

Creating a Visual Management System

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Lean Process Improvement

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Georgia Manufacturing
Extension Partnership

A unit of the Enterprise Innovation Institute

www.gamep.org



Three Keys to Lean

1. Create an environment in which the abnormal can be distinguished from the normal. 
2. Develop a workforce that knows the right thing to do when they encounter the abnormal.
3. Empower the workforce to do the right thing.

John Shook
Chairman and CEO
Lean Enterprise Institute

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What is Visual Management?

In this context, it means the use of visual aids to manage the operation, including schedules, performance tracking, and project status

Displays Standard versus Actual

It's a way of communicating to a broad audience in a clear, concise way

It quickly puts information in the hands of those who can take action

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Standards and Problems

“Without standards there are no problems, only opinions.”

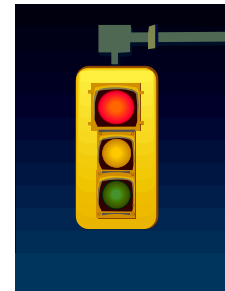


Nate Furuta
Chairman and CEO
Toyota Boshoku

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What is a Visual Control?

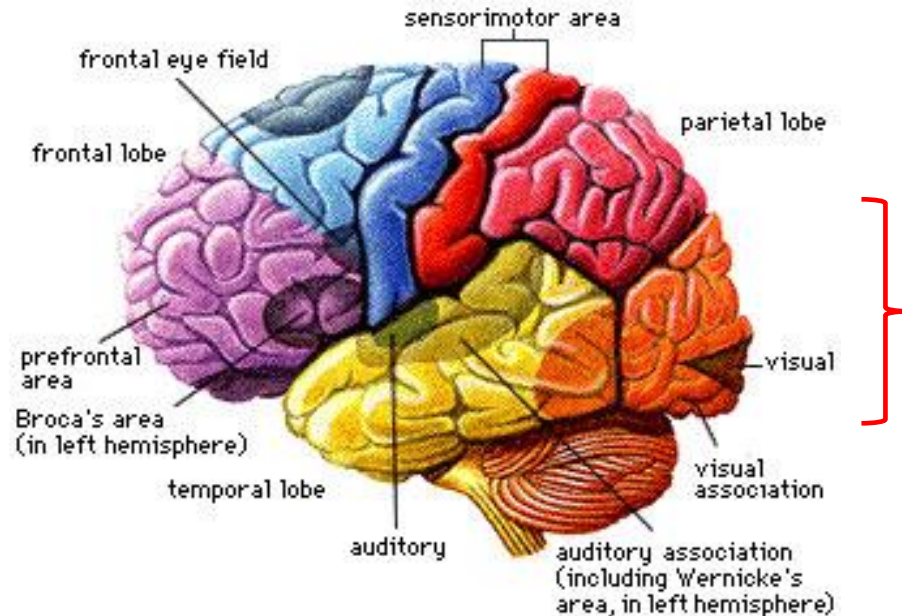
Any device or symbol that effectively places information at the point of use with few words or none at all.



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Why is This Important?



Our brains simply respond better and faster to colors, shapes, patterns, and pictures

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What Do These Mean? (Quick!)



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Major Types of Visual Controls

- Information
What is this? Where am I? Who works in this area?
- Instruction
What should I do? How do I do it?
- Status – of a process, a machine, a department, etc.
What is happening? What should be happening?

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The Information Gap

- What?
- Where?
- When?
- Who?
- How?
- How Many?

