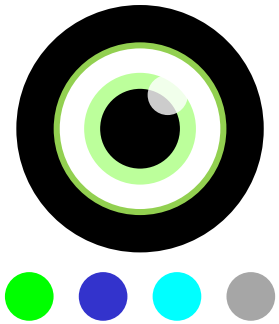
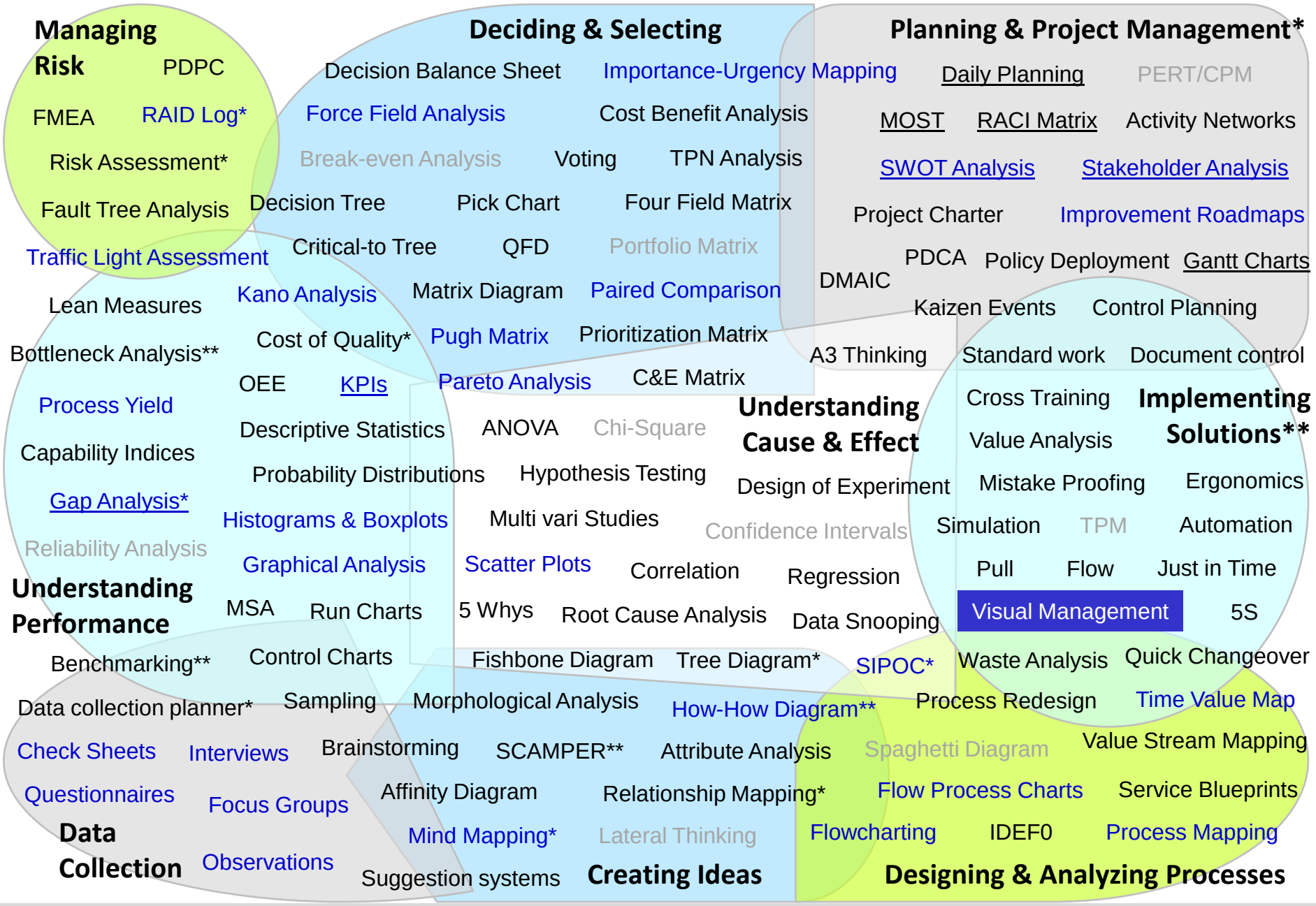
Continuous Improvement Toolkit

Visual Management

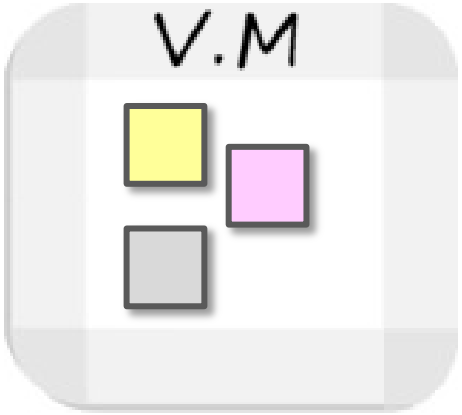


The Continuous Improvement Map



- Visual Management

- A business management technique and a system of:
  - Information displays.
  - Visual controls.
  - Labels and signs.
  - Color coding and other markings.



