Providing Oversight & Accountability to Drive AWP Program Success
Today's Speaker

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- Domain expertise in industrial capital asset project execution technology
- AWP implementation consultant
- Serial entrepreneur with 12 patents
- Venture capitalist
- BSE Mechanical Engineering, Princeton
State of the Industry

- Real success seen on projects
- CII Best Practice 2015
- Lack of standard definition of AWP
- More WFP than AWP
- High-touch, one-off implementations
- Early days of owner-driven enterprise scalable approaches
- Lack of standard definition of success (beyond 10% reduction in TIC)
Productivity Growth of Construction

Globally, labor-productivity growth lags behind that of manufacturing and the total economy

Global productivity growth trends

Real gross value added per hour worked by persons engaged, 2005 $
Index: 100 = 1995

Compound annual growth rate, 1995–2014
%  
Hourly rate $25 $37 $39

SOURCE: OECD; WIOD; GGCD-10, World Bank; BEA; BLS; national statistical agencies of Turkey, Malaysia, and Singapore; Rosstat; McKinsey Global Institute analysis

1 Based on a sample of 41 countries that generate 90% of global GDP.
Contractors Operate on Thin Margins
Incentives under more traditional contracting structures, such as EPC and DBB, inevitably lead to clashes¹

<table>
<thead>
<tr>
<th>Players</th>
<th>Motivation</th>
<th>Clashing behaviors</th>
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<tbody>
<tr>
<td>Owner</td>
<td>Reliably deliver project in timely fashion</td>
<td>• Constantly push contractors and suppliers to expedite production and delivery, engage expediters for critical path items</td>
</tr>
<tr>
<td></td>
<td>Receive value for money</td>
<td>• Seek cost savings throughout (e.g., contractors, suppliers, labor, utilities, etc.)</td>
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<tr>
<td></td>
<td>Avoid high-profile setbacks or failures</td>
<td>• Engage best contractors and offload complete risk onto them</td>
</tr>
<tr>
<td>Main contractor</td>
<td>Maximize profit margin</td>
<td>• Charge for any scope changes and submit claims, variations, and project extensions</td>
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<tr>
<td></td>
<td>Ensure financial stability</td>
<td>• Get milestone-based payments; stall work until installment is paid</td>
</tr>
<tr>
<td>Designer/ architect</td>
<td>Illustrate creative edge and reputation</td>
<td>• Submit drawings and designs in random order and not the way required by construction contractors</td>
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<tr>
<td></td>
<td>Minimize effort and resources</td>
<td>• Work according to their own resource availability and timeline, rather than under project timelines</td>
</tr>
<tr>
<td>Subcontractor</td>
<td>Optimize resources</td>
<td>• Deploy cheapest available labor and machinery; in case of any issues, submit claims</td>
</tr>
<tr>
<td>Materials supplier</td>
<td>Financial stability</td>
<td>• Make high margin on raw materials, logistics, etc.</td>
</tr>
<tr>
<td>OEMs² for long lead items</td>
<td>Financial stability</td>
<td>• Try to sell technology or product that is most profitable instead of the most appropriate solution for owner</td>
</tr>
<tr>
<td>Other equipment supplier</td>
<td>Maximize profit margin</td>
<td>• Squeeze subcontractor cost by negotiations, claims, variations, and project extensions, Low motivation to adhere to quality, health, safety, and environment standards unless tight third-party inspection done by main contractor or owner</td>
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### Reasons for Productivity Issues

<table>
<thead>
<tr>
<th>Ranked by Owners:</th>
<th>Ranked by Contractors:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Poor project management and execution basics</td>
<td>1. Contractual structures and incentives are misaligned</td>
</tr>
<tr>
<td>2. Design processes and investment are inadequate</td>
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<tr>
<td>3. Insufficiently skilled labor at frontline and supervisory roles</td>
<td>3. Increasing project and site complexities</td>
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<td>4. Insufficiently skilled labor at frontline and supervisory roles</td>
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<tr>
<td>5. <strong>Contractual structures and incentives are misaligned</strong></td>
<td>5. Bespoke or suboptimal owner requirements</td>
</tr>
<tr>
<td>6. Bespoke or suboptimal owner requirements</td>
<td>6. <strong>Poor project management and execution basics</strong></td>
</tr>
<tr>
<td>7. Industry underinvests in digitization, innovation, and capital</td>
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</tr>
<tr>
<td>9. Construction is opaque and highly fragmented</td>
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</tr>
<tr>
<td>10. Informality and potential for corruption distort the market</td>
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**The areas where Owners and Contractors were misaligned:**

Contractual structures and incentives are misaligned, and Poor project management and execution basics

Safety as a Model for Productivity

- Flat performance followed by significant improvement
- Owner involvement
  - Requirements
  - Measurement
  - Incentives
- Shift to leading indicators from lagging
Advanced Work Packaging is not a construction execution methodology

AWP is a project execution methodology
AWP impacts the entire project execution delivery system – all of the people, process, and technology involved in a project.

