how it works

Rich and powerful visual guidance instils new intelligence into modern robots. Robotic systems can not only identify and track a wide variety of parts within their visual field, but also successfully grasp them and complete most material handling tasks. Our expertise spreads across all major vision technologies, such as those developed by Cognex and SICK.

A conveyor carries parts into a robotic pick and place cell. A vision camera mounted above the conveyor continuously takes images of the parts to identify which can be picked by the robot most easily. An encoder can be used to track the conveyor position and tell the robot where to pick parts. Once picked by the robot, parts can be processed or placed accurately on a target or in a position. Using vision guidance, some robots can approach up to 200 pick and place operations per minute.

benefits

- Automates processes dealing with various products and locations
- Eliminates fixtures and therefore reduces footprint and costs
- Increases reliability and efficiency through vision application
- Greatly expands the flexibility of robotic systems
applications

- **Depalletizing** - robot visually identifies individual products and picks them off the pallet
- **Assembly** - precisely locates different components and assembles them into one work piece
- **Inspection and quality control** - vision monitors moving products on a conveyor and notifies robot to reject if defective product is found
- **Automatic sortation** - robot picks products apart into separate spaces based on visual features such as shape, dimension, and color
- **Random bin picking** - large number of parts arrive randomly piled within a crate without separation; the robot visually locates each individual part and picks it out
- **Mixed load palletizing** - when incoming products have different sizes, the robot visually determines the dimensions and intelligently stacks the products on the same pallet

specifications

- Vision can identify nearly all products of consistent shape and surface
- Precision can reach up to .03 cm in error before tool compensation and nearly 0 cm after tool compensation
- Vision sensor and its accessories can be robot-mounted or stand-alone
- Robotic system interfaces with PC or PLC
- Meets RIA and ANSI safety requirements

Interested in implementing vision guided robotics in your facility or simply want to know more about it? Please contact us today for additional information.