Technical Session
Keeping development costs low and competitive

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Introduction

There is increased pressure to improve capital efficiency of major oil & gas industry projects.

- **Our industry** showed **unhealthy trends** even before oil price collapse
  - Between 2000 and 2014, **well costs** almost tripled, **pipe-lay costs** increased by around 60%, and the **cost of subsea** kit has tripled (Ref. IPA study); decline in **engineering and construction productivity**

- **Our competition is wider** – other energy sources; advancement in lithium ion batteries, solar, wind energy, renewables etc.; other industries **productivity increased** by more than 40%.
4 Areas of Focus
Essentials to maintain a sustainable future of our industry

- Greater scrutiny on projects scope (only what is required – no more, no less);
- Execution is done efficiently;
- Deploying only affordable technology;
- Transforming the project’s supply chain.
Competitive scoping

Design and technical specification of a project should aim at assuring a minimum acceptable performance. No more, no less

Example - Shell’s Stones Deepwater project in the Gulf of Mexico; the world’s deepest
- using practices developed in our onshore unconventionals business
- wells are now much simpler to drill and complete
- reduced planned capital cost of wells > 30%
- used less materials, reduced installation costs and also reduced overall delivery risk
Standardize

Use of standard and “off the shelf” industry components

Example - Mars and Ursa offshore platforms in the Gulf of Mexico

- greater standardization and simplification of the wells
- ~$95 million savings in 2015
**Benchmark**

Project must be kept competitive with comparable projects

Scope (changes) must only be accepted with full transparency of their cost and value tradeoff
Efficient execution

Cutting out waste, minimizing idle time, eliminating duplication of effort

Example - **Appomattox** in the Gulf of Mexico

- batch drilling - several wells drilled at once, in assembly line fashion
- rig drills just through the surface at several locations, then returns to drill the middle section of each well, and so on
- approach made it possible to reduce time spent drilling, significantly cutting expense
Affordable technology

Deploy quickly to increase the value or reduce the cost of projects and to enhance their operational reliability, productivity and profitability.

Example - **Appomattox** in the Gulf of Mexico

- use an ultra-efficient technology called combined cycle power generation, where the heat from a gas turbine exhaust is used to power a steam turbine-driven electric generator.
- to remain well below regulatory nitrogen oxide emission levels while reducing fuel use, one of the biggest operating expenses, by up to 40%.
Supply chain transformation

3 routes to extract more value: improving our own demand management, simplifying our specifications, and negotiating lower prices.

Examples

- Critically reviewing the way we’re ordering and delivering materials and maintenance supplies.
- Using Enterprise Framework Agreements to leverage our scale and allow suppliers to do the same.
CONCLUSIONS

- To maintain a sustainable future of our industry, we need to **focus on 4 areas**: (a) Scrutinize projects scope – minimum & fit for purpose; (b) Execution is done efficiently; (c) Deploying only affordable technology; and (d) Transforming the project’s supply chain.

- It has been demonstrated that **significant cost reductions** can be achieved and projects can be viable even in a low oil price world!