Basics of Project Management

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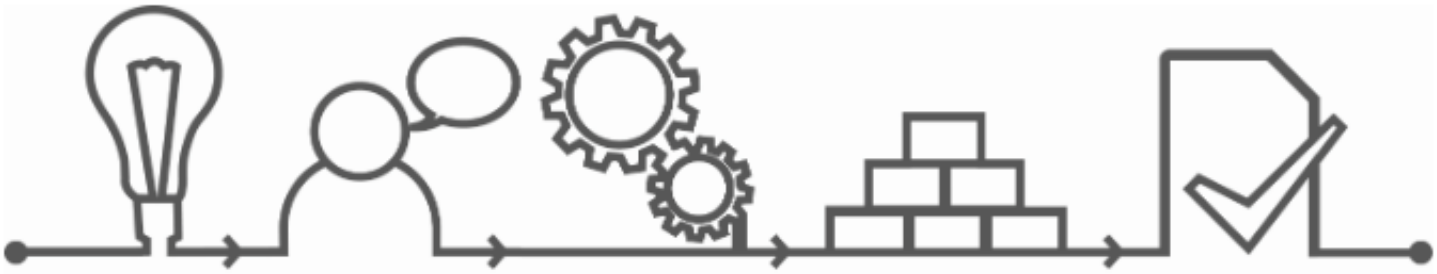
June 1, 2016



techniques

tools

Project Management

skills

processes

Deliver products that meet stakeholders requirements in a timely and efficient way

What is a project?

We do projects all the time.

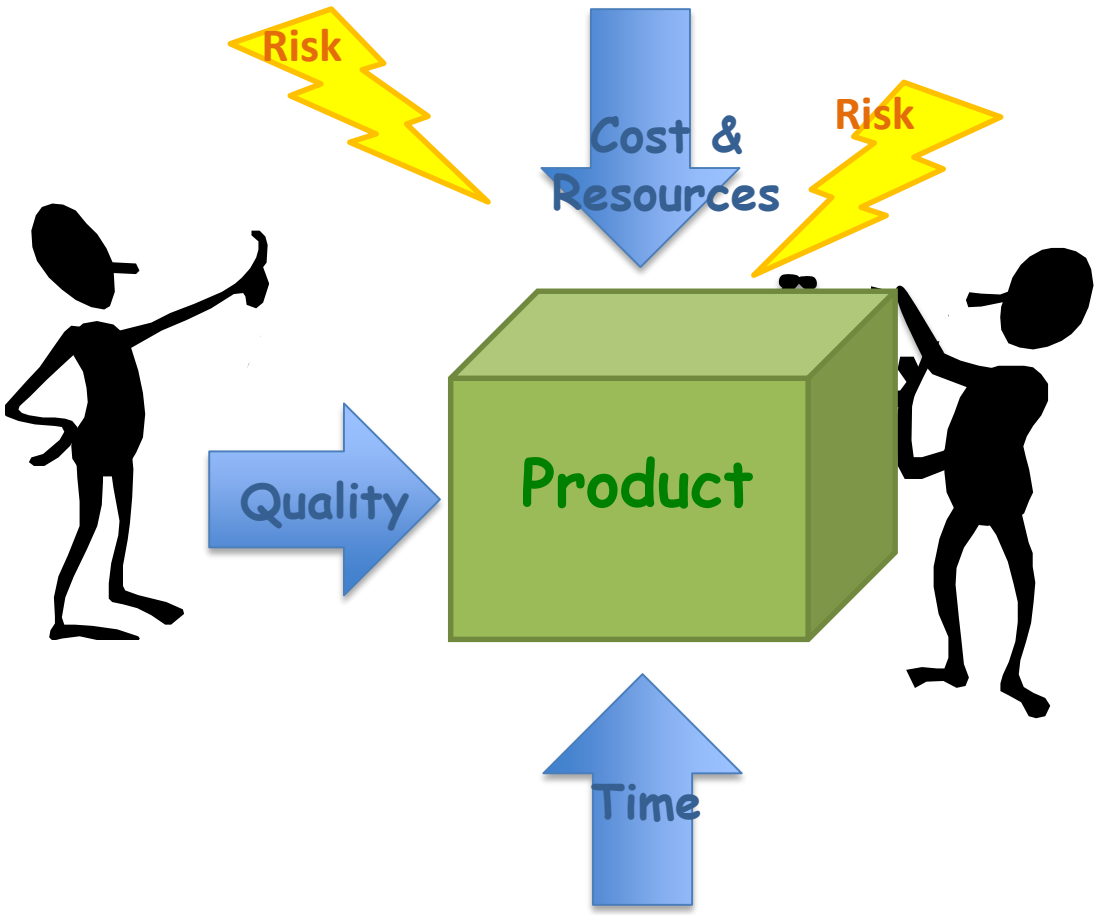
- **At work**
  - → ***building a bridge***
  - → ***creating a new device***
- **At school**
  - → ***preparing a report***
- **In everyday life**
  - → ***organizing a party or a trip***

It is about solving a problem or creating something

A project :

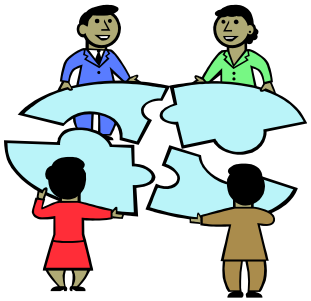
- **Is <u>temporary</u> with a specific start and end date**
- **Has an <u>end result</u> that must be created**

