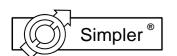
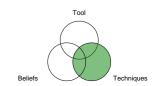
# SBS 6S & Visual Management with Examples

...Building Strategic Advantage through Enterprise Wide Improvement...

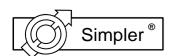


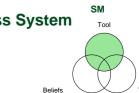


# What is... 6-S and Visual Management

#### Objectives:

- learn what 6-S means
- plearn what a visual work place is
- Learn what a visual device is
- Learn what visual management is
- learn how to establish 6-S (basic level)

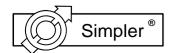


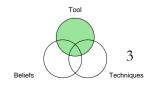


## 5S – 6S Background

- 5-S... in Japanese factories
- focus: orderliness
- 6th S added in some US companies... Safety
- combines orderliness with safety / ergo

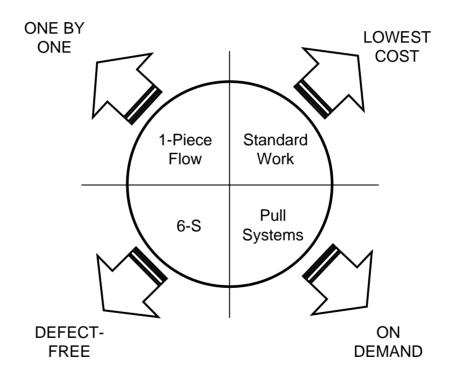
overall intention: CLEAN, SAFE, ORDERLY

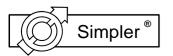


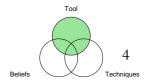


## | Establishing Cells

establish cells first, then improve them



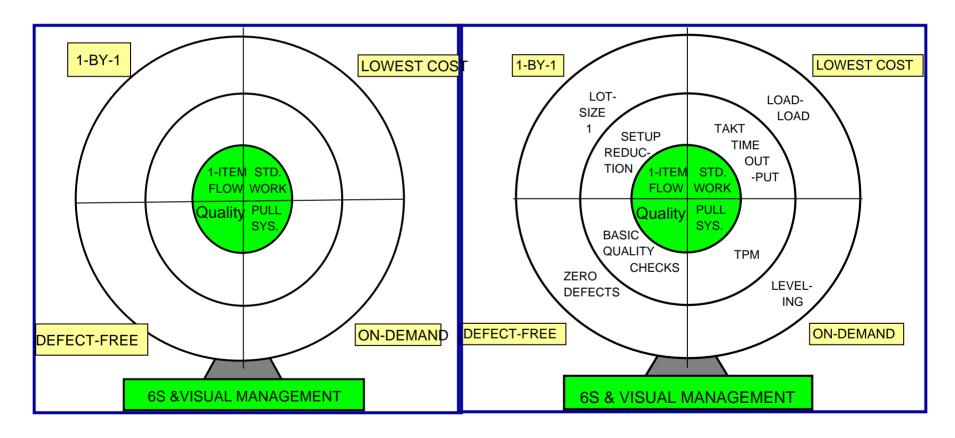


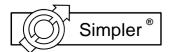


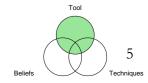
## | Target State for Cells

**Establish Model Cells first** 

**Improve Cells After They are Established** 







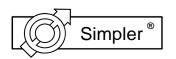
### Overview

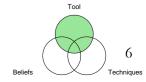
### think of 6-S as a repeating action sequence:

- 1: SORT OUT get rid of what's not needed
- 2: STRAIGHTEN organize what belongs
- 3: SCRUB clean up, see and solve problems
- 4: SAFETY make the work area safe
- 5: STANDARDIZE assign tasks, track visually
- 6: SUSTAIN keep it up (audit and insist)

#### remember...

- this applies to all areas (value-adding and administrative)
- basic "6-S" is part of establishing any cell

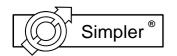


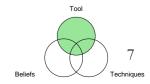


## 1: <u>S</u>ort Out

#### GET RID OF WHAT'S NOT NEEDED

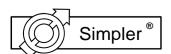
- start with a red tag campaign
- tag everything that looks disorderly or unsafe
- be ruthless (9/10 you'll be OK, you'll get over the 1/10)
- if in doubt throw it out
- if still in doubt, send it to a "red tag area" for resolution
- you should be removing <u>truckloads</u> of items... be tough
- (Sometimes you'll need to ask for forgiveness later!)

