

Requirements Management

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Plan

- Why requirements management
- Where should we start?
- A better solution
- The big picture
- A quick look at the RM tool

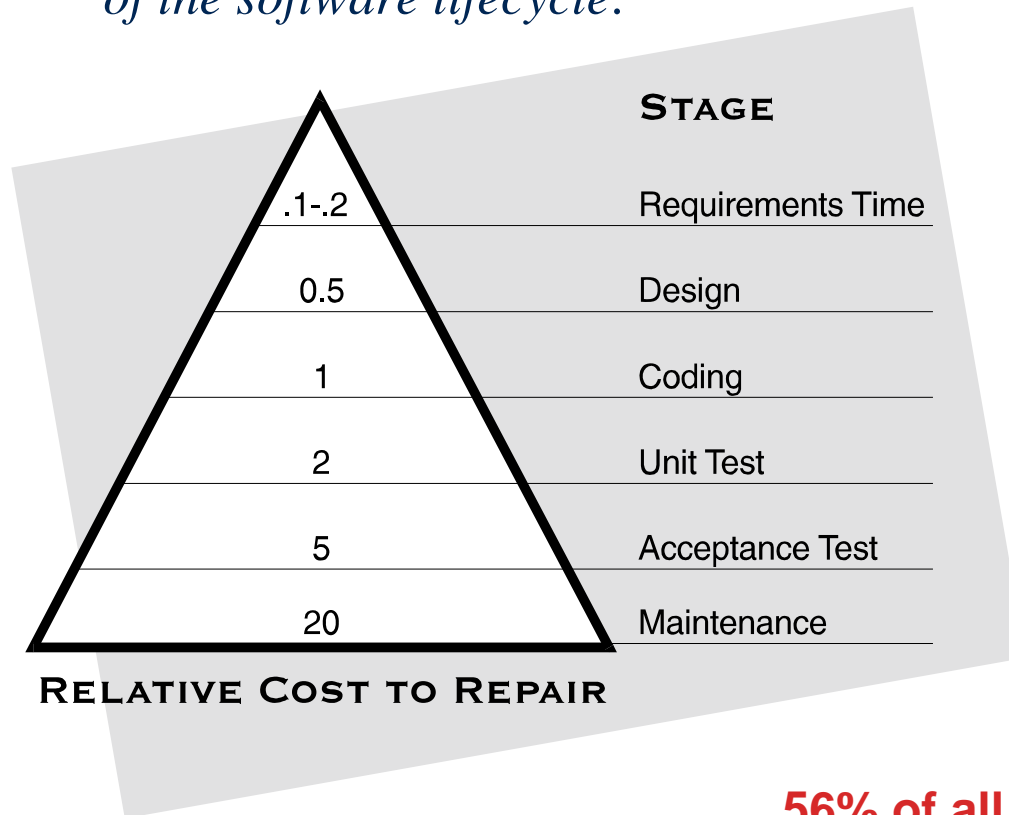
Why requirements management

The problem



Can you afford not to?

As much as a 200:1 cost savings results from finding errors in the requirements stage versus finding errors in the maintenance stage of the software lifecycle.



Boehm '76, 88

56% of all bugs can be traced to errors made during the requirements stage

Where should we start?

