# Project Management

**Institut Sino-européen d'Ingénierie de l'Aviation**
中国民航大学中欧航空工程师学院

## Project Management Course

## Session N° 2:

## Project Phasing - Key success factors

# Project Management

## Project Management Course summary

**Session N°:** **TITLE:**

- **TC 1** **Project Management definition（2h）**
- **TC 2** **Project Phasing - Key success factors（2h）**
- **TC 3 & 4** **Organize and Plan the Project（4h）**
- **TD 1** **Make the WBS for the Project（2h）**

**Our aims**

✓ **Project lifecycle( phase, events and key factors)**

# Project Management

## Project organisation: the basic triangle!

- **The 3 parameters to strongly monitor in Projects:**
- **Performance, quality:**
  - Usually, the first topic addressed.
  - **Performances**, as required by the Customer technical specification
  - **Quality**, as required by the Customer contract / standards, the international standards (ISO 9001…) **and** the Company standards.
  - Higher performance / quality impacts costs; lower is not acceptable!
- **Delivery time:**
  - Usually, specified in Contract (after negotiations)
  - To be strongly monitored in Project management: **WHY?**
  - Delivery time is strongly related to cost: **WHY?**
- **Cost:**
  - The first concern of Company Management & Customer!

# Project Management

## Project organisation: the basic rules!

- **The 2 basic rules to implement in Projects:**
- **Organise and Plan:**
  - The first phase to be addressed.
  - **Organise:** System design, WBS / OBS,team, resources…
  - **Plan:** Detail specifications & planning, including links
- **Monitor and Control:**
  - Essential to get good results for the basic triangle.
  - **Monitor:** Measure achievements, planning, costs
  - **Control** the implementation of tasks, the risks…
- **To be detailed later in the course!**

# Project Management

## Note: following terms

（1）**Cost & Price**

What we buy/sell

（2）**Project & Operation**

（3）**Project & Product**

（4） **Project or Production organisation?**

# Project Management

## Project and Operation

exercise:

- differences between  Project and Operations?

- Answer:

•A Project is unique, temporary endeavour ,only once time

•Operation activities are repetitive, taking place round and round

# Project Management

## Project and Product

exercise:

- What are the differences between a Project and a Product?
- To help, give examples of Projects and Products.
- Note: here a Product and an Equipment are similar.

Answer:

•A product is produced in a large number, almost identical: it is repetitive

•A Project is unique, almost it may have similarities with others: it has a start, a duration and an end.

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## Project or Production organisation?

exercise:

– Can you give us two examples of organisation? (two students)

Note:

•Not all the companies are suitable for project organisation

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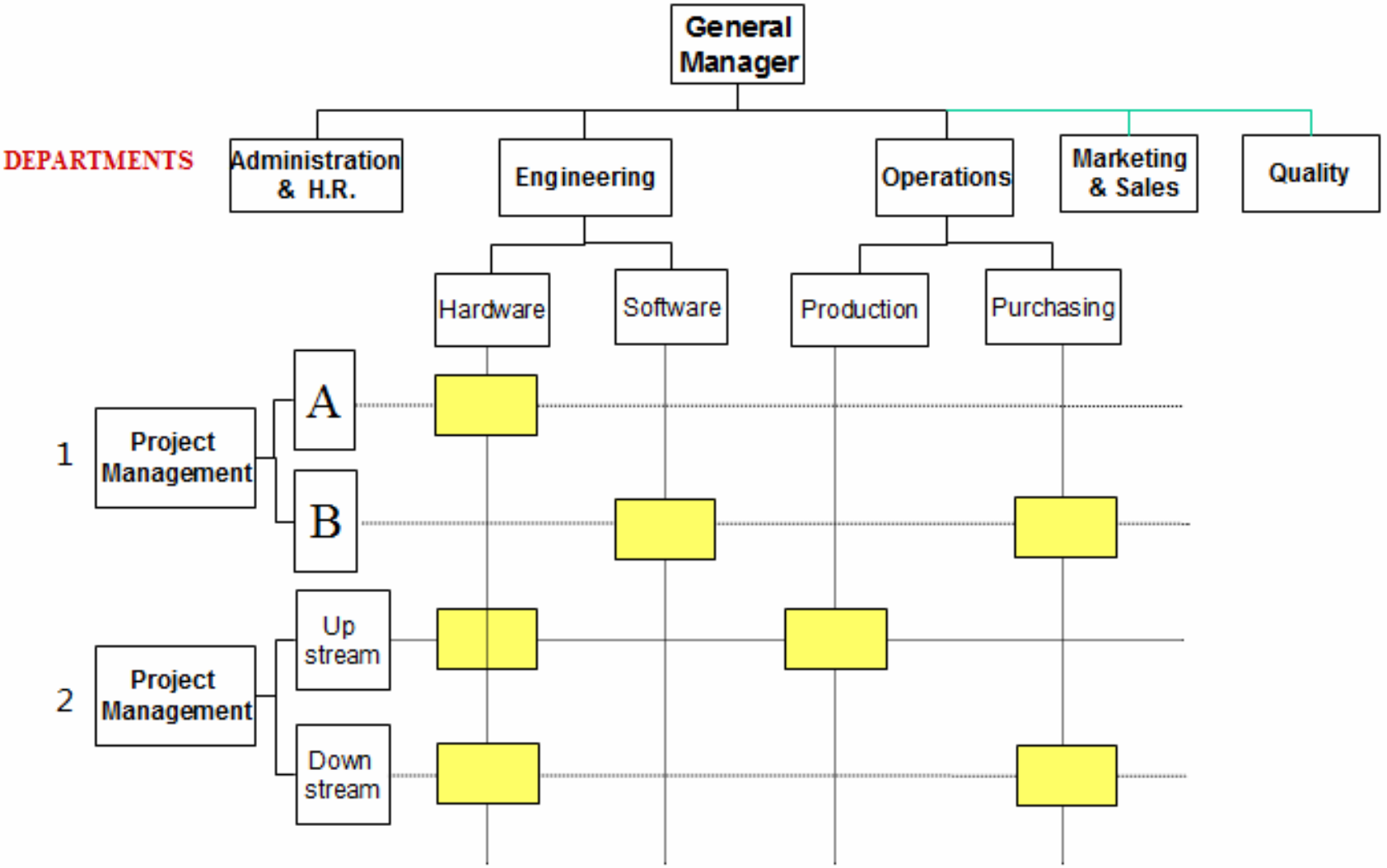
## Matrix organizational structure



