



LEAN MANAGEMENT ACADEMY



Kaizen

The Continuous Improvement Way /
The Philosophy & Management System

For Techno India NJR Institute of Technology

पंकज पेरवाल
Dr. Pankaj Kumar Perwal
(Principal)

08 / 16

World-Class Standards & Best Practices of Operational Excellence

Learning Objectives

1. Understand the key concepts of Kaizen
2. Manage Kaizen activities as a means to eliminate waste
3. Learn the essential tools and techniques for problem solving
4. Define the key steps in conducting a Kaizen event
5. Explain the role of management in Kaizen implementation
6. Understand the critical success factors in sustaining Kaizen activities

Post Graduate Diploma in Quality Management
NJR Institute of Technology
Dr. Pankaj Kumar Perwal
(Principal)

Agenda

1. Introduction to Kaizen
2. Kaizen & Waste
3. Key Concepts of Kaizen
4. Kaizen Management & Practices
5. Kaizen Implementation
6. Problem Solving Tools & Technique
7. Developing “Kaizen Eyes”
8. Role of Management
9. Critical Success Factors

For Techno India NJR Institute of Technology

पंकज पुरवाल

Dr. Pankaj Kumar Perwal
(Principal)

This just a preview

**Full version contains:
135 slides, numerous examples,
exercises and pictures.**

Kaizen

The Continuous Improvement Way



For Techno India NJR Institute of Technology

पंकज पुरवाल

Dr. Pankaj Kumar Perwa
(Principal)

Introduction to Kaizen

What is Kaizen?

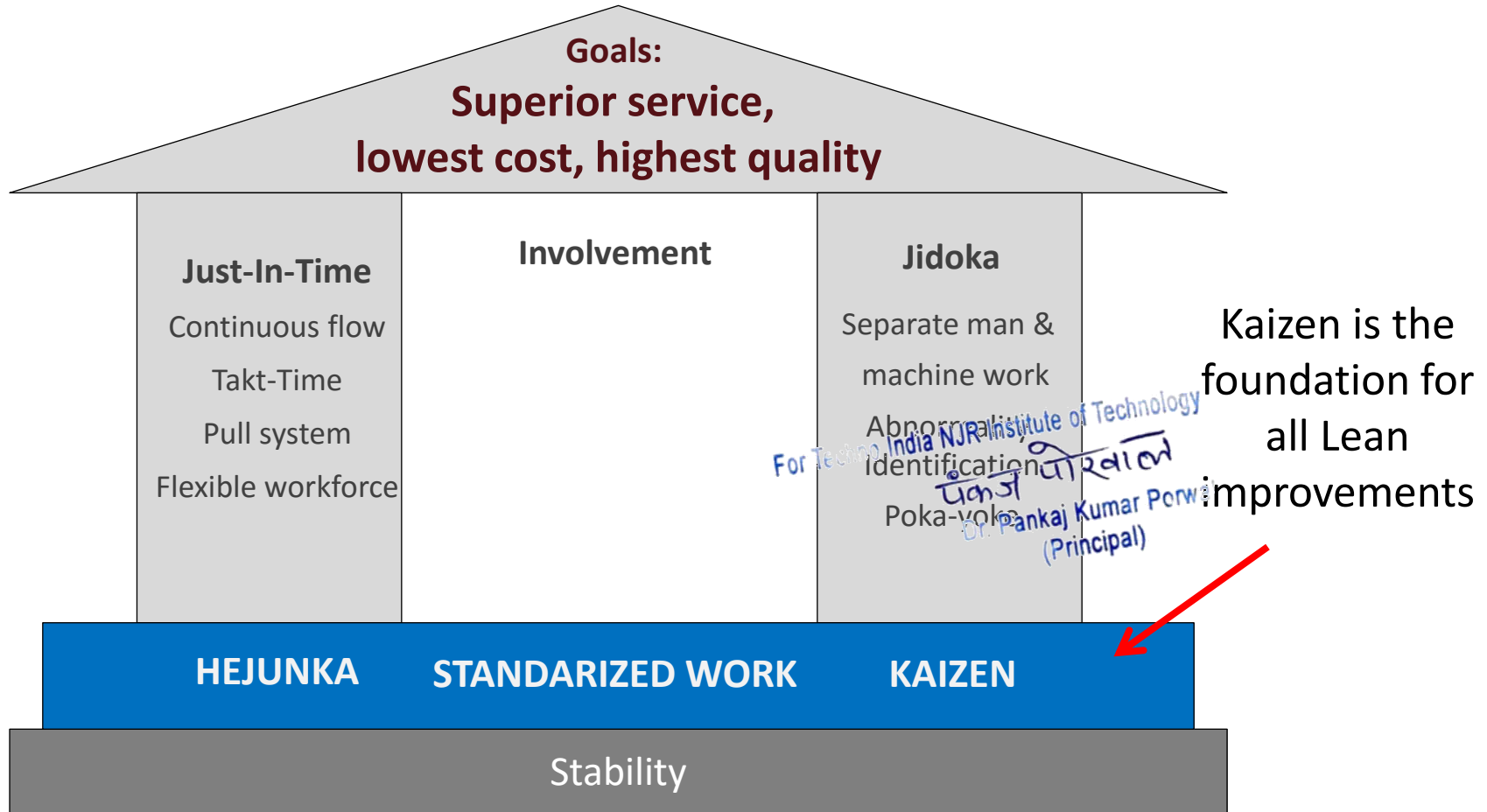
- ▶ The Japanese word “Kaizen” (改善) means change (KAI) to become good (ZEN).

