

Keeping Lean Alive

How to Sustain Your Lean Initiative

Rick Howard

Plant Manager

Lean Champion



CARD-MONROE CORP.
CREATING POSSIBILITIES...

Chattanooga, TN

Get Engaged

How involved is your lean initiative with Lean Principles?

- What is your reliance on Lean Tools?
- Are your metrics having an impact?
- Do you have lots of “events” with short lasting results?
- Is sub-optimization present in your value streams?

Agenda

- Intro to Card-Monroe Corp.
- Sustaining Lean – Principle Driven Focus
- Three Keys to our Lean Success
- Lessons Learned
- Take Away
- Q & A

ABOUT US

The World Leader in Tufting Technology™

Who we are.



CARD-MONROE CORP.
CREATING POSSIBILITIES...

What we do.



Where we do it.
(Chattanooga, TN)

ABOUT US

Who we do
it for.

60% of our
customers

Customers in 31 Countries



Our Lean Challenges (1 of 2)

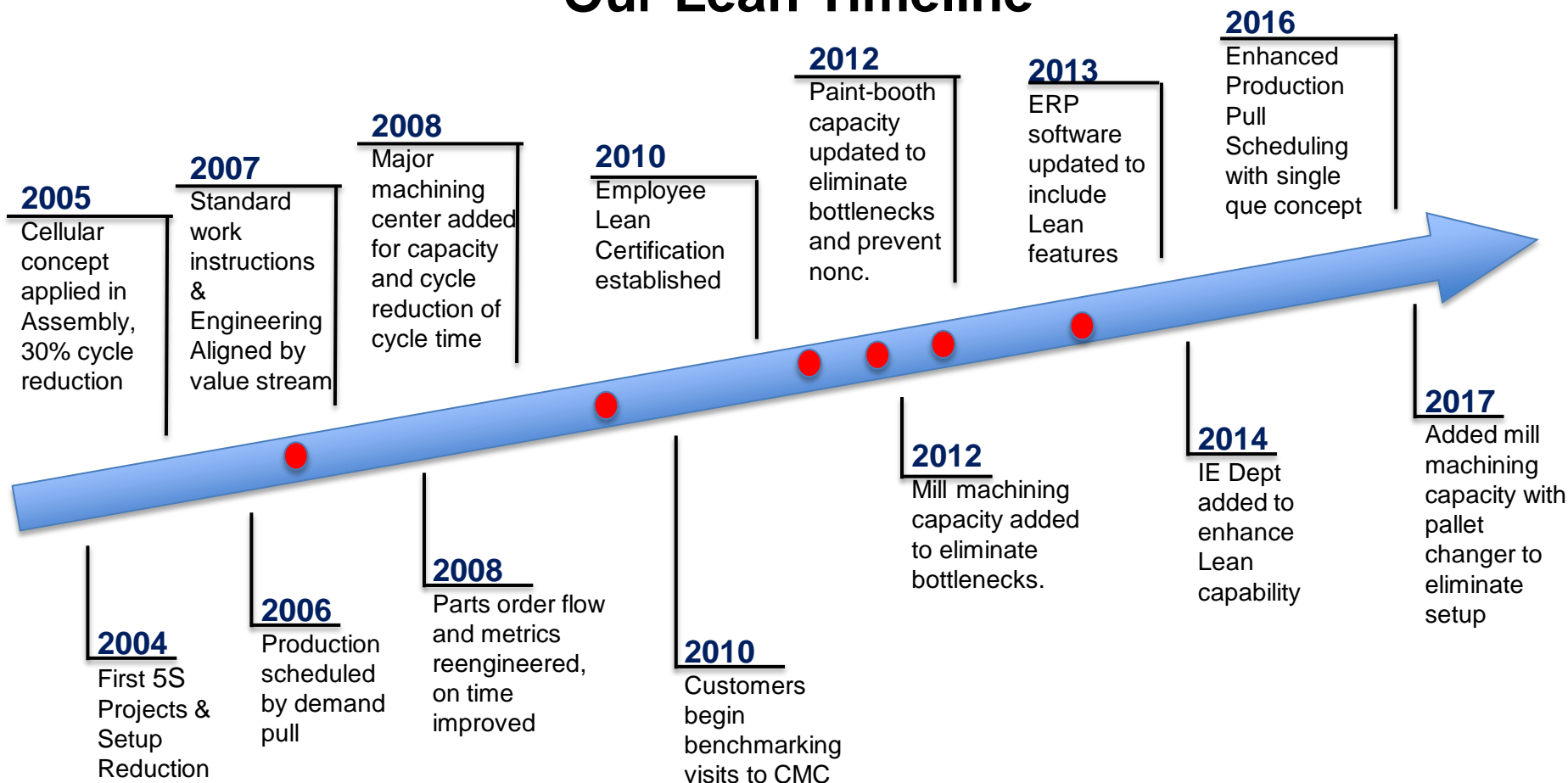
- Low Volume – High Mix manufacturing & assembly
- Every machine is configured to unique customer specifications
- Machine specs involve up to 4,000 unique parts and subassemblies
- Over 300 different suppliers of materials, parts, and components
- Over 7,000 different Service Part SKU's
- 50% of Service Parts are shipped less than one time per year
- Average lead time request on Service Parts orders is 0.8 Days

