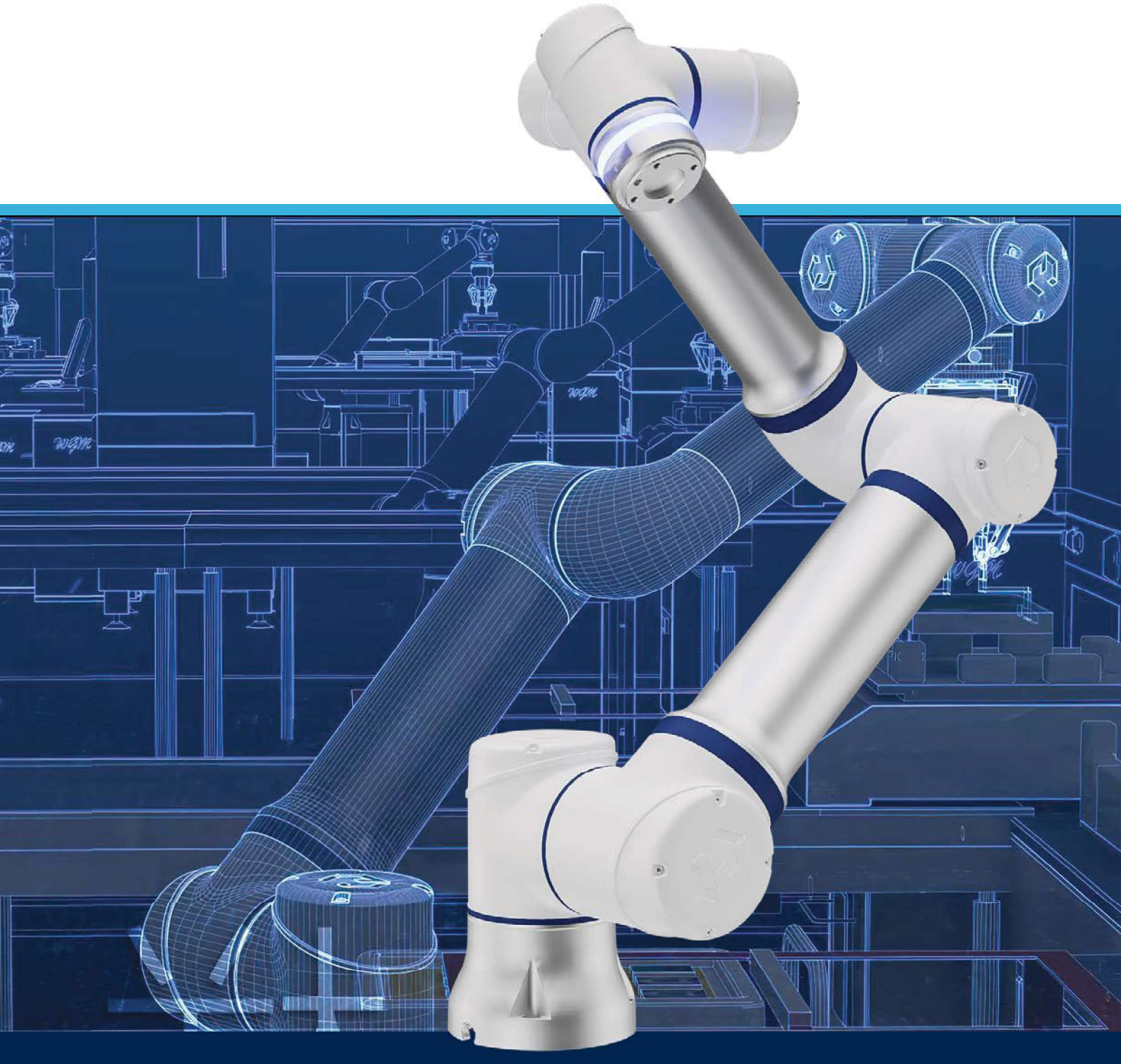
ELITE ROBOTS

COMPANY PROFILE



Always Easier Than Before

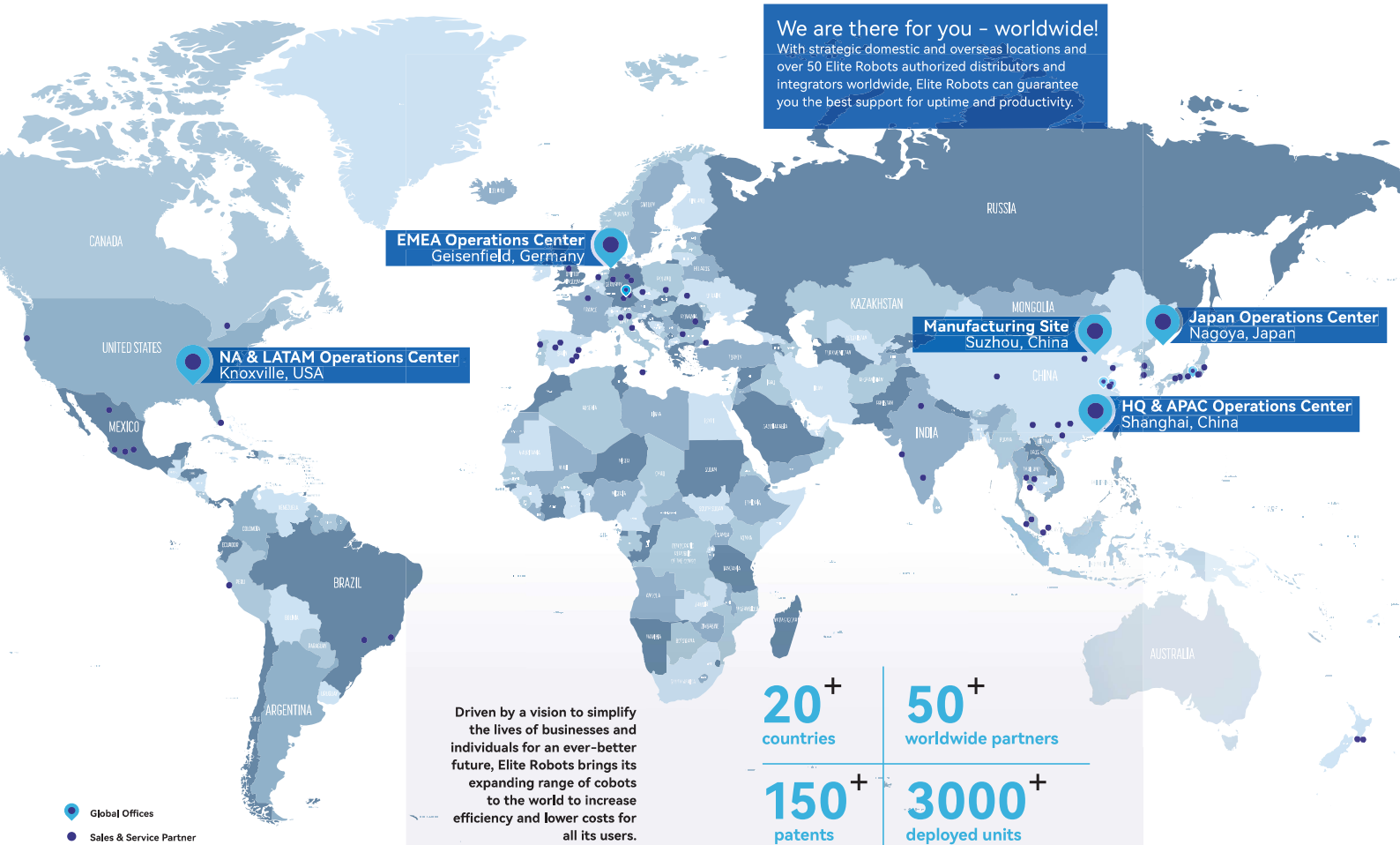
Elite Robots is a global automation solutions provider focusing on collaborative robots, also known as cobots. Founded in 2016 and headquartered in Shanghai, with a workforce of more than 250 people, 40% of whom are technical and R&D staff, it is the cobot manufacturer with the highest independent R&D rate in China. Its lightweight, fast and easy-to-use robots stand out for their reliability and cost-effectiveness, carrying out the mission to simplify the lives of businesses and individuals.

