

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

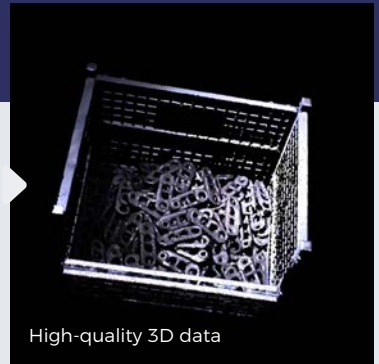
# Empower System Integrators with Advanced AI + 3D Vision Tools

Mech-Mind is an industry-leading provider of industrial 3D cameras and AI software suites for robotic applications. 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

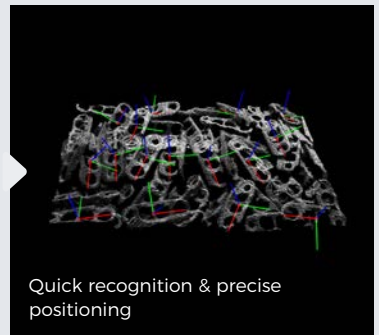


High-quality 3D data

## Mech-Vision Machine Vision Software



- Code-free graphical user interface
- Extensive solution library
- Easy integration
- Various vision tools integrated
- Integrates about 700 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

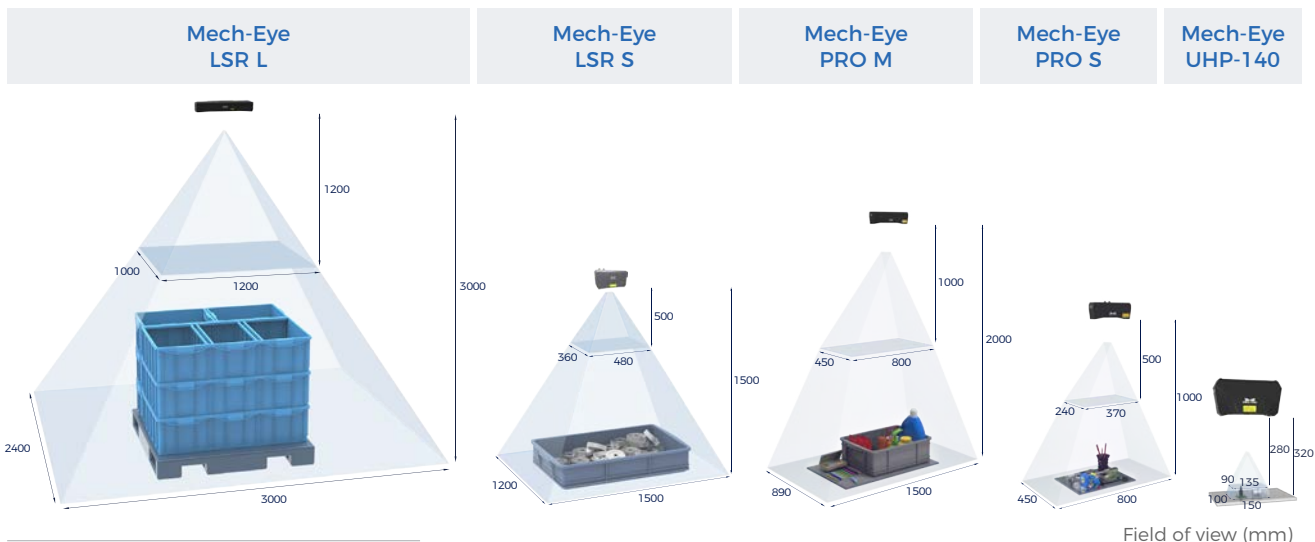


Robot accomplishes complex tasks

# Mech-Eye Industrial 3D Cameras

- 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):  $\geq 40,000$  hours

Specification					
Recommended working distance	1200–3000 mm	500–1500 mm	1000–2000 mm	500–1000 mm	300 ± 20 mm
Near FOV	1200 × 1000 mm @ 1.2 m	480 × 360 mm @ 0.5 m	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 × 1200 mm @ 1.5 m	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	1920 × 1200	1920 × 1200	2048 × 1536
