

# GO VISUAL ! GO LEAN !

**Md Hasan**  
World Class Manufacturing Champion  
**Magna International, Inc.**



# Who am I ?

Md is a young, vibrant and energetic person having deep motivation to be a global player for manufacturing industries. Coming from a small town in a beautiful town called Petoskey in Northern Michigan. He is an alumnus from Grand Valley State University. Md loves to read books, play table tennis, travelling and film-making. He has a great passion for operational excellence, organizational culture change and sustainable leadership by integrating design, technology, business and humanity. His vision for excellence always include the serving community for a better future. His primary areas of expertise are Continuous Improvement, Lean Manufacturing, Six Sigma and Project Management.

OMG ! I am  
lost !



Md is currently working as World Class Manufacturing Champion at Magna International, Inc. at Boyne City, MI. Before this present role, he had work experiences with A.L.P. Lighting Components, Fiat Chrysler Automobiles (FCA), Denso Manufacturing Michigan.

# How About Some Visuals !



Bangladesh



Petoskey, MI



MS in ME | Grand Valley State University

BS in ME | Bangladesh University of Engineering & Tech



Operational Excellence

Organizational Culture Change

Sustainable Leadership



WCM Champion |  
Magna International,  
Inc.



Continuous Improvement

Lean Manufacturing & Six Sigma

Project Management



Reading Books

Play Table Tennis

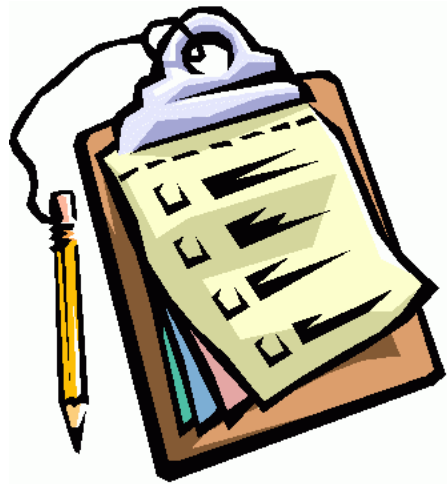
Travelling

Filmmaking



Me with my wife Faria ☺

# Agenda



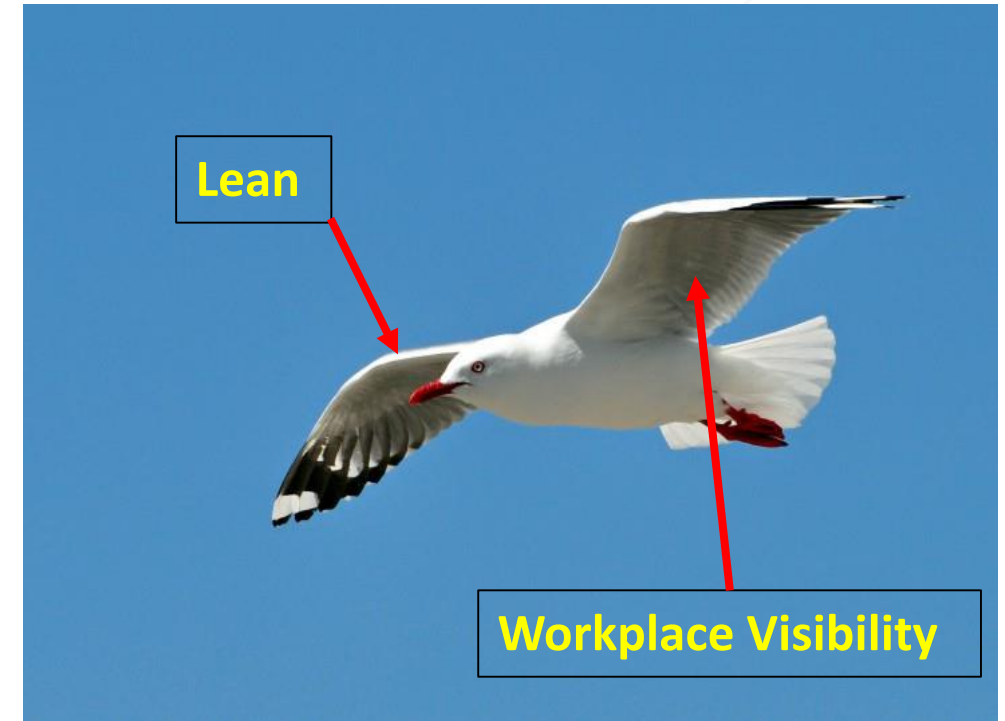
- Group Intro
- What is Visual Management?
- Why Visuals?
- Power of Visuals in Lean
- Q&A, Discussions
- Session Plus (+) & Delta ( $\Delta$ )

