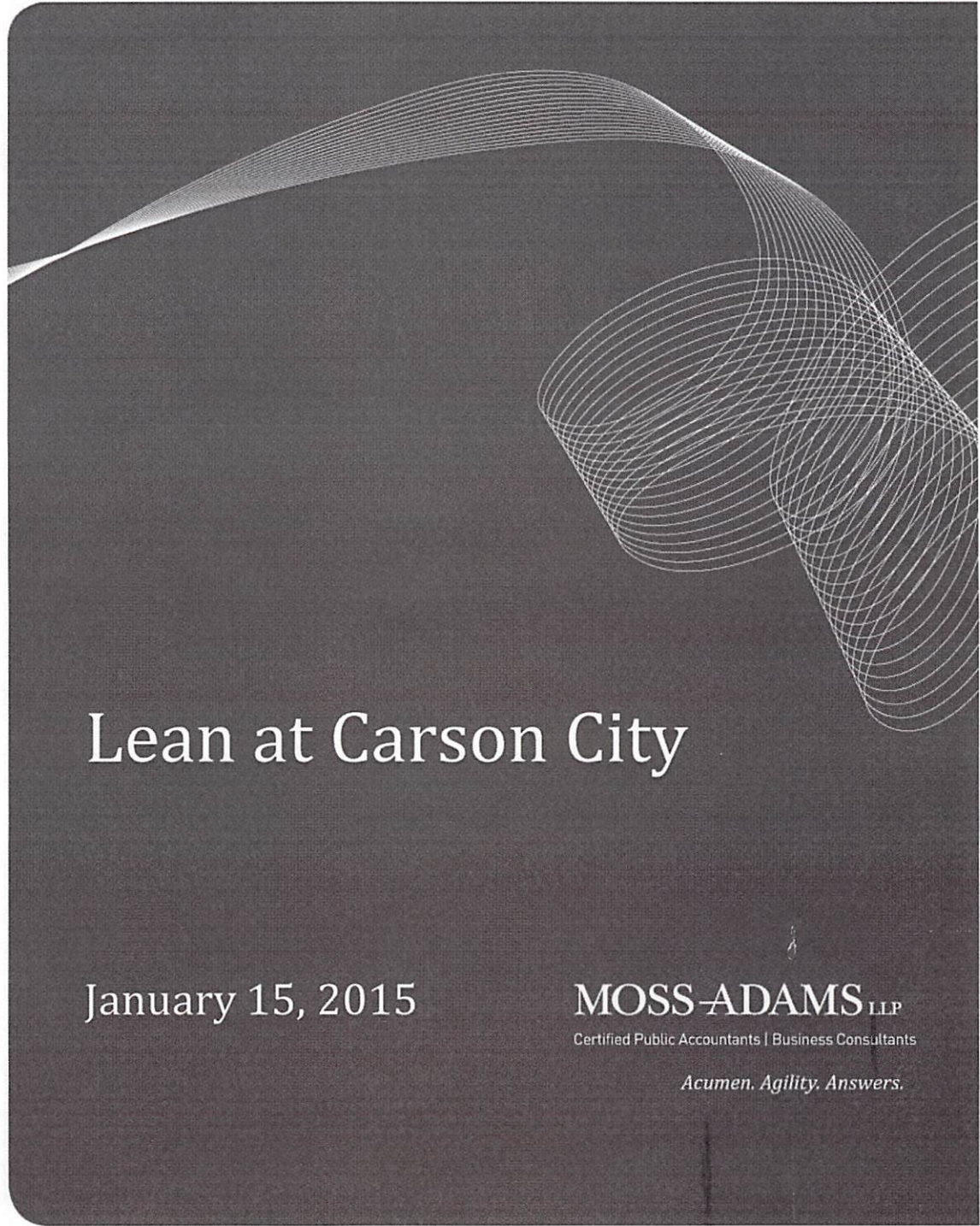


**LATE MATERIAL**  
MEETING DATE 1/15/15  
ITEM # 44



# Lean at Carson City

January 15, 2015

**MOSS ADAMS** LLP  
Certified Public Accountants | Business Consultants

*Acumen. Agility. Answers.*

# Presenter



## **Rishi Malhotra**

*Practice Leader, Operational Excellence Consulting*

Rishi is a Manager at Moss Adams. He has over 18 years of strategic and tactical Lean, Six Sigma, operations, consulting and manufacturing leadership experience. Rishi is passionate about working with clients to enhance top-line and bottom-line revenues, improve enterprise efficiency, implement market growth and cost reduction strategies, and inculcate a lean and six sigma culture as part of long-term growth plans.

Among his other achievements, Rishi holds a Master of Business Administration in Finance, a Master of Science in Industrial Engineering, a Bachelor of Engineering in Mechanical Engineering, and is an ASQ Certified Six Sigma Black Belt.

# Agenda

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1 Overview

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2 Introduction to Lean

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3 Introduction to Kaizen

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4 Introduction to Tools

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5 Program Details

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# 1. Overview





# Key Participants

Program Sponsor: Nick Marano  
Program Coordinator: Michael Salogga

Department	Leader



# Phases

## Current Phase:

- Conduct Kaizen [continuous improvement] events, resulting in immediate change and ROI
- Train the department leaders in the Kaizen methodology

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## Future Phase:

- Develop the Carson City Green Belt certification program
- Train the department leaders to achieve certification