Key elements of a project



Key people in a project

Project Team



Project Sponsor

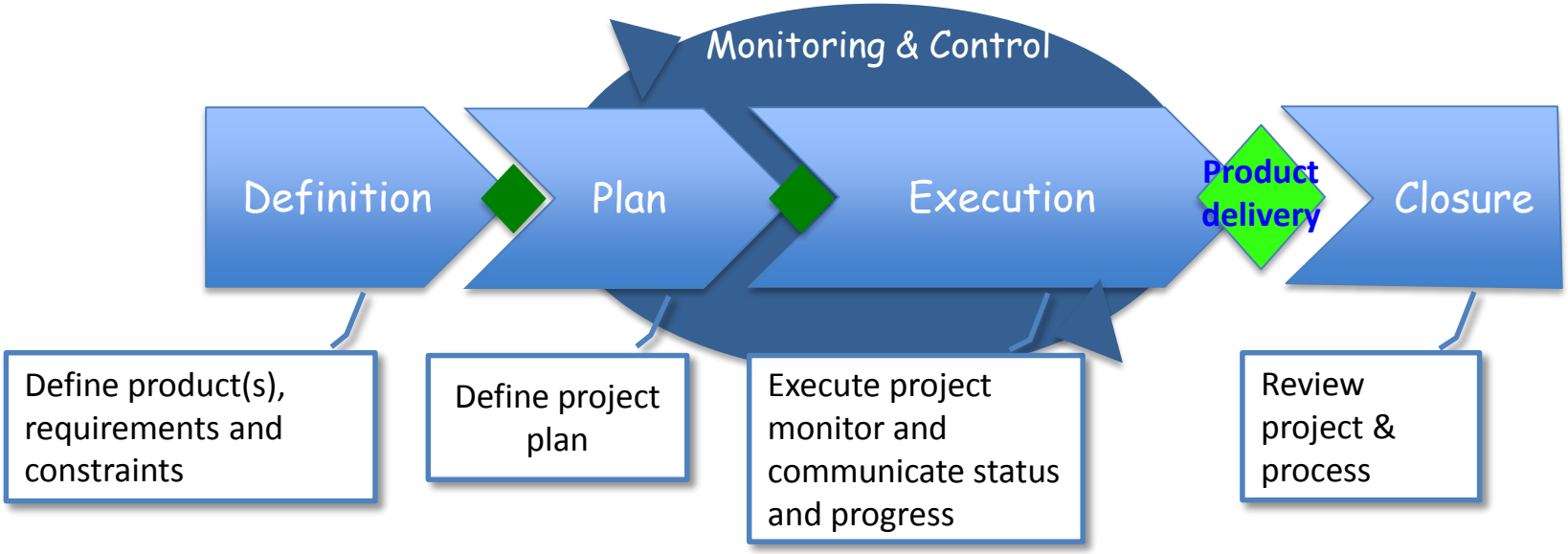
Project Manager

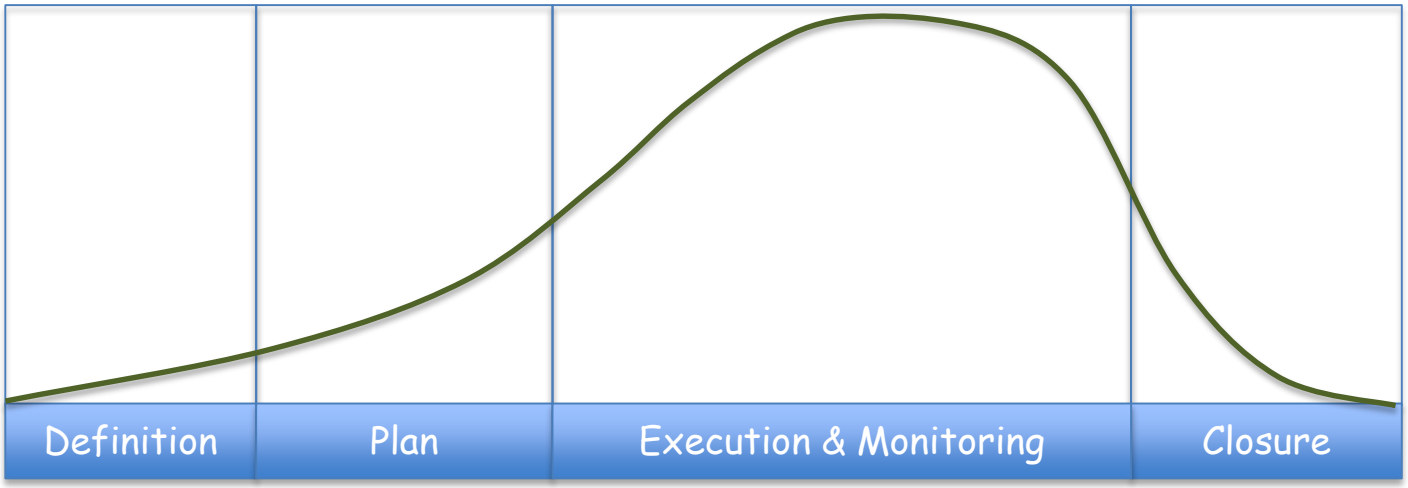
Users

Suppliers

The success of the project will depend mostly on people

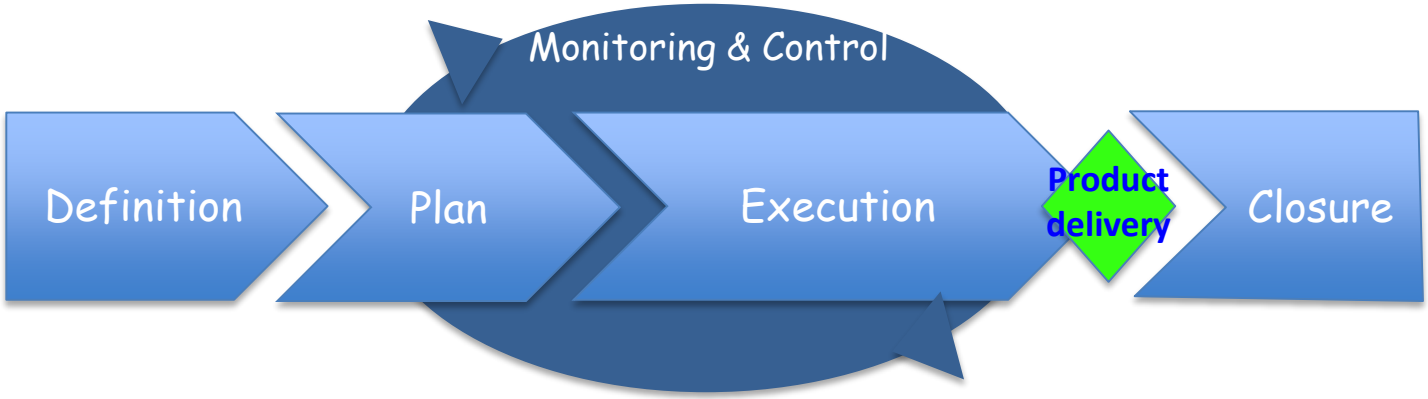
Project life cycle





Effort during project life cycle

Definition



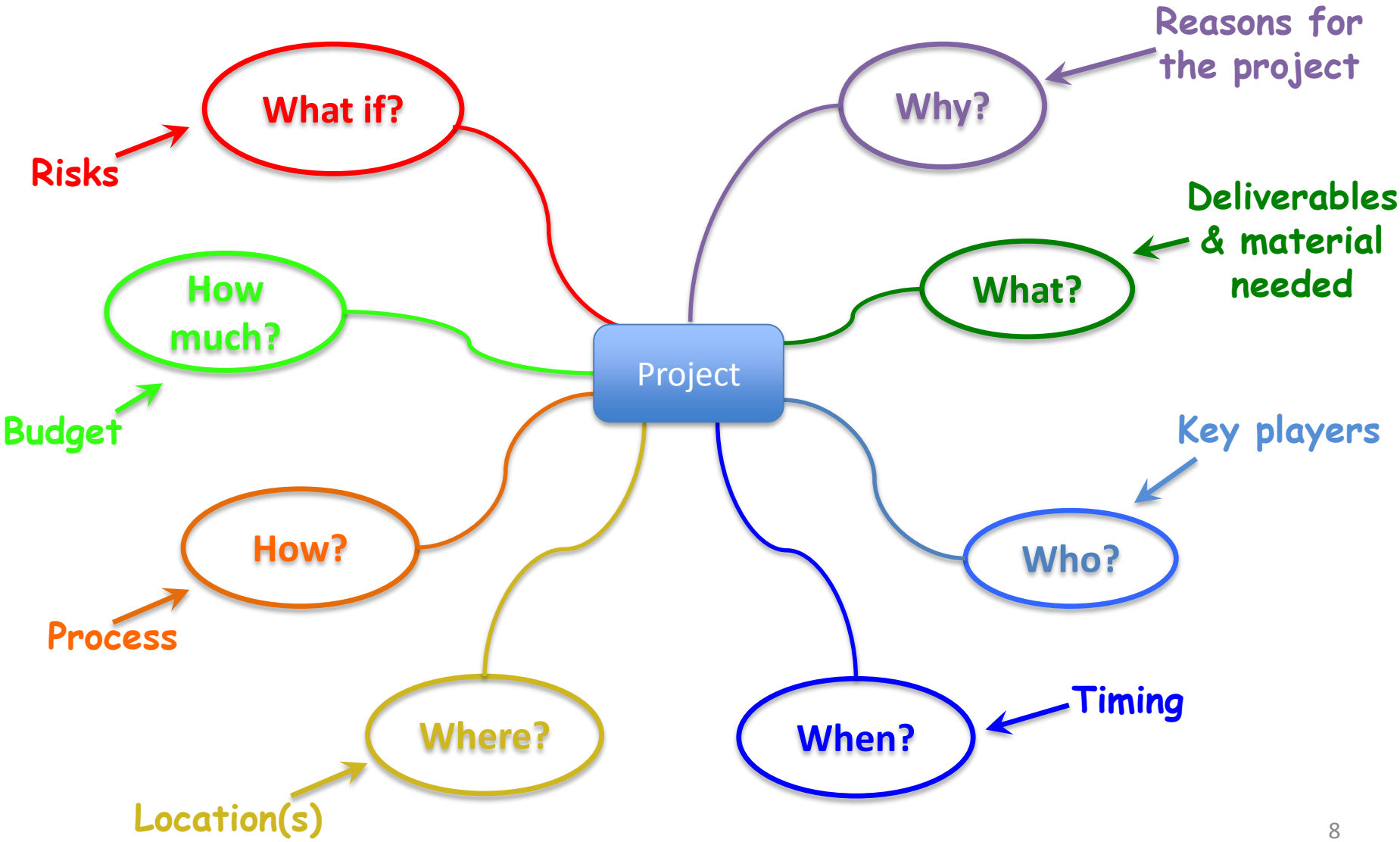
Define

Understand

Identify

- Product and scope
- Requirements, constraints
- Reasons for the projects and benefits
- Key players, customers, users
- Feasibility

Define the project in a complete way



SMART objectives and criteria for success!

SMART objectives to know where you go

- **S***pecific*
- **M***easurable*
- **A***ctionable* / **A***greed upon* / **A***mbitious*
- **R***ealistic* / **R***eachable*
- **T***ime-bound*

Criteria for success to know when you reached it

Good communication

- Life and work experiences affect the way we communicate and interact

