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IT Project Management

Topic 3

Scope Management

READING

Schwalbe Chapter 5

LEARNING OBJECTIVES

At the end of this topic you should be able to:

- ✓ **Define** scope and related terms
- ✓ **Discuss** key elements of good Project Scope Management
- ✓ **Explain** the scope planning process and describe key parts of the process for developing a Project Scope Statement
- ✓ **Discuss** the scope definition process and work involved in constructing a Work Breakdown Structure (WBS) *(using the analogy, top-down, bottom-up and mind-mapping approaches)*
- ✓ **Discuss** the importance of scope control and approaches for preventing scope-related problems on information technology projects

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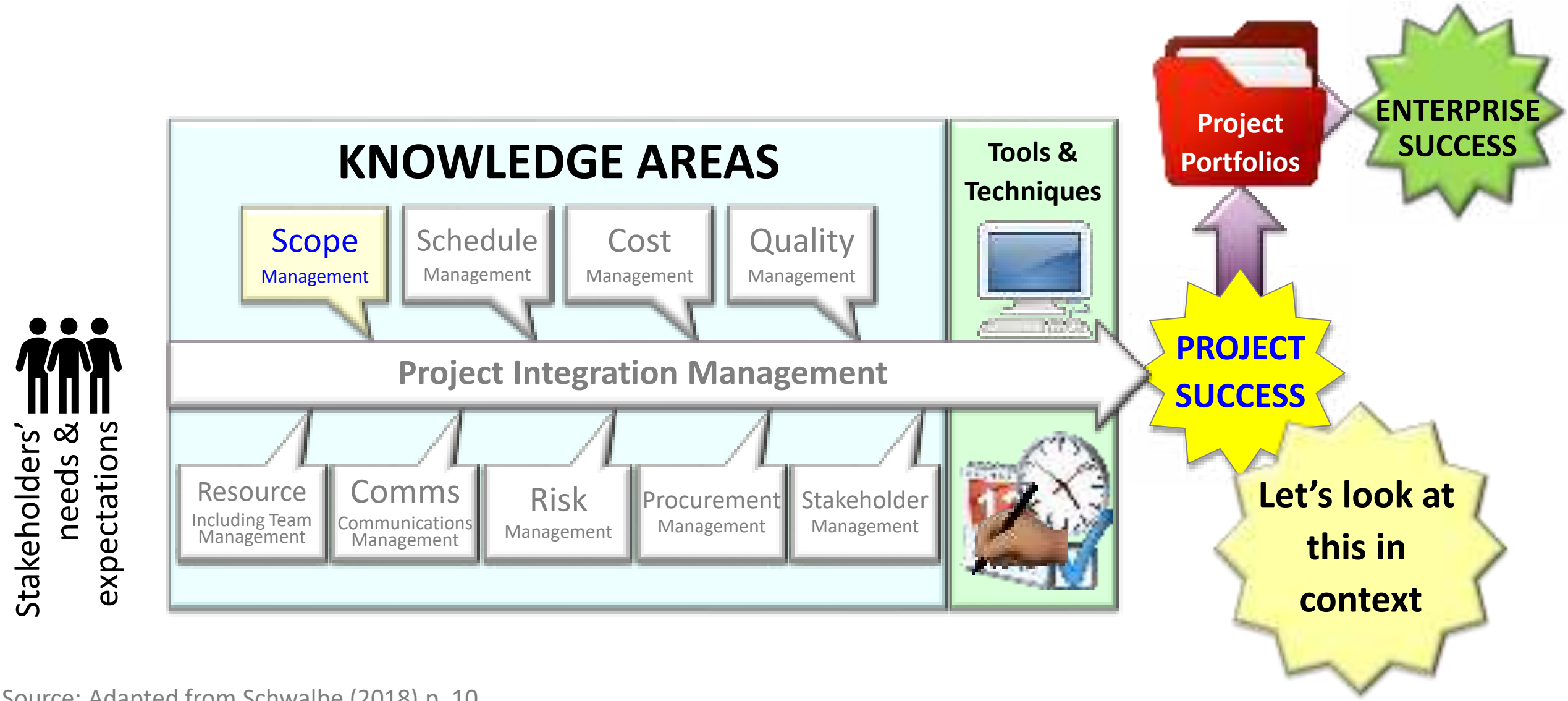
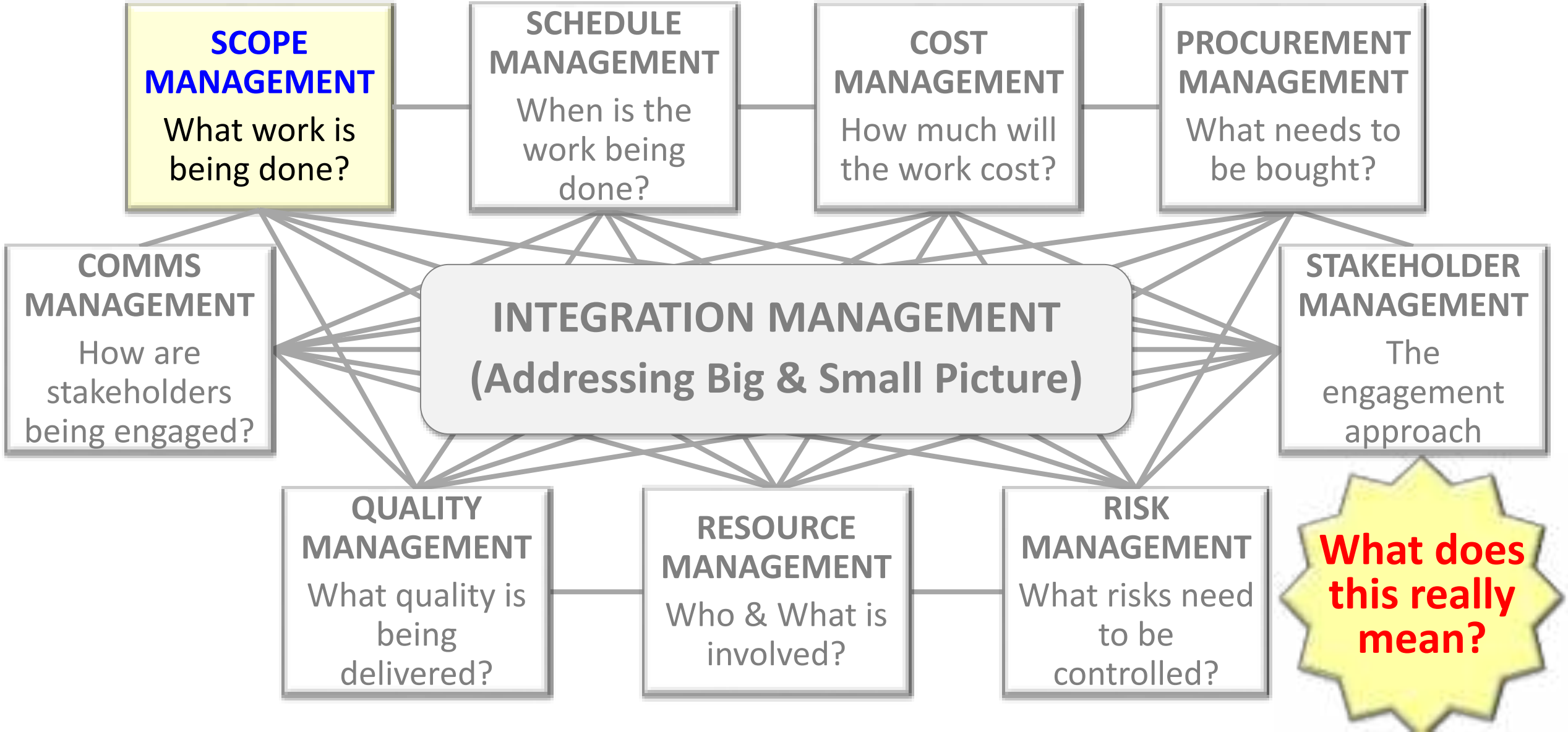
AN INTRODUCTION TO SCOPE MANAGEMENT

OVERVIEW - PMBOK APPROACH



Source: Adapted from Schwalbe (2018) p. 10

THE KNOWLEDGE AREAS



SCOPE MANAGEMENT DEFINED

- ✓ **Scope** refers to *all* of the work involved in creating the products / services of the project **(known as the deliverables)**

- ✓ **Deliverables** are what is being provided **(an example: a cup of tea)**

- ✓ **Scope** of work identifies the elements needed to *deliver* the project successfully (e.g. provide water, tea, kettle, power, sugar, tea cup, saucer, spoon, tea pot?, milk, cream?, lemon?, tray, **processes,** etc.)

WHAT IS OUR EDUSTREAM DELIVERABLE?

A system that provides the following to…

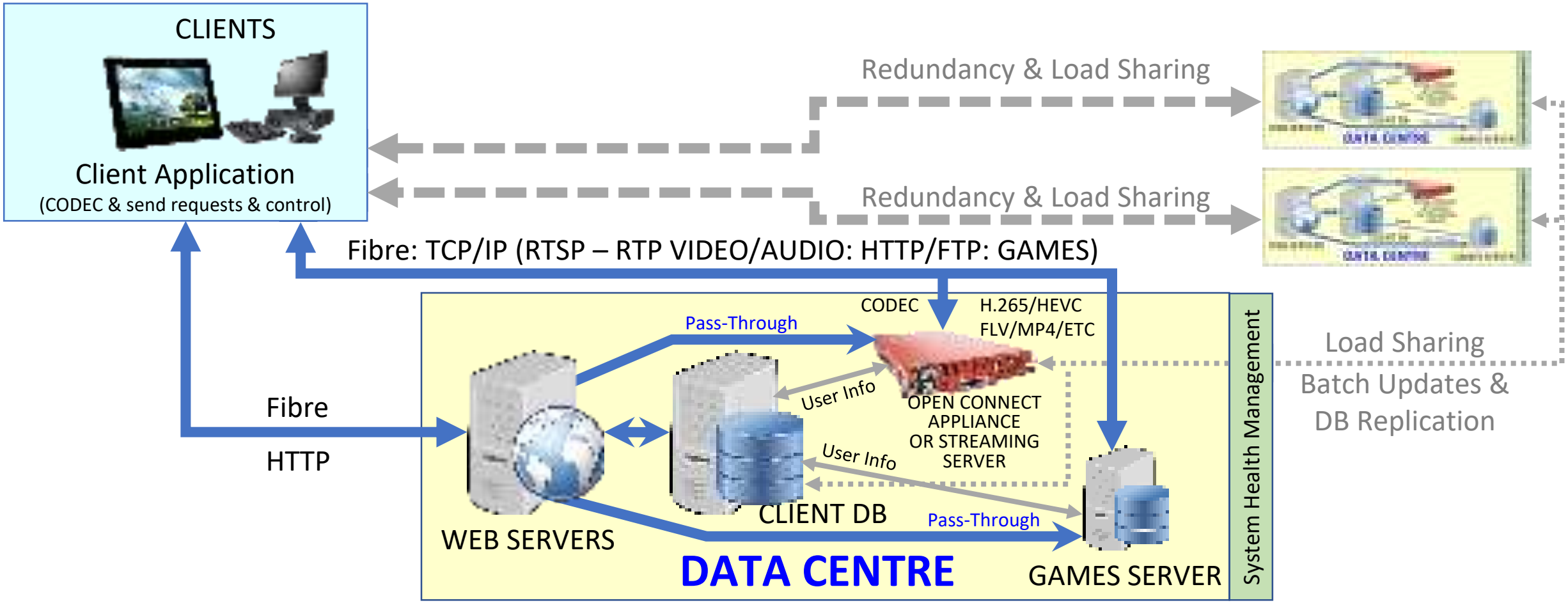
DELIVER WHAT OUR CLIENTS WANT ⟷ DELIVER WHAT WE WANT

- ✓ High quality educational games & videos
- ✓ On demand solution **(Games & Videos)**
- ✓ Low cost **(Value for money)**
- ✓ No high up-front fee **(monthly payments)**
- ✓ Reliable and quick **(even under high demand – e.g. schools & businesses)**
- ✓ Run on lots of different platforms
- ✓ Material that is good/appropriate
- ✓ & many more

- ✓ Provide an attractive product **(get more clients - stop losing market share)**
- ✓ We can make money ($$$)
- ✓ Expand our market base **(schools, organisations, individuals-mass market)**
- ✓ Increase the educational materials **(attractive product)**
- ✓ Ensure that the system is cost effective to develop/operate ($$$)
- ✓ Deploy quickly **(before competitors)**
- ✓ & many more

WHAT IS THE EDUSTREAM SCOPE ?

To provide the deliverables we need …



SCOPE MANAGEMENT DEFINED

- ✓ **Scoping** = identifying the things & processes needed to provide the project deliverables successfully (developments, support, administration, etc.)

