



Lean Construction Institute
Immersive Education Program

Kaizen: What, Why and How

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October 22, 2024

Presenter Highlights



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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



Use E.L.M.O.



Everyone has equal status



Silence phones



Speak up and share your ideas



Be focused and engaged



Actively listen to others



Stay on time

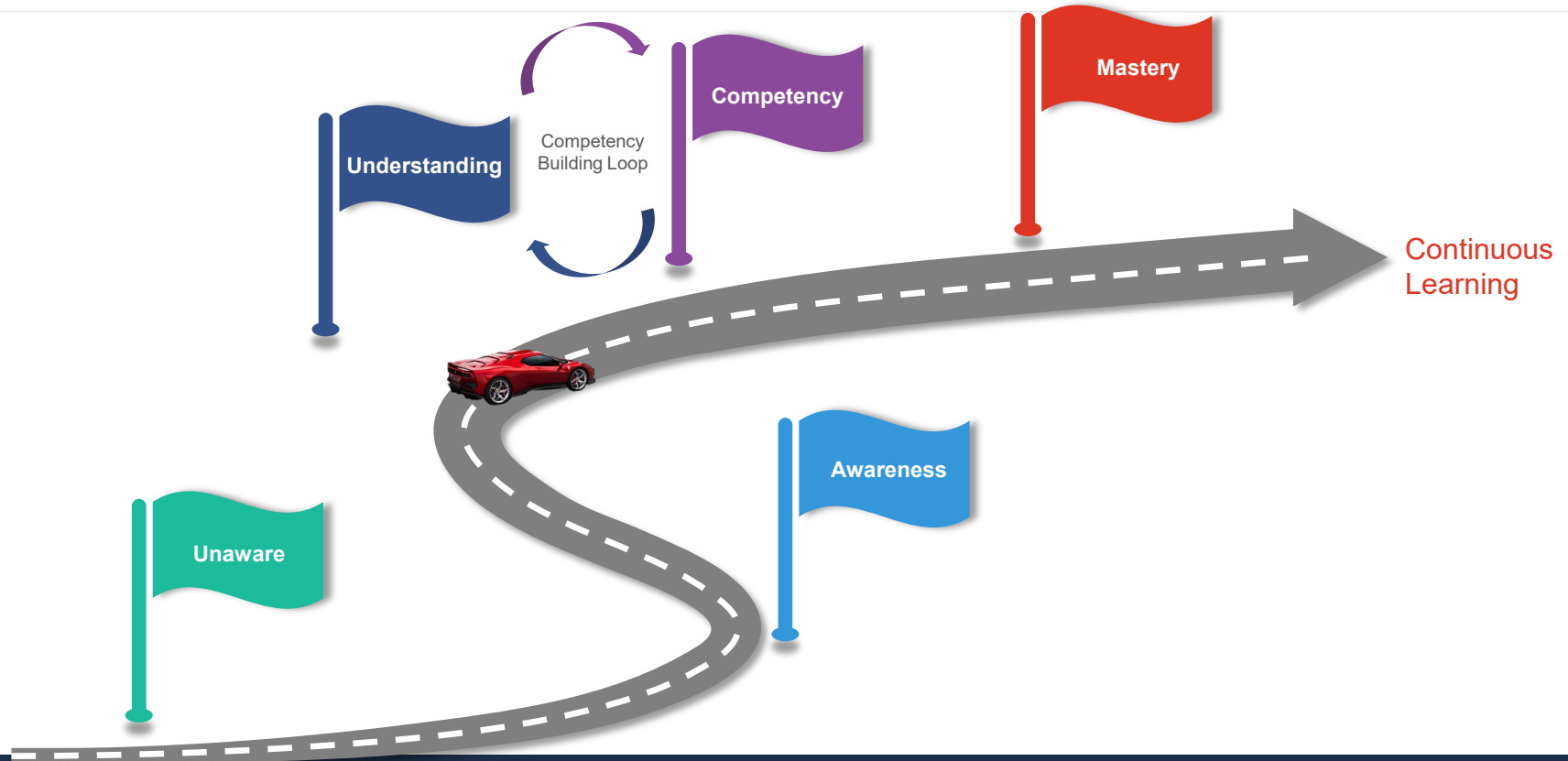


One conversation at a time



Have fun!

Lean Journey to Mastery



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.



Definition

Kai = Continuous

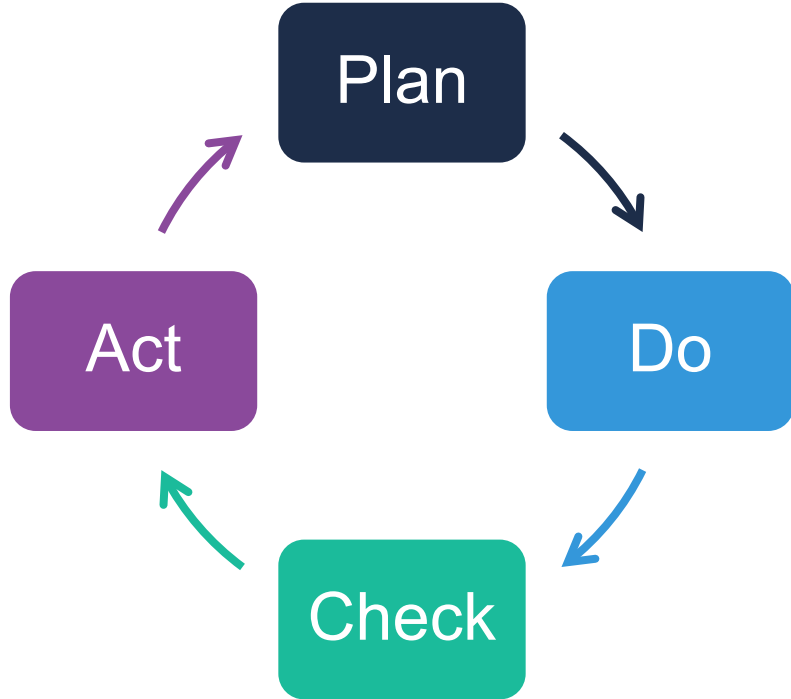
Zen = Wisdom or
Improvement



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.



Discussion

How do companies or teams traditionally implement improvements?

What are the problems with these methods?

10 minutes

What: Kaizen Purpose

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



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

What: Four Methodologies

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



Kaizen Teian - 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



Kaikaku - “Blitz”

- Structural/Organizational change
- Short term project to improve a specific procedure or process
- Intensive
- Should involve senior leadership



Kakushin – Breakthrough innovation

- Means new + revolution
- Things that changes the status quo.
- Not just a big change, something new.



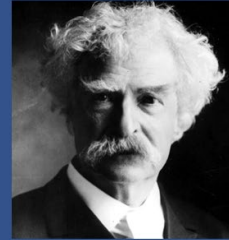
Kaizen Event - Defined Improvements

- Specific process improvement
- Focused improvement projects
- Typically involves process mapping
- Might last for several days or even weeks
- Lead to change in efficiency, quality or performance
- Must be aligned with broader operational goals



Why: Results

- 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



"Continuous improvement is better than delayed perfection."