## 2. Introduction to Lean

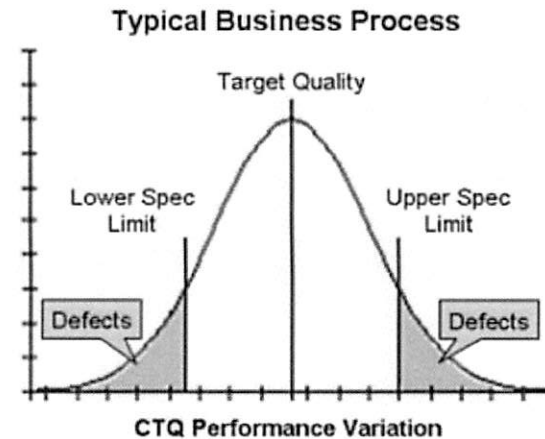
# Difference Between Lean and Six Sigma

## Lean - War on Waste



Example: Reducing time from PO receipt to delivery by 30%

## Six Sigma - War on Variation



Example: Making sure the delivery is always on time

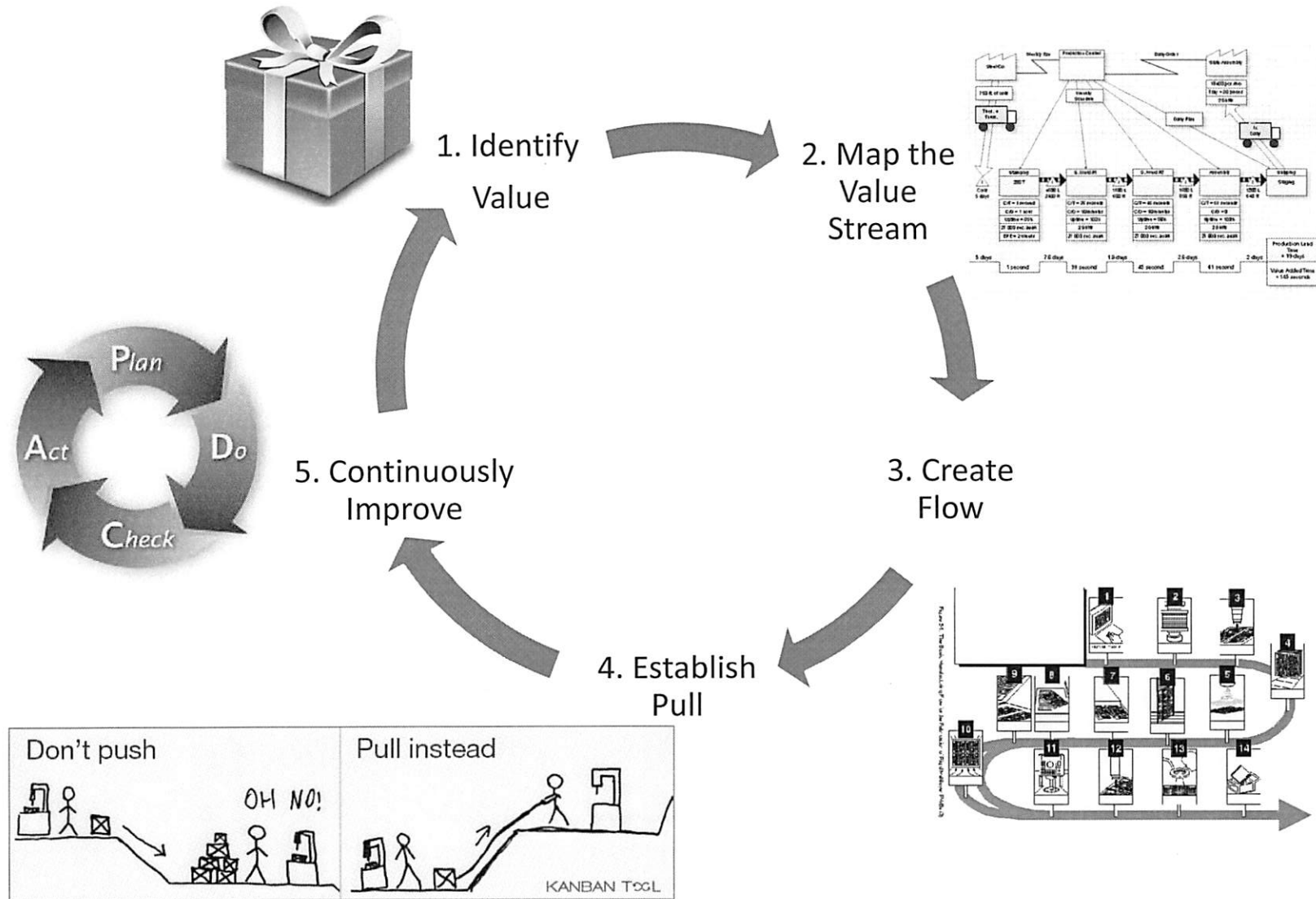




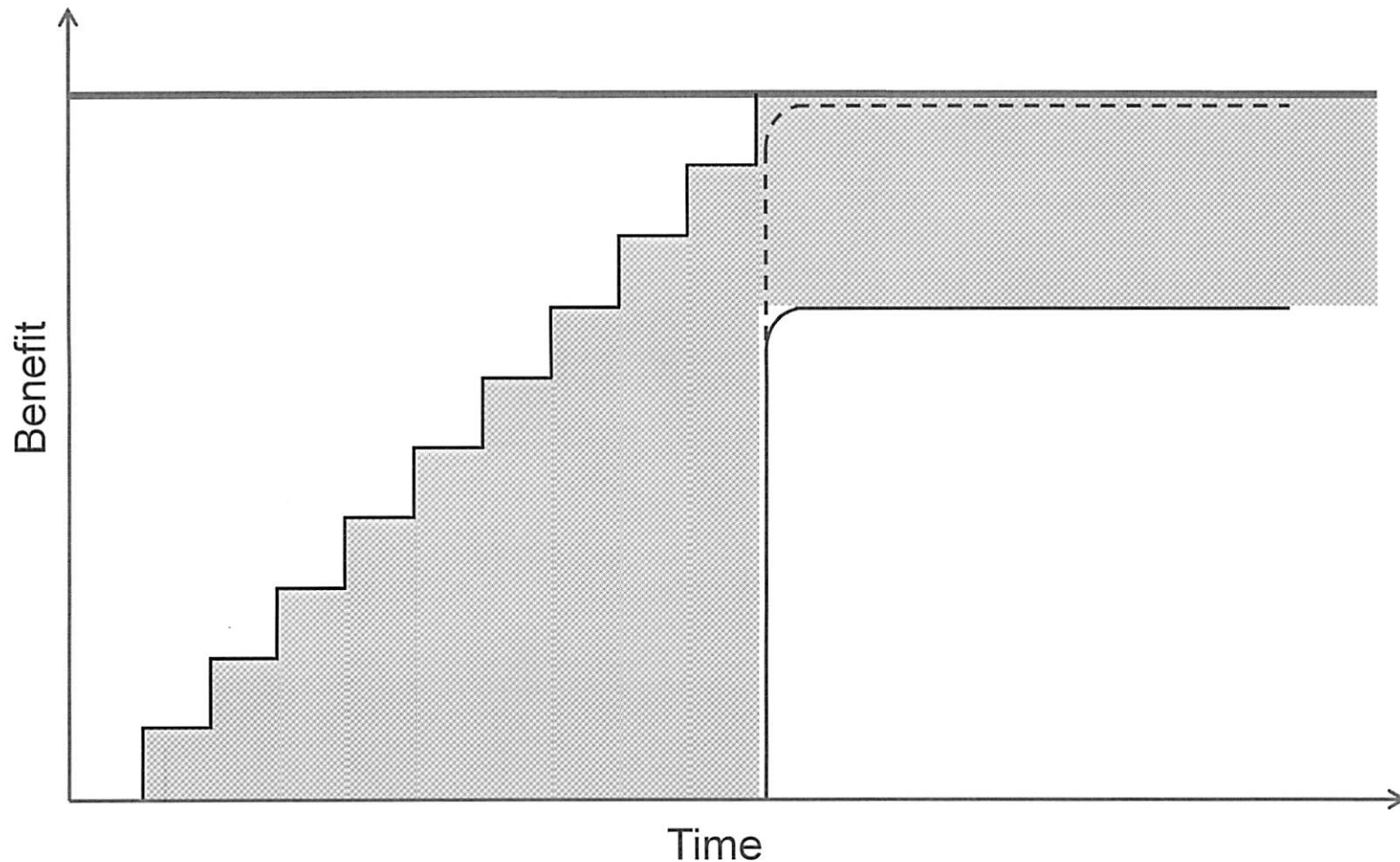
## What is Lean?

- A systematic approach to identifying and eliminating waste through continuous improvement by flowing the product/services at the pull of the customer in the pursuit of perfection.
- The aim is to maximize customer value while minimizing waste.
- The goal is to provide perfect value using a perfect value creation process that has zero waste.

# Principles of Lean



# Bold Steps Versus Small Steps (Lean)



Lean creates a Continuous Improvement culture.



# The Lean Theme

## Transformation of the Value Delivery Process:

- To one which is devoid of waste