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## Break: an application for “Hope Project”

- How to prepare an application for a project?
- Form into **11 groups** of about **7 students** each.
- Each group should submit an application for “Hope Project” before the course ending.
- Each group should prepare the file in English
- Good luck!
- If you need some help, ask me.

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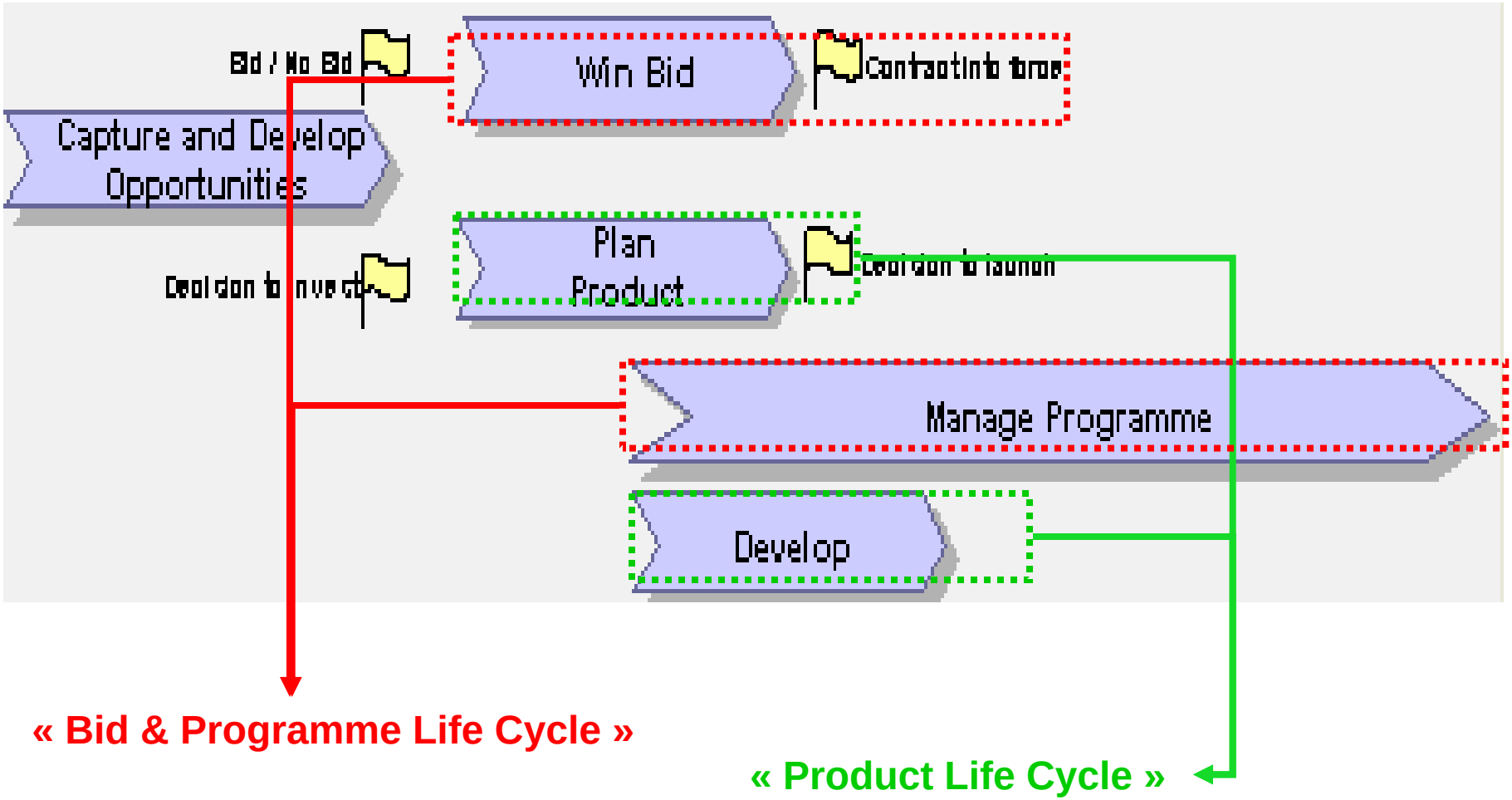
## Break: an application for “Hope Project”

