



# Beyond Compliance

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Don Stone, UT CIS



Green Suppliers Network



# Outreach

## ISO 14001

- Aspects/Impacts
- Management review
- Internal and 3<sup>rd</sup> party audits

# Outreach

- Europe sets target for 100% recyclable automobiles

# Outreach

- Europe establishes RoHS program
  - July 2006

# RoHs

- The RoHS Directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

# Outreach

- Europe establishes Reach Program
  - June 2007
- [http://ec.europa.eu/environment/chemicals/reach/reach\\_intro.htm](http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm)

# Outreach

- Manufacturers and importers will be required to gather information on the properties of their chemical substances, which will allow their safe handling, and to register the information in a central database run by the European Chemicals Agency in Helsinki.

# Outreach

- The Regulation also calls for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified.

# Solvent alternatives

- SAGE has been moved
- [http://www.greenbiz.com/toolbox/tools\\_third.cfm?LinkAdvID=6847](http://www.greenbiz.com/toolbox/tools_third.cfm?LinkAdvID=6847)

# Outreach

- **Don't forget !!!**

**–TDEC'S TP3 Program**



# Green Suppliers Network

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An Innovative Industry-Government  
Collaboration



**Green Suppliers Network**



# The Green Suppliers Network in a Nutshell

- Provides Lean and Clean technical assistance to small and medium-sized manufacturers within supply chains
- Result is improved industry competitiveness through environmental and economic benefits
- Expands the traditional lean definition of waste to include environmental wastes (materials, energy, emissions)
- This dual, market-driven approach aligns the interests of Original Equipment Manufacturers (OEMs), suppliers, and government interests, both state and federal

