



# SALES GROWTH PLAN; THE MISSING LINK IN MOST LEAN STARTUPS OR REVITALIZATIONS



September 20 - 22, 2021

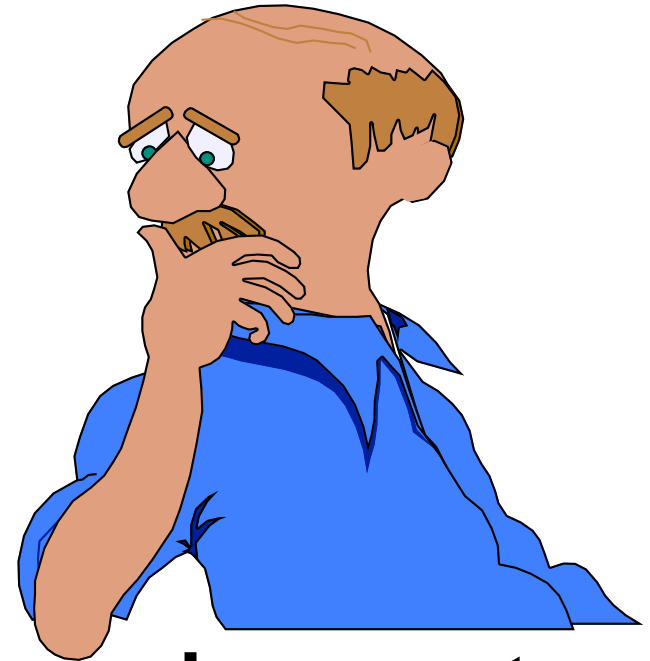
# Lean Journey Startups or Lean Journey Revitalizations



What trickers a  
Lean journey?

## A crisis such as:

1. Customer complaints or recalls
2. Higher level competition
3. Excessive poor quality



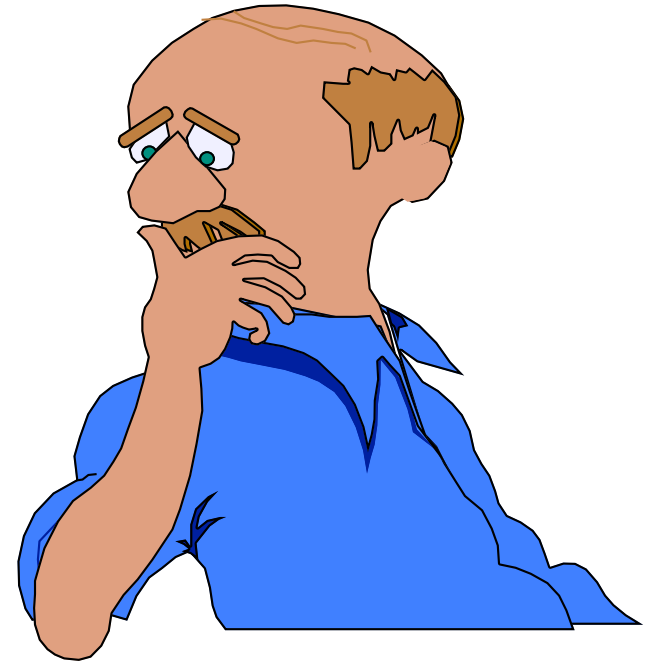
**New leadership from a Lean environment**

