

## Resource type: Project 13

### Role of the Integrator

In the new model the Integrator will form a “back to back” relationship with the Owner and will contract directly with the Owner. In turn the Owner will contract directly with the Suppliers and Advisors as necessary, to deliver the full suite of required outcomes. The Integrator will be responsible for the management of Suppliers and Advisors, and in most cases implementing the governance across the enterprise on behalf of the Owner. The typical outline structure of relationships to be expected is shown below.

The new model anticipates that the Integrator will be integral to the enterprise for a much longer period of the project or programme life-cycle than traditional Tier 1 Contractors. It is anticipated that the integrator will support:

- development of the outcome requirements with the Owner
- performance briefing for suppliers and advisors
- procurement and on-boarding of suppliers
- concept development
- engineering and prototyping
- manufacture and assembly
- commissioning into operation

The Integrator will bring together all of the different partners in the enterprise, to create a common understanding of value, coordinate activities, and focus all participants on achieving a successful outcome through all of these stages. This earlier engagement of partners in the process will enable them to add more value with their experience and insight.

Using feedback from working sessions with Owners, Advisors and Suppliers, a need to move towards a “systems-thinking” approach was identified, which holistically links to the attainment of the scheme outcomes. As a result, development of a systems-engineered approach to design and assembly is central to an Integrator; with the ultimate goal being implementation of advanced manufacturing techniques across the enterprise at the highest maturity level. At this level, the Integrator is responsible for working with the Owner to develop a ‘system landscape’ for the scheme, to then organise and manage the involved partners as a true enterprise. To achieve this the Integrator will need to underpin their methodology with the following three functional pillars:

The above pillars require the Integrator to have a much greater encompassing suite of skills and capabilities from those that would typically be expected from a Tier 1 contractor.

Principally the unique requirements for the Integrator can be summarised as being able to:

- build the culture and behaviours across the enterprise partners that supports alignment of outcomes behind a common measure of value

- implement the governance framework across the enterprise that controls commitment to move to the next stage of the project lifecycle
- articulate the requirements in terms of outcomes such that suppliers develop the most effective solution
- create and implement the incentivisation mechanisms that give fair and equitable returns to all in the enterprise
- ensure that the digital strategy is effectively implemented to support innovation by suppliers
- have sufficient technical and organisational knowledge as well as experience to be able to adopt a systems approach for the development of solutions
- to implement sufficient practical measures of performance such that the enterprise can be confident that it is on track to deliver the outcomes

Such is the extent of the capability requirement for the Integrator, that for the more complex project it is likely that the role would need to be fulfilled by more than one single organisation (most likely as a joint-venture).

### **Transitioning to an Integrator**

It should be recognised that there is no one fixed model that will universally apply for all projects and situations. It could be argued that currently there are a number of contractual/project models that represent elements of the proposed Project 13 Enterprise Model. However, based on our reviews with industry it would appear that for an organisation (or organisations) to perform the full integrator role there is going to be a requirement to transition in a number of areas. We have developed a transition matrix to support this. Within the matrix the following key transition points should be considered:

#### **1. Foundation of knowledge and experience**

To deliver the requirements of the Integrator function through the phases of development in a project life-cycle the organisation (or organisations) performing the role must be able to demonstrate sufficient knowledge and experience to successfully support an enterprise approach. The principal attributes to be expected are:

- Capability to integrate wider supply chain
- Working effectively within incentivised commercial models
- Understanding of high-end manufacturing, production, and logistics techniques
- Planning and managing work rather than sub-contracting
- Selection of suppliers based on capability, culture and performance
- A sufficient breadth of base skills in the organisation to drive outcome delivery

- Creation of platforms that support innovation and performance

These are over and above the typical expected capabilities of a Tier 1 contractor; the Integrator will also be expected to have these capabilities. In order for an Integrator to be considered suitable for the role the organisation performing this function must be able to demonstrate maturity in both its knowledge and experience.

### **Maturity in Knowledge**

A broad array of knowledge is essential to ensure that a wide suite of options across a number of platforms are considered (i.e. does the solution require a change to operation, a new technology platform, or a new asset). Suppliers need to be driven to test a broad spectrum of approaches to delivering the outcomes in the concept phase before any certain decisions are made about the preferred solution. It is critical at the concept phase of a scheme that the Integrator can provide assurance that the correct solutions are being implemented.

