



Wiremold's Lean Journey

Mike Kijak
Plant Manager
Wiremold



Wiremold

- Leading manufacturer of pathways and cable management solutions that reduce installation and ownership costs
- Delivers the widest range of innovative ways to get from point A to point B



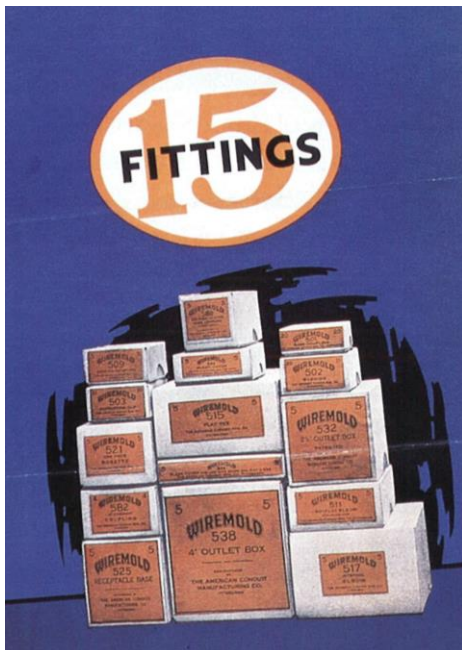


Wiremold – Early History





Wiremold – Early Products





Legrand – A Global Presence

- 70 subsidiaries and offices
- Sales in 180 countries



34,000
employees
worldwide

More than
\$6 billion in
global net
sales in 2014

Market leading positions:

20% market share in wiring devices

15% market share in cable mgmt

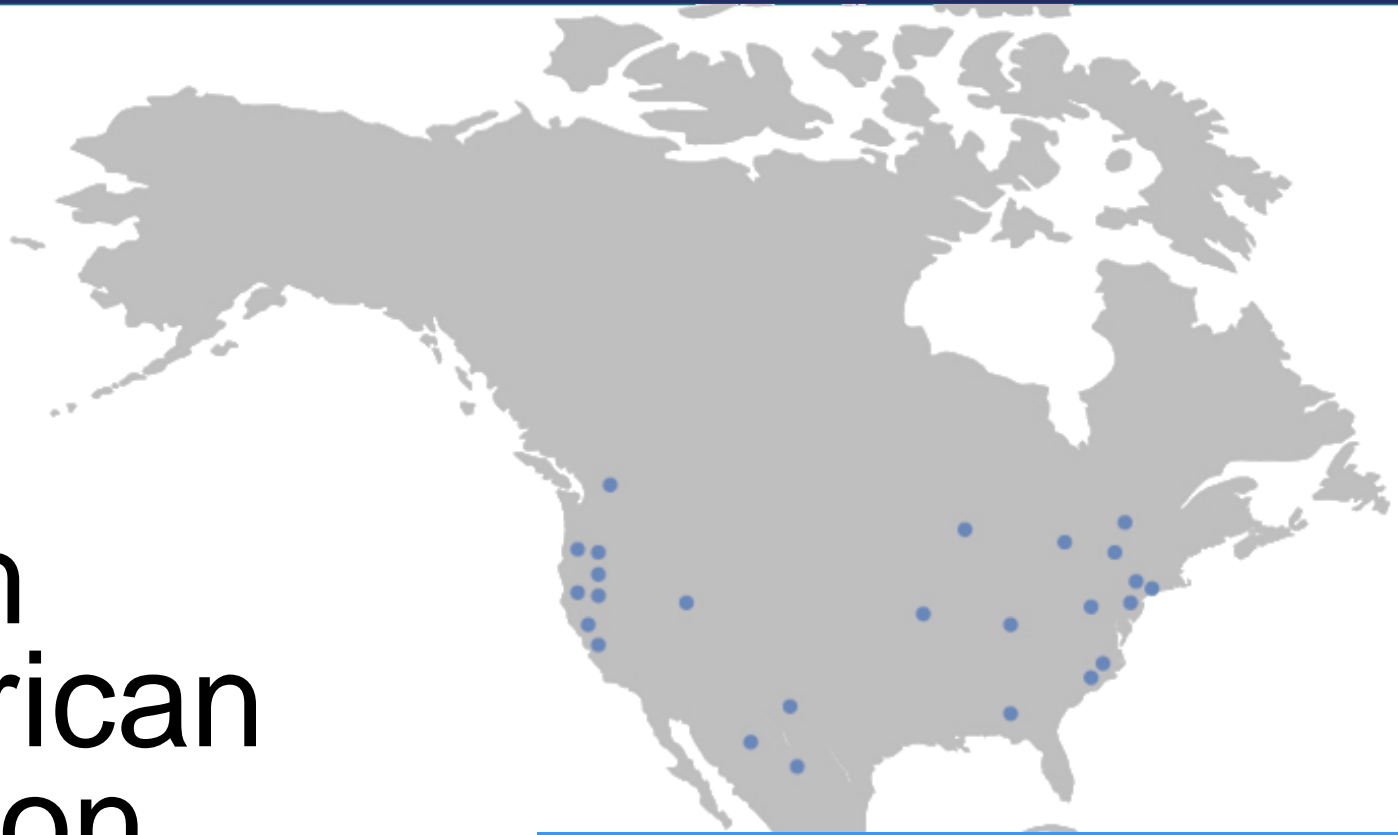
67% of sales generated by products
that are **#1** or **#2** in their market

5+% of revenues re-invested in R&D





the North American division



the Largest Division of Legrand

over 2,600 employees

over \$1 billion in sales in 2013



Legrand North America Brand

CORPORATE
BRAND:



PRODUCT
LINES:

Ortronics

On-Q

Cablofil

Pass & Seymour

Wiremold

AUTONOMUS
BRANDS:



WattStopper





Legrand – Commercial Buildings

Ortronics®



Wattstopper®



Wiremold®
Pass & Seymour®
Cablofil®



Middle Atlantic
Wiremold®



Wiremold®



Middle Atlantic Products®





North America Factory Map

OREM (BCS)

- Manufacturing, Distribution
- Size: 15,000 sq. ft.
- Headcount: 30

MASCOUTAH (EWS)

- Manufacturing, Distribution
- Size: 76,000 sq. ft.
- Headcount: 168

FAIRFIELD (CAV)

- Manufacturing, Distribution
- Size: 380,000 sq. ft.
- Headcount: 557

WEST HARTFORD (EWS)

- Manufacturing,
- Size: 180,000 sq. ft.
- Headcount: 464

HICKORY (LDC)

- Manufacturing, Distribution
- Size: 56,000 sq. ft.
- Headcount: 88

ANAHEIM (LDC)

- Manufacturing
- Size: 46,000 sq. ft.
- Headcount: 90

TIJUANA (EWS)

- Manufacturing
- Size: 227,000 sq. ft.
- Headcount: 680

CIUDAD JUAREZ (LDC)

