



# KARL STORZ - Endoskope

**STORZ**  
KARL STORZ — ENDOSKOPE



***KARL STORZ, Endovision***



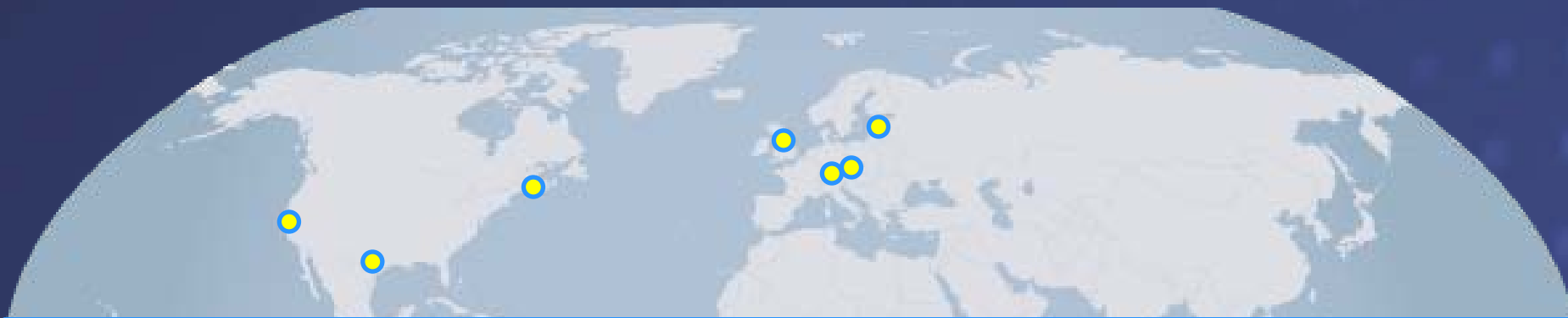
- **Medical Devices**
  - minimally invasive surgery
- **Started in 1945**
- **Privately Held, Family Owned**



# KARL STORZ - Endoskope

## Global Company – Major Production Sites

**STORZ**  
KARL STORZ – ENDOSKOPE



### Major Production Sites Worldwide

1. Germany - KARL STORZ GmbH & Co. KG, Tuttlingen
2. Germany - KARL STORZ GmbH & Co. KG, Munich
3. Switzerland – STORZ Endoskop Produktions GmbH, Schaffhausen
4. Switzerland – STORZ Endoskop Produktions GmbH, Widnau
5. Estonia – KARL STORZ Video Endoscopy Estonia, Tallinn
6. Great Britain – KARL STORZ Endoscopy (UK) Ltd., Dundee
7. USA – KARL STORZ Imaging, Inc., Goleta, CA
8. USA – KARL STORZ Endovision, Inc., Charlton, MA
9. USA – KARL STORZ Integrated Solutions , Stafford, TX



# KARL STORZ Endoskope

## KARL STORZ Endovision (Charlton)

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### Charlton

- Purchased Codman 1989
  - 5 employees
- Fiber optic intellectual property
- More than 600 employees today
- 100K ft<sup>2</sup> facility – opened 1992
- More than 400 products



### North Attleboro

- Machining center
- More than 18 employees
- 5K ft<sup>2</sup> facility – opened 2007