- ✓ **Scope management** relates to the control of the size/extent of scope elements (things & processes) to optimise the management of the project

Scope Management is critical!

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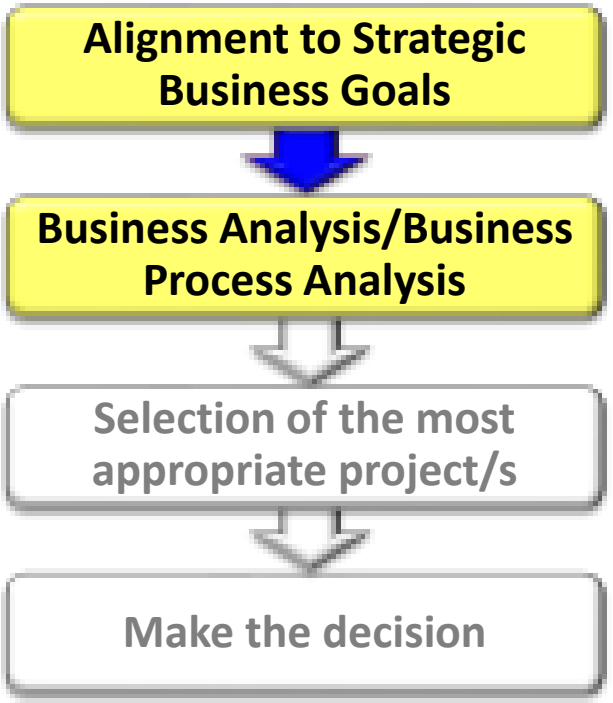
ELEMENTS & PROCESSES FOR SCOPE MANAGEMENT

THE KEY TO DEFINING SCOPE

- ✓ **Get your analysis & selection criteria right**
- ✓ The selection criteria imprints directly onto the scope
- ✓ This should be reflected in the Project Charter (see Topic 2)
- ✓ The Project Charter is the first statement of scope



So when is this done?

WHEN DOES SCOPE MANAGEMENT GET DONE?

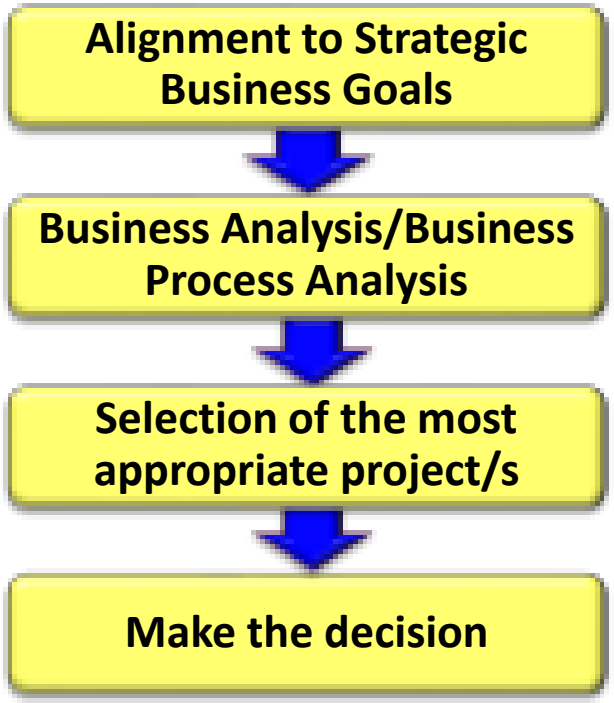
- ✓ The preliminary project scope is initially defined by understanding *why* the project is to be undertaken
- ✓ *Answering this why* properly affects every other aspect of scope management (i.e. if you get this wrong everything else will be wrong)

Why do EduStream?

(What does this mean for scope)?

WHEN DOES SCOPE MANAGEMENT GET DONE?

- ✓ It is focussed on Solving a Problem, Exploiting an Opportunity, or Addressing Requirements/ Directives
- ✓ Done in response to: Strategic planning, Identified requirements, or outside forces/drivers



WHEN DOES SCOPE MANAGEMENT GET DONE?

START

INITIATION
(& PRE-INITIATION)

PLANNING

EXECUTION

CLOSING

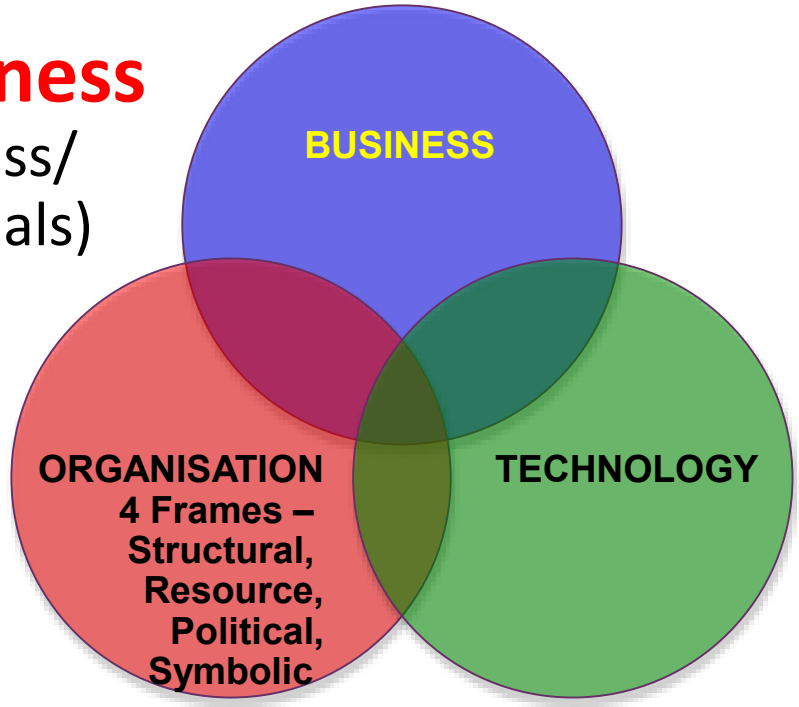
END

POST CLOSE

MONITORING & CONTROL

Preliminary Scope Definition

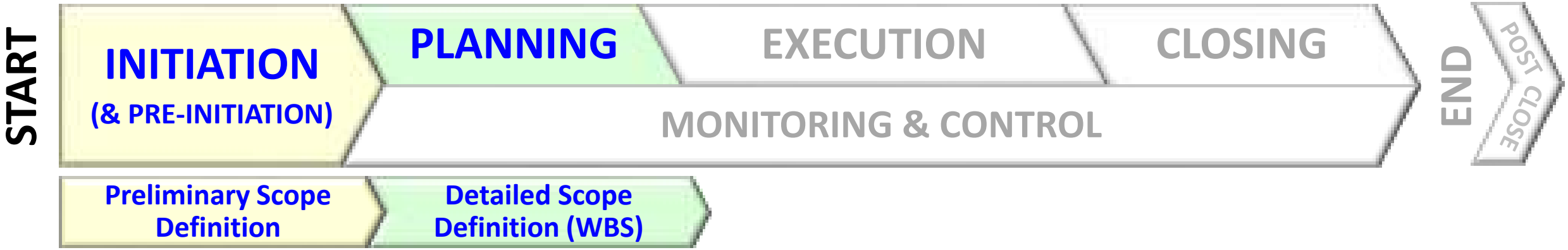
Willingness
(Business/
Individuals)



- Imperatives
- Needs/Wants
- Opportunities
- Resources
- Risks

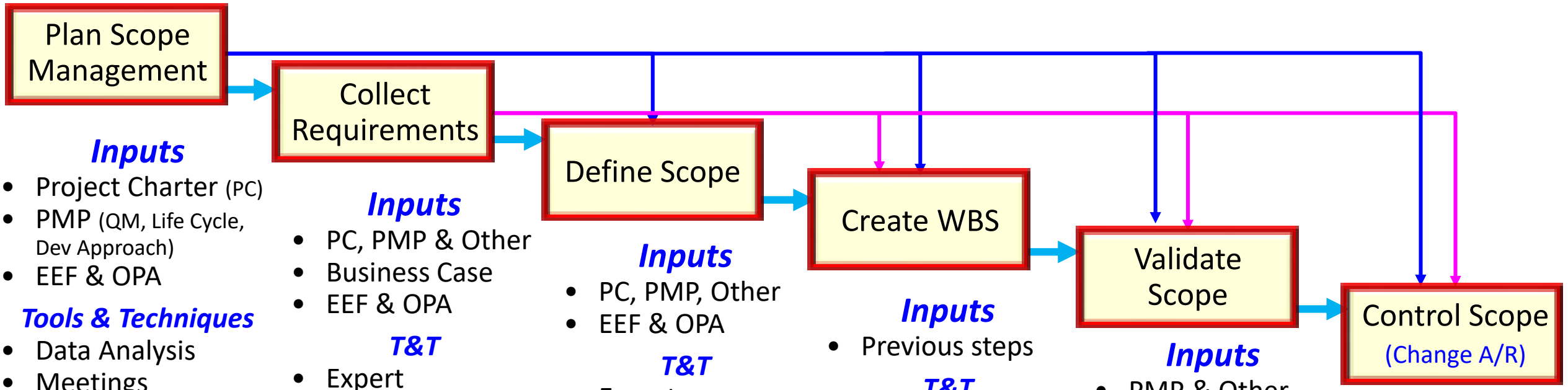
Use the 3 Spheres & 4 Frames

WHEN DOES SCOPE MANAGEMENT GET DONE?



- ✓ Scope is refined in the Planning stage (post-Initiation)
  - ➢ Collect detailed requirements
  - ➢ Develop a detailed Scope (Deliverables, Processes, Resourcing, etc.)
  - ➢ Create a detailed Work Breakdown Structure (WBS)
  - ➢ Validate the Scope prior to Execution
  - ➢ Ensure all stakeholders have a common understanding & buy-in

WHAT ARE THE STEPS?



Plan Scope Management

Inputs

- Project Charter (PC)
- PMP (QM, Life Cycle, Dev Approach)
- EEF & OPA

Tools & Techniques

- Data Analysis
- Meetings

Outputs

- Scope Statement & Requirements Management Plans

Collect Requirements

Inputs

- PC, PMP & Other
- Business Case
- EEF & OPA

T&T

- Expert Judgement
- Data Gathering & Representation & Analysis
- Decision Making

Outputs

- Requirements docs

Define Scope

Inputs

- PC, PMP, Other
- EEF & OPA

T&T

- Expert Judgement
- Data Analysis
- Product Analysis
- Decision Making

Outputs

- Project Scope Statement & other docs

Create WBS

Inputs

- Previous steps

T&T

- WBS development

Outputs

- WBS
- Work Packages
- Planning Package
- WBS Dictionary

Validate Scope

Inputs

- PMP & Other docs
- Verified data & deliverables

T&T

- Inspection
- Decision Making

Outputs

- Accepted work
- Change Reqs, etc.

Control Scope (Change A/R)

