

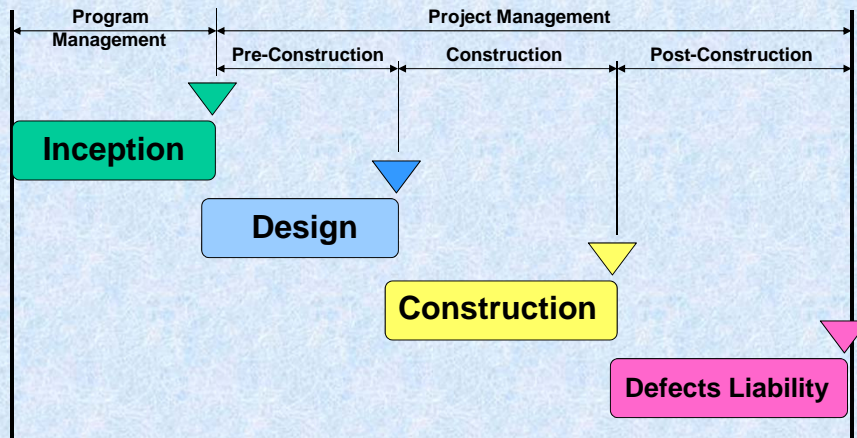
CONSTRUCTION PROJECT DELIVERY

Program and Project Management



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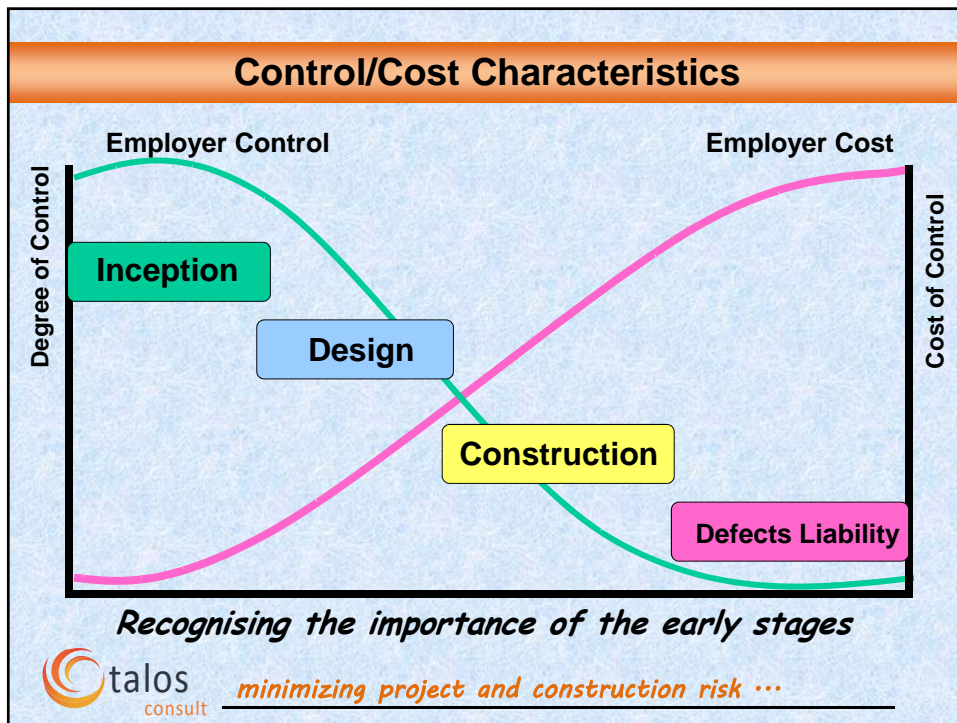
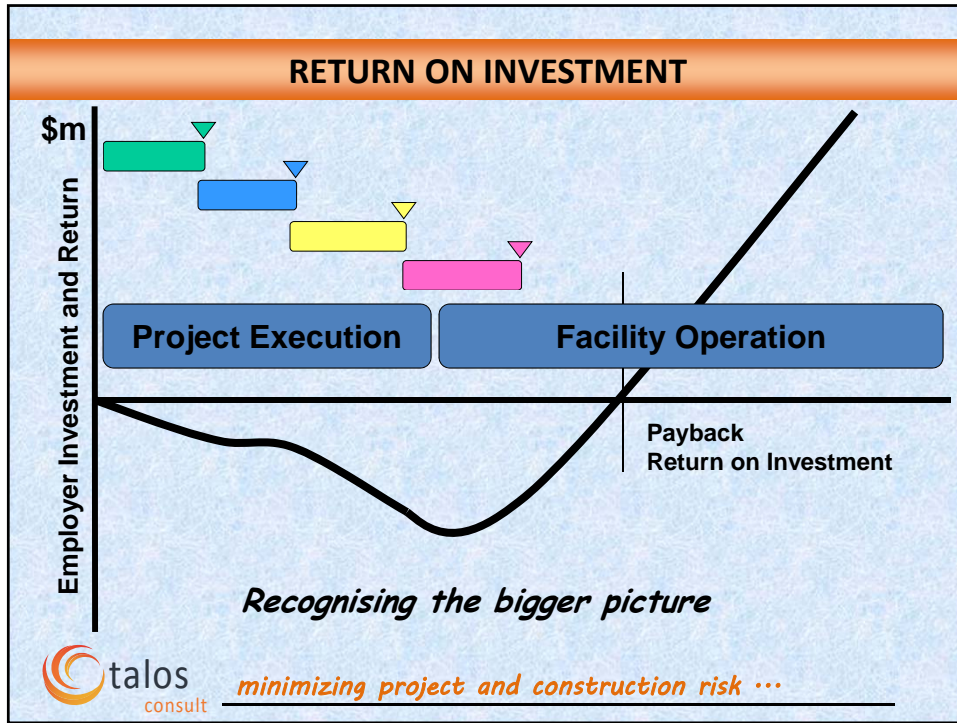
PROJECT EXECUTION PERIODS



Recognising the Principal Project Phases



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PROGRAM MANAGEMENT

The identification, development and inception of the Various preliminary elements that will:


- Confirm the Feasibility Study
- Establish the technical parameters
- Establish the commercial parameters
- Establish the financial parameters