Kai	Zen
改	善
Change	Good

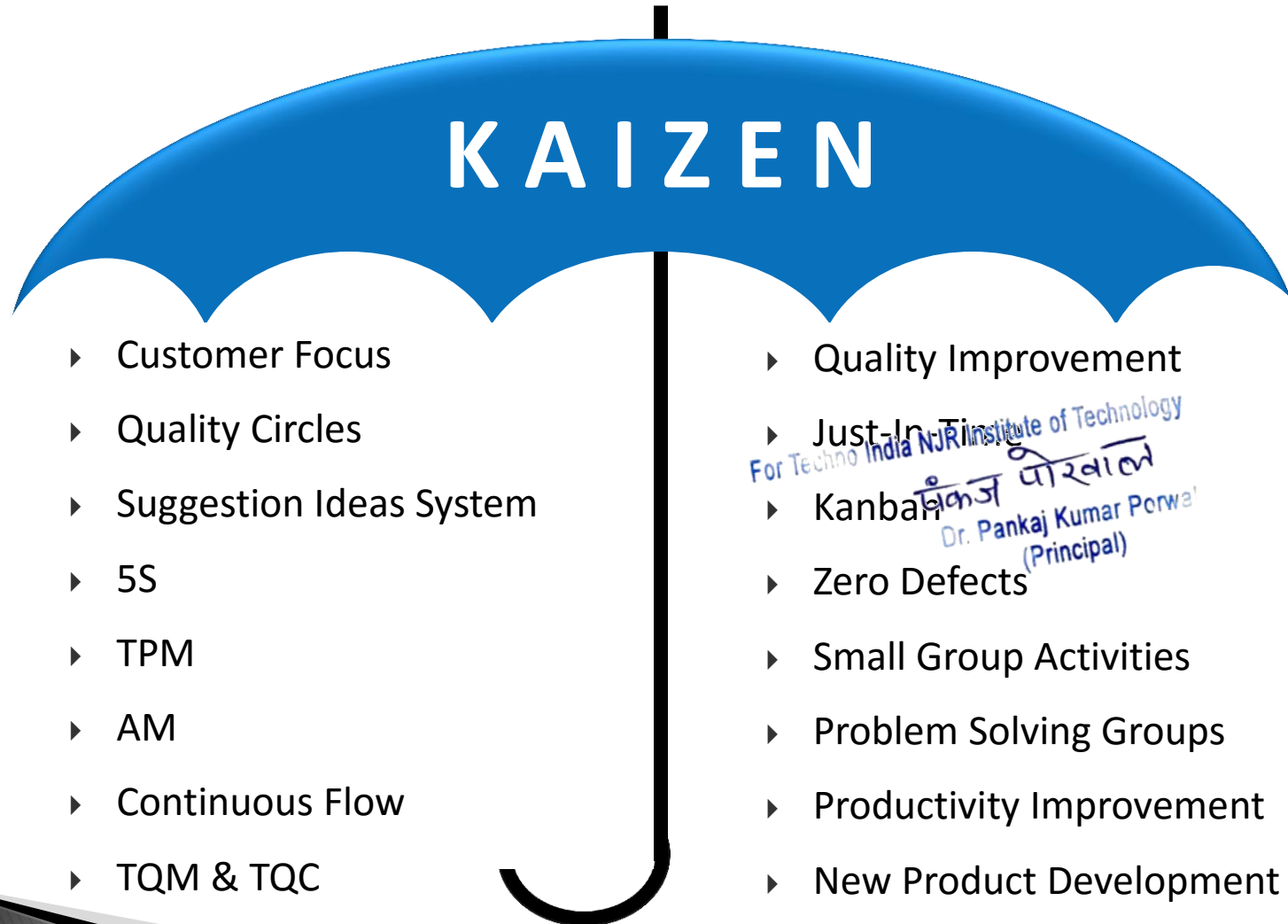
For Techno India NJR Institute of Technology
पंकज पोरवाल
Dr. Pankaj Kumar Porwal
(Principal)

- ▶ Kaizen means **improvement**. Improvements **without spending much money, involving everyone** from managers to employees, and **using much common sense**.
- ▶ The aspect of Kaizen is that it is **on-going** and **never-ending** improvement process.

Kaizen & Lean



The Kaizen Umbrella



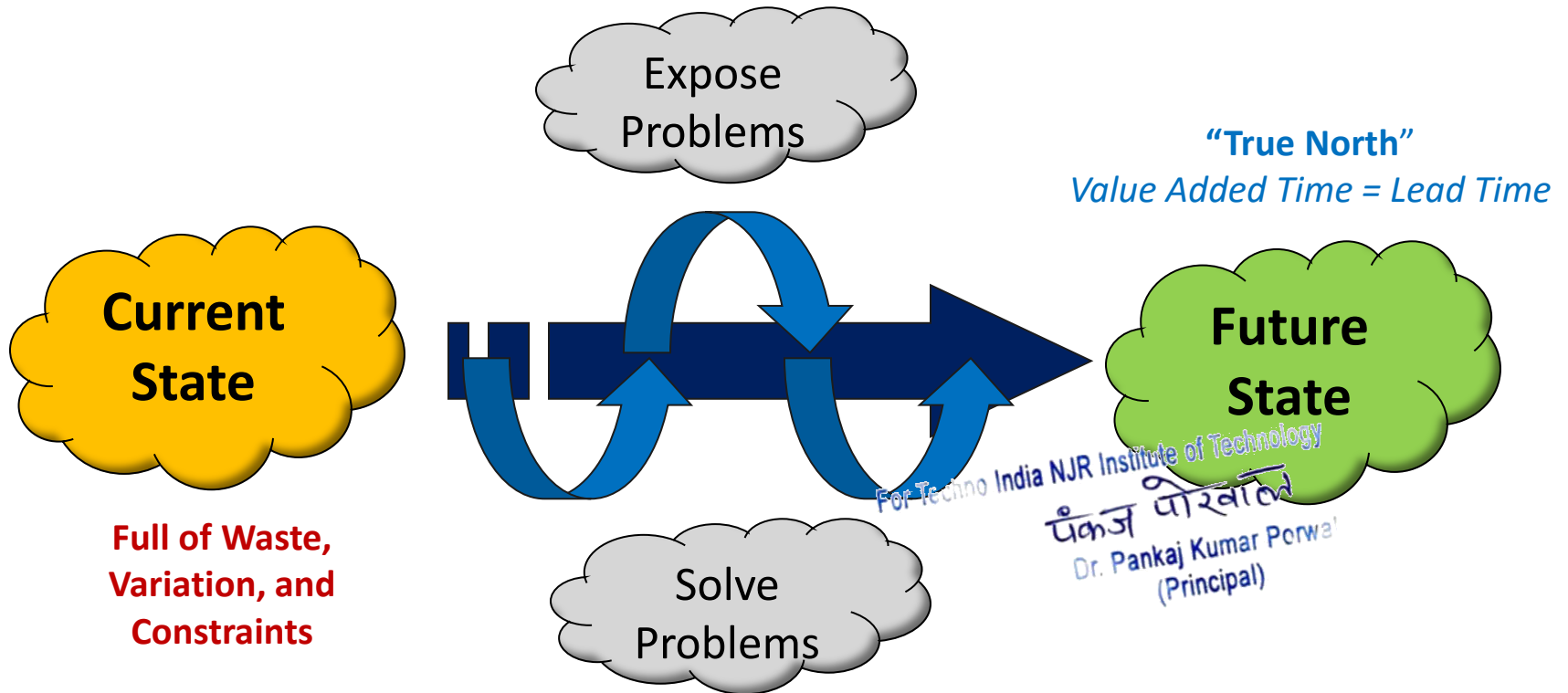
For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Key Elements of Kaizen

- ▶ Quality focus
- ▶ Human effort
- ▶ Total involvement
- ▶ Willingness to change
- ▶ Communication