	RGB: 4000 × 3000/ 2000 × 1500	RGB: 4000 × 3000/ 2000 × 1500			
Megapixels	/	/	2.3 MP	2.3 MP	3.0 MP
Point repeatability Z (σ) <sup>[1]</sup>	0.5 mm @ 3.0 m	0.2 mm @ 1.5 m	0.2 mm @ 2.0 m	0.05 mm @ 1.0 m	2.6 μm @ 0.3 m
					Region <sup>[2]</sup> : 0.09 μm @ 0.3 m
VDI/VDE accuracy <sup>[3]</sup>	1.0 mm @ 3.0 m	1.0 mm @ 1.5 m	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	0.5–0.9 s	0.3–0.6 s	0.3–0.6 s	0.6–0.9 s
Baseline	Approx. 380 mm	Approx. 140 mm	Approx. 270 mm	Approx. 180 mm	Approx. 80 mm
Dimensions	Approx. 459 × 77 × 86 mm	Approx. 228 × 77 × 126 mm	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)/White LED(RG2)		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	IP67	IP65		
Cooling	Passive				



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

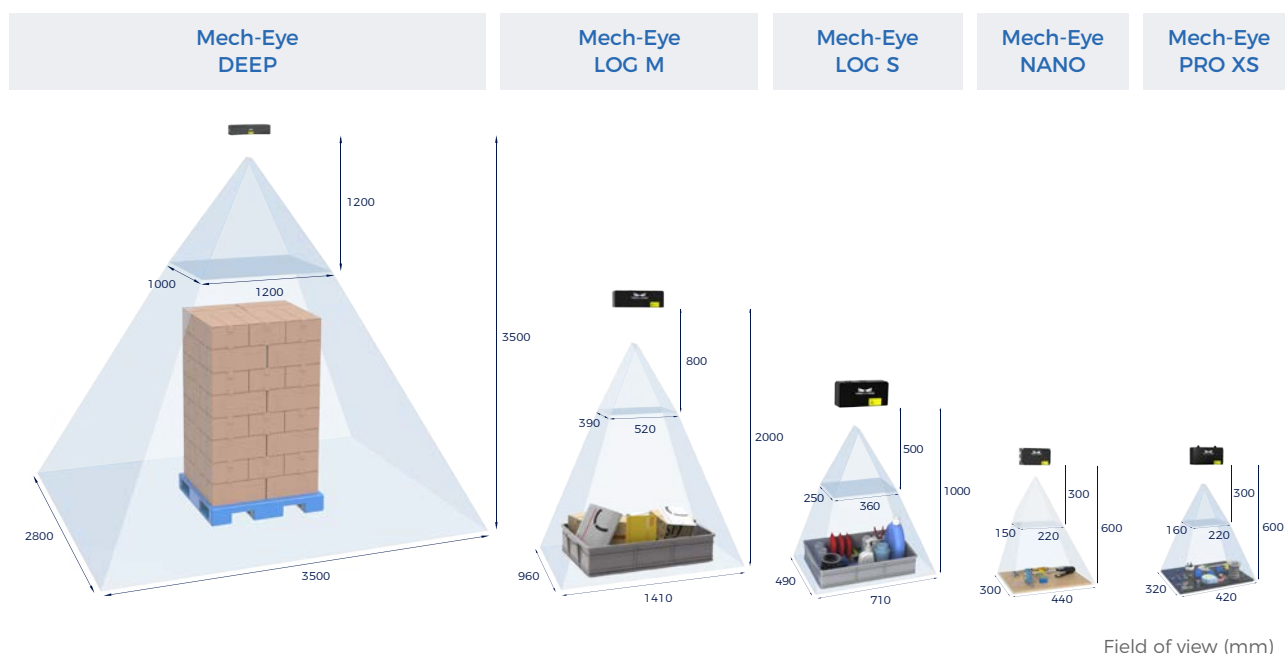
[2] One standard deviation of 100 measurements of the difference between the Z-value means of two same-sized regions. The measurement target was a ceramic plate.