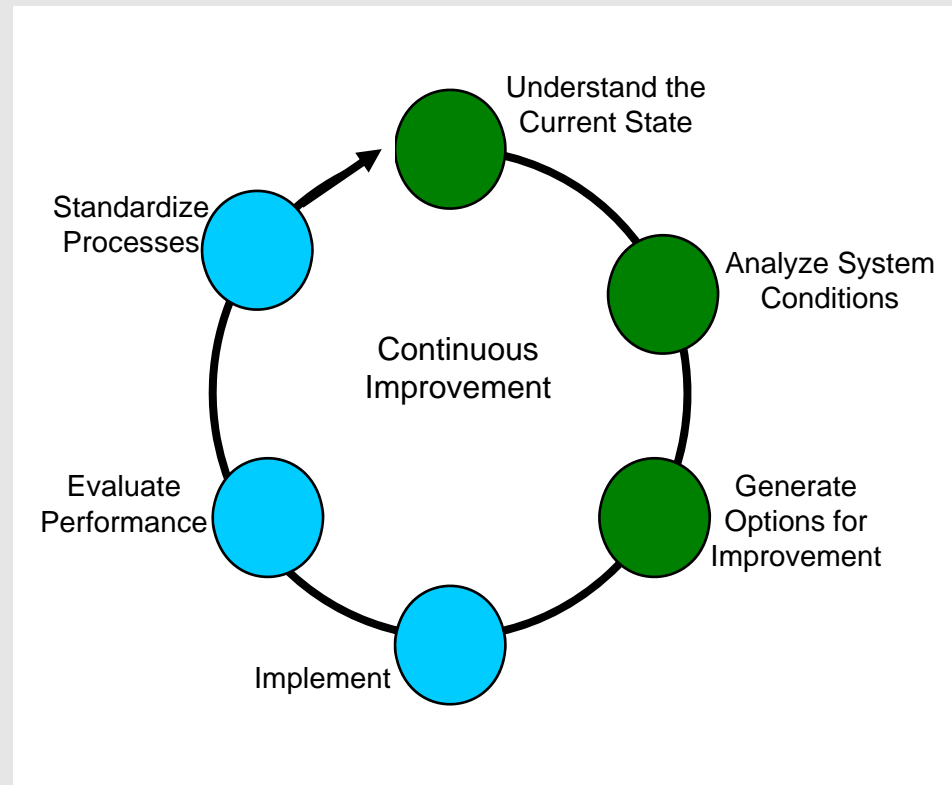
# The Green Suppliers Network

## Key Players and Roles

- **US EPA, OPPTS, Pollution Prevention Program**
  - Founded and piloted program in 2001
  - Coordinates, manages and funds Green Suppliers Network
- **NIST MEP**
  - Organized under the Department of Commerce, National Institute Of Standards And Technology, Manufacturing Extension Partnership (NIST MEP)
  - Certified MEP Centers conduct technical reviews
- **EPA Regions**
  - Integrates Green Suppliers Network with Regional programs
- **State Pollution Prevention (P2) Technical Assistance Providers (TAPs)**
  - Partner with NIST MEP centers in reviews and provide environmental expertise
- **Original Equipment Manufacturers (OEMs)**
- **Suppliers**

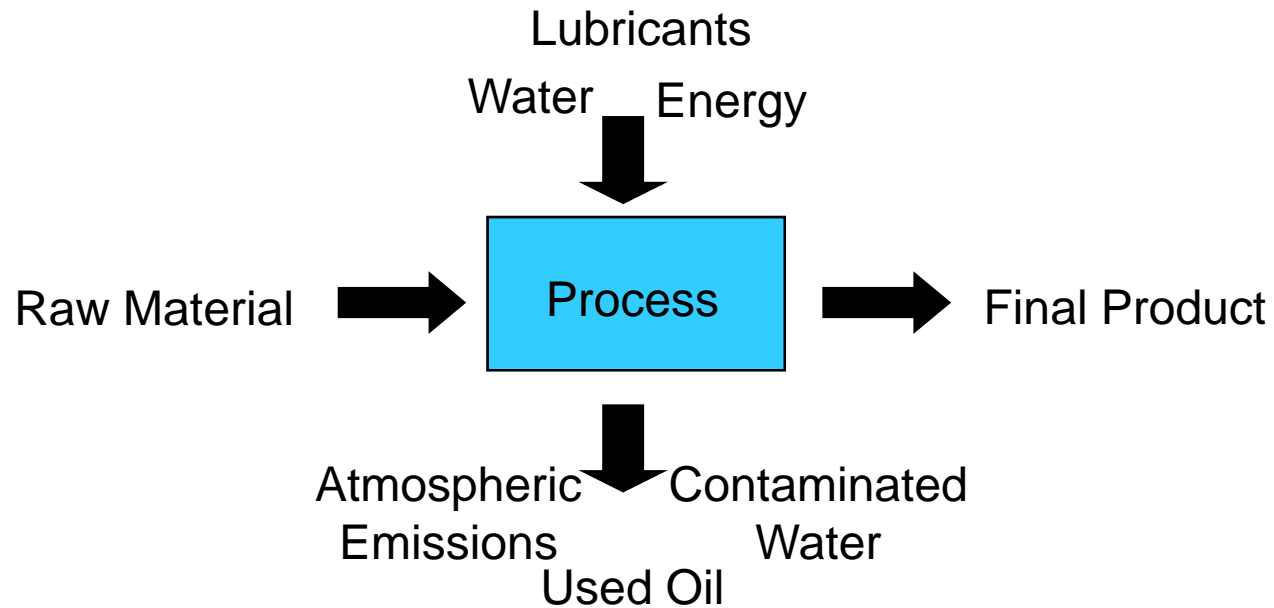
# Lean Thinking and Continuous Improvement

- **Lean Thinking** is a Systematic Approach of Identifying and Eliminating Waste (non-value-added activities) Through Continuous Improvement
- Green Suppliers Network Reviews Focus On The First Three Steps

