

LEAN 6 Sigma



Yellow Belt Training



Introductions & Expectations

- What is your name?
- Where do you work?
- What are your expectations from this training?
- What is your experience with the CPI toolset?



Code of Conduct

- Everyone participates with equal voice.
- High level of participation needed for success.
- Single discussions (respect the speaker).
- *All* ideas welcome (what happens here stays here!)
- Respect our time together – return from breaks/lunch on time.
- Blackberries / Phones / electronics off or on vibrate.
- Handle outside business on breaks.
- Function as a team.
- **Have fun!**



Administration

- Classroom location
- Restrooms
- Lunch / Breaks
- Refreshments
- Starting / ending times
- Class evaluations
- Estimated completion time
- Parking Lot
- In case of fire muster at _____



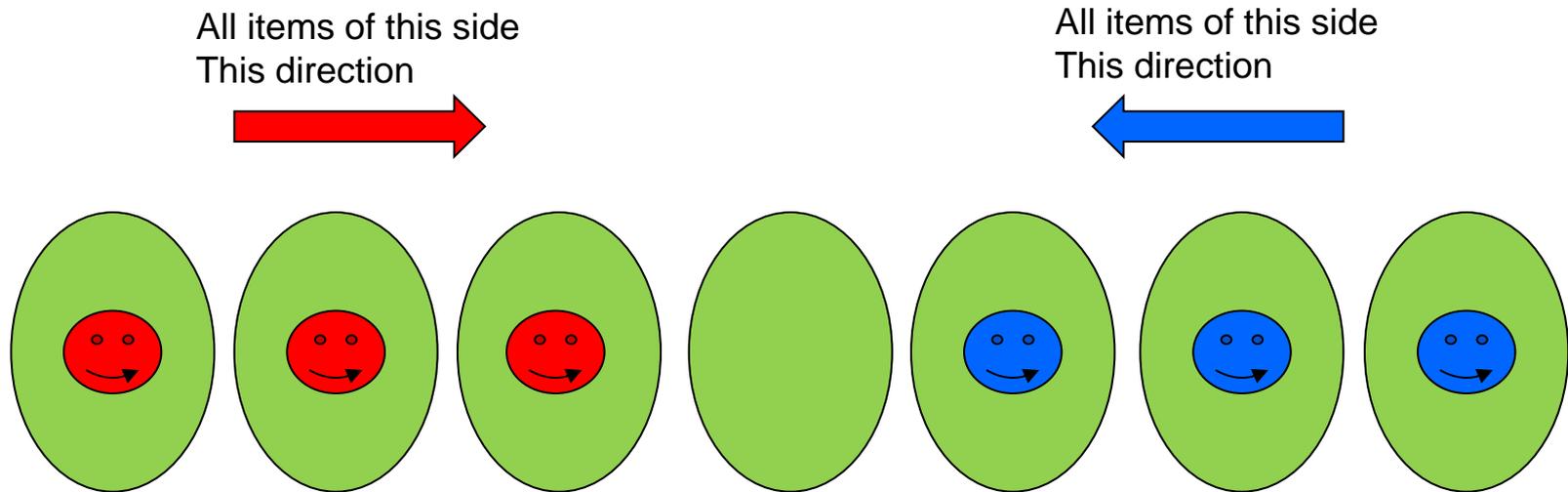
Course Objectives

At the end of this course you will be able to:

- Understand Continuous Process Improvement (CPI) tools.
- Be an effective Team Member on CPI Events
- Define the various roles and responsibilities of the Yellow Belt.
- Advance the culture of CPI.
- Participate part time as a CPI team member and help to sustain the improvement gains.



Morning Exercise – Traffic Jam



Traffic Jam Rules

- All 🚗 must move; “0” cannot be moved.
- A 🚗 may only move forward to an empty “0”.
- Only one 🚗 can occupy a “0” at any time.
- No 🚗 may move backward at any time.
- An 🚗 may jump a single 🚗 traveling the opposite direction provided an empty “0” exists immediately beyond the 🚗 being jumped.
- A 🚗 may not jump a 🚗 traveling the same direction.
- Once your team has accomplished the task, you must be able to repeat it for an instructor.



Course Agenda

- Introduction
- Lean Module
- Six Sigma Module
- Wrap-Up



Why CPI?

- The USMC tradition is lean
 - We pride ourselves on accomplishing “more with less”.
 - USMC culture is one of innovation – constant improvement.
- Purpose of CPI in the Marine Corps has been, and will be, to increase combat readiness and support to the warfighter.



Why Use CPI?

- Strategic
 - CPI Enhances USMC Readiness.
- Operational
 - CPI Helps USMC Organizations Meet Mission Requirements Despite Resource Constraints.
- Tactical
 - CPI Helps Everyone With Their Job.



Process Comparison

Best Business Practices

Program	Six Sigma	Lean
Theory	Reduce variation	Remove waste
Application guidelines	Define Measure Analyze Improve Control	Specify customer value Identify value stream Achieve flow Establish pull systems Seek perfection
Focus	Variation focused	Flow focused
Assumptions	A problem exists Figures and numbers are valued. System output improves if variation in all processes is reduced.	Waste removal will improve business performance. Many small improvements are better than systems analysis.
Primary effect	Uniform process output	Reduced flow time



CPI Supports Warfighting and Readiness

- Enhances support to the warfighters by continuously improving key support processes resulting in:
 - Reduced Process Times (Time).
 - Improved Process Reliability (Quality).
 - Improved Safety and Workplace Quality of Life.
 - Ensuring Affordability (Cost).



CPI Roles

CPI Core Team

- Enables successful deployment / execution
- Develops and reports metrics
- Coordinates training
- Leads change management and internal / external cross-communication

Executive Leadership

- Owns vision, direction, integration, business results
- Leads change

Project Sponsors

- Project owner
- Implements solutions
- Owns financial results
- Part time as part of job
- Develops Project Charter

Deployment Champions

- Lead organizational performance improvement
- Prioritize projects
- Full time assignment

Project Team Members

- Provide project-specific support
- Can be Yellow or Green Belt and includes Financial Representation
- Part time on projects

All Employees

- Understand vision
- Apply concepts to their job and work area

Master Black Belts

- Train Black Belts/Green Belts
- Coach Black Belts/Green Belts
- Lead Complex/Large projects
- Full-time position

Green Belts

- Participate on Black Belt teams and/or lead projects
- Part time on projects

Black Belts

- Execute CPI projects
- Train and coach Project Teams
- Full-time assignment



Team Member Responsibilities

- **As a Yellow Belt you're expected to:**
 - Act as an change agent for the organization you're a member of and not yourself.
 - Ensure communication is maintained with the groups you represent.
 - Participate in CPI events.
 - Become familiar with the basic CPI tools, LEAN and Six Sigma.
 - Assist in project reviews.
 - Function in teams between 2 and 8 members



Types of Improvement Opportunities

Name	Duration	Scope of Change	Size of Team	Time to Implement
Just Do It	1-2 Days	Solution Ready to Implement – Problem Well Defined	Project Sponsor	Immediate
Kaizen/Rapid Improvement Event (RIE)	3-5 Days	Short Term, High Intensity Effort to Address a Specific Problem	2-8 (Full-Time During Event)	Immediate to Short Term
Project	3-6 Months	Complex Problem, No Apparent Root Cause	3-15 (Part-Time)	Mid to Long Term



How to Determine Project or RIE

- A project is conducted when one or more of the following conditions exist:
 - There is significant or unexplained variation in the process.
 - The root cause of the problem is not readily apparent.
 - The problem is complex.
 - There is a significant quality problem.
 - There are test failures without obvious cause.
 - Significant data analysis is required to understand the problem.



