DAIHEN

Almega Friendly series

INTRODUCTION OF INDUSTRIAL ROBOTS

Provide automation know-how with application flexibility

Highly flexible industrial robots for many factory-floor applications

Complete lineup of industrial robots to meet all of your factory floor applications!

Small and Light Payload Robots | **Medium Payload Robots** | **7-Axis Robots** | **High Accuracy Ro**

	S3	H5	NB6	NB6L	NV8	NV8L	V25	NB4S	NB4LS	NV6S	NV6LS	NV20S	A20
Model													
Max. Reach	943	866	1445	2008	1437	2006	1710	1435	2008	1427	2006	1710	1664
Payload Capacity	3	5	6	6	8	8	25	4	4	6	6	20	20

DAIHEN leverages our robot technology across the manufacturing facility to produce our DAIHEN industrial robots

H5, B6,B6L, V8, V8L, V25, V50
V6S, V6LS, V20S

PRESS TRANSFER

V8, V8L, V6S, V6L

PLASMA CUTTING

AUTONOMOUS GUIDELESS TRANSFER

High-Accuracy Robot A20

LASER CUTTING

V25, V50

INSPECTION

PICKING

H5, B6, B6L, V8, V8L, V25, V50
V6S, V6LS, V20S, V80, V100, V130

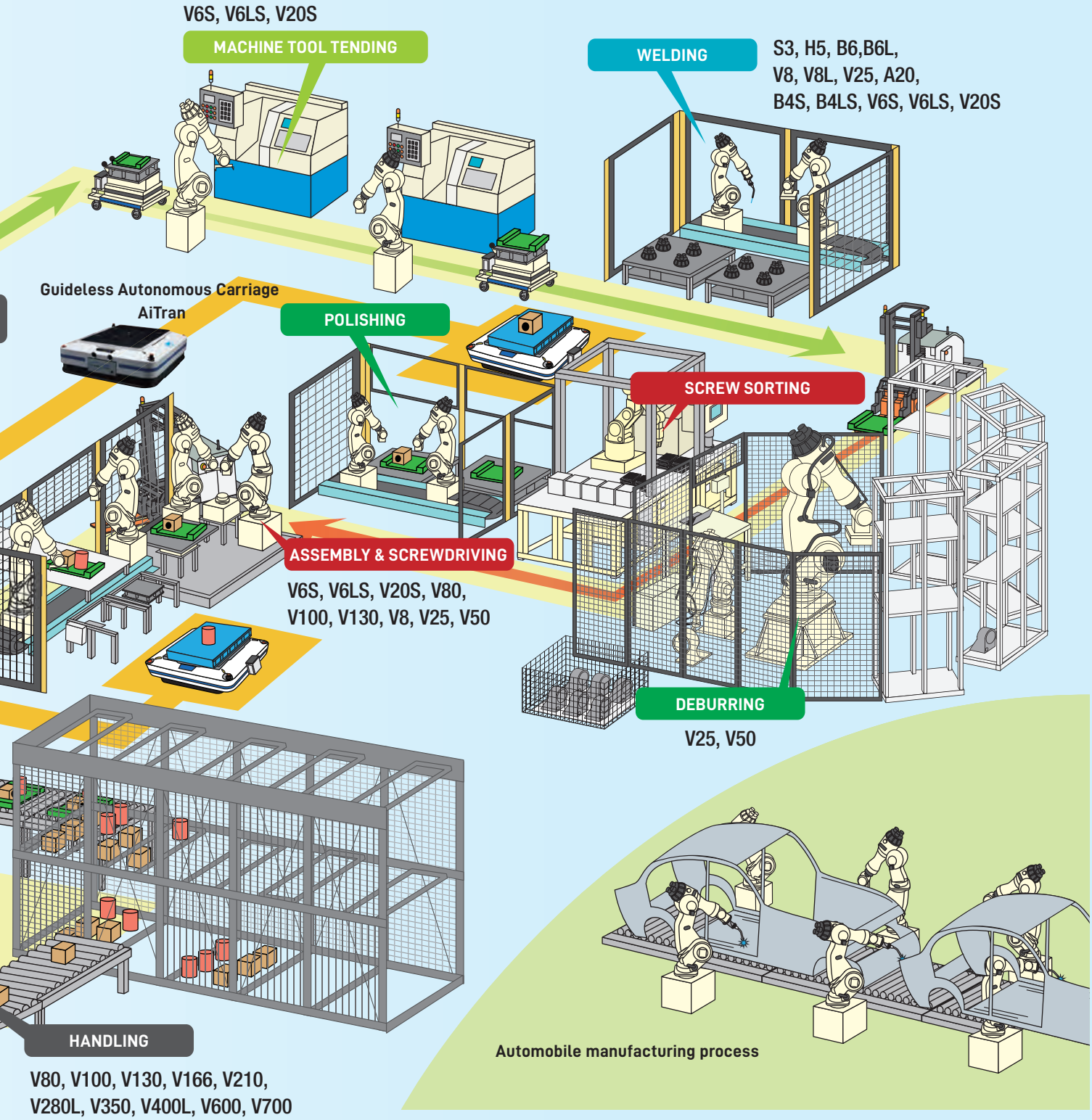
