



# LEAN SixSigma Tools For Problem Solving

Tuesday March 6<sup>TH</sup> 2007  
Kenneth Sisson

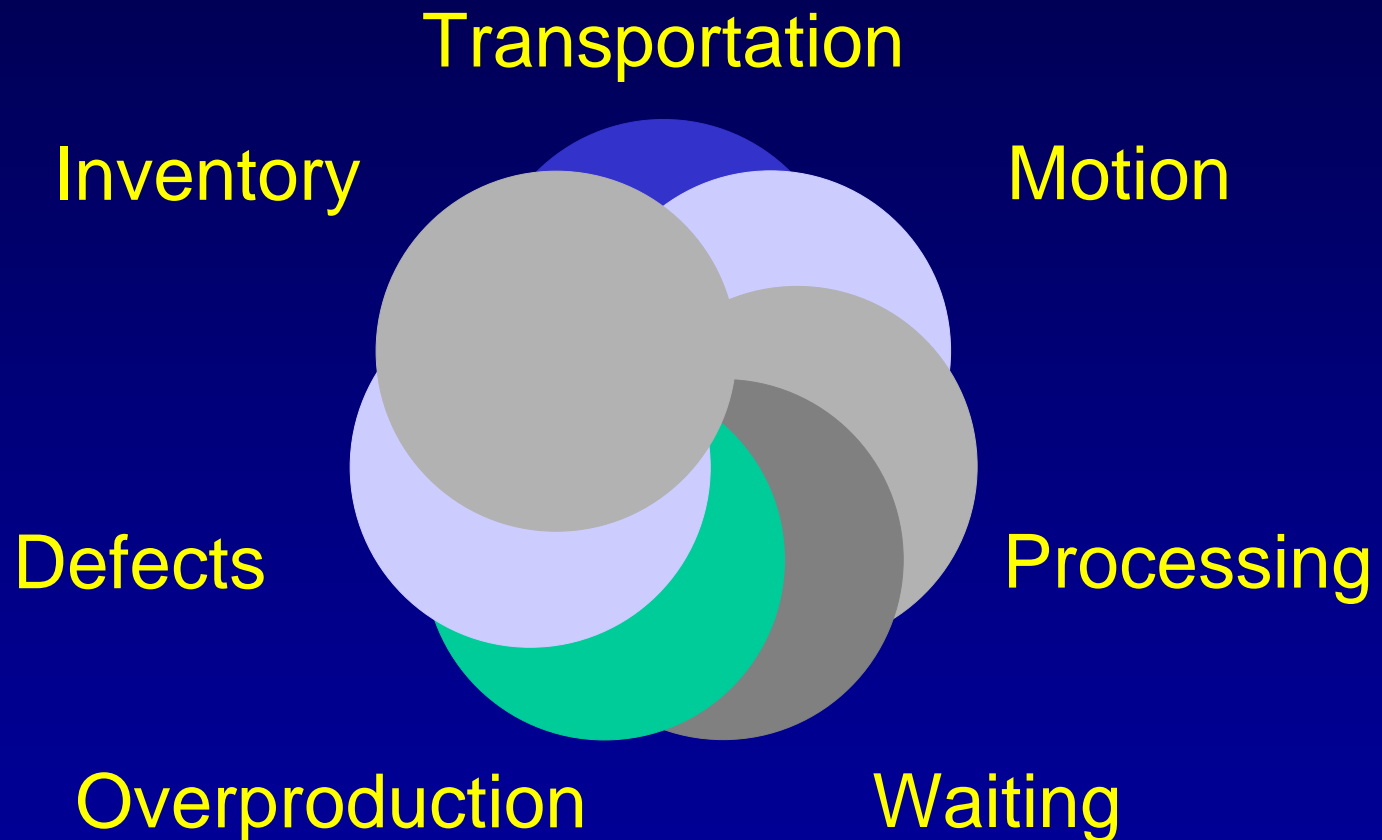
# Introduction

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- Types of Waste
- Lean Techniques
- Six Sigma Techniques
- Summary

# Seven Types Of Waste

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# Lean Tools

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Voice of the Customer	Value Add vs. Non Value Add
Current State Mapping	The as is process
Future State Mapping	What the process can be - vision

# Lean Tools

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Kaizen	Good Improvement Doing not going to do! Engaging people
Process Observations	“Genchi Genbutsu” Go See!
Standardization	5s

# Lean Tools

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Undesirable effects “UDE’s”	Things to improve Acknowledge on Current State Map
Root Cause Analysis	Five Whys Cause & Effect
Visual Management	Goal Boards Performance Data
FMEA “Failure Mode Effect Analysis”	Test Solutions Corrective Actions

# Six Sigma

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Define	What is problem Data Critical Business Impact
Measure	Graphical Analysis Pareto Charts
Analyze	Capability Analysis Gage R&R

# Six Sigma

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Improve	DOE FMEA
Control	SPC Control Plans Control Charts



# DMAIC

Define

Measure

Analyze

Improve

Control

Define

Define project scope & objectives

Measure

Current State, Data Collection, Process Map

Analyze

Root Cause Analysis, Potential Solutions, Future State

Improve

FMEA, Go Do!

