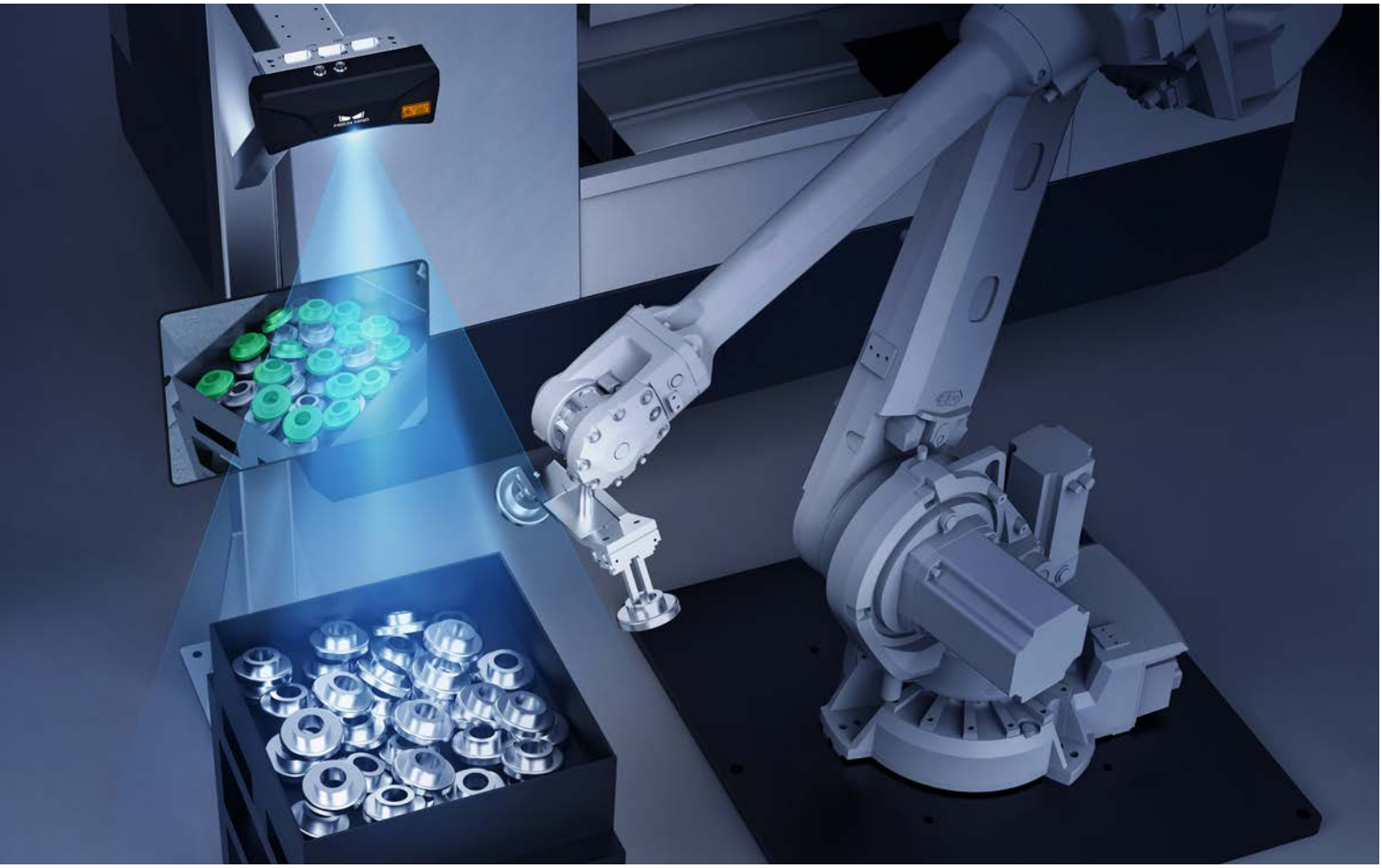
MECH MIND



3D Vision & AI for Robots and More

Mech-Mind Robotics Product Catalog

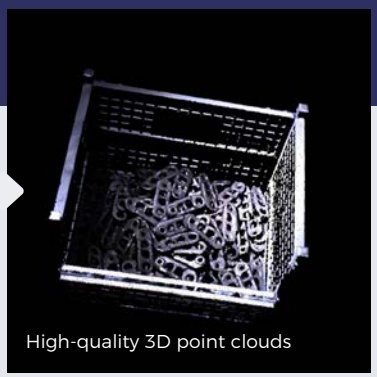
Mech-Eye Industrial 3D Cameras
Mech-Vision Machine Vision Software
Mech-DLK Deep Learning Software
Mech-Viz Robot Programming Software

