



White Paper 2018-15

How to Reap Benefits from Improved Collaboration between Owner, Contractors and Subcontractors

Improved collaboration between Owner, Contractors and Subcontractors can generate substantial benefits in terms of cost, schedule and risk for the delivery of large, complex projects. The recent crisis in extractive industries has led stakeholders to investigate new contracting and collaboration models. In this White Paper, building on our experience helping Owners and Contractors release value by working more collaboratively, we detail what is driving the change in collaboration on large complex projects, what is limiting with the traditional model and how an innovative, improved model can be implemented to succeed.

A need for change driven by a transformed competitive environment

The extractive and energy businesses are in turmoil. Mining projects and oil and gas field development projects were temporarily stopped after 2013-2014 due to downward pressure on prices and, for the oil and gas sector, in part due to costs escalating out of control. Alternative solutions involving much smaller projects (such as shale oil, solar energy) became comparatively more attractive with short investment cycles and low investment levels for additional production capacity. Renewable energy has become more attractive as its cost has decreased steadily. This has increased competition between different projects and energy sources for investment capital and has driven a significant effort in cost reduction in the mining and energy sectors, especially for large and complex projects. As predicted in our [White Paper 2014-17 'How the Current Crisis Could Redefine the Business Model for Industrial Infrastructure Contracting'](#), we observe that the crisis is redefining the business model for industrial infrastructure contracting. Large mergers or alliances have emerged to reduce capital expenditure and operating costs and to transfer interface risk from the Owner to the Contractors. We also observe interest from clients in various industries to seek efficiencies through new ways of collaborating between owners, contractors and subcontractors.

What was wrong with the traditional way of working

The traditional approach for contracting on infrastructure projects has been to define a few large packages with well-defined interfaces. Lump Sum Engineering, Procurement, Construction, Installation and/or Commissioning contracts have been the norm. Contract Management has adopted an arm's length approach with each contractor working in relative independence using its own Quality Management System. Owner-provided material, services and equipment has often been kept to a minimum to avoid the liability for delays or poor quality. Communication has been formal. Whilst this approach has provided contractual clarity and simplified contract management, it has not been conducive to collaboration.

There has also been an excessive growth of the formal technical specifications fuelled by risk prevention as discussed in our [White Paper 2015-06 'How to Overcome the Curse of Excessively Detailed Specifications Leading to Uneconomic Infrastructure Projects'](#). These specifications are often developed and maintained by technical authorities within the Owner organisation who have no "skin in the game" for project success. Along with detailed prescriptive requirements and with a long list of often mutually contradictory standards, the contracts have become complex. The most stringent of conflicting requirements apply unless otherwise agreed by the Owner. This puts the onus on the contractors to resolve conflicts and identify which standards shall be applied to the individual parts of the work and to seek client approval for relaxations to or clarification of requirements. This is a time-consuming and costly process.

With Contractors seeking to protect themselves, the complex requirements are flowed down in subcontracts with the addition of the Contractors' own requirements. This creates the implausible situation where contracts become more and more complex lower down in the contracting hierarchy while the suppliers' ability to deal with, let alone read, all the requirements decreases. The increase in complexity of requirements does not necessarily increase the control of complex systems ([White Paper 2015-06](#)). Additional cost, time and risk will often be a result.

Other issues also impede efficient collaboration and project delivery such as

- Pressure to start delivering immediately after contract award or project sanction even if the project is not properly set up (refer to our [White Paper 2012-23 'The Urgency of Project Startup: How to Ensure Success of your Project by Creating the Space to Lead'](#)),
- A drive to get the best possible rather than what is good enough, which is reinforced by a reluctance of clients to relax even unnecessary requirements in a Lump Sum contract,
 - Each party playing a contractual game to seek extra benefit for itself,
 - Physical distance, formal communication and infrequent face-to-face discussions creates a

Proven processes and methods are available that can be deployed from before the Final Investment Decision until to the project start-up stage to ensure significant value can be reaped by Owners and Contractors.

level of opacity and contributes to establish a state of mistrust,

- Lack of trust causes the different parties to pad their schedules with allowances, not as visible buffers at the end, but within individual activities so that they are confident that they can individually be completed within the said duration (and avoid unpleasant scrutiny). Long tail events will naturally cause some activities to take significantly longer time whereas the opportunity of saving is lost due to work being planned around the padded durations.