- Manufacturing
- Size : 23,000 sq. ft.
- Headcount: 49

CONCORD (EWS)

- Manufacturing
- Size: 225,000 sq. ft.
- Headcount: 269

Totals:

- Size : 1,228,000 sq ft
- Headcount: 2395



West Hartford Facility



Size and Information

- 5 buildings (built in 1920s, 30s, 40s, 60s & 70s)
- 180,000 square feet of manufacturing space
- 325 people, 2 shifts, 5 day operation

Core Competencies

- Roll Forming – 12 mills
- Metal Stamping – 50 stamping presses
- Metal Fabrication – 3 CNC punch presses, 1 laser, 12 brake presses, 7 welders, 6 aluminum saws
- Painting – Electrocoat, electrostatic spray, powder
- Electrical Assembly and Test – 20 wiring tables



Connecticut's Competitiveness



Connecticut

Gross State Product **\$249 B**

As of November 2014

[+ Follow](#) (0)

At a Glance

Population: **3,596,700**

Governor: **Dannel Malloy**

Median Household Income:
\$68,587

Job Growth (2014): **0.7%**

Cost of Doing Business: **14.1%
above nat'l avg**

College Attainment: **37.2%**

Net Migration (2013): **-1,500**

Moody's Bond Rating: **Aa3**

Forbes Lists

**#36 Best States for
Business**

#47 in Business Costs

#20 in Labor Supply

**#37 in Regulatory
Environment**

#44 in Economic Climate

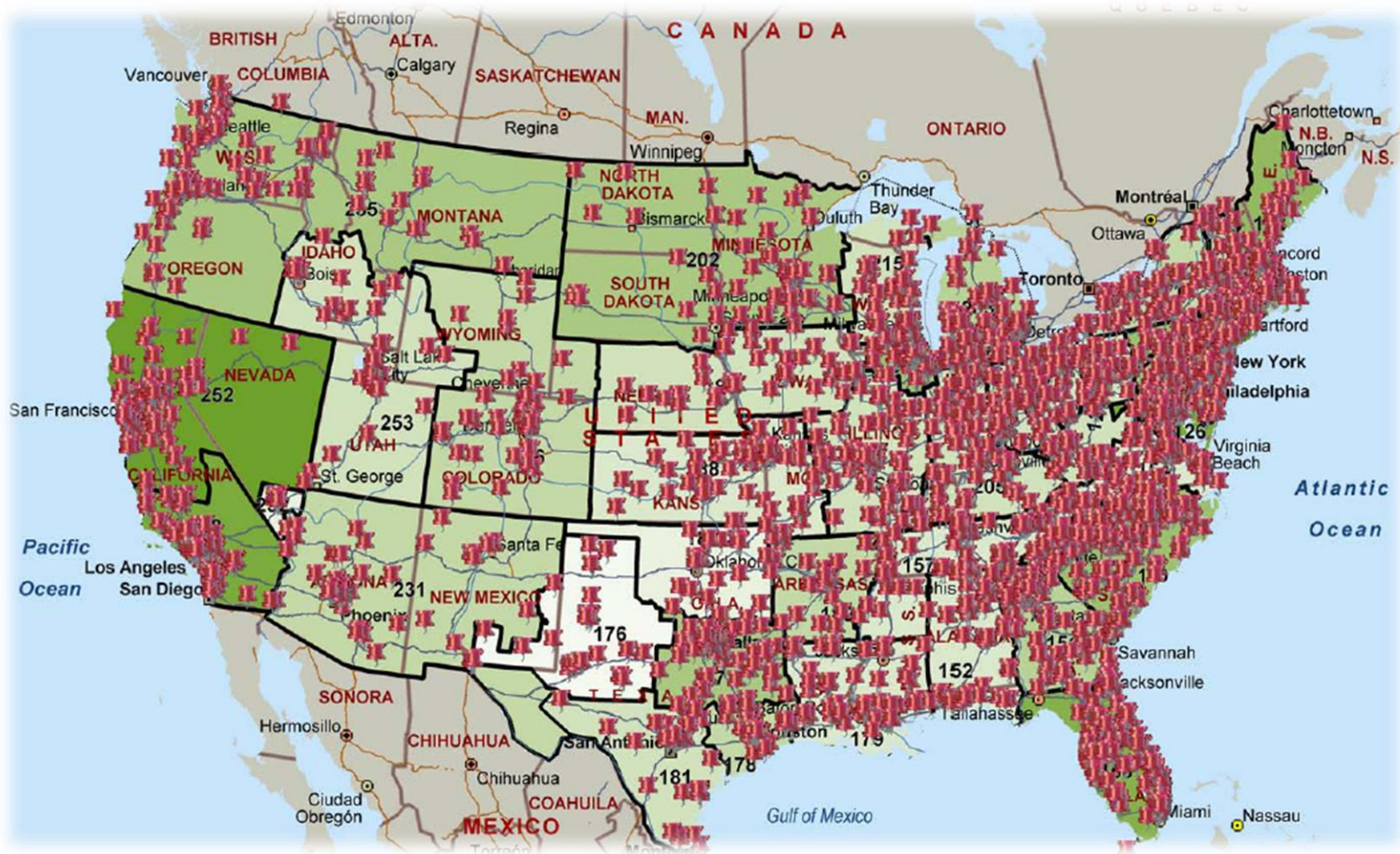
#28 in Growth Prospects

#3 in Quality of Life

Source: 2014 The Best States for Business and Careers, Forbes



Why Connecticut?



West Hartford Lean Journey

Began in 1991 – Early activities

- Established the Just In Time Promotion Office
- Lean training came from the top down
- Lean training in Japan for management personnel
- Consultant led, 5 day kaizen events
- Eliminated “process villages” – formed product teams
- Focused on setup reduction and process flow
- Reduced the number of suppliers
- Fixed the order-taking process

Promise to our Union

“No one will lose their job as a result of kaizen.”