Are there any comments or questions?



Yellow Belt

Lean

Lesson 2



Learning Objectives

At the end of this lesson you will be able to:

- Understand the basic principles of Lean Thinking.
- Be familiar with the basic Lean tools.
- Be prepared to apply the basic Lean tools in your own work area and / or as you work with your project or RIE team.



Overview

- Lean Principles
- Types of waste within processes.
 - TIMWOOD and U
- Basic lean methods of process improvement.
 - Value Stream Mapping
 - Little's law
 - Mistake proofing
 - 5S + 1
 - Visual controls
 - Right Sizing
 - Standard Work
 - TAKT Time



History of Lean

- Roots of Lean go back to early 1900's.
- Henry Ford: continuous flow production, waste elimination.
- *TWI: (Training Within Industry), 1940-1945.*
- Kiichiro Toyoda and Taiichi Ohno: low inventories, flexibility.
- U.S. supermarkets: pull systems.
- Shigeo Shingo: mistake proofing, reduced set up times.
- Toyota Production System.
- MIT and James Womack bring Lean back to U.S.

The logo for Standard Aero, featuring the words "STANDARD" and "AERO" in a bold, sans-serif font, with a horizontal bar underneath "AERO".The Boeing logo, consisting of the word "BOEING" in a stylized, italicized font, with a circular emblem to the left containing a stylized "B".The Toyota logo, featuring the word "TOYOTA" in a bold, sans-serif font, with a circular emblem to the left containing three overlapping ellipses.The Nike logo, the word "NIKE" in a bold, sans-serif font, with a horizontal bar underneath.

What is Lean?

Tools and Methodology to:



Eliminate Waste

**WAR
ON
WASTE!**



Improve Flow

By using:

Just-in-Time

Batch Reduction

Pull/Kanban

**Standard
Work**

**Value Stream
Mapping**



Lean Toolbox

**Set Up
Reduction**

Poka-Yoke

Visual Controls

5S + 1

Cellular Flow

Lean Defined

“Becoming ‘lean’ is a process of eliminating **waste** with a goal of creating **value**.”

Source: *Lean Enterprise Value: Insights from MIT's Lean Aerospace Initiative* by Earl Murman, Thomas Allen, Kirkor Bozdogan, Joel Cutcher-Gershenfed, Hugh McManus, Deborah Nightingale, Eric Rebentisch, Tom Shields, Fred Stahl, Myles Walton, Joyce Warmkessel, Stanley Weiss, Shela Wdnall, (Pagrave, 2002)



Lean Principles – Womack & Jones 1996

- Specify value from the customer's perspective.
- Identify the value stream.
- Make value flow continuously.
- Let customers pull value.
- Relentlessly pursue perfection.



Value

- Critical starting point for Lean.
- **Can only ultimately be defined by the customer.**
 - NO two customers define Value identically.
- Critical questions we must ask ourselves.
 - Do we truly understand Value from our customer's perspective?
 - Are we truly focused on providing that Value?
 - What are the barriers & obstacles preventing us from focusing on and providing that Value?

$$\text{Value} = \frac{\text{Features} \times \text{Performance} \times \text{Quality}}{\text{Cost} \times \text{Time}}$$



Value Added, Business Value, Non Value Added



Value Added

The customer wants it (and is willing to pay for it) and,
It changes form, fit, or function of a product or service and,
It is done right the first time.



Business Value

No value is created but customer is willing to pay for it.
Required by Law / Statute / Unchangeable Policy.



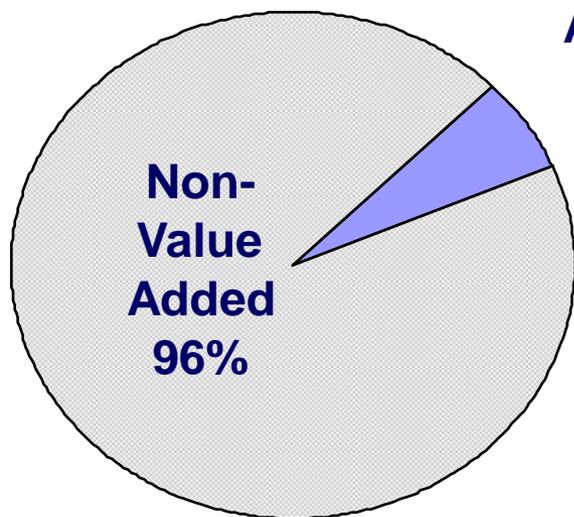
Non-Value Added - Waste

Consumes resources but creates no value in the eyes of the customer.
If you can't get rid of the activity, reduce it.

How products spend their time in a process

Transactional or Production

80's

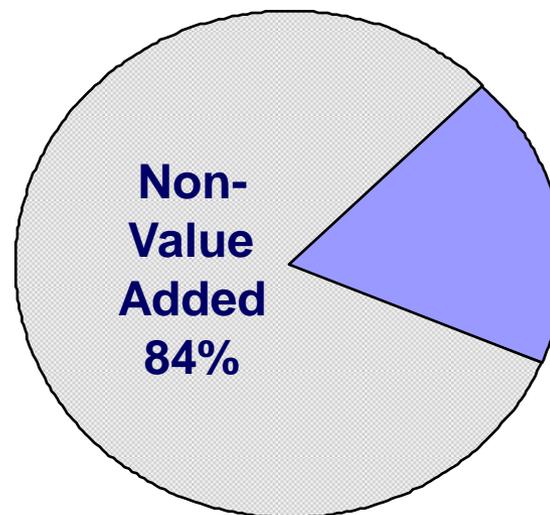


**Value
Added
4%**

**Non-
Value
Added
96%**

Before CPI

Today



**Value
Added
16%**

**Non-
Value
Added
84%**

After CPI

Definitions of Waste

Those Elements of a process that **Do Not Increase the Value** of a Product *as Perceived by the Customer*, but **increases Cost and Process times.**

Anything other than the **minimum** amount of **equipment, materials, parts, space, and worker's time** which are absolutely essential to **add value** to the product.



8 Types of Waste

Identify and Eliminate these Wastes:

Types of Waste:

T	Transportation
I	Inventory (Excess)
M	Motion
W	Waiting
O	Over-Production
O	Over-Processing
D	Defects
&	
U	Under Utilization of people

Transportation



Waste caused by unnecessary movement of material or product.