The Elite Robots cobots portfolio currently includes the EC Series and the CS Series, and has earned a superior reputation among users in the automobile and parts, 3C, packaging logistics, metal processing, rubber & plastics, chemical products and other industries.

By 2022, the company has established a Chinese operating facility of more than 11,000 square meters and 3 strategic overseas subsidiaries in the United States, Germany and Japan. Its cobots have been deployed in more than 20 countries worldwide and recognized by thousands of satisfied customers, thus reinforcing Elite Robots' founding motto "*Always easier than before.*"

We are there for you - worldwide!

With strategic domestic and overseas locations and over 50 Elite Robots authorized distributors and integrators worldwide, Elite Robots can guarantee you the best support for uptime and productivity.



Driven by a vision to simplify the lives of businesses and individuals for an ever-better future, Elite Robots brings its expanding range of cobots to the world to increase efficiency and lower costs for all its users.

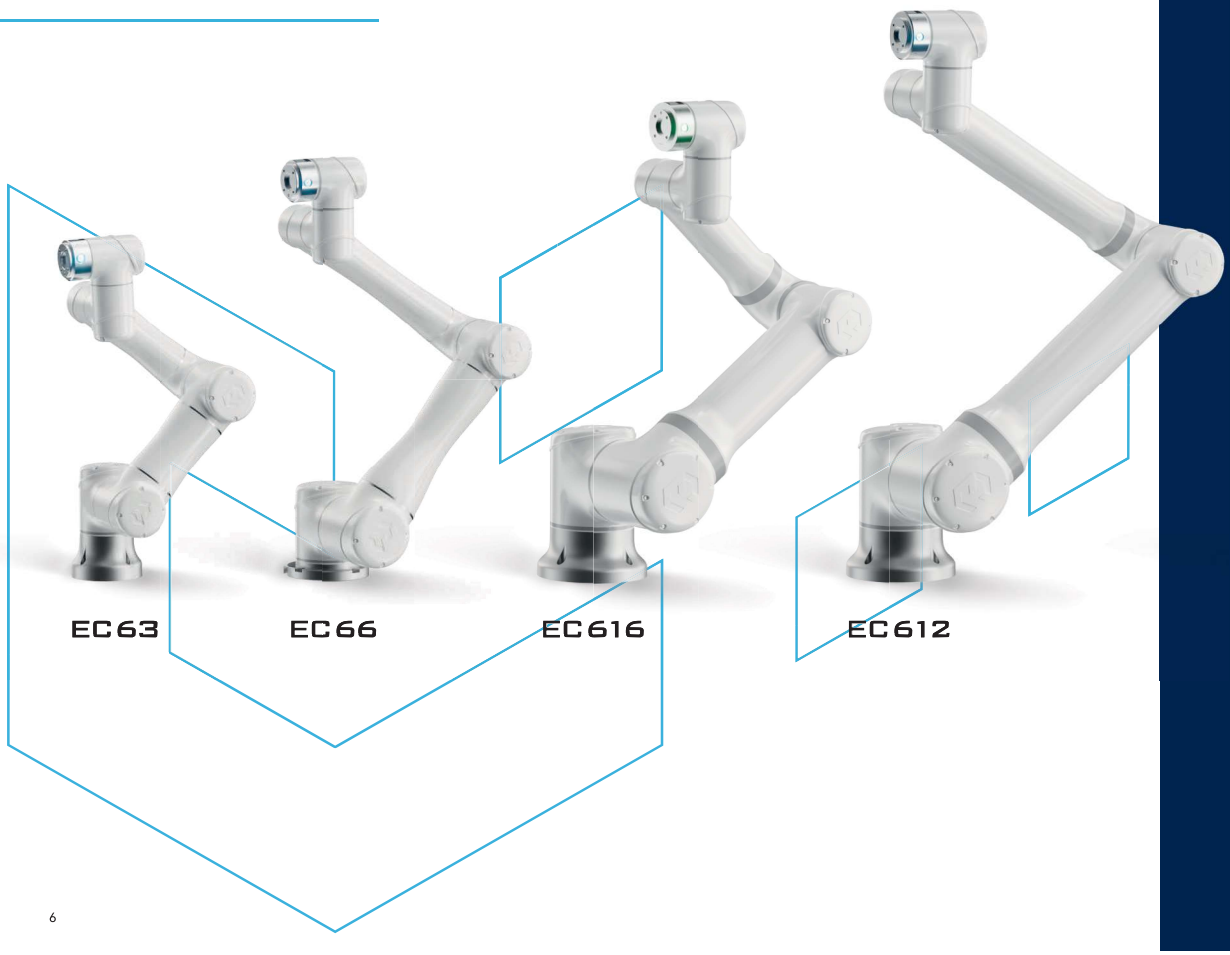
20+ countries

50+ worldwide partners

150+ patents

3000+ deployed units

EC SERIES



Make Complex Processes Simple

- LIGHTWEIGHT:
  The world's first collaborative robots which weigh less and lift more, with a payload to self-weight ratio up to 0.49, for effortless lifting and carrying, and lower power consumption.

- USER-FRIENDLY:
  Easy to install and redeploy for new tasks. Ultra sensitive free-drive function to smoothly teach the running path to the cobot. Interactive programming of teach pendant/PC.

- FLEXIBLE:
  Inter-model interchangeable joints with ±360° rotation. Multiangle installation (floor / wall / ceiling). Supported multiple development languages and communication protocols.

- EFFICIENT:
  Maximum speed up to 3.2 m/s, with 24/7 operating efficiency, smooth trajectory, and continuous motion to improve and accelerate production

- INDUSTRIAL DESIGN:
  Robust and streamlined industrial design in aluminum alloy. The IP54 protection rating allows the cobot to properly function even in non-optimal environmental conditions.

EC SERIES

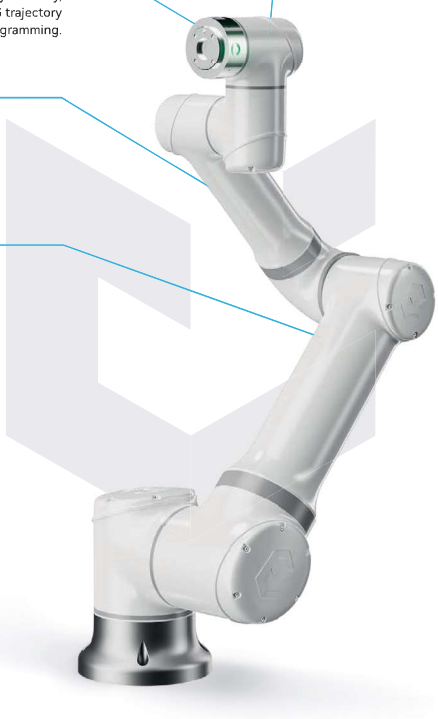
Make Complex Processes Simple

Collision detection
Achieve safe human-machine interaction without worrying about collisions from your cobot

Free-drive and drag-and-teach function
For smooth cobot positioning and easy, WYSIWYG trajectory programming.

Lightweight and compact design
Multi-angle installation and IP54 protection allow the cobot to operate in any environment.