# Project Phasing




Programme Management Techniques

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## Project Main Phases

**EVENTS:**

### 1) PRE-PROJECT:

- Capture & Develop opportunities
- Marketing & Sales activities
- Pre - Project to be done

**TENDER**

### 2) BID PHASE :

**Proposal to Customer**

### 3) NEGOCIATIONS:

**CONTRACT coming into force**

### 4) PROGRAM PHASE:

- Launch phase
- Design, Development, Production / Purchase
- Implementation of Program

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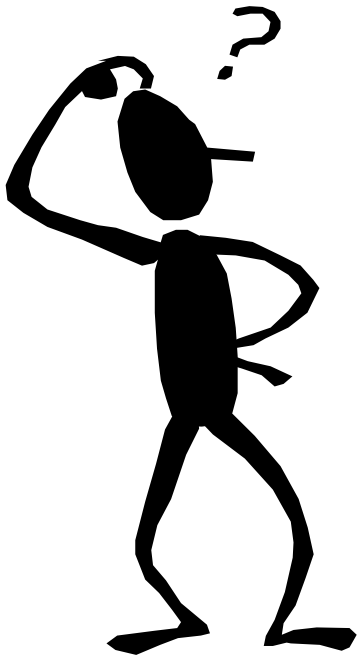
## Key success factors

**"The Success of a Project is implemented as it begins"**

- **10 minute Exercise:**
  - **Some reasons why?**
  - **Examples how?**
  - **Some Key success factors?**



- **HELP!**
  1) **Customer needs**
  2) **Feasibility of Project**
  3) **Strategy**

**"It will be very difficult to recover from a poor start!"**

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## Key success factors: Bid phase (1/2)

- Are **Customer needs** defined? Are they complete?
  - Operational specification: **what for?**
  - Customer (internal or external) specification: **what?**
  - Other **customer issues** to be found.
- **Feasibility** of the Project?
  - Technical feasibility? Technical risks?
  - Make a **pre-design of project with block diagrams**.
  - Re-use of existing equipment, or COTS ? Sub-contractors?
  - Design & development of specific parts or interfaces?
- **Affordability** of the Project? (remember following terms:)
  - Budget for the Project? When is it available?
  - Preliminary **Cost estimate**. **Risks** to be estimated and quoted.
  - Preliminary Price sheet: Cost, Price, net margin. Inside budget?
  - Specific financing? (when required): no or smaller budget

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## Key success factors

### Customer needs


# Project Management

## Key success factors

**Customer needs**

**Fords**

**GM**

# Project Management

## Key success factors

**Customer needs**


# Project Management

## Key success factors

### Feasibility


# Project Management

## Key success factors

**Affordability**

# Project Management

## Key success factors

**Affordability**

**Dell**


**NIKE**

**What's brand?**

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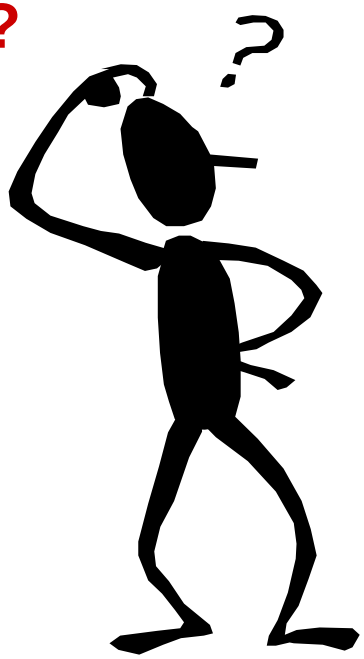
## The Customer demand?

- How is the Customer demand for a System specified? Usually, there is a written Tender & specification.
- **5 minute Exercise:**
  - **How is the Customer demand elaborated?**
  - **What are the steps before the Tender?**



- **Answer:**
  - **Customer needs (+ Issues):**
    - **Operational needs / specification**
    - **Technical Key features / specification**
    - **Available Budget ; Time schedule**
  - **Pre-Project or Feasibility study**
  - **Requirements: First sheet (then) First draft**

