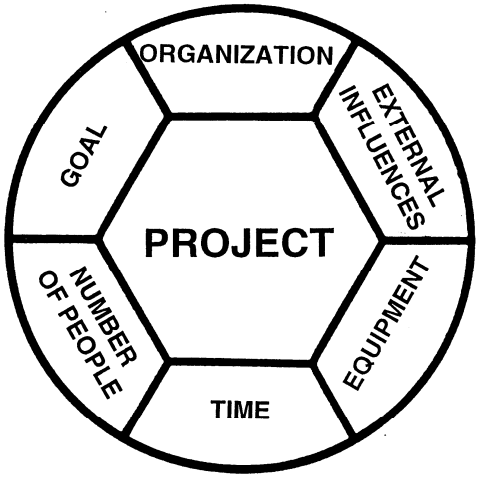
AARHUS
UNIVERSITY
SCHOOL OF ENGINEERING

Project Planning and Management

The major challenges:

1. Agreeing on a goal (the *contract* with the customer/each other)
   - Requirement specification
2. Organising your work
   - System architecture design
   - Design / Implementation
   - Test
3. Managing the project:
   - Making decisions by (without) achieving consensus
   - Delegating responsibilities and work – making QA
   - Keeping track of time and resources
   - Team working (using joint resources, conflict management)
   - Having effective and efficient meetings
   - Prioritizing in the event of time skews
4. Presenting solutions



