

23RD ANNUAL



23RD LCI CONGRESS
OCTOBER 19-22

Kaizen: What, Why and How

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LEARN BY DOING FROM THOSE WHO DO

OCTOBER 19, 2021

Health precautions to keep everyone as safe as possible at Congress:

- Wear masks at all times in indoor events.
- Complete your daily health screening on your phone and bring it with you when you enter the center each day.
- Practice social distancing to the extent possible. Seating at plenary sessions is being structured to help with this.
- If you feel ill at any time, please leave the conference and return to your room/consult a physician as necessary.
- Ultimately, our collective health and safety at Congress is up to all of us. Thanks for your support!



“LCI would like to acknowledge and thank Brian Winningham, Field Driven Lean, and Annmarie Thurnquist, Jacobs, for their leadership, work and collaboration to create this workshop. Learning opportunities like this exist because people like Brian and Annmarie engage to create them.”

-Kristin Hill,
LCI, Director Education Programs

LCI Course:
Kaizen Events – Why, What and How
4 CEU

Sign the sign-in sheet for credit



Learning Objectives



Understand the importance of incorporating Kaizen into daily team work to improve outcomes.



Understand how Value Stream Mapping, the 8 Wastes and Continuous Improvement integrate into a Kaizen Event.



Discover key steps for conducting a Kaizen Event with your team.



Be able to engage with a team conducting a Kaizen Event.

Rules of Engagement



This is a safe zone



Everyone has equal status



Speak up and share your ideas



Actively listen to others



One conversation at a time



Use E.L.M.O.



Silence phones



Be focused and engaged



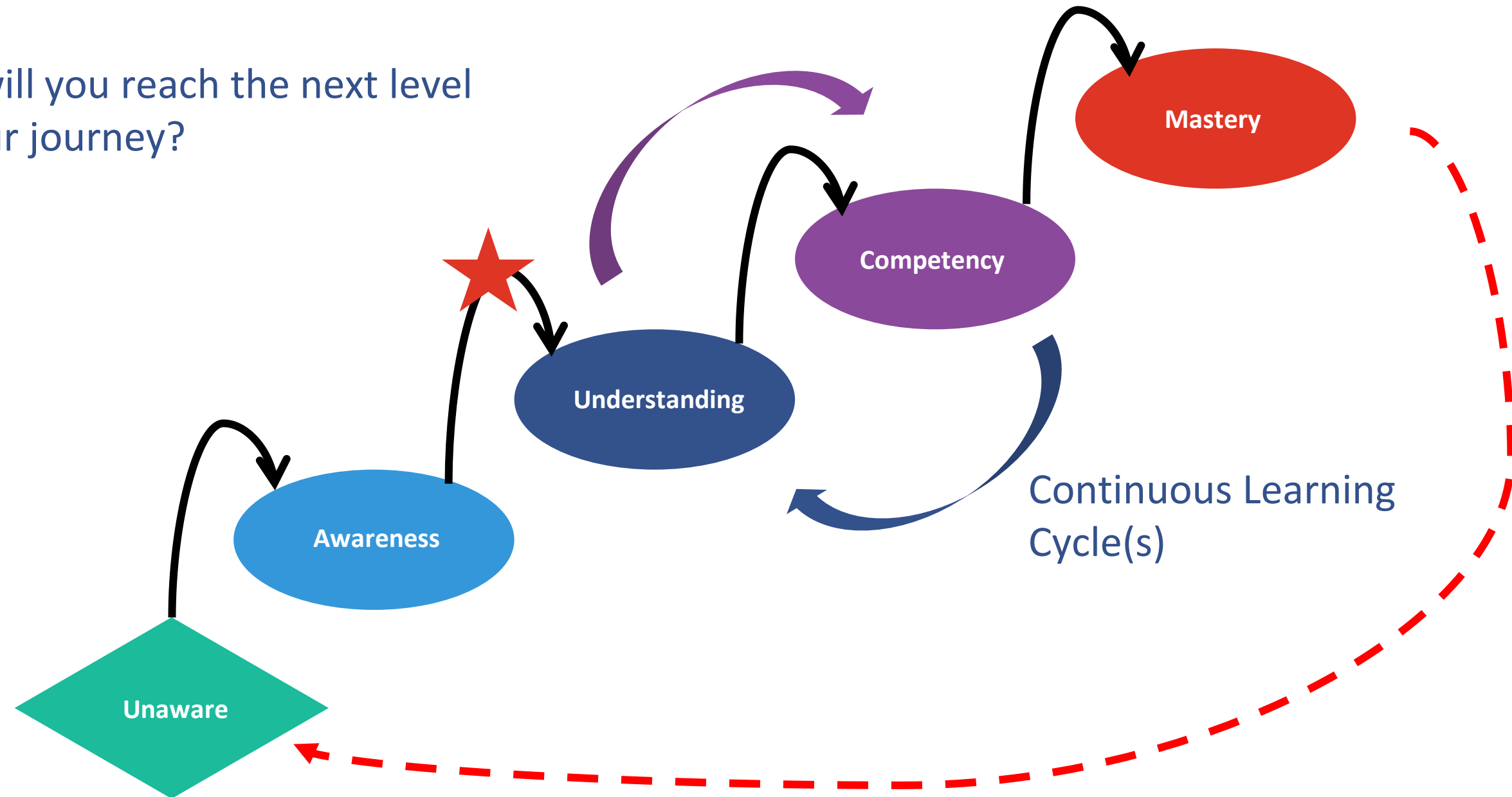
Stay on time



Have fun!

Lean Journey to Mastery

How will you reach the next level on your journey?



Introductions

Introduce yourself to your table mates

Name

Company

Role

If a genie endowed you with super athletic ability (and a super bank account) so you could quit work and train for the Olympics, which event would it be?

10 minutes

Definitions

Lean:

Culture of respect and continuous improvement aimed at creating more value for the customer while identifying and eliminating waste.

Lean Project Delivery System:

An organized implementation of Lean Principles and Tools combined to allow a team to operate in unison to create flow.



Six Tenets of Lean

- 1 Respect for people
- 2 Optimize the Whole
- 3 Generate Value
- 4 Eliminate Waste
- 5 Focus on Flow
- 6 Continuous Improvement



What: Kaizen Defined

Kaizen (Continuous Improvement) is a strategy....

- Employees at all levels of a company work together proactively to achieve regular, incremental *improvements* to processes.
- It combines the collective talents within a company to create a *powerful engine for improvement*.



Kaizen

- Purpose is the long-term betterment of “something”
- Through a team approach
- Without large capital investments



Kaizen stresses the significance to the shop floor (actual workers) to continuous improvement

Masaaki Imai, author of "Kaizen: Japanese spirit of improvement", founded the Kaizen Institute Consulting Group (KICG) in 1986 to help western companies to introduce the concepts, systems and tools of Kaizen.

Kai = Continuous Zen = Wisdom or Improvement

Small changes at all levels that lead to gradual modifications improving productivity



What: Continuous Improvement

Lean thinking demands a *mindset of continuous improvement*.

This requires an environment where we can discuss what's not working well and find fixes.