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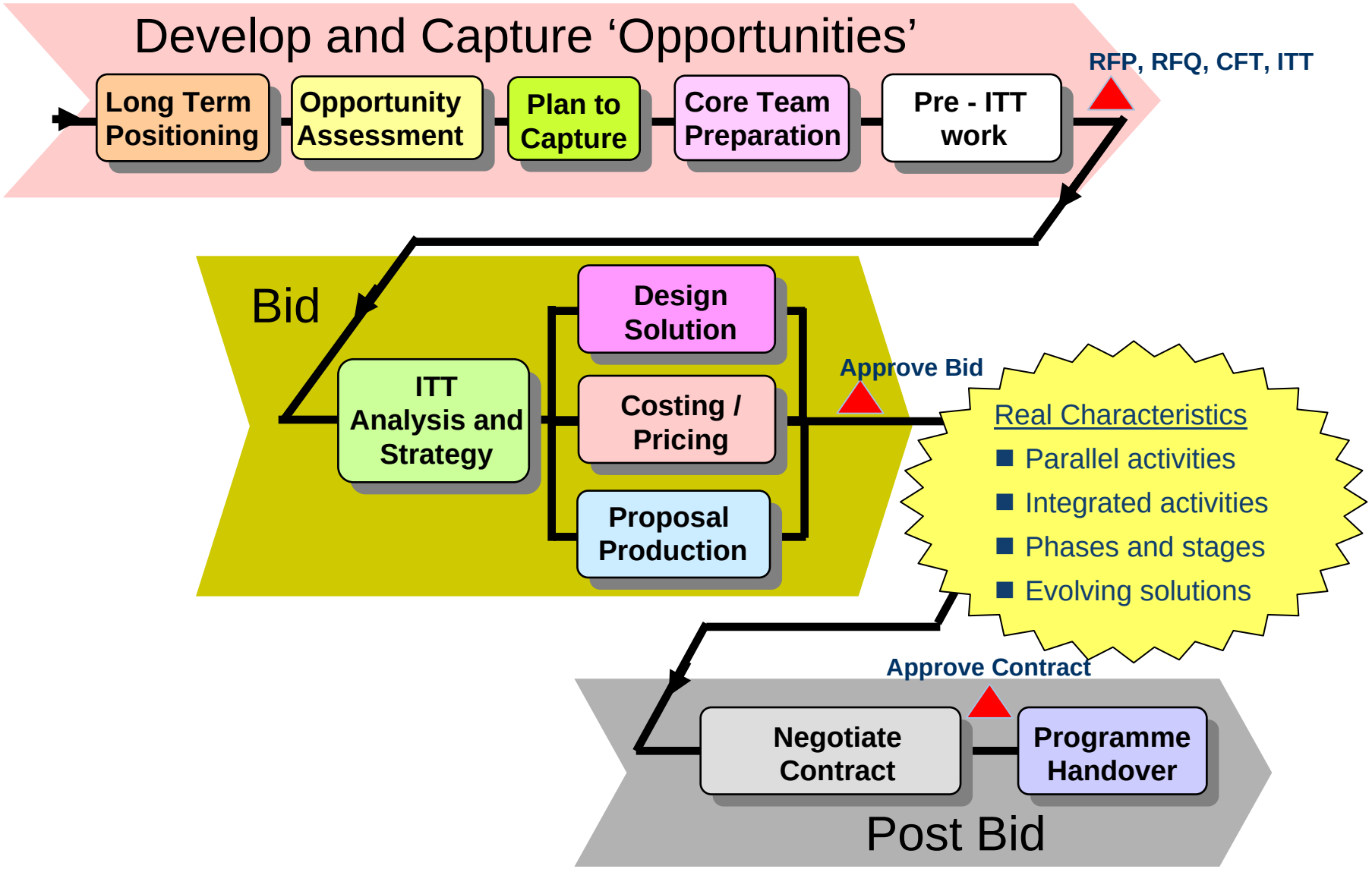
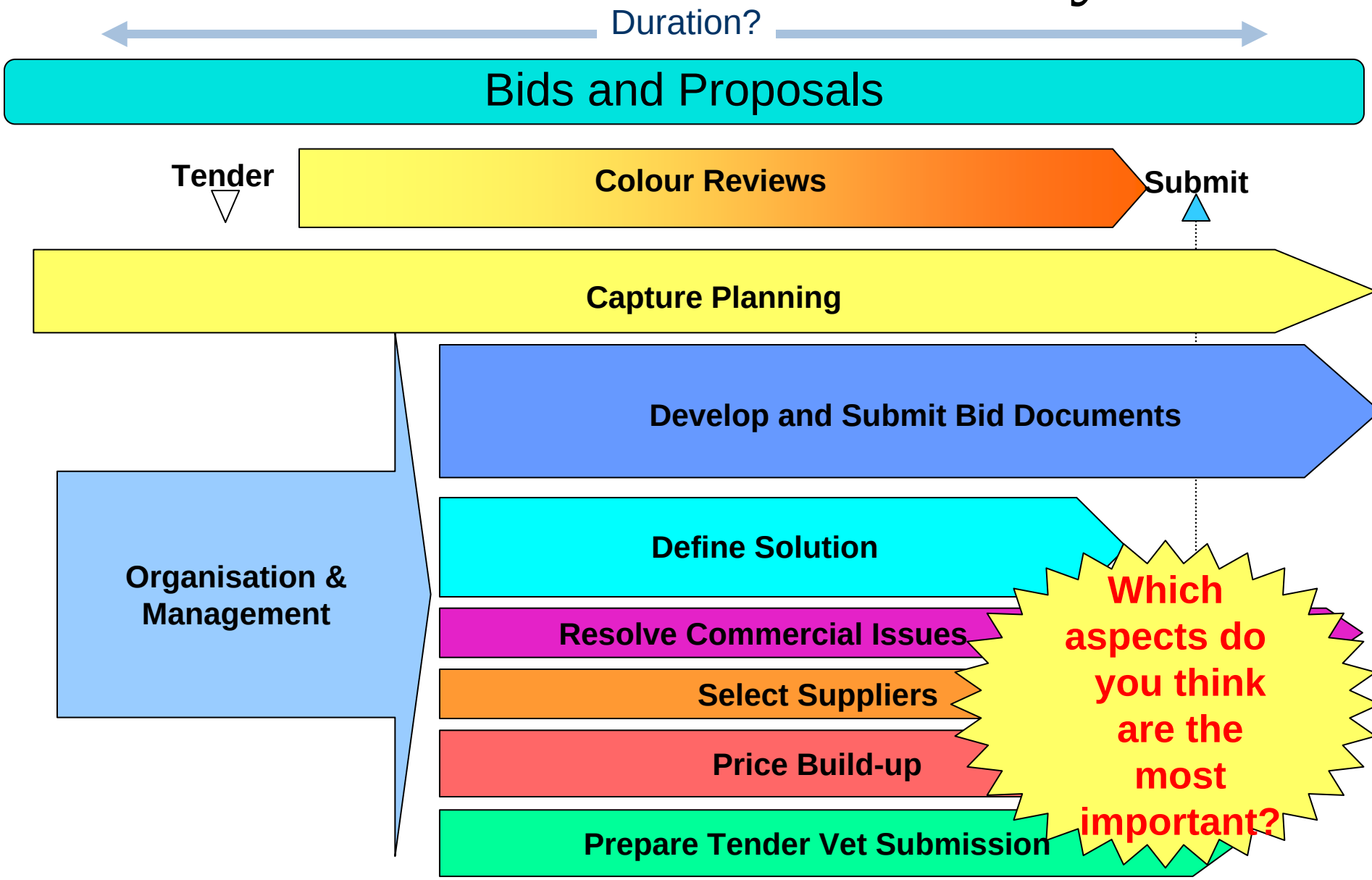
## Acronyms for Bids:

- BID: The whole process for making a successful tender / proposal to a Customer
- CFT: Call For Tender
- ITT: Invitation To Tender
- Proposal: The document (paper and/or soft) given to the Customer; it normally includes the Price & Technical / Operational proposals
- RFP: Request For Proposal
- RFQ: Request For Quotation
- SWOT: Strengths, Weaknesses, Opportunities, Threats

# The ‘Generic’ Bid Lifecycle



# The '*real world*' Bid Lifecycle



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## Winning a Bid is easy! (joke)

It is easy to win a BID if you:

- Prepare a superb, glossy, exciting proposal
- Are fully compliant with every requirement
- Offer to satisfy all of the customer's wishes
- Include things the customer had not thought of
- Undercut the competition's prices

But: will you still be in business in 5 years time?

- Exercise: **What is a successful (réussi) Bid?**

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## What is a successful Bid?

- A successful bid is a **WON BID** in good conditions:
  - Meeting Customer's demand
  - Meeting Company goals (Finance, Risks…)
- A **winning** bid is not necessarily a **successful** bid:
  - Excessive bid costs
  - Unrealistic selling price
  - Unmanageable (un-quantified) risks
- A successful bid is also characterised by a clear accountability (cost, price, quantified risks).
- The bid process should be measured in terms of its contribution to:
  - The bid win rate (ratio by number/value of bids won / lost)
  - Pre-sales costs (as proportion of the value of contracts won)