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 Cameras

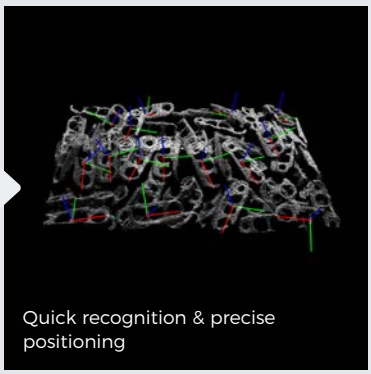
- High accuracy
- Fast scanning speed
- Robust ambient light resistance
- IP65 protection & vibration resistance & thermal stability
- Multiple model options



High-quality 3D point clouds

Mech-Vision
Machine Vision Software

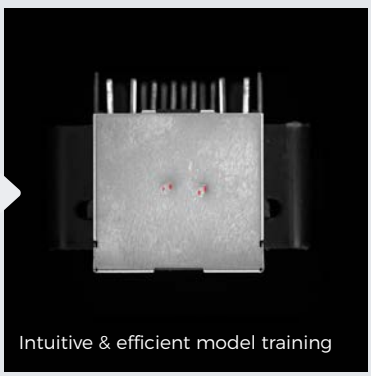
- Code-free graphical user interface
- Multiple application templates
- Easy integration
- Various vision tools integrated



Quick recognition & precise positioning

Mech-DLK
Deep Learning Software

- Intuitive graphical user interface
- Visualized model validation
- Fast training and easy integration



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

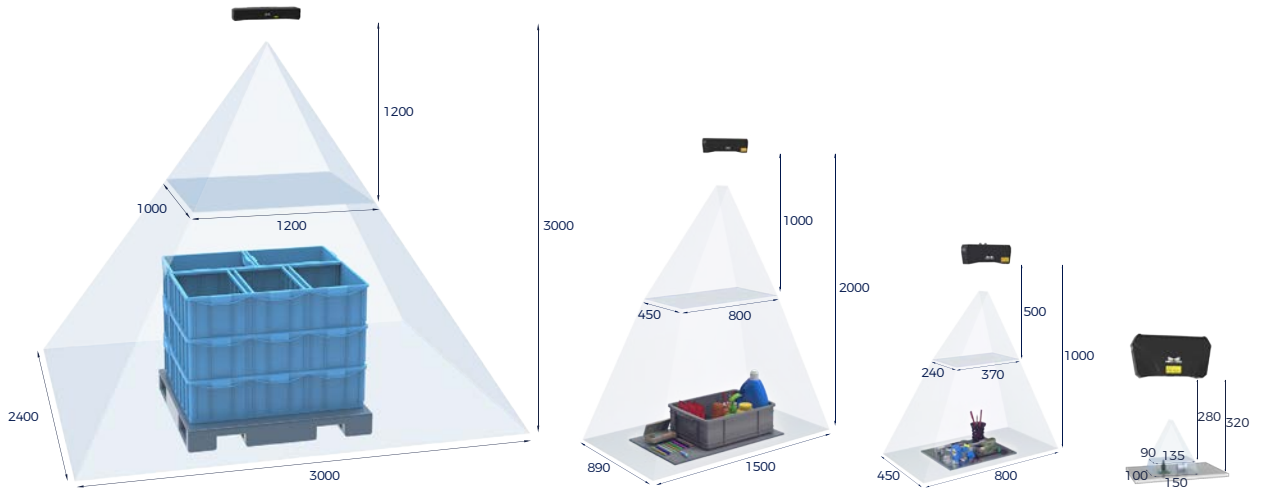
Robot accomplishes complex tasks

Mech-Eye Industrial 3D Cameras

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

Specification	LSR L 	PRO M 	PRO S 	UHP-140 
Optimal working distance (mm)	1200–3000	1000–2000	500–1000	300 ± 20
Near FOV (mm)	1200 × 1000 @ 1.2 m	800 × 450 @ 1.0 m	370 × 240 @ 0.5 m	135 × 90 @ 0.28 m
Far FOV (mm)	3000 × 2400 @ 3.0 m	1500 × 890 @ 2.0 m	800 × 450 @ 1.0 m	150 × 100 @ 0.32 m
Resolution	2048 × 1536 (depth resolution) 4000 × 3000/2000 × 1500 (RGB)	1920 × 1200	1920 × 1200	2048 × 1536
Megapixels (MP)	3.0	2.3	2.3	3.0
*Point repeatability Z (σ)	0.5 mm @ 3.0 m	0.2 mm @ 2.0 m	0.05 mm @ 1.0 m	2.6 μm @ 0.3 m **Region: 0.09 μm @ 0.3 m
***VDI/VDE accuracy	1.0 mm @ 3.0 m	0.2 mm @ 2.0 m	0.1 mm @ 1.0 m	0.03 mm @ 0.3 m
Typical capture time (s)	0.5–0.9	0.3–0.6	0.3–0.6	0.6–0.9
Baseline (mm)	380	270	180	80
Dimensions (mm)	459 × 77 × 86	353 × 57 × 100	265 × 57 × 100	260 × 65 × 142
Weight (kg)	2.9	1.9	1.6	1.9
Light source	Red laser (638 nm, Class 2)	Blue LED (459 nm, RG2)		
Image sensor	Sony CMOS for high-end machine vision			
Operating temperature (°C)	-10–45	0–45		
Communication interface	Gigabit ethernet			
Input	24V DC, 3.75 A			
Safety and EMC	CE/FCC/VCCI			
IP rating	IP65			
Cooling	Passive			

