



ENGINEERING AND AUTOMATION PVT LTD

Specialist in Testing & Assembly Line automation

www.classultimate.in

Introduction to ClassUltimate



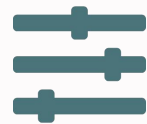
Industrial Automation Excellence

Class Ultimate delivers turnkey industrial automation solutions that minimize downtime and enhance operational performance through advanced engineering.



Comprehensive Service Scope

We specialize in assembly line automation, PCB testing, machining automation, performance testing, leak testing, and end-of-line inspection systems.



Custom Solutions Across Industries

Our automation systems are tailored for sectors such as automotive, general engineering and medical industries, prioritizing speed, accuracy, and reliability.



Innovation-Driven Engineering

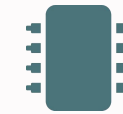
Equipped with the latest technical advancements, our solutions ensure our clients maintain a competitive edge in their manufacturing processes.

Evolution of ClassUltimate



Foundational Years

ClassUltimate began with a focus on delivering turnkey automation systems for industrial sectors, laying a foundation of technical excellence.



Technology Integration

Over the years, we incorporated advanced technologies like servo gantry systems, robotics, and wireless inspection methods to enhance product capabilities.



Client Diversification

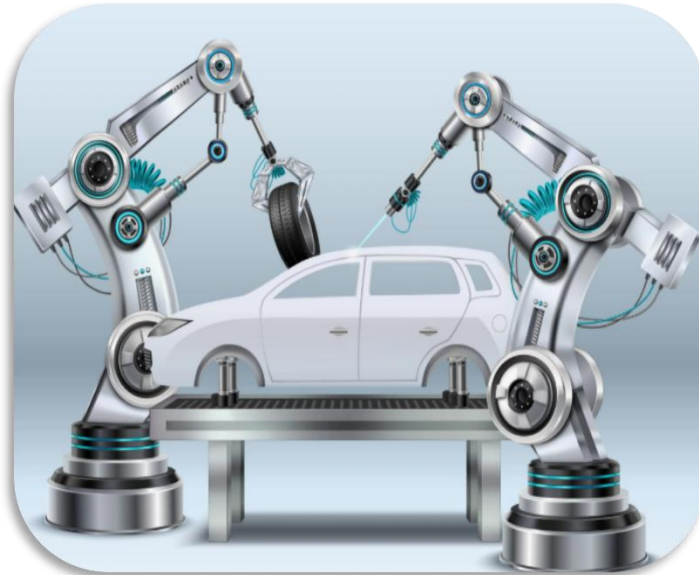
Partnered with leading manufacturers such as KOSTAL, BorgWarner, Safran and Emerson, expanding our project portfolio across automotive and electronics industries.



Scalable Automation

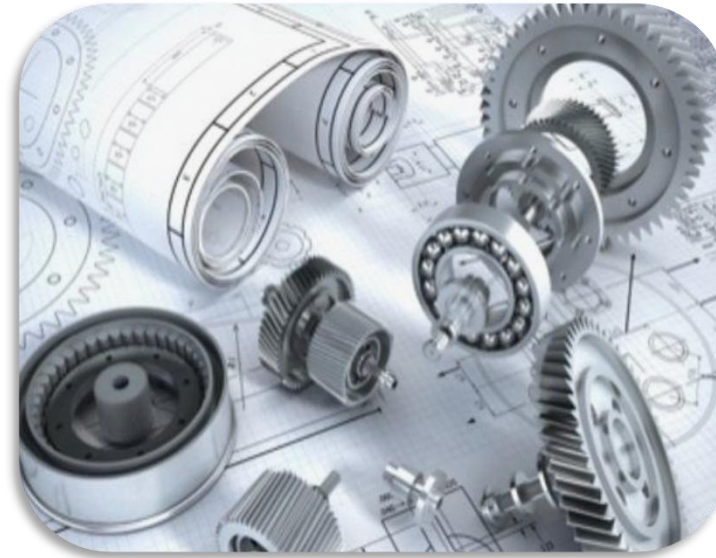
Transitioned from bespoke systems to scalable solutions capable of supporting high-volume production environments with minimal downtime.

We Provide Solution for



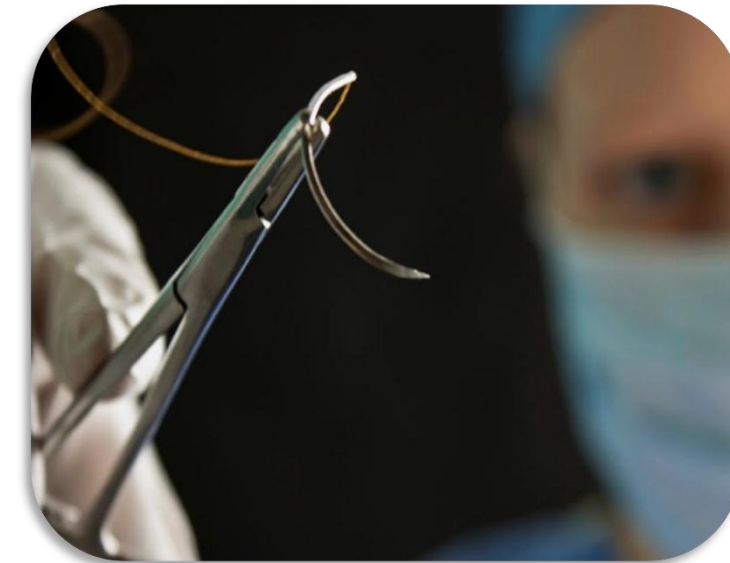
Automotive parts Manufacturers

We are providing competitive solutions to our customers. Our machines are designed to produce precision parts, provide shorter cycle time and enhanced efficiency.



Engineering product Manufacturers

General Engineering is a wide-ranging industry with varying requirements. Our machines can suit every need with better accuracy, speed and reliability.

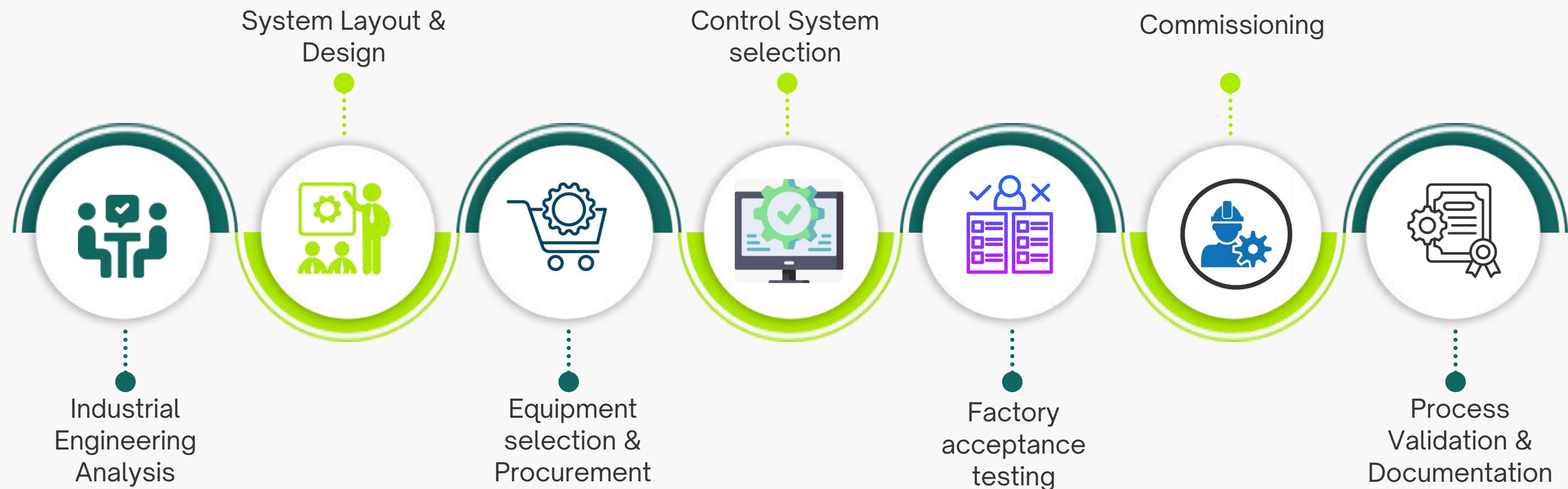


Surgical Needle manufacturers

Medical industry require high level of precision. Our machines deliver such requirements with ease along with accuracy and versatility.

Our Work Methodology

From design to Commissioning we will take care of all process



Core Capabilities & Engineering Expertise

- Assembly Line Automation: Design and implementation of fully automated assembly systems tailored for high-precision industrial processes across multiple sectors.
- PCB and Electronics Testing: Development of advanced test stations for smart meters and electronic clusters, ensuring functionality and reliability before deployment.
- Leak and Performance Testing: Automated setups for real-time inspection of pressure, leakage, and performance for automotive components like glow plugs and fans.
- Custom Machining Automation: Integration of CNC and robotic systems for machining environments, improving accuracy, speed, and operational safety.

Flagship Projects & Industry Applications



Bosch – Smart Meter & Glow Plug Testing

Developed flashing stations and performance test rigs for smart PCBs and glow plugs, enhancing quality assurance in critical components.



BorgWarner – Viscotronic Fan Assembly

Designed and delivered an automated fan assembly line with integrated diagnostics for high-efficiency automotive thermal systems.



Emerson – Solenoid Coil Testing

Engineered precision test equipment for evaluating electrical and magnetic characteristics of solenoid coils.

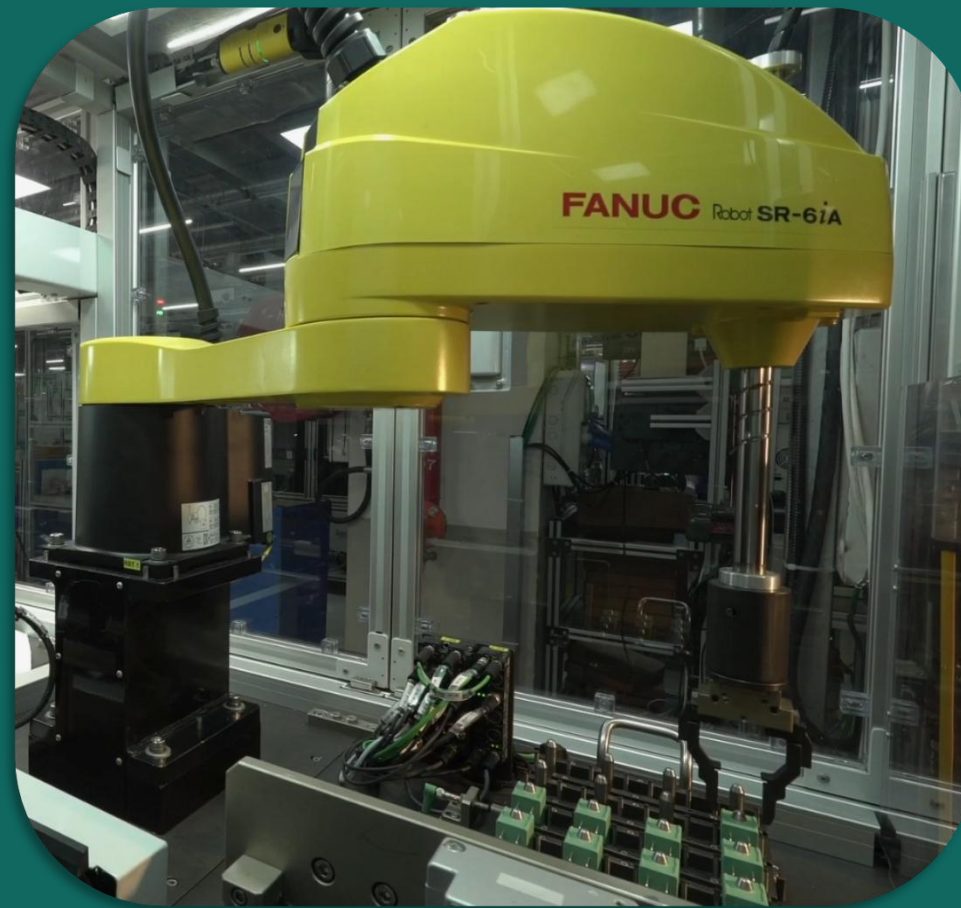


Visteon & Kostal – Cluster and PWS Lines

Implemented EOLT and PWS lines with cluster touch probe testing, improving reliability and operational data capture.