Inputs

- Previous steps
- Lessons Learnt

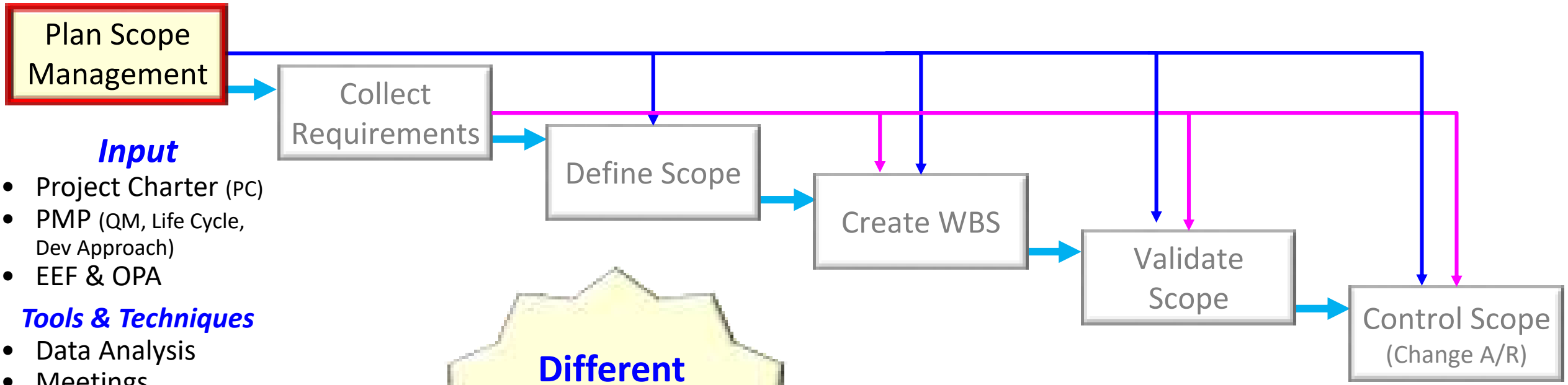
T&T

- Monitoring & Control

Outputs

- Integrated Management

PLAN SCOPE MANAGEMENT



Input

- Project Charter (PC)
- PMP (QM, Life Cycle, Dev Approach)
- EEF & OPA

Tools & Techniques

- Data Analysis
- Meetings

Outputs

- **Scope Statement & Requirements Management Plans**

Different organisations use different terms & templates


USE A PROJECT SCOPE
/ REQUIREMENTS
STATEMENT TO
FACILITATE THE
LATTER STEPS

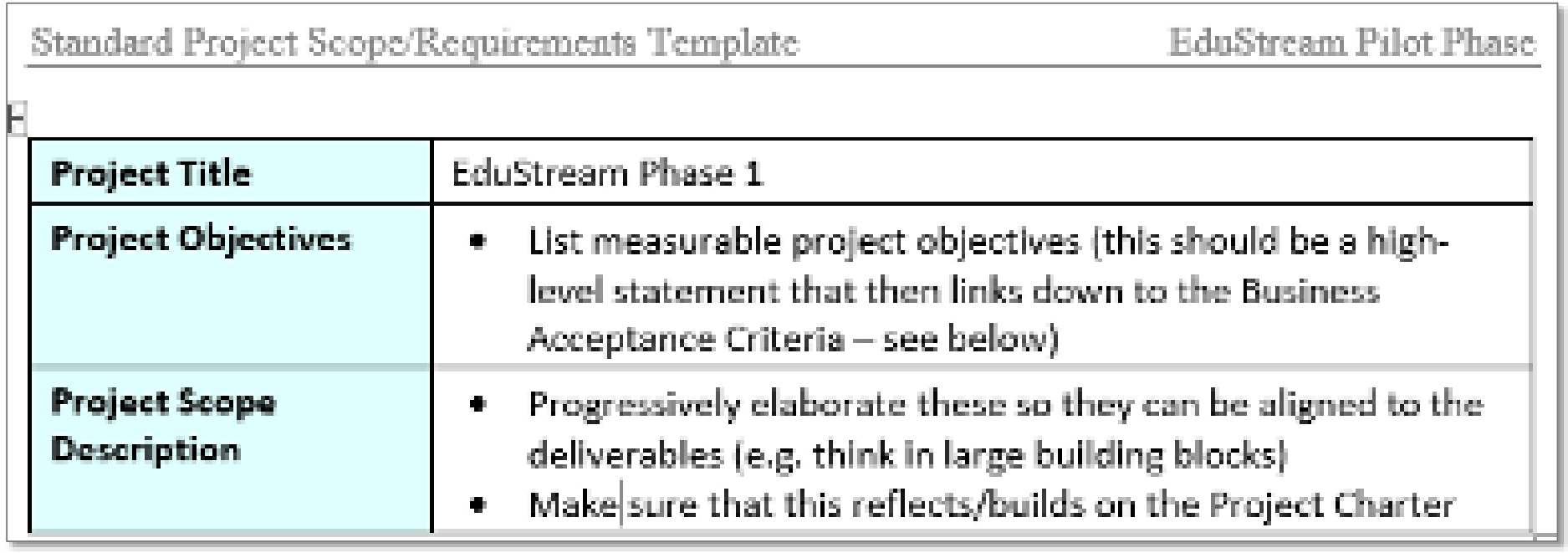
KEY ELEMENTS OF THESE STATEMENTS

✓ Project Objectives	Define measurable project objectives
✓ Deliverables	Outline the key deliverable elements including collaterals
✓ Scope Description	Build on Project Charter through progressive elaboration
✓ Acceptance Criteria	Acceptance requirements, processes & criteria
✓ Exclusions	Specifics about exclusions from the project (e.g. what is NOT in scope)
✓ Constraints	Define constraints that affect options related to scope (e.g. cost, milestones, contracts, penalties, etc.)
✓ Assumptions	Clearly define all scope related assumptions & implications
✓ Approach & Resources	Outline the approach & resources that will be needed

This analysis can be critical

AN EXAMPLE TEMPLATE

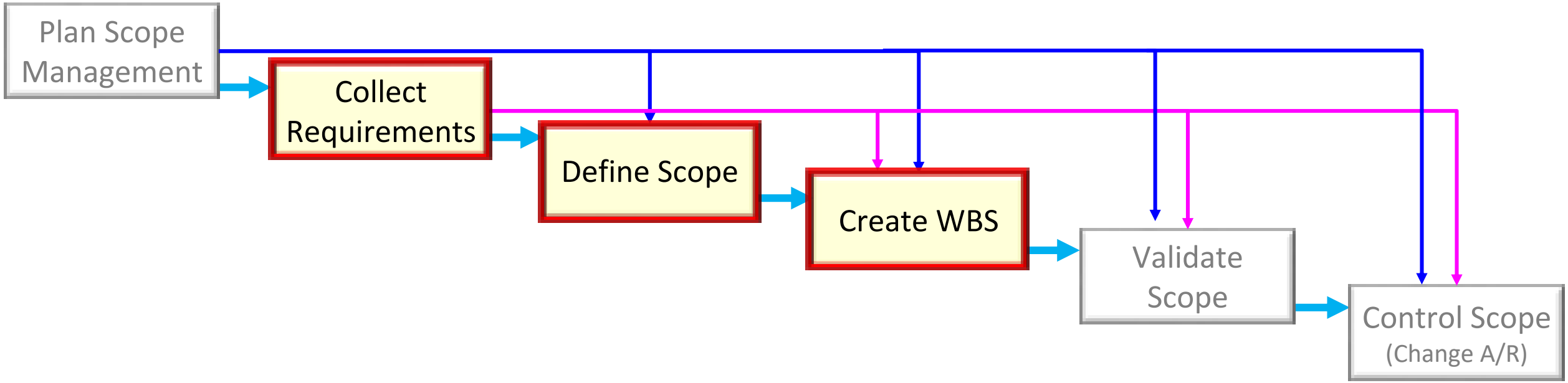
- ✓ There are lots of different standards **(here is one example – Available in the LMS under Topic 3 (Project Scope Template))**



Standard Project Scope/Requirements Template — EduStream Pilot Phase

Project Title	EduStream Phase 1
Project Objectives	• List measurable project objectives (this should be a high-level statement that then links down to the Business Acceptance Criteria – see below)
Project Scope Description	• Progressively elaborate these so they can be aligned to the deliverables (e.g. think in large building blocks) • Make sure that this reflects/builds on the Project Charter

DEVELOPING THE WBS



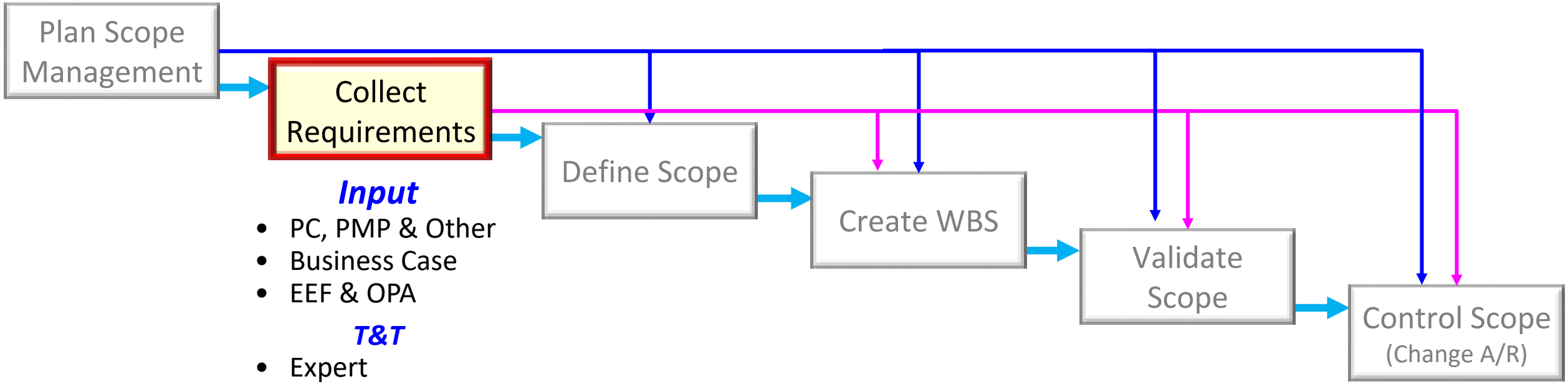
WHAT IS A WBS ?

- ✓ A **WBS** is a deliverable-oriented outline of the tasks involved in a project that defines the total scope of the work
- ✓ It is a **decomposition** of Workstreams (subdividing project deliverables / scope into smaller pieces – Elements/Work Packages)

A WBS is a foundation for planning and managing project schedules, costs, resources, and changes

Source: Harrison & Lock (2017); Webb (2017); Thiry (2016)

COLLECT REQUIREMENTS



Input

- PC, PMP & Other
- Business Case
- EEF & OPA

T&T

- Expert Judgement
- Data Gathering & Representation & Analysis
- Decision Making

Outputs

- Requirements docs

WHAT IS A REQUIREMENT ?

- ✓ A **requirement** is a condition or capability that must be met or possessed by a system, product, service, result, or component to satisfy a contract, standard, specification, etc.
- ✓ It feeds into scope by defining features and functions that are required

Therefore identification of requirements is a key first step

Source: https://www.pmi.org/learning/library/effective-requirements-management-project-success-8181

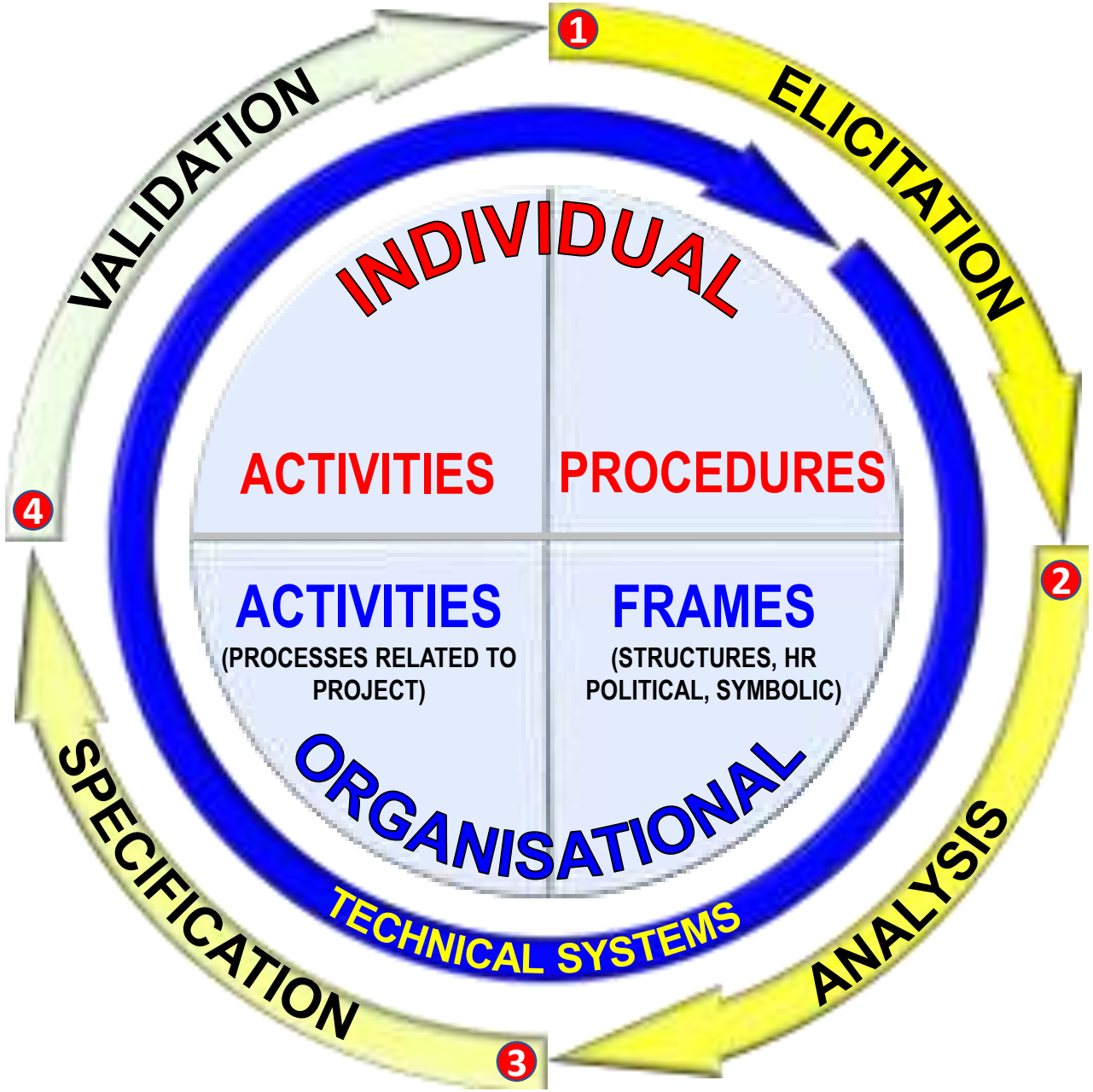
COLLECTING REQUIREMENTS

- ✓ Identify requirements through multiple means (reading, talking to stakeholders, site investigations, etc.)
- ✓ Use an iterative approach to define requirements since they are often unclear early in a project
- ✓ A good phasing model includes **elicitation**, **analysis**, **specification**, and **validation**

