MECH MIND

General-Purpose “Eye-Brain-Hand” for Robots

Mech-Mind Product Catalog

We help integrators win with best-in-class embodied AI & 3D vision tools and services

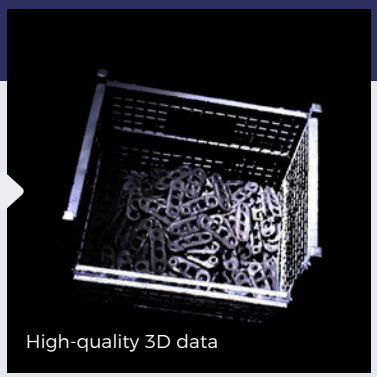
Advanced Techs | Proven | Versatile | Fast and Easy | No Black-Box | Industry-Ready | Open | Best Services

Empower System Integrators with Embodied AI + 3D Vision Tools

Mech-Mind is an industry-leading provider of industrial 3D cameras ("Eye"), AI software suites ("Brain"), and dexterous hands ("Hand") for robotic applications. With the comprehensive and standardized "Eye-Brain-Hand" product portfolio and universal components, Mech-Mind empowers partners and system integrators to manage the most demanding robotic applications and brings automation to the next level.

Mech-Eye
Industrial 3D Cameras

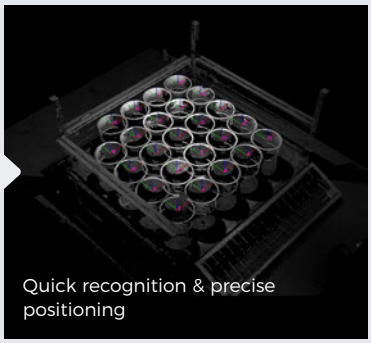
- High accuracy
- Fast scanning
- Resistance to ambient light
- IP65/IP67 protection and CE, FCC, VCCI, KC, ISED, NRTL, and RoHS certified
- Multiple model options



High-quality 3D data

Mech-Vision
Machine Vision Software

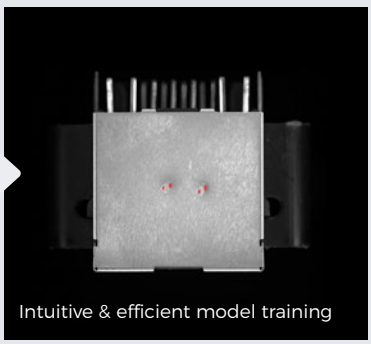
- Code-free graphical user interface
- Extensive solution library
- Easy integration
- Various vision tools integrated
- Integrates 1,000+ robot models



Quick recognition & precise positioning

Mech-DLK
Deep Learning Software

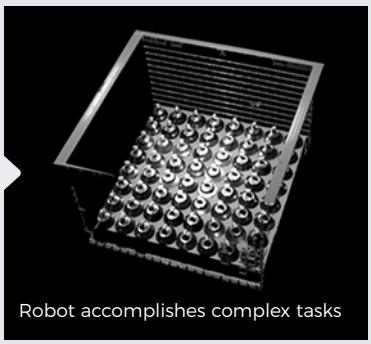
- Intuitive graphical user interface
- Visualized model validation
- Simple labeling and fast training
- Easy integration using multi-language SDKs, including C, C++, C#, and Python
- Standalone AI software for quality control



Intuitive & efficient model training

Mech-Viz
Robot Programming Software

- Task-oriented graphical programming interface
- One-click simulation
- Powerful algorithms
- Support for almost all major-brand robots



Robot accomplishes complex tasks

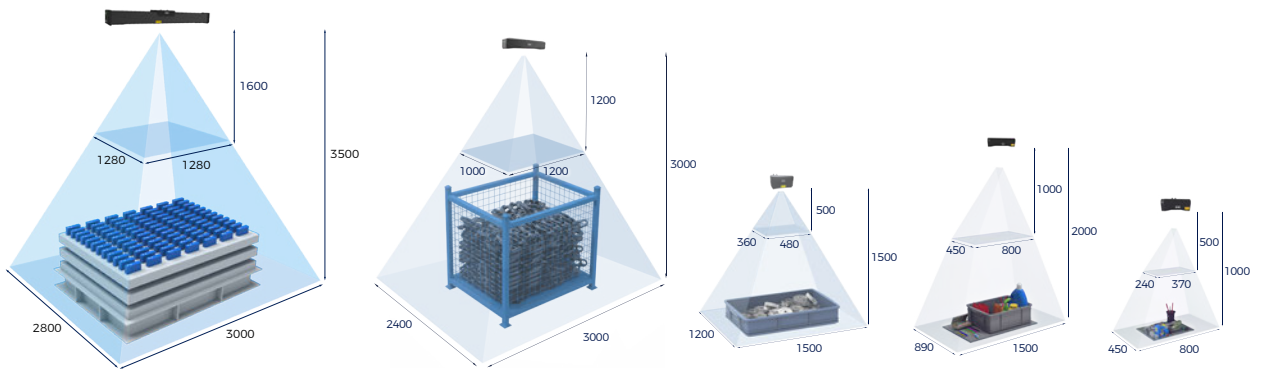
Mech-Eye Industrial 3D Cameras

Scan the QR code to access datasheets

- Detailed and accurate 3D point clouds
- Ambient light resistance
- Short capture time
- IP65 water and dust resistance
- Rugged aluminum alloy housing
- MTBF (Mean Time Between Failures): ≥ 100,000 hours