What: Kaizen Purpose

1. Problem solving to *return* a situation to standard.
2. Studying a process to *improve* on the standard.



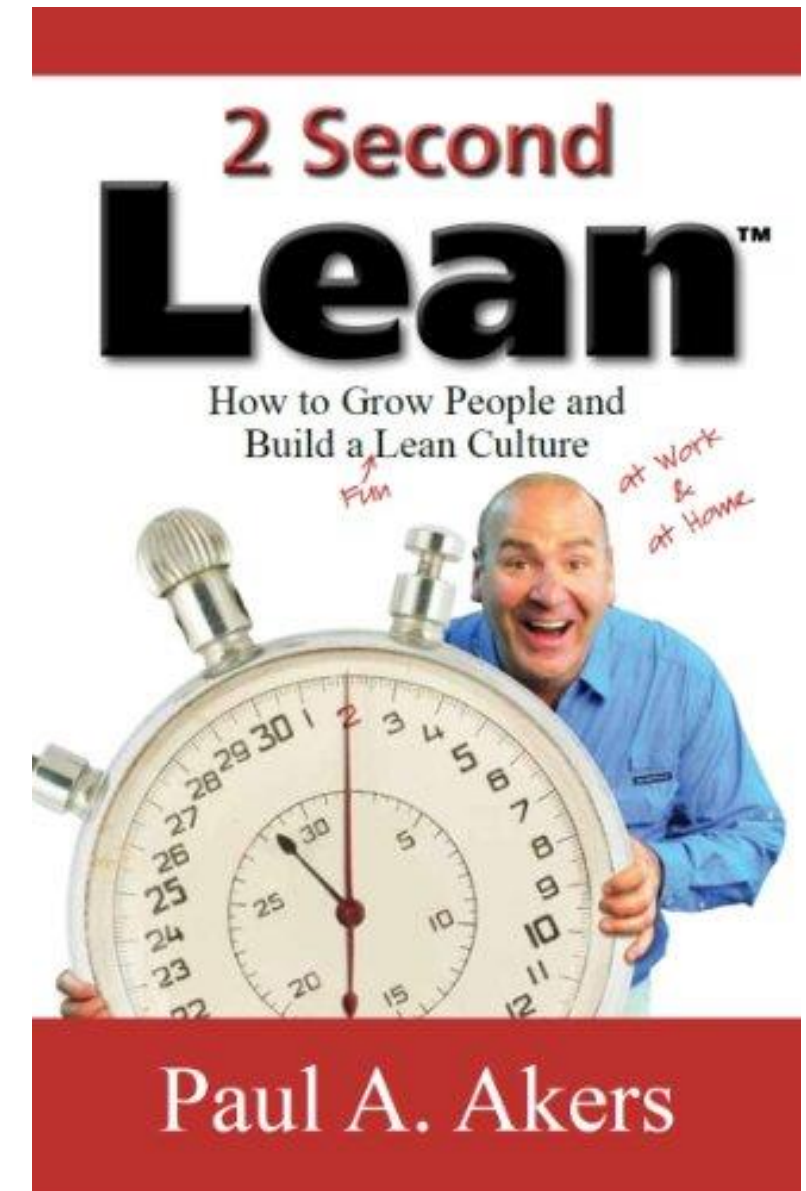
What: Four Methodologies

1. Kaizen Teian – Bottom-up daily continuous improvement
2. *Kaizen Events* – *Defined improvement event*
3. Kaikaku (blitz) – Radical organizational change
4. Kakushin – Breakthrough innovative change



What: Kaizen Bottom-up

- Daily improvements
- Actively involves all people in improving their own processes
- Drives a cultural transformation
- Requires everyone to think about improvement every day, everywhere
- Workers who are in the gembu are those more likely to identify real opportunities for improving the flow of their processes
- Paul Aaker's 2-second Lean continuous improvements



What: Kaizen Event Defined Improvements

- Specific process improvement
- Focused improvement projects
- Typically involve Value Stream Map (VSM)
- Might last for several days or even weeks
- Lead to change in efficiency, quality or performance
- Must be aligned with broader operational goals



Kaizen Event - “Blitz”

- Kaikaku
- Short term project to improve a specific procedure or process
- Intensive
- Usually one week
- 8 to 10 people

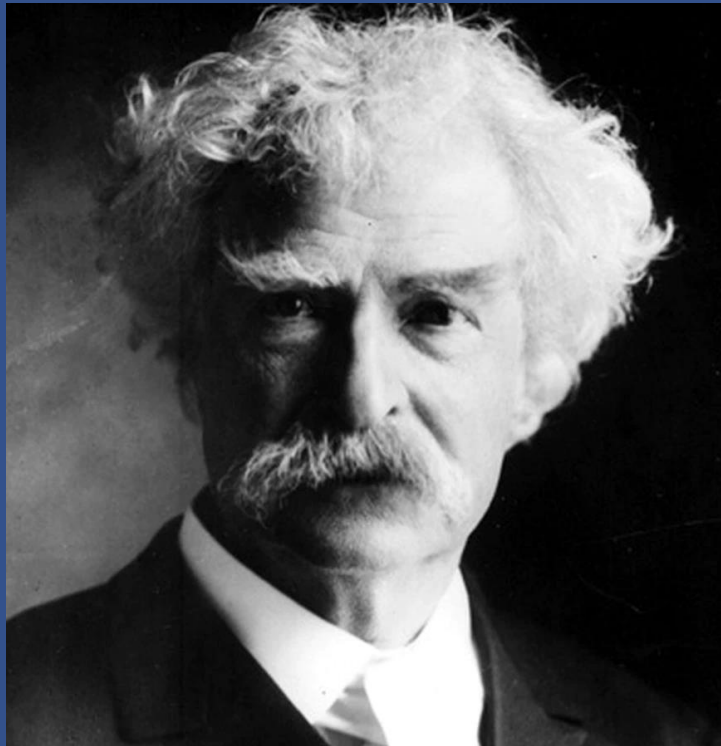


Discussion

What's wrong with the traditional method of implementing improvements?

10 minutes

Why:



“Continuous improvement is better than delayed perfection.”

~ Mark Twain

Resource: AZ Quotes

Why:



“Eighty-five percent of the reasons for failure are deficiencies in the systems and process rather than the employee. The role of management is to change the process rather than badgering individuals to do better.”

~W. Edwards Deming

Resource: AZ Quotes

Why:



“Progress cannot be generated when we are satisfied with existing situations.”

~Taiichi Ohno

Resource: AZ Quotes

Why: Benefits

- Immediate results by focusing on people & making small changes
- Improved product quality, communication, or competence
- Increased efficiency and productivity
- Decreased cost
- Reduced waste
- Employee satisfaction and teamwork
- Customer satisfaction



Why: Exploring the Wastes



Why: Waste Defined

Waste is any activity that requires time or resources but does *not create value* as defined by the customer.






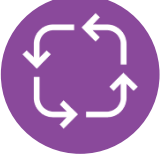




Let's talk about waste

- Muri – overwork by person or machine
- Muda – wasteful work
- Mura – unevenness or irregularity



Identify the Waste

-  Over/Under Production
-  Waiting
-  Unnecessary Transportation
-  Over Processing
-  Excess Inventory
-  Unnecessary Motion
-  Defects
-  Unused Creativity of Team Members
(Not listening/Not speaking up)

Why: Gemba Waste Walk



Courtesy of KHS&S contractors

Why: Gemba Kaizen Improvements



Courtesy of KHS&S contractors

Discussion

Discuss typical processes in design and construction where you see waste

- Make a list

5 minutes

How: Kaizen Events

- Aim for *process improvement*
- Led by a *facilitator*
- Defined *roles* for team members
- Include members from all *stakeholder departments* including *management*
- Part of an *overall program* of continuous improvement to be successful
- Short duration project typically *3-5 days*



Kaizen goals

1. Continuous improvement
2. Remove waste / non-value-add activities
3. Develop pull system / Kanban
4. Standardize work
5. Quality management



How to achieve goals

1. Variation Reduction
2. 5S
3. Process oriented thinking
4. Employee involvement
5. Poka-yoke (error proofing)
6. Visual Factory
7. Value Stream Mapping
8. Suggestion Systems



Variation Reduction

- Voice of the Customer defines needs or demands
- Quality metrics are determined for each product or service
- Process details are designed to meet the quality metrics



There must be standards to have Kaizen!

