

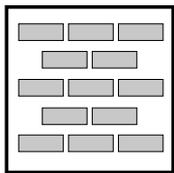
Accelerate your solution!

The Embedded Systems Development Team from the Institute of Electronics and Computer Science of Latvia (EU) offers accelerator solutions to achieve **next-generation high-performance computer vision** for applications such as quality assurance, manufacturing, UAVs, medical imaging, robotics, and others.

What do we offer?

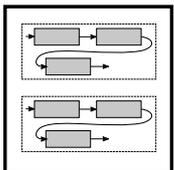
We achieve **higher performance than conventional CPU/GPU solutions** can offer by utilizing Multi-Processor System-on-a-Chip (MPSoC) devices with on-chip Field-Programmable Gate Arrays (FPGA). FPGAs with their inherent parallel architecture and built-in digital circuit elements can be tailored to perform specific tasks, therefore providing a use-case specific digital circuit for the job.

How does it work?



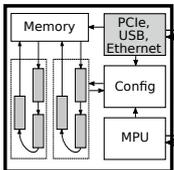
Our acceleration toolbox

During our research in computer vision, we have developed a collection of specialized components, e.g. lens distortion correction, perceptive transformation, feature extraction. These components are made as building blocks with a common data exchange interface, allowing for easy interconnection between them.



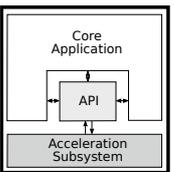
Acceleration engines

We pick from our ready-made building blocks and (if needed) design the missing ones to create an image processing pipeline for your specific task/use-case, therefore reducing the design time and costs.



Acceleration medium

We design an accelerator platform tailored for your current computer vision system with a suitable communication interface (PCIe, USB, Ethernet) for easy integration or we can design a new, standalone solution for your needs.



Integration handoff

We deliver you the designed accelerator platform with the necessary software libraries and the documentation, which ensures straightforward and simple integration in your existing image processing system.

What are the benefits?

- **Tailored** processing pipeline **for your application**
- Image transformation and processing with **performance close to a dedicated chip**
- Large image (20+ Mpix) processing in **real-time** (<20 ms per processing pipeline)
- **Low power consumption** (3+ times more efficient when compared to GPU implementations) with **increased performance** (suitable for battery-powered devices)

Why us?

Our team has vast experience in cooperation with Industry through multitude of European research projects (AI4DI, APPLAUSE, COMP4DRONES, I-MECH, PRYSTINE, 3Ccar). Our expertise ranges from most demanding real-time control systems to the design of silicon intellectual property.

We will help you to overcome your performance bottlenecks!