



## White Paper 2024-08

### Effectively Delivering Complex Industrial Projects: Advantages and Drawbacks of Various Approaches for Owner – Contractors Collaboration, and Key Success Factors

*Complex industrial projects increasingly require the contribution of a number of contractors, coordinated by the owner. Due to the imbrication of those contributions, strictly and solely focusing on the application of bilateral owner-contractor contractual terms is not generally conducive to successful delivery and can generate substantial disputes and delays. A number of models have been tested globally to address this issue. This White Paper exposes what are those models and their advantages and drawbacks.*

#### The issue of coordination in complex projects: the interfaces problem

Complex projects, by definition, involve a number of contributors with significant interfaces (physical or linked to project execution such as engineering data or logistics). While contracting strategy development generally intends to minimise those interfaces, this is not always possible depending on the actual capability of available contractors and characteristics of the infrastructure to be built.

Owners then traditionally need to assume an important coordination role to make sure that interface and inter-relationship issues do not affect project progress. This coordination role is then managed directly by the owner, or delegated to one contractor as part of its scope (e.g. construction site management role).

In traditional contracting approaches, managing the interfaces between contractors is often difficult and time-consuming. There is a limit to discrete interface management approaches through interface registers or equivalent processes. Contracts generally have defined interfaces and requirements for each contractor. However, as work progresses the interface data often evolves leading to changes to requirements that formed the basis for the initial the contracts with the different contractors. This traditional setup may quickly turn into a finger pointing exercise to the detriment of project success. Often, contractors are left to resolve interfaces between themselves leading to delays and an ultimate need for the owner to arbitrate and instruct one or more parties to incorporate a change.

#### Contractual solutions implemented to address the coordination challenge

To address this widely recognised challenge, various contractual solutions have been implemented historically:

- One-to-one contractual setups with incentivisation on project overall result, partnership agreements, sharing savings etc. This has sometimes resulted in successful project delivery, but also often to situations where the owner had the impression to be exploited by the

contractor(s), taking advantage of any change to their scope to claim for compensation in cost or time, or benefiting in excess of the benefit-sharing clauses. This is also due to the fact that economic benefits of the owner of an early delivery, for example, will possibly be orders of magnitude larger than the compensation of the contractors,

- Owner fostering the creation of a JV of contractors with the task of coordination delegated to the JV. This

**An early engagement at the right levels of all organisations involved, through structured integrated team and governance approaches, as well as a longer term view on the benefits of collaboration, are key success factors to be investing in from the onset of the project.**

approach often works when contractors are already used to work together on similar projects. However, this approach has often had poor results when contractors had not previously worked together. The valuation of the coordination role is always very difficult in the contractual setup, leading contractors to often take risk-adverse contractual and commercial positions, or the owner not being willing to pay for the actual coordination effort. It must be underlined that delegation of the

coordination role should not result in a lower project estimate, therefore this JV approach should not be followed for the sake of budget savings but only on operational grounds. Lack of explicit recognition of the coordination role devoted to the JV can ultimately lead the contractors to overcharge to compensate for a lack of coordination and owner guidance,

- Forms of contract requiring the availability of a dispute board with independent assessors (e.g. FIDIC contracts) to deal with contractual issues as they arise to minimise disputes. This approach helps dealing with commercial issues as they arise but does not facilitate anticipation and management of operational issues for the benefit of the entire project,
- Collaboration agreement between all parties involved in the project, focused and including incentives based on collective project success, on top of more conventional one-to-one contracts focusing on individual performance. This approach requires a substantial continuous investment in overall governance and a goodwill of all participants to be open in the effort devolved to the project and to contribute to the project best interest. It has the

advantage of leaving the owner with substantial leverage, while splitting individual performance and collective performance collaboration measures,

- Alliances (in particular in UK and Australia) whereby the owner and the contractors work together as a single integrated entity and under a single contractual agreement to deliver the project. While quite adapted to very complex projects involving many interfaces and changes, this generally ends up having the owner bear all the risks and the contractors engaged on time & material contracts with limited incentives on project delivery on time and schedule. The owner has limited leverage on individual contractor performance because of the lack of one-to-one contractual relationship. In addition, part of the owner team will be within the Alliance acting as contractor to another part of the owner team acting as actual client, which creates additional, internal owner governance challenges. The outcome of those alliances has generally been to achieve the delivery of highly complex, first of a kind projects, albeit with large overruns in cost and schedule.