Mech-Eye LSR L	Mech-Eye PRO M	Mech-Eye PRO S	Mech-Eye UHP-140



Field of view (mm)

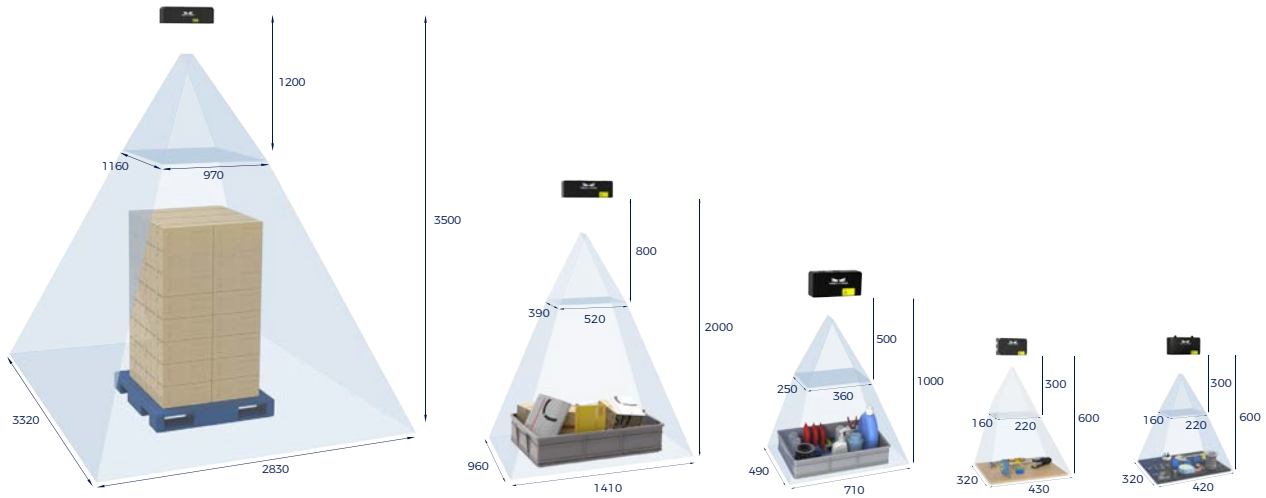
*The standard deviation of the single point Z value for 100 measurements. The measurement target is a ceramic plate.
**The standard deviation of the difference of the average Z value in two local regions for 100 measurements. The measurement target is a ceramic plate.
***Standard: VDI/VDE 2634 Part II.

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	DEEP	LOG M	LOG S	NANO	PRO XS
Optimal working distance (mm)	1200–3500	800–2000	500–1000	300–600	300–600
Near FOV (mm)	970 × 1160 @ 1.2 m	520 × 390 @ 0.8 m	360 × 250 @ 0.5 m	220 × 160 @ 0.3 m	220 × 160 @ 0.3 m
Far FOV (mm)	2830 × 3320 @ 3.5 m	1410 × 960 @ 2.0 m	710 × 490 @ 1.0 m	430 × 320 @ 0.6 m	420 × 320 @ 0.6 m
Resolution	2048 × 1536	1280 × 1024	1280 × 1024	1280 × 1024	1280 × 1024
Megapixels (MP)	3.0	1.3	1.3	1.3	1.3
*Point repeatability Z (σ)	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	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 (s)	0.7–1.1	0.3–0.5	0.3–0.5	0.6–1.1	0.7–1.1
Baseline (mm)	400	280	150	68	93
Dimensions (mm)	481 × 98 × 145	387 × 72 × 130	270 × 72 × 130	145 × 51 × 85	160 × 52 × 87
Weight (kg)	4.3	2.4	2.2	0.7	0.8
Light source	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			
Operating temperature (°C)	0–45				
Communication interface	Gigabit ethernet				
Input	24V DC, 3.75 A			24V DC, 1.5 A	
Safety and EMC	CE/FCC/VCCI				
IP rating	IP65				
Cooling	Passive				

Mech-Eye DEEP	Mech-Eye LOG M	Mech-Eye LOG S	Mech-Eye NANO	Mech-Eye PRO XS



Field of view (mm)

*The standard deviation of the single-point Z values from 100 measurements. The measurement target is a ceramic plate.
**Standard: VDI/VDE 2634 Part II.