# Let's Say Hello !



# What is Visual Management?

- It is the art of creating visuals to demonstrate facts, identify problems and direct possible countermeasures.
- It is the core language of a Lean Enterprise
- It applies both in traditional and lean work settings



Lean-Visuality Relationship : Wings of a Bird  
[Concept derived from “Visual Workplace : Visual Thinking”, Gwendolyn D. Galsworth]



# WHY Visuals?



- Each group member reveals his/her “Why(s)”
- Develop “Why Board”

# Power of Visuals

## Visuals Improve Safety



*Safety Sign on Production Floor*



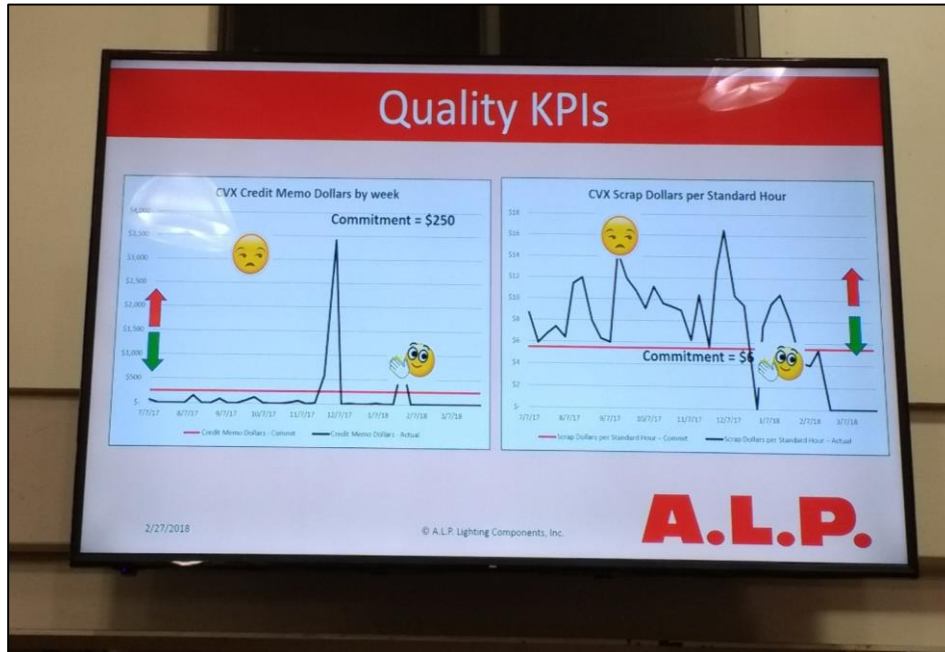
*PPE Notice at Shop Floor*

- **30%** reduction of Safety Incidents
- Team Awareness Improves **70%**



# Power of Visuals (Contd.)

## Visuals are Performance Indicators



Factory KPI Status on Shop Floor

Plant:	49	Report for Week Ending: 6/8/2018	Safe Days	98	46	47	48	49	50	51	52
SAFETY	45	46	47	48	49	5/18/2018	5/25/2018	6/1/2018	6/8/2018	6/15/2018	6/22/2018
Stop Cards - Commit	30	30	30	30	30	30	30	30	30	30	30
Stop Cards - Actual	38	30	40	32	43	30	40	30	43	30	30
Recordable	0	0	0	0	0	0	0	0	0	0	0
Recordable - YTD	2										
Days Since Last Recordable	66	72	76	85	93	72	79	86	93		
DART Incidents - Annual Goal	0	0	0	0	0	0	0	0	0	0	0
DART Incidents - Year to Date											
Days Since Last Lost Time Incident	757	764	771	778	785	764	771	778	785		
OSHA evaluations - Annual Goal	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
OSHA evaluations - Year to Date	97.4%	97.4%	97.4%	97.4%	97.4%	97.4%	97.4%	97.4%	97.4%	97.4%	97.4%
QUALITY											
Credit Memo Dollars - Commit	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250	\$250
Credit Memo Dollars - Actual	\$1,031	\$13,087	\$0	\$112	\$10,870	\$13,087	\$0	\$174	\$10,870	\$250	\$250
Scrap Dollars per Standard Hour - Commit	\$6	\$6	\$6	\$6	\$6	\$5.5	\$5.5	\$5.5	\$5.5	\$5.5	\$5.5
Scrap Dollars per Standard Hour - Actual	\$8	\$7	\$12	\$7	\$4	\$7	\$12	\$7	\$4		
Credit Memo \$/CVX Sales - Commit	\$0	\$0	\$0	\$0	\$0	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Credit Memo \$/CVX Sales - Actual	\$0	\$0	\$0	\$0	\$0	4.6%	0.0%	0.1%	4.0%	#DIV/0!	#DIV/0!
CVX Sales	\$269,547	\$282,103	\$197,826	\$217,429	\$269,248	\$282,103	\$197,826	\$217,429	\$269,248		
Q Inventory - Commit	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
Q Inventory - Actual	\$3,124	\$1,055	\$0	\$1,074	\$0	\$1,055	\$0	\$1,074	\$0		
Hold/Rejects - Commit FSR	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
Hold/Rejects - Actual FSR	\$1,031	\$4,396	\$0	\$0	\$0	\$4,396	\$0	\$0	\$0		
DELIVERY											
Past Due \$ - Commit	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Past Due \$ - Actual	\$10,531	\$11,422	\$0	\$12,880	\$34,397	\$11,422	\$2,514	\$12,880	\$34,397		
On Time Delivery - Commit	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
On Time Delivery - Actual	98%	98%	98%	98%	98%	96%	98%	94%	94%		
COST											

