

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

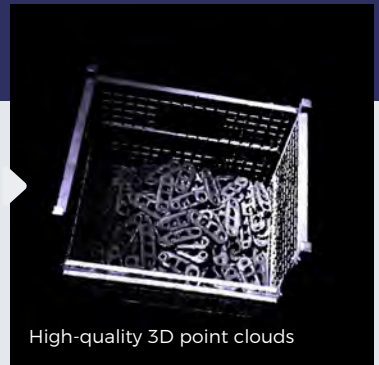
# AI + 3D Industrial Automation Solution

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

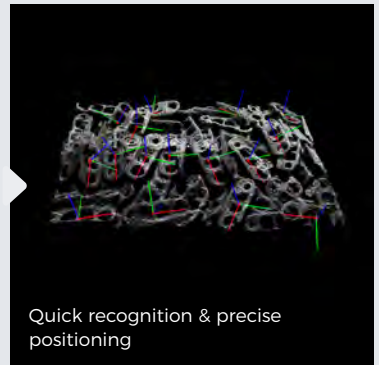


High-quality 3D point clouds



## 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

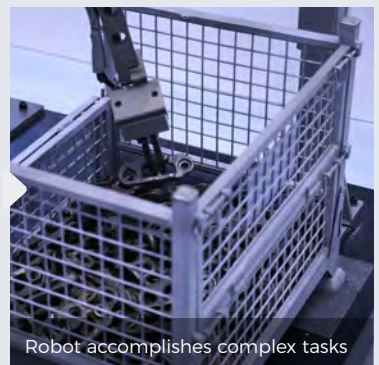


Intuitive & efficient model training



## 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

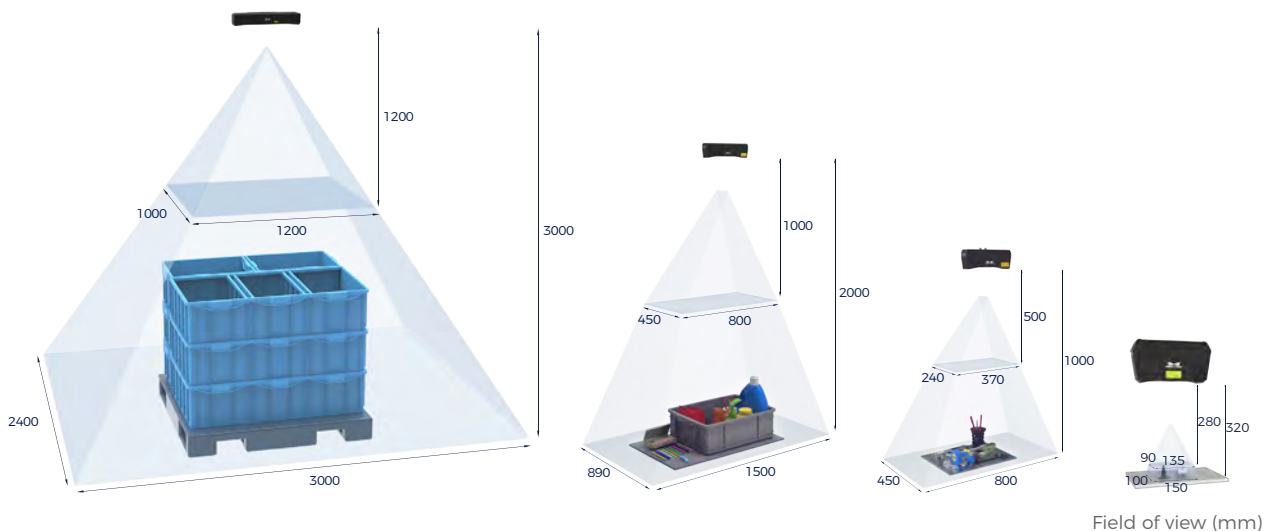
Specification	LSR L	PRO M	PRO S	UHP-140
Optimal working distance (mm)	1200-3000	1000-2000	500-1000	300 ± 20
Near FOV (mm)	1200 × 1000 @ 1.2 m	800 × 450 @ 1.0 m	370 × 240 @ 0.5 m	135 × 90 @ 0.28 m
Far FOV (mm)	3000 × 2400 @ 3.0 m	1500 × 890 @ 2.0 m	800 × 450 @ 1.0 m	150 × 100 @ 0.32 m
Resolution	2048 × 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**



\*The standard deviation of the single point Z value for 100 measurements. The measurement target is a ceramic plate.

