



3D Vision & AI for Robots and More

Mech-Mind Robotics Product Catalog

We Help Integrators WIN with best-in-class AI + 3D vision tools and services.

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

AI + 3D Industrial Automation Solution

Mech-Mind is an industry-leading provider of 3D vision products and all-in-one robot solutions for industrial automation. With the comprehensive product portfolio, 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 Sensors

- Mech-Eye Industrial 3D Cameras: high accuracy, fast scanning, and resistance to ambient light
- Mech-Eye 3D Laser Profilers: 4K resolution, fast scan rate, and micron-level precision
- IP65/IP67 protection and CE, FCC, VCCI, UKCA, KC, ISED, NRTL, and RoHS certified
- · Multiple model options





Mech-Vision Machine Vision Software

- · Code-free graphical user interface
- Extensive solution library
- \cdot Easy integration
- Various vision tools integrated
- Integrated 600+ robots



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++, and C#
- 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



Mech-Eye Industrial 3D Cameras

High-performance industrial 3D cameras for the most demanding automation applications

Specification	LSR L	LSR S	PRO M	PRO S	UHP-140	
Recommended working distance	1200-3000 mm	500~1500mm	1000-2000 mm	500-1000 mm	300 ± 20 mm	
Near FOV	1200 × 1000 mm @ 1.2 m	480 × 360mm @ 0.5m	800 × 450 mm @ 1.0 m	370 × 240 mm @ 0.5 m	135 × 90 mm @ 0.28 m	
Far FOV	3000 × 2400 mm @ 3.0 m	1500 × 1200mm @ 1.5m	1500 × 890 mm @ 2.0 m	800 × 450 mm @ 1.0 m	150 × 100 mm @ 0.32 m	
Resolution	Depth map: 2048 × 1536	Depth map: 2048 × 1536			2048 × 1536	
	RGB: 4000 × 3000/ 2000 × 1500	RGB: 4000 × 3000/ 2000 × 1500	1920 × 1200	1920 × 1200		
Megapixels	/	/	2.3 MP	2.3 MP	3.0 MP	
Point repeatability Z $(\sigma)^{(1)}$	0.5 mm @ 3.0 m	0.2mm @ 1.5m	0.2 mm @ 2.0 m	0.05 mm @ 1.0 m	2.6 µm @ 0.3 m	
					Region ^[2] : 0.09 µm @ 0.3 m	
VDI/VDE accuracy ^[3]	1.0 mm @ 3.0 m	1.0mm @ 1.5m	0.2 mm @ 2.0 m	0.1 mm @ 1.0 m	0.03 mm @ 0.3 m	
Typical capture time	0.5-0.9 s	0.5~0.9s	0.3-0.6 s	0.3-0.6 s	0.6-0.9 s	
Baseline	Approx. 380 mm	约 140mm	Approx. 270 mm	Approx. 180 mm	Approx. 80 mm	
Dimensions	Approx. 459 × 77 × 86 mm	约 228 × 77 × 126mm	Approx. 353 × 57 × 100 mm	Approx. 265 × 57 × 100 mm	Approx. 260 × 65 × 142 mm	
Weight	Approx. 2.9 kg	Approx. 1.9 kg	Approx. 1.9 kg	Approx. 1.6 kg	Approx. 1.9 kg	
Light source	Red laser (638 nm, Class 2)		Blue LED (459 nm. 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/UKCA/KC/ISED/NRTL					
IP rating	IP65					
Cooling	Passive					



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

[2] One standard deviation of 100 measurements of the difference between the Z-value means of two same-sized regions. The measurement target was a ceramic plate. [3] According to VDI/VDE 2634 Part II.