- Failure in the communication often results in the failure of a project

BARRIERS to good communication

- Assumptions
- Unclear message content / actions
- Different communication styles / culture
- ….

ENABLERS for good communication

- **Active listening**
- **Rephrasing, summarizing**
- **Respect, time, willingness**
- **…..**

Clear requirements…

How the customer explained it

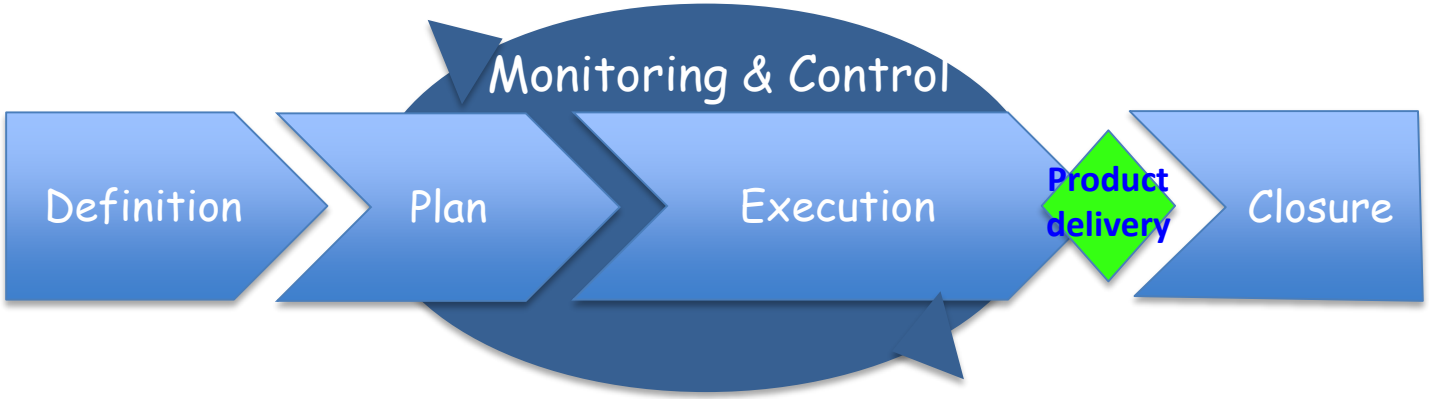
How the project leader understood it

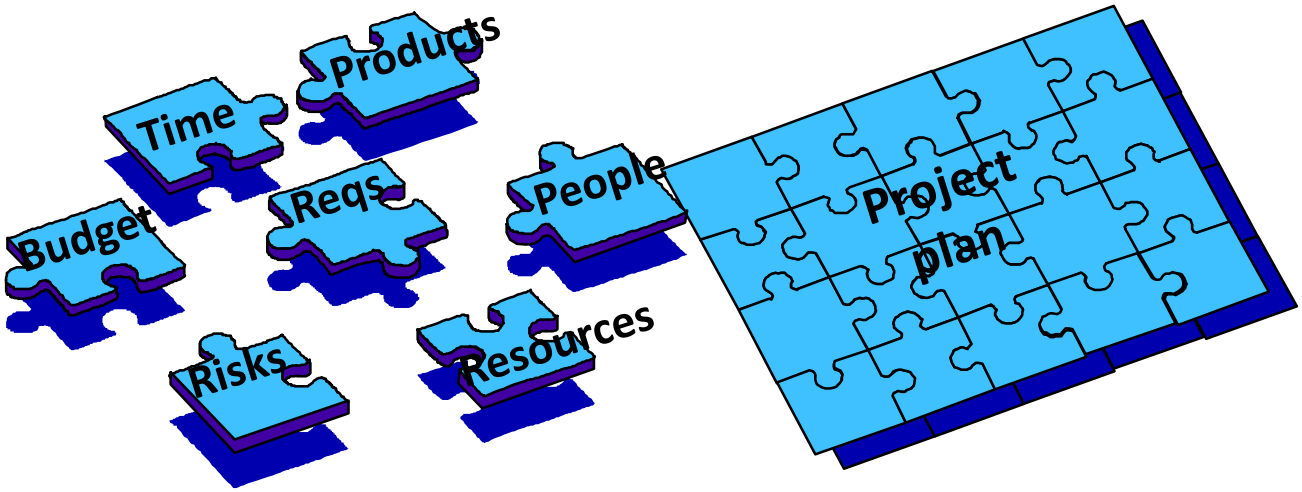
How the programmer wrote it

What the customer really needed

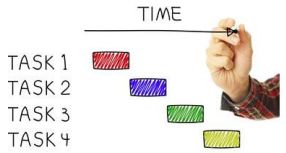
… and good communication

Planning

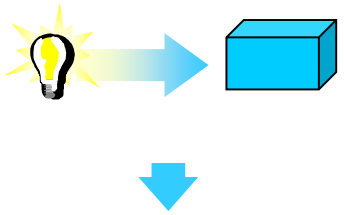

Monitoring & Control
Definition
Plan
Execution
Product delivery
Closure


Products
Time
Reqs
People
Budget
Risks
Resources
Project plan

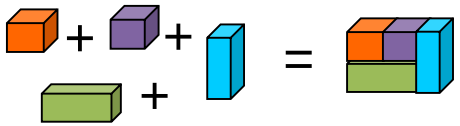
Prepare project plan



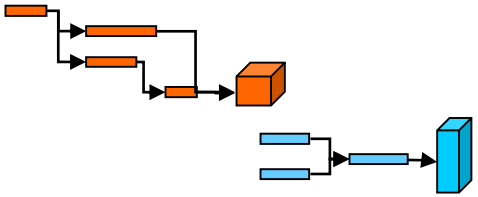
1 Define the product you need to produce