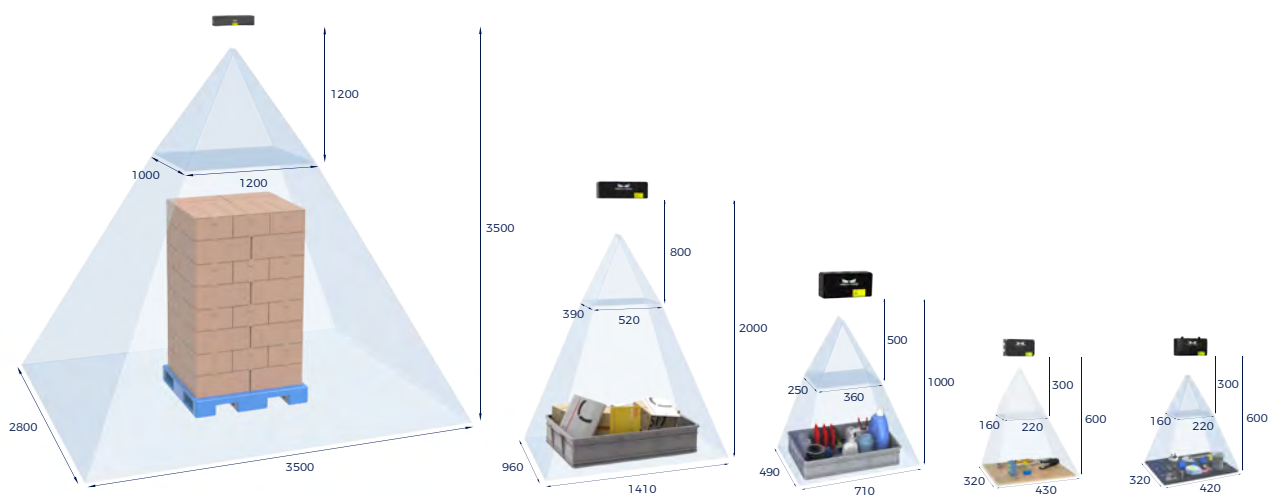
\*\*The standard deviation of the difference of the average Z value in two local regions for 100 measurements. The measurement target is a ceramic plate.

\*\*\*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)	1200 x 1000 @ 1.2 m	520 x 390 @ 0.8 m	360 x 250 @ 0.5 m	220 x 160 @ 0.3 m	220 x 160 @ 0.3 m
Far FOV (mm)	3500 x 2800 @ 3.5 m	1410 x 960 @ 2.0 m	710 x 490 @ 1.0 m	430 x 320 @ 0.6 m	420 x 320 @ 0.6 m
Resolution	2048 x 1536	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 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)	0.5-0.9	0.3-0.5	0.3-0.5	0.6-1.1	0.7-1.1
Baseline (mm)	300	280	150	68	93
Dimensions (mm)	366 x 77 x 92	387 x 72 x 130	270 x 72 x 130	145 x 51 x 85	160 x 52 x 87
Weight (kg)	2.4	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)	-10-45	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				