ROBOTICS

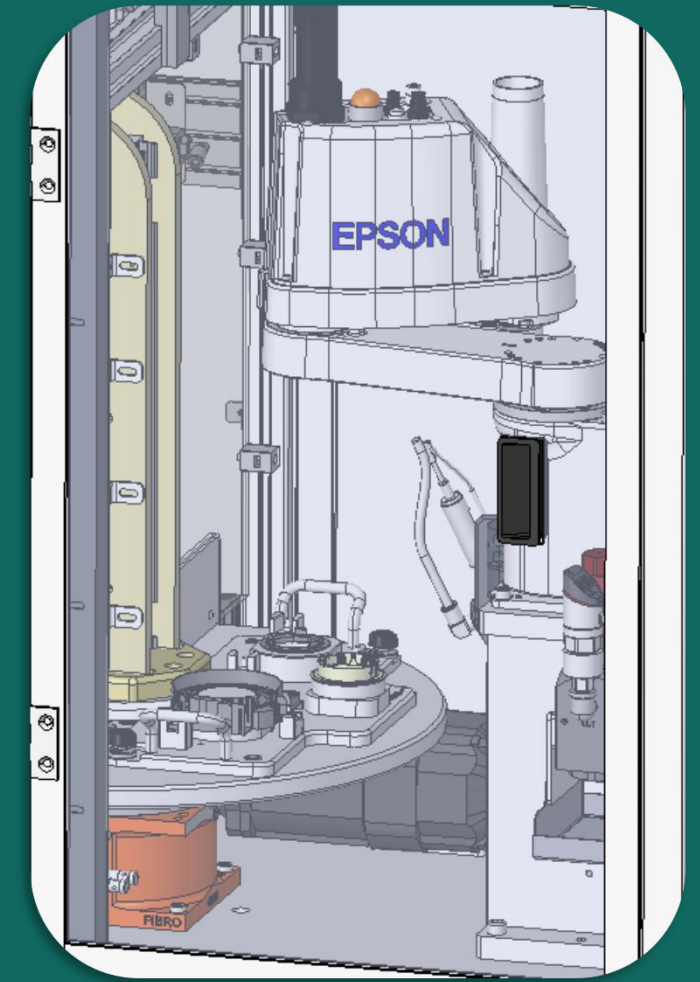
We integrate robotics for **pick & place**, **adhesive dispensing**, **grease dispensing**, **switch assembly**, and **spraying**—delivering faster throughput, consistent quality, and full traceability.