- Communicates important information in the physical workplace.

- Visual Management

Think of the visual controls in an airplane

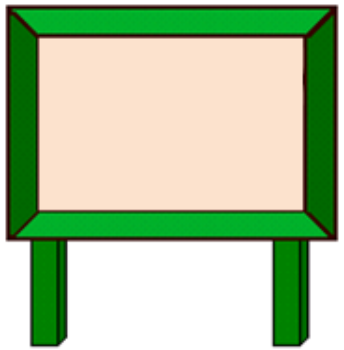
- Visual Management

- **Lean organizations rely heavily on visual management to:**
  - Detect abnormalities.
  - Reinforce standards.
  - Ensure stability and safety in the workplace.

- Visual Management

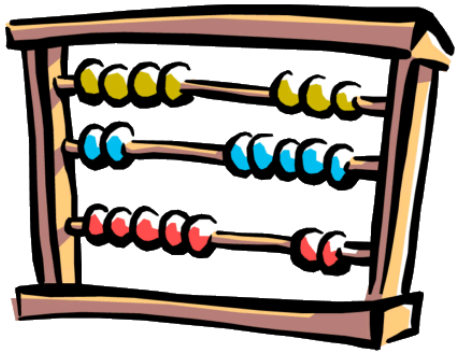
Employees also need visual displays to:

- Show what is expected from them.
  - Research shows that people tend to learn and process information more visually.
- Keep them informed about production status and customer needs.
  - Ideally, everyone should be able to assess the status of a situation at a glance.



- Visual Management

- **An effective visual management system seeks to:**
  - Display production status and customer needs.
  - Display performance information.
  - Communicate standards and work instructions.
  - Make problems and abnormalities as apparent as possible.
  - Communicate safety requirements.
  - Show location, directions and identity.



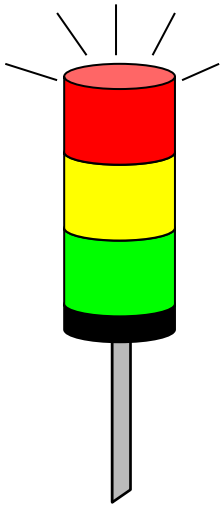
- Visual Management

- **Visual controls are used to:**
  - Highlight abnormalities and deviations. Employees will quickly identify and react to safety, quality, efficiency problems.
  - Share goals and ideas.
  - Share performance metrics.
  - Report team and Kaizen progress.
  - Indicate safety risks.
  - Promote safe behavior at work.
  - Provides an immediate insight to what needs to be done next.

- Visual Management

Benefits:

- Creates stability to the environment, equipment and work.
- Reduces errors and mistakes.
- Reduces downtime and maintenance costs.
- Increases the awareness of waste and waste management.
- Improves compliance to safety.
- Reduces the opportunity for miscommunication.
- Improves the communication between different shifts.
- Improves employees involvement and morale.
- Eliminates the need for time consuming meetings.
- Eliminates the need for constant supervision.



- Visual Management

- Many lean techniques and principles rely on visual management.
- Visual management serves as a sustaining force for 5S, standard work, TPM, quick changeover, and pull production.
- It is important to implement visual management during the early phase of Lean implementation (when using 5S and TPM to establish operational stability).

- Visual Management

5S:

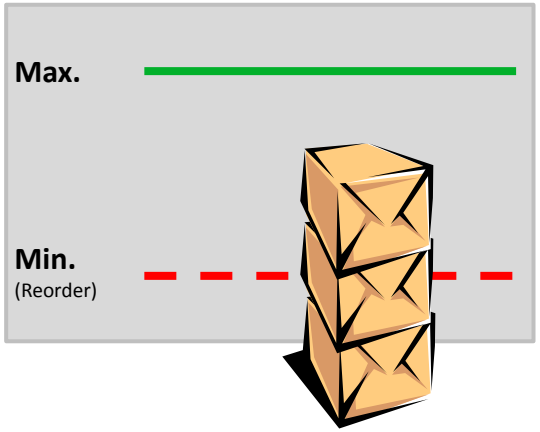
- One of the most fundamental principle in Lean.
- Involves visual activities to create a better work environment.
- Suggests the use of colors and labels to clearly mark storage locations.
- Defines inventory levels and reorder triggers to ensure everything is available at the point of use.