Use of Visual Indicators in Business Dashboard

- 25% Improvement in Team Engagement for Problem Solving



# Power of Visuals (Contd.)

## Visuals Communicate Information



*Ice Cream Cones : Visual Presentation*

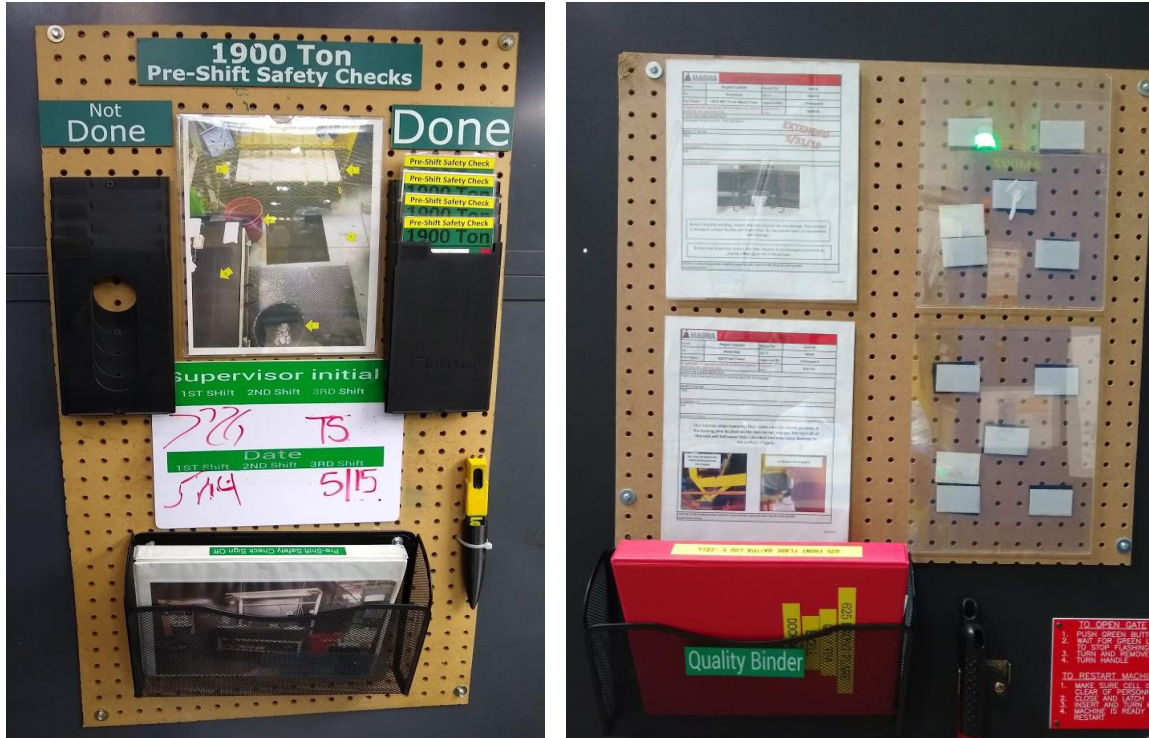


*Visuals used in Public Rest Room !*



# Power of Visuals (Contd.)

## Visuals Communicate Information



- **35%** Reduction of relevant Safety Incidents
- **65%** Reduction of Safety Hazards
- **50%** Reduction of Documentation Time (Safety Checks)
- **60%** Improvement in Quality Awareness (Reworks, Containment etc.)
- Help Sustain 5S Initiatives