~ Mark Twain

Resource: AZ Quotes



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

~ Taiichi Ohno

Resource: AZ Quotes

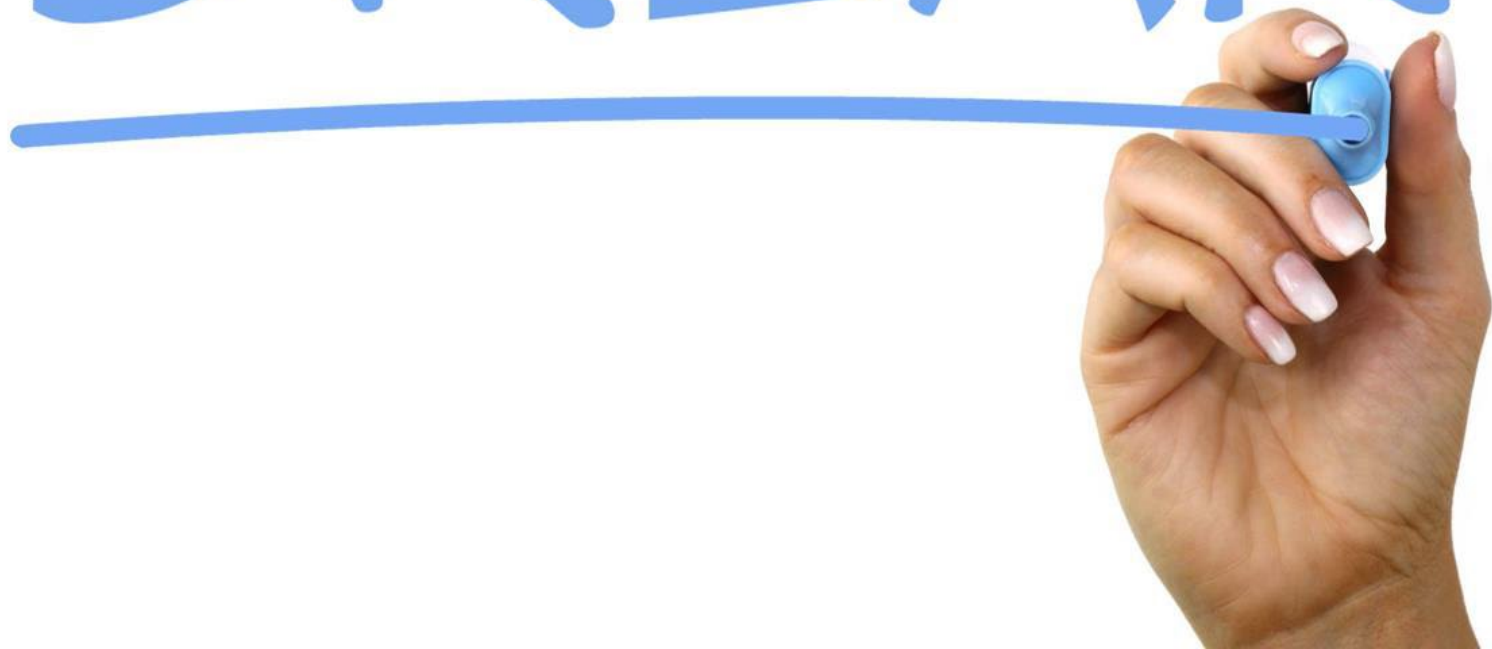
Discussion

Discuss typical processes in design and construction
where you see waste

- Make a list

5 minutes

BREAK



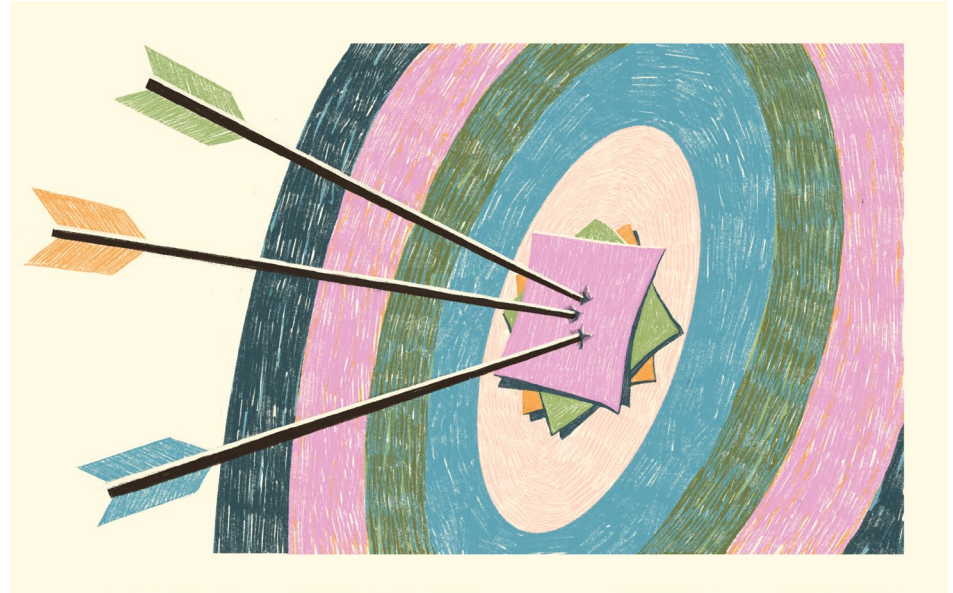
How: Kaizen Events

- 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*

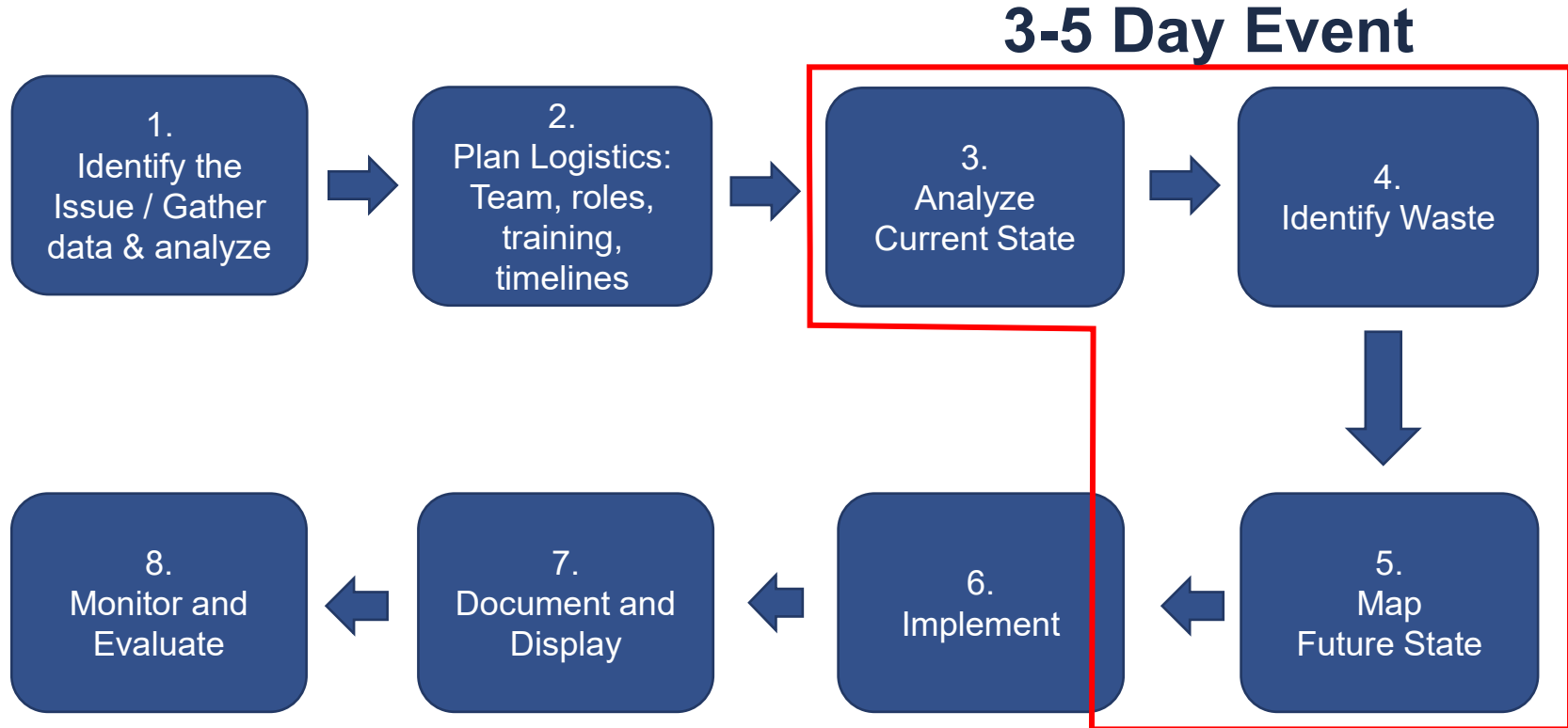


Kaizen goals

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



How: Kaizen Flow

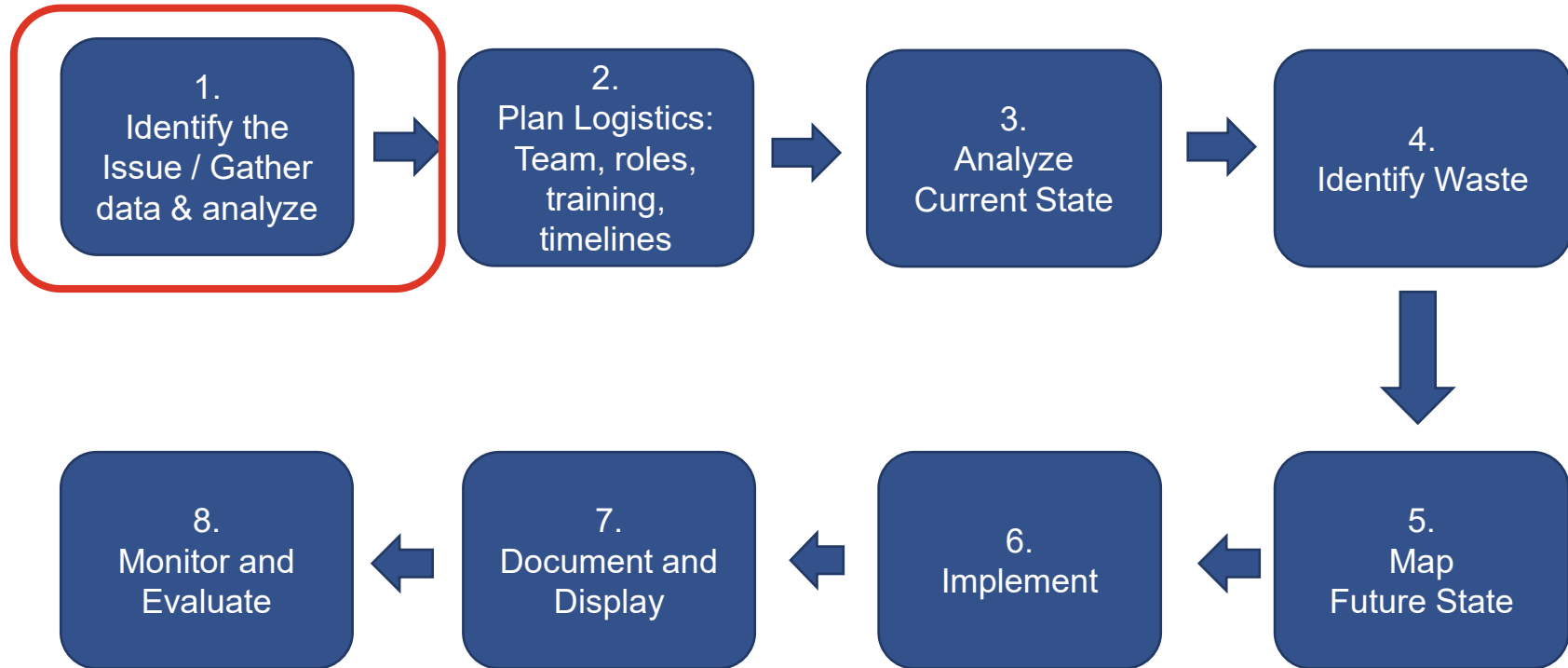


How to achieve goals

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



How: Kaizen Flow



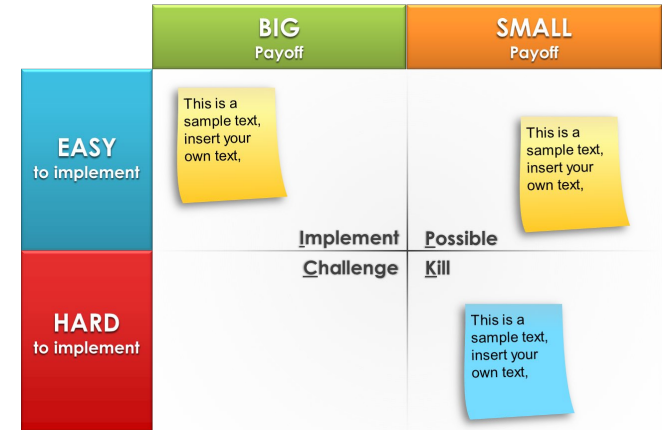
1. Identify the Issue

- Determine the *process* to improve
 - What bugs you?
 - Where do you feel friction?
- Gather data
- Analyze



Quick & Easy Kaizen Boards

- 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



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



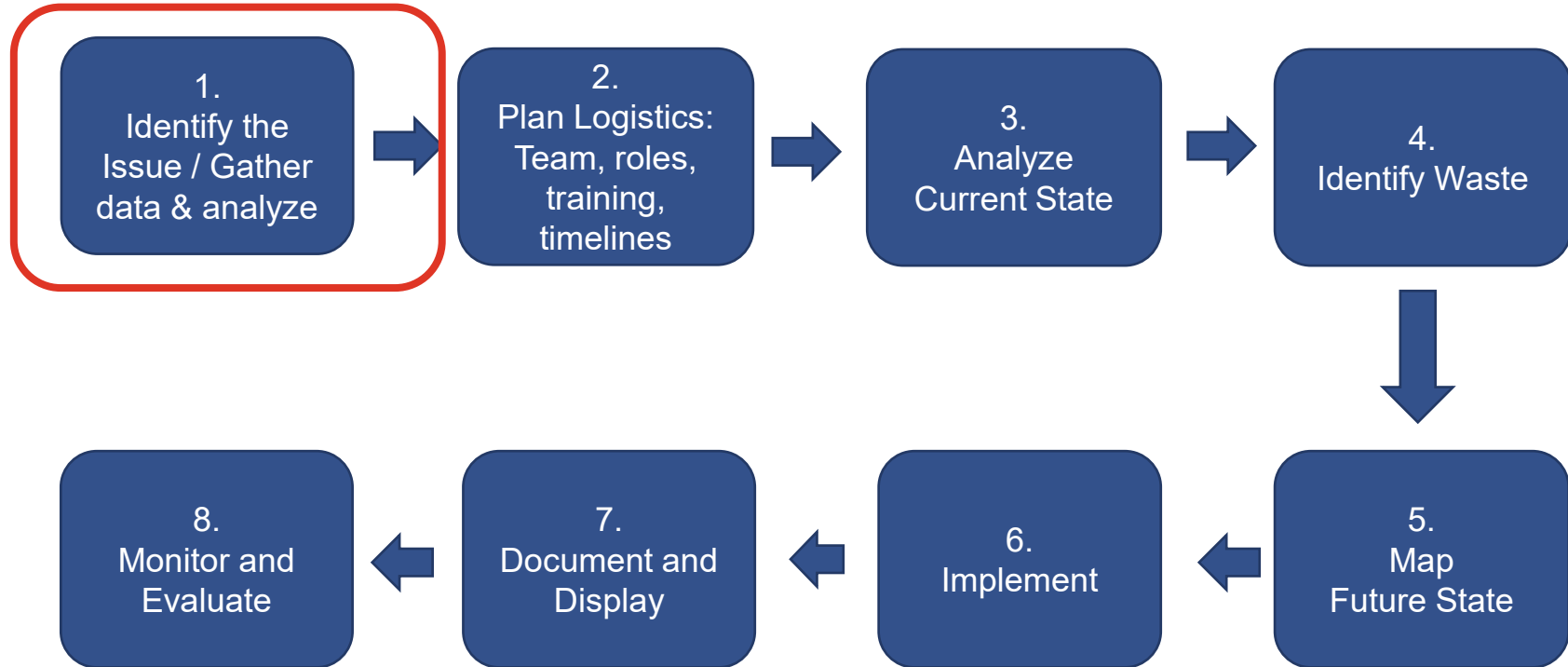
Activity: 1. Identify the Process

Identify a process to improve from the list:

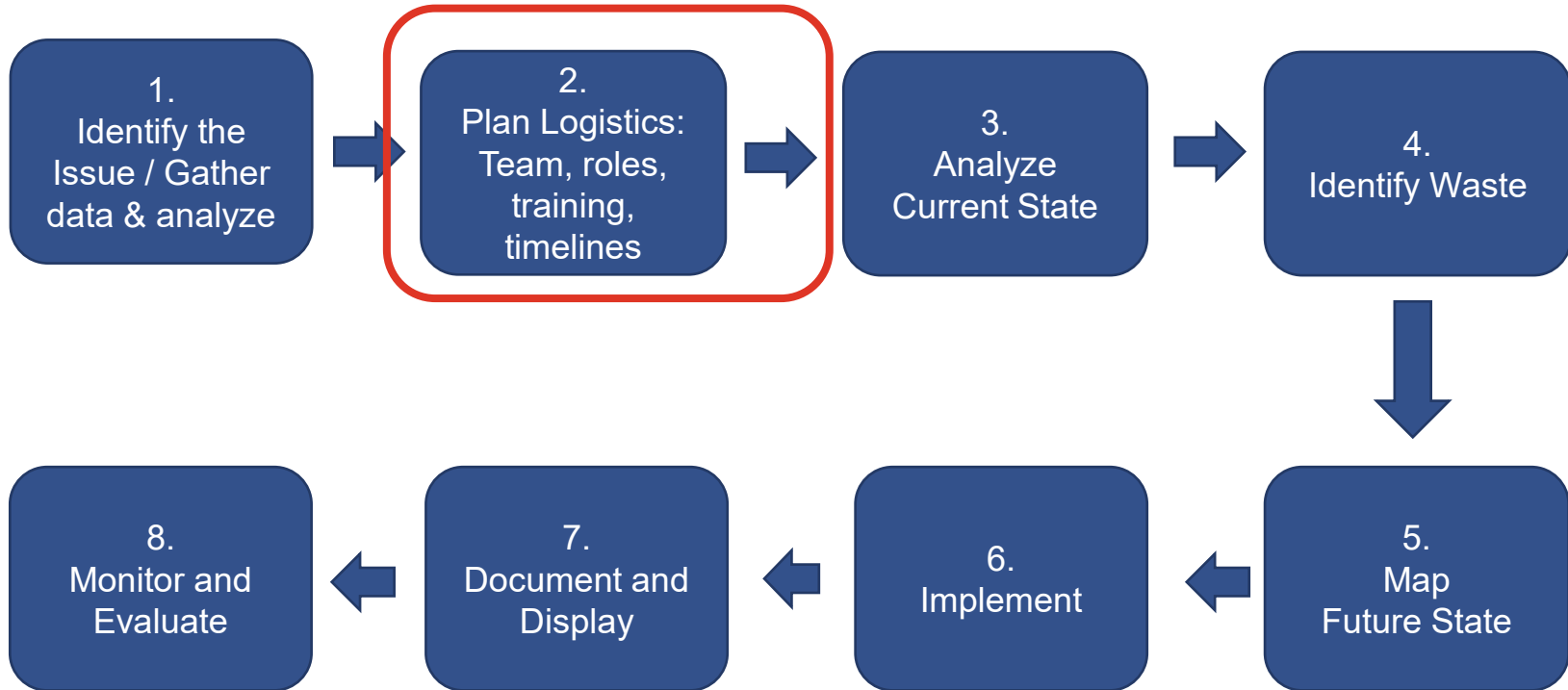
1. Frustrating change order process
2. Broken RFI process
3. Ineffective weekly meeting (i.e. OAC meeting, Staff meeting, Trade Partner meeting)
4. Conducting Annual Employee Reviews