[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
- MTBF (Mean Time Between Failures):  $\geq 40,000$  hours

Specification	<div>DEEP</div> <div></div>	<div>LOG M</div> <div></div>	<div>LOG S</div> <div></div>	<div>NANO</div> <div></div>	<div>PRO XS</div> <div></div>
Recommended working distance	1200-3500 mm	800-2000 mm	500-1000 mm	300-600 mm	300-600 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
Resolution	Depth map: 2048 × 1536	1280 × 1024	1280 × 1024	1280 × 1024	1280 × 1024
	RGB: 2000 × 1500				
Megapixels	/	1.3 MP	1.3 MP	1.3 MP	1.3 MP
Point repeatability Z ( $\sigma$ ) <sup>[1]</sup>	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 @ 0.5 m
VDI/VDE accuracy <sup>[2]</sup>	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 @ 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	0.7-1.1 s
Baseline	Approx. 300 mm	Approx. 280 mm	Approx. 150 mm	Approx. 68 mm	Approx. 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. 0.8 kg
Light source	Red Laser (638 nm, Class 2)	White LED (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	Other high-performance 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	
Safety and EMC	CE/FCC/VCCI/UKCA/KC/ISED/NRTL	CE/FCC/VCCI		CE/FCC/VCCI/UKCA/KC/ISED/NRTL	CE/FCC/VCCI
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.

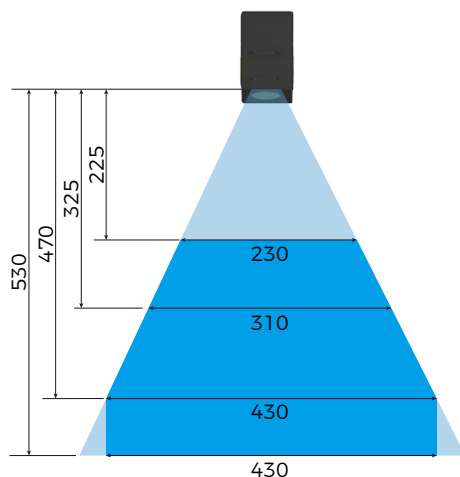
[2] According to VDI/VDE 2634 Part II.

# Mech-Eye 3D Laser Profiler LNX-8000 Series

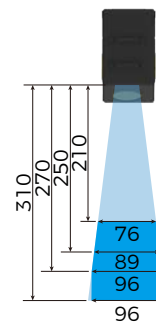
For high-resolution industrial measurement and inspection applications.

Specification	LNX-8300	LNX-8080	LNX-8030
Data points/profile	4096		
Reference distance (RD)	325 mm	250 mm	78 mm
Measurement range Z	305 mm	100 mm	30 mm
Measurement range X	230/310/430 mm	76/89/96 mm	33/35/37 mm
Resolution X	105 µm	235 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. 133 × 61 × 102 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)
Lens inclination	19°	22°	30°
Input voltage	24V DC		
Max. input power	48W (25W for sensor head)		
Communication interface	Gigabit Ethernet		
Encoder input	Single-ended and differential encoders supported		
Operating temperature	0–45° C		
Safety and EMC	CE/FCC/VCCI/KC/ISED/NRTL		
IP rating	IP67		
Cooling	Passive		

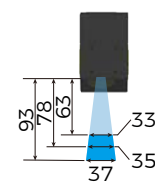
Mech-Eye  
LNX-8300



Mech-Eye  
LNX-8080



Mech-Eye  
LNX-8030



Field of view (mm)

# Industrial 3D Camera

## Mech-Eye LSR L

Long-Range Working Distance



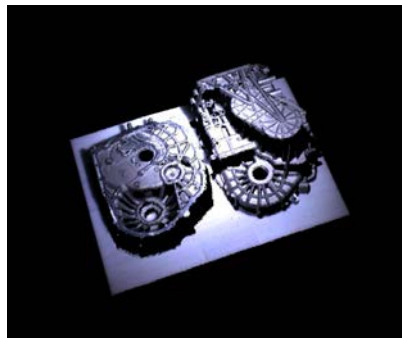
MTBF (Mean Time Between Failures):  $\geq 40,000$  hours

High Accuracy | Large FOV | Ambient Light Resistance

The next-gen Mech-Eye LSR L 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