COLLECTING REQUIREMENTS

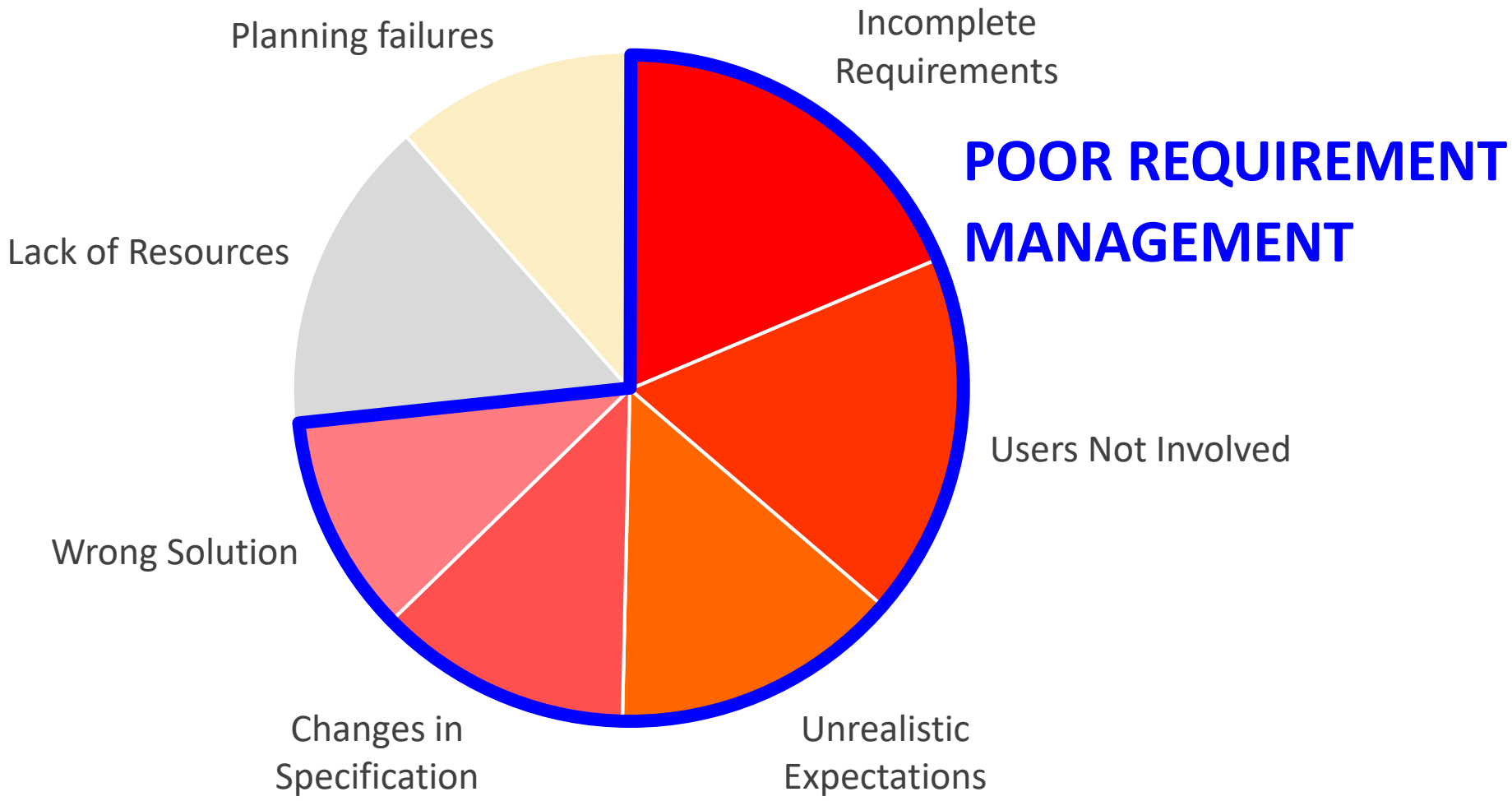
This is a practical model for understanding the approach

Not getting this right causes major problems



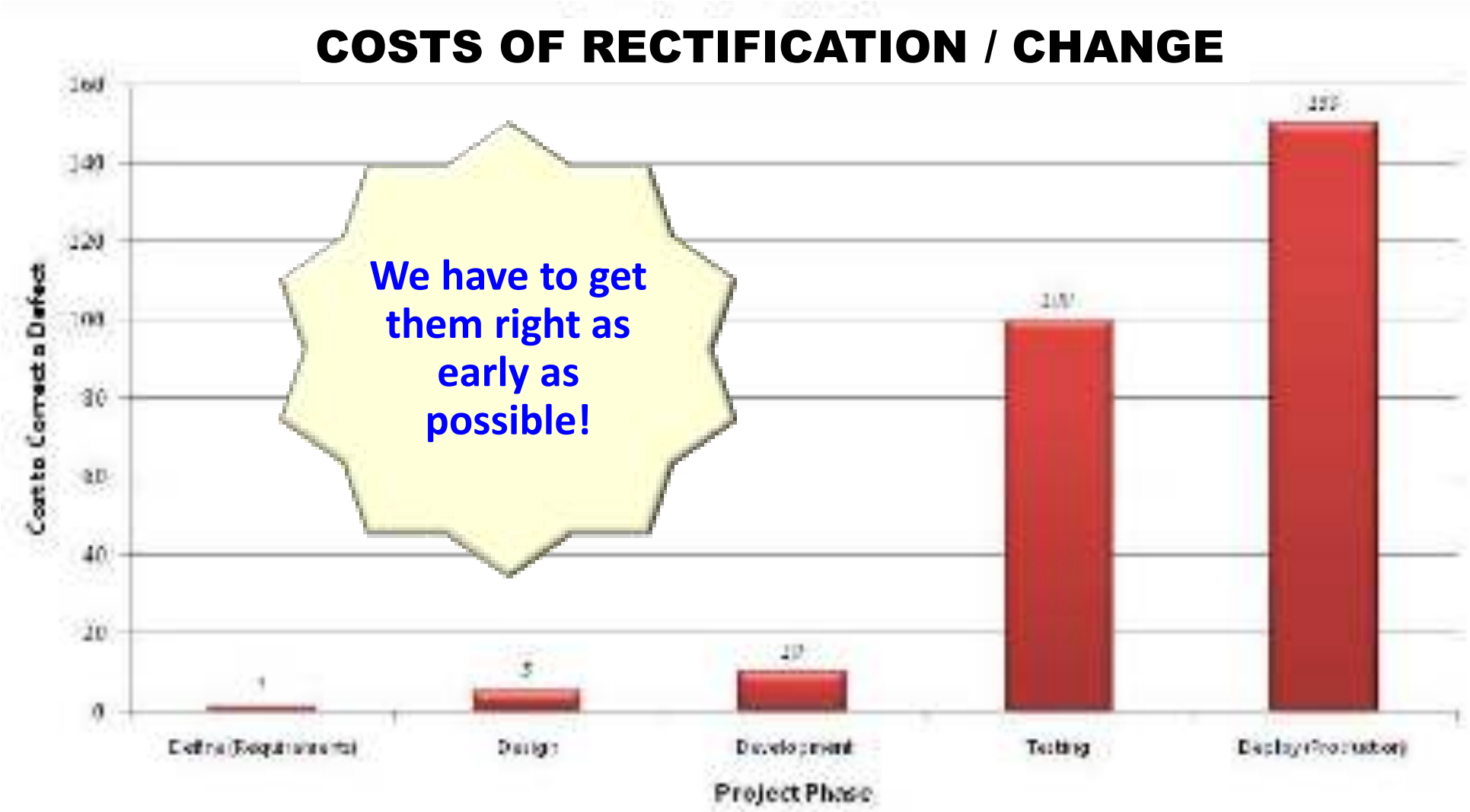
LEADS TO PROJECT FAILURE

Key Reasons for Project Failures



Source: http://www.slideshare.net/VisureSolutions/10-points-to-consider-in-relation-to-requirements-visure-solutions

AND IT CAN BE EXPENSIVE TO CHANGE LATER



Source: http://blog.briteskies.com/blog/project-leadership-blog-part-1-testing

METHODS FOR COLLECTING REQUIREMENTS

- ✓ Use Case Analysis
  - Interviewing
  - Focus groups and facilitated workshops
  - Using group creativity and decision-making techniques
  - Questionnaires and surveys
  - Observation
  - Modelling
  - Benchmarking (comparing specific project practices or product characteristics to those of other projects or products)
- ✓ Prototyping
- ✓ Software tools (e.g. system monitoring)

DOCUMENTING REQUIREMENTS

- ✓ **Creation:** Manual/automated systems *(e.g. software and include text, images, diagrams, videos, and other media)* to deliver:
  - A **Requirements Management Plan (RMP)** describes how project requirements will be analysed, documented, and managed
  - A **Requirements Traceability Matrix (RTM)** is a table that lists requirements, various attributes of each requirement, and the status of the requirements to ensure that all requirements are addressed

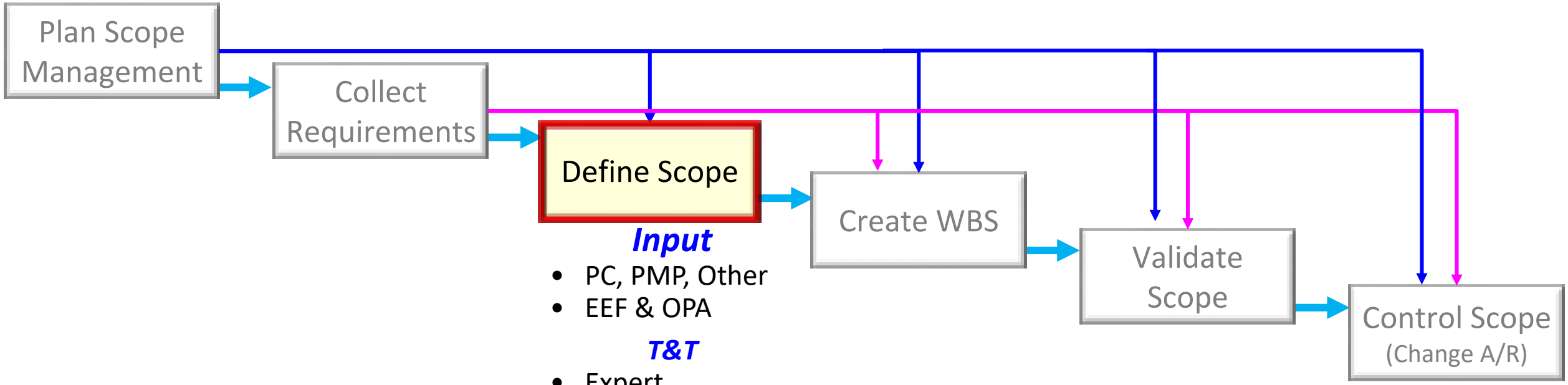
RMP/RTM may be separate or part of Scope Document

SAMPLE REQUIREMENTS TRACEABILITY MATRIX (RTM)

Requirement #	Description	Category	Source	Status
R52	Web Server	Hardware	Technical Architecture	Spec Design Required
R53	Web Server	Software (Web Front End – Pass Through)	RFT Response	Design validation required
R54	Web Server	Software – Interface	Technical Architecture	Awaiting design validation