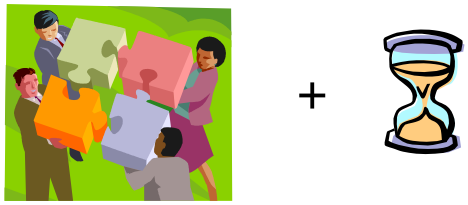
1 Breakdown the product into sub-products



3 Define the activities sequence and their relationships

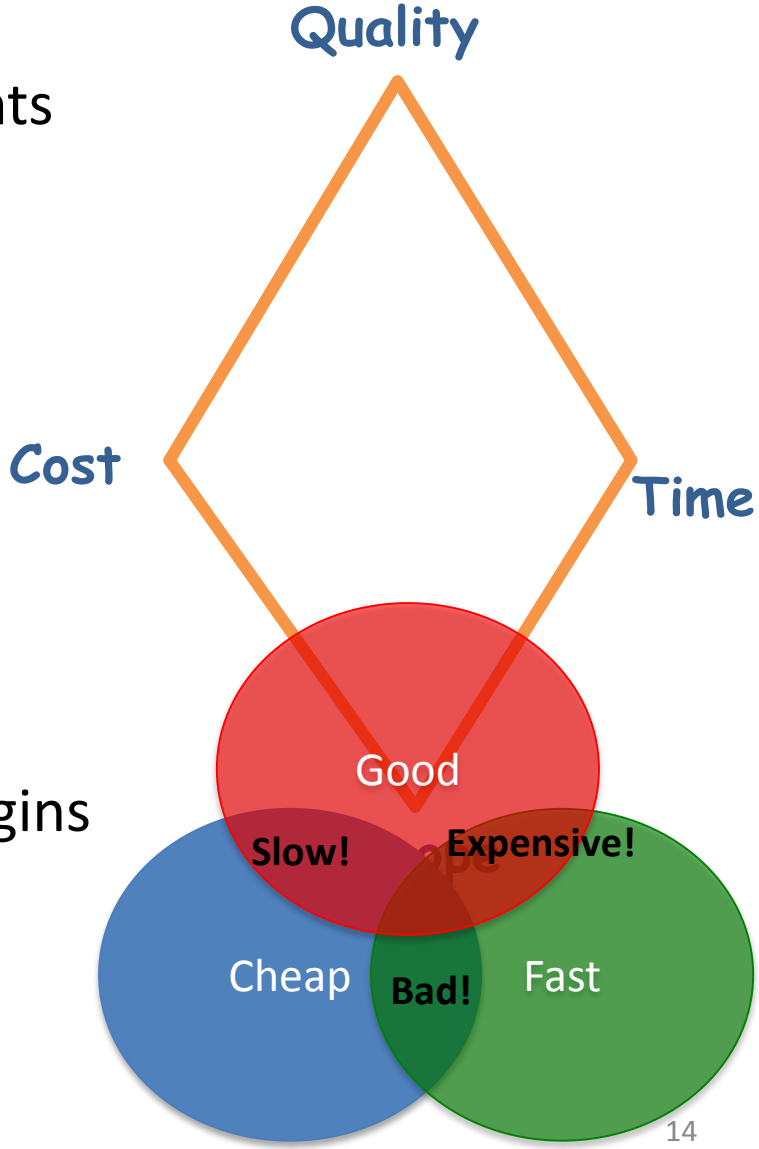


4 Decide who will perform the activities + how long they will take



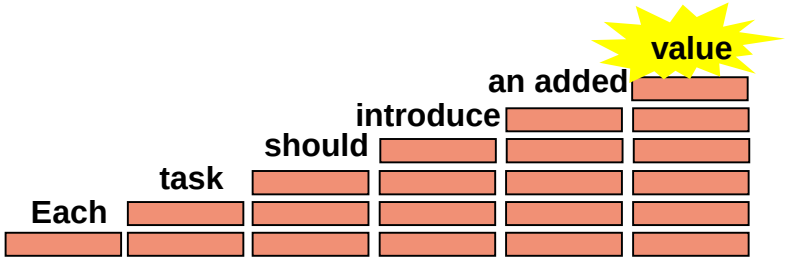
Project constraints

- Understand which are the constraints
  - Time
  - Cost
  - Quality
  - Scope
  - Resources or competences
  - Technology
  - …
- Identify criticality and possible margins



Project plan – some tips

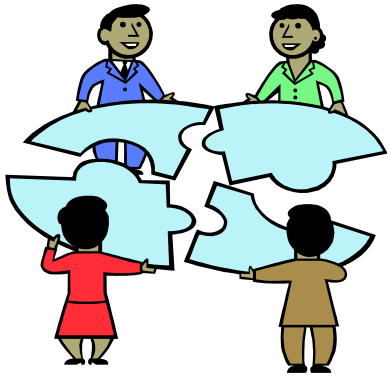
- Focus on products / deliverables



- Go only till the detail level you need to keep track

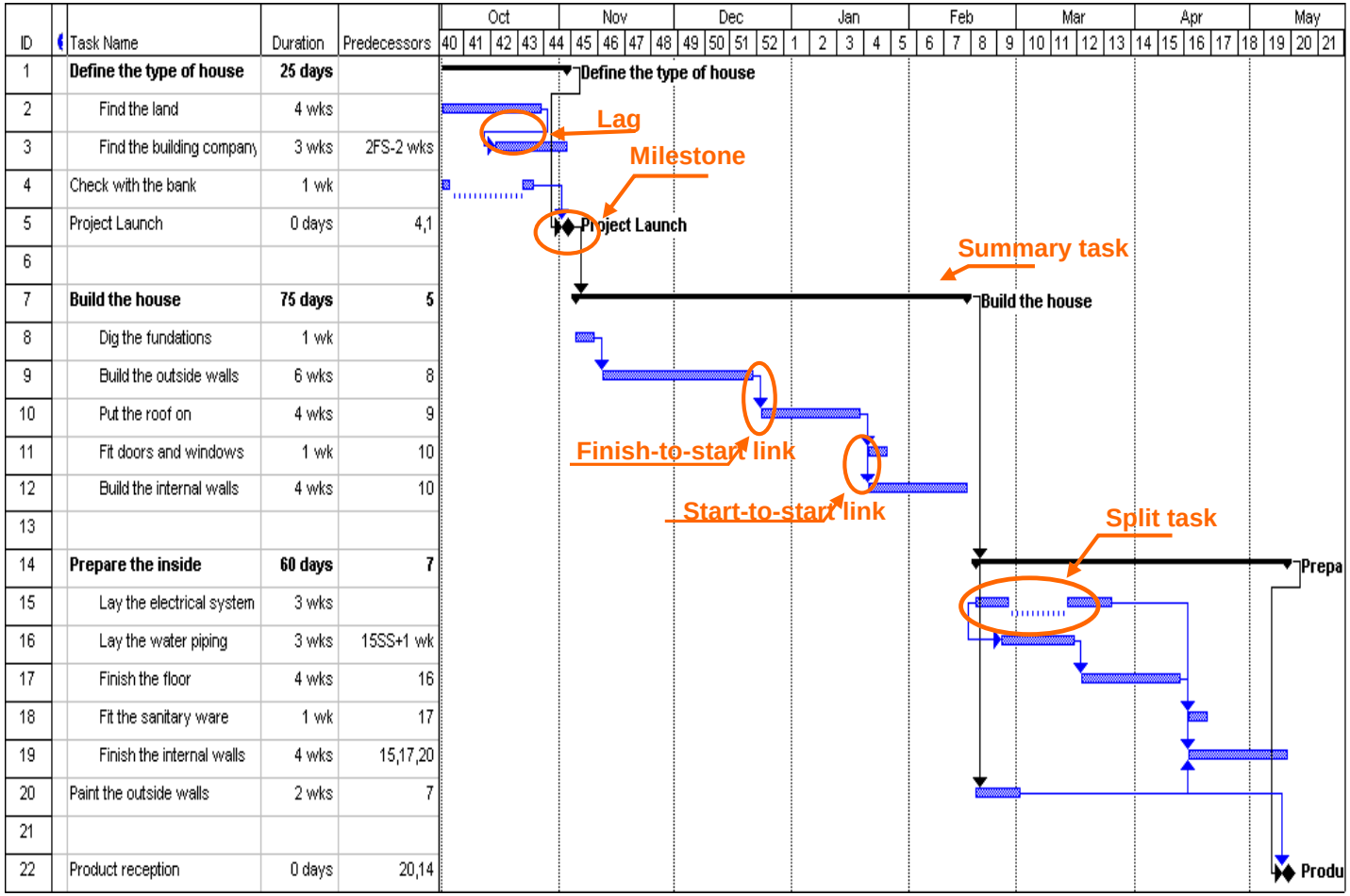
You should be able to see the big picture!

