



MACHINE VISION

MSE is at the forefront of developing specialized machine vision systems to automate tasks

Machine vision (MV) is the application of computer vision (the science and technology of machines that see) to industry and manufacturing. While computer vision is mainly focused on machine-based image processing, machine vision most often requires digital input/output devices and computer networks to control other manufacturing equipment or monitor sensors.

MV is a subfield of engineering that encompasses computer science, optics, mechanical engineering, and industrial automation. MV systems are programmed to perform narrowly defined tasks such as searching for surface defects, performing visual inspections that require high-speed and high-magnification, or automating tasks that are dangerous to humans or equipment.

MSE MACHINE VISION SYSTEMS

MSE offers machine vision systems suited to a variety of industries and situations.

Stand-Off Identification/Recognition
Turnkey Solutions

- Image recognition applications for
 - ✓ Security Monitoring
 - ✓ Object Identification
 - ✓ Automation Control

Systems Design and Integration

- Hardware selection/fabrication
 - ✓ Lighting
 - ✓ CCD/CMOS Cameras
 - ✓ Pattern recognition/blob analysis software
 - ✓ Frame grabbers
 - ✓ Processors
 - ✓ USB, USBII, Firewire, composite video interfaces

Our experience includes designing systems for extreme adverse operating environments and uncontrolled lighting conditions. One of our machine vision systems, the Launch Bar Seating Check, monitors the launch bar position on aircraft carriers, automating a dangerous visual process while saving lives and aircraft. Call for more information.

Typical Machine Vision System

A typical machine vision system will consist of several components:

- One (or more) digital or analog camera suitable to acquire images
- Lighting
- Camera interface to digitize images (widely known as a "frame grabber")
- A processor (often a PC or embedded processor)
- Computer software to process images and detect relevant features.
- A synchronizing sensor for part detection (often an optical or magnetic sensor) to trigger image acquisition and processing.
- Input/output hardware (e.g. digital I/O) or communication links to report results
- Some form of actuators used to sort or reject defective parts.

MSE Machine Vision

Providing engineering solutions for 30 years.

We find engineering solutions for our customers. MSE headquarters are in Butte, MT, with offices across the United States.

MSE
Technology Applications, Inc.