-Art Byrne, CEO, 1991





West Hartford Lean Journey

Growth Strategy

- Insource where possible to improve flow
- Buy up small companies with similar product lines
- Rapidly develop new products

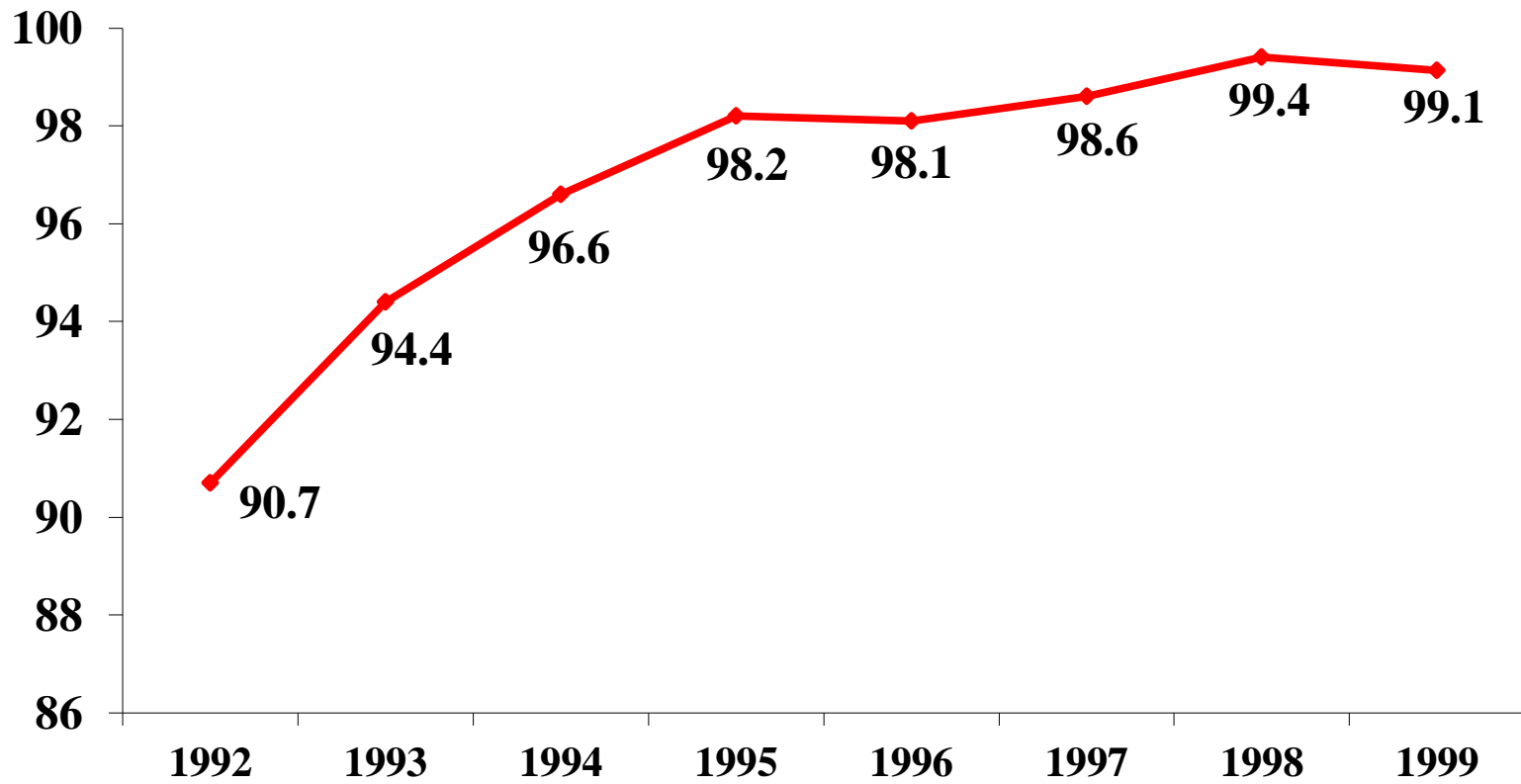
Yearly Expectations

- Reduce defects by 50 percent
- Improve productivity by 20 percent
- Deliver 100 percent of products exactly on time
- Increase inventory turns to a minimum of 20 per year
- Increase profit sharing to 20 percent of straight wages