It's the Program Manager who provides the final focus for Project commencement



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INCEPTION PERIOD

Program Management 

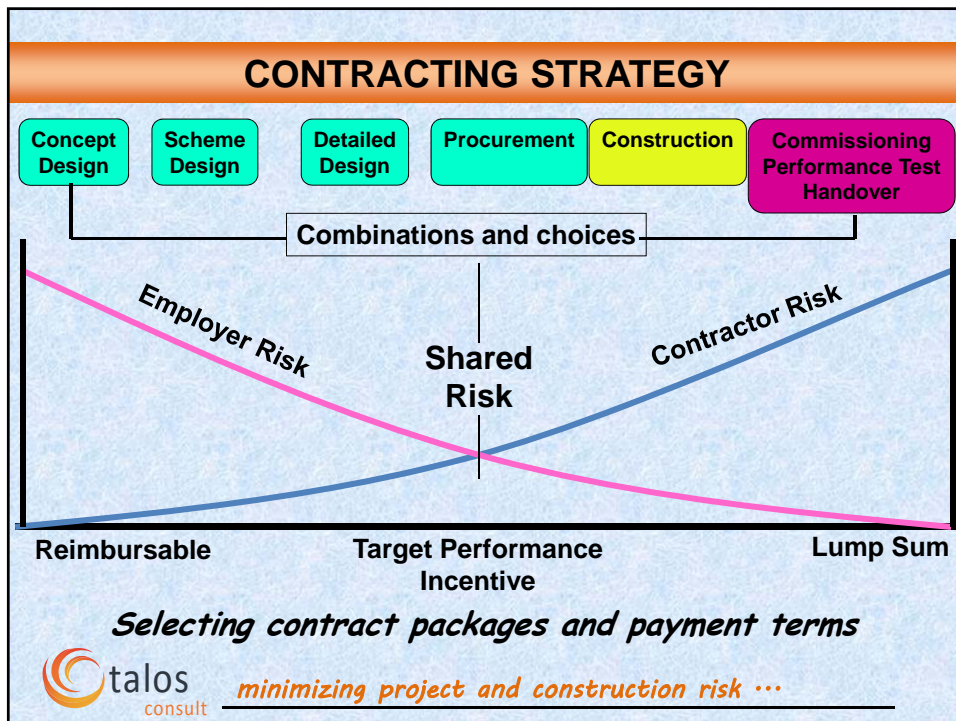
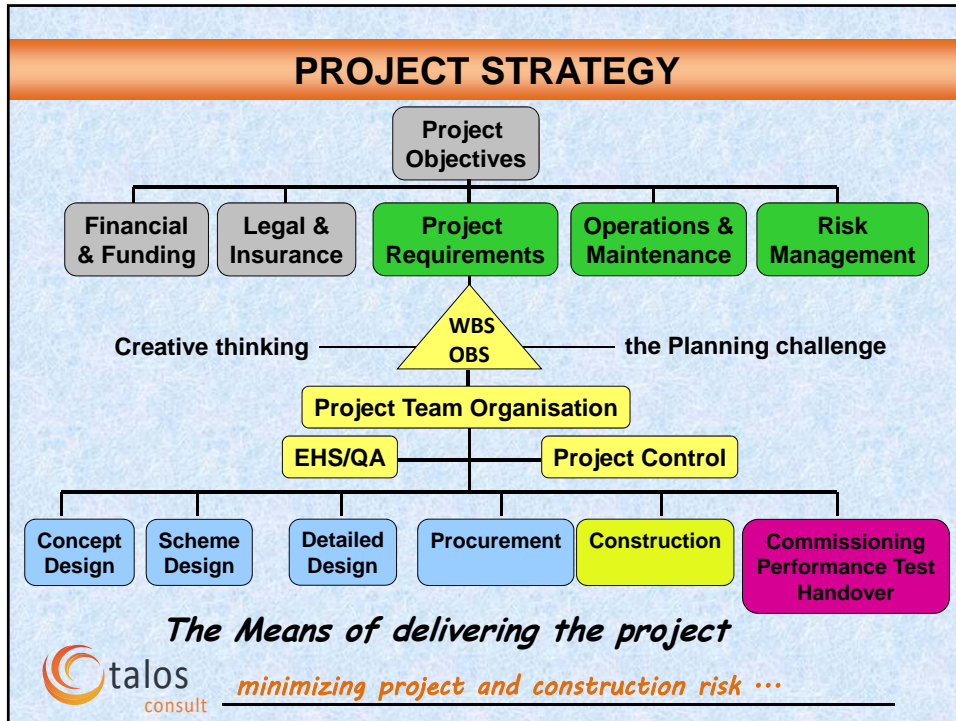


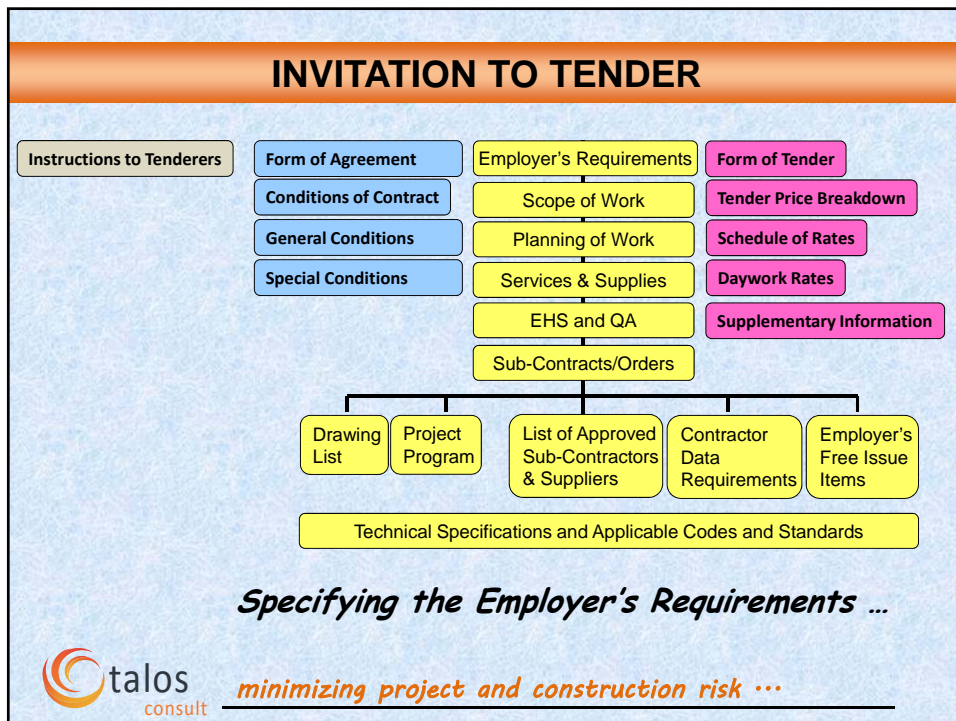
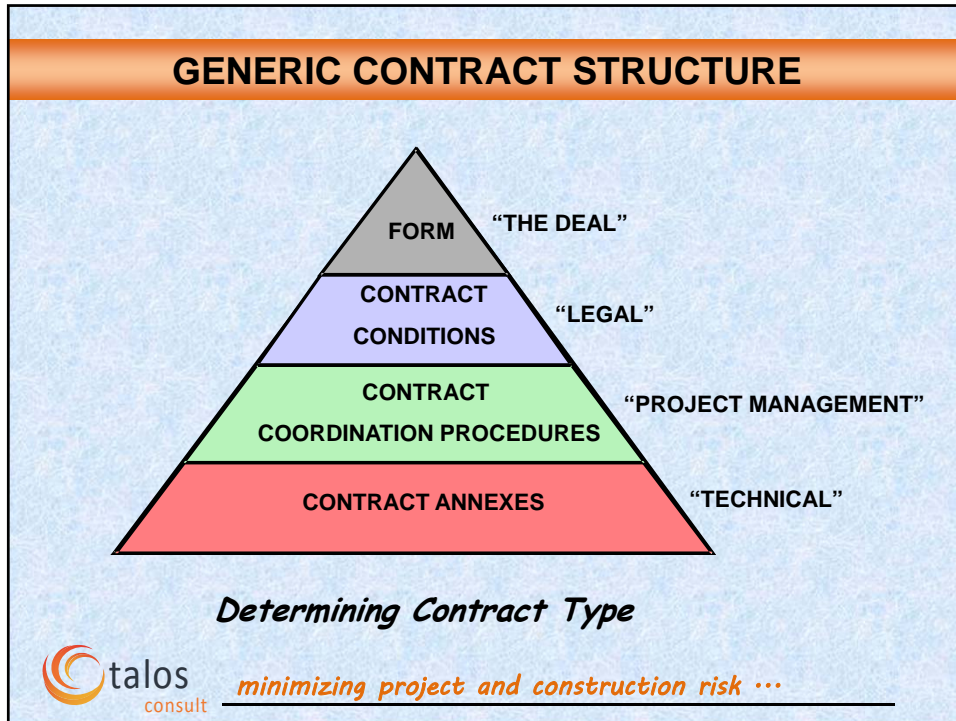
The diagram is a waterfall chart with ten green rectangular boxes, each representing a project phase. The boxes are arranged in a descending staircase pattern from top-left to bottom-right. The phases are: Land Use, Transportation, Life Cycle Costing, Design Standards, Design Management, Project Planning and Controls, Contracts & Packaging, Project Procedures, Summary Cost Plan, and Procurement and Facilitation. A horizontal arrow labeled 'Program Management' points from the left towards the right, ending in a blue downward-pointing triangle. A vertical dashed line is positioned to the right of the 'Procurement and Facilitation' box.