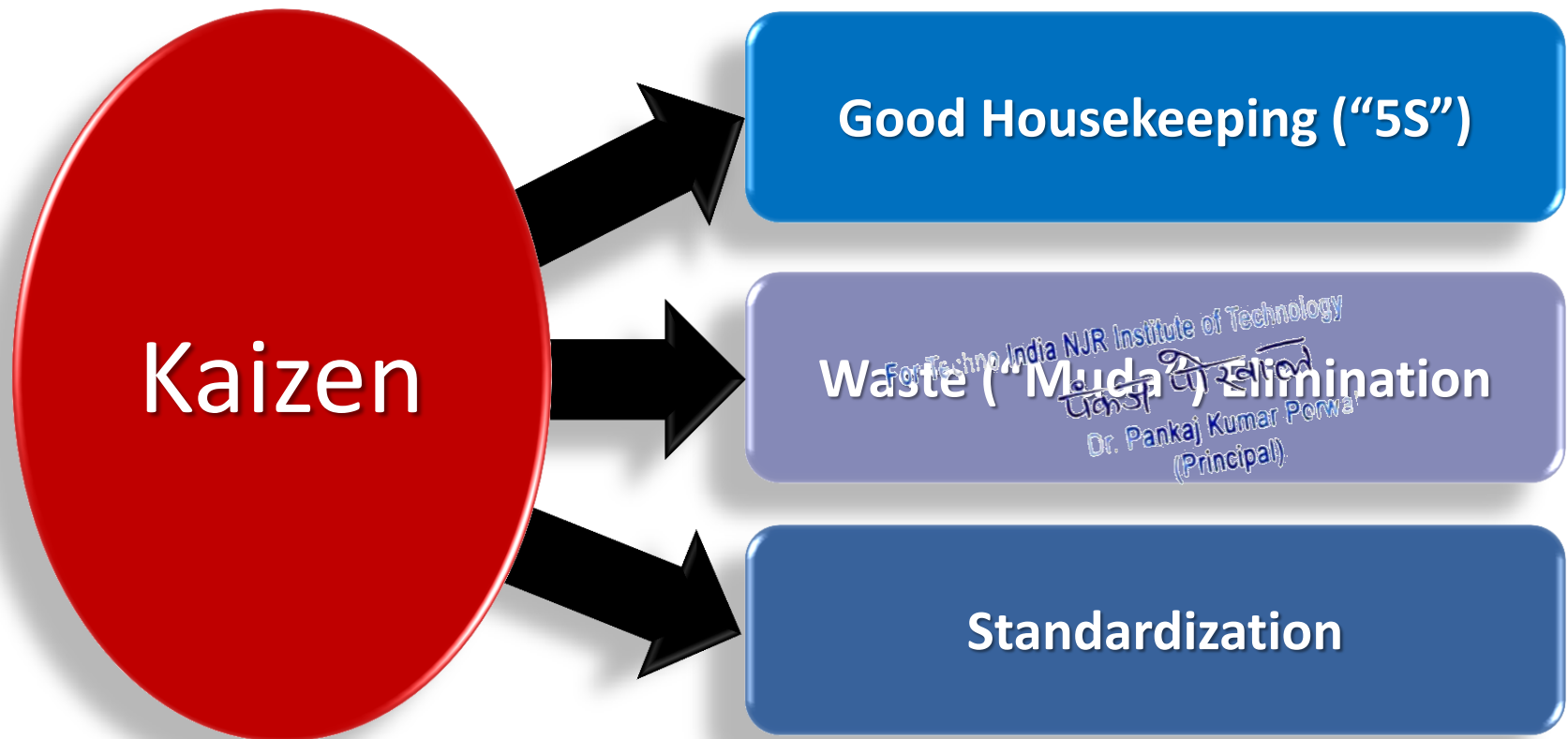
For Techno India NJR Institute of Technology
पंकज पोरवाल
Dr. Pankaj Kumar Porwal
(Principal)

Kaizen Philosophy



*Implement good housekeeping and workplace organization.
Identify and eliminate all activities that are waste.
Implement standardization.*

Key Kaizen Approaches



For Techno India NJR Institute of Technology
विद्यया ऽ मृतमश्नुते
Dr. Pankaj Kumar Perwa
(Principal)

Benefits of Kaizen

- ▶ Empowers employees, enriches the work experience and brings out the best in every person
- ▶ Promotes personal growth of employees and the company
- ▶ Improves quality, safety, cost structures, delivery, environments, throughput and customer service/satisfaction
- ▶ Provides guidance from employees, and serves as a barometer for leadership

For Techno India NRI Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Kaizen

The Continuous Improvement Way



For Techno India NJR Institute of Technology

पंकज पोरवाल

Dr. Pankaj Kumar Porwal
(Principal)

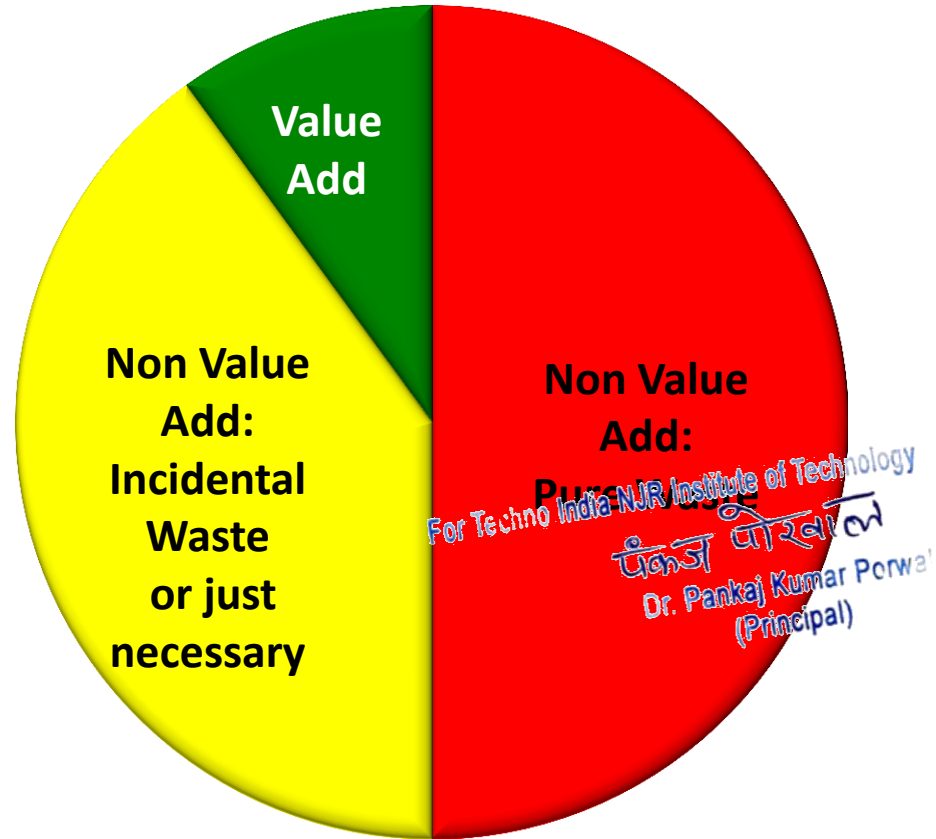
Kaizen and Waste

What is Waste?

- ▶ Consuming more resources than are necessary to produce the goods, or service, that the customer wants
- ▶ **Pure Waste**: Actions that could be stopped without affecting the customer
- ▶ **Incidental Waste**: Actions that need to be done based on how the current system operates but do not add value
 - Government Regulations/Policies, Audit requirements, Facility Layout, Technology

For Techno India NJR Institute of Technology
Dr. Pankaj Kumar Perwa
(Principal)

What is Waste?



Typically >90% of Total Lead Time is Non-Value Added!!!