# Lean Journey Startups or Lean Journey Revitalizations

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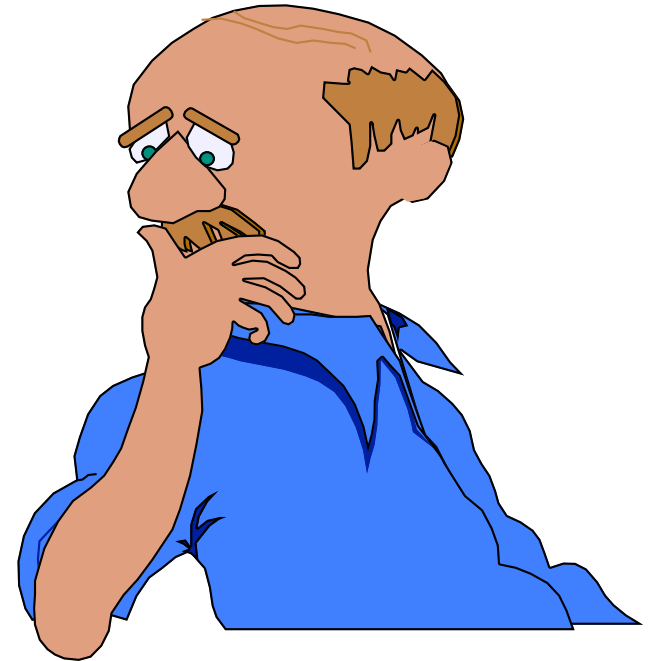
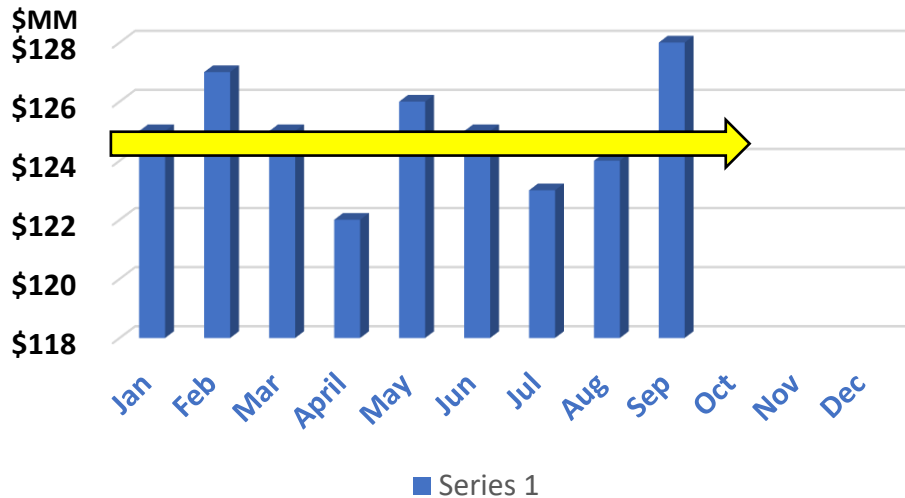
# Lean Journey Startups or Lean Journey Revitalizations

## A crisis such as:

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## What trickers a Lean journey?

ABC Company 2021 Sales



# Medical Device OEM Requested

## Injection Molding Company

West Chester, OH  
Phoenix, AZ

2009

- sales of \$75M
- 250 employees
- two plants



## Lean Transformation Case Study #1

# Injection Molding Company Lean Journey Startup

1. Team up with the Executive Leadership Team (ELT)
2. Can't Layoff Workers After the Lean Journey Start
3. What is the Worst-Case Problem (WCP) in the Plant?
4. Added Key Personnel to the Leadership Team
5. Preliminary review of the WCP
6. Lean Train-Do-Train-Do Workshops for the WCP



# Lean Train-Do-Train-Do Workshop

## Bloom's Hierarchy of Learning

## Injection Molding Company Employees Learning

## Lean Train-Do-Train-Do Steps

6. Creating new concept



ELT can leverage the Lean concepts on other projects

5. Evaluating classroom concept



ELT monitors the results

4. Analyzing classroom concept



ELT analyze & verify the solution

3. Applying classroom concept



ELT determine root cause

2. Understanding classroom



Company's WCP is the case study for better understanding

1. Remembering classroom



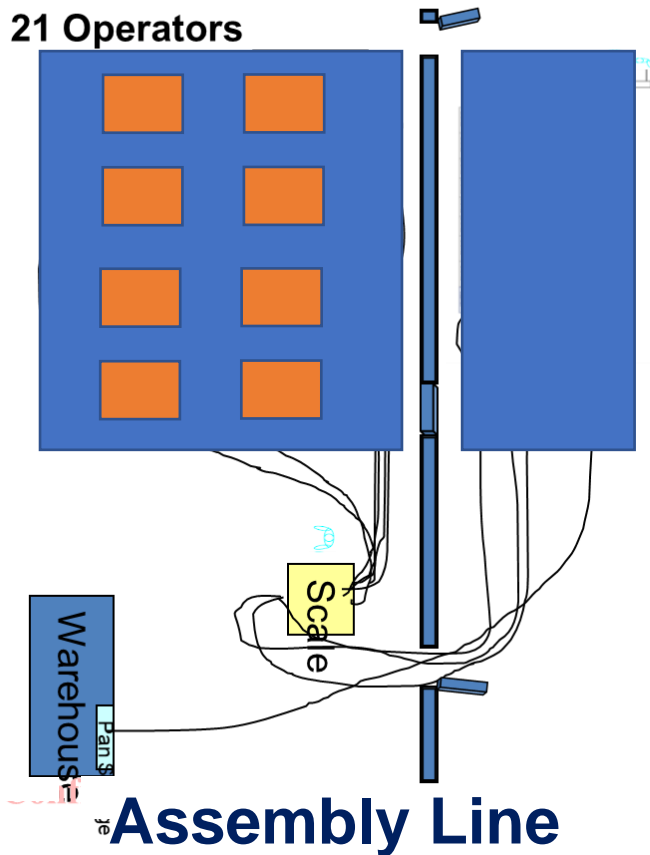
Customized training for Worst-Case Process Problem (WCP)