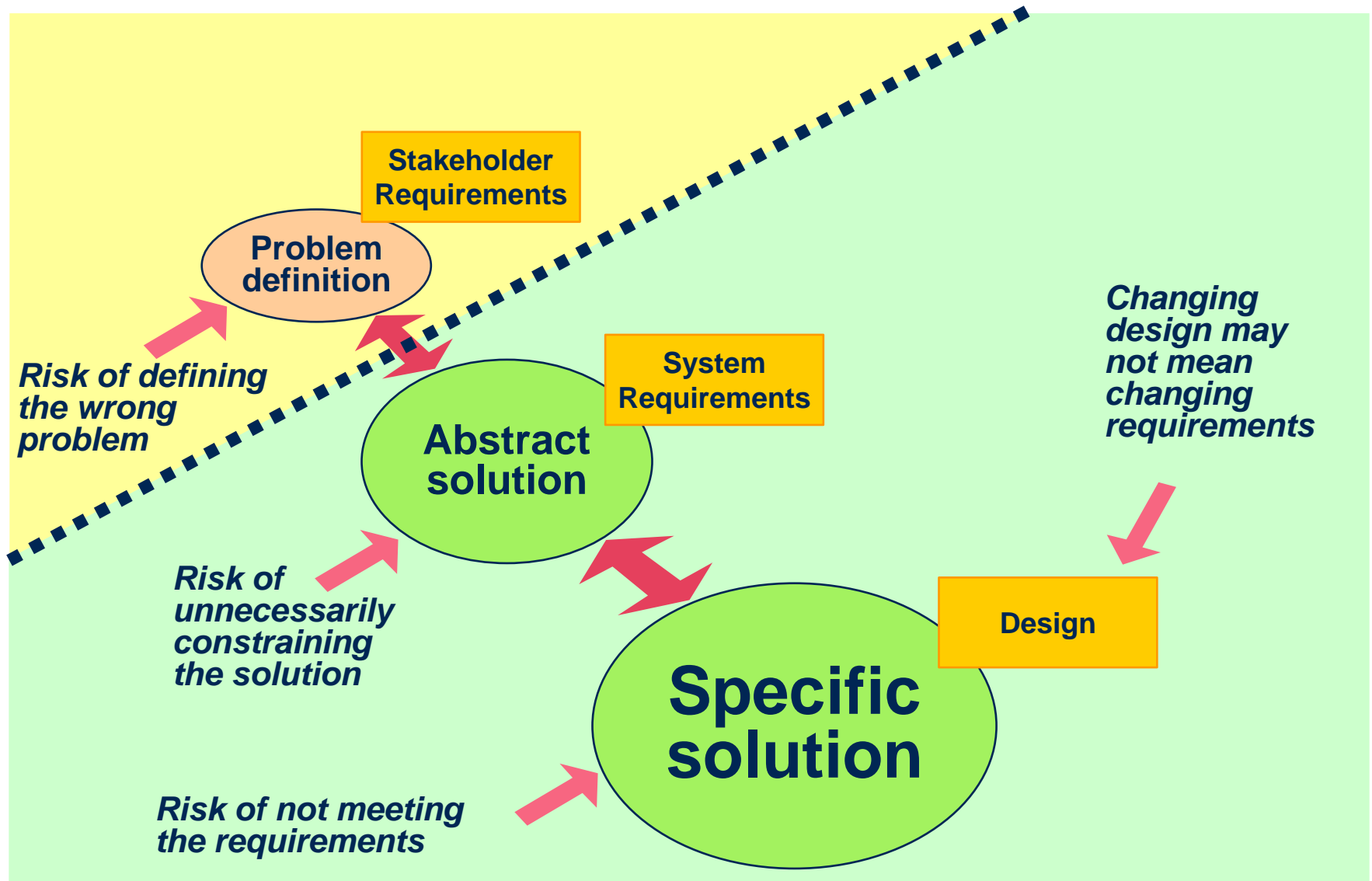
Some background



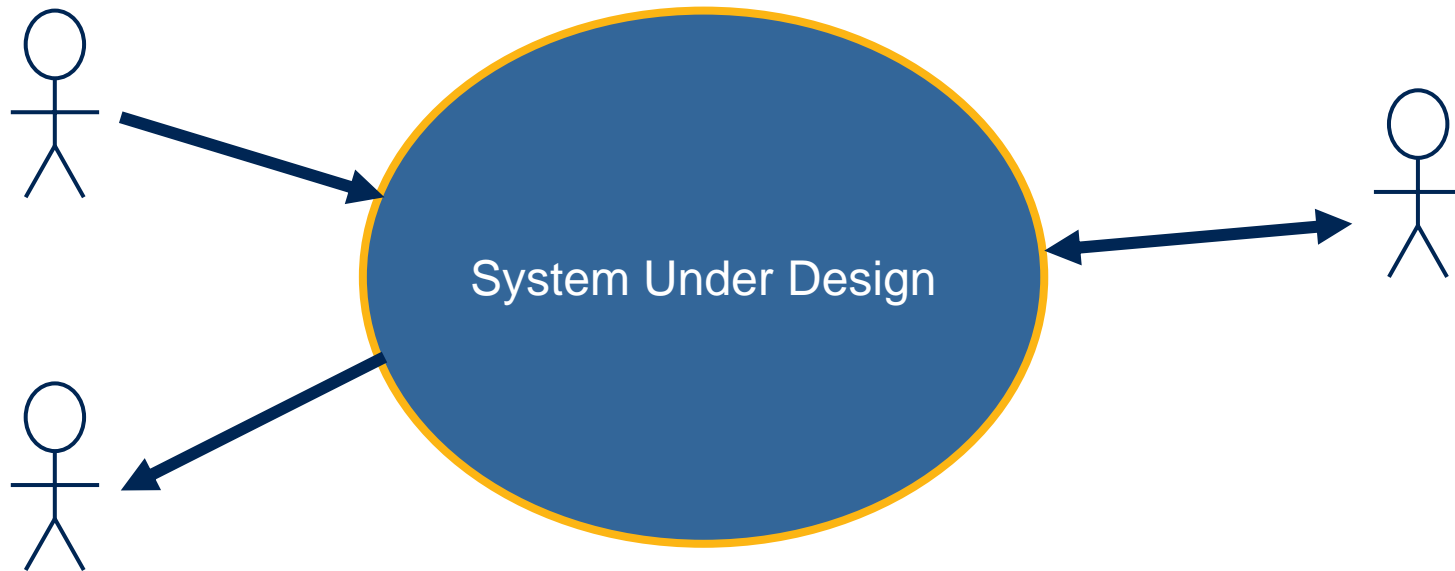
Terms

- Requirement
- Requirements capture
- Requirements engineering
- Requirements management
- Systems engineering

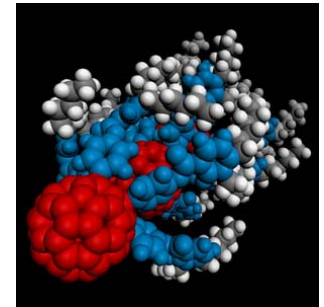
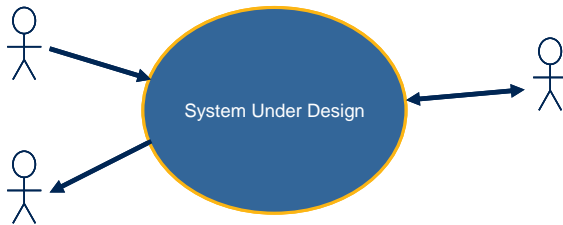
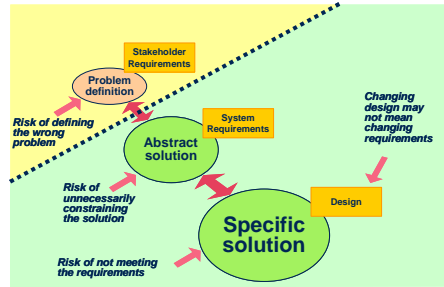
Problem and Solution



Scope of the requirements



Requirements Document Checklist



Requirements Set Checklist

- Is the set of requirements complete?
- Is it clear which higher level requirements will and will not be met?
- Are the requirements consistent with each other?
- Is repetition between requirements avoided?
- Have Critical Success Factors / Technical Performance Measures been identified?
- Is the set of requirements adequate to proceed?
- Is the aggregated Risk acceptable?

Individual Requirement Checklist

- simple
- concise
- unique
- unambiguous
- feasible
- consistent (compatible)
- necessary
- identifiable
- testable (verifiable)
- consistent use of language (shall, will, should, ...)
- correct !
 - Plus, for future phases, is it scheduled and resourced?

