

SOLVE FOR X.

On the Shop Floor: Designing Lean Workstations/Cells with Reusable Plastic Packaging

Presented by:

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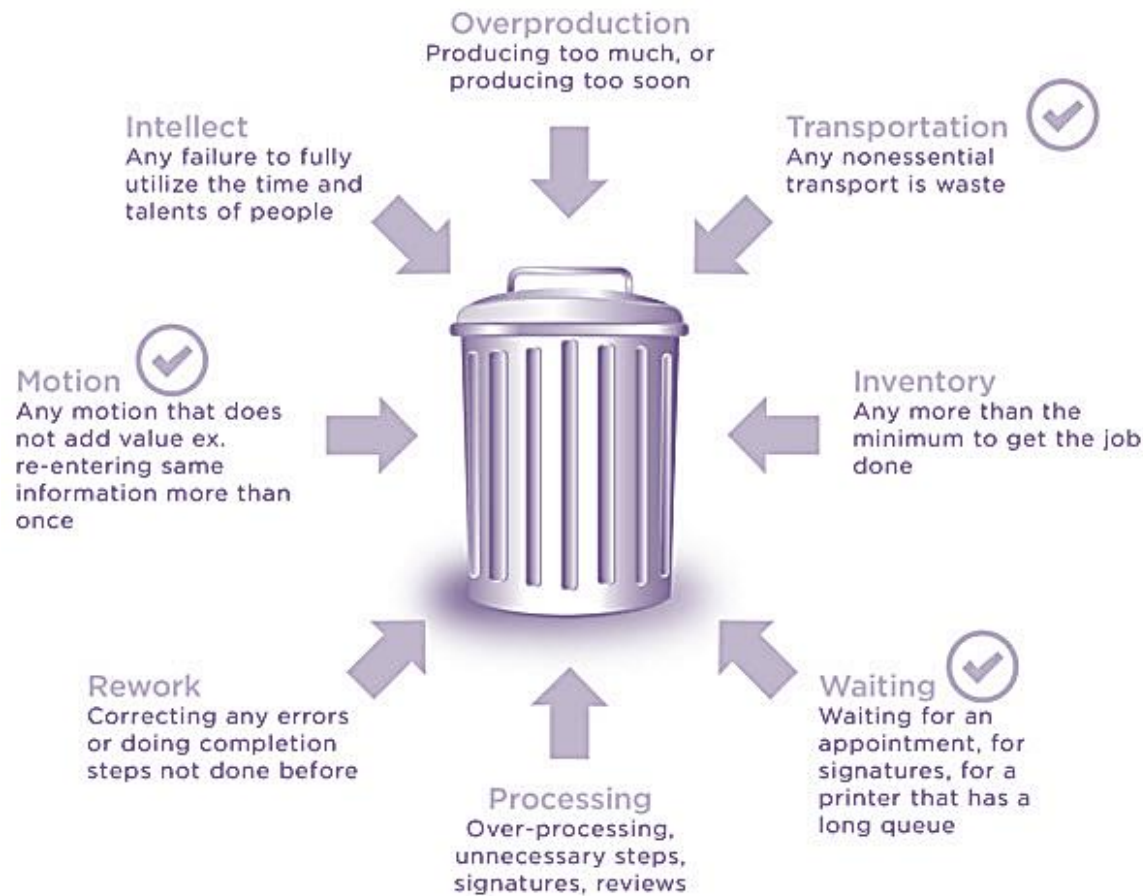


Why Lean?

- Eliminates waste
- Improves lead times
- Optimizes labor
- Supports just-in-time demand



8 Areas of Waste in the Manufacturing Process



Reusable Packaging: Defined

Multi-use product used to store, stage and move materials and supplies

- **Products:** Bins, totes, trays and shelving systems
- **Characteristics:** Standard sizes, long service life, cleanable, structural integrity, dimensionally consistent
- **Styles:** Hopper front, nestable, stackable and dividable
- **Specialized Materials:** ESD Safe, moisture and chemical resistant



What gets in the way of Lean Workstations?

- **Inefficient workstation layout**
 - Not organized, not visual, too much or too little space, wasted walk time, excessive reaching
- **Poor material/supply storage and transfer**
 - High velocity items stored in hard to reach places, while slow moving items may be in the way
- **Ineffective process**
 - Stock-outs or damaged material



How Does Reusable Packaging Fit In with Lean?

- **Creates efficient workstation layout**
 - Standardized bin sizes
 - Easily labeled
 - Stackable or nestable for optimum organization
- **Improves material/supply storage and transfer**
 - Securely stacking bins, covers protect from debris
 - Easily labeled
 - Cleanable
- **Ensures consistent and repeatable processes**
 - Hopper bins offer easy and consistent access to materials
 - Shelf bins with molded Kanban card



How are Companies Getting Lean?

