

Supporting Manufacturing Leadership Through Sustainability

E3: Economy, Energy, and Environment



What is E3?



A model for collaboration among manufacturers, utilities, local government, and federal resources intended to:

- Invest in local communities
- Address energy and sustainability challenges
- Provide valuable technical training and assessments
- Enable economic growth



Benefits for Manufacturers



Cost Savings

- Significant cost savings result from increased process efficiencies and reduced waste
- Profitable sustainability practices



Increased Competitiveness

- State-of-the-art sustainable business practices
- Technical support to drive entry into new markets
- Job creation and retention



Access to Technical and Financial Resources

- Additional funding through federal and state programs
- Enhanced skills and capabilities for workers

Benefits for Communities



Economic Growth

- Improved competitiveness of existing manufacturers
- Enhanced ability to attract new business
- Increased manufacturing jobs and/or job retention
- Trained workforce with skills for a sustainable economy



Progress toward Environmental and Climate

Change Goals

- Catalyze meeting local government's environmental and climate change goals

LUCCHESI

BOOTMAKER



LUCCHESI BOOTMAKER

- Lucchese is a handmade western and contemporary footwear manufacturing company.
- Founded in 1883 by Sam Lucchese in San Antonio, Texas and moved to El Paso in 1986.
- Currently has 245 production employees with a total output of 500 units per day

LUCCHESI PROJECT

- Lucchese got exposed to E3 through TMAC and NMSU in December 2013.
- E3 Assessment took place in January 2014 with Chris Campbell and Kurt Middlekoop as Lead Trainers.
- Lucchese had never been exposed to any continuous improvement/energy efficiency training prior to the E3 Assessment

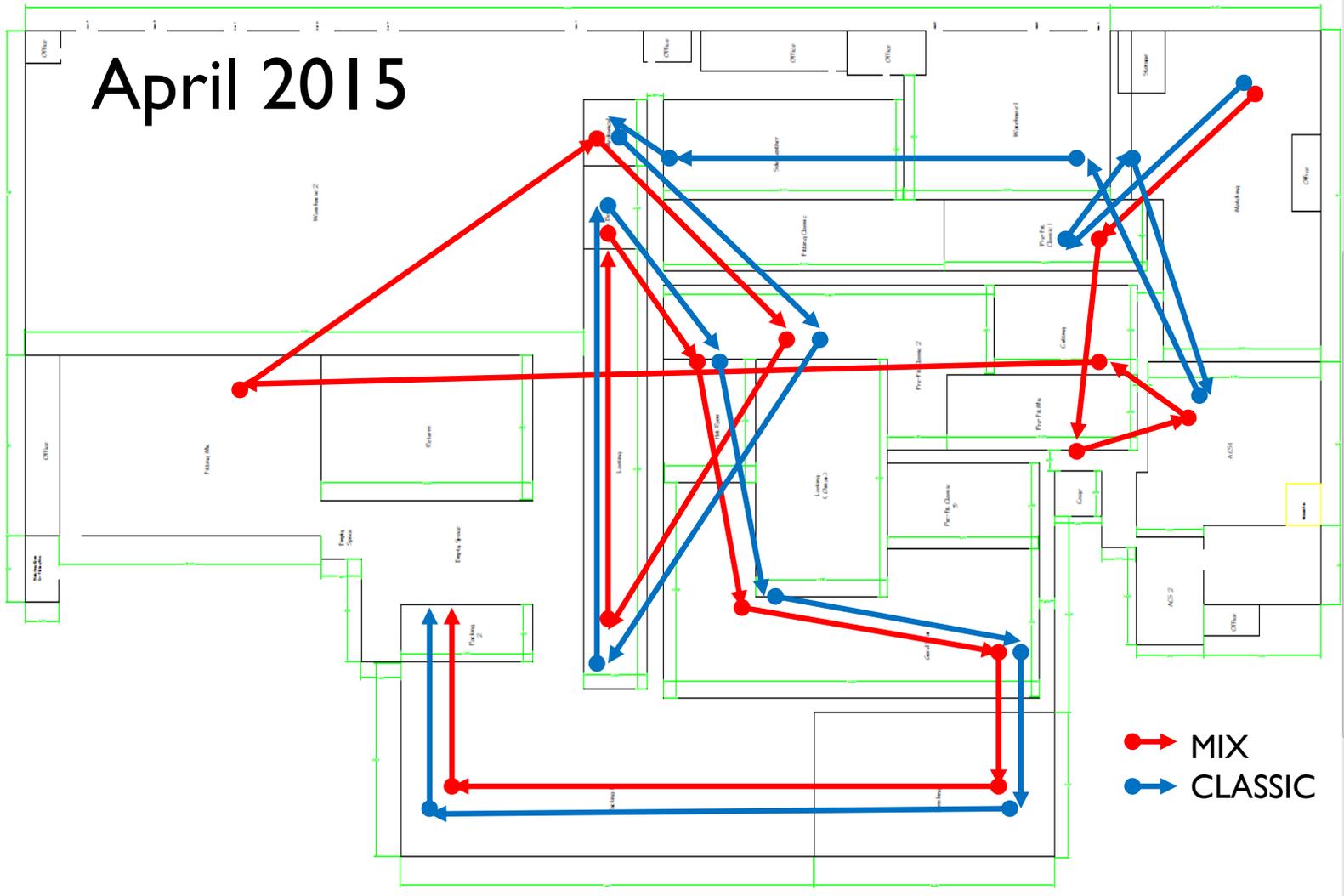
CURRENT CONDITION (AS OF JAN 2014)