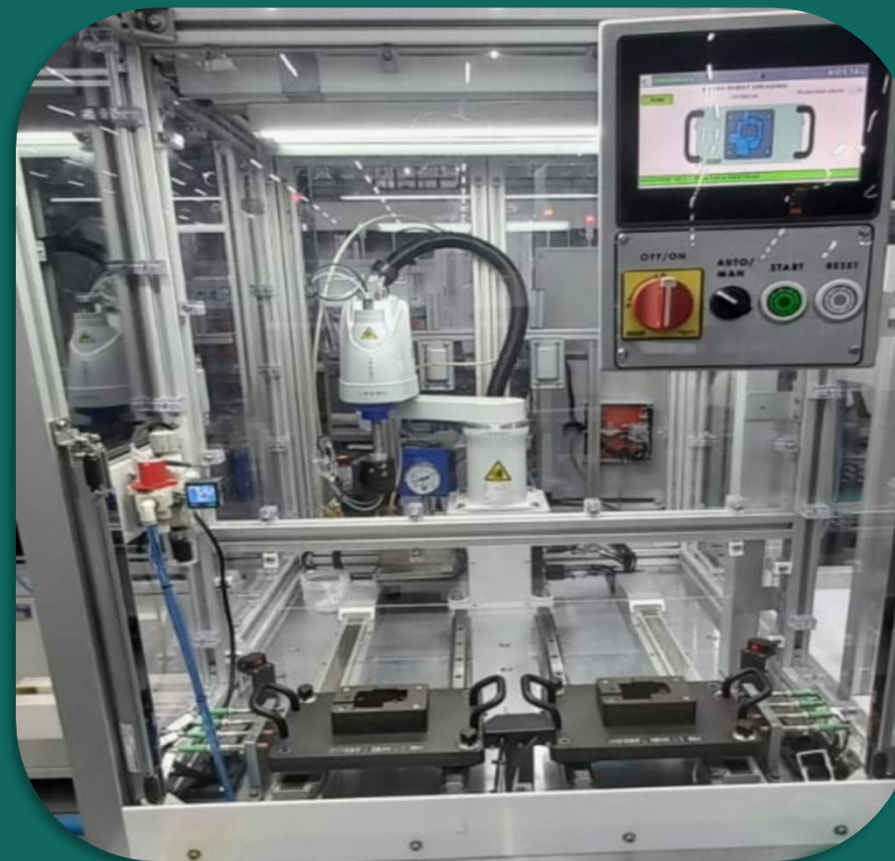
PICK & PLACE



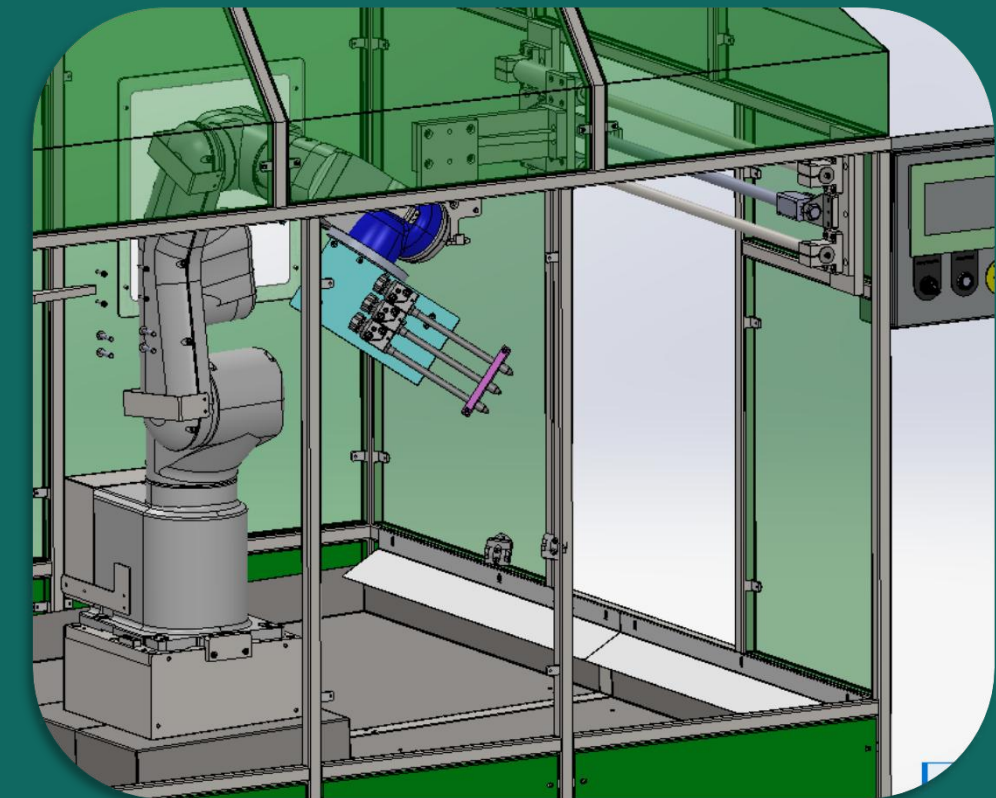
EPOXY DISPENSING



GREASE DISPENSING



SWITCH ASSEMBLY



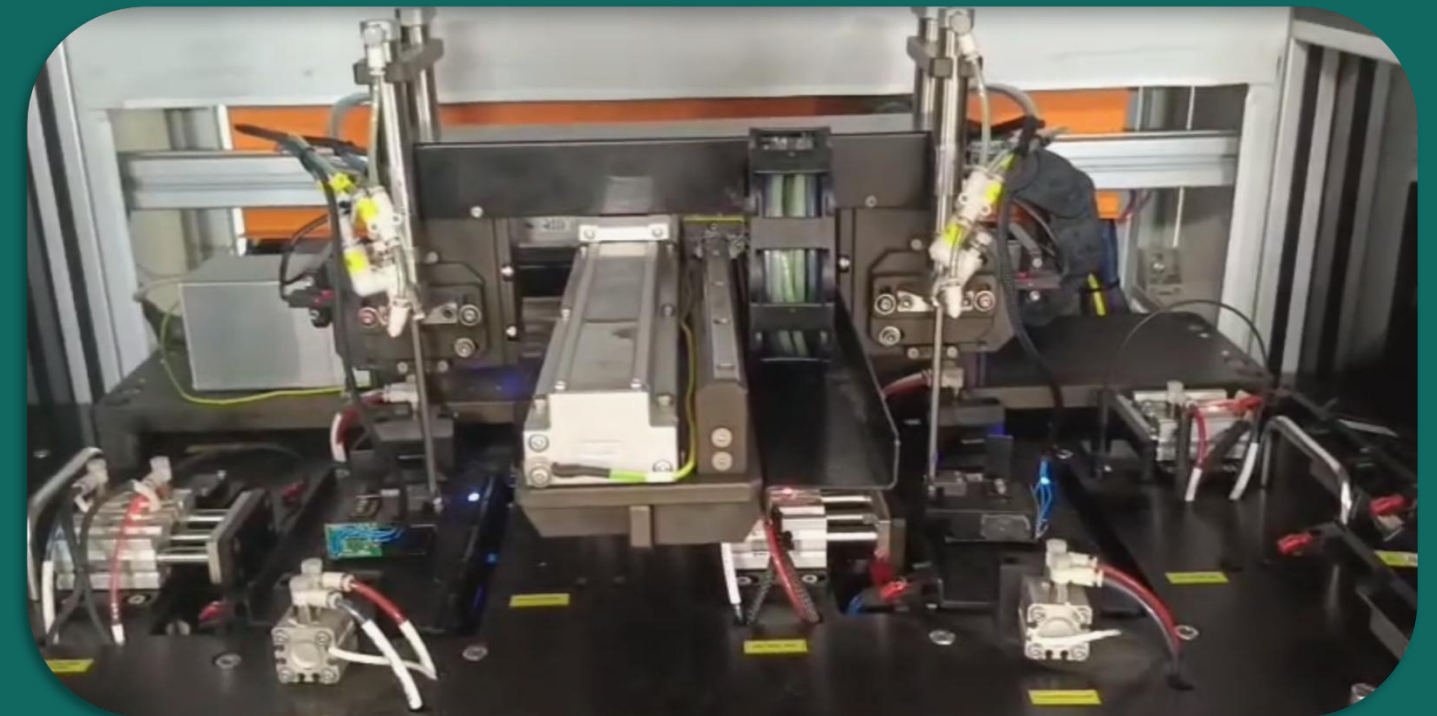
SPRAYING

SERVO GANTRY SYSTEM

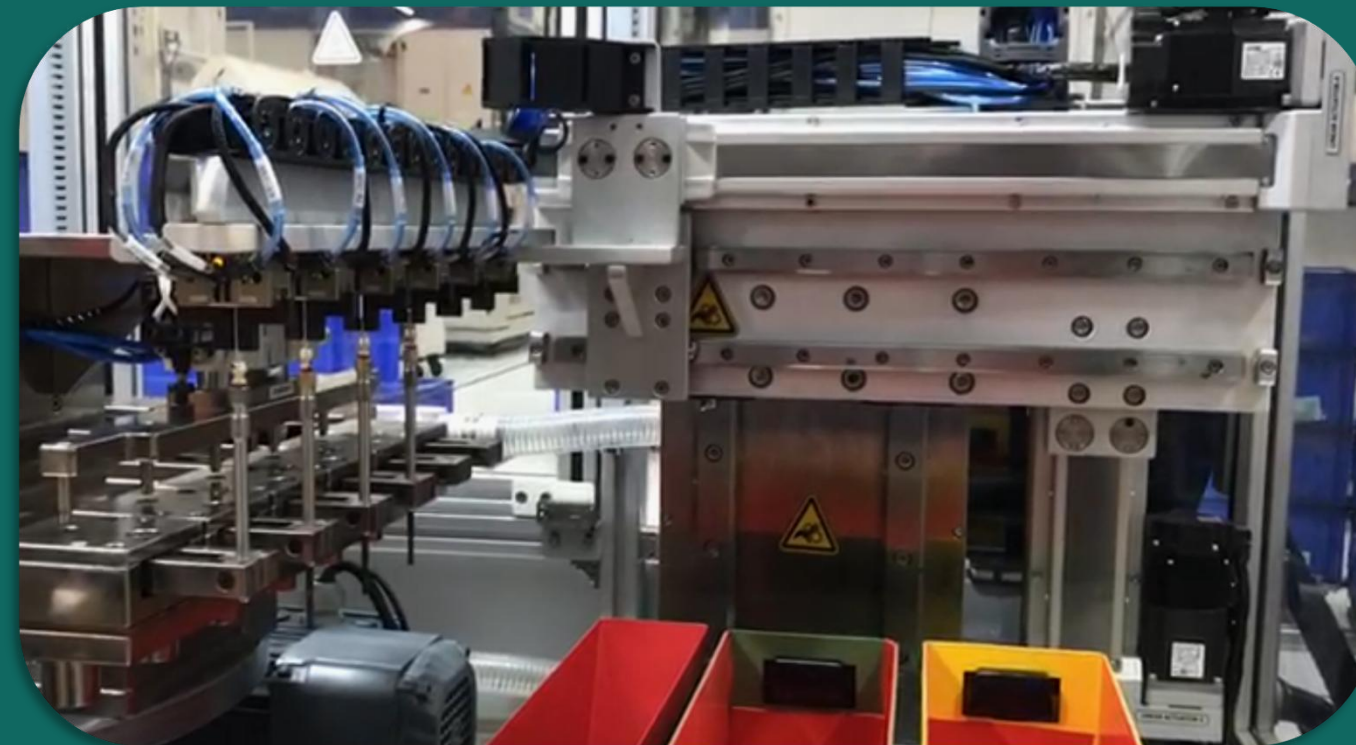
We integrate Gantry Robot for pick & place, adhesive dispensing, inspection etc.



