

Industrial Automation: Custom Automation, Built Right

A Manufacturing Case Study

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V SOLUTIONS GLOBAL



Overview

Two North American automation manufacturers needed a reliable engineering design partner to accelerate complex custom projects. V Solutions Global bridged the distance, delivering tailor-made solutions not available off the shelf—on time, every time, since 2020.

50%

Cost Reduction

90%

First-Pass Acceptance

100%

Custom Solutions



CHALLENGE

Scaling capacity without compromise

Michigan-based automation clients — serving Automotive OEMs, Plastics, Medical, and Food & Beverage manufacturers — needed design engineering capacity to complement internal engineering teams.

The key challenge: collaborating remotely from India without access to the manufacturing floor, while still delivering complex custom solutions on demanding schedules with zero quality compromise.

Each project required unique thinking: balancing cycle time, cost, material availability, vendor lead times, and manufacturing feasibility for machines that don't exist as standard market products.



SOLUTION

Dedicated teams, structured lifecycle, proven process

V Solutions Global deployed dedicated teams of 3–4 automation design engineers per project, working across the full design lifecycle: input study, concept development, intermediate design review, final detailing, 2D drawing creation, and project submission.

Solutions delivered included line automation systems, robotic pick-and-place, sonic welding machines, clip insertion tools, and vision inspection systems — all custom-built to specification.

Design checklists, redline-greenline reviews, and standardized procedures systematically reduced rework and improved quality across every engagement.



Automation Capabilities

Robotic Line Automation

Robots integrated for assembly, welding, packaging — enhancing efficiency, precision, and safety.

Vision Inspection Systems

Camera-based quality control for part alignment, defect detection, and assembly verification.

Automated Material Handling

AGVs, conveyors, and control systems minimizing human intervention across production operations.

Automated Welding

Robotic welding for consistent quality and speed across automotive and manufacturing sectors.

Controls Design Support

PLC programming, electrical circuit design, and system integration for efficient operations.

CNC CAM Programming

CAM software translating design models into precise machine code for CNC manufacturing.



Results Measured in KPI Improvements

+50%

Reduction
Engineering Cost

+20%

Reduction in Design
Cycle Time

+90%

First Pass Design
Acceptance

Zero

Major Design Rework

100%

Custom Machine Designs



THANK YOU

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