- Do it together with the team



All the team should feel the ownership

Example of a Gantt chart



ID	Task Name	Duration	Predecessors
1	**Define the type of house**	**25 days**	
2	Find the land	4 wks	
3	Find the building company	3 wks	2FS-2 wks
4	Check with the bank	1 wk	
5	Project Launch	0 days	4,1
6			
7	**Build the house**	**75 days**	**5**
8	Dig the fundations	1 wk	
9	Build the outside walls	6 wks	8
10	Put the roof on	4 wks	9
11	Fit doors and windows	1 wk	10
12	Build the internal walls	4 wks	10
13			
14	**Prepare the inside**	**60 days**	**7**
15	Lay the electrical system	3 wks	
16	Lay the water piping	3 wks	15SS+1 wk
17	Finish the floor	4 wks	16
18	Fit the sanitary ware	1 wk	17
19	Finish the internal walls	4 wks	15,17,20
20	Paint the outside walls	2 wks	7
21			
22	Product reception	0 days	20,14

- The planned status should be stored as **baseline**.
- The current status can then be compared to the baseline to check the progress of the project, the differences or the delays.

Risk prioritization

- Identify risks that have a **probability** of impacting the project and define their **impact**

- Address first the most important ones, establish priorities

Simplest method of risk prioritization:

- Rate 1 to 3 both Probability and Impact
  (1 = lowest, 3= highest)
- Evaluate Probability **x** Impact

			Probability		
			3 Very likely	**2** Probable	**1** Improbable
Impact	**3**	High	**9**	**6**	3
	2	Medium	**6**	4	2
	1	Low	3	2	1

Actions **MUST** be taken

Actions **might** be taken

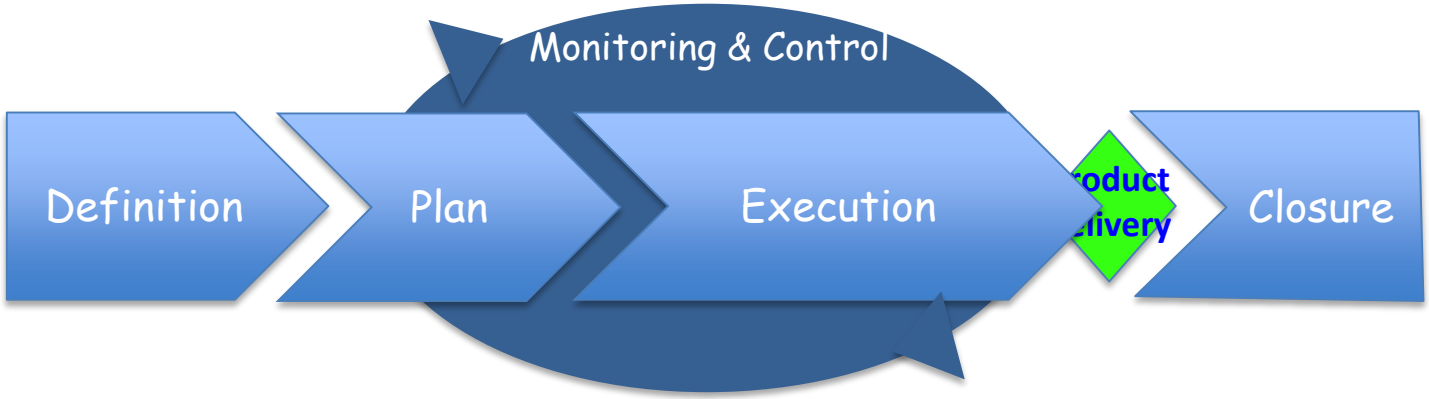
Actions **not needed**

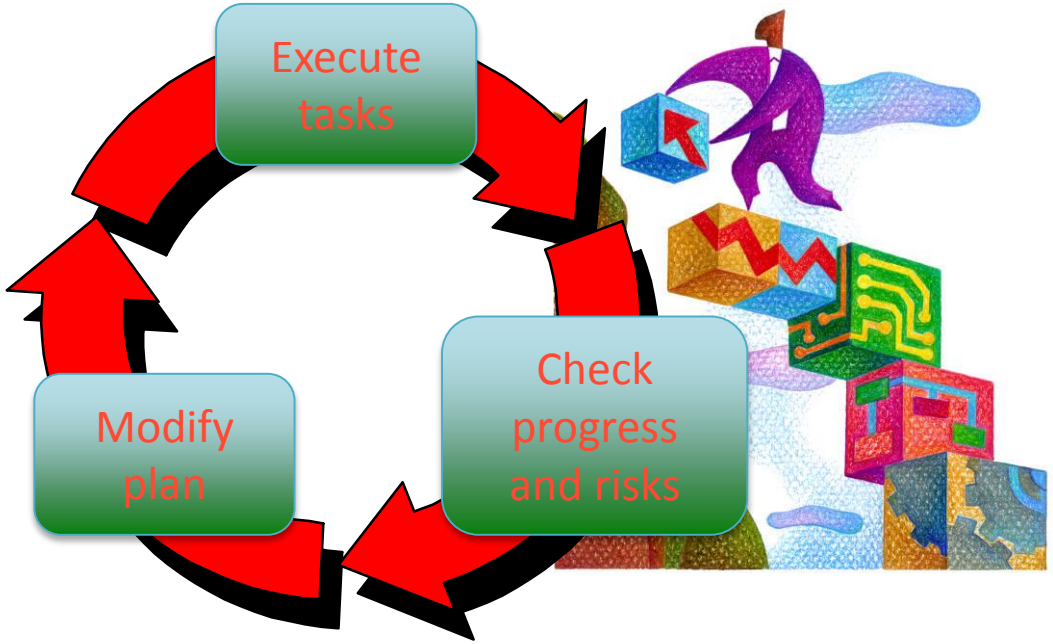
- ***Establish actions to :***
  - ***Avoid the risk***
  - ***Reduce the probability or impact***

