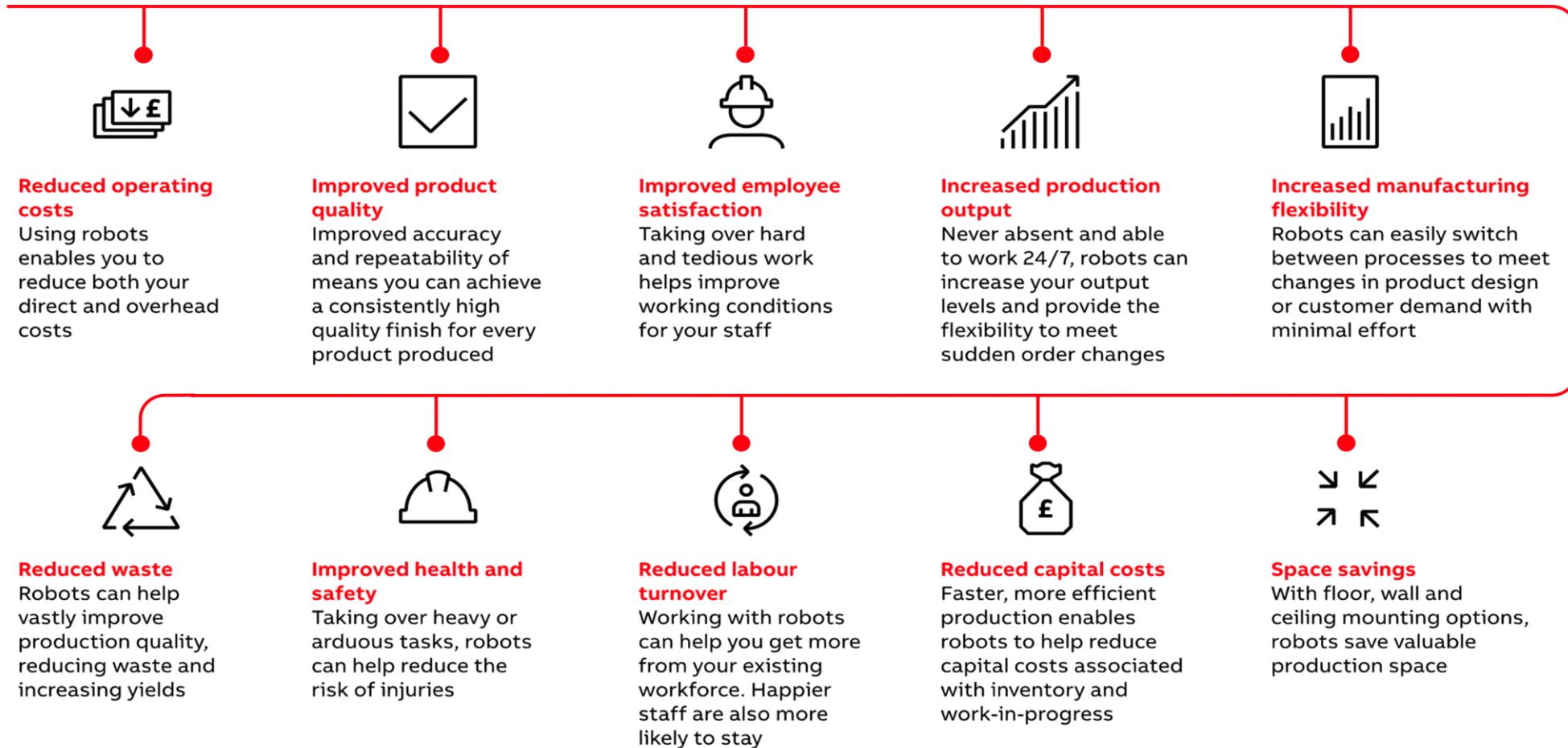
- Increase the chance of a 'yes' from senior management
  - **STEP 1** - Start with the budget cost for the automation system
  - **STEP 2** - Develop an initial concept and the anticipated cost of achieving it
  - **STEP 3** - Involve suppliers to discuss and refine ideas and advise on costs
- Once the concept is defined, it will be possible to calculate the direct savings that will result
- **Use the 10 reasons to invest to help calculate your investment**



**Increase the chance of a 'yes' from senior management**

# Useful tips

## Calculate your ROI using the 10 reasons to invest



## Why it pays to be realistic

It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money — that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot — it can't be done.



John Ruskin  
1819- 1900



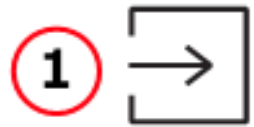
---

## Next steps

Start your journey to a smarter factory

---

### Three steps



**1**  
Request a copy of  
this presentation



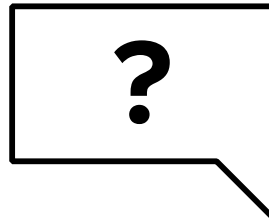
**2**  
Make a booking with  
us to visit your line to  
see whether you  
could benefit from  
robotic automation



**3**  
Find out more about how  
our system integrator  
partners can help you to  
develop a robot concept  
for your application

---

# Any questions?



**ABB**