

Business Jet Manufacturing Throughput Case Study

Tactical Engineering Solutions (TES) provides practitioner-based consulting and training services that deliver measurable results for our clients. We work with our clients to understand their objectives, identify solutions that are capable of execution, and develop appropriate plans to achieve, validate, and sustain the intended benefits.

SERVICES:
Operations
Performance
Lean
Six Sigma
Rapid Improvement
Logistics
Quality Management
Program Management
Change Management
Collaboration and Time
Data Management
Training &
Certification



Problem: A new business jet producer was experiencing difficulty in achieving its productivity goals and wanted to develop a stable production environment leading to a substantial increase in production from 3 to 30 aircraft per month within a year.

Project Goal: The project goal consisted of the following key elements:

- (i) Develop a baseline for production stability through ongoing monitoring and constraint elimination.
- (ii) Develop a line simulation accounting for the measured variability and then develop the optimum layout solution.
- (iii) Revise the layout, moving peripheral activities such as subassemblies off the main build process.
- (iv) Develop and implement standardized work, provide subsequent line balance and deliver on internal and external capability to meet production goals.

TES conducted a baseline assessment through continuous monitoring of all built processes including customer delivery. Key constraint and blocked areas were simulated discretely to develop an understanding of those positions. Following a major line layout revision and rebalance, production levels of 16 aircraft per month were achieved.

Subsequent efforts focused on position specific training, additional training on specific first time through issues such as blind rivet installation and door install, improving material handling, introducing a supermarket and kanban system, and delivering one piece flow with all subassemblies offline. It was now possible to develop and deploy standardized work through a MODAPTS method developed specifically for the long routers deployed in the aircraft industry. At this stage performance peaked to 29 aircraft per month effectively achieving the performance target. This work was deployed in SAP MES.

Efforts at this stage shifted to reducing incoming travelled work and on supplier performance. Suppliers were interviewed and a list of 42 high impact suppliers was developed. Each received capability and capacity assessments and two suppliers were identified for ongoing performance support. TES improved the performance of these suppliers to reduce the effects of travelled work and supply shortages at the aircraft manufacturer, excluding commercial issues.

Benefits of Project:

1. Meeting performance targets despite supplier shortages.
2. Deployment of a mechanism to allow the company to tune its production.
3. Identification of issues and rapid support At suppliers.



Tactical Engineering Solutions Overview

SOLUTIONS:

Continuous Monitoring
Process Flow Mapping
Workstation Layout
(5S)
Material Movement
Problem Solving
Workgroup Development
End User Training
Supplier Development
Value Stream Mapping
Standard Work
Workload Optimization
Simulation
Six Sigma
Facility Layout
Visual Factory (Andon)
Pull Systems
Enterprise Performance

For more information on any of our products or services please visit us on the Web at:
www.tacteng.com

TES is a Manufacturing Engineering services firm focused on helping our clients develop **and implement** sustainable operational improvements that deliver measurable results. We work in a collaborative manner with you and your team through the difficulties of the implementation phase and we can ensure that changes deliver and sustain improvements for your customers and staff.

Our transformation work focuses on three elements:

- Developing new operating systems to improve productivity and flow using Lean Six Sigma techniques, with limited capital investments
- Creating the performance management system for leaders to monitor and improve performance
- Building realistic, practical capabilities and confidence that our clients will need to continuously improve

Our specialists in Lean Six Sigma can help clients deliver performance by:

- Developing transformation programs (e.g. labor and manufacturing efficiency improvements, process improvements)
- Supporting existing change initiative
- Conducting performance diagnostics
- On site facilitation for Value Stream Analysis and Kaizen events
- Creating performance management systems (e.g., tracking tools, accountability programs)
- Building organizational capabilities
- Executive leadership and coaching
- Zero cost productivity improvements

We bring best practices from leading manufacturers from around the world and a broad base of industries. We measure our success by the sustainability of our impact and the capability we transfer to clients.

About Us

Tactical Engineering Solutions is a veteran-owned/women owned disadvantaged small business, serving the business needs of both private and public sectors. Headquartered in Michigan, our roots originate in the manufacturing industry and as we have grown, our portfolio of resources continues to expand upon this foundation into other industries, to include Transportation, Electronics, Aerospace, Healthcare, Power, Department of Defense, and more.

It is this rich heritage that allows TES Engineering Solutions to support our clients with a first-hand understanding of the challenges that businesses face.

Tactical Engineering Solutions is registered with Dunn & Bradstreet and the Federal Government's Central Business Directory (CBDR)

VISION

TES execute programs that are on-time, on-budget and technically accurate to help our clients reduce overall cost and improve throughput while increasing customer satisfaction.



101 West Big Beaver
Road 14th Floor
Troy, MI 48084
Phone 248-687-1400
Fax 248-927-0671
info@tacteng.com
www.tacteng.com