Primary Causes:

- Inefficient Facility Layout
- Process Islands vs. Continuous Flow
- Batch (Push) Mentality
- Lack of Right-Sizing
- Long Setup Times
- Lack of Multi-Skilled Workers

Inventory

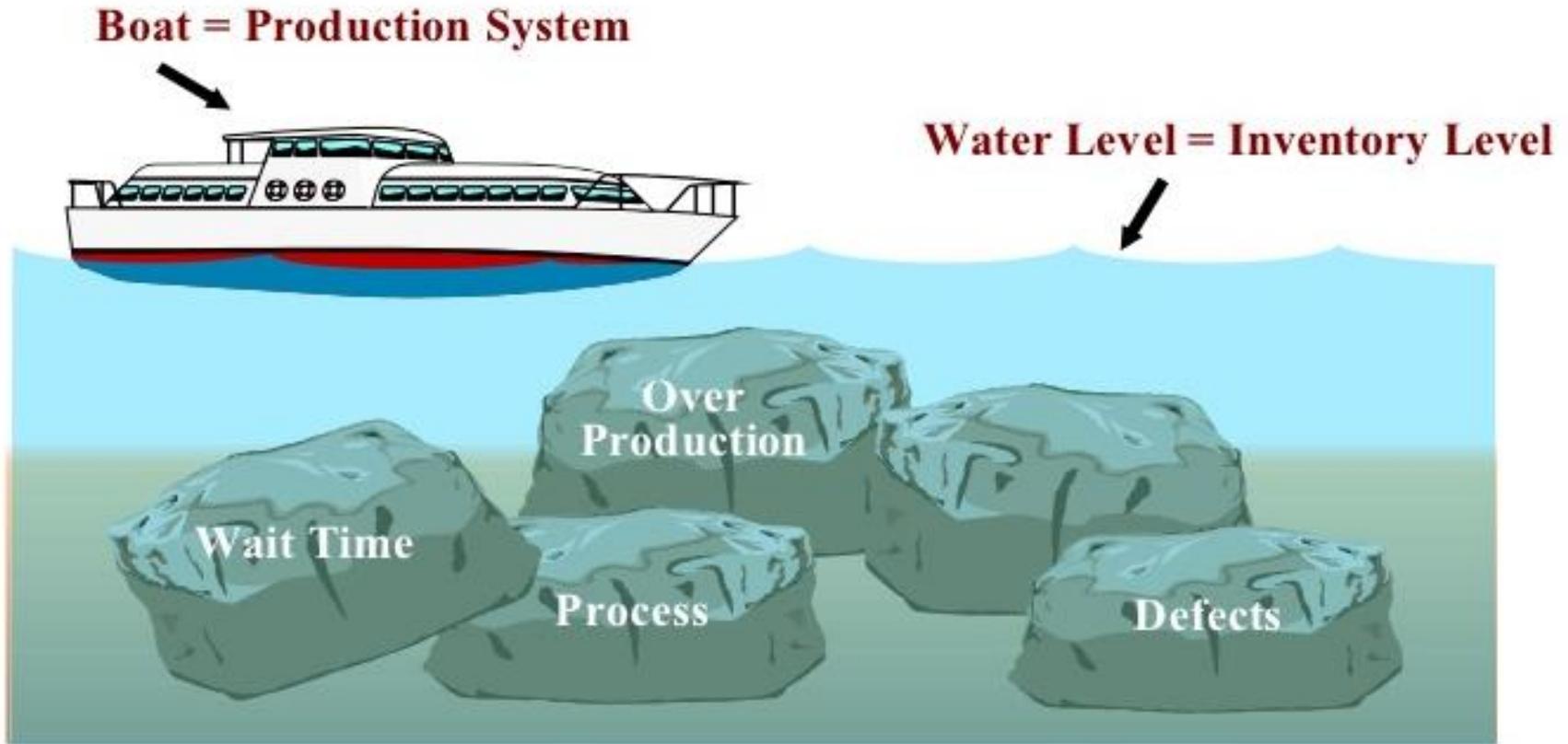
Waste of materials, parts and assembled goods, when purchased or produced in advance of customer requirements.



- **Increases Cycle Time & Process Lead Time.**

8 Wastes - Inventory

Inventory Hides Problems!

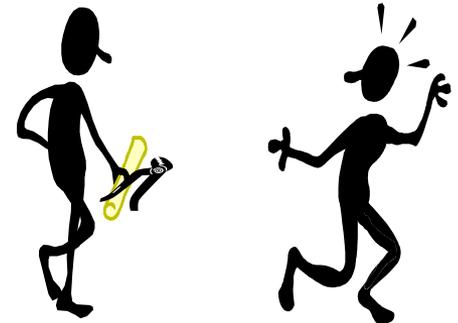
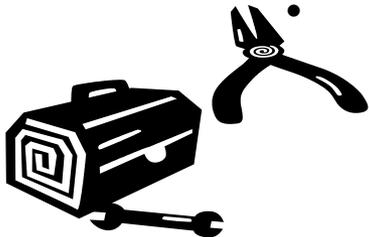


Rocks = Hidden Problems (Uncovered as Inventory is Reduced)

Motion



- Waste caused by non-value added movement of workers and / or production machines.
- Primary Causes:
 - Inefficient workplace layouts.
 - Inefficient tools and / or fixtures.
 - Lack of Standard Work causing inconsistency.
 - Batch movement of product.



WAITING

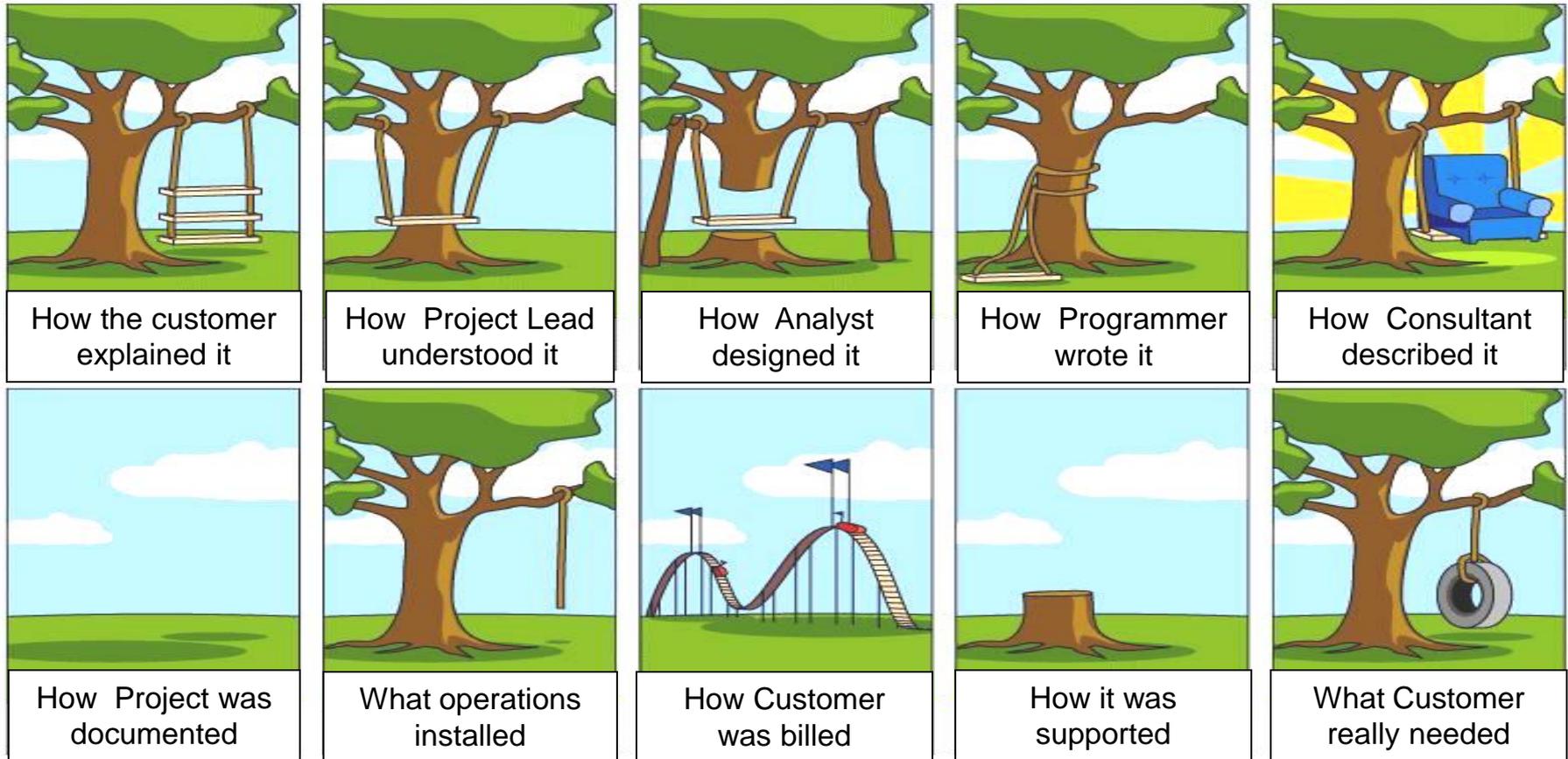
The Waste of Waiting occurs whenever the hands of an employee are idle.