Requirements structure

Single Requirement

<<Focus>><<Verb>><<Capability and qualifier>>

Document

By Focus

By Verb

By Capability

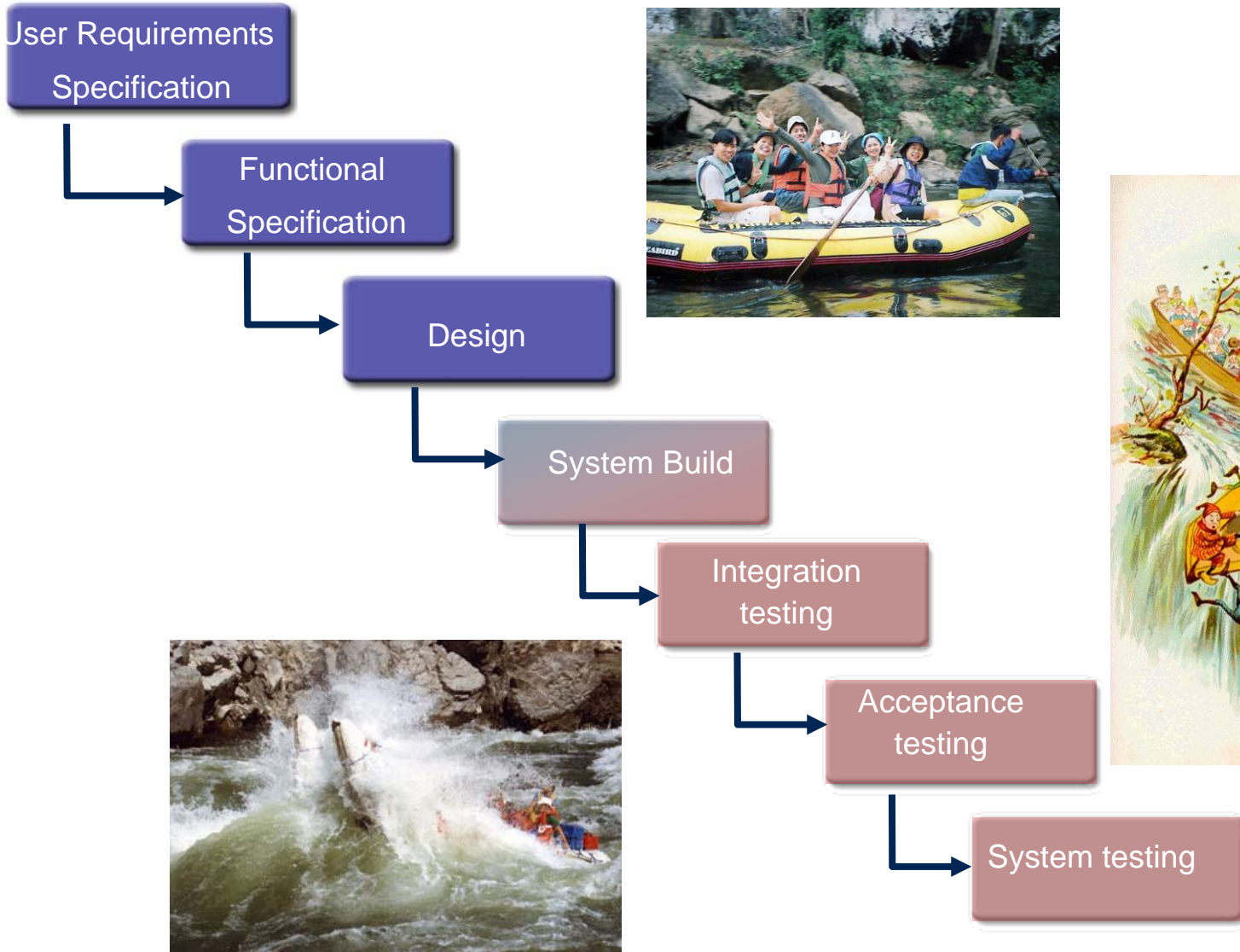
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A better solution