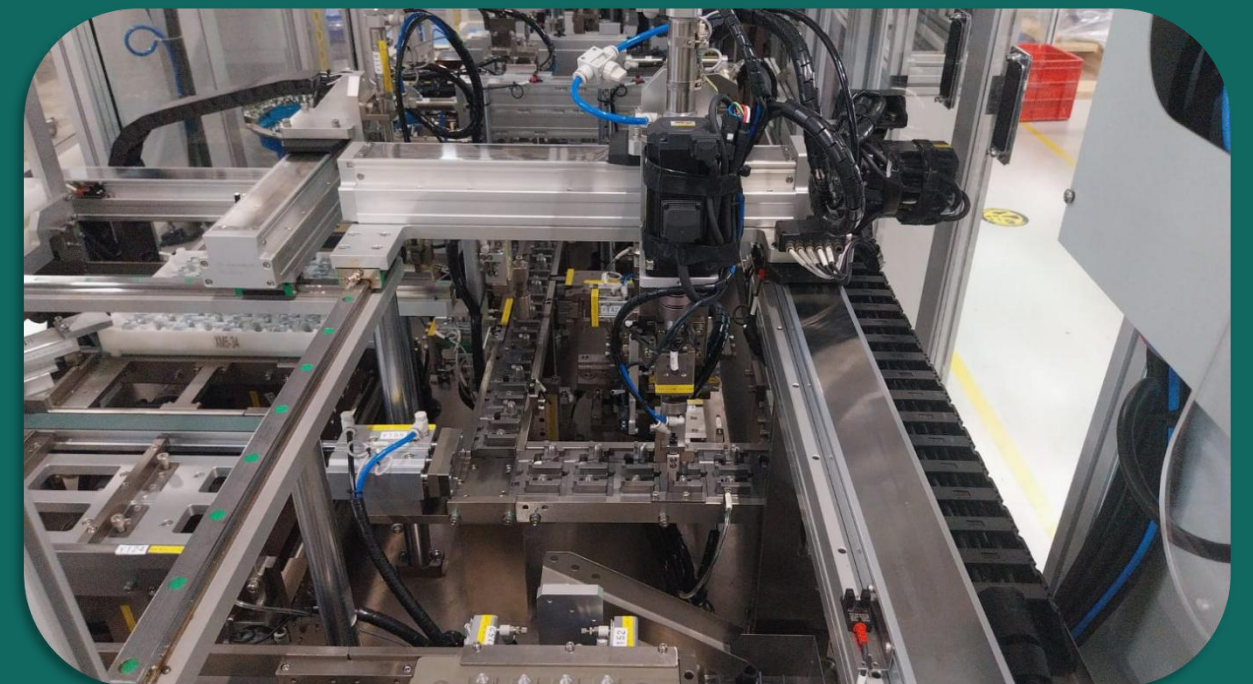
GREASING



WIRELESS CHARGER INSPECTION

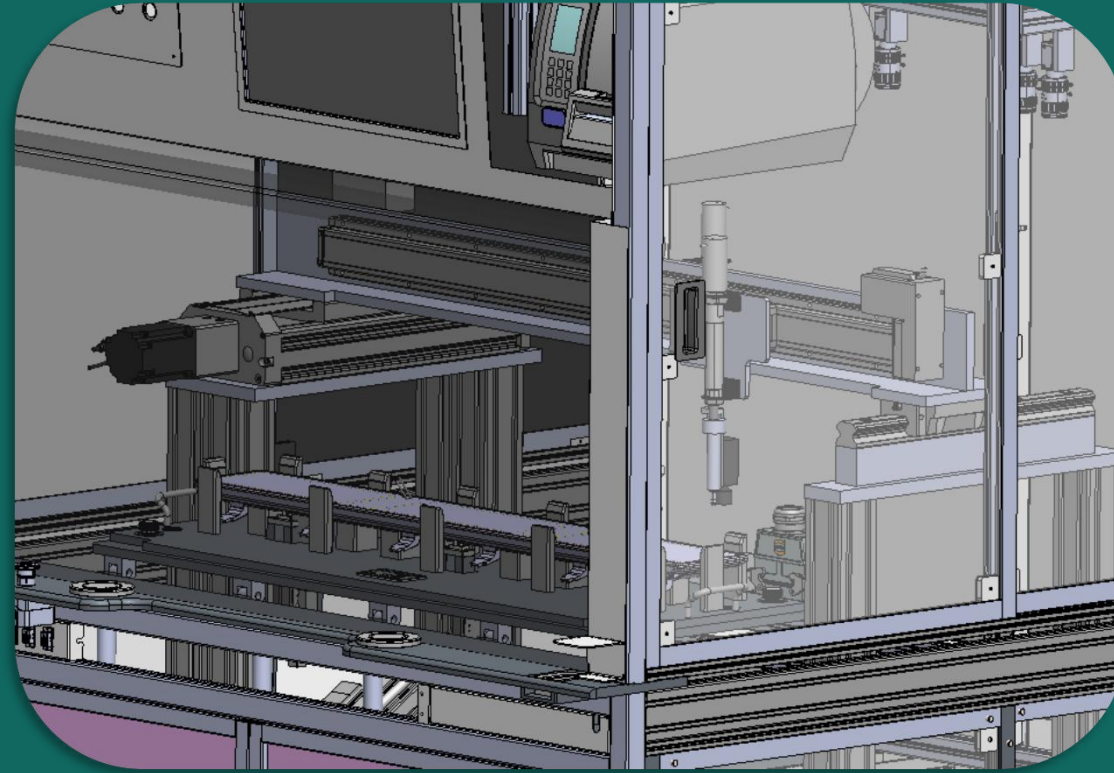


GLOW PLUG INSPECTION

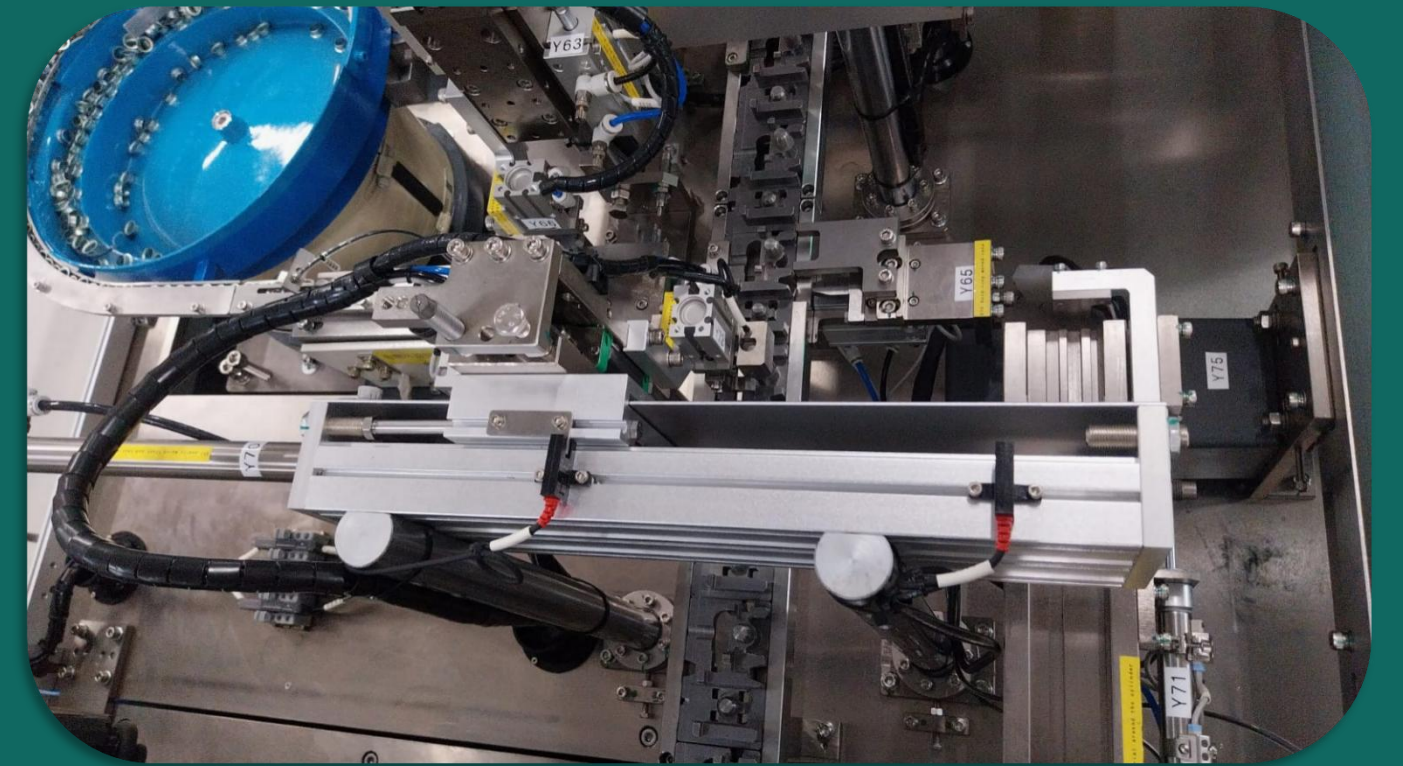


SOLENOID COIL ASSEMBLY

SERVO GANTRY SYSTEM



INFOTAINMENT DISPLAY TESTING



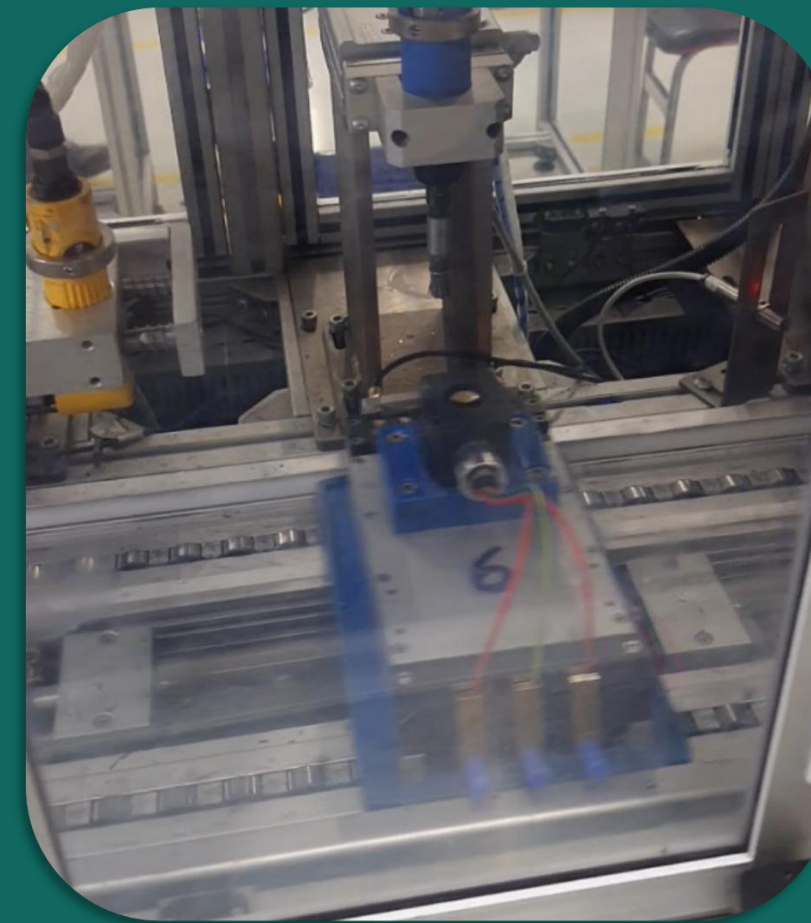
TERMINAL ASSEMBLY

CONVEYORS

Classultimate designs and builds **double-row chain roller conveyors** for **palletizing applications**— heavy-duty handling, smooth transfer/accumulation, and seamless robot/infeed integration.



DOUBLE ROW CONVEYOR



CHAIN ROLLER CONVEYOR



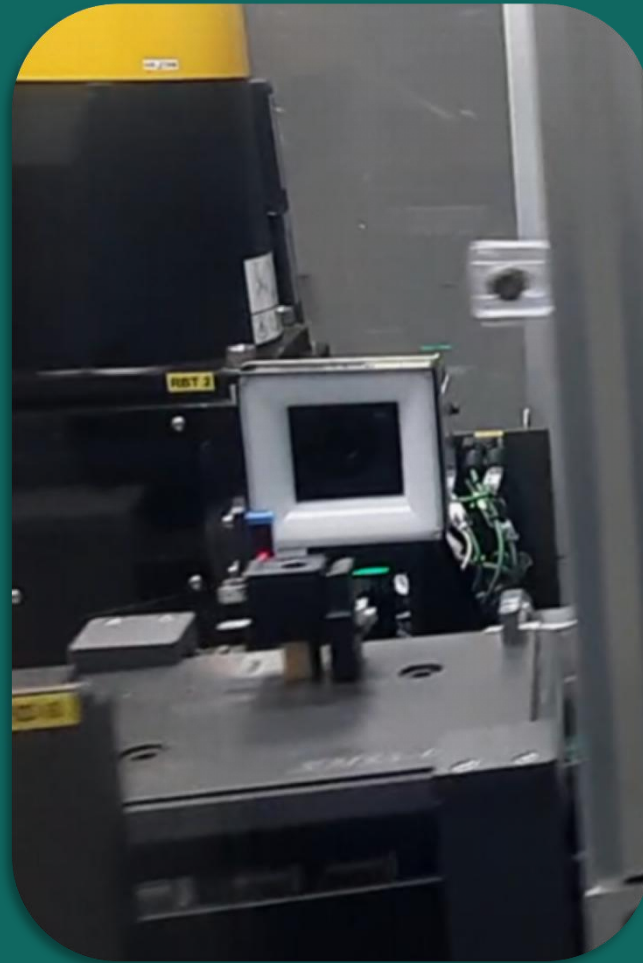
PALLETIZING CONVEYOR



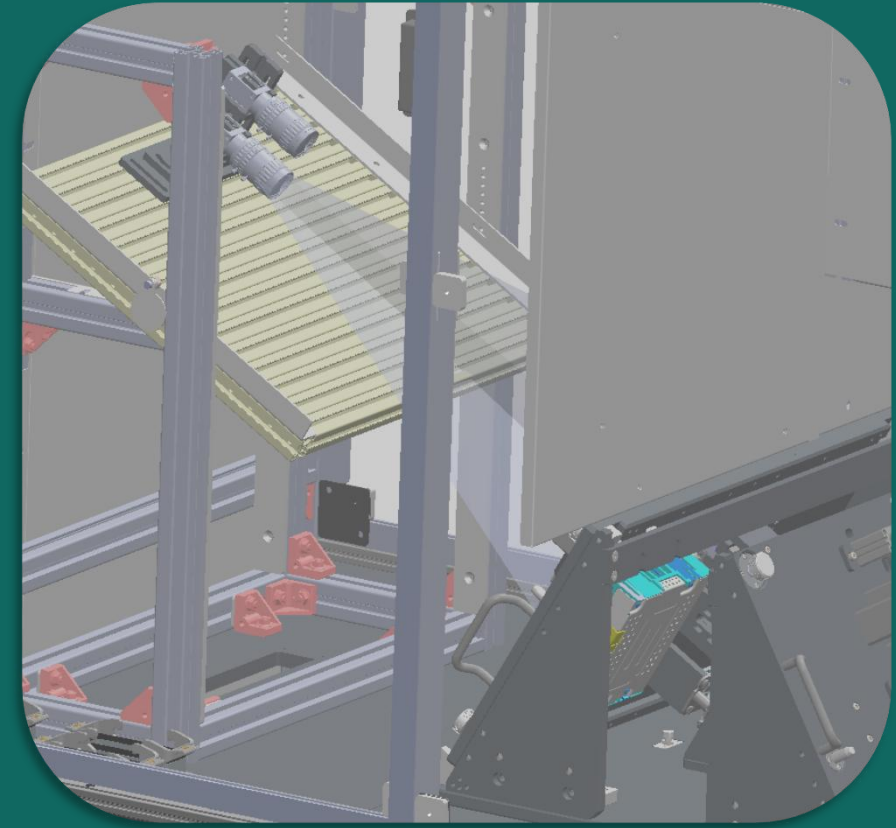
TESTING MACHINE - PALLETIZING

VISION & LASER

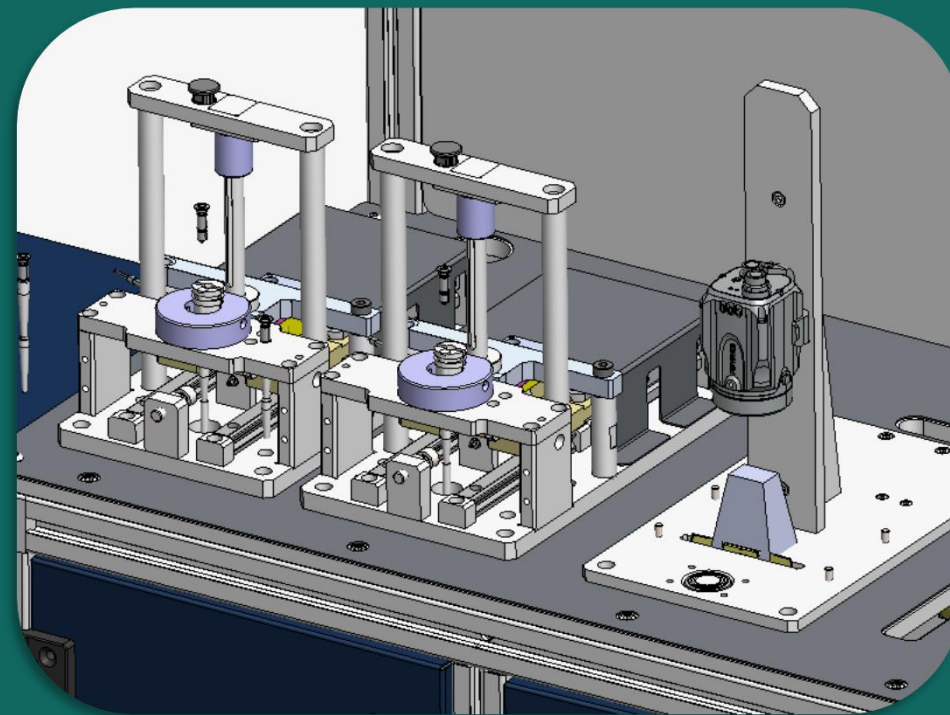
Classultimate delivers vision systems for color confirmation, cluster testing, OCR inspection, and part detection—driving high accuracy, automatic pass/fail, and full traceability on the line.



