The new machine vision that is emerging is already generating millions of dollars per year in thousands of successful applications. Machine vision is becoming established as a successful tool for industrial automation where 100% inspection of manufactured parts during production is becoming a reality. Two-thirds of applications of machine vision are found in quality control in which objects are categorized using its dimensions in metric measurements that are extracted from its 2D-pixel image. Building a machine vision system requires careful selection of appropriate sensor, lens, extraction and integration of information from the available cues, sensed data and evaluation of system performance and robustness. In this paper, it is proposed to provide a roadmap with an overview of Imaging system, Radiometric and Geometric Modeling to design a machine vision system with the illustration of design of automated visual inspection system to image new bottles on a conveyor
line at a distance of 100 cm from the camera in order to ensure 30 mm diameter of the bottle neck.

**Reference**


**Index Terms**

Computer Science  
Programming  
Languages

**Key words**
Automated visual Inspection System

Machine Vision

Imaging System

CCD Sensors

Frame grabber