Our Lean Challenges (2 of 2)

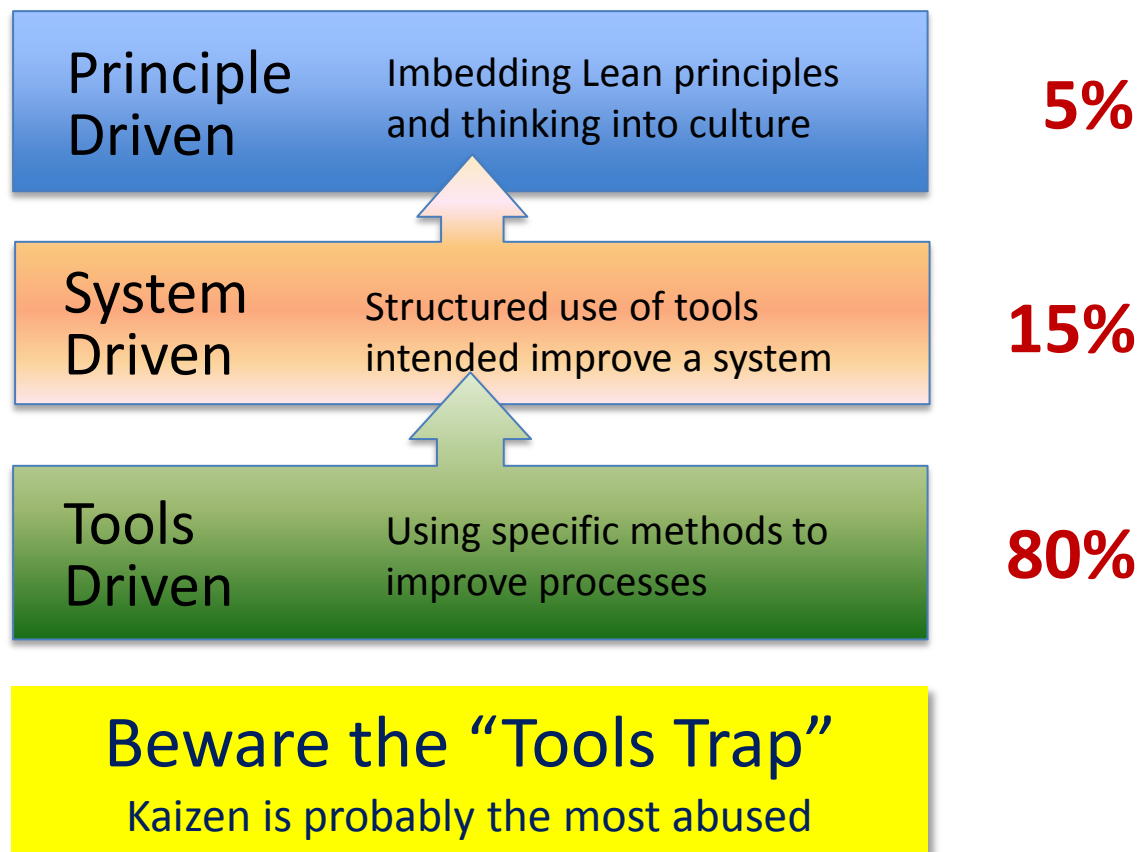
- Up to eight concurrent processes merge into the final system
- Demand fluctuates in an unpredictable fashion
- Long lead time deliveries on key components
- Customers change specs at any time – even during installation
- Synchronizing installation with customer controlled projects
- Conversion (refurbish) projects involve continuous discoveries
- 20+ year history of push production & labor specialization