# KARL STORZ Endovision, Inc.

## Product Portfolio

**STORZ**  
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*Fiber & Video  
Endoscopes*



*Electro-Mechanical Devices:  
Light Sources, Endoflators, Power Shavers...*



*Industrial*

*Light Cables*







# 2007 . . . Our Burning Platform

**KST Acceptance (PPM)**



2007

2012

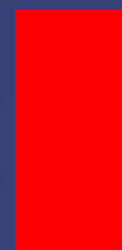
**Out of Box Warranty (PPM)**



2008

2012

**Apparent Lead Time**



2007

2012

**Inventory Turns**



2007

2012

**Revenue**



2007

2012

**Op Margin**



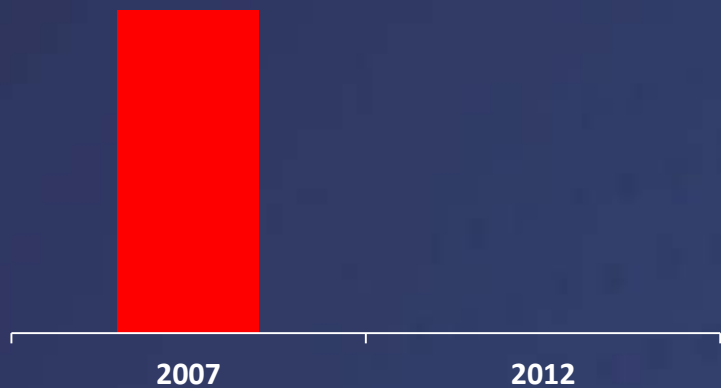
2007

2012



# 2007 . . . Our Burning Platform

## Employee Turnover

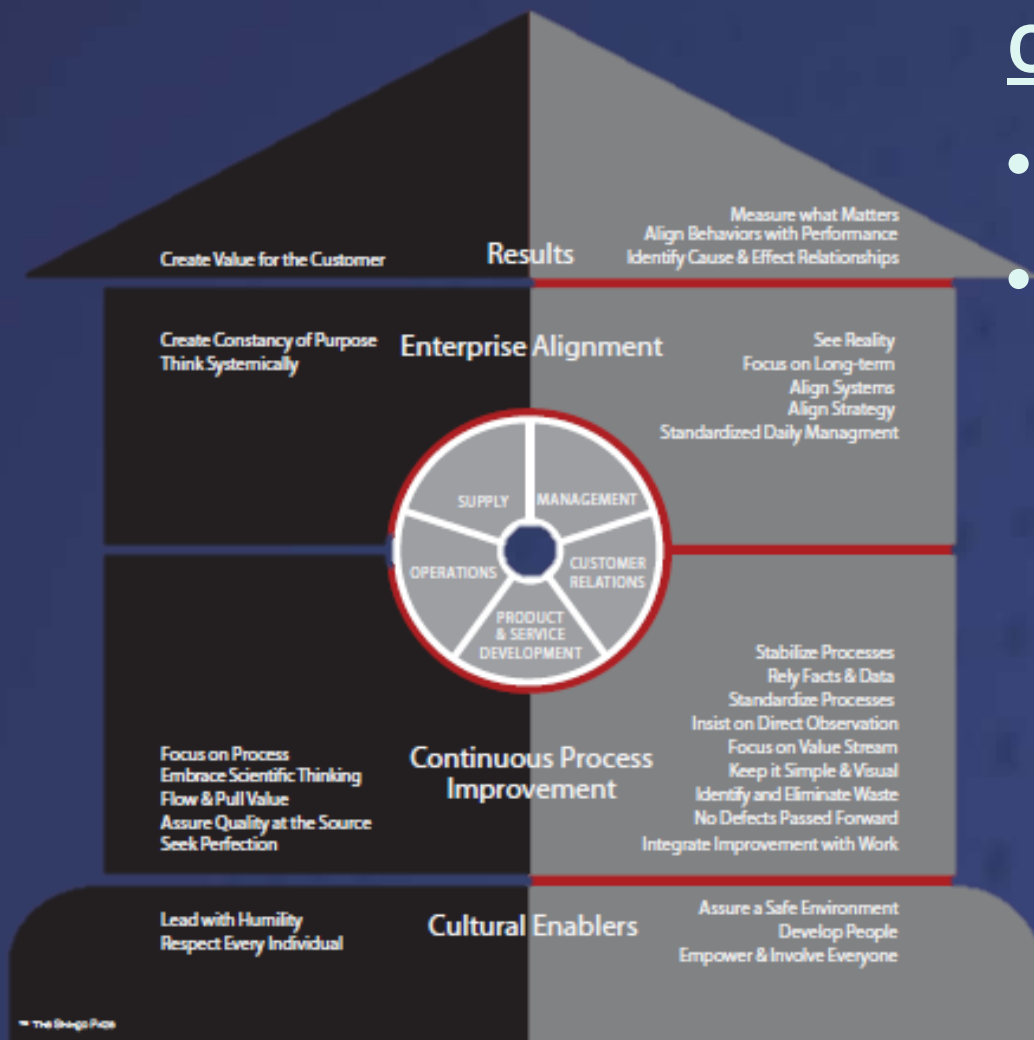






