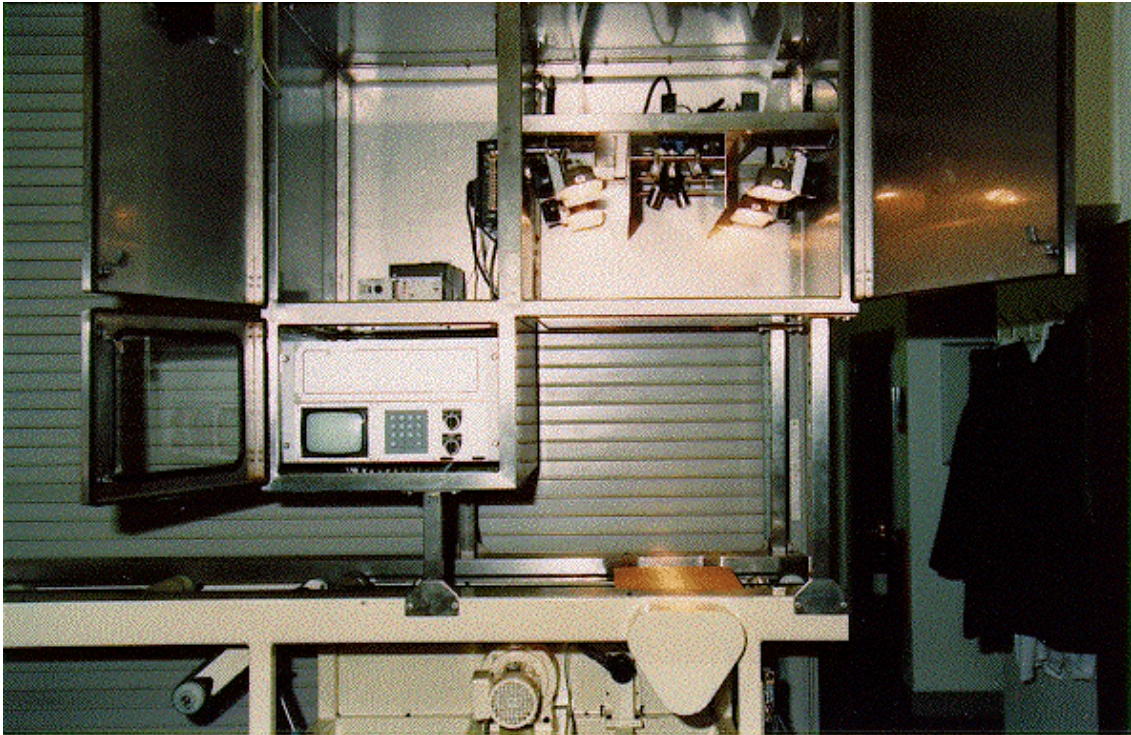


## Case Study:

## Product Size and Shade Inspection System

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- On-line, non-contact measurement of product dimensions.
- On-line, non-contact measurement of product shade.

York Electronics Centre has developed a non-contact system for making dimensional and shade measurements of product passing along a conveyor belt. The product's dimensions are roughly 450 x 300 mm and measurement resolution is 0.5 mm or better. Shade is determined by measuring the luminance of the product when illuminated by monochromatic light of an appropriate wavelength. Product can be measured at a rate of up to 20 per minute, with only small gaps needed in-between each product.

Product size, shape and shade tolerances can be easily programmed using a simple menu driven system. PLC outputs are provided allowing totalising counters to be implemented or reject systems to be operated. The simple operator display shows deviations from pre-programmed settings for each product inspected. A trend bar-graph shows the shade variations over the last half hour, and the lower section of the display shows the measurements of the last nine products to pass through.

Calibration is easily accomplished using the menu system by "teaching" the unit on test pieces of known dimensions, shade being calibrated against black and white ceramic tiles of known value.

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