Easy to service
No preventive maintenance required. Quickly replaceable interchangeable axis joints.



Modular controller with open interface
Supporting multiple communication options including TCP/IP, MODBUS TCP/RTU, and CCLink.

Remote control via web teach-pendant
Users can remotely interact with the cobot through Ethernet protocol via laptop, phone or pad. It allows real-time control and monitoring of the cobot (with 3D view display of its status), and more flexible programming.

Rugged IP65-rated teach pendant with resistive touch-screen
Suitable for operating in the harshest environments.

EC63

Watch it in action

Payload	Working radius	Repeatability
3 kg	Ø 624 mm	±0.03 mm

HIGHLIGHTS:

- Ideal for high precision and light-load assembly
- Small footprint, only Ø 128 mm, perfect for table-top applications and workstations with limited space

RECOMMENDED INDUSTRIES:

3C electronics, retail and consumption, medical, research and education

EXAMPLES OF SUITABLE APPLICATIONS:

Pick and place, tightening, assembly, screw-driving, quality inspection, cooking & serving

EC63 performing an assembly demonstration.

EC66

Watch it in action

Payload	Working radius	Repeatability
6 kg	Ø 914 mm	±0.03 mm

HIGHLIGHTS:

- The most popular and widely used cobot of the entire line
- Suitable for automating a large variety of low-weight processing tasks

RECOMMENDED INDUSTRIES:

3C electronics, automotive, chemical industry, metal processing, F&B, logistics, renewable energy, medical, retail and consumption

EXAMPLES OF SUITABLE APPLICATIONS:

Pick and place, tightening, assembly, screw-driving, machine tending, palletizing, quality inspection, welding, AGV mobility, material removal, cooking & serving

EC612

Watch it in action

Payload	Working radius	Repeatability
12 kg	Ø 1304 mm	±0.03 mm

HIGHLIGHTS:

- The wide 1304 mm radius enables EC612 to perform automation operations like packaging and palletizing even when there is a large distance between different operating areas
- The TCP speed of 3.2 m/s makes it the fastest cobot in the entire product line

RECOMMENDED INDUSTRIES:
Automotive, chemical industry, pharmaceutical, metal processing, F&B, logistics

EXAMPLES OF SUITABLE APPLICATIONS:
Pick and place, high torque tightening, assembly, screw-driving, machine tending, palletizing, welding, material removal

EC616

Payload
16 kg

Working radius
Ø 954 mm

Repeatability
±0.03 mm

HIGHLIGHTS:

- Its weight of 32.5 kg and payload of 16 kg make it the cobot with the best load-to-weight ratio in the entire ELITE ROBOTS product range
- Suitable for high load palletizing and other automation scenarios requiring high payloads

RECOMMENDED INDUSTRIES:
Automotive, chemical industry, pharmaceutical, metal processing, F&B, logistics

EXAMPLES OF SUITABLE APPLICATIONS:
Pick and place, high torque tightening, assembly, screw-driving, machine tending, palletizing, welding, material removal

Electronics

Watch it in action

In this constantly evolving industry that is particularly sensitive to rising labor costs, offering flexibility is paramount. A cobot that can be quickly reprogrammed for new tasks or redeployed for new production lines is what electronics companies are looking for.

Elite Robots' product line can provide these benefits, as well as certified safety that allows human workers to assist the cobot (subject to risk assessment) while completing tasks such as loading & unloading, screwing, and quality inspection

Typical Applications

- Pick and place
- Assembly & screwdriving
- Quality inspection
- Machine loading & unloading
- Dispensing
- AGV mobility

PCB board tightening at BOSCH plant

Loading & unloading of digital components

Pick & place of PCB boards

1–to–3 pick and pace with machine tending

Automotive

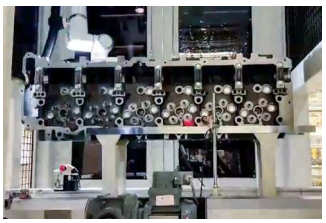
Watch it in action

Automotive manufacturing has one of the longest and most complex supply chains among all industries, consisting of numerous small, medium, and large manufacturing companies performing a very wide variety of tasks.

