

Robotics

10 good reasons to invest in robots

The 10 good reasons to invest in robots

*Based on
research carried
out by the
International
Federation of
Robotics (IFR)*

1. Reduce operating costs
2. Improve product quality and consistency
3. Improve quality of work environment for employees
4. Increase production output rates
5. Increase product manufacturing flexibility
6. Reduce material waste and increase yield
7. Comply with safety rules and improve workplace health and safety
8. Reduce employee turnover and improve recruitment
9. Reduce capital costs (inventory, work in progress)
10. Save space in high value manufacturing areas

Reason one

Reduce operating costs

- Robots can help you to reduce both your direct costs and your overhead costs
- Robots eliminate the costs associated with manual workers - in terms of wages, training, health and safety, holidays and employee administration
- Energy Efficiency. With no requirement for minimum lighting or heating levels, robots offer a great opportunity to reduce your energy bills.
- Current estimates point to a potential saving of 8% for every 1°C reduction in heating levels, whilst savings of up to 20% can be achieved by turning off unnecessary lighting.

Reason one

Reduce operating costs



“I am so impressed with the ABB cell that we will install a second by the end of the year and full ‘lights-out’ operation will follow that.”

Andy Knight, Characteristix

Client

Characteristix (part of Gemma International),
U.K.

Application – handling and cutting

Materials handling and sprue cutting of plastic injection moulded parts including badges, pendants, pencil toppers and fridge magnets
System installed by GeKu UK

Key drivers and benefits

- ✓ Huge decrease in downtime
- ✓ Improved efficiency and costs reduced by 5%
- ✓ Performance up more than 100 per cent
- ✓ 33,000 pieces produced per day
- ✓ Newly motivated employees

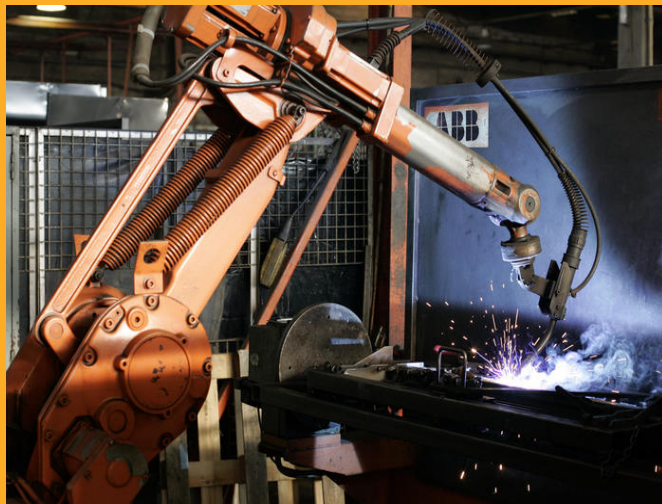
Reason two

Improve product quality and consistency

- Robots can help ensure consistently high quality output of products and control of manufacturing processes
- No risk of errors caused by human factors such as tiredness, distraction or the effects of repetitive and tedious tasks
- Process control can be integrated with the robot
- Inherent accuracy and repeatability means a high quality finish for every product produced

Reason two

Improve product quality and consistency



“Using ABB systems has not only improved our manufacturing processes and productivity, but it has also freed up time and manpower for developing innovative new products and tailoring production to meet the specific needs of our customers.”

Sousa Pires, Farama

Client

Farama,
Lisbon, Portugal

Application – arc and spot welding

Cells to weld cut and bent steel wire, rods and tubes for manufacture of supermarket trolleys
System installed by ABB Portugal

Key drivers and benefits

- ✓ Improved product range for global competition
- ✓ Each robot can be quickly adapted to a new or different product – with fast change overs
- ✓ All programming and operating staff can use all the welding stations. Common cell design.
- ✓ Freed up people for developing innovative new products

Reason three

Improve quality of work environment for employees

- Robots can help you improve staff working conditions
- Can take over tasks in dusty, hot or hazardous environments
- Staff motivation can also be improved by retraining staff to use robots – provides chance to learn valuable programming skills and do work that is more stimulating

Reason three

Improve quality of work environment for employees

Movie available on
abb.com/robotics



“We’re increasing our moulds by 30% to 40% with the same amount of people, and there is still a lot of capacity left.”