- That exposes problems in real time
- Deals with facts
- Forces problem resolution
- Emphasizes creativity before capital
- Sustains company-wide continuous improvement
- Encourages legitimate employee involvement
- Meets customer expectations
- Is visual



# Thinking – Lean Versus Traditional

## Traditional Thinking

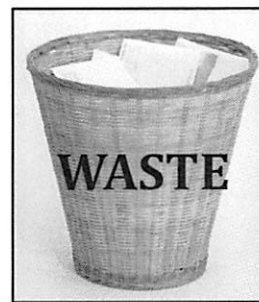
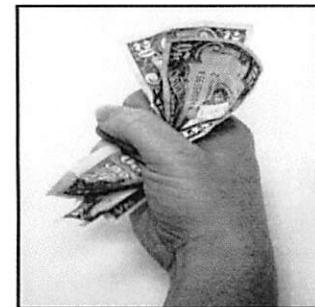
- Best for the function
- Looks to the past to predict future performance
- Batch production (Grouping before making decisions)
- Ignores performance gaps
- Justify and maintain status quo
- Hidden
- Ignores problems
- If it ain't broke, don't fix it

## Lean Thinking

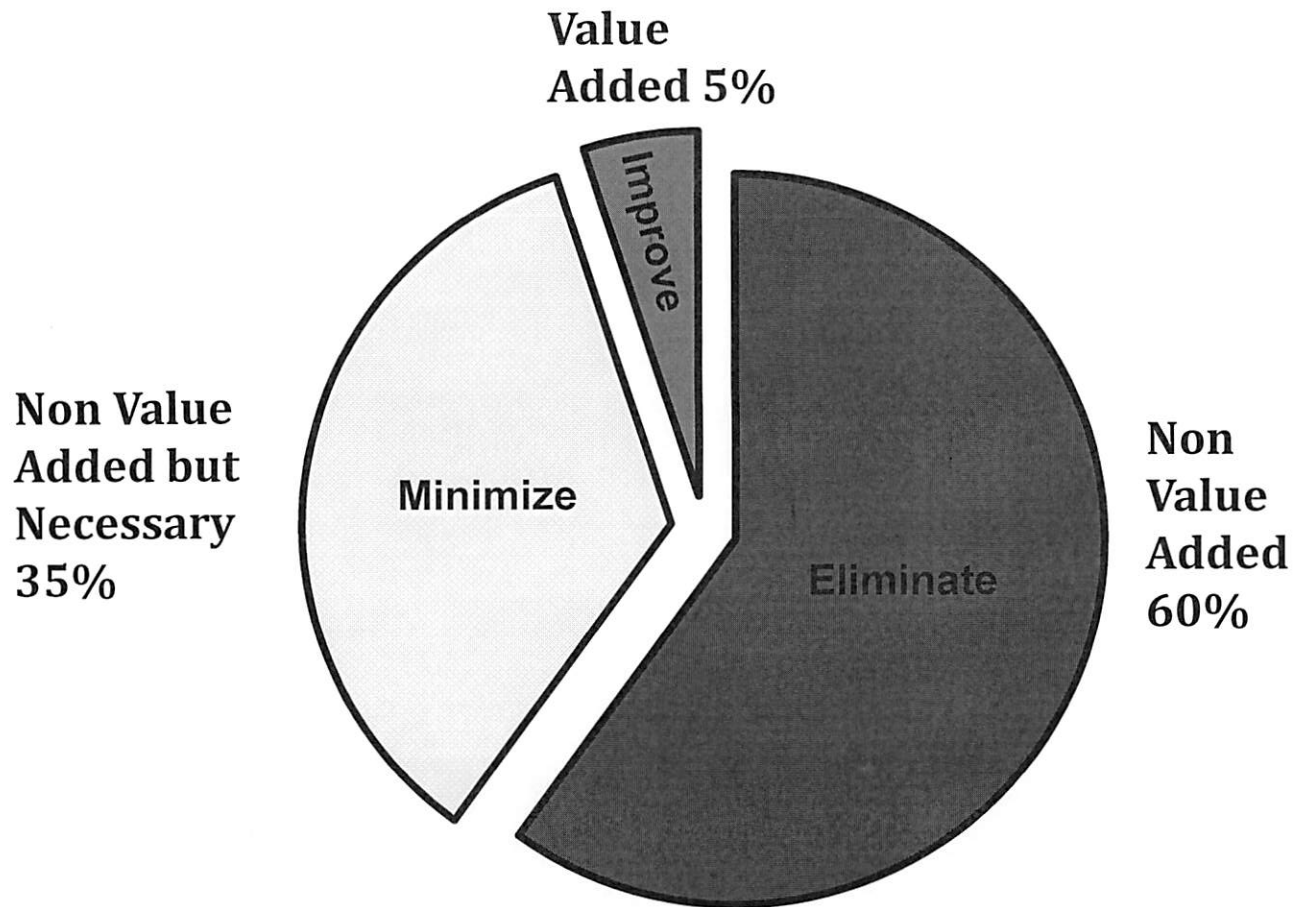
- Best for the customer
- Looks to the future to predict performance
- Single item/piece flow
- Closes the performance gap
- Encourages and supports change
- Visual
- Encourages problem exposure
- If it ain't broke, make it better