Value Defined

Value-Added Activities

- Processing product or information
- Customer wants it
- Done right the first time

Non-Value Add: Incidental Waste

- No value created but required by current thinking
- No value created but required by process limitations
- No value created but required by current technology
- No value created but required by government/business regulations

For Techno India NJR Institute of Technology
पंकज पेरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Non-Value Add: Pure Waste

- Consume resources but creates no value for the customer
- Could be stopped and it would be invisible to the customer

Eight Types of Waste (MUDA)



Kaizen

The Continuous Improvement Way



For Techno India NJR Institute of Technology
पंकज पोखरान
Dr. Pankaj Kumar Porwal
(Principal)

Key Concepts of Kaizen

Key Kaizen Concepts



Traditional Perception of Kaizen & Job Functions

Top Management

Innovation

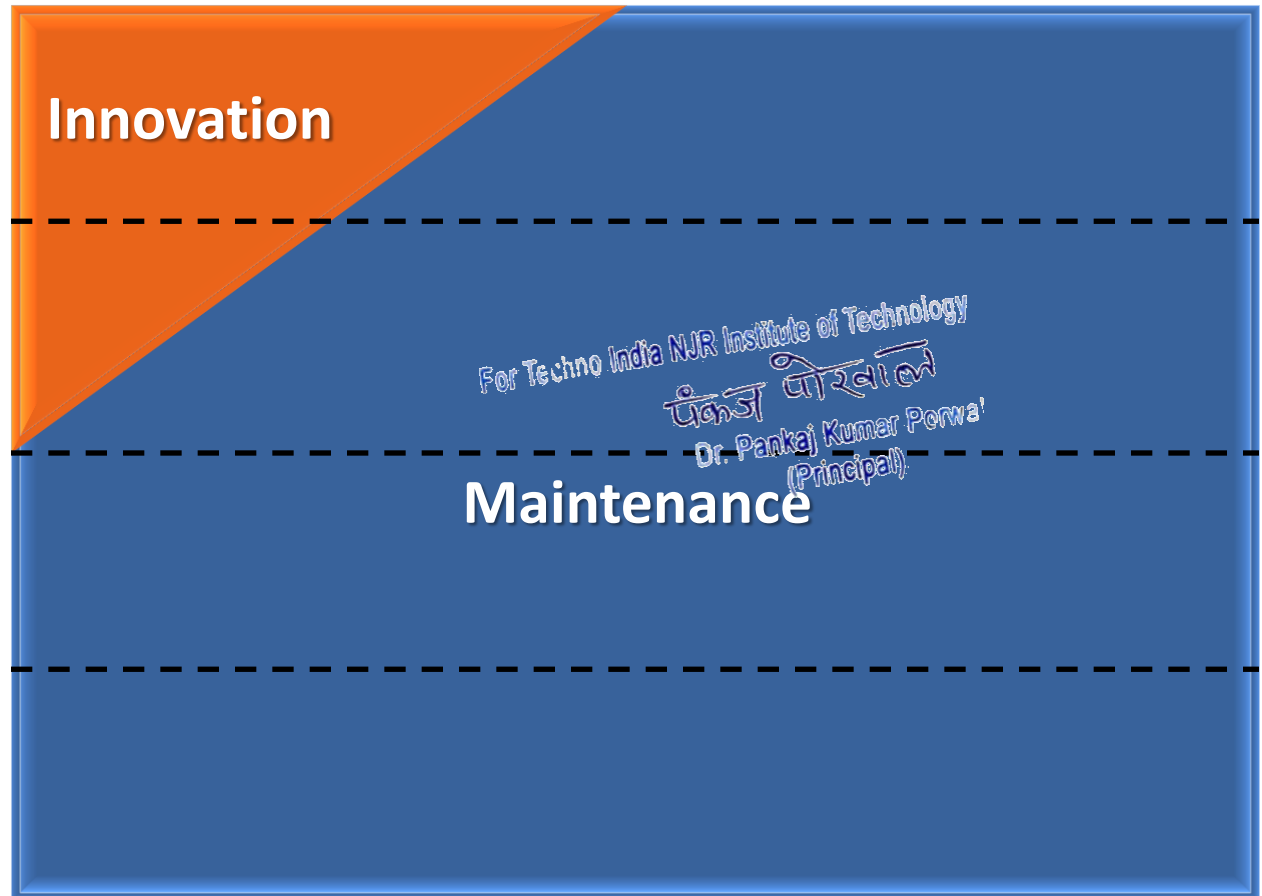
Middle Management

For Techno India NJR Institute of Technology
पंकज पोखरेल
Dr. Pankaj Kumar Porwal
(Principal)