Keeping Lean Alive

Our Lean Timeline



Sustaining Lean – Keeping it Alive



Principles of Lean

- **Value Streams** (End-to-End Business Processes)
- **Elimination of Waste**
- **Velocity** (Cycle-Time) 
- **Lot-Size of One** (Single Piece Flow)
- **Demand Drives Flow** (Synchronized Pull)
- **The Whole System** (No sub-optimization)

Card-Monroe Corp. – Three Keys to Lean Success

1. Do Lean for the right reasons
2. Measure it properly
3. Improve Value Streams end-to-end

Key # 1- Do Lean for the right reasons!

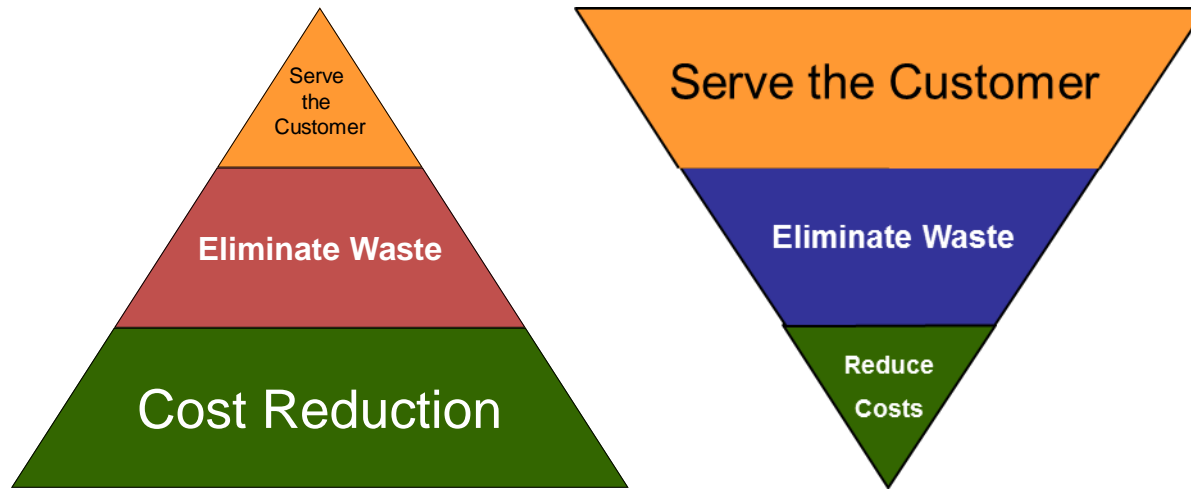
Unacceptable answers include:

- To save money
- To reduce waste
- To improve productivity
- Because the boss said so
- Because the consultants said so

1. To better serve our customers!
2. Become better stewards of our resources!

Focus on the Customer

- Every activity in a Lean initiative should be directed towards creating value for the customer.
- Asking “*How will this add value to the customer?*” should be a part of every decision in the Lean strategy.
- If the customer does not feel the benefit, it is probably not the right thing to do, or the right time to do it.



Adopt a good working definition of Lean...

“A systematic approach of creating value* by pulling product through the value stream at the demand of the customer without waste.

****Value is defined by the customer!***

Would your customer pay you to do/make more of it? **Yes** = Value **No** = Non-value or Waste

Key # 2 - Measure it properly!