The more complex the requirement, the more information needs to be included

DEFINE SCOPE



Input

- PC, PMP, Other
- EEF & OPA

T&T

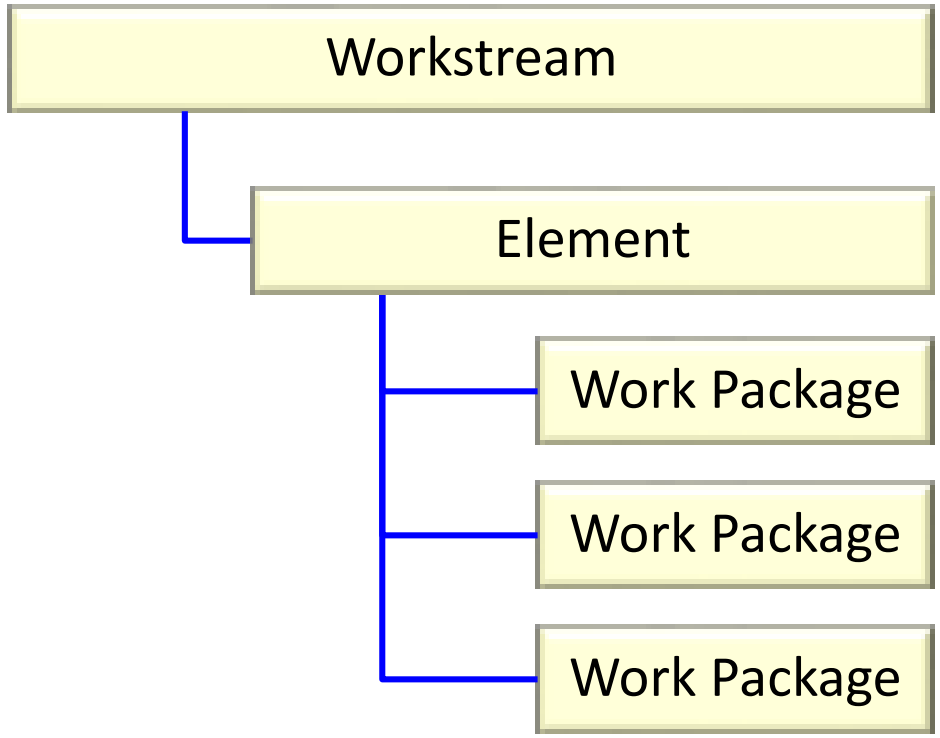
- Expert Judgement
- Data Analysis
- Product Analysis
- Decision Making

Outputs

- Project Scope Statement & other docs

SCOPE PLANNING AND THE SCOPE MANAGEMENT PLAN

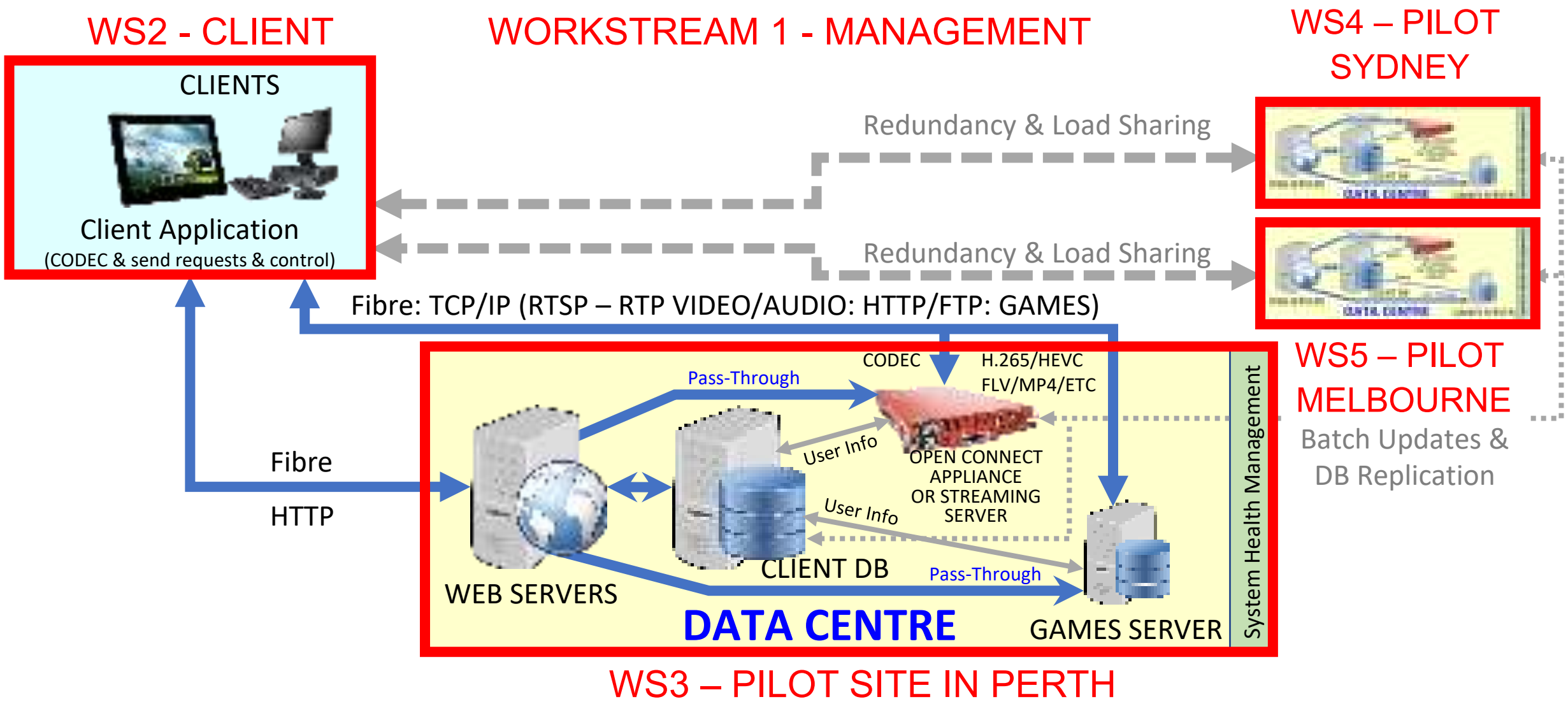
- ✓ Develop the scope through the following steps:
  - *Workstreams (WS)*: Focused groupings – typically aligned to deliverables
  - *Elements*: Major groupings of tasks required to achieve the WS
  - *Work Packages (WP)*: Lowest level of the WBS – a task given to an individual



SCOPE PLANNING AND THE SCOPE MANAGEMENT PLAN

- ✓ Show linkages and dependencies between WS/Elements/WPs (e.g. use technical architecture or enterprise architecture diagrams)
  - Determine the WS/Elements/WP needed to achieve the objectives
  - Look for gaps/risks that need to be factored into the scope
  - Work out what is **IN-SCOPE** or **OUT-OF-SCOPE**

EDUSTREAM TECHNICAL ARCHITECTURE



SOME OF THE SCOPE OF WORK

3. Workstream: **Pilot 1 (Perth)**

3.2 Web Server

3.2.1 Hardware (of appropriate specification)

- 3.2.1.1 Identify hardware requirements (Spec Design)
- 3.2.1.2 Procure the hardware
- 3.2.1.3 Test the hardware (Unit)
- 3.2.1.3 Test the hardware/software (Integration)

Sequential (Precedence) Activities

Parallel Activities

3.2.2 Software (Pass through/web interface)

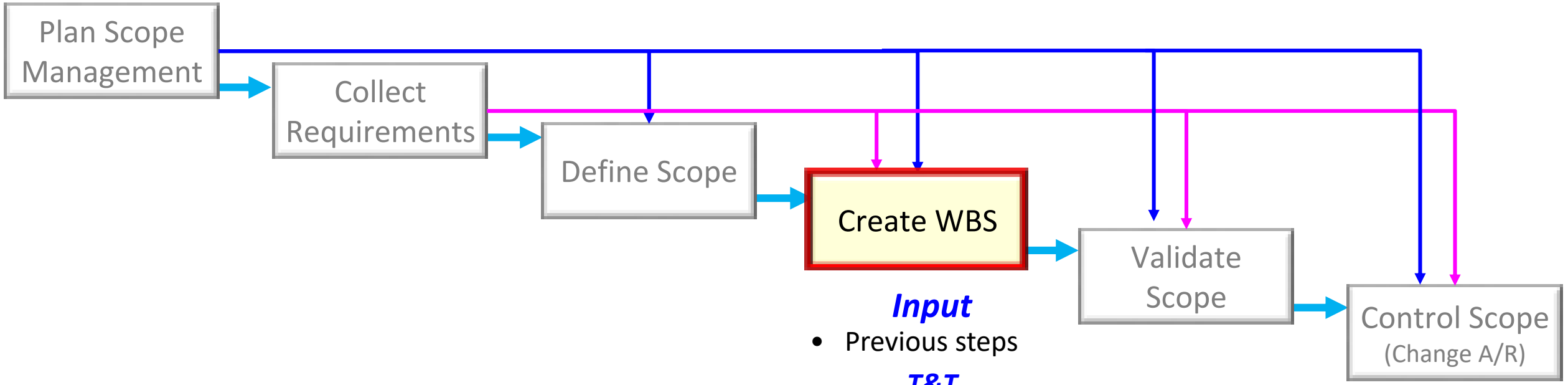
- 3.2.2.1 Design the software
- 3.2.2.2 Development & Prototyping
  - 3.2.2.2.1 HCI/GUI
  - 3.2.2.2.2 Database interfaces
  - 3.2.2.2.3 Test the software (Integration)
  - 3.2.2.2.4 Develop the Interfaces
    - 3.2.2.2.4.1 OCA
    - 3.2.2.2.4.2 Client Database
    - 3.2.2.2.4.3 Games Database

There are relationships & dependencies

ATTRIBUTES OF GOOD SCOPING

- ✓ Remains consistently focussed on meeting the Objectives
- ✓ Concise/clear & explains separate elements of deliverables (including collaterals)
- ✓ Helps to identify overlaps and dependencies
- ✓ Demonstrates IN/OUT of scope WS/Elements/WP
- ✓ Creates an understanding of key deliverables and acceptance issues
- ✓ Outlines assumptions clearly (basis for risk management)

CREATE THE WBS



Input

- Previous steps

T&T

- WBS development

Outputs

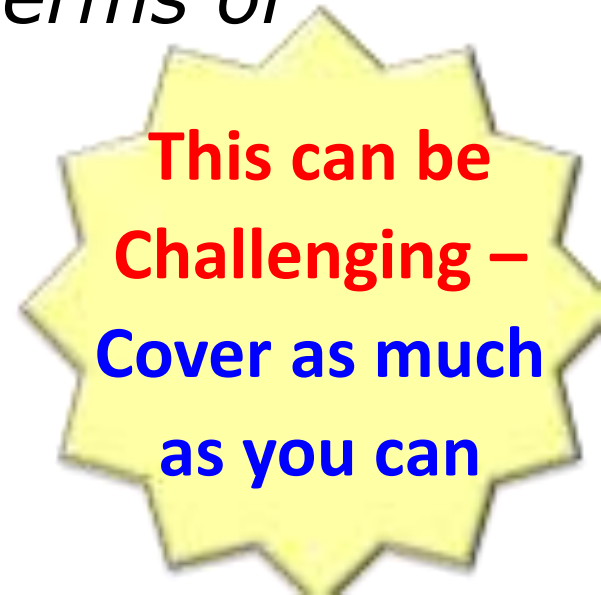
- WBS
- Work Packages
- Planning Package
- WBS Dictionary

PRINCIPLES FOR WBS CREATION

Overarching principle

The 100% Rule...states that the WBS includes 100% of the work defined by the project scope and captures ALL deliverables – internal, external, interim – in terms of the work to be completed, including project management

Source: Project Management Institute (PMI)



PRINCIPLES FOR WBS CREATION

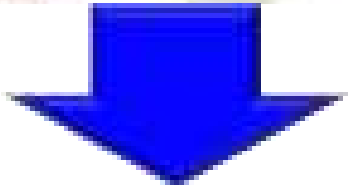
- ✓ Ownership (unity of responsibility & clear lines of responsibility)
- ✓ Avoid vague terms
- ✓ Map to measurable deliverables
- ✓ Unique Work Packages
- ✓ Consistent with what will *actually* be done
- ✓ *Cohesive at every level*
- ✓ Flexible, and up-to-date
- ✓ **Serves the project**

APPROACHES TO DEVELOPING A WBS

- ✓ **Guidelines**: Some organisations provide guidelines for preparing a WBS (e.g. Defence/Government – Be careful with too much conformity)

- ✓ **Analogy approach**: Review the WBS of similar projects and tailor to your project (Be careful – minor differences can become big problems)