bot

High Payload Robots

NV50	NV80	NV100	NV130	NV166	NV210
2050	2500	2236	2139	2654	2674
50	80	100	130	166	210

Heavy Payload Robots

NV280L	NV350	NV400L	NV600	NV700	
3101	2771	3756	2890	2890	(mm)
280	350	400	600	700	(kg)



Extensive robot applications for a variety of processes

ACCEPTANCE, SHIPMENT, AND INSPECTION

This makes it possible to reduce the labor and labor required to sort parts, workpieces, products, etc. and pick them up.

3D VISUAL SENSOR

Picking

2D VISUAL SENSOR

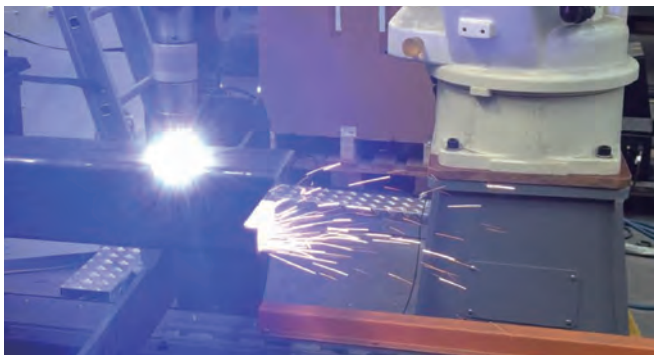
Palletizing system

Conveyor tracking and handling

CUTTING

Metal cutting prior to assembly and welding.

Laser cutting

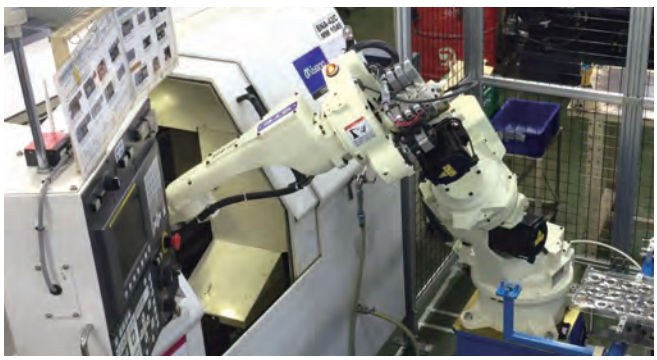


Plasma cutting

PRESS TRANSFER AND MACHINE TOOL TENDING

Part handling between operations and load/unload of machines.

Transfer between presses



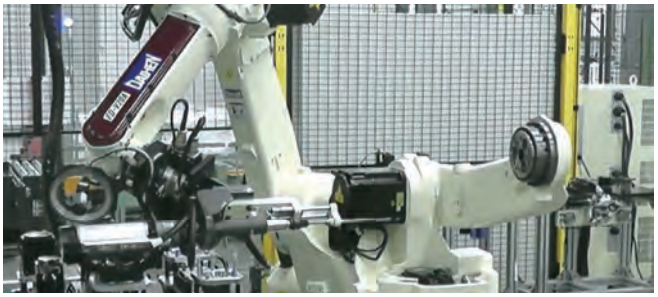
Machinery loading/unloading

ASSEMBLY

By combining tools and robots, accurate and stable work can be realized.