Industrial 3D Camera

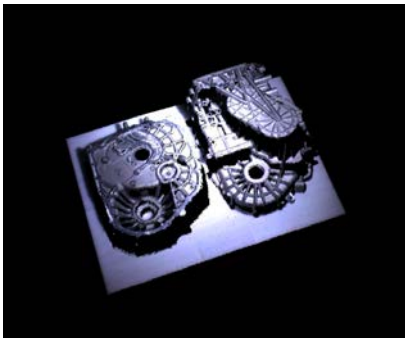
Mech-Eye LSR

Long-Range Working Distance

High Accuracy | Large FOV | Ambient Light Resistance

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

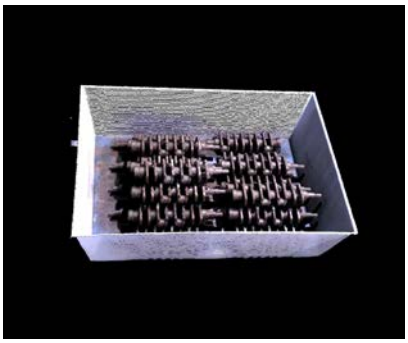
Track links



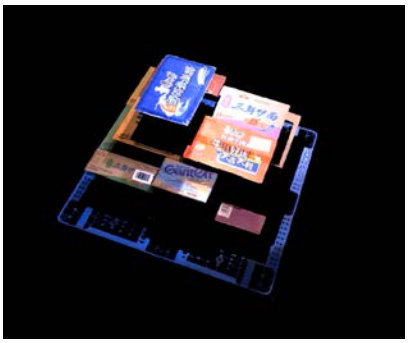
Gearbox housings

Reflective auto seat side panels

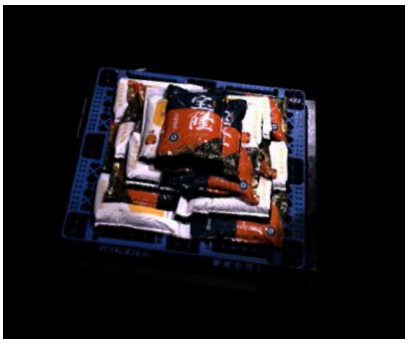
Point clouds captured by Mech-Eye LSR L under challenging light conditions of > 30,000 lx @ 2.0 m



Crankshafts



Colored cartons



Colored sacks

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

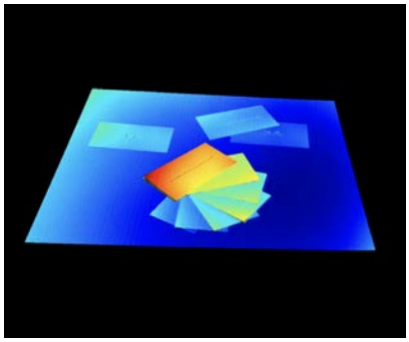
Industrial 3D Camera

Mech-Eye PRO

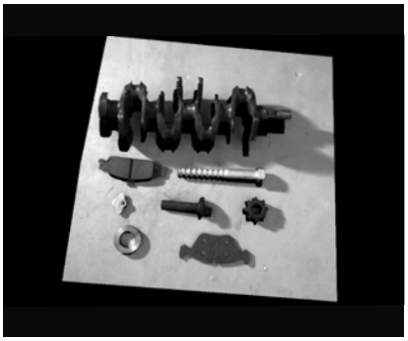
Medium-Range Working Distance

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

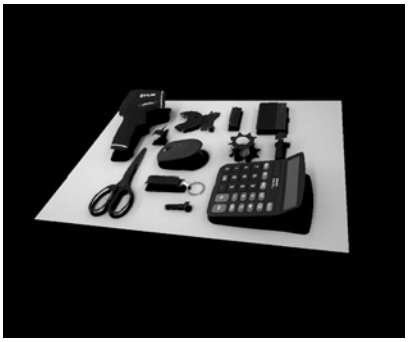
Mech-Eye PRO delivers an extraordinary level of detail with super high accuracy. Capturing point clouds with accurate details takes as low as 0.3 s.