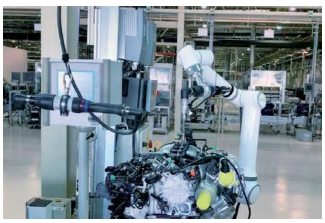
From machine loading to inspection and assembly, this industry has always been known for its rigorous standards and high productivity, as well as for a need for customization and flexibility in order to respond quickly to changing consumer demands. Over time, Elite Robots has fully met these needs, serving an ever-increasing number of Tier 1 OEMs and subcontractors, often even integrating with industrial robots to perform some specific automation tasks.

Typical Applications

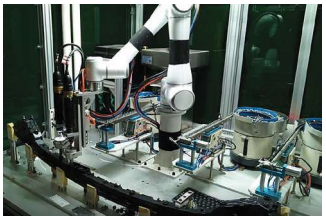
- Machine loading & unloading
- Quality inspection
- Dispensing
- Assembly & screwdriving
- Palletizing
- Polishing



Cylinder head inspection



Tightening of engine bolts



Taillights screwing

Screwing car body parts

Logistics & Warehousing

Watch it in action

Logistics and warehousing are cross-cutting sectors that although they have developed considerably in recent years, partly due to the proliferation of e-commerce around the world, are continually subjected to new challenges to overcome, such as understaffing, expensive labor, high-mix orders, shortened product life cycles, and even the need to avoid workplace injuries caused by heavy lifting.

Thanks to the automation solutions developed by Elite Robots in collaboration with its ecopartners, it will be possible to reduce the reliance on labor and lower the operating costs, by automating tasks such as end-of-line pick and pack, palletize and put away, and transforming pressure into performance.

Palletizing with lifting column

End of line pick and pack in medical industry

Palletizing demonstration with AGV

Palletizing with lifting column and custom-made gripper extender

Typical Applications

- Pick and place
- Palletizing
- AGV mobility
- Quality inspection
- Sorting

Metal & Machining

Watch it in action

This labor intensive industry is often characterized by 24/7 year round shifts, frequently in harsh environments and involving repetitive, physically demanding, and dangerous tasks.

Significantly reduce the risk of workplace injuries and errors, and move your workers from undesirable workstations by deploying Elite Robots' cobots for your machine tending, drilling and welding tasks.

With an accuracy of 0.03 mm, the IP65-rated robotic arm, and the effortless multi-angle installation (floor / wall / inclined / ceiling) thanks to its lightweight design, you will have more consistent quality and more satisfied workers.

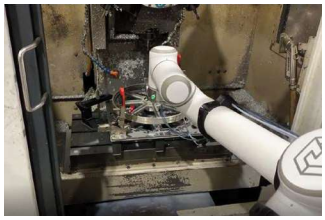
Typical Applications

- Pick and place
- Machine tending
- Welding
- Quality inspection
- Machine loading & unloading
- Drilling

CNC machine tending with AGV

Drilling metal sheets

Arc-welding



Loading and unloading of gears with machine tending

HoReCa
(hotels, restaurants, catering)

Watch it in action

Robots are gradually becoming an integral part of our lives, no longer remaining confined to production facilities or labs, but also performing customer-facing tasks and other retail-related activities.

Restaurants, kiosks, fast food outlets, hotels and more are increasingly making use of robots that can provide non-stop, top-class service while boosting their bottom line.

Elite Robots has been involved in the development of automated coffee, ice cream, tea and other unmanned stations for retail consumption since 2017, successfully serving numerous companies, including large MNCs, and also deploying its cobots at some major national events.