OR

- ***Prepare alternative scenarios***
- ***Transfer risk (ex: insurance)***
- ***Accept the risk…. cost vs result***

Execution and monitoring

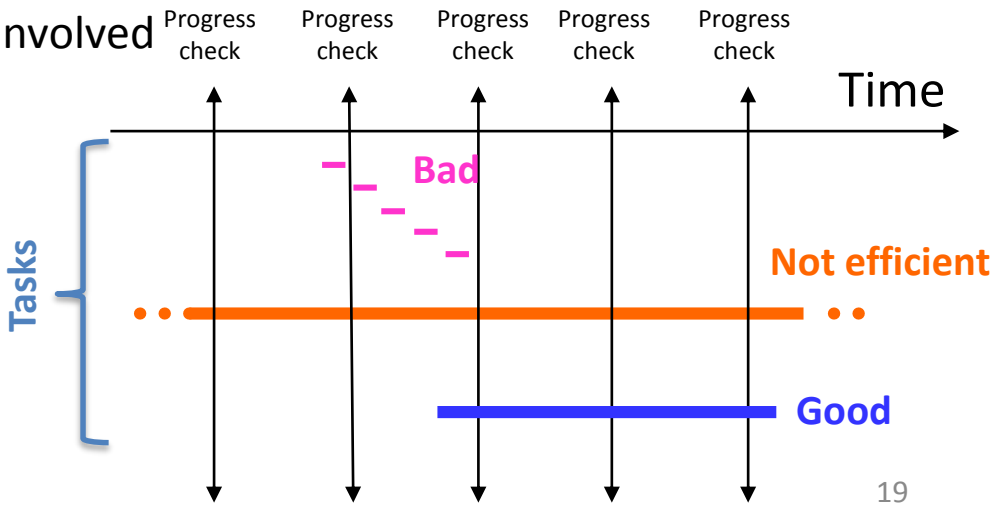




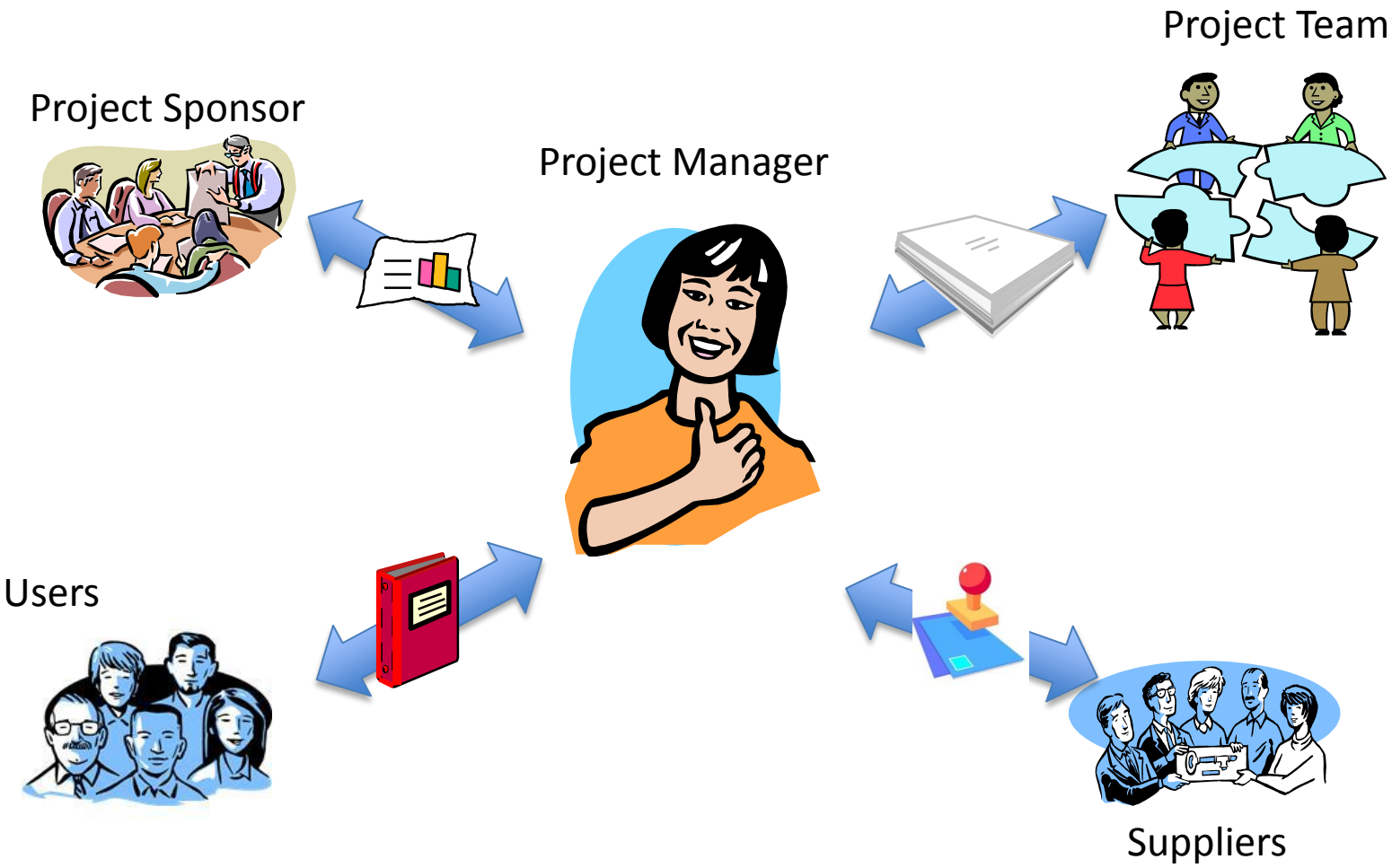
Checking the progress

- Monitoring and controlling
  - To obtain an **objective view** of the status of the project:
    - Know where the projects stands vs the plan
    - To anticipate corrective actions
    - To communicate to management and team.

- How often to check the progress?
  - It depends from …
    - average duration of the tasks involved
    - identified risks
    - complexity / criticality