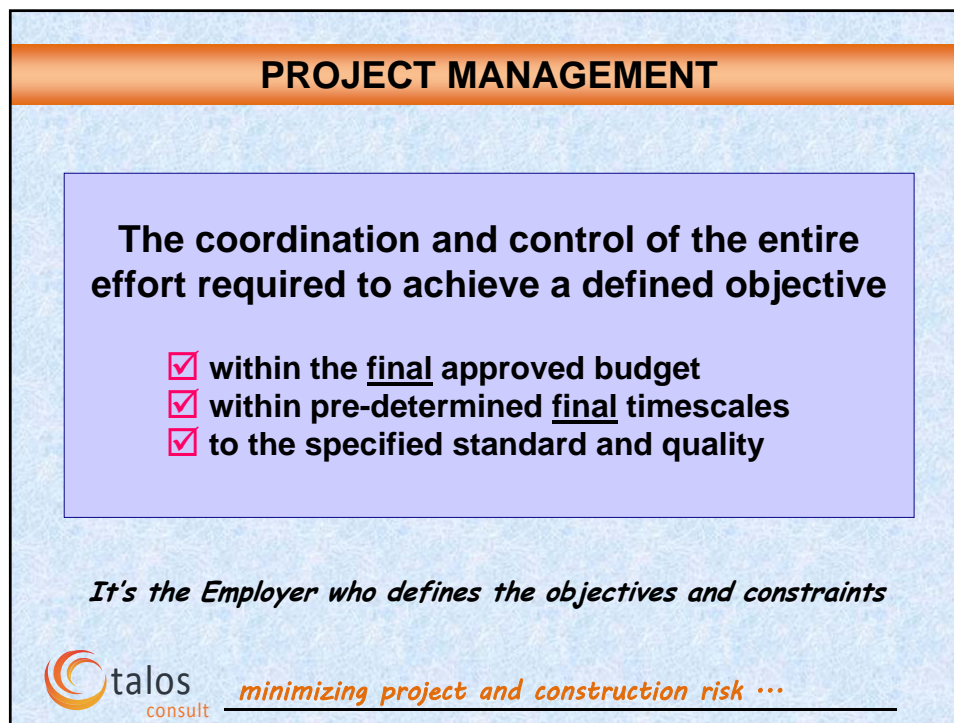
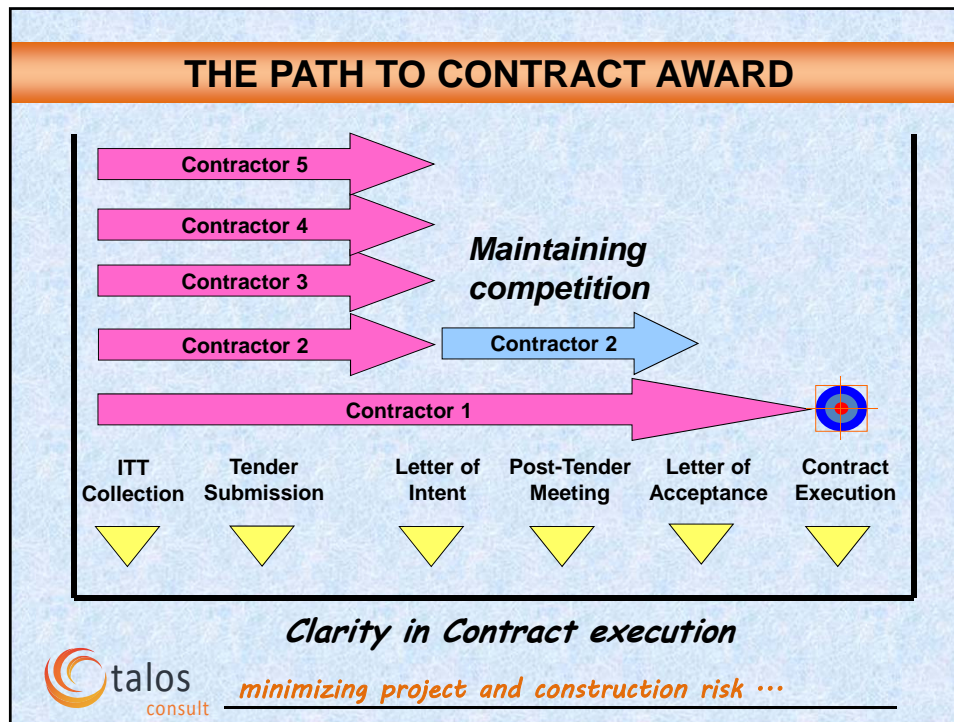
Setting plans and concepts ...