5 minute discussion

How: Kaizen Flow

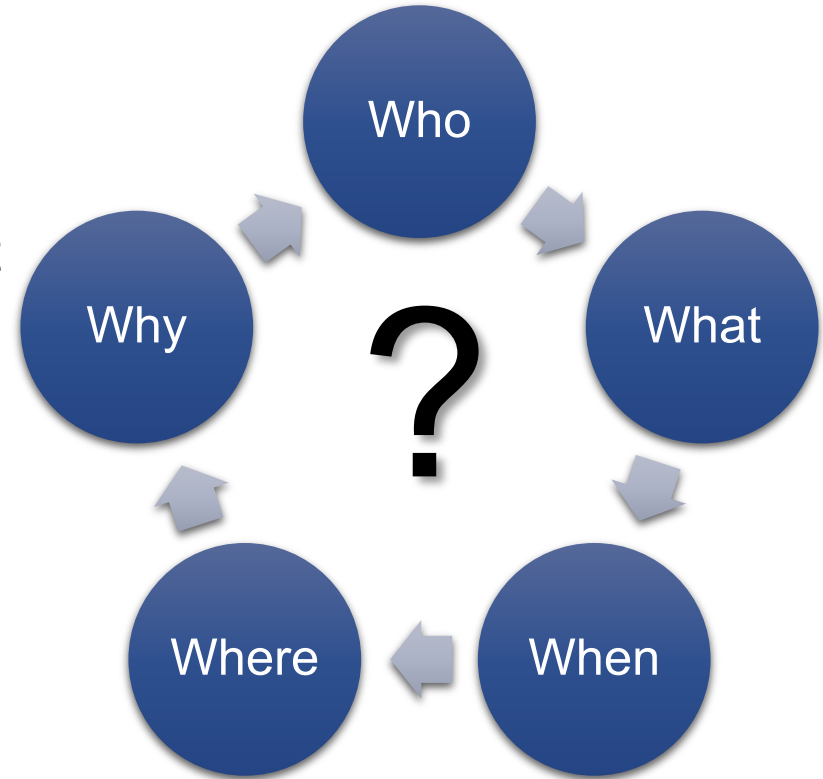


How: Kaizen Flow



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

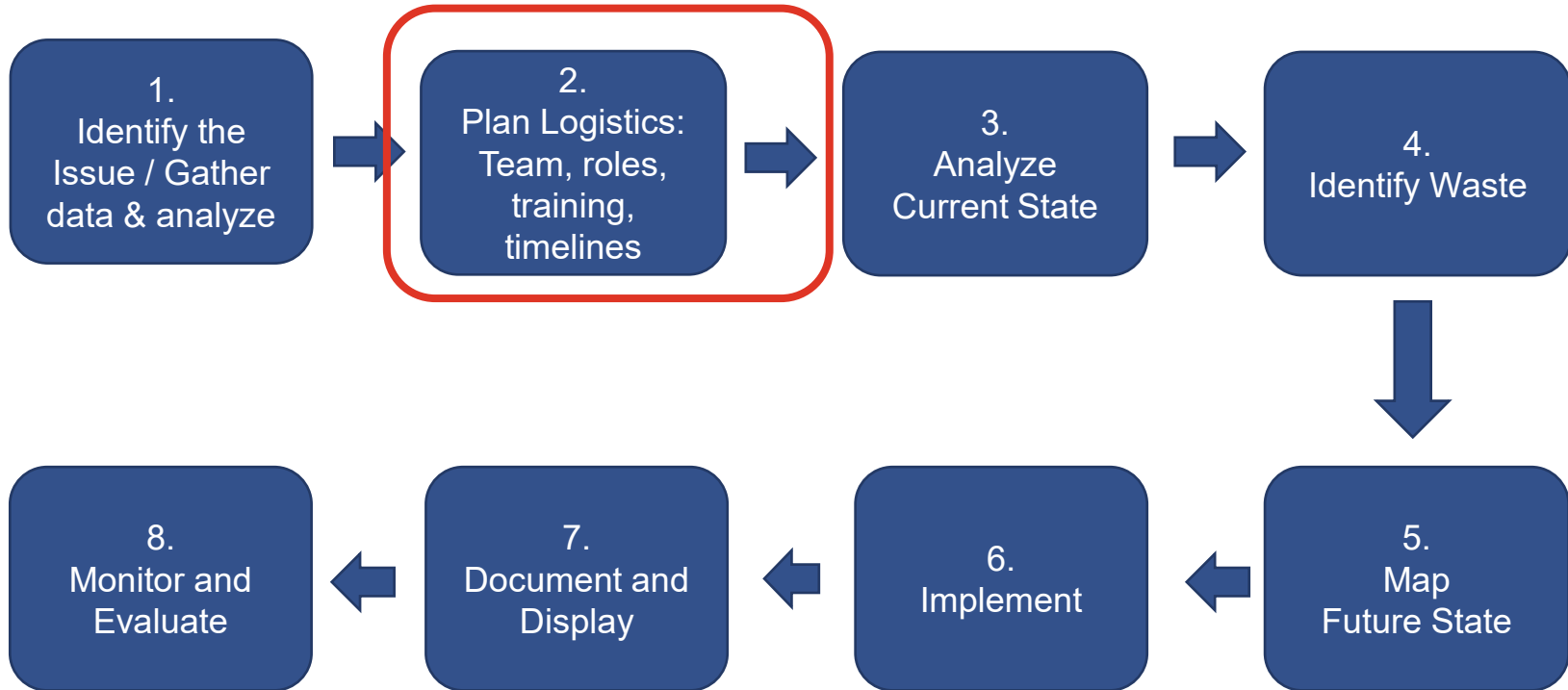


Activity: 2. Plan Logistics

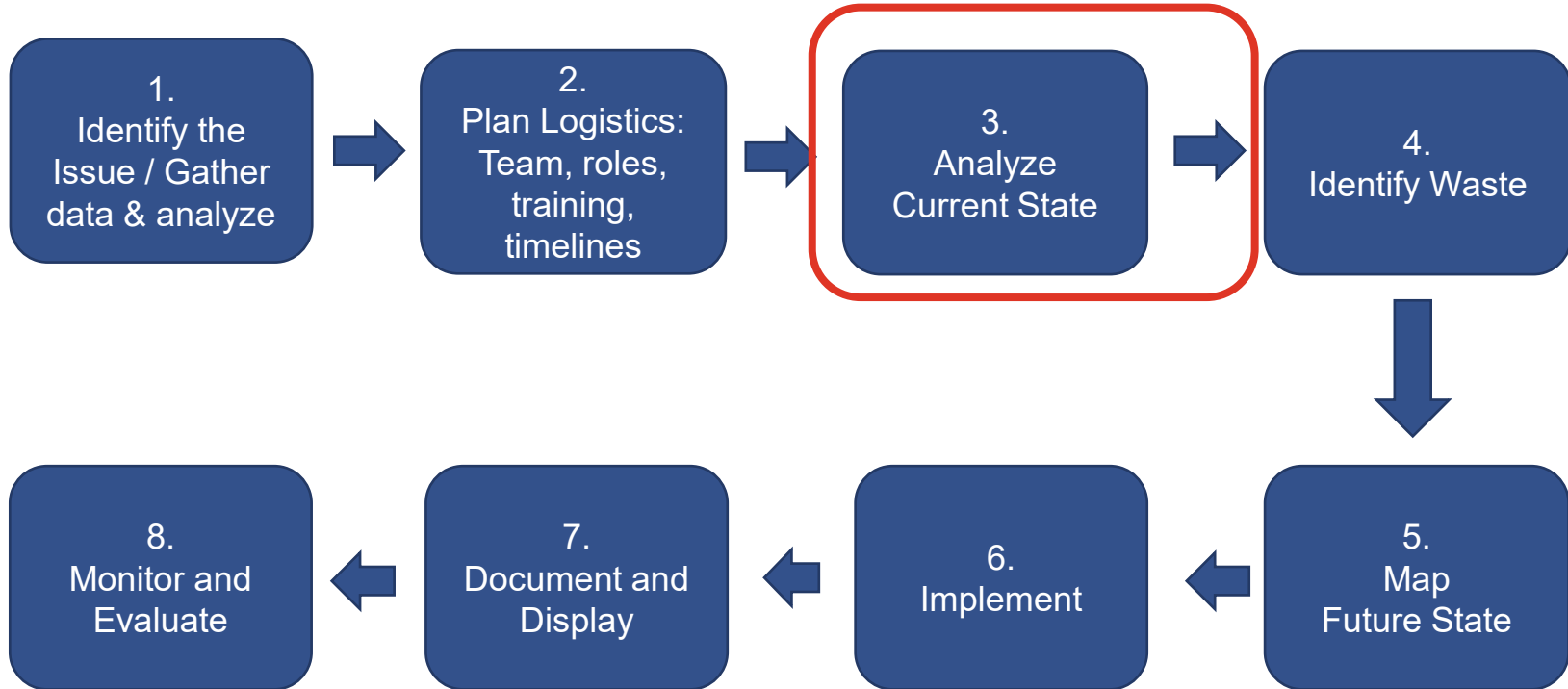
- Appoint a *facilitator*
 - Assign *organizational roles* moving forward
 - Ensure *leadership* is engaged
 - Determine *stakeholder team* and *assign roles* to play
 - Set the *scope and limits* of the event
-

5 minute discussion

How: Kaizen Flow

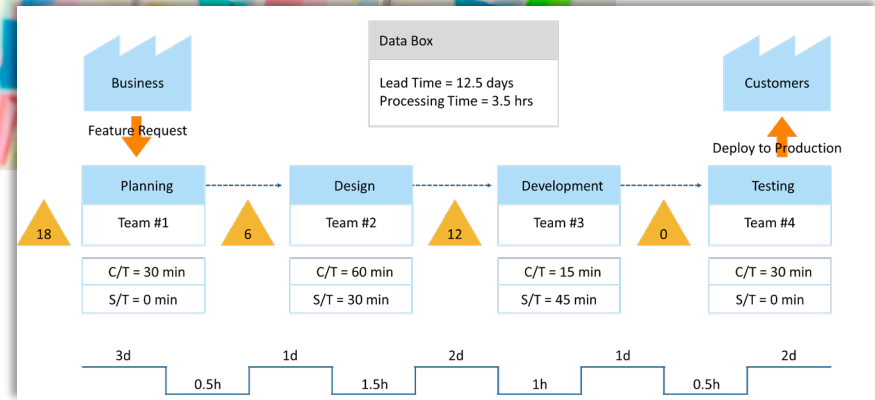
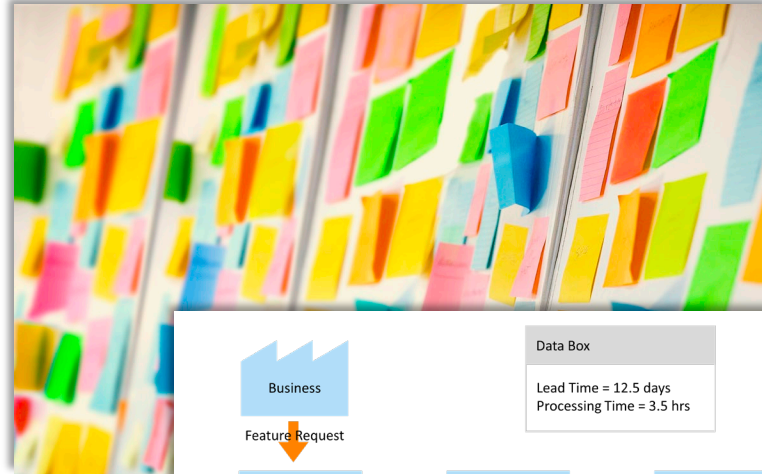


How: Kaizen Flow



3. Analyze the Current State

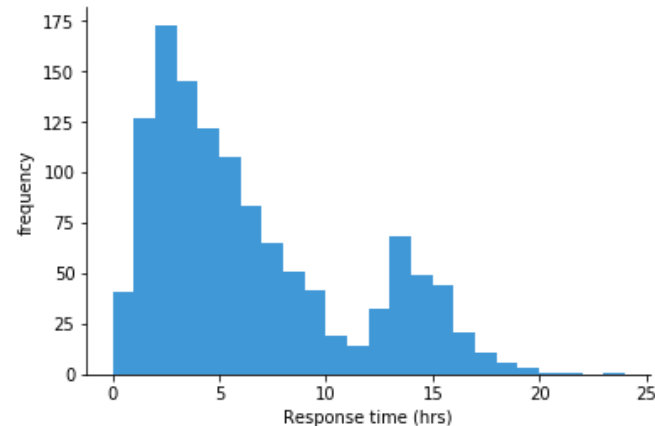
- Align on the current process(es)
- Review data on production
- Understand process/pitfalls
 - 5-whys
- Visualize it



Tools to understand the Current State

Need a statistical / quantitative study on which to base improvements

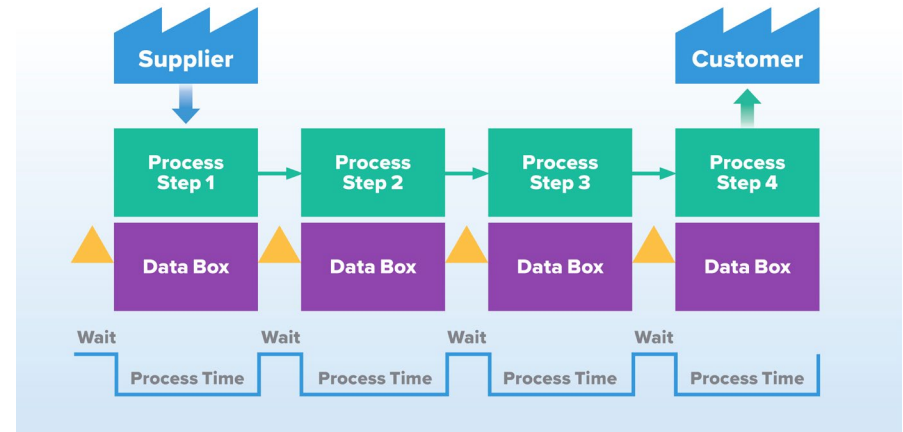
- Affinity Diagrams
- Tree Diagrams
- Interrelationship Diagrams
- Matrix Diagrams
- Prioritization matrices
- 5 Why
- Process Decision program charts
- Arrow Diagrams / CPM scheduling



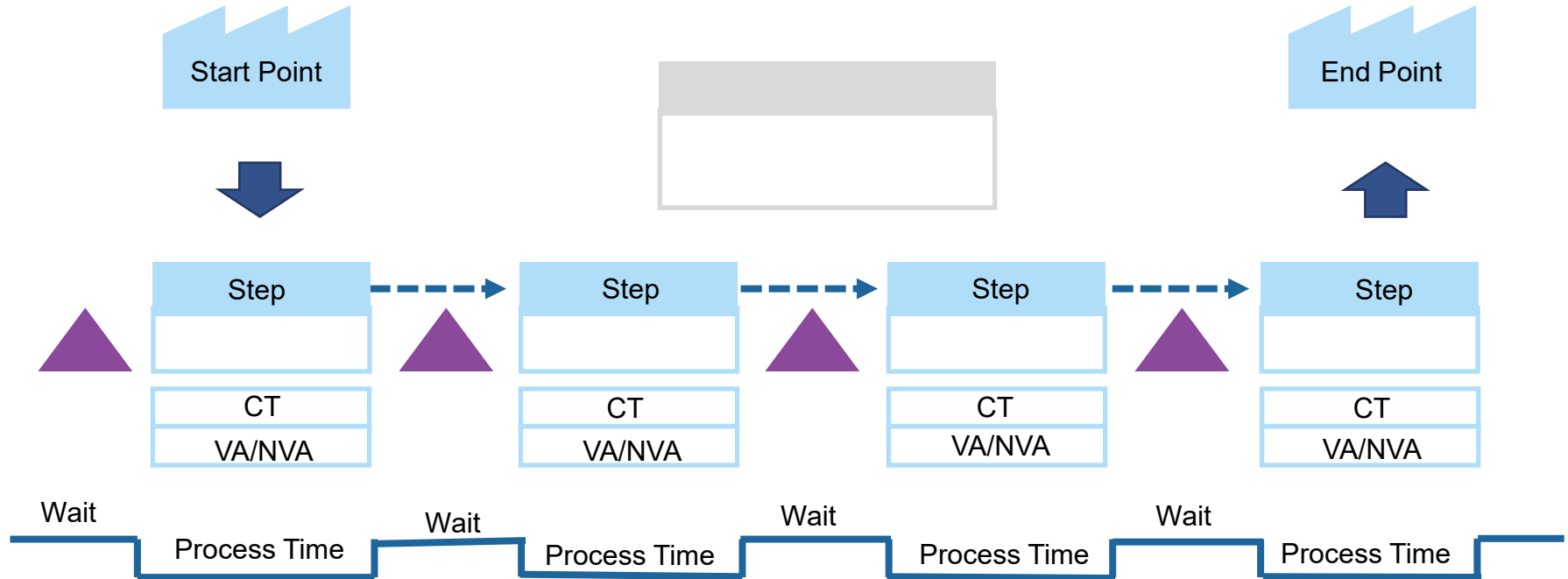
Value Stream Mapping

- Current state is mapped
- VSM is a visual map of material and information
- Method for analyzing the current state and designing a future state from the beginning of the specific process until it reaches the customer.