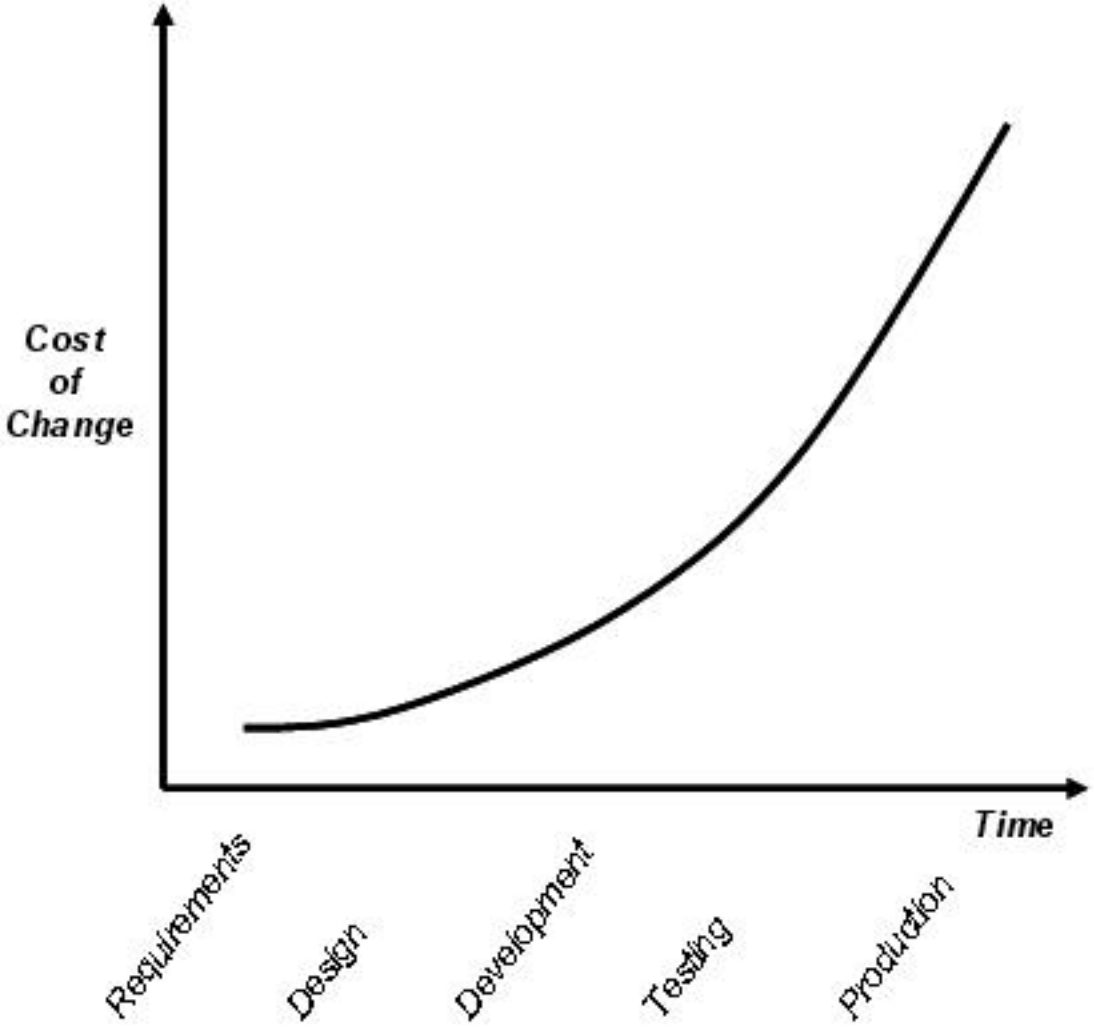
The Project settings

Agreeing on a goal – Requirements Specification (RS)

