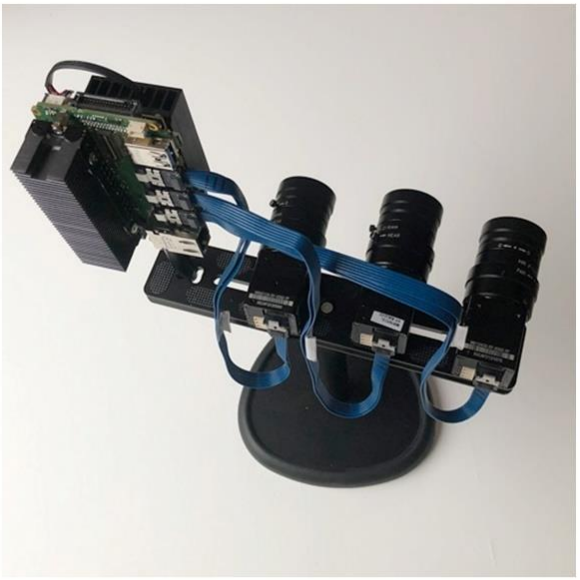
Engineering kits with Jetson Orin

Ready-to-use multi-camera systems based on NVIDIA Jetson Orin

MRTech company presents Engineering kits for machine vision that is a series of high-performance edge computers based on NVIDIA Jetson Orin modules equipped with machine vision cameras.

Each kit is fully operational, with a flashed Jetson module and the necessary software installed. The software enables the acquisition of raw images from connected cameras, color pre-processing of the captured images on Jetson GPU, and the output of the resulting images in the required format to the destination using encoding and streaming, recording to a buffer or to a file, rendering to the screen, and other.

The available Jetson module options and machine vision camera connection configurations are shown in the tables. On request, MRTech can customise the kits depending on the input requirements and technical capabilities.



Orin NX with three XIMEA PCIe cameras:
- 3x Full HD (1920x1080) image acquisition at 120 FPS
- 43 ms glass-to-glass latency

Jetson computer options

NVIDIA Jetson Orin	**Orin NX 16GB Super**	**Orin NX 8GB Super**	**Orin Nano 8GB Super**
AI performance	157 TOPS	117 TOPS	67 TOPS
Image processing	1500 Megapixels/s	1250 Megapixels/s	950 Megapixels/s
Encode accelerator	3x 4Kp30 (H.265)		-
GPU architecture	NVIDIA Ampere 1024 GPU cores and 32 Tensor cores		
GPU Max frequency	918 MHz	765 MHz	625 MHz
CPU	8-core ARM Cortex	6-core ARM Cortex	
Memory	16GB	8GB	8GB
Storage	External 1TB NVMe or USB drive		
Accessories	Power supply 60W		
Carrier board	XIMEA XEC-NX-3P-X2G3 or Auvidea JNX40/JNX41		
System software	NVIDIA JetPack SDK with Jetson Linux, CUDA		
Application software	Fully functional MRTech IFF SDK (Trial version) with application samples		

Camera configurations

Camera type	**PCIe**	**USB3**	**MIPI**
Vendor	XIMEA	Any GenICam compatible	Any vendor
Interface	PCIe X2G3 / PCIe X4G3	USB 3.2 Gen2 (10 Gbps)	MIPI CSI-2, 2/4 lanes
Number of cameras	Up to 4 cameras	Up to 3 cameras	Up to 4 cameras
Synchronisation	Out of the box	Custom solution	
Lens	Focal length of 6 mm or as agreed with the user; camera-compatible mount		
Data cables	FireFly cables up to 2m	USB3 cables up to 3m	Flat cables up to 40 cm
Other accessories	M.2 adapter for 4th camera	Nothing	

Prices

The cost of the selected Engineering kit with Jetson Orin NX is determined by its hardware cost from authorised suppliers, plus MRTech service charge.

Engineering kits with Jetson Thor

Ready-to-use multi-camera systems based on NVIDIA Jetson Thor

MRTech company presents Engineering kits for machine vision that is a series of high-performance edge computers based on NVIDIA Jetson Thor modules equipped with machine vision cameras.

Each kit is fully operational, with a flashed Jetson module and the necessary software installed. The software enables the acquisition of raw images from connected cameras, color pre-processing of the captured images on Jetson GPU, and the output of the resulting images in the required format to the destination using encoding and streaming, recording to a buffer or to a file, rendering to the screen, and other.

The available Jetson module options and machine vision camera connection configurations are shown in the tables. On request, MRTech can customise the kits depending on the input requirements and technical capabilities.



Jetson Thor (T5000) with two XIMEA PCIe cameras:
- 2x 4K (3840x2160) image acquisition at 190 FPS
- 24 ms glass-to-glass latency

Jetson computer options

NVIDIA Jetson Thor	**Jetson T5000**	**Jetson T4000**	**Jetson T3000/T2000**
AI performance	2070 TOPS	1200 TOPS	TBD
Image processing	5000 Megapixels/s	3000 Megapixels/s	TBD
Encode accelerator	6x 4Kp60 (H.265)	3x 4Kp60 (H.265)	TBD
GPU architecture	Blackwell 2560 GPU cores	Blackwell 1536 GPU cores	TBD
GPU Max frequency	1570 MHz	1530 MHz	TBD
CPU	14-core ARM Neoverse	12-core ARM Neoverse	TBD
Memory	128GB	64GB	TBD
Storage	External 1TB NVMe or USB drive		
Accessories	Power supply 270W		
Carrier board	Auvidea X242 board or other		
System software	NVIDIA JetPack SDK with Jetson Linux, CUDA		
Application software	Fully functional MRTech IFF SDK (Trial version) with application samples		

Camera configurations

Camera type	**PCIe**	**USB3**	**MIPI**
Vendor	XIMEA	Any GenICam compatible	Any vendor
Interface	PCIe X8G3 / PCIe X4G4	USB 3.2 Gen2 (10 Gbps)	MIPI CSI-2, 2/4 lanes
Number of cameras	Up to 4 cameras	Up to 4 cameras	Up to 6 cameras
Synchronisation	Possible with custom solution		
Lens	Focal length of 6 mm or as agreed with the user; camera-compatible mount		
Data cables	FireFly/MTP/SFF cables	USB3 cables up to 3m	Flat cables up to 40 cm
Other accessories	PCIe adapter	Nothing	MIPI breakout

Prices

The cost of the selected Engineering kit with Jetson Thor is determined by its hardware cost from authorised suppliers, plus MRTech service charge.