Redesigning a Train Loading System

Client
Leader in designing and manufacturing customized material handling equipment, based in US.

Business challenge
The client gets customized orders from its customers to build machines capable of loading trains in motion. To do so, they needed plans and an equally capable team who understood and executed complex build requirements. Challenges for these systems included:

- A need for the provided team to study and understand existing designs
- The preparation of a new conceptual 3D design, keeping the client's manufacturing capabilities in mind
- The creation of manufacturing drawings aligned with the client's standards
- A sizeable field population of existing machines

Approach
ThoughtFocus followed a systematic approach in meeting all requirements:

- Understanding the client’s requirement and detailed build plans
- Developing new conceptual 3D mechanical diagrams from scratch
- 3D diagrams were analyzed and simulated to check functionality
- Reduced manufacturing time by optimizing the design to select correct material thicknesses and welding times
- Optimized manufacturing costs and production; thereby reducing the number of outsourced and machined parts and selecting the appropriate parts from vendors
- Manufacturing drawings were prepared and released to shop

Business benefits
- Improved manufacturing process
- Improved product design
- Reduced new product development time

Results
The approaches taken to execute and optimize the design have shown positive results, meeting client’s requests and capabilities:

- The designed train loading system satisfied all client requirements, including flow control and collapsible systems
- Reduced manufacturing time by over 20%, costs by more than 10%; thereby enabling the client to ship the product on a tight schedule with higher gross profits

ThoughtFocus is a US based, privately held consulting, software engineering and business process management firm with offices in the US, India and the Philippines. We help clients in avionics, education, financial and insurance services, manufacturing, payment and loyalty solutions industries with their key business and technology challenges.

ThoughtFocus is a Blackstone Innovation Fund portfolio company.