OVER PRODUCTION

Waste caused by producing more than the customer needs (Push). This type of waste leads to excessive inventories.

Over Processing

The Waste of Unnecessary or Non-Optimized Processes and/or Operations.



“There is nothing so useless as doing efficiently that which should not be done at all.”

Peter Drucker

Defects / Rework

Waste that occurs when a process, product, or data does not conform to proper specifications. The result could cause product rework, scrap, or the escape of a defect to the customer.

What Causes Defects?

- Poor procedures or standards.
- Non-conforming materials.
- Worn or out of tolerance tooling.
- Human mistakes.



Under utilization of employees

ULTIMATE WASTE

Waste of a person's time



Give me a call!



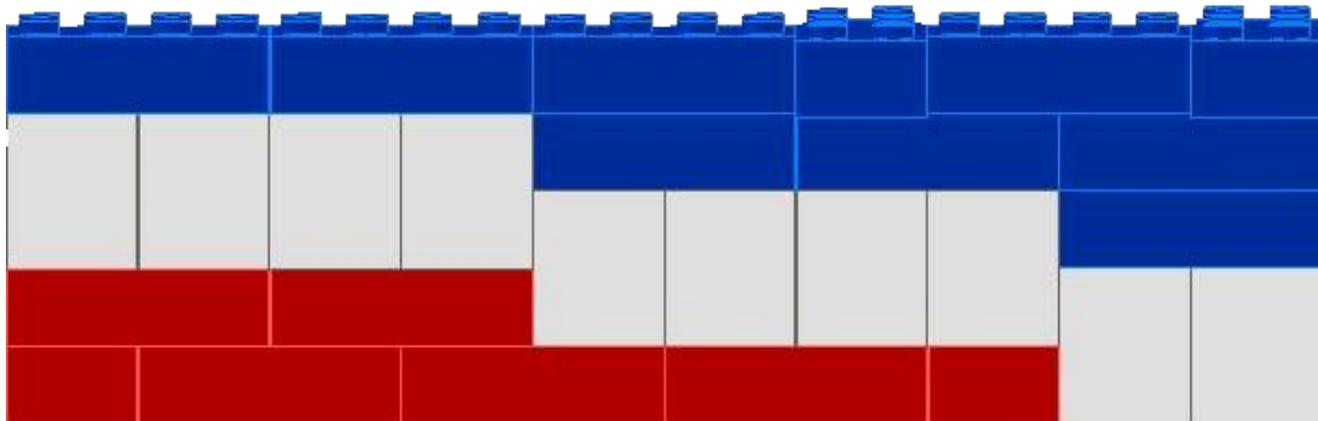
8 Wastes - Examples

Type of Waste	Physical Process	Transactional Example
Transporting	Parts Moving to Warehouse and Back	Data Handoffs
Inventory	Excessive Work-in-Process	Backlog of Design or Tooling Changes
Motion	Retrieving Parts, Tools, Information	Poor Office Lay-Out
Waiting	Out of supplies, Lack of Information	Meetings, Approval, System Down Time
Over-Processing	Performing Unneeded Operations	Approvals (Too Many Sign-offs)
Over-Production	Working Ahead of Schedule	Printing Paper Too Soon
Defects	Scrap or Rework	Drawing or Planning Errors, Rework
Under utilization of employees	More people involved than required to perform physical or transactional tasks.	



Exercise

Yellow Belt



8 Types of Waste Exercise

8 Types of Wastes Exercise

- Break into teams.
- Identify the 8 Types of Wastes.
- Brainstorm 3 examples of waste in your work areas.
- Be prepared to share your examples with the class.



Lean Principles – Womack & Jones 1996

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- Identify the **value stream**.
- Make value **flow** continuously.
- Let customers **pull** value.
- Relentlessly pursue **perfection**.