Making pancakes at World Robot Conference

Preparing and serving ice-cream at KFC

Double-arm coffee brewing demo

Serving tea during the National Congress

Preparing and serving bubble tea

Waffle preparation

Typical Applications

Pick and place

Assembly & screwdriving

Quality inspection

Serving

More Industries & Applications

Watch it in action

Salt cores pick & place with vision system

Palletizing in the FMCG industry at P&G plant

Electric cars fueling with AGV

Integration with industrial robot for bus body painting

Power plant IR inspection

Screwdriving of water filters

Pick & place of metal parts

Moxibustion therapy (Traditional Chinese Medicine)

EC SERIES

Robotic Arm

		EC63	EC66	EC612	EC616
Payload		3kg (6.61 lbs)	6kg (13.23 lbs)	12kg (26.46 lbs)	16kg (35.27 lbs)
Radius		624mm (24.57 in)	914mm (35.98 in)	1304mm (51.34 in)	954mm (37.56 in)
Axis		6			
Programming		JBI, free drive programming, offline programming, LUA-script			
Power consumption*		150w	250w	500w	500w
Repeatability		±0.03mm	±0.03mm	±0.03mm	±0.03mm
Axis working range	Joint 1	±360°	±360°	±360°	±360°
	Joint 2	±360°	±360°	±360°	±360°
	Joint 3	±158°	±165°	±168°	±160°
	Joint 4	±360°	±360°	±360°	±360°
	Joint 5	±360°	±360°	±360°	±360°
	Joint 6	±360°	±360°	±360°	±360°
Axis Max speed	Joint 1	144°/s	144°/s	120°/s	120°/s
	Joint 2	144°/s	144°/s	120°/s	120°/s
	Joint 3	180°/s	180°/s	144°/s	150°/s
	Joint 4	224°/s	224°/s	180°/s	210°/s
	Joint 5	224°/s	224°/s	180°/s	210°/s
	Joint 6	224°/s	224°/s	180°/s	210°/s
Max TCP Speed		2.0 m/s	2.8 m/s	3.2 m/s	2.8 m/s
IP rating		IP54			
Mounting		Any angle			
I/O ports		2 DI, 2 DO, 1 AI, 1 AO, 1 RS845			
Tool I/O voltage		24 V			
Tool I/O power supply		1A (Single pin), 2A (Dual pin			
Footprint		Ø 128 mm	Ø 150 mm	Ø 200 mm	Ø 200 mm
Material		Aluminium, Plastic, Steel			
Cable length		5.5m			
Weight		13kg (28.66 lbs)	17.5kg (38.58 lbs)	33.5kg (73.85 lbs)	32.5kg (71.65 lbs)
Temperature range		0–50 ℃			
Relative humidity		5%–95% (non-condensing)			
Certifications		EN ISO 10218-1			

** Normal working conditions*

Controller

	EC63	EC66	EC612	EC616
IP rating	IP44			
I/O ports	16 DI, 16 DO, 2 AI, 4 AO			
I/O power supply	24V; 2A (internal)			
Communication	1 Ethernet port, 1 RS485/RS232, 1 USB 2.0 TCP/IP, MODBUS TCP/RTU, EtherNet/IP, Profinet, CCLink			
Power source	100–240 VAC, 50–60 Hz (M: 19–72VDC)			
Size (WxHxL)	505mm x 448mm x 245mm (19.88 in x 17.63 in x 9.64 in)			
Material	Aluminum, Steel			
Weight	15kg (33.06 lbs)		17kg (37.47 lbs)	
Temperature range	0–50 ℃			
Relative humidity	5%–95% (non-condensing)			

Teach Pendant

Screen display size	307.34 mm (12.10 in)
Input method	Resistive touch-screen, physical buttons
Resolution	1280 x 800 pixels
Material	Aluminum, Plastic
Weight	1.8 kg (3.96 lbs.)
IP rating	IP65
Cable length	5.5 m (216.53 in.)
Relative humidity	5%–95% (non-condensing)