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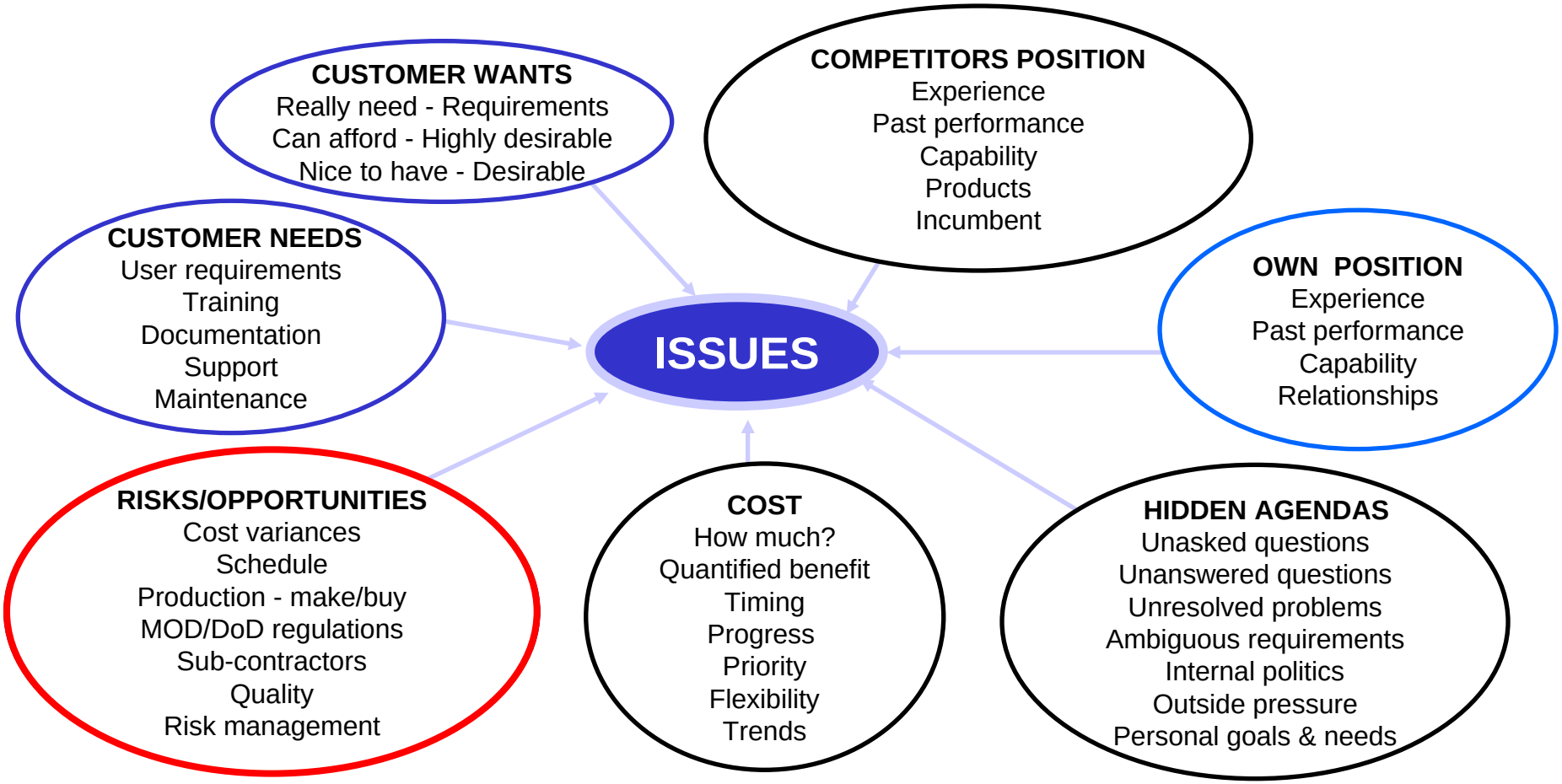
## The key questions for a **Bid/No Bid** decision

- **Is it worth bidding ?**
  - Strategic significance,
  - Potential contract amount against bid cost,
  - Impact of no-bid on the market.
- **What is the probability that we would win ?**
  - Probability of contract award, and when (P1)
  - Probability of contract award to us (P2)
  - (Amount of contract)*P1*P2 gives an estimate of possible Order Intake
- **What is the probability that we would make profit?**
  - Probability of acceptable net margin at coming into force, of result in line with company objectives at completion
  - Risks/opportunities during programme implementation :
    - Industrial risks/opportunities,
    - Risks/opportunities linked to the Customer.

# Customer Issue / Concern Analysis




**Note: Customer Issue or Concern or Stake (Enjeux)**

**A Customer issue is different from a Customer specification !**

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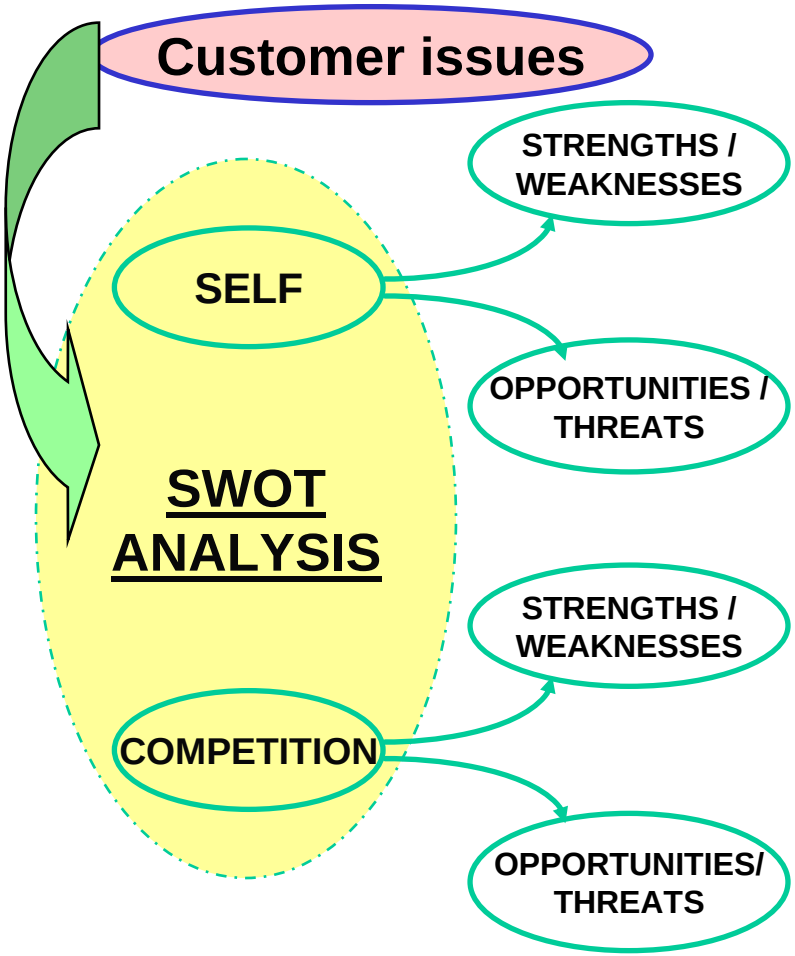
## Competitor Analysis: Conduct a SWOT Analysis