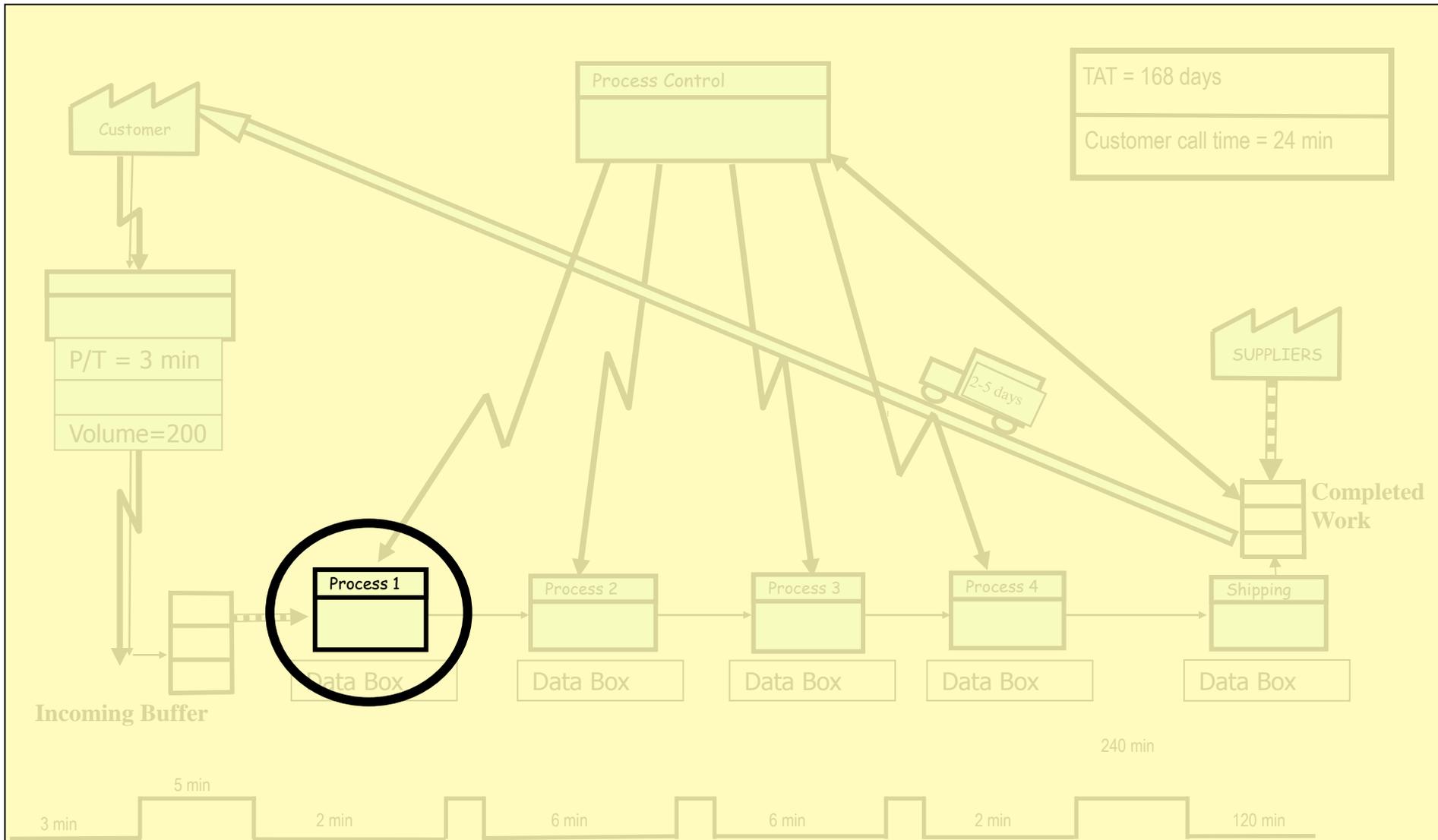


Value Stream Analysis

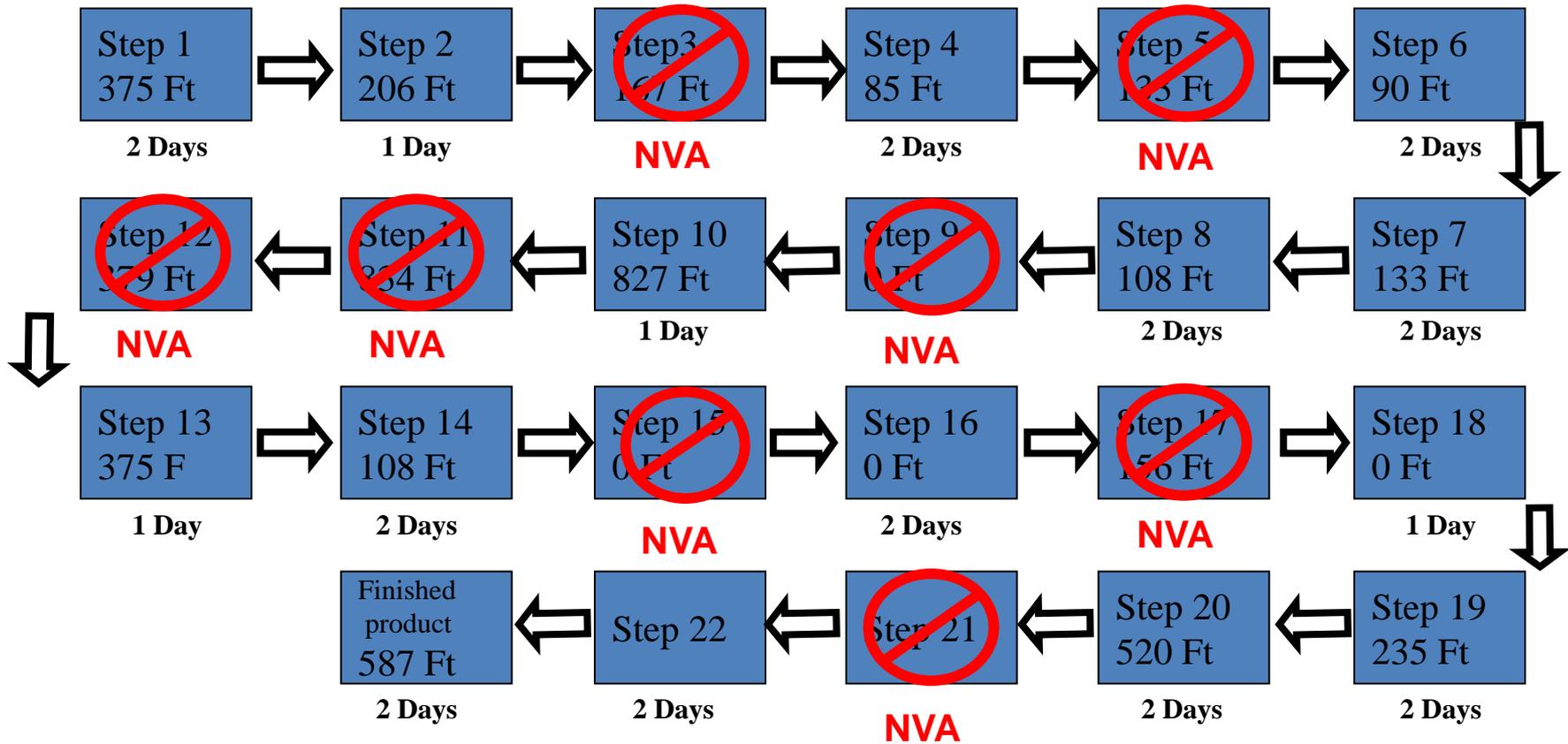
- A “VISUAL” planning tool used to identify non-value added activity (NVA) and develop plans to eliminate the waste.
- Value Stream Analysis is the key to all improvement activities.
- Includes the entire set of activities running from requirement to finished product for a specific product or service.
- Seeks to optimize the whole from the standpoint of the final customer.



Value Stream Map (VSM)



VSM for Process 1 (Process Flow Map)



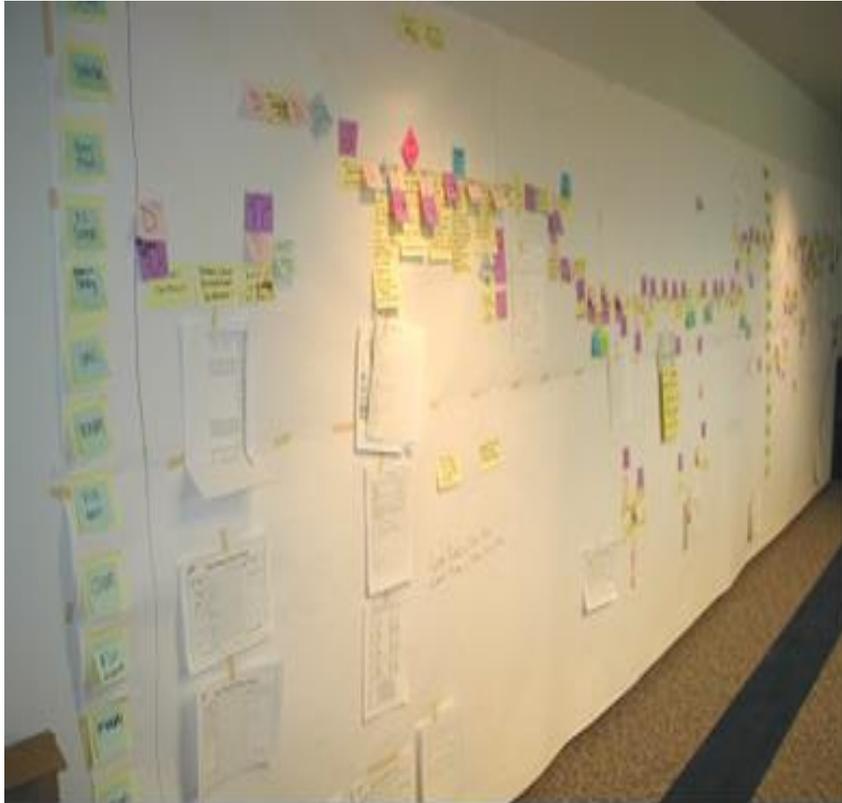
AS-IS METRICS

- 23 PROCESS STEPS
- 35 Queues
- 8 NVA STEPS
- TAT = 43 DAYS
- TOTAL DISTANCE = 5242 Ft

TO-BE METRICS

- 15 PROCESS STEPS
- 23 Queues
- 0 NVA STEPS
- TAT = 12 DAYS
- TOTAL DISTANCE = 1528 Ft

Value Stream Map - Examples



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What is Flow?

