



# VSM

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GAA Packaging Conference

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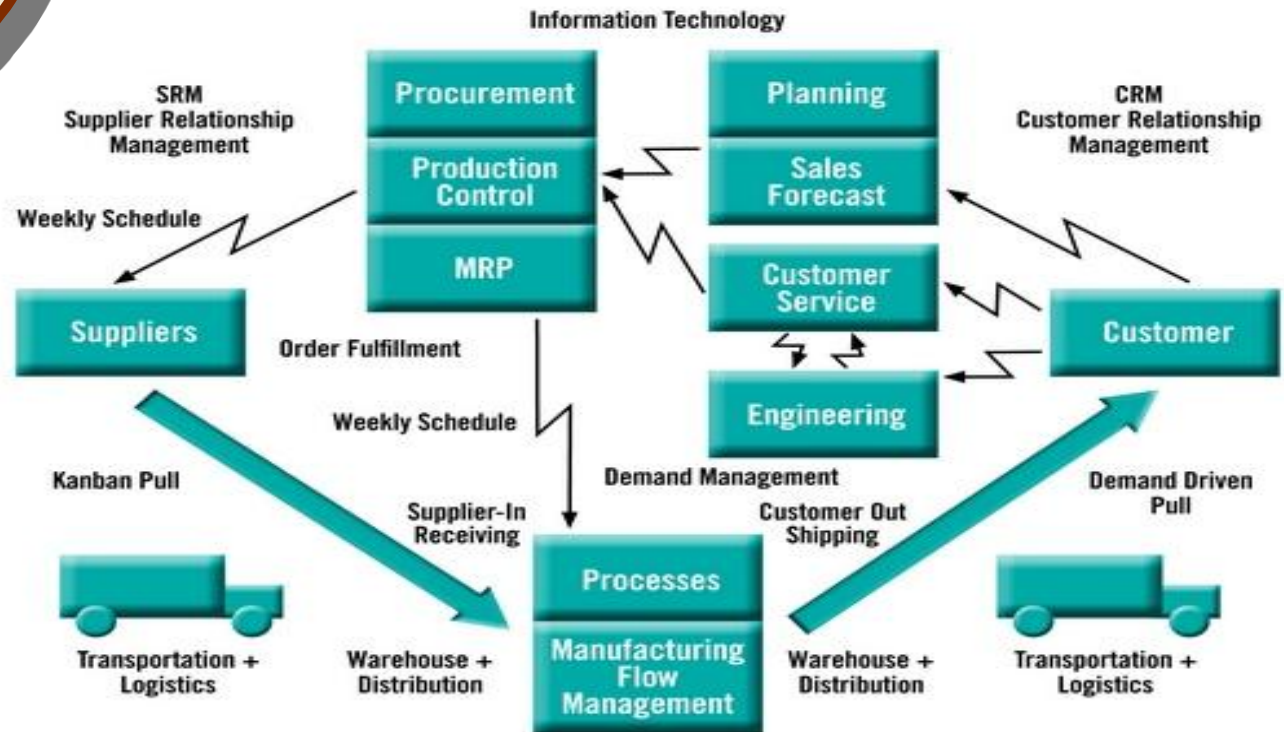
**Armstrong**<sup>®</sup>