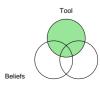




## Sort





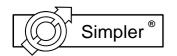


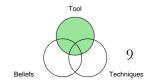
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## 2: Straighten

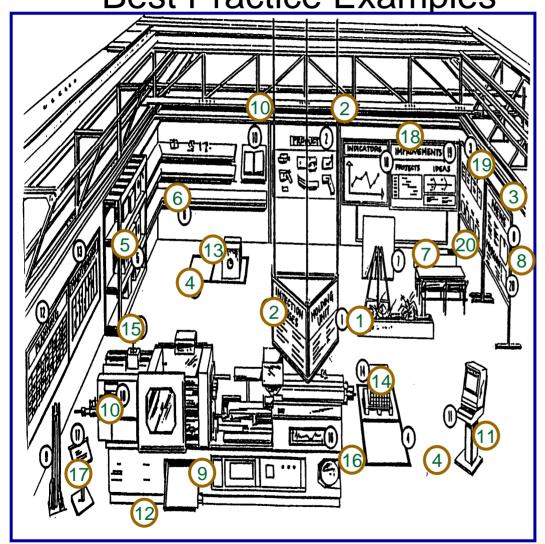
#### ORGANIZE WHAT BELONGS

- create a place for everything
- deal with the open red tags from the "Sort Out" step:
  - RESOLE UNSAFE CONDITIONS
  - ORGANIZE PARTS OR MATERIALS
  - RESOLVE THE THINGS YOU WERE AFRAID TO THROW OUT
  - WRITE OFF OR SELL OFF OBSOLETE MATERIALS





6. Visual Management in Practice Best Practice Examples



#### The Team's Work cell - Target State

- 1. Identification of area
- 2. Identification of process, resources, and products
- 3. Identification of the team
- 4. Footprints on the floor
- 5. Footprints of tools and racks
- Technical area
- Communication and break areas
- 8. Information and instructions
- 9. Tool Board

#### **Visual Documentation**

10. TWI - Std Work Documents

#### **Visual Production Control**

- 11. Computer terminal
- 12. Production schedule
- Maintenance schedule
- Identification of RM and WIP

#### **Visual Quality Control**

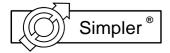
- 15. Monitoring signals for machines
- 16. Statistical process control (SPC)
- 17. Record of problems/defects

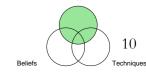
#### **Metrics/Key Measures**

18. Goals, Objectives and Results-Product/Process Control Boards

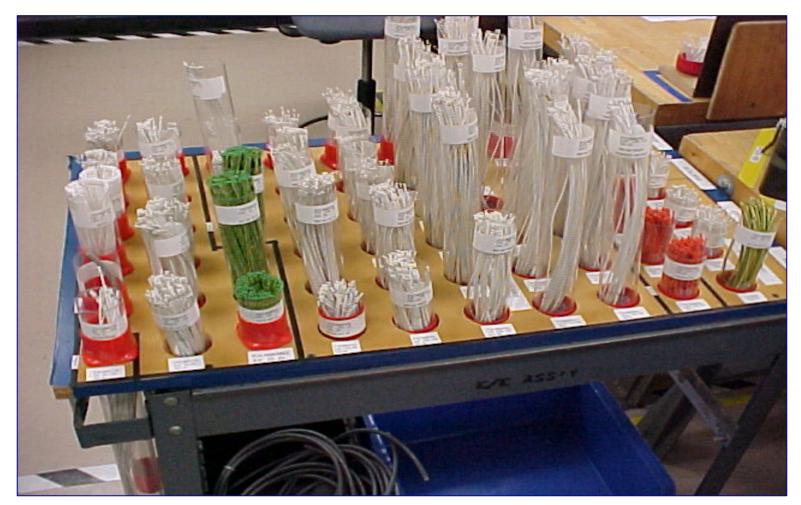
#### **Visual Process**

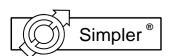
- 19. CI activities
- 20. Project List and mission statement

