

Robotic Process Automation Custom turnkey solutions

FROM AEROSPACE TO ELECTRONICS Industries We Cover

JagCo specializes in automation solutions for many industries.





Capability Highlights

JagCo Solution Engineers work hard to design, source, and integrate a comprehensive range of industry-leading technologies into custom application configurations resulting in high-performing turnkey quality systems that deliver on their promises.



Automation Solutions

We provide top-notch AGV and Robot solutions to streamline your material transport needs.



Multi Spindle Systems

Our torque tools are designed to ensure accurate and reliable torque run-downs - Giving you peace of mind that your critical joints are properly fastened.



Station Steel & Rail

Our high-quality structural steel products are essential for building strong and durable structures that stand the test of time.



AI Vision Systems

Our advanced vision and measurement technology can help you achieve unparalleled accuracy and precision in your manufacturing processes.



Process Enabling Solutions

Our material handling solutions are designed to help you move and store materials efficiently, reducing downtime and increasing productivity.



Automated Dispensing Solutions

Our automated dispensing solutions provide fast and reliable results, increasing efficiency and reducing labor costs.

5000+

\$ 100 MM+ #1 Solutions Partner

Item Product Catalog

Accumulated Project Value Completed

in End-to-End + Full Lifecycle Value



Solutions We Provide

We provide advanced manufacturing solutions such as precision dispensing, automated fastening, lift assist, HMI & process monitoring, robotics, and vision systems to improve your processes and increase efficiency

SOLUTIONS

Turn-key Process Solutions for Highly Demanding Applications

JagCo is a single-source supplier for all aspects of the assembly process that carefully integrates a variety of stand-alone critical custom-engineered and off-the-shelf systems.

- Full Assembly Line Deployments
- Full Automated Stations
- Lift Assist
- Material & Product Conveyance
- Automated Dispensing Cells
- Vision Quality Inspection
- Multi Spindle Fastening
- Process Facilitation





MISSION AND VISION

Learn More About Our Mission & Vision

Manufacturing is the bedrock of our economy. It generates jobs; facilitates the production of high value goods & services; and outputs ever improving technologies, all of which are vital for people as a whole. Now more than ever, we must focus our efforts on reducing waste, improving quality outputs and minimizing input resources. In short, we must innovate.

Helping industry leaders become and stay competitive - That's our mission. Our job is to provide industry leading solutions that are engineered, integrated and optimized to do the job as intended. We push the bounds of the process and make the unthinkable possible. Why? because we can!

Welcome to JagCo.





Value Pillars



Automation Key Partners





HOW CAN WE HELP?

Solutions We Provide

We provide advanced manufacturing solutions such as precision dispensing, automated fastening, lift assist, HMI & process monitoring, robotics, and vision systems to improve your processes and increase efficiency.



Cobot solutions designed to work collaboratively with human workers by performing repetitive or dangerous tasks and relieving the human to focus on the more critical tasks.



Fastening solutions ensure that critical joints and components are securely and reliably fastened, minimizing the risk of failure.



Specialize state-of-the-art dispensing solutions that are designed to meet your specific application needs.

Vision



HMI and process monitoring solutions that provide real-time data and feedback to improve process efficiency and quality.

Lift Assist



Lift-Assist systems designed to reduce worker fatigue, improve productivity and reduce the risk of injury in all material movement processes Autonomous Guided Vehicles (AGVs)



Application-customized AGV solutions increase flexibility and reduce costs in material transport, logistics, and manufacturing support.



Vision solutions designed to automate inspection tasks and increase robustness in robot applications - ensuring product quality and meeting production standards.



Relevant Past Projects

Demonstrating Experience and Expertise

Green Field Assembly Line

JagCo was the lead Integrator for a semitruck assembly line consisting of 17 stations, Jibs, and 31 varieties of part lift assist installed in multiple phases. JagCo oversaw the engineering package submission for city permits and supervised inspectors to ensure requirement compliance





Process Control & MES

Supplier for the production process control system - both the hardware and MES software, with tool pokayoke and vision inspection functionality, across several lines.



