ROBOTIC SIMULATION
AES AUTOMOTIVE DIVISION

Departments

BIW FIXTURE DESIGN

ROBOTIC SIMULATION
AES Automotive group is well trained with good understanding of Automotive BIW Welding Fixture and Robotic simulation concepts, and can work for different customer standards and requirements.

AES uses its proven methodology of onsite and offshore resources to deliver value to its customers.

AES manages and executes various ongoing design and analysis projects with onsite project coordinators and offshore engineering staff located in India to provide better, faster and more cost-effective solutions to its global customers.
Project Organisation

- **Rama Chandra Panda**
  Vice President – Engineering

- **Govindarajan. V**
  Vice President – Operations

- **Raghuram. S**
  Director Of Engineering

- **Hariharan. G**
  Delivery Head

- **Saranya. S**
  Project Manager - Simulation

- **Simulation Engineers – 1,2,3…**

- **Suresh Kumar. N**
  Project Manager
  BIW Welding Fixture Design

- **Design Engineers – 1,2,3…**

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Provide various application services for Robotic Simulation of Automotive Components.

Operations

- Material Handling
- Spot Welding
- Sealant Application
- Stud Welding
- Pedestal Applications
Project Services

- Feasibility Study
- Process Simulation
- Design Simulation
- Design Validation
- Process Optimization
- Work cell Layout Design & Modeling
- Motion Simulation of Robots & Mechanisms
- Sequencing
- Weld Spots Distribution
- Offline Programming
Process Flow

Input Data (UG File OR Para Solid File) → Feasibility Study

Feasibility Study → Stage-1 Sim

Stage-1 Sim → Intermediate Delivery-1

Intermediate Delivery-1 → Final QC Check

Final QC Check → Documentation

Documentation → Final Delivery

Final Delivery → Customer Feedback

Offline Programming

Stage-2 Sim

Stage-2 Sim → Intermediate Delivery-2

Intermediate Delivery-2 → Final QC Check

Final QC Check → Documentation

Documentation → Final Delivery

Final Delivery → Customer Feedback

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Feasibility Study

- Reacheability study with the input tools
- Placement of the tools and the robots
- Feasibility study of spots
Stage 1 Simulation

- Approval of Tooling and Facility Designs
- Initial Path Creation
- Swapping of the Spots if Needed
- Initial Programming
- Process under cycle.

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Stage 2 Simulation

- Robot Path Finalization
- Collision free Workcell
- Finalization of Robot and Tooling Placement
- DXF out of the tool placement
- Swept volume Creation
- Payload Entry
Offline Programming

- Final Programming
- Attributes entry according to customer standards
- Fixture Programming
- Sequence Creation
- I/O Connection
- Cycle time under Control
Documentation

- Weld Matrix Creation
- Robot Data Sheet Creation
- SIM Status Report Creation
- Open Issues Report Creation
- Cycle time Report Creation
Innovative Steps to Excellence.....

Simulation Software

• UltraSpot
• Robcad
• Igrip

CAD Software

• Pro E
• Unigraphics
• Catia V5
• Solid Works
• Inventor
• Autocad

24 * 7 Service
Development Centers In India

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Proposed Offices
Europe       : Germany
Asia-Pacific: Japan / South Korea

OUR OFFICES

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