5S

5S could be an *actionable outcome* of a Kaizen event



Process Oriented thinking

- Is in opposition to “results-oriented” thinking
- Analyze the process to determine the causes of problems and successes
- Fix the process and people will succeed in their work



Employee Involvement

- 10 people's ideas are better than one
- Increased employee empowerment
- Delegate responsibility to workers



Poka-Yoke – Error Proofing

- Utilizes a cause-and-effect analysis
- Type 1 – eliminate process from occurring (process control)
- Type 2 – detection application (stop the line) – Andon cord



Visual Factory

- How information is communicated in a lean environment
 - Establish information to be conveyed
 - Current vs Future state
 - Show the way things are done



Value Stream Mapping

- Current state is mapped
- Identify and eliminate waste
- Provide process map for the future state



Suggestion Systems

- Management support must be clear, quick, and consistent
- Program structure should have a single administrator with a team of employees from all areas to review
- Visibility of the program must be consistent from rollout to implementation
- Recognition and rewards should include thanks for participating and notification within a month whether the idea is adopted

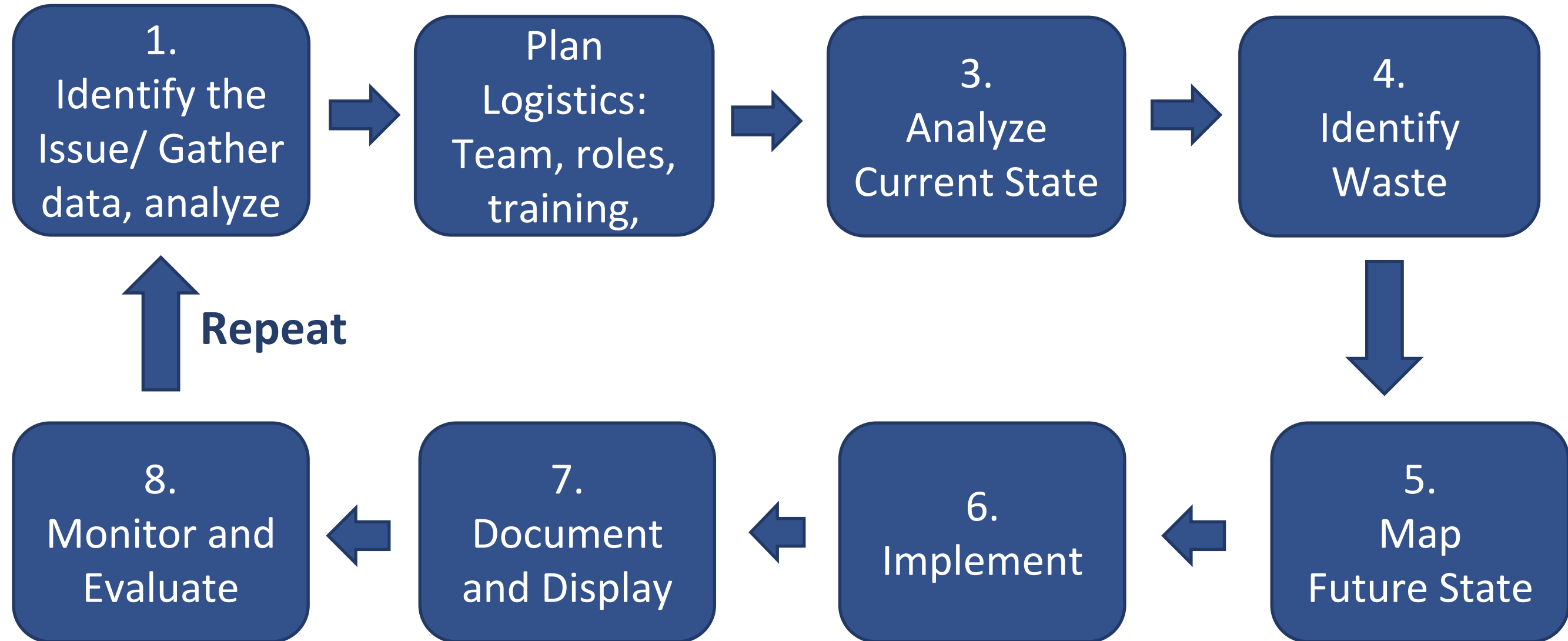


The Process

1. Problem statement
 1. Determine the issue to be resolved or area for improvement
 2. Define roles and responsibilities
2. Objective
 1. Choose an aim (zero defects; reduce cost; increase profits)
3. Baseline or metric
 1. Analysis of variance
 2. Control charts
 3. Time studies



How: Kaizen Flow



1. Identify the Issue

Determine the *process* to improve

Gather data

Analyze



Activity: 1. Identify the Process

Identify a process to improve from the list:

1. Typical change order process
2. Typical RFI process
3. Typical trip from home to LCI Congress (flying)
4. Other

5 minute discussion

2. Plan Logistics

- Appoint a skilled *facilitator*
- Ensure *leadership* is engaged
- Set the *scope and limits* of the event
- Assemble the *stakeholder team*
- *Assign* roles and responsibilities
- Define success or CoS
- *Train* as necessary
- Create the event *timeline*
- Plan the *space* for the event