Maintenance

Supervisors

Operators



Modern Perception of Kaizen & Job Functions

Top Management

Innovation

Middle Management

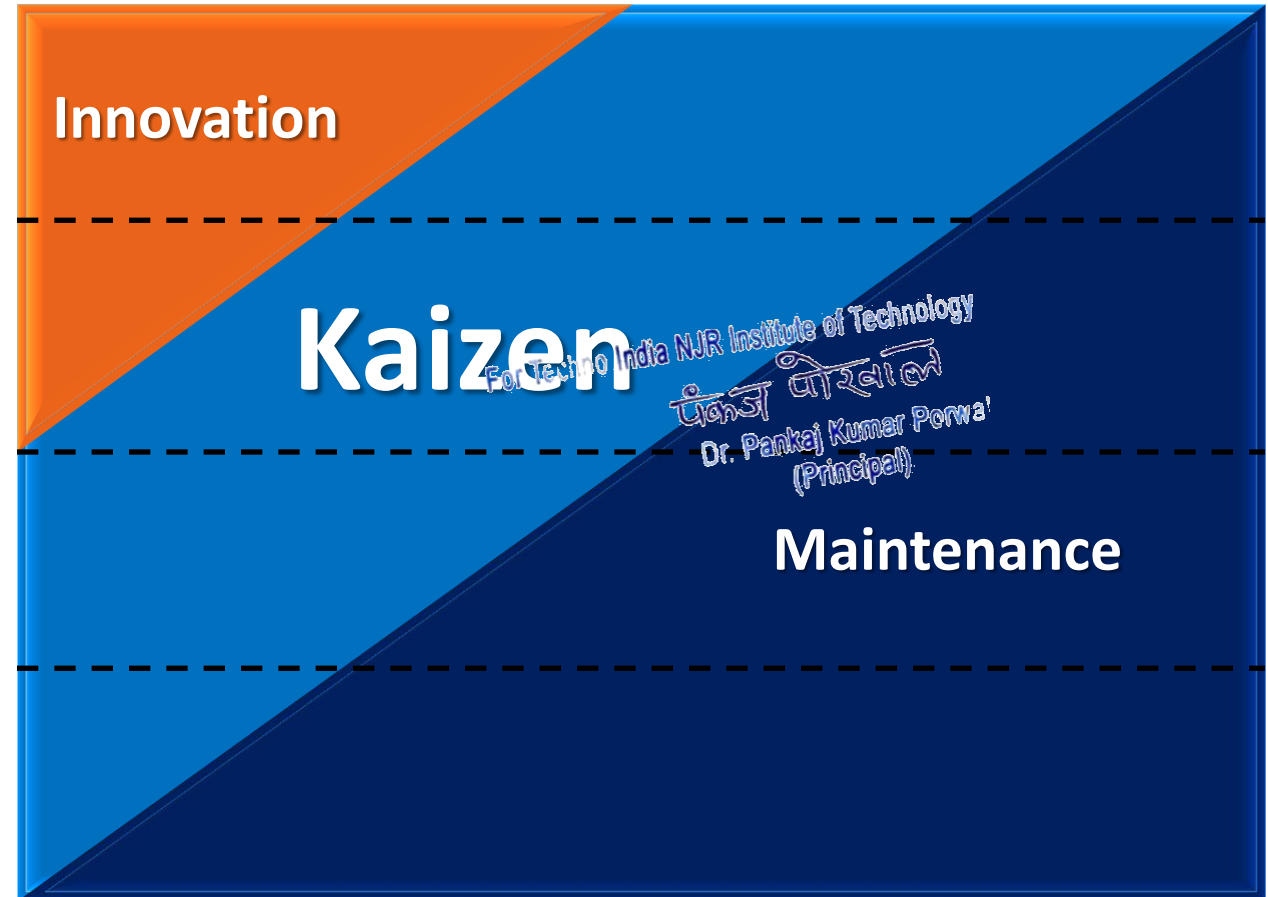
Kaizen

Supervisors

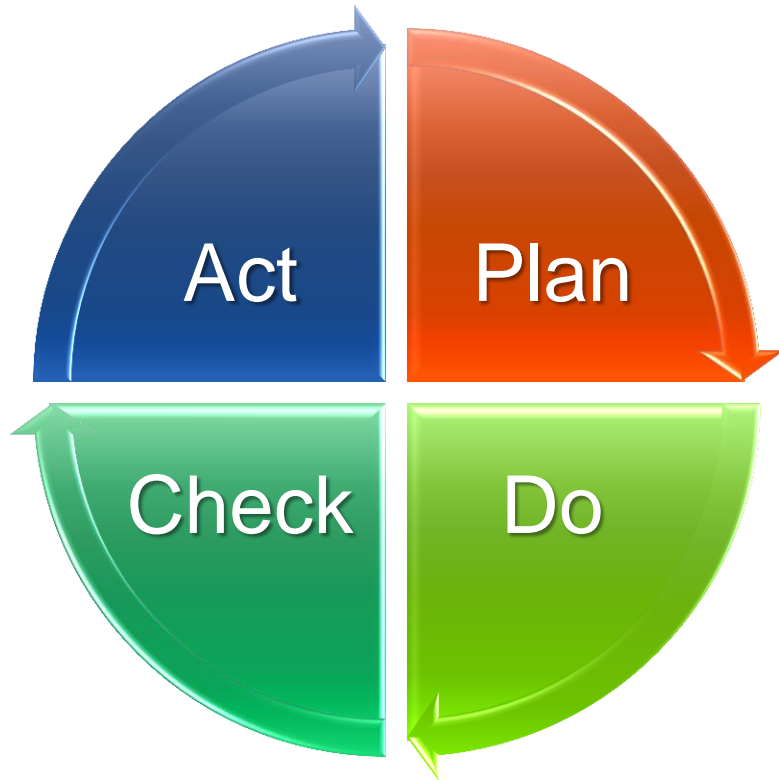
Maintenance

Operators

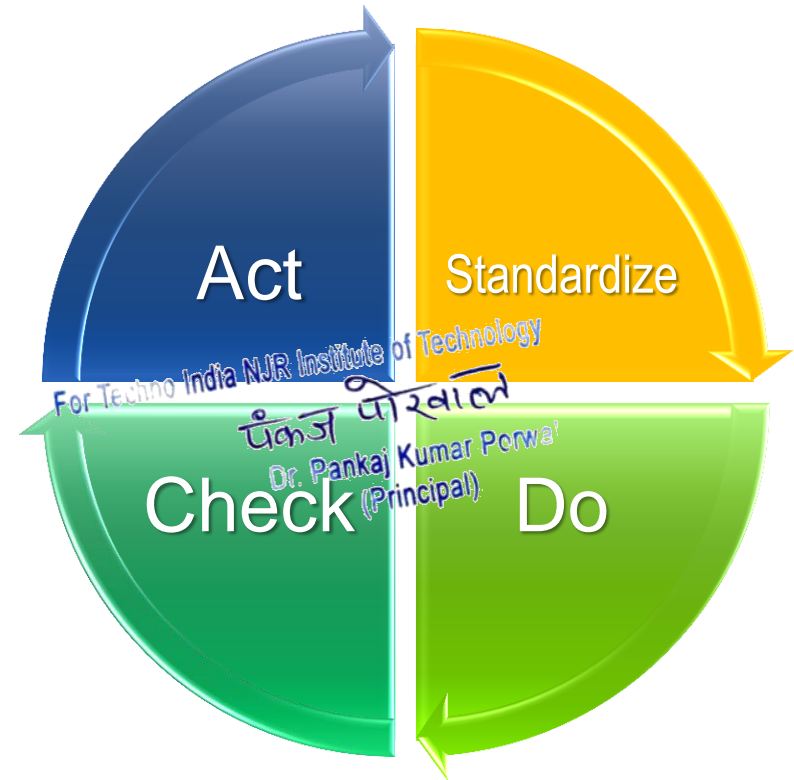
For Techno India NJR Institute of Technology
पिंकज पोखरेल
Dr. Pankaj Kumar Porwal
(Principal)