The continuous, progressive adding of Value in the eyes of the customer.

- Starts at receipt of customer request.
- Ends at delivery to customer.
- Flow utilizes the fewest number of steps with no interruptions.
- Eliminates waste.



**People always working on the product
and the product always being worked on.**

Toyota Production System

- Taiichi Ohno / Shigeo Shingo found the real challenge was to create continuous flow in "small-lot" production.
- Ohno achieved small lot continuous flow by:
 - Aligning equipment & resources to the Value Stream .
 - Physically locating machines close together.
 - Driving down batch sizes.
 - Single Minute Exchange of Die (SMED).
 - Splitting and right-sizing of operations.
 - Cross Training.
 - Simple production control processes – Pull / Kanban.
 - Aggressive root cause analysis.
 - Application of Lean tools such as Kitting, Point of Use Systems (POUS), and visual controls.



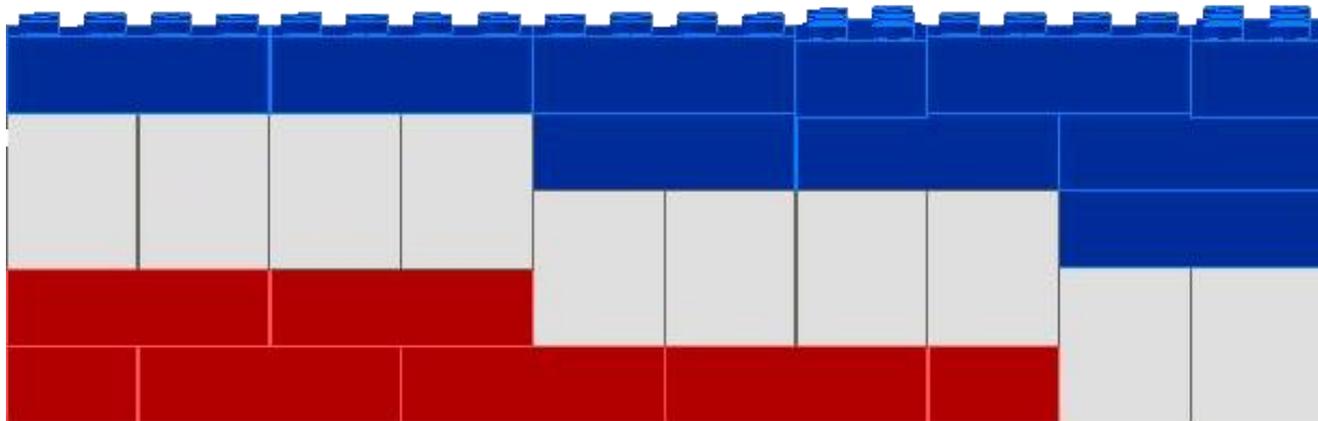
Batch and Queue

- Production of large lots of identical items to meet anticipated demand.
 - Production is to schedule, not to demand.
- Makes great efficiencies possible for equipment amortized over large quantities.
- Increases inventory and cycle times.
- Choices limited to those favored by the many.
- Examples of Batching
 - Waiting for a table at a restaurant (Table for 4).
 - Waiting at the doctor's or dentist's office.
 - On the telephone when on hold.
 - Waiting at home for the cable company.



Exercise

Yellow Belt



The Lean Penny Game



The Lean Penny Game

- Goal: Move all the coins through all the station.
- Task: Each station does their work by flipping each coin over.
- Measurements: Time measurements will be collected when the first and last batch is delivered to the customer for each round.



Station Tasks

- Round 1: All stations flip coins using their left hand in batches of 20.
- Round 2: All stations flip coins using their left hand in batches of 5.
- Round 3: All stations flip coins using both hands in batches of 5.
- Round 4: All stations flip coins using both hands in single piece flow.



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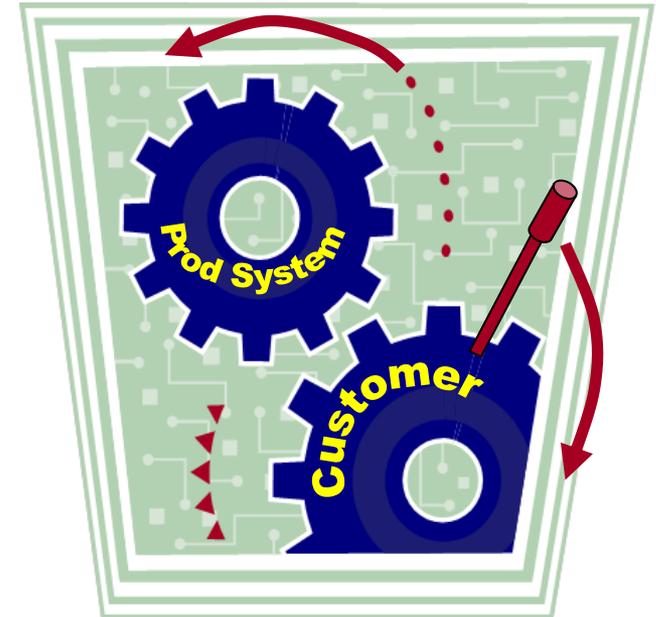
Push vs. Pull

Push:

Work is pushed into the system or process based on forecasts or schedules.

Pull:

A customer-driven system that produces and moves a product/service *only* when the customer needs it.



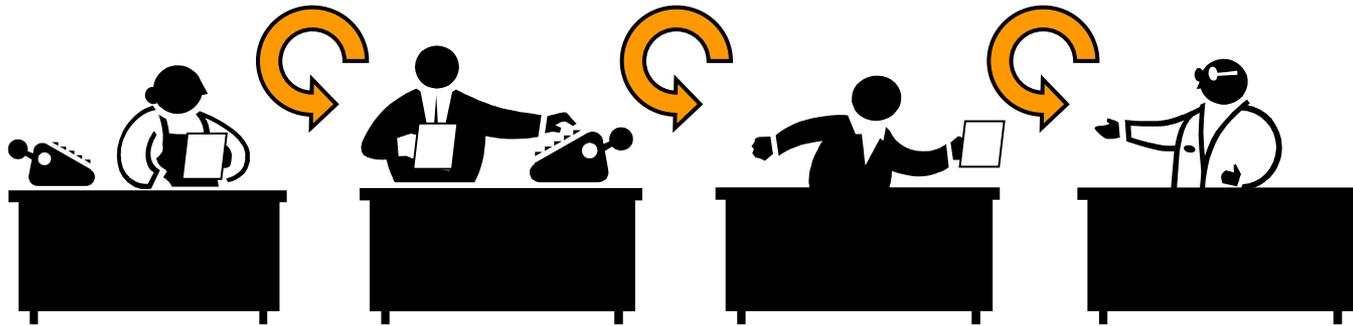
Let Customers Pull Value

- Pull - A customer-driven system that produces and moves a product / service *only* when the customer needs it.
- Push - Work is pushed into the system or process based on forecasts or schedules.
- No one upstream produces a good or service until the downstream customer asks for it.
- Replaces “*Ready or not here I come*” with “*OK, Now I’m ready*”.