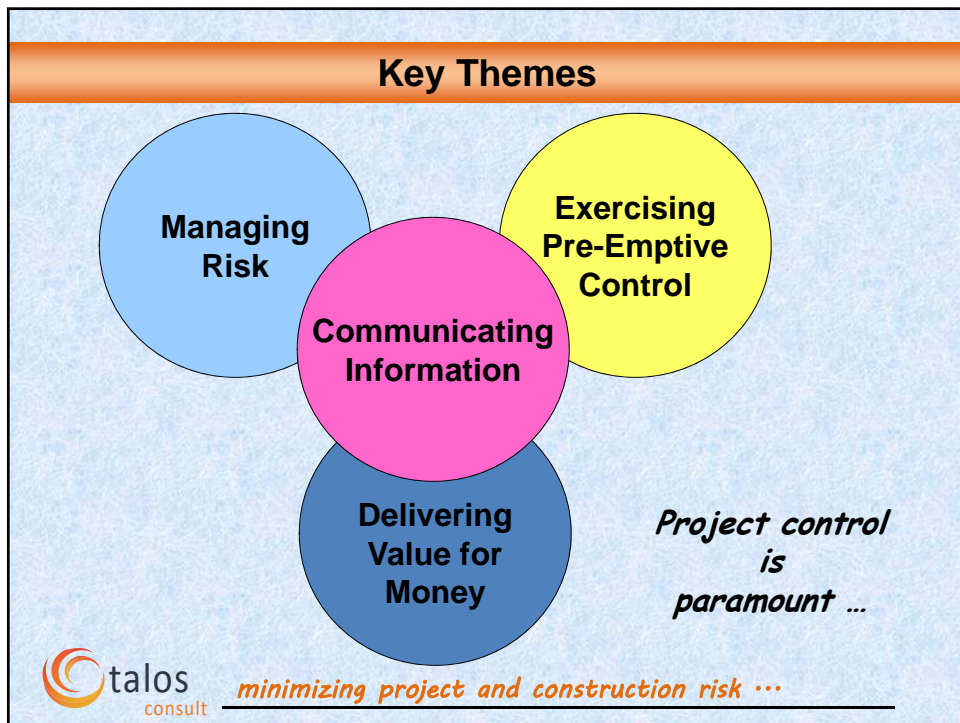
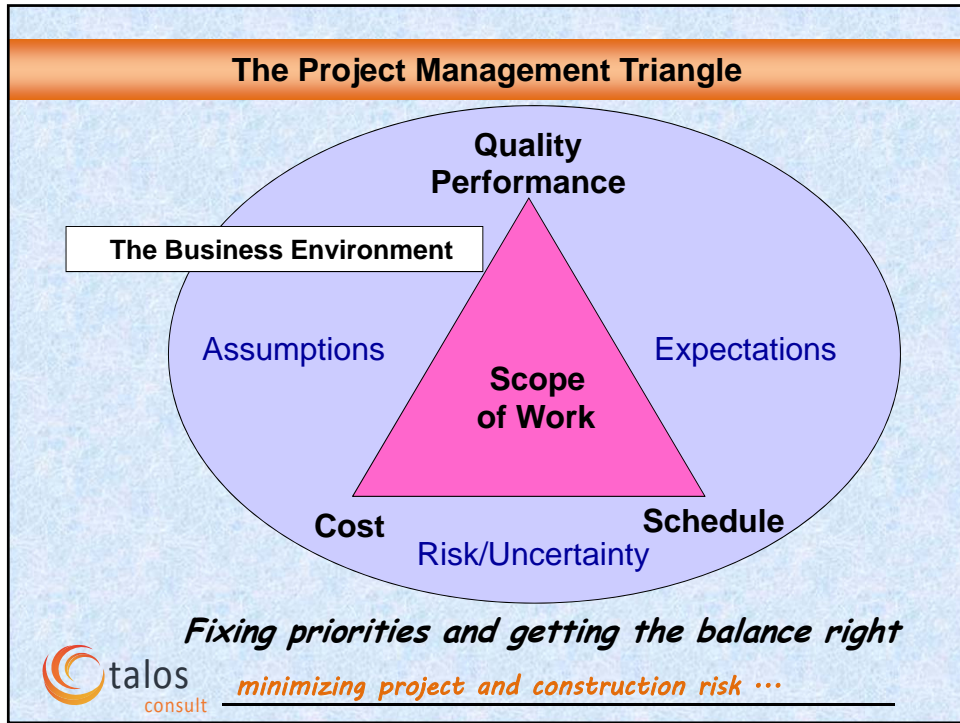


