

# e-con Systems Introduces Cutting-Edge Embedded Vision Solutions Powered by the Latest NVIDIA Jetson AGX Orin Modules

*NVIDIA | Jetson Orin | Elite Partner | Embedded Vision | Industrial | 4K Camera | HDR | Global Shutter*

**California & Chennai— May 30, 2023:** [e-con Systems™](#), a leading global provider of embedded vision solutions, is excited to announce cutting-edge embedded vision solutions powered by the latest [NVIDIA® Jetson AGX Orin™ Industrial](#) modules. As an NVIDIA Elite partner, e-con Systems leverages the exceptional capabilities of the Jetson platform to revolutionize the embedded industry.

The NVIDIA Jetson Orin lineup of modules and developer kits combines high-performance computing, powerful AI capabilities, and advanced image processing. e-con Systems will soon be launching its highly anticipated camera series specially designed to leverage the power of the cutting-edge [Jetson AGX Orin™ Industrial module](#). This series will include:

## AR0234 Full HD Global Shutter Camera

This full HD global shutter camera is based on a 1/2.6" AR0234CS global shutter sensor with a fine-tuned image signal processor (ISP). With its global shutter capability and a remarkable 120 fps frame rate, this camera addresses the challenges of capturing high-quality images with minimal distortion and motion artifacts, particularly in applications involving moving targets. It supports the trend of embedded vision and AI computing, enabling developers to leverage the power of Jetson AGX Orin Industrial (available in July 2023) / Jetson Orin NX / Jetson Orin Nano modules for advanced image processing and analysis.

Some of the end applications of this camera include robotics, industrial inspection, smart transportation systems, and intelligent video analytics (IVA).

### Variants:

[MIPI CSI-2](#)

[GMSL2](#)

[FPD-LINK III](#)

### Key Features of the AR0234 Full HD Global Shutter Camera:

- Sensor: AR0234 from onsemi®
- Frame Rate: HD @ 120 fps, Full HD @ 70fps & 2.3MP @ 60fps
- Shutter Type: Global Shutter
- Supported Platform: Jetson AGX Orin Industrial (upcoming), Jetson Orin NX / Jetson Orin Nano development kit compatibility
- IP67-rated enclosure - dust and waterproof

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## OV2312 Global Shutter RGB-IR Camera

It is an OV2312 sensor-based global shutter RGB-IR camera and is the latest addition to e-con Systems' product lineup. As a multi-camera solution, it enables seamless connectivity of up to 4 cameras with a single NVIDIA Jetson AGX Orin module.

Powered by a high-performance 1/2.9" OV2312 global shutter CMOS image sensor and complemented by a fine-tuned ISP, e-CAM27\_CUOAGX showcases unparalleled capability. It uniquely captures RGB and IR images utilizing a single global shutter sensor.

The main end applications for the OV2312 camera include IVA applications like Automatic Number Plate Recognition (ANPR) and identity management solutions.

### Variant:

[MIPI CSI-2](#)

### Key Features of the Global Shutter RGB-IR Camera:

- Sensor: OV2312 from Omnivision™
- Frame Rate: 2MP @ 36fps
- Shutter Type: Global Shutter
- Supported Platform: Jetson AGX Orin Industrial (upcoming), Jetson AGX Orin development kit compatibility
- Micro-coaxial cable for data transmission (30cm default) (1m cable support with customization)
- External trigger support for multi-camera synchronization and sensor fusion

## Full HD GigE Camera

This camera is a high-performance 2MP GigE camera that incorporates the state-of-the-art 1/2.8" Sony STARVIS IMX462 sensor. With a pixel size of 2.9um and an active-pixel array of 1937(H) x 1097(V), it delivers exceptional image quality and detail.

RouteCAM\_CU20 is an ONVIF-supported Ethernet Gigabit camera that reliably operates over a wired LAN network and is designed to facilitate seamless image and control data transmission. Its GigE interface allows for transferring video data with a maximum cable length of up to 100m, ensuring flexible deployment options. It also features an in-built ISP that ensures superior image quality by leveraging auto white balance and auto exposure functions.

The main end applications for this camera include Autonomous Mobile Robots (AMRs), smart traffic systems, smart farming devices, telepresence robots and telepresence forklifts.

### Variant:

[Power-over-Ethernet camera](#)

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## Key Features of the Full HD GigE Camera

- Sensor: IMX462 from SONY®
- Frame Rate: Full HD @ 30 fps & VGA @ 30 fps
- Shutter Type: Rolling Shutter
- High Dynamic Range (HDR)

## IMX415 4K Ultra-low Light Camera

This advanced 4K ultra-low light MIPI CSI-2 camera features the powerful SONY STARVIS IMX415 CMOS image sensor. It is designed to address the industry's demand for high-quality imaging in visible and low-light conditions - delivering exceptional performance.