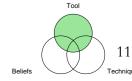




## Straighten



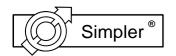


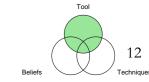


### 3: <u>S</u>crub

### CLEAN UP, SEE AND SOLVE PROBLEMS

- make the work area absolutely clean
- clean everything (equipment, floors, walls...)
- paint everything (equipment, floors, walls...)
- look for problems...
  - LEAKS?
  - LOOSE OR MISSING ITEMS
  - UNSAFE CONDITIONS
  - CAUSES OF MESSES OR PROBLEMS...
  - QUALITY ISSUES
- solve problems (root cause), take corrective action (prevent)

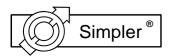


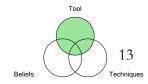


## Scrub



**Break Room - organized and clean** 

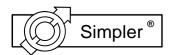


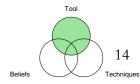


#### Scrub

Cabinet under sink in Training Room



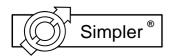


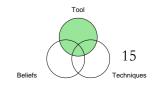


## 4: <u>S</u>afety

#### MAKE THE WORKPLACE SAFER

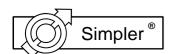
- look for unsafe conditions
- look for potential for unsafe acts
- look for difficult tasks (are they ergonomic?)
- try the jobs yourself... where could you get hurt?
- list the opportunities
- resolve them
- put creativity before capital and put safety first!!!





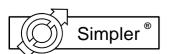
## Safety





## Safety

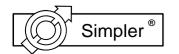




Beliefs



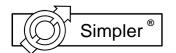
Lock Out / Tag Out program includes a storage area at the entrance to the plant floor for all locks and tags (locks are color coded for operators, mechanics, and contractors). Also, there is a place at each machine to store locks and tags when not in use.

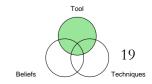


## 5: Standardize

### ASSIGN TASKS AND MANAGE VISUALLY

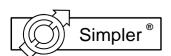
- Who will do what to keep the area clean, safe and orderly?
- agree on daily and weekly tasks
- establish a visual management system for these tasks
- can you tell at a glance if the tasks have been done?

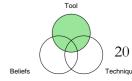




### Standardize



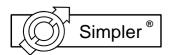


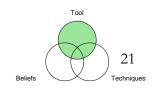


## 6: <u>S</u>ustain

### KEEP IT UP (AUDIT AND INSIST)

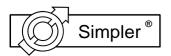
- develop audit checklists for office and for shop floor
- assign the audit role to someone outside the area
- track the audit results (a bit of friendly competition?)
- hold yourselves accountable for sustaining

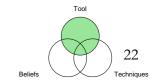




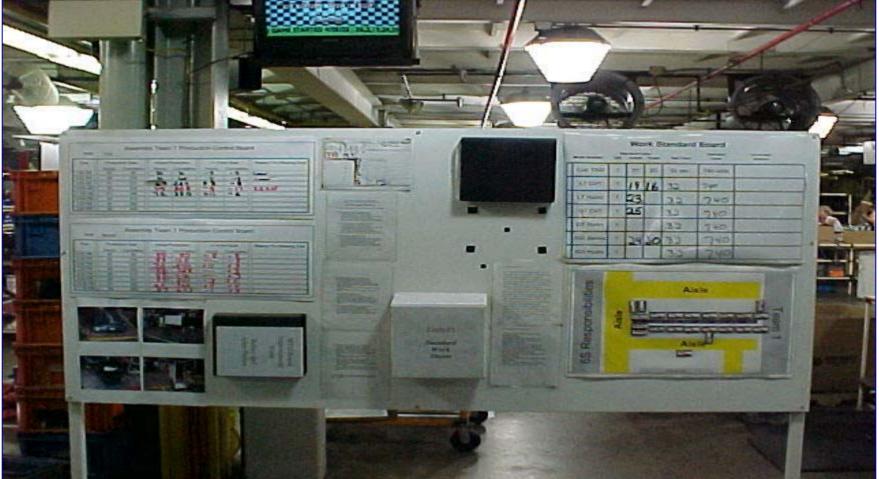
## Sustain

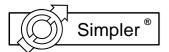


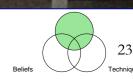




## | Cell Tracking Center – Production Control Board

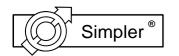


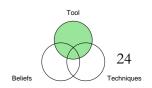




## Insights

- areas with great 6-S usually also have great numbers
- basic 6-S is the first step in building a new culture
- if you expect 6-S, lead by example (your office!)
- be persistent (it's OK to nag)