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

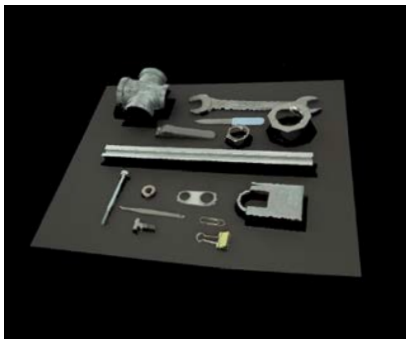


Metal parts
Mech-Eye PRO M @ 2.0 m



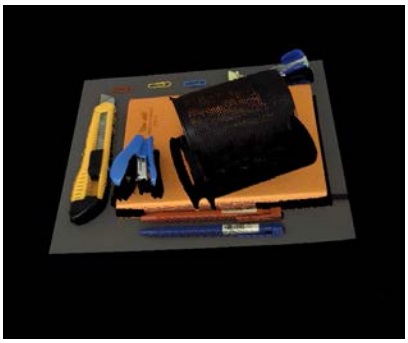
Dark objects
Mech-Eye PRO S @ 0.8 m

Point clouds captured under light conditions of > 20,000 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

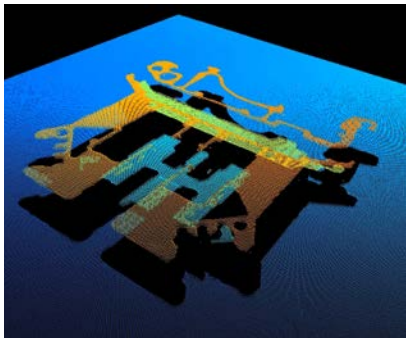
Mech-Eye NANO

Short-Range Working Distance

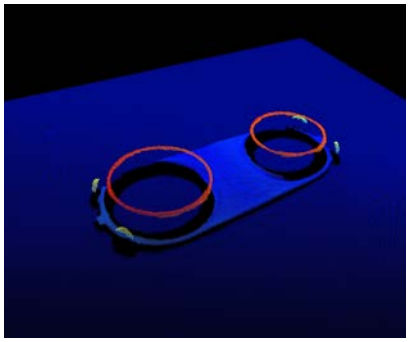
Ultra-Small Size | High Accuracy | Ambient Light Resistance

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

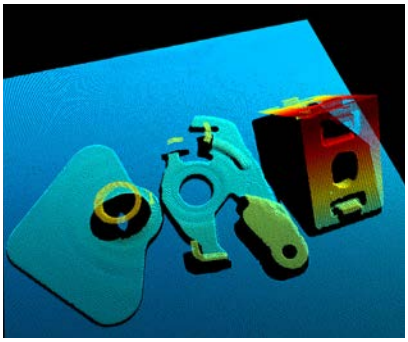
In space-critical applications, Mech-Eye NANO is easy to install and shows outstanding flexibility thanks to its ultra-small size (145 × 85 × 51mm).



Precision component



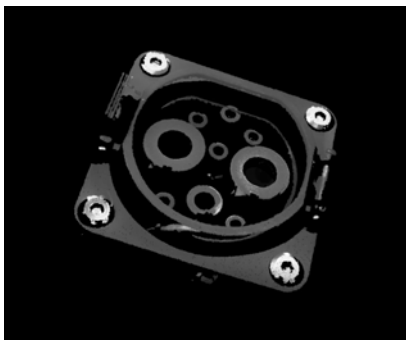
Thin objects
(only 0.6 mm thick)