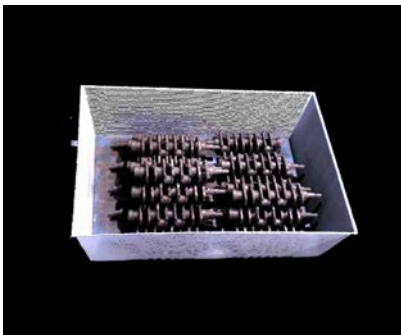


Gearbox housings

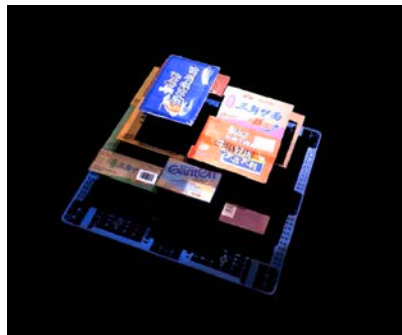


Reflective auto seat side panels

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

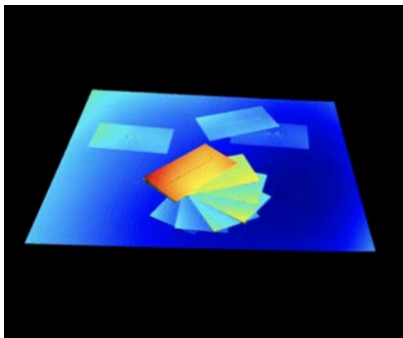
Medium-Range Working Distance



MTBF (Mean Time Between Failures):  $\geq 40,000$  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.



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  $> 20,000$  lx\*



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

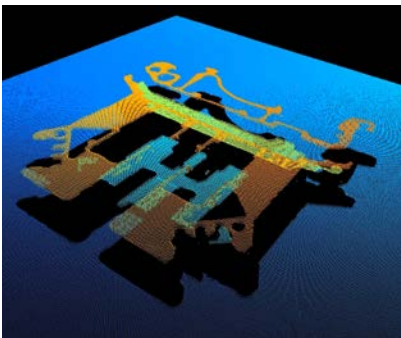
Short-Range Working Distance



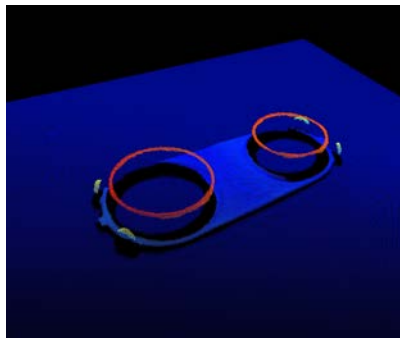
MTBF (Mean Time Between Failures): **≥ 40,000 hours**

Ultra-Small Size | High Accuracy | Ambient Light Resistance

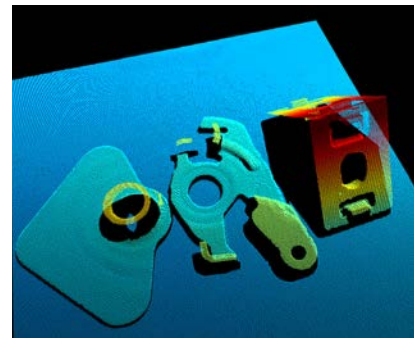
Mech-Eye NANO (accuracy: 0.1 mm @ 0.5 m) can create 3D data of most complex parts with extraordinarily high accuracy. In space-critical applications, Mech-Eye NANO is easy to install and shows outstanding flexibility thanks to its ultra-small size (145 × 85 × 51 mm).



Precision component

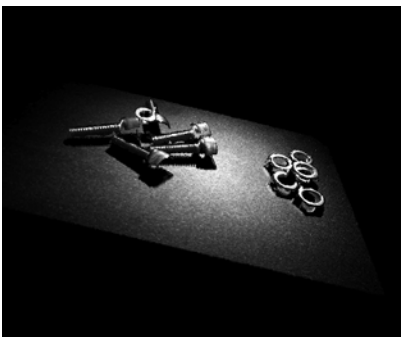


Thin objects  
(only 0.6 mm thick)



Various small workpieces

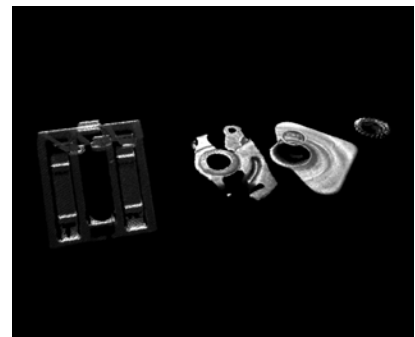
Point cloud examples captured by Mech-Eye NANO