Mech-Eye Industrial 3D Cameras

Detailed and accurate 3D point clouds

Ambient light resistance

Short capture time

- IP65 water and dust resistance
 - Rugged aluminum alloy housing

Specification						
Recommended working distance 1200-3500 mm 800-2000 mm 500-1000 mm 300-600 mm 300-600 mm	600 mm					
Near FOV 1200 × 1000 mm @ 1.2 m 520 × 390 mm @ 0.8 m 360 × 250 mm @ 0.5 m 220 × 150 mm @ 0.3 m 220 × 160) mm @ 0.3 m					
Far FOV 3500 × 2800 mm @ 3.5 m 1410 × 960 mm @ 2.0 m 710 × 490 mm @ 1.0 m 440 × 300 mm @ 0.6 m 430 × 320) mm @ 0.6 m					
Depth map: 2048 × 1536	1280 × 1024					
Resolution 1280 × 1024 1280 × 1024 1280 × 1024 1280 × 1024 1280						
Megapixels / 1.3 MP 1.3 MP 1.3 MP 1.3 MP	.3 MP					
Point repeatability Z (g) ^[1] 1.0 mm @ 3.0 m 0.3 mm @ 2.0 m 0.1 mm @ 1.0 m 0.1 mm @ 0.5 m 0.1 mm	m @ 0.5 m					
VDI/VDE accuracy ¹²¹ 3.0 mm @ 3.0 m 0.3 mm @ 2.0 m 0.2 mm @ 1.0 m 0.1 mm @ 0.5 m 0.1 mm	m @ 0.5 m					
Typical capture time 0.5-0.9 s 0.3-0.5 s 0.3-0.5 s 0.6-1.1 s 0.7	7-1.1 s					
Baseline Approx. 300 mm Approx. 280 mm Approx. 150 mm Approx. 68 mm Approx.	ox. 93 mm					
Dimensions Approx. 366 × 77 × 92 mm Approx. 387 × 72 × 130 mm Approx. 270 × 72 × 130 mm Approx. 145 × 51 × 85 mm Approx. 160) × 52 × 87 mm					
Weight Approx. 2.4 kg Approx. 2.4 kg Approx. 2.2 kg Approx. 0.7 kg Approx.	rox. 0.8 kg					
Light source Red Laser (638 nm, Class 2) White LED (RG2) Blue LED (459 nm, RG2)	Blue LED (459 nm, RG2)					
Image sensor Sony CMOS for high-end machine vision Other high-performance CMOS for high-end machine vision Sony CMOS for high-end machine vision CMOS for high-end machine vision achieves the sensor of the sensor	n-performance for high-end hine vision					
Operating temperature -10-45°C 0-45°C	0-45°C					
Communication interface Gigabit ethernet	Gigabit ethernet					
Input 24V DC, 3.75 A 24V DC, 1.5 A	24V DC, 3.75 A 24V DC, 1.5 A					
Safety and EMC CE/FCC/VCCI/UKCA/KC/ ISED/NRTL CE/FCC/VCCI/UKCA/KC/ ISED/NRTL CE/FCC/VCCI/UKCA/KC/ CE/FCC/VCCI/UKCA/KC/	ecc/vcci					
IP rating IP65	IP65					
Cooling Passive	Passive					



Field of view (mm)

One standard deviation of 100 Z-value measurements of the same point. The measurement target was a ceramic plate.
 According to VDI/VDE 2634 Part II.

Mech-Eye 3D Laser Profiler LNX-8000 Series

For high-resolution industrial measurement and inspection applications.

Specification	LNX-8300	LNX-8080	LNX-8030		
Data Points/Profile	4096				
Reference Distance(RD)	300 mm	245 mm	75 mm		
Measurement Range Z	310 mm	80 mm	30 mm		
Measurement Range X	230/310/430 mm	76/87/96 mm	33/35/37 mm		
Resolution X	105 µm	23.5 µm	9 µm		
Repeatability Z	2 µm	0.5 µm	0.2 µm		
Linearity Z	± 0.02% of F.S.				
Scan Rate	3.3-15 kHz				
Dimensions	Approx. 195 × 61 × 109 mm	Approx. 182 × 63 × 112 mm	Approx. 130 × 61 × 100 mm		
Weight	Approx. 1.2 kg	Approx. 1.2 kg	Approx. 0.9 kg		
Laser	Blue (405 nm, Class 2M)	Blue (405 nm, Class 2M)	Blue (405 nm. Class 2)		
Input Voltage	24V DC				
Max. Input Power	25 W				
	Cigabit Ethernet				
Communication Interface		Gigabit Ethernet			
Communication Interface Operating Temperature		Gigabit Ethernet 0-45° C			
Communication Interface Operating Temperature Safety and EMC		Gigabit Ethernet 0-45° C CE/FCC/VCCI/KC/ISED/NRTL			



Field of view (mm)

Industrial 3D Camera Mech-Eye LSR L



Long-Range Working Distance

High Accuracy | Large FOV | Ambient Light Resistance

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



Track links



Gearbox housings



Reflective auto seat side panels

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



Crankshafts



Colored cartons



Colored sacks

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

Industrial 3D Camera Mech-Eye PRO



Medium-Range Working Distance

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.



