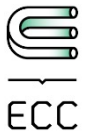


53rd Annual ECC Conference

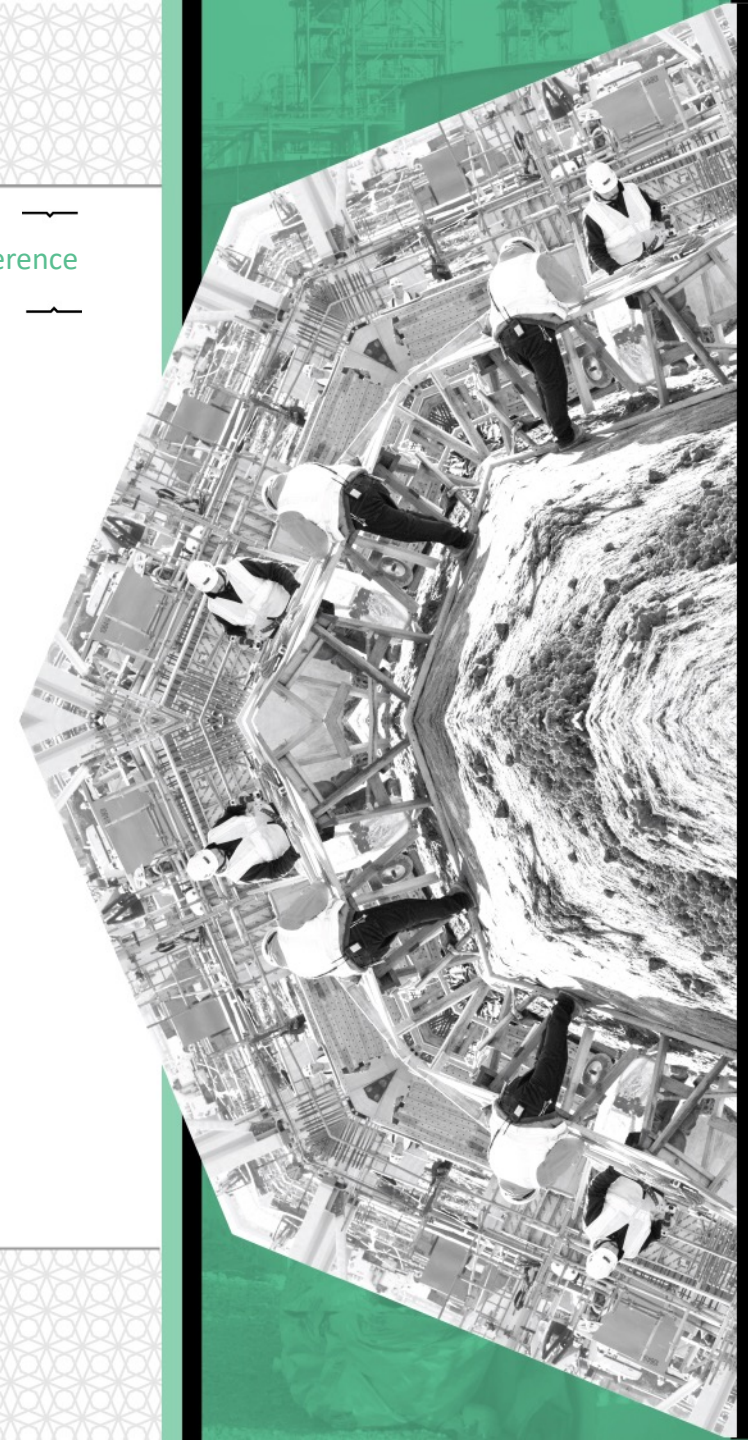
Contracting Insights: Developing a Winning Contracting Strategy



Team Members:

**Stephen L. Cabano, Don Heimbach,
Felix Velez, Jason Walker**

Presented: **September 9, 2021**



Contracting Insights: Developing a Winning Contracting Strategy

Facilitator



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Analysis**

Panel Discussion Topics

What are some of the more recent benchmark results related to traditional contracting strategies?



