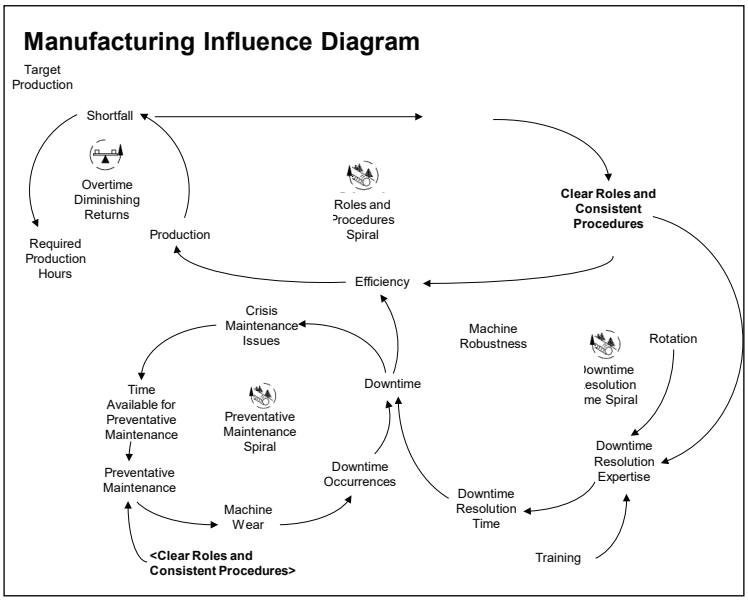
Manufacturing Operations Improvements At Tier 1 Automotive Fuel Tank Supplier: Turning Around A Complex Operation To Enhance Productivity

The Challenge: AutoTank is a Tier 1 automotive supplier supplying completed fuel tank assemblies to vehicle assembly plants. It has 1 manufacturing and assembly facility that produces 25+ different varieties of fuel tanks on 6 different manufacturing lines for more than a dozen customers. Recent changes in product mix and raw materials, as well as the implementation of new, highly automated assembly lines, had a negative effect on AutoTank's bottom-line performance, with both manufacturing and labor costs exceeding targets. In addition, despite several efforts to rectify the situation by improving manufacturing efficiency, performance had plateaued for the past 24 months. We were brought in to determine why performance had stalled and to identify the key steps needed to restore profitability via improvements in throughput, productivity, and cost.

The Partnership:

Analysis: Our diagnostic study of AutoTank's operations revealed the following:

- The operations were experiencing a great deal of unproductive time: frequent downtime in various areas of the tightly interconnected, synchronized lines quickly shut down the entire line
- Line start-up and changeovers were taking excessive time and resources, and scheduling was done based on forecasts that assumed peak performance
- The self-directed work teams (SDWT) were too large (40+ people per team) and were not structured or properly empowered to meet the goals AutoTank had set for them
- Roles and responsibilities of the SDWTs and salaried personnel were not clearly defined
- Feedback on business performance was rarely provided to the manufacturing personnel



Strategy: To break through the performance plateau and achieve the results they were looking for, AutoTank had to address the root causes of the complex, systemic issues affecting its operations. Our recommended path for AutoTank included:

- Smoothing the flow of the line by implementing an effective downtime management system to ensure rapid response to and resolution to unplanned downtime and to prevent problems from recurring
- Improving knowledge management practices to allow workers to gain expertise in particular jobs, while still providing the breadth and opportunity to learn multiple positions
- Restructuring SDWTs to be smaller and to ensure ready access to the tools, support, and measurement systems they need to take charge of and be accountable for their performance
- Clarifying roles and responsibilities at all levels of the organization, so that each person in the organization understands his/her contribution to making the operations work and achieving the business goals

Execution: AutoTank management organized 2 teams—one for line maintenance issues and the other for organization and training issues—to implement the recommendations

The Results: After executing these recommendations, AutoTank has realized balanced flow and improved performance of the synchronized lines through a 50% reduction in cumulative downtime and a ~25% increase in assembly line efficiencies.