# Value Added Versus Non-Value Added

- Value Added is something the **customer** is **willing** to pay for
- Value Added is anything that changes:
  - Form
  - Fit
  - Function
- Non-Value Added is:
  - Everything else



# Value Breakdown





## Benefits of Lean

- Increased productivity / morale
- Reduced cycle times
- Reduced overtime
- Eliminated mistakes, rework and waste
- Improved throughput
- Increased availability / capacity
- Lower operating costs
- Improved ROI and ROA (return on assets)
- Freed up capital
- Workforce development and skills
- Continuous improvement





## The Lean Wastes – DOWNTIME

- Defects
- Over Production (e.g., having data in multiple locations)
- Waiting
- NVA (Non Value Added) Processing
- Transportation
- Inventory
- Motion
- Employee – underutilized



## Challenges – Examples at Carson City

- The payroll process is primarily manual and requires many approvals.
- The accounts payable process is labor intensive.
- The contracts process is manual.
- Fleet maintenance is not operating efficiently and has many manual processes.
- The online functionality offered to the community is limited and variations exist between the different sites.



## 3. Introduction to Kaizen



## What is Kaizen?

Kaizen is a system of continuous improvement in quality, technology, processes, culture, productivity, safety, and leadership.

- Kaizen was created in Japan following World War II
- The word Kaizen means “continuous improvement”. It comes from the Japanese words:  
“Kai” = “change” + “Zen” = “for the better”



# Benefits of a Kaizen Culture

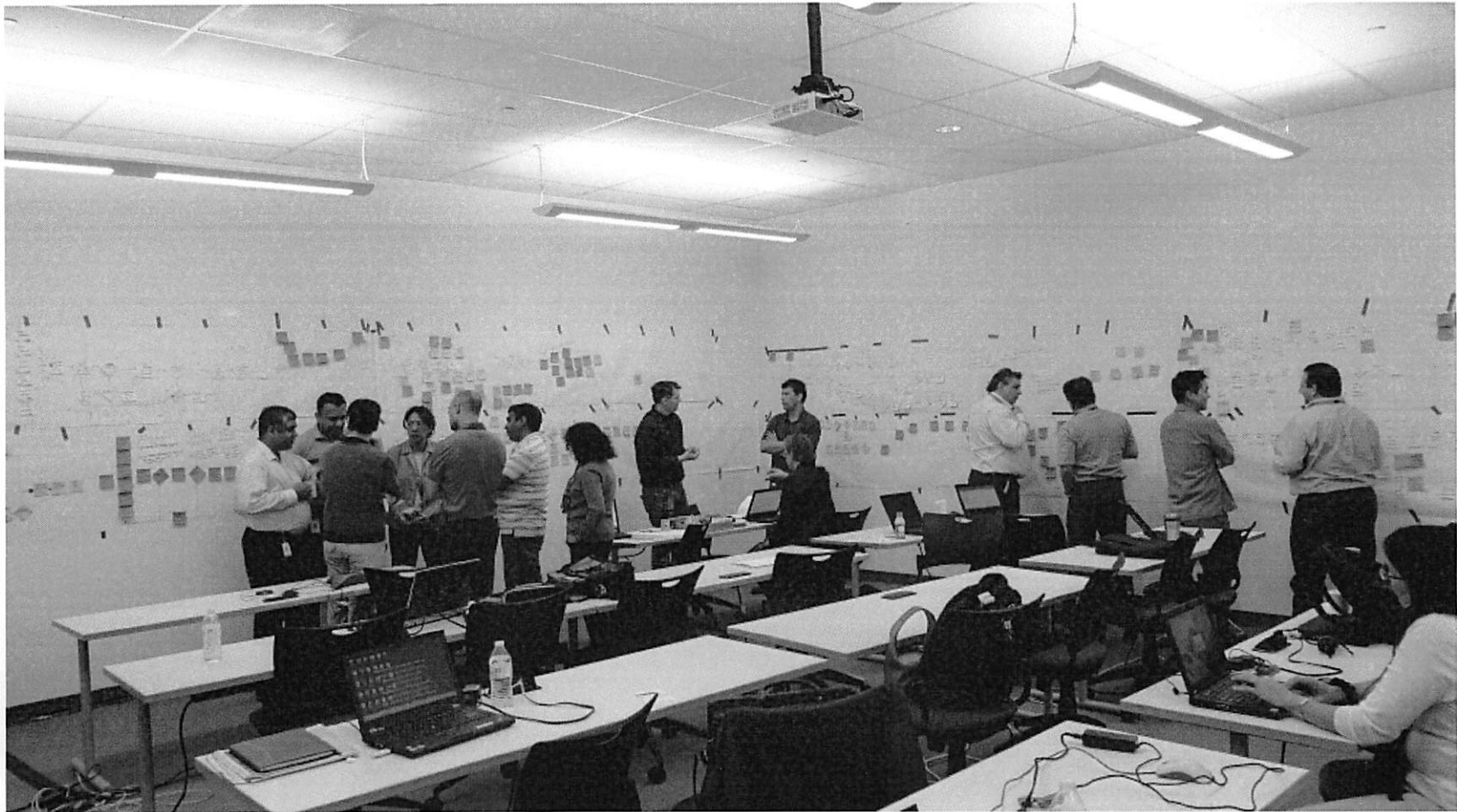
- Kaizen reduces
  - Waste (waiting times, transportation, motion, etc.)
- Kaizen improves
  - Space utilization, quality, use of capital, communications
- Kaizen provides
  - Immediate results. Instead of focusing on large, capital intensive improvements, Kaizen focuses on creative investments that continually solve large numbers of small problems.
- Kaizen makes
  - Customers happy. Continual small improvements add up to major benefits.
- Kaizen creates
  - A smart working environment.