*Pre-Shift Safety, 5S and Quality Board*



# Power of Visuals (Contd.)

## Visuals Create Flow



*Visual Control of Traffic at Ski Resort !*

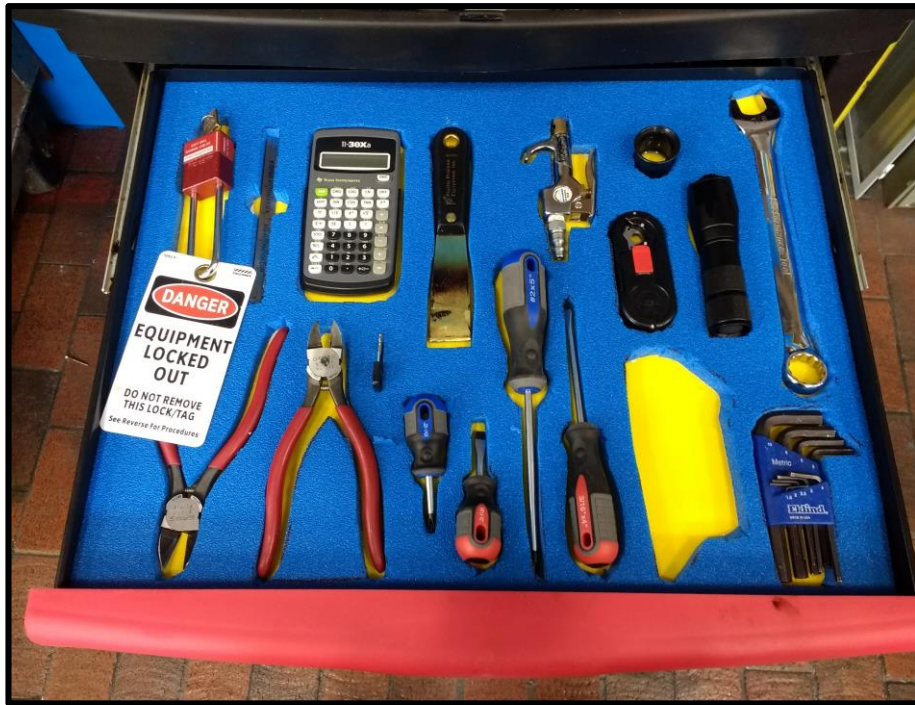


*Airport Mass Flow by Visuals*

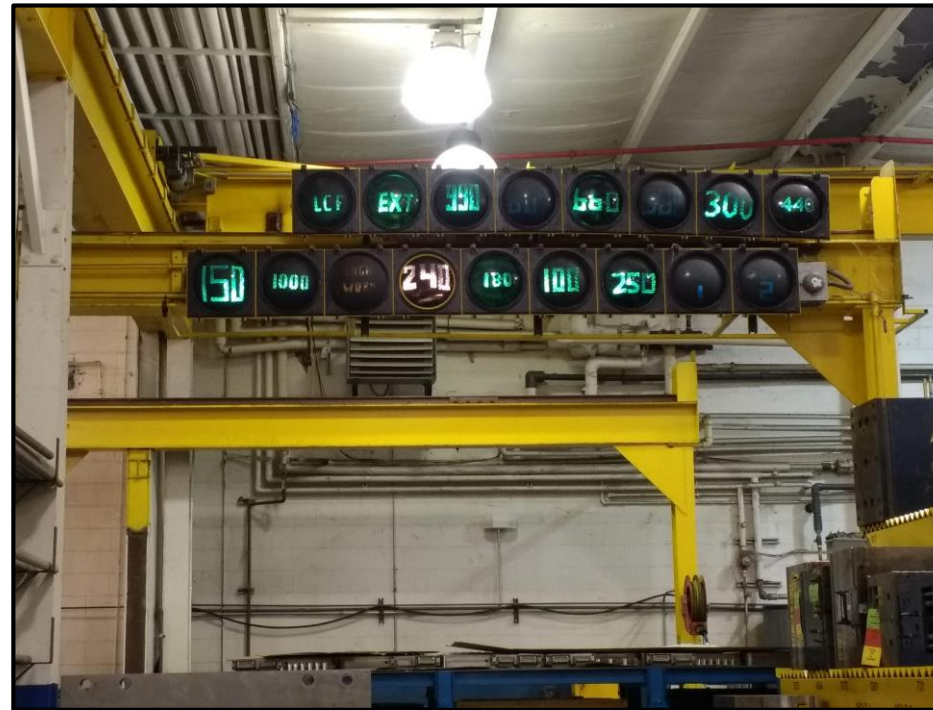