If something is not normal
we want to make that as
apparent as possible

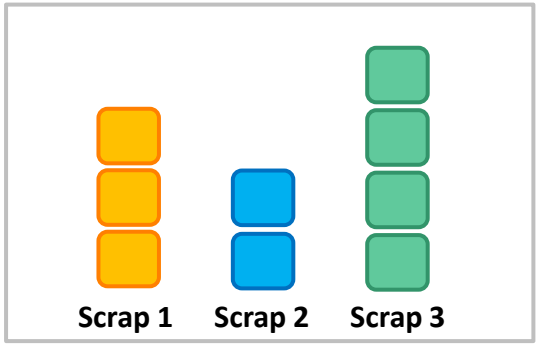
- Visual Management

5S:

Inventory Control



Reject Pareto Stack

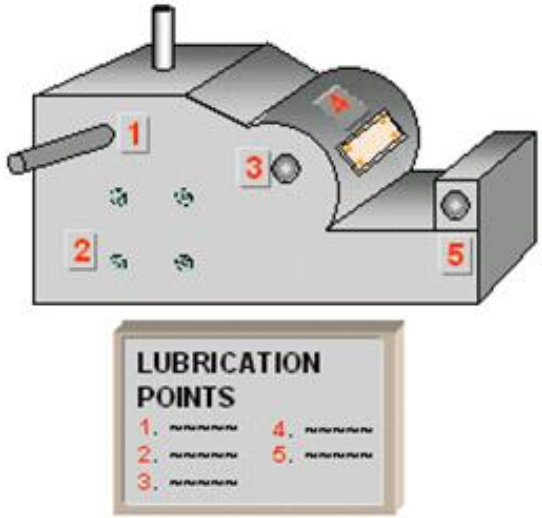


5S Audit Board

- Visual Management

TPM:

- Simplifies preventive maintenance activities.
- Ensures equipment remains in optimal running condition with minimal breakdowns.
- Used to identify and prevent abnormalities from turning into failures.
- **Examples:** Labeling and marking gauges, oil levels and lube points.
- Enables employees to easily detect abnormalities and out-of-specification conditions at a glance.



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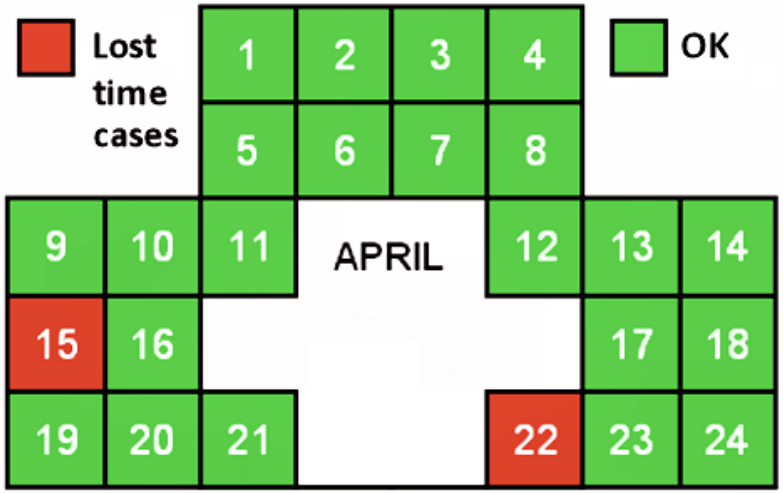
Safety:

- VM is important to keep the facility safe.
- Alerts employees and visitors to potentially hazardous locations and situations.
- **Important to properly identify:**
  - Fire protection equipment.
  - Safety showers and eye wash stations.
  - Personal protective equipment.
  - First aid stations.
- Signage, hazard warnings & safety instructions should be provided at the point of need.

