

Integrated Subsea Development for Marginal Fields



Traditional Contracting Strategies

Contractor added value

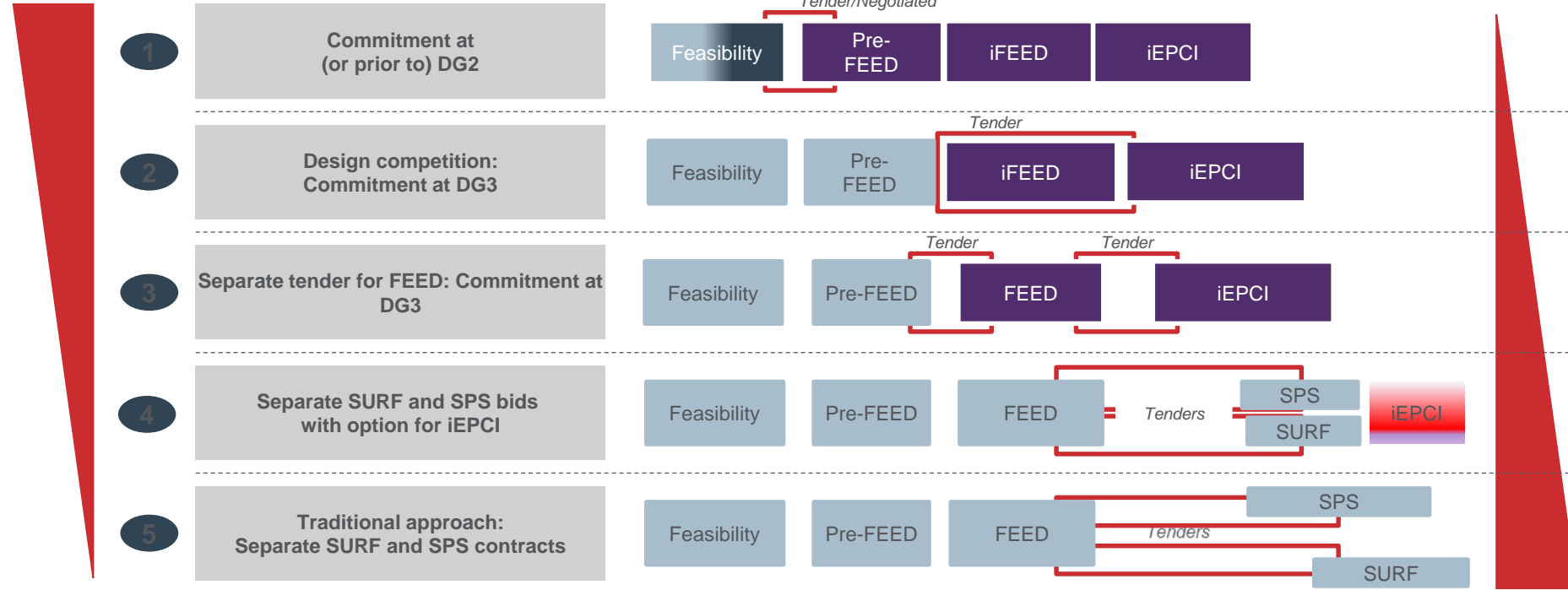
Appraise

DG1

DG2

DG3

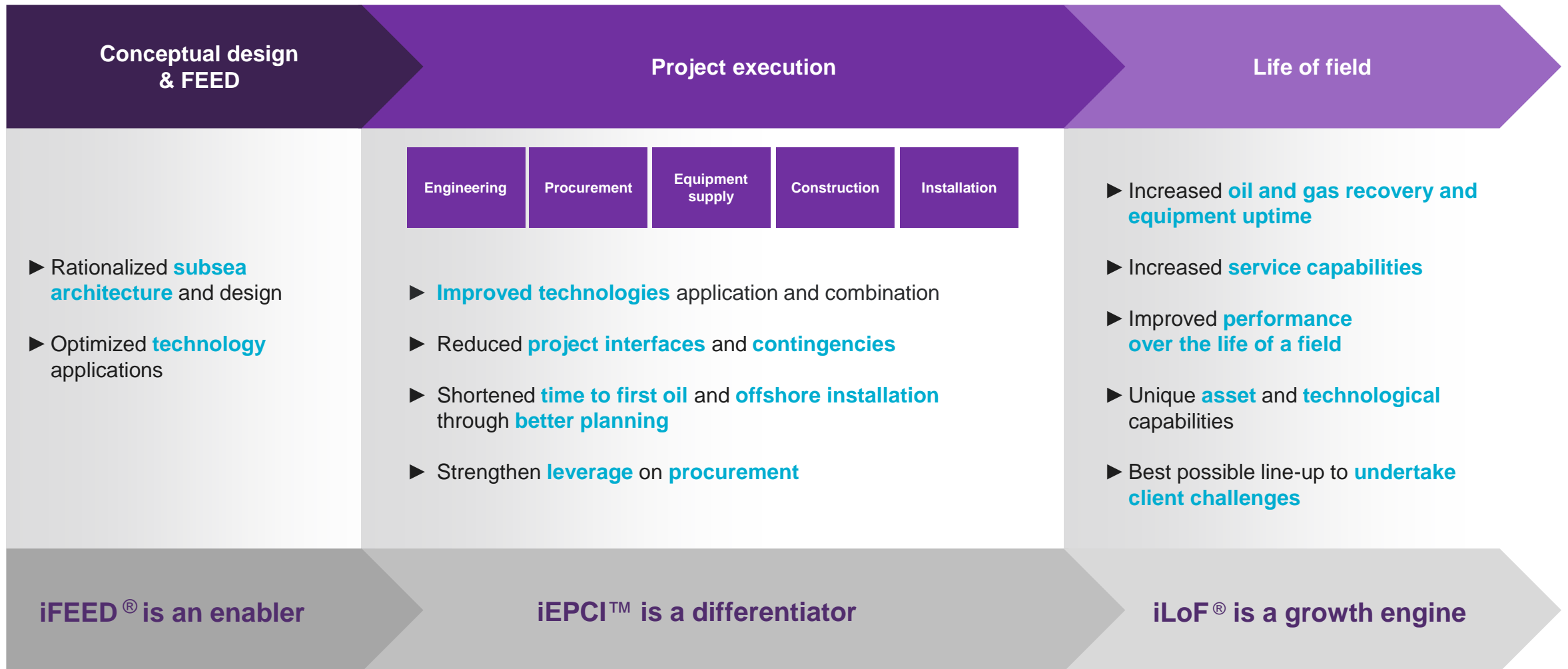
Time to 1st Production



Legend: Traditional Integrated



Fully integrated project execution



Subsea Case 1