Pull Systems

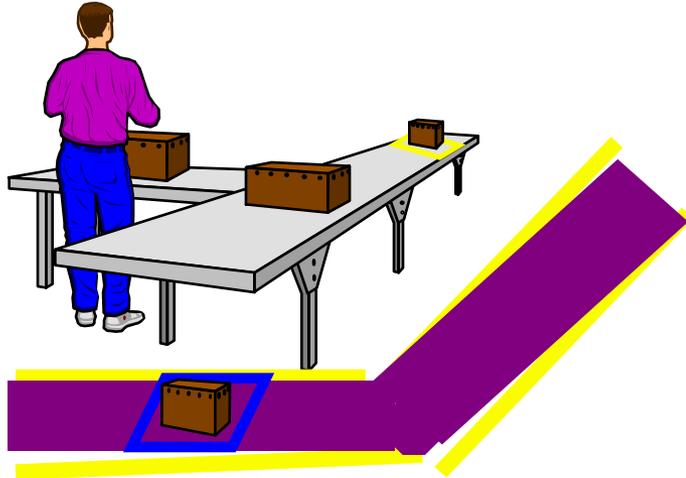
Pull



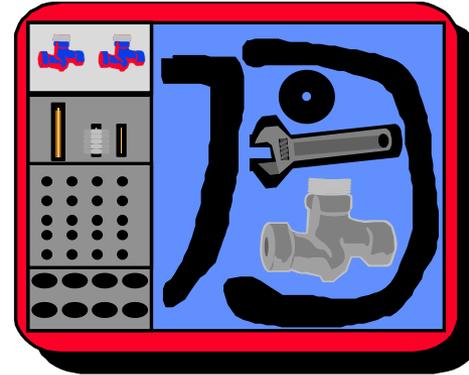
- **Elements**
 - Upstream Supplier
 - Downstream Customer
 - Visual Trigger (Kanban)
- **Sequenced**
 - Use First In First Out (FIFO) lanes
- **Replenished**
 - Create supermarkets

Types of Pull Signals (Kanbans)

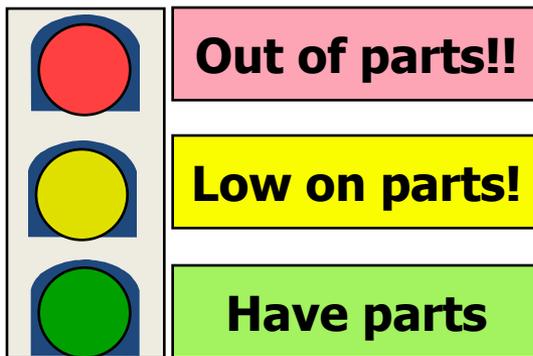
Square on Floor



Containers (Kits)



Lights



Cards

STOCKING LOCATION- 106-0			PROCESS	
ITEM # 406699			FABRICATION CELL -106	
DESCRIPTION TURBINE DISK			OPER.	DESC.
			10	ROUGH TURN
			20
			30
			40
			50
BOX CAPACITY	BOX TYPE	ISSUED #		
2	C-04	1 OF 4		

Pull System Example

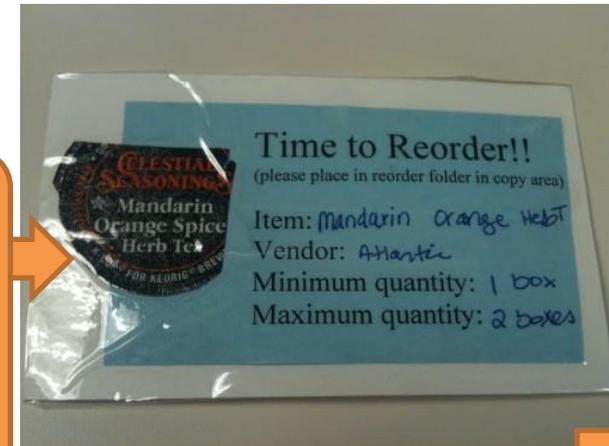
Reordering Office Coffee



Step One: Remove Empty Box



Step Two: Locate New Box



Step Three: Pull Kanban

Step Six: Replace Stock



Step Four: Replace Box



Step Five: Place Kanban in Reorder Pouch

To-Be Ordered

Awaiting Delivery

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Pursue Perfection

- Begins with understanding Lean Principles & visualizing the “perfect” process at the outset.
- No matter how much you improve a process to make it leaner, there are always ways to continue to remove waste by eliminating effort, time, space and errors.
- Achieving the “Lot Size of 1”.
- Achieving Continuous Flow.
- Achieving a CPI Culture.



It's Cultural

“One Million – That’s how many ideas Toyota **implements** each year. Do the math: **3,000 ideas a day**. That number, more than anything else, explains why Toyota appears to be in a league of their own, while their competitors remain caught in a cross-fire of cost-cutting”.

Here’s the thing: it’s not about the cars. It’s about ideas. And the people with those ideas. **But not just any ideas. Mostly tiny ones**, but effective ones none-the-less – elegant solutions to real world problems. Not grand slam homeruns, but groundball singles implemented all across the company by associates **that view their role not to be simply doing the work, but taking it to the next level...every day, in some little way.** *Good enough never is.*

When an entire organization thinks like that, it becomes unstoppable.



Lean Tools

Continuous Improvement

Batch Reduction

Layout

Set Up Reduction

Mistake Proofing



Visual Controls

Pull/Kanban

5S + 1

Value Stream Mapping

Standard Work

Cellular Flow

Point of Use System

5S: A Tool to Achieve the Future State

- **5S** is a process and method for creating and maintaining an organized, clean, and high-performance workplace.
- **5S** enables anyone to distinguish between normal and abnormal conditions at a glance.
- **5S** is the foundation for continuous improvement, zero defects, cost reduction, and a more productive work space.
- **5S** is a systematic way to improve the workplace, our processes and our products through employee involvement.



5S + 1

- Each step of 5S builds upon the next.



Office Space without 5S



Sort (Seiri)

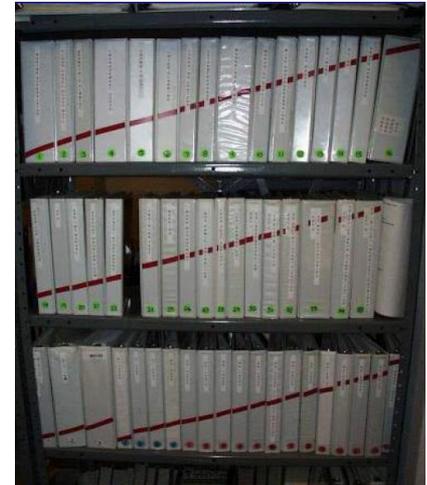
- **Establish criteria** for determining what is and is not needed in the area based on:
 - Usefulness of the item / equipment.
 - Frequency of use.
 - Quantity needed.
- **Red Tag evaluation.**
 - Keep in existing area.
 - Move to different spot within area.
 - Hold in red tag area.
 - Get rid of it.