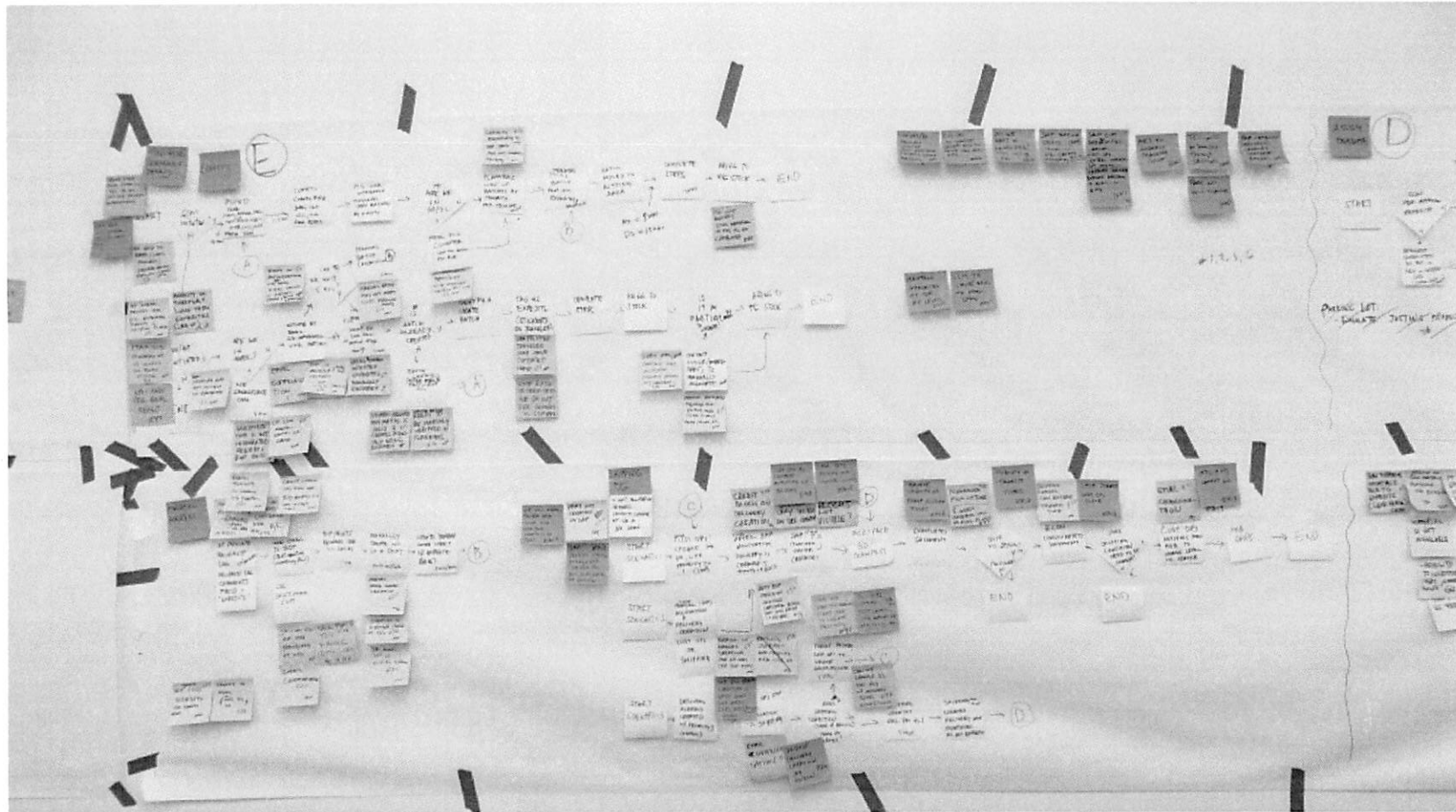
# Kaizen Event

- Training (as needed)
- Create As-Is map
- Populate As-Is map with relevant data
- Identify pain points
- Walk the process – Gemba Walk (could be done as first step)
- Finalize As-Is map
- Create Future-State map
- Populate Future-State map with data
- Create Effort-Impact chart
- Generate roadmap for improvement
- Create and present closing document

# Kaizen Event in Progress



# Kaizen Event in Progress (cont.)







## 4. Introduction to Tools

# 5S – Introduction

The 5S methodology refers to workplace organization and is the foundation and cornerstone of a Lean organization. It builds in efficiency and effectiveness in an organization. The idea is to create and maintain an organized, clean, safe and a high-performance workplace. It is achieved through involvement of all employees.