Specification	LSR XL-GL	LSR L-GL	LSR S-GL	PRO M-GL	PRO S-GL
Working distance[1]	1600–3500 mm	1200–3000 mm	500–1500 mm	1000–2000 mm	500–1000 mm
Near FOV	1280 × 1280 mm @ 1.6 m	1200 × 1000 mm @ 1.2 m	480 × 360 mm @ 0.5 m	800 × 450 mm @ 1.0 m	370 × 240 mm @ 0.5 m
Far FOV	3000 × 2800 mm @ 3.5 m	3000 × 2400 mm @ 3.0 m	1500 × 1200 mm @ 1.5 m	1500 × 890 mm @ 2.0 m	800 × 450 mm @ 1.0 m
Resolution	Depth map: 2448 × 2040 RGB: 4000 × 3000/ 2000 × 1500	Depth map: 2048 × 1536 RGB: 4000 × 3000/ 2000 × 1500	Depth map: 2048 × 1536 RGB: 4000 × 3000/ 2000 × 1500	1920 × 1200	1920 × 1200
Megapixels	/	/	/	2.3 MP	2.3 MP
Point repeatability Z (σ)[2]	0.2 mm @ 3.0 m	0.5 mm @ 3.0 m	0.2 mm @ 1.5 m	0.2 mm @ 2.0 m	0.05 mm @ 1.0 m
VDI/VDE accuracy[3]	1.0 mm @ 3.0 m	1.0 mm @ 3.0 m	1.0 mm @ 1.5 m	0.2 mm @ 2.0 m	0.1 mm @ 1.0 m
Typical capture time	0.6-1.1 s	0.5–0.9 s	0.5–0.9 s	0.3–0.6 s	0.3–0.6 s
Baseline	800 mm	380 mm	140 mm	270 mm	180 mm
Dimensions	942 × 88 × 116 mm	459 × 77 × 86 mm	228 × 77 × 126 mm	353 × 57 × 100 mm	265 × 57 × 100 mm
Weight	4.5 kg	2.9 kg	1.9 kg	1.9 kg	1.6 kg
Light source	Red laser (638 nm, Class 2)			Blue LED (459 nm, RG2)/White LED(RG2)	
Image sensor	Sony CMOS for high-end machine vision				
Operating temperature	-10–45°C			0–45°C	
Communication interface	Gigabit Ethernet				
Input	24V DC, 3.75 A				
Safety and EMC	CE/FCC/VCCI/KC/ISED/NRTL				
IP rating	IP65		IP67	IP65	
Cooling	Passive				

Mech-Eye LSR XL-GL	Mech-Eye LSR L-GL	Mech-Eye LSR S-GL	Mech-Eye PRO M-GL	Mech-Eye PRO S-GL



Field of view (mm)

Specifications are subject to the official website.

[1] Multiple focal distances are available in a camera model. For further details, please scan the QR code to access camera datasheets.

[2] One standard deviation of 100 Z-value measurements of the same point. The measurement target was a ceramic plate.

[3] According to VDI/VDE 2634 Part II.

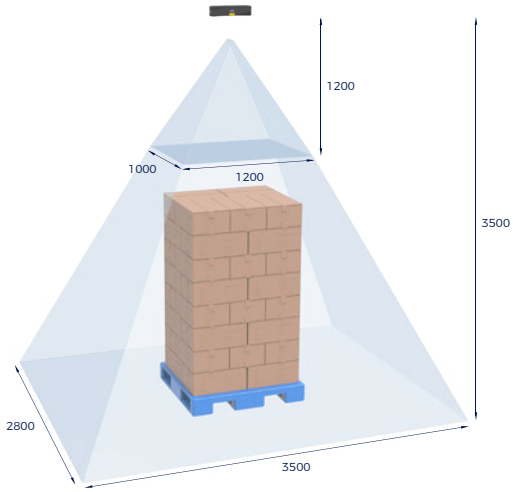
Mech-Eye Industrial 3D Cameras

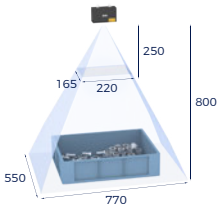
Scan the QR code to access datasheets

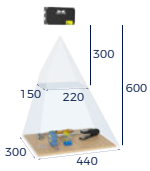
- Detailed and accurate 3D point clouds
- Ambient light resistance
- Short capture time
- IP65 water and dust resistance
- Rugged aluminum alloy housing
- MTBF (Mean Time Between Failures): ≥ 100,000 hours

Specification	DEEP-GL 	NANO ULTRA-GL 	NANO-GL 	UHP-140-GL 
Working distance[1]	1200–3500 mm	250-800 mm	300-600 mm	300 ± 20 mm
Near FOV	1200 × 1000 mm @ 1.2 m	220 × 165 mm @ 0.25 m	220 × 150 mm @ 0.3 m	135 × 90 mm @ 0.28 m
Far FOV	3500 × 2800 mm @ 3.5 m	770 × 550 mm @ 0.8 m	440 × 300 mm @ 0.6 m	150 × 100 mm @ 0.32 m
Resolution	Depth map: 2048 × 1536 RGB: 2000 × 1500	2400 × 1800	1280 × 1024	2048 × 1536
Megapixels	/	4.3 MP	1.3 MP	3.0 MP
Point repeatability Z (σ)[2]	1.0 mm @ 3.0 m	0.1 mm @ 0.6 m	0.1 mm @ 0.5 m	2.6 μm @ 0.3 m
VDI/VDE accuracy[3]	3.0 mm @ 3.0 m	0.1 mm @ 0.6 m	0.1 mm @ 0.5 m	0.03 mm @ 0.3 m
Typical capture time	0.5-0.9 s	0.5-0.9 s	0.6-1.1 s	0.6-0.9 s
Baseline	300 mm	86 mm	68 mm	80 mm
Dimensions	366 × 77 × 92 mm	125 × 46 × 76 mm	145 × 51 × 85 mm	260 × 65 × 142 mm
Weight	2.4 kg	0.7 kg	0.7 kg	1.9 kg
Light source	Red Laser (638 nm, Class 2)	Blue LED (440 nm, RG2)	Blue LED (459 nm, RG2)/White LED(RG2)	Blue LED (459 nm, RG2)
Image sensor	Sony CMOS for high-end machine vision	High-performance CMOS for high-end machine vision	Sony CMOS for high-end machine vision	
Operating temperature	-10–45°C	0–45°C		
Communication interface	Gigabit Ethernet			
Input	24V DC, 3.75 A		24V DC, 1.5 A	24V DC, 3.75 A
Safety and EMC	CE/FCC/VCCI/KC/ISED/NRTL			
IP rating	IP65			
Cooling	Passive			

Mech-Eye DEEP-GL	Mech-Eye NANO ULTRA-GL	Mech-Eye NANO-GL	Mech-Eye UHP-140-GL







Field of view (mm)

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[3] According to VDI/VDE 2634 Part II.