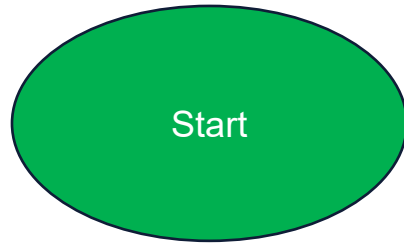
A Value Stream Map displays the high level process steps along with key process data.



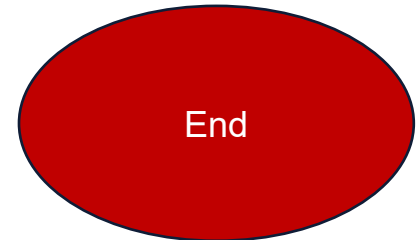
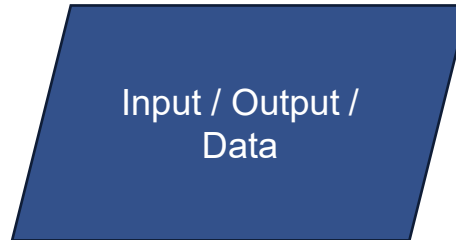
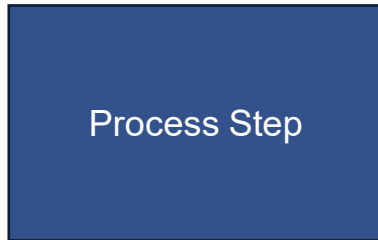
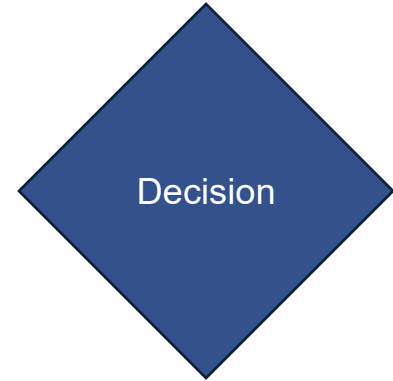
How: Create the VSM



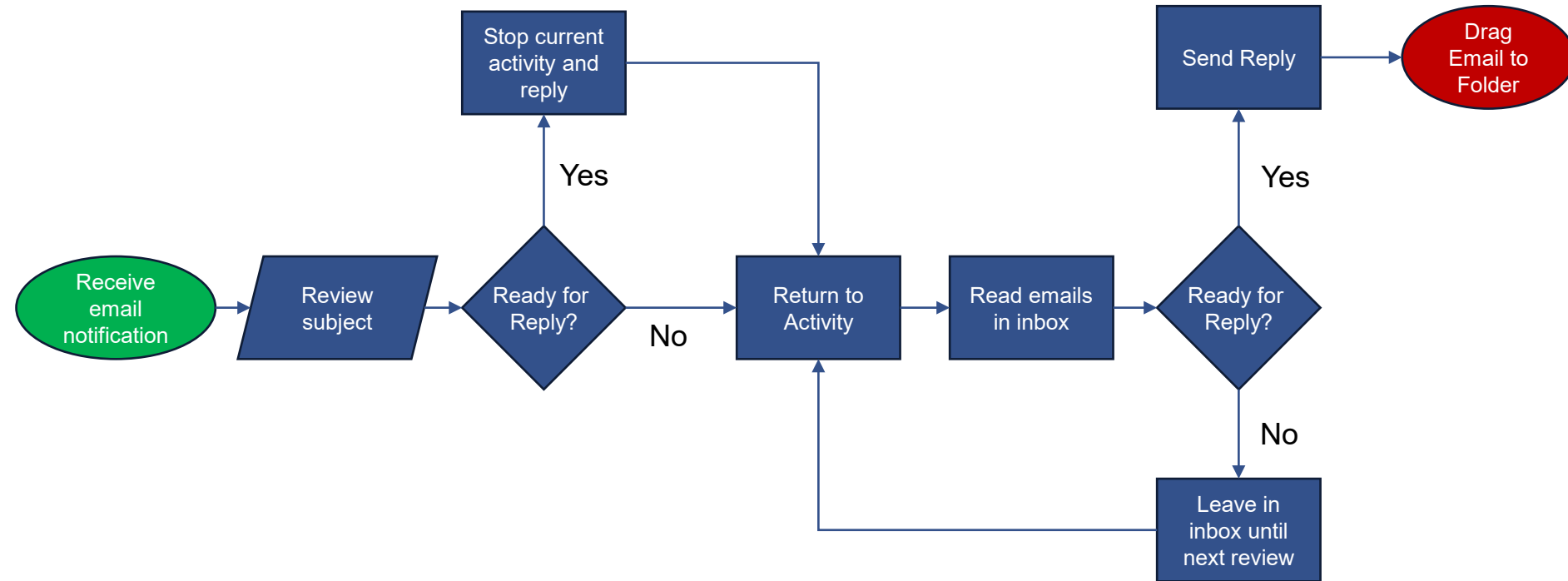
How: Process Map



Connector between
symbols



How: Processing Email



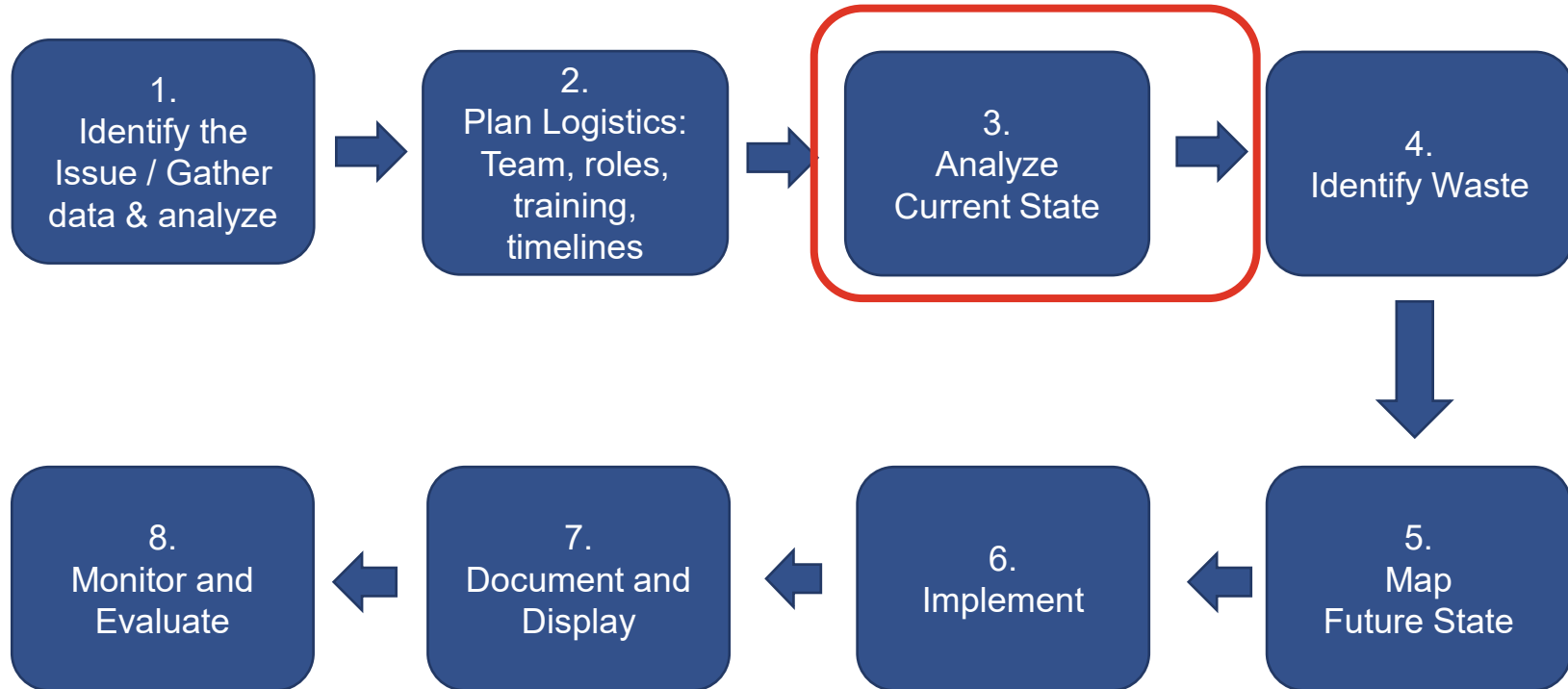
Activity: 3. Map the Current State

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

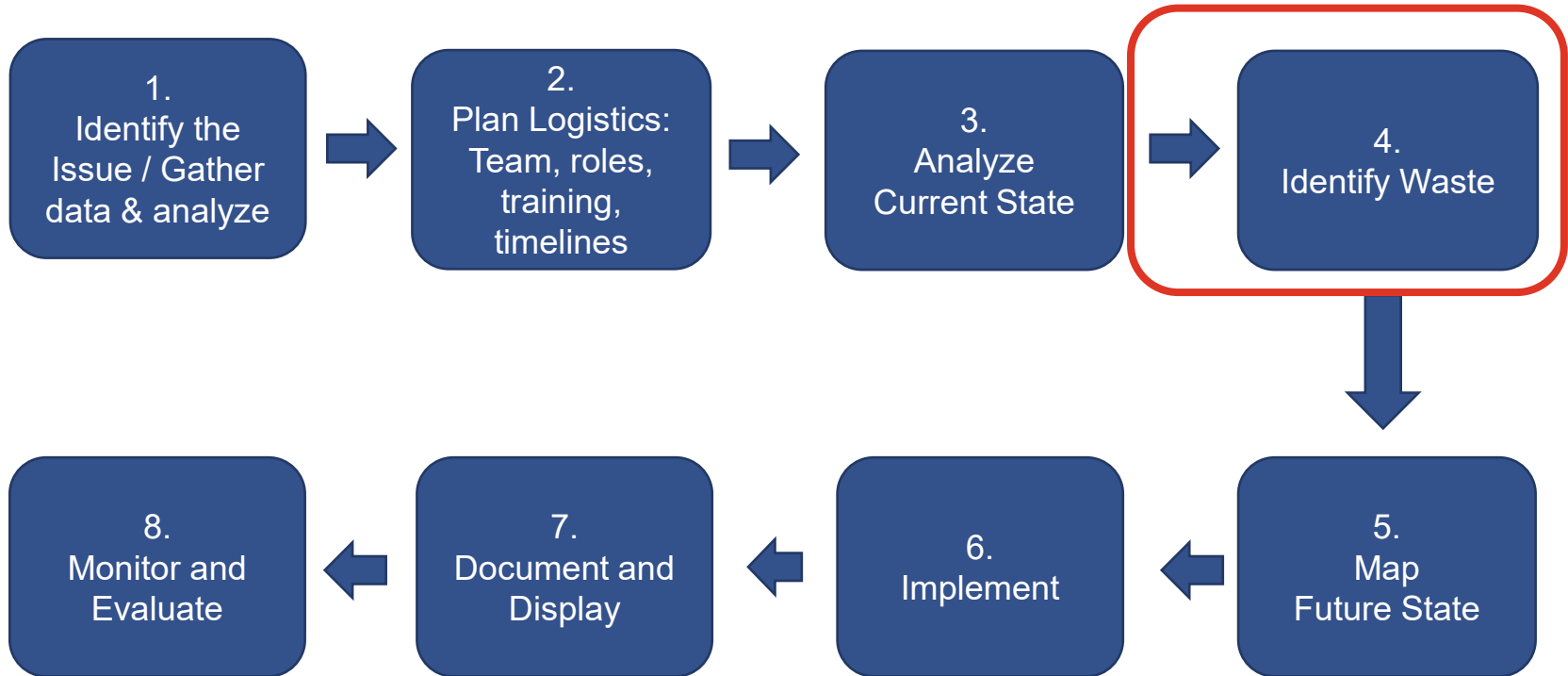
Discuss what other tools you would use to analyze your process

20 minute discussion

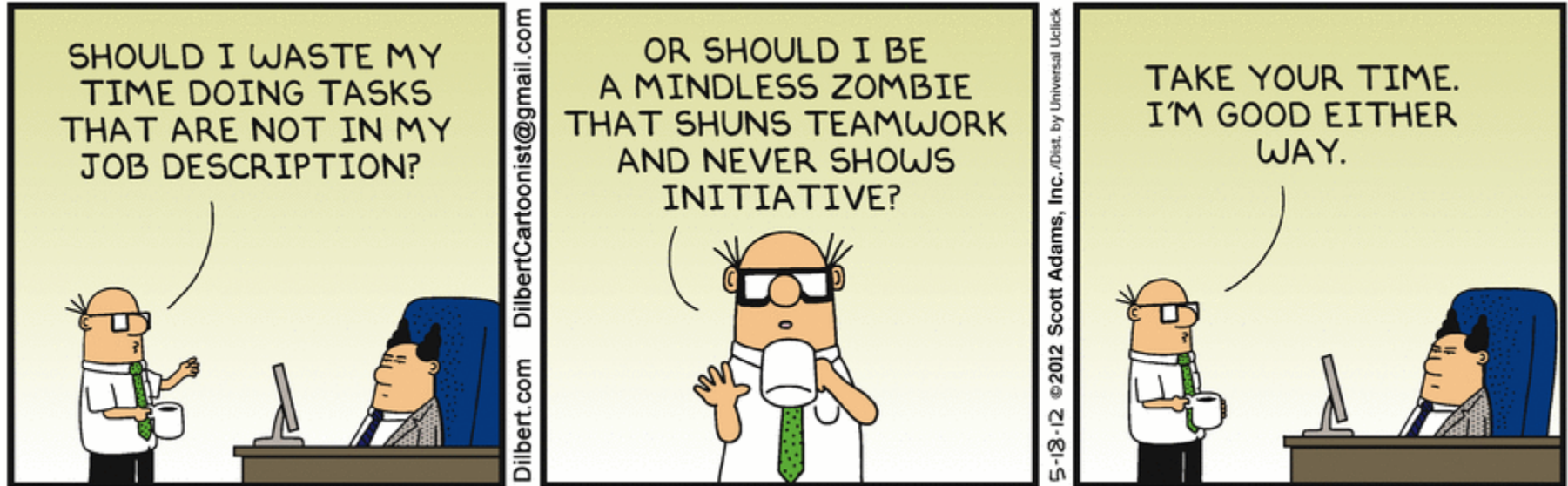
How: Kaizen Flow



How: Kaizen Flow



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.