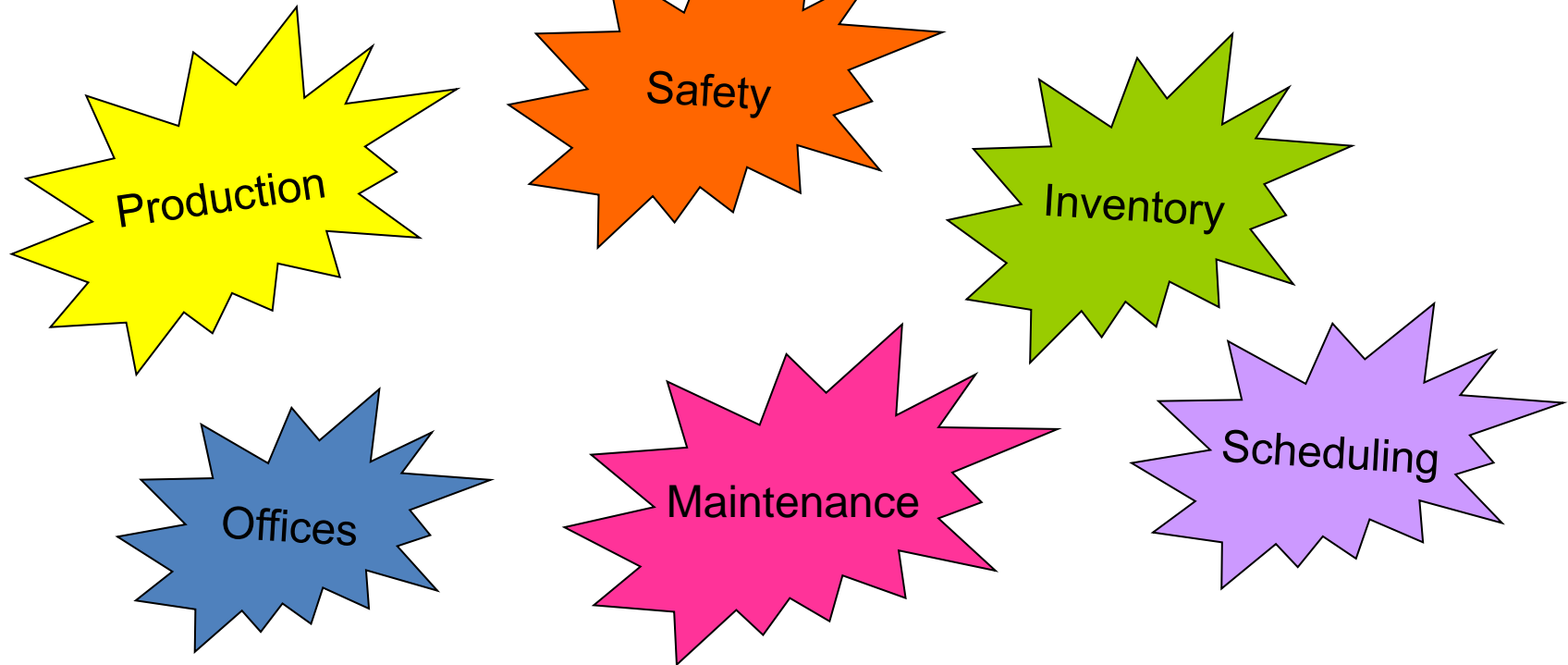


Are these answers obvious as we walk through the facility?

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Where Visuals Systems Work

What *Is* Happening?



What *Should Be* Happening?

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Visual Management Boards

- Should indicate the status of the process
- Should direct the leadership to areas that need support
- Should indicate the actions or countermeasures that are in process
- Should show normal versus the abnormal, or what is right and what is wrong



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The Gemba Walk

A Gemba Walk is designed to allow leaders to:

- Identify existing safety hazards
- Observe machinery and equipment conditions
- Ask about the practiced standards
- Gain knowledge about the work status
- Build relationships with employees



The objective of Gemba Walk is to understand the value stream and its problems

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Visual Schedule

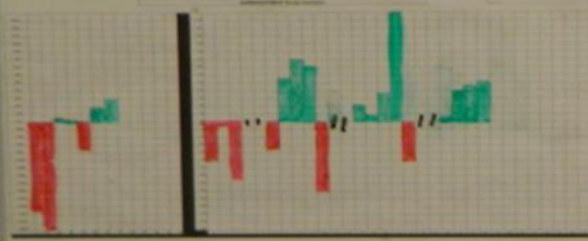
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Visual Management

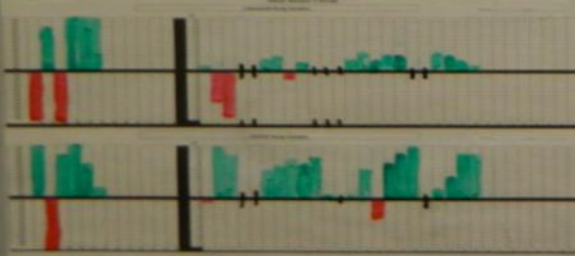
(25K) SCRAP

Date	Goal	Actual
08/22	5.9%	5.5%



MTD Cost

8.1

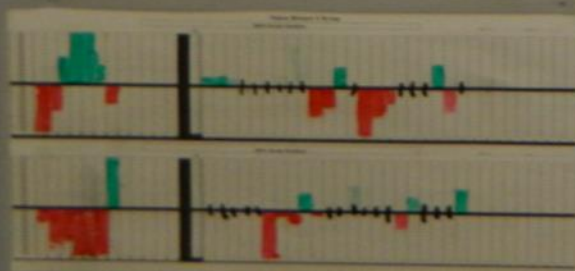


MTD Cost

Process: \$35.6

Write Off: 0

Total: \$35.6



MTD Cost

Process:

8.0

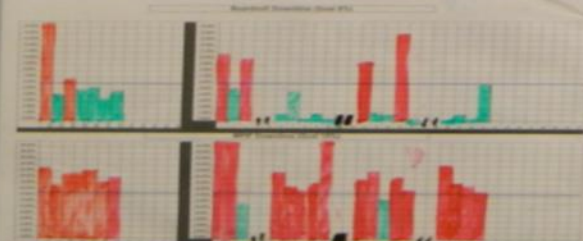
Process:

2.9 Durable

Total: 10.9

DOWNTIME

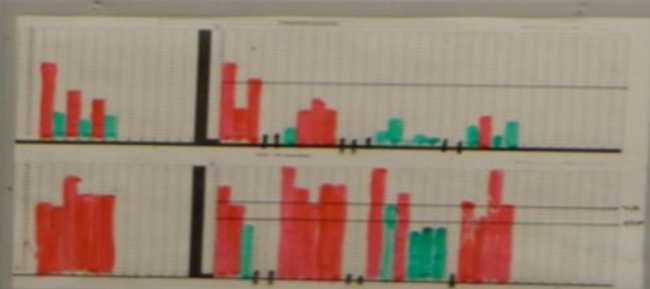
Date	Goal	Actual
8/22	82.9%	85.9%



MTD

3.7

20.0



MTD

8.3

23.4



MTD

EH&S

Safety Cross



NM	FA	OC	OSHA	LT I
96	9	4	2	0

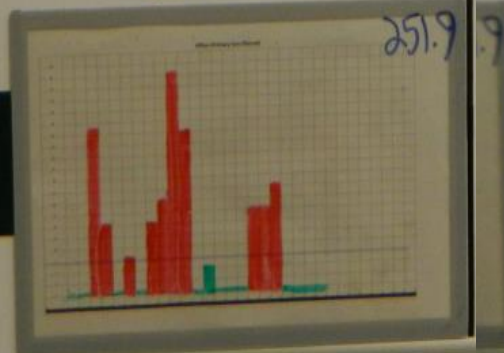
of days SINCE OSHA 191

8/20	Near Miss	VS2 - Employee hit beam on forklift
8/20	Outside Care	STIF/TIP - Employee felt pain in right knee while riding tricycle to break out
8/21	First Aid	MPIF - Employee felt debris in eye. Flushed out @ work. Wearing V&G's
8/21	Near Miss	DC - Floor gave way in trailer

ENVIRONMENTAL

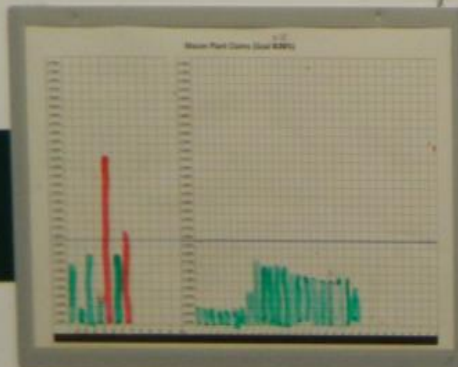
INCIDENT	NM	WWTP HEALTH INDEX
+	6	

EFFLON



CLAIMS

Date	Goal	Actual (YTD)
8/22	0.25%	0.24%



CLAIMS BACKLOG

Date	Goal	Actual
8/22	<\$15K	\$124,000

Date	Item	Description	Cost
5/12	741	741	120,000
7/15	741	741	4,000

GIP DISAPPEARANCE

Week	Square Feet	Cost
1	120K w/off	\$19K
2	10K w/off	\$1K
3	3K w/off	\$0.3K
4		
5		

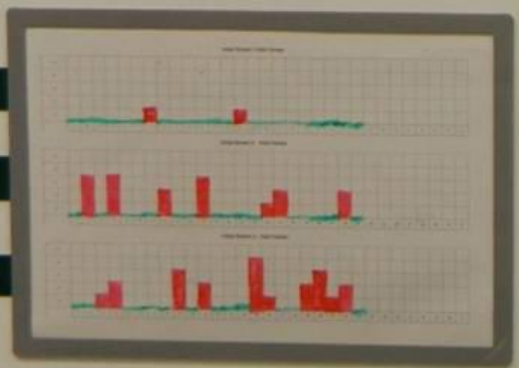
DISTRIBUTION CENTER

Shipping	Date	Goal	Actual
DC Quality 11 Scrap	08/22	w/12 off	27 12 39
MIPS	Aug		13
O/I	Aug	12/100	9

Material Utilization

Date	Wk 1	Wk 2	Wk 3	Wk 4
8/20		\$0K	\$0K	

PAINT DUMPS



BOARDMILL MATERIALS

	Date	Goal	Actual
Boardmill Materials	8/20		\$0K

PAINT USE / FORMULA

	Date	Goal	Actual
Paint use Formula	8/19		\$0K

Period Expenses

Date	Goal	Committed Actual
8/21	\$0K	\$0K

OVERTIME

	Date	Goal	Actual
Overtime	08/19	\$0K	\$0K

INDIRECT LABOR

	Date	Goal	Actual
Indirect Labor	08/19	\$0K	\$0K

ROUTINE MAINTENANCE

Date	Committed	Goal	Actual
8/20	\$0K	\$0K	\$0K

DEMURRAGE

Date	Goal	Actual
8/24	\$0K	\$0K

Action Items / Ideas

AUGUST 2012: DIRECT LABOR (to Standard)
8/20/12

- BM MIXING \$0K
- BM Receiving <\$0K>
- PAINT MIXING \$0K
- FAB Receiving \$-0-
- Process VARIANCE \$0K
- Salvage \$0K

PLANT COMPARISON

Date	LOCATION	SAFETY	RELIABILITY
8/20	Macon	189	85.1%
8/22	Marietta	40	76.3%
8/22	Pensacola	147	86.5%
8/22	St. Helens	638	76.2%
8/22	Hilliard	1054	81.4%