COLOR & ENGRAVING CONFIRMATION



INFOTAINMENT CLUSTER TESTING



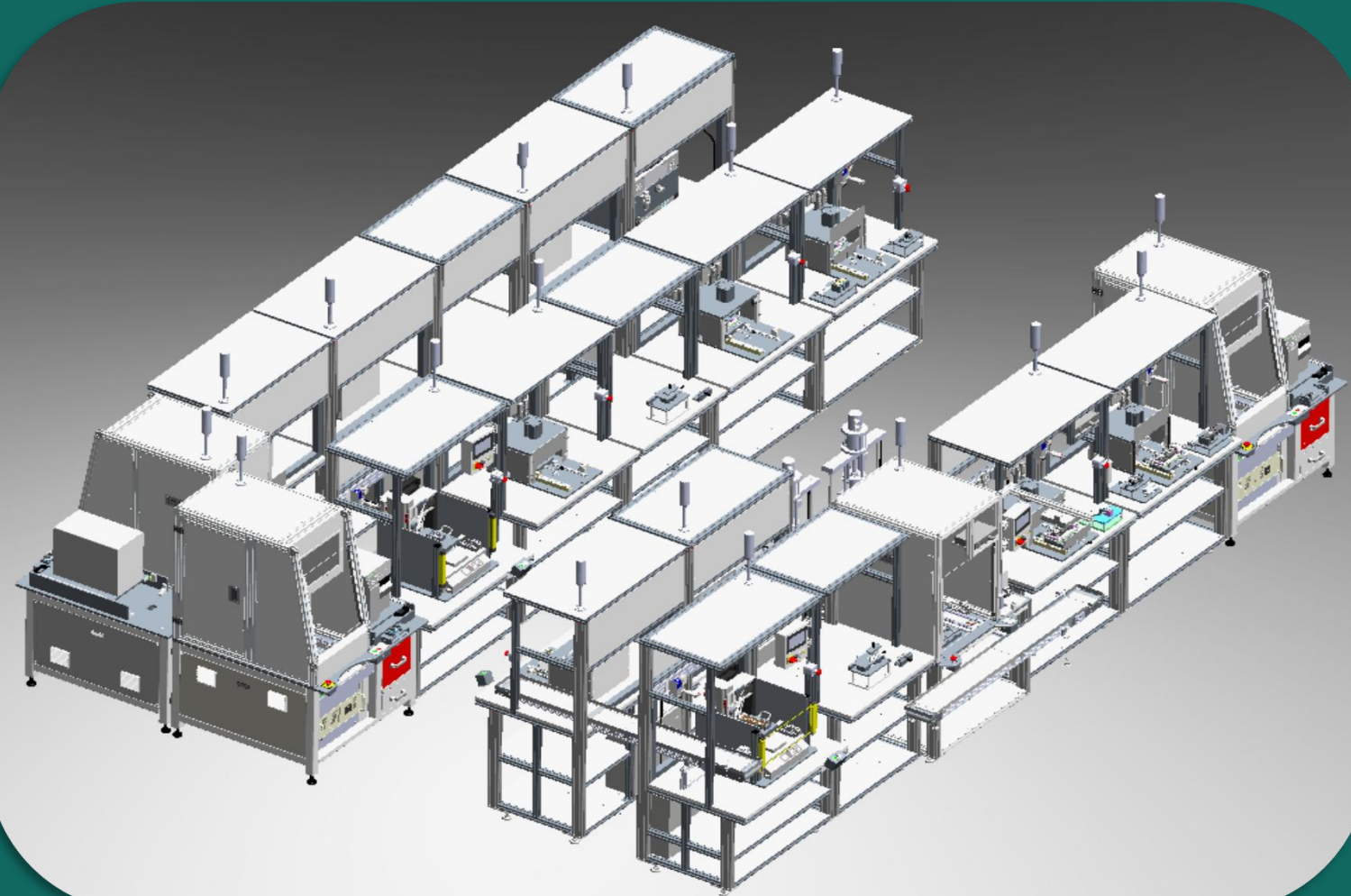
O RING PRESENCE



OCR INSPECTION

Our Machines

We design and develop semi automated assembly lines for automotive switches, ensuring consistency, productivity, and traceability across production. This line includes multiple greasing application, Clipping application, Screwing application, adhesive dispensing etc.. Our End-of-Line Testing (EOLT) solutions validate electrical, mechanical, and functional parameters to guarantee 100% defect-free delivery to OEMs.

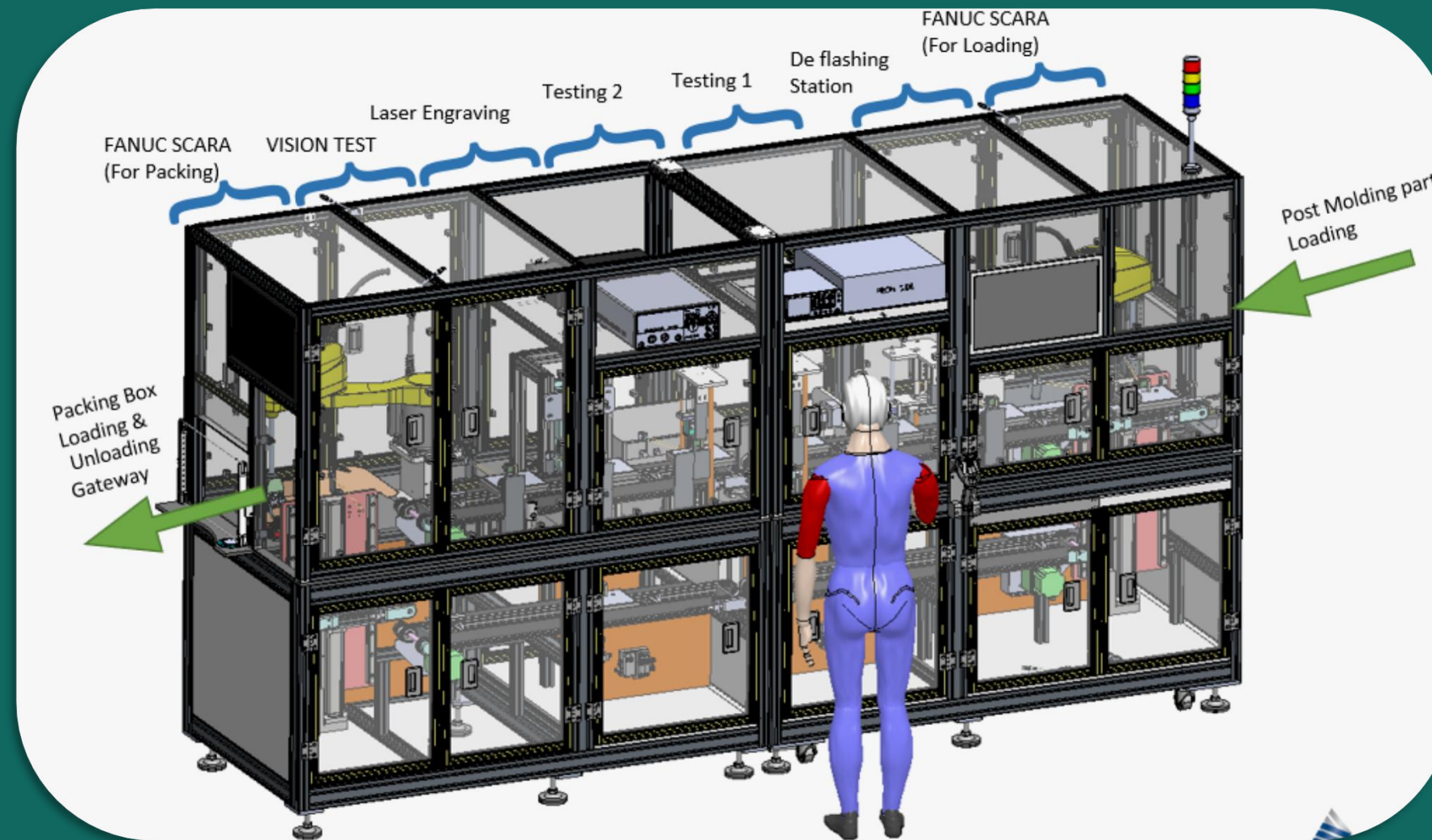


CL-4 AUTOMOTIVE SRC ASSEMBLY LINE
CUSTOMER - KOSTAL



Our Machines

We provide advanced automation solutions for solenoid coil performance testing and packing. Our system ensures accurate functional validation, electrical performance verification, and seamless integration with packing operations. This improves efficiency, reduces manual errors, and guarantees consistent product quality for high-volume production lines.



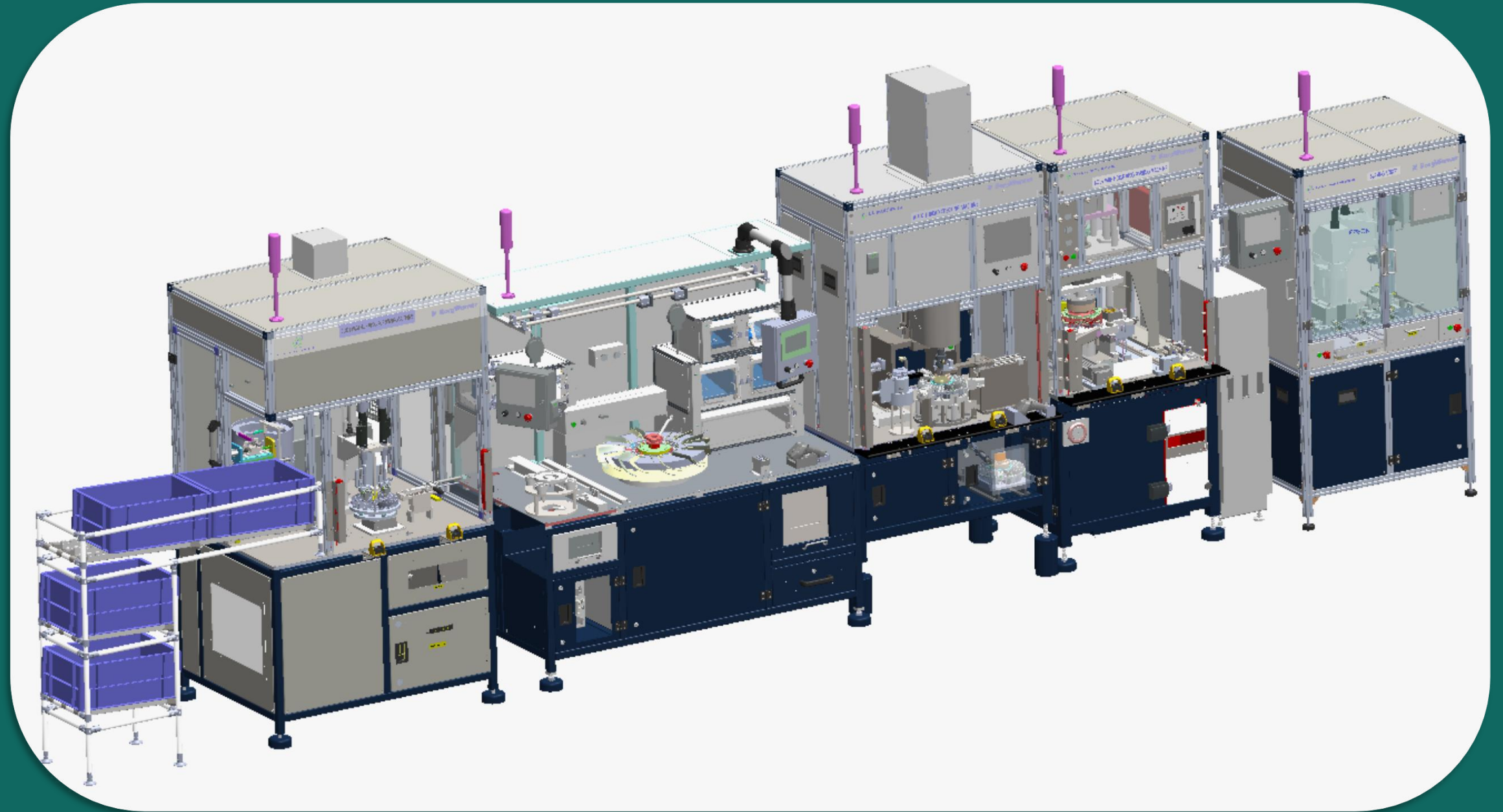
SOLENOID COIL TESTING AUTOMATION - EMERSON