# Injection Molding Company

## Worst-Case Problem

Current State 2009

21 Operators



### 1. Lean Workshop Setup Reduction

- A. Moved Internal Elements to External
- B. Setup Time - 6 Hours to 30 Minutes
- C. Discover an unsafe practice and made it safer

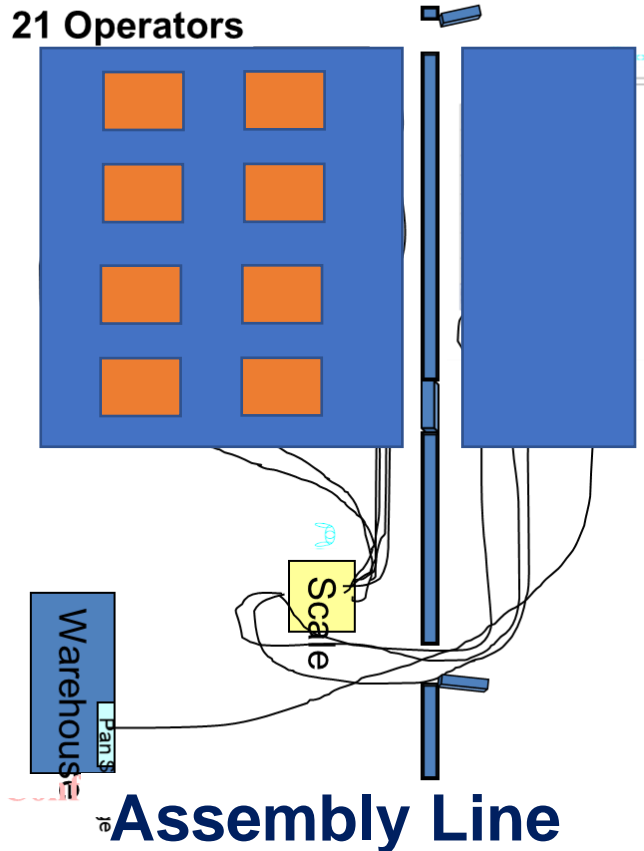
### 2. Lean Workshop Cellular Manufacturing

- A. An engineer utilized the concept and designed an automatic assembly cell
- B. They create a prototype that was successful
- C. They project managed to full production success

