Visual Management Missions
Rooms for major Projects

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Transform Business Improvement
Overview of the session

- Visual management principles
- Examples from other sectors
- Application to major construction projects
- Discussion
Principles

- Visual management
- A picture paints a 1000 words
- Clear, simple, concise
- Communication and alignment
- Stand-up
- Show achievement and issues
- Provoke the right reaction
- Rapid response
The Process View

**INPUTS**

- Manage The Inputs
  - Manpower
  - Material
  - Machine

**METHOD**

The Process

**OUTPUTS**

- Measure The Outputs
  - Quality
  - Cost
  - Delivery

**Visual Management**

- Identify Opportunity & Improve Process
- Analysis Techniques
- Improvement Tools
Visual Management

Examples from other sectors

• Automotive
• Aerospace
• Chemical / Processing
• Manufacturing
• Health

Characteristics

• Aligned to defined goals
• Common format
• Stand-up
• Efficient and to-the-point
• Attended by all relevant persons
Visual Management

Examples from other sectors

1. Facility/business unit board

2. Value stream and area level board and communication tower

3. Area/section level board*

4. Cell level board*
Application to major projects

Project / Mission Control Room

• Project / Mission Control Room
  – Typical set-up

• Example Projects
  – Birmingham Gateway
  – Power station, South Africa
Application to major projects

Project Control Room – Typical Elements

- Project Objectives
- Overall Programme
- Detailed Day-by-Day Short-term Look-a-Head
- Agreed Short-term Priorities
- Weekly Day-by-Day Plan(s) by Area
- Issues, Hotspots & Actions

Projected images 2-D, 3-D, 4+D

Problem Solving Board

Losses

Metrics By Area &/or Trade

Layout Diagrams / Logistics

By Area &/or Trade

By Area &/or Trade

By Area &/or Trade
Project Control Room Examples

Birmingham Gateway

- Complex project
- £600m
- Live public environment
- Number of challenges (e.g. mixture of old & new)
- Coordination of all areas of work and interfaces vital to success
- Dynamic / changing project situation
- Central planning & control is critical
- Hub & spoke
Birmingham Gateway
Central Goal Command Room

• Now focused on countdown to handover
• Daily review of project execution versus the plan
• The central hub for ensuring:
  – Confirmation of the plan
  – Monitoring achievement
  – Identifying issues and agreeing how to resolve
  – Agreeing changing priorities for the Project not just individual areas
  – RAG status
  – Communication
Birmingham Gateway
Central Goal Command Room

Critical Path + Escalation Monitor

Hotspots + Actions
Birmingham Gateway
Central Goal Command Room

Plan-to-Protect Blockers & Design Readiness
Birmingham Gateway
Central Goal Command Room Area - Standard Visual Management

- High level key phase programme
- Programme progress report
- Issue & action board
- Visual phase layouts
- Visual progress monitor
- Short-term visual work planner
Weekly review and planning meeting = 1 hour
  – Progress, planning, design, logistics
  – Performance on PPC and 6 week look-a-heads
  – Driven by Deputy Project Director

Daily reviews = 20 minutes

Planners meetings – driven by senior planner

Stand-up, no tables or chairs

Attended by ‘all’ relevant parties

Area manager to up-date of info before the meeting

Senior team use room for regular meetings
Visual Management
Area Planning & Control Spokes

Visual phasing layouts to show areas of working and plant & material logistics in support of weekly production plan

RAG (Red, Amber, Green) visual system used to show status of work activities and actions

Detailed day-by-day collaborative master target programme

Overall programme(s) for individual areas of work

Glass overlaid on construction layout drawings, enables the project team to draw-on the location and movement of resources and helps:
- Planning and communication
- The identification of any potential areas of interface clashes, etc.
Visual Management
To Plan & Control Design Delivery

Central Design Planning & Control Hub

Visual T Card process for planning & progressing Design tasks
## Visual Management Standard for the Workplace