# Shingo Model

## – Principles of Operational Excellence



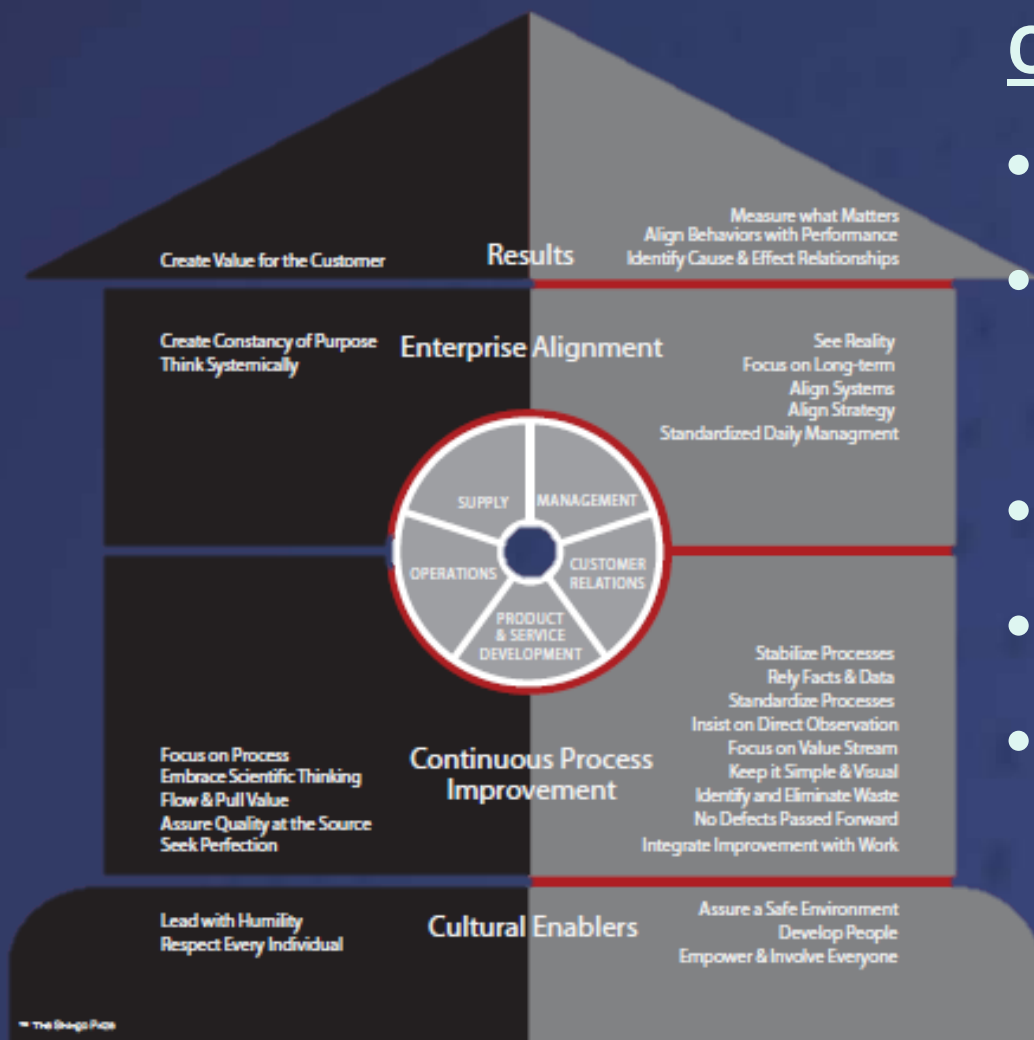
## Cultural Enablers

- Lead with Humility
- Respect Every Individual



# Shingo Model

## – Principles of Operational Excellence



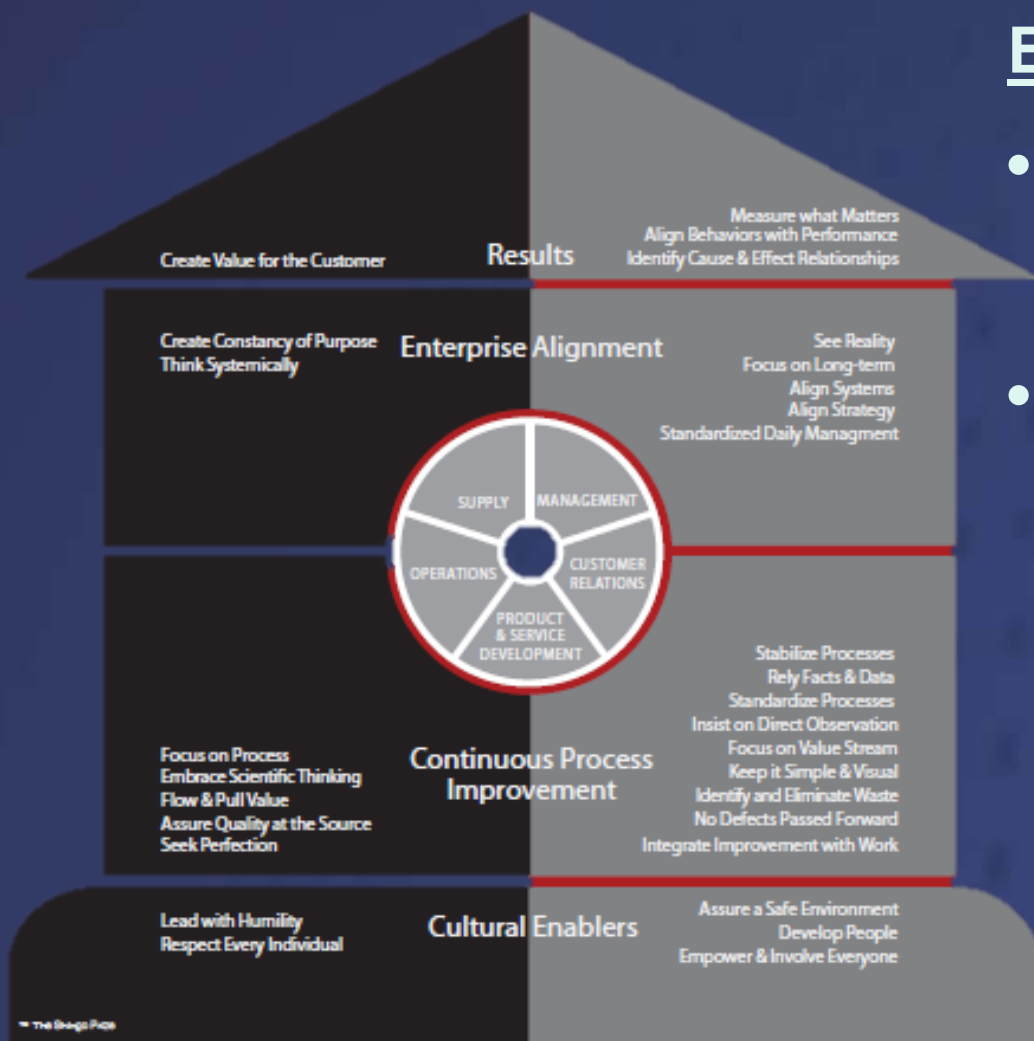
## Continuous Improvement

- Focus on Process
- Embrace Scientific Thinking
- Flow & Pull Value
- Quality at the Source
- Seek Perfection



