



Case Study | Automotive

CHASSIS DESIGN BATTERY ELECTRIC VEHICLE

THE CLIENT WAS LOOKING FOR A PARTNER WHO HAD EXPERIENCE WORKING WITH AUTOMOTIVE ORIGINAL EQUIPMENT MANUFACTURERS (OEMS) AND TIER 1 SUPPLIERS IN THE BIW DOMAIN. SPECIFICALLY, THEY WERE SEARCHING FOR EXPERIENCE WITH IN-PROCESS PLANNING, ROBOT PROCESS SIMULATION AND OFF LINE PROGRAMS FOR ALL BIW SEGMENTS.

THE CHALLENGE

- Handling multiple BIW production lines, each with diverse process standards, for different OEM vehicle programs and mixed metal body structures.
- Consolidating the BIW platform utilizing flexible manufacturing and modular body design.
- Reusing assets of existing facility for new product introduction (NPI) while providing harmonization.
- Creating a visible and transparent production system while balancing volume flexibility and rigidity.
- Debugging shop floor to develop standard operating procedures (SOP) and product sustainability.
- Project scope varying from green field (setting up new production lines) to brown field (integrating new models on existing production lines).
- Meeting the client's expectations considering they had never outsourced a program to this degree.

THE COMPANY

One of the world's leading suppliers of intelligent, robot-based automation solutions for international customers including leading automotive OEMs and general industry manufacturers.



THE SOLUTION

- Conducting a manufacturing assessment, including process planning and detail process engineering, and adopting a logical approach.
- Developing a flexible assembly line, including complex tools and manual and robotic parts, to accommodate multiple high-end models.
- Designing BIW robotic assembly line including various joining processes (i.e., spot welding, self-piercing rivets, gluing, clinching, hemming, etc.).
- Focusing on resource utilization, and using cutting-edge simulation tools, to validate all processes.
- Utilizing experience and expertise, and incorporating OEM standards, while determining whether to handle as a green field or brown field project.
- Owning all technical aspects from process planning to product launch while meeting OEM constraints.

THE RESULT



Optimized process solutions led to cost savings



Reduced installation and commissioning time, decreased time to market



Process optimization and quality management



Flexibility, standardization, and reutilization of production setup

ABOUT US

Tata Technologies is a global engineering and product development IT services company that is focused on fulfilling its mission of helping the world drive, fly, build and farm by enabling manufacturing companies across the automotive, aerospace and industrial heavy machinery verticals realize better products and drive efficiencies in their businesses. There are two components to our value proposition – managing and delivering outsourced engineering services and products for our manufacturing clients, and helping them identify and deploy technologies that are used to conceptualize, design, validate, build, test, benchmark and realize better products. For more information, visit www.tatatechnologies.com.