SupplyVelocity®

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CASE STUDY

Lean Manufacturing

Dema Engineering

PROBLEM / CHALLENGE

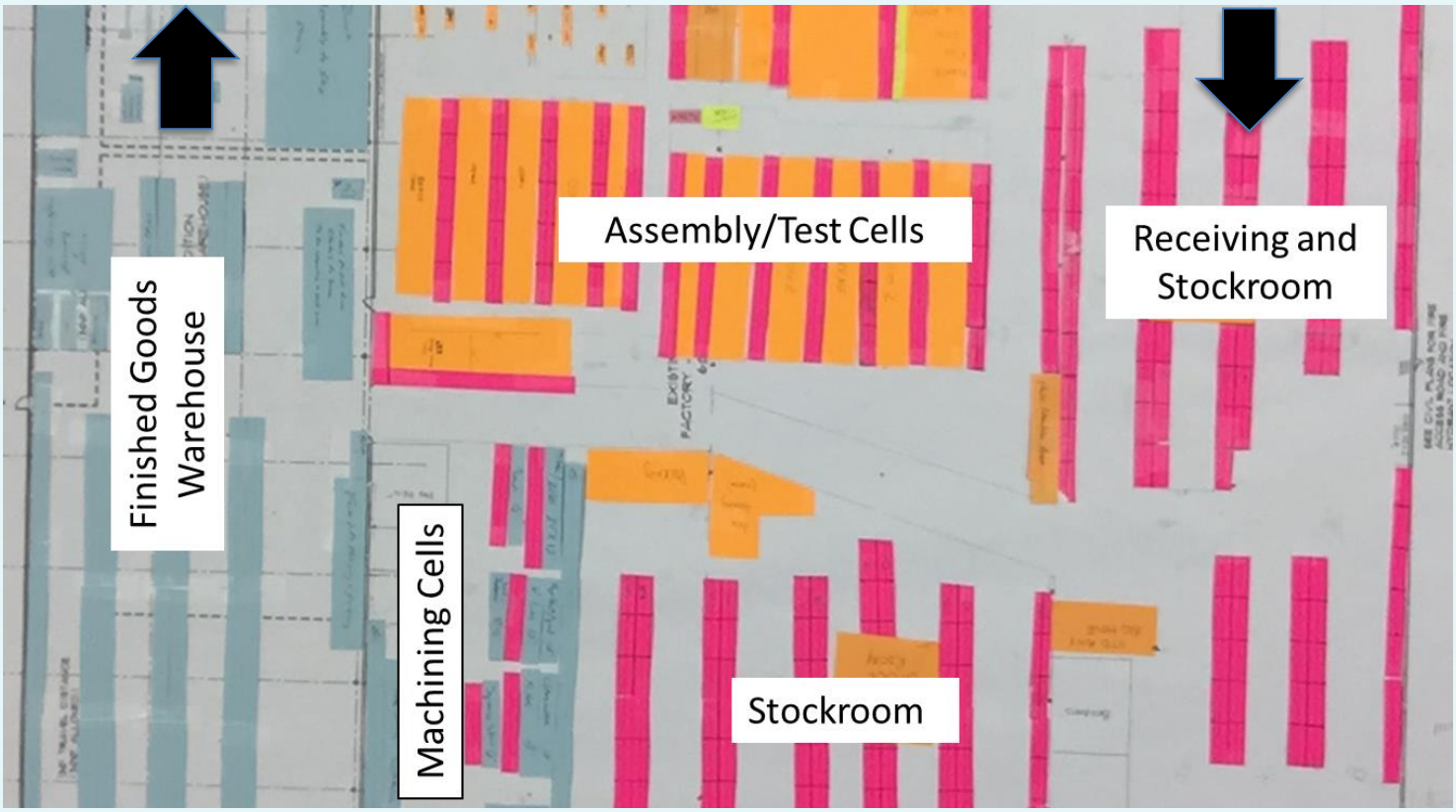
Dema Engineering is a designer and manufacturer of industrial valves and chemical dispensing equipment. (See below two valves in a assembly and test operation.) They needed to reduce cycle time and improve quality. Throughput time was as high as 6 weeks and yield on certain components was 93%. Both were due to batching of work-in-process across departmentalized operations.

Valves in Assembly and Test

IMPLEMENTATION DETAILS: Lean Manufacturing

- **Formed a Dema Lean Team with a Project Leader from Dema**
  - This team was facilitated and educated by Supply Velocity but did substantial work on gathering current state data and designing the new Lean Manufacturing layout
- **Did extensive time studies, spaghetti maps, process flow mapping and material usage calculations with the Dema Lean Team**
- **Designed balanced kanban-flow cells for machining and assembly/test operations**
  - For certain products machining, assembly and test were combined into a single kanban-flow cell
- **Used Kanban materials management to create point-of-use material supply for all machining and assembly/test cells**
- **Created overall facility layout with U-shaped flow of materials inbound (receiving and Stockroom), point-of-use Kanban bins, and outbound finished goods warehouse**

New Lean Manufacturing & Lean Warehouse Layout



DIFFICULTIES ENCOUNTERED

- Using Supply Velocity's education and facilitation philosophy required the Dema Lean Team to devote approximately 30% of their time over 6 months to this transformation
- This was a total plant Lean Manufacturing transformation requiring a detailed move plan to go from the current departmentalized state to the Lean design shown below
- This transformation also required changes to the ERP system to plan and operate in a Kanban-flow system
- Some Supervisors and Production Planners could not understand the Kanban-flow concept and were unsuccessful transitioning to Lean, requiring turnover and new-hires to these positions

RESULTS

- Throughput time reduced from, on average, 6 weeks to 2 days
- Yield improved from 93% to 99.6%
- Many operations could be reduced from two shifts to one shift, resulting in a 100% productivity improvement (doing the same work with half the people)
- No one was laid off in the transformation!

Reference

- Jeremy Deutsch, President
- jeremyd@demaeng.com