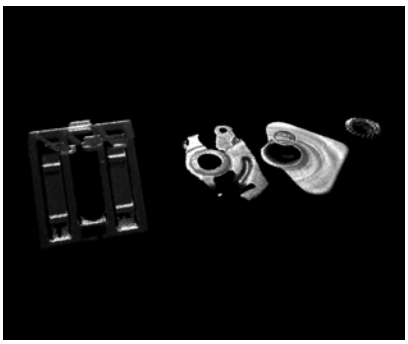
Various small workpieces

Point cloud examples captured by Mech-Eye NANO

Screws and nuts



Car charging port



Small parts

Point cloud examples captured by Mech-Eye NANO

Industrial 3D Camera

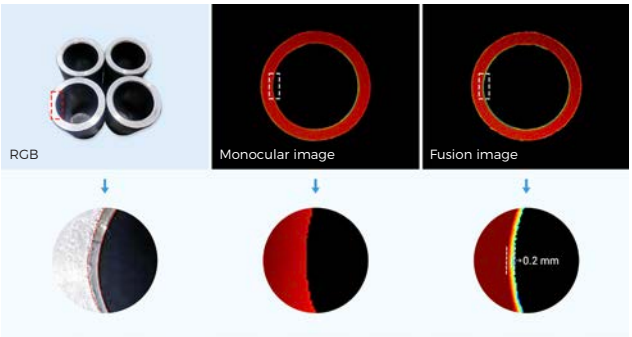
Mech-Eye UHP-140

Short-Range Working Distance

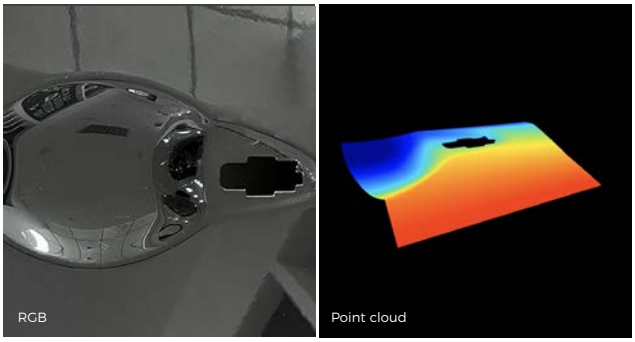
Micron-Level Accuracy | Robust Anti-Reflection Performance | Advanced Image Fusion Algorithms

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.

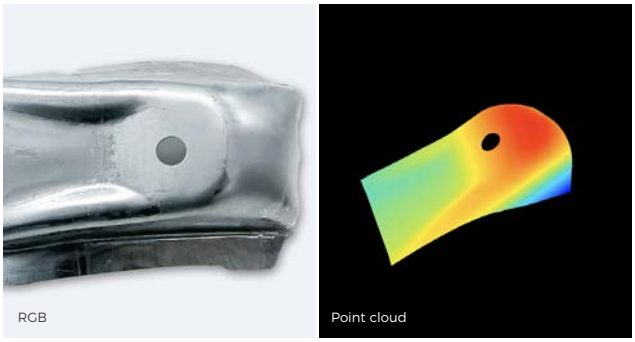


Round positioning hole with chamfer

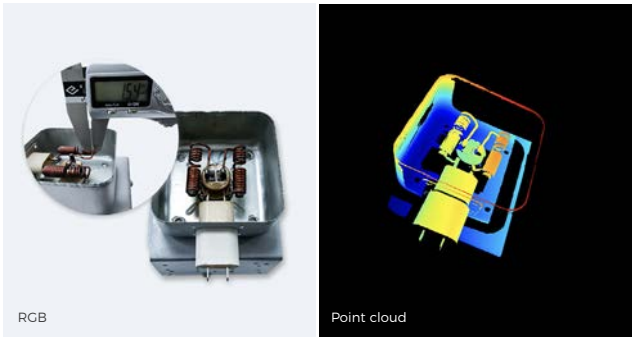


High brightness dented lacquered auto door; the handle position may easily scatter light

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-Eye Industrial 3D Cameras

Mech-Eye industrial 3D cameras can produce high-quality 3D data of various objects such as cartons, sacks, metal parts, express parcels, etc.

Tightly-packed cartons with patterns and tapes



Tightly-packed sacks with patterns



Randomly-placed metal parts (e.g. rotors, crankshafts, engine rodes)



Various consumer goods



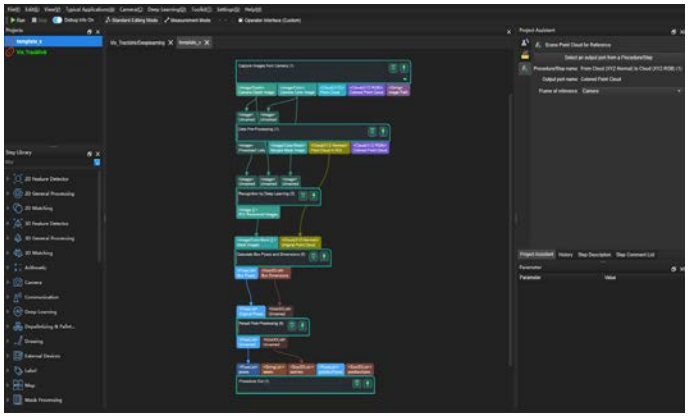
Randomly-placed parcels and packages



Mech-Vision

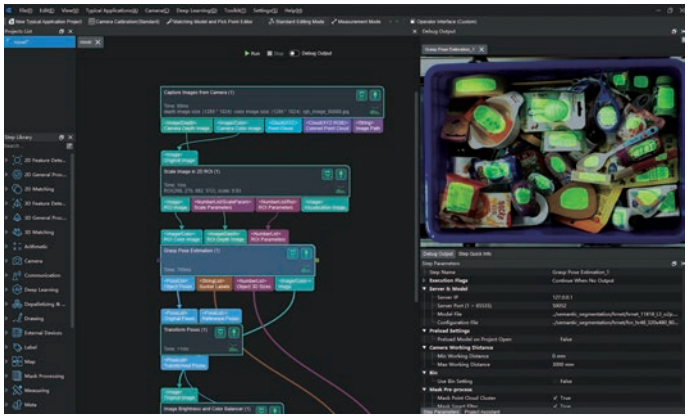
Machine Vision Software

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.