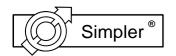


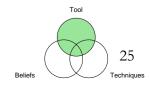


## Definition of a Visual Workplace

A Clear and precise outcome

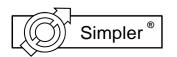
- A Visual Workplace is:
- A work environment that is self-ordering, self-explaining, self regulating, and self-improving
- Where what is supposed to happen does happen, on time, every time, day or night...
- Visual Management is managing a visual workplace

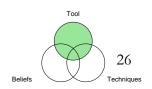




### Definition of a Visual Device

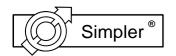
- A Visual Devise is a mechanism or thing:
- intentionally designed
- To influence, direct, or limit behavior
- By making vital information available <u>without speaking</u> <u>a word</u> (Think of a supermarket; Where do you find the breakfast cereal?)
- Should transmit a non-verbal message in 5 Seconds
- Should tell us what we need to do (action)
- Should be at the point-of-use
- Translates data into information, information into meaning, and meaning into behavior

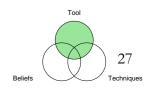




## Visual Systems, Cells, or Communications Centers

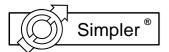
- A Visual System is a cluster or group of visual devices, aimed at a single performance outcome
- Because these systems are self-explaining, we can be selfregulating
- Example: A standard car has on the average of 144 visual devices on or inside the car. Intentionally designed to help us drive, maintain, and repair the car
- A Visual Cell is a cluster of visual devices within a confined space
- A Communication Center is a cluster of visual information located near people collection areas or meeting locations

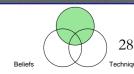




# Sustain: TPOC – Enterprise Level Tracking Center

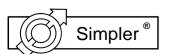


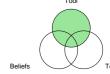




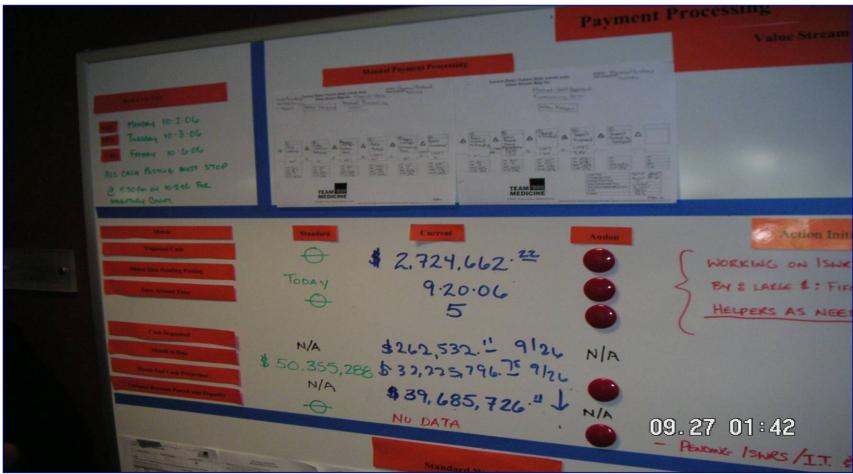
# Sustain: TPOC – Enterprise Wide Tracking Center Example