Defect Reduction

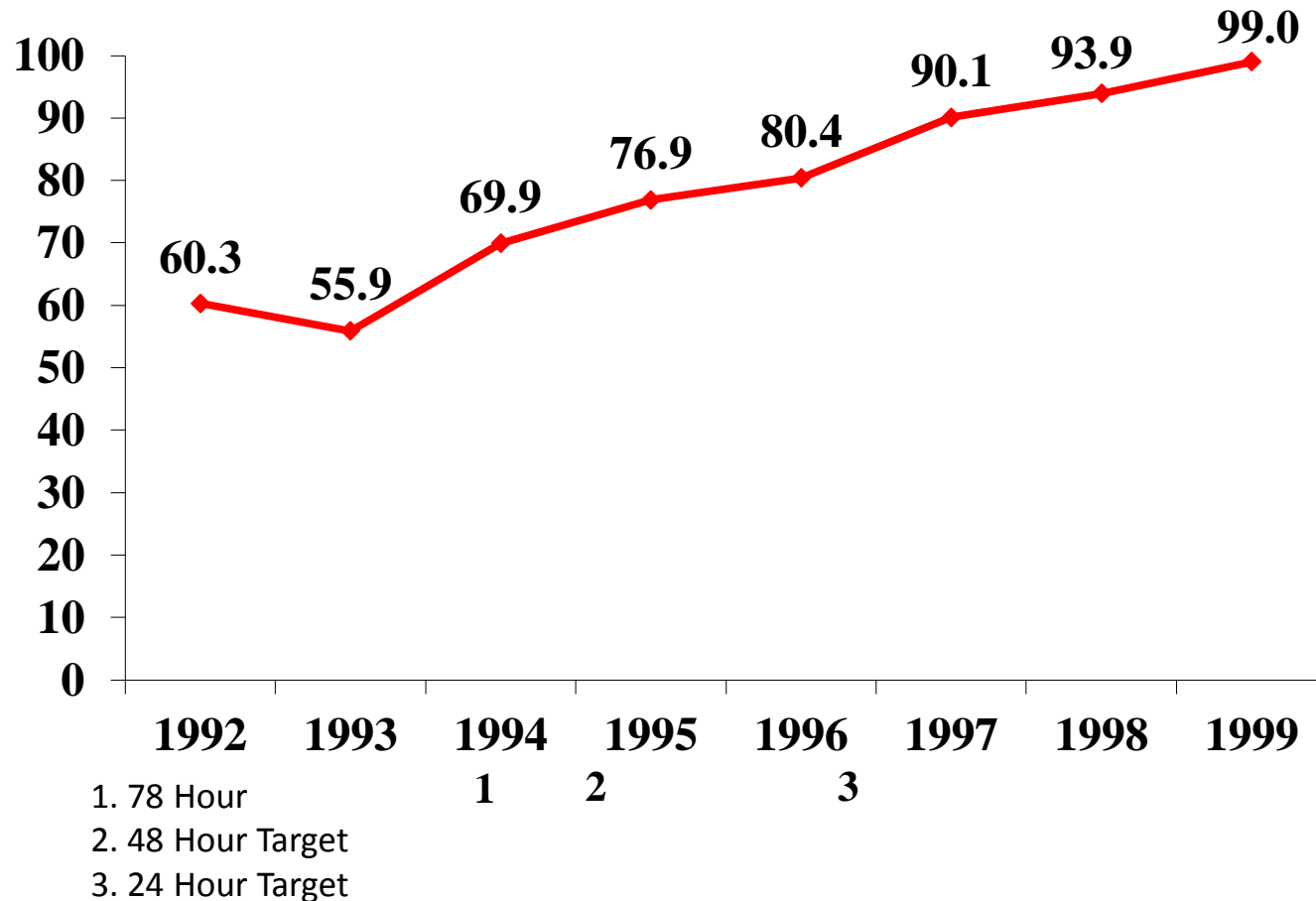
Defects per 1000





First Shipment Fill Rate

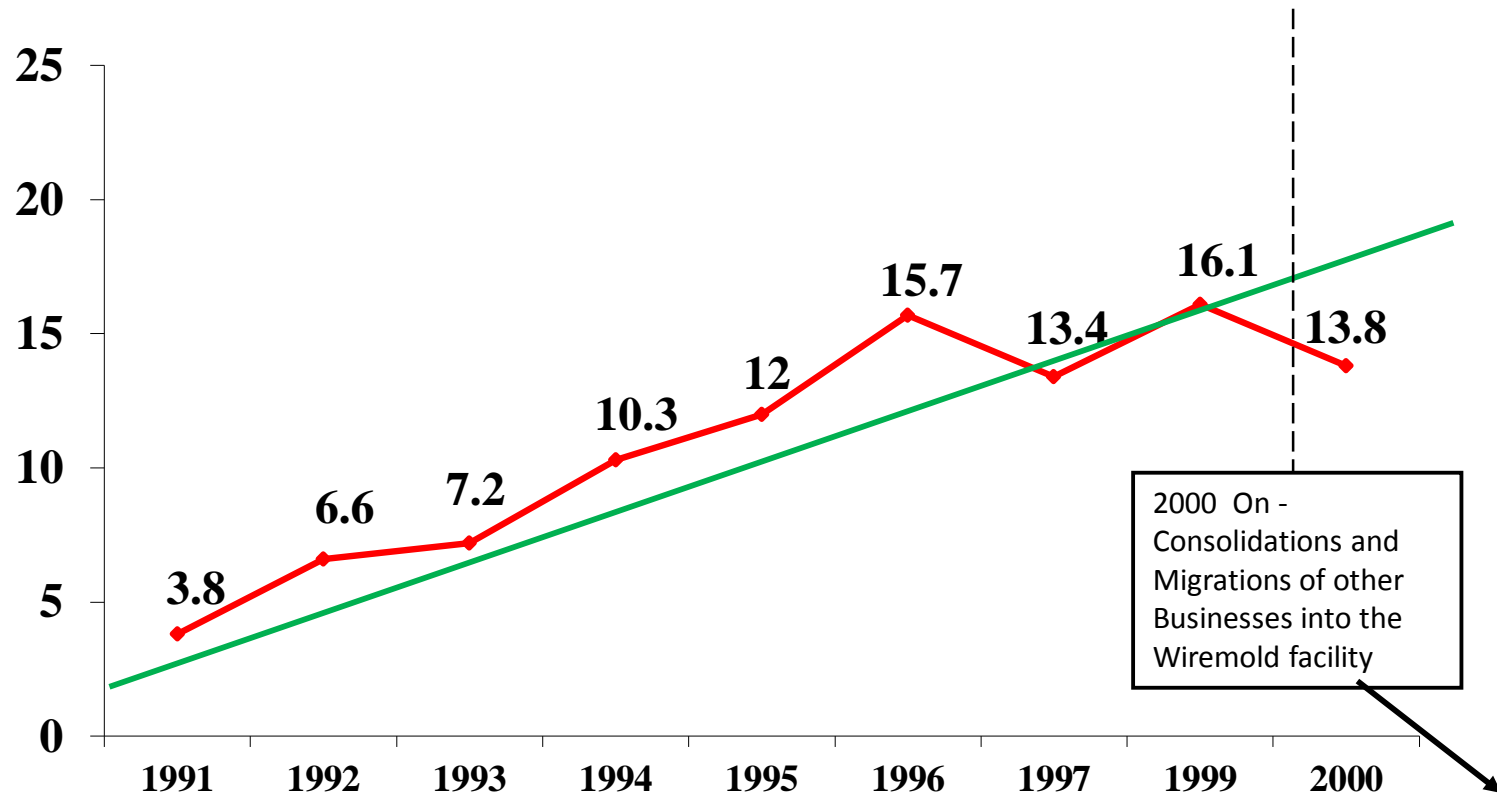
% Fill Rate by Line





Inventory Turnover

Turns (12 Month Ave.)