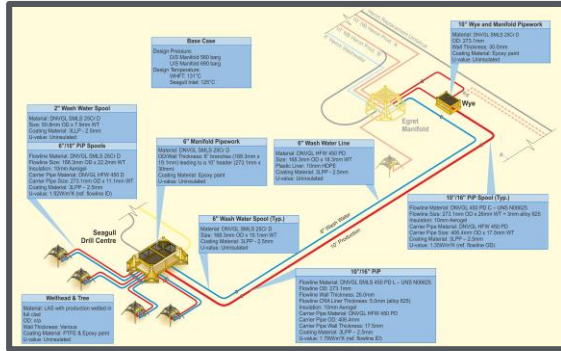
Partnering early to unlock iEPCI value

Client Drivers

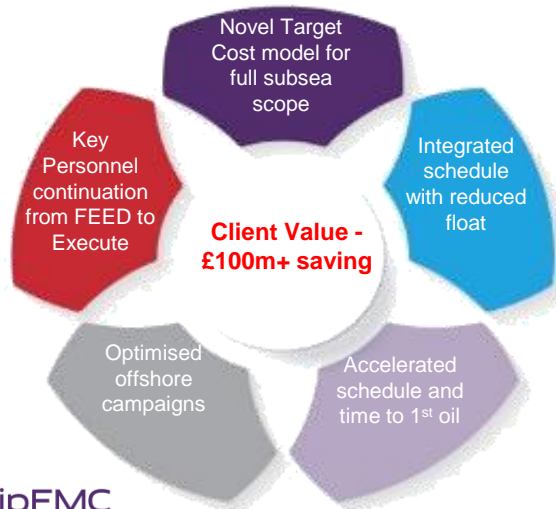
- Schedule
- Strategic Partnership

Scope

- ▶ 4-slot manifold w/ diver tie-ins.
- ▶ 4 EHXTs, incl Controls and WH.
- ▶ 5km PiP Prod flowline.
- ▶ 5km piggy back wash water line.
- ▶ 17km Umbilical.
- ▶ Wye structure.
- ▶ Diver tie-ins