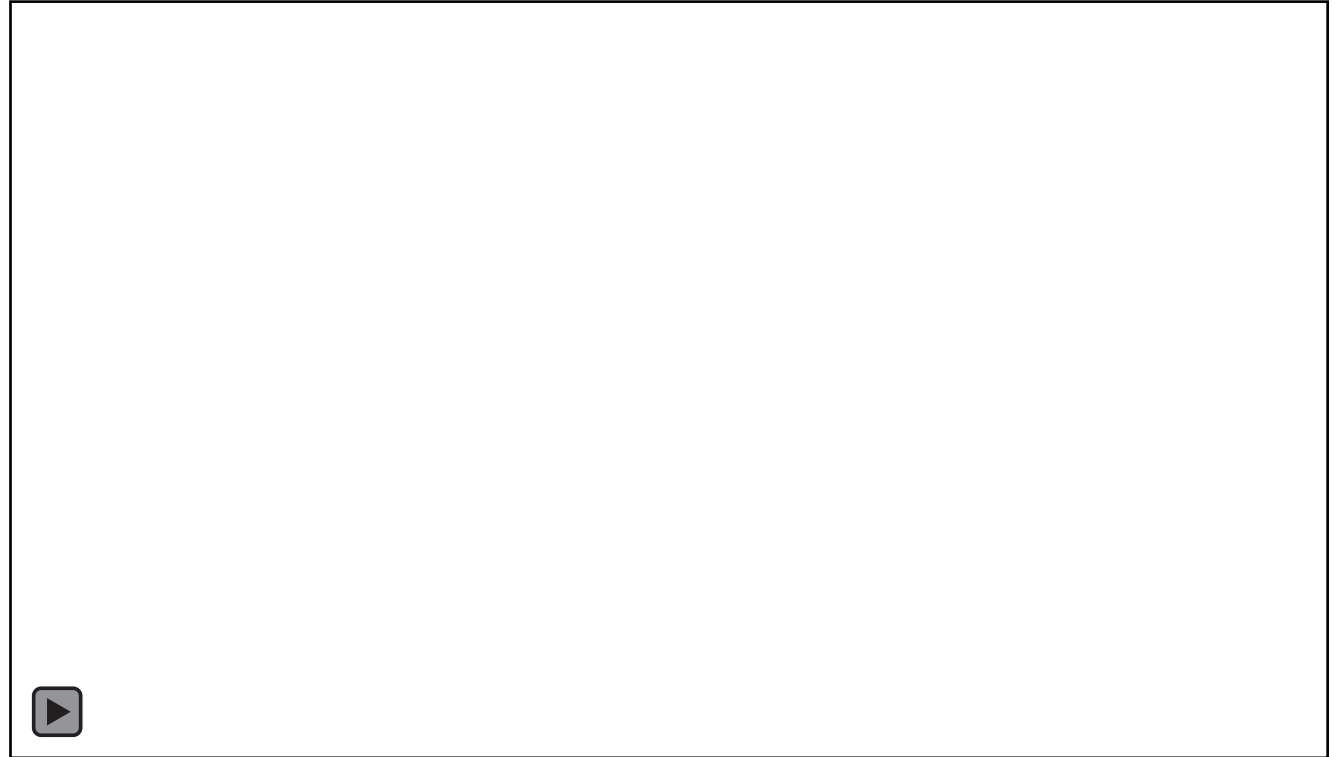
Let's talk about waste

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

4. Identify the Waste

-  Defects (D)
-  Over Processing (O)
-  Waiting (W)
-  Non-used Creativity of Team Members (N)
-  Unnecessary Transportation (T)
-  Excess Inventory (I)
-  Unnecessary Motion (M)
-  Excess/Under Production (E)

Why: Gemba Waste Walk



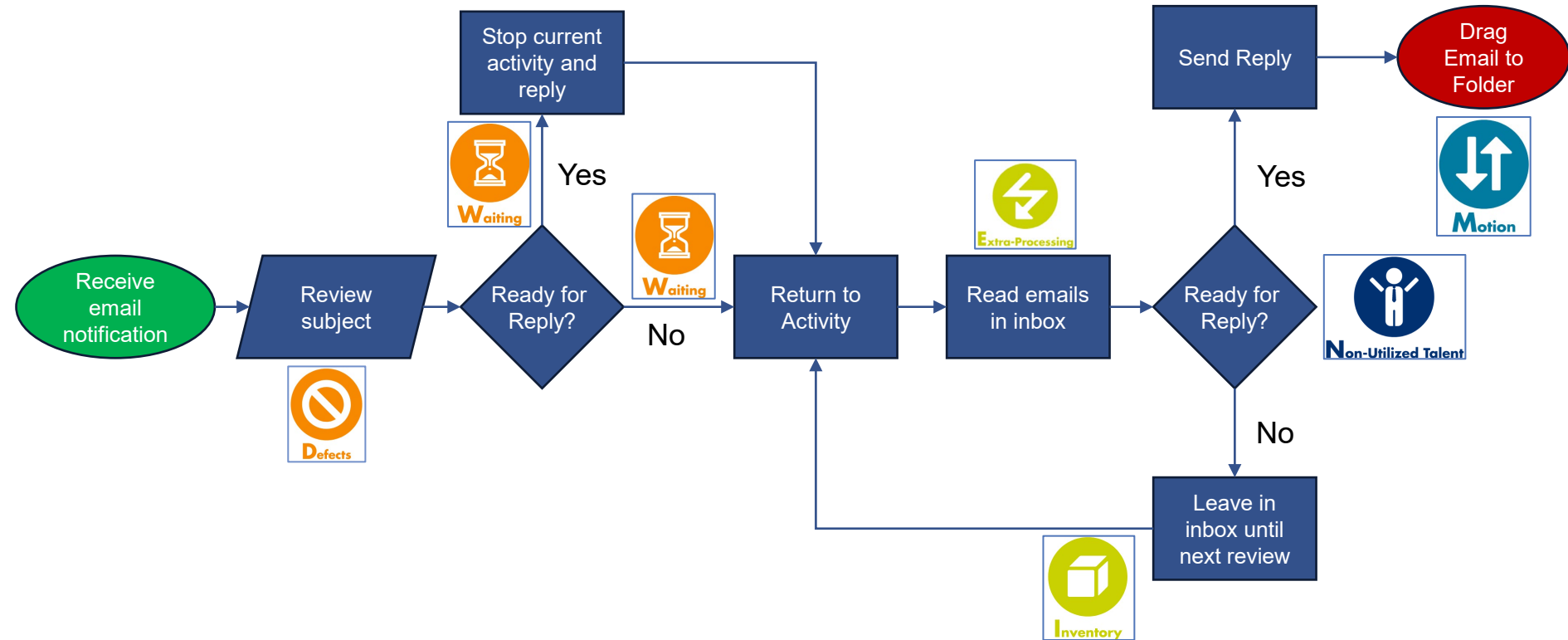
Courtesy of KHS&S contractors

Waste Walk Improvements



WASTE WALK BY
KHS&S CONTRACTORS

How: Processing Email



Activity: 4. Identify the Waste

Identify the waste in the process.

Assign each step as VA / NVA / NNVA

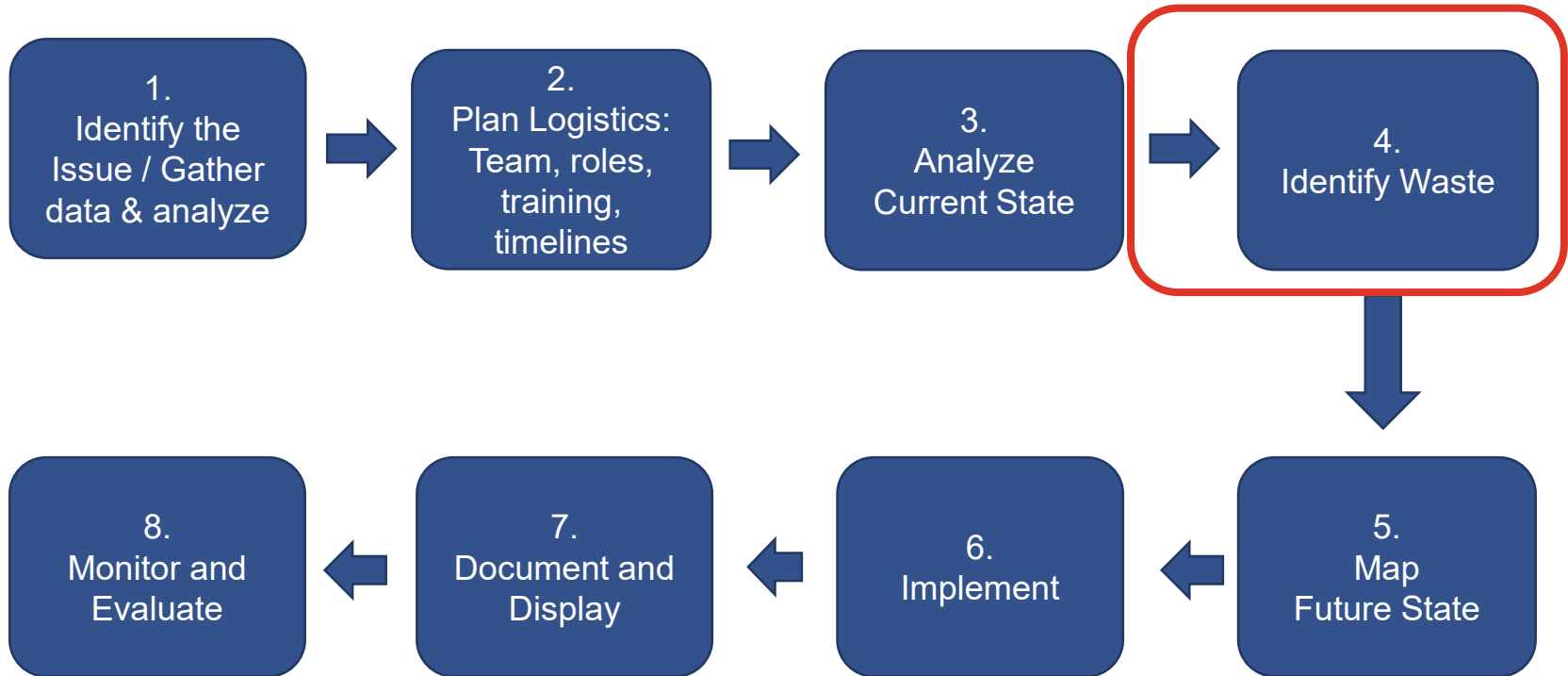
10 minute discussion

Poka-Yoke – Error Proofing

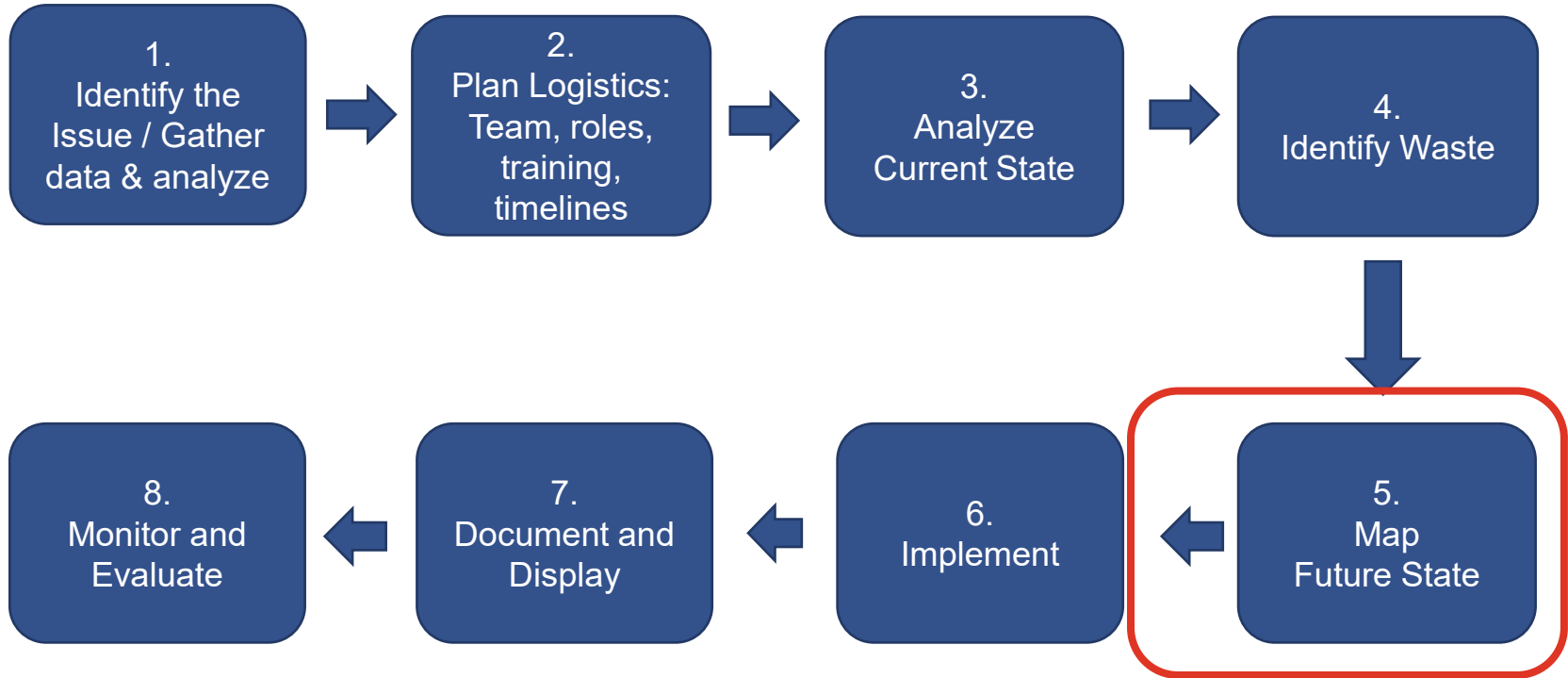
- Utilizes a cause-and-effect analysis
- Type 1 – eliminate process from occurring (process control)
- Type 2 – detection application (stop the line)
 - Andon cord



