



## Highly efficient, intelligent & rapid HDR sensor systems

Rapid high dynamic range sensor systems for industrial and safety-related applications

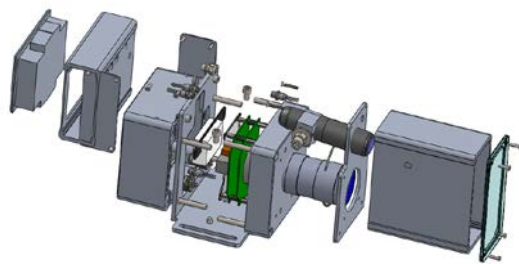
The AIT Austrian Institute of Technology has comprehensive expertise in the field of Intelligent Vision Systems with a focus on smart sensor systems. In this context, AIT experts are developing intelligent, dynamic vision sensor technologies, for use in industrial automation, quality inspection and condition monitoring. These innovative sensor chip functions allow even high-speed processes to be recorded, stored, processed and evaluated with high efficiency. Applications using this technology take the form of compact smart sensor solutions and do not need additional PCs or processing units. These solutions can also be easily integrated into the production process, or used to monitor machine conditions.

AIT sensor technology is also designed for use in people counting and personal safety solutions. With its special sensor properties it can simultaneously record very bright, very dark and rapidly changing scene content, making it ideal for recording in shifting light conditions or outdoors. The stereo principle allows the gathering of distance information, significantly expanding the potential range of applications. This property is essential in applications such as accurate people counting.

**Our experts in Hall 1/L-Bank Forum, at AIT stand 1D82, will be happy to provide any information you may need about the following technologies and fields of application:**

- **Optical monitoring of packaging boxes**

A global manufacturer of cardboard packaging uses optical AIT technology at its Austrian site for quality control of its high-speed production processes. At the heart of this technology lies our high dynamic range smart eye Industrial Vision Sensor (IVS) which can seamlessly monitor up to 250,000 packages an hour during production. No further processing steps are needed as the sensor is directly integrated into the existing production line. It takes only milliseconds to detect infrequent and serious manufacturing defects. This enables responses such as ejection to be triggered, avoiding the need for subsequent sorting and removal of the defective packaging. The intelligent sensor is a highly flexible and robust solution because it automatically adapts to production changes and fluctuations. Production information and positioning instructions are made available via a display directly on the machine. Its efficient method of operation also makes it ideal for long-term recordings, with the data being subsequently analysed to identify options for optimising production. You'll find a video demonstrating this application [here](#).





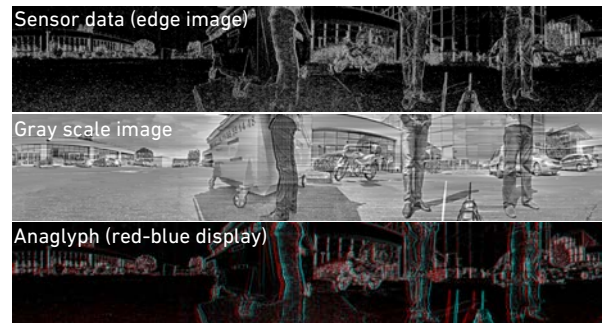
- **Sensor technology for people counting**

smart eye UCOS is an intelligent, powerful and cost-effective optical stereo sensor for automated people counting. The extreme precision of this compact and energy-saving sensor is unmatched even in poor and/or shifting light conditions, or for dense crowds. It can be used in many indoor environments including shopping centres, retail outlets, museums, public buildings and trade fairs, as well as outdoors at major events.



### 3D 360° panorama camera for mobile robots – high dynamic range navigation system

The high dynamic range panorama stereo camera developed at AIT is designed to take 3D 360° panorama shots in real time. It was developed to improve the abilities of mobile robots for safe use in navigational, exploratory and security monitoring applications. At the heart of the camera lies the AIT Dynamic Vision Sensor which can continuously take up to ten 3D panorama shots per second. The high dynamic range enables the sensor to record even in challenging light conditions. On-chip pre-processing provides edge detection from which greyscale images can be reconstructed. This leads to a significant reduction in transmission bandwidth compared to standard cameras, and in turn increases its suitability for use on mobile deployment platforms such as robots. Special PC software also facilitates real-time display of the panorama image in stereo, edge and greyscale images. The designers have paid particular attention to making the technology easy to use (point & click).



## Scientific Vision Days

### Technology presentations at the AIT stand

This year we again invite you to attend **presentations** on the latest innovations and technologies in the field of image processing. The presentations are given directly at **AIT stand 1D82** by AIT experts, as well as customers and partners from industry and research. Programme details are available at the trade fair and at [www.ait.ac.at/svd](http://www.ait.ac.at/svd).

## Visit us at Vision 2016

**Hall 1, L-Bank Forum**

**Stand: 1D82**

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