**Armstrong** is the **global leader** in the design and manufacture of **floors, ceilings and cabinets**

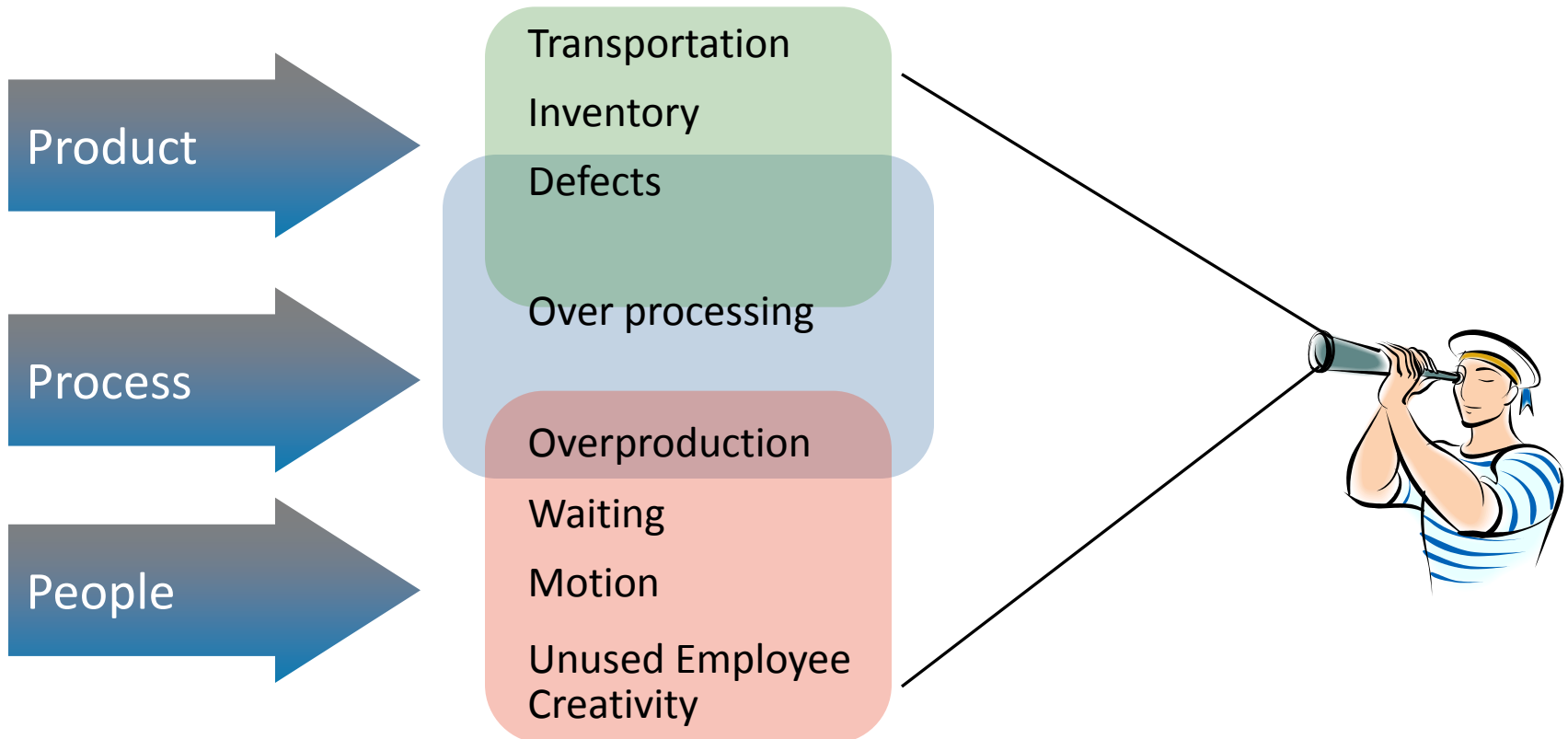
- In 2010, Armstrong's net sales neared **+\$2.8 billion**
- Based in Lancaster PA, Armstrong operates 41 plants in 12 countries and has approximately +9,500 employees worldwide



