



Shell Global Solutions

The Owner: his driver is profitability of the
production facility

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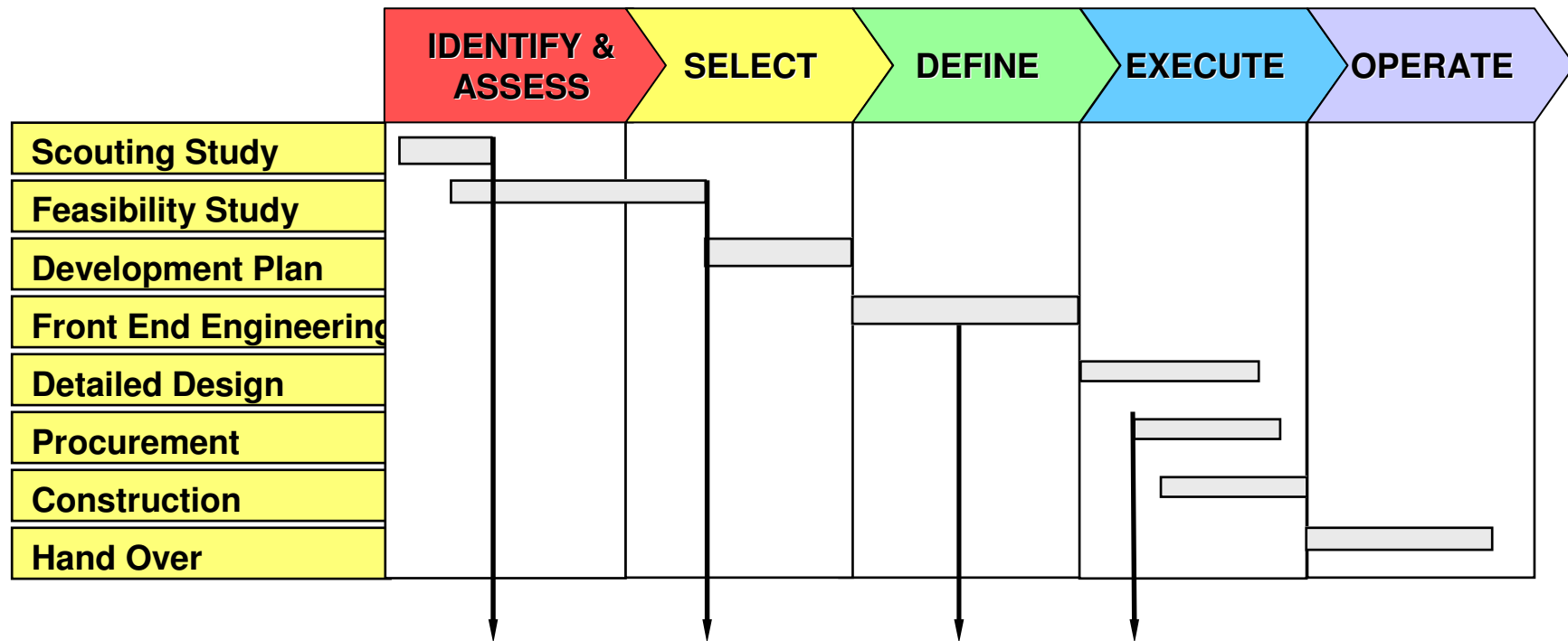


The different purposes of estimates

Cost estimating is used throughout the opportunity life cycle from identification through to value realisation.

- Prospect screening
 - Concept selection
 - Economic evaluation
 - Establishing budgets
 - Contract tendering
 - Cost control and reporting
- } Business decision making
- } Control

Project Phases and Estimates



Estimate Type



Estimate Purpose

Screening Economics Budget Control

Estimate Accuracy

+40/-25% +25/-15% +15/-10% +10/-5%

Assess and Select in the Upstream industry

Some typical decision for a Deepwater development:

- wet tree vs dry tree?
- included storage?
- production rate
 - Capital recovery vs reservoir management and long term contracts
- export routes
- level of processing
 - Separation of oil and gas (and water) etc
- schedule
 - Are Early Production Facilities economic?
- etc

The tyranny of three:

- Good, quick, cheap
- Balance between cost and availability

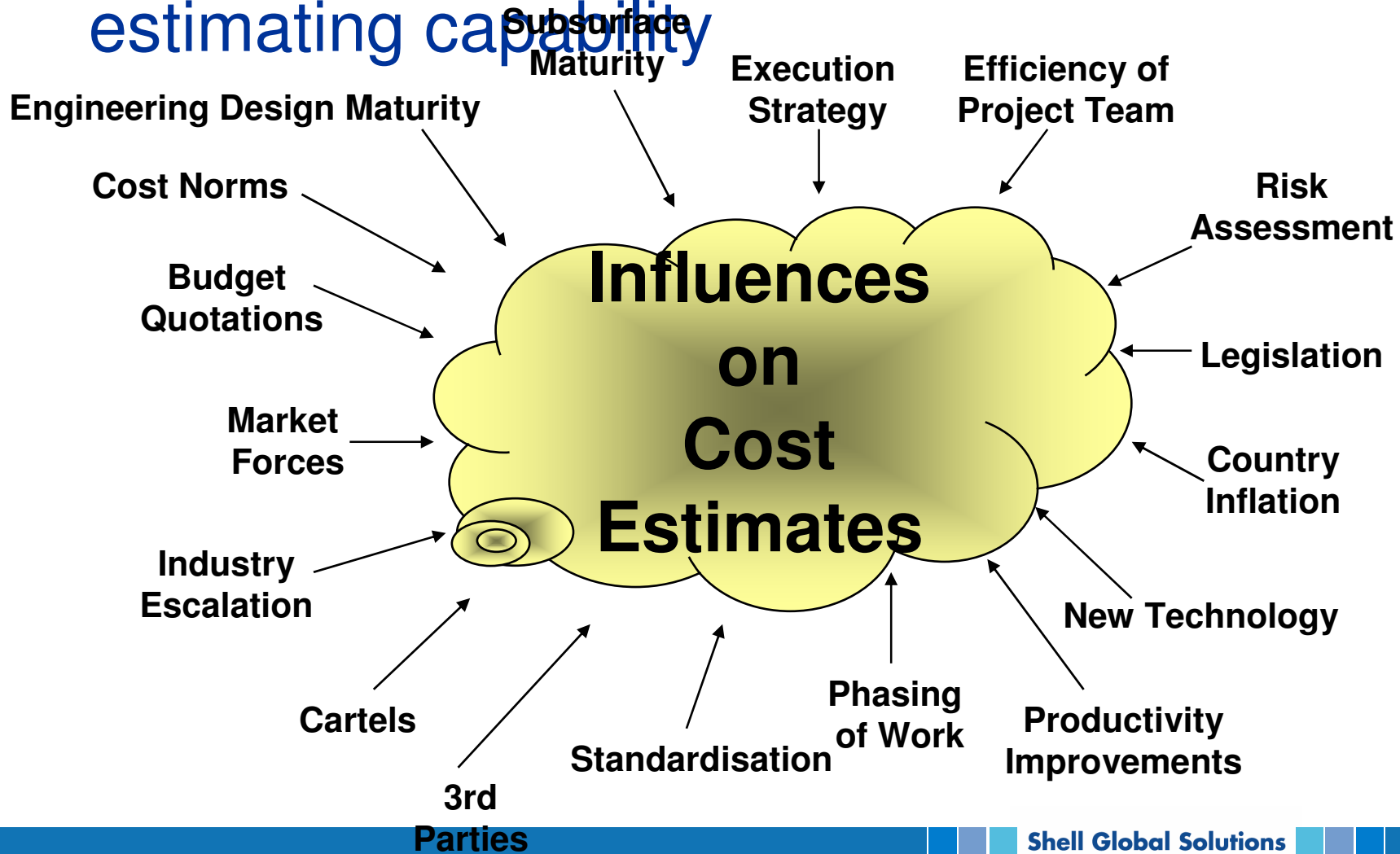
Define stage

Some typical decisions driving profitability:

- Sparing
- Line-up
- Material selection
 - Life cycle costs
- Impact of contracting strategies
- Drive type for LNG plants
- Feedback from running plants to future ones

All require a good estimating capability.....

Non-Technical Influences to Cost Estimates – the value of in-house estimating capability



The value of an in-house capability

- complete cost to owner (total cost is not just the sum of the contracts)
- no single other company can cover the breadth of our business
 - facilities, wells, integrated projects, new country entries, etc
 - importance of cost engineers understanding the business drivers and different agreements with host governments
- independence from design/construction contractors
 - own view on cost so we know what we should be paying
- assessment of risk/contingency is different from the owner perspective
- consistency... (using the same tools and processes gives one less variable in the equation and allows portfolio decision making)
- ...and control

Cost estimating in Shell

- Core competency, being actively grown
 - Upstream and midstream being combined into a single project management services organisation
 - Scale: \$800 bln of estimates made in 2005 for business decision making (new opportunities, concept selection alternatives, etc) in upstream and integrated projects level 1, 2 only
- Work hand-in-glove with project and engineering teams, but **independent**
 - Groups of cost estimators attached to project delivery groups but also small 'central' group working on tools, market forecasting etc,
- In house tools for:
 - Deepwater prospect evaluation
 - Upstream level 1 and 2 estimates
 - Midstream and Downstream level 1, 2 and 3 estimates
 - Operating cost estimating

In summary.....

- An internal cost estimating is essential to Shell for
 - Business decision making
 - Control during execution
- This is provided by a semi—independent Project Management Services group, with some in-house tools
- Skills in this area are critical, as is connection with industry