Screws and nuts



Car charging port



Small parts

Point cloud examples captured by Mech-Eye NANO



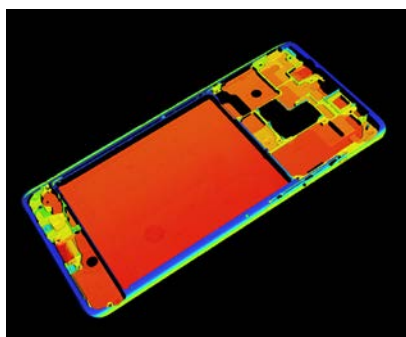
# 3D Laser Profiler

## Mech-Eye LNx-8000 Series

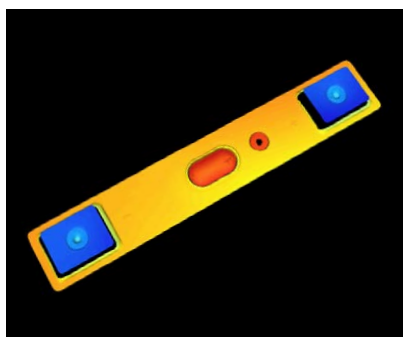


- 4K resolution for high-resolution inspection and measurement
- Scan rate up to 15 kHz to deliver accurate 3D data at a faster speed
- Single-shot HDR to scan dark and reflective surfaces in one exposure

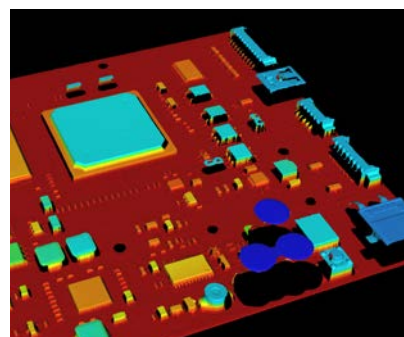
For high-precision measurement and inspection in industries such as consumer electronics, EV battery, and automotive.



Smartphone housing



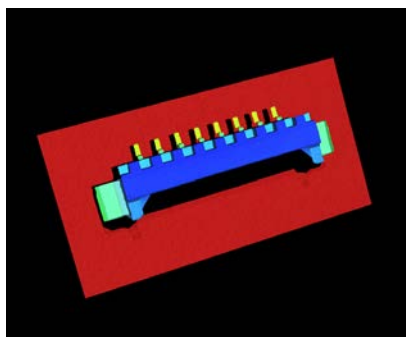
Lithium-ion battery cell



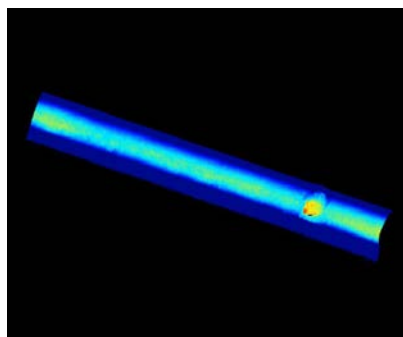
Circuit board

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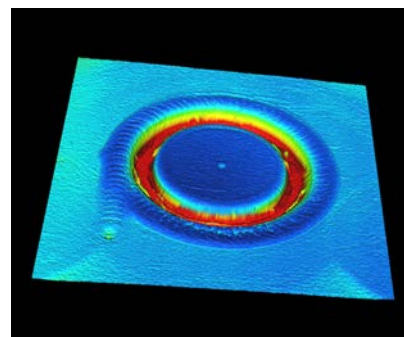
Point clouds obtained by Mech-Eye LNX-8080, color rendered by height