| STRENGTHS | WEAKNESSES |
|---|---|
| 1. Tried, tested and fielded solution<br>2. Better market prominence to date<br>3. Experience of management in UK<br>4. Experience of xxxx<br>5. Price ? sunk NRE for ISD<br>6. Lower risk to ISD<br>7. Can offer add-on kit which has done well in Mod assessments | 1. Current system has no longevity ? poor scalability<br>2. Lack of open standards in network solution<br>3. Separate data and voice<br>4. Departure from xxxx baseline is substantial<br>5. Lack of credible UK base. PCM managed from offshore<br>6. Higher risk after ISD as system offers poor evolution opportunity, not future proofed<br>7. Substantial differences between UK and xxxx doctrine<br>8. System never tried in intensive UK scenarios |
| **OPPORTUNITIES / RISKS** | **THREATS** |
| 1. What is 惻panish?xxxx application in which they have credentials?<br>2. Can this be demonstrated in programme to negate competitor discriminators?<br>3. Selection means UK buys into long term US solution. We will be secondary customer and have little opportunity to influence development or focus on UK doctrine. UK requirements will always be subservient to US. | 1. $C / ? exchange rate fluctuation<br>2. Possible 憧litical Deal?to link UK selection of competitor to xxxx selection of export product |

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## Competitor Analysis - Conduct a SWOT Analysis

- **Knowing your company:**
  - Strengths & Weaknesses of your products (operational, technical, logistics) versus customer and versus competitors,
  - Customer positioning, sponsors, partnerships
  - Strengths & Weaknesses of your services (reactivity, area of competence)
  - Strategy (partnership, product line, geographical strategy, …),
- **Knowing your market & your competitors:**
  - Intelligence data (winner, price, reasons,…) on similar deals (same geographical zone, same type of needs, same type of customer, ….)
  - Market trend & market fashion,
  - **Competitors' strengths & weaknesses**: Customer positioning, Sponsors, Strategy & partnership, Products.

# Project Management

## Competitor Analysis - Identify the Discriminators

Starting from SWOT analysis, we try to identify **Discriminators:**

- Discriminators differentiate us from our competitors in areas that are important to the customer.
- They allow the customer to compare competing offers and thus select one over the others.
- Discriminators reflect all of the customers major issues and requirements.
- Discriminators must be:
  - True for us and not for our competitor(s)
  - Important to the customer

- ***If no differences exist between us and our competitors, lowest price will be the determining factor***

# Project Management

## Summary of BID Phase: Develop & Capture opportunities

- Put yourself in the shoes of the Customer
- Try to understand the Customer's ISSUES
- Analyse objectively your Strengths & Weaknesses and those from competitors
- Try to identify a Discriminator
- Then you are in a good position to BID successfully!

# Project Management

## Key success factors: Bid phase (2/2)

- **Strategy** for the Project?
  - Is the Project in the scope of the organisation's strategy?
  - Is management aware of the Project? Does it agree with it?
  - **Write the Objectives** & the **Strategy** of the Project.
- **Resources** for the Project?
  - Is key personal available? Project manager?
  - Identify key points/risks & define corresponding resources
  - Internal and/or external resources: teaming, sub-contractors…
- **Time schedule** of the Project?
  - Make a first Time schedule of the project, with technical constraints.
  - Plan the corresponding resources (internal, external)
  - Is it compatible with the previous Cost estimate? Review it!
- **Management review** before Bid release or Launch of Project

# Project Management

## Key success factors: Launch phase

- Review the **Customer needs & issues** (why?)
- Review the **objectives & strategy** of Project
- **Review** the items of **BID phase** and improve where needed
- Elaborate the **Referential** of the project:
  - **Contract** with Technical / operational specification and Scope of work
  - Detailed block diagram & pre-design
  - Revised Cost estimate (why?)
  - Revised Time Schedule
  - Resources, Project manager & Project team
- Make a Project **Launch meeting** (with written report):
  - Objective: **communicate** on objectives and **motivate** the Project team
  - Distribute & explain the **Referential** of the project
- Make a **workshop** on Project issues & design.

# Project Management

## Project Main Phases

1) PRE-PROJECT: **EVENTS:**
- Identify/ understand the Customer needs
- Define the scope of Project & Risks

2) FEASIBILITY STUDY:
- Engineering / technical design
- Cost & Price versus Budget

**TENDER**

3) BID PHASE (…)