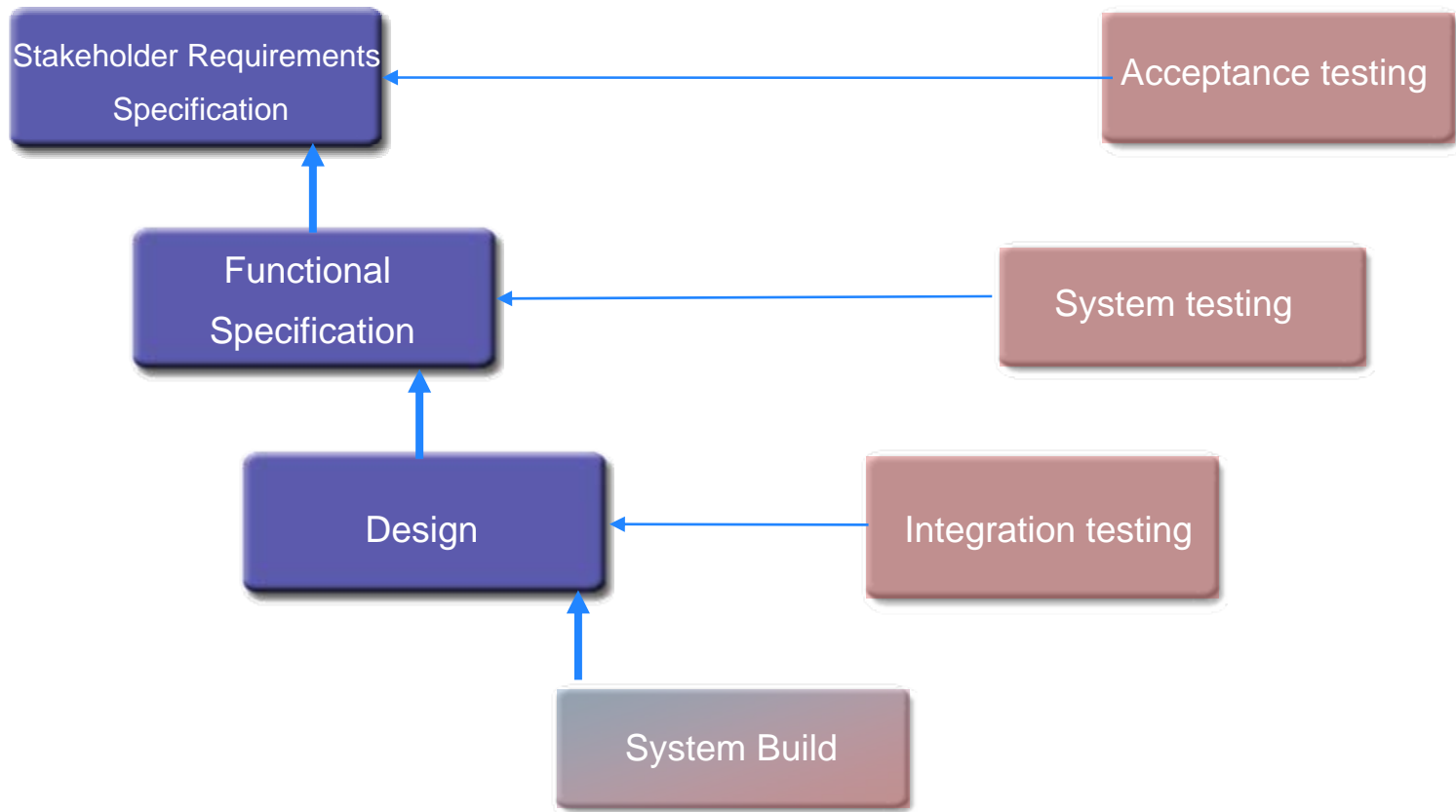
Best Practice



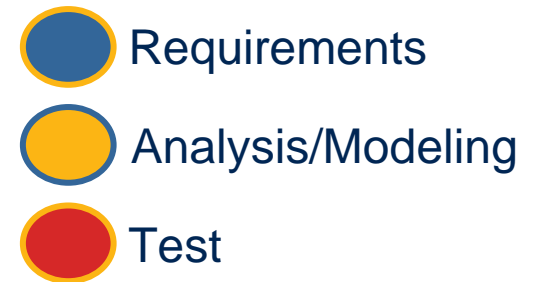
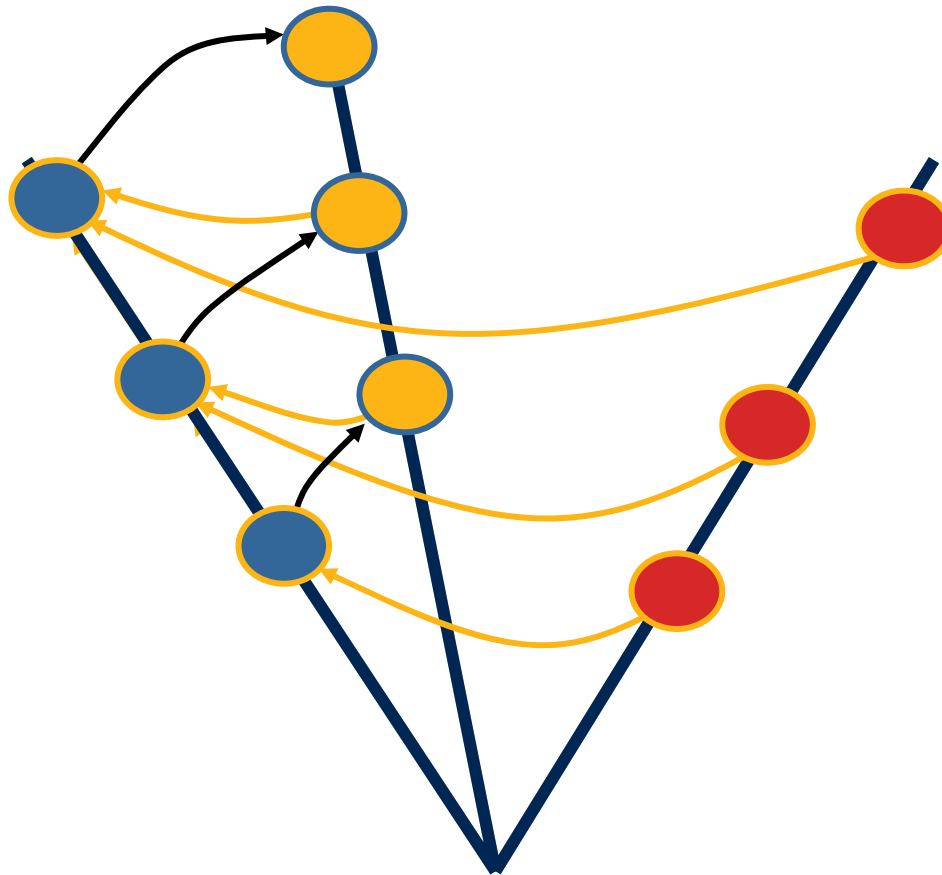
Waterfall model



