

FST Integration Example

Integration Background

The example Integration project was called the Client A Project. The integration was for Fabrication Solutions & Technologies (FST) of Longview, Texas, to specify from scratch a turnkey tank manufacturing facility for commercial tanks. The client was the business and engineering division of Client A.

Integration Goals

1. Determining minimum and maximum dimension of approximately 50 different tanks
2. Research equipment:
 - Fiber Laser
 - Material handling tower
 - Plate roll with automated feed table
 - Seam welder
 - Robotic nozzle welder
 - Circumferential welder
 - Pressure test machine
 - Manual welding packages
4. Specify all equipment that does not exist to manufactures for quotes
5. Dimension equipment
6. Develop workflow and shop layout diagrams
7. Conduct line balancing

8. Write weekly reports on progress
9. Determine budget
10. Determine lead times
11. Create FST sales pitch PowerPoint

State of the Art

The Client A tank project had two aspects that would be considered state of the art in the tank manufacturing realm. First aspect: FST asked both prospective circumferential welder manufacturers to determine the viability of a circumferential welder that can weld the girth seam of both round and rectangle tanks. Doing so would negate the need for two separate but similar machines. Second aspect: FST asked both circumferential welder manufacturers to integrate nozzle welding capability into their circumferential welders in order to eliminate an entire step and robot from the assembly line. Either one of these new features would revolutionize tank manufacturing as it is now known for the cost of the otherwise needed robot and initial R&D.

Description of Work

In order for FST to meet the deliverables, FST worked diligently with manufacturers from California, Texas, Italy, and Austria to specify all necessary equipment. This required multiple phone calls, emails, CAD drawings, and occasionally hand drawn sketches of concepts. The client's anonymity was maintained by exercising non-disclosure agreements and not sharing pertinent details about the clients name or geographic location.

Results

The deliverables include three reports, three workflow diagrams, line balancing, lead times, and run rates tables, and the PowerPoint pitch.