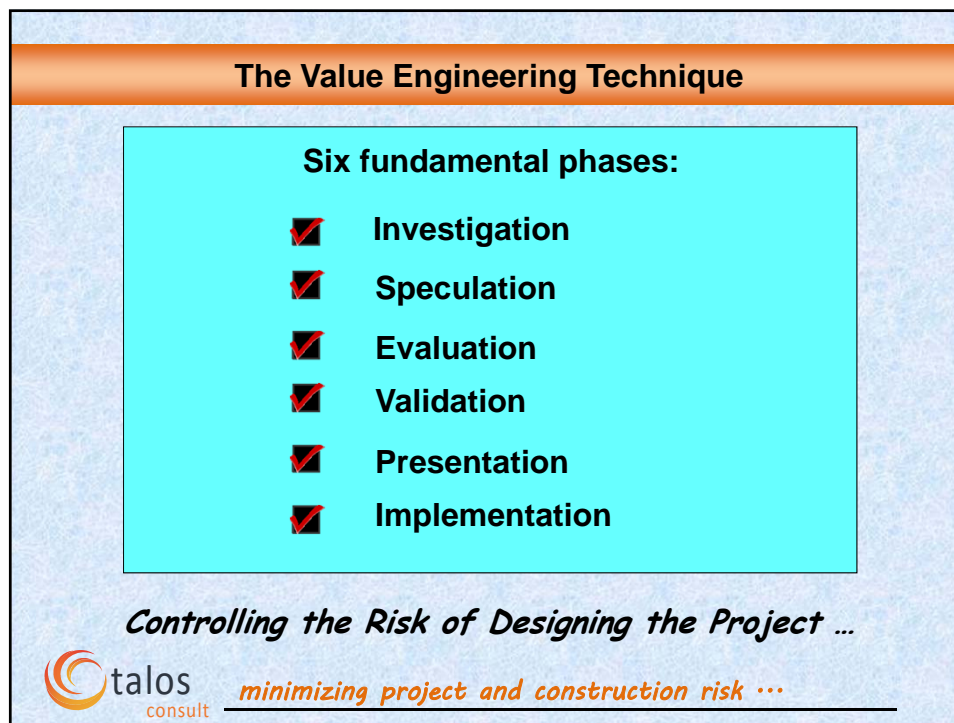
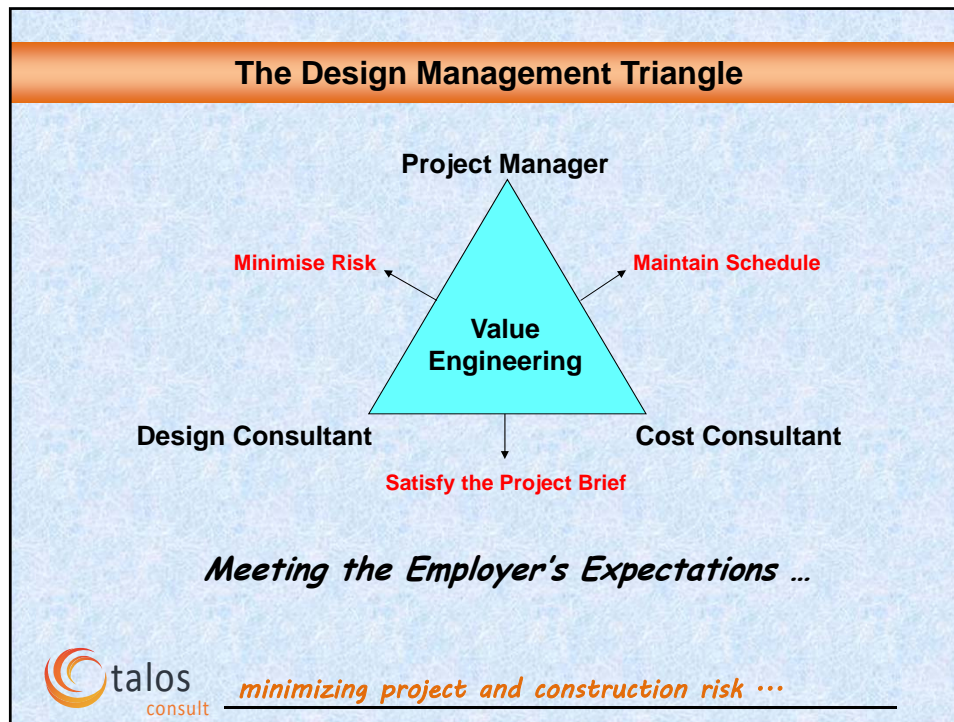
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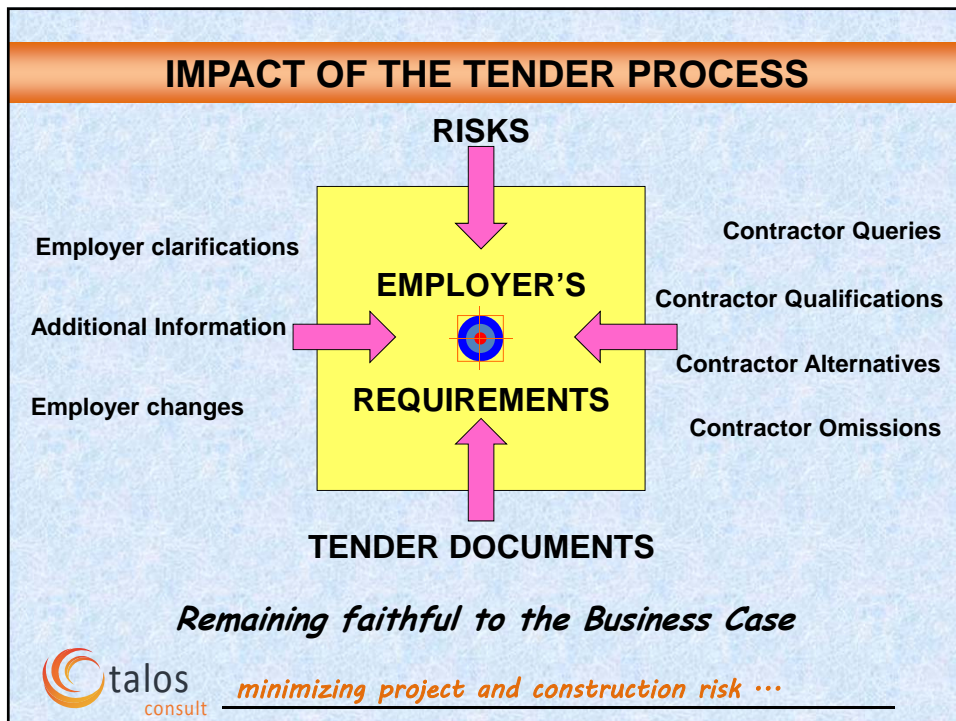
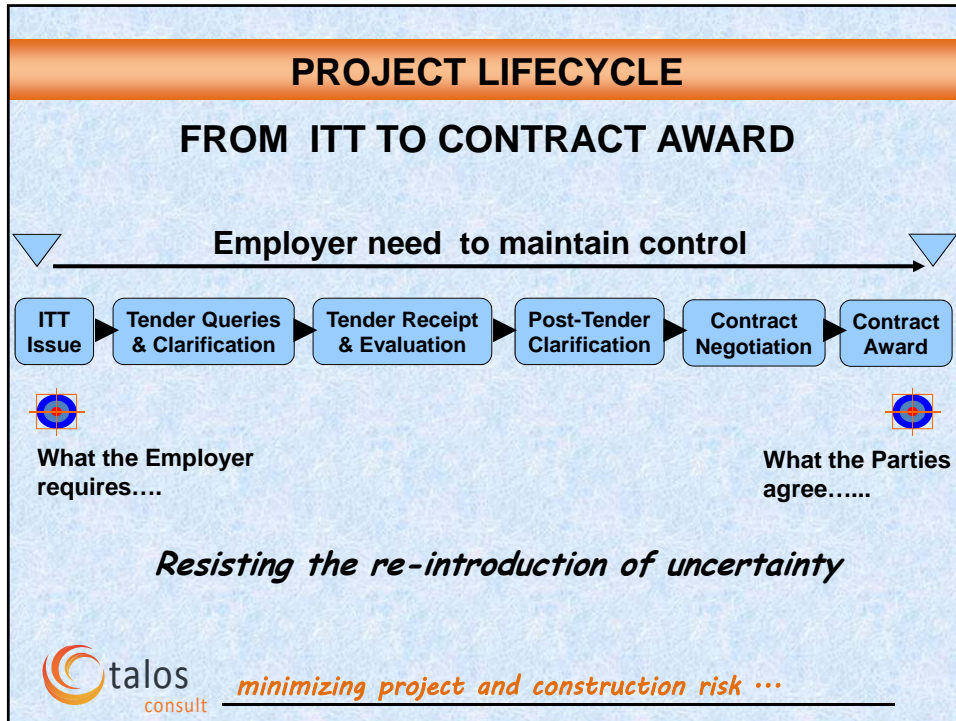


