Re-Engineering of Aircraft Engine Maintenance Processes

Customer Case Study
MTU Hannover – A Daimler Company
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MTU Maintenance Hannover
Drivers

Typical market drivers that impact engine maintenance companies like MTU Maintenance Group:

- Reduced Costs
- Improved Quality
- Reduced Cycle-Times
Objectives established by MTU Maintenance Group in order to address market drivers:

- Restructure Production Processes
- Transition from Workshop Based Flow to Material Based Flow
MTU Maintenance Hannover
Langenhagen, Germany Facility

Centerpiece of MTU Maintenance group; responsible for:

- GE CF6-50, CF6-80C2,
- Pratt & Whitney PW2000
- International Aero Engines V2500, CFM56-7

Plant Features Include:

- Laser Welding
- Laser-Machining
- High Pressure Water Stripping
- Plasma Spraying
MTU Maintenance Hannover
Challenges

Workshop Characterized by Numerous Individual Stations

Material Meanders from One Station to the Next

- Material Flow Difficult to Follow
- Control Factors are High and Included:
  - Personnel
  - Material
  - Deadlines
  - Tools
- Nothing is Coordinated
Primary Control Element:

- Personal
Material-Flow Process Structure

Primary Control Elements:
- Personnel
- Material
- Flight Schedules
- Tools

The Flow-Line
Through the Optimization of Systems Characteristics – MTU Maintenance Hannover was able to:

- Characterize Existing Processes
- Map Out Transition from Workshop-Based to a Material-Based Flow
- Accommodate Highly Complex Models
  - 12,000 Working Plan Lines
  - 600 Bill-of-Material Positions
  - 120 Qualified Workers
  - 3,000 Individual Engine Components
    - Each with Unique Identification Numbers
MTU Maintenance Hannover
New Structure for Combustor Line
MTU Maintenance Hannover
Resulting Shop Structure
40% Reduction in Process Times

More Efficient Utilization of Personnel

Better On-Time Delivery of Maintained Engines