Exceptional Performance with Industrial-Grade Toughness

NVIDIA's High-End Embedded GPU

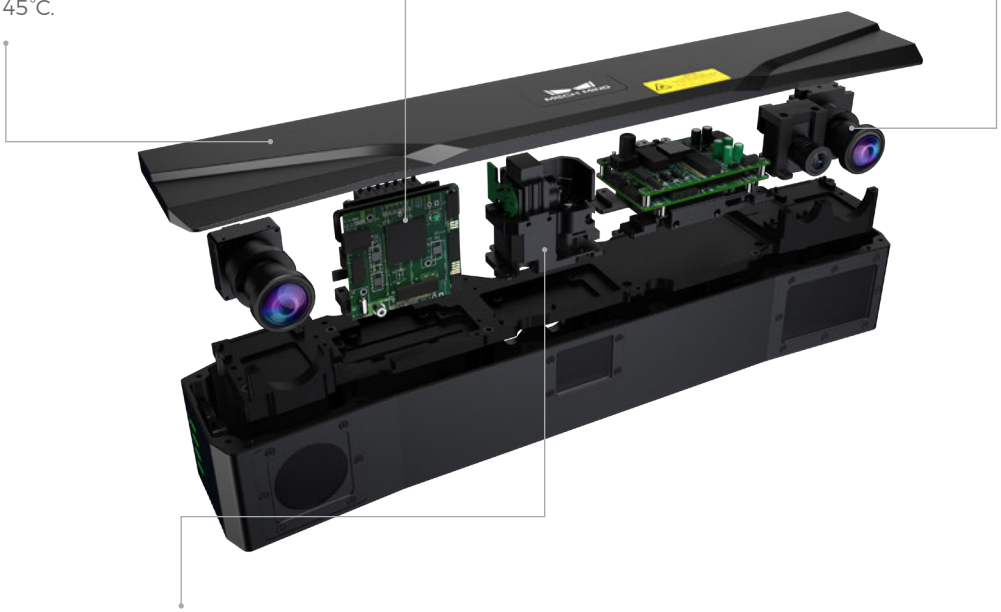
- Doubles computational performance with just 7.5W of power.

Industry-Ready Design

- Durable Construction: Lightweight, rugged aluminum alloy housing built to last on the factory floor.
- Shock and Vibration Resistant: 15G shock resistance and 5G random vibration tolerance.
- Wide Operating Temperature: Designed to perform reliably in temperatures from -10°C to 45°C.

CMOS Image Sensor

- High frame rate with low latency: Enables fast and precise capture.
- High Dynamic Range (HDR): Handles complex lighting conditions with exceptional accuracy.



Edge-Emitting Laser (EEL)

- Produces high-quality laser structured light patterns for accurate and detailed depth data.
- Ultra-Wide Laser Projection: Delivers exceptional brightness for enhanced coverage.
- Energy Efficient: High electrical-to-optical efficiency reduces energy waste and heat generation.

DLP Projector*

- Produces high-resolution LED structured light patterns, enabling accurate and detailed depth data acquisition.
- Features shock and vibration resistance, ensuring reliability in industrial environments.

*Except for the Mech-Eye LSR series and Mech-Eye DEEP-GL, all Mech-Eye camera models incorporate a DLP projector.

World-Class Quality

- **Meets international quality standards**: Certified for CE, FCC, VCCI, KC, ISED, NRTL, and RoHS compliance.
- **Durability assured**: Certified by SGS-CSTC for an MTBF of ≥100,000 hours.
- **Built for resilience**: Rated IP65 and tested to IEC 60068-2 environmental standards.

IP65
Water & Dust Proof

Wide Temperature Range

Shock & Vibration resistance

EMI Resistance

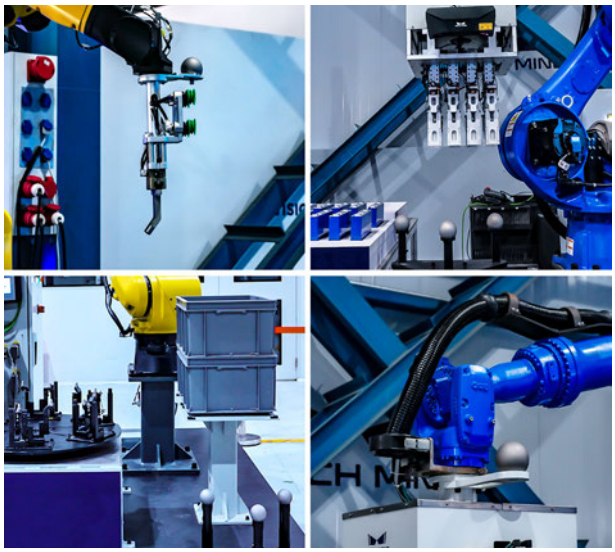
IEC 60068-2
International Standard

Optimized to Reduce System Drift

Accuracy drift is a common challenge in industrial vision systems, often caused by temperature fluctuations and aging components. Temperature changes can lead to calibration errors or image misalignment, while the gradual degradation of lenses and sensors over time diminishes overall system performance.

Mech-Mind's auto-correction tool for vision system drift

Mech-Mind introduces the Vision System Accuracy Drift Auto-Correction Tool, designed for industries demanding high precision and stability in automation. The system uses calibration balls within the camera's field of view to continuously monitor and compare point cloud accuracy. By correcting camera drift, it restores precise picking positions, enhances stability, and ensures reliable performance. Say goodbye to accuracy concerns and enjoy seamless operation every time.



Auto-correction tools used in different scenarios

Maintain optimal picking accuracy, regardless of temperature changes.

Flexible deployment solutions tailored for diverse industrial environments.

3

Three simple steps—removal, installation, and baseline data collection—enable quick camera replacement and effortless maintenance.

Industrial 3D Camera

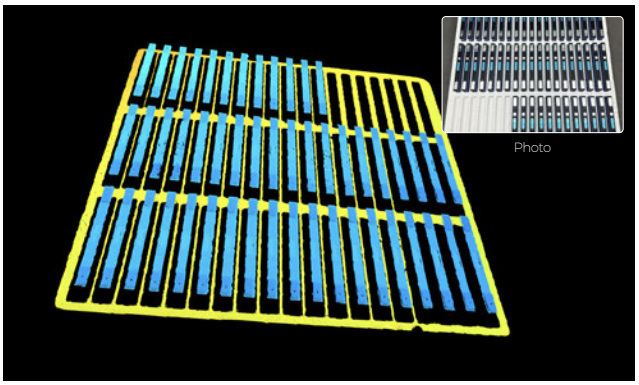
Mech-Eye LSR XL-GL

Long-Range Working Distance

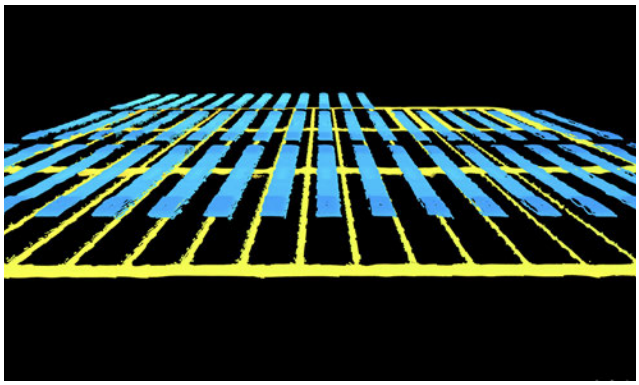
MTBF (Mean Time Between Failures): ***≥ 100,000 hours***

Ultra-High Accuracy | Extensive Scanning Range | Exceptional Anti-Reflection Capability | Robust Resistance to Ambient Light

The Mech-Eye LSR XL-GL is engineered for long-range applications requiring exceptional accuracy.
Its advanced anti-reflection and ambient light resistance ensure superior imaging quality in complex environments.