Fitting

Sealant dispensing

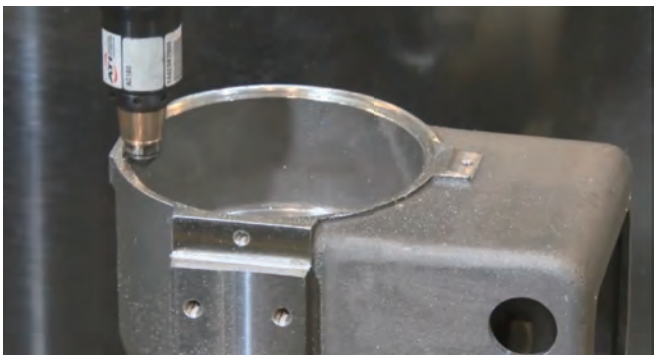


Screwdriving

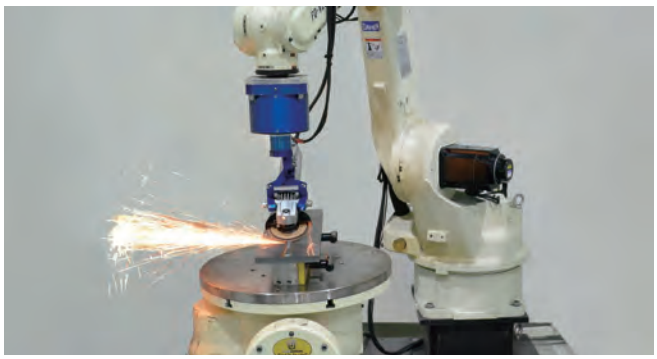
Screw sorting

FINISHING

Post machining & fabrication part finishing



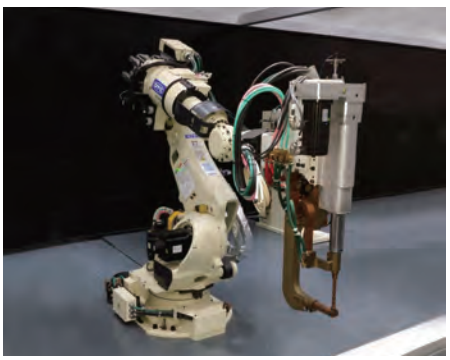
Deburring



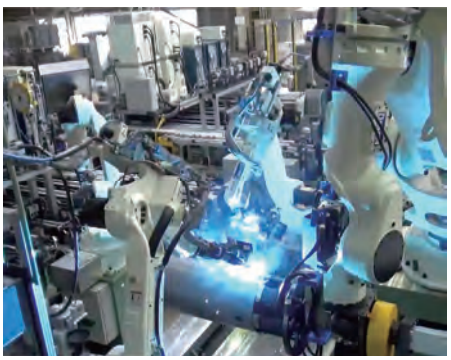
Grinding/Polishing

WELDING

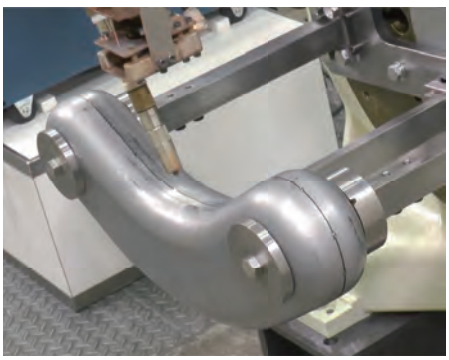
Part joining: spot (resistance) welding, pedestal welding, arc welding, TIG welding, laser-hybrid welding and plasma welding.



Spot welding



Arc welding (jigless)



Laser hybrid welding

DAIHEN automated solutions for robotizing a variety of applications

PART HANDLING

Reduce labor required to sort and handle parts, workpieces, products, etc.

Vision-guided (flat) picking (2D vision sensor)

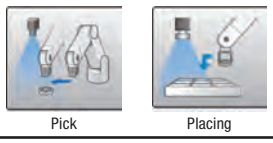
Detecting the position and angle of the workpiece with the camera ▶ Correcting the position and attitude of the robot hand ▶ Holding the member

- Picking work of workpieces laid flat on a flat surface
- Alignment work during work picking/placing
- Assembling alignment work at the time of assembling parts
- Picking off-set correction work for picked parts

Fixed camera

- Robotic operation is possible during shooting.

Arm-mounted camera



- The shooting position and angle can be changed.

The master position (picking position and orientation) can also be easily registered!

