10 good reasons to invest in robots
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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

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

“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
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

Client
Farame,
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

“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, Farame
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

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

“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.
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

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

“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
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

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

“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
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

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

“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

Movie available on abb.com/robotics
Reason seven
Comply with rules and improve health and safety

- Robots can take over unpleasant, arduous or health-threatenin
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

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

“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
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

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%

“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
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

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

“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
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

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