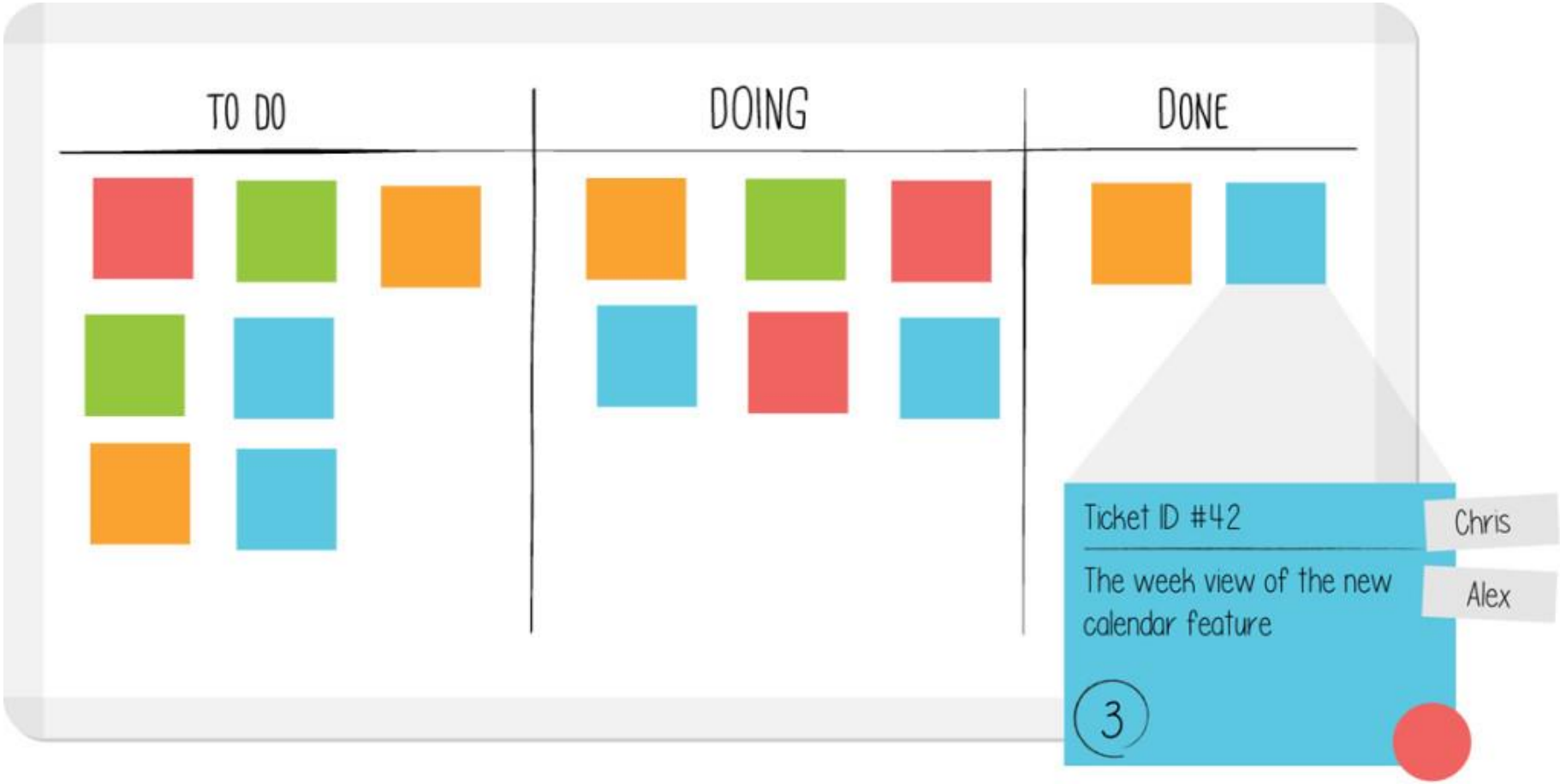


Communication and reporting



Establish which information they need and how to communicate with them

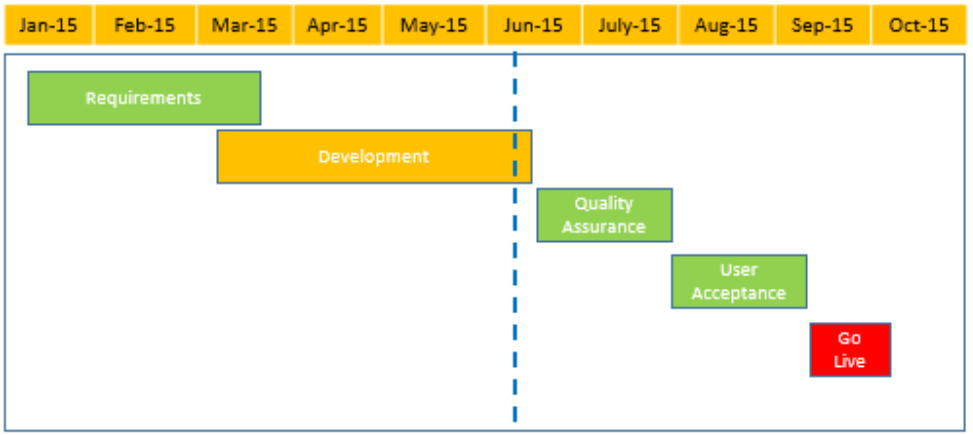
Examples of reporting



Examples of reporting

Project Name	Upgrade Techno-pm.com
Project Manager	Swapnil Wale
Status Date	21-June-2015

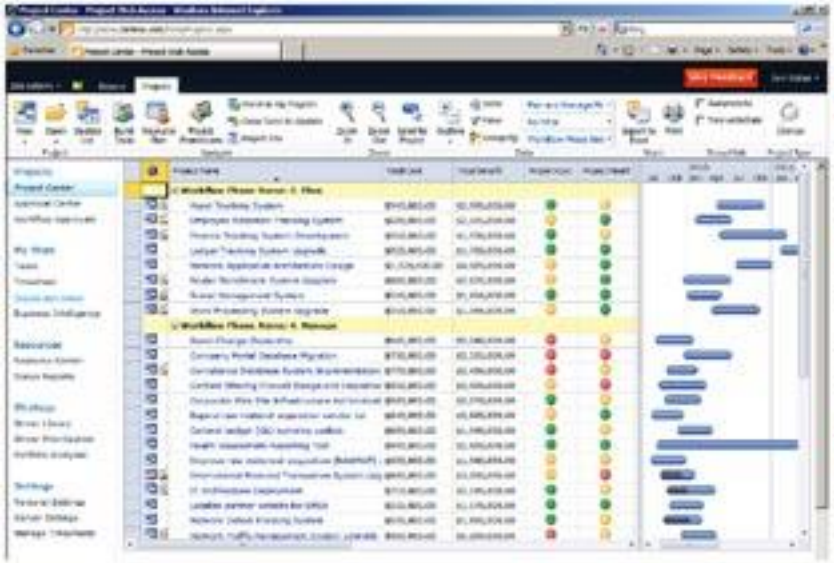
Project Commentary
The project has been initiated and requirements phase is complete. The development phase is delayed due resourcing constraints. Right now we are looking at a delay of 3 – 4 weeks which may affect the go live date.



Schedule	Budget	Risks	Benefits
The dev phase is delayed as the resources for the project were moved to a different project.	Planned Budget : $320,000 Actual Budget : $240,000	New Risks This Period - **2** Total High Risks Open - **5** Total Med Risks Open - **6** Total Risks Open - **13**	The benefits of the project are on track.

#	Risk / Issue Description	Status	Owner	Due Date
013	**[Risk]** The development phase has been delayed as resources allocations were changed. This could happen again delaying the project further. Measures need to be taken to avoid such resources movements again.	Open	SRW	25-June
007	**[Risk]** The requirements have not been signed off so there is a chance of further changes to the requirement.	Open	SRW	13-June
002	**[Issue]** The development servers have not bee commissioned yet. This is delaying the task of verification form the developers and will have a possible impact on the development schedule is not addressed by next week.	Open	TM	15-Aug

Examples of reporting



Project: Company Portal Database Migration
Reporting Date: 5/14/2012
Reporting Period: 1/14/2012 to 1/22/2012
Project Manager: Jan Kotas

Status Overview

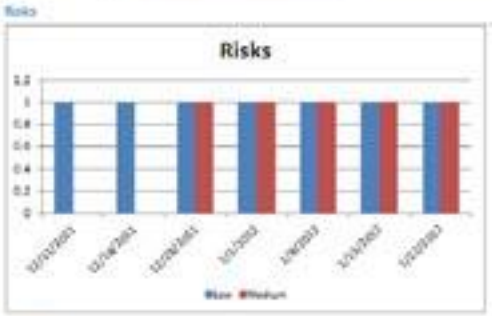
Status Date	Baseline % Complete	Actual % Complete	CPI	CPI Status	SPI	SPI Status
1/1/2012	16.7%	11.0%	1.00		0.93	
1/8/2012	23.4%	16.9%	1.00		0.96	
1/15/2012	28.0%	17.0%	1.00		0.90	
1/22/2012	32.7%	27.0%	0.95		0.92	