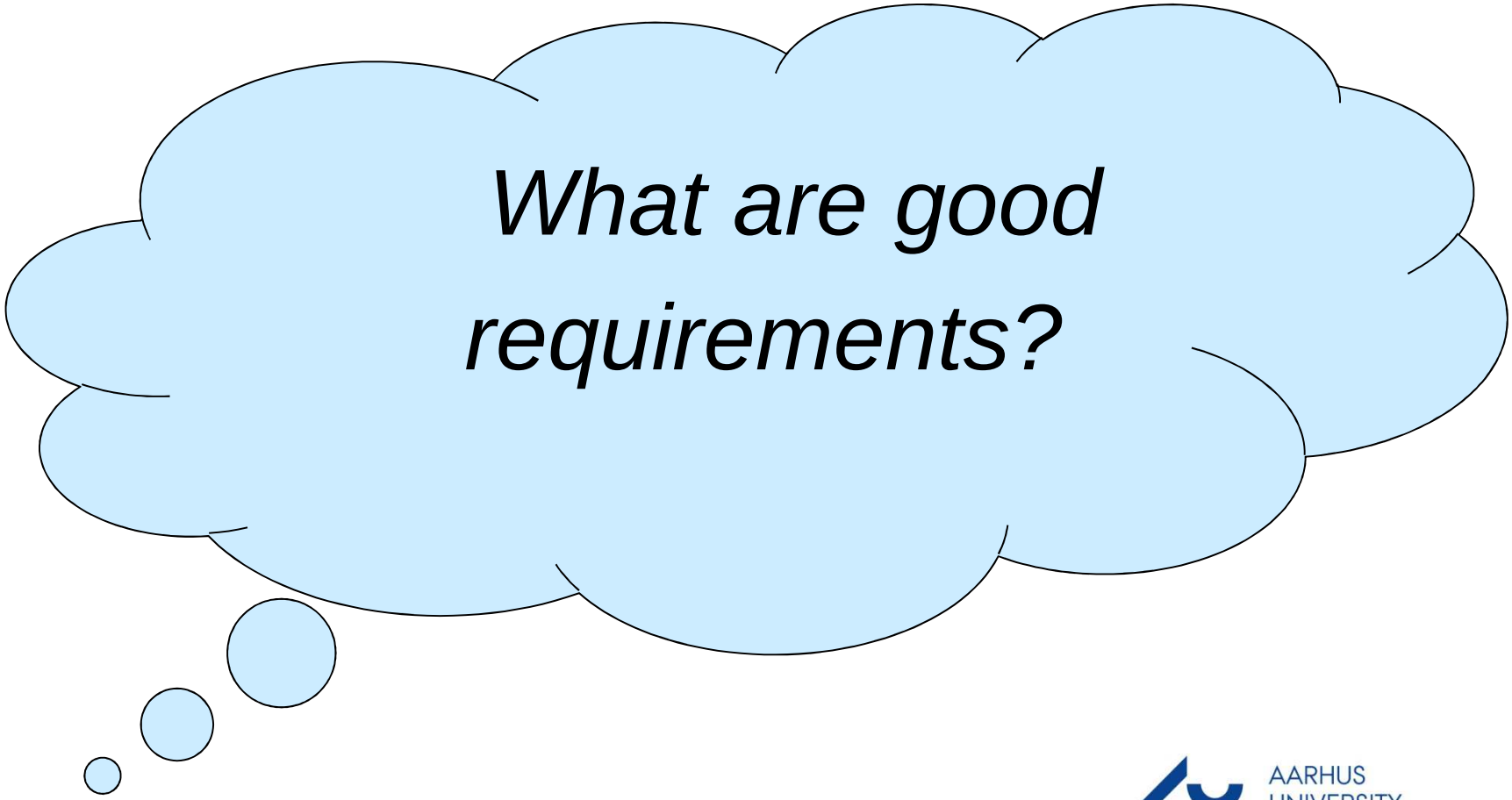
- Absolutely, positively the *most important* document!
  - The *hardest* document to write!