Connector



Weld crater



Battery sealing pin

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

# Industrial 3D Camera

## Mech-Eye UHP-140

### Short-Range Working Distance

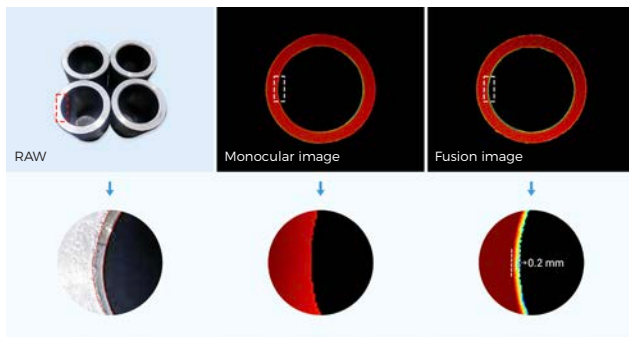


MTBF (Mean Time Between Failures)  $\geq$  40,000 hours

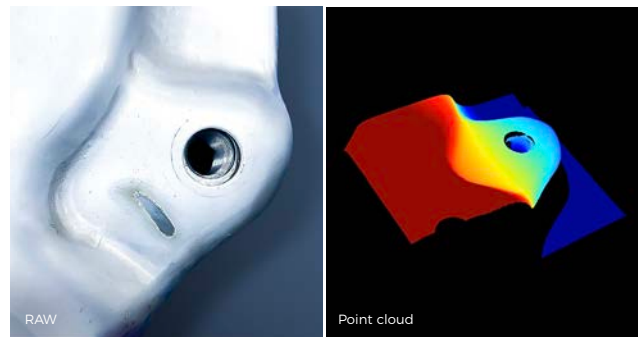
Micron-Level Accuracy | Robust Anti-Reflection Performance | Advanced Image Stitching Algorithms

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.

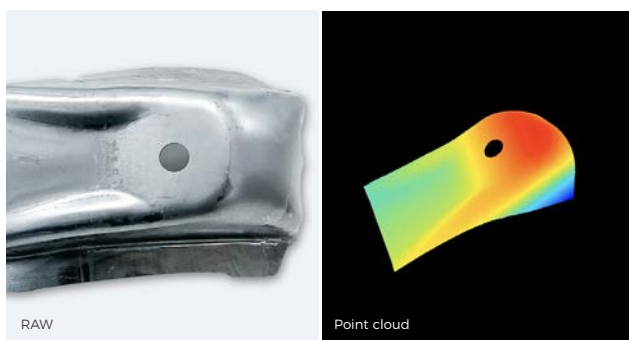


Round positioning hole with chamfered edges

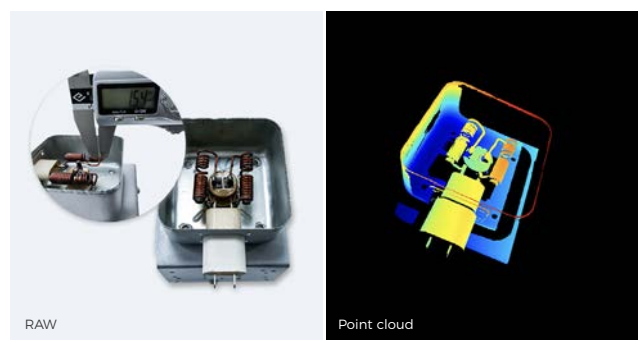


Threaded hole

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



Reflective curved sheet metal part



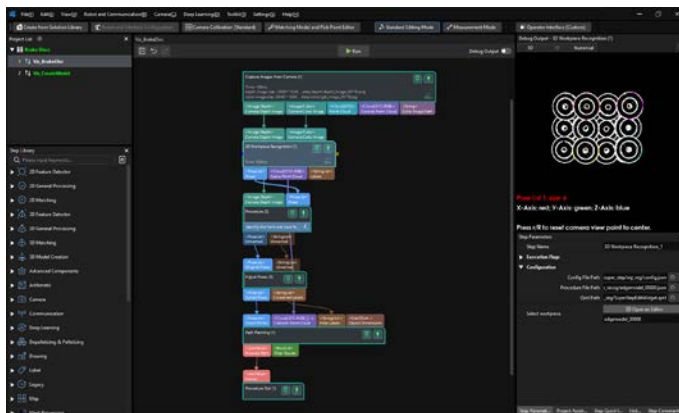
Reflective enameled copper wire with a diameter of about 1.5 mm

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

# Mech-Vision

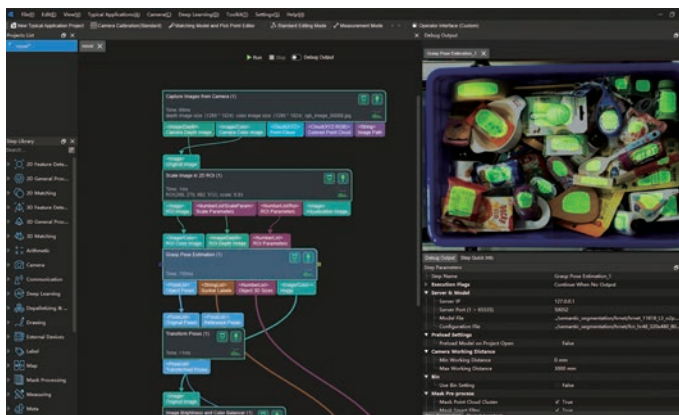
## Machine Vision Software

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 & measurement, etc.