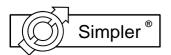




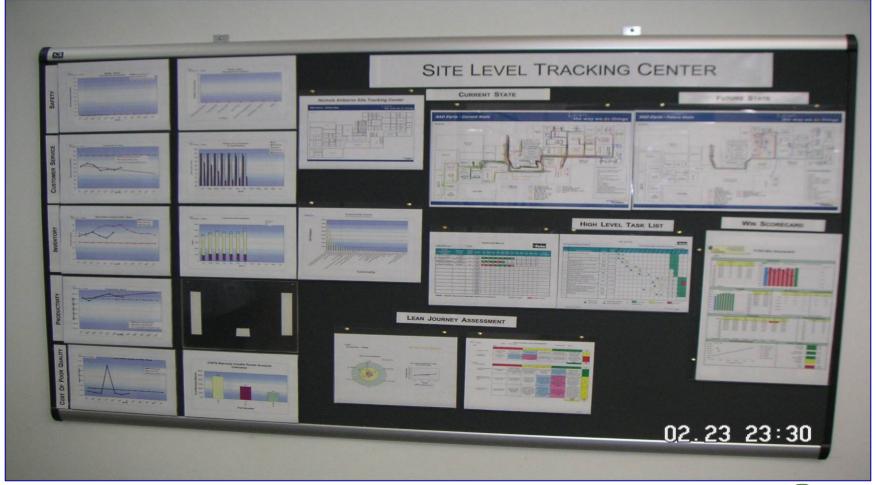


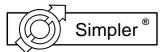
## Admin Cell Tracking Center

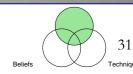




# Sustain: Mission – Site Level Tracking Center

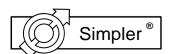


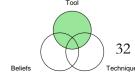




# Sustain: Value Stream/Site Level Tracking Center (Mission)

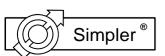


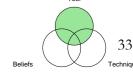




## | Sustain: Value Stream – Mission Level Tracking Center/Board

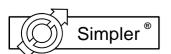






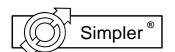
## Kaizen/Continuous Improvement Board – CI Events Tracking Center

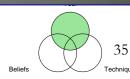




## Kaizen/Continuous Improvement Board – 6S Tracking Center

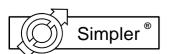


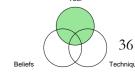




## Sustain: Cell Tracking Centers - Kiosks



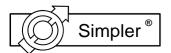


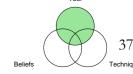


### 6S & Visual Management Examples

Updated Hour-by-hour boards

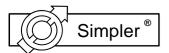


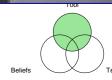




# Admin. (Design Center) Flow Cells with Cell Control Boards



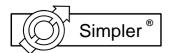


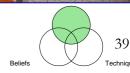


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# Cell Tracking Centers – Production Control Board Examples

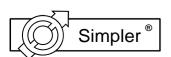






## Key Points Sheet Example

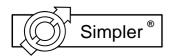


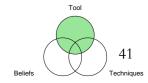






#### Each machine has a posted start-up and shut-down procedure.



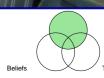


## Cells – Small parts feeding systems

**Point of use Tools Boards** 

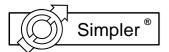


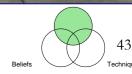




# Low Volume, High Mix – Mix Model Cell

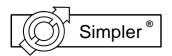


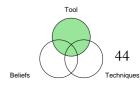




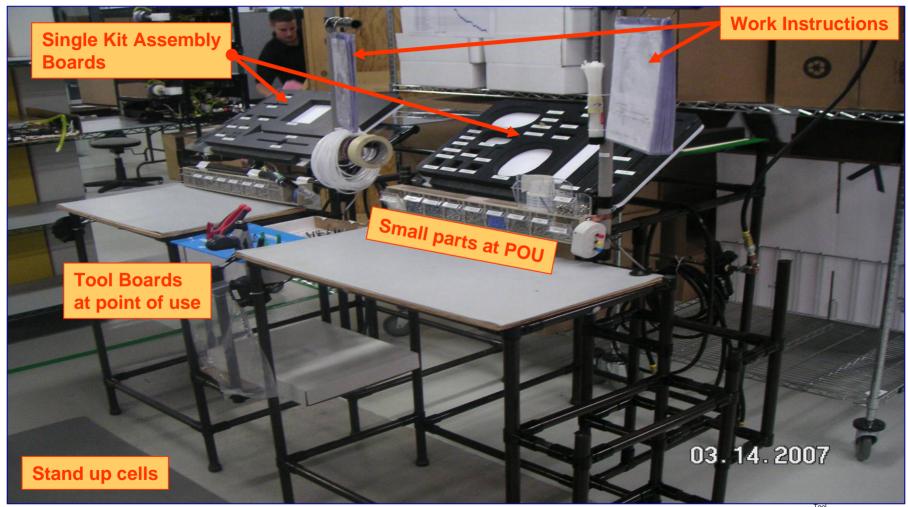
### Single operator assembly cell example