Facilities Maintenance

Facilities Maintenance Work Center

Tommy
es

Billy
Fountain

Nelson
Hall

Capital Projects / Audit Findings
Overhauls & Fabrication Equipment

E, 1, 2 Requested Work Orders	E, 1, 2 Requested Work Orders	E, 1, 2 Requested Work Orders
Level 4 PM Work Orders	Level 4 PM Work Orders	Level 4 PM Work Orders
Level 3, 5 Routine/Project Work Orders	Level 3, 5 Routine/Project Work Orders	Level 3, 5 Routine/Project Work Orders
Completed Work Orders	Completed Work Orders	Completed Work Orders
Inbox	Inbox	Inbox

Task	Status	ECD
REBUILD JARE FUEL Pump	/ PARTS ORDERED /	1/15/10
REPLACE Well Pump	/ HOLD /	Q2 FY10
INSTALL \$5 X \$6 BUSS IN EHSV	/ PARTS ORDER /	1/23/10
REVIEW ACCESS TO CHEM. STORAGE BLDG W/S.K.	/ GATHERING DATA FOR CURRENT STATUS /	2/15/10
CONVERT FILTER SKID TO RED OIL	/ PH FILTER DIVISION QUOTE /	TBD
REPLACE PLANT ROOF	/ QUOTES /	TBD
AEROSPACE RTR by EPA	/ UPDATE HAP SPREADSHEET /	Q3 FY10

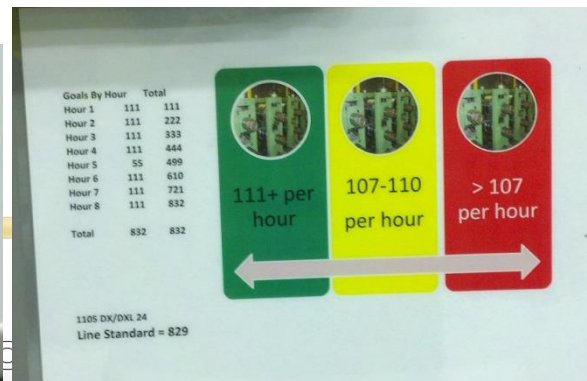
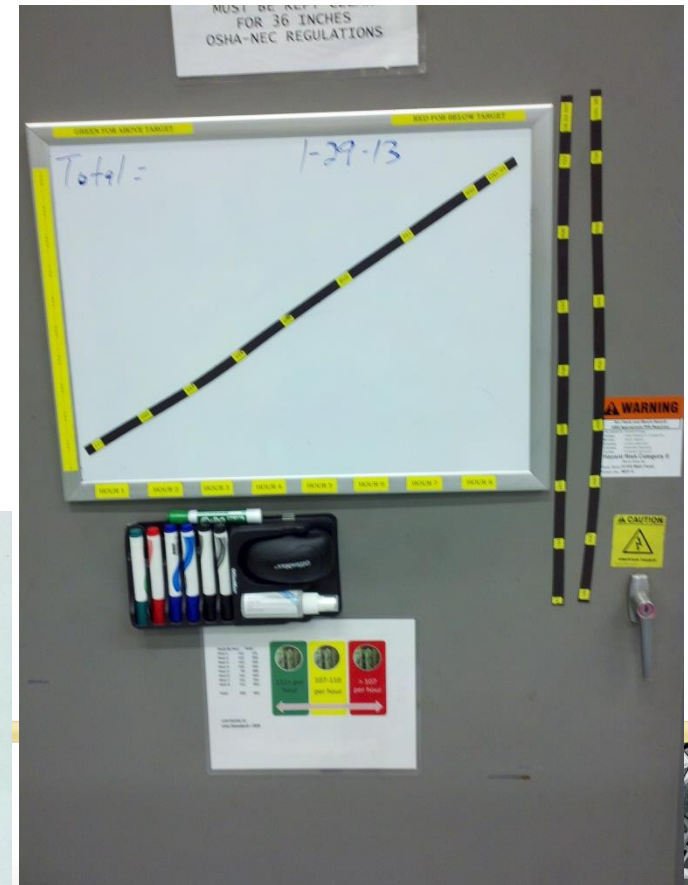
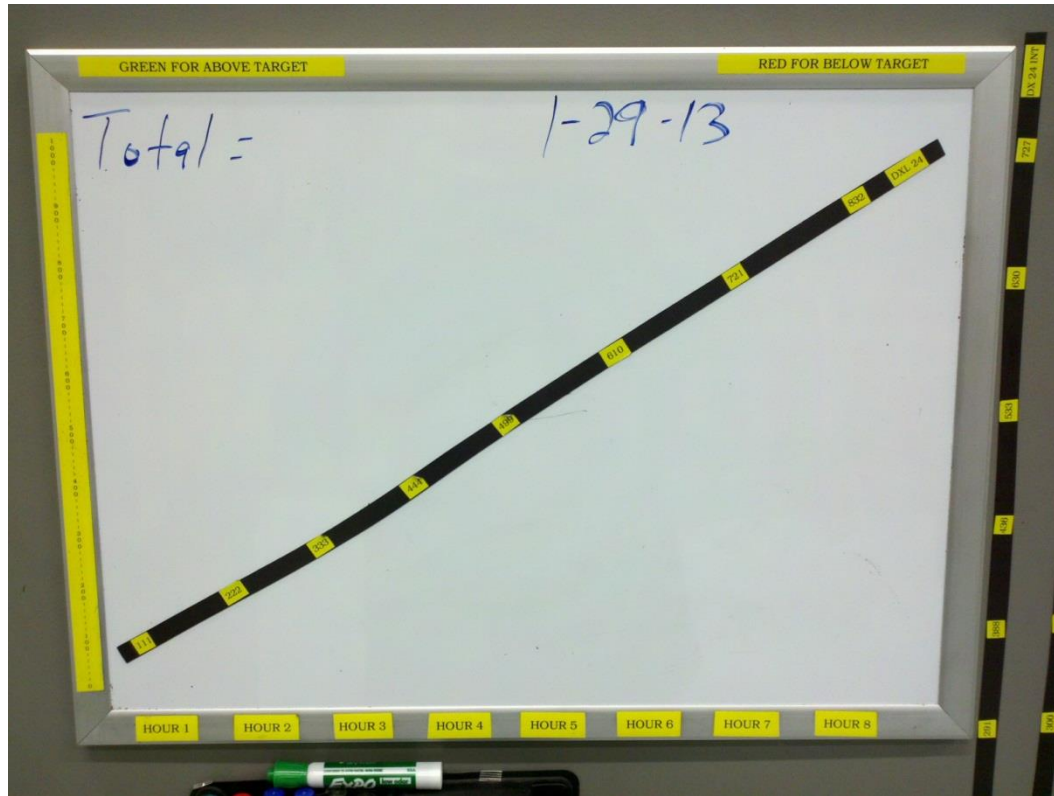
Inventory Control