- The challenges:
  - The RS should state *what* the system should do
    - Fully, clearly and unequivocally
  - The RS should *not* state *how* it should be done
    - May impose constraints, e.g. re-use of existing technology

Cost of changing a system's spec's



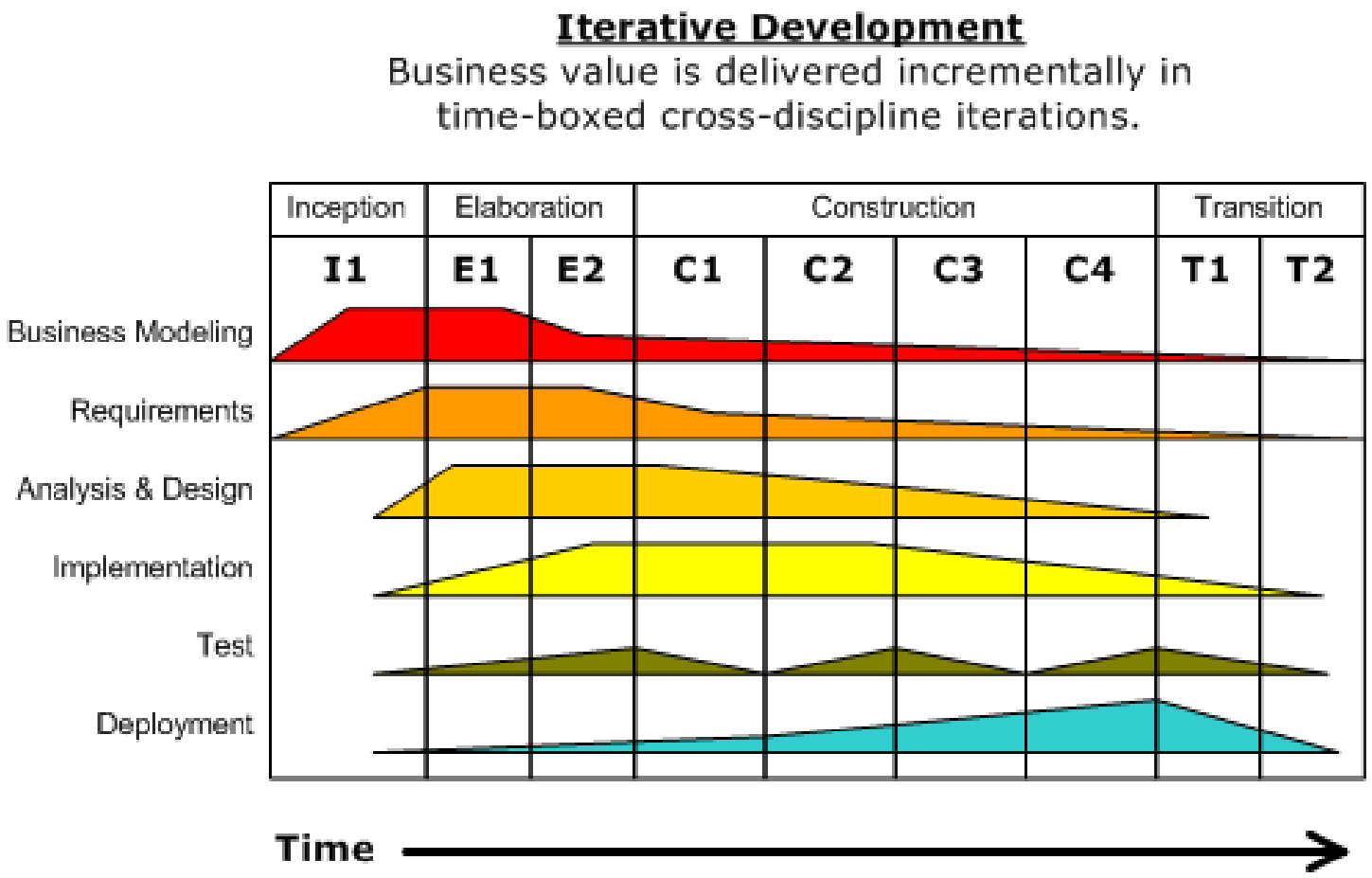
Content of the RS



The RS: A living document

- Changes to requirements occur, and when they do…
  - Agree with the customer (also priorities)
  - Communicate to the project team
  - Update all impacted documents

Iterative development – it works!



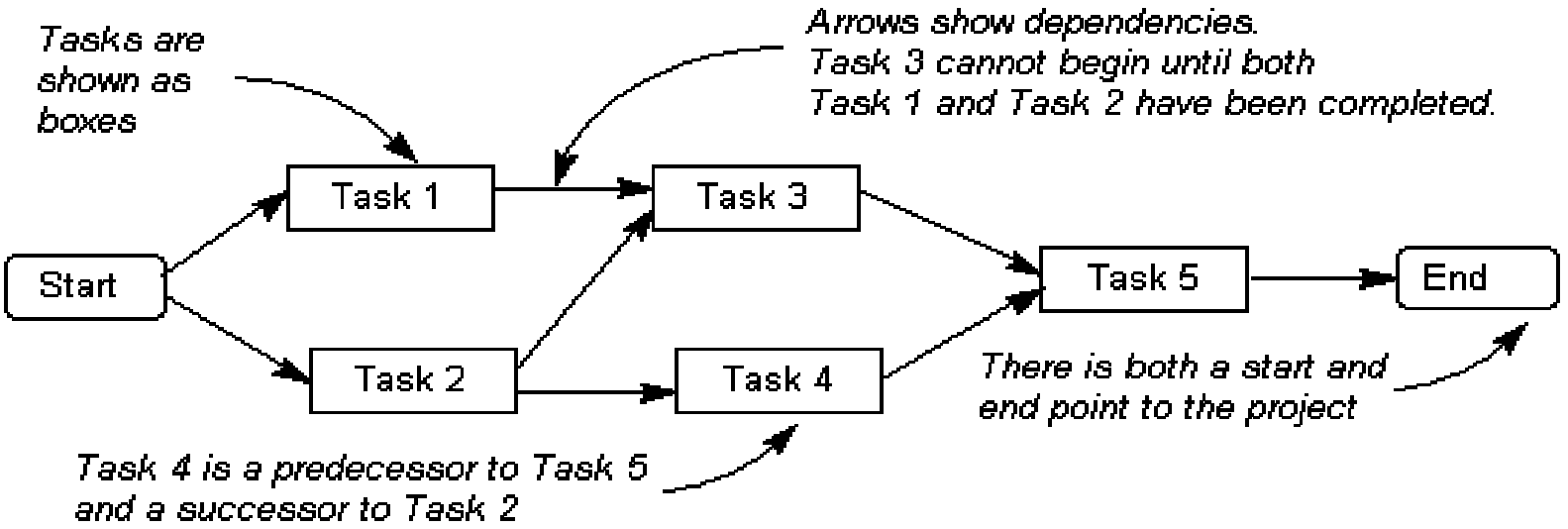
Breaking the system down

- So you have your requirements – now what?
- Time to change the what's to the how's!