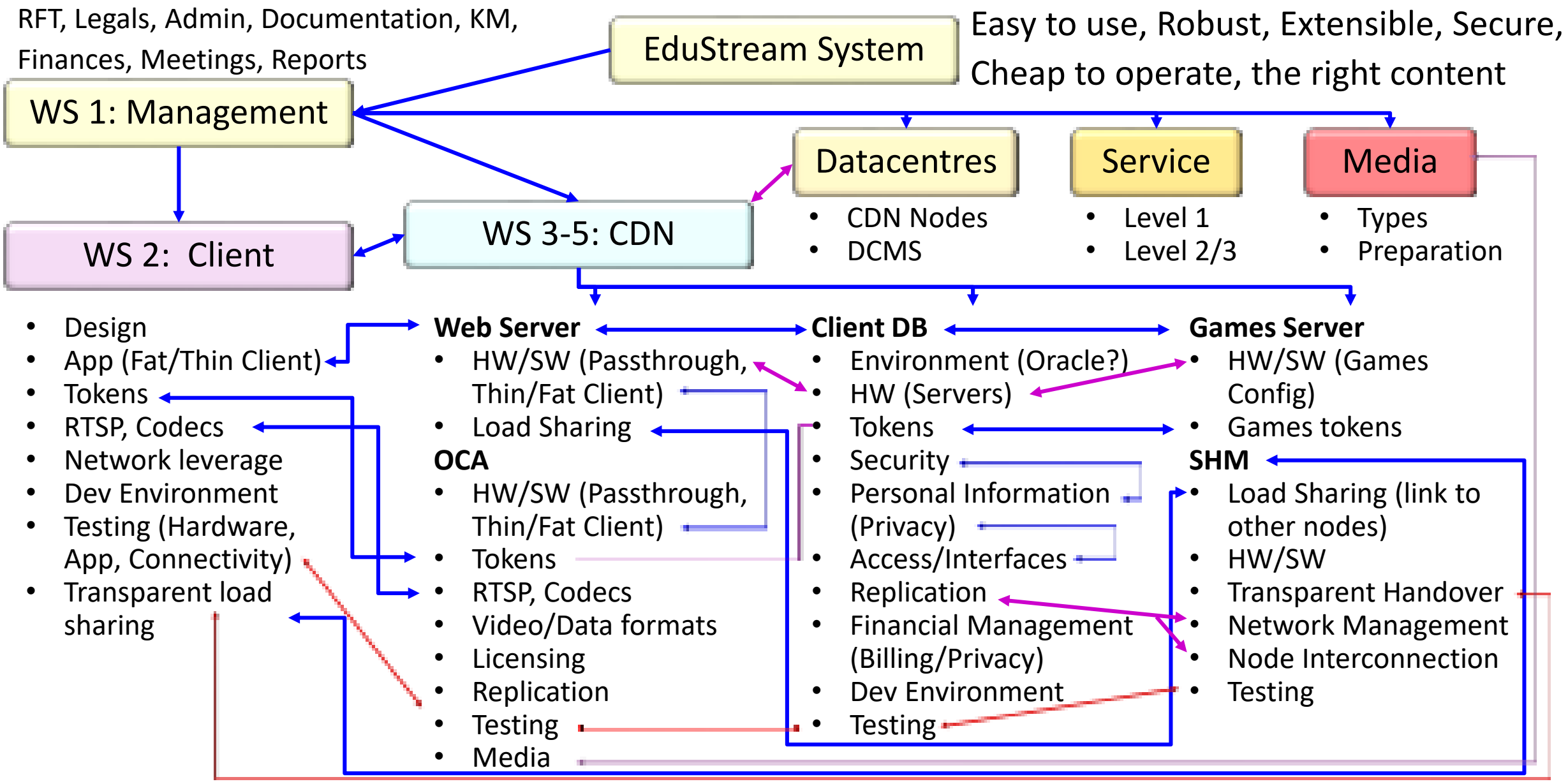
- ✓ **Top-down approach**: Start with the deliverables focussed Workstreams of the project and break them down



- ✓ **Bottom-up approach**: Start with the specific tasks (Work Packages) and roll them up

- ✓ **Mind-mapping approach**: Write tasks in a non-linear, branching format and then create the WBS structure

AN EXAMPLE OF MIND-MAPPING (PARTIAL)

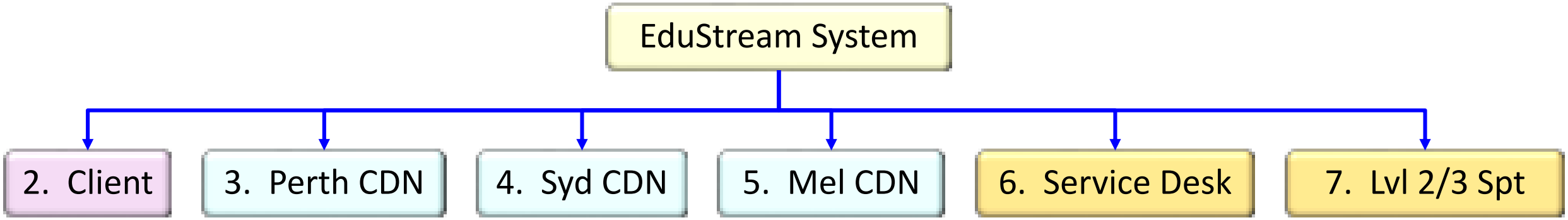


WHAT IS IN A WBS?

- ✓ The initial output is known as the **Scope Baseline**
- ✓ But this is a **living** project management tool (it evolves during the project – the key is to make sure the general structure is sound)
- ✓ This can be shown in a range of different ways, but all contain:
  - ➢ Hierarchical decomposition of the total scope of work
  - ➢ WBS Dictionary – provides details regarding the deliverables, activities, and scheduling information of each component of the WBS

Let's look at some examples

HIERARCHICAL WBS: BY DELIVERABLE



- Design
- HW Test Env
- App
- RTSP
- Tokens
- Testing

- Web Server
- OCA
- Client DB
- Games Server
- SHM
- Interfaces
- Replication (DB & OCA)
- Network

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- Network

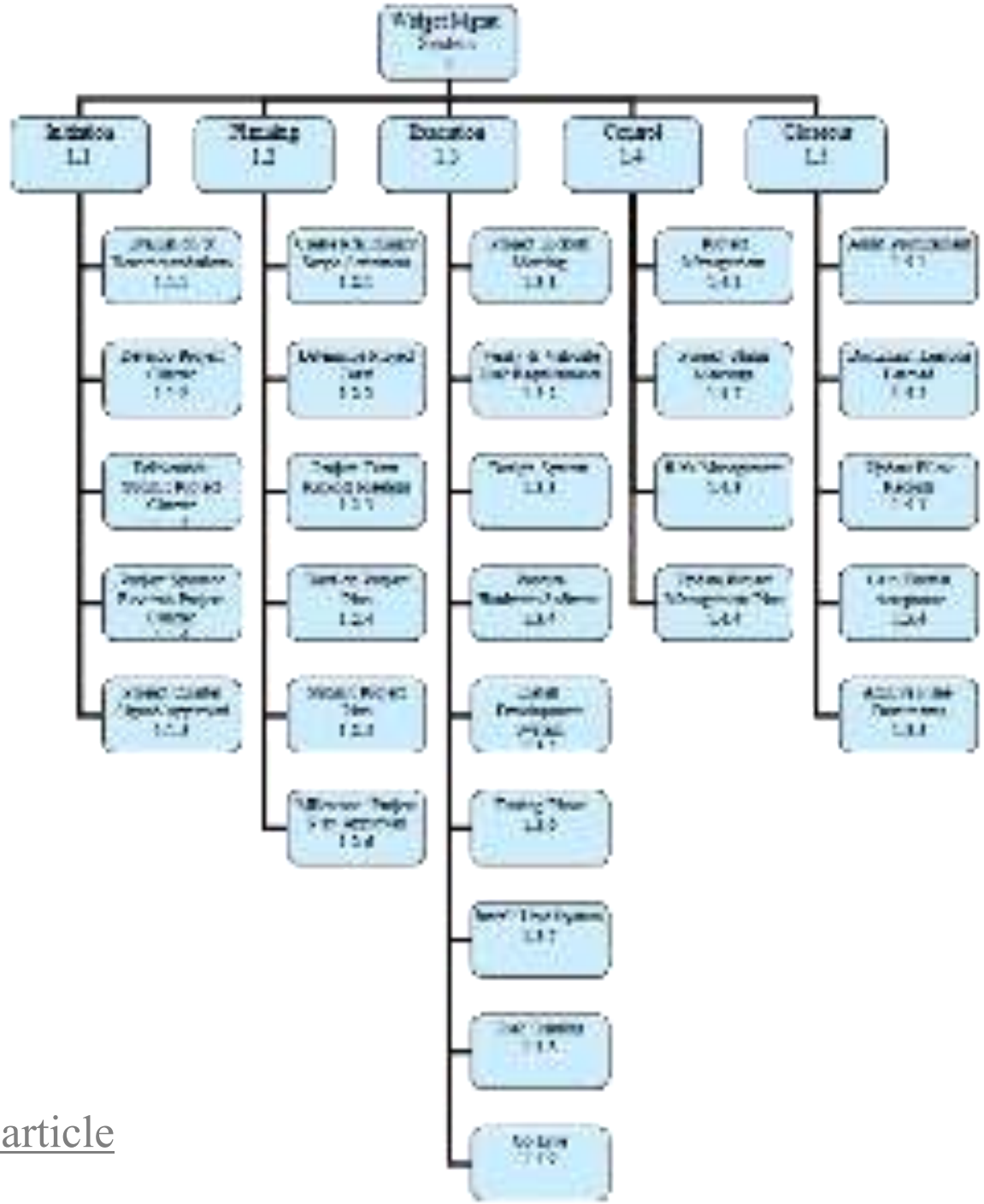
- SD Provider Contract
- FAQ Web Site
- Level 1 Support
- SDMS

- Engage staff
- Train Staff
- Knowledge Base development

Note: This does not include WS 8: Data Centres, WS 9: Procurement and Preparation of Media, WS 10: Training, WS 11: Marketing and WS 12: Closure

HIERARCHICAL WBS:
BY PHASE

Mixed Phase/ Deliverables are also common – Particularly for complex Projects



Source: http://www.simplilearn.com/work-breakdown-structure-article

HIERARCHICAL WBS: AS A TABLE

Outline Number	Task Name
4	**Pilot 2 (Sydney)**
4.1	Procurement of Hardware
4.2	Procure Additional SW Licenses
4.3	Problem Rectification - With/Post Acceptance Testing of Beta 1
4.4	Complete Beta 1 Rectification-Commence System Testing (Milestone)
4.5	System Testing & Problem Rectification
4.6	Beta 2 Set to Work
4.7	Beta 2 Pilot (Sydney) Goes Live (Milestone)
4.8	Acceptance Testing
4.9	Complete Acceptance Testing (Milestone)
5	**Pilot 3 (Melbourne)**
5.1	Procurement of Hardware
5.2	Procure Additional SW Licenses
5.3	Problem Rectification - With/Post Acceptance Testing of Beta 2
5.4	Complete Beta 1 Rectification-Commence System Testing (Milestone)
5.5	System Testing
5.6	Beta 3 Set to Work
5.7	Beta 3 Pilot (Melbourne) Goes Live (Milestone)
5.8	Acceptance Testing
5.9	Problem Rectification - With/Post Acceptance Testing of Beta 3
5.10	Full Market Opening (Milestone)

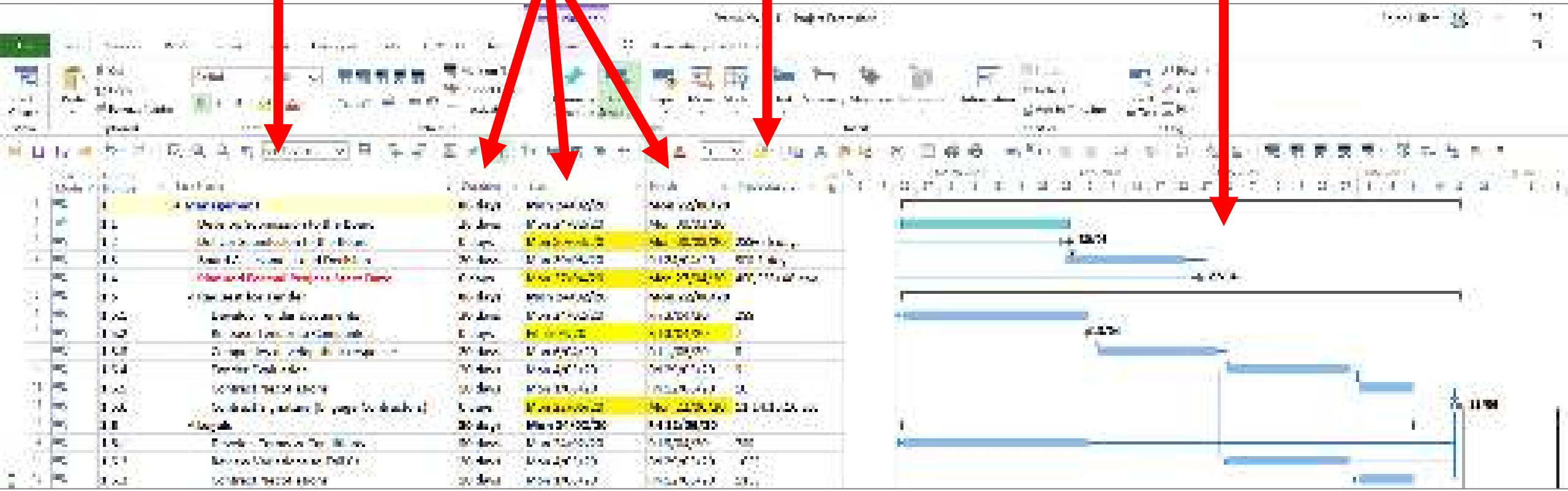
HIERARCHICAL WBS BY WORK STREAM: WITH A GANTT CHART