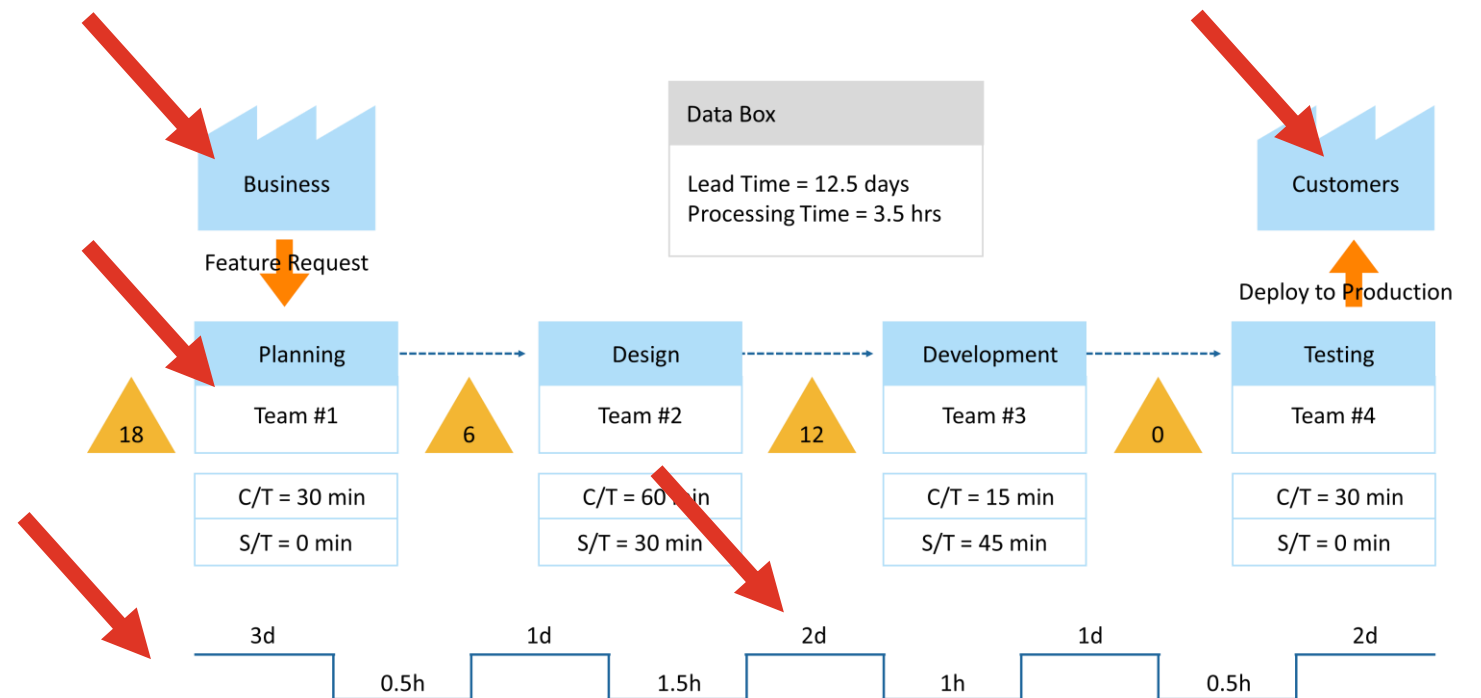
Activity: 2. Plan Logistics

- Appoint a *facilitator*
 - Ensure *leadership* is engaged
- Determine *stakeholder team* and *assign roles* to play
 - Set the *scope and limits* of the event

5 minute discussion

3. Analyze the Current State

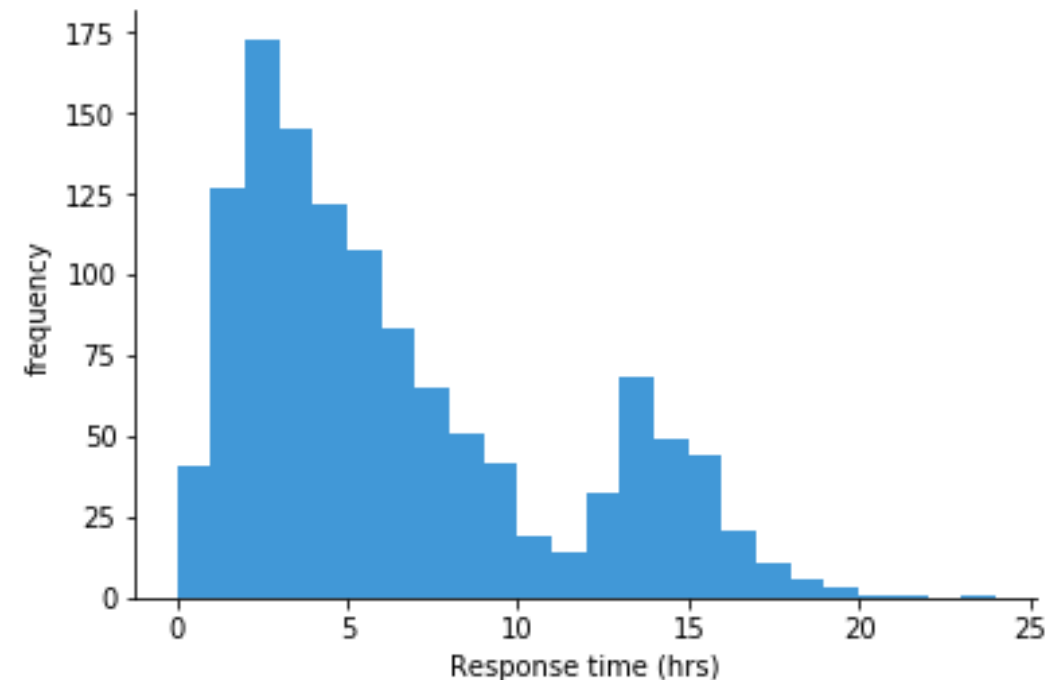
- Determine the scope of the process
- Observe the process and gather data (Gemba)
- Create start and end points
- Identify the steps of the process
- Add timing and other data for each step
- Identify inefficiencies



Tools to understand the Current State

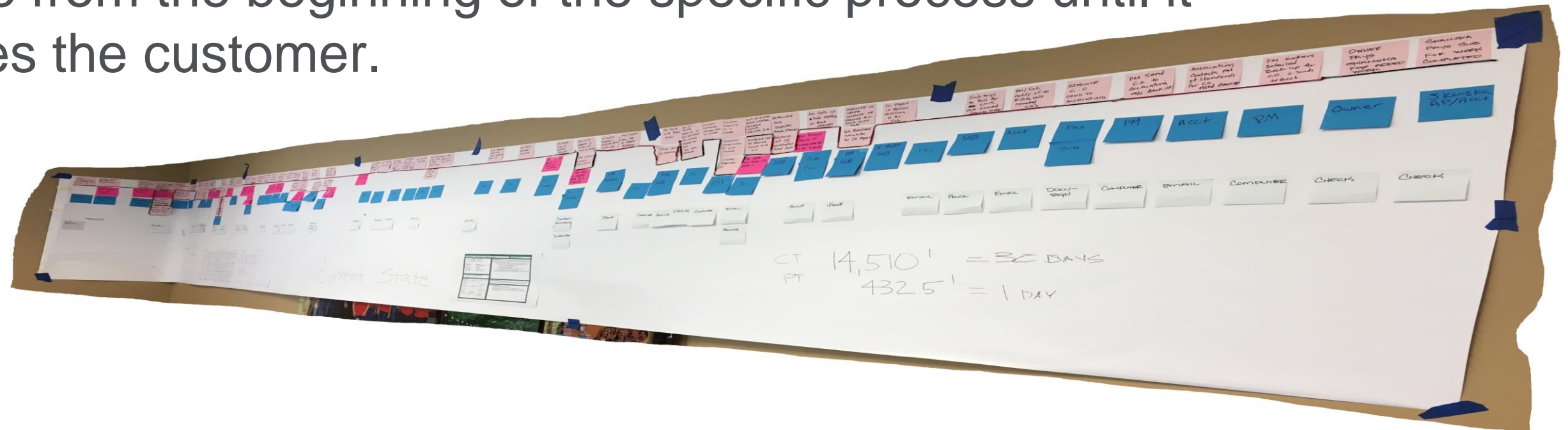
Need a statistical / quantitative study on which to base improvements

- Affinity Diagrams
- Tree Diagrams
- Interrelationship Diagrams
- Matrix Diagrams
- Prioritization matrices
- Process Decision program charts
- Arrow Diagrams / CPM scheduling



How: Value Stream Map

- VSM is a visual map of material and information
- Method for analyzing the current state and designing a future state for the series of events that take a product or service from the beginning of the specific process until it reaches the customer.