Traditional V model



V in practice

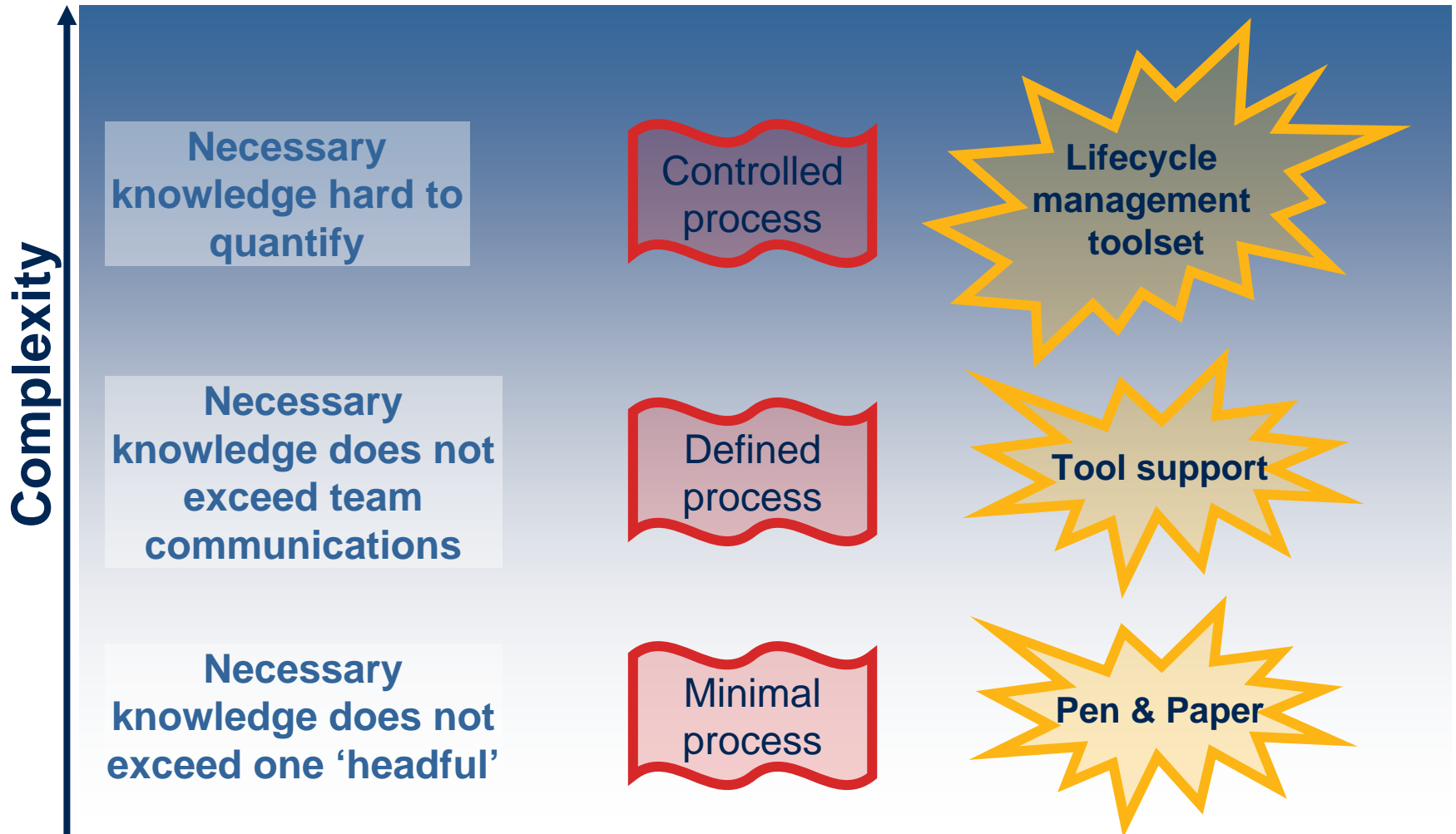


The big picture

How everything fits together

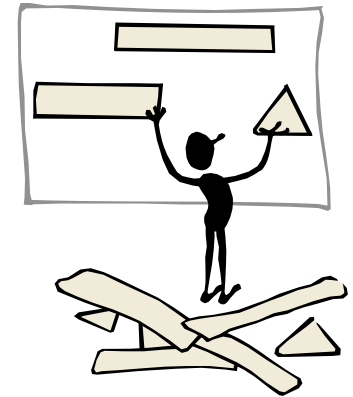


Industry evolution



Tool Requirements

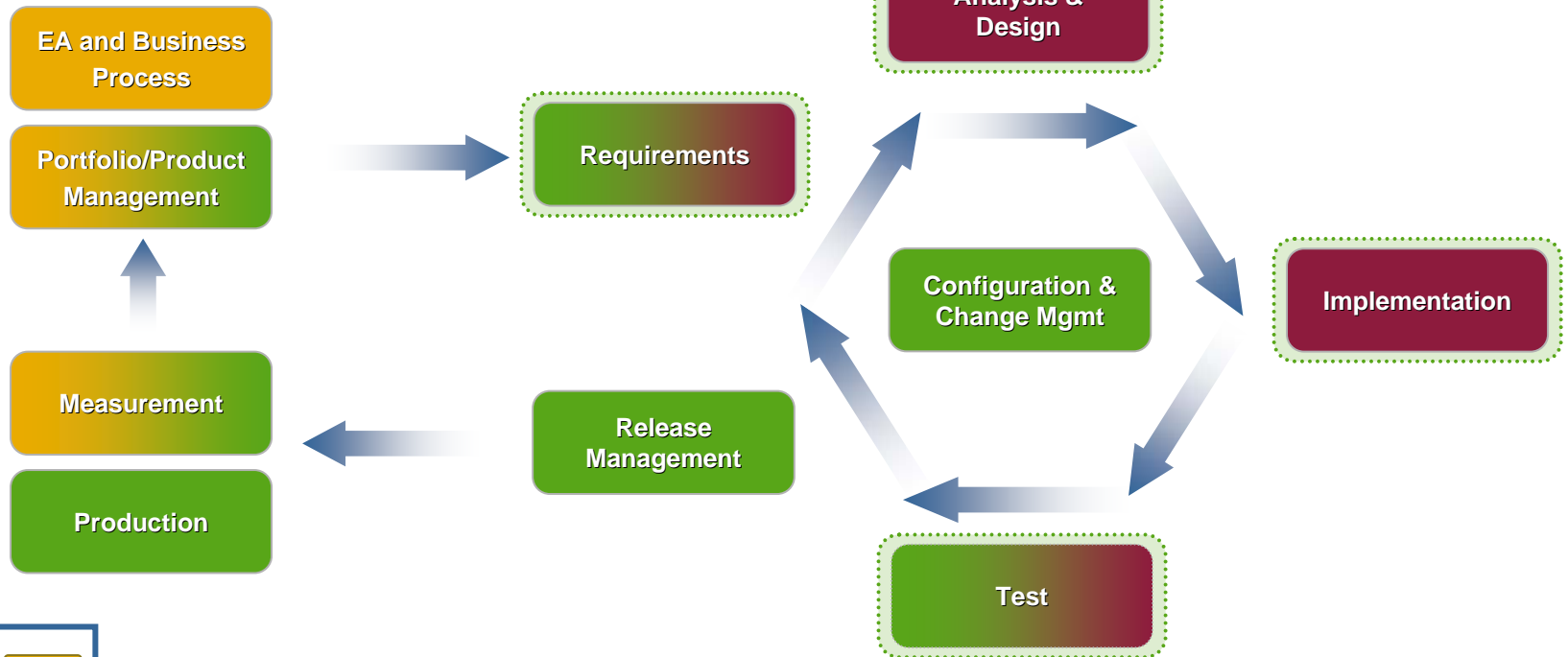
- Customise view of requirements
 - Filter for relevant requirements
 - Filter for requirements under discussion
 - Use templates to ensure full coverage
- Attributes
 - Use for rationale
 - Use for classification and filtering
 - Use for status tracking
- Traceability
 - Link system requirements to stakeholder requirements
 - Link customer dialogue to system requirements
 - Track changes to requirements
- Systems engineering lifecycle support
 - Link requirements to model
 - Control changes to all configuration items
 - Transition between integrated tools with hyperlinks