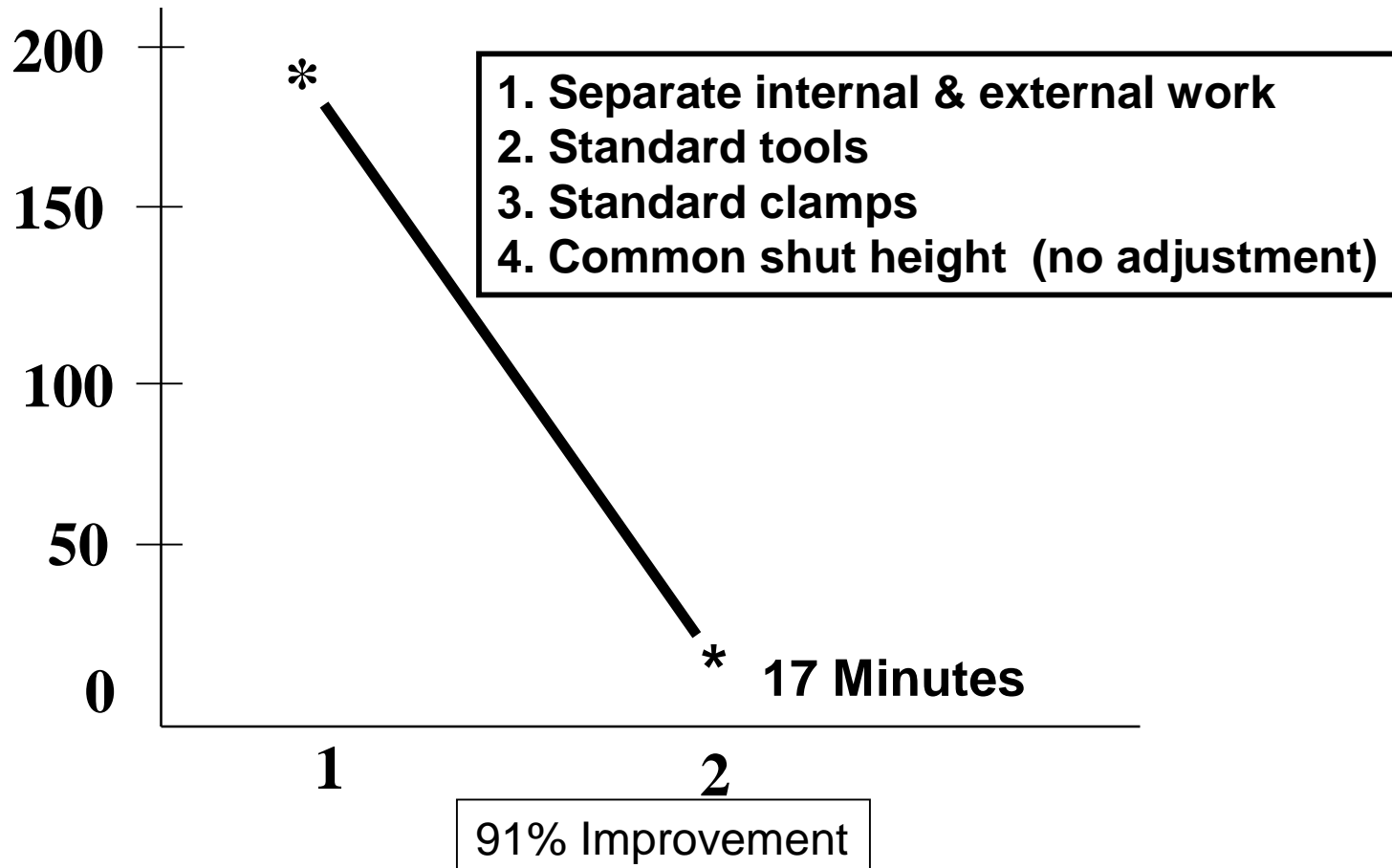
263% Improvement Since 1991



Setup Reduction

100 TON PRESS

After Kaizen 1 (Nov '91)



Results: 1990-1999

- Sales up +4.1X
- Hourly workforce – no increase
- Operating Profit up +13.7X
- Inventory decreased by 75%
- Floor space reduced by 50%



Company acquisitions:

Isoduct, Perma Power, Just data, Simware, Airey Thompson, Walker Systems, Rototech, Raceway Components, Interlink, Atlas Cable Tray, Dual Lite, Davis International, American Modern Home Products, Polam-Suwalki, Salamandre Ltd, Electrunk Ltd, Swifts of Scarborough Ltd, Radiant Communications, Arena Cable Management Ltd, Walsall Cable Management Ltd, Homaco Inc



Economic Changes: 2000-2014

- Focus shifted to cost reduction opportunities

Plant consolidations:

- | | |
|-----------------------|------|
| • Airey-Thompson | 2002 |
| • Walker Systems | 2004 |
| • Brooks Electronics | 2005 |
| • Carlisle Operations | 2009 |
| • Fergus, Ontario | 2010 |
- Many opportunities to establish lean processes



Legrand Growth: 2005-2014

Acquisitions:

- | | |
|----------------------------|------|
| • On-Q Home | 2005 |
| • Cablofil | 2006 |
| • PW Industries | 2008 |
| • Middle Atlantic Products | 2011 |
| • Electrorack | 2011 |
| • NuVo Technologies | 2012 |
| • Lastar | 2014 |
- Many more opportunities to establish lean processes



Reaching New Heights In Innovation

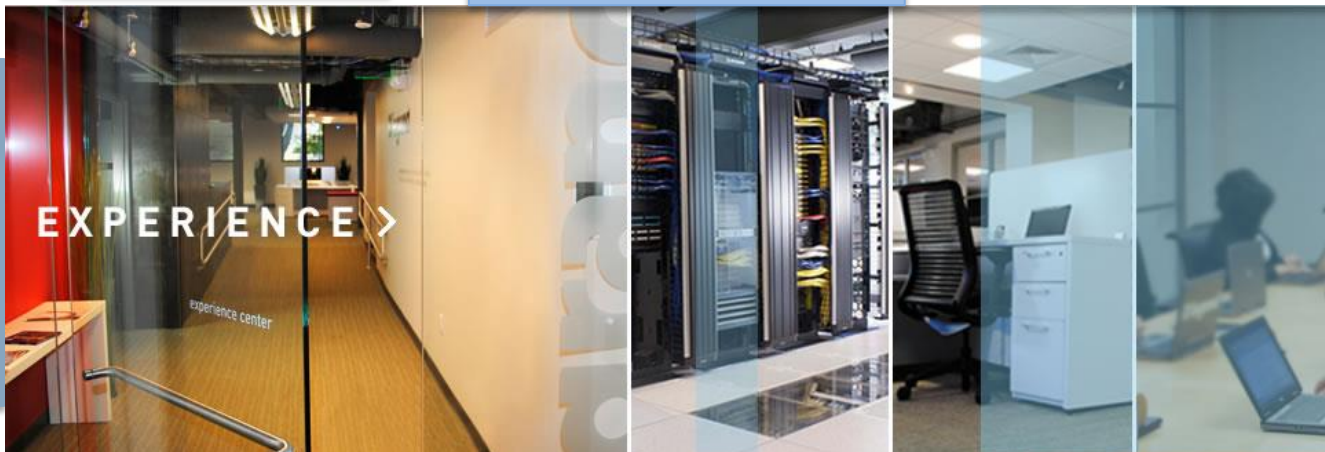
HI Connect Design
People's Choice
Award Winner

2013 TED Magazine
Best of the Best
In Marketing

2012 FORBES
World's 100
Most Innovative
Companies

EC&M Product
of the Year
Category Winner **13**

IIDEA Bronze
Award Winner



Interior Design Magazine's
2012 Best of the Year
Awards Finalist

Today's Facilities Manager
2013
Reader's Choice
Award

2013 Building Magazine's
Money Saving Award Winner

True Value's
2012
Supplier of the
Year

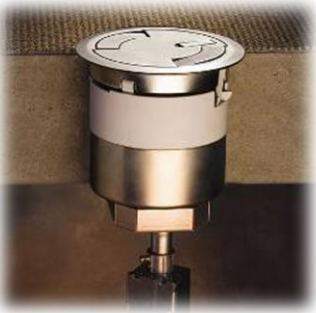
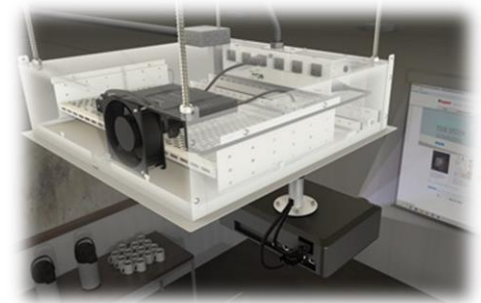
2014 TED Magazine
Best of the Best
In Marketing



New Products Since 2012

West Hartford manufactured products

- 15 New Products or Product Families
- Sales of \$4,923,500





Lean at Wiremold Today

- Approximately 1500 kaizen events since we started
- 275 kaizen events over the past 4 years
- Used to drive most of our productivity gains
- Learn by doing – use data and trystorm
- Mentor other Legrand businesses