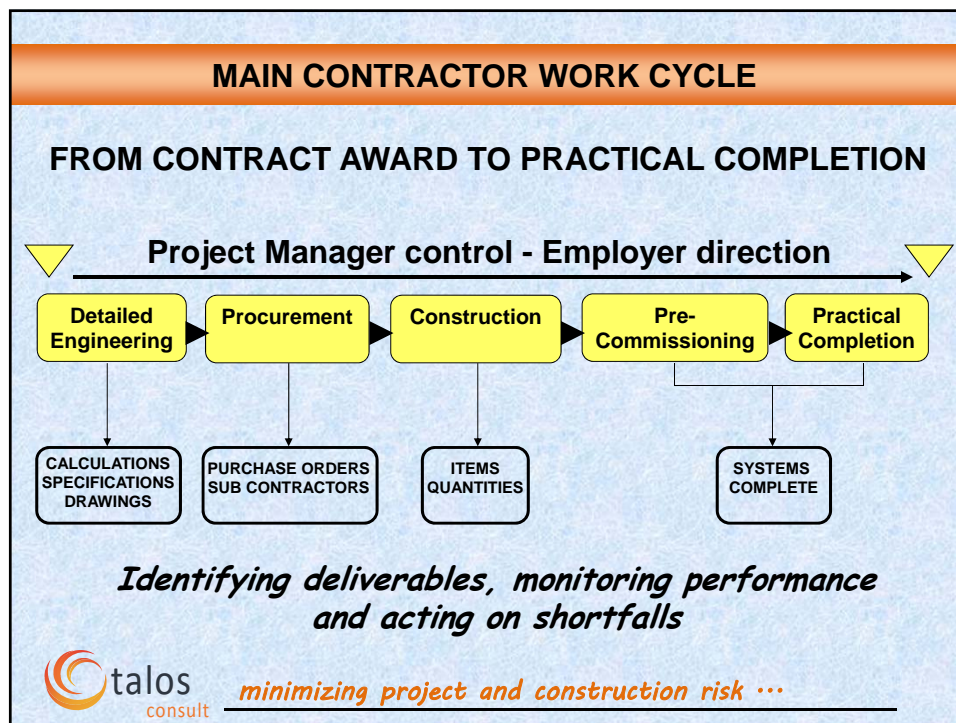
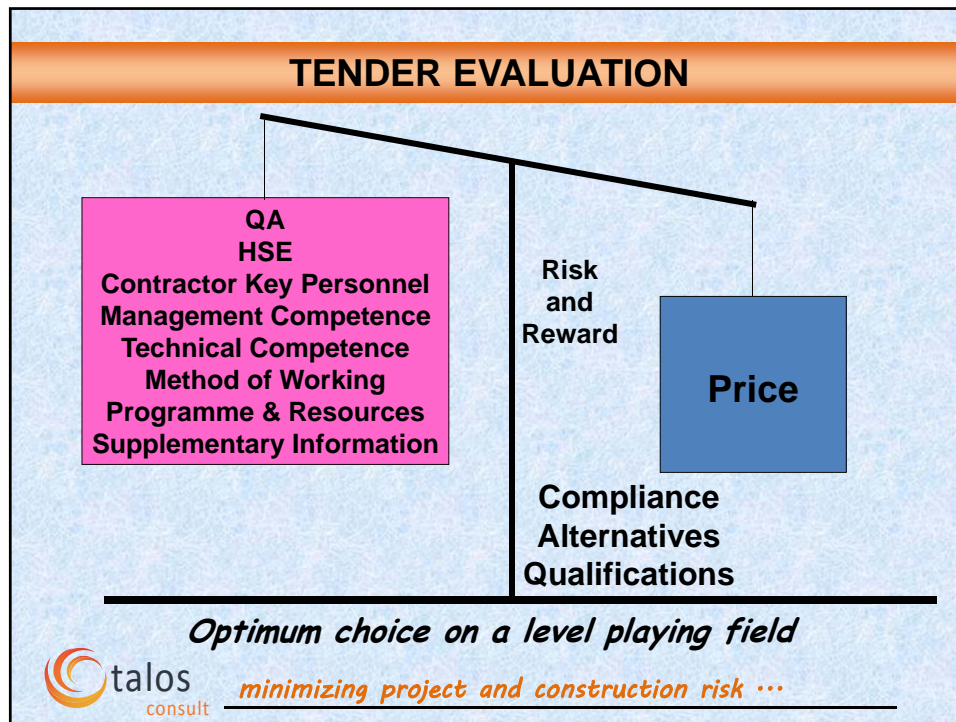


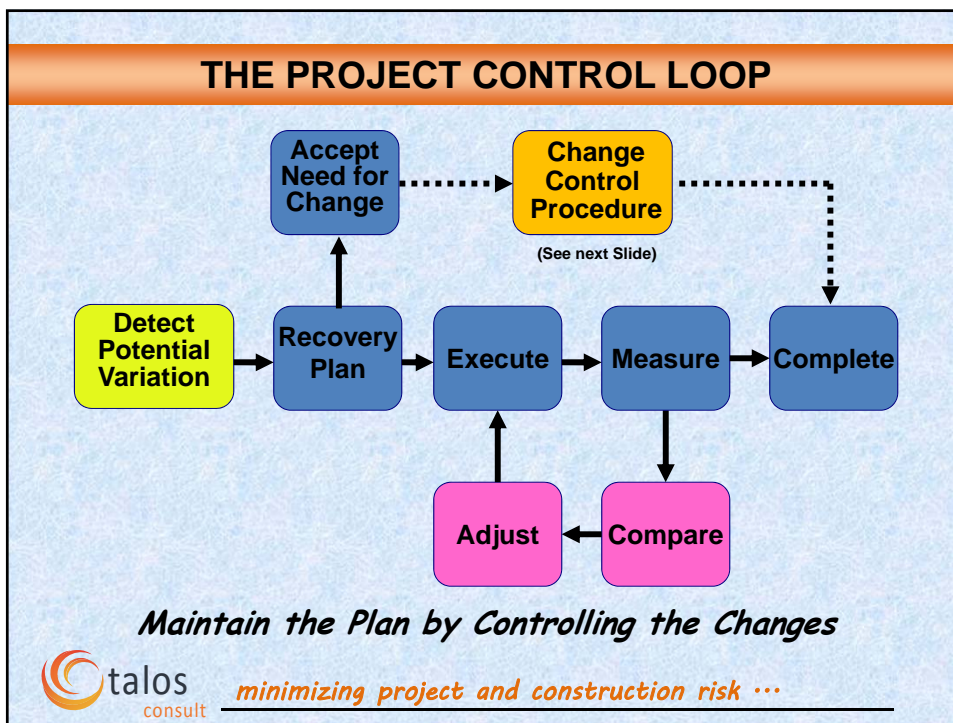
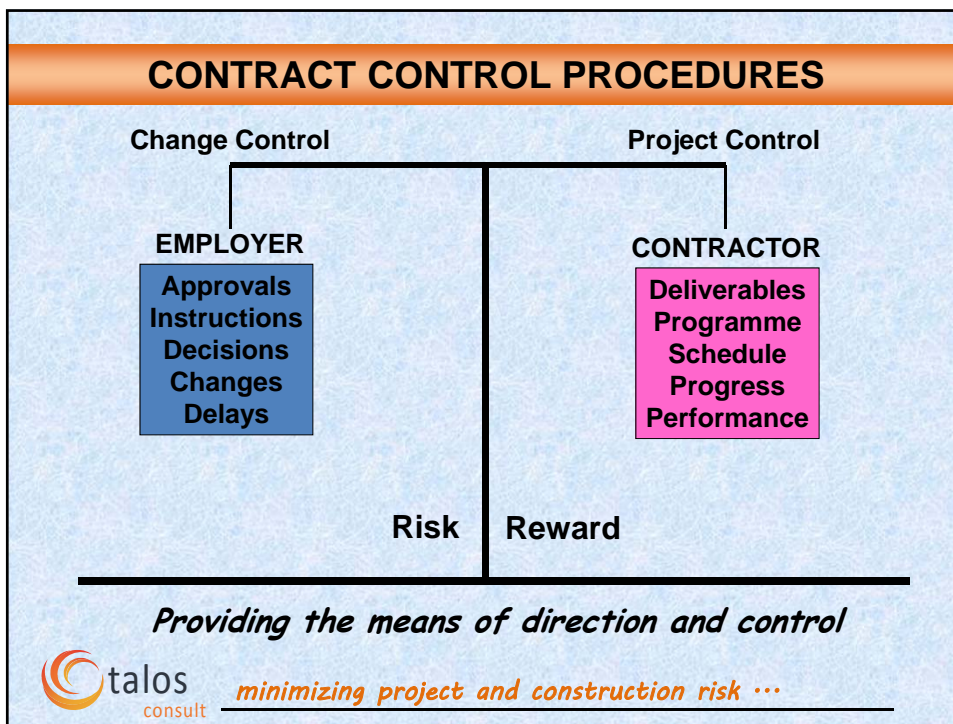












A QUALITATIVE LOOK AT PROJECT RISK

Risk Management identifies risks through the progressive use of risk impact matrices (*likelihood and impact*) for all major packages within a particular project.

