

AQSENSE and ImagingLab exhibit 3D robot vision solutions at Automatica

At this year's Automatica, AQSENSE, and ImagingLab, jointly present a multi-brand multi-robot demonstrator integrating a 360° 3D scanner.

AQSENSE, Girona, Spain, is a 3D software and solution provider: the demonstrating unit makes use of their unique SAL3D point cloud processing library.

ImagingLab, Lodi, Italy, is a company specialising in the tight integration of vision and robotics, known also for their LabVIEW-based high level robotics library.

Four anthropomorphic robots (Denso, Epson, Kuka and Mitsubishi) feed and exchange different solid objects into a 360° 3D Scanner. The 3D reconstruction of the object is processed and displayed in Real Time. ImagingLab has ported AQSENSE SAL3D library into LabVIEW (National Instruments) to complement the robotics library.

The 3D computed results can be used for complex robot guidance, measurements and quality part inspection.

Scope of the unit is to underline the growing importance of 3D vision in robotics. Traditionally, the inherently 3D robotics world has made use mainly of 2D Vision. Integrating and extending robotics vision to 3D has several advantages and fits many of the needs of flexible manufacturing.

The scanner technology, based on multiple laser triangulation and some clever multi-image matching and calibration, was originally developed for the food industry for automated constant-volume / constant-weight portioning machines, but keeping in mind many other industrial applications as well. The combination of machine vision and robotics optimally addresses the needs of different applications in manufacturing, ranging from automated loading / unloading of parts to the fully automated assembly of complex goods.

AQSENSE and ImagingLab can provide a full range of solutions, from software only to fully engineered vision-robotics cells and 3D scanners.

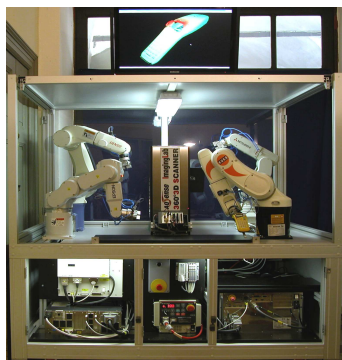


Image1: Different robot brands and the 3D scanner in smooth cooperation

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