

Breakthrough Computer Vision Applications in the Micro World: Consortium of Industry Research Organizations 4.0 ATCZ215, (2020–2022, Principal Investigator Prof. RNDr. Dalibor Štys, CSc.)

*In the project region, there are research institutes and companies involved in the research of image capture and processing and apply this knowledge in practice.*

*The expertise of organizations associated in the region is unique in many ways, as evidenced by scientific publications as well as by unique devices that achieve the best parameters and incorporate new technical solutions and combinations.*

*The project brought together four very experienced partners - Institute of Complex Systems FFPW USB, Center Telč belonging to the Institute of Theoretical and Applied Mechanics AS CR, Donau Universität Krems and FH OÖ Forschungs & Entwicklungs GmbH. These partners have come together in a consortium, which as a whole creates new quality both in research and in the ability to translate knowledge into practice.*

*Ordinary users, even in business, rarely receive information to what extent the image capture and storage method used preserves or fundamentally changes the underlying image structure.*

*The perception of the human eye must be deceived to get a perfect picture. This is only possible by distorting the original camera sensor signal. This significantly reduces the competitiveness of image data users, because they are not able to create breakthrough algorithmic solutions in downstream technologies such as automatic recognition, measurement and similar applications from distorted data. They are the input for artificial intelligence and thus form the basis for the development of robotic equipment in its entirety from production, through operation and surveillance of buildings, medical applications to automated assistance, in short, the entire industry 4.0.*

*Small and medium-sized technology firms in the region, although generally of high quality, are unable to allocate capacities for their own research and therefore cannot compete in global competitions.*

*The aim of the project is to create a consortium from which companies in the region will draw on the knowledge of regional research organizations and thus achieve competitiveness and, in specific areas, a lead in global competition. This project is funded by the EU from the ERDF.*

*More information about the project: <http://auc.cz/imageheadstart/>*