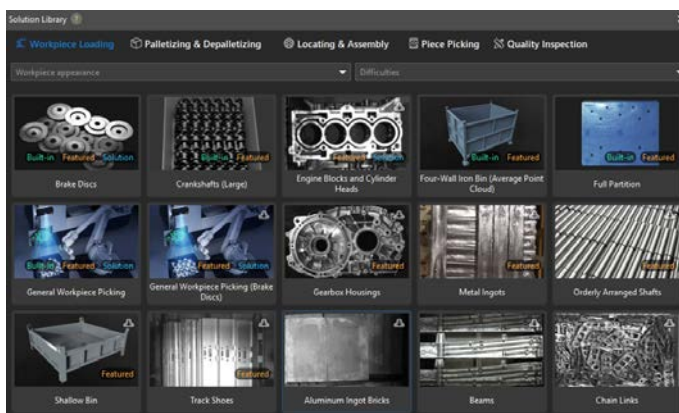
### Build your vision applications efficiently

- Intuitive solution-oriented graphical user interface
- Drag-and-drop programming simplifies setup without writing a line of code
- Visualized 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.
- The **3D Workpiece Recognition** tool delivers recognition results in 1 sec, enabling easier and faster deployment of various loading and handling applications



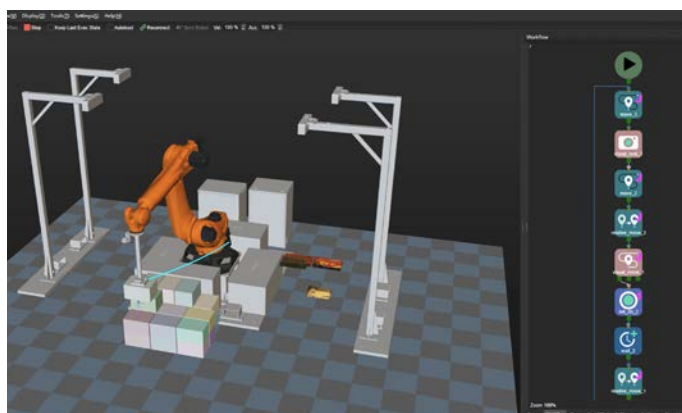
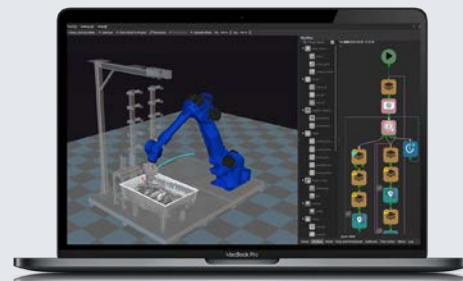
### Develop vision applications easily and flexibly

- 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

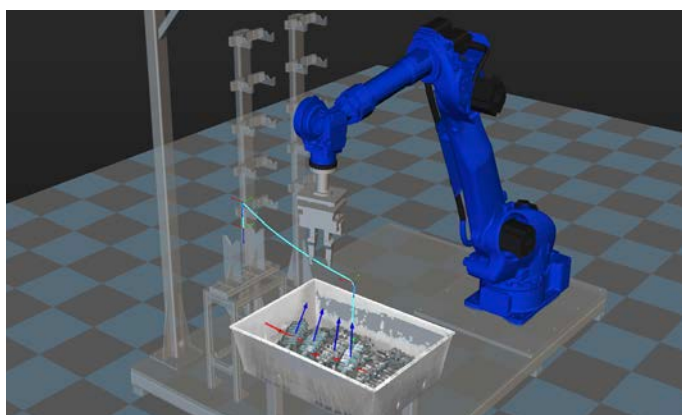
## Robot Programming Software

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 Operation

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

ABB	KUKA	YASKAWA	FANUC	Kawasaki
NACHI	DENSO	UNIVERSAL ROBOTS	STÄUBLI	EFORT
GREE	ROKAE	ELITE ROBOTS	BEI TIAN ROBOTICS	TM ROBOT
ESTUN ROBOTICS	TURIN	AUBO	DOBOT	QJAR
HAN'S ROBOT	HYUNDAI	JAKA	SIASUN	DELTA

