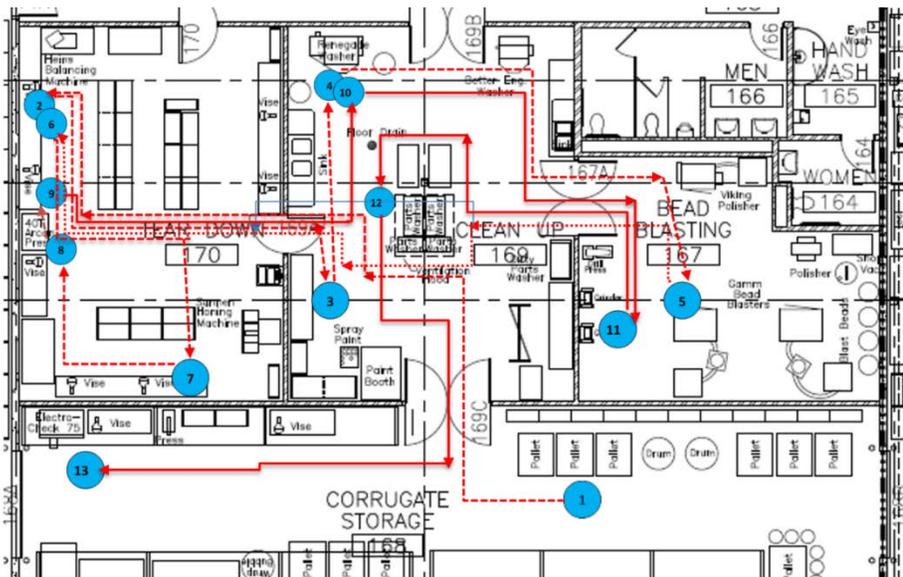


What is Lean Thinking?

Lean concepts were born in the manufacturing industry and have been applied world-wide for close to a century. Born in the United States and later perfected in Japan, Lean Thinking is based on eliminating waste in all tasks so that all resources, time, and material can be utilized as efficiently as possible.

Fundamentals of Lean Thinking

- Build a culture for lean thinking
- Eliminate waste
- Promote employee participation
- Continuous improvement cycle
- Small or one batch processing
- Value Stream analysis by product family
- Value of the product or service to the customer



Tools Frequently Used with Lean projects

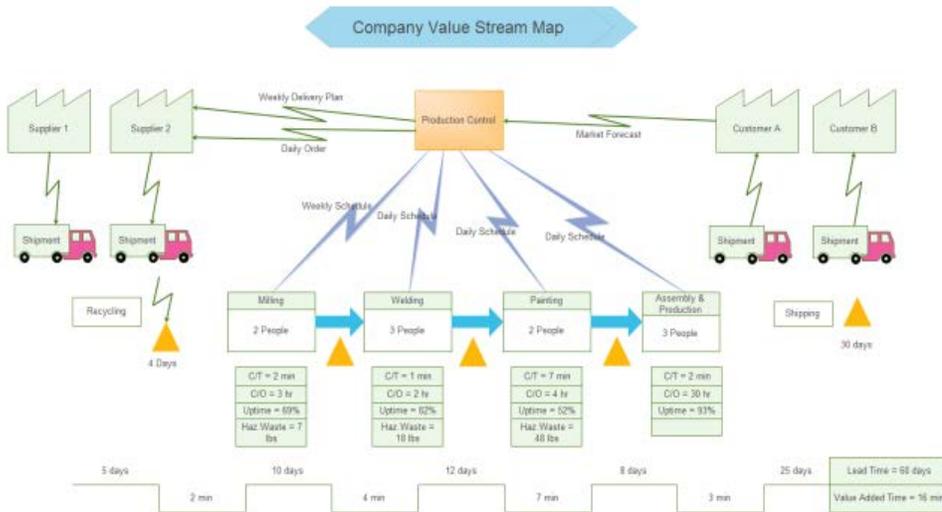
- Spaghetti Diagram
- 5S (Organizing, Sorting, Standardizing & Maintaining Cleanliness of work areas)
- Value Stream Mapping
- Root Cause Analysis
- Identifying Key Performance Indicators
- Bottleneck Analysis
- Cycle Time Determination
- Kanban System
- Quality Analysis
- Kaizen Events

Industry Experience

- Manufacturing and Assembly
- Distribution
- Injection Molding
- Education
- Government
- Food and Beverage
- Health Care
- Construction

Examples

- Root cause analysis project changing the reclaiming rate from 20% to 98%
- 30% cost reduction for the bill of materials within a fastener assembly cell
- Annual warranty reduction of \$445,000 through quality analysis
- New production facility layout & management of move
- Inventory space improvement - Increased from 24% utilization to 87%



"This new process saved us time and money, a win-win for all involved. We couldn't be happier"

– Deborah Baumann, Diesel Forward

How Carrus Group Can Assist

Simplify and Streamline Processes

Carrus will document the current state for production, office, and supply processes enabling the team to see where the bottlenecks exist. Improved processes are identified by the team keeping costs in mind. New processes are created and implemented with your team's engagement or involvement.

Maximize your Existing Space

Production, warehouse, and office space are easily cluttered over time. Processes are not followed, items not categorized correctly, and inventory taking up too much valuable production space. Analyzing the space and reconfiguring the area avert the need for expansion and also reduce labor time locating and maintaining items.

Improve the Products and Processes

Change is difficult. At Carrus, we believe in working side by side with our clients implementing approved changes. A post analysis is performed to quantify the results of the project and identify continual improvement opportunities.

The Principle of Value

"Value is created by the producer. From a customer's standpoint, this is why producers exist.... The critical starting point for lean thinking is value. Value can only be defined by the ultimate customer. And it's only meaningful when expressed in terms of a specific product (a good or service, often both at once) which meets the customer's needs at a specific point in time." - Lean Thinking

Carrus Group Clients

- Diesel Forward
- Metal Spun Products Co.
- Halquist Stone
- Nord Gear
- Bruno Independent Living Aids
- Regal Beloit – Grove Gear
- K&S Manufacturing
- Valentine Coffee
- Sub Zero Group