



Lean Green Manufacturing

Solid Waste Advisory Committee Meeting

July 21, 2009

Presented by:

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Introduction of Partners

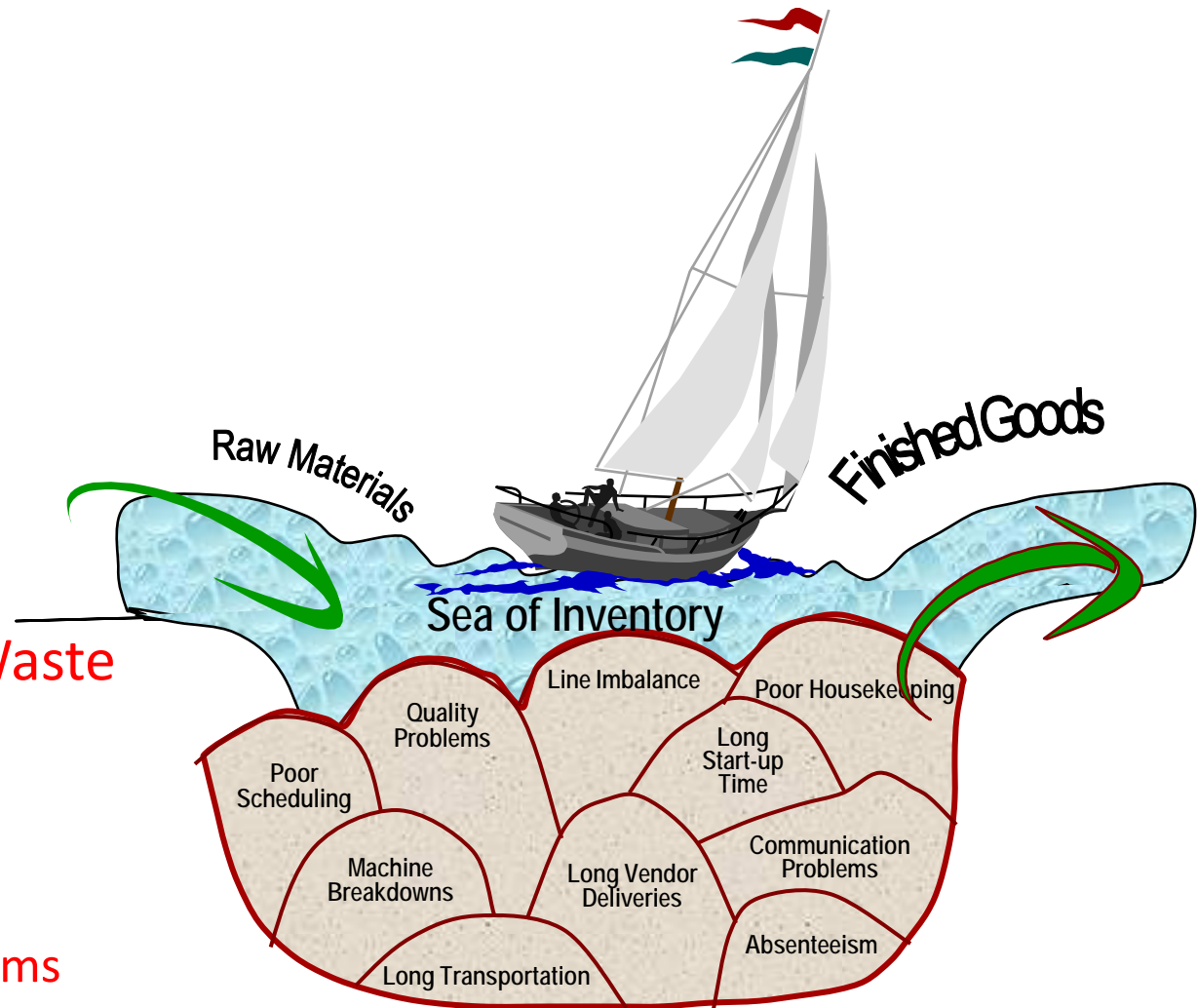


Washington Manufacturing Services (WMS)