Multi-Fastening Systems

Several 2 - 10 Multi-Fastening Systems have been deployed across several automotive lines to reduce operation time by running down multiple fastening operations simultaneously.



Engineered Lift Assist

Engineered custom lift-assist tooling which was integrated into a JagCo-provided overhead twoaxis rail system used to facilitate the movement and installation of components spanning the entire assembly process.





HS-Technik GmbH High - System - Technik

First-class tightening and riveting technology for over 35 years.







LINEAR MOTION EXPERTS



1.1

Precision rail guides

· Wide range and easy customizations

Highest possible precision

· Lowest friction at highest rigidity

Ball profile rail guides

Range from from size 15 to 45

· Standard with side and inner seals

READ MOI

· Most used linear guides



Linear bearings, units and Miniature profile rail guides

Zero Rail Concept from size 7 to 15

· Low noise and smooth running

Most safe unique ball retention system

READ MORE

shafts

· Wide assortment from 3 mm to 80 mm

· Most effective sealing on a round shaft

Insensitive against misalignment
 READ MORE





Electrification trend on linear cylinders

Fluid-powered linear cylinders have been used for more than 100 years in the industry. In the last decades, an electrification trend has started, to overcome some of the limits of pneumatics and hydraulics. In fact, electromechanical cylinders are offering advantages and improvements in several key areas.

Pneumatic		Pneumatic	Hydraulic	Electro-mechanic
The under	Cylinder complexity	Low	Low	High
	System complexity	High	High	Low
	Peak power	Medium	Very high	High
•	Size vs force	High	Very low	Medium
Hydraulic	Control	Valves	Valves	Electric
	Position accuracy	Medium	High	Very high
	Speed	Fast	Slow	Fast
	Purchase cost	Low	High	High
	Operating cost	Medium	High	Low
	Maintenance cost	Medium	High	Low
Electro-mechanic	Utilities	Compressor/ Power/Pipes	Pump/ Power/Pipes	Power only
	Efficiency	Low	Low	High
	Reliability	Excellent	Good	Excellent
	Maintenance freq	Low	Medium	Low
1993	Safety	Medium	Low	High

For what are actuators used

Electromechanical linear actuators or lifting columns enable precise,

controlled, and repeatable push/pull movement in linear drive applications.

Lifting columns include a guiding.



What is an electromechanical actuator

An electromechanical actuator is a device that creates mechanical motion by converting energy from an electrical motor to linear mechanical energy.

Main benefits:

- Low installation cost
- Low energy consumption
- Easy to install
- No oil-leakage





What is inside a linear actuator





What is inside a lifting column

Inner tube
 Outer tube
 Screw and nut
 Cables through
 Power supply
 Electrical motor
 Gearbox
 Control board
 Cable connector





Our core technologies - Ball screws

Miniature ball screws

Ewellix miniature ball screws provide high performance motion into a small package, ensuring smooth and silent operation.

Rolled ball screws

Ewellix ball screw assemblies provide high performance solutions with high accuracy at a good cost level.





Our core technologies - Roller screws

Planetary roller screw

going far beyond the limits of ball screws, planetary roller screw provide the ultimate precision, rigidity, high speed and acceleration. Backlash can be reduced or eliminated. Long leads are available for very fast movements.

Recirculating roller screw

thanks to the recirculation of the rollers, small leads (up to 1 mm) are possible with a relatively larger thread pitch on the shaft and nut. This feature offers the ideal combination of small lead, high load carrying capacity, a high degree of stiffness and precision.