Business cards Mech-Eye PRO S @ 0.7 m Color rendered by height



Metal parts Mech-Eye PRO M @ 2.0 m



Dark objects Mech-Eye PRO S @ 0.8 m

Point clouds captured under light conditions of > 20,000 Ix^*



Reflective objects Mech-Eye PRO S @ 0.6 m



Colored goods Mech-Eye PRO M @ 2.0 m



Multicolored office supplies Mech-Eye PRO S @ 0.7 m

Point clouds captured by color version under typical indoor lighting conditions

*Applicable to monochrome version

Industrial 3D Camera Mech-Eye NANO



Short-Range Working Distance

Ultra-Small Size | High Accuracy | Ambient Light Resistance

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



Precision component



Thin objects (only 0.6 mm thick)



Various small workpieces

Point cloud examples captured by Mech-Eye NANO



Screws and nuts



Car charging port



Small parts

Point cloud examples captured by Mech-Eye NANO

Mech-Eye 3D Laser Profiler LNX-8000 Series



• 4K resolution for high-resolution inspection and measurement

 \cdot Scan rate up to 15 kHz delivers accurate 3D data at a faster speed

• Single-Shot HDR to scan dark and reflective surfaces in one exposure

For high-precision measurement and inspection in industries such as consumer electronics, EV battery, and automotive.



Smartphone housing



Lithium-ion battery cell



Circuit board

Point clouds obtained by Mech-Eye LNX-8080, color rendered by height



Connector



Weld crater



Battery sealing pin

Point clouds obtained by Mech-Eye LNX-8030, color rendered by height

Industrial 3D Camera Mech-Eye UHP-140

Short-Range Working Distance



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

Mech-Eye UHP-140 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 can effectively reduce blind spots and generate high-quality point clouds of reflective and complex-shaped parts.







High brightness dented lacquered auto door; the handle position may easily scatter light

Mech-Eye UHP-140 @ 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 @ 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 & gauging, 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 parameter configuration and debugging

Manage complex vision applications with extensive tools

- Powerful algorithms: 2D/3D matching, deep learning, 2D/2.5D measurement, etc.
- Integrated machine vision tools: matching model, pick point editor, automatic calibration, caliper, etc.
- 3D Workpiece Recognition delivers recognition results in 1 sec, enabling easier and faster deployment of various loading and handling applications.

Develop vision applications easily and flexibly

- Robust Solution Library: get faster application deployment by adapting an existing project after simple modifications
- Support for embedded scripting, customization, and system integration
- 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 Operations

- Motion planning and collision detection
- Mixed palletizing & multi-pick depalletizing algorithms
- Picking strategies: multiple pick points, symmetry, etc.

Flexible and Easy Implementation

- Support for almost all major-brand robots
- Provides robot path reporting and tracking to reduce debugging complexity and time significantly
- 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, 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

- Manages complex vision applications with powerful algorithms such as fast positioning, defect segmentation, and instance segmentation
- Smart Labeling Tool and Template Tool simplify the labeling process, saving time and effort

Integrate your vision tasks into your production environment easily

- Multi-language SDKs: C, C++, C#, etc.
- Multiple languages: English, Japanese, Chinese, and Korean









Vision-Guided Case Depalletizing



Vision-Guided Sack Depalletizing



Vision-Guided EV Charging



Vision-Guided Window Glass Gluing



Vision-Guided Case and Tote Depalletizing



Vision-Guided Machine Tending of Drive Gears



Vision-Guided Bin Picking of CV Joints



Vision-Guided Car Door Inner Panel Picking



About Mech-Mind

Mech-Mind is an industry-leading company focusing on industrial 3D sensors and software suite for intelligent robotics.

By combining 3D vision with AI technology, Mech-Mind brings automation to the next level and empowers partners and system integrators to manage the most challenging automation tasks, including bin picking, depalletizing & palletizing, picking & placing, and more.

One of the Highest-Funded AI + Robotics Companies

Founded in 2016, Mech-Mind has closed its Series C+ with total funding of > USD 200 million. Backed by Intel and other global top investors, Mech-Mind has been one of the highest-funded AI + robotics companies all over the world.

Create Success Together with Partners and Integrators

Excellent usability, approved quality, high flexibility, comprehensive service, and competitive price, that's what we stand for and how we help our customers and partners to exceed in their business. Our mature solutions empower system integrators and partners to solve the most demanding applications and bring automation to the next level.

World-Class Team with Deep Technical Knowledge

Mech-Mind assembles a world-class team of **700+ amazing individuals**. Our global team with highly qualified experts provides deep technical knowledge in **3D sensing, vision and robotics algorithms, robotics software, and intelligent robotic solutions**.

3000+ Applications Implemented for 1000+ Global Customers

Mech-Mind partnered with industry-leading enterprises and has deployed **3000**+ applications in **50**+ regions. By delivering cutting-edge technology and reliable solutions, Mech-Mind has created visible ROI for **1000**+ global customers across diverse industries, including **automotive, construction machinery, logistics, home appliances, food and beverage, etc.**



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