# Power of Visuals (Contd.)

## Visuals Find Abnormality, Quick !



*Visual Control at Tool Box 5S*



*Visual ANDON Lights at Production Floor*

- 45% Reduction of Missing Tools
- 60% Improvement in Response Time
- Help Sustain 5S Initiatives



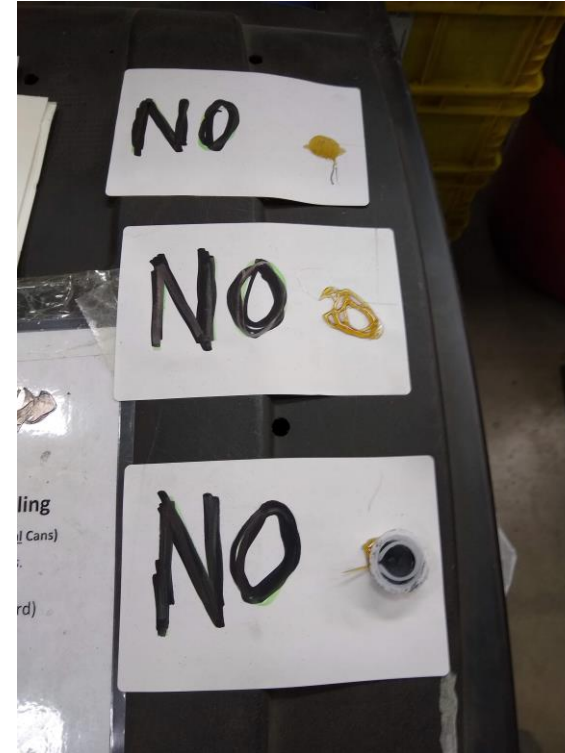


# Power of Visuals (Contd.)

Visuals can be Poka-Yoke !