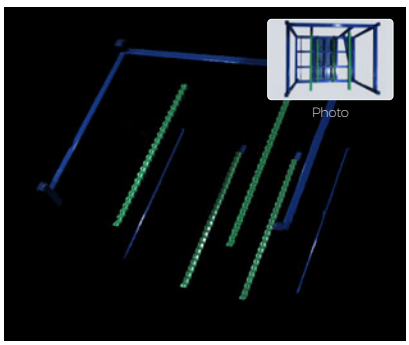


Thanks to its ultra-wide FOV and depth of field, the camera can capture complete 3D point clouds of battery cells on the entire layer (1200 × 1200 mm).

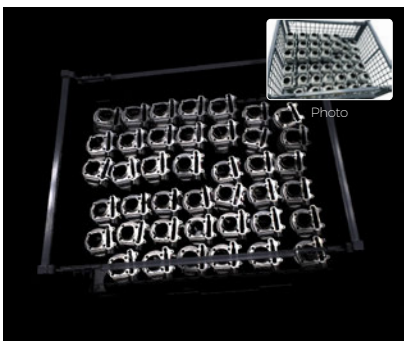


Thanks to the high resolution, the camera is capable of capturing detailed, accurate 3D data of battery cells even at a distance of 3 meters.

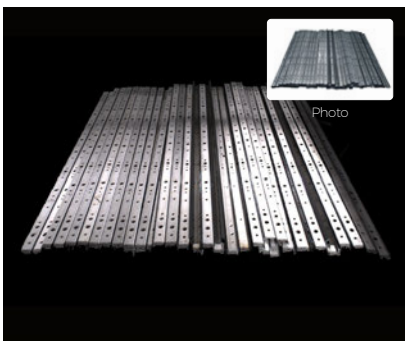
Mech-Eye LSR XL-GL @ 3 m, color rendered by height



Large rack



Complex-structured engine blocks



Reflective sheet metal parts

Mech-Eye LSR XL-GL @ 3 m

Industrial 3D Camera

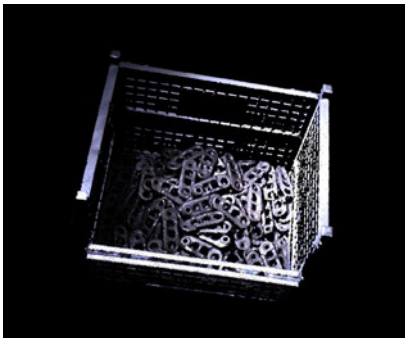
Mech-Eye LSR L-GL

Long-Range Working Distance

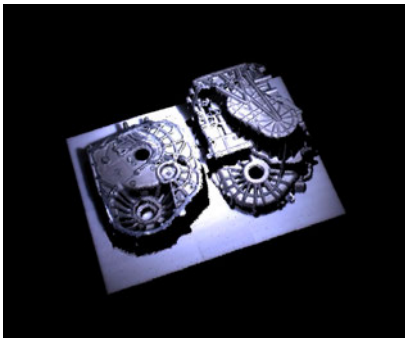
MTBF (Mean Time Between Failures): ***≥ 100,000 hours***

High Accuracy | Large FOV | Ambient Light Resistance

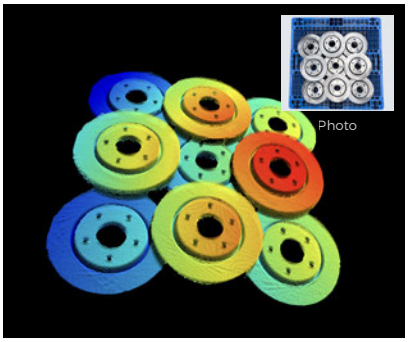
The next-gen Mech-Eye LSR L-GL can generate accurate, complete, and detailed 3D point cloud data of a wide variety of objects under severe ambient light interference (> 30,000 lx).



Track links

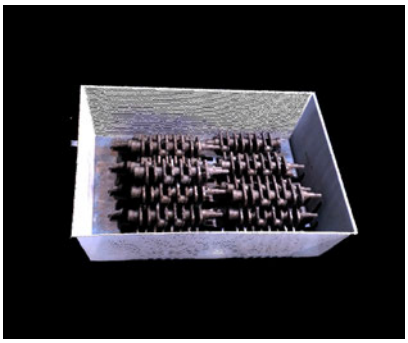


Gearbox housings

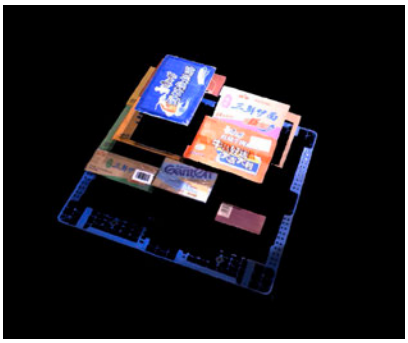


Brake discs
Color rendered by height

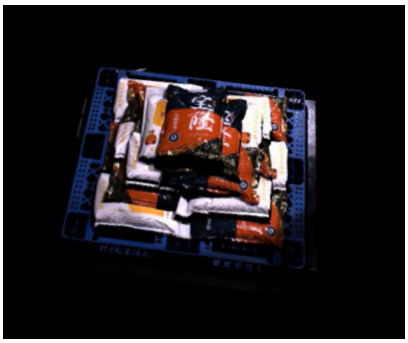
Point clouds captured by Mech-Eye LSR L-GL under challenging light conditions of > 30,000 lx @ 2.0 m



Crankshafts



Colored cartons



Colored sacks

Point clouds captured by Mech-Eye LSR L-GL under challenging light conditions of > 30,000 lx @ 2.0 m

Industrial 3D Camera

Mech-Eye PRO

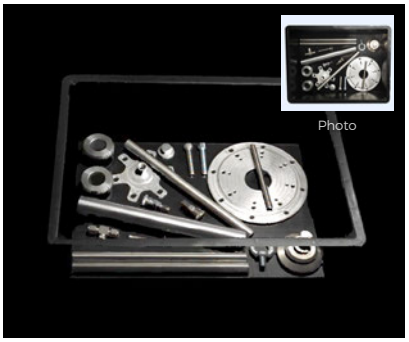
Medium-Range Working Distance

MTBF (Mean Time Between Failures): ***≥ 100,000 hours***

High Accuracy | Fast Scanning Speed | Blue and White Light Options

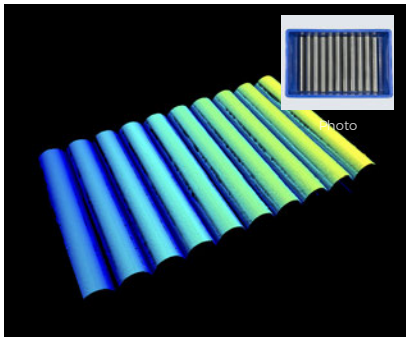
Mech-Eye PRO delivers an extraordinary level of detail with super high accuracy. Capturing point clouds with accurate details takes as low as 0.3 s.