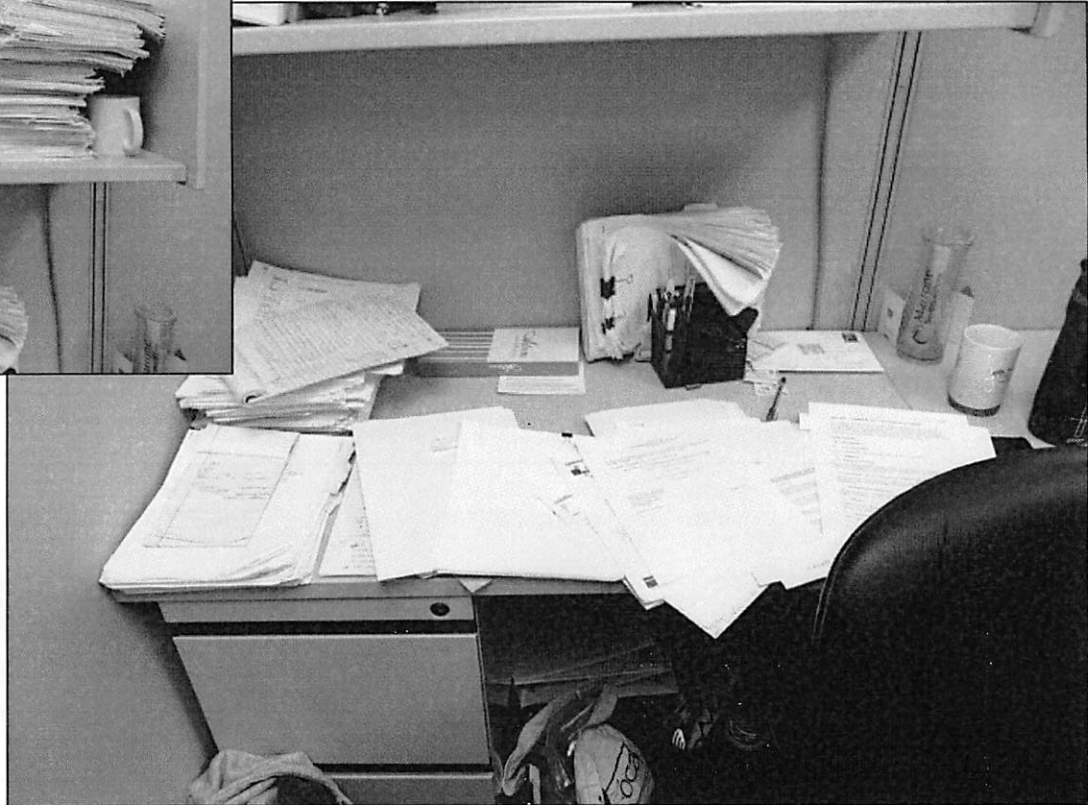
The five steps of this methodology are:



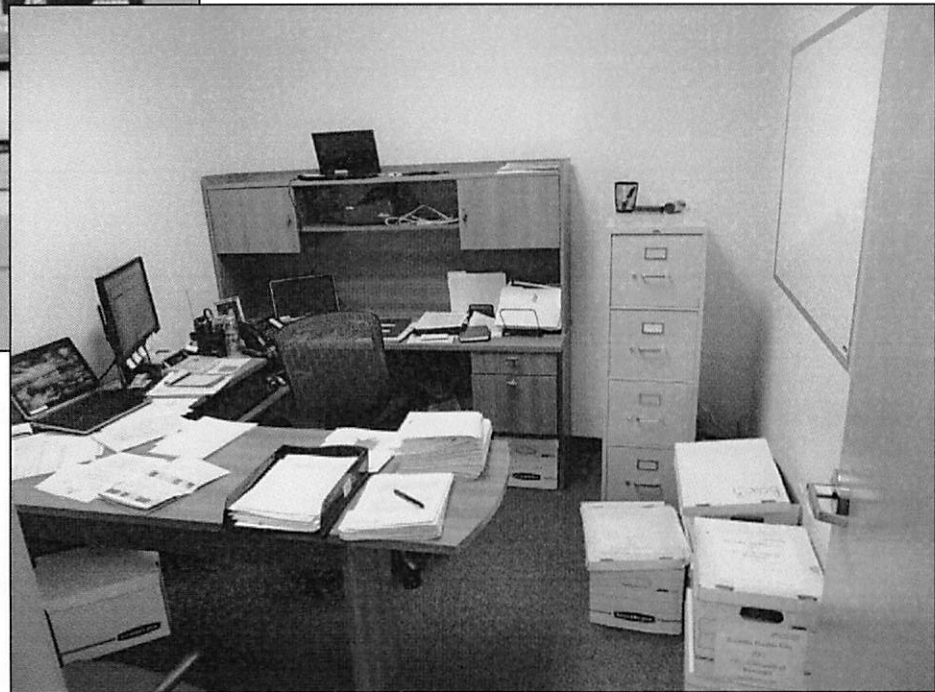
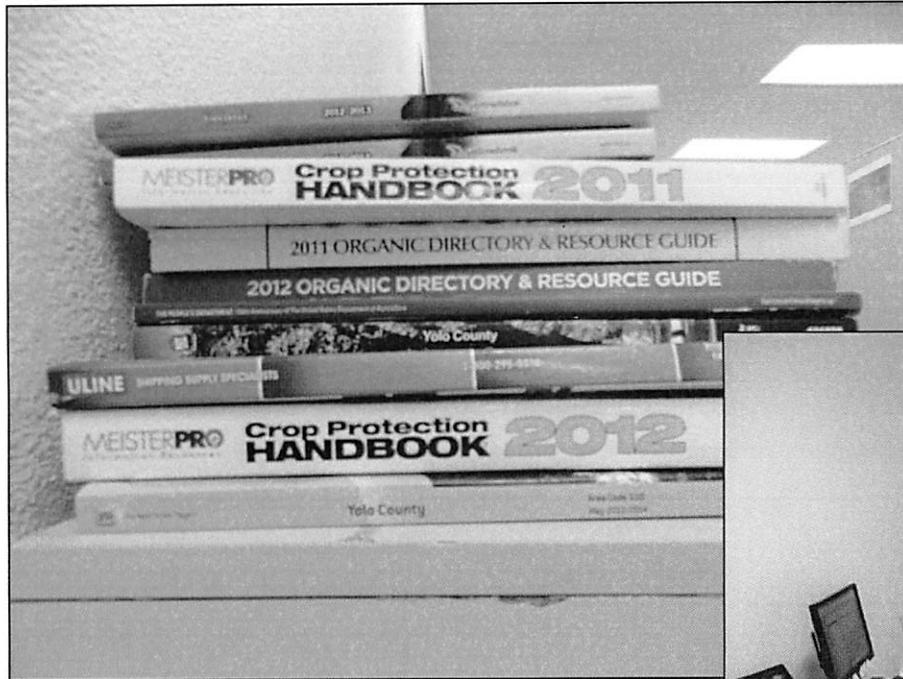
Benefits include:

