

# MRTech Services

Machine vision, Embedded systems, Image processing



MRTech offers its customers to develop machine vision solutions that allow them to reach maximum performance for the selected system configuration.

Based on deep understanding of modern cameras and computer hardware, including low-level details, MREch helps customers of any experience and business sizes to turn their ideas into working systems.

MRTech provides the following services:

- Project study, recommendation on hardware selection and system architecture.
- Software consulting, assistance with integration of MREch IFF SDK.
- Development of custom image processing applications based on MREch IFF SDK.
- Customization of processing modules, algorithm implementation.
- Development of custom hardware when necessary.
- Study of project feasibility and prototype development.
- IT consulting and support.

## Success story – System customization for 9x7™ Digital Cinema Camera



Product of Pawel Ahtel, ACS  
Australia

Participation in Pawel Ahtel's cinema camera project is great example of MREch service value.

### Camera highlights

- 2D and 3D cinema production
- 65 MP images and video
- up to 70 fps in full resolution
- 8 GB/s bandwidth

### MREch SK contribution

- Hardware recommendations
- Prototyping
- Software development and customization
- Stress testing and tech support

## Solutions for NVIDIA Jetson platform



MRTech SK develops embedded vision systems with PCIe/USB3/MIPI cameras and NVIDIA Jetson modules, including Jetson Nano, TX2/TX2i, TX2 NX, Xavier NX, AGX Xavier.

A few examples of this type of solutions are listed below:

### High-performance acquisition controller based on Jetson AGX Xavier

Target application is a massively multi-sensor system for medical purposes.

Pre-production series of devices has been provided to the customer.



#### System features

- array of 32 MIPI sensors with 24 MP resolution each
- simultaneous reading of 4 sensors at 30 fps
- 10 Gbps total MIPI bandwidth
- image transmission over network, render on a screen

#### MRTech contribution

- development, implementation of feasibility stage
- design of a specialized sensor carrier board
- development of specialized software
- assembly, testing, delivery of the first series

### Portable image recording system based on Jetson TX2 module

University medical project with-camera headset for 3D image recording.

The solution has been provided to the customer for further research.



#### System features

- two USB3 cameras
- Master-slave camera synchronization
- 2K image acquisition at 30 fps
- H.265 encoding, image recording

#### MRTech contribution

- camera and hardware selection
- software application development
- housing design
- system assembling, testing

### Low latency streaming device on Jetson Xavier NX

The device is designed to help control a fast-flying drone.

Prototype of the solution has been provided to the customer.



#### System features

- 8.9 MP PCIe XIMEA camera
- two modes of image acquisition:  
1080p @ 60 fps or 4K @ 50 fps
- H.265 encoding, RTSP streaming

#### MRTech contribution

- camera and hardware selection
- software application development
- prototyping, testing
- tech support