PDCA / SDCA Cycles

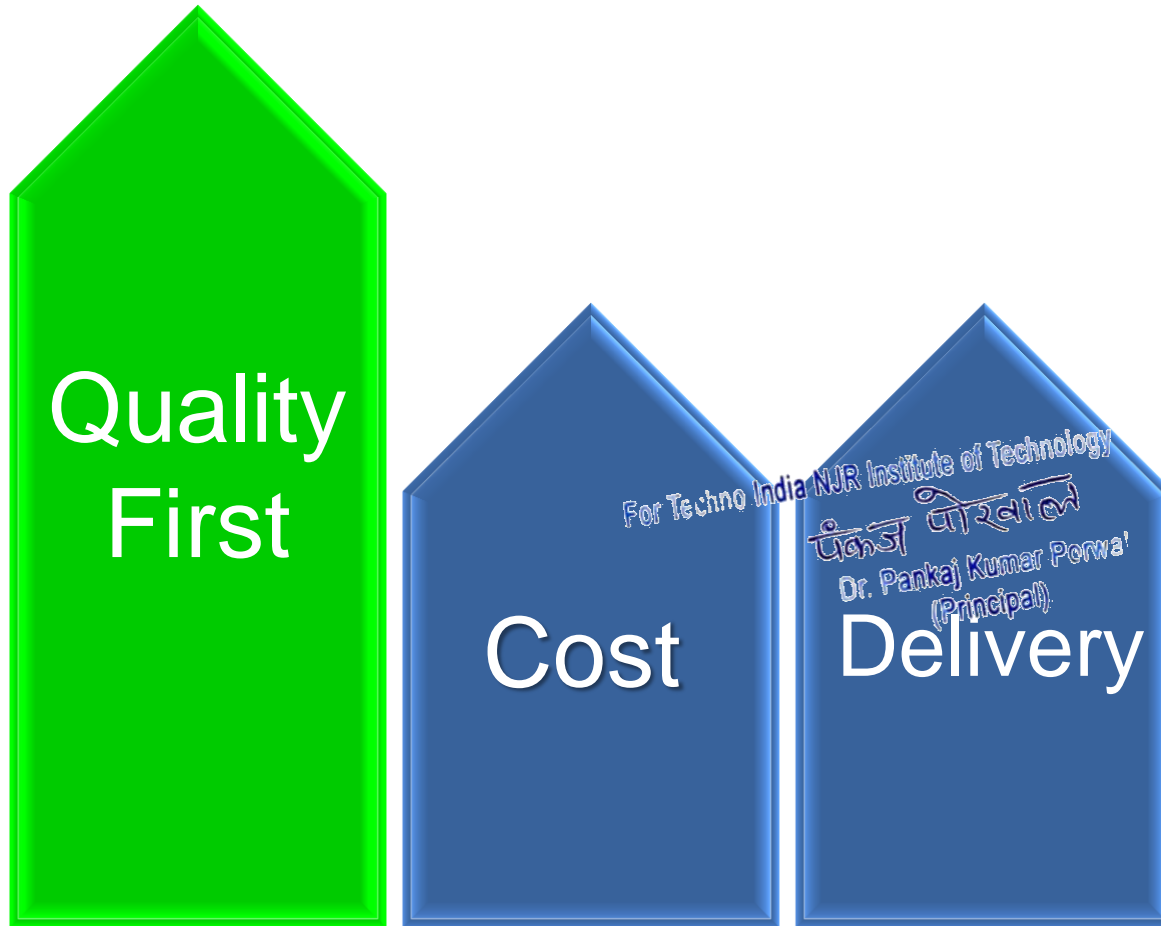


Improvement

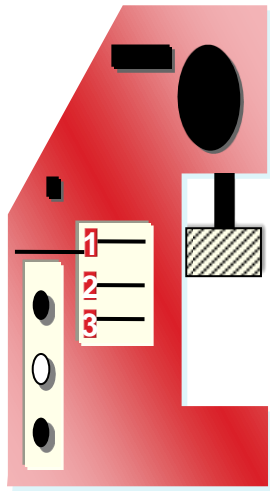


Maintenance

QCD: Quality First



The Next Process Is The Customer



*Process at the top
of the stream*

*Process at the bottom
of the stream*

Process vs. Results

- ▶ Kaizen fosters process-oriented thinking
- ▶ Kaizen focuses on human efforts
- ▶ A process-oriented approach should also be:
 - PDCA
 - SDCA
 - QCD
 - TQM
 - TPM

For Techno India NJR Institute of Technology
पंकज पोरवाल
Dr. Pankaj Kumar Porwal
(Principal)

Speak with Data

- ▶ Kaizen is a problem solving process.
- ▶ The problem must be understood and recognized.
- ▶ Solving a problem without data is not a very scientific or objective approach.
- ▶ Collecting, verifying and analyzing data for improvement is vital.

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Kaizen

The Continuous Improvement Way



4

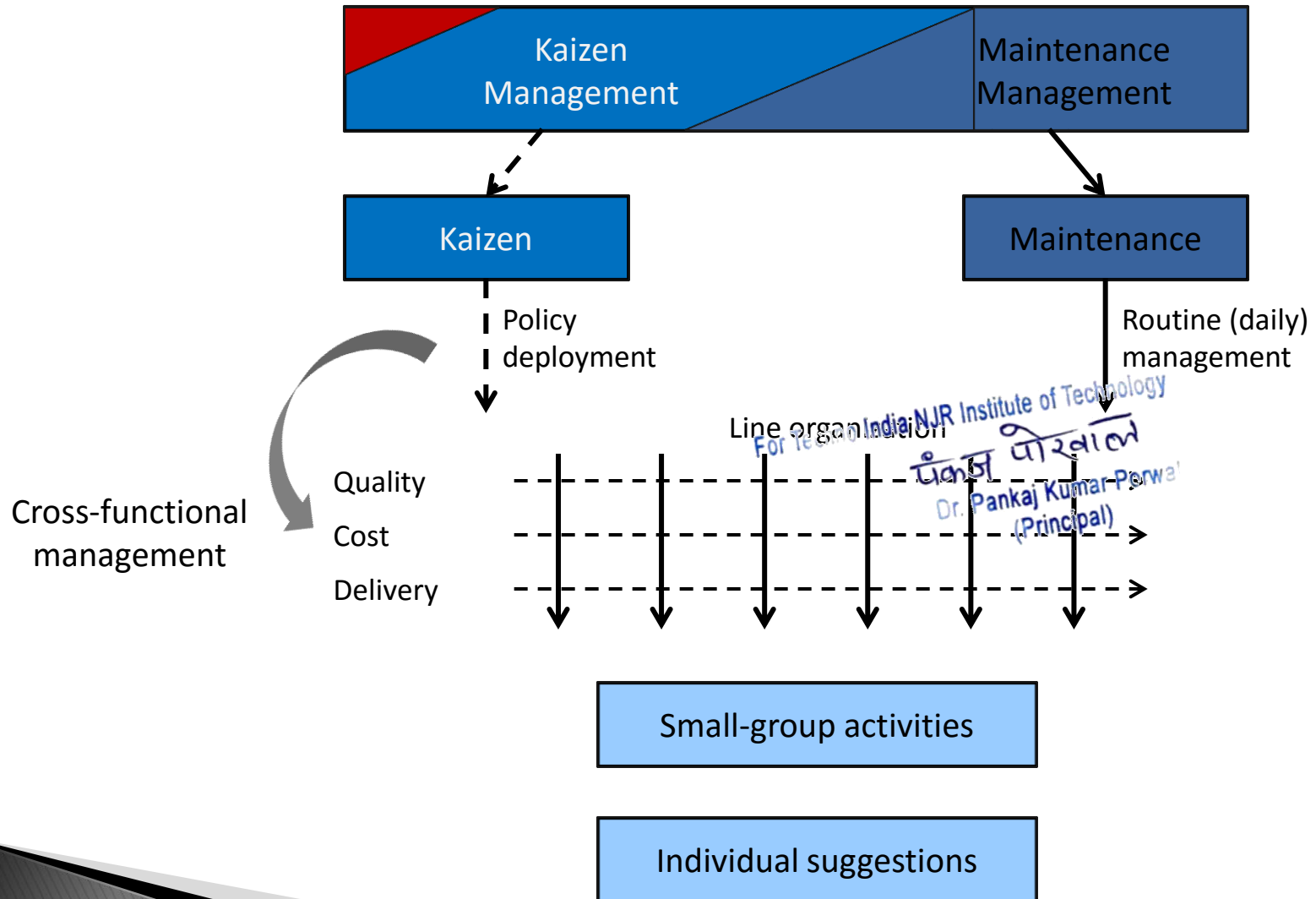
For Techno India NJR Institute of Technology