*Warning Signs for Safety Hazards*



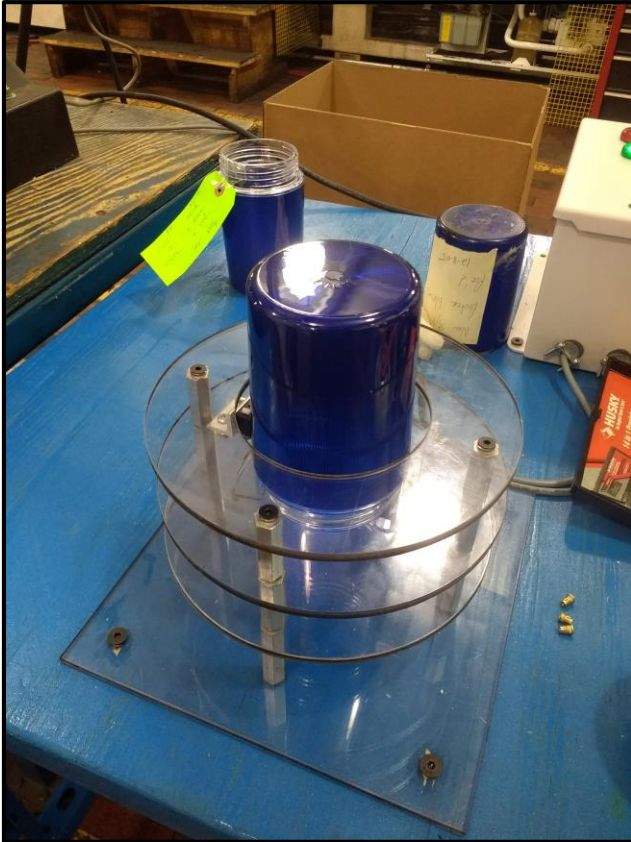
*Trash Bin Visual Poka-Yoke*

- 50% Reduction of Safety Incidents
- Help Sustain 5S Initiatives

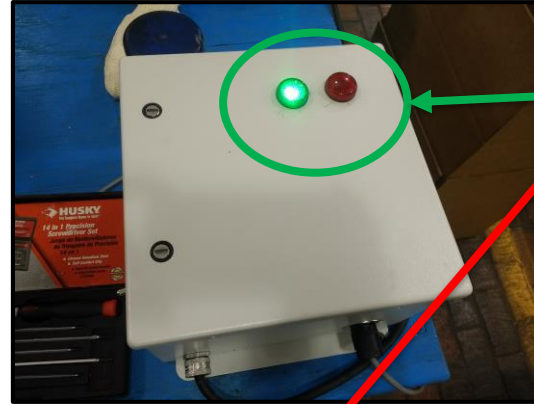


# Power of Visuals (Contd.)

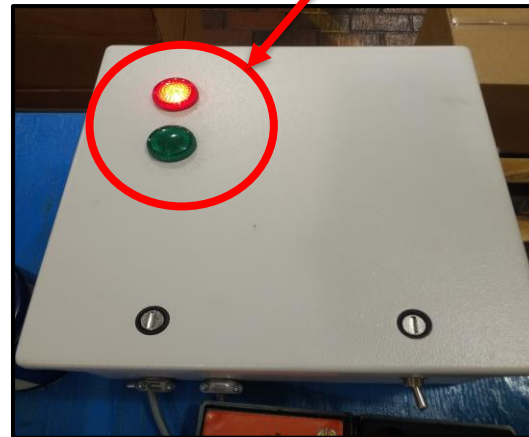
Visuals can be Poka-Yoke !



*In Process QC Check Fixture*



*Visuals to Define  
Product Quality*

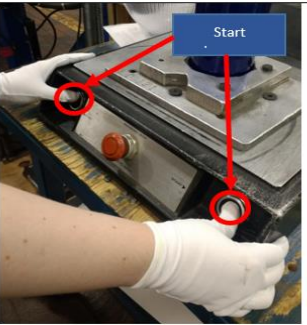
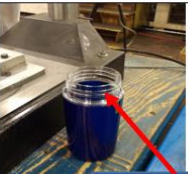




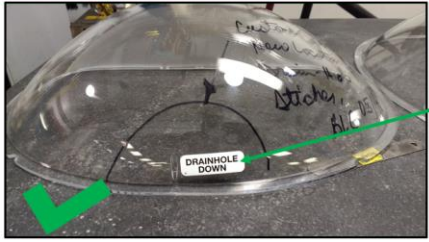

- **95%** Reduction of Non-Conformances
- **60%** Reduction of Quality Inspection Time



# Power of Visuals (Contd.)

## Visuals Facilitate Standards !

4. Please refer to welder set up sheet for necessary welding parameters.	 <p data-bbox="468 732 693 792">Press BOTH Start Buttons at the same time for the whole time of operation</p>
<b>Step 05:</b> Check the welded part for any defect and place the part for next operation.  <u>The part is now ready for check ring fixtures operation</u>	 <p data-bbox="580 1025 733 1063">Parts ready for check fixture operation</p>
<b>Operating Procedures of Ring Check Fixture</b> <b>First Run Validation</b>	
<b>Step 01:</b> Before starting the operation of checking fixtures, the functionality must be validated by checking a good and bad part	

	Do NOT place the drain hole sticker on the Left Side of the hole
NOK 	
	Place the drain hole sticker on the Right Side of the hole
OK 	

*Single Point Lesson*

- Improves Job Clarity
- **75%** Reduction of Process Variation
- Training Effectiveness
- Improves Quality and Throughputs



