SEGMENT: AUTOMOBILE INDUSTRY
APPLICATION: TWO-WHEELER FRAME WELDING SYSTEM
ORGANIZATION: YASKAWA INDIA PVT.LTD.

DESCRIPTION:

Yaskawa is Providing total robotic solutions for all unique and standard welding applications in Automobile Industries. The system is for welding the two-wheeler frame in single robotic cell with 13 stages of welding process.

- **OBJECTIVE:** A Complete Robotic Automated solution in Frame Welding for Efficient, repetitive high-mix production. The system Designed to handle small- to medium-sized parts .which has small footprint for efficient use of space.

- **SYSTEM OVERVIEW:**

The project consist of 5 robotic half frame welding cells with total 10 positioners and 10 fixtures also 1 Full frame Robotic cell with 1 fixture and 2 manual fixture's in total for 1 variant. the project enabled customer to use different model's in provided cell with change over fixtures. we have integrated system with yrc-1000 controller ,SR-350 power source and Mitsubishi plc.
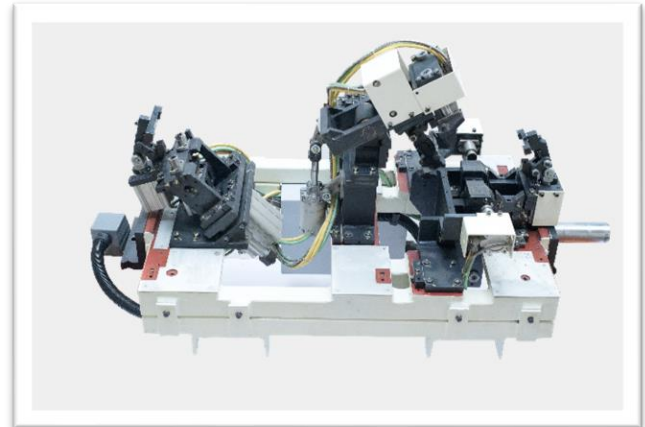
SCOPE OF SUPPLY:

- Robot : AR 1440

- Controller : YRC 1000

- PLC Communication: CC LINK

- Fixtures : Pneumatic fixtures with

   auto clamp de-clamp and position feedback

- No. of variants : up to 10 Variant in Each Station's

- No. of Robots :7

- PLC panel & Operational Panel

FRAME MODELS
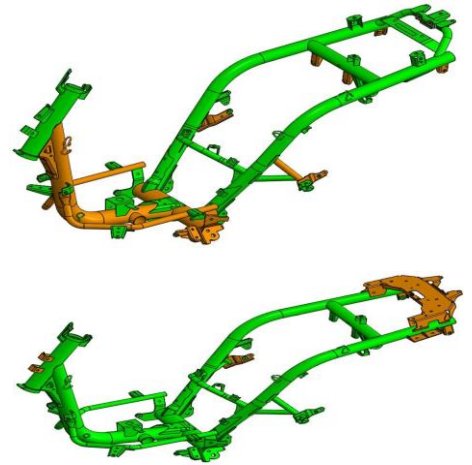
FIXTURE IMAGES

OBJECTIVE OF ROBOTICS & AUTOMATION:

- To increase production volume

- To achieve uniform quality in and preventing rejection

- To maintain single output line for different variants

- To reduce manual work.

PROCESS DESCRIPTION:

- The total frame welding is designed in multiple stages of welding assemblies in designated fixtures and this process includes multiple robots and welding cells.

- After welding of each assembly, the frame will be shifted to next station and according to the process requirement the welding is executed in automated mode.

- At the final stage full welding is done on full frame cell and the welded frame will be shifted to revise jig, for revising and final dimension adjustment.

MODELS VARIANTS:

Frame Variant's : 10 variants per station for change over fixtures.

SUCCESS POINTS:

- Provided all variant of frame's Implement in one cell design.

CELL VIEW- FULL FRAME CELL

CELL VIEW- HALF FRAME CELL