Our Machines

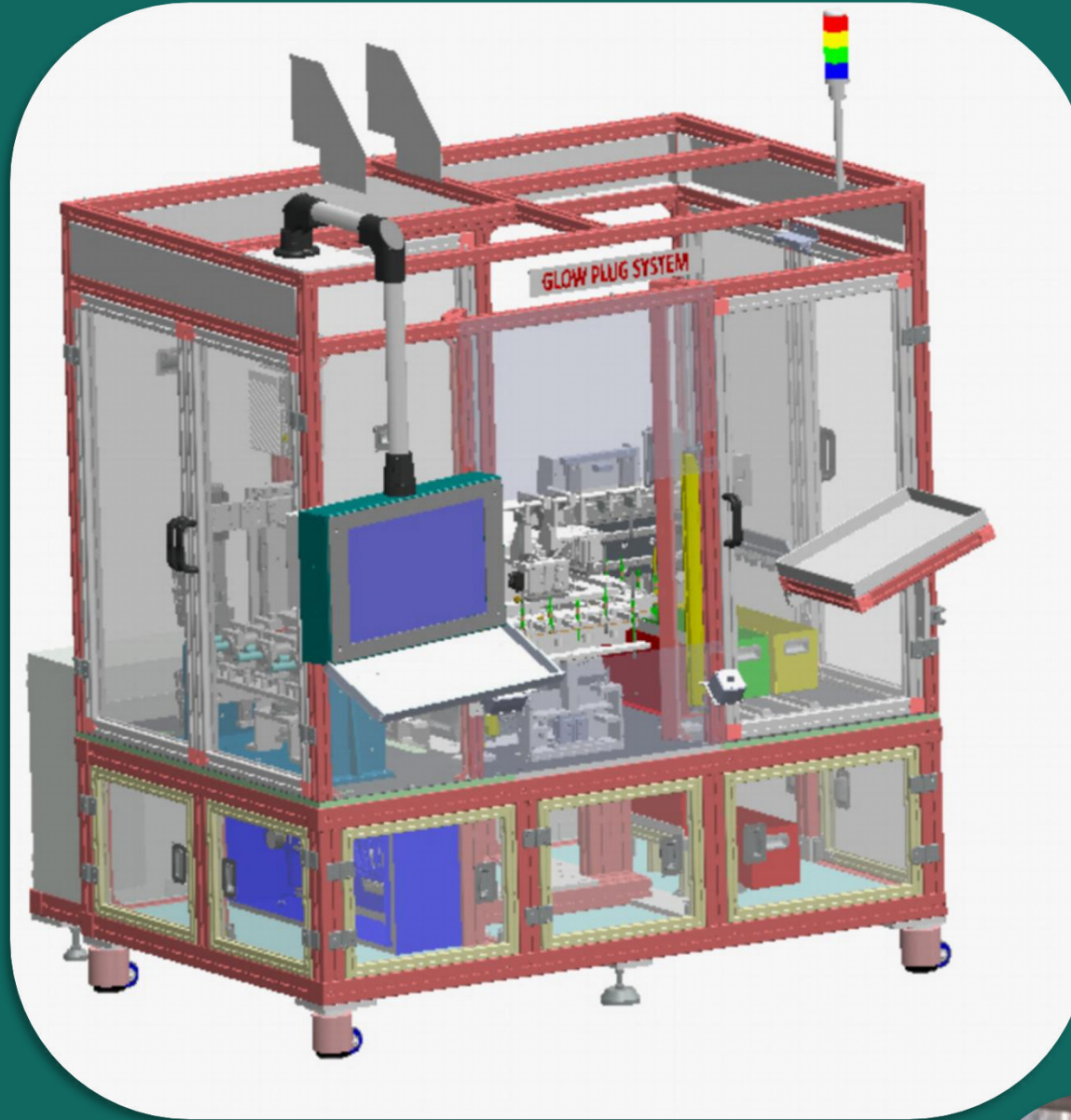
We design and manufacture fully automated assembly lines for cooling fan drives used in heavy-duty trucks. The line integrates multiple advanced processes like Auto Riveting & Screwing, Auto Thread Checking, Fan Trimming Station, Pick-by-Light Guided Assembly, to ensure precision, consistency, and reliability in production.

VISCOTRONIC FAN ASSY LINE
CUSTOMER - BORGWARNER

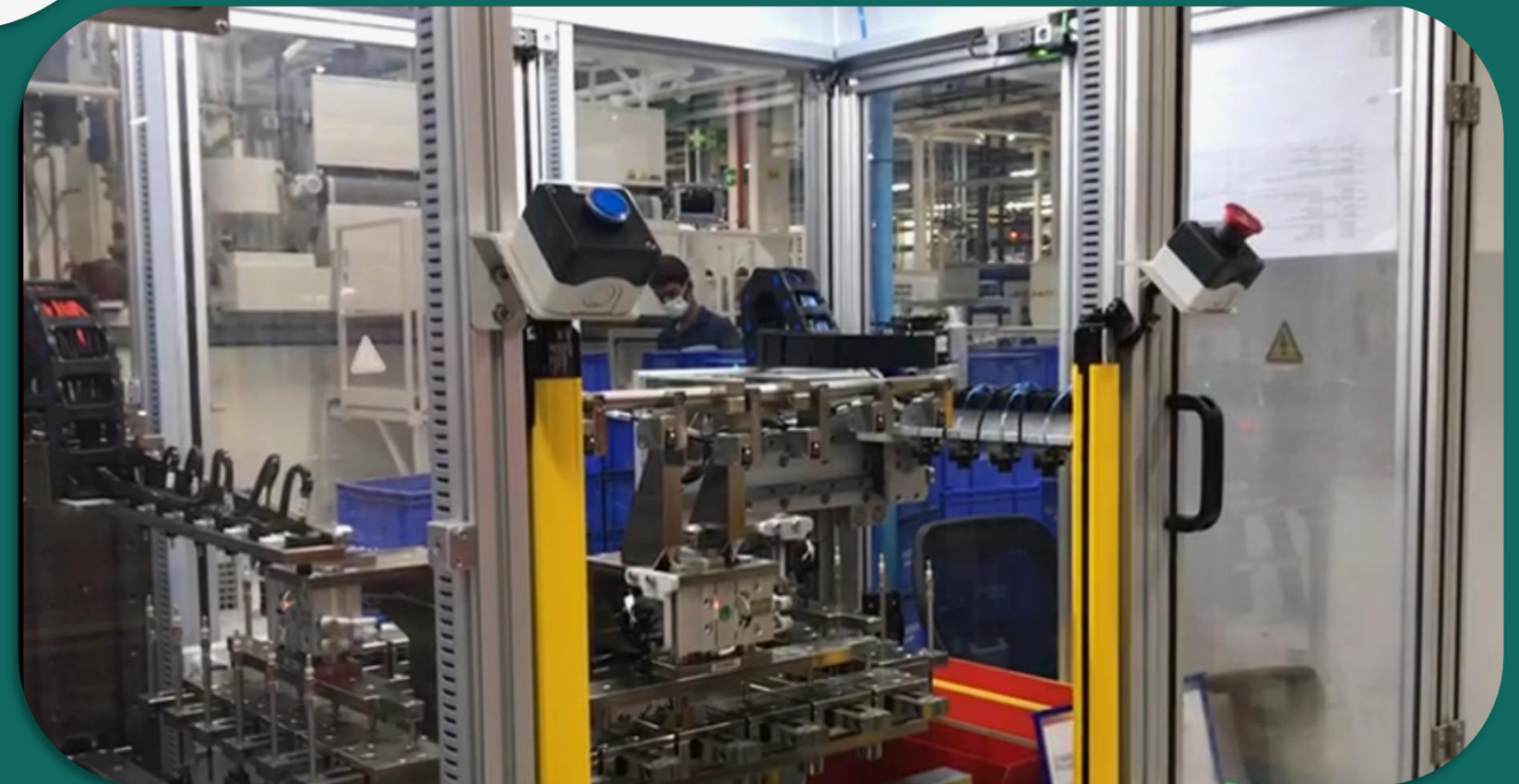


Our Machines

Our automated performance testing machine for glow plugs measures heating characteristics, current draw, and response times under controlled conditions. This ensures reliability and compliance with strict automotive emission and cold-start requirements.