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

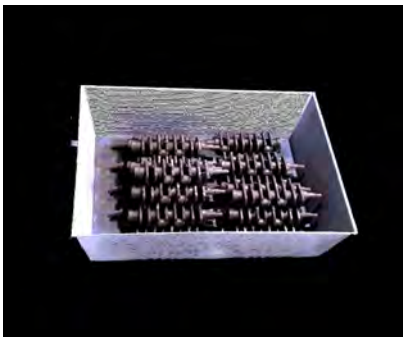


Gearbox housings

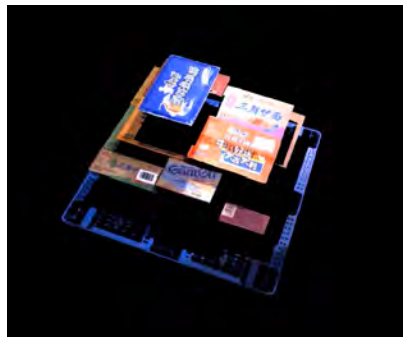


Reflective auto seat side panels

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



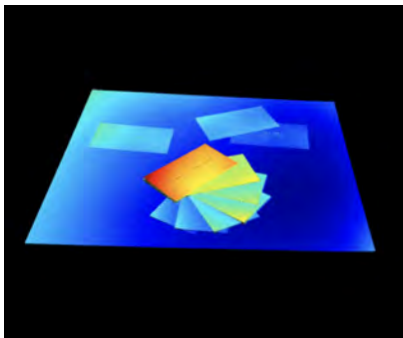
# Industrial 3D Camera Mech-Eye PRO

## 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

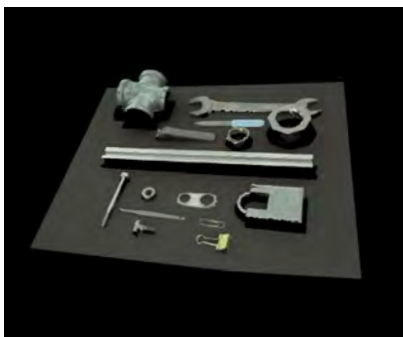


Metal parts  
Mech-Eye PRO M @ 2.0 m



Dark objects  
Mech-Eye PRO S @ 0.8 m

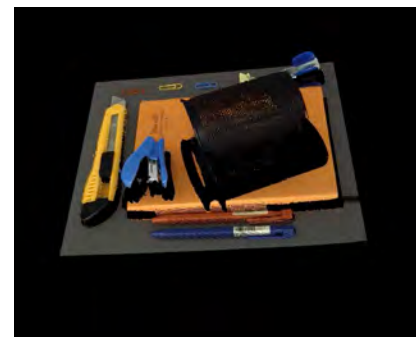
Point clouds captured under light conditions of > 20,000 lx\*



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

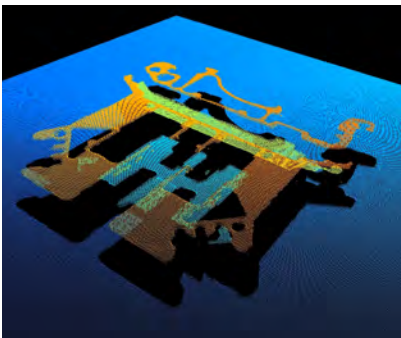
## Mech-Eye NANO

Short-Range Working Distance

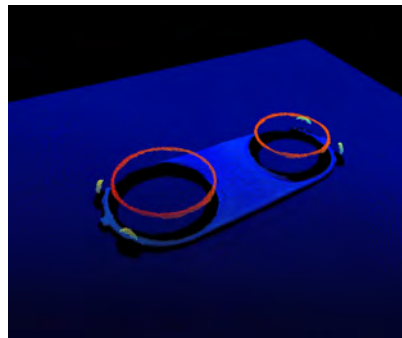


Ultra-Small Size | High Accuracy | Ambient Light Resistance

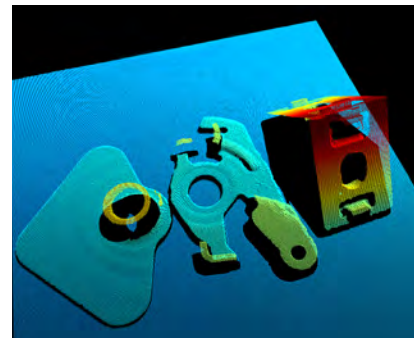
Mech-Eye NANO (accuracy: 0.1 mm @ 0.5 m) can create 3D data of most complex parts with extraordinarily high accuracy. In space-critical applications, Mech-Eye NANO is easy to install and shows outstanding flexibility thanks to its ultra-small size (145 × 85 × 51 mm).



Precision component

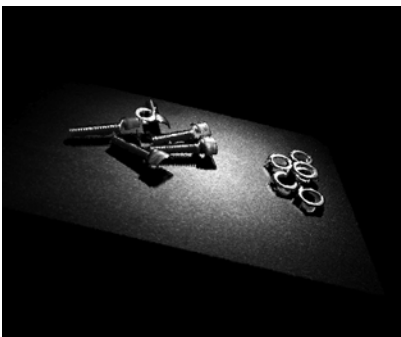


Thin objects  
(only 0.6 mm thick)



Various small workpieces

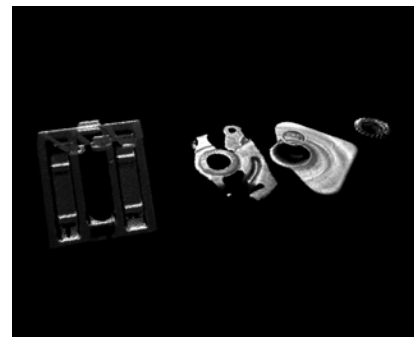
Point cloud examples captured by Mech-Eye NANO