**Ask the people who use the material / equipment for help –
We don't want to throw anything out that we actually need!**

Simplify or Set (Seiton)

- **Determine the location for needed items and how they should be kept.**
 - Consider how to store tools and jigs.
 - Consider principles of motion waste.
- **Identify best locations.**
 - Labels, signboards, maps, shadows.
 - 5S Map: shows location of equipment in the area .
 - Color-Code Strategy: distinguish use of tools / parts by color.
 - Outlining work areas and locations.



**Creating a place for everything and everything in its place!
Make it obvious at a glance!**

Shine (Seiso)

- **Determine Target** *What needs to be cleaned?*
- **Determine Assignments** *Who is responsible?*
- **Determine Methods** *How will it be done?*
- **Determine Tools** *What is needed?*
- **Implement Shine** *Everyone's responsibility.*

**Create and maintain a neat and clean environment.
Make it a habit!**



Standardize (Seiketsu)

- Establish guidelines for sort, straighten, and shine conditions.
- Bring the condition of the area up to those standards.
- Make the standard guidelines visible.
- Maintain and monitor first 3S's.
- Assign responsibilities and monitor through self audit and evaluation.



Create a consistent way to carry out tasks and procedures.

Sustain (Shitsuke)

- Development of new awareness and skills.
- Support from management.
- Ongoing, company wide communication.
- Making 5S standards part of daily work.
- Total employee involvement.
- Implement Sustainment Checklist.

Managers Committed



Training



“Buy-in” from all workers



Safety

Common Sense is Good Sense



Safety

- Include Safety in all your Improvement Projects.

Can you identify the safety issues?



5S Example



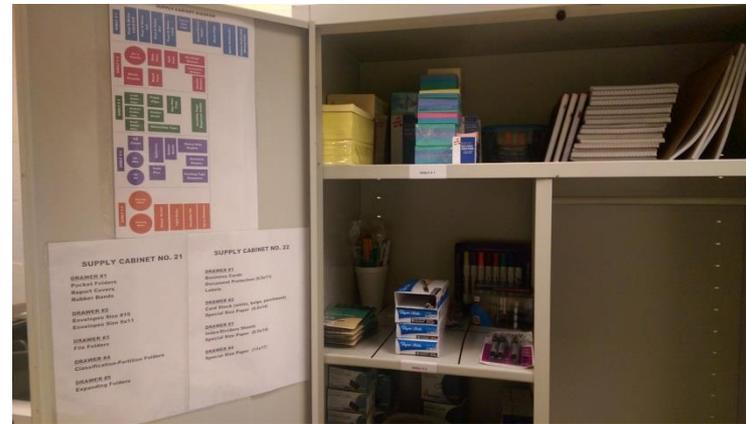
5S Example – P&I Supply Cabinet



BEFORE



AFTER



Five Levels of Excellence

	Sort	Simplify	Systematic Cleaning	Standardize	Sustain
Level 5 Focus on Prevention	Employees are continually seeking improvement opportunities.	A dependable, documented method has been developed to provide continual evaluation, and a process is in place to implement improvements.	Area employees have devised a dependable, documented method of preventive cleaning and maintenance.	Everyone is continually seeking the elimination of waste with changes documented and information shared.	There is a general appearance of a confident understanding of, and adherence to the 5S principles.
Level 4 Focus on Consistency	A dependable, documented method has been established to keep the work area free of unnecessary items.	A dependable, documented method has been established to recognize in a visual sweep if items are out of place or exceed quantity limits.	5S agreements are understood and practiced continually.	Substantial process documentation is available and followed.	Follow-through with 5S agreements and safety practices is evident.
Level 3 Make it visual	Unnecessary items have been removed from the workplace.	Designated locations are marked to make organization more visible.	Work and break areas and machinery are cleaned on a daily basis. Visual controls have been established and marked.	Working environment changes are being documented. Visual control agreements for labeling and quantity levels have been established.	5S agreements and safety practices have been developed and are utilized.
Level 2 Focus on Basics	Necessary and unnecessary items are separated.	A designated location has been established for items.	Work and break areas are cleaned on a regular, scheduled basis. Key items to check have been identified.	Methods are being improved but changes haven't been documented.	A recognizable effort has been made to improve the condition of the workplace.
Level 1 Just Beginning	Needed and not needed items are mixed throughout the work place.	Items are randomly located throughout the workplace.	Work place areas are dirty, disorganized and key items not marked or identified.	Work place methods are not consistently followed and are undocumented.	Work place checks are randomly performed and there is no visual measurement of 5S performance.



5S Scorecard

Item No.	Description	Rating Scale: 0-5 (0 = No 5S Evident, 5 = Out of the Box)	Score (0-5)
1	Unnecessary items are not stored in the area	5 – No unnecessary items are in the work area 1 – Personal items are mixed with and may interfere with accomplishment of required work	
2	Storage of cleaning material	5 – All required cleaning material is stored, visually marked, readily available 1- Cleaning material is shared between multiple work areas	
3	General tidiness of work area	5 – Work area is kept clean at all times 1 – Work area is cleaned once a shift	
4	Bulletin Boards	5 – Bulletin Boards are current and have no outdated material on them 1 – Bulletin Boards have outdated or torn or soiled material on them	
5	Emergency Exits	5 – Emergency Exits marked and exit plans posted 1 – Emergency Exits not clearly marked or exit plans outdated, missing or soiled	
6	Process layout	5 – General items carts, movable fixtures, etc required to perform work are labeled, have assigned places and are stored in those places when not in actual work 1 – No apparent storage location for movable items	
7	Aisle marked	5- Aisle clearly marked 1- Aisle are not marked or markings are worn-out	
8	Aisle maintained	5- Aisle are kept clean and free of clutter, use for transportation of material or personnel and not as a storage place 1- Aisle are not kept clean or used as extended work area	
9	Storage of tools	5 – All tools have clearly marked locations with positive control 1 – Not all tools have clearly marked locations limited control over access	
10	Storage of technical manuals	5 – Technical manual or publications are stored close to normal point of use and in a manner that quickly allows for inventory at anytime 1 – Technical manuals or publications are not stored close to point of use and/or required more than 30 seconds to verify all are present	
11	Equipment / Tooling cleanliness	5 – Equipment / Tooling are kept clean at all times 1 – Equipment / Tooling are not cleaned after each use or maintenance cycle	
12	Equipment / Tooling maintenance	5 – Periodic maintenance requirements are clearly understood, and a means of recording maintenance actions is utilized 1 – Periodic maintenance requirements are not know by the user	
13	Equipment / Tooling Controls ID	5 – Operating restrictions or instructions if required are clearly marked all operators are licensed 1 – Operating restrictions are not posted unlicensed operators are using items	
14	Shelves, Benches, Desks Arrangement	5 – Work area is organized in a manner that allows for flow and are clearly marked as to work performed in the area 1 - Work area is not organized in a manner that promotes flow	
15	Shelves, Benches, Desks Control	5 – Kept clear of unnecessary materials 1 – Work surfaces are clutter or have items not required for maintenance	
16	5S Control and Sustainment Plan	5- Visual controls are in place to facilitate maintaining organization Check sheets are available and utilizes to maintain 5S process 1- Visual controls or check sheets are not available or used or maintained	



The 5S Numbers Game



A fun and exciting way to present the 5S
concepts to our team!

Benefits of 5S

- What benefits did we realize by applying 5S to our simulated workplace?
- Quality
- Cost
- Delivery / Service
- Quantitative
- Qualitative

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____



Wrap-up

- Can we apply this to the real world?
- Share an “Ah-ha” – something you learned, something that’s new, something that’s different or something that made an impression on you.



