



Automatic 3D Vision Research Project

NFR BIA project no. 174398/I40

Automatic 3D, sponsored by the Norwegian Research Council NFR, is a three years long research project. The project, started in 2006, aims to develop a cost effective and easy to use technological platform, including 3D data image acquisition, visualisation and processing, to simplify the use of 3D machine vision measurements in the manufacturing industry. The technology is to be used in automatic robot bin picking and 100% product inspection. The technology shall be cost effective and easy to use.

3D geometrical models are today important tools in product design, development and production. High competence and effective utilisation of such tools can back up a continuation of production in countries with high cost of living.

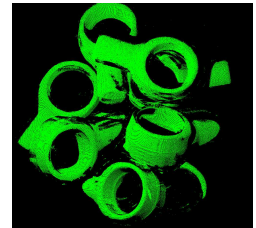
A condition for the industry to develop the use of such tools is that methods exists to effectively measure and control the product's actual geometry.

Traditionally mechanical measuring apparatus are used to read off object's geometry. These are however too slow and unsuited for automatic measurements in a production line.

The aim of this project is to make 3D technology available and applicable also for the smaller companies.

A flexible 3D camera is to be developed based on structured light, low cost components as well as concepts and accompanying tools for visualisation and image processing to automatically analyse and extract requested geometrical measures without any programming.

The concept will be tested by Kongsberg Automotive AS in their plant at Rollag in Norway. The pilot projects include Random Bin Picking and 3D measurement of a large automotive V-bar. The projects meet the automotive industries' increasing volume and the need for automated production with 100% automated inspection.



The technology shall fill the gap between expensive and complex DAK systems and flexible 2D machine vision systems.

The 3D technology will be implemented in Tordivel's 3D Machine Vision platform Scorpion Vision Software and in Conoptica's advanced 3D measuring systems.

Budget: 2 million Euro

Duration: 2006 - 2009

Consortium: Tordivel AS (project leader), SINTEF IKT, Kongsberg Automotive AS and Conoptica AS

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