Weekly meetings and periodic workshops are scheduled to identify business and project risks, ranging from the translation of the Business Plan into project and design briefs, to procurement strategies for the entire supply chain.

Risk management then links with Value Engineering and Change Management to deliver optimum solutions.



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A QUALITATIVE LOOK AT PROJECT RISK

The normal activities associated with Risk Management are:

1. Establish contacts, roles, responsibilities and communication routes
2. Brainstorm & review any existing risk data. Evaluate project procedures and Tender or Contract documents for risk exposure, including design, procurement, delivery & installation schedules
3. Develop bespoke probability-impact matrices and transfer all risks to a comprehensive Master Risk Register



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A QUALITATIVE LOOK AT PROJECT RISK

4. Launch the Risk Management Plan, detailing the procedural approach
5. Hold workshops with all involved personnel to review all project requirements
6. Investigate the supply chain, contracts packaging and overall procurement/strategy routes
7. Develop mitigation plans and contingency plans, as necessary
8. Maintain the entire Risk Plan, registers and matrices



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RISK ASSESSMENT


- Consider any risk that could potentially affect the project objectives – (i.e. brainstorm & make a list)
- Decide what the risk might affect ... for example ...
 - ✓ *Time*
 - ✓ *Cost*
 - ✓ *Quality*
 - ✓ *Scope*
 - ✓ *Supply chain*
 - ✓ *Logistics*
 - ✓ *Resources*
 - ✓ *Safety / Environment*
 - ✓ *etc ...*



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RISK ASSESSMENT

- **External/Strategic/Corporate Business risk** – whatever affects our ability to meet business objectives. These high level risks are managed within the business and cannot be transferred. Such risks include project funding, organizational, political, environmental, cultural, mergers & acquisitions, infrastructure failure, utility Authorities, legislation, changes in marketplace, security, life safety, functionality and business continuity risks.
- It should be possible to mitigate, to a degree, some risks despite being outside *our* control. These are generally business risks (scope) that could jeopardize the success of the project in terms of viability.
- **Project/Programme/Operational risk** – includes technical, contract, design, market costs, claims, operational issues, schedules/time, resources, quality, procurement; these should be managed by the party best placed to do so. These are project risks that could jeopardize the success of the project in terms of time, cost, quality or safety.



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RISK EVALUATION - QUALITATIVE

The common approach ...

- Evaluate the **probability** or likelihood of *something* happening?
- Evaluate the **impact** or consequences of *something* happening?
- ❖ A risk is identified as L=Low, M=Medium, H=High, VH= Very High
- ...green = low Yellow = Medium Red = high

Probability/Impact	Low impact	Medium impact	High impact
Hardly likely	Low risk	Low risk	Low risk
Not likely	Low risk	Low risk	Medium risk
Maybe	Low risk	Medium risk	Medium/High risk
Likely	Low risk	Medium/High risk	High risk
Highly likely	Medium risk	High risk	Very High risk

- **BUT** now consider impacts separately for time, cost, quality, scope



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RISK EVALUATION – QUANTATIVE

The not so common approach ... using refined ranges

- Develop the Probability-Impact ranges i.e. for time & costs
- Probability x Impact = Risk Score
- Highly likely (90%) x high impact (80%) = 0.72 = HIGH risk

Probability	Risk Score = P x I				
	0.05	0.1	0.2	0.4	0.8
90% (0.9)	0.05	0.09	0.18	0.36	0.72
70% (0.7)	0.04	0.07	0.14	0.28	0.56
50% (0.5)	0.03	0.05	0.10	0.20	0.40
30% (0.3)	0.02	0.03	0.06	0.12	0.24
10% (0.1)	0.01	0.01	0.02	0.04	0.08
Impact =	0.05	0.1	0.2	0.4	0.8

Probability % + Impact % [170] = Probability Impact Rating
 (Probability % + Impact %)/2 x (1/weeks to impact) = Initial risk priority rating (severity)



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RISK EVALUATION – REAL OUTPUT

Quantitative MEANINGFUL results:

if **cost impact** is AED100,000, then **cost contingency**:

0.9 (Probability) x AED100,000 = AED90,000.

if **time impact** is 100 man hours, then **time contingency**:

0.9 (Probability) x 100 hrs = 90 hrs lost time

...Thus providing a simple contingency for cost and time risks ...



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RISK EVALUATION – MANAGEMENT

HOW CAN PROJECT RISK BE MANAGED?

- It can be avoided (i.e. remove from scope)
- It can be accepted (possibly with contingency)
- It can be transferred (i.e. specialist subcontractor)
- It can be mitigated – as in reducing operational uncertainty through the application of Project Procedures



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RISK EVALUATION – MANAGEMENT

- When deciding how to manage the risk, consider ...
- What will be done & what is the *residual* risk?
- Develop contingency options for residual risk?
- Consider *secondary* risks arising from the contingency options?
- Consider priority and 'ownership'
- A reiterative process ...



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RISK RECORDING

- Ensure ALL project meetings include an agenda item for “Risk Issues”
- Ensure all risks, unknowns & contentious issues, (also opportunities) are recorded on the Master Risk Register
- Obtain all party buy-in
- If possible, the Master Risk Register should be stored in a shared area on the network with ‘view only’ permission



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RISK MANAGEMENT BENEFITS

... the Risk process and the Change process:

- Employer & other parties receive an early warning;
- Project Team’s pro-active assessment is made available;
- Project Team’s estimated costs & time impacts are made available;
- Project Team’s mitigation & contingency ideas are made available;
- Risk can be managed by the Team in a timely manner, and...
- ...It satisfies basic obligations for ‘advance notice’ of ‘likely’ delay...



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RISK MANAGEMENT BENEFITS

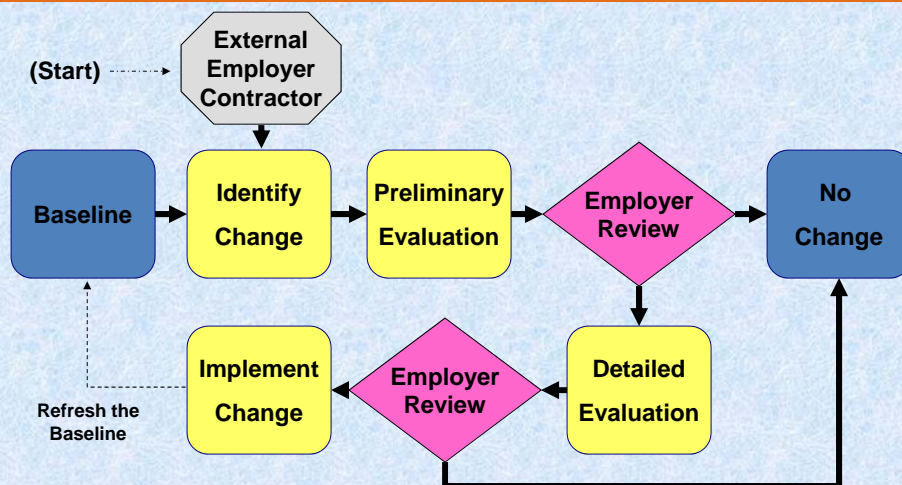
Conflict avoidance

- A non-contentious advance warning
- Pro-active management of risks (events) to avoid dispute
- Road map to gain early change consensus and approval
- Part of the Risk Management Process for Change
- Adopting a teamwork approach - spirit of cooperation, trust and mutual respect