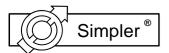






### Work Cell Example

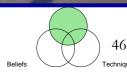




## One Piece Flow Cell Example

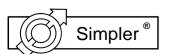


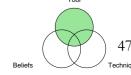




## Team A3 Development Cell



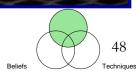




# Visual Controls – TPM Standard Work Example

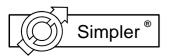


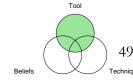




## Point of Use Tools – Work Cell



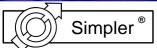




### **Tool Board Example**

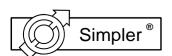
(Tools at point of use)

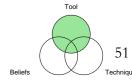




### Assembly Cell Example

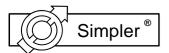


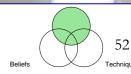




### Assembly Cell Example with Automation

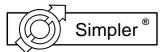


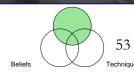




## Cell Example

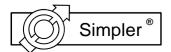


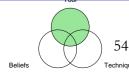




# Color Coded Press with visual signals

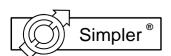






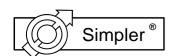
#### Stamping Press - start of Set-up Reduction Event

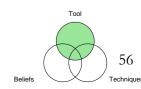




#### Stamping Press - Information Board from TPM Event

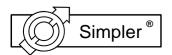






#### Press - Decoiler, requires coil change with each die change



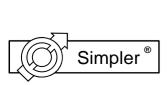


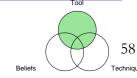


#### Press - Coil Feeder, front:

(Feed adjustment required each change)

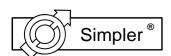
Press - Coil Feeder, back

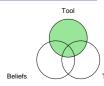




#### Stamping Press - Rear of press used to collect off-fall





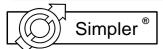


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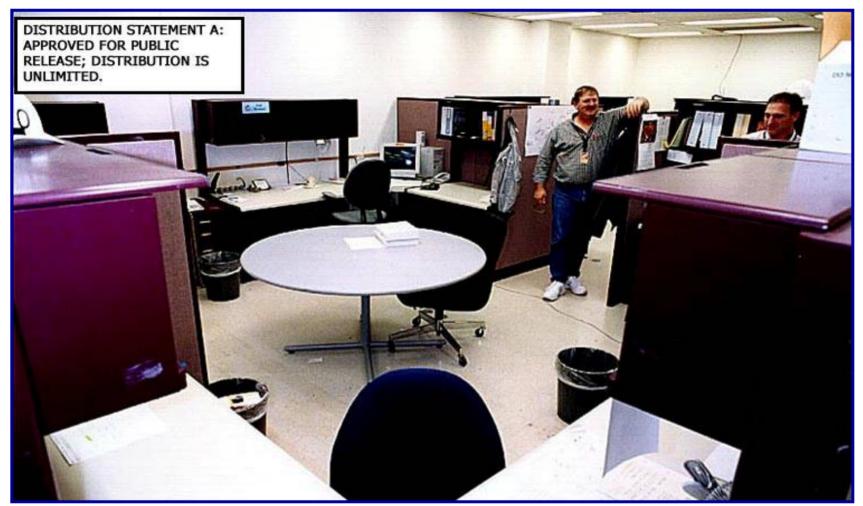
#### Administrative Cell -

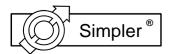
#### One Piece Flow Example Design Engineering

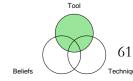




## **Business Process Cell Example**







## Administrative Flow Cell Example