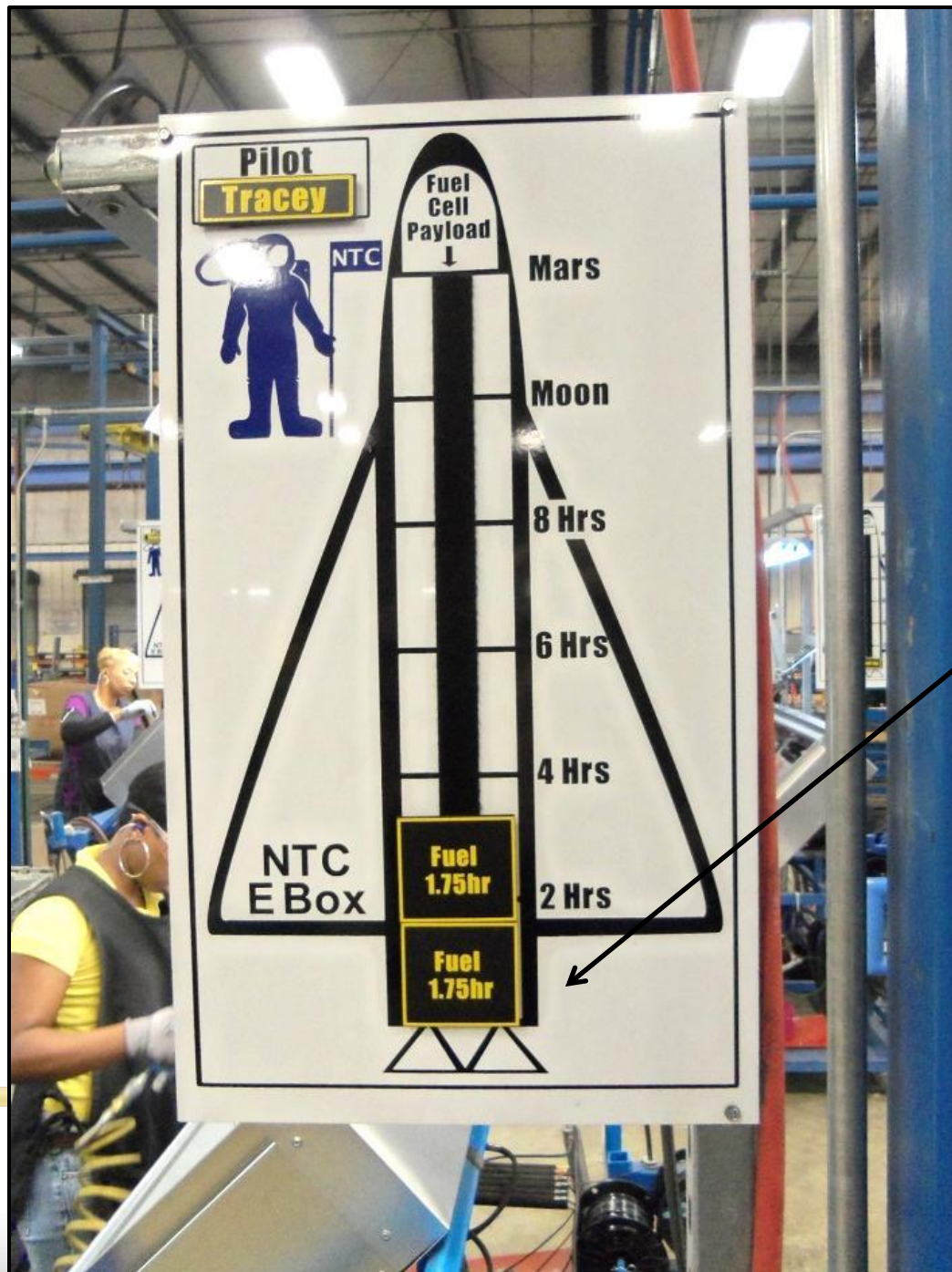


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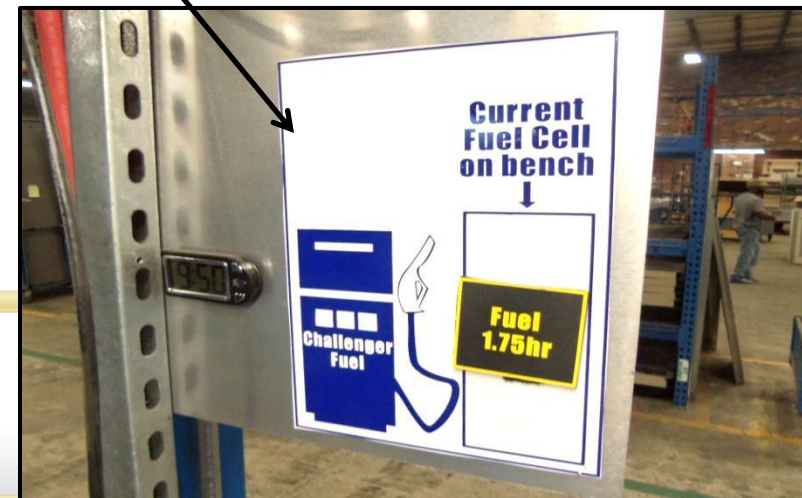


Hour by Hour Chart





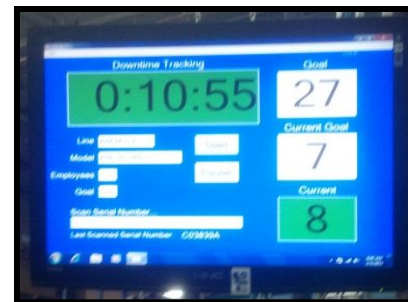
1. Space Shuttle is used to monitor individual performance (one for each bench).
2. Fuel Cell is brought to the bench when retrieving the shop order from the scheduling board .
3. Fuel Cell is posted on the back side of the Space Shuttle board while working on electrical box (work in process).
4. Once the electrical box is complete the operator removes and posts the Fuel Cell onto the Space Shuttle.