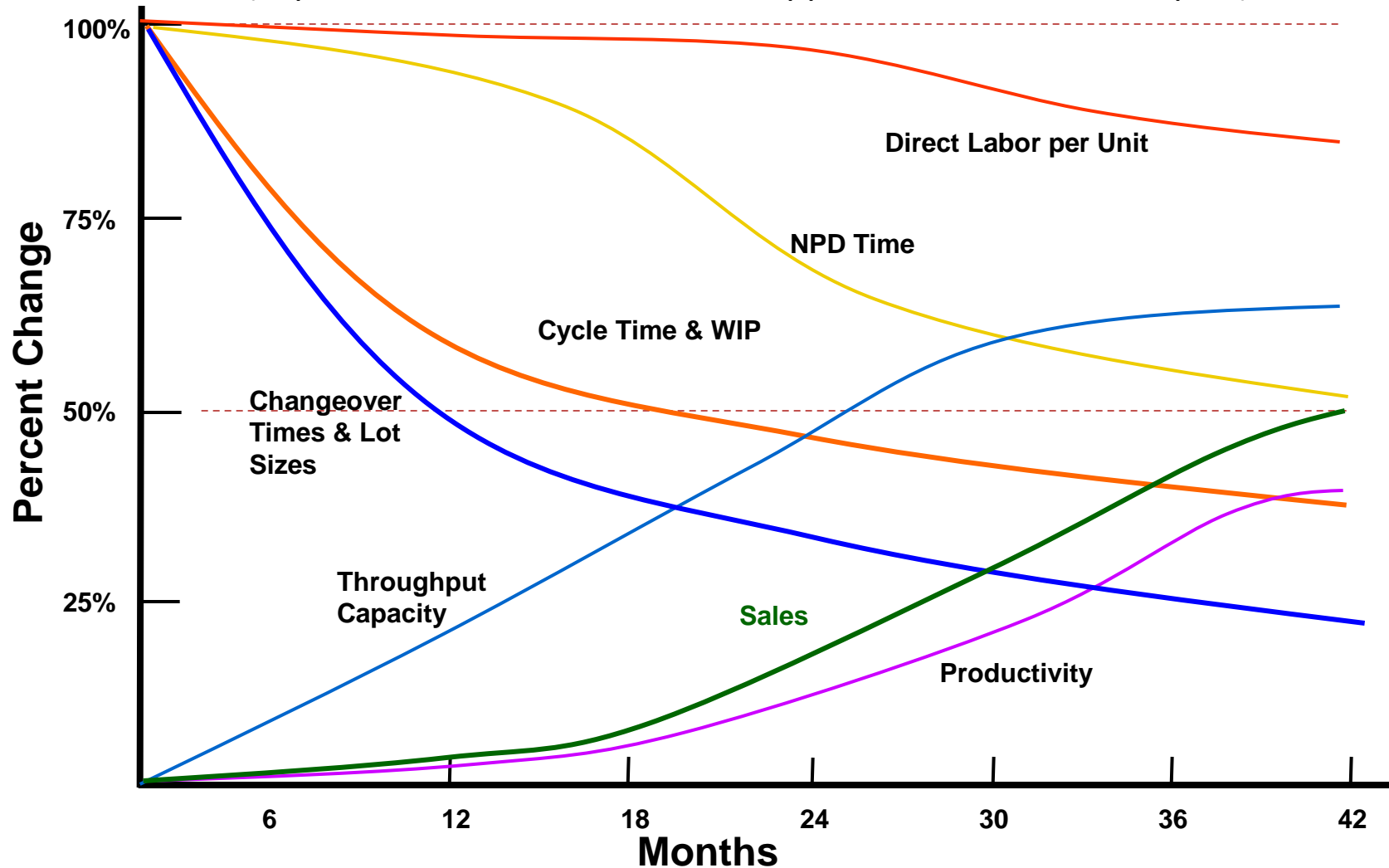
Don't bother measuring:

- How many employees get trained
- Number of kaizen events
- Kaizen dollars saved
- Value Stream Maps created
- Process Improvement projects completed

Measure things that your customers, employees and owners care about. Measure what matters.

Measuring the Impact of Lean

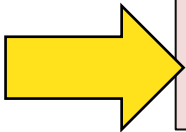
(Expected results from effective application of Lean Principles)



Key # 3 - Improve Value Streams end-to-end!

