

# Interpreting the World Around Us

Embedded Vision is a field of artificial intelligence that trains computers to interpret and understand the visual world. Using digital images from cameras and videos and deep learning models, machines can accurately identify and classify objects.

**74%** Currently use or are considering the use of embedded vision

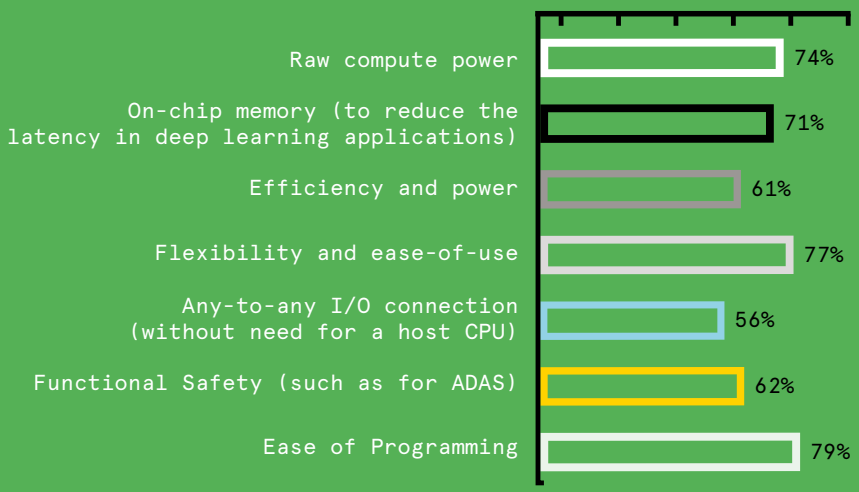
## Top 2 Technologies used in Embedded Vision Applications:

- 1. Sensors
- 2. FPGAs

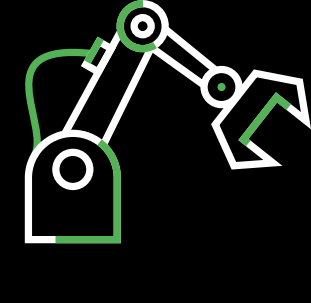
## The Easier the Better

Embedded computer vision requires a good set of skills and knowledge. Surveyed engineers cited the flexibility of deep learning apps and ease of use of programming as very important.

## Top Important Factors for Deep Learning Applications



## Top 3 Industries Using Embedded Vision



Industrial



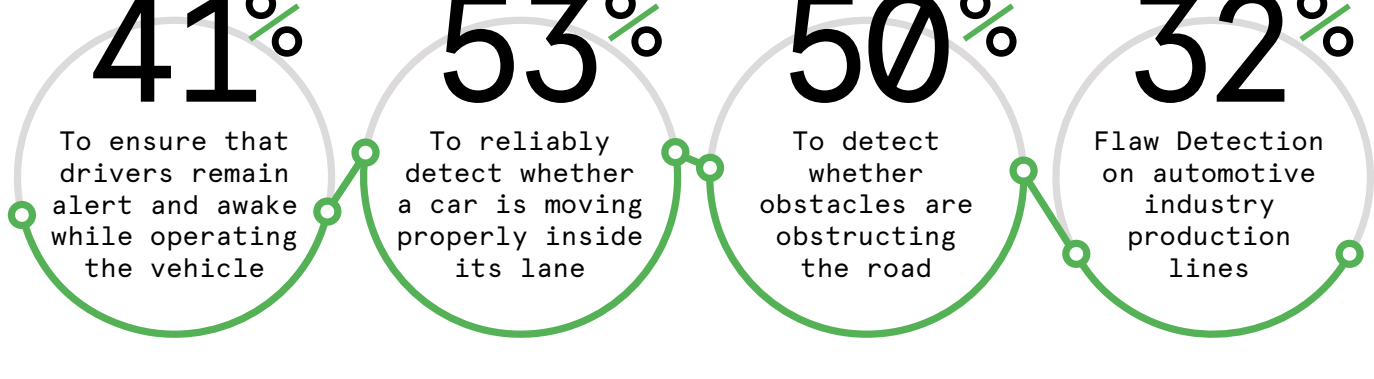
Automotive / Transportation



Healthcare / Medical

## Embedded Vision Takes Hold in Automotive

Key Applications



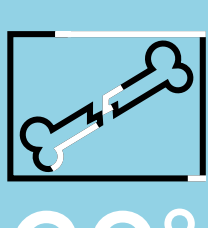
In the automotive industry, global companies are moving forward improving cars through the use of embedded vision. Using **Deep Learning models**, machines can now accurately identify and classify objects from within digital images and then react to what they "see".