# Shingo Model

## – Principles of Operational Excellence



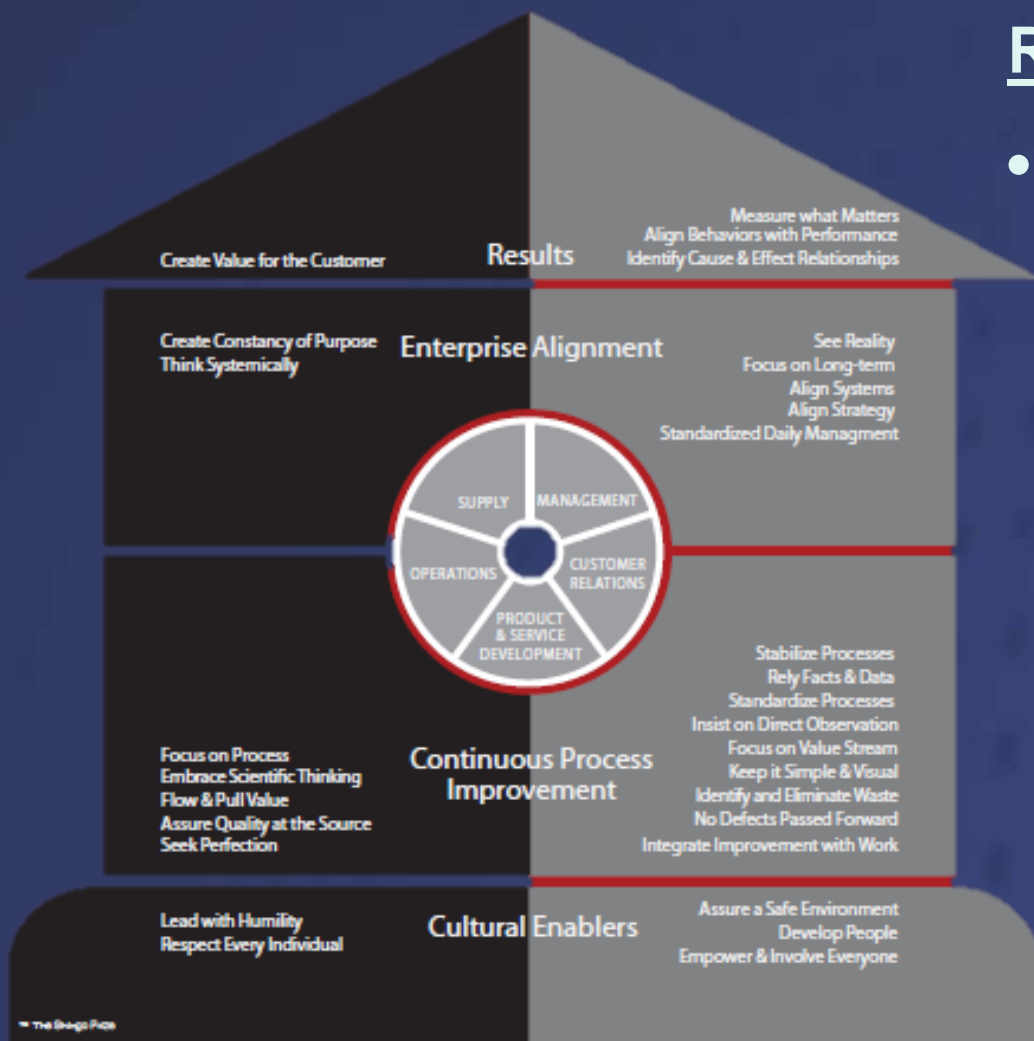
## Enterprise Alignment

- Create Constancy of Purpose
- Think Systemically



# Shingo Model

## – Principles of Operational Excellence



## Results

- Create Value for the Customer



## *Our Old Process*

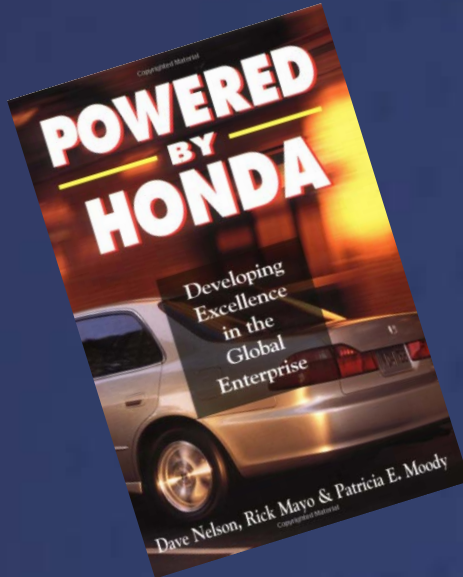
- Traditional MRP centrally planned scheduling system based on forecasts (SAP)
- It works, but difficult to synchronize vertically integrated operations
  