- Improvement in morale and productivity metrics by 15–20 percent
- Improvement in quality metrics
- Lead time reduction by up to 25 percent
- Enhanced layout/flow
- Higher health and safety metrics
- Valuable sales tool during customer and potential customer visits

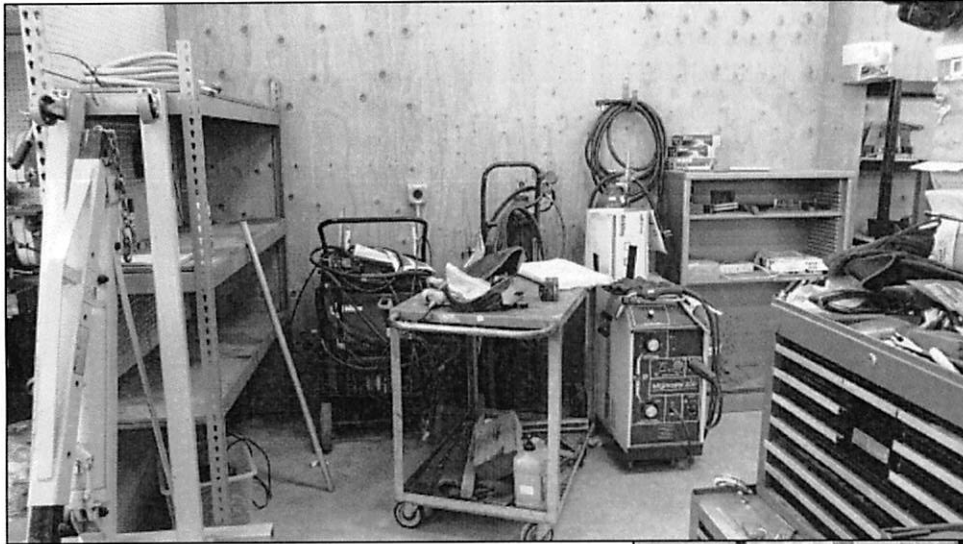
# Where to Apply 5S – Office Productivity 1



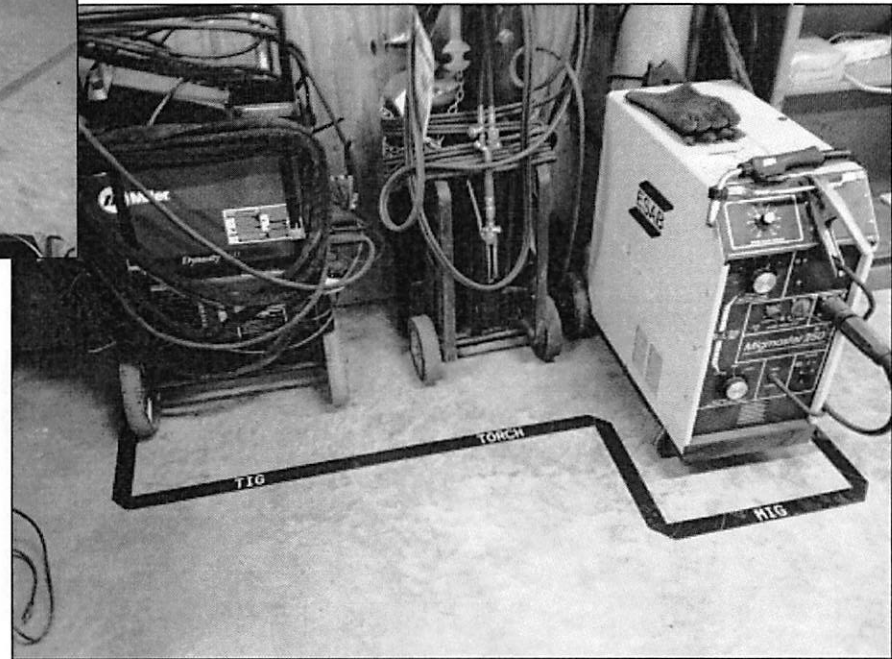
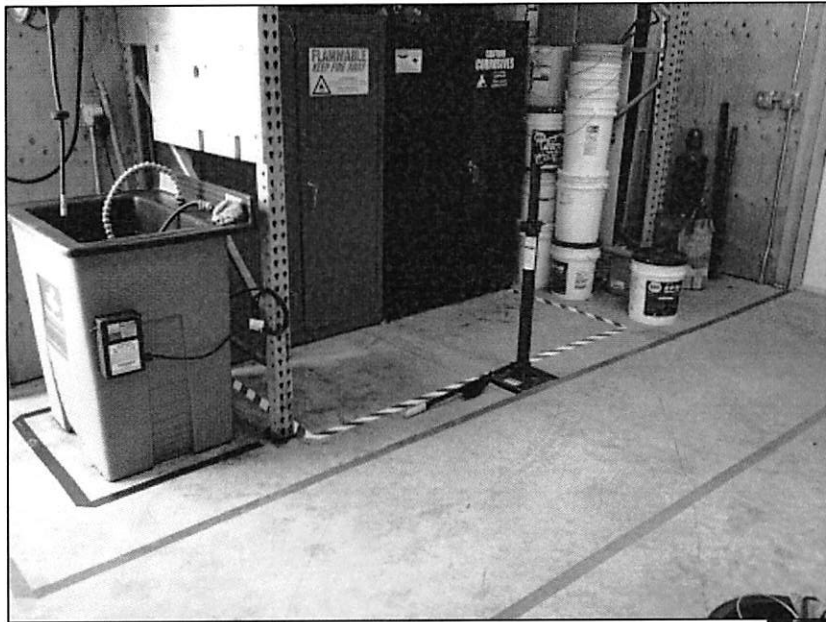
# Where to Apply 5S – Office Productivity 2



# Where to Apply 5S – Maintenance Shop Before 5S



# Where to Apply 5S – Maintenance Shop After 5S



# Where to Apply 5S – Maintenance Shop After 5S



# Visual Factory – Introduction

A picture is worth a thousand words. The Visual Factory concept is the application of visual controls and visual aids to promote safer, more efficient and less wasteful operations. This creates an operating environment where normal versus abnormal conditions can easily be detected at a glance.