Dark and reflective objects
Mech-Eye PRO S-GL



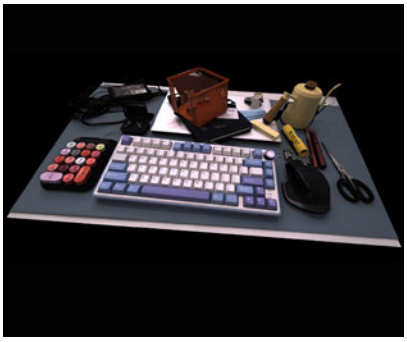
Highly reflective metal parts
Mech-Eye PRO S-GL

Transparent groceries
Mech-Eye PRO S-GL



Reflective shafts
Mech-Eye PRO S-GL
Color rendered by height

Colored goods
Mech-Eye PRO M-GL



Office supplies
Mech-Eye PRO S-GL

Point clouds captured under typical indoor lighting conditions

Industrial 3D Camera

Mech-Eye NANO-GL

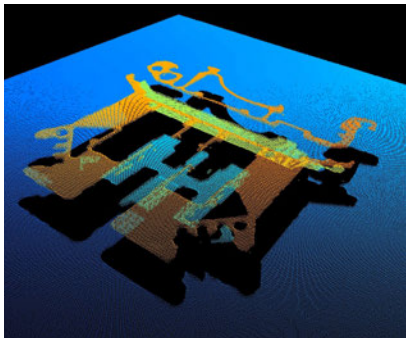
Short-Range Working Distance

MTBF (Mean Time Between Failures): ***≥ 40,000 hours***

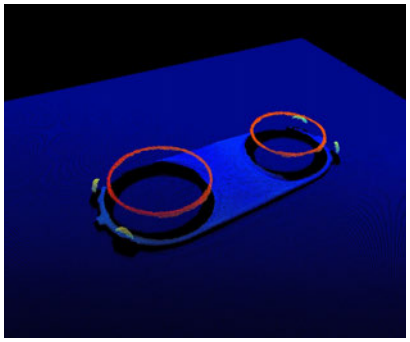
Ultra-Small Size | High Accuracy | Ambient Light Resistance

Mech-Eye NANO-GL (accuracy: 0.1 mm @ 0.5 m) can create 3D data of most complex parts with extraordinarily high accuracy.

In space-critical applications, Mech-Eye NANO-GL is easy to install and shows outstanding flexibility thanks to its ultra-small size (145 × 85 × 51 mm).



Precision component

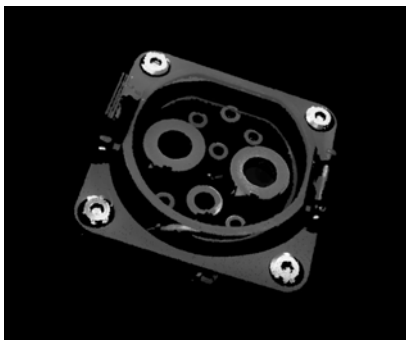


Thin objects
(only 0.6 mm thick)

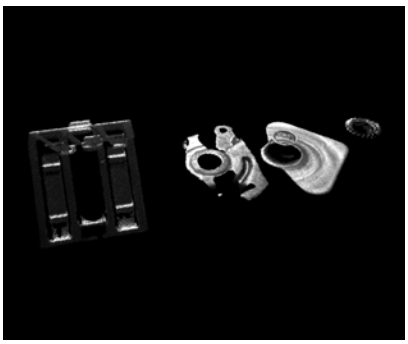
Collection of small objects

Point cloud examples captured by Mech-Eye NANO-GL

Screws and nuts



Car charging port



Small parts

Point cloud examples captured by Mech-Eye NANO-GL

Industrial 3D Camera

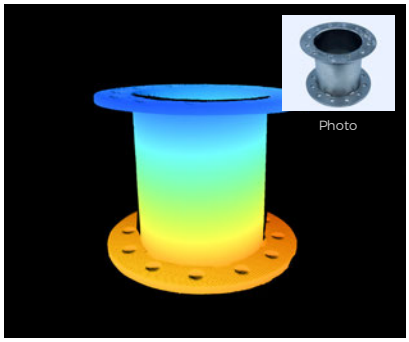
Mech-Eye NANO ULTRA-GL

Short-Range Working Distance

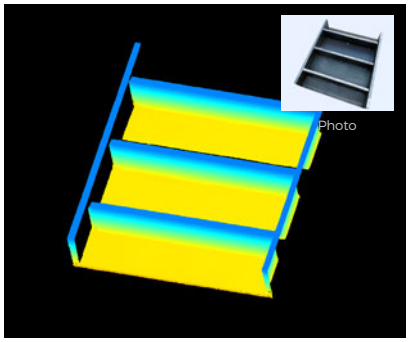
MTBF (Mean Time Between Failures): ***≥ 100,000 hours***

Ultra-High Precision | Palm Size | Ideal for Welding, Precision Part Picking and Fine Assembly

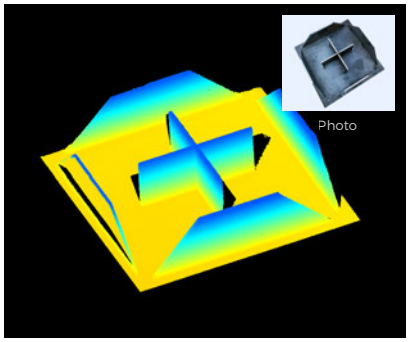
Mech-Eye NANO ULTRA-GL, featuring impressive ambient light resistance and anti-reflection capability, can capture clear, detailed point clouds of reflective weldments and metal parts even under strong light (> 60,000 lx)