पंकज पोखरण

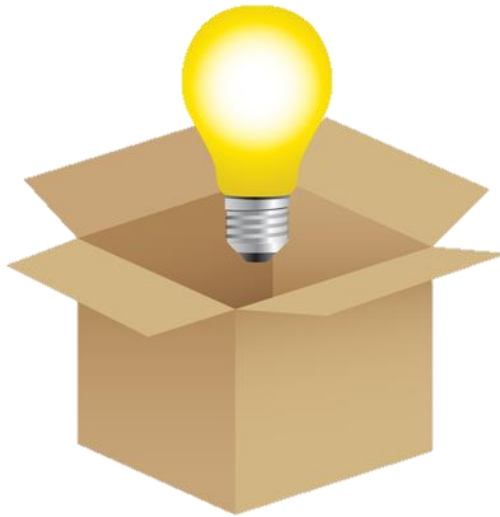
Dr. Pankaj Kumar Porwal
(Principal)

Kaizen Management

Cross-functional Management



Suggestion System



- ▶ One of the cornerstones of Small Group Activities
- ▶ Suggestions are job-oriented and implemented by the employee
 - Process improvement
 - Equipment reliability
 - Safety, health and environment
- ▶ A key measure of morale – number of suggestions per employee

For Techno India NJR Institute of Technology
Dr. Pankaj Kumar Perwa
(Principal)

Fundamentals of Gemba House (1)

Building self-discipline

1. Reward small steps
2. „Catch” people at the good work
3. Stay open to questions
4. Develop positive thinking culture
5. Allow the standards improvement process become widespread
6. Carry out evaluation
7. Encourage customer involvement
8. Implement the suggestion system
9. Create quality circles
10. Build a reward system
11. Clearly communicate your expectations

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Gemba Process

Problem / Abnormality
(Go to the Gemba)

Check Gembutsu
(Physical / Tangible Objects)

Temporary Countermeasures
(Symptoms)

Find Root Cause (Why?)

Standardize & Prevent
Recurrence (SDCA)

India NJR Institute of Technology
पंजाज कुमार परवाल
Dr. Pankaj Kumar Perwal
(Principal)

10 Rules of Kaizen (1)

1. Discard conventional rigid thinking about production.
2. Think of how to do it, not why it cannot be done.
3. Do not make excuses. Start by questioning current practices.
4. Do not seek perfection. Do it right away if for only 50% of target.
5. Correct mistakes at once.

For Techno India NJR Institute of Technology

पंकज पुरवाल

Dr. Pankaj Kumar Perwal
(Principal)

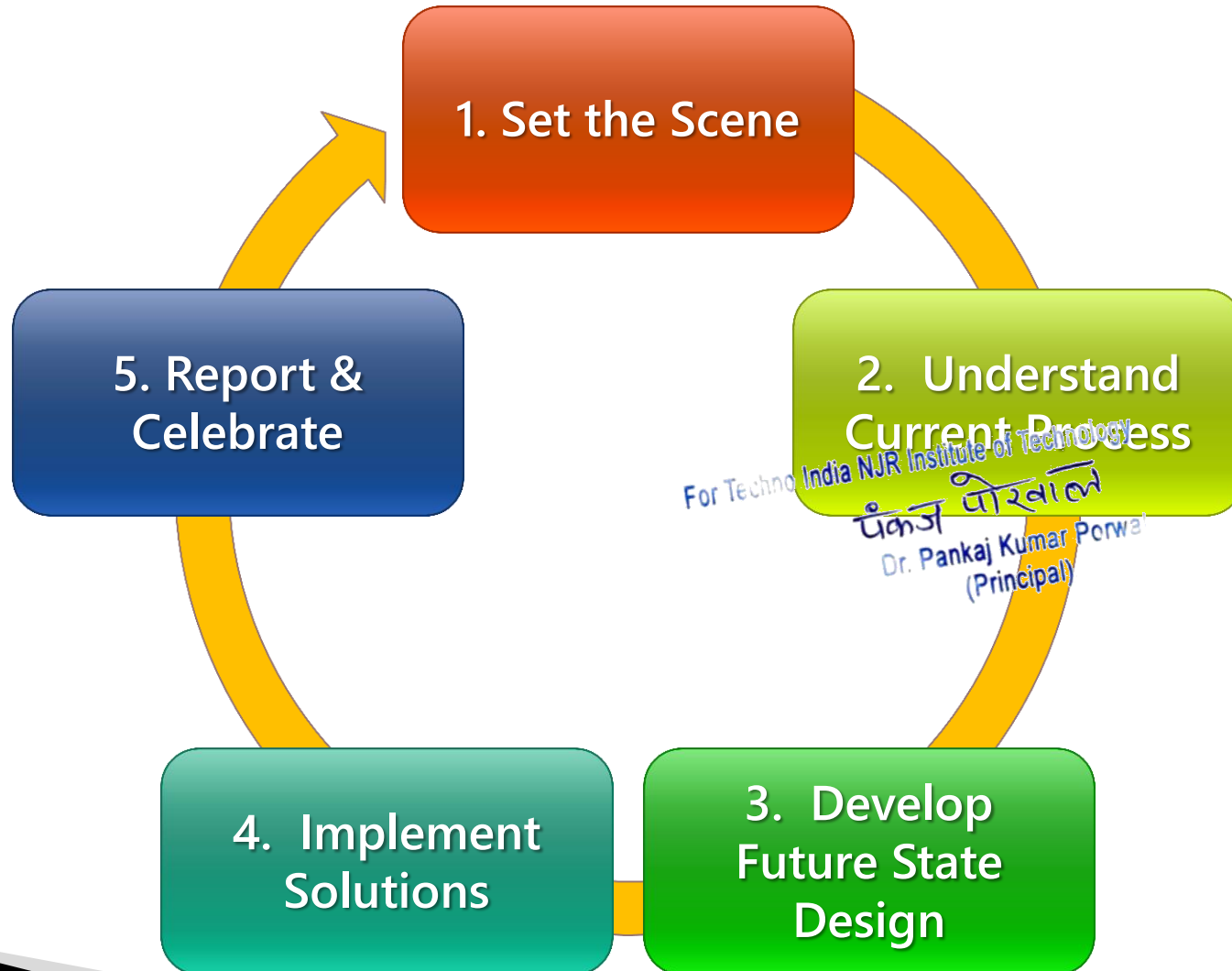
Kaizen Event – What is it?