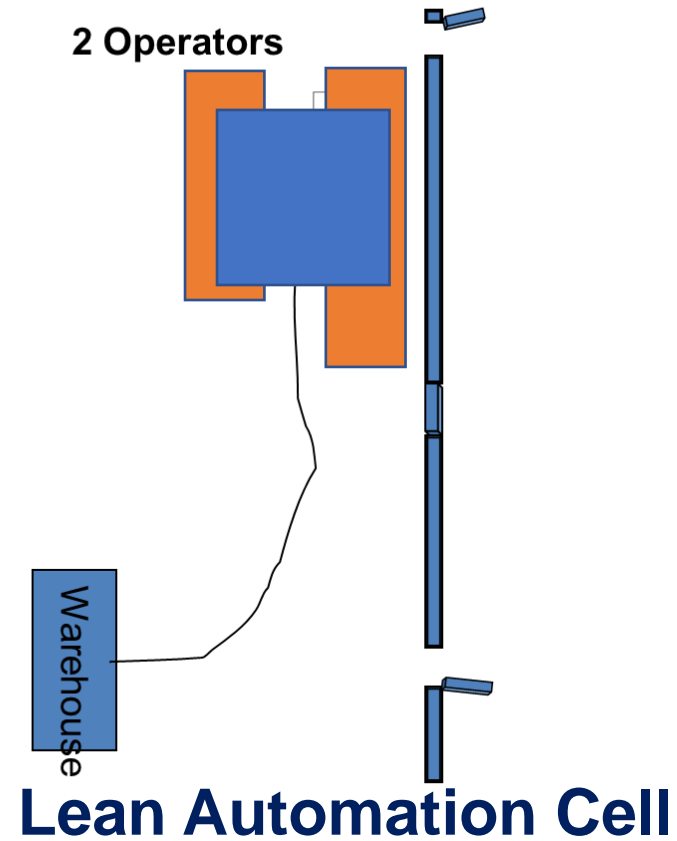


# Medical Devices Injection Molded Component Parts Cell Layout Comparison Analysis

Current State 2009



Future State 2011



# Medical Device Injection Molded Component Parts Cell Layout Comparison Analysis

## Lean Automation Cell - 2011

	<u>Current State</u>	<u>Future State</u>	<u>Delta</u>	<u>% Improvement</u>
• WIP Inventory	20 days	5 days	15 days	-75%↑
• Annual Travel distance	32 miles	2 miles	30 miles	-94%↑
• No. of Transportation Steps	20	2	18	-90%↑
• Number of Operators	18	2	16	-89%↑

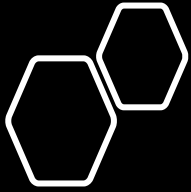
## Lean Automatic Cell Annual Savings- \$2.9 million

*\*The Lean automation eliminated waste and made the job easier, which required fewer workers. Therefore, management must bring in more sales or new business to sustain a continuous improvement culture.*

# Injection Molding Company Lean Journey 2009

1. Can't Layoff Workers After the Lean Journey Start
2. ELT Laid-off Some Workers
3. Encouraged the ELT to Improve Sales
4. Hired a New Vice-President of Marketing & Sales
5. Reaction to the Layoff – **Not a Plan**





# Lean Journey

## Sales Growth Plan

- Marketing & Sales
- Voice of the Customers



# Current State Marketing & Sales Analysis

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- **Current State Marketing & Sales Analysis Data**
  - Past 3 annual sales performances with current year-to-date
  - Past 3 annual market share performance with current year-to-date
  - **Recent data on customers likes and dislikes**
  - Current information on the latest innovation, technology, or trend in the market
  - Information on next innovation, technology, or trend for the market
  - **Customers' unmet needs – Lead to Innovation**

# Customers' unmet needs – **Lead to Innovation**

## Electric Cars Sold in the United States 2008 – May 2012

Car introductions from 2008 through May 2012:

- **Nov 2010 – Chevrolet Volt – 14,796 cars**
- **Dec 2010 – Nissan LEAF – 12,218 cars**
- **Sept 2011 – Toyota Prius PHV – 3,485 cars**
- Feb 2008 – Tesla Roadster – 1,900 cars
- Jan 2009 – Fisker Karma – 1,700 cars
- **Nov 2002 – Ford Transit Connect – 550 cars**
- **Nov 2011 – Mitsubishi i-MiEV – 325 cars**
- **Dec 2011 – Ford Focus Electric – 7 cars**

## Compact and Subcompact Cars

**No Luxury Sedan!**



# Customers' unmet needs – **Lead to Innovation**

**Luxury Sedan! 😊**



## Electric Cars Sold in the United States 2008 – May 2013

Car introductions from 2008 through May 2013:

1. Nov 2010 – Chevrolet Volt – 38,307 cars
2. Dec 2010 – Nissan LEAF – 26,406 cars
3. Sept 2011 – Toyota Prius PHV – 16,250 cars
4. **Jun 2012 – Tesla Model S – 11,024 cars**

## Tesla Model S

Introduced June 22, 2012

## Electric Cars Sold in the United States 2008 – April 2019

Car introductions from 2008 through April 2019:

1. **Jul 2017 – Tesla Model 3 – 175,785 cars**
2. Nov 2010 – Chevrolet Volt – 155,062 cars – **Discontinued in 2019**
3. **Jun 2012 – Tesla Model S – 148,342 cars**
4. Dec 2010 – Nissan LEAF – 135,188 cars
5. **Jun 2012 – Tesla Model X – 71,742 cars**

# Customers' unmet needs led to World Class Design Innovation

- U.S. Electric Vehicle Sales by Model (2008 – 2019)

<https://www.bing.com/videos/search?q=tesla+sales+history+video&&view=detail&mid=D90E55AD14C5FE9963ECD90E55AD14C5FE9963EC&&FORM=VDRVRV>

## Audi e-tron GT



Introduced Feb. 9, 2021

## Tesla Model S



Introduced Jun. 22, 2012

## GM Cadillac SUV



Introduced Aug. 6, 2020



# Current State Voice of the Customers (VOC) Analysis

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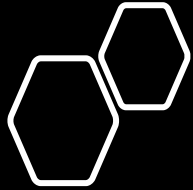
- **Current State VOC Analysis Data**
  - Customers' complaints
  - Customers' returned products
  - Customers' First Time Quality (FTQ) data
  - Customers' non-conformances
  - Customers' adverse events
  - Customers' recalls

# VOC Key Performance Indicators (KPIs) and Key Behavioral Indicators (KBIs)



## ABC Company - Operational Excellence VOC Key Performance Indicators (KPIs)

KPIs & KBIs	Category Description	Aug	Aug Goal	Aug Delta	YTD	YTD Goal	YTD Delta
Safety	Safety OSHA recordable/year	0	0	0	2	1	-1
Safety	Days without OSHA recordable	455	0	455	182	0	182
Safety	Days without COVID-19 Case	201	201	0	0	100%	
Quality	Customer's First Time Quality	95.6%	100.0%	-4.4%	94.8%	100.0%	-5.2%
Quality	Customer's FTQ Parts Per Million (PPM)	44,000	3	-43,997	52,500	3	52,497
Quality	Plant First Time Quality	98.1%	100.0%	-2.0%	97.9%	100.0%	-2.1%
Quality	Plant FTQ PPM	19,500	0	-19,500	20,700	0	-20,700
Quality	Customer's non-conformances	1	0	1	5	0	-5
Quality	Adverse events or recalls	0	0	0	0	0	0
Delivery	Customers Line Item Fill Rate (LIFR)	100%	99.99%	0.01%	100%	100%	0
Delivery	Customers Line Item Fill Rate (PPM)	0	3	3	0	3	0
Delivery	Inventory Turns	15	20	-5	12	20	8
Market Share	Market Growth	2%	10%	-8%	4%	10%	6%
Productivity	Ratio Sales to Work Hours	8	10	-2	80%	10	80%
Productivity	Number of Team CI Implemented	45	50	-5	90%	50	90%
Productivity	Gemba CDC 5S Audit Results	99%	100%	-1%	99%	100%	99%