Screws and nuts



Car charging port



Small parts

Point cloud examples captured by Mech-Eye NANO

# Industrial 3D Camera

## Mech-Eye UHP-140

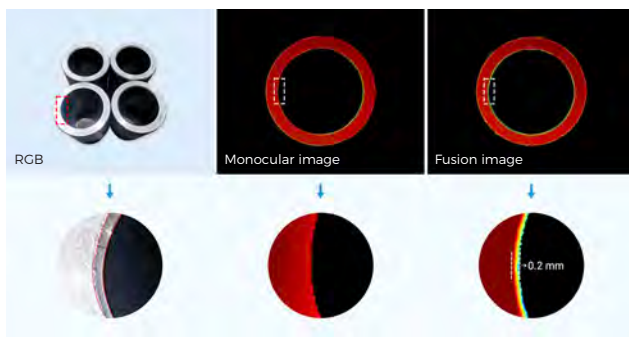
Short-Range Working Distance



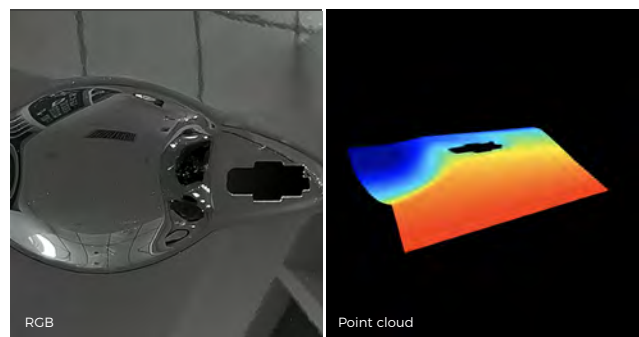
Micron-Level Accuracy | Robust Anti-Reflection Performance | Advanced Image Fusion Algorithms

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.

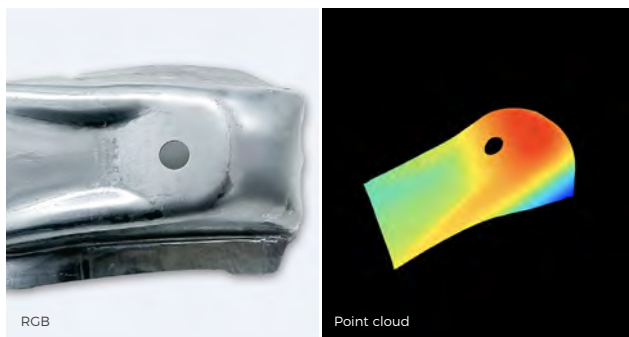


Round positioning hole with chamfer

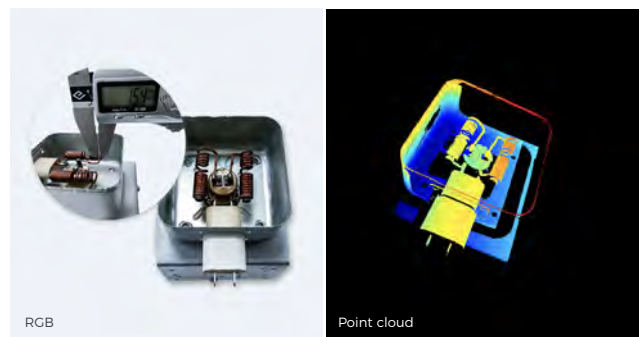


High brightness dented lacquered auto door; the handle position may easily scatter light

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 rods)



Various consumer goods



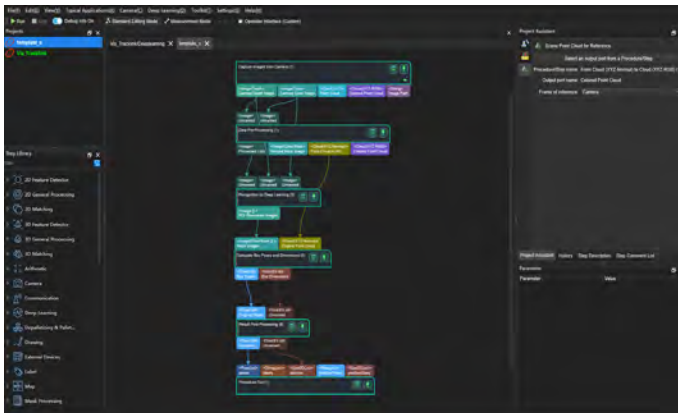
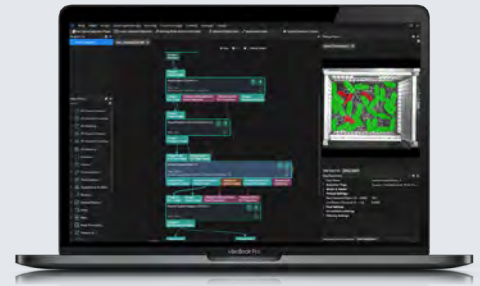
Randomly-placed parcels and packages