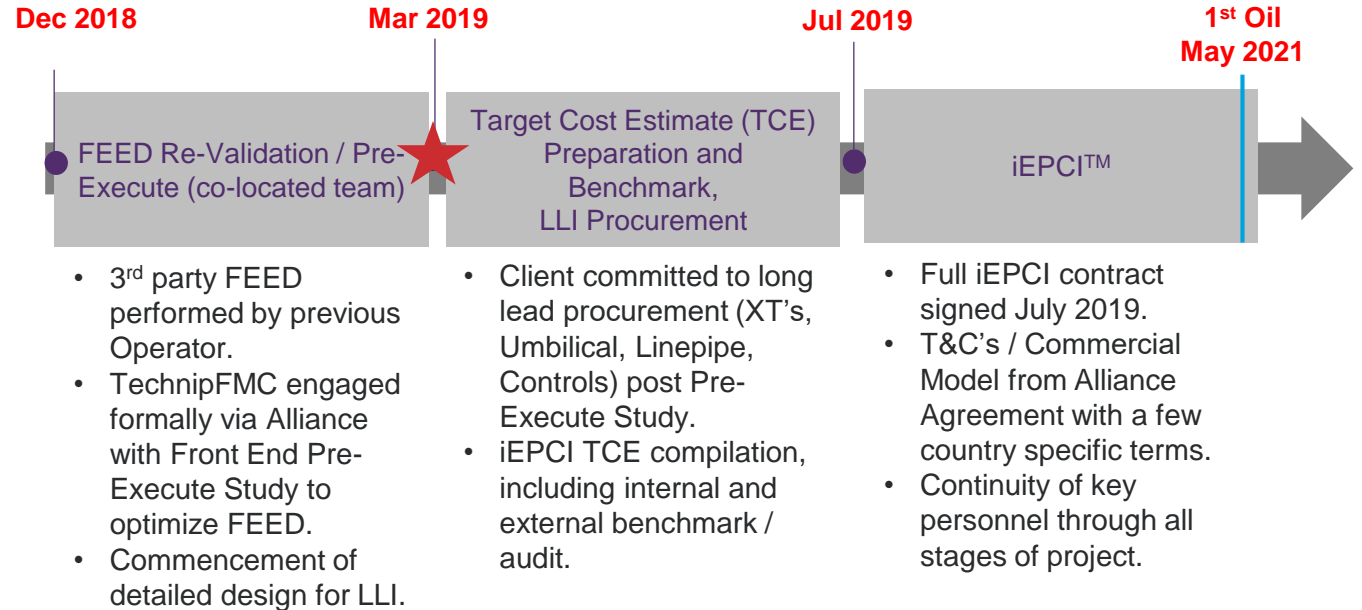


Value delivered



★ Point of Client iEPCI Commitment via Long Lead Item (LLI) Procurement

Contracting model



Lessons learned

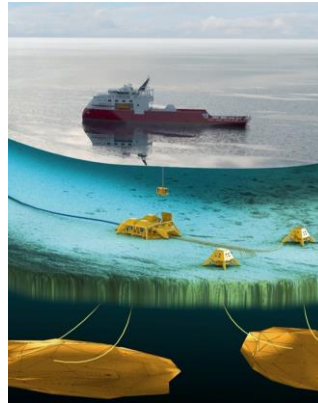
- ▶ Conventional 3rd party FEED re-validation performed by TechnipFMC, allowing system ownership to deliver a working system design that did not previously exist in the inherited FEED.
- ▶ Fully integrated team rationalises the resource requirements from co-located FEED, through to project execution, reducing interfaces and enhancing decision making.
- ▶ Pre-Execute study allowed for completing FEED optimization, in parallel to detailed design on key long lead components, accelerating first oil, a key driver for the client.

Subsea Case 2

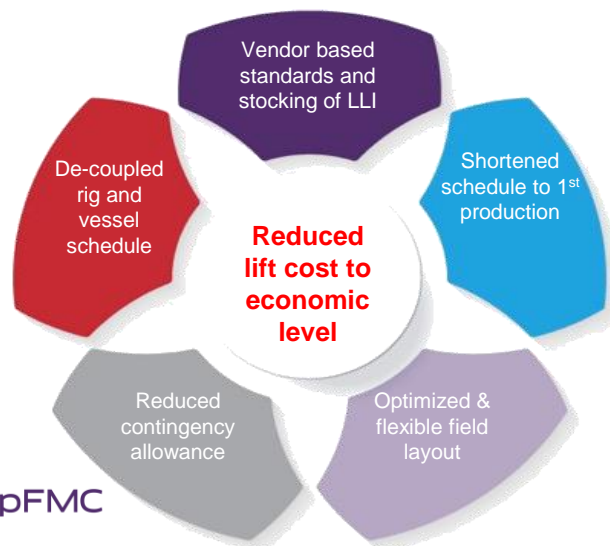
iEPCI™ Subsea tie-back Project

Scope

- ▶ One or two subsea drill centres inclusive of drilling template(s), manifold(s), trees & wellheads.
- ▶ A single insulated PIP production flowline.
- ▶ Electro-hydraulic control and chemical umbilical.
- ▶ Topside equipment including TUTU & HPU.
- ▶ Topsides control system for control of the field and mid-life upgrade to the existing control system.



Value delivered



Client Vision

Performing as One Team to safely and reliably deliver globally competitive small pool developments

Contracting model

- ▶ Joint and transparent cost estimating;
- ▶ Joint risk identification and mitigation;
- ▶ Cost transparency;
- ▶ Commitment to cost estimates;
- ▶ Joint contingency management;
- ▶ Embracing gains;
- ▶ Continuous improvement;
- ▶ Meeting the cost of supply target.

Lessons learned

- ▶ Use of standard products and new technology enabling reduced lead time (SS 2.0)
- ▶ Working as an integrated team from concept stage allowed better understanding of cost drivers early in the process
- ▶ Alignment of the integrated plan across companies to manage workflow requirements of data between each
- ▶ Early engagement at concept stage allowed early forecasting followed on by securing manufacturing slots
- ▶ Selection of vertical tree enabled batch drilling & setting of conductors, minimum number of HP riser runs for running completions and finally installing trees from vessel resulting in overall cost & risk reduction
- ▶ Combining topside control with the upgrade work allowed reduction/optimisation space required on platform



TechnipFMC