How: Kaizen Flow



How: Kaizen Flow



5. Map the Future State

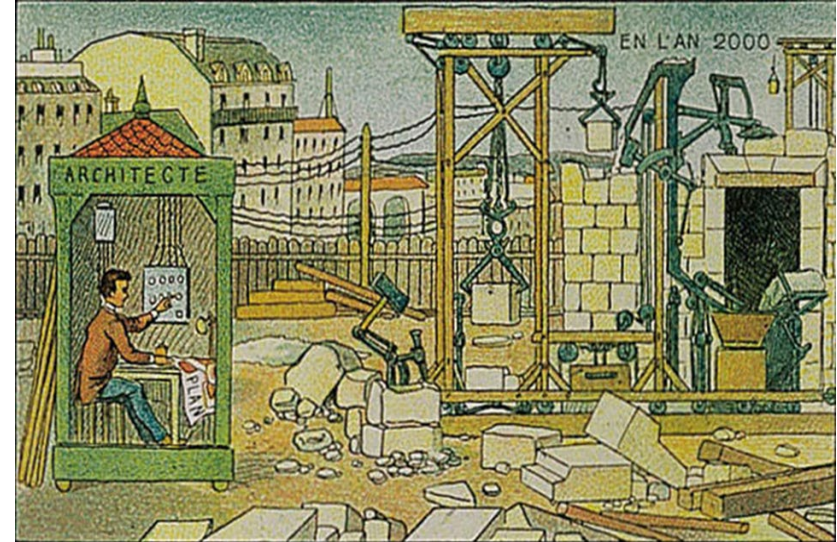
Map the new process with:

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



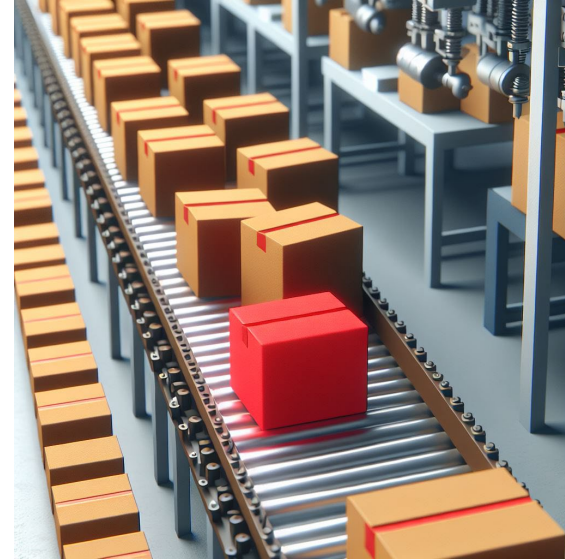
How: Tips to Mapping the Future State

- 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?
- Just get something on the wall.



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



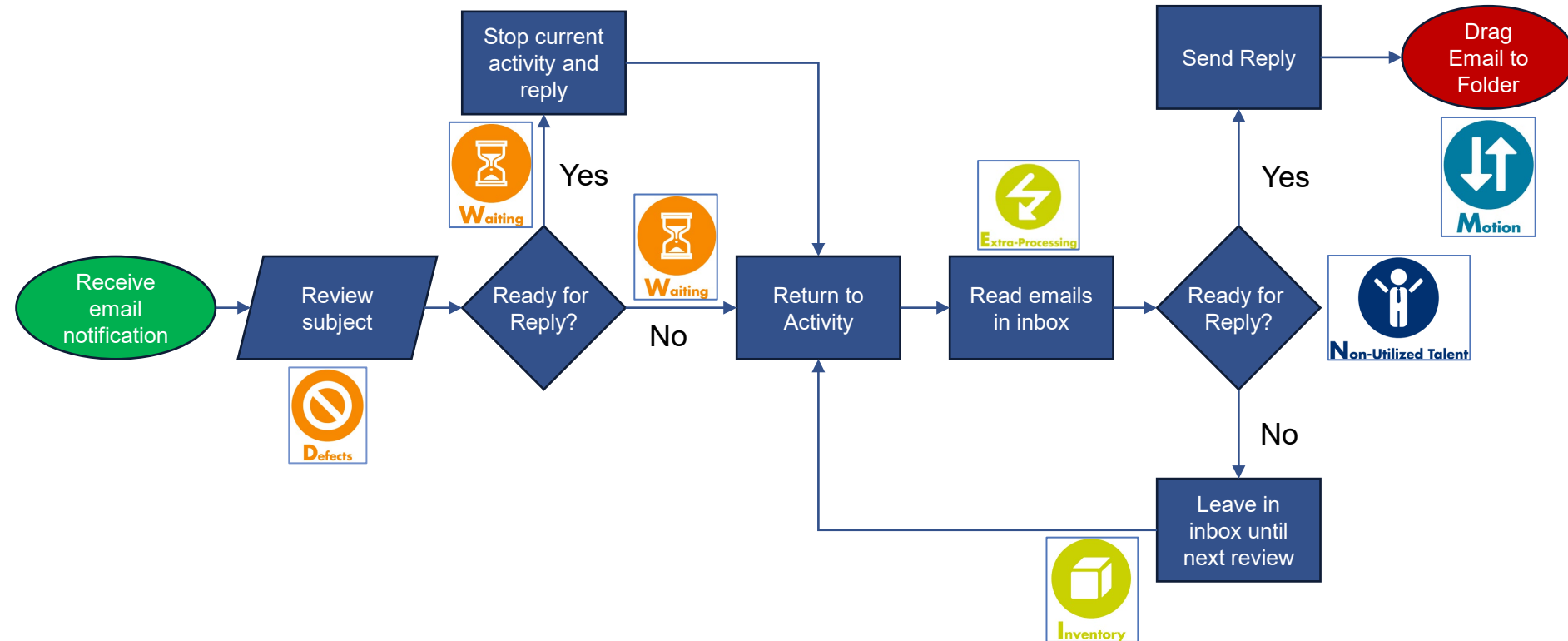
There must be standards to have Kaizen!

5S

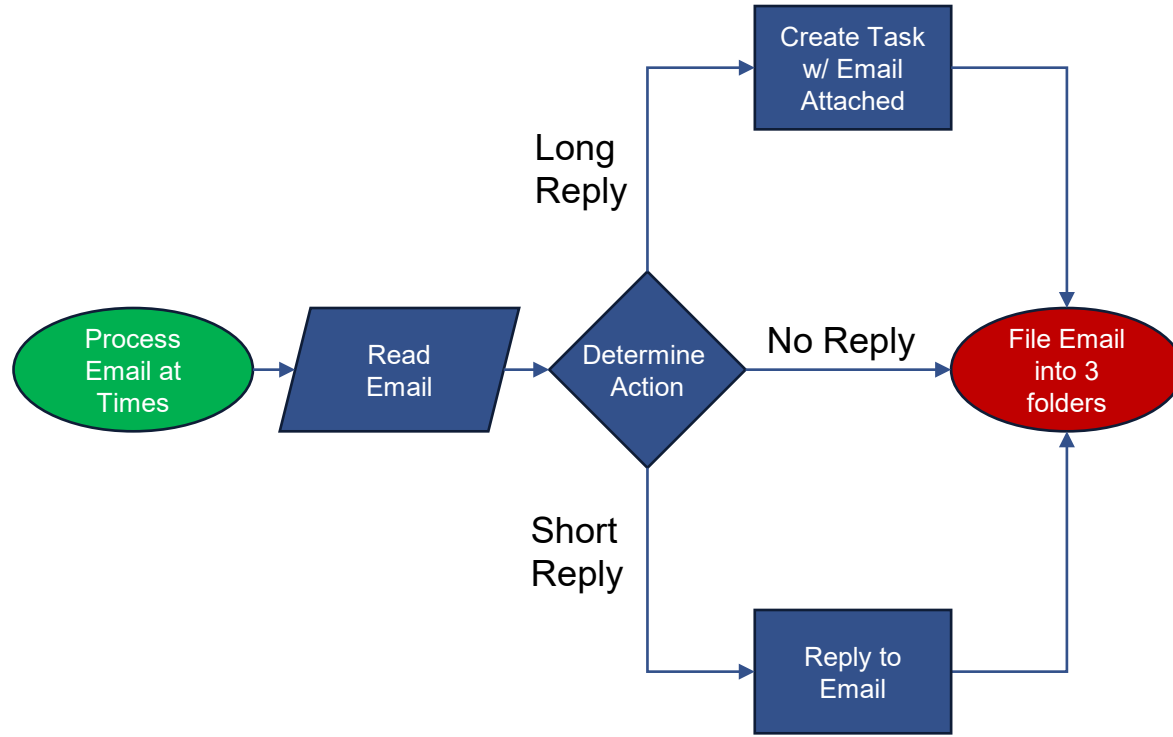
5S could be an *actionable outcome* of a Kaizen event



Processing Email – Current State



Processing Email – Future State



- Processing email is **ONLY** processing email (not a task list)
- Other tasks aren't interrupted
- Emails only read once
- Inbox to 0 each day
- Important items come as calls
- Notifications for specific people (on occasion)

What: Four Methodologies

1. Kaizen Teian – Bottom-up daily improvement
 - Hot Keys i.l.o. Drag & drop
2. Kaizen Events – Defined improvement event
 - Processing inbox
3. Kaikaku (blitz) – Radical organizational change
 - "I don't do emails any more".
4. Kakushin – Breakthrough innovative change
 - AI writing your email for you

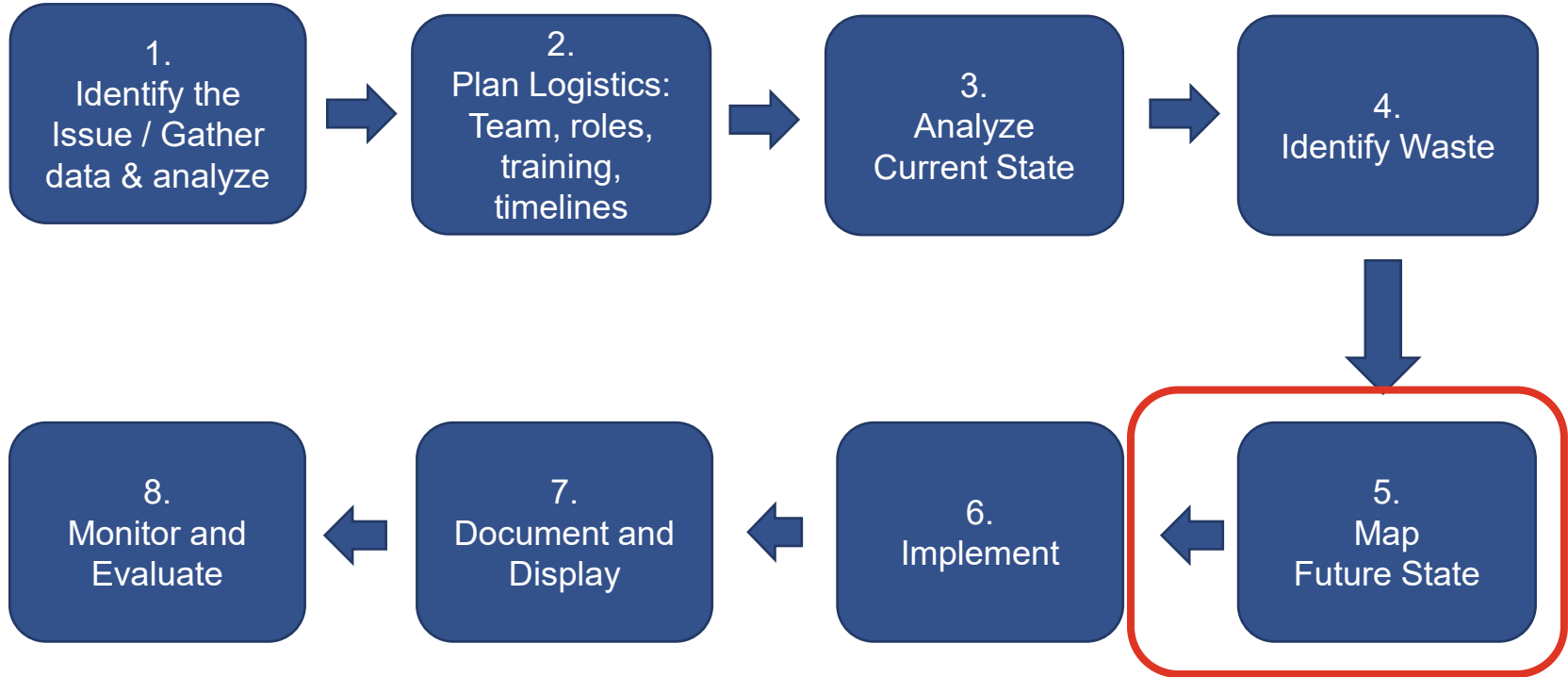


Activity: 5. Map the Future State

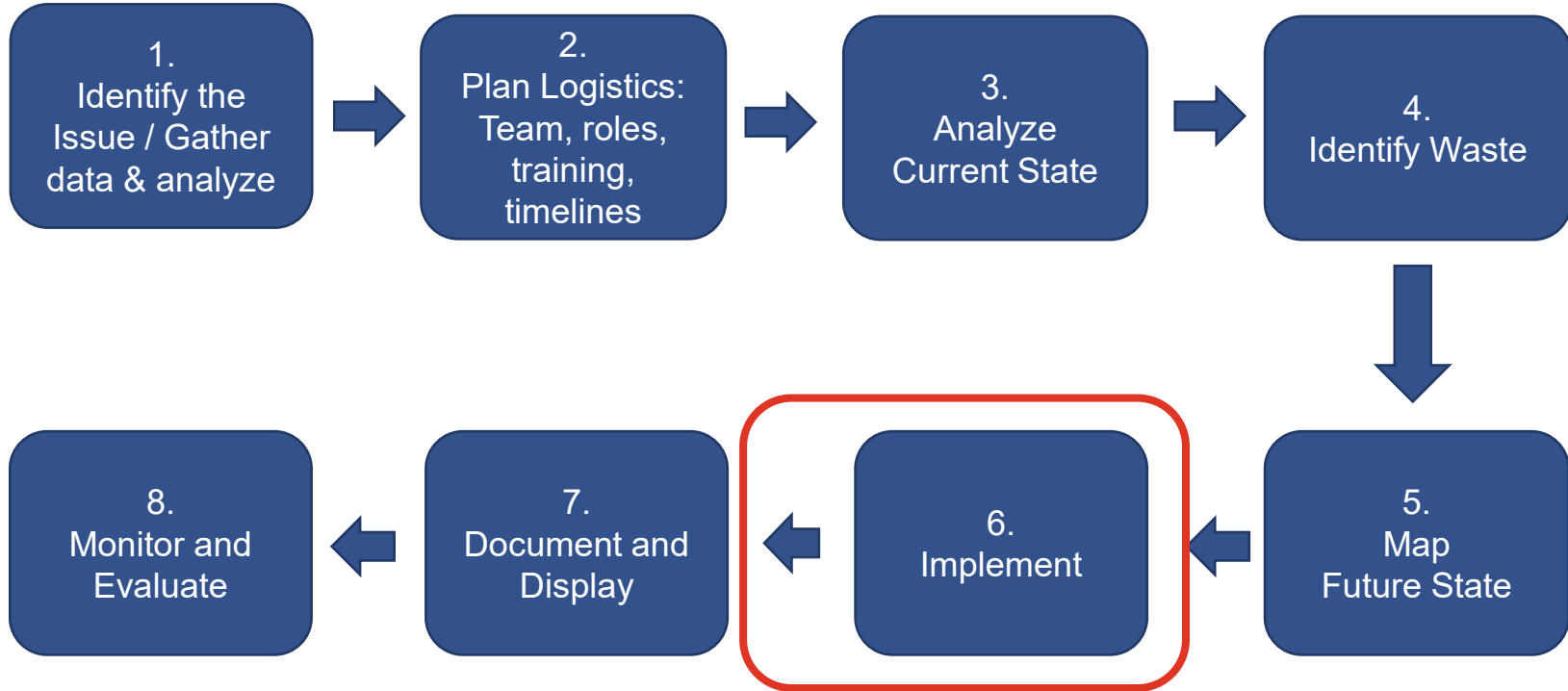
Map your future state

15 minute discussion

How: Kaizen Flow



How: Kaizen Flow



6. Implement

Rollout the new process!