This camera seamlessly connects to the NVIDIA Jetson Orin NX, Jetson Orin Nano or Xavier development kit, utilizing the on-board ISP optimized for comprehensive image processing tasks.

The end applications for this camera include quality inspection systems, factory automation devices, and drones.

### Variant:

[MIPI CSI-2](#)

## Key Features of the IMX415 Ultra Low Light Camera:

- Sensor: IMX415 from SONY® STARVIS
- Frame Rate: Full HD @ 70fps & 4K @ 44fps
- Shutter Type: Rolling Shutter
- Supported Platform: Jetson AGX Orin Industrial (upcoming), Jetson Orin NX / Jetson Orin Nano/ Xavier development kit compatibility

## IMX485 4K Ultra-low Light Camera

This 4K GMSL2/MIPI CSI-2 multi-camera solution for the Jetson AGX Orin Industrial (upcoming), Jetson AGX Orin development kit delivers great image quality across various lighting conditions, including low light scenarios. With an impressive 1/1.2" sensor size and pixel size of 2.9µm, it ensures superior image capture capabilities. In addition, the AR0821 4K HDR GMSL2 camera exhibits exceptional NIR sensitivity at both 850nm and 940nm wavelengths, making it ideal for indoor and outdoor vision applications.

The GMSL2 variant connects up to eight camera modules and enables 4K streaming simultaneously.

The primary end applications that the IMX485 camera can power are AMRs, smart traffic management systems, and telepresence robots.

### Variants:

[GMSL2 Camera](#)

[MIPI CSI-2 Camera](#)

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## Key Features of the IMX485 4K Ultra Low Light Camera:

- Sensor: IMX485 from SONY® STARVIS
- Frame Rate: Full HD @ 62fps and 4k @ 39fps (MIPI CSI-2 variant)
- 4K @ 60fps & Full HD @ 90fps (GMSL2 variant)
- Shutter Type: Rolling Shutter
- Supported Platform: Jetson AGX Orin Industrial (upcoming), Jetson AGX Orin development kit compatibility

## AR0821 4K HDR GMSL2 Camera

The AR0821 camera is a cutting-edge multi-camera solution designed specifically for the Jetson AGX Orin Industrial (upcoming), Jetson AGX Orin or AGX Xavier development kit. The camera kit includes a top-of-the-line ISP for enhanced image processing capabilities. It also has a GMSL2 deserializer board featuring eight camera connectors, allowing seamless integration with multiple camera modules. The kit includes a 15m coaxial cable with a FAKRA connector to facilitate flexible installations. The GMSL2 variant allows the user to connect up to eight camera modules and enables 4K streaming simultaneously. So, it is a powerful solution for applications that require high-resolution imaging from multiple camera perspectives.

### Variant:

[GMSL2 Camera](#)

## Key Features of the AR0821 4K HDR GMSL2 Camera:

- Sensor: AR0821 from onsemi®
- Interface: GMSL2 with FAKRA connector
- Frame Rate:
  - HDR mode: Streams 8MP @ 16 fps & Full HD @ 30 fps
  - Linear mode: Streams 8MP @ 16 fps & Full HD @ 60 fps
- High Dynamic Range (HDR)
- Shielded coaxial cable to transmit power and data up to 15m
- Optional IP67-rated enclosure

*“ Drawing on our 20 years of experience and demonstrated success in the embedded vision space, we are happy to introduce our latest venture into industrial automation with a range of state-of-the-art cameras. Leveraging the unparalleled performance and precision of the latest Jetson AGX Orin Industrial solution, we are confident about helping customers find the perfect vision solution for their needs,”* **said Gomathi Sankar, Head of Business Unit- Industrial Camera, e-con Systems.**

## About e-con Systems

[e-con Systems](#) is a leading provider of embedded vision solutions, offering a wide range of camera modules, embedded vision platforms, and related services. Our cameras are compatible with various platforms, including NVIDIA Jetson, NXP i.MX8, Qualcomm, Texas Instruments SK-TDA4VM, Renesas RZ/V2L, etc. Some high-end features include a high frame rate, 4K resolution, ultra-low light, auto/fixed focus, ToF, IP66 and

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IP67 ratings, and global/rolling shutters. Our cameras are successfully integrated into 350+ customers' end products on the market owing to their exceptional performance, comprehensive support of interfaces such as MIPI, USB, GMSL, FPD-Link III, and GigE, and a 3-year warranty that is assured. With a strong focus on quality, innovation, and customer satisfaction, e-con Systems enables developers and OEMs to seamlessly integrate cutting-edge vision technology into their products and applications.

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