WORKSTREAMS ELEMENTS & WPs

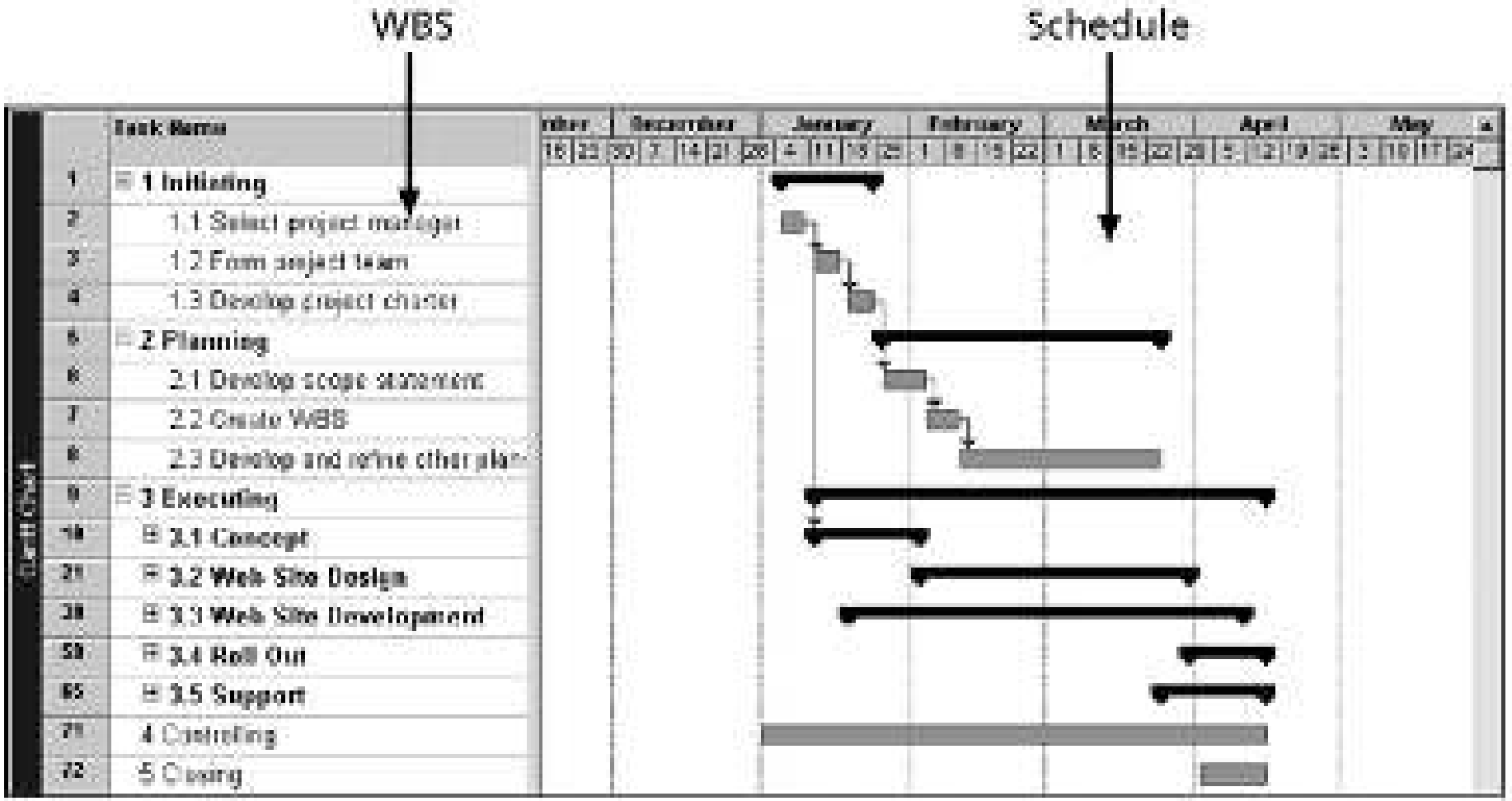
TIMING INFORMATION

PREDECESSORS

PHASING (GANTT CHART)



HIERARCHICAL WBS BY PROCESS GROUPS: WITH A GANTT CHART



Now let's look at the WBS Dictionary

A WBS DICTIONARY

- It must contain enough information to understand what tasks need to be completed
- It may contain additional information to give greater clarity (tool dependent)

Project Name: EduStream	
WP ID	3.1.1.3
WP Name	Test the web server hardware/software
WP Description	Load the web interface onto the web server hardware in the Test Environment and conduct Integration testing iaw the Test Plan
Assigned to	Royce Smith
Estimated cost	$3,200
Account Code	T6201
Acceptance Criteria	See the associated Test Plan
Deliverables	Test Report
Assumptions	See the Scope Management Plan

Sources: Harrison & Lock (2017); Kerzner (2017)

CREATING A WBS & DICTIONARY

- ✓ Some key rules:
  - Project team members must be involved in developing the WBS to ensure consistency and buy-in
  - Each WBS item must be documented in a WBS dictionary to ensure accurate understanding of the scope of work that is included and not included in that item
  - The WBS must be a flexible tool to accommodate inevitable changes while properly maintaining control of the work content in the project according to the scope statement

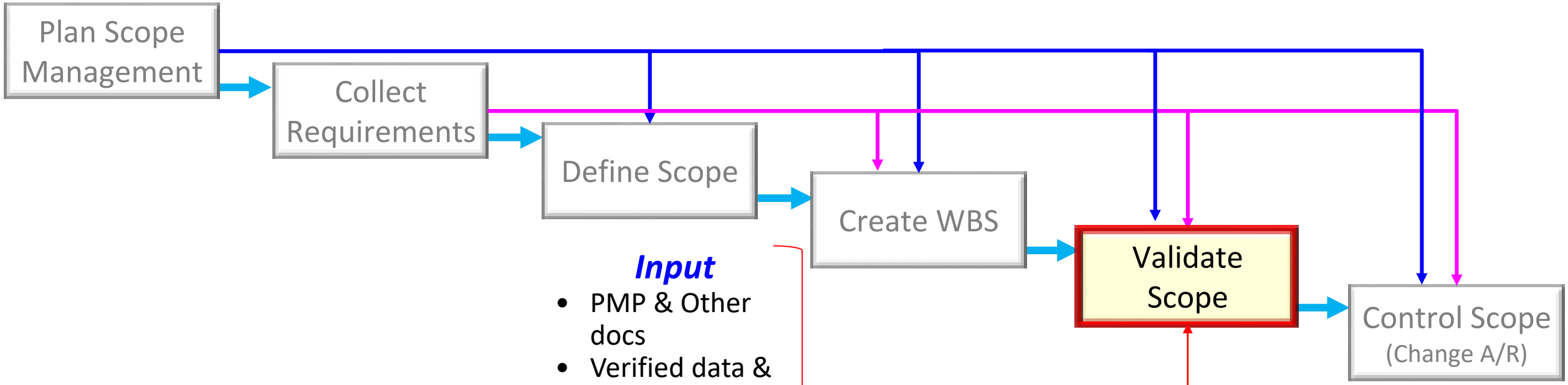
Source: Cleland & David (1994).

CREATING A WBS & DICTIONARY

- ✓ Some key rules:
  - A unit of work should appear in only one place in the WBS
  - The work content of a WBS Summary item is the sum of the WBS items below it (in the lower levels of the hierarchy)
  - A WBS item is the responsibility of only one individual, even though many people may be working on it (team lead/deliverable responsibility)
  - The WBS must be consistent with the way in which work is actually going to be performed (it must serve the project team first, and other purposes only if practical)

Source: Cleland, David I., *Project Management: Strategic Design and Implementation,* 2nd edition (New York: McGraw-Hill 1994).

VALIDATE SCOPE



Input

- PMP & Other docs
- Verified data & deliverables

T&T

- Inspection
- Decision Making

Outputs

- Accepted work
- Change Request, etc.

WHY IS VALIDATION NEEDED?

- ✓ Validation aims to ensure that:
  - The Scope of Work and WBS are accurate and realistic
  - The WBS & Dictionary are not vague (clarity is essential)
  - The structure of the WS, Elements & WPs is sound
  - The right resources are allocated to control and delivery
  - The flow of the tasks is sensible and takes into account critical paths and dependencies
  - All key stakeholders are satisfied that it reflects reality and their ability to deliver

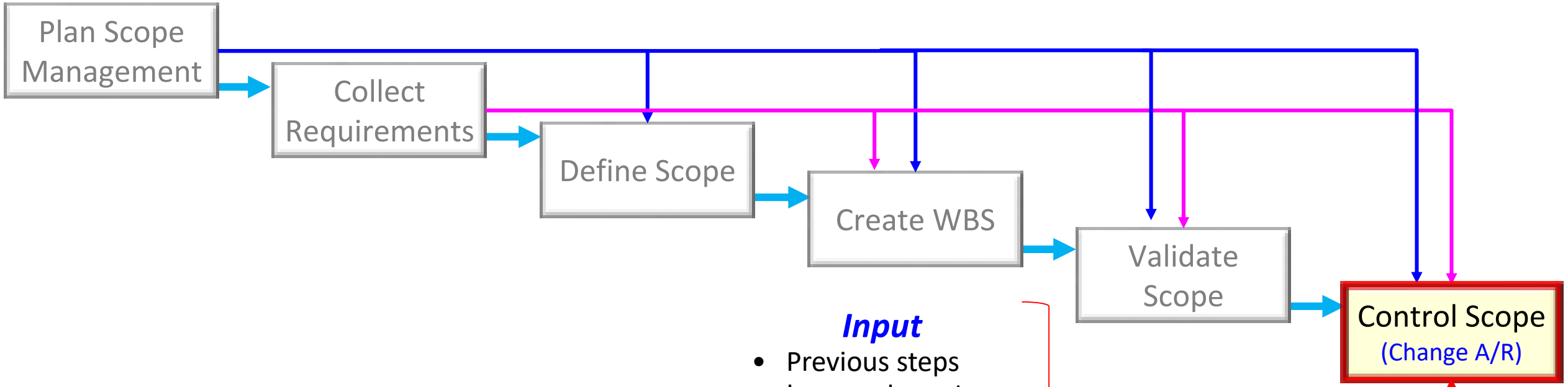
HOW IS VALIDATION DONE?

- ✓ **Scope verification** involves formal acceptance of the completed project *scope* by stakeholders/management
- ✓ It is achieved through:
  - ➢ Internal workshopping/brainstorming (Make & Break modelling, Acceptance Criteria Analysis)
  - ➢ Management/Stakeholder/Client/user review
- ✓ Requires a formal sign off (from all key stakeholders)

It is really important to **get this right**!

If the WBS is invalid it will create **MASSIVE PROBLEMS**!

CONTROL SCOPE



Input

- Previous steps
- Lessons Learnt

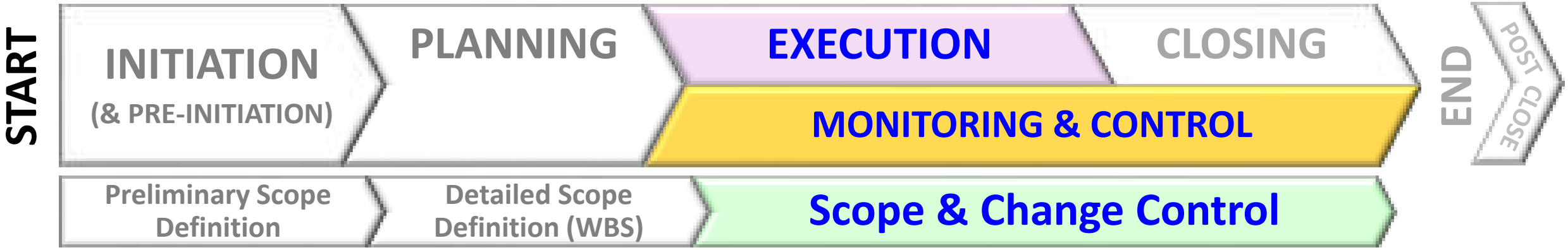
T&T

- Monitoring & Control

Outputs

- Integrated Change Management

CONTROLLING SCOPE



- ✓ This is an ongoing process conducted as a part of Monitoring and Control
- ✓ A pillar of this approach is Change Management (ChM)
- ✓ Change Management aims to:
  - ➢ Manage evolving issues/needs/wants effectively
  - ➢ Apply a methodical approach for control of scope

THE CHANGE CONTROL PROCESS

Change Request

Triggers include:

- ✓ Service Requests
- ✓ Problem Management
- ✓ Vendor Changes
- ✓ Hardware Changes
- ✓ Software Change Request
- ✓ Facility Change Requests
- ✓ Project
- ✓ Process Changes

Review of Request

- ✓ Preliminary review
- ✓ Authorization of Changes
- ✓ Multilevel review
- ✓ Disapproval of requests
- ✓ Prioritization of work
- ✓ Coordination of multiple
- ✓ Changes (sequencing, etc.).