2014 Kaizen Results

- 50 kaizen events (most were 4 or 5 day events)
- Training – 1 to 1.5 hours before events
- Daily report outs in the cell
- “Yokoten” – employees share what they learned during final presentation
- Focus on total employee involvement and leadership development
 - 160 different participants – 95 hourly, 28 salary, 33 office, 4 other
 - 40 different leaders



Lean Walkaround (Bi-weekly)

Each team reviews the following:

- Training matrix
- Productivity results (Department & key cells)
- Modified policy deployment matrix to set/confirm kaizen events
- Kaizen activity and followup
- ISO14001 recycling results

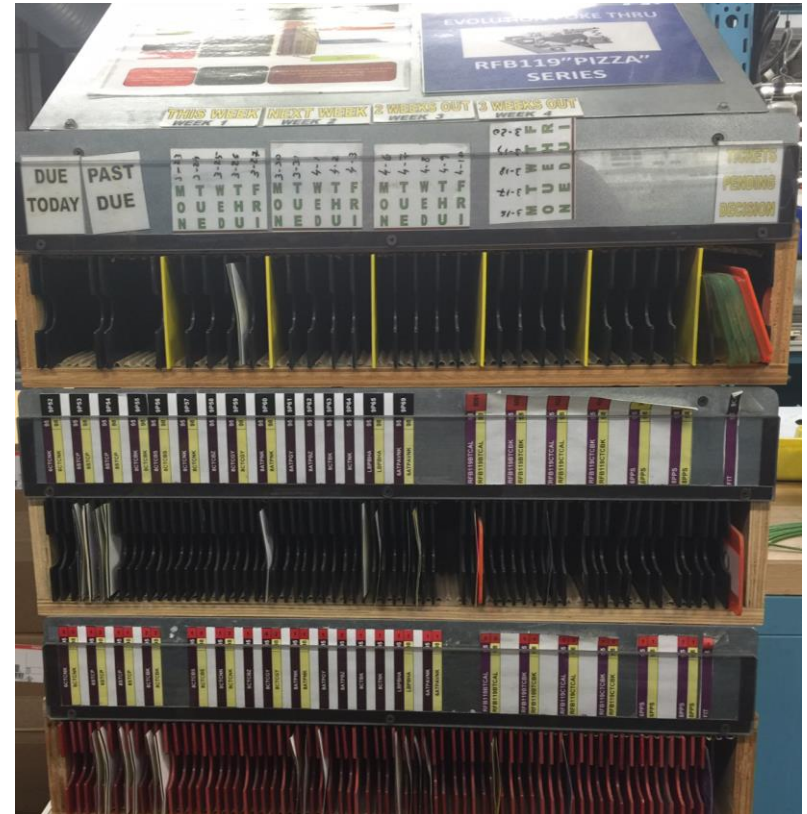




Pull Systems

- Heijunka mailboxes
- WPICS tickets

Mfg Plt: 01	Date: 03-11-15	Time: 05:16	Type: ST
P/T: 80	Ord Plt:	Ord #:	Due:
Pick Loc:	Heijunka Id: 9P02	Box Type: SKID	
Part#: 6ATCPGY 6IN CORE - PREWIRED - SURFACE GRAY		QTY: 8	
Ship To: 98 Rancho	Put Away:	Ser: (S) 100000008323557	





Pull Systems

- Kanban cards
- Second link cards

Department Color	Cell Color
Supplier: General Die Casting	Card Revision 12
Phone: 330-467-6700	Building: 2
Fax: 330-657-2192	Area of Plant: Poke Thru
Contact: TODD JACKOVITZ	Rack: EVPT K
Contact supplier by: PHONE	1-1
Planner: Kristin Piatkowski	
Lead time: 2-3 DAYS	
Container Size/Color 10x10x10 Vendor Box	
"A" Item: No	
Ramac 1007402-BK	
Description: 6" Black FF Powder Coated Assembly	
Vendor Part#	
Qty/ Container 8	Number of Cards 56
	Hand in When Opened

Part Description	RECESSED POKE THRU, 6 IN INSTALLATION COVER		
Mfg Cell TURRET	Part Number 1006627	Total # Cards 3	
WIREMOLD - BLDG4 - TRUMPF	*1006627*	THIS PROGRAM WILL ALSO RUN 72 PIECES OF PART NUMBER 1006629.	
Schedule Box BUYER PLANNER	Quantity 36	Date / Ord Req	Run @ 1 Cards
Card Rev 10	*36*		MEDIUM TOTE
Return Parts To: EVPT J 2-1	Building: 2	Poke Thru	

Department Color	Cell Color
Supplier: MID STATE	Card Revision 7
Phone: 800-336-7872	Building: 2
Fax: 614-552-1385	Area of Plant: Poke Thru
Contact: LINDA FISHER	Rack: OMNI BOX D
Contact supplier by: PHONE	2-1
Planner: HECTOR SIERRA	
Lead time: TUESDAY	
Container Size/Color Large Box	
Ramac 1007320	
Description: 6" Black FF Powder Coated Assembly	
Vendor Part#	
Qty/ Container 8	Number of Cards 56
	Hand in When Opened

**Kanban Drop Off
NEED TO ORDER**





Recycling Program

ISO 14001 Waste Audit Inspections Factory Area Audit Sheet

Date: Thursday, March 19, 2015

Auditor(s): Phil Stewart/ Belinda Silva

Waste Streams Audited									
Area	Landfill Waste	Paper & Cardboard	Plastic	Bottles & Cans	Wood	Repackaging Materials	Metal	Aerosol Cans	5 Randomly Selected Personal Landfill Bins
	Compliance %	Compliance %	Compliance %	Compliance %	Compliance %	Compliance %	Compliance %	Compliance %	Compliance %
Building #4A-B	40%	93%	93%	87%	100%		93%		44%
Factory %	46%	90%	96%	89%	100%	94%	94%	100%	70%

Departmental Scoring	Total Bins	Total Score	Avg. Score	Department Compliance	Rank
Building #4A-B Totals	38	138	3.63	73%	5



Major contamination: Recyclable goods were found in the landfill waste bins through out the department ex. cardboard, plastic and paper. Personal landfill waste bins were contained with recyclable goods. Plastic bins were contaminated with trash. Martha assisted with the inspection.



