REALIZATION℠

From Multitasking to Synchronized Engine Maintenance

Getting rid of multitasking give an additional quarter of engine maintenance output.

Client Background and Business Situation

Our client operates one of the largest airplane-engine repair and maintenance establishments in the U.S., serving both its own fleet and other airlines. Some of its business challenges included:

- Faster turnaround of fleet engines—to increase the utilization of the engines.
- Faster turnaround for customers—to grow external business.
- Increasing efficiency—to increase profitability.

Multitasking Problems in Engine Repair and Maintenance

A typical process for engine maintenance includes the following steps:

- Engine comes in and is disassembled.
- A team inspects the parts and lists all repairs.
- Some parts are fixed in-house.
- Some parts are fixed or purchased from external vendors.
- Finally, the engine is reassembled.

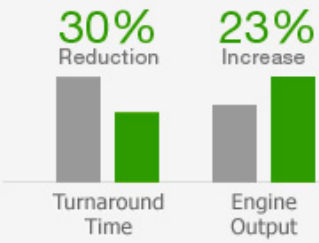
The scheduling group created a detailed schedule going through these steps for each of the thousands of parts inside an engine. Unfortunately, the schedules could not be followed because of the multitude of uncertainties typical in repair and maintenance—changes in the arrival date of engines, changes in customer requirements, unavailability of parts, engineers and inspectors, and so on.

This leads to the following multitasking scenarios where time and efficiency are lost:

- Mechanics shuttle between assembly and disassembly and between different engines.
- The in-house workshops now deal with multiple engines and multiple parts—fixing five parts of one engine and three of another, instead of fixing eight parts of a single engine.
- Similarly, the expeditors who manage external parts multitask between multiple parts of different engines.

Results

With better synchronization and less multitasking, the client reduced its turnaround time by 30% and increased engine output by 23% -- the equivalent of adding another quarter to the year.



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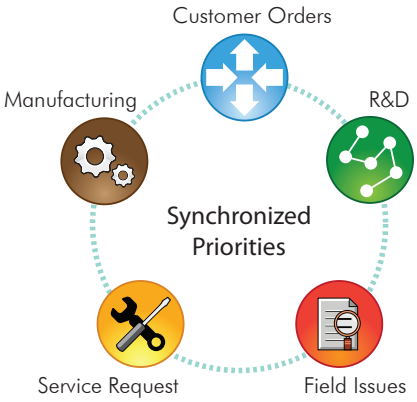
This in turn results in:

- Many engines remaining half-finished leading to low asset utilization
- Increase in lead time to fix engines
- Loss of concentration in the team as it switches between tasks repeatedly
- Overtime at the end of the month to make up for delays and to meet monthly targets



The Synchronized Maintenance Solution:

Realization worked with the airline to synchronize priorities across the organization as follows:

- Synchronized WIP reduction: reduced the number of engines in the repair cycle so that everyone can be focused on the same few engines.
- Synchronized dispatch list: replaced the detailed schedules that were created at the beginning of a repair cycle with real-time dispatch lists that accounted for the changes in execution.
- Synchronized full-kitting: With reduced WIP and real-time dispatch lists, the expeditors and workshops could now ensure all parts were available before assembly.

Results

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If doing projects 20-50% faster is vital for your organization, contact us at +1.408.271.5100 to get started.