

Online Videos Showing the JobshopLean Simulation In Action

The **JobshopLean Simulation** is a low-cost interactive simulation developed to teach HMLV manufacturers tools and strategies that are not taught by any of the commercially-available Lean training games. This simulation teaches the following JobshopLean practices:

- Segment the parts into multiple segments based on Volume, Value and Complexity (*and not just Volume using the 80-20 Pareto Rule!*)
- Identify part families in the product mix
- Implement manufacturing cells but also consider other layout options, such as Hybrid Cellular Layouts or Virtual Cells
- Plan the equipment allocations to the cells based on Workload vs. Available Capacity
- Cull the low-value low-volume products from the existing product mix
- Try to re-engineer certain routings to eliminate “misfit routings” and “exception routings”
- Train material handlers to become “Water Striders” who have complete “situational awareness” on the shop floor
- Cross-train employees to attend to multiple machines within a cell (or even if they were distributed across the facility in Virtual Cells)
- Introduce multi-function flexible automation to compact the facility
- Schedule with finite capacity constraints in order to manage work releases into the shop so as to maintain sufficient WIP in Time (*not* Inventory) Buffers
- Use appropriate sequencing/dispatching rules to prioritize jobs at different machines, especially the bottleneck/s
- Use performance measures, such as Cash Flow Velocity, instead of Cost Reduction (aka Seven Types of Waste)
- Encourage feedback and ideas from the employees
- Implement a visual queue management system to facilitate Pull scheduling

The first run of the simulation demonstrates the Current State of a hypothetical machine shop with 12 different machines making approx. 15 parts with routings that use different combinations of those machines. **Please click [here](#) for a presentation *JobshopLean Simulation – Current State of the Jobshop.***¹ The second run of the simulation demonstrates the Future State of the same machine shop after implementing some of the JobshopLean strategies listed earlier. **Please click [here](#) for a presentation *JobshopLean Simulation – Future State of the Jobshop.***² In addition, you can incorporate into this simulation **some** of the standard Lean tools as follows:

- *Quality At Source*: You can issue help cards that show how the squares on the route sheets should be X'ed out else rework will be called for.
- *5S*: You can have the players who represent the different machines go to a central tool storage rack to get the particular colored pencil they must use to mark up the route sheets
- *Visual Management*: You can mount a white board on which the specific sequence in which jobs must be done at certain work centers is announced.

¹ See the Current State of the Jobshop at <https://vimeo.com/5425379>.

² See the Future State of the Jobshop at <https://vimeo.com/5537406>.