### Flexible and Easy Implementation

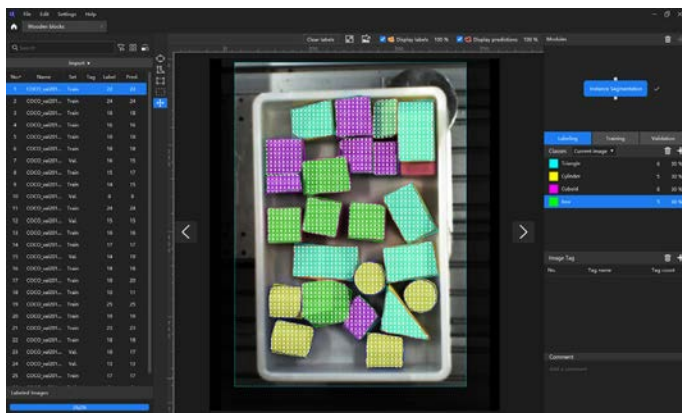
- Support for almost all major-brand robots
- Provides robot path reporting and tracking to reduce debugging complexity and time significantly
- Multiple languages: English, Japanese, Chinese, and Korean



# Mech-DLK

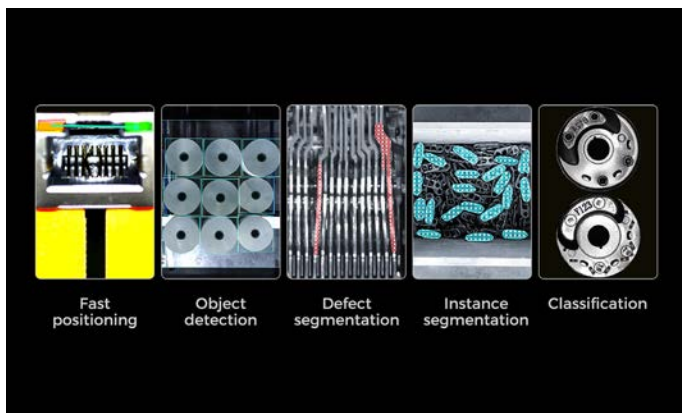
## Deep Learning Software

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, 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

- 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#, 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**

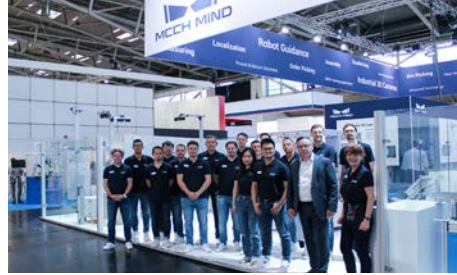
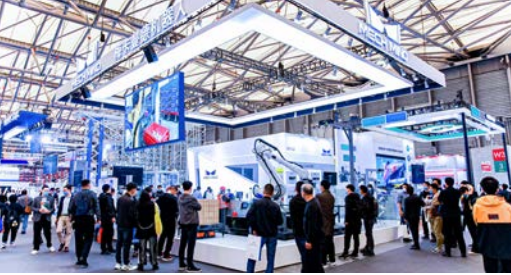


**Subframe Inline  
Measurement**



**Vision-Guided  
Car Door Inner Panel Picking**





## About Mech-Mind

Mech-Mind is an industry-leading company focusing on industrial 3D sensors and software suites 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**.

### 10,000+ Cameras Deployed for 1,500+ Global Customers

Mech-Mind partnered with industry-leading companies and has deployed applications in **50+** regions. By delivering cutting-edge technology and reliable solutions, Mech-Mind has created visible ROI for **1,500+** global customers across diverse industries, including **automotive, construction machinery, logistics, home appliances, food and beverage, etc.**

**10,000+ cameras**  
installed worldwide

**1,500+**  
customers

**700+**  
employees

**50+**  
regions

#### Customers and Partners



#### Compatible with Major Robot Brands



## 3D VISION & AI FOR ROBOTS AND MORE

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Mech-Mind Robotics Technologies Ltd.

Website: [www.mech-mind.com](http://www.mech-mind.com)

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