

This site uses cookies. By continuing to browse the site you are agreeing to our use of cookies. Find out more [here](#). X



oxy.IQ

The biggest small thing to happen in oxygen transmitters



Learn More

- Advertise
- Contact Us
- Sign up for Email Alerts

Thursday, 12 September 2013

Sign in | Register | Jobs | Cookies

theENGINEER

First for technology & innovation www.theengineer.co.uk



- Home
- News
- In-Depth
- Video
- Opinion
- Blog
- Archive
- White papers
- Engineering Jobs



30th October 2013, The Derby Roundhouse, [Click here for more information](#)



- Sectors**
- Aerospace
 - Automotive
 - Civil & Structural
 - Electronics
 - Energy & Environment
 - Medical & Healthcare
 - Military & Defence
 - Rail & Marine

- Channels**
- Skills & Careers
 - Policy & Business
 - Design Engineering
 - Production Engineering
 - Events
 - Supplements

Digital Edition



[Previous Issues](#)

- Product Areas**
- Automation
 - Measurement & Inspection
 - Drives & Controls
 - Software (CAD / CAM)
 - Prototyping / Modelling
 - Fasteners & Adhesives
 - Maintenance
 - Machine Vision
 - Sensors

Related Sites

Home | News |

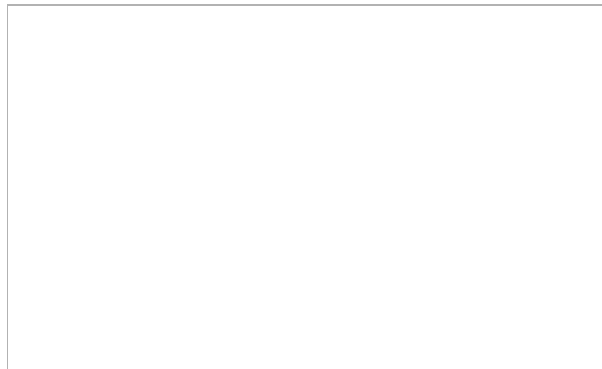
Better vision for robots

8 April 2010

Print | Email | Share | Comments (1) | Save

A new 3D sensor is promising to give robots the ability to observe their environment in a more natural and human-like manner.

The technology being developed by an EU-funded consortium will make it possible to apply robots in more sophisticated markets so they will play a major role in the fields of cleaning, construction, maintenance, security, health care, entertainment and personal assistance in the future.



The sensor employs 3D foveation—a digital imaging process—to significantly improve on current 3D sensor systems.

Jens T Thielemann, the technical lead of what is known as the TACO (Three-dimensional Adaptive Camera with Object Detection and Foveation) project said his group's technology will enable significantly better, faster and cheaper 3D sensing compared to current laser scanners.

'Through the foveation process, the sensor will provide 10 times better resolution than existing sensors with hardware enabling a 10 times size resolution,' he said.

These 3D foveation properties are achieved by using the power of micro-mirror MEMS technology combined with time-of-flight methods in a system that is small, light-weight and easily mounted on an ordinary-sized service robot or even a robot arm.

Engineers on the three year project will explore control strategies for 3D foveation allowing 3D robot vision that is adaptable with space- and time-variant sampling, processing and understanding.

Norwegian research organisation SINTEF, one of the members of the consortium, will be developing the system's 3D foveation software.

The project will verify and test the 3D sensing system in a robotic environment, exploring its ability to allow the robot to navigate autonomously and interact with a diverse number of everyday objects.

In addition to SINTEF, the TACO project is relying on expertise from a range of European academic and industrial partners. These include UK companies Shadow Robotics and Oxford Technology, which will be

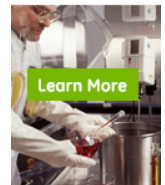
Search the site [Advanced Search](#)

GO

Job of the Week



The new compact oxy.IQ



Learn More

The biggest small thing to happen in oxygen transmitters



Featured Jobs



- Supplier Network
- Process Engineering
- MWP
- Laboratorytalk



companies Shadow Robotics and Oxtra Technology, which will be providing applications for robot grippers and robots for harsh environments.

Other members of the consortium include the Fraunhofer Institute, CTR and TU Wien in Austria.

Latest News

- **The Engineer Q&A: Thames Estuary airport**
- **Magnetic semiconductor opens up silicon-based spintronics**
- **Squid skin inspires infrared stealth camouflage**
- **Women engineers call for better careers advice**
- **Chemical propulsion opens up new method for controlling microstructures**

Readers' comments (1)

Paul J Mattaboni | 5 Feb 2013 5:18 pm

I have patents on sonic vision using range azimuth to give a low Rez three dimension view of the environment. This works very well for collision. I am very interested in your work on optical vision.

Unsuitable or offensive? Report this comment

Have your say

Name *

E-mail *

Comment *

Post as Anonymously Display name *

I have read and agree to the [terms and conditions](#)

SUBMIT

[Print](#) | [Email](#) | [Share](#) | [Comments \(1\)](#) | [Save](#)

[Back to top](#)

Sign up for **FREE** email services Advertise your vacancy

Jobs Search

Job Discipline

Salary:

From

To

SEARCH



BLOG Latest thoughts from the **ENGINEER** team

Related images



My saved stories (Empty)

You have no saved stories

[Save this article](#)

Most popular	Most commented	Most emailed
■ World's largest solar powered boat visits London	■ Virgin Galactic completes second rocket flight test	■ University IP should be licensed to small UK firms, says IET president
■ Gold standard for future electronic devices	■ US "stacking" method boost for solar power	