- Hard work – marginal results
  - *Late Deliveries*
  - *High Inventory*
  - *Low Morale*



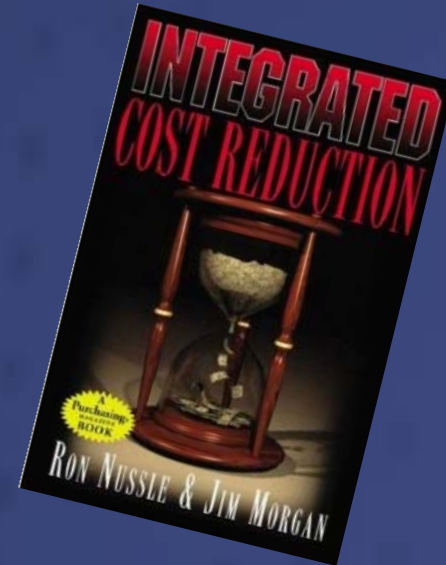
# Supplier Development Approaches

Honda of America-  
Marysville, OH

AlliedSignal Aerospace  
Phoenix, AZ



Purchasing Medal of  
Excellence Sept 21, 1995



Purchasing medal of  
Excellence Sept. 18, 1997



## What is it?

- 13 week/13 step process (4 weeks dedicated to implement)
- 2 dedicated resources
- Model line Concept
- Hands-on teaching (Sensei)
- Deploy Continuous improvement (Lean/6 Sigma)
- Savings split with supplier (after target cost met)
- Used for supplier improvement (throughput, Quality, Cost)
- Included Value Analysis/Value Engineering
- Open Book relationship
- True partners
- All about IMPLEMENTATION





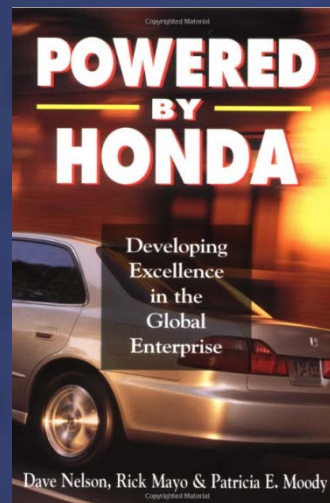
# Honda Supplier Development

## Pros

- Drives true partnering
- Achieved great results
- Not capital intensive
- Hands-on teaching

## Cons

- Huge commitment
- Requires open books
- Free to supplier



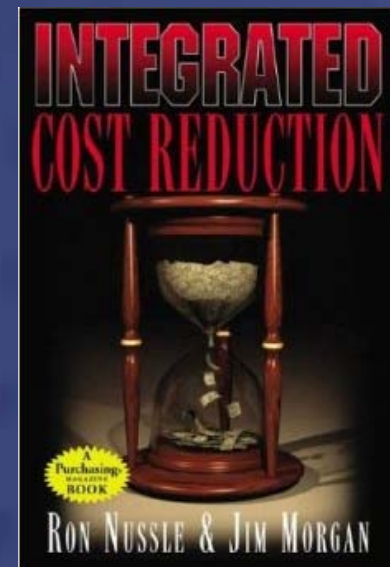




# (Supplier) Integrated Cost Reduction

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- 2-3 Day engagement with supplier
- Requires Technical and Supply Chain resources
- Focuses on all aspects that drive cost
- Early wins are marginal
- Real value is in the value engineering
- Extensive upfront analysis





1. Make sure your own house is in order
2. Why do I need to “develop my suppliers”
3. Don’t mistake auditing for Supplier Development
4. How can you get the supplier to believe in your production system?
5. Lean or Six Sigma?
6. Outside resources are good
7. Which suppliers should I work with?
8. What is my timeframe?
9. What resource allocation do I need and for how long?