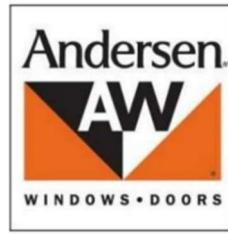


# CASE STUDY



## Value Stream Transformation

### 1. Company Overview:

Andersen Windows was founded in 1903. It is headquartered in Bayport, Minnesota and is the largest window and door manufacturer in North America. The major brands of this company are: Andersen, Silverline, Renewal by Andersen, American Craftsman and MQ.

#### Products and Services:

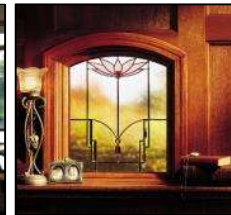
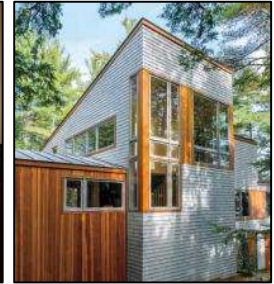
- Windows, patio doors
- Window replacement
- Architectural products

#### Key Figures:

- 11,000 employees
- 20 locations
- USD \$2.5 billion revenue

#### Lean Story:

- 2003: Value stream organization
- 2004: Model Line
- 2005: Material flow with supermarkets
- 2007: Andersen Management System
- Now: Lean Six Sigma



### 2. Original Situation:

The Andersen Woodwright® double-hung windows with easy tilt-release locks combine old-world character with modern technology. It has an appearance customers and architects love with features they need. Standard offering has the following options: 4 interior and 7 exterior finishes, grilles, screens, and patterned glass.

#### Window Manufacturing Line:

- High end architectural product
- Made to order
- Custom sizes
- 30% annual growth
- Market with high seasonality



### 3. Lean Intervention:

- KPI driven tier management
- Cross functional support teams
- Daily continuous improvement
- Quality circles
- Time based material delivery
- Total productive maintenance
- Fast pace Kaizen workshops
- Leader standard work
- 5 Why problem solving

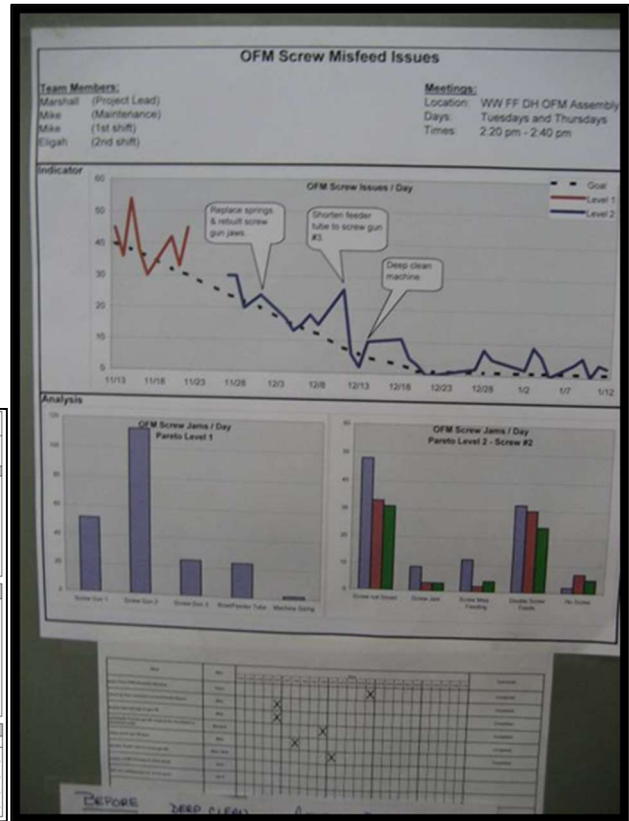
Workstart	Assigner	End Date	Task	Task Manager
April 4, 2007	Daniel Rubin	April 5, 2007	...	Chris Bowyer, Jerry Austin, Matthew Lee

1. Problem Definition	2. Problem Definition: (Cause/Impingement)	3. Root Cause Summary
<p><b>Problem Statement:</b> The problem was identified during a Daily Kaizen Quality Audit (DKQA) on April 4. This is a problem because the machine is not producing the correct part. The problem is located on the edge of the fish assembly.</p> <p><b>Why #1:</b> Why are the fish not being produced?                      A: The fish are not being produced because the machine is not producing the correct part.</p> <p><b>Why #2:</b> Why are the fish not being produced?                      A: The fish are not being produced because the machine is not producing the correct part.</p>	<p>The fish are not being produced because the machine is not producing the correct part. The problem is located on the edge of the fish assembly.</p> <p><b>Why #1:</b> Why are the fish not being produced?                      A: The fish are not being produced because the machine is not producing the correct part.</p> <p><b>Why #2:</b> Why are the fish not being produced?                      A: The fish are not being produced because the machine is not producing the correct part.</p>	<ol style="list-style-type: none"> <li>1. Sides not Square</li> <li>2. Screw type</li> <li>3. Lock, Lock, Lock</li> <li>4. Fish Mesh design</li> <li>5. Not using Upper Fish operation at Fish Barrels</li> </ol>

3. Countermeasure Plan:												
<table border="1"> <thead> <tr> <th>Action Item</th> <th>Resp. Person</th> <th>Due Date</th> <th>Action Item</th> <th>Resp. Person</th> <th>Due Date</th> </tr> </thead> <tbody> <tr> <td>...</td> <td>...</td> <td>...</td> <td>...</td> <td>...</td> <td>...</td> </tr> </tbody> </table>	Action Item	Resp. Person	Due Date	Action Item	Resp. Person	Due Date	...	...	...	...	...	...
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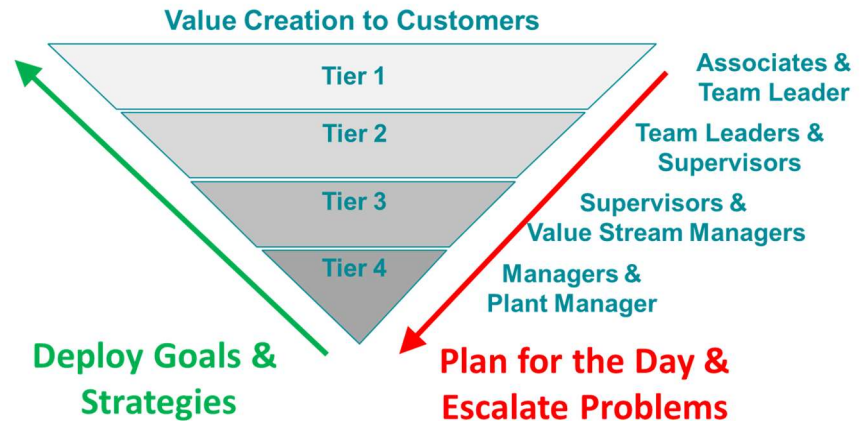
### 4. Results and Learning:

Metrics	Baseline	Results	Improvement
Injuries / Year	8	1	87%
Incident Rate	4.5	2.1	54%
Internal Quality	86%	94%	37%
Initial Quality	1.2	0.7	44%
Backorders	4,407	416	91%
Hours / Unit A	1.9	1.6	15%
Hours / Unit B	2.4	1.8	24%



#### Learning:

- Structure
- Accountability
- Cascade of responsibility
- Pace of change



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