Contractors are focused “doing the doing” in their defined area

Owners need oversight over every area to ensure that the “doing is getting done”
AWP Enables System Optimization

Example:
Design issue getting vendor specification design info

WORK PKG E01
Delay work in CWP 06 by 4 weeks

WORK PKG E02
All work in CWP 03 stops until done
What is the Incentive?

- Owner is over the entire lifecycle of the project
- Value of AWP is in optimizing the overall system
- Small compromises in one area can pay huge dividends in another
- AWP connects information across silos and shows how to incent on final outcome
- Sharing downstream benefits with upstream participants is critical
Project Delivery Engine

AWP impacts the entire project execution delivery system – all of the people, process, and technology involved in a project.

AWP is bigger than any one tool.
AWP Program Oversight – Putting Data to Work

- Like keeping a car running efficiently, you need a tool to analyze your project delivery engine to keep it running properly.

- Transactional tools support Contractors in "doing the doing".

- Owners need oversight to see that the "doing is getting done".

Check Engine Light On?  

-  
- ✅  
- ❌  

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Implementing AWP Has Its Challenges

<table>
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<tr>
<th>Challenge</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>Project “Snowflakes”</strong></td>
<td>Can't compare different info from different tools from different people</td>
</tr>
<tr>
<td><strong>Incentives are Not Aligned</strong></td>
<td>Contracts do not maximize &amp; share AWP benefits for Owners &amp; Contractors</td>
</tr>
<tr>
<td><strong>Processes Can’t Scale</strong></td>
<td>Expensive manual approach to AWP is a barrier for smaller projects</td>
</tr>
<tr>
<td><strong>Lack of Clarity</strong></td>
<td>No clear definition of roles and responsibilities, no set expectations</td>
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<tr>
<td><strong>Selective Reporting</strong></td>
<td>Owners have limited access to information on AWP program and project performance</td>
</tr>
<tr>
<td><strong>Experts Required</strong></td>
<td>Knowledge is not shared or standardized, requiring limited, high $ resources</td>
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O3 Solution: AWP Program Management

DEFINITION - *Set the Conditions for Success*
- Define what right looks like for AWP for your organization

FACILITATION - *Enable Best Practice Adherence*
- Execute AWP best practices easier and more effectively

OVERSIGHT - *Drive Continuous Improvement*
- Monitor and predict the health of AWP implementation
Best Practices

Data Sources

Scorecards

Scores

Measurements

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Measuring Program Success

Program Scorecard

Project Scorecard
- Project Scorecard
- Project Scorecard
- Project Scorecard

Data Management Scorecard
IPP Scorecard
Procurement Scorecard
Startup & Commissioning Scorecard
Engagement Scorecard

Contract Strategy Scorecard
Engineering Scorecard
Construction Scorecard
Project Controls Scorecard
AWP gives us the ability to compare across projects.

Abstracting away from project specifics, we are able to measure the project's fundamental ability to plan.
Owners shouldn't monitor past activity, Owners should set the conditions and drive success.
Lessons Learned
Lessons Learned: Run a Parallel Strategy

LONG TERM STRATEGY

Milestone 1

Quick Win

Quick Win

Quick Win

Milestone 2

Milestone 3
In AWP Case Studies published over the past 3 years, similar lessons learned emerged. The common thread? A need for Education & Engagement.

- AWP must be a partnership between Owners & Contractors
- Understand Business Drivers
- Start Education & Awareness Programs Early
- Inspire from the Top, Throughout the Program
- Ensure Teams are Aligned & Trained
- Measure Level of Engagement
- Hold Team Leads Accountable
Lessons Learned: Education & Engagement

- Executives & Program Champion
- Functional Area Leads
- Owners AWP Program
- Onsite at Project
- Partners & Contractors

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Lessons Learned: Define a Clear Program Plan

Identify Program Sponsor
- Executive sponsorship from the business is critical to success

Align Stakeholders
- Identify cross-functional, multi-discipline team with a Project Services leader

Perform Gap Analysis
- Review existing tools, materials, roles, and processes to identify missing items

Develop Roadmap
- Create a fit-for-purpose program management multi-horizon plan

FAST FORWARD

Engage with a Fast Forward Workshop

1. Defined list of priorities
2. Goals and expected timelines
3. Current to future state process maps
4. Data management plan
Key Takeaways

- AWP is a project execution methodology
- Owners must drive AWP
- Define what AWP means to your organization
- Include data requirements in contracts
- Put incentives in place
- Measure and hold your teams, partners accountable
- Start with a parallel plan that focuses on quick wins
Discussion

Ownership ▪ Oversight ▪ Optimization

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