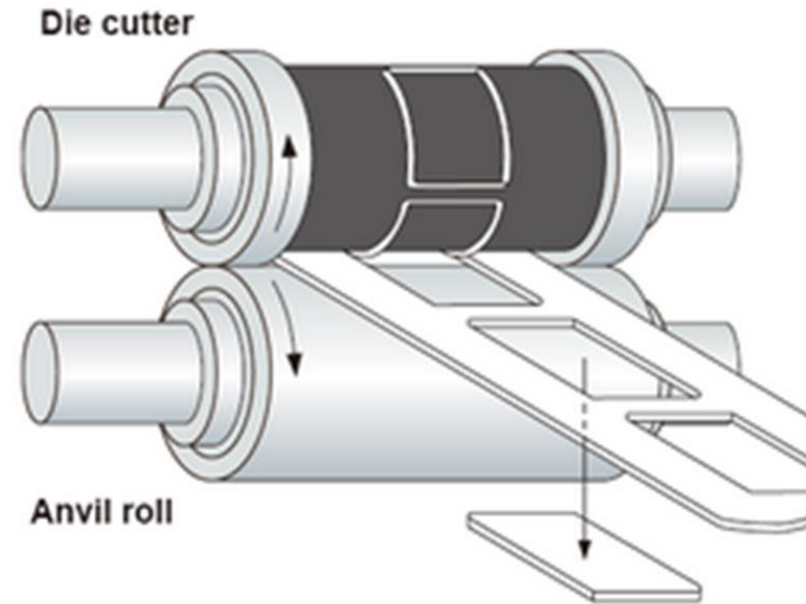


# General Manager Leadership

## The Revitalization of a Rotary Die Cutters Machine Company

Case Study #2

2003 - 2004



**From Bankruptcy to Profitability**

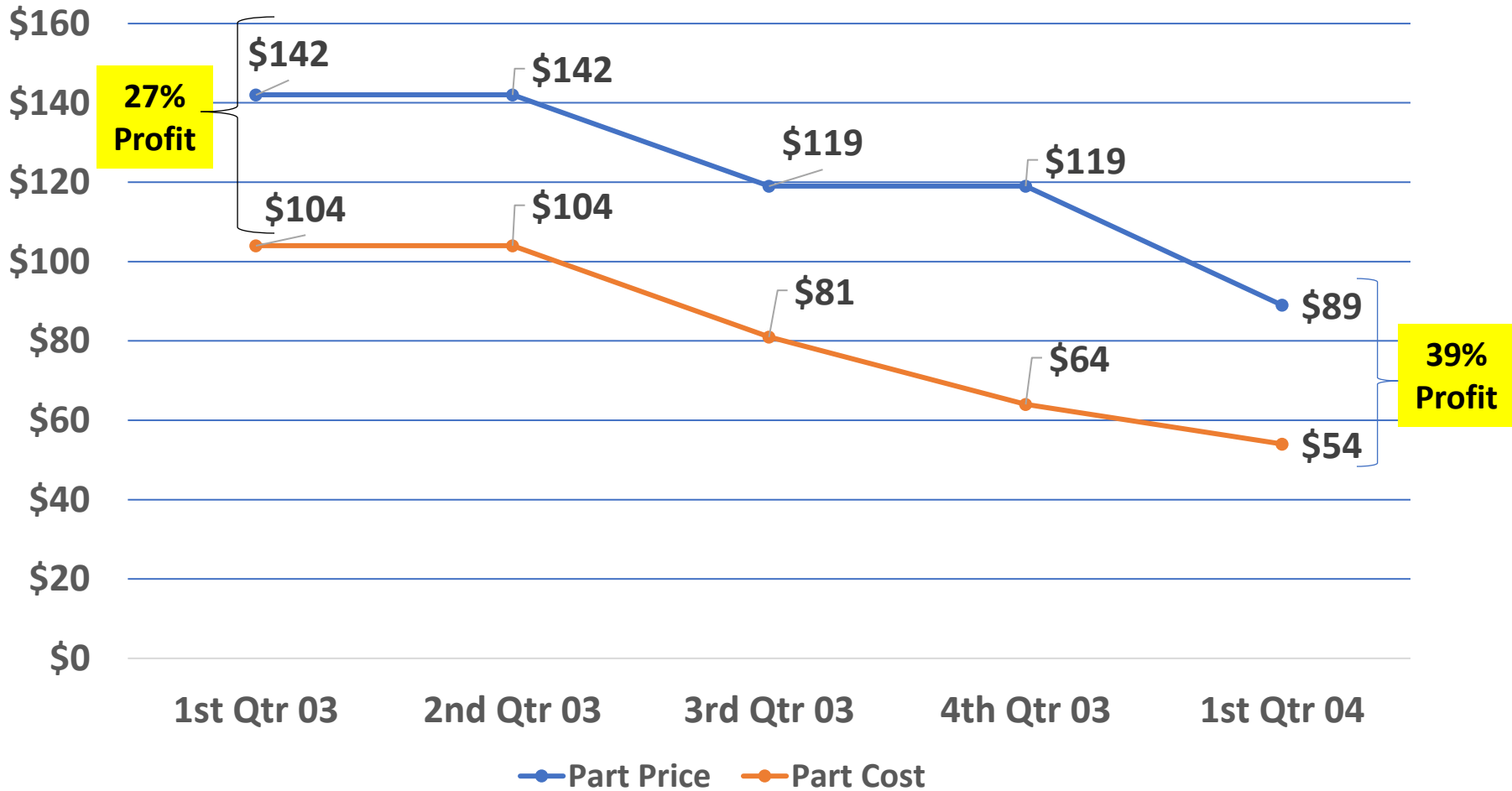
# Five Major Factors for the Revitalization