- Explain the reasons
- Motivate/excite
- Clear the path

Employee Involvement

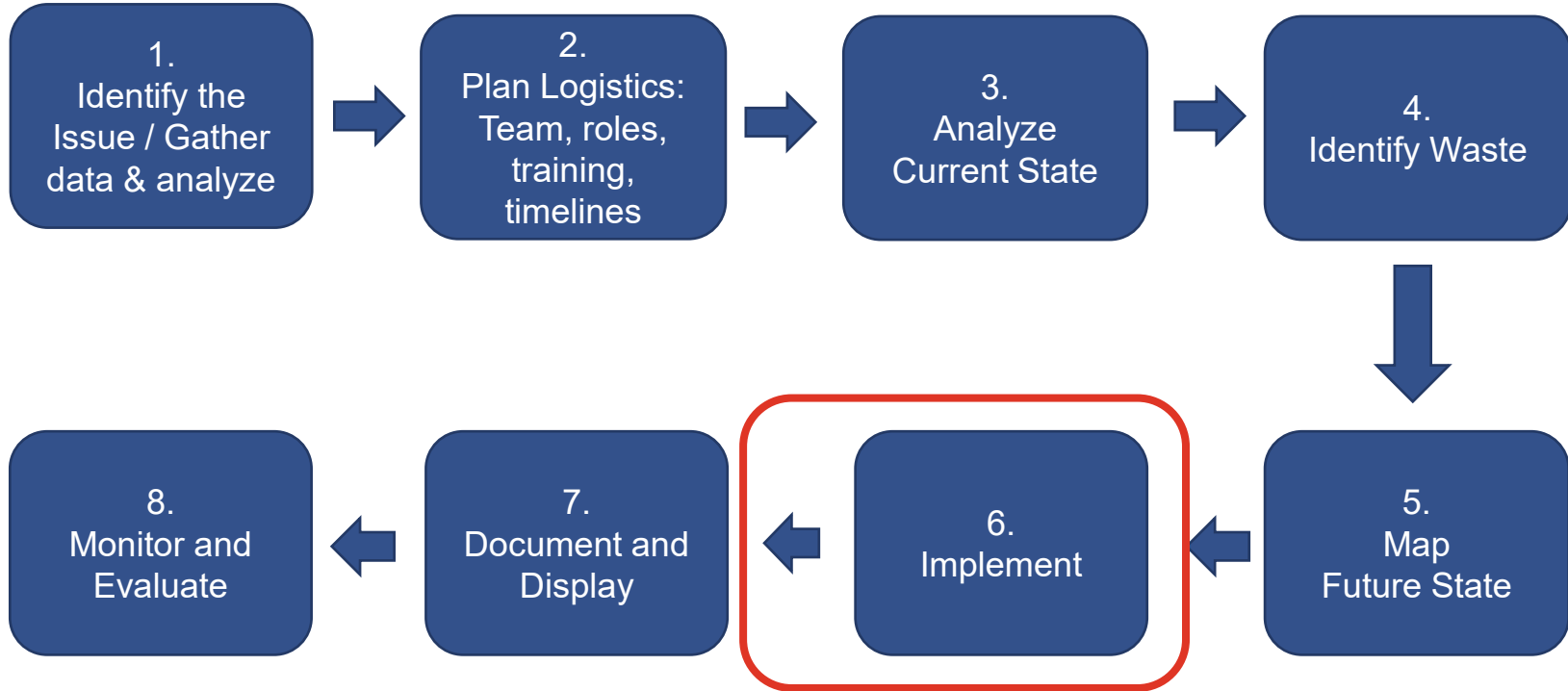
- 10 people's ideas are better than one
- Increased employee empowerment
- Delegate responsibility to workers

Enable employee participation

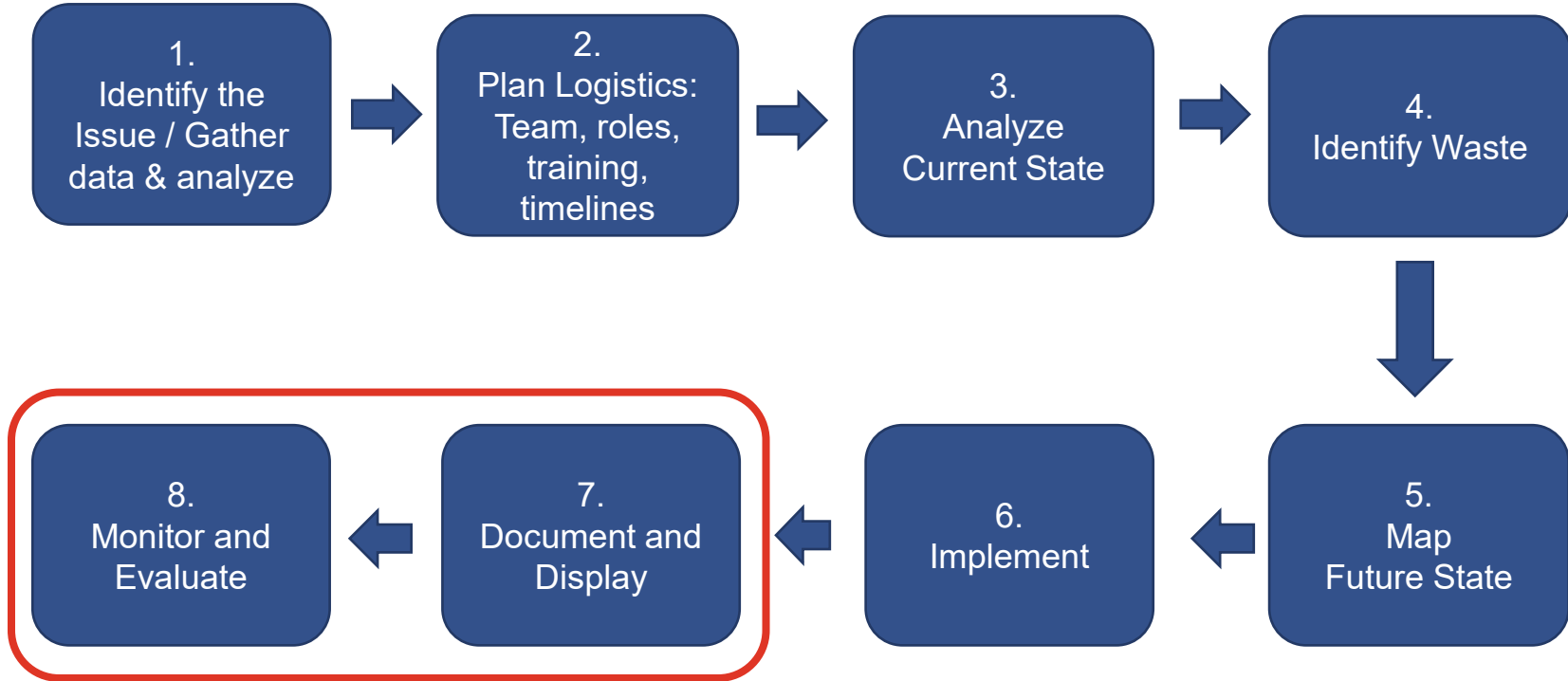
- Set up a suggestion system
- Provide forum for questions



How: Kaizen Flow



How: Kaizen Flow



7. Document and Display

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

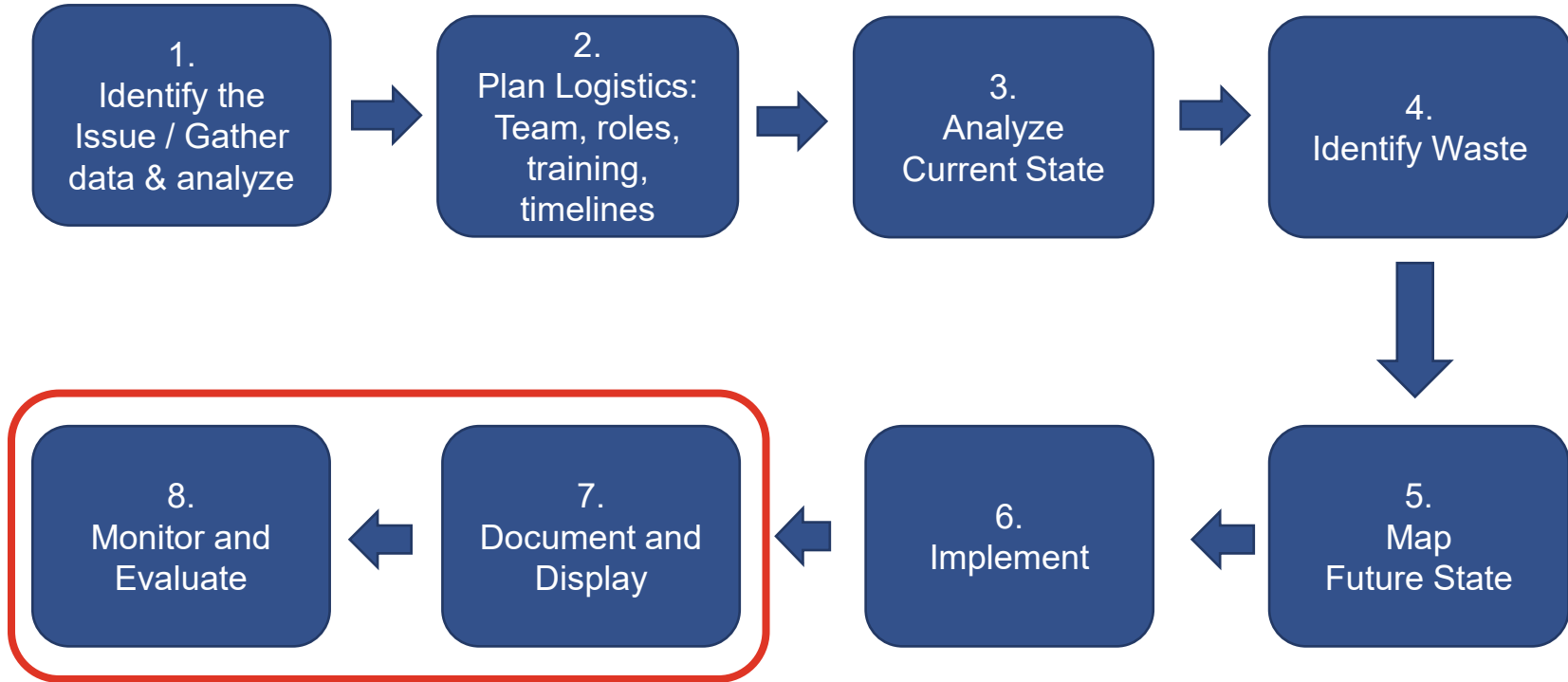


8. Monitor and Evaluate

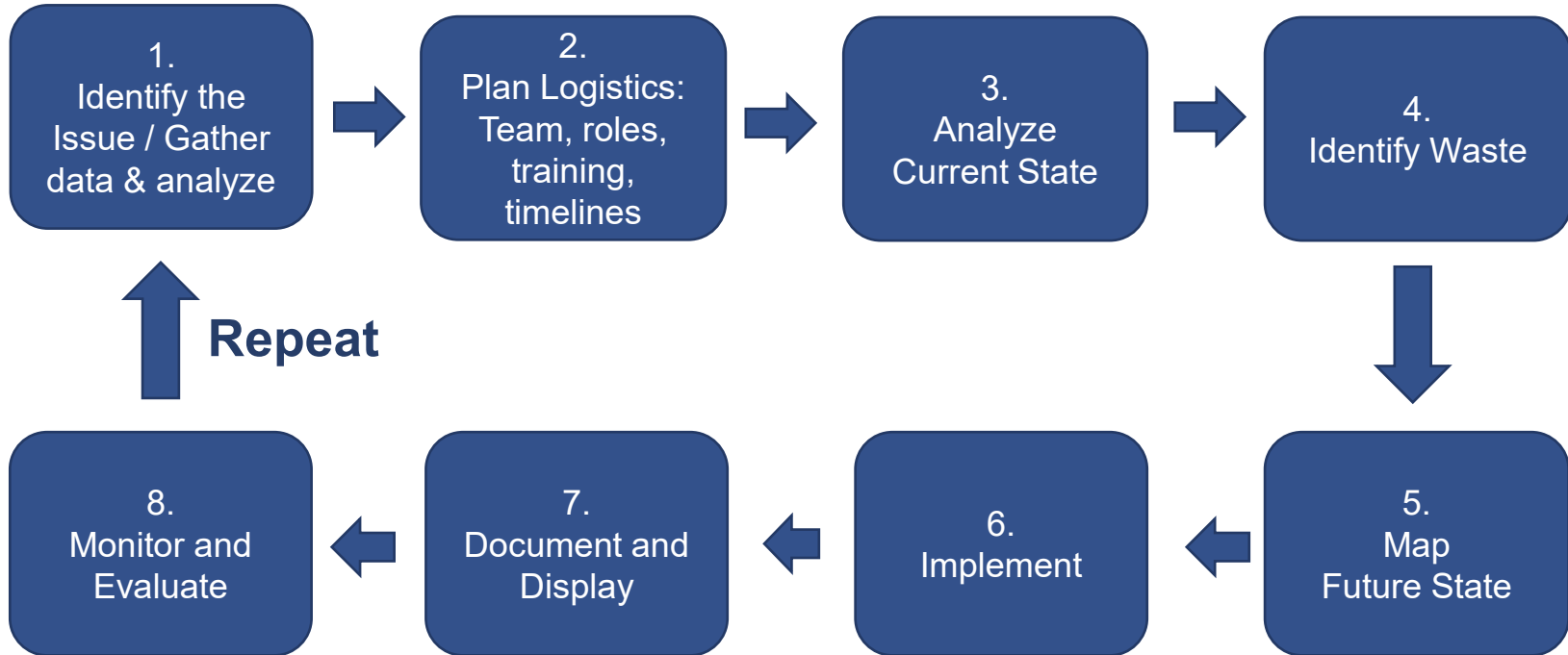
- Evolution of Document and Display
- Do the improvements match your expectations?