*Visual Standard Work Instructions !*



# Power of Visuals (Contd.)

## Visuals Engage Team Communication!

[Project/Client Name]		Overall Project Status		[ENTER STATUS]	
[Open Items / Open Issues]		Previous Update Date		[DATE]	
Current Update Date		[DATE]			
#	Section	Reference	Owner	Description	Response/Status
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
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26					
27					
28					
29					
30					



Typical Project Logs for Team  
Collaboration (Before)

WEEKLY SNAPSHOT									
PROJECTS TRACK									
STATUS	PRODUCT	MOLD	PART #	PART PRINT REVIEW	TOOL DESIGN REVIEW	BUILD TOOL	BUILD FIXTURE	SAMPLE RUN	PACKAGING / SEC
ON TRACK / COMPLETE	EATON/LAMBDA	SI/A-Active	5-670003						
ON TRACK / COMPLETE	EATON	Active Tool X	5-670023						
ON TRACK / COMPLETE	EATON	Active Tool X	5-670024						
ON TRACK / COMPLETE	LSI	1500-2401	756032						
ON TRACK / COMPLETE	LSI	1407-2401	756040						
ON TRACK / COMPLETE	LSI	1401-2401	756034						
ON TRACK / COMPLETE	LSI	1404	756037						
ON TRACK / COMPLETE	LSI	1403	756036						
ON TRACK / COMPLETE	EATON	Bridge Rail 1	5-670020						
ON TRACK / COMPLETE	LSI	1402-2401	756035						
ON TRACK / COMPLETE	LSI	1405	756038						
ON TRACK / COMPLETE	LSI	1406	756039						
ON TRACK / COMPLETE	816-BIG	587	805574						
ON TRACK / COMPLETE	LSI	1411	5-805553						
ON TRACK / COMPLETE	LSI	1385	5-805309						
ON TRACK / COMPLETE	LSI	1384	5-805401						

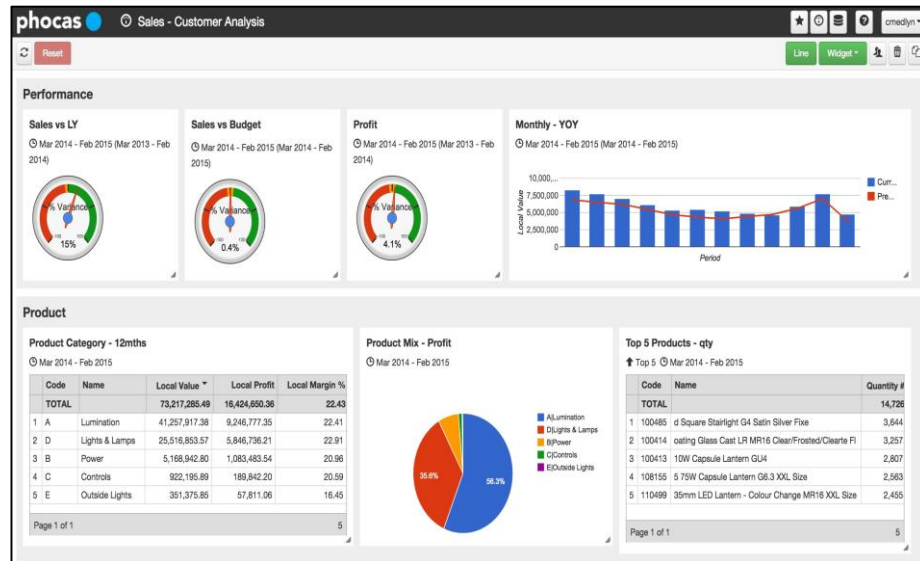
Team Communication with  
Visuals (After)

- Improves Team Engagement & Accountability
- 35%** Improvement on Weekly Tasks Completion