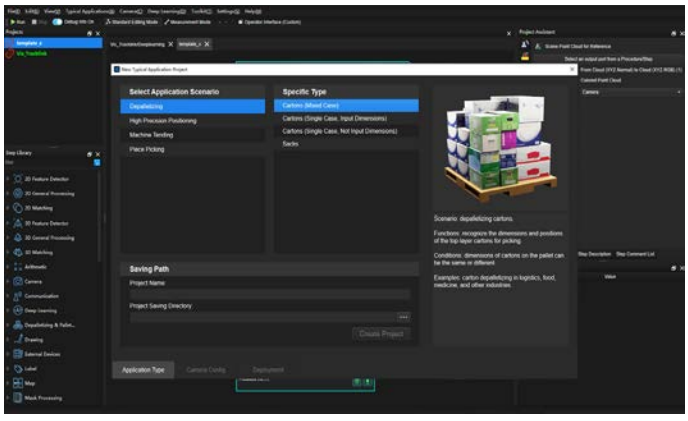
Build your vision applications efficiently

- Intuitive graphical user interface
- Code-free programming
- Visualized debugging



Manage complex vision applications with extensive tools

- Powerful algorithms: model matching, deep learning, etc.
- Integrated machine vision tools: point cloud editing, automatic calibration, etc.
- Multiple application templates: random bin picking, depalletizing, registration-free item picking, parcel induction, gluing, etc.



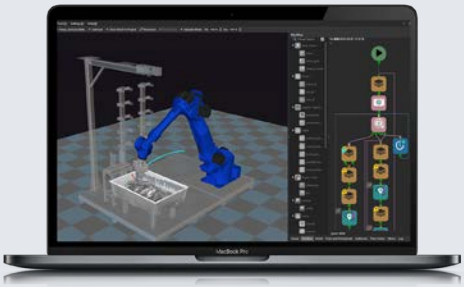
Develop vision applications easily and flexibly

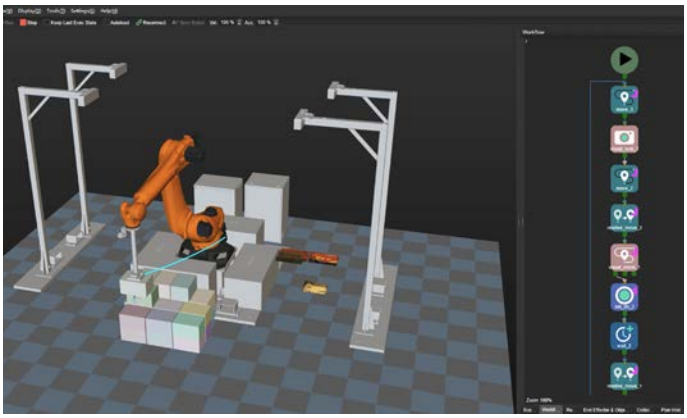
- Support for embedded scripting, customization, and system integration
- Multiple languages: English, Japanese, Chinese, and Korean

Mech-Viz

Robot Programming Software

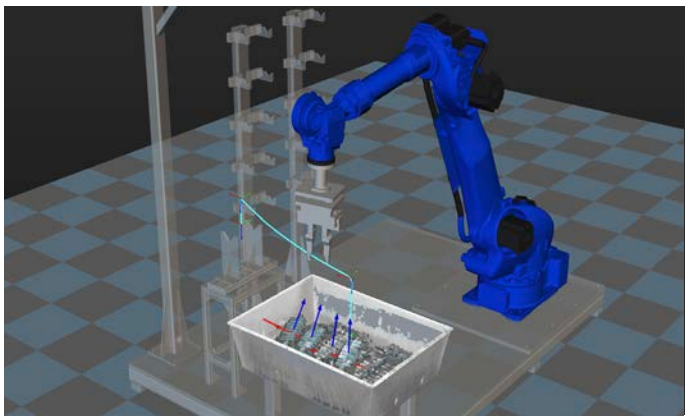
Mech-Viz is a software product for efficiently implementing robotic applications without writing a line of code. Mech-Viz enables robots to manage demanding automation tasks with excellent stability, extraordinary flexibility, and outstanding consistency.





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.