Inverted roller screw

designed to provide powerful electromechanical actuation where compactness and high load capability are prerequisites. In application, the compact inverted roller screw – incorporated inside an electromechanical actuator – can replace hydraulic or pneumatic actuation, providing the benefits of electronic control



Smart 7th axis solutions for collaborative and industrial robots



LIFTKIT

- Load up to 1,5 kN and speed up to 80
 mm/s
- Stroke up to 1 400 mm
- Plug and play with Universal Robots, Omron, Techman, FANUC collaborative robots and several palletising software
- Compatible with any robot brand via TCP/IP communication protocol with a plug-and-play script commands

READ MORE

READ MORE

Plug and play with Universal Robots

· Compatible with any other robot brands

via I/O commands up to 14 x configurable

SLIDEKIT 2.0

Load up to 10,9 kN and speed up to 1 000

Sensors and edge software extend the robot's operating range

· Additional linear axes increase the robot reach by up to 7 times

mm/s

Stroke up to 3 000 mm

move-profiles

Easy to install plug-and-play systems

- Ready to use compatible package with leading robot brands
- Fully integrated into robot environment

High reliability

- Robust design for industrial use with high stiffness
- High positioning precision and stability
- Thousands of units working on the field in multiple applications

High safety

- Anti-pinching function
- Emergency stop connection to robot up to safe torque off PLe, Cat.4

Easy maintenance

- LIFTKIT virtually maintenance free
- · SLIDEKIT easy access to outside lubrication port







Medical

Actuators

Medical - Computed Tomography gantry tilt

Actuator function

Tilting of the gantry +/- 30°

Customer requirements

- Force 8 12 kN
- High safety demand
- Only one load direction (push or pull)

Customer benefits

- High safety and reliability (4 x safety factor)
- Easy plug-and-play system with two actuators synchronised motion with SCU control unit
- Competitive price for this function
- Medical standards compliant (IEC 60601-1)



Medical - Mobile c-arm (x-ray)

Actuator function

Height adjustment of c-arm

Customer requirements

- High stiffness and offset load capacity
- 2-section lifting column with visible extended to which a height scale is attached
- Cables through the lifting column
- Attachment option for swivel top (wig-wag)

Customer benefits

- High stability and bending moment
- Reliability and long lifetime
- Easy installation plug-and- play system reduces time-to-market
- Medical standards compliant (IEC 60601-1)
- Coloured tube sets as customization



Ewellix actuator solution

- TLG (2 sections) ~ 400 mm stroke
- Customized top interface for swivel insert and cable mgmt
- High overlap for offset load
- BCU control unit

Other Ewellix products

• LLT profile rail guides



Medical - X-ray (bucky) table

Act	uator function		
Height adjustment of the table			
Customer requirements			
•	Stability (2 lifting columns or scissor design)		
•	High safety standards		
•	l ow noise level		

Customer benefits

- Plug-and-play solution easy to integrate
- High safety and reliability (4 x safety factor)
- Synchronised motion with SCU control unit
- Low retracted height
- Easy installation plug-and- play system reduces time-to-market

FRE guiding tube set LLT profile rail guides TLT SCU

Ewellix actuator solution

- 2xTLT + SCU control unit (low retracted height)
- 2xTFG + SCU control unit (cost effective solution)

Other Ewellix products

• LLT profile rail guides



Medical standards compliant (IEC 60601-1)

Medical - Surgical table with surgical module

Actuator function

- Height adjustment of table
- Lateral and longitudinal tilt
- Backrest and footrest tilt

Customer requirements

- Low entry height, compact solution
- High stiffness
- Low axial play in actuator
- High offset loads
- Reduce cost

Customer benefits

- Play free and backlash free motion
- High safety and reliability
- Smart design with front and rear attachments
- Specially developed for medical technology in accordance with IEC 60601-1
- Easy installation plug-and- play system reduces time-to-market





Assembly automation

Actuators



AA - Material joining - Spot welding

Actuator function

Opening and closing of the gun jaws to realize the welding spot

Customer requirements

- Increase productivity
- Need to control load, speed and precision
- Small and light actuator with high performance
- Reduce maintenance interval

Customer benefits

- 10 Mio welding spots over actuator lifetime without maintenance
- Outstanding force repeatability for constant welding quality
- Light-weight construction to reduce welding robot power and size
- Compactness

.