Cylindrical metal part

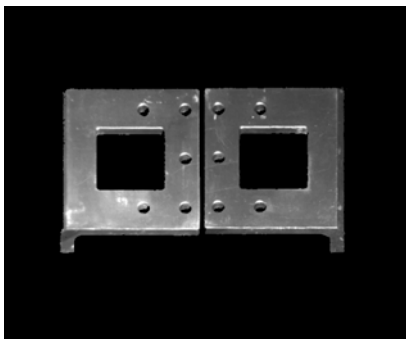


H-beam



Sub-assembly component of the ship hull

Mech-Eye NANO ULTRA-GL @ 0.6 m, color rendered by height



Shiny steel plates with holes

Gas connectors

Bolts

Mech-Eye NANO ULTRA-GL @ 0.6 m

Industrial 3D Camera

Mech-Eye UHP-140-GL

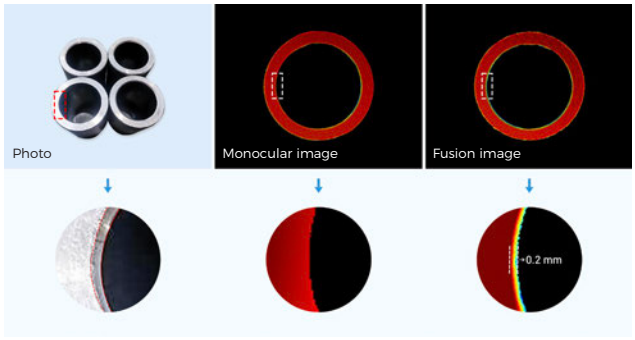
Short-Range Working Distance

MTBF (Mean Time Between Failures): ***≥ 100,000 hours***

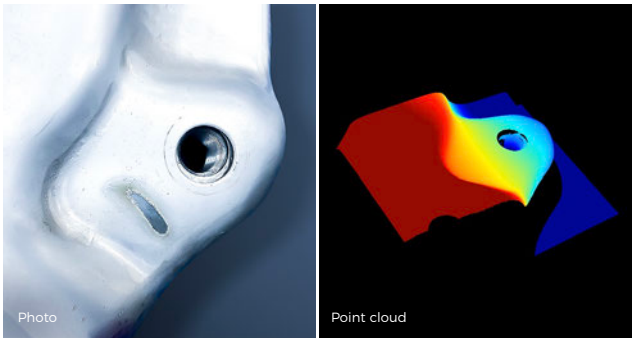
Micron-Level Accuracy | Robust Anti-Reflection Performance | Advanced Image Stitching Algorithms

Mech-Eye UHP-140-GL is designed to inspect or measure the subtlest features and defects (accuracy: 0.03 mm @ 0.3 m; standard: VDI/VDE 2634 part II of Germany).

Coupled with advanced image fusion and anti-reflection 3D reconstruction algorithms, Mech-Eye UHP-140-GL can effectively reduce blind spots and generate high-quality point clouds of reflective and complex-shaped parts.

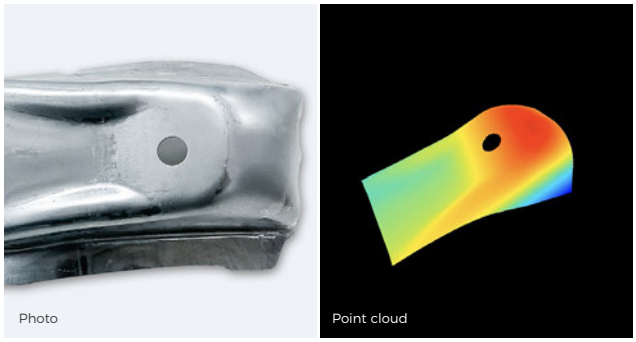


Round positioning hole with chamfered edges

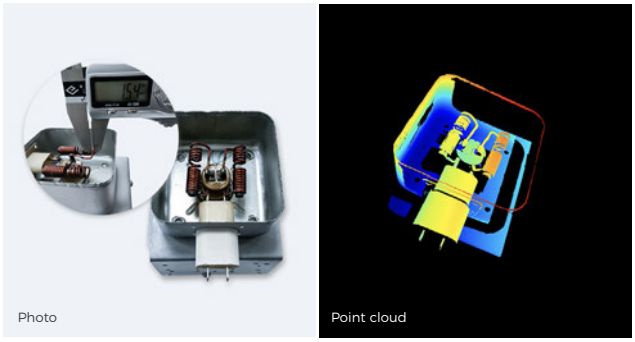


Threaded hole

Mech-Eye UHP-140-GL @ 0.3 m, color rendered by height



Reflective curved sheet metal part



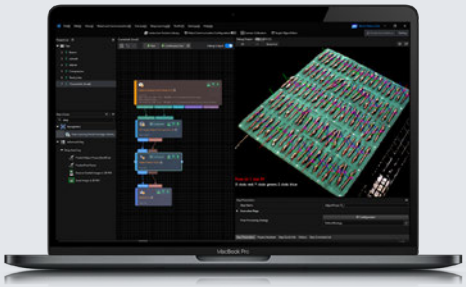
Reflective enameled copper wire with a diameter of about 1.5 mm

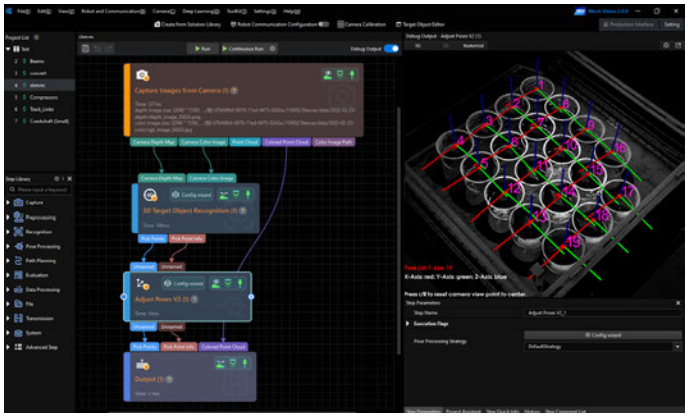
Mech-Eye UHP-140-GL @ 0.3 m, color rendered by height

Mech-Vision

Machine Vision Software

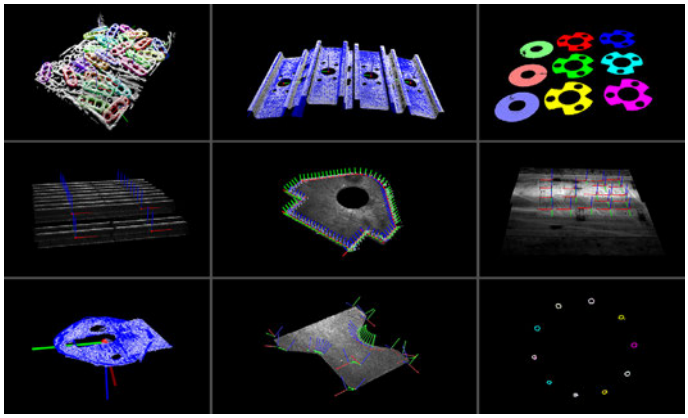
Mech-Vision is an industry-leading machine vision software. It is designed to quickly build vision applications, whether simple or complex. With Mech-Vision, users can manage a wide range of vision tasks, including identification, localization, inspection & measurement, etc.