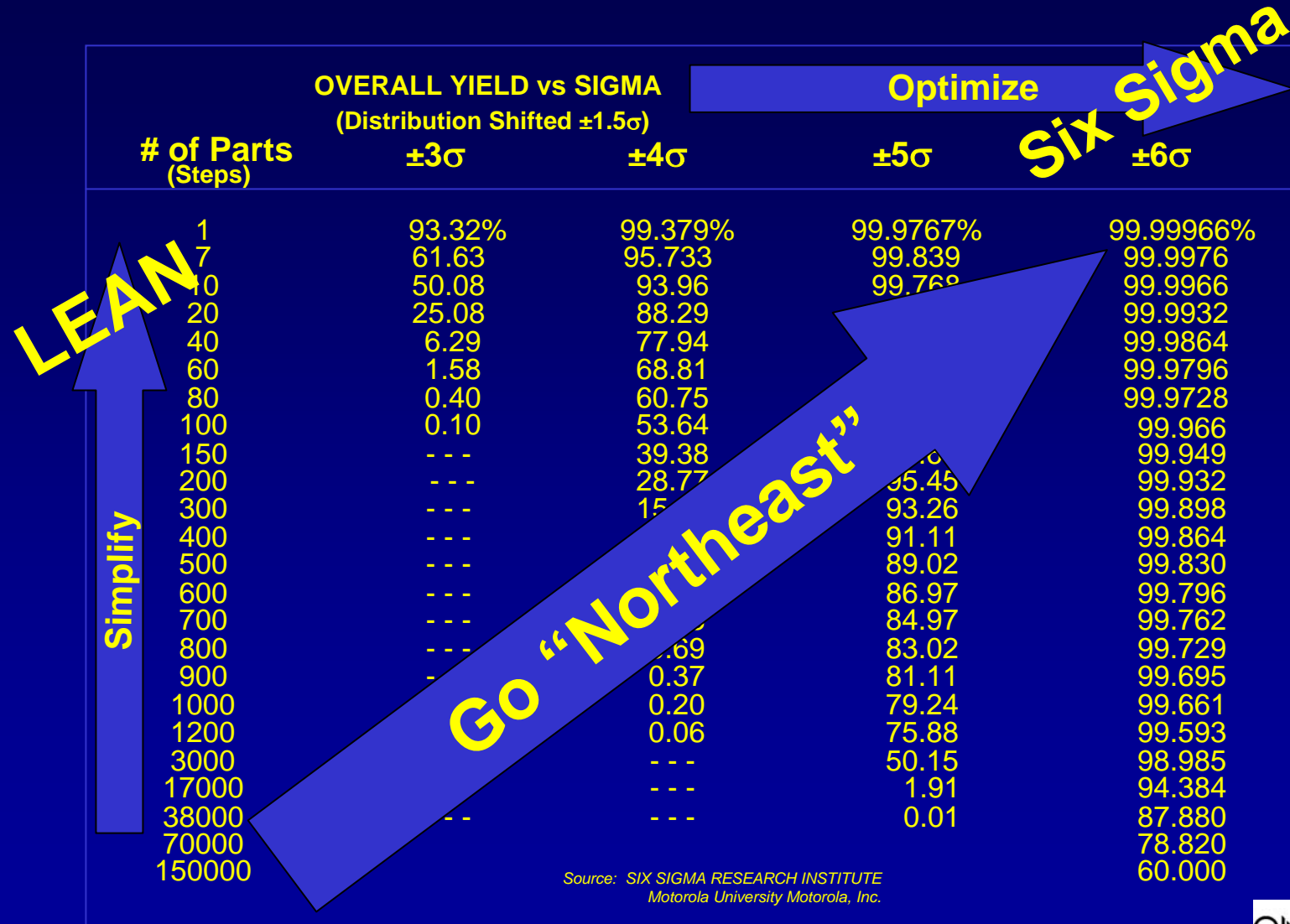
Control

Standardized Work, Visuals, SOPs, Turn over to process owners

# Kaizen!

A Kaizen is not a meeting. It is a focused team event where all of this is completed in 2 – 5 Days!

# Six Sigma



Source: SIX SIGMA RESEARCH INSTITUTE  
Motorola University Motorola, Inc.

# Six Sigma

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- Lean Tools are simple and are used to remove waste.
- Six Sigma tools work well for eliminating process variation.

Thank You