#### Press release

Obersulm, 10 April 2014

Bin picking with short cycle times:

**The Ensenso 3D camera makes**

**bin picking easy and cost-efficient**

**The Ensenso stereo 3D camera from IDS is an industrial solution for robot vision applications, which offers high precision and much more. The camera is easy to integrate, eliminates the need for elaborate technology, and breaks new ground in terms of speed. It can handle the most complex requirements, such as bin picking, while guaranteeing cost efficiency, process reliability and comparatively short cycle times.   
The company bsAutomatisierung harnesses the benefits of Ensenso by using this stereo camera in its standardized bin-picking cells. The robot cells achieve cycle times of less than 10 seconds, which would not be possible with conventional solutions such as the light section method.**

The Ensenso currently offers a USB connection and will soon also be available with a GigE connection. The camera is the first of its kind on the market, integrating, as it does, not only two global shutter CMOS sensors with WVGA resolution and powerful software in a very compact housing, but also an infrared pattern projector. It projects a random pattern of dots onto the object to be captured, allowing structures that are not visible or only faintly visible on the surface to be enhanced or highlighted. The object is then captured by the two image sensors in accordance with the stereo vision principle. Finally, 3D coordinates are reconstructed or calculated for each and every pixel using geometric relations based on the triangulation principle.

This means that, even if parts with a relatively monotone surface are placed in the bin, a virtually seamless and detailed 3D image of the entire surface can be generated without additional technical effort. All of this happens in just a few milliseconds. As a result, the robot vision applications can "cover all bases" in terms of requirements for short cycle times, availability and cost efficiency. The camera is designed for working distances of 260 mm to 1,400 mm and for variable picture fields. The available focal lengths of 3.6 to 16 mm can cover a wide range of distances and sizes. Even with its two sensors and integrated projector, the camera measures just 150 x 45 x 45 mm.

It also offers another benefit to OEMs and system integrators. The Ensenso is ready for immediate use and delivers 3D data out of the box. This means it can be installed straight away. All that remains is for the robots to be calibrated for working with the camera. This is very easily done using a calibration plate mounted on the robot arm. The software uses this plate to calculate the mounting position of the camera, and the 3D data is immediately represented in the robot's coordination system. The images captured can be analyzed by all standard machine vision programs, such as Halcon. The interface required is included in the Ensenso's comprehensive software package, alongside an API for C, C++ and C#.

You will find detailed application notes and a video about the bin picking solution at www.ids-imaging.de (Support/Good To Know).

Image:

The **Ensenso** stereo 3D camera with integrated pattern projector

for easy, cost-efficient bin picking.

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