Recycling Efforts

2014 Results:

- Non-ferrous (copper, SS, aluminum) – 53 tons
- Cardboard / Plastic – 97 tons
- Steel – 2000 tons
- Pallets – Zero to landfill
- Total annual savings - \$1.1M
- Trash to Landfill – 69 tons (down from 86 tons in 2011)
- Recycling rate – 97%, 99.3%



Energy Reduction Program

eia Independent Statistics & Analysis
U.S. Energy Information Administration

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State Profile and Energy Estimates

CHANGE STATE/TERRITORY ▾

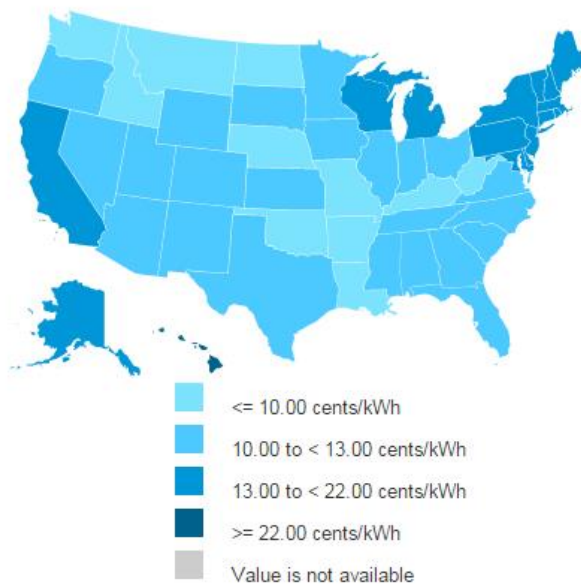
OVERVIEW DATA ▾ ANALYSIS

RANKINGS COMPARE FIND ? HELP

Rankings: Average Retail Price of Electricity to Residential Sector, December 2014 (cents/kWh)

Download Table Data as CSV

Rank	State	Average Retail Price of Electricity to Residential Sector (cents/kWh)
1	Hawaii	34.59
2	Connecticut	19.69
3	Massachusetts	19.66
4	New York	19.26
5	New Hampshire	18.52
6	Alaska	18.45
7	California	17.08



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Energy Performance

Goal

25% Reduction in Energy
Intensity by 2020

Commitment

14 Facilities, including 5
plants, covering 1.5
million square feet

Progress Goal Achieved

32% Cumulative (vs Baseline)

4% Annual (2013)

New Goal (Starting in 2012)

20% Reduction in Energy
Intensity by 2022

Data

[View Details on Legrand's
Progress to Date](#)

Showcase Project

[Legrand, North American
Headquarters](#)
West Hartford, CT

Implementation Model

[Legrand's Playbook](#)
Submetering Initiative and
Energy Dashboards



RELATED LINKS

- [Legrand Sustainability](#): Learn more about Legrand, North America's sustainability initiatives.



Energy Reduction Projects

- “Turn It Off” Now campaign
- Recommissioning program
- Boiler replacements
- Paint line makeup air changes
- Paint line insulation
- Submeters
- Weatherization
- Lighting controls
- Restroom motion sensors
- Demand control ventilation CO2 sensors
- Re-lamping of all office areas (32w to 25w)
- Small compressor – overnight runs
- Inductive lighting in parking lots
- Air leak repair program



Ranked #48



Visibility

Many important visitors:



West Hartford Energy Task Force

State Senator Beth Bye (Asst. Majority Leader)



Congressional staffers from:
CT, NH, IL, MS, TN, AK, DE



US Senator Richard Blumenthal



Legrand recognition / publication features:



THE SOURCE FOR FACILITY SOLUTIONS



Recognition from US Dept of Energy, World Energy Engineering Congress, IETC Award



Energy Marathon



- West Hartford recognized for a 20% reduction in off-hour energy usage
- ISO Team performed energy audits and issued energy citations

#00001

Energy Waste Citation
-This Should Be Turned Off When Not In Use-

#00001

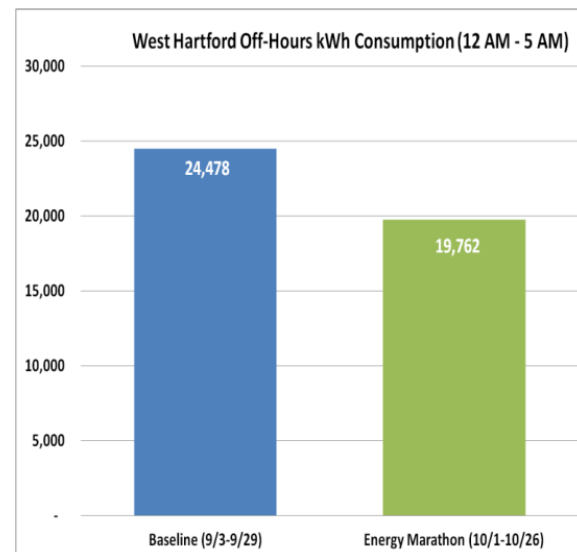
Energy Waste Citation
-This Should Be Turned Off When Not In Use-

