



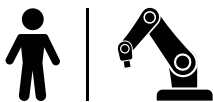
# ROBOTICS



## WHY AUTOMATE?

- Reduce Operating Costs
- Improve Product Quality
- Improve Quality of Work for Employees
- Increased Production Output
- Increased Product Manufacturing Flexibility

- Reduced Waste
- Improved Health and Safety
- Reduced Labor Turnover
- Reduced Capital Costs
- Save Space

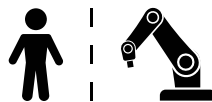


### INDUSTRIAL

Safety guarding/fencing is required to keep operators out of the work area of the robot. Most robots in current deployment worldwide are industrial units as they maximize workflow efficiency in the majority of applications.

#### Benefits:

- Largest payloads
- Longest reaches
- Highest speeds (< 3 seconds)
- Harsh environments
- Ultra clean environments



### COOPERATIVE

Indirect interaction between human and robot is safe through the use of safety sensors, light curtains, area scanner, and/or mats. If an operator enters the robot's work area the robot will either stop or drastically slow down its speed. Based on additional software such as SafeMove (ABB) and SafeMotion (DENSO).

#### Benefits:

- Minimal safety guarding
- Fits applications where some human interaction is required due to product/process complexity



### COLLABORATIVE

Direct interaction between human and robot within a defined collaborative workspace. The robot can be integrated for use in a specific application where the robot system can perform tasks concurrently beside a human operator.

To be qualified as collaborative the robot must abide by safety standards.

#### Benefits:

- No safety guarding required
- Quick deployment times
- Lead through teaching



## A ROBOT FOR EVERY APPLICATION

In an age of advancing technologies, there are several tiers of options when choosing what robot will best suit your needs. After evaluating whether your workplace environment will be best served by an industrial, collaborative, or cooperative robot, the next step is to decide what type of robot. By consulting with your local MASEAS representative, we will be able to help identify which robot will give you the most efficient return on investment based on your application needs.



ABB Robotics  
IRB 760



ABB Robotics  
IRB 6730



DENSO Robotics  
VS-050G

### ARTICULATED (4, 5, & 6-AXIS)

- Widest range of variations spanning:
  - Payload
  - Reach
  - Precision
  - Speed and acceleration
  - Mounting options
- Greatest variety of application use:
  - Assembly, cutting, deburring, grinding, injection molding, inspection, painting, palletizing, picking, polishing, welding, etc.



ABB Robotics  
IRB 910INV



DENSO Robotics  
HSR Series



IAI  
IXP Series

### SCARA

- High speed
- High precision
- Great for vertical/planar applications
- Low maintenance
- Uses a circular work envelop
- Compact design (tabletop mountable)
- Does not require a framework



IAI  
CT4 Series



Brooks Automation  
PP100

### CARTESIAN

- High rigidity
- High precision
- Capable of linear X, Y, Z movement
- Low maintenance
- Maximizes efficiency in a rectangular work envelop
- Scalability
  - Compact (tabletop mounted)
  - Large (spans size of room)



ABB Robotics  
IRB 360 Flexpicker



ABB Robotics  
IRB 390 Flexpacker

### DELTA

- Very high speed and acceleration
- Very high precision
- Extreme rigidity
- Low maintenance
- Compact design
- Inverted mount (uses no floor space)
- Superior conveyor tracking



ABB Robotics  
CRB 15000 GoFa



ABB Robotics  
Flexley Mover P404

### COLLABORATIVE & MOBILE

- Direct interaction between human and robot when following safety standards
- Lead through teaching
- Suited for applications such as lab automation, quality check stations, and two-hand touch systems
- Quick deployment times
- Variety of robot formats including:
  - 6-Axis
  - SCARA
  - Cartesian
  - Autonomous Mobile Robots

\*Regionally Authorized Suppliers

**Minuteman Automation Systems**  
7 Foster Street  
Wakefield, MA 01880

Phone: 781.245.9550  
Email: sales-mas@maseas.com

**Empire Automation Systems**  
20 Vantage Point Drive, Suite #4  
Rochester, NY 14624

Phone: 585.352.3333  
Email: sales-eas@maseas.com