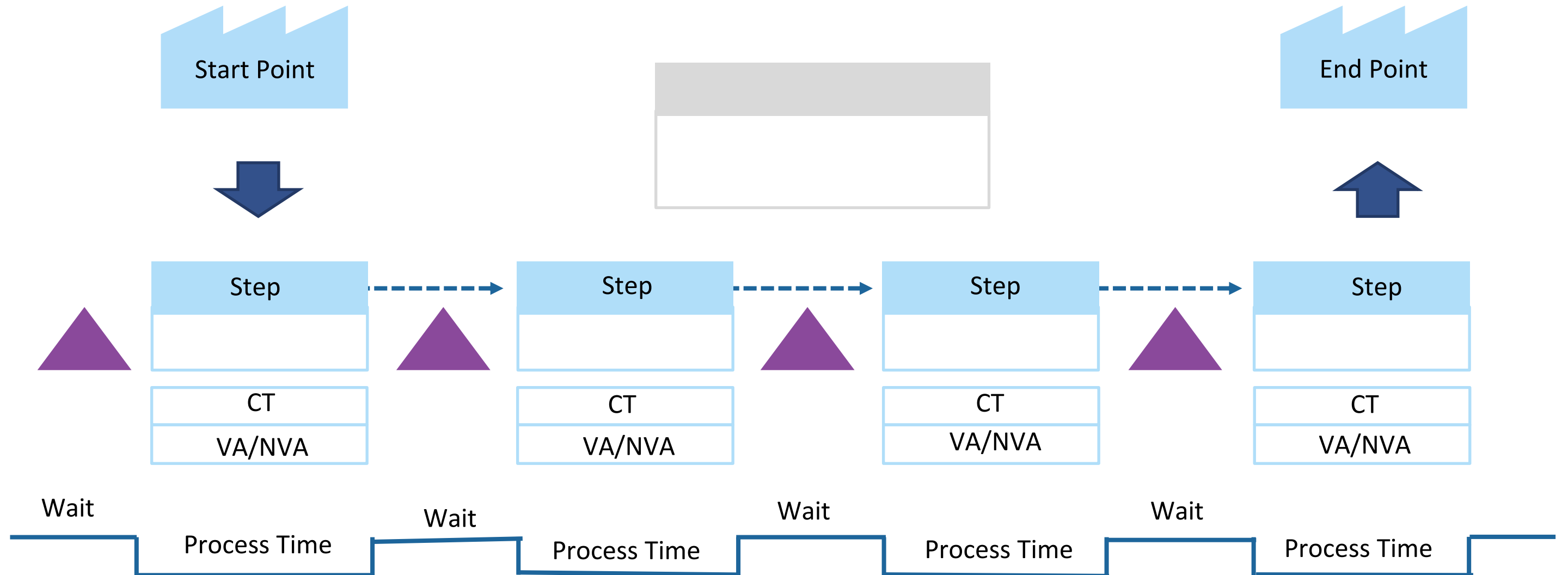
Activity: 3. Analyze the Current State

Using post-it notes layout a typical current state for your process






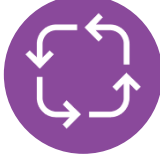


Discuss what other tools you would use to analyze your process

20 minute discussion

How: Create the VSM



4. Identify the Waste

-  Over/Under Production
-  Waiting
-  Unnecessary Transportation
-  Over Processing
-  Excess Inventory
-  Unnecessary Motion
-  Defects
-  Unused Creativity of Team Members
(Not listening/Not speaking up)

Activity: 4. Identify the Waste

Identify the waste in the process

10 minute discussion

5. Map the Future State

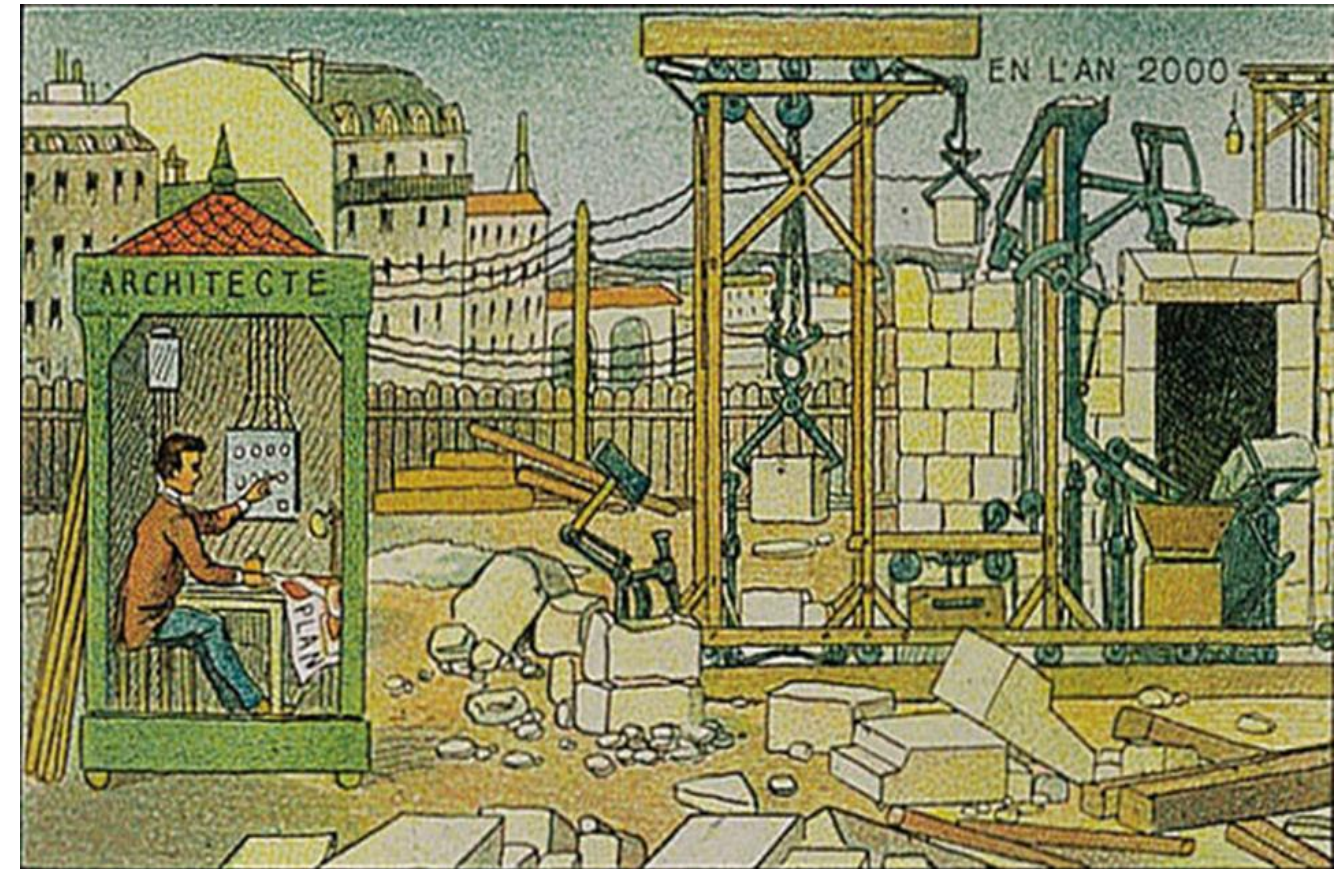
Map the new process with:

- Waste removed
- Non-value added processes minimized
- Stop-the-line features included to ensure quality
- Agility to make future improvements



How: Create the Future State

- No restrictions!
- Imagine what could be...
- Open yourself up to change.
- Is it or could it be possible?
- Instead of asking why? Ask why not?
- Map it!