*Kevin Weaver
Franklin Bronze & Alloy Inc.*

Client

Franklin Bronze and Alloy Inc.
Pennsylvania, USA

Application – materials handling

Investment casting of precision parts in brass, bronze, aluminium, stainless steel and nickel-based alloys

System installed by ABB USA

Key drivers and benefits

- ✓ Reduction of man-hours from 56 to 32 per day
- ✓ Mould production up 60%
- ✓ Improvement of shell quality
- ✓ Return on investment in 2.5 years
- ✓ Cleaner environment for employees and reduction in physical stress

Reason four

Improve production output rates

- Robots can be left running long shifts, overnight and during weekends with little supervision
- Enables true 24 hour production to increase output levels and meet client order deadlines
- No disruptions to production from breaks, sickness, lapse of concentration or human error
- Performs routine functions to fine tolerances reducing rejects and scrap rates
- New products can be introduced faster and production begin earlier
- Programming of new products can be done off-line without disrupting production

Reason four

Improve production output rates



“The benefit of using robots is the ability to have low-volume runs, as well as to change jobs every few minutes, to cater to any application and suit practically any size and shape.”

Darren King, D&M

Client

D&M Auto Industrial Spray Painting Pty. Ltd
Melbourne, Australia

Application - painting

Spray painting - specializing in small plastic parts for the automotive industry

System installed by ABB Australia

Key drivers and benefits

- ✓ Productivity and profitability boosted by 80%
- ✓ Consumption of paint reduced from 35% to 30%
- ✓ Flexibility increased, allowing for very low-volume runs and fast change overs
- ✓ Number of accidents and work-related illnesses reduced

Reason five

Increase product manufacturing flexibility

- Robots can provide flexibility to your production line
- Once the processes you require are programmed into the robot controller, you can easily switch from one process to another
- Enables you to maximise your investment by using robotics equipment to accommodate many product variants or for more than one process
- Ability to respond to fast changing customer demands and peak load requirements
- Vision guidance technologies can accommodate variations in products, processes and work place

Reason five

Increase product manufacturing flexibility

Movie available on
abb.com/robotics



“With the new system, we’re running the packaging machine at full capacity, giving us a performance increase of up to 25 percent compared with manual loading.”

Carim Gad, Unilever

Client

Unilever (Bifi Salami)
Ansbach, Germany

Application – high-speed picking/packing

High-speed picking and placing of salami sausages in a fully integrated packing line
System installed by Robomotion GmbH

Key drivers and benefits

- ✓ Production increased by 25%
- ✓ Improved efficiency
- ✓ Six different products accommodated
- ✓ Flexible system thanks to application software and vision guidance
- ✓ No pre-arranging or pre-placing of products required

Reason six

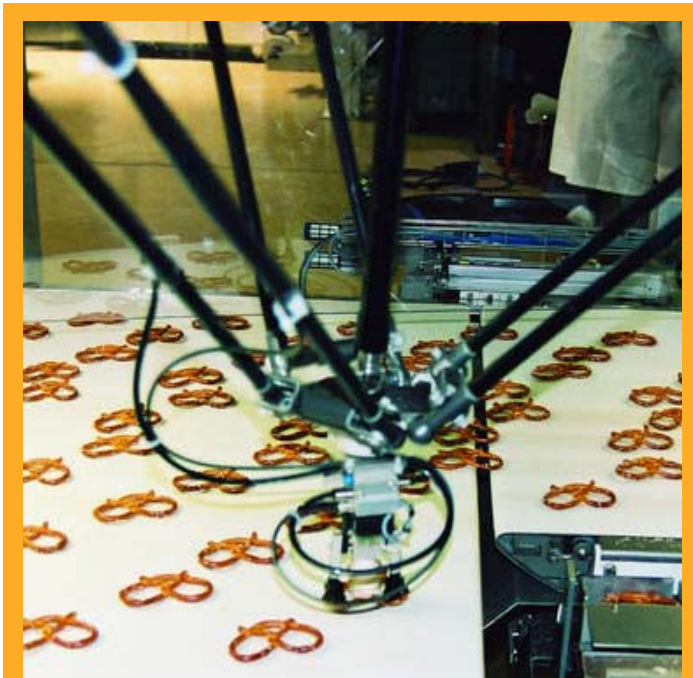
Reduce waste and increase yield

- Improved accuracy from using robots means you can have more products finished first time to the quality standard demanded by your customers
- Also reduces the amount of waste produced as a result of poor-quality or inconsistent handling or finishing
- With products being produced to consistently high quality levels - rejects and scrap are eliminated and yields increased.

Reason six

Reduce waste and increase yield

Movie available on
abb.com/robotics



“Because there are fewer breakages, fewer people are needed to check the packaged pretzels and replace the broken ones by hand.