Color coding are used to convey the degree of hazard

- Visual Management

Safety:



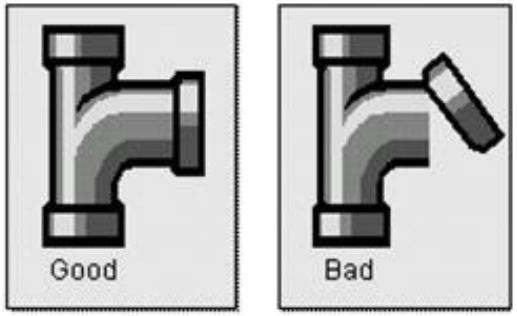
A map for the areas which have the most safety incidents that resulted in lost time

- Visual Management

Standard Work:

- A strong visual management system seeks to promote consistency and create process stability.

- **Standard work visuals include:**
  - Procedures, instructions and flowcharts.
  - Check sheets and checklists.
  - Photos and one-point-lessons.



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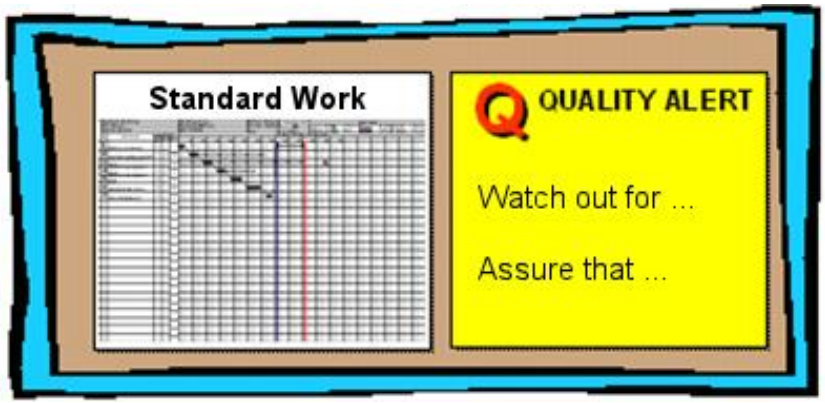
Standard Work:

- **Benefits of standard work visuals:**
  - Ensure tasks are always performed in the most efficient way.
  - Ensure that workplace standards are adhered to by all.
  - Minimize production errors.



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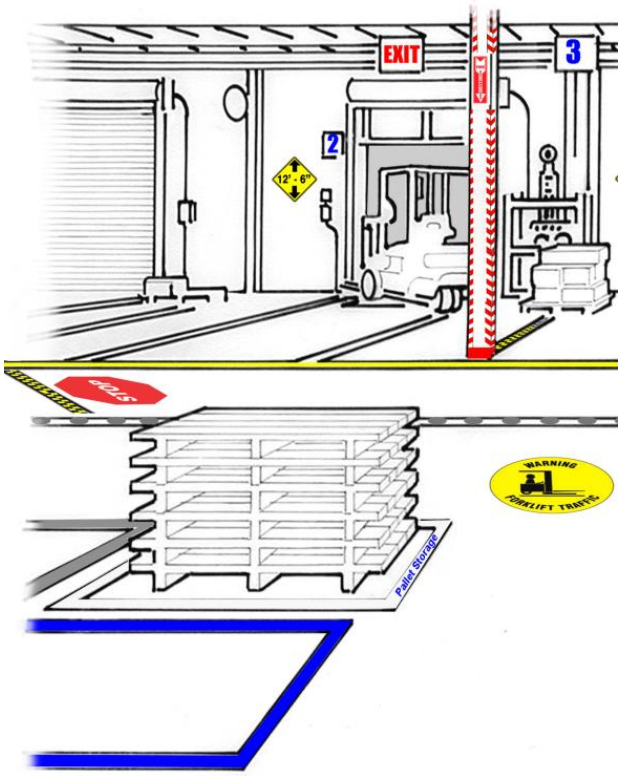
More Applications:

- Marking the floor and the piping system.