### **Maturity in Experience**

Further to the technical knowledge that an Integrator may have, it is essential for the Integrator to have a demonstrable record of experience in delivering the attributes described above. This would firstly provide a proven record of ability and success. Secondly, this would provide a deeper perception of what is and isn't feasible in a scheme. Finally, with respect to risk management, leveraging an Integrator's previous experience would be extremely valuable to engineer a viable solution with due considerations of challenges that may have previously occurred.

One of the key resources relevant to this is the Transitional Maturity Matrix developed through the integration work stream in Annex A of this paper. It is intended that this will enable potential integrators to self-assess their current maturity, and plan a route to developing the full suite of requisite capabilities. It is also intended that this would form the foundation of a benchmark assessment tool for Owners wishing to procure a competent integrator.

## **2. Establishing principles of Integration**

The overarching function of the integrator is to assist the owners in understanding and developing their vision and values driven by the end user requirements. Enabling the establishment of a single enterprise, the articulation of the need, fostering the environment that supports challenge. A move away from dealing with the symptoms to one that allows the owners to deal tackle the cause.

## **3. Create and implement an Integrator process**

Supporting the establishment of the enterprise with the owner to ensure the necessary capabilities are secured from the right partners and suppliers to drive the values through the

delivery. The integrator will manage the evolving interfaces and stimulate constructive communication through challenge.

The process model encompasses the following 5 principles, facilitating consistent measurement of performance and efficiency, by taking a systematic approach towards production management. It also provides greater opportunities to develop solutions and focus R&D on major areas of potential gain.

Data management is a core principle that the integrator will be required to have significant experience in managing and integrating - including the definition of the asset performance data, design and technical data, as well as schedule, cost, quality and other project management performance data.

#### **a) Definition / Needs & Outcomes**

The benefit of having the Integrator involved earlier on in the process is to assist the Owner with the process of defining what the need and outcomes of the scheme should be leading smoothly into the commitment to concept development.

#### **b) Concept development**

A system strategy is developed, with the appointment of principle Advisors and Suppliers as and when required. Simple concept prototyping should be conducted, so that an outcome and performance appraisal can be conducted. Finally a procurement strategy should be outlined for the scheme at this point, with the creation of a central digital library, before commitment to engineering and planning.

#### **c) Engineering and planning**

Full system teams are developed and teams are appointed. Long lead items are procured as result of concept development. Each system is developed in greater detail by using a phased strategy, prototypes are created, tested and developed before commitment to manufacture. Simulation and scenario analysis are conducted to reduce uncertainty and risks during the phases of manufacturing, assembly and operation.

#### **d) Manufacture & Assembly**

Assembly teams manage the process of manufacturing, logistics and on site assembly. Integrated controls and management should enable visibility of health and safety, quality and costs. Solutions are tested and validated to ensure they deliver to the outlined standards. The digital library is completed and the exercise of lessons learnt is initiated, at this point there is a commitment made to 'Go live',

#### **e) Use/Measure benefits and feedback**

The asset is operated and maintained, with a validation of short and long term performance. Changes and upgrades are made accordingly.

#### **4. Create benefit for and with the supply chain**

The environment created within the enterprise allows the embedded knowledge of the advisors and suppliers to be recognised from the inception of a scheme. The Integrator drives a cultural change through the ecosystem, away from a transactional nature to one of an inclusive relationship. The change will stimulate innovation and R&D from enterprise wide initiatives, with the suppliers and advisors benefiting from developing skill sets within their own organisation as a results driven from the work within the enterprise.

#### **5. Common incentivisation approach**

To support the performance of the Enterprise and assure continued focus on outcomes, it needs to be recognised that traditional contractual and/or incentivisation mechanisms will not be appropriate and the final transitional requirements will be to move towards more equitable and outcome-based rewards. This is a future challenge to be addressed in detail through the P13 community, however it is the recommendation of the Integration Work Stream that any model should support the following:

- Incentivisation and reward around performance and value create not work done
- Sustaining long-term enterprise and relationships between all partners
- Provision of a mechanism to focus on risk management
- Drive and incentivise knowledge and innovation sharing (notwithstanding protection of intellectual property)
- Recognising the challenges of public procurement and seek early structured engagement