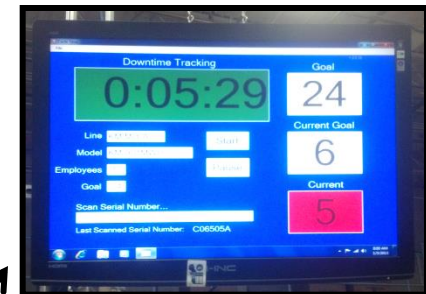
Visual Production Displays



Each workstation displays
current cycle time and overall
production status



- Current unit OK
- Production behind



Current unit is within cycle time and
production is ahead of where it
should be at this time of day.

- Current unit behind
- Production on schedule



Scrap by Team



This board indicates daily scrap generation by team as a percent of total production.

It is color coded red or green against the standard goal percentage.

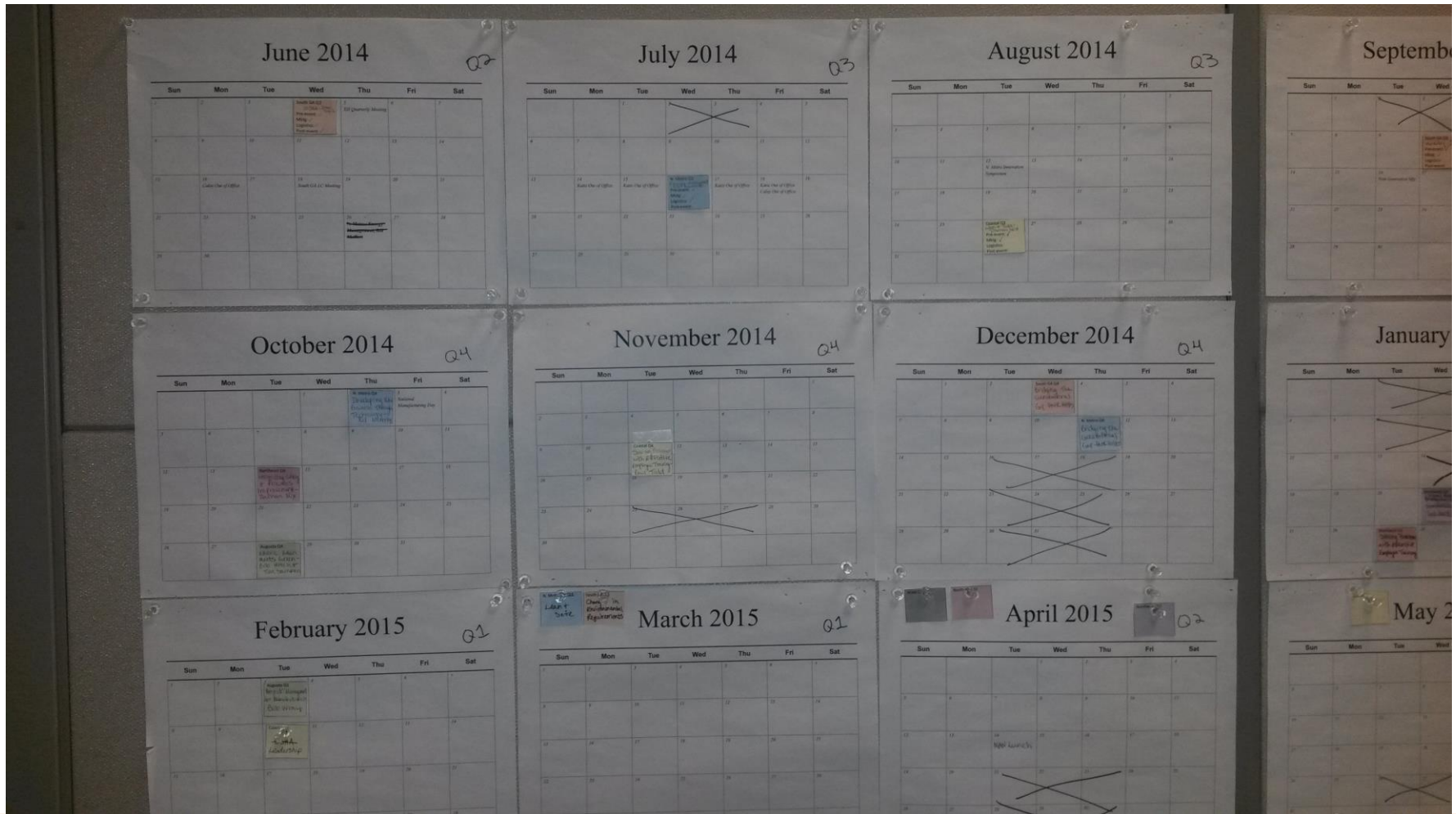
It is updated daily and serves as a gentle reminder for teams “in the red”.