Contracting Approach Options*

EPC Options



EPC Lump Sum

EPC Reimbursable*

EPCm*

Split Options



Reimbursable*/Lump Sum
Re/LS

Reimbursable*/Reimbursable
Re/Re

Lump Sum*/Lump Sum
LS/LS

*Morrow and Walker, *The Efficacy of Unusual Contracting Approaches for Major Projects*, IBC 2019, IPA, March 2019

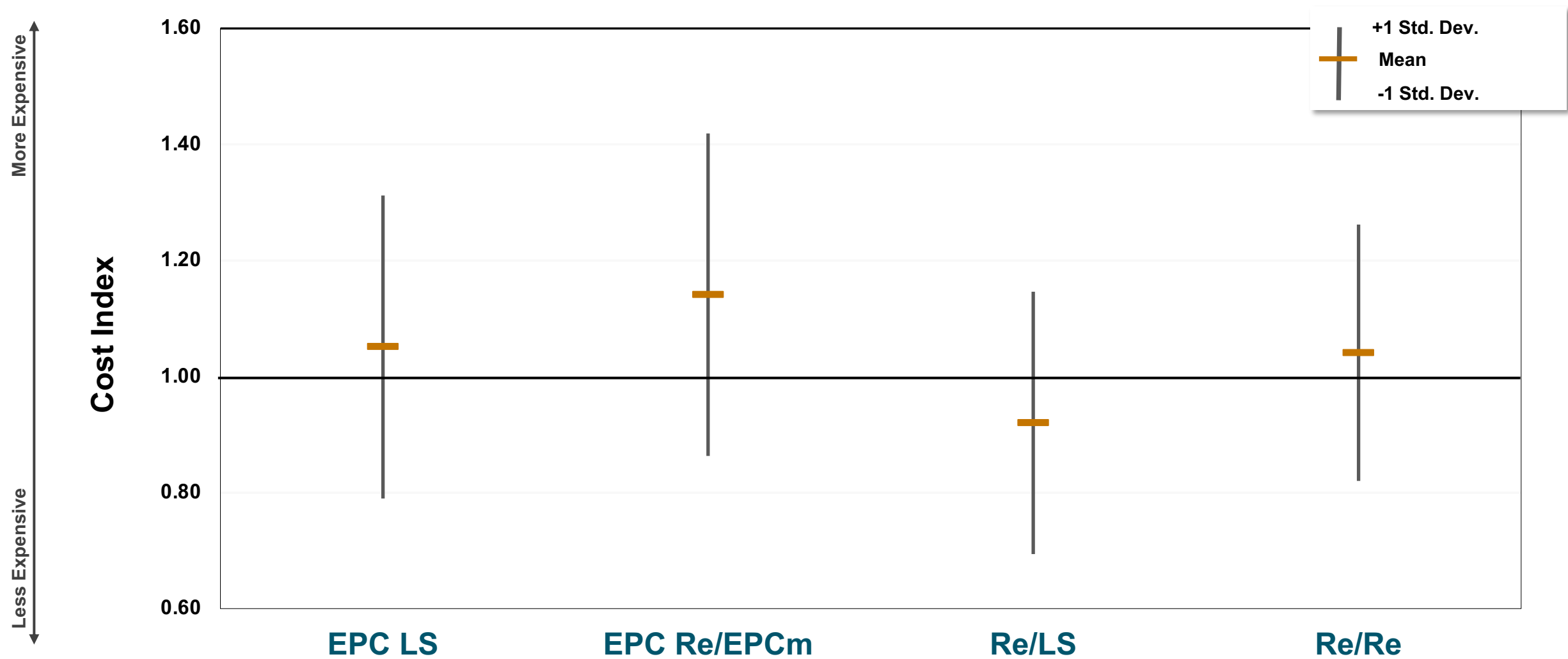
Database Description*

Characteristic	Statistics																
Number of Projects	1158																
Mean Project Cost (²⁰²¹ US\$)	\$798 million Median: \$392 million Range: \$100 million to \$32 billion																
Mean Execution Duration	32 months Range: Less than 13 to more than 70																
Median Authorization Year	2007																
Industries	<table><thead><tr><th>Industry</th><th>Percentage</th></tr></thead><tbody><tr><td>Refining</td><td>40%</td></tr><tr><td>Chemicals</td><td>34%</td></tr><tr><td>Minerals</td><td>10%</td></tr><tr><td>Hydrocarbons Processing</td><td>7%</td></tr><tr><td>Pharmaceuticals</td><td>4%</td></tr><tr><td>Distribution</td><td>3%</td></tr><tr><td>Consumer Products</td><td>2%</td></tr></tbody></table>	Industry	Percentage	Refining	40%	Chemicals	34%	Minerals	10%	Hydrocarbons Processing	7%	Pharmaceuticals	4%	Distribution	3%	Consumer Products	2%
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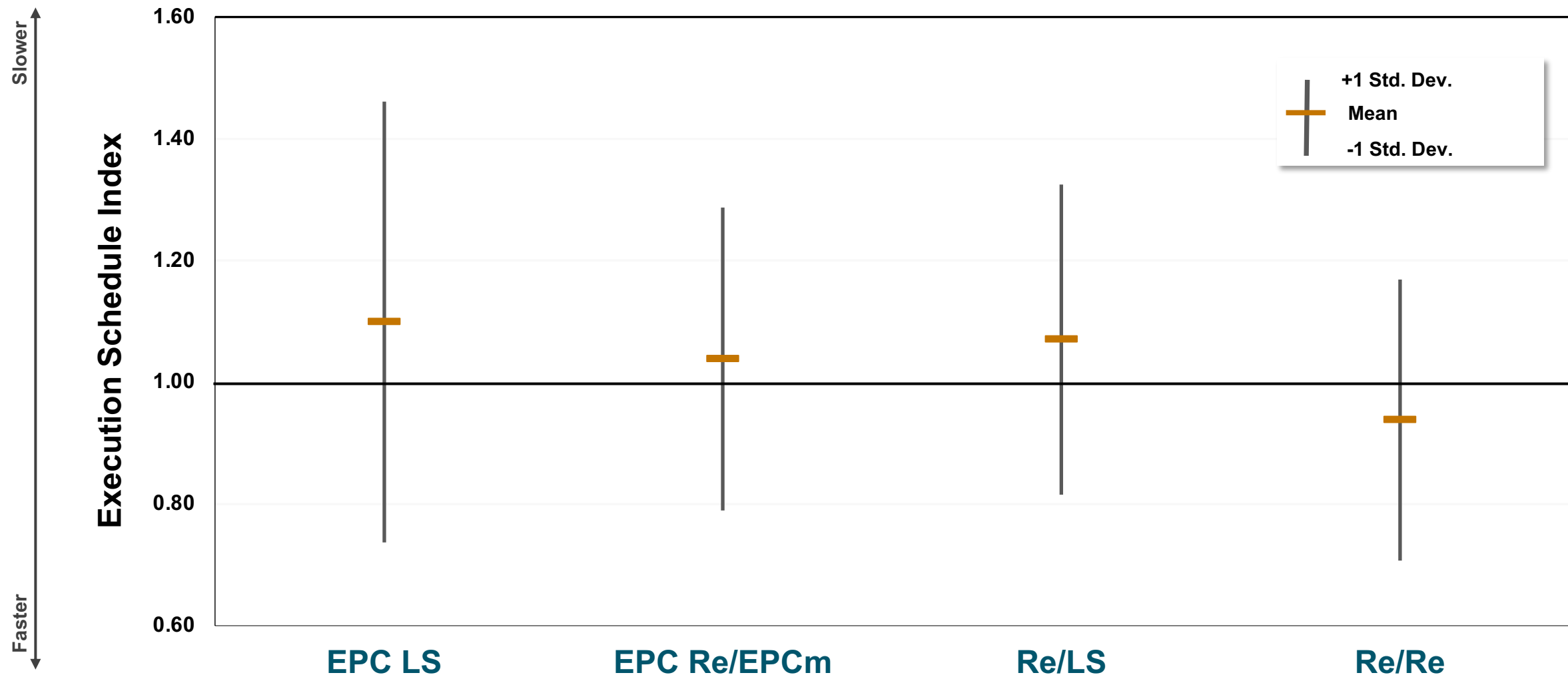
IPA Past Research*: Cost Effectiveness of Traditional Forms

Split forms with Lump-sum construction are most cost effective



*Morrow and Walker, *The Efficacy of Unusual Contracting Approaches for Major Projects*, IBC 2019, IPA, March 2019

IPA Past Research*: Relative Execution Schedule Effectiveness of Traditional Forms



*Morrow and Walker, *The Efficacy of Unusual Contracting Approaches for Major Projects*, IBC 2019, IPA, March 2019

Why Does “Split Contracting” Work?*

- The split strategy promotes more complete engineering before field mobilization
 - There must be enough engineering completed to create the bid packages for both Re/LS and LS/LS contracting
 - There is no incentive on the part of the engineer to get in the field too quickly, because there is no profit in it
- Because late engineering is the largest single problem that we face, it is not surprising that the split strategy works
- The bigger the project, the bigger the benefit of using a “Split form” as the cost and schedule performance of the EPC forms degrades much faster
 - Contactor performance is harder to monitor in a large EPC project
 - Owner control declines significantly in a large EPC project

*Merrow and Walker, *The Efficacy of Unusual Contracting Approaches for Major Projects*, IBC 2019, IPA, March 2019

Panel Discussion Topics

What are some of the contracting strategies that are being utilized today to address a number of Owner constraints?