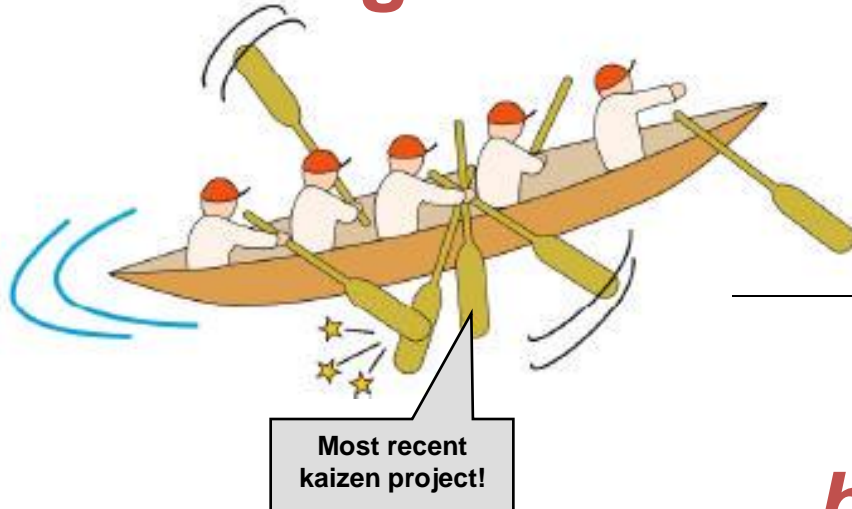
Avoid sub-optimization!

- Individual employee and machine utilization is not the focus
 - When people try to optimize their piece, it often sub-optimizes the system
- The system trumps individual processes
- Velocity is the key measure



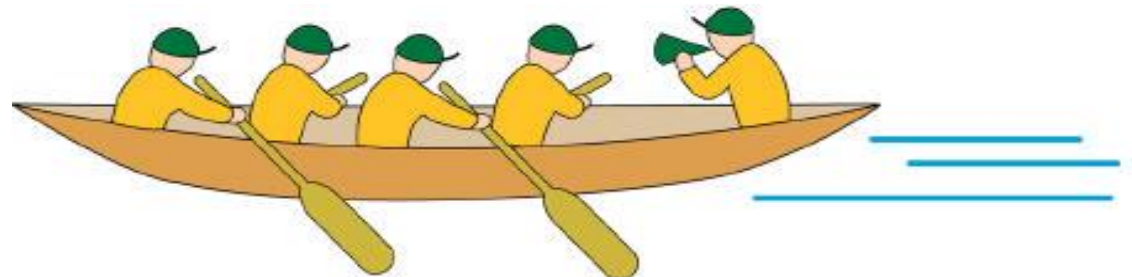
Traditional vs. Lean Thinking

It's not about
working harder....



Focus is on Individual /
Process Efficiency

but performing better.



What is Lean?

A **systematic** approach for **creating value** by **pulling** production through the **value stream** at the **demand** of the customer **without waste**.

Why we do it.

To better **serve** our customers and become better **stewards** of our resources.

Principles

- Value Streams
- Eliminate Waste
- Velocity (cycle time)
- Lot Size of One
- Demand Drives Flow (Pull)
- The Whole System (end-to-end)

Lean Tool Box

Operating Essentials

Workplace Organization
(5-S)

Process Capability & Control

Visual Management

SMART Set-ups
(Reduced Lot Sizes)

Cellular Manufacturing

Overall Equipment Effectiveness

Engage the Customer

Takt Time
(Rhythm = Demand)

Pull System

Kanbans / Point of Use

Single Piece / Synchronous Flow

Theory of Constraints

Value Stream Analysis

Expand & Enhance

Engaged Workforce
(Kaizen)

