

Press Release

Vienna, 09.11.2022

THE AIT IS A HOTSPOT FOR SCIENTIFIC EXCELLENCE IN IMAGE PROCESSING

Successful trade show appearance of the Center for Vision, Automation & Control at the VISION trade show in Stuttgart from October 4-6

VISION - the world's leading trade fair for machine vision - offers exhibitors and visitors an overview of the most important trends and innovations. Manufacturers from all over the world will present their latest products at the trade fair in Stuttgart.

At the booth of the AIT Austrian Institute of Technology, experts presented high-performance image processing methods for challenging inspection tasks and gave research a special stage with the established AIT lecture series, the Scientific Vision Days.

Inspection solutions made in Austria

Under the motto "From Sensor to Decision", AIT scientists presented four innovative approaches for automated surface inspection live.

The inline 3D microscopy method of **ICI:microscopy** is based on the inline computational imaging (ICI) algorithms of ICI:inspect developed at AIT and is suitable for inspection tasks with extremely high resolutions (up to 700 nm) and large inspection areas. Even challenging surfaces are no obstacle for the system.

With the **TinyScan360°**, the miniaturized 3D stereo scanning system, the smallest cavities can be measured and exact digital replicas can be created. It impresses with its small size of only 3mm. The system has already proven itself in medicine for measuring and visualizing the human auditory canal and eardrum. It can also be used in the industrial environment for the inspection of drill holes, internal threads or tubes.

The strength of **xposure:photometry** lies in the reliable detection of defects at very high inspection speeds, even for difficult surface characteristics. This robust and industrial approach is used for industrial quality control and enables the inspection of e.g. battery foils, sheet metal, rolled wire and infrastructure such as rails or roads.

ICI:inspect combines light field and photometry and mimics inspection by a human such as tilting the object and changing the viewing perspective. Subtle changes in the surface are thus detected and evaluated with intelligent algorithms. The system is already being used successfully in electronics production.

Linking research and industry

With its open booth design and live demonstrators, the AIT booth attracted more than 120 different companies. "Our strength lies in the fact that we conduct research close to industry and form the link between basic research and industrial implementation. Our scientists bring in-depth knowledge

and many years of experience in industrial projects. They communicate with entrepreneurs at eye level and can address their concerns in a solution-oriented manner. That's why they also lead the discussions here at the trade show," explains Markus Clabian. He is head of the High-Performance Vision Systems research group at the AIT Center for Vision, Automation & Control. The fact that the AIT is now a key player is also shown by the visitor statistics. Of the 6,500 trade fair visitors, every 10th person was at the AIT stand. "As a research institution, it is important to us to also offer science a suitable platform and to promote scientific exchange. That is why we have created the Scientific Vision Days. As part of our lecture series, we invite international experts in image processing to present their latest work to the professional audience. Our lecture forum is part of the trade show program," says Petra Thanner, expert for high-performance vision systems and organizer of the Scientific Vision Days.

About the VISION trade show

The 30th edition of VISION recorded a total of 6,505 trade visitors and over 378 exhibitors. The trade show is held every 2 years and is scheduled to take place in Stuttgart in 2024.

<https://www.messe-stuttgart.de/vision/>

About the Center for Vision, Automation & Control

The Center for Vision, Automation & Control (VAC) at the AIT Austrian Institute of Technology is a research unit that uses the possibilities of automation and digitalization to initiate and drive innovations for industry. With the Institute of Automation and Control Engineering (ACIN) at the Vienna University of Technology, the center has a leading international scientific cooperation partner in the field of systems and automation engineering. Therefore, it can accompany the entire innovation process from basic research to industrial implementation. This involves the acquisition of information by (imaging) sensor systems via sensor fusion, the combination of physics-based models with machine learning and data analysis concepts, the use of this information in fault detection and isolation, optimization and control, through to cognitive decision-making for autonomous systems. www.ait.ac.at/vac

About AIT

The AIT Austrian Institute of Technology is Austria's largest Research and Technology Organization (RTO) and plays in the top league worldwide in many infrastructure topics. With its seven centers, the AIT deals with the central infrastructure topics of the future and sees itself as a highly specialized research and development partner for industry. AIT's research and technological developments realize fundamental innovations for the next generation of infrastructure technologies in the fields of Energy, Low-Emission Transport, Health & Bioresources, Digital Safety & Security, Vision, Automation & Control and Technology Experience. These scientific research areas are complemented by expertise in Innovation Systems & Policy. As a national and international hub at the interface between science and industry, AIT makes innovation possible thanks to its scientific and technological expertise, experience in the markets, close customer ties and an outstanding research infrastructure.

www.ait.ac.at

<https://www.ait.ac.at/blog>

<https://www.ait.ac.at/media>

<https://www.ait.ac.at/news-events>

<https://www.linkedin.com/company/austrian-institute-of-technology/>

Press Contacts

Daniel Pepl, MAS MBA

Corporate and Marketing Communications

AIT Austrian Institute of Technology

T +43 (0)50550-4040

daniel.pepl@ait.ac.at | www.ait.ac.at

Dr. Iman Kulitz, MA

AIT Austrian Institute of Technology

Center for Vision Automation & Control

Marketing and Communications

Mobil +43 (0) 664 8890 4335

iman.kulitz@ait.ac.at | www.ait.ac.at