## Lean Principles

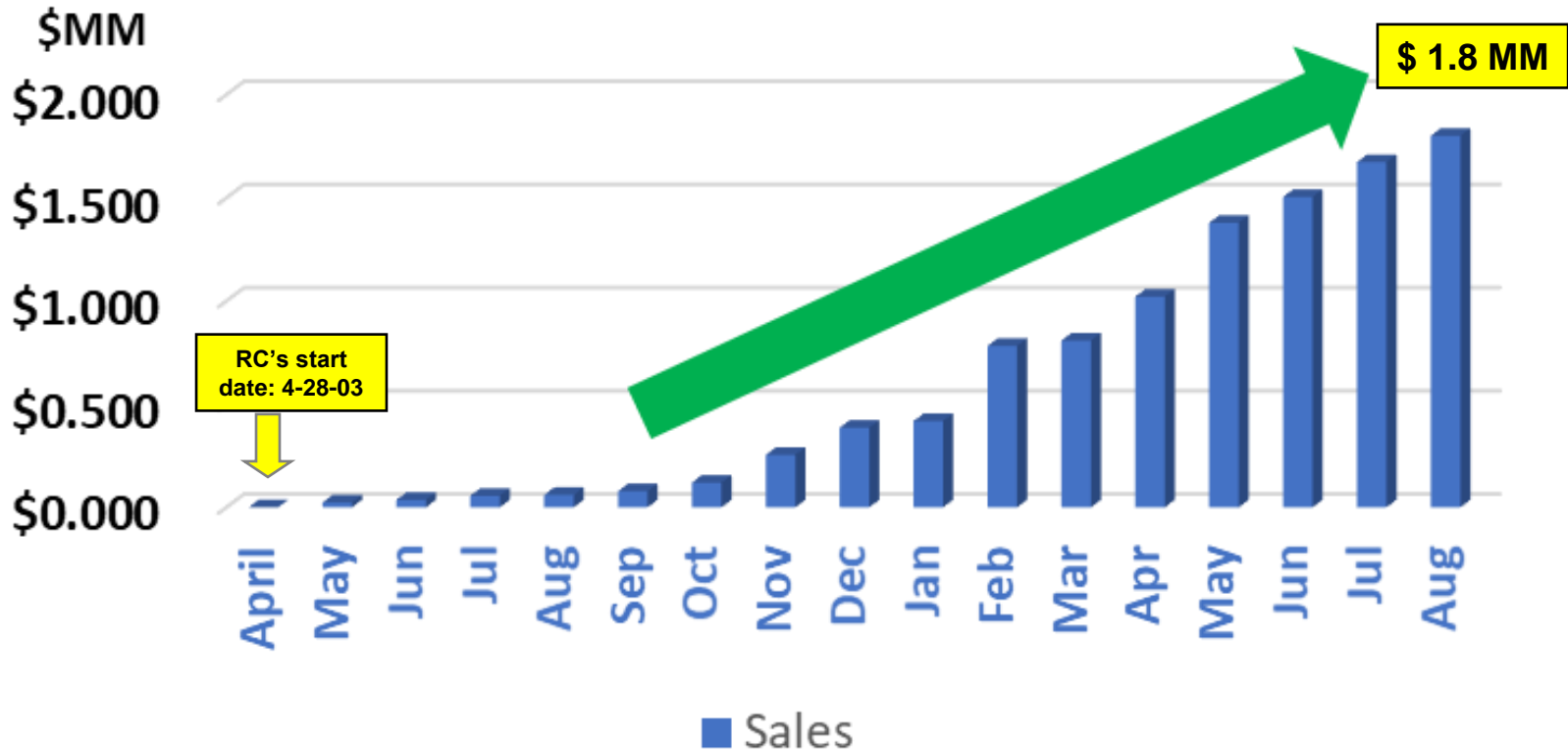
1. **Customer Focus Supports**
2. Maintaining or Improving Quality
3. Lowering Product Cost
4. Strategic Marketing
5. Applying Lean to Office and Production



# Standard Spare Parts Unit Price to Unit Cost Example



# Rotary Die Cutters Machine Company 2003 - 2004 Sales



**No Layoffs**

# Thank You



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