Implementing Visual Factory concepts:

- Reduces human errors
- Improves quality
- Enhances labor flexibility
- Increases first-pass yields
- Lowers inspection and testing costs
- Reduces training and cross-training costs

Visual

Audio

Signals

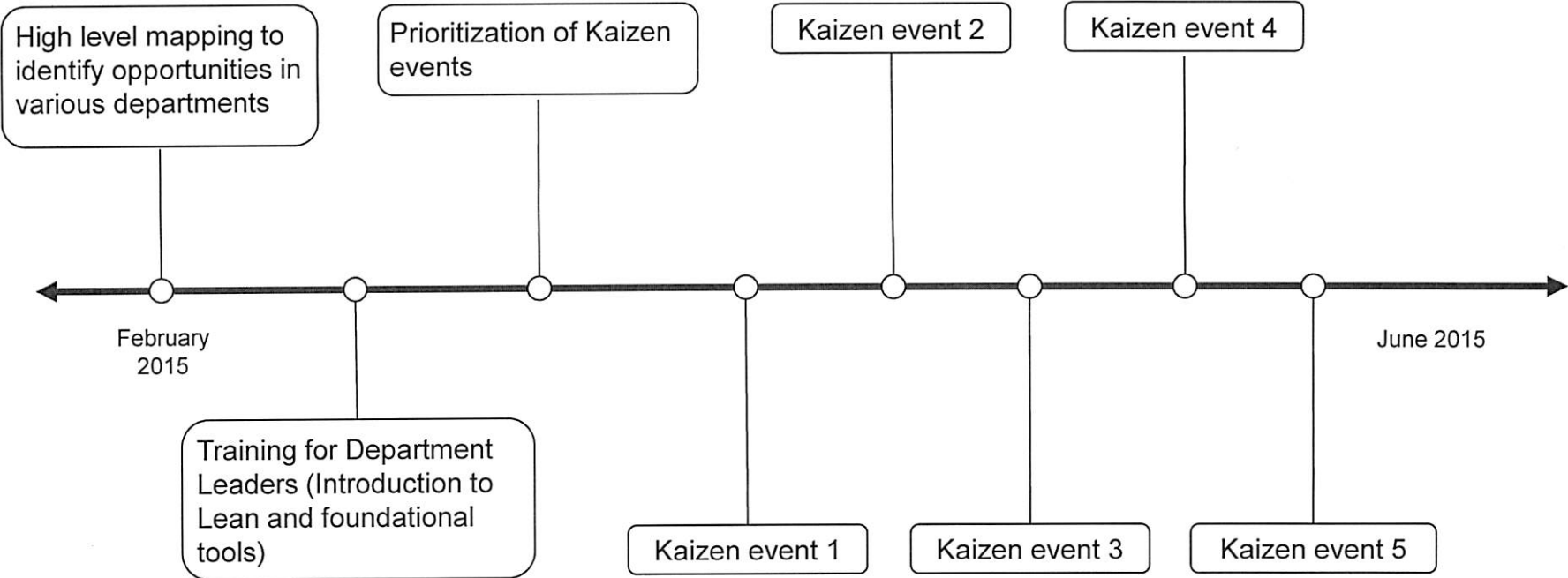






## 5. Program Details

# Program overview

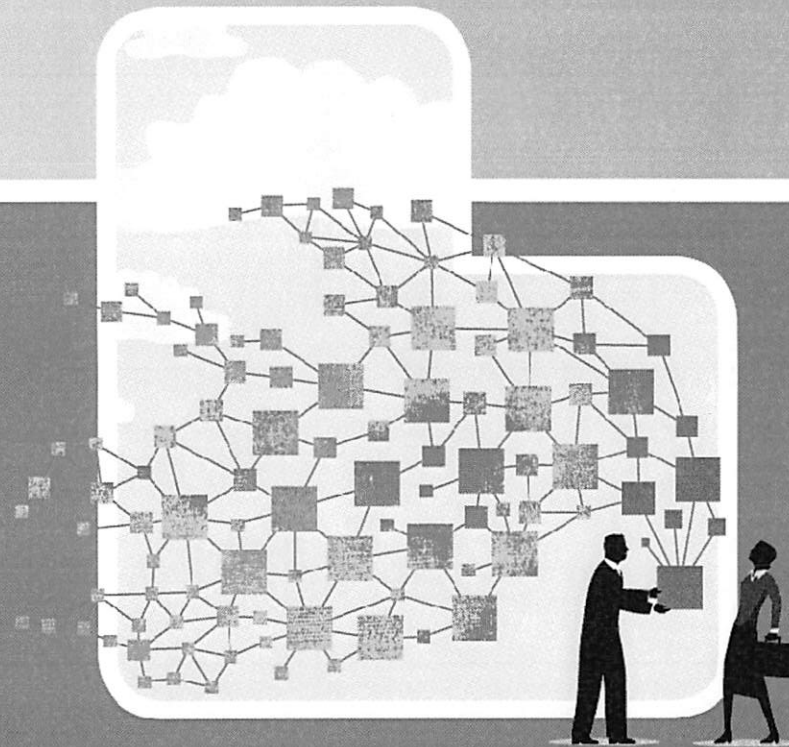


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