- Lucchese had never had an Engineer or Technical Staff that would assist in improving its processes or make them leaner and energy/cost efficient
- Product did not flow efficiently through the manufacturing process
 - Departments physically segregated
 - Poor plant layout creating tons of non-value added activities
 - Average of 14,000 units of WIP (Work-in-Process) on the floor.
- Inefficient use of energy resources
 - Inefficient lighting fixtures and high energy consumption light bulbs
 - Air leaks
 - Uncontrolled waste and scrap in finished product and raw materials

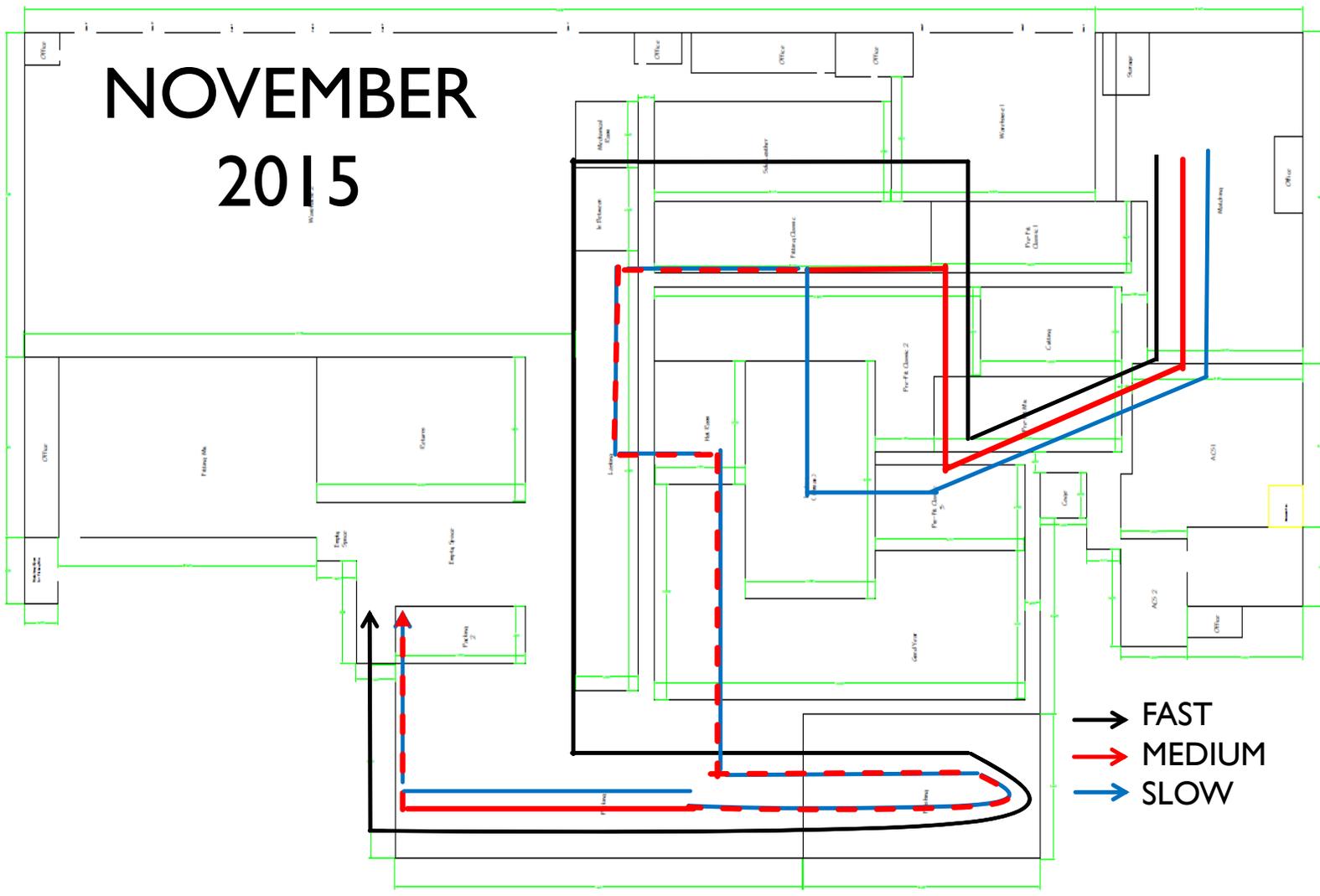
CURRENT CONDITION (AS OF SEPT 2015)

- Hired two Engineers to support plant operations and in the process of hiring a third one
- Created the Continuous Improvement Director position
- Trained all top management and supervisory functions in Lean Management – Waste elimination
- Created a 3-year improvement plan for People, Process, Cost Reduction and Quality
- Optimized plant layout creating production lines – In the process of purchasing a conveyor system that will completely eliminate the use of racks in the plant
- Gave structure to the Design and Development Department, bringing experts from Leon, MX. – Reduce errors and waste through the manufacturing process.

April 2015



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RESULTS SO FAR...

- Layout optimization
- Transforming the plant from a large boot shop into a manufacturing facility
- Considerable reduction in each of the traditional manufacturing wastes (Overproduction, transportation, downtime, people's KSAs, defects, waiting, inventory, non-value added activities)
- Investments made in energy saving lighting fixtures and bulbs, and planning investments for new and efficient machinery throughout various areas of the plant