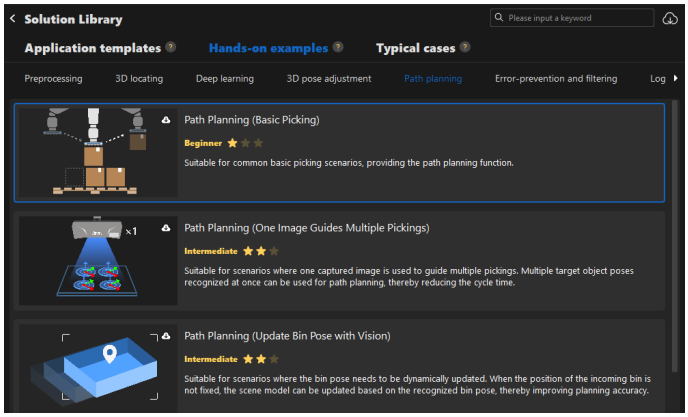
Build your vision applications efficiently

- Intuitive solution-oriented graphical user interface
- Drag-and-drop programming simplifies setup without writing a line of code
- Visualized configuration



Manage complex application scenarios with advanced AI algorithms

- Integrated 2D/3D template matching, deep learning, 3D measurement, and other advanced AI algorithms
- Ensures reliable performance in challenging scenarios such as random stacking, tight packing, and highly reflective surfaces
- Recognition success rate ≥ 99.99%; fastest recognition time as low as 10 ms



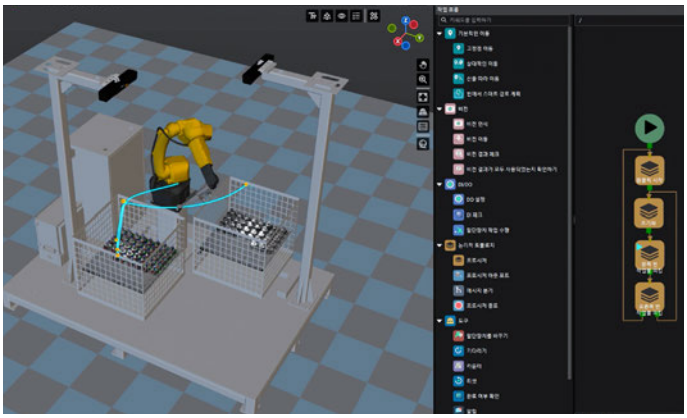
Develop vision applications easily and flexibly

- **Robust Solution Library:** get faster application deployment by adapting an existing project after simple modifications
- **Production Interface** for easy production status monitoring and data reporting
- Multiple languages: English, Japanese, Chinese, and Korean

Mech-Viz

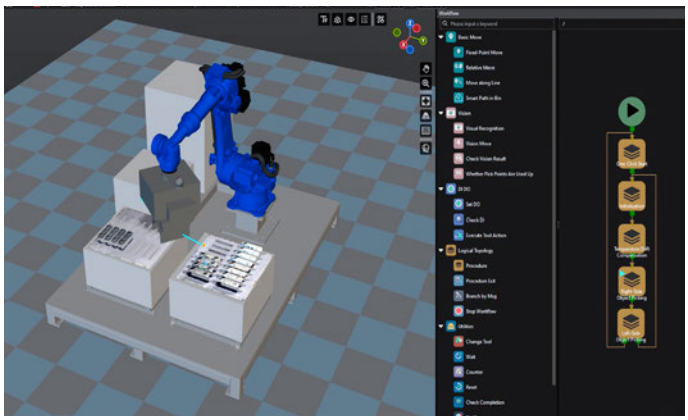
Robot Programming Software

Mech-Viz is a software product for efficiently implementing robotic applications without writing a line of code. Mech-Viz enables robots to manage demanding automation tasks with excellent stability, extraordinary flexibility, and outstanding consistency.



Intuitive Robot Programming

- Intuitive graphical user interface
- Code-free programming environment
- One-click simulation of robot path



Powerful Algorithms for Reliable Robotic Operation

- Motion planning and collision detection
- Multi-pick depalletizing algorithms
- Picking strategies: multiple pick points, rotational symmetry, etc.

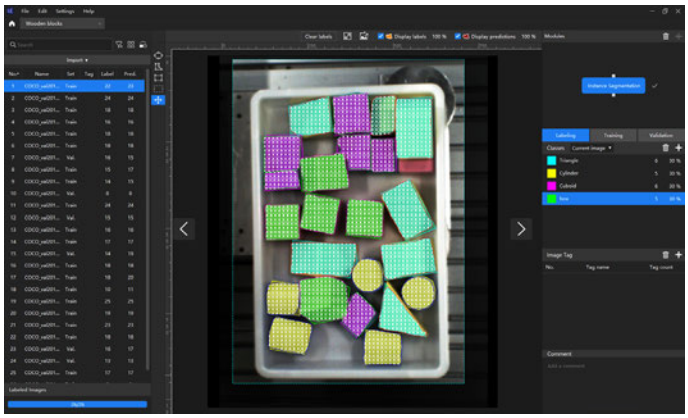
Flexible and Easy Implementation

- Support for almost all major-brand robots
- Streamlines configuration and redeployment with robot path reporting and tracking capabilities
- Multiple languages: English, Japanese, Chinese, and Korean

Mech-DLK

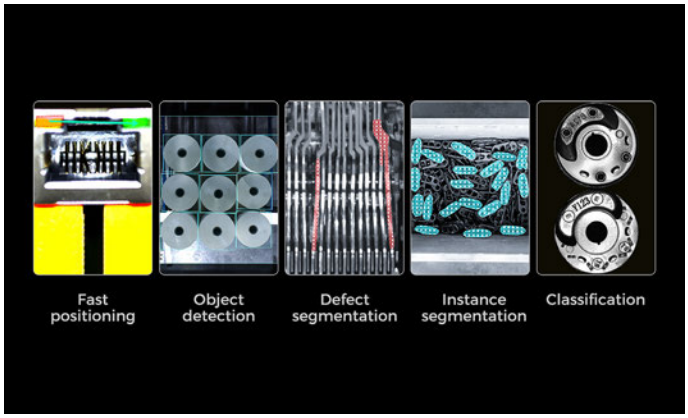
Deep Learning Software

Mech-DLK is a versatile deep learning software solving complex machine vision tasks. It enables users to rapidly train models and easily solve demanding vision applications, including overlapping object recognition and classification, complex defect detection, character reading, etc.



