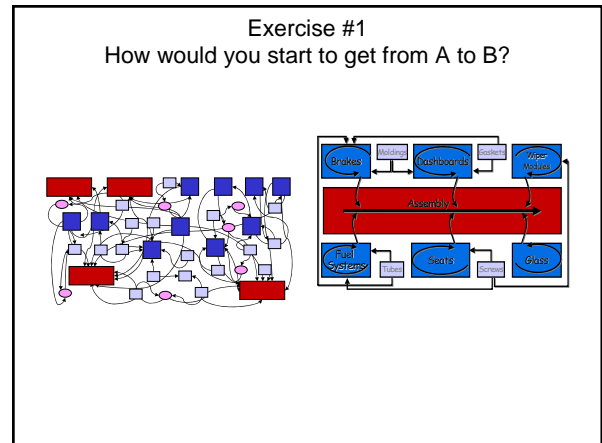
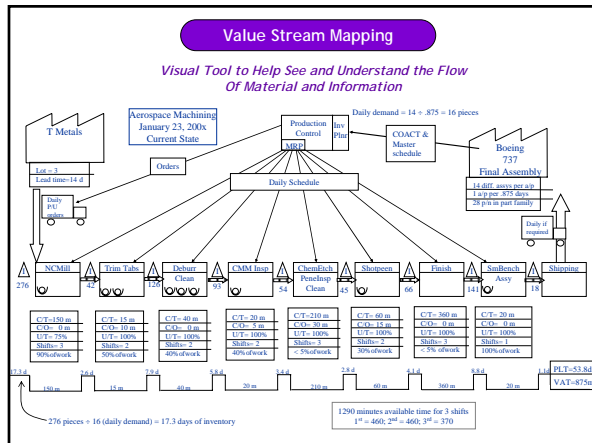


## Introduction

On using ValueStream Maps  
Monday, October 9, 2006

## Value Stream Mapping

- Follow a “product” or “service” from beginning to end, and draw a visual representation of every process in the material & information flow.
- Then, draw (using icons) a “future state” map of how value should flow.



## To Here?



## How should we define quality?

In-class exercise:  
If you were a customer of Lucy & Ethel's chocolates, what do you want?

How should this impact the operation?

### In-class exercise

Individually, respond to the following question (1-3 minutes)

What are the most prevalent forms of waste in a job that you've had or in a process (or activity) that you are very familiar with?



Muda

### Lean Definition

Creating maximum value for the customer with the least waste and the best flow.

### Alan's Quickie Definition

"Delivering the right product to the right customer at the right time in the right quantities"

### Definition of "Lean"

- Half the hours of human effort in the factory
- Half the defects in the finished product
- One-third the hours of engineering effort
- Half the factory space for the same output
- A tenth or less of in-process inventories

*Source: The Machine that Changed the World  
Womack, Jones, Roos 1990*

### Lean for Service

Introductory Thoughts

### Lean Manufacturing

- Fewer Defects
- Better Cost/Performance Ratios
- Processes for
  - Design
  - Production
  - Logistics
  - Supplier Management

### 4 Principles

- Value for the Customer
- Identify the Value Stream for the Customer
  - Remove Roadblocks
  - Remove Waste
  - Reengineer Processes
- Pull for Service rather than Push
  - Even more important in service
- Perfection in service

### The Dilemma

- *We're often providing perfection without recouping profits.*
- *What's wrong?*

### Lean Consumption

- **Production**
- **Consumption**
- **Provision is a third process**

### Lean Consumption

- **Production**
  - *A series of actions manufacturers must perform properly in the proper sequence to create value for a customer.*
- **Consumption**
- **Provision is a third process**

### Lean Consumption

- **Production**
- **Consumption**
  - A stream of actions consumers must perform properly in the proper sequence to obtain the value they seek.
- **Provision is a third process**

### Lean Consumption

- **Production**

- **Consumption**

- **Provision process**

- The actions that someone must perform between the factory and the customer to achieve the objectives of both parties

*"The customer receives the right quantity at the right time in the right location"*

Exactly how they want it

### Service Concepts

- Production
- Consumption
- Provision

Gap between production and consumption & provision

Examine consumption and provision patterns

- These consumer desires can't be solved just by brilliant products at low cost.
- Most customers aren't really interested in your products as products. They only want to use your products to solve their consumption problems:

### Two Sets of Maps

- How I make it currently
- How I need to make it
- Solve my problems completely
- Don't waste my time
- Provide exactly what I want
- Exactly where I want
- Exactly when I want
- Reduce my effort

## Give them what they want

- Shoppers want to find the exact products they desire (the what) every time they shop.
- **But...currently they rarely do.**

## Intelligent Feedback

- Every customer contact is a kaizen opportunity!
  - Don't Outsource Complaints
- Deploy highly trained employees
- Work quickly
- Exceed customer expectations

## Don't waste the Customer Time

It's not free

Eliminate Queues & Wait Times

## Intro to ValueStream Mapping

## Basics of Value Stream Mapping

- Value should be *Pulled* through the system.
- Value should be produced:
  - When the next worker needs it
  - In the amount the next worker needs it
  - Where the next worker needs it.
- Promotes:
  - Higher quality
  - Lower costs (material and facilities)
  - Increased responsiveness to problem