Standard Floor Markings



- Visual Management

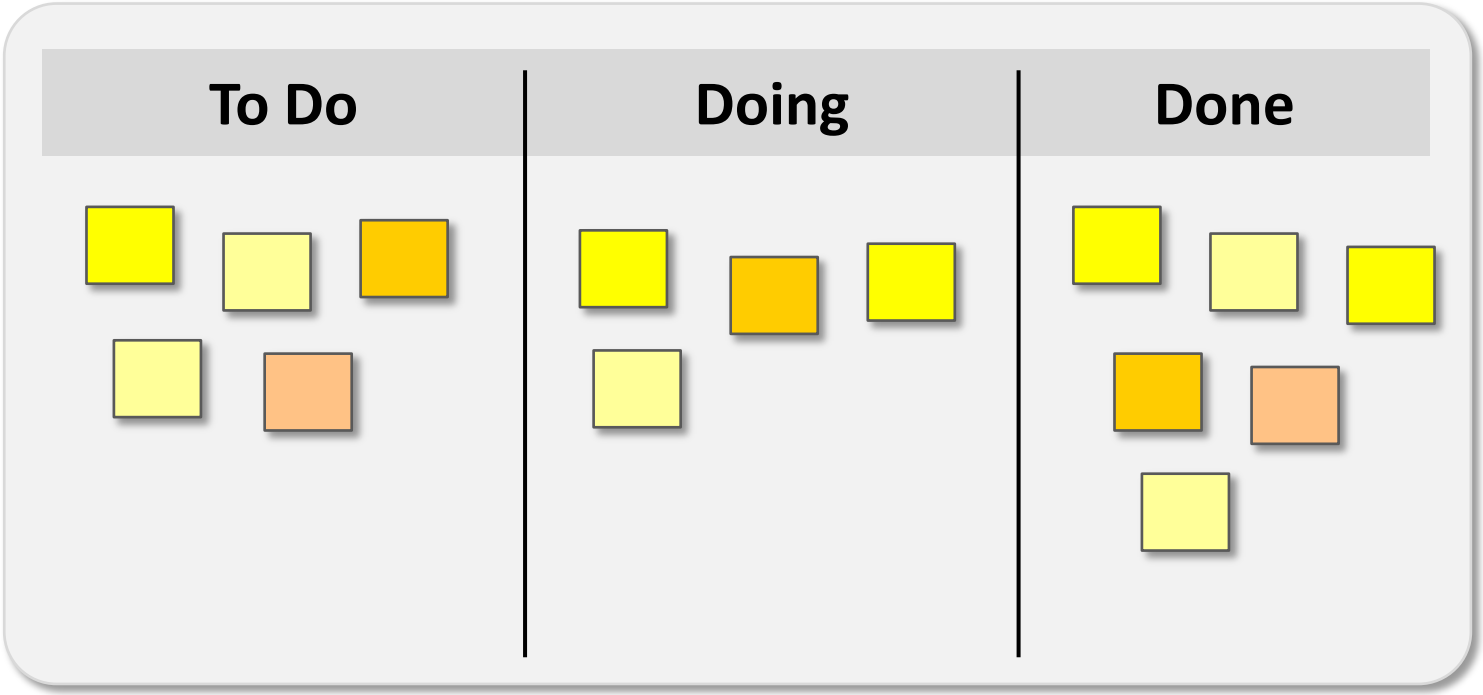
More Applications:

- Marking the materials and products being produced.
- Marking the machines, equipment and production lines.
- Marking the offices, rooms, cells and storage areas.
- Way-finding visuals to help people find the way around.
- Signs such as **Do-Not-Enter** and **No-Smoking** signs.

- Visual Management

More Applications:

- Using color coded cards and Kanban boards in a pull system.



- Visual Management

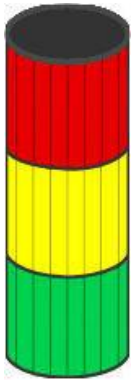
More Applications:

- Boards to prioritize problems & communicate countermeasures.
- Posters and banners to reinforce Lean goals and principles.
- Tracking boards to facilitate communication in multi-shift operations.
- Scoreboards to communicate and track process metrics in a real time basis.
- Production summary boards to display information such as efficiency, Takt time, etc.

The more visually information is displayed, the more communication will improve

- Visual Management

Andon Display:



- A multi-colored lighting system that provides a simple and consistent mechanism for communicating information.
- An effective communication tool that brings immediate attention to problems as they occur at a machine.
- **Example:**
  - A light may turn on or change color to indicate a shortage of raw materials or the need for maintenance.
- May include means to stop production so the issue can be corrected.

- Visual Management

Production Summary Boards:

- Everyone should be able to see where production stands.
- Communicate the current status of a production system.
- Used to monitor the process output and see if it meets customer demand.
- Allows maintenance and production teams to quickly resolve process and quality problems.