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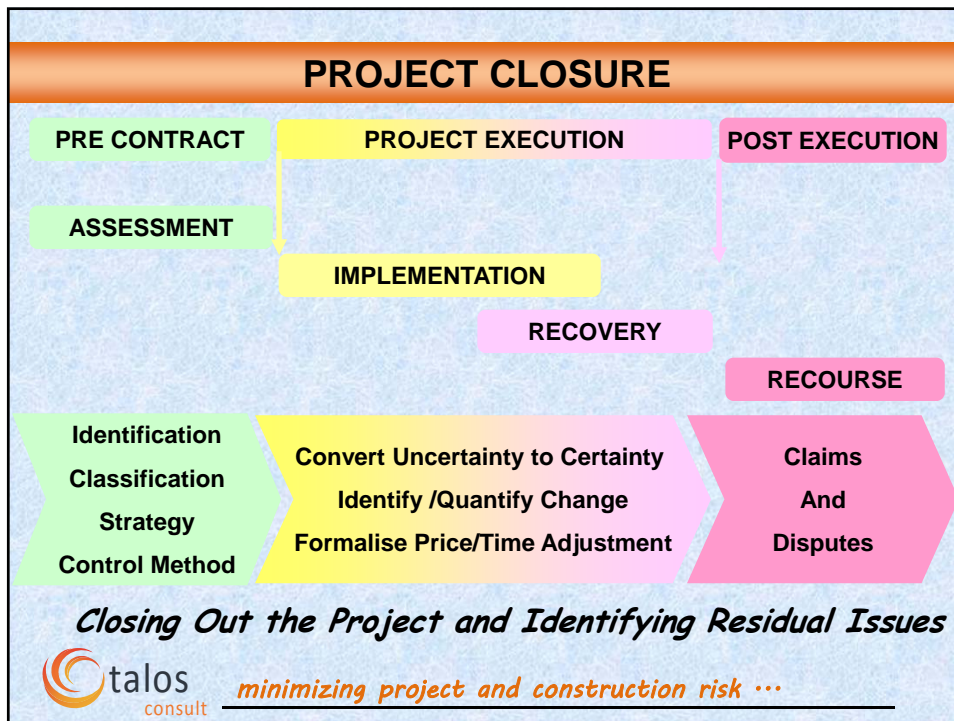
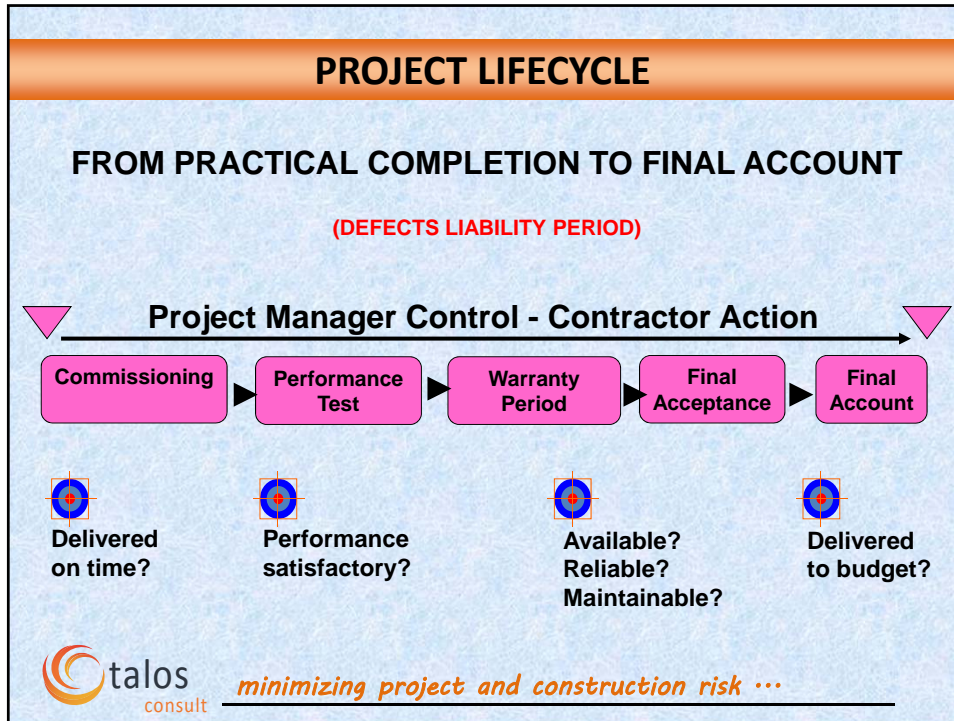
THE CHANGE CONTROL LOOP



Maintain the baseline - Update the Business Case



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THE PROJECT BALANCE SHEET

EMPLOYER	CONTRACTOR
<div style="border: 1px solid #ccc; border-radius: 15px; background-color: #d9e1f2; padding: 10px; margin-bottom: 10px;"> <p>Scope fully completed?</p> <p>Completion Date met?</p> <p>Quality satisfactory?</p> <p>Performance satisfactory?</p> </div> <hr style="border: 0.5px solid black;"/> <div style="border: 1px solid #ccc; border-radius: 15px; background-color: #d9e1f2; padding: 10px;"> <p>Liquidated damages?</p> <p>Contractor Guarantees/Bonds?</p> </div> <hr style="border: 0.5px solid black;"/> <div style="border: 1px solid #ccc; border-radius: 15px; background-color: #d9e1f2; padding: 10px;"> <p>Operating Revenue?</p> </div>	<div style="border: 1px solid #ccc; border-radius: 15px; background-color: #f06292; padding: 10px; margin-bottom: 10px;"> <p>Final Contract Price?</p> </div> <hr style="border: 0.5px solid black;"/> <div style="border: 1px solid #ccc; border-radius: 15px; background-color: #f06292; padding: 10px; margin-bottom: 10px;"> <p>Final Contract Cost?</p> </div> <hr style="border: 0.5px solid black;"/> <div style="border: 1px solid #ccc; border-radius: 15px; background-color: #f06292; padding: 10px; margin-bottom: 10px;"> <p>Claims for additional costs?</p> <p>Claims for extension of time?</p> </div> <hr style="border: 0.5px solid black;"/> <div style="border: 1px solid #ccc; border-radius: 15px; background-color: #f06292; padding: 10px;"> <p>Cost of Claim recovery?</p> </div>

A Preliminary Look at Apparent Inequities

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CLAIM ASSESSMENT

- The issues involved**
- The Contractor's objectives**
- The basis of the arguments**
- The weight of supporting evidence**
- The legal and contractual foundation**
- The appropriate relief in the circumstances**


Realistic assessment - Appropriate response

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CLAIM DEFENCE

- Identify the parties' duties and obligations
- Identify performance shortfalls
- Establish the link between cause and effect
- Separate Employer and Contractor issues
- Identify counter arguments and claims
- Prepare relevant supporting evidence
- Present professionally in writing and pictures


Professional approach

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SUMMARY

- Program Management: The overview function
- Project Management: Project(s) control & delivery
- The right people doing the right things!

Thank you ... any questions please ...

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