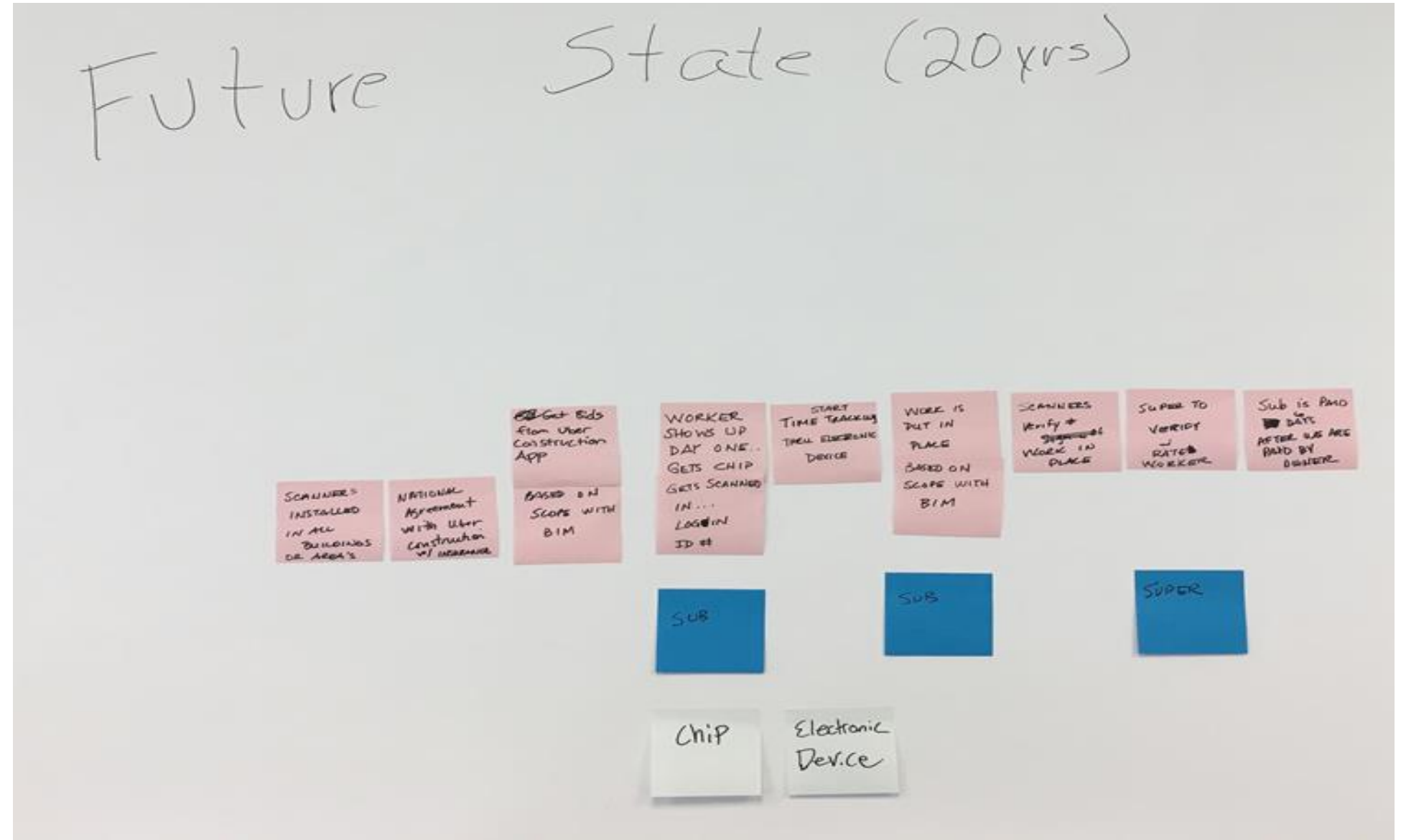
How: Current State Map

From this...



How: Future State Map

To this....



Activity: 5. Map the Future State

Map your future state

15 minute discussion

6. Implement

Rollout the new process!

Plan for:

Training

Work decrease during the Kaizen event

Work stoppage if radical change is needed

Enable employee participation

Set up a suggestion system

Provide forum for questions

Create a follow-up system to address issues that arise during / as a result of the changes.



7. Document and Display

- Where everyone can see
- For future reference
- To instill a habit of self-inspection



8. Monitor and Evaluate

- Establish process metrics
- Visually track progress



Repeat

Work towards an *Ideal State Map*:
How would you setup the process from scratch?

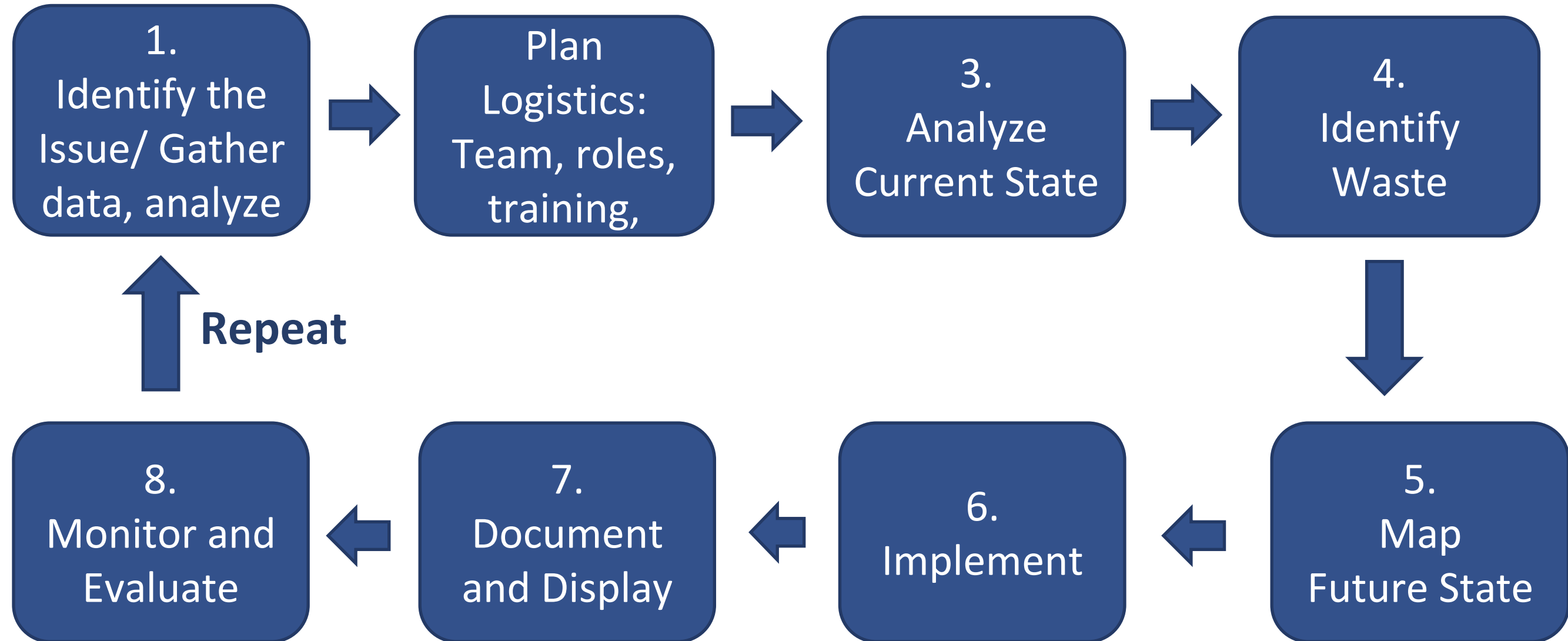
- No boundaries
- All the money needed
- All the people needed
- All the resources wanted