The above issues and others related to the lack of collaboration, contribute to higher costs and longer durations than what could otherwise be achieved (Figure 1).

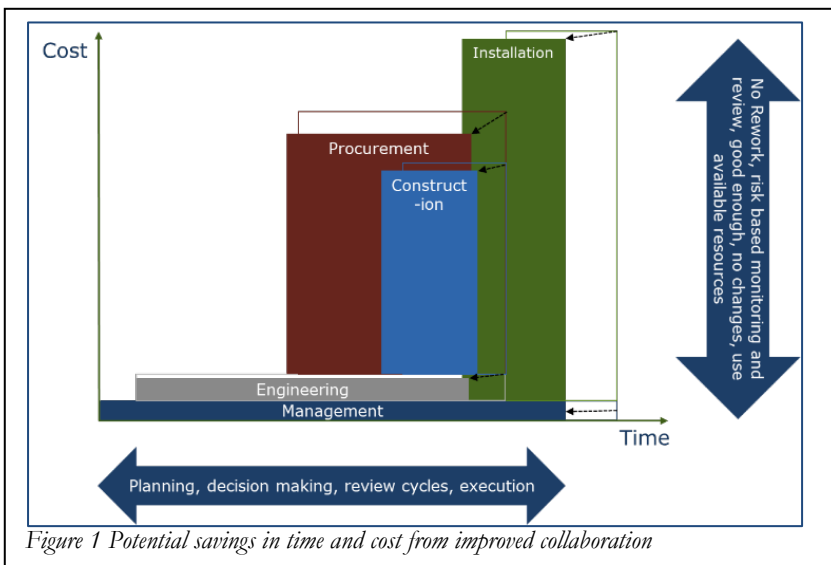


Figure 1 Potential savings in time and cost from improved collaboration

Improved project delivery through increased collaboration between Owners, Contractors and Subcontractors

We now observe that several of our clients, Owners and Contractors, are seeking to increase and improve the collaboration between Owners, Contractors and Subcontractors to improve the project delivery. As can be seen from the Figure 2 below, the greatest impact to the end result can be achieved by addressing it early in the project.

Simplification, joint incentives and collaboration beyond contractual requirements deliver exceptional results.

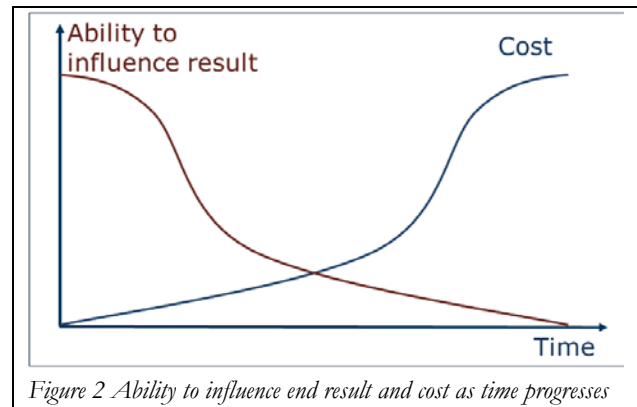


Figure 2 Ability to influence end result and cost as time progresses

Ideally, the Owner should commence preparing for increased collaboration before Final Investment Decision so that it can be reflected in its budget, schedule, resourcing and invitations to tender. It is particularly important for the Owner to consider:

- Allocating risks appropriately to the Party which is best placed to manage them,
- Establishing contract packages with a clear split of responsibilities which takes into account the capabilities of potential contractors
- Simplifying contractual requirements and technical specifications and including a structured process for managing deviations
- Establishing a risk-based approach to determine the level of surveillance and verification for the

different parts of the work. A systematic approach should be adopted that accounts for safety and process criticality, and the capability of the organisations performing the work,

- Seeking to ensure that Contractors have correctly costed their scope and have a reasonable margin to minimise the risk of contractors taking shortcuts or under-resourcing their teams,
- Considering incentives for collaboration which last until the end of the project and which allow a share of the benefit of

improved overall project delivery.

As a minimum, principles for collaboration should be included in the contract. They don't need to be too detailed but need to be made contractual.