LyondellBasell Journey to Best in Class

4Q 2018 Gap Assessment



Journey to Best In Class

- 2019-2020 - Outcomes and actions
 - 5-year journey to effect change
 - Build on solid foundations
 - Organization redesigned
 - Governance, gate assessment upgrade
 - Selected standard execution strategy — EPCm
 - Contracted with alliance partners
- 2021 and beyond
 - Focus on development and implementation of global standard model
 - EU re-organization to support CO2 work

LyondellBasell Standard Delivery Model

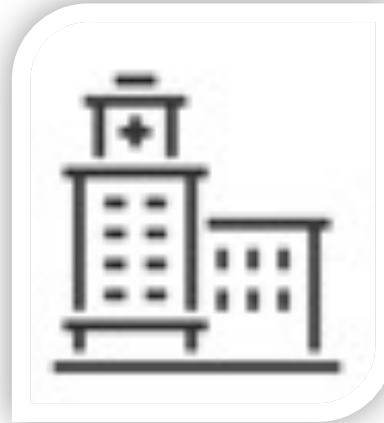
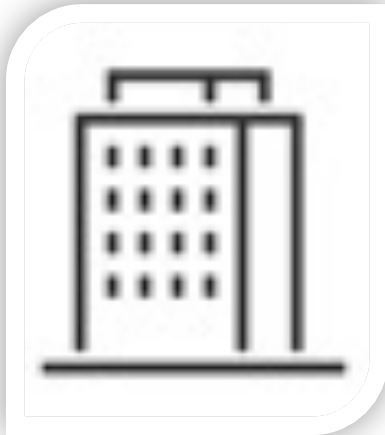
- EP/Cm Reimbursable services provided with Alliance Partners utilizing consistent contracting framework
- Construction executed as Unit Rate or Lump Sum services via disciplined sub-contractors
- EPCm partners competitively selected for each project based on team, referent experience, and commercial value — not lowest cost
- Construction sub-contractors selected from a rigorously developed roster
- Playbook co-developed with **EPCm partners outlining detailed activities by phase along** with Division of Responsibilities (DOR)
- Incorporates supplier lead solutions in design, deliver methodologies, or differential technology offering

LyondellBasell Standard Delivery Model Value Proposition

- Consistency: Organization aligned around ONE execution model and contract framework
- Risk mitigation and allocation: Small and complete engineering packages reduces risk for both LYB and contractor
- Supplier Relationship Evolution: EPCm partnership matures over time delivering value
- Execution Clarity: Role/responsibility pre-defined eliminating alignment issues
- Leverage market capability: LYB is not changing contractor execution model
- Ownership: LYB retains accountability for the outcome of project results

Panel Discussion Topics

How are other industry sectors addressing similar Owner/ Contractor relationship challenges?



J&J Project Portfolio & Delivery Organization

- Large and complex healthcare organization, E2E, 3 sectors (Pharma, Medical Devices & Consumer)
- Global, large and diverse Project Portfolio, complexity based (i.e., Alpha, Beta, Gamma)
- Safety is not negotiable, strong Construction Safety performance (1st quantile, IPA 2021)
- Standardized Project Delivery Process & Design Platforms, scalable to project complexity (IDEA)
- Diverse project portfolio and PM capabilities, simple office space fit-outs to large green field bio-pharma facilities
- Robust partners pre-qualification process and periodic “Top-to-Top” relationships
- Global/Regional alliance partners with pre-negotiated Master Service Agreements (i.e., fees, multipliers, etc.)
- Highly competitive market (Pharma), success depends on strong partnerships and resources assigned to the project (i.e., BC3.2)
- Cost is important, but most of R&D and SC projects are schedule driven, speed to market is key!
 - Business Partnership, Framing Business Need, Drives & Constraints, FEL, SG Alignment Process, Right Partners, Execution, Operations Readiness and Business Value Realization
- Project complexity, business drivers, local capabilities and market conditions determine best contracting strategy
 - Design – Bid – Build (E + PC)
 - A&E, CM & C&Q firms (individual GMAX)
 - Procurement + CM Services
 - Design – Build (EPC, GMAX)
 - One A&E + CM firm or an alliance of them (single GMAX)



Questions / Open Discussion

Contracting Insights: Developing a Winning Contracting Strategy

THANK YOU

Thanks for Participating

Steve

Don

Felix

Jason