### Example Visual Comms Board

<table>
<thead>
<tr>
<th>PROGRAMME MONITOR</th>
<th>OUR PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STATUS</strong></td>
<td><strong>KEY MILESTONES</strong></td>
</tr>
<tr>
<td>Overall ‘Work Area’</td>
<td>What</td>
</tr>
<tr>
<td>Atkins</td>
<td></td>
</tr>
<tr>
<td>Birse</td>
<td></td>
</tr>
<tr>
<td>NG Baileys</td>
<td></td>
</tr>
<tr>
<td>Etc</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THE TEAM</th>
<th>DELIVERABLES THIS WEEK</th>
<th>H&amp;S ISSUES / LOOK-OUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package Mgr.</td>
<td>- Paving GL10-17</td>
<td></td>
</tr>
<tr>
<td>Sub-con 1 Sup.</td>
<td>- Switch room panels</td>
<td></td>
</tr>
<tr>
<td>Sub-con 2 Sup.</td>
<td>- Demo on Ilughdiugfe</td>
<td></td>
</tr>
</tbody>
</table>

### Areas of Work and Material Logistics

- Photos + company, role & responsibilities
- Planned work & logistics visual resulting from weekly PCS
- Agreed and quantified deliverables this week by trade
- Top 5 H&S issues &/or H&S ‘look-outs’ for this week
- Agreed actions re any methods of work &/or to resolve interface clashes, identified from PCS, etc.
- Agreed materials delivery plan – probably colour coded by subbie by day & time

### Visual Management Standard

- Clearly defined milestones for the overall work area
- Countdown displaying number of weeks to programmed works completion

### What is the status of the works and associated subbies?

- What
- When
- Status

### 4 WEEKS TO GO

- Package Mgr.
- Sub-con 1 Sup.
- Sub-con 2 Sup.
- Etc.
Project Control Rooms

Application to major projects

• Who should drive?
• Who should attend
  – A ‘Lean’ view – ‘all’ focused on supporting VALUE creation
    • Contractor manager(s)
    • Production Supervision
    • Planning
    • Design
    • Stores / Logistics
    • Procurement
  – Location
    • Central ‘hub’
    • + Area plan & control ‘spokes’ + Coal face comms cells
Project Control Rooms

Application to major projects

Benefits:
• Awareness – Common view and understanding
• Agreement – Overall programme and critical path
• Alignment – Focus on the ‘project’ not own areas
• Achievement – Easy to see progress & blockers
• Issues – Agreed priorities and actions
• Programme predictability (PPC) increases
Project Control Room Examples
Construction of a Coal Fired Power Station

- South Africa
- £100 million
- 5 year programme
- 10+ trades
- As many nationalities
- 22,340 meals prepared daily
- Concrete – in excess of 600,000 cubic metres
- Steelwork – 120000 tonnes (more than the world’s tallest building)
- Coal conveyor 6km long
- Will consume 14 million tonnes of coal per annum
1. BP Construction Status
2. BP Construction 2 Week Look Ahead
3. Turbine Construction Status
4. Turbine Construction 2 Week Look Ahead
5. Milestone Status Board
6. Boiler Construction Status
7. Boiler Construction 2 Week Look Ahead
8. Boiler Status Board
9. Labour Board 1
10. Labour Board 2
11. Safety Board
12. Boiler Welds Board
13. C&I Board
14. Electrical Cable Board
15. Commissioning Board
16. Unit 6 Construction Plan
17. Improvement / Suggestion Board

1500mm x 1200mm (Portrait)
1500mm x 1200mm (Landscape)
1800mm x 1200mm (Landscape)
Project Control Room Examples

Construction of a Coal Fired Power Station

- Stand-up meetings, daily 20-30 minutes
- Structured feedback, 2-5 mins per area
- The plan, achievements, issues & actions recorded on boards
- RAG status
- Focus on ambers and reds
- Resolutions sought prior to meetings
- Adjustments & priorities agreed
Project Control Rooms
Application to major projects

Some challenges:

• Transient nature of construction / projects
• Each project - different parties, with different drivers, motives, perspectives
• Project delivery success – largely influenced by the project management style, processes and ability to create ‘one-team’ approach
• Visual project control rooms can quickly help establish culture, behaviours and collaborative approach
Project Control Rooms

Application to major projects

Some thoughts for success:

• Invest vs ROI
• Establish central project planning & control hub + spokes right from the outset
• Common approach breeds familiarity and ease & consistency of use
• Transparency is key – if problems arise, let’s see them, we’ll resolve them together
• Disciplined usage
• Requires proper buy-in and support by all relevant parties