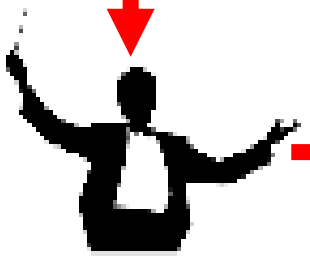
Submission of Change

- ✓ Documentation

Change Control Board

- ✓ Approval to implement
- ✓ Control of production baseline
- ✓ Control of systems documentation

IF APPROVED



Coordinate Change

- ✓ Perform Quality Assessment
- ✓ Obtain Clearances
- ✓ Review Implementation Schedule
- ✓ Assemble Finalised Schedule

Implement Change

- ✓ Conduct required tasks
- ✓ Client liaison/verification

Measure Results

- ✓ Post Implementation Review
- ✓ Audit Process
- ✓ Generate Change Metrics
- ✓ Distribute Reports

WHY IS ChM IMPORTANT?

Poorly managed Change leads to **Scope Creep**:

- ✘ the scope gets out of control (doing more with less)
- ✘ the deliverables are not what the client needs/wants
- ✘ the deliverables are not finished on Schedule
- ✘ the product is never finished
- ✘ costs escalate (out of control & eating profits)
- ✘ money and Schedule run out (projects/companies fail)

HOW DOES SCOPE CREEP HAPPEN?

There are many reasons:

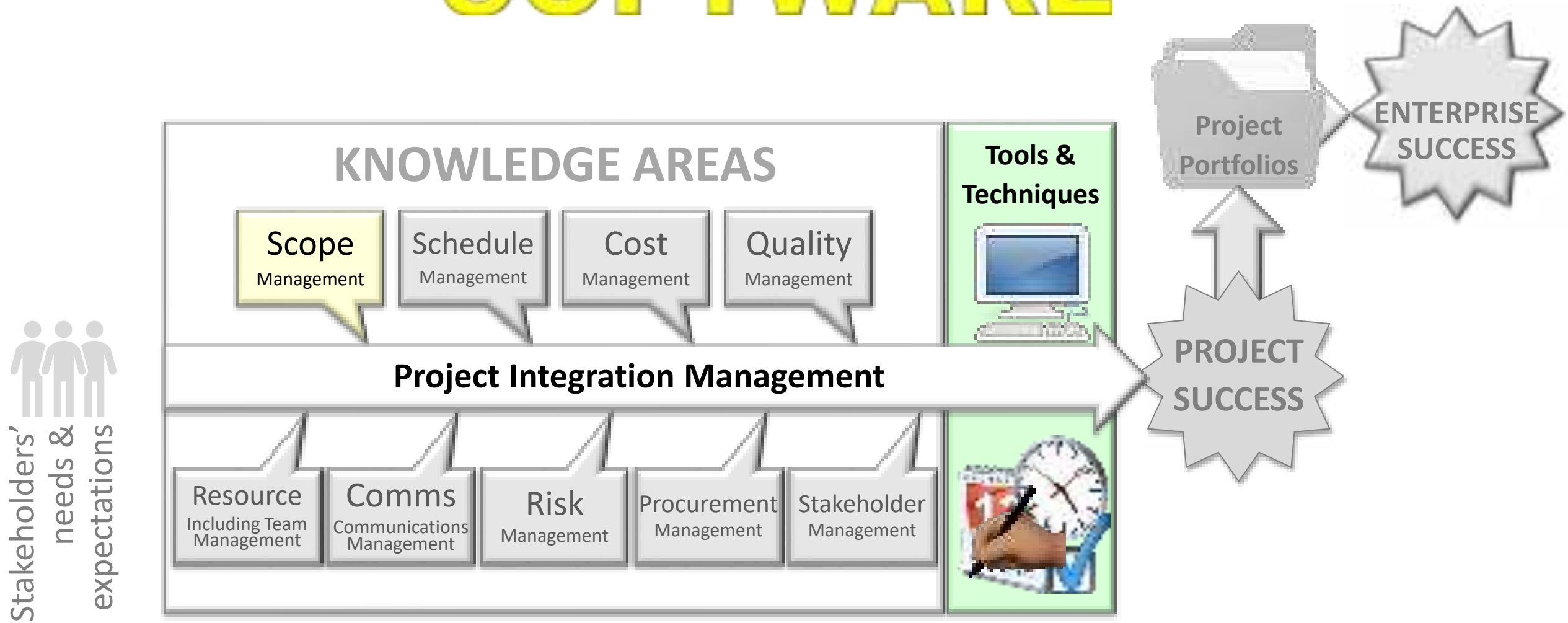
- Poor requirements analysis/management
- Not involving the users early enough - disingenuous customer with a determined "value for free" policy
- Underestimating the complexity of the project - lack of proper initial identification of what is required to bring about the project objectives
- Lack of change control
- Gold plating (be very careful with this one – it is a common problem)
- Poor communication between parties (no common understanding)
- Weak Project Manager or Executive Sponsor (expectation management is the key)

HOW TO AVOID SCOPE CREEP

There are many ways, which include:

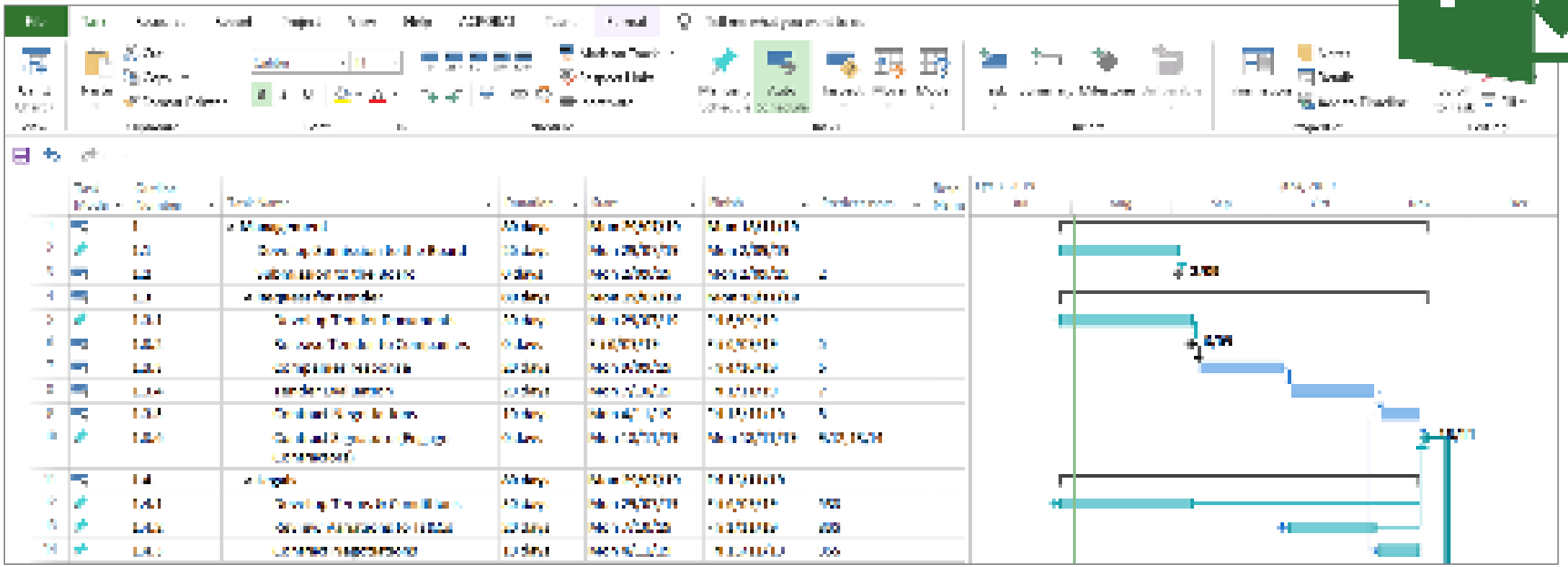
- ✓ **Set the Scope Baseline carefully** (put your effort in here to save you later)
- ✓ Scope & manage development carefully (Risk Factor Management – use COTS, Integration, Modification, etc. rather than development if possible/appropriate)
- ✓ Keep the scope realistic (break down into sub-projects as appropriate)
- ✓ **Involve the client/users early & consistently**
  - Maintain understanding and buy-in (have clients/users/stakeholders in the Project Team)
  - Have **everything in writing** (saves problems later on)
  - Have regular reports and meetings (be open and honest)
  - Provide regular deliverables (documents, systems, pilots, prototypes, etc.)
  - Expectation Management is the key (Remember: Change = Cost)
- ✓ **Follow good Change Management procedures**

SOFTWARE


KNOWLEDGE AREAS
Scope Management
Schedule Management
Cost Management
Quality Management
Tools & Techniques
Project Integration Management
Resource Including Team Management
Comms Communications Management
Risk Management
Procurement Management
Stakeholder Management
Project Portfolios
ENTERPRISE SUCCESS
PROJECT SUCCESS
Stakeholders' needs & expectations

SOFTWARE FOR SCOPE MANAGEMENT & CONTROL

- ✓ The most commonly used one is MS Project

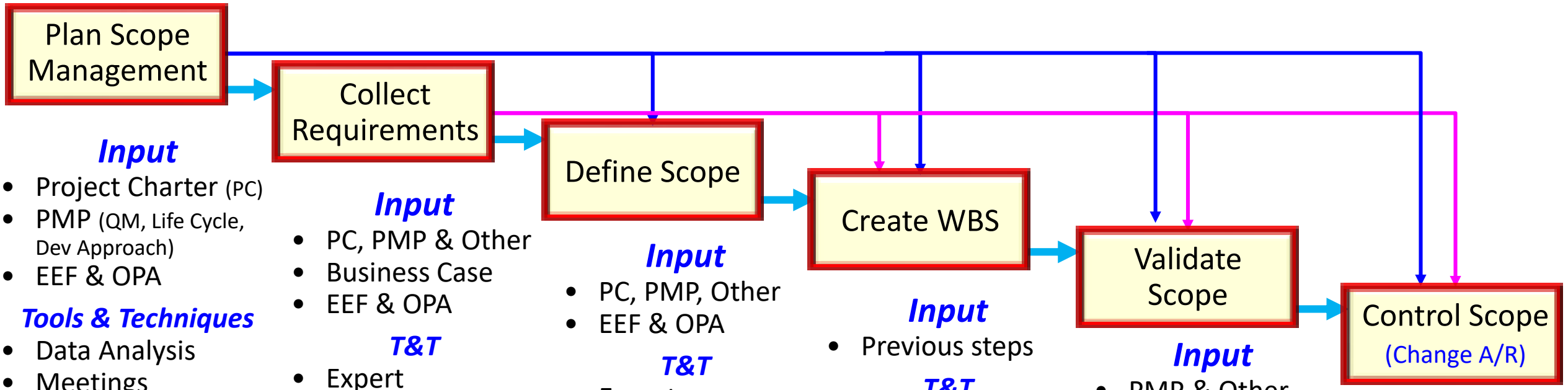


TOPIC SUMMARY

TOPIC SUMMARY

- ✓ Project scope management defines the:
  - ➢ processes required to ensure that the project **addresses all the work required…**
  - ➢ and only the work required…
  - ➢ to complete the project successfully.

WHAT ARE THE STEPS?



Input

- Project Charter (PC)
- PMP (QM, Life Cycle, Dev Approach)
- EEF & OPA

Tools & Techniques

- Data Analysis
- Meetings

Outputs

- Scope Statement & Requirements Management Plans

Input

- PC, PMP & Other
- Business Case
- EEF & OPA

T&T

- Expert Judgement
- Data Gathering & Representation & Analysis
- Decision Making

Outputs

- Requirements docs

Input

- PC, PMP, Other
- EEF & OPA

T&T

- Expert Judgement
- Data Analysis
- Product Analysis
- Decision Making

Outputs

- Project Scope Statement & other docs

Input

- Previous steps

T&T

- WBS development

Outputs

- WBS
- Work Packages
- Planning Package
- WBS Dictionary

Input

- PMP & Other docs
- Verified data & deliverables

T&T

- Inspection
- Decision Making

Outputs

- Accepted work
- Change Reqs, etc.

Input

- Previous steps
- Lessons Learnt

T&T

- Monitoring & Control

Outputs

- Integrated Management


ANY
QUESTIONS