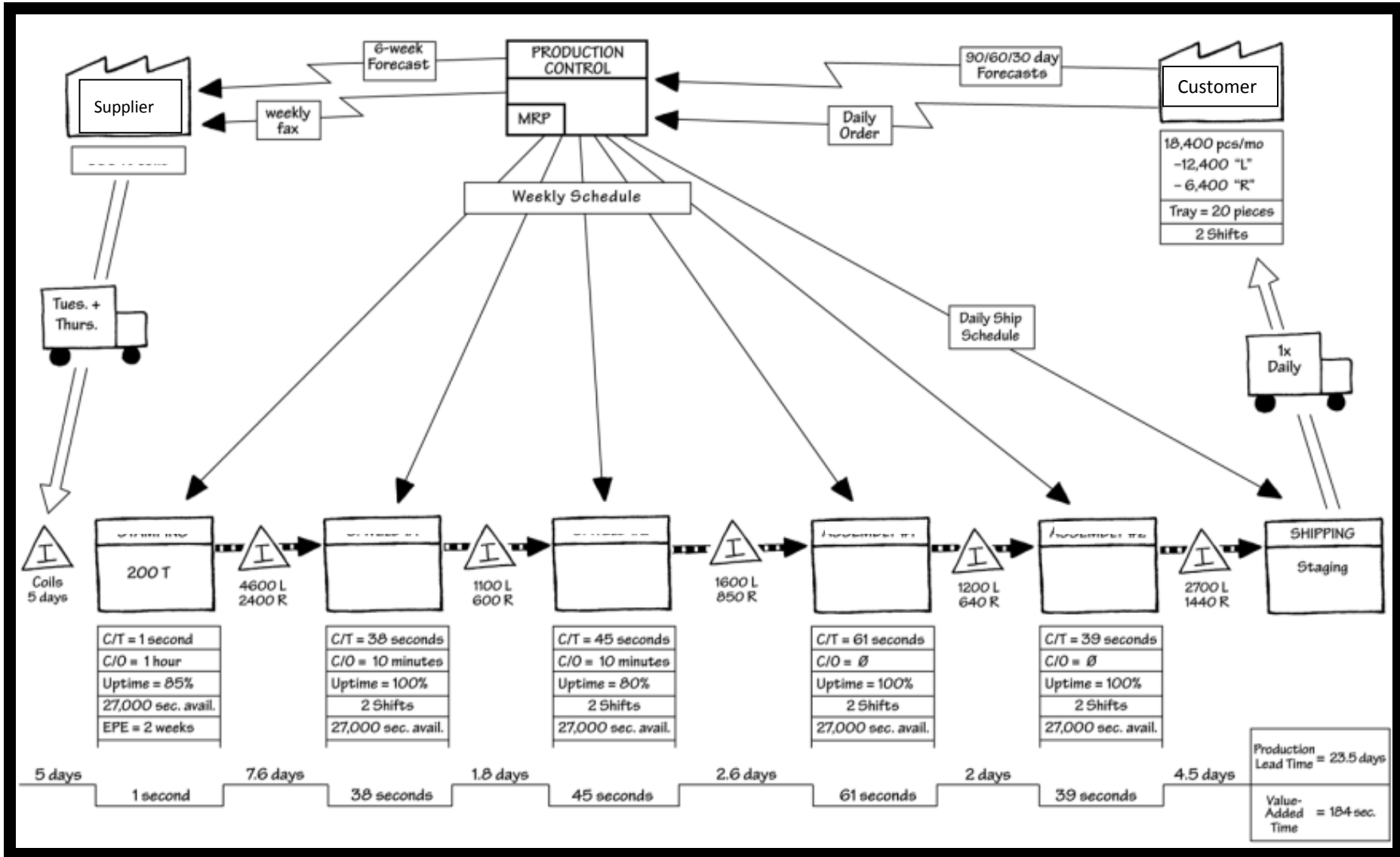
“Whenever there is a product or service for a customer, there is a value stream. The challenge lies in seeing it”



The Value Stream Map is one of the key visual tools used to see the waste in our manufacturing and transactional processes



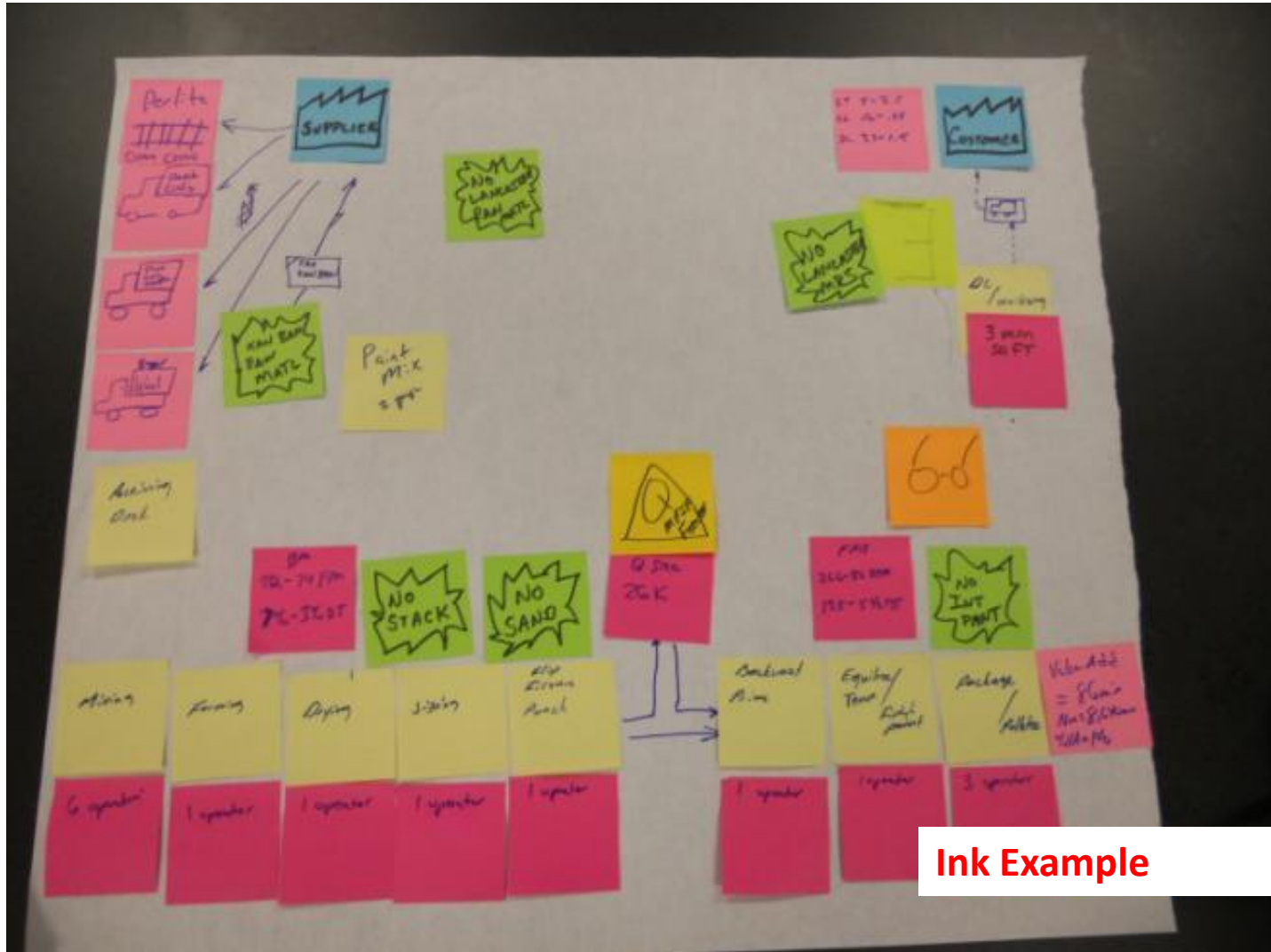
# Value Stream Map - "Current State"