**Choose the most adapted collaborative approach for your particular situation**

The following table summarises the advantages, drawbacks, and situations of best utilisation of those contractual approaches:

Approach	Advantages	Drawbacks	Best situation
<b>One-to-one contracts with project success incentives</b>	Limited evolution to traditional contracting approaches	<ul style="list-style-type: none"> <li>• Difficulty to assign project success causes,</li> <li>• Tricky formula for sharing benefits between owner and contractor</li> </ul>	Limited number of contractors (<2) with few interfaces
<b>Contractors JV</b>	Single contract, simpler control for owner, no interface management	Cost of coordination often overseen in bidding as well as coordination organisation	Requires contractors used to work together already
<b>FIDIC or equivalent contract with 3<sup>rd</sup> party for disputes</b>	<ul style="list-style-type: none"> <li>• Available forms of contracts and knowledge of the approach</li> <li>• Independent 3<sup>rd</sup> party embedded in contract</li> </ul>	Only focused on dispute resolution and not on prevention – collective spirit build up	To be complemented with effective collaboration anticipation and setup
<b>One-to-one agreements + collaboration agreement</b>	<ul style="list-style-type: none"> <li>• Can be used on top of traditional contractual setups</li> <li>• Split between individual contractor performance and project performance</li> </ul>	<ul style="list-style-type: none"> <li>• Innovative approach</li> </ul>	Well anticipated collaboration over entire project lifecycle, stability of contractors
<b>Alliances involving both owner and contractors under a single alliance</b>	<ul style="list-style-type: none"> <li>• Several examples in UK, Australia and personnel with experience</li> </ul>	<ul style="list-style-type: none"> <li>• Owner may lack sufficient authority in the setup</li> <li>• Contractors incentives limited</li> <li>• Governance is complicated by different owner roles</li> </ul>	Well adapted to innovative projects with scope under development during project, but may lead to substantial increases of cost and schedule

Irrespective of the context of those approaches, all have sometimes worked, sometimes not, which tends to confirm that beyond contractual approaches, other important factors are at play.

## Success factors for collaborative approaches

Irrespective of the contractual setup, a number of success factors can be mentioned from experience. Softer aspects are often more decisive than harder contractual approaches.

### Visible continuous leadership of the owner

In all cases, successes involve an owner team actively leading the effort. This implies that the owner has sufficient experience and capability in-house to know and understand what is happening in the project and foster the right decisions (refer to our [White Paper 2020-06 'How Essential It Is That the Owner Team Has Sufficient Project Experience For Project Success'](#)). It also implies that the owner has sufficient leadership capability to actively foster collaboration and overcome inevitable unexpected hurdles. This leadership needs to be visible at all levels of the owner team. All situations where the owner shrinks from its leadership responsibility and delegates the resolution of issues to the contractors will lead to disappointments and difficult disputes.

### Active and engaging governance starting before the collaborative commitment

As part of the owner leadership requirement, fostering actively collaboration through a well thought-out governance setup involving the right level of decision-makers from all parties is essential. This requires a specific investment upfront, as early as possible, even if possible before a collective commitment in a collaborative setup. In any case this investment must happen before problems start to arise, and a continuous effort needs to be expanded to maintain the relation. A specific attention needs to be devoted in case the designated personnel from a party changes due to turn-over to make sure the newcomers get fully onboard. The investment in time from executive personnel in this governance should not be underestimated, and a specific effort should be made to maintain the intensity and benevolence of the relation throughout the project, with a common objective of project success.

This governance aspect can be substantially supported and facilitated by an external third-party to develop and maintain a collaborative spirit and accelerate the resolution of difficulties as they arise (refer to our [White Paper 2023-09 'The Importance of an Independent Facilitator When Setting up Integrated Extended Enterprise Teams for Complex Infrastructure Projects'](#))

### Integrated teams on open spaces, and shared source of truth data

On an operational level, mixing the operational teams in joint areas for at least part of the time (if this is not possible



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geographically) is known to be an essential practice to foster collaboration.

Shared data, be it engineering or project control data, is also an essential success factor. It will avoid all the non-value-added discussions about different measures of the same issue by different parties. Establishing a single source of truth for all parties is an essential cornerstone of effective collaboration, in particular project control data (schedule, progress...).

### **Expectation of subsequent repeat business**

In general, in line with game theory, it can be observed that behaviour of the various parties will heavily depend on potential future beneficial collaboration opportunities, such as additional similar projects or repeat business. When contributors feel that they have little to lose but much to gain by betraying the trust of the other participants, the situation may be too tempting to resist in particular in the case of a particular stress on business performance at the same time. The fear of loss of reputation does not appear to be a major factor in those decisions as commercial aspects are generally managed somewhat confidentially. The last project in a series may generally be expected to finish quite more awkwardly than previous projects and require even more attention to achieve sufficient collaboration.

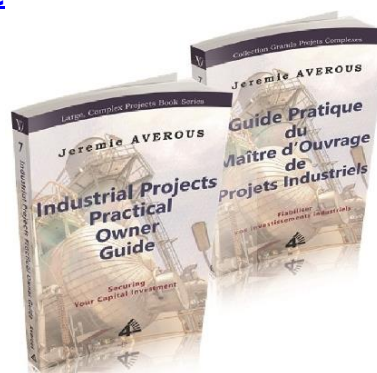
## **Summary**

Large complex industrial projects increasingly require collaboration between owner and contractors to be successful by managing interfaces successfully. A number of contractual setups have been used over time, some being more adapted to certain situations. However they have had various success.

In reality, success will depend more on softer aspects related to personal emotional engagement of contributors to the project. An early engagement at the right levels of all organisations involved, through structured integrated team and governance approaches, as well as a longer term view on the benefits of collaboration, are key success factors to be investing in from the onset of the project.

### **Read the Industrial Projects Practical Owner Guide**

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