How: Kaizen Flow



How: Kaizen Flow



Repeat

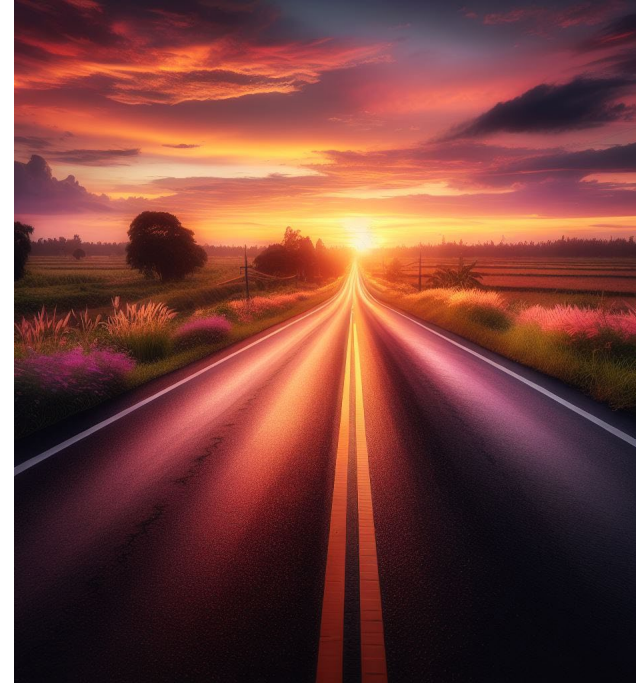
Work towards an *Ideal State Map*:

How would you setup the process from scratch?

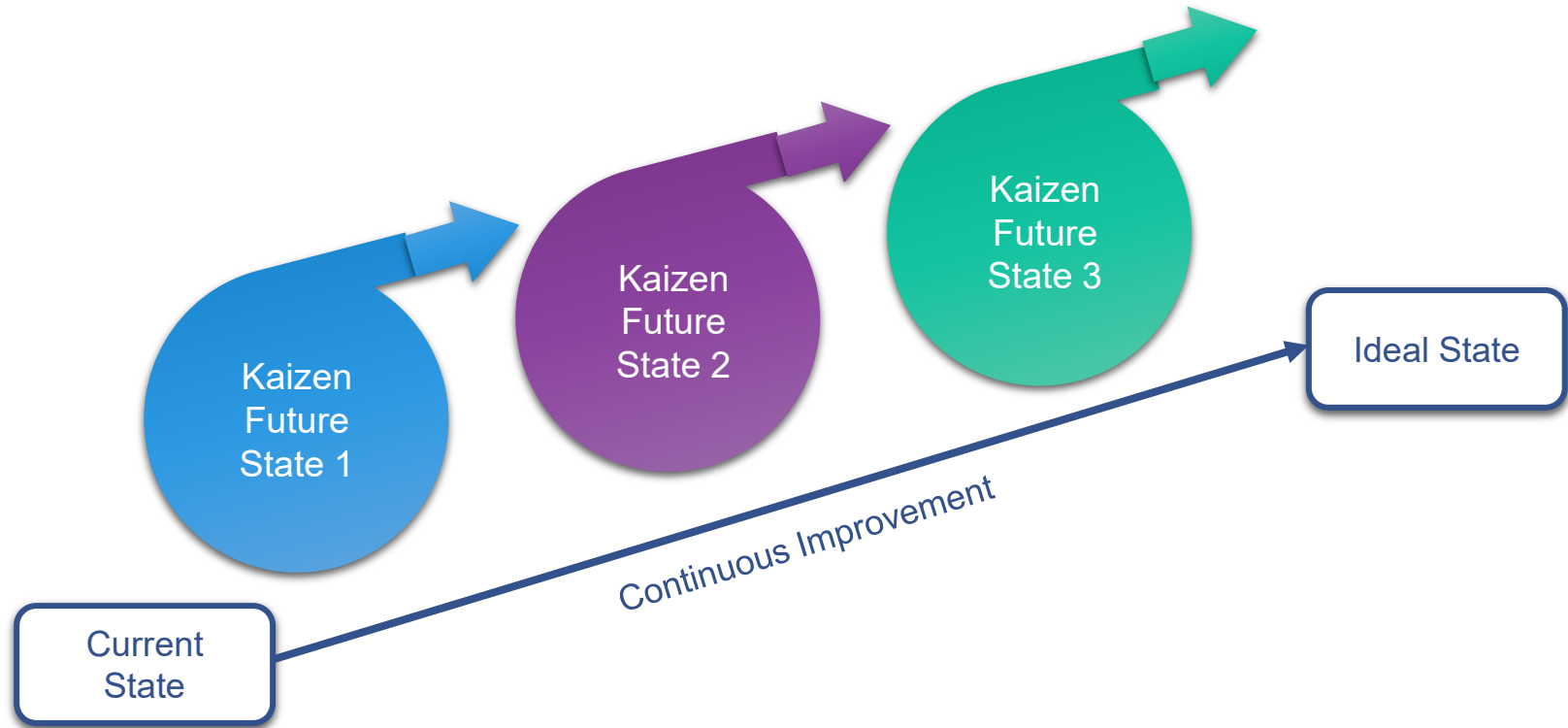
- No boundaries
- All the money needed
- All the people needed
- All the resources wanted

Think *outside the box* time

Future State becomes more *transformational*



How: Kaizen 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*

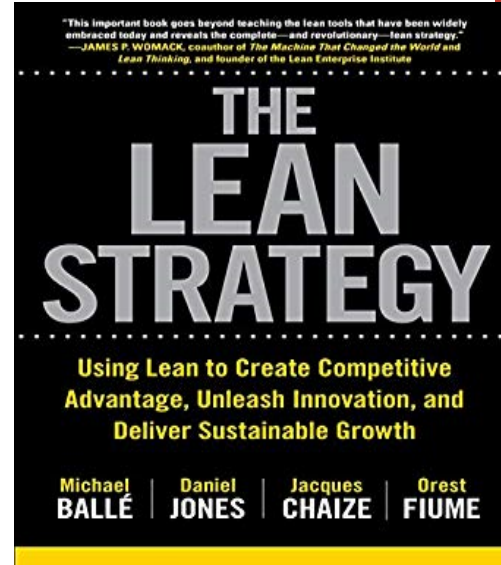


Discussion Question

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

Learning Resources

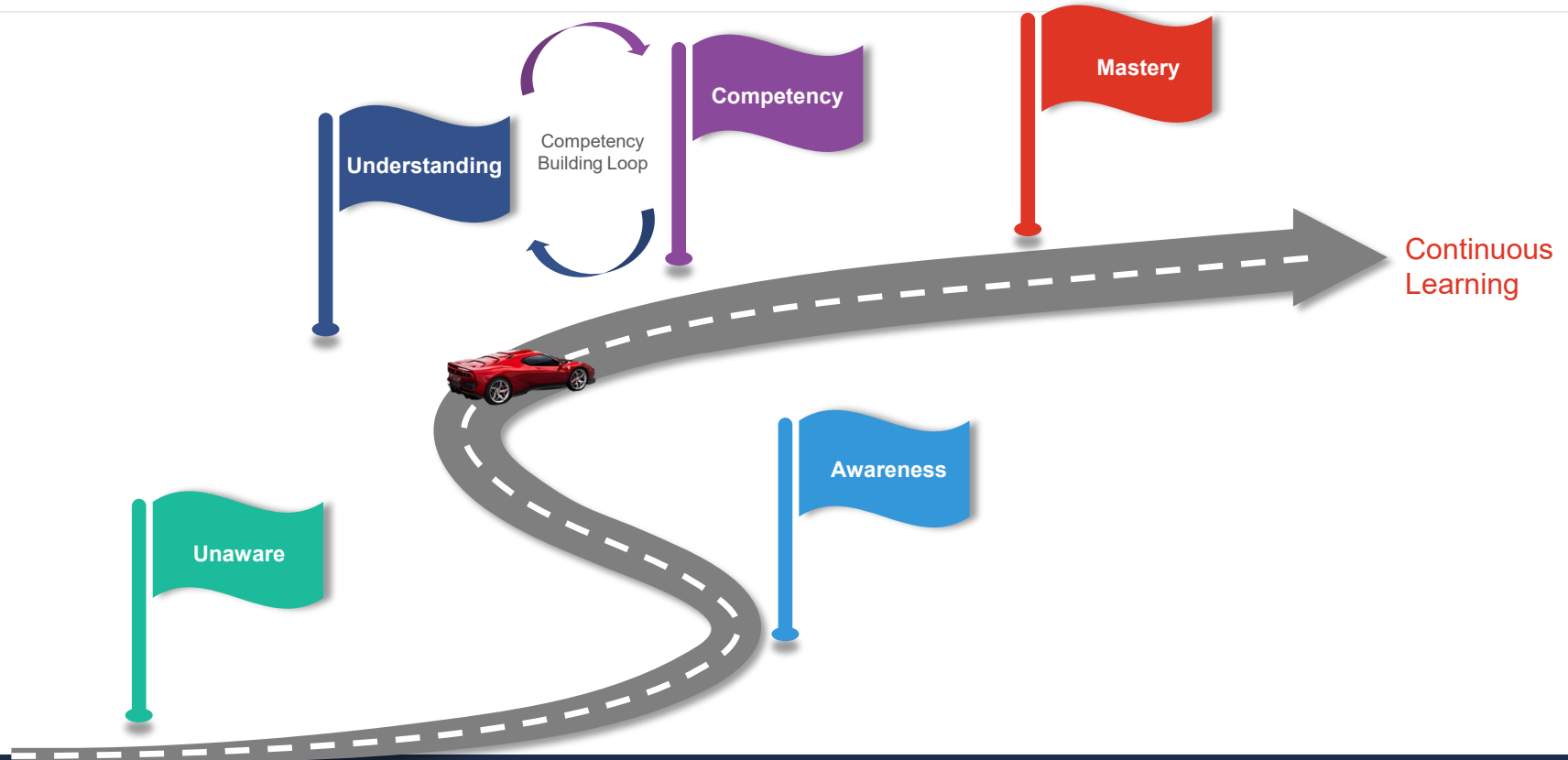
Resources used in the development of this course include:



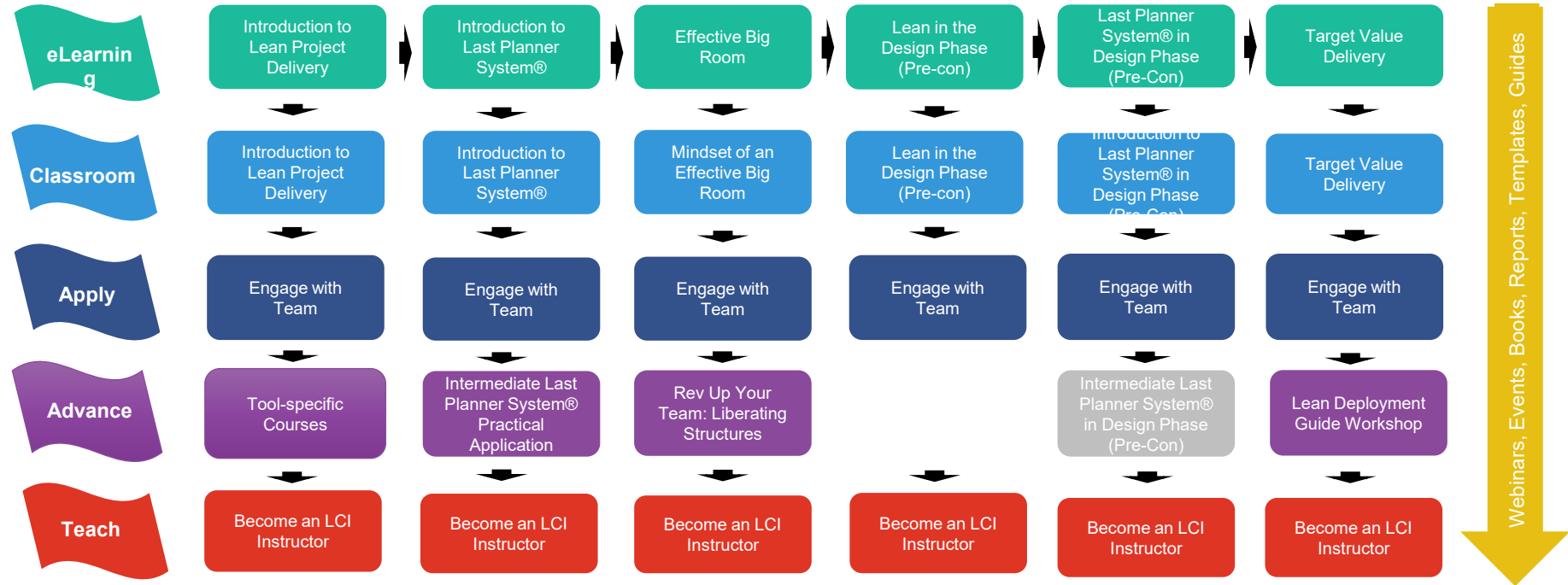
Learning Objectives

- ✓ 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



Define Your Journey



LCI Certification





<https://leanconstruction.org/lean-certification/>



Questions?



Conduct Plus/Delta

 Plus: What produced *value* during the session?

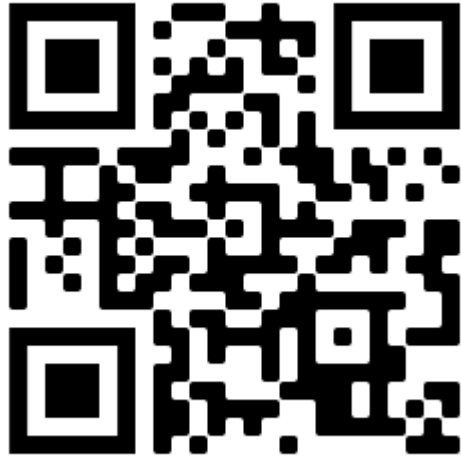
 Delta: What could we *change to improve* the process or outcome?

Presenter Contact Information

Presenter may add photo, logo, website, email, phone and other contact information here.

LCI Website Information



www.LeanConstruction.org