# Mech-Vision

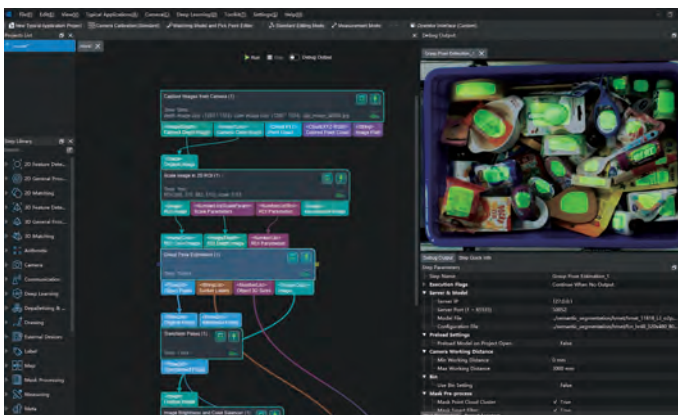
## Machine Vision Software

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.



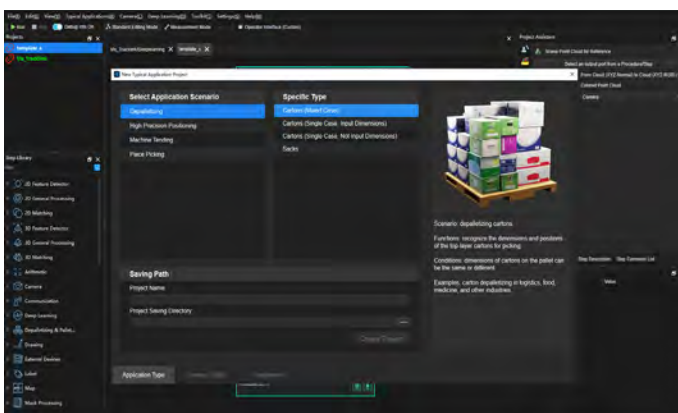
### Build your vision applications efficiently

- 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.



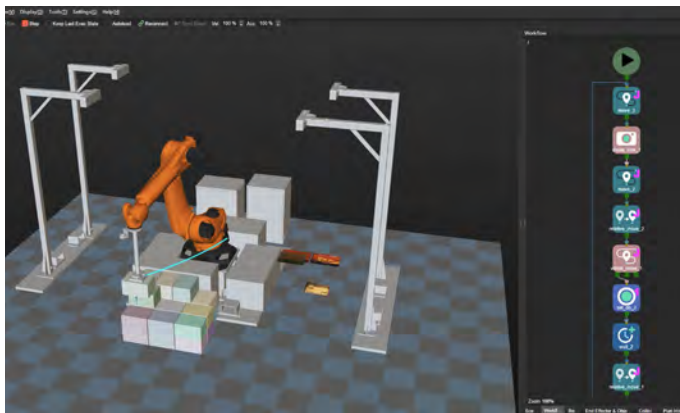
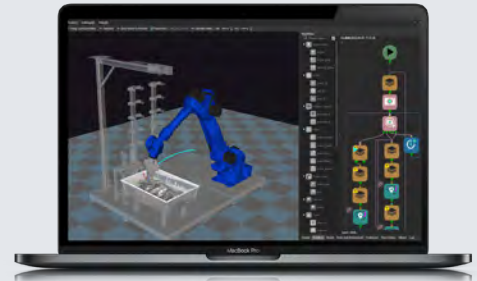
### Develop vision applications easily and flexibly