Field of View and Accuracy by Recommended Camera and Lens Combination

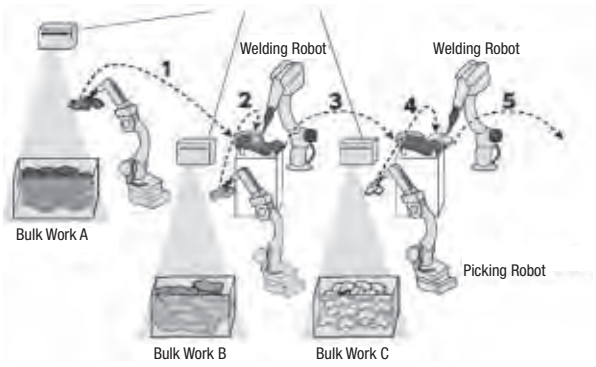
Camera	Lens focal length	Work distance	Field of view (mm)	Expected accuracy (mm)
CA-HX500M/200M/048M (5 million pixels/2 million pixels/ 470,000 pixels)	CA-LHE16G/25G/35G (16/25/35mm)	100 ～ 2000mm	7.8 ～ 1200	0.01 ～ 2.96

Vision-guided (bin/bulk) picking (3D vision sensor)

Detect the position and angle (including height) of the workpiece with the camera ▶ Correct the position and posture of the robot hand ▶ Hold the member.

- Robotization of the loading process of bulk work
- Camera with environmental resistance that can be applied to the factory automation site
- 3Accurate robotic guidance by checking with 3D CAD data

  *3D (three-dimensional) models of the workpiece are required.



Field of View and Accuracy by Recommended Camera and Lens Combination

Item	RV300	RV500	RV1100
Shooting range [mm]	500 ～ 600	800 ～ 1000	1750 ～ 2350
Measurement range [mm] Vertical × Horizontal × Height	340×340×100	540×540×200	1160×1160×600
Minimum part size [mm]	10×10	20×20	45×45
Repeating reproducibility [mm]	±0.10	±0.15	±0.50
IP Code	IP54		

*The 2D/3D sensor and the customer work are tested in advance.
*Please contact our sales representative for details on combinations other than the recommended cameras.

Conveyor tracking and handling

The robot hand can follow the moving direction and speed of the conveyor by using the conveyor synchronization function, so that picking can be performed without stopping the conveyor.

In combination with the visual sensor, the sensor can also identify workpieces that flow on the conveyor with different shapes, enabling picking by type.

Palletizing

Stacking (unstacking) are possible only by teaching the operation of loading (unloading) one work and registering the stacking method.

LINE LOADING

- Work information (size, work gap), hand grip position, overlap pattern (number of steps, total height, etc.)
- Surface pattern (order, rotation, gap intensity)

CUTTING

Automates cutting of metal materials.

Laser cutting

- Precise 3D cutting with high-trajectory precision robots
- Teach Pendant Briefly Teaches Laser Output

Plasma cutting

- Compatible with iron, zinc plate, stainless steel, aluminum, copper, and other materials
- Cut up to 60 mm

MACHINE TENDING

Support is provided for work machining by press machines and machine tools.

Press transfer

- Workpieces are automatically conveyed to the next process in conjunction with the press.

Press tending

- The robot follows the bending of the press brake.

Machine tending

- Automatic loading/unloading of workpieces in conjunction with machine tools
- Maintenance is ensured because the machine front can be opened by using a seven-axis robot.

WELDING

Select a suitable robot depending on the material and construction method.

Laser welding

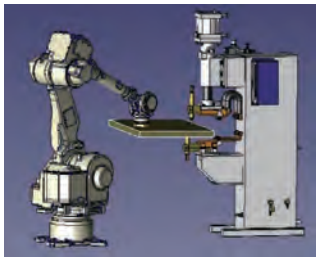
- High-speed and high-precision welding by high-trajectory precision robot
- Synchronizing robot speed and laser output to achieve high-quality welding at corners
- Teach Pendant Briefly Teaches Laser Output

Arc welding

- CO_2/MAG/MIG/TIG and other products in the lineup, stainless-steel, aluminum, plated steel, etc.
- Implementing high-quality welding with low spatter control
- Flexible response to large and small work

Spot welding (pedestal type)

Movement of work by robot automatically cooperates with welding timing.



*Stationary servo guns are also possible.

Spot welding (pinch type)

- Through servo control by the robot external axis (7th axis),
  - Rapid opening and closing of guns is possible, and tact time is shortened.
  - Achieve stable pressurization
- Welding teaching of servo guns is also possible with teach pendants.

FINISHING

The number of post-processing steps can be reduced.