Definition: Rapid, focused application of LEAN to reduce Waste to improve cost, quality, delivery, speed, flexibility and responsiveness to internal / external customer needs

- ▶ Vehicle for driving quick hit value by implementing “do-now” solutions through employee involvement
- ▶ Used when problem scope and boundaries are clearly understood, and results needed immediately
- ▶ Facilitated by experienced Kaizen Event facilitators, to accelerate the identification, and elimination of process WASTE, and the sustainability of improved processes
- ▶ Assembles cross-functional teams in a focused, 3-5 day dedicated event to attain sustained results

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Kaizen Event Process

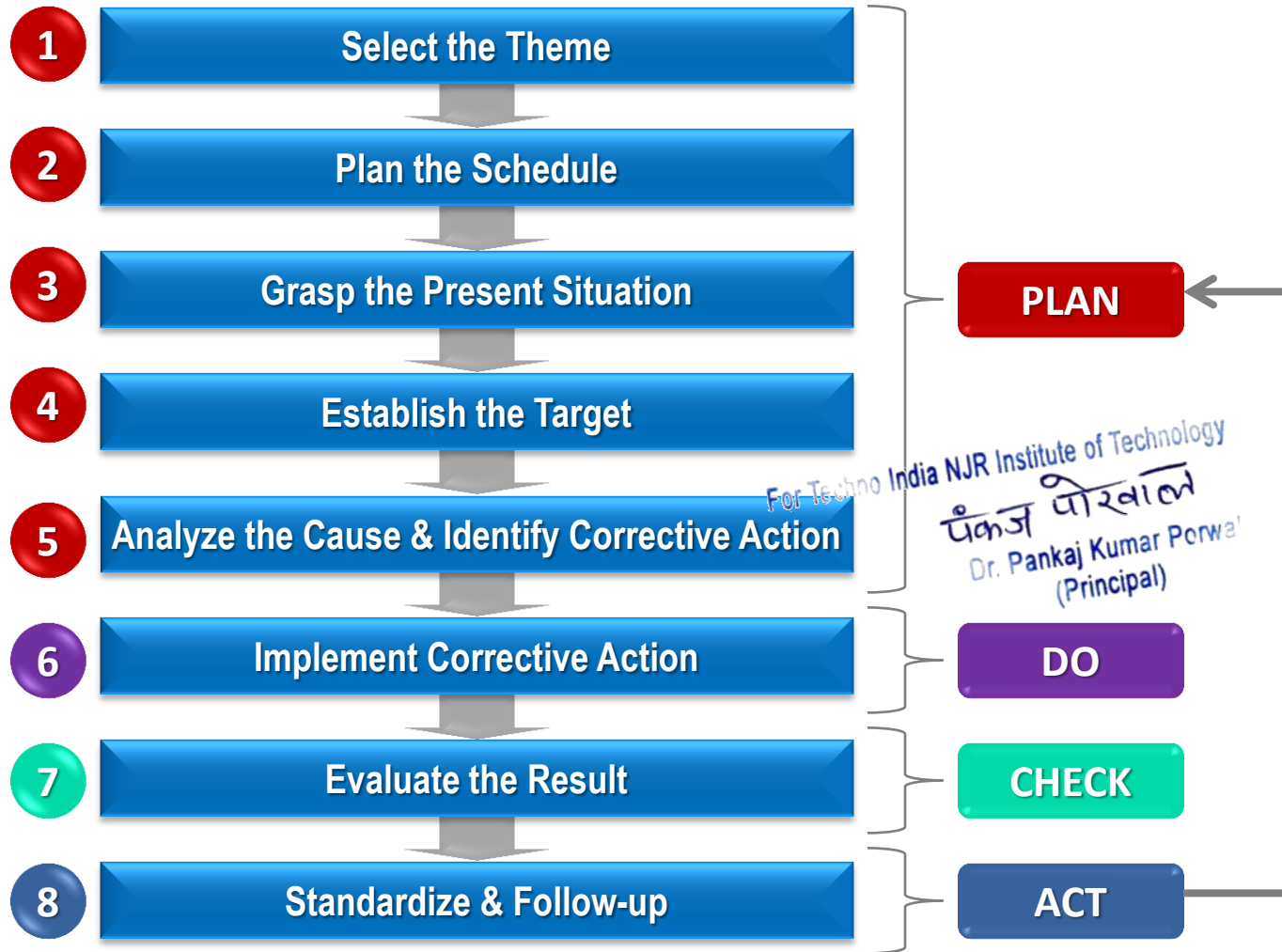


Problem Solving Techniques

- ▶ Various methods exist:
 - A3
 - Six Sigma (DMAIC)
 - 8D
 - Benchmarking
 - etc.
- ▶ All techniques adopt the PDCA cycle

For Techno India NJR Institute of Technology
पंकज पोखवाल
Dr. Pankaj Kumar Porwal
(Principal)

Eight Steps of Problem Solving



Problem Solving Tools

- ▶ Seven basic tools:
 - Stratification
 - Check Sheet
 - Control chart (Run chart)
 - Pareto Chart
 - Cause & Effect Diagram
 - Histogram
 - Scatter Diagram



A3 Storyboard Format

1 **THEME:** "What are we trying to do?"

2 **Background**

- Background of the problem
- Context required for full understanding
- Importance of the problem

3 **Current Condition**

- Diagram of current situation (or process).
- Highlight problem(s) with storm bursts.
- What about the system is not IDEAL.
- Extent of the problem(s), i.e., measures.

4 **Cause Analysis**

- List problem(s)
- Most likely direct (or root) cause:

Why? Why? Why?
Why? Why? Why?

To: _____
By: _____
Date: _____

5 **Target Condition**

- Diagram of proposed new process
- Countermeasures noted as fluffy clouds
- Measurable targets (quantity, time)

6 **Implementation Plan**

What?	Who?	When?	Where?
Actions to be taken	Responsible person	Times, Dates	
Cost:			

7 **Follow-Up**

Plan	Actual Results
<ul style="list-style-type: none"> • How will you check the effects? • When will you check them? 	<ul style="list-style-type: none"> • In red ink/pencil. • Date check done. • Results, compare to predicted.

For India NJR Institute of Technology
Principal
Dr. Pankaj Kumar Purohit
(Principal)

Kaizen

The Continuous Improvement Way



For Techno India NJR Institute of Technology
पंकज पोखरान
Dr. Pankaj Kumar Porwal
(Principal)

Role of Management

Management's Role in Kaizen Implementation

- ▶ Communicate the need to change
- ▶ Demonstrate personal commitment to process improvement
- ▶ Educate and train staff in Kaizen
- ▶ Plan and manage the improvement process

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Management's Role in Kaizen Implementation

- ▶ Set up work process measurements
- ▶ Review progress
- ▶ Manage resistance to change
- ▶ Recognize participation

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Kaizen

The Continuous Improvement Way



For Techno India NJR Institute of Technology

पंकज पोरवाल

Dr. Pankaj Kumar Porwal
(Principal)

Critical Success Factors

Keys To Success

- ▶ **Management commitment**
- ▶ Focus on the goal - eliminate waste to reduce cost
- ▶ Aligned focus from the top to the bottom
- ▶ Allocate the proper resources
- ▶ Gather baseline information and measure results. Go to the Gemba.
- ▶ Get as many people involved as possible

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Perwal
(Principal)

Keys To Success

- ▶ As a team – be open minded and supportive
- ▶ Understand Kaizen concepts
- ▶ Effectively use Kaizen methodologies and tools
- ▶ Keep it simple
- ▶ **Becoming truly Lean is a journey and will not be made without some discomfort**

For Techno India NJR Institute of Technology
पंकज पुरवाल
Dr. Pankaj Kumar Porwal
(Principal)

Thank you!



For Techno India NJR Institute of Technology

पंकज पोरवाल

Dr. Pankaj Kumar Porwal
(Principal)