- Easy integration and fast assembly
- High reliability to minimize downtime



Ewellix actuator solutionCEMC21LEMC

Other Ewellix products

• LLT profile rail guides (cgun)



AA - Material joining - Dispensing

Actuator function

Actuators are used to activate the injection systems (pumps, nozzle etc.) in dispensing system used to fill, seal, cover, spray a fluid on a product

Customer requirements

- Mixing, pressing or dosing liquids in different applications (silicon, glue, paint...)
- Increase productivity
- Precision and accuracy .

Customer benefits

- Quicker machine set-up
- Traceability and recording process parameters .
- Improved dosing force control ٠
- Reduction of residual waste in the barrel
- Long lifetime .
 - Energy cost saving vs hydraulics



•



AA - Assembly process – Jig geo sets

Actuator function

A jig geo set is a device that holds, supports or is placed on a part to be machined or welded.

Customer requirements

- Replace fixed mechanical solution with flexible electrical solution
- High loads applied
- Precise positioning
- Save cost and increase productivity

Customer benefits

- No need for JIG(Geo-set) re-programming and commissioning when changing car model
- Less investment for multiple car models or platforms manufactured in one plant
- Less storage space for assembly equipment and tooling for each model
- Quicker and more economical re-tooling for model refresh and new platform





CLSM

Ewellix actuator solutionCLSM-92



AA - Assembly process – Car transfer unit CTU

Actuator function

A CTU fixture is a device that holds, moves or is placed on a part to be machined or welded.

Customer requirements

- Replace fixed mechanical solution with flexible electrical solution
- High loads applied
- Precise positioning
- Save cost and increase productivity

Customer benefits

- No need for CTU re-programming and commissioning when changing car model
- Less investment for multiple car models or platforms manufactured in one plant
- Less storage space for assembly equipment and tooling for each model
- Quicker and more economical re-tooling for model refresh and new platform







Ewellix actuator solutionCTU





4D Vision for Robotic Automation



- 1. Dual cameras 4D
- 2. Different parts

Apera software has the ability to direct your robots/cobots and pick even small parts that are mixed

Compatible cobots

FANUC YASKAWA JAKA



JAKA Pro Collaborative Robots



Industries	
C Electronics	
lutomotive	
Chemical	
ood And Beverage	
lousehold Appliances	
lachining	
ledical Devices	
Retail	



Payload 18 kg | Reach 1073 mm | See more>>

Applications

Assembly

Gluing And Bonding

Machine Tending

Packaging

Painting

JAKA Ai 18

more>>

Palletizing

Pick And Place

Polishing

Screw Driving

Quality Inspection

Welding



JAKA Ai 3 JAKA AI 5 Payload 3 kg I Reach 626 mm I See

more>>

JAKA



Payload 7 kg | Reach 819 mm | See more>>

JAKA Ai 7



Cobot Grippers







CONVEYER SYSTEM SOLUTION



Lift Gates



Lift and Locates



JIT Shipping systems



Load/Unload containers in 5 minutes



Lift and Transfer



Pallet Stops



Stackers and Destackers



AGVs (Automated Guided Vehicle)

An AGV system employs a self-guided or automated guided vehicle (AGV) to deliver raw materials or other required items to various points as part of a material-handling system. These systems are found in warehouses, distribution centers, and manufacturing plants to deliver parts and materials to workers at various stages of a manufacturing process through vehicles that do not require an onboard operator. These vehicles may also perform other functions like delivering incoming stock and materials directly to established storage sites within a facility.

	An AGV that has easy tra guided mechar
The set	Т

AGV Forklifts Laser AGV Forklif



forklift is a driverless self-operating robotic device s the ability to carry, lift, retrieve, and place loads for ansfer from one location to another. An automatic vehicle (AGV) forklift is a computer controlled nism that

Types of AGVs (Automatic Guided Vehicles)



In 1954, when Arthur "Mac" Barrett, of Barrett Electronics Corporation, unveiled the first AGV, he named it Guide-o-Matic and described it as a driverless vehicle...

