Predictable Engineering in an Un-predictable World

Learning from our past to create a new future where we deliver predictable outcomes, with “value & trust” as the foundation of the relationship.

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Location: Marco Island, Florida - Marriott
Predictable Engineering in an Un-predictable World

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Session Logistics

- ECC Slide here about the session Logistics, how to ask questions, etc.
Agenda

- Opening Remarks
- Improving Industry & Predictable Project Outcomes
- Case for Change: Learning from the past to create the new future
- The journey and successes
  - Alignment of the drivers
  - The foundation of the “how” of the new future
- Key Take-aways
- Closing Remarks
The challenges we face and the opportunities in front of us?

History has driven transactional delivery & commoditized engineering

Re-wire our contract & relationships

Re-thinking design

Re-skilling the workforce

Deploy technology & innovation

Engineering is not just engineering
Learning from the past to create a new future to deliver competitive and predictable outcomes

<table>
<thead>
<tr>
<th>Organizational Capability</th>
<th>Design basis &amp; lockdown</th>
<th>Out of Sequence progression</th>
<th>Constructability Management</th>
<th>Quality of Deliverables</th>
<th>Management of Digital &amp; Data</th>
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</thead>
<tbody>
<tr>
<td>Gaps in both the Owner’s &amp; Contractors organization</td>
<td>Design lockdown was not clearly defined and understood by all</td>
<td>Progression of FEED and detailed design deliverables out of sequence with the work plan</td>
<td>Inconsistent engagement with other functions to build constructability and safe execution into the design.</td>
<td>Incomplete or sub-standard deliverables</td>
<td>Poor management of vendor data</td>
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<td>Industry needs are out-stripping supply for talent</td>
<td>HAZOP &amp; MOC was not consistent</td>
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<td>3D model readiness to support project needs</td>
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<td>Asset Data &amp; systemization inconsistent applied</td>
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Success is driven by everyone aligning on the drivers & their intent

- Work without Serious Injuries or Fatalities
  - Zero Harm
  - Industry Leading Performance

Higher Returns
- Industry Leading Performance
- Predictability of Project Outcomes
- Win-Win
- Commercial Flexibility and Adaptability to Business and Market Needs

Better Leaders
- People and Team – Development and Collaboration
- Predictable Workload And Optimized Personnel Utilization

Lower Carbon
- Sustainability and Carbon Reduction
- Industry Leading Performance

Collaboration for Success
The foundation of the “how” for the new future

Strategic shift to focus on partnership first, ease of doing business

Building Relationships, Trust & Working as One team

Creating an environment of challenge, co-development and ingenuity

Flexibility and Adaptability—think Global, act Local

Innovation - openness to try new approaches/tools

Transparency for planning & open learning culture
Key Takeaways

- Engineering needs to change from Commodity based to Value driven. Where are you today? What lens are you looking at your business?

- “Trusted partnerships” are foundational and when paired with a long-term outlook drive sustainable & repeatable performance improving outcomes.

- Focus on building & enabling the right relationships and collectively owning the “how” through:
  - Transparency of expectations & workload outlook
  - Creating the right environment for challenge, learning, innovation and continuous improvement
  - Developing people, new ways of working and digital solutions

- The contract needs to be flexible, enable the “how”, reward strong performance and improve profitability & predictable outcomes for all
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Closing Thoughts
Thank You!