# ”Application of 3D sensors for object volume imaging”

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Automatic non-contact 3-dimensional (3D) inspection systems constitute a growing market, driven by the need in many industrial sectors to implement "zero-defect" quality.

Among the several types of 3D inspection systems available, those based on Linear Array Position Sensitive Detectors (LAPSD) attract great interest, due to it's fast response, high linearity and excellent resolution, while requiring simple electronics and image data post-processing, leading to affordable systems.

The LAPSD mode of operation will be covered, with a brief introduction to the device physics. The different types of readout electronics will be discussed. An overview of the different application areas of PSD's will be given. The triangulation method for distance measurement will be reviewed, in order to understand the most important design parameters. Finally, the prototype system developed by CEMOP/UNINOVA for 3D image acquisition will be described.