Deburring/polishing/grinder

- Post-machining finishes are achieved by installing commercially available tools on robots.
- The tool changer automatically attaches the adaptation tool to each finishing point.

ASSEMBLY

By combining tools and robots, accurate and stable work can be realized.

Fitting

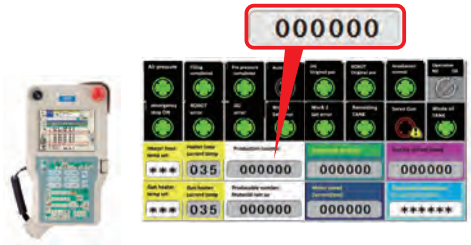
- When a gear or the like is fitted, a force sensor is used to detect the pressing torque and automatically correct the insertion angle.

Screwdriving

- Automatic fastening of screws is also possible by mounting a commercially available nut runner.

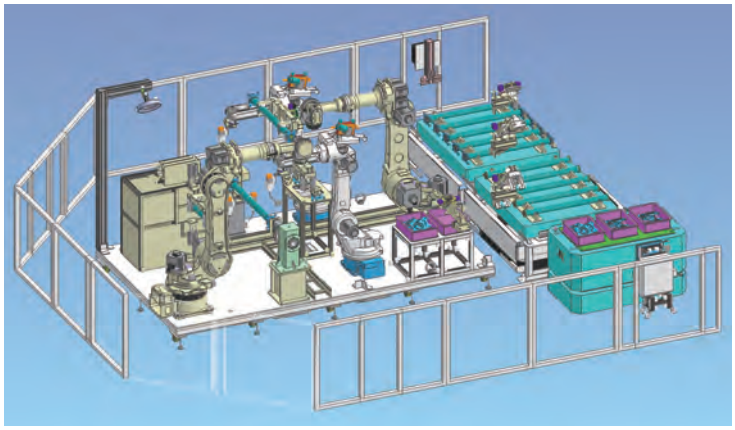
Sealant dispensing (Adhesive application)

- Synchronizing robot speed and dispenser application volume, uniform application is achieved even at corners.
- Optimal application conditions can be set with the teach pendant.



We offer a wide range of services from conceptual design to system upgrading

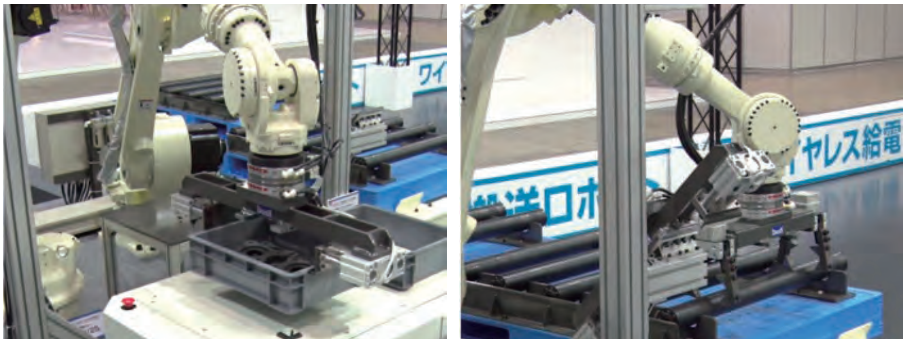
Design & Build of Automated Systems



Simulation and offline teaching FD-ST

It is possible to simulate the mounting and demounting of a workpiece.

End-of-Arm Tooling



Installation and Startup

Installation and operation of the system will be verified.

Video library

Introductory videos explaining Daihen's latest technology and products.

Bolt palletizing system

Dimension calculation and palletizing while using the small handling robot.

Screw-driving robot system

An automated system that uses a robot for everything including: picking up bolts, applying screw lock materials, and screw fastening.

Transformer casing automatic welding system

Fully automated welding system with a large handling robot and an arc welding robot.

Transformer case material handling robot

Material handling to and from the shot blasting equipment with a large handling robot.

Parts loading to the press machine

Hard labor by 4 operators is automated by robot.Productivity and safety has been improved.

In accordance with DAIHEN's policy to make continuing improvements, design and/or specifications are subject to change without notice and without any obligation on the part of manufacturer.

DAIHEN Corporation

4-1, Koyocho-nishi, Higashinada-ku, Kobe, Hyogo 658-0033, Japan
Phone: (Country Code 81) 78-275-2006
Fax: (Country Code 81) 78-845-8159

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