ABB KUKA YASKAWA FANUC Kawasaki
NACHI DENSO UNIVERSAL ROBOTS STÄUBLI EFORT
GREE ROKAE ELITE ROBOTS PEITIAN ROBOTICS TM ROBOT
ESTUN ROBOTICS TURIN AUBO DOBOT QJAR
HANS ROBOT HYUNDAI JAKA SIASUN DELTA

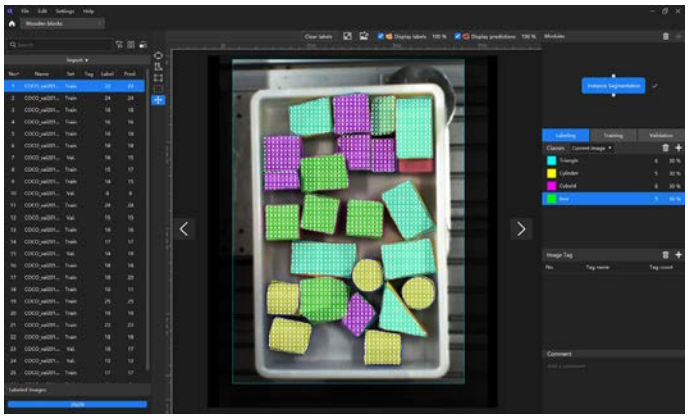
Flexible and Easy Implementation

- Support for almost all major-brand robots
- Multiple languages: English, Japanese, Chinese, and Korean

Mech-DLK

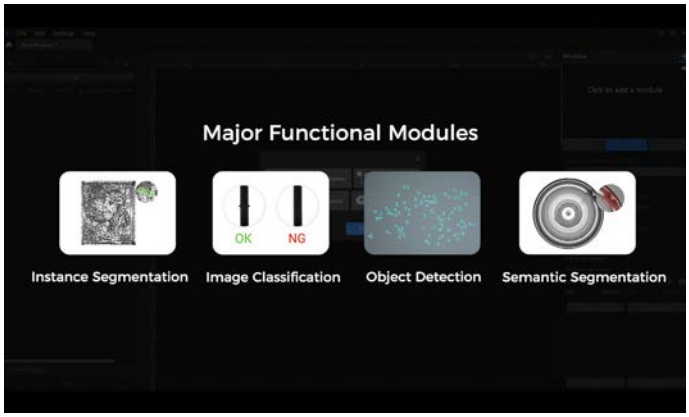
Deep Learning Software

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



Manage complex machine vision tasks with advanced algorithms

- Semantic segmentation: defect detection
- Image classification: presence & absence detection, front & back detection, etc.
- Object detection: labeling, counting, etc.
- Instance segmentation: high-accuracy positioning and classification

Integrate your vision tasks into your production environment easily

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

Example Cases

In Logistics & Construction Machinery Industries

Scan QR code
to watch videos

Vision-Guided
Case Depalletizing

Vision-Guided
Case and Tote Depalletizing

Vision-Guided Random Bin Picking

Vision-Guided
Sack Depalletizing

Vision-Guided
Machine Tending of Drive Gears

Vision-Guided
Grease Applying for Swing Bearings

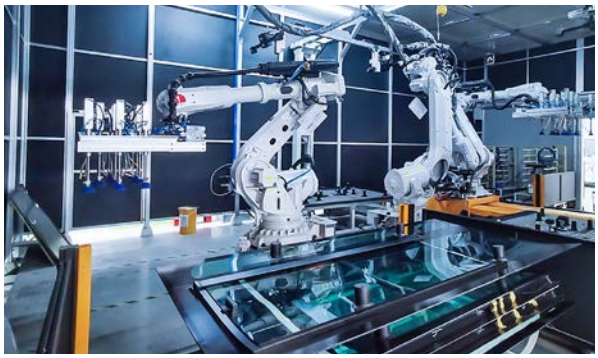
Example Cases

In Automotive & Manufacturing Industries

Scan QR code to watch videos

Vision-Guided EV Charging

Vision-Guided Bin Picking of CV Joints

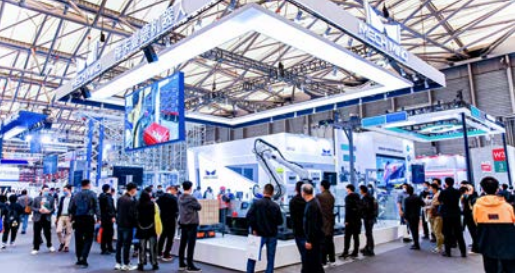


Vision-Guided Window Glass Gluing

Vision-Guided Car Door Inner Panel Picking

Vision-Guided Bin Picking of AC Foot Pads

Vision-Guided Gluing of Seat Backs





About Mech-Mind

Mech-Mind is an industry-leading company focusing on industrial 3D cameras 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 top global investors including **Sequoia Capital and Intel**, Mech-Mind has been one of the highest-funded AI + robotics companies all over the world.

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**.

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.

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.**

3000+	1000+	700+	50+
applications	customers	employees	regions

Customers and Partners

Compatible with Major-Brand Robots

3D VISION & AI FOR ROBOTS AND MORE

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