Machine: _____

Date: _____ Location: _____

Time: _____ Issued By: _____

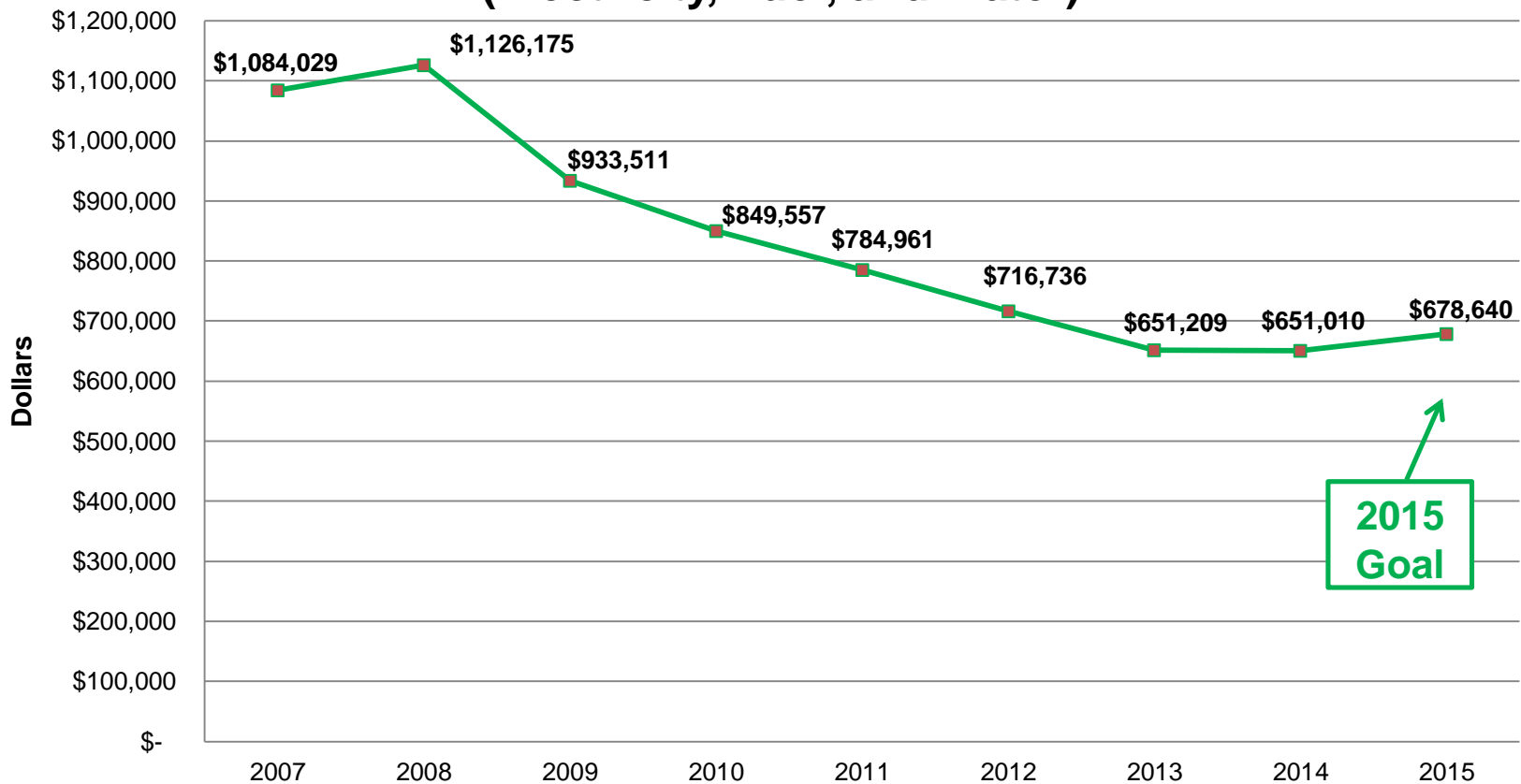
-For Dept. Manager-





Energy Costs

West Hartford Factory (Electricity, Fuel, and Water)





Results: 2007-2014

- Sales down 5%
- Variable Costs down 37%
(Production labor, services and supplies)
- Fixed Costs down 41%
(Salary wages, support labor, building services, depreciation)
- Energy Costs down 40%
- Average Capital Employed down 50%
- Adjusted Operating Income up 62%

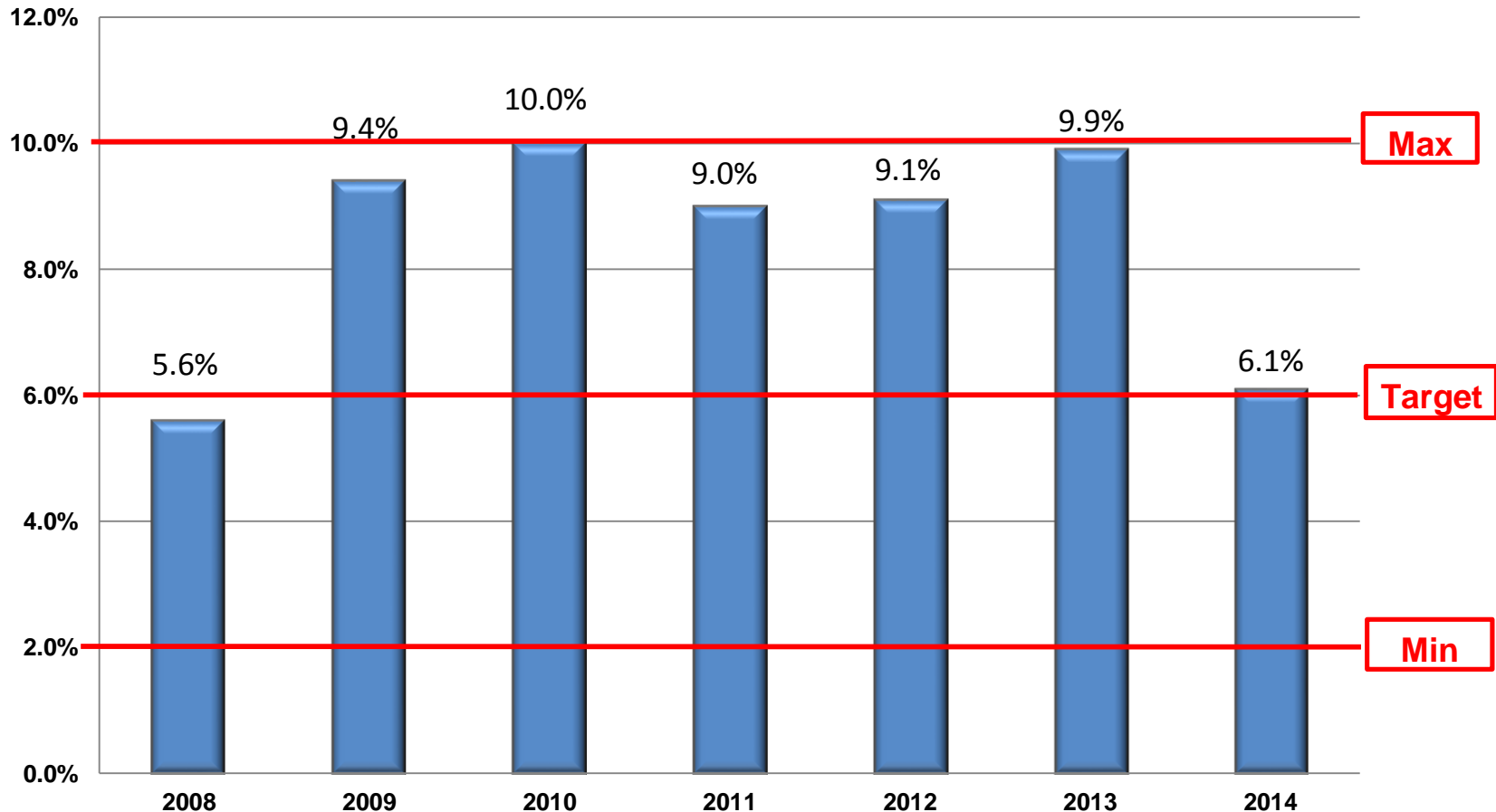
Breaking Through Walls

“You either change or you don’t. You have to recognize that there are inherent risks. It’s scary. But so is doing nothing and waiting for the company to die slowly.”

-Art Byrne, CEO, 2000



Team Incentive Plan



In 2009, in addition to the team incentive plan payout, a one time, \$1,000 incentive was paid to union associates



Better Communities Program

Rebuilding Together Hartford Fall Cleanup (2014)

- 10 Volunteers spent 4 hours cleaning up an elderly Hartford woman's home
- Raked leaves, trimmed hedges, cleaned gutters, pressure washed siding and gathered debris from back yard



Before



After





Better Communities Program

The Arc of the Farmington Valley (2014)





Thank You!

A link to the full conference survey will be emailed to you Tuesday afternoon.

Session Code: VS-2

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Mike Kijak

Wiremold

mike.kijak@legrand.us