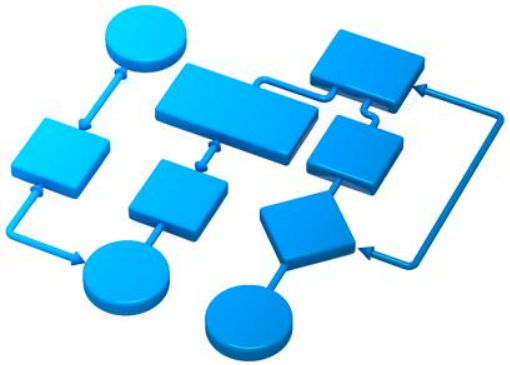
Production Monitor

Production Monitor / hour

- Visual Management

Tips to Create a Cohesive Visual Management System:

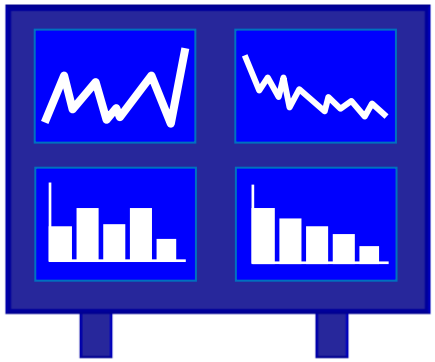
- Remember that the goal is to make the area more informative.
- Determine where to implement visual management.
- Decide who are going to be involved.
- Identify information deficits and determine what needs to be shown (use a checklist).
- Mark floors, add signs, label storage areas, etc.
- Information has to be easily understandable, concise, accurate, relevant, up-to-date and accessible to everyone.
- Create a guide that describes the key elements associated with each visual type.



- Visual Management

Further Information:

- Visual management is not just making charts and metrics visible on a wall, it is a real-time, hourly or daily visuals that allow the team to respond promptly to signals to solve issues or support the production process.
- This often generates a sense of urgency among the team and allows solving problems on spot eliminating possible complications.
- Process metrics need to be displayed at the machine or manufacturing cell, while general plant information need to be posted in a central location where everyone can see it at a glance.

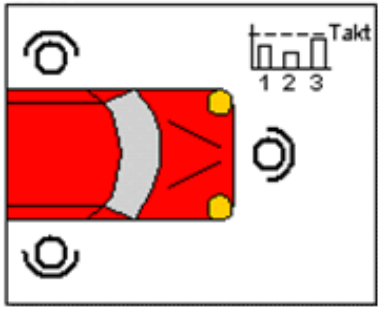


- Visual Management

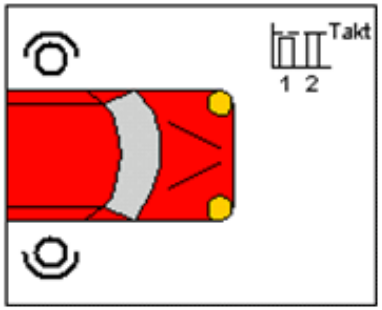
Further Information

- It is very common to conduct Kaizen events where the main focus is to enhance the visuality of a specific work area or a process.

- For example, stabilizing the work environment using 5S, stabilizing how work is performed using standard work, or stabilizing equipment performance and reliability using TPM.



Before

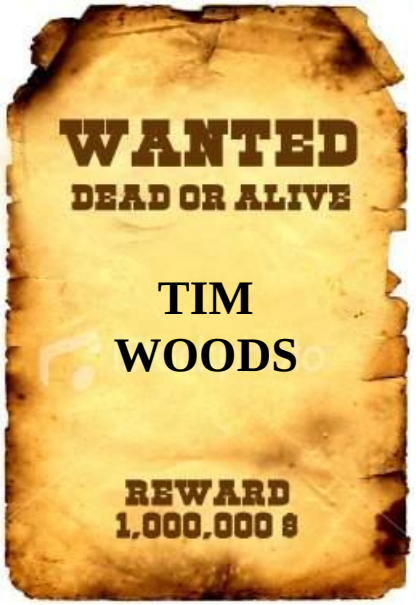


After

- Visual Management

Examples of how to eliminate waste using VM:

- Reduce **waiting** by visually defining work sequence and in-process stock.
- Prevent **excess transportation** by labeling and marking locations and paths.
- Reduce **motion** by assuring all parts and tools are accessible and distinguishable.
- Eliminate **excess inventory** by improving visibility of storage and displaying levels verses target .



- Visual Management

Examples of how to eliminate waste using VM:

- Prevent **overproduction** by visually displaying production targets and actuals.
- Eliminate **over-processing** by assuring processing standards are visually posted.
- Minimize **defect** and rework levels by displaying problem solving results.
- Minimize the **non-use of skills** by visually communicating problems to all making them participating in finding solutions.