**A3 report**

This report details how workers defined problems, came up with solutions, implemented them and analyzed further opportunities process improvements.

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**Target shop and production control office: 3675 and 3676**  
**Process owners: Workers from component production control departments**

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1. **Problem statement**  
The component department had no control over incoming work orders from production control. The work orders were accepted without any consideration for effective utilization of the bottleneck. This increased the wait time for orders, which in turn negatively affected customer service and caused idle time at the bottleneck.

2. **Current state analysis**  
Process mapping of production control activities revealed many steps in their decision process. No consideration was given to balance bottleneck utilization and wait time of orders.

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**Production Control**

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**Bottleneck Analysis - Before**

The analysis confirms that some orders had 9 hours of waiting time and there was idle time at the bottleneck.
3. Future state analysis
A pull system was refined significantly and rule-based procedures were implemented with dual objectives to enhance bottleneck utilization and reduce wait times for orders. Many new calculations had to be refined over time.

4. Implementation
Development of rule-based procedures and automation through information technology faced compatibility issues and took a significantly long time (more than three weeks) to complete. Wait times decreased, jobs in the system decreased and bottleneck utilization increased. The bottleneck had developed many maintenance issues that were not sorted out over time.

Four weeks after the implementation, bottleneck performance had increased. The shop observed that waiting time and work-in-process jobs were holding steady. The supervisor confirmed that maintenance had spent considerable time at the bottleneck operation. The supervisor noted that machine breakdown and setup times could be an opportunity for automation or process improvement.