When a contract is awarded, work should start to establish efficient ways of collaborating between Owner and Contractor. Properly prepared and facilitated workshops with wide participation of project team members and key stakeholders are a key enabler for

developing shared understanding and plans (refer to our [White Paper 2017-13 'Why Holding Workshops is Key to Accelerating Project Start-up'](#)). The workshops should cover the following:

- Understand each other's drivers and establish joint project objectives,
- Jointly establish and express common project team values,
- Establish behaviour rules to work as integrated or geographically co-located teams,
- Review and simplify key processes involving different stakeholders. Consider these processes to be common to the parties rather than specific to each organisation, with common input and output requirements and common stakeholders (figure 3). The joint processes can thereby be reengineered to satisfy these requirements. The risk-based approach described above should be adopted to determine the level of involvement and monitoring and measuring required by each party. Duplications can be eliminated. Steps and participation in processes should be assessed for value added and unnecessary steps or involvement removed,

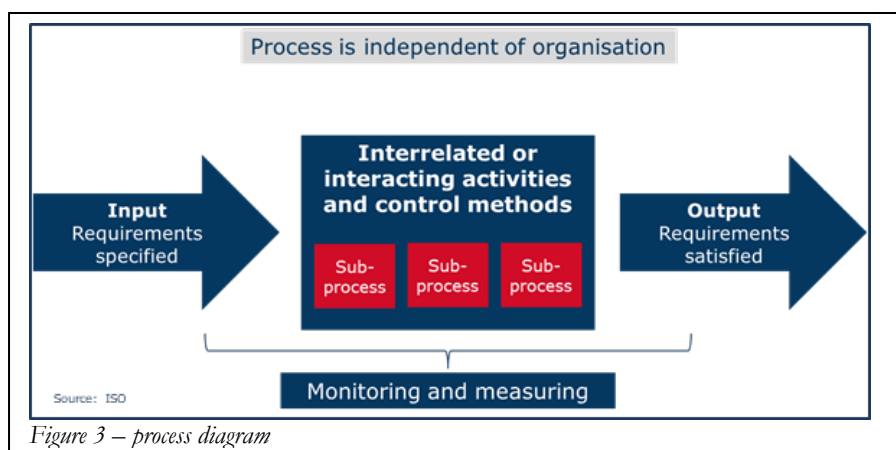


Figure 3 – process diagram

- Alignment on roles and responsibilities considering where organisations, persons or stakeholders have particular competence (irrespective of contractual or organisational barriers) that could benefit the project and enable earlier convergence towards the project objectives,
- Establish common performance indicators and dashboards which enable early issue identification and decision making (refer for example to our [White Paper 2017-09 'Why Custom Indicators and Visual Dashboards Are So Important for the Success of Large Complex Projects'](#)),
- Establish transparent and integrated process for managing change that enables early identification, assessment and decision making.

What is needed for it to succeed

For the new way of collaborating to produce the desired results, proper support needs to be provided both at the governance level and at the project team level:

- At the governance level, a process must be in place to raise issues from the project teams and make sure they are addressed in a no-blame, collaborative spirit. There must be permanent support from project sponsors on those aspects.
- At the project team level:
 - Joint leadership of the effectiveness of the teamwork and processes embedding the values, fostering open discussions, a no blame culture, celebrating successes and dealing with behaviours that do not comply with established values
 - The core team including Owner, Contractor and/or key Subcontractors needs to be integrated and co-located (refer to our [White Paper 2013-14 'How a Diverse, Effective Team is the Only Way to Overcome Complexity'](#))
 - High level of transparency needs to be maintained – this helps build trust and enables client to monitor and control without necessarily being physically on sites or involved in process steps
 - Communication and document and data exchange and access should be on shared systems as far as possible
 - Common meetings should be organised where possible (e.g. joint technical meetings)
 - Roles and responsibilities should be jointly clarified and agreed
 - Each party must respect the trust and transparency demonstrated by other parties by not misusing information to obtain individual benefits to the detriment of another party

Conclusion

As competition for capital to invest in infrastructure projects increases, Owners, Contractors and Subcontractors are seeking new solutions to reduce costs and time and improve reliability of delivering large complex projects. Simplification, joint incentives and collaboration beyond contractual requirements deliver exceptional results. Proven processes and methods are available that can be deployed from before the Final Investment Decision until to the project start-up stage to ensure significant value can be reaped by Owners and Contractors.



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