Palletizer



A palletizer is an automated material handling machine used to stack and orient several individual products into a single load for a more convenient and economical method of handling, storage, and shipment. Palletizers are usually part of a bigger packaging process...

Automated Guided Vehicles

AGV Perception

Automated guided vehicles (AGV) or mobile robots are types of guided robotic systems that are not bounded by a fixed range of motion. Rather, it is self-contained and can move along a line, surface, or space ...

Depalletizers

Depalletizer

Palletizing is the process of putting items on a pallet. The process of emptying the loaded objects in the reverse pattern is known as depalletizing. A pallet is a flat, squareshaped platform used to transport and safely handle numerous items simultaneously...

Forklift Trucks



A forklift truck is an electrical or gas powered industrial piece of equipment with a metal fork platform attached to its front that can be used to lift heavy loads by inserting the fork platform under cargo, pallets, or machines for moving them or placing them in storage

Autonomous Mobile Robots

Autonomous Mobile Robot



An autonomous mobile robot (AMR) is a self-propelled selfpowered mechanism designed to perform repetitive tasks or organizational functions using an internal guidance system. They are able to navigate their workspace using sophisticated...

Pallet Stackers



A pallet stacker is a machine designed to assist the user in lifting, moving and handling palletized materials with ease. A pallet itself is a flat and horizontal structure used to support goods in a sturdy fashion. Manual pallet stackers make use ...

Automation Systems



An automation system is an integration of sensors. controls, and actuators designed to perform a function with minimal or no human intervention. The field concerned in this subject is called Mechatronics which is an interdisciplinary branch of engineering that combines mechanical..



Floor Conveyor Solutions	Overhead Conveyors	Automation Solutions
Belt Conveyors	Overhead Conveyors	Vertical Farming Conveyors
CDLR (Chain Driven Live Roller)	→ I Beam Trolley	Custom Automation Equipment
Chain Conveyors	Power and Free Conveyors	Tire and Wheel Conveyors
Food Conveyors and Washdown	Enclosed Track Power and Free	Tire Mounting Machines
Conveyors	Inverted Power and Free	Automated Tire and Wheel Conveyor
Gravity Roller Conveyor Systems		Trailers
Conveyor Roller Covers		 Conveyor Types and Uses
Interroll Portec Conveyor Systems		
24V MDR Conveyors		
Interroll Conveyors, Drive Rollers and		
Drum Motors		
N.I. N. 17.0		

Itoh Denki Conveyors, Rollers and Controllers

Slat Conveyor Systems



Our Work Process

Our workflow process is designed to ensure that every project is executed with precision and efficiency.

01: RFQ & Proposal

Determine project requirements and create a request for quotation (RFQ)

02: Review & PO

Review the scope of work and specifications outlined in the PO

03: Engineering & Design Approval

Custom built optimization models aligned to your business and processes, gives you a competitive edge and high returns.

04: Procurement, Fabrication & Production

dentify required materials and equipment based or engineering plans.

05: Factory Acceptance & Shipping

Conduct a factory acceptance test to verify that the product meets specifications.

06: Installation & Sign Off

Plan the installation process and ensure that all necessary equipment and resources are available.



Mission Statement

Welcome to JagCo

JagCo is deeply committed to improving all facets of manufacturing by thoughtfully integrating innovative manufacturing technologies to solve our customer's problems. Our team leverages a comprehensive product portfolio combined with two-hundred years of internal knowledge and expertise in manufacturing, product development, project management, and engineering across a broad range of industries. We challenge ourselves every day to stay ahead of the curve and deliver the most value possible to our customers.

JagCo is excited to work with innovative partners who share our drive for excellence. Thank you for considering JagCo as a potential partner and look forward to the opportunity to collaborate together to help facilitate your manufacturing goals.





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Mexico coming in 2024



THE SOLUTIONS COMPANY