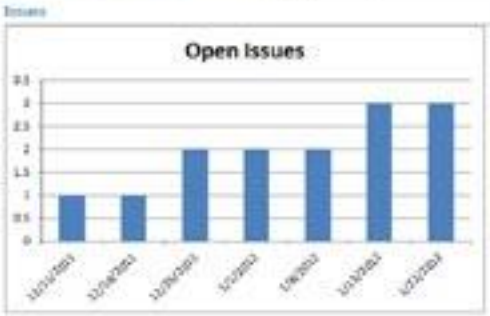
Tasks due for Quality Control

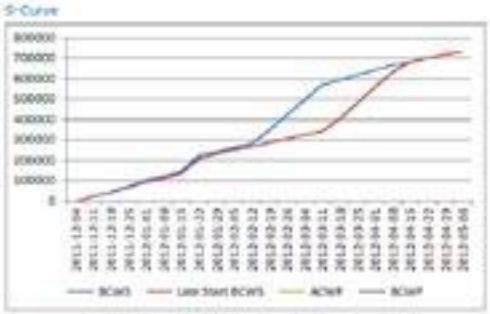
WBS	Task	Action By
4.2	Development --> Identify modular/tiered design parameters This action will be completed for the IT tiers based on SteerCo decisions.	Jessica Arnold
4.3	Development --> Assign development staff Resource requirements to be discussed with Alex.	Jessica Arnold
7.1	Documentation --> Develop Help specification	Melanie Spackmann

Tasks completed during the last Reporting Period

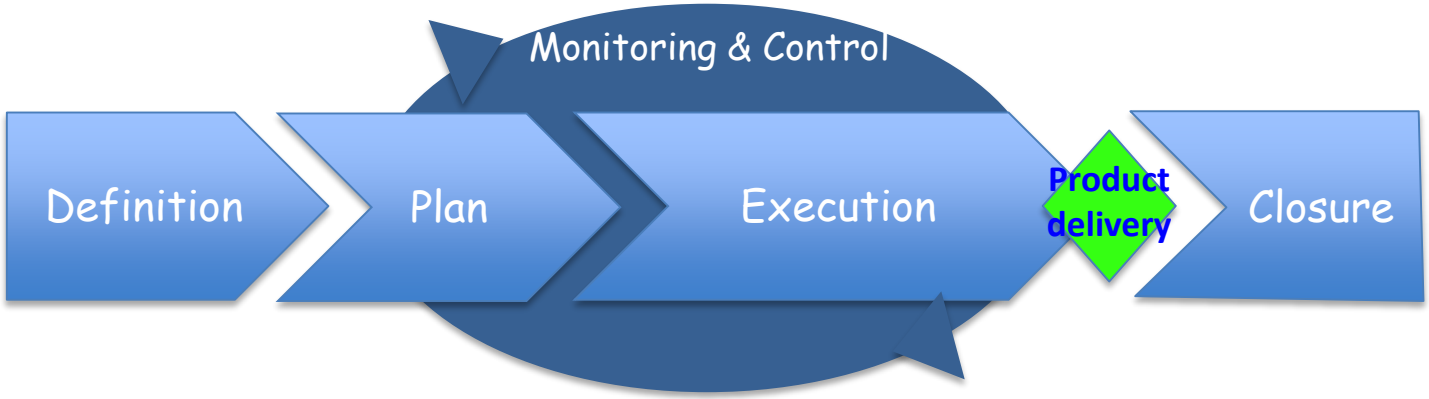
WBS	Task
3.4	Design --> Review functional specifications
3.5	Design --> Incorporate feedback into functional specifications







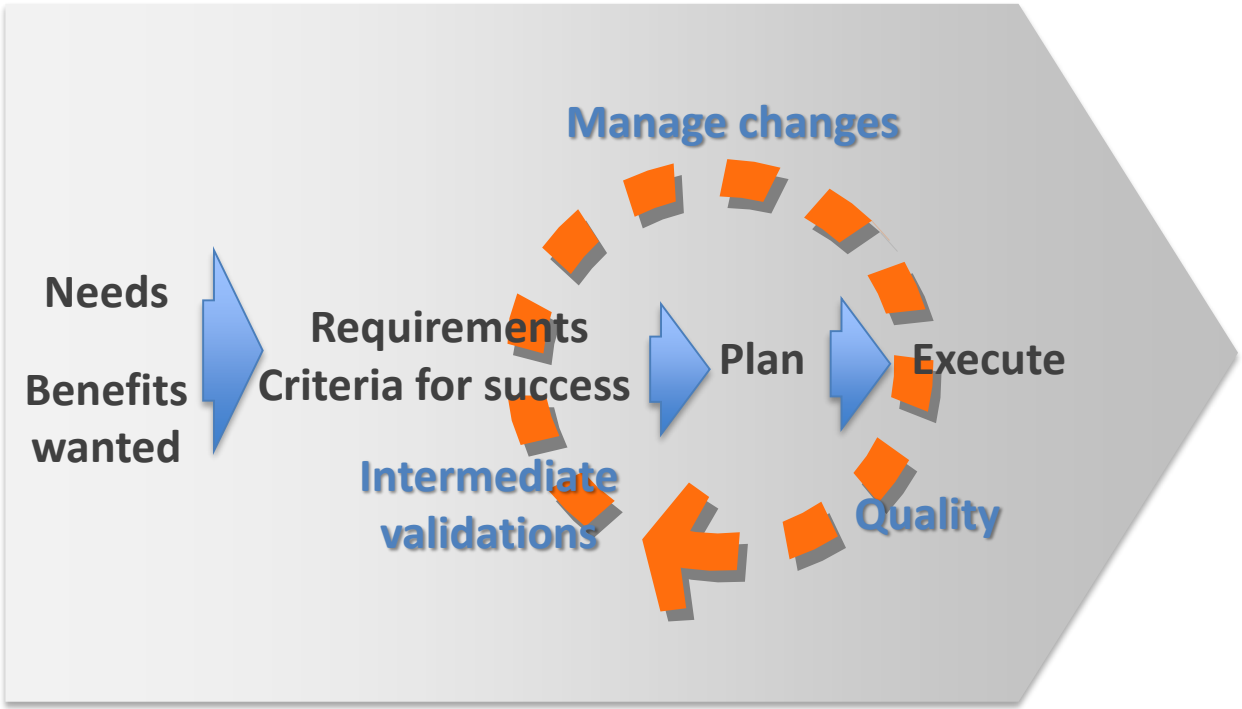
Product delivery

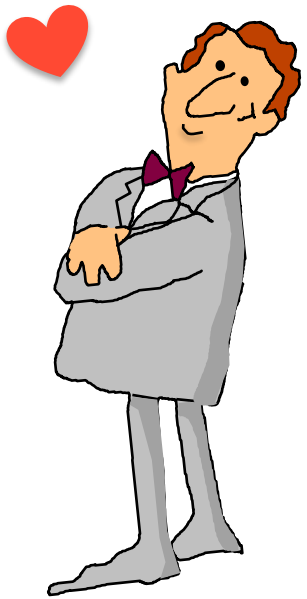


A successful product