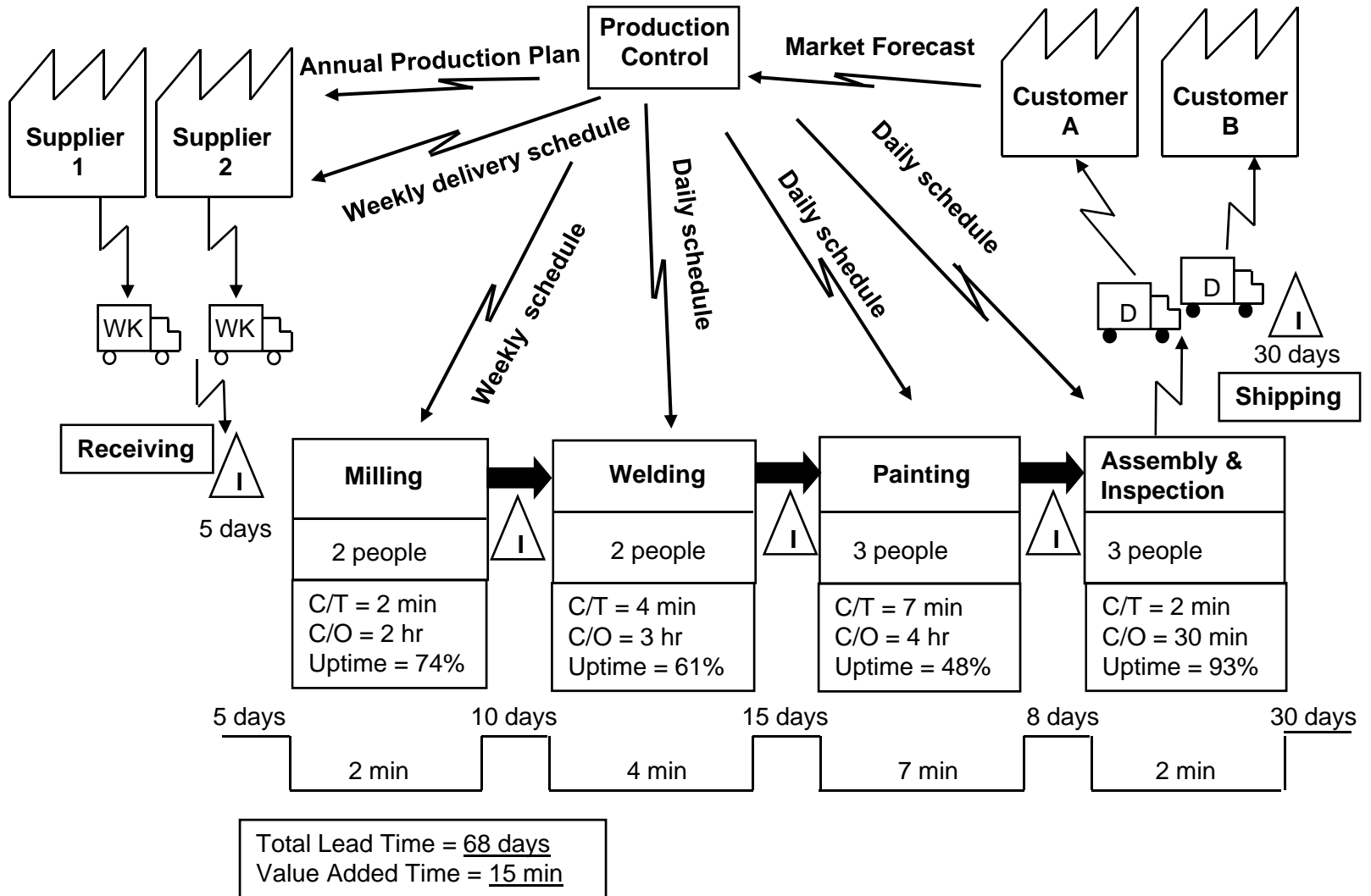


# Understanding the Current State Process Mapping

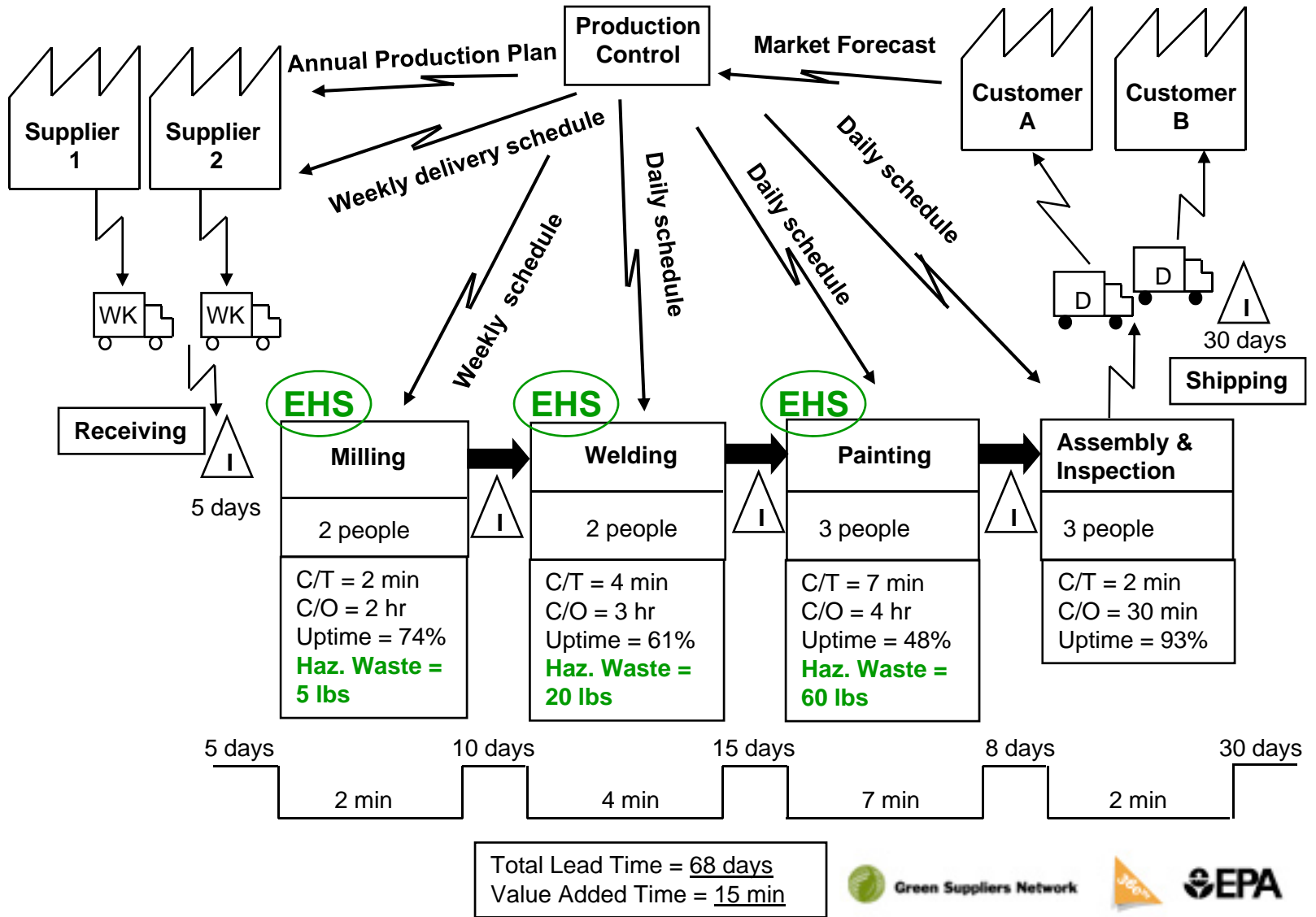
- A Schematic Depiction Of A Process
- Used To Enhance Resource Utilization
- Used To Identify, Eliminate/Reduce Wastes



