



## White Paper 2023-09

### The Importance of an Independent Facilitator When Setting up Integrated Extended Enterprise Teams for Complex Infrastructure Projects

To address the complexity of major industrial projects, collaborative extended enterprise setups or even contractual alliances are implemented. They often fail to deliver the expected value or performance. We have found that a number of precautions including the involvement of a neutral third party from the onset are useful success factors. This White Paper details this particular approach to extended enterprise setups.

#### The challenge of complexity in large projects

Large industrial projects, and particularly innovative, first-of-a-kind projects that also show a high level of equipment density, involve a number of specialist contractors in a very intertwined manner. Design and then execution requires a very high level of collaboration. This is even more the case if numerous iteration loops are needed during design, and if multi-disciplinary coordination is needed for erection.

In those cases, the old-fashioned director-type approach where the owner is coordinating the entire project and actually directing each contractor is being replaced by richer and more efficient collaborative approaches.

Collaborative approaches allow to build on the know-how and innovative capability of all project contributors, and potentially produce more effective coordination at all levels of the project, including the most detailed level.

Some industries such as the automotive or aerospace industries have developed deep collaborative approaches with suppliers and contractors in the design and execution of their projects. They often operate in extended-enterprise setups, and sometimes include risk-sharing mechanisms.

Such approaches are at the moment much less common in large infrastructure projects, which tend to operate in a more traditional centralised, contractual manner. There are some examples of collaborative approaches being developed. Alliance-type contracts that are very fashionable in Australia and the UK are also one of the possible approaches. Alliances have been used for example on new first-of-a-kind aircraft carrier or parts of first-of-a-kind nuclear power plant projects. However, the performance of those approaches has often been found to be quite disappointing.

#### Opportunities and challenges of extended enterprise and collaborative setups for large infrastructure projects

The following table shows the opportunities commonly identified for collaborative work, and the most common challenges encountered in large infrastructure projects.

Opportunities	Challenges
Widespread 3D model and PLM systems in the cloud with controlled remote access	<ul style="list-style-type: none"> <li>Maintenance of Intellectual Property, security</li> <li>Locking and unlocking zones, managing interfaces during various inputs</li> <li>Effectively responding to the detailed needs of each party</li> </ul>
Early collaborative work during project definition to develop more effective architecture resulting in value gains for owner and contractors	<ul style="list-style-type: none"> <li>Risk of lock-in with specific contractor technology or approach</li> </ul>
Alliance-type contractual setups	<ul style="list-style-type: none"> <li>Incentivisation of contractors / avoiding a contractor taking advantage</li> <li>Erosion of collaboration once the shared contingency pot has been used up</li> <li>Resolution of claims &amp; disputes in case of a contributor showing poor performance</li> <li>Governance: Owner responsibility may be diluted as the ultimate client (conflict of interest between owner as part of Alliance vs client)</li> </ul>
More flexible contractual setups	<ul style="list-style-type: none"> <li>Funders generally expect Lump Sum contracts with all risks transferred on to contractor</li> <li>Appropriate design of incentives and penalties to fit project interests</li> </ul>
Wider scope contracts (Private-Public-Partnerships, build-and-operate contracts, early engagement contracts)	<ul style="list-style-type: none"> <li>Much larger contract values spanning over decades, difficult to price, project definition not yet sufficiently mature to price scope and risks</li> </ul>

## A possible implementation model for extended enterprise for large infrastructure projects

To overcome those challenges, we believe the following guidelines should be implemented when setting up a collaborative approach for a large infrastructure project:

- Use the maximum capabilities of shared 3D models and PLM on platforms implemented and administered by the owner, with clear rules to protect confidentiality and intellectual property. However, this will require an early investment to be performed by the owner to develop the necessary systems infrastructure,
- The owner should keep control of the overall architecture (basic design), with inputs as needed from contractors and suppliers during the development phase. While this requires some resources on the owner side, this will allow to stay in control of the overall performance and means of achieving it, and also allow to open the market at detailed engineering and execution stage to more relevant contractors, as required,
- The owner should setup a contractual framework that offers sufficient flexibility, but remains under its control, with separate contracts for each contributor. This will allow to respond to the under-performance of a specific contributor. Based on a risk analysis, the owner can foster joint-ventures or consortiums to be formed on certain parts of the scope only if management of the interfaces at owner level does not appear relevant,
- A neutral party should be involved from the start of the project to support collaborative work dynamics and help resolve disputes when they appear. Also, this allows to guarantee an impartial management of misalignments, claims and disputes to maintain a collaborative approach.

**The intervention of a neutral party to facilitate and assure collaboration during the project is an essential success factor that is increasingly promoted in construction contract management**

between contributors, identify and involve stakeholders, possibly get involved in dispute resolution,

- Support a positive collective dynamic: involving participants – identifying issues and needs through interviews, facilitating teambuilding workshops and joint management team dynamics, etc.

The mitigation actions should generally be to try to avoid curve.

### Characteristics of a neutral facilitator

The facilitator should have:

- Experience in facilitating and coaching diverse groups: group dynamics, alignment etc,
  - Experience of executive-level project governance bodies,
  - Experience in facilitation of problem resolution,
  - Experience in the dynamics and phases of large industrial projects: the needs and issues will differ depending on the actual project phase from detailed design to actual erection to commissioning,
  - Experience in contract management to be able to support the identification and resolution of contractual issues,
- Independence from all parties (owner and contractors) and not part of any competitor group for any of the parties.

### Summary

Responding to the complexity-challenge of large industrial projects is a major success factor. Various collaborative setups have been tested but have shown limitations.

Based on our experience and track record, the intervention of a neutral party to facilitate and assure collaboration during the project is an essential success factor that is increasingly promoted in construction contract management and needs to be used with more frequency. This should be deployed more often and from the setup of the project

## Why a neutral facilitator role is essential

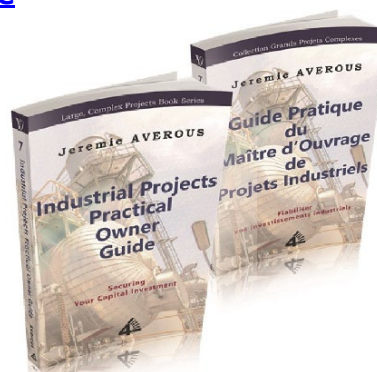
Based on our experience we are convinced that a key to success is the involvement of a neutral facilitator from the onset. This is definitely a trend in contract management with independent engineers or dispute boards being called upon in FIDIC and NEC contract forms.

The neutral party needs to be mobilised from the start of the project and follow it up to be effective. It will allow to address issues before they fester and even before they become claims. It can raise concerns at the governance / steering committee level.

Its scope can typically involve:

- Pilot the strategy with the executives of all contributors: includes governance / steering committee facilitation, collaborative model conceptualisation and lessons learned,
- Support the design of the extended team: Team coordination, charters and terms of reference, contractual setup..., (including where needed, pilot processes and rituals until they are fully adapted)
- Foster acceleration of issue resolution: Determine and identify priority work areas, facilitate problem solving

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