These numbers also provide a source of positive recognition for team performance.

The lower portion tracks monthly data and scrap savings.

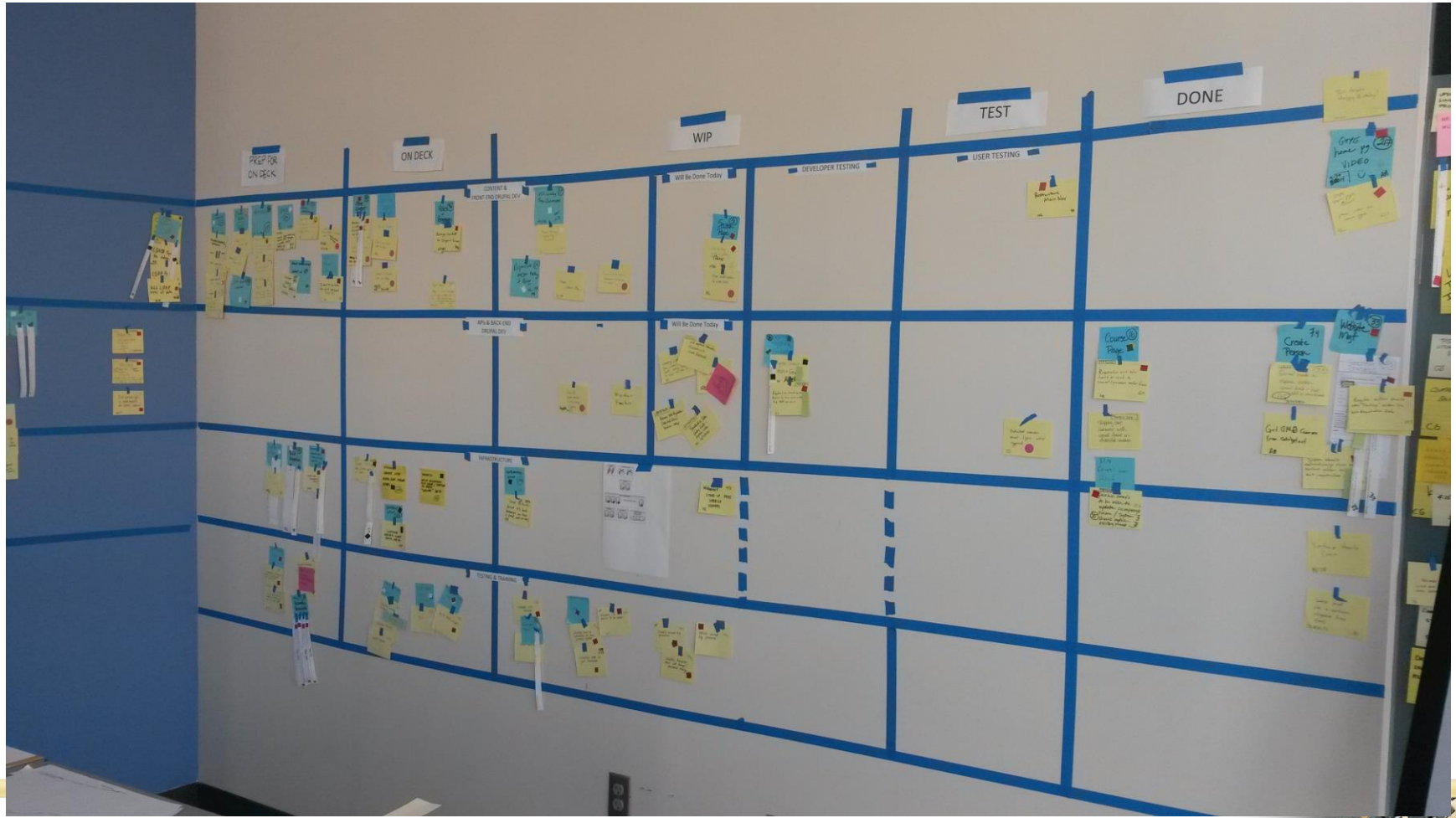
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Visual Management - Events



