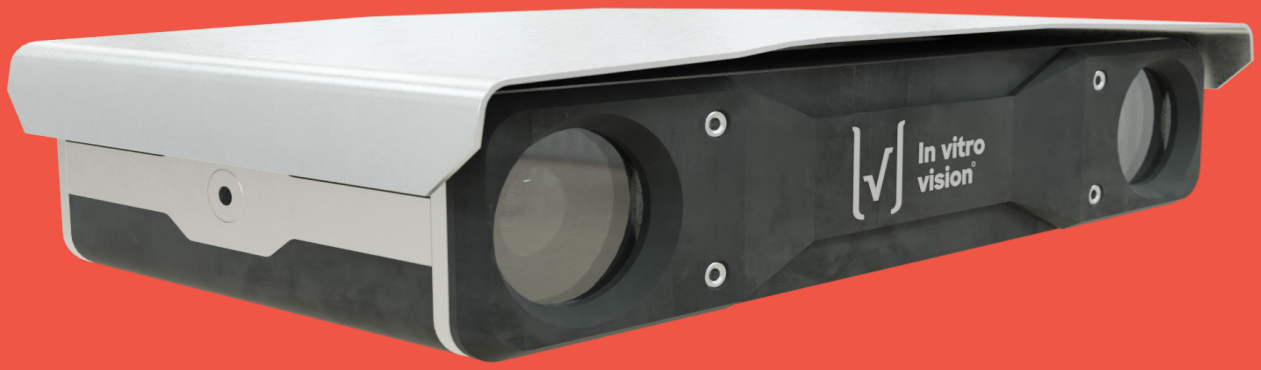
INDUSTRIAL STEREO CAMERA WITH AI ANALYTICS Based on NVIDIA Jetson Orin NX

MADE IN RUSSIA

Real-Time Automated Granulometric Composition Measurement



Purpose

A specialized stereo camera for monitoring and analyzing bulk materials on face excavators, conveyor belts, and other mining industry facilities. It provides:

- Accurate measurement of fractional composition (granulometry)
- 3D scanning and volumetric analysis
- Automatic quality control of extraction and processing
- Integration with enterprise management systems

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Key Advantages

HIGH-PERFORMANCE DATA PROCESSING IN A SINGLE UNIT

Built-in NVIDIA Jetson Orin NX
(up to **100 TOPS** AI performance)

Local processing without
reliance on cloud servers

Instant analytics
(YOLO, ResNet, PointNet, and other models)

Support for TensorRT, DeepStream, ROS 2

PRECISE POSITIONING WITH GNSS/RTK

Built-in GNSS receiver
(GPS/GLONASS/Galileo)

RTK support for centimeter-level
accuracy (<2 cm)

Motion correction for operation
on mobile equipment

Georeferencing for integration with GIS systems

PROTECTED INDUSTRIAL DESIGN

Shock-resistant housing
(IP67, vibration-resistant)

Heating and cooling
(operating range: -30°C to +70°C)

Protection against dust, moisture, and aggressive environments

Vandal-proof design for quarries and mines

INDUSTRIAL STEREO CAMERA WITH AI ANALYTICS

Key Advantages

HIGH-QUALITY SENSORS

Stereo camera with global shutter

Resolution: 4096 × 3072 (12 MP)

Square pixels, 3.4 µm (high detail)

Electronic shutter (minimal motion blur)

PGA gain (0–24.91 dB)
+ digital amplifier (x1–x15.5)

ADC depth: 10/12-bit

FLEXIBLE CONNECTIVITY AND CONTROL

Gigabit Ethernet + Wi-Fi 6/5G (optional)

USB 3.0, CAN, RS-485

PoE+ support (power over Ethernet)

API for integration with SCADA, ERP

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Technical Specifications

COMPUTING MODULE

Processor	NVIDIA Jetson Orin NX (6/8-core ARM Cortex-A78AE)
GPU	NVIDIA Ampere (1024 CUDA cores)
AI Performance	Up to 100 TOPS
RAM	8/16 GB LPDDR5
Storage	32/64 GB eMMC + NVMe (optional)
OC	Linux (JetPack SDK)

SENSORS AND OPTICS

Sensor Type	Global shutter CMOS
Resolution	4096 × 3072 (12 MP)
Pixel Size	3.4 µm (square)
Optical Format	1.1"
Frame Rate	Up to 30 FPS
Dynamic Range	>120 dB (HDR mode)

GNSS MODULE

Supported Systems	GPS, GLONASS, Galileo, BeiDou
Autonomous Accuracy	2–5 m
RTK Accuracy	<2 cm
Update Rate	Up to 10 Hz

PROTECTION AND OPERATING CONDITIONS

Protection Rating	IP67 (dust/waterproof)
Temperature Range	-30°C to +70°C (with heating/cooling)
Vibration Resistance	Up to 5G (ISO 16750-3)
Housing Material	Aluminum + composite

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INDUSTRIAL STEREO CAMERA WITH AI ANALYTICS

Applications

MINING INDUSTRY

fraction analysis,
load monitoring

QUARRY AUTOMATION

excavator and bulldozer monitoring

CONVEYOR SYSTEMS

volumetric accounting,
foreign object detection

BULK MATERIAL LOGISTICS

shipment tracking
theft prevention

GEODESY AND SURVEYING

3D mapping with coordinate binding

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INDUSTRIAL STEREO CAMERA WITH AI ANALYTICS

Why Our Camera Outperforms Competitors?

FULL AUTONOMY

Onboard AI processing, no cloud servers required

HARSH ENVIRONMENT READY

Protection against vibrations, frost, and dust

HIGH GNSS + RTK ACCURACY

Real-time positioning control

ADVANCED ANALYTICS

From object detection to 3D reconstruction

Want to Test the Camera in Your Environment?

Request a demo version and technical consultation!

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