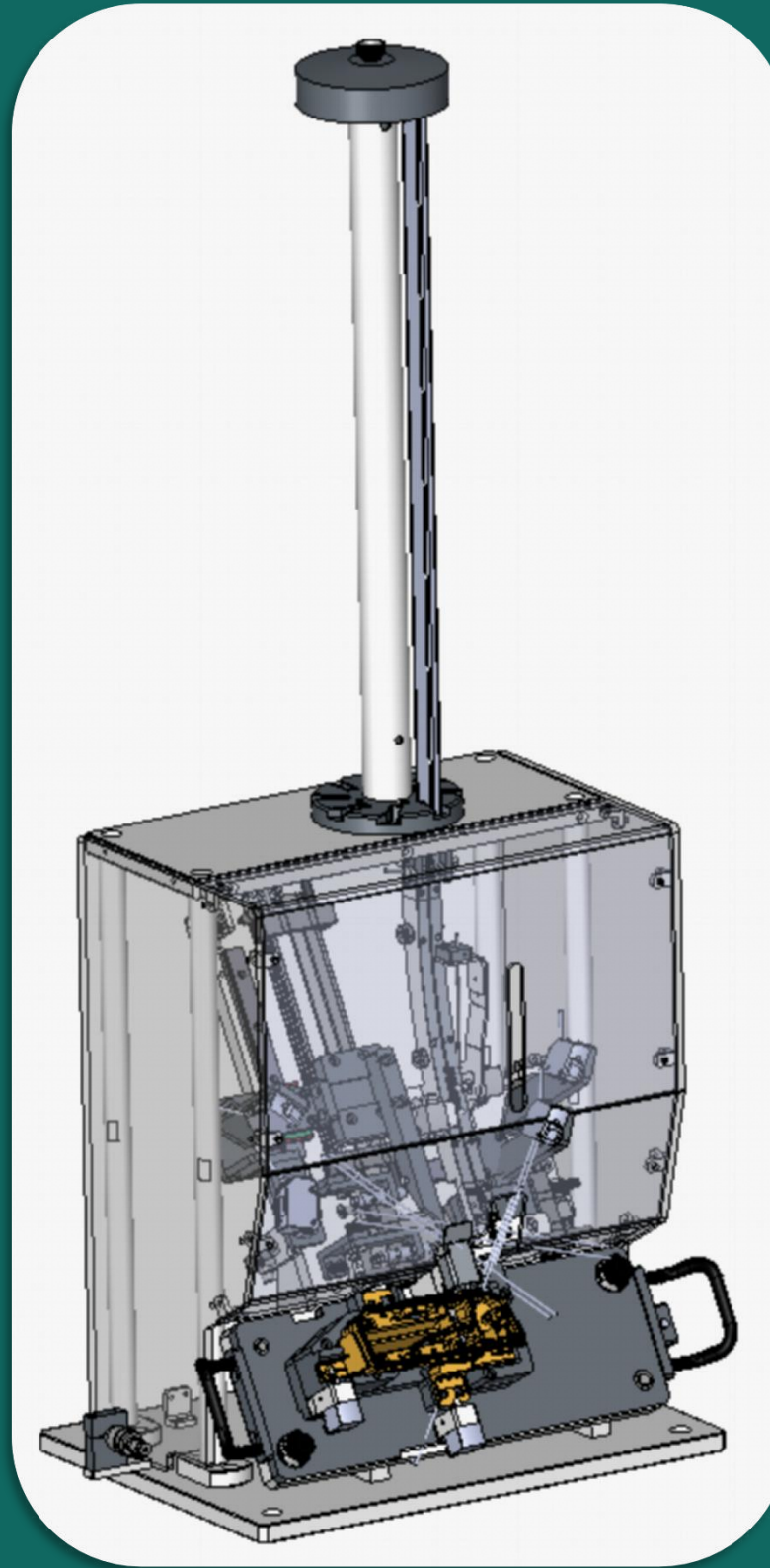


**AUTOMOTIVE COMPONENT GLOW PLUG
PERFORMANCE TEST
CUSTOMER – BOSCH**

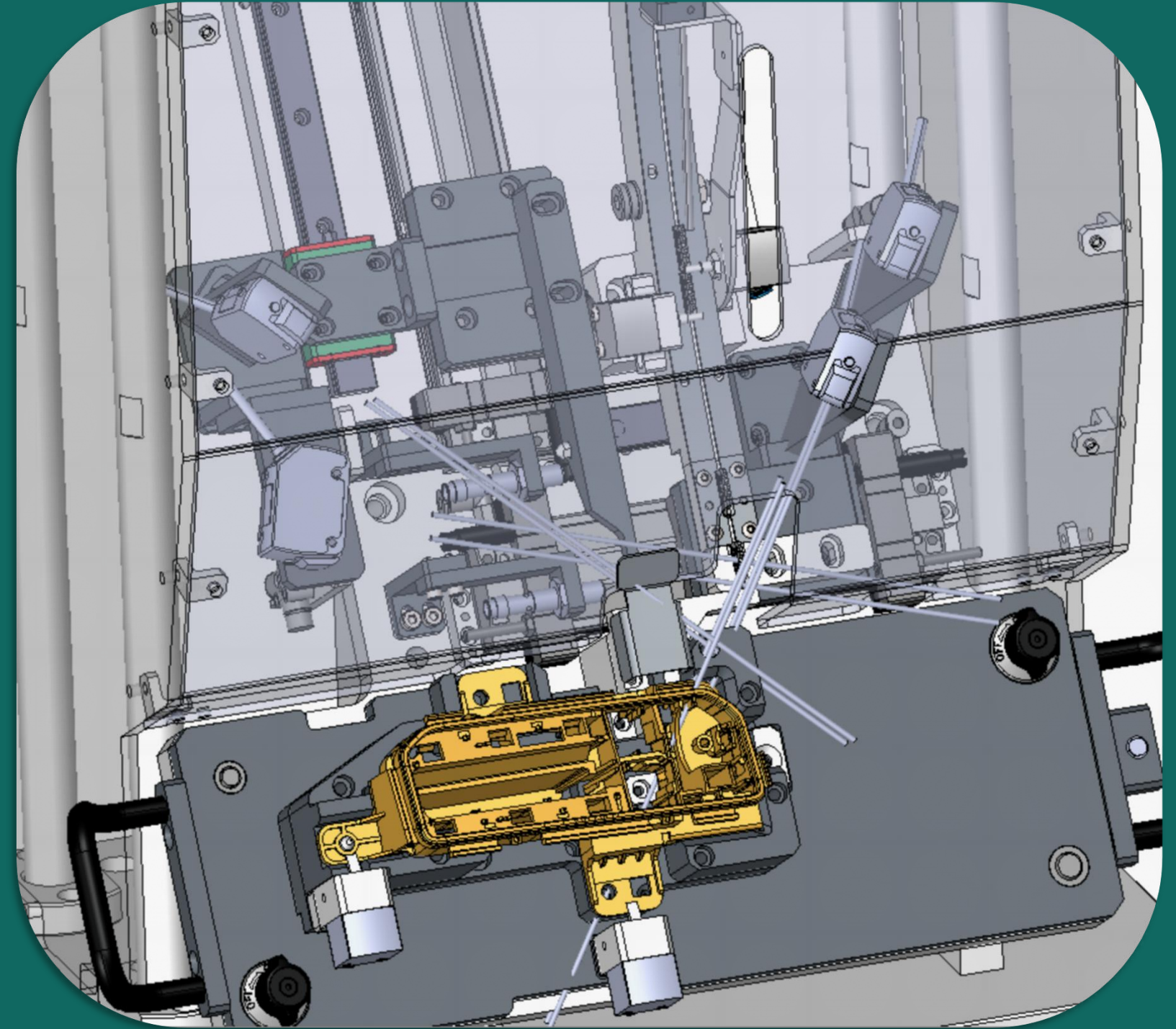


Our Machines

Classultimate builds high-precision fine-parts assembly machines—handling tiny components gently with zero damage and micron-level accuracy.

