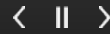


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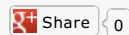
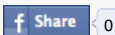
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3D sensor gives robots better vision

A project to develop robots for sophisticated applications has been enhanced by a new 3d sensor which enables them to observe their environment in a more natural and human like manner.

The TACO project is being run by independent research organisation SINTEF Group and seeks to apply robots in the fields of cleaning, construction, maintenance, security, health care, entertainment and personal assistance.

TACO employs 3D foveation which enables the systems to acquire 3d images with coarse level of details and apply fast object detection techniques to select areas of interest in the coarse 3d image. It can then concentrate image acquisition of regions or details of interest. According to the development team, the robot will become able to focus on the most relevant object and scan and monitor it closely and detailed, similar to the human eye.

Jens Thielemann, (pictured) TACO's technical lead, says that the TACO sensor will enable 'significantly better, faster and cheaper 3d sensing' compared to current laser scanners. Thielemann said: "Through the foveation process, the sensor will provide 10 times better resolution than existing sensors with hardware enabling a 10 times size resolution. One of the most important project deliveries will be an easily accessible report comparing the TACO sensor to existing 3d sensors, making the TACO advantage clear to the European robotics community."

The main goal of TACO is to develop a flexible, compact, robust and low cost 3d sensing system that includes three major parts - a novel concept for fast attention level management; a 3d laser scanner sensor and a software framework.

According to Thielemann, the project aims to advance the European robotics industry by addressing the strategic challenges of 3d sensing and producing innovative technologies.

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