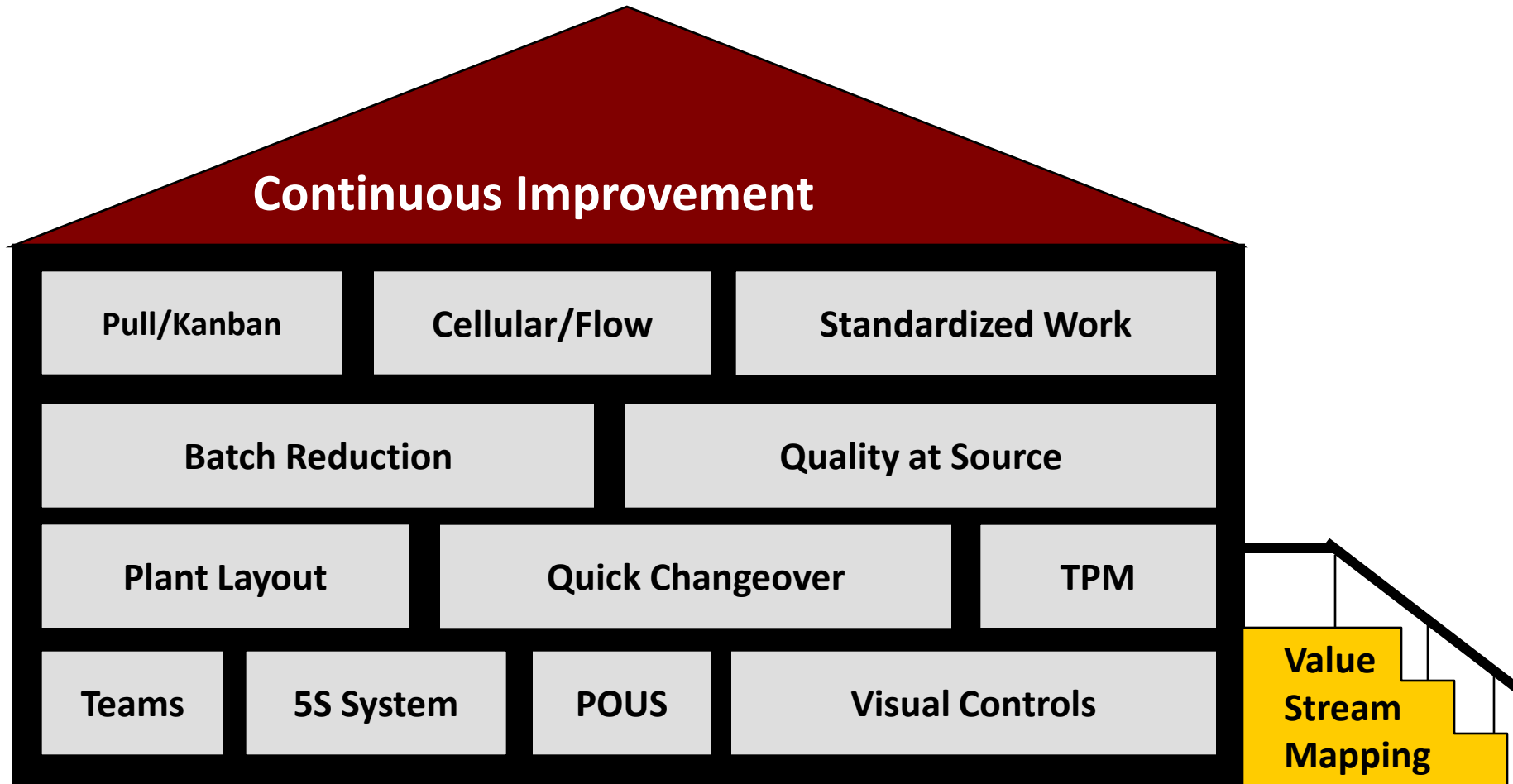
- Private, not-for-profit organization established in 1997
- Mission - help manufacturers improve their competitiveness
- Affiliate of Federal NIST (National Institute of Standards & Technology) Manufacturing Extension Partnership

Seven Wastes 'Muda'

- Overproduction
- Transportation
- Waiting
- Inventory
- Motion
- Over Processing
- Defects
- **Environmental Waste**
 - Energy
 - Solid/hazardous waste
 - Wastewater,
 - “Monster” systems



House of Lean Building Blocks



What is Lean and Green / Lean and the Environment?