- Completed during the same mapping event with the same team
- Focused on:
  - Creating a flexible, reactive system that quickly adapts to changing customer needs
  - Eliminating Waste, Creating Flow, and Establishing Pull
  - Reducing Variability and building Quality at Source
  - Producing on demand (Just in Time) to meet/exceed customer expectations



# Armstrong | Future State VSM Example



**Ink Example**

Use sticky notes, write down your ideas

Looking for quantity not quality – do not deselect at this time

Be specific enough that we can understand what you are talking about





Establish operational definition for

- Impact
  - Low
  - Med
  - High

Assign a number/color to each idea per the Impact/Difficulty grid

Sort the ideas by number (1 on top)

Establish cost savings for each idea by Type:

- Changeover
- Downtime
- Scrap
- Other
- Inventory

Impact				
H	1	3	6	
M	2	5	8	
L	4	7	9	
	L	M	H	Difficulty



# Create Opportunity List

Create a working list of ideas to reduce costs and rank them by Impact and Difficulty. We will then create the Opportunity list by Value Stream, see example below:

## Current Example of an Ink

Brainstorming idea	Impact	Difficulty	Priority	Opportunity	Comments
Increase solvent demand for Extenders by 10%	h	l	1		XX to provide savings on Extenders
Dispenser Calibration - Reduce by 1 Hit for INK Color mastering @ Still Water	h	l	1		Reduction by 1000 hrs of labor per year
Alternative Solvents for Extenders	h	l	1		XX to provide savings on alternative extenders
Add Drum ID to Label for Pigments and Extenders	m	l	2		Waiting for feasibility confirmation from XX
Make smaller batches of Blue pigment (400 lbs)	m	l	2		XX to provide details for making smaller batch size
Improve truck loading capacity from 40K to 44K lbs	m	l	2		XX to verify possibility with XX based on DOT rules

## Kaizen Event (KPO)

- Planning Event
- Preparing permanent Kaizen training, workroom, and storage areas

## Gemba Walks / Managing for Daily Improvement

- Performance boards are to be created
- Train production employees to use event tracking boards
- Plant Management to conduct daily walk to each board and have performance briefings with production employees

## Lean Steering Committee

- Steering Co. to meet weekly to review Kaizen 30-day homework progress, review/select topics for upcoming Kaizens, assign resources and review overall progress of program

## Subject Matter Experts (SMEs)

- Selecting plant personnel to become experts in Lean improvement subject matter
- SMEs conduct training, lead events, identify opportunities to apply learning



Thank  
you

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