- This is where the hard work on the RS pays off!
  - Define *tasks* that must be completed to meet and verify the *requirements*
  - Iteratively break "big" tasks into smaller, tangible ones.
  - Define the relation between the tasks and give an ETC.
  - Define milestones (dates and success criteria)

Activity diagram

Analyse tasks for dependencies and precedence (not time)



Allocate resources

(Tools, hardware, responsibles, manpower)

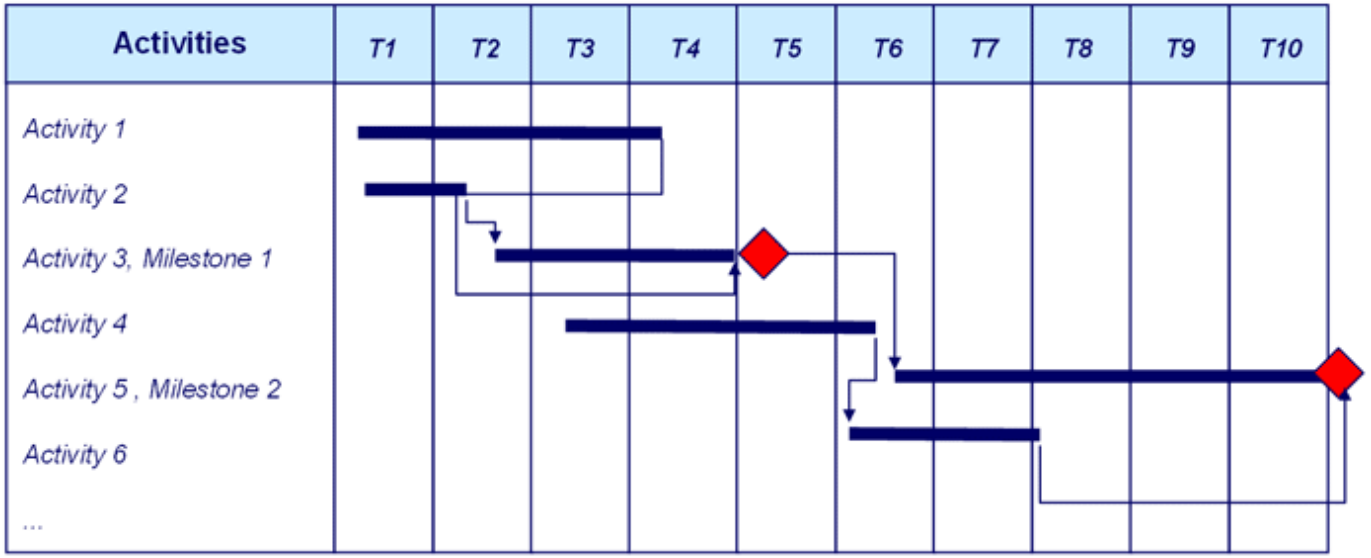
Gantt Chart – the time schedule

Give realistic ETCs for the defined activities

The person(s) in charge of the task must be involved in this process!

Create a time/resource plan (Gantt diagram) with milestones

Follow up!



Project Management

Project Management

Project management must ensure that:

- The project progresses according to plan
- Actions are taken to facilitate changes and overruns
- The customer is kept informed (and happy)
- Milestones and deadlines are met
- …

- Project Manager (PM) can be one person or a rotating responsibility (what does your AC say?)

Assignment:

For your project:

- Discuss (or review) the goals of your project – what would you like to accomplish?

- Set up (or review) the pertaining requirements, then discuss:
  - Are the requirements unequivocal? Clear? Sufficient?
  - Do the requirements state *what* to do and not *how*?
  - Can the requirements be verified through test? How?

- Define tasks and milestones for this part of your project, both in an activity diagram and a Gantt chart.

- Note: This is a ”starter” – you will probably not finish this assignment