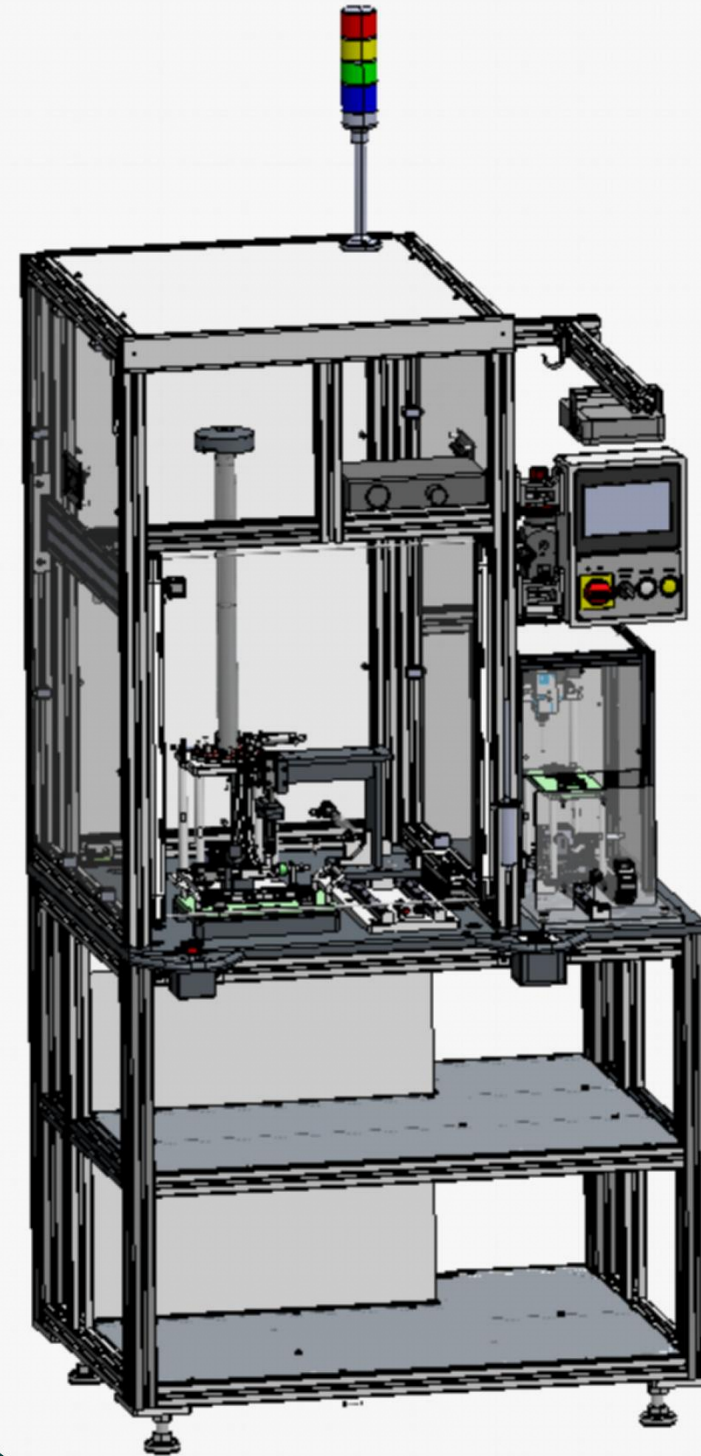


PERIPHERALS AUTO ASSEMBLY

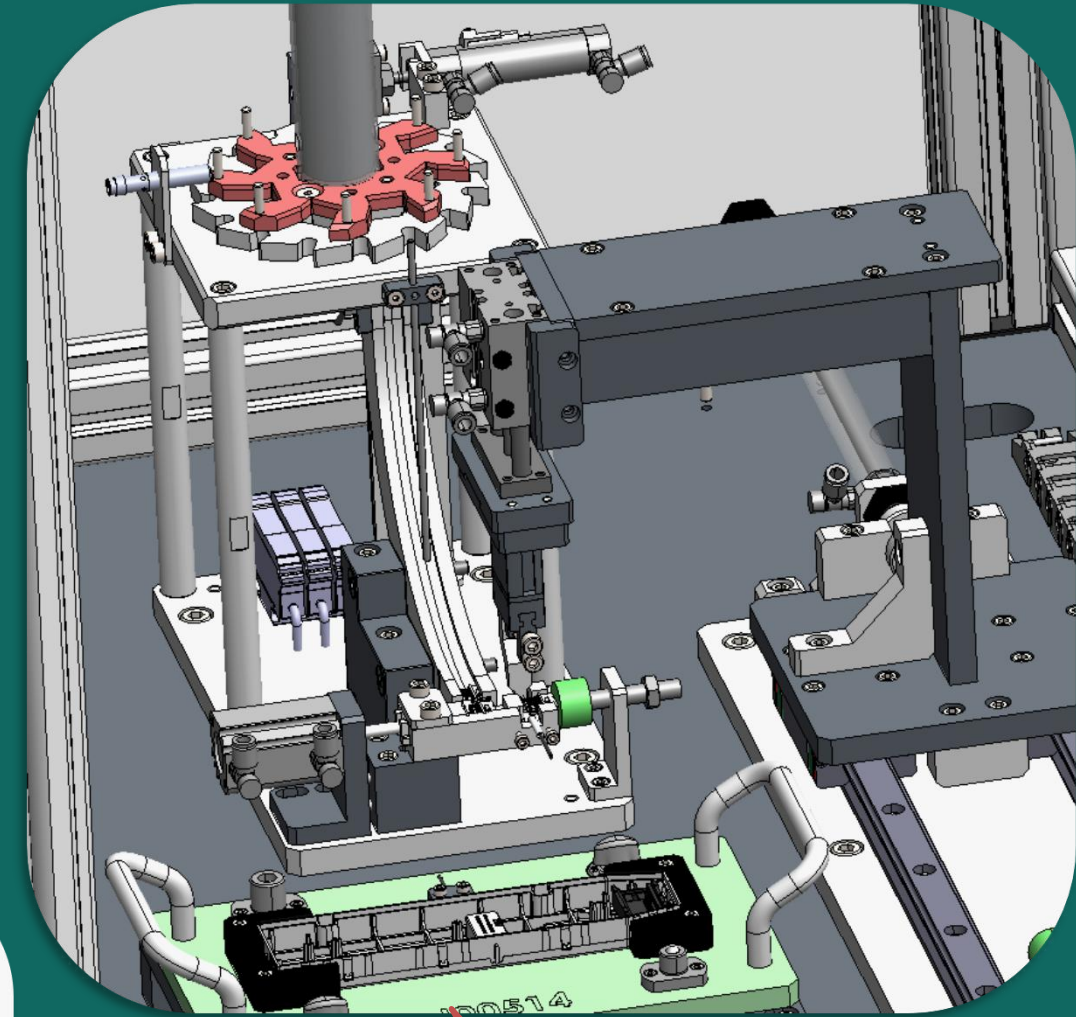


Our Machines

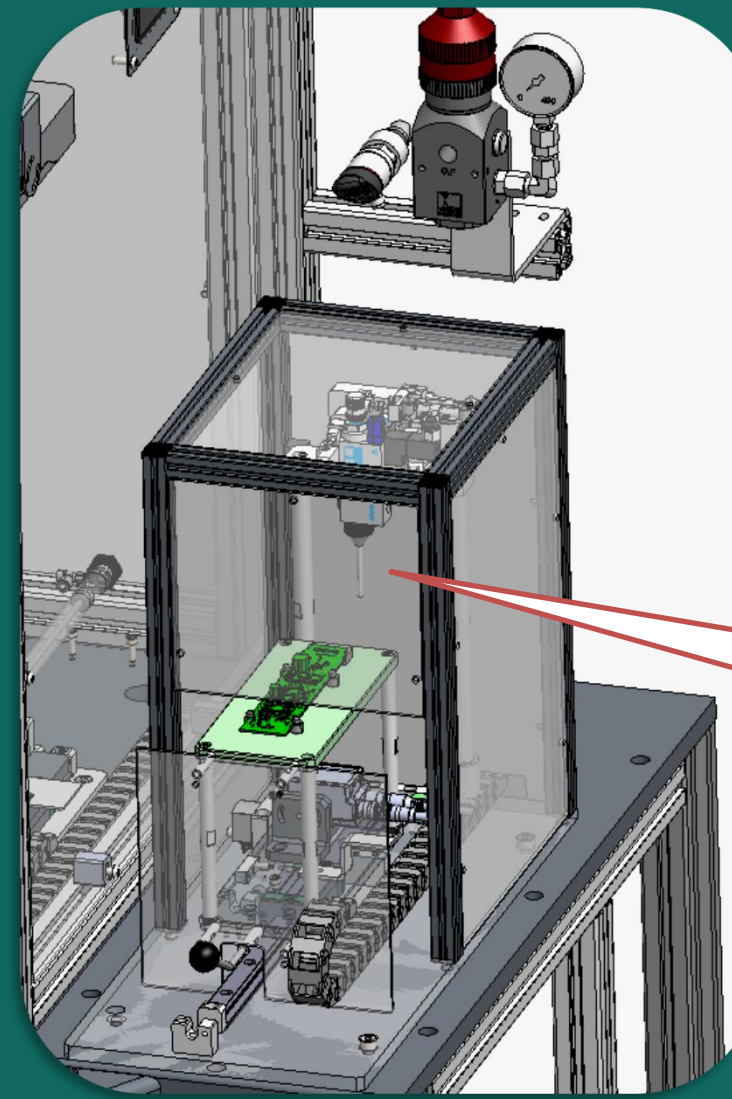
Classultimate provides precision parts assembly and PCB greasing solutions for automotive lines—precise, consistent, and in-line verified.



MULTIFINGER ASSEMBLY AND GREASING ON PCB



Multifinger Assembly



Greasing

Our Machines

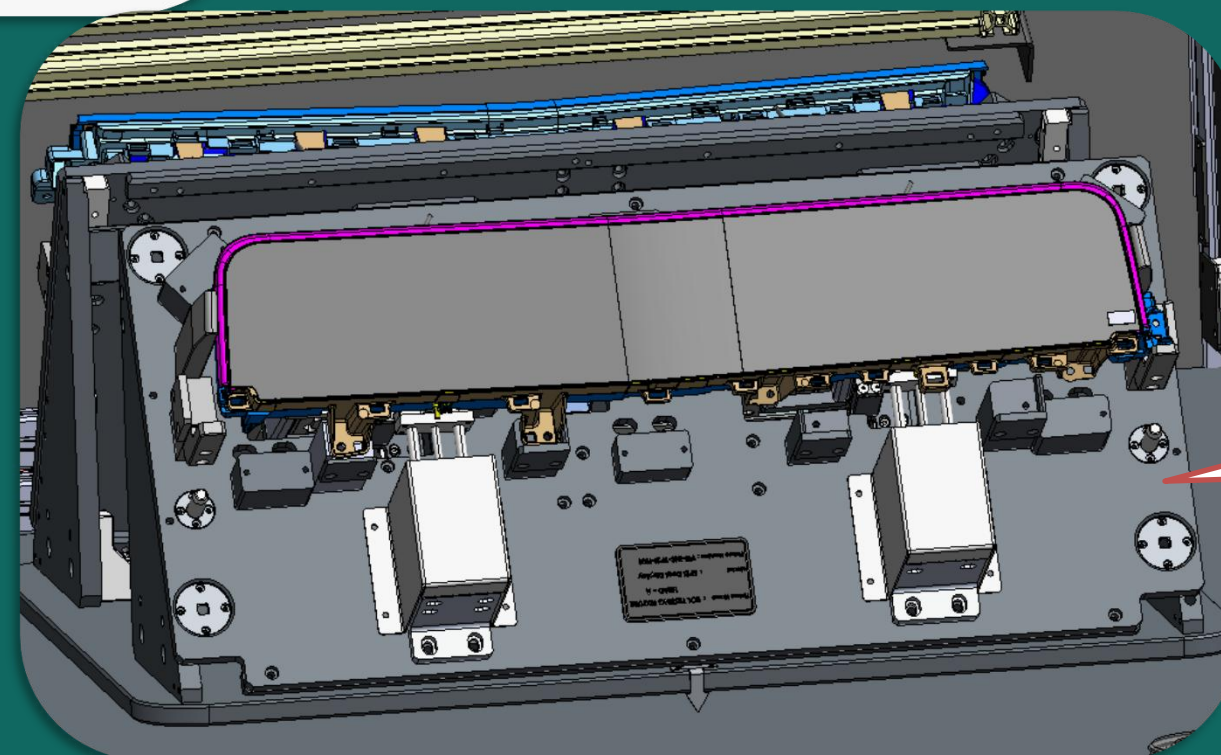
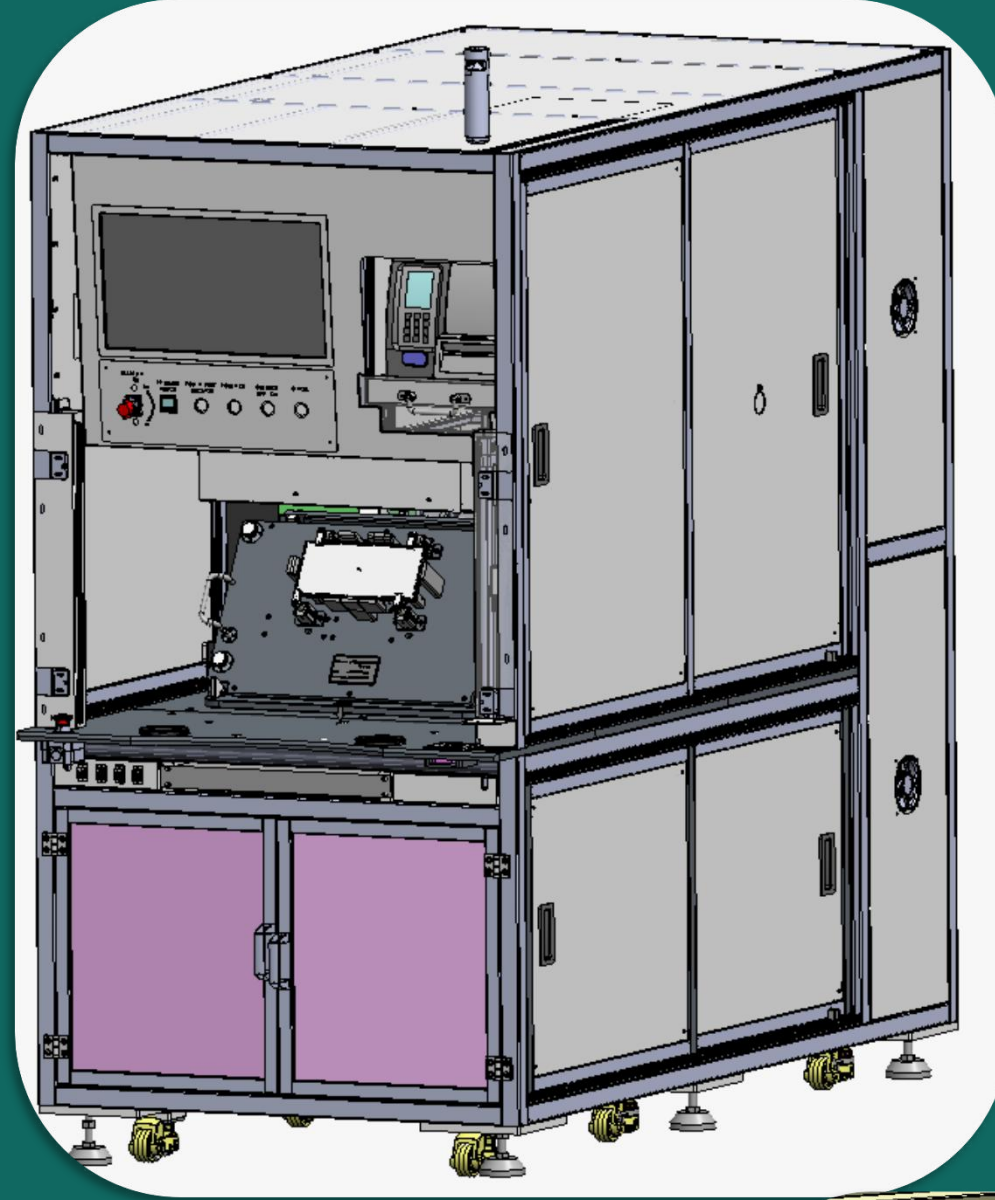
We provide advanced Flash Kit programming services to help you save time and streamline your production. Our flash kit solutions allow for the efficient and accurate programming of microcontrollers and other programmable components directly on the PCB. This is an essential step for loading the necessary firmware and software onto the board, ensuring it is ready for immediate use in its final application.



Our Machines

Comprehensive EOLT systems for display clusters validate illumination, graphics rendering, communication protocols, and electrical performance. The system ensures zero-defect products before dispatch, enhancing driver safety and user experience.

AUTOMOTIVE INSTRUMENT CLUSTER EOLT CUSTOMER – VISTEON



Cluster
testing
setup

Vision Ahead & Strategic Goals



Next-Gen Smart Automation

Focus on integrating AI and machine learning into testing and inspection systems for predictive maintenance and real-time optimization.



Expansion into New Sectors

Plan to extend automation solutions into aerospace, renewable energy, and high-precision medical device manufacturing.



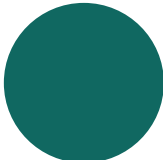
Digital Twin & Simulation

Developing virtual models for early validation and design optimization, reducing lead times and prototyping costs.



Sustainability & Green Manufacturing

Commitment to energy-efficient automation systems that minimize waste, optimize resource usage, and align with global ESG goals.



THANK YOU