Think *outside the box* time

Future State becomes more *transformational*



How: Kaizen Flow

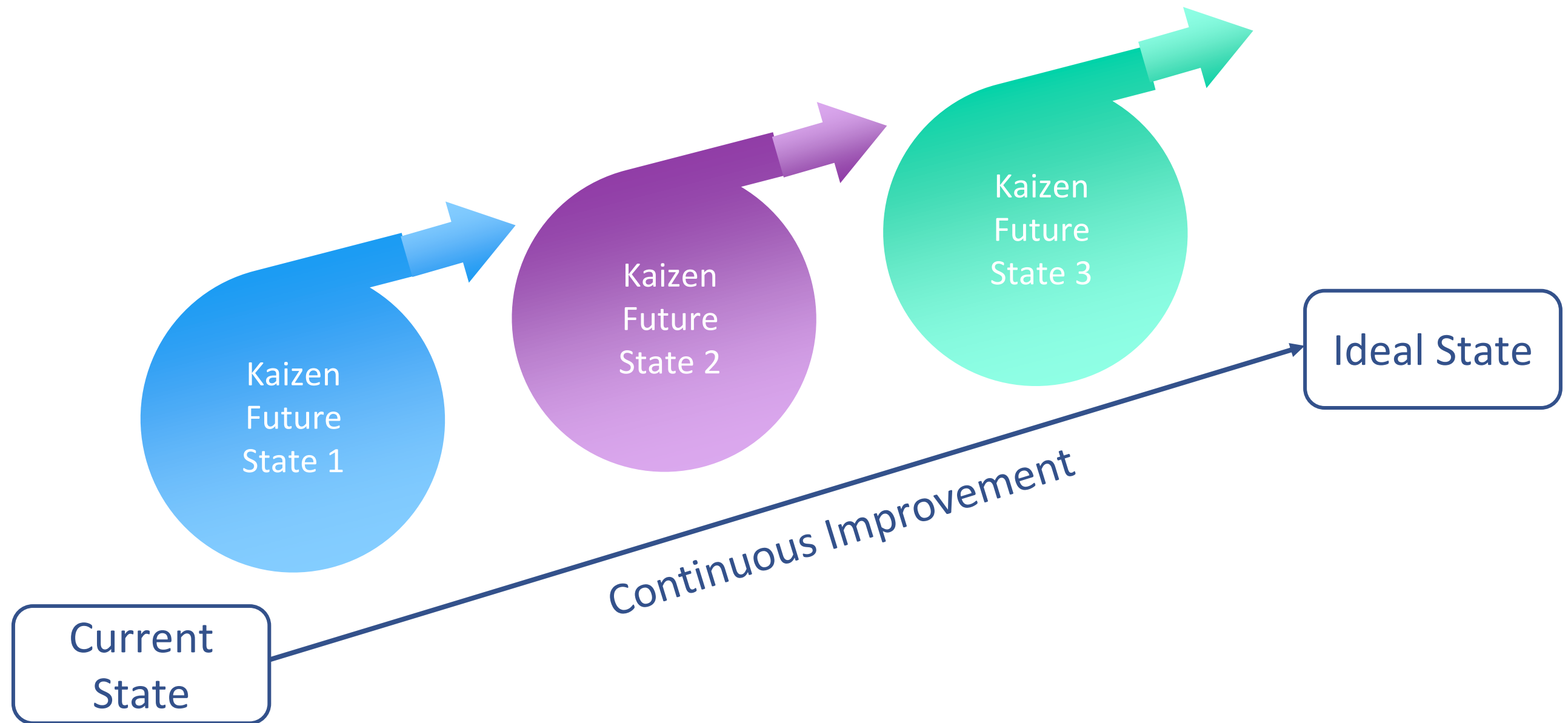


The Canons of Kaizen

1. Contemplate, debate, analyze the process.
2. Focus on whole goal, not short term
3. Review current strategies to correct system flaws
4. Focus on people resources
5. Don't spend a lot of money
6. Make changes as soon as errors are found
7. Welcome suggestions from everyone
8. Improvement is the end all
9. Challenge conventional methods and thinking
10. Make sensible decisions



How: Kaizen Cycles



Keys to success

- Kaizen improvements should never be used to downsize the workforce
- Workers should receive wage increases and be cross-trained as a result of Kaizen



Making it work

- Provide the required infrastructure
- Provide recognition – awards, incentives
- Monitor quality initiatives



Kaizen: A Deeper Meaning

- Kaizen becomes a *learning process* not an *improvement process*
- Kaizen becomes a *people improvement system* not a *process improvement system*



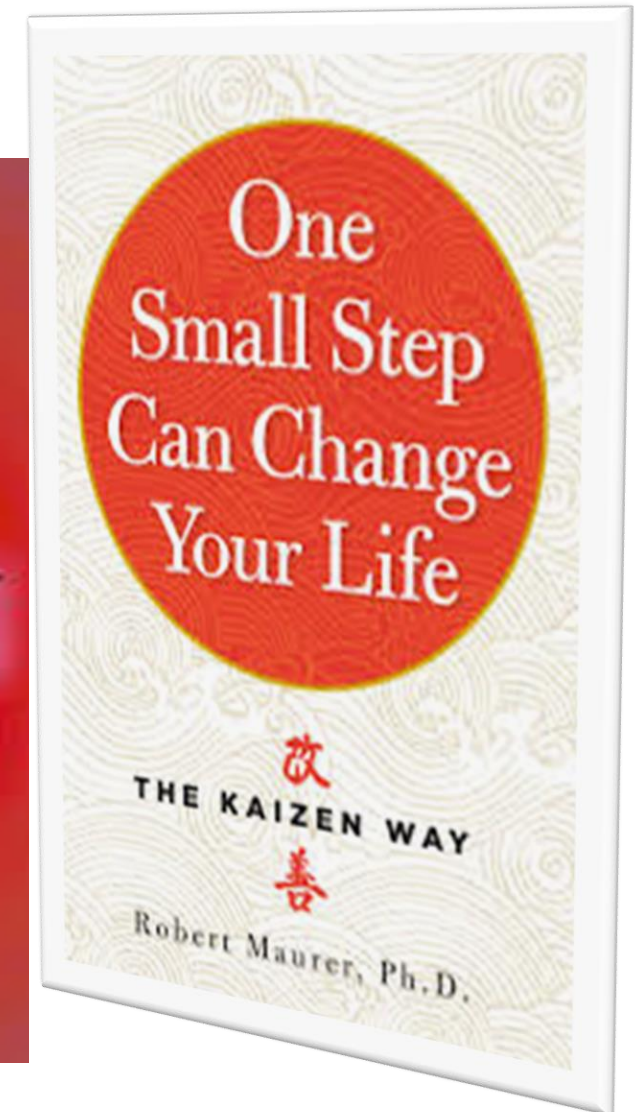
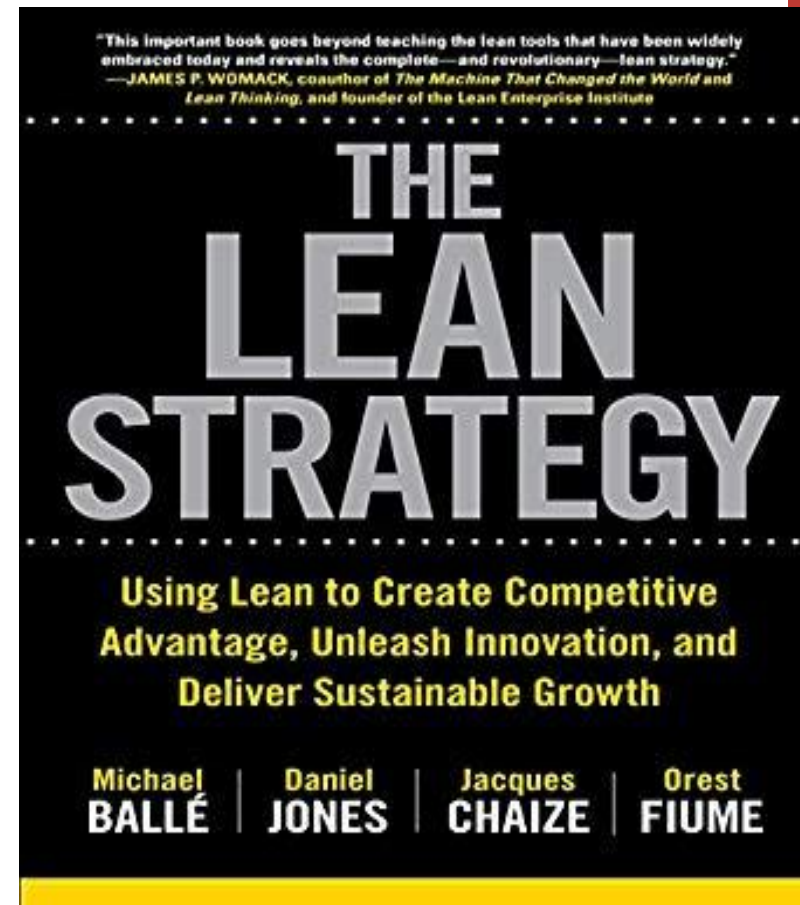
Discussion Question

How to Implement Lean?