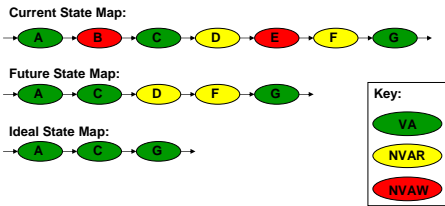
## Basics of Lean Production,



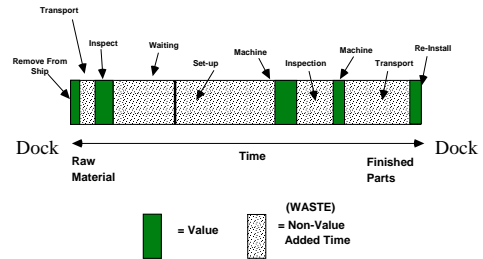
**5S – A Place for everything, everything in it's place.**

### Basics of Lean Production

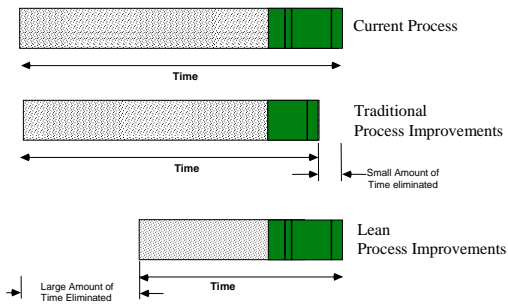
- A "Value Stream" maps the flow of materials and information through an organizations internal processes, creating a clear distinction between what is Value-Added and what is Waste.



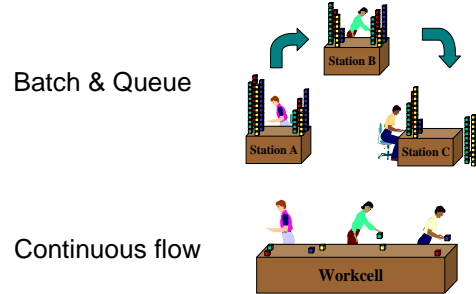
### Basics of Mapping



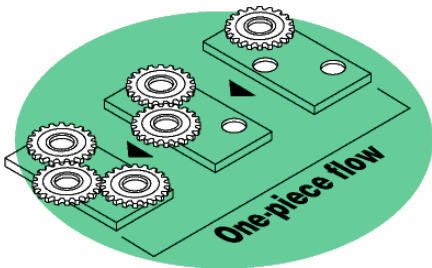
### Mapping



### Mapping



### One Piece Flow



### Value

- Specify value from the standpoint of the end customer
- Hint** — value is increasingly a solution to the customer's problem -- e.g., a leak free drive train rather than an isolated gasket
- Second hint** — rethinking value is the key to growth & use of excess assets in a mature industry
  - E.g. Southwest Airlines (Customers just wanna get there)

### Value Stream

- Identify all of the steps currently required to create value
- Challenge every step: Why is this necessary?
  - It this really stupid or what?
- Many steps are only necessary because of the way firms are organized and previous decisions about technology
  - Legacy or Apple Pie Processes

### Pull

- *Let the customer get exactly what's wanted exactly when it's wanted*
  - Shorten the lead time
  - Have the correct specs that mirror the customer's desires

### Last Thing

- What maps do we need? What do we need to do to create the miracle?

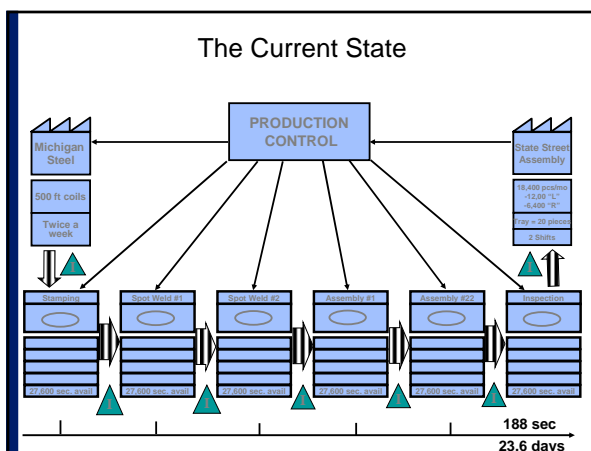
### The Value Stream

The only accurate way to create the map is to take a walk and draw what you see!

Historical data and what people tell you is "normal" is almost always wrong!

We recommend a pencil, a piece of paper, a clock (or a calendar), and sneakers as the basic mapping kit

### The Current State



### The Maps

- **Step 1: Specify Value**
- **Step 2: Map**
- **Step 3: Flow**
- **Step 4: Pull**
- **Step 5: Perfection**

### The Current State

We call this completed map the “current state”

It shows what is really happening right now

Rigorous definition of product families and identification of wasteful steps provides opportunity to envision a “future state”

### What To Do?

- It's the Lead Time!
  - Get each process to produce only what the next process needs when it needs it.
  - Orchestrate (control, manage, regulate) operations to get ever closer to this ideal, ever shortening the lead time.

ORDER “All we’re trying to do is shorten the time line...” CASH  
Taiichi Ohno

### Lean Thinking In Summary

- Accurately specify value by product
- Identify the value stream
- Make the product flow
- At the pull of the customer
- In pursuit of perfection