Lean Supply Chain

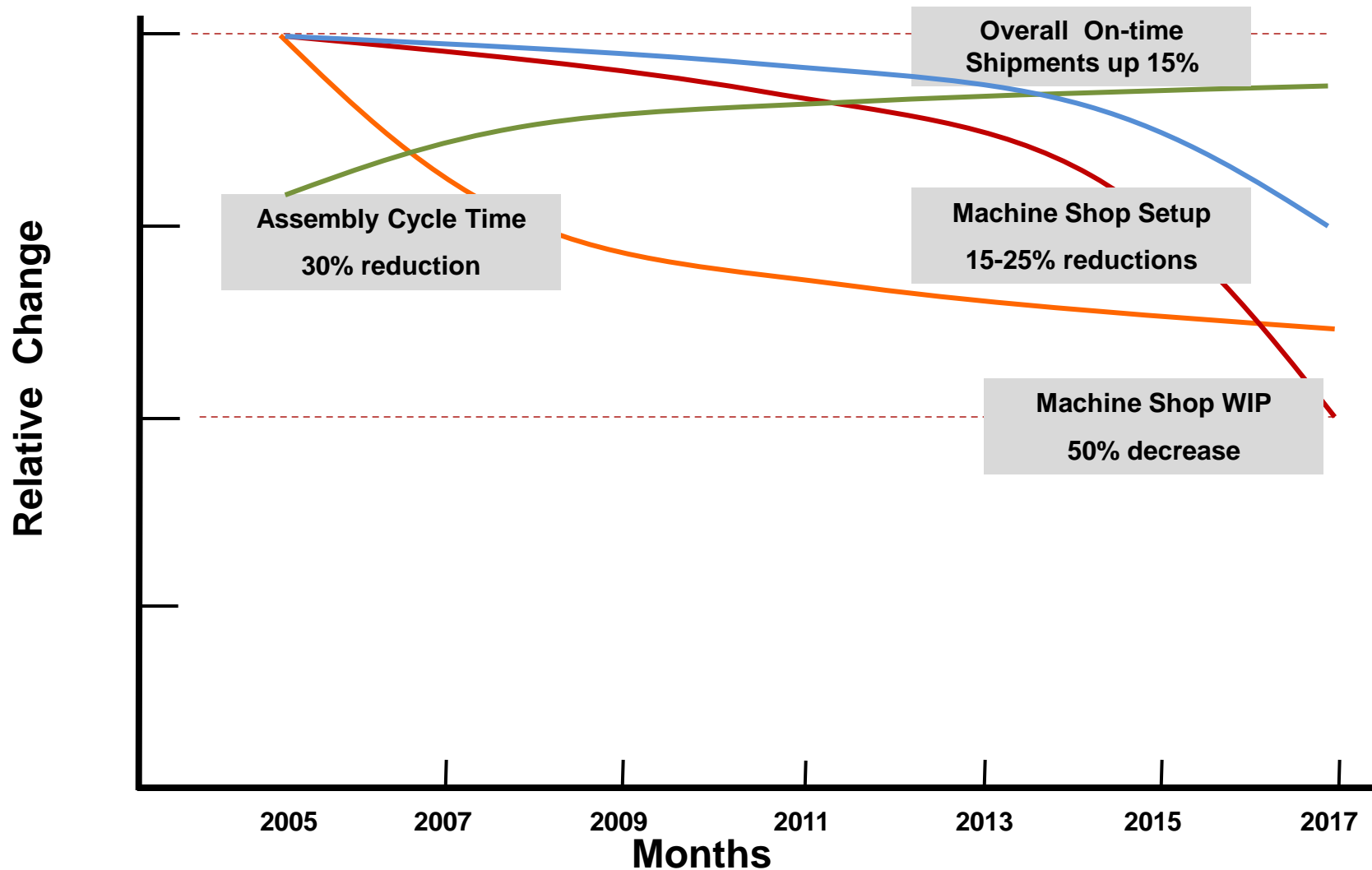
Lean Product Development

Standard Work

Lean Accounting

Six Sigma
(DMAIC)

The Impact of Lean at Card-Monroe Corp.



Lessons Learned (1 of 2)

- Organize, manage and measure around your **value streams**.
- Ensure process **integrity** and equipment **reliability**.
- Enable **faster setups/changeovers** (reduce lot sizes).
- Pull production through the system on customer **demand** to eliminate work **queues** & WIP (embrace the *lot-size-of-one* theory).
- Use **visual management**, **standard work** and **kanbans** wherever practical.
- Utilize the **cellular** approach as much as possible.

Lessons Learned (2 of 2)

- **Synchronize & balance** processes throughout the value stream (use **TOC**).
- Improve the **whole system / end-to-end** (even at the expense of individual processes).
- Make **velocity** the trump indicator (reduce cycle-time).
- Refine the **design** of products to enhance manufacturability.
- *Encourage* (create opportunities for) your employees, suppliers and customers to embrace these concepts with you.

Take Away

Drive Continuous Improvement with focus on Lean Principles:

- Focus on the overall value stream
- Measure things that are meaningful to the business
- Utilize tools where useful and appropriate
- It's a journey

Q & A

Thank You!

Your opinion is important to us!

Please take a moment to complete the survey using the conference mobile app.

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“Keeping Lean Alive – How to Sustain Your Lean Initiative”

Rick Howard

Card-Monroe Corp.

rickhoward@cardmonroe.com