## Improving Healthcare

Medical uses under consideration



**52%** To diagnose and expedite treatment recommendations



**28%** To review radiographic images so risk indicators are not missed



**45%** To accelerate review times and improve patient outcomes

In healthcare, embedded vision technology is helping professionals accurately characterize conditions or illnesses that may potentially save patients' lives.

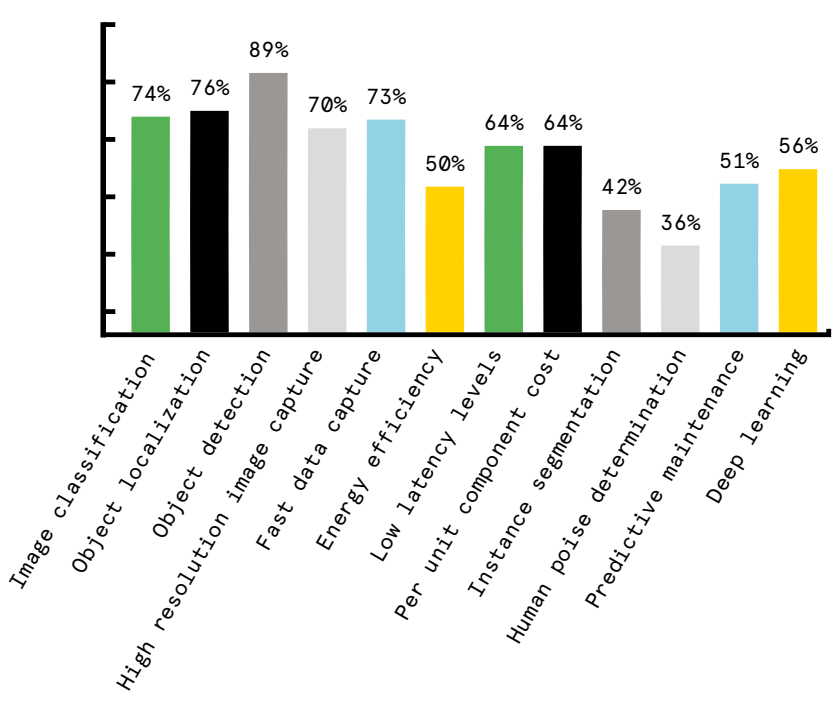
## Inspection and Quality Control Key Applications in Industrial



In manufacturing, the field of machine vision is used for automated inspections, identifying defective products on the production line and for remote inspections of equipment. Industrial embedded vision applications being considered include product and component assembly, barcode reading, maintenance, and package inspection

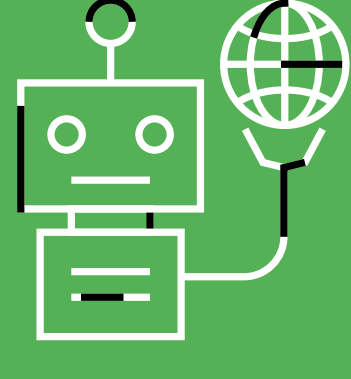
## Important Capabilities for Embedded Vision

The technology is used to automate and optimize operational and control processes, by calling out inconsistencies. Embedded vision can improve manufacturing detection rates by spotting defects not easily visible to the human eye.



## /today\

Embedded Vision technology has become easily accessible, making it even more appealing to enterprise. Using the resources of Avnet, ON Semiconductor, and Xilinx among others allows you to rapidly build a powerful version of your new product and get to market quickly.



Source: 2021 Electronic Design Embedded Vision Survey