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Visual Management – IT Projects



Drive-by Visual Management



Implementation Questions

- What should you be tracking?

SQDC / Project Status / Kaizen Activity

- What is happening? What should be happening? How do we close the gap?

Standard vs. Actual

- What is the benefit of making it visual?
- How should you display the information?

Manual or Electronic

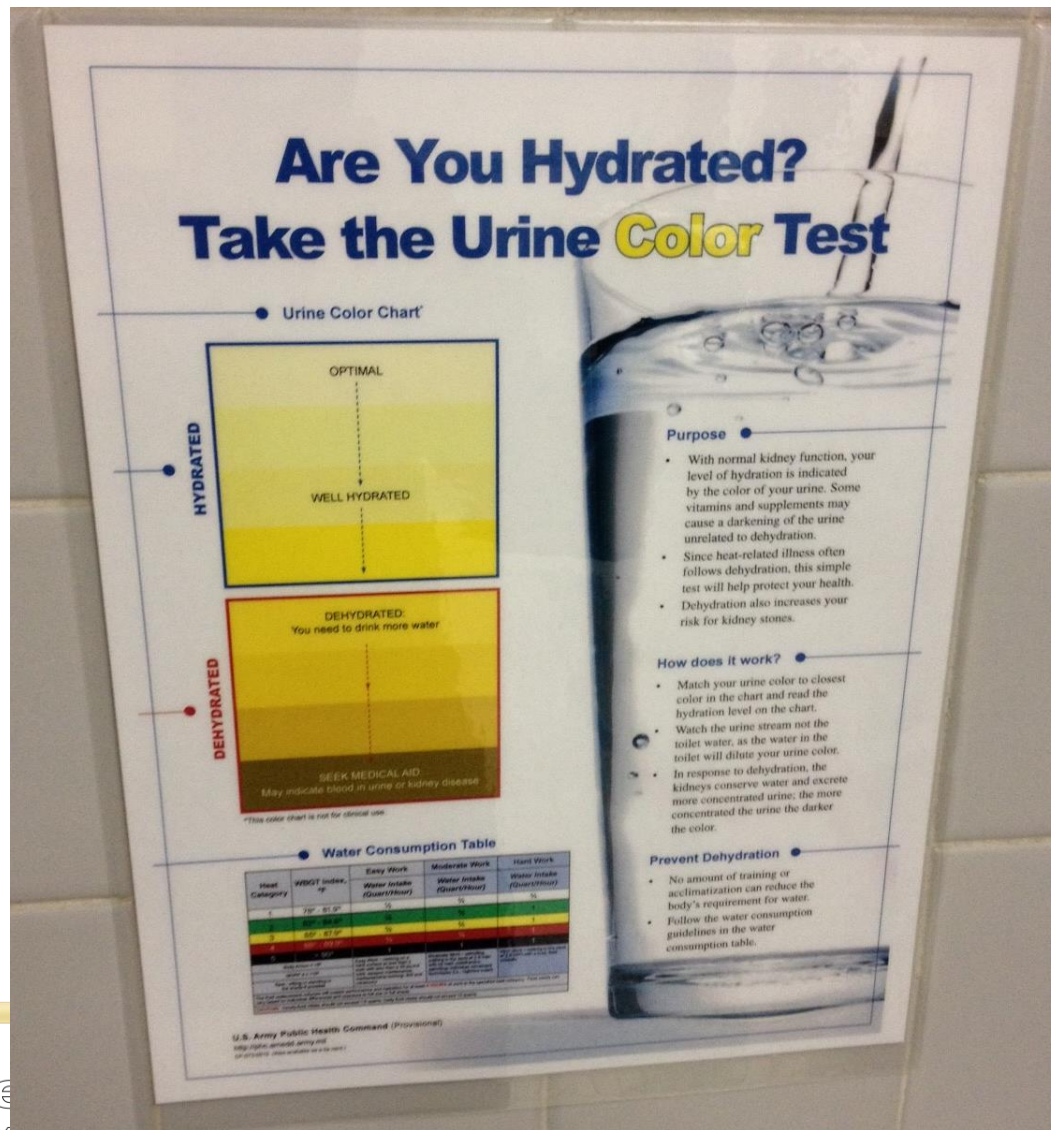
- What will you do with this information?
- How will the information be shared?

Team Huddles / Gemba Walks

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Everyday Visual Management



Creating a Visual Management System

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