Enterprise Lifecycle Management

Business Domain

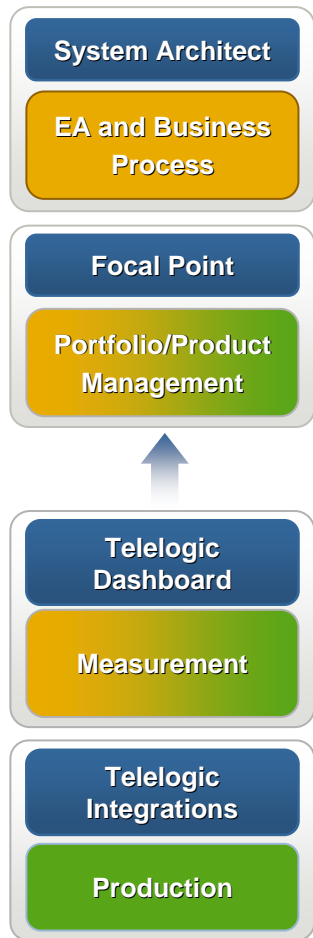
Development Domain



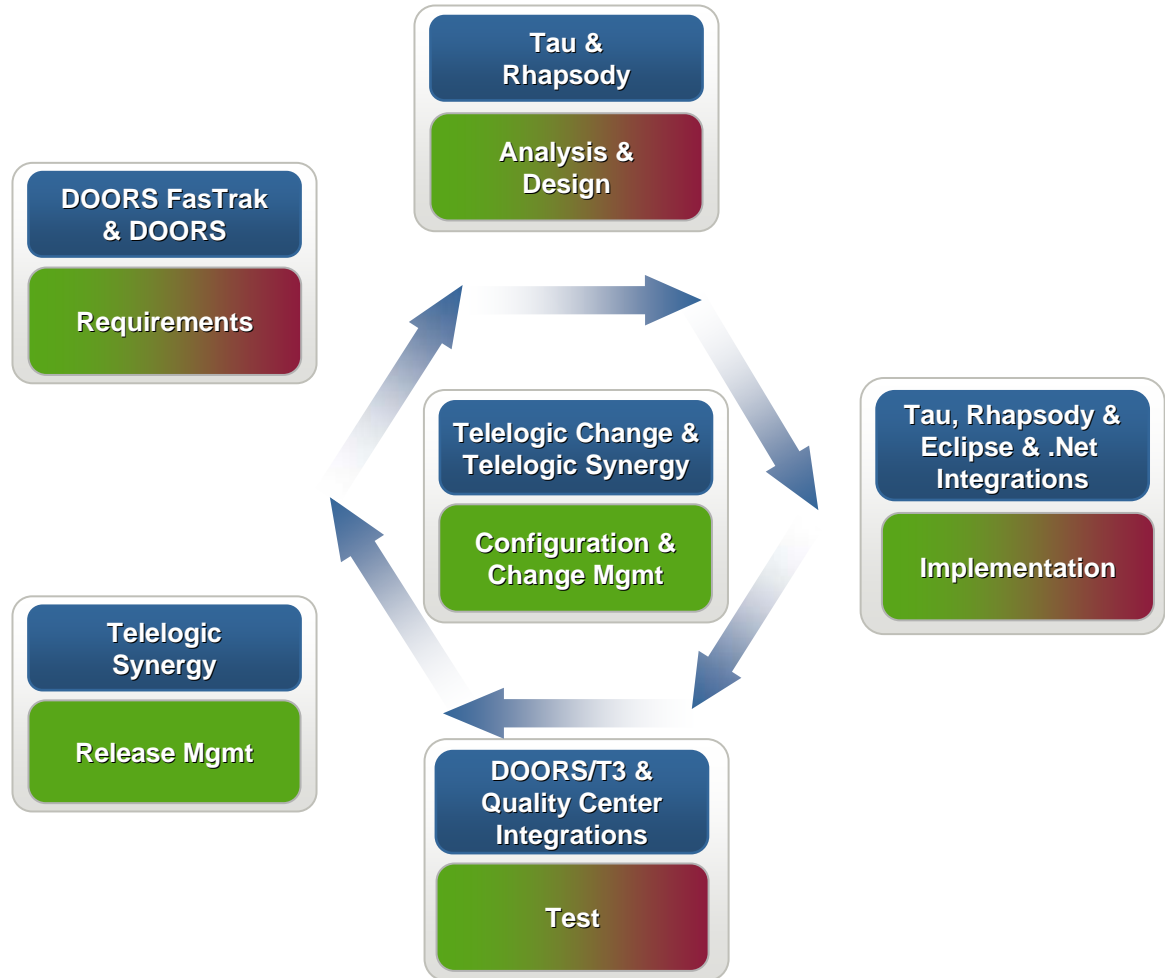
Enterprise Lifecycle Management

The Telelogic Product Portfolio

Business Domain



Development Domain Enterprise & Embedded



DOORS

Dynamic Object Oriented Requirements System

DOORS 8.3 (81db).lnk