

# Root Cause analysis shines light on key issues driving underperformance in material supply



Our client, a leading Aerospace & Defense company, designs and manufactures (new build and remanufacture) combat vehicles used by DoD. This client was experiencing a period of rapid growth, and faced challenges meeting customer demand.

Implementation Engineers was engaged to partner with this client in improving supply chain performance. Additionally, manufacturing bottlenecks were a challenge to meeting demand, and also targeted as an improvement focus area.

The company wanted to understand the root causes behind persistent material shortages with vehicle assembly lines. The scope of IE work was not only to resolve these immediate shortages, but to understand the underlying issues in order to drive sustainable improvement.

- APPROACH**
1. Implementation Engineers conducted **ERP deep-dives, focus interviews, and line-side observations** during the analysis. Additionally, a '**5-Why**' methodology using **pareto data** led to the identification of root cause issues.
  2. Three focus areas were identified that accounted for nearly 90% of the material shortages:
    - Supplier quality system
    - Engineering design
    - Material flow to the assembly line
  3. **Findings grounded in root cause, and backed by data** rather than conjecture, allowed the client to know where to focus Performance Excellence initiatives. Implementation Engineers developed this Performance Excellence roadmap, and worked jointly with the client to **manage and execute the myriad of initiatives** required to improve the business.
  4. Implementation Engineers (IE) worked with client team members from the production, material planning, purchasing, and quality departments to **validate findings along the way**, and ultimately implement the improvements.

**66%**

Material shortages due to part quality and engineering

**23%**

Material shortages due to delayed line-side replenishment

**81%**

Supplier quality issues due to design/first-article processes

*Our client, now armed with data driven analysis, can continue to confidently move forward with further improvement initiatives. These initiatives will drive to resolve root cause issues, and address chronic material shortages.*