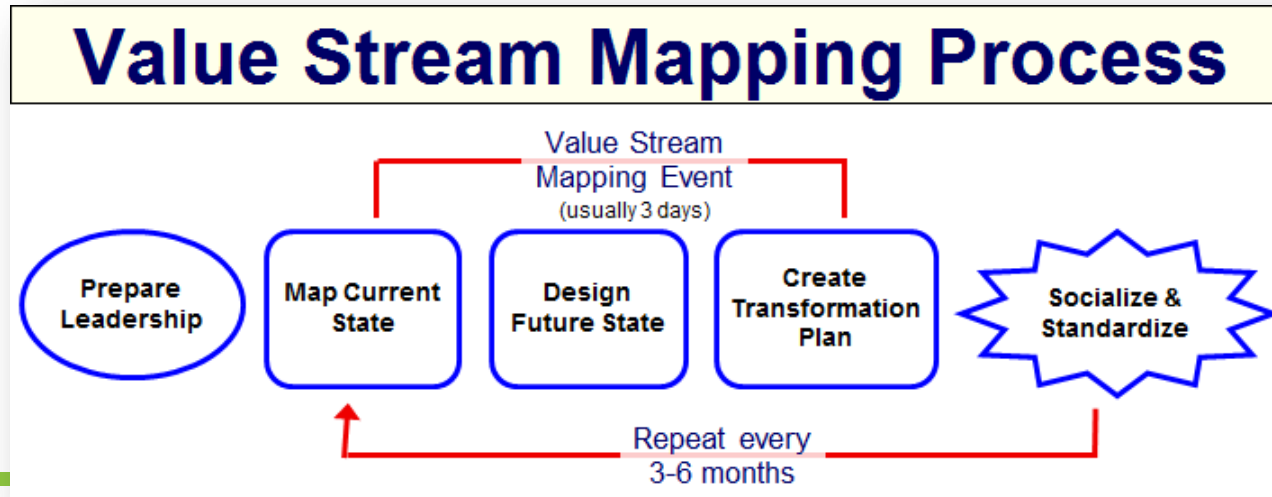
5S - Named for the Japanese words for sort, straighten, shine, standardize and sustain:

- Sort: Remove all items not needed for current production.
 - Straighten: Arrange items so they are accessible and clearly labeled.
 - Shine: Clean and tidy the work area.
 - Standardize: Define the normal workspace condition.
 - Sustain: Ensure the improvements are continually carried out.
- **71% of today's manufacturers use 5S methodologies**



How are Companies Getting Lean?

- **Value Stream Mapping (VSM)**
 - Map out the entire current state process to visualize and identify value-added tasks and non-value-added activities.
 - Reimagine the process/layout with a future state map.
 - **46% of today's manufacturers use VSM**



How are Companies Getting Lean?

Kanban

- Japanese manufacturing system in which the supply of materials is regulated through the use of an instruction card sent along the production line.
- **38.3% of today's manufacturers use Kanban**



What are some proven metrics that will drive value from a reusable program?

- **Time savings metrics**
 - Assembly time
 - Walk time
 - Re-stocking or replenishment times
- **Cost savings metrics**
 - Reduction in product defects
 - Reduction in re-work
 - Inventory management improvements
 - Logistics cost reductions related to optimized inventory



Packaging Considerations

Hopper Bins for Workstations

- Shelf and Part Bins
- Sizes from 5" x 4" to 18" x 16"
- Medium and heavy duty
- Identification options
- Multiple colors

Benefits

- All-plastic, reusable
- One piece, no assembly
- Fully recyclable
- Increased spacing for in / out on cart or other tight pick options
- Increased visibility for shelved systems
- Superior access to contents
- Cleanable

Totes for Material Storage

- Stackable totes
- Nestable totes
- Dividable
- Optional covers
- Identification options
- Multiple colors

Benefits

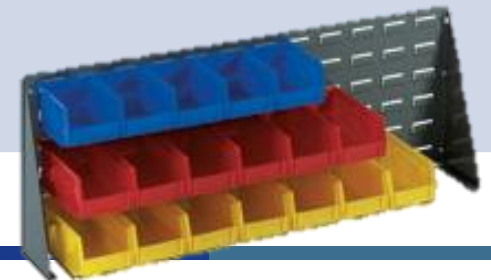
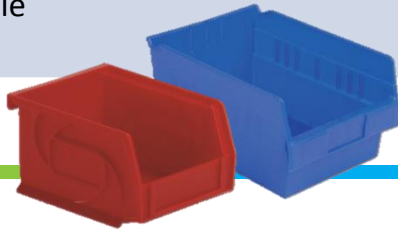
- Can be palletized for inter-facility movement
- Some integrate with dollies for efficient movement
- Provides stable loads for WIP movement
- Covers protect from dirt and debris

Storage Systems for Cells

- Shelving systems
- Cabinets
- Wall mounted or floor stands

Benefits

- Creates visual system
- Standardized slots for easy picking
- Organizes bins in a standard way



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How to Get Started

1. **Analyze your product flow** – Use Value Stream Mapping to find improvements in your product flow. Get shop floor employees involved.
2. **Prove** – Use learnings and identify cost and environmental savings from reusables in workstations.
3. **Design** – Create the best solution.
4. **Implement** – Test, pilot and implement.
5. **Evolve** – Always be open to new ideas. Encourage all operators and shop employees to own and drive improvement ideas.

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“A well-executed lean manufacturing program does more than reduce waste and expense from the supply chain. It adds value for the company as well as the employee. When employees have a clear and accountable role that adds value for the customer, it can increase employee satisfaction and retention.”

-- Amy Kaminski, vice president for
Compdata Surveys & Consulting

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Questions and Discussion

Sources

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