**Proposal to Customer**

4) NEGOCIATIONS: **CONTRACT coming into force**

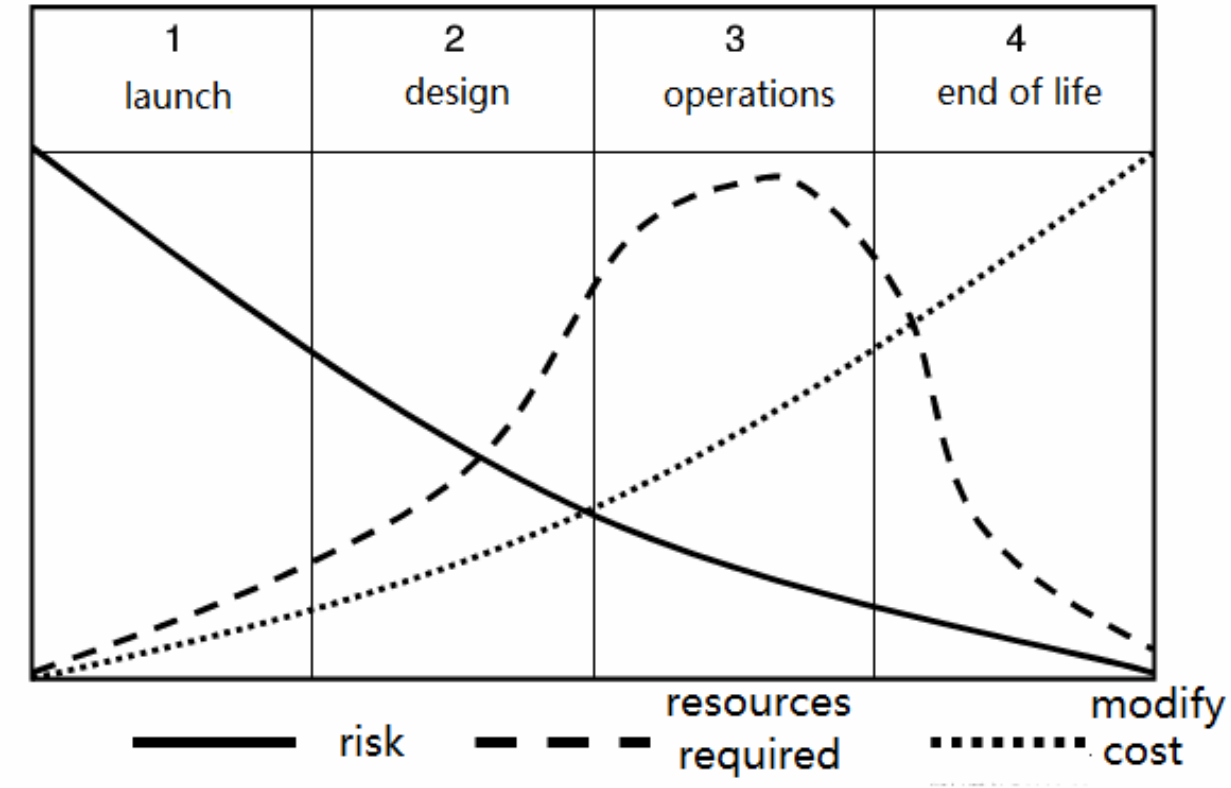
5) PROGRAM PHASE (Implementation of Program):
   - Launch phase
   - Design, Development, Production / Purchase
   - Integration, Tests, Putting into Operation, **Acceptance tests**

6) OPERATIONS: Support to operations, Operational Maintenance,

7) END-OF-LIFE.

# Project Management

## Project Main Phases




**Control after the Happening is worse than Controlling in the Middle.**

**Control in the Middle is still worse than Controlling before Happening.**

# Project Management

## Project Phasing best practices:

- One contract can be made of one or several phases.
- When a contract includes several phases, **each phase should be managed like a separate sub-project.**
- Each phase shall have a specification & a verification
- Phases are separated by specific “events”, (or milestones), like acceptance tests and report, which have to succeed before launching the next phase.
- If there are technical constraints interacting between two phases, better consider them as one phase with two **Work Packages**.

# Project Management

## Progress meetings & Project reviews

- **Progress meetings:**
  - They are **internal** to the organisation / company
  - To be held regularly (each month), in order to check the progresses and solve the difficulties of the Project
  - Project team member to participate, plus specific experts according to the items discussed
  - Always make a **Progress meeting report,** including a nominative action list, with a time to complete the action.
- **Project reviews:**
  - They include **external** participants: the Customer and its experts.
  - They are held at important steps / milestones of Project; example:

    PDR (Preliminary Design Review) / SDR (System Design Review)…
  - First aim is to keep the Customer informed of the status of the Project
  - When required, they allow to agree with the Customers minor changes or deviations to the initial contract / specification.
  - Always make a **Project review report (**including a nominative action list, with a time to complete the action); it is normally co-signed by the Customer representative and the Project manager; it gets thereby contractual.

# Project Management

## First problem: Project in relation to Operations

A major manufacturing company begins each Computer project (internal to the company) with a feasibility study in which a cost-benefit analysis is performed. The Project managers, all of whom report to a project management department, perform the feasibility study themselves without any operational support. The operational personnel argue that the feasibility study is inaccurate because the operational “experts” are not involved. The Project managers, on the other hand, stipulate that they never have sufficient time or money to involve the operational personnel.

**How can this situation / conflict be resolved?**

# Project Management

## Second problem: Project organization / reporting

You have been assigned to the project office as an assistant project engineer. You report to the chief project engineer, who reports formally to the project manager and informally to the vice president of engineering. You have never worked with this chief project engineer before. During the execution of the project, it becomes obvious to you that the chief project engineering is making decisions that do not appear to be in the best interest of the project.

**What should you do about this?**

(Make sure you understand the project & company organization)