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

# Mech-Viz

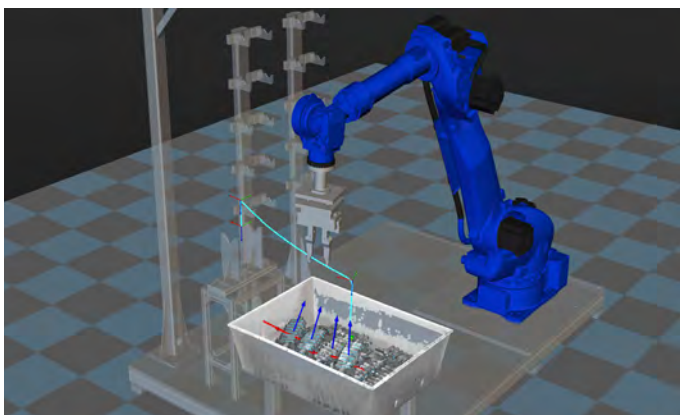
## Robot Programming Software

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.



### Flexible and Easy Implementation

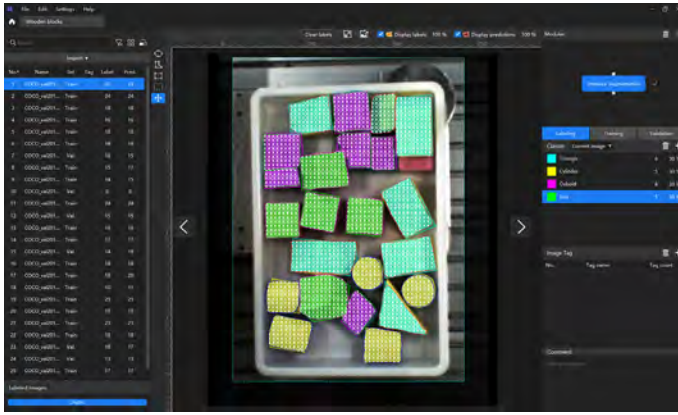
- Support for almost all major-brand robots
- Multiple languages: English, Japanese, Chinese, and Korean



# Mech-DLK

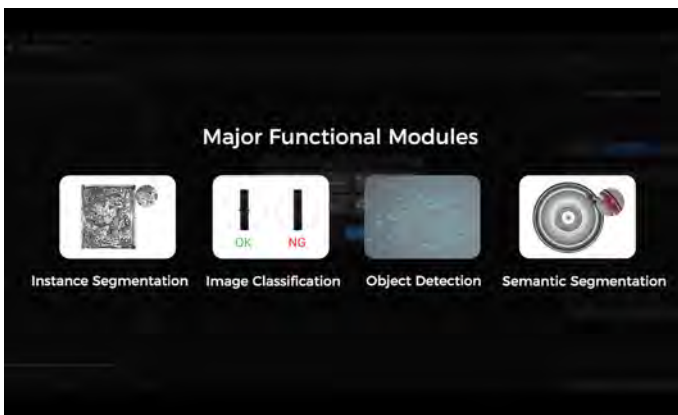
## Deep Learning Software

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**



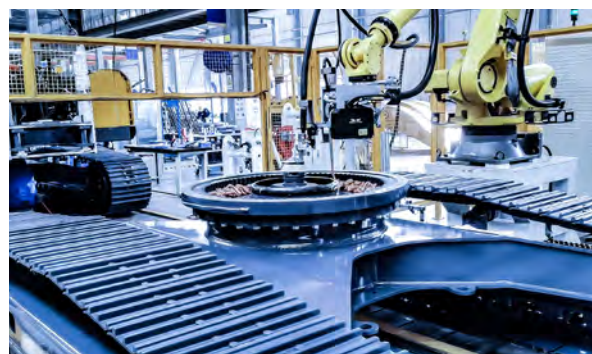
**Vision-Guided Random Bin Picking**



**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**



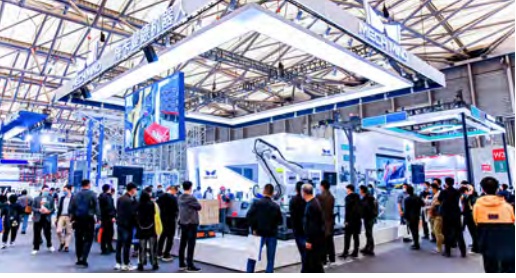
**Vision-Guided  
Car Door Inner Panel Picking**



**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+ applications

1000+ customers

700+ employees

50+ regions

#### Customers and Partners



#### Compatible with Major-Brand Robots





**3D VISION & AI FOR ROBOTS AND MORE**

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