About Us

- Founded: 1969
- Company Revenue: $450M
- Employee Count: 330
- Geography: San Francisco Bay Area, Los Angeles
- Market Specialties: Corporate Interiors, Life Sciences, Healthcare, Industrial, Education
Using Lean to Create an Innovative Technology Platform to Enhance Safety Performance

Steve Long - Director of Innovation & Learning, Dome Construction
Kaitlin Frank - Superintendent, Dome Construction
Bobby Marshall - Project Manager, Dome Construction
Our Lean Journey to Safety Innovation

The Road Trip of our Journey
Origin Story

• Inspired by LCI Congress 2015 – Convened 2 Day Cross Dept Lean Assessment

Our field unanimously stated the JHA/PTP process was broken

• Did Not Promote Safe Thinking
• Time Consuming
• Lacked Accountability
Origin Story

Our Safety Standard - Defined

<table>
<thead>
<tr>
<th>Yearly</th>
<th>Per Project</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Orientation</td>
<td>JHA (Job Hazard Analysis)</td>
<td>PTP (Pre-Task Plan)</td>
</tr>
<tr>
<td>(Video)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Paper! Lots of Paper!
Origin Story

Pre-Task Plan

<table>
<thead>
<tr>
<th>Employer: Scaffold Inc</th>
<th>Job / Task: Scaffold</th>
<th>Work Area:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Prepared:</td>
<td>Notification(s) Required:</td>
<td>Yes No</td>
</tr>
<tr>
<td></td>
<td>Permit(s) Required:</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Steps of Task</th>
<th>Recognized / Unanticipated Hazards</th>
<th>Safe Plan</th>
<th>Tools Required to do a Safe Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build Scaffold</td>
<td>Gravity / the ground</td>
<td>Yes</td>
<td>Can't Fall!</td>
</tr>
</tbody>
</table>

- Adjacent Work / Processes and/or Co-occupancy: Yes No
- Barricades Set-up: Yes No If yes, removed at End of Shift: Yes No
- Use of new tool and/or process require supervision by competent person and Sign off
- Other workers adjacent, above or below.
- Notified them of our presence.
- Coordinated w/adjacent work supervisor; can work safely.

Completed Task Without Injury? Yes No

PTP Employee Name (Print clearly): Employee Signature(s):

Foreman: Superintendent: Safety Monitor:

Instructions:
1. Write the name of the job or task in the space provided. 2. Conduct a walk through survey of work area. 3. Write the steps of the task in the sequence. 4. List all possible hazards involved in each step as well as reaction to failure. 5. In the Safe Plan column, provide the corrective actions that will be taken to prevent the hazards and injury from reaction to failure. 6. In the third column, list the resources that are needed to achieve the Safe Plan to overcome the hazards and stop reaction to failure such as reaching in when something moves, etc. 7. In resources column list tools needed to do the job, additional safety equipment, etc. 8. Have each team member that helped develop and will use this PTP sign in the space provided at the bottom. 9. Review the PTP at the end of the task for improvements.

(Note: THE WORK SHALL STOP IF CONDITIONS CHANGE, THE JOB CHANGES, OR A DEFICIENCY IN THE PLAN IS NOTED.)

Review Checklist on Reverse Side When Completing Pre-Task Plan
Let’s Use Lean & Technology to Make a Significant Improvement!

**Force Field**

- Motivated Leadership
- Motivated Users Craving a Better Way
- Mobile Devices in everyone’s hands
- Site Safety Audits in Mobile App
- Safety Onboarding (video) w/ an online vendor
- Strong Distaste for Current State
Seven Wastes

TIME
INVENTORY
MOVEMENT

WAITING
OVERPRODUCTION
OVERPROCESSING
DEFECTS
The A3 – How We Used It

**A3 – Safety App**

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participants</strong></td>
</tr>
<tr>
<td><strong>Roles</strong></td>
</tr>
</tbody>
</table>

**Roadmap / Constraints / Concerns:**
- Bi-weekly progress meetings
- Weekly status updates
- Risk management plan
- Cost-benefit analysis
- Stakeholder engagement

**Other:**
- Targeted sub-commitment in development

**Follow-up (How do we ensure ongoing RCSA):**
- Regular review meetings to assess progress and risks
- Agile Development to ensure we adjust along the way
- Continuous testing with supervisors

**Analysis (What are root causes of the problems?):**
- Inadequate training
- Lack of accountability
- Poor communication
- Lack of resources
- Poor planning
- Ineffective processes

<table>
<thead>
<tr>
<th>Role</th>
<th>Issue</th>
<th>Change</th>
<th>Status</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Leader</td>
<td>No clear roles</td>
<td>Role clarification added</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Coordinator</td>
<td>Lack of resources</td>
<td>Add resources</td>
<td>In Progress</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Trainer</td>
<td>Ineffective training</td>
<td>Improve training</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Auditor</td>
<td>Lack of training</td>
<td>Training provided</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Inspector</td>
<td>Ineffective inspections</td>
<td>Improve inspection methods</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Officer</td>
<td>No accountability</td>
<td>Establish accountability</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Manager</td>
<td>Poor communication</td>
<td>Improve communication channels</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Engineer</td>
<td>Inadequate resources</td>
<td>Add resources</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Consultant</td>
<td>Ineffective processes</td>
<td>Review processes</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
<tr>
<td>Safety Coordinator</td>
<td>No clear roles</td>
<td>Role clarification added</td>
<td>Complete</td>
<td>3/21/17</td>
</tr>
</tbody>
</table>

**Follow-up (How do we ensure ongoing RCSA):**
- Regular review meetings to assess progress and risks
- Agile Development to ensure we adjust along the way
- Continuous testing with supervisors

**Conclusion:**
- Improved safety practices
- Increased accountability
- Enhanced communication
- Better resource management
- Effective training programs

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12
Using Lean Tools to Continue the Journey

- App Developer chosen for **Agile Software Development** capabilities
  - It’s Last Planner for Software

- **Go To Gemba**
  - Developer observed current state

- **PDCA**
  - Agile utilizes weekly “sprints”
    - Functionality parsed in small chunks, developed, tested, and approved before proceeding to next chunk
    - Goal: Prevented going down the wrong path
Lean During App Development
If at first, you don’t succeed....

... Identify your Roadblocks
Improvement Tracking System (Kanban)

Our Tools: Trello & Slack
PDCA (Check / Adjust)

1. Desired Outcomes
2. Brainstorm
3. Affinity
4. Multi-Voting
5. Idea Generation
The Tool – Lean Results so Far…. Let’s See

Man vs. Machine
Our Lean Journey to Safety Innovation

Lean Assessment
TIM WOOD
A3 Thinking
Agile Development
Constraints / Roadblocks
Going to Gemba
Last Planner
Force Field
Kanban
PDCA (Check/Adjust)
2016
Launched!...
TODAY
Questions?

“A long habit of not thinking a thing WRONG, gives it a superficial appearance of being RIGHT, and raises at first a formidable outcry in defense of custom…”

*Thomas Paine*

(Intro to Common Sense, 1775)