Eliminating Waste in All Its Forms

- Water consumption*
 - Energy consumption*
 - Air emissions*
 - Solid waste*
 - Hazardous waste*
 - Waste water*
 - Toxic/Hazardous Materials*
 - Raw Material
 - Time
 - Distance and motion
 - Work in Process (WIP)
 - Overproduction
 - Defects
- *Sources of Waste/Cost That May Not Typically Be Considered in Lean

Three Pilot Projects: 2006–2007

Collective Annual Cost Savings in
Productivity and Environmental
Improvements for Three Facilities:

\$1.4 Million

“I believe the collective experience has set the groundwork for future lean and environmental improvement efforts at our company.”

Dowel Machine-Old Area

Before: Mixed up parts

After: "Kits for Building"

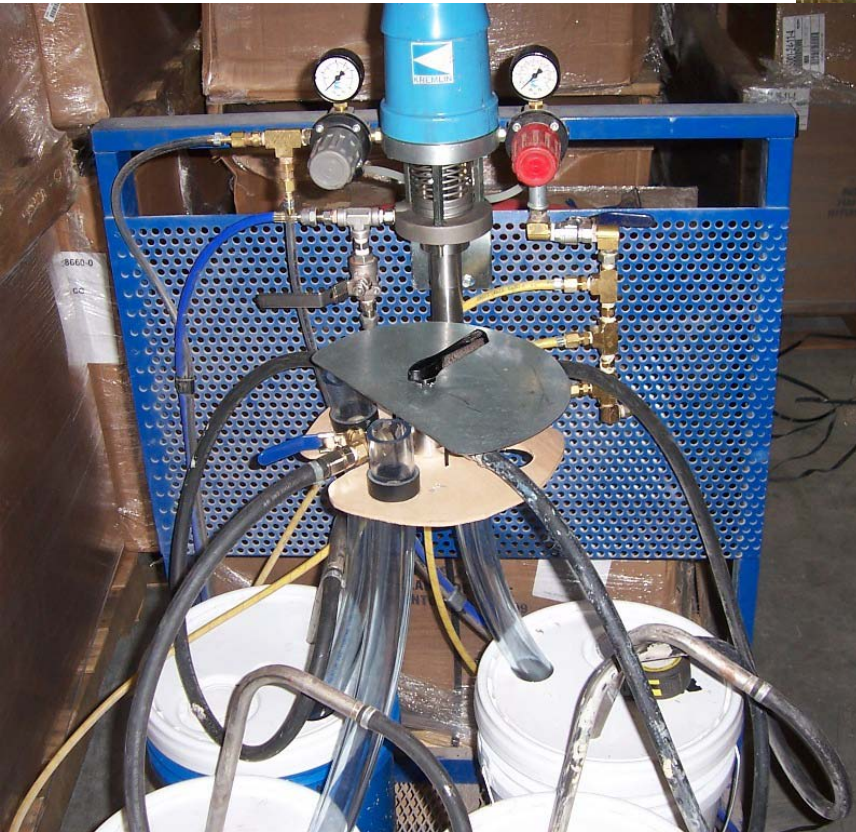


Moved Doweler – Saving 649 miles of foot travel per year!

Stains ... before



Stains ... after



Aqueous Purge - Results

Old



Waste
1.3 quarts

New

Waste
0.5 quarts

**Recoverable
Product**
1 quart

6.20.2006

Quality Control

Before



After



New Demonstration Projects

- Ecology and WMS are looking for new facilities interested in doing lean and green improvement projects
- \$20k in grant funding available per project with \$10k company investment
- See flyer provided for details

More Information

- If you would like to see more in-depth lean and green material, please contact me at tony.cooper@ecy.wa.gov
- Can provide full-day presentation material that fully explains the lean and green program and the pilots
- Ports, county economic dev board/office