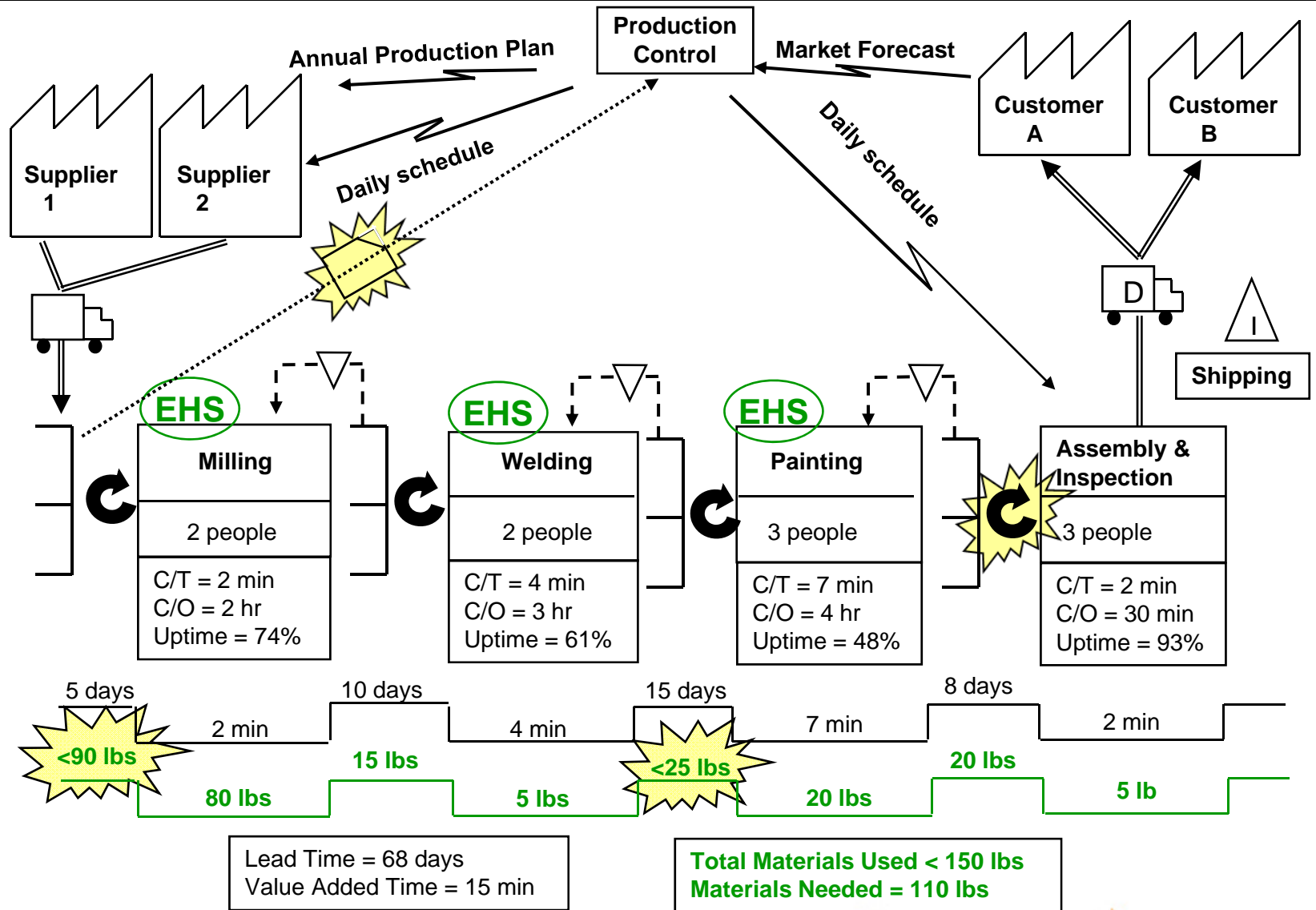
# Understanding the Current State Value Stream Mapping



# VSM with Environmental Metrics & EHS Icons



# Future State VSM with Materials Line and EHS Icons



# Basic Environmental Metrics for Green Suppliers Network Reviews

Category	Definition	Unit
Hazardous Waste	Hazardous Waste Generated	Pounds/Year, % reduction
Solid Waste	Solid Waste Disposed	Gallons or Pounds/Year, % reduction
Air	Air Emissions Generated	Pounds/Year, % reduction
Water	Water Used	Gallons, % reduction
Water Pollution	Pounds per Year	Pounds, % reduction
Toxic/Hazardous Chemicals	Toxic/Hazardous Chemicals Used	Gallons or Pounds/Year, % reduction
Energy	Energy Used	Specific to energy source e.g. BTUs or KWH, % reduction
Qualitative Measures	EMS, CMS, ISO Certification, etc.	

- For more information on

## “Lean meets Green”

Contact: [don.stone@tennessee.edu](mailto:don.stone@tennessee.edu)