What new actions or ideas that you learned today can you take back to your project?

Learning Resources

Resources used in the development of this course include:

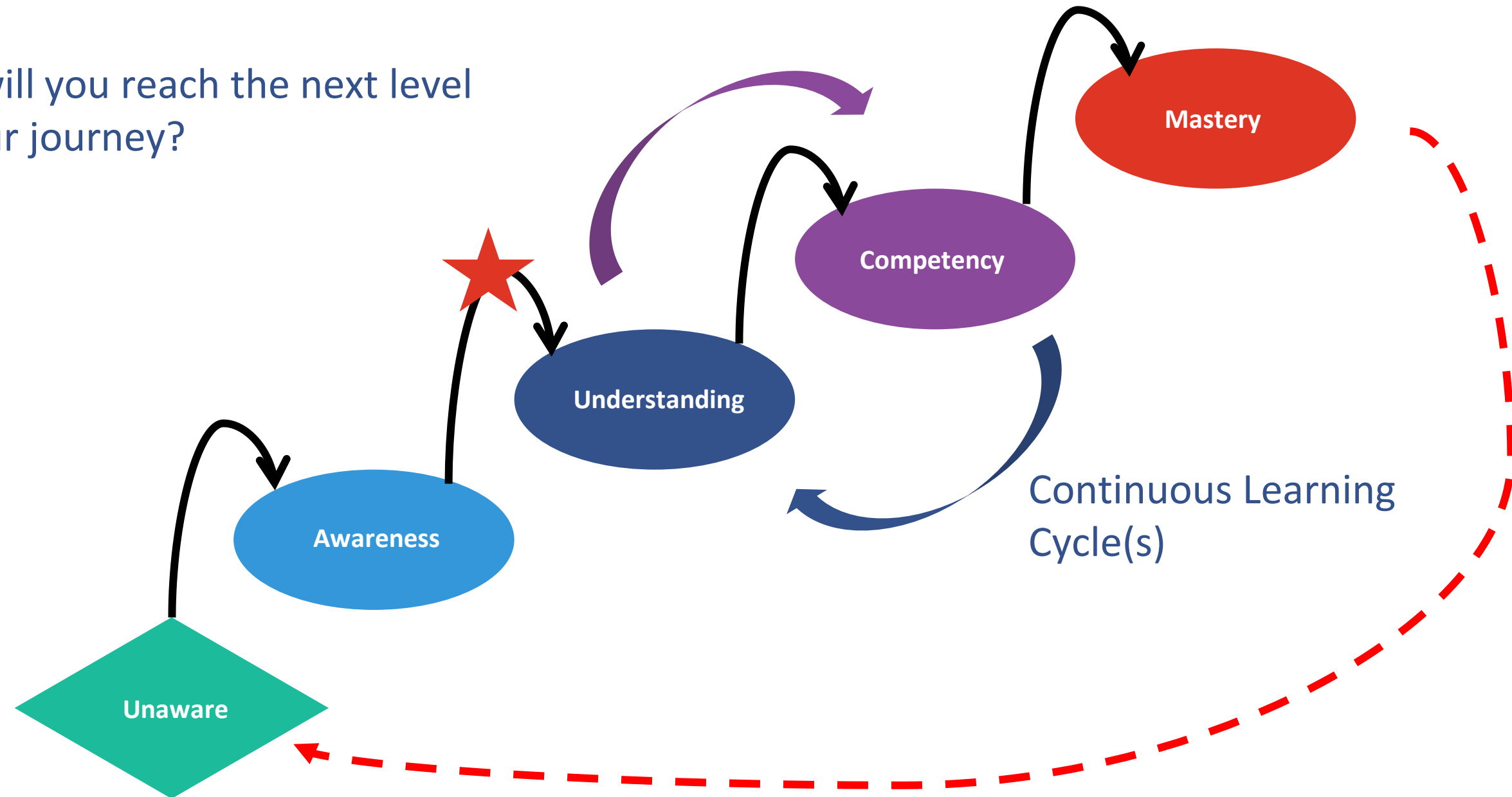


Learning Objectives

-  1. Understand the importance of incorporating Kaizen into daily work.
-  2. Understand how Value Stream Mapping, the 8 Wastes and Continuous Improvement integrate into a Kaizen event.
-  3. Understand the steps to conducting a Kaizen event or workshop.
-  4. Be able to engage with a team in a Kaizen workshop

Lean Journey to Mastery

How will you reach the next level on your journey?



More on Learning

Books:



Events:

- Local Community of Practice
- Congress (October)
- Design Forum (May)

eLearning:

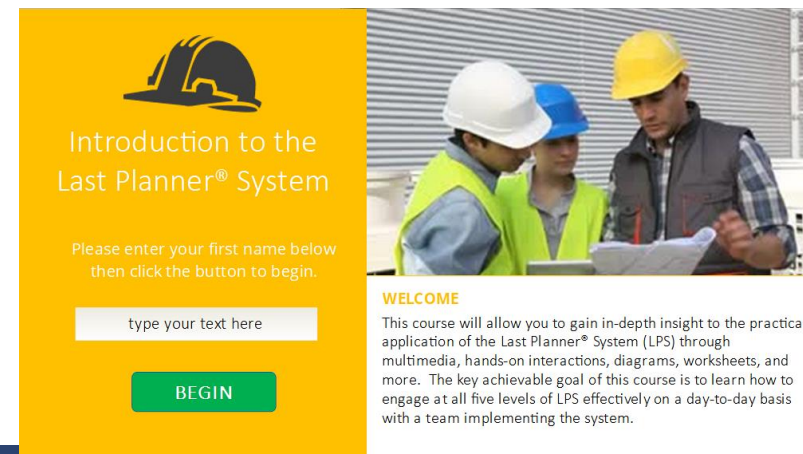
Learn on your own time without taking time off project work.

Start learning now:

www.LeanConstruction.org

eLearning Courses

- Introduction to the Last Planner System®
- Introduction to Lean Project Delivery
- Lean in the Design Phase
- Effective Big Room
- Target Value Delivery
- Last Planner System® in Design



Questions?



Learning Objectives Review



Understand the importance of incorporating Kaizen into daily team work to improve outcomes.



Understand how Value Stream Mapping, the 8 Wastes and Continuous Improvement integrate into a Kaizen Event.





Discover key steps for conducting a Kaizen Event with your team.





Be able to engage with a team conducting a Kaizen Event.

Conduct Plus/Delta

 Plus: What produced *value* during the session?

 Delta: What could we *change to improve* the process or outcome?



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In the spirit of continuous improvement, we would like to remind you to complete this session's survey! We look forward to receiving your feedback.

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Thank you for attending this presentation. Enjoy the rest of the 23rd Annual LCI Congress!