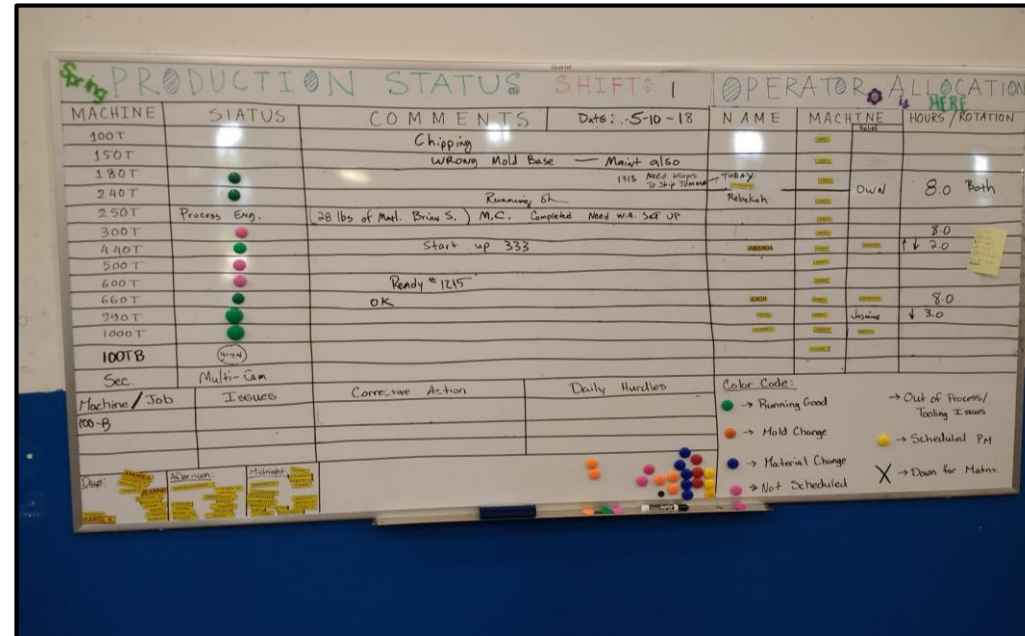


# Power of Visuals (Contd.)

## Visuals Help Decision Making !



*Visual Dashboard for Business Review*



*Production Status Board with Visual to Take Prompt Action*

- Improves Team Engagement and Problem Solving Culture
- 50%** Improvement on waiting time for cell manpower allocation





# Power of Visuals (Contd.)

Visual Enables Culture Change !



*Visual to Promote Gemba Culture !*

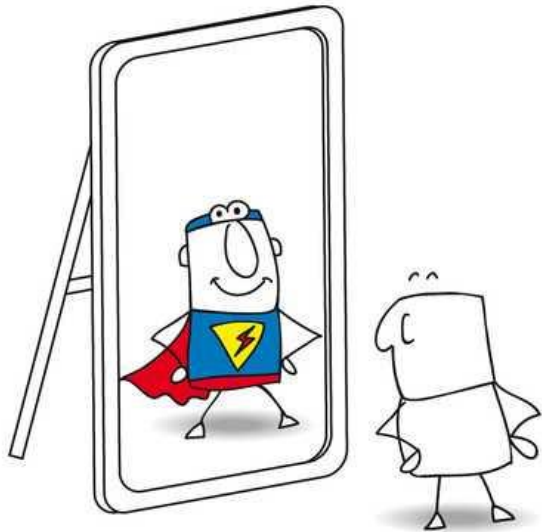
# Power of Visuals (Contd.)

## Visual Encourages Behavior Change!



*Visuals for Behavior Change !*

# Leading on the Edge

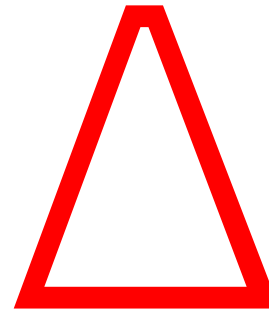
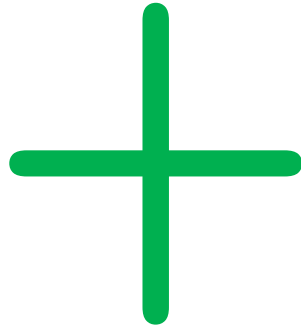


- There is **NO Box** of Thinking !
- Lean Leadership is all about understanding **People Physics**
- **95 %** of the time, Process Owners driven ideas get true momentum and sustain
- Organizational culture change needs true commitment from leaders at all levels
- Leaders should ask “**Why**” and communicate the “**Why**” to the team

# Team Discussions, Q&A



# Session Pluses & Deltas





# Thank You!

***Your opinion is important to us!***

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

**Session No: WS/19  
GO VISUAL ! GO LEAN !  
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