Train models efficiently without writing a line of code

- Intuitive code-free user interface
- Visualized model validation
- Advanced data augmentation: train models with smaller image sets
- **Finetune** function: leverage pre-trained models to expedite training, rather than train a model from scratch



Manage complex machine vision tasks with speed and accuracy

- Manage complex vision applications with powerful algorithms such as fast positioning, defect segmentation, and instance segmentation
- **VFM labeling tool, smart labeling tool** and **pre-trained labeling tool** simplify the labeling process, saving time and effort

Integrate your vision tasks into your production environment easily

- Multi-language SDKs: C, C++, C#, and Python
- Easy integration with Mech-Vision for quick deployment

Example Cases

Scan QR code
to watch videos

Vision-Guided
Case Depalletizing

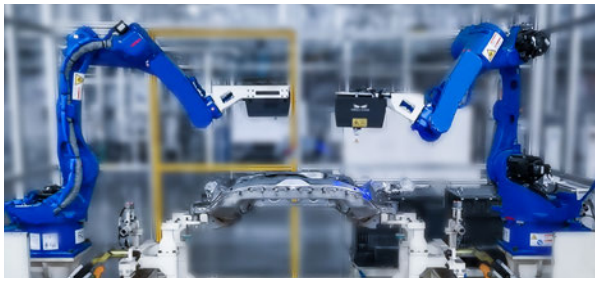
Vision-Guided
Case and Tote Depalletizing

Vision-Guided
Sack Depalletizing

Vision-Guided
Machine Tending of Drive Gears

Vision-Guided
EV Charging

Vision-Guided
Bin Picking of CV Joints



Subframe Inline
Measurement

Vision-Guided
Car Door Inner Panel Picking

Example Cases

Scan QR code
to watch videos

Vision-Guided
Machine Tending of Countershafts

Vision-Guided
De-racking of Stamping Parts

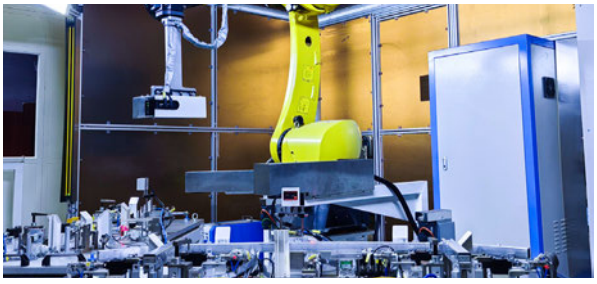
Vision-Guided
Heavy-Duty Truck Tire Assembly

Vision-Guided
Machine Tending of Battery Modules

Vision-Guided
Tote Depalletizing

Vision-Guided
Depalletizing of Shrink-Wrapped Bottles

Vision-Guided
Bolt Tightening



Inline Measurement of
Bumper Beams

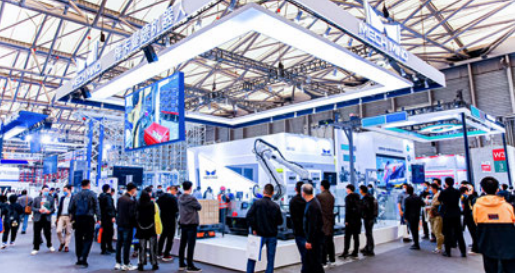
Empowering Global Customers

Mech-Mind Self-Owned Factory

- High-standard factory: spans 5,000 sqm; certified for ISO 9001, ISO 14001, and ISO 45001.
- Top-tier camera manufacturing: CE, FCC, VCCI, KC, ISED, NRTL certified; MTBF (≥100,000 hours)
- Annual production capacity: 20,000+ units
- 100% factory inspection
- 2-week delivery

Mech-Mind Academy

- Online and offline learning: Whether remote learning or immersive in-person instruction, we've got you covered.
- Beginner-friendly courses: All can quickly get started on 3D vision applications through step-by-step video tutorials and clearly defined training.
- Multifaceted training: Students can master the expertise in setup, configuration, application deployment and project delivery.





About Mech-Mind

Mech-Mind is an industry-leading provider of industrial 3D cameras ("Eye"), AI software suites ("Brain"), and dexterous hands ("Hand") for intelligent robotics. With the comprehensive and standardized "Eye-Brain-Hand" product portfolio and universal components, Mech-Mind empowers partners and system integrators to tackle the most challenging automation tasks—bin picking, depalletizing & palletizing, picking & placing, inspection and more—bringing automation to the next level.

Backed by Top Global Investors

Founded in 2016, Mech-Mind has closed its Series C+ round with total funding of USD 300 million. Backed by Intel, IDG and other top global investors, Mech-Mind is among the most funded embodied AI + robotics companies worldwide.

Trusted Partner for System Integrators

Excellent usability, proven quality, high flexibility, comprehensive service and competitive pricing, helping customers and partners outperform. Our mature solutions empower system integrators to tackle demanding applications.

World-Class Team with Deep R&D in Embodied AI

Mech-Mind has assembled highly qualified experts with deep technical knowledge in multimodal large models, 3D imaging, robotics algorithms, AI software, etc. The **general-purpose "Eye-Brain-Hand" product portfolio**, which is based on high-precision 3D cameras, AI software, and dexterous hands, can be adapted to various robots and application scenarios.

Large-Scale, Cross-Industry, Global Deployments

Mech-Mind has deployed **17,000+ units** across **40+ countries** and served **100+ Fortune Global 500 clients**. Our solutions deliver visible ROI across industries—automotive, F&B, logistics, home appliances, EV batteries, metal and machining, electronics, etc.—with applications such as machine tending, depalletizing, assembly, welding, inspection and piece picking.

100+
Fortune Global 500 Clients

17,000+ Cameras
Installed Worldwide

40+
Countries & Regions

Our Partners

Compatible with Major Robot Brands

EMBODIED AI & 3D VISION FOR ROBOTS AND MORE

Get the most from Mech-Mind's 3D vision - get in touch with us!

Website: www.mech-mind.com
E-mail (business): info@mech-mind.net
E-mail (PR & marketing): marketing@mech-mind.net

Learning guidance to deploy your vision application STEP BY STEP, please visit

Documentation: docs.mech-mind.net
Online community: community.mech-mind.com