Walter Fuchs, Roland Murten

Client

Roland Murten AG
Murten, Switzerland

Application – high-speed picking/packing

High-speed packing of baked pretzels in vacuum formed trays

System installed by ABB Switzerland

Key drivers and benefits

- ✓ Breakage's have reduced from 12% to 4%
- ✓ 134 kilograms of pretzels are packed every hour
- ✓ Reduced noise levels and improved working environment for employees

Reason seven

Comply with rules and improve health and safety

- Robots can take over unpleasant, arduous or health-threatening tasks currently undertaken by people
- Robots can decrease the likelihood of accidents caused by contact with machine tools or other potentially hazardous production machinery or processes
- Can also help to eliminate ailments associated with repetitive or intensive processes, e.g. repetitive strain injuries (RSI) and vibration white finger

Reason seven

Comply with rules and improve health and safety

Movie available on
abb.com/robotics



“At first, people were extremely wary of this new technology. Now they feel proud of it. Far from threatening jobs it has preserved employment in the face of global competition”

Reben Ritter, Svedplan

Client

Svedplan
Alingsås, Sweden

Application – depalletizing and Packing

Handling of heavy and awkward wooden panels and boxes in flat pack furniture production
System installed by Teamster AB

Key drivers and benefits

- ✓ Production has increased by 45%
- ✓ Automated lines preparing 15 boxes per hour compared to 10 on the manual lines
- ✓ Work conditions for employees have improved without loss of jobs
- ✓ Ability to accommodate wide range of products with fast change overs

Reason eight

Reduce employee turnover and improve recruitment

- Highly skilled manual workers are becoming harder to find and more expensive to employ
- Robots can provide an ideal alternative. Once programmed, they can begin work with none of the costs associated with recruitment, induction or ongoing training
- Robots often come with hard to find process skills “built in”
- Also offer greater flexibility, both in terms of work patterns and ability to adapt to different production tasks
- Robots love the jobs that people hate to do. Their “motivation” levels are always high.

Reason eight

Reduce employee turnover and improve recruitment



“Our workers were happy to see the robots arrive because they are relieved of a hot, hard, noisy, repetitive task.

Giovanni Pasotto, MP Filtri

We gained a lot in productivity, because we have no more down-time.”

Cesare Gatti, MP Filtri

Client

MP Filtri

Pessano con Boragno, Italy

Application – machine tending

Unloading hot parts from forming presses and machine tools and loading finished parts into baskets for aluminium oil filter production.

System installed by MP Filtri

Key drivers and benefits

- ✓ Increased productivity - the production line can complete in 2 hours what used to take 8.
- ✓ No longer struggle to find “qualified” workers
- ✓ Rapid return on investment < 2 years
- ✓ Consistent high quality. Rejects reduced from 10% to 2%

Reason nine

Reduce capital costs

- With robots you can reduce the cost of consumables used and reduce wastage
- Less manual labor can also mean lower costs relating to sickness, accidents and insurance

Reason nine

Reduce capital costs



“We now only have one process compared to 4 in terms of welding when making the rotor.

It is also better for the operator”

Ulrik Bastholm, Kverneland

Client

Kverneland
Kerteminde, Denmark

Application - arc welding

Welding of specialised agricultural machinery including disc mowers and mower conditioners
System installed by DanRob

Key drivers and benefits

- ✓ Efficiency boosted and tied-up capital costs reduced
- ✓ Welding processes reduced from 4 to 1
- ✓ Production time down from 150 minutes to 45
- ✓ Programming implemented off-line
- ✓ Production runs during lunch breaks
- ✓ Improved working conditions

Reason ten

Save space in high-value manufacturing areas

- Robots can be mounted on walls floors, shelves and ceilings – resulting in space saving cell design.
- Can also be programmed to work in confined spaces, saving valuable floor space

Reason ten

Save space in high-value manufacturing areas

Movie available on
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With pressure to save costs and increase efficiency the pharmaceutical industry is learning tricks from the food sector

Client

Industria Macchine Automatiche (IMA)
Castenaso, Bologna, Italy

Application – high-speed picking / packing

Development of specialised “Flexa” packing machine for medical droppers for American pharmaceutical company.

System designed and installed by IMA

Key drivers and benefits

- ✓ Need to handle 150 droppers per minute
- ✓ Handles product inconsistency using vision guidance
- ✓ Overall machine layout saves space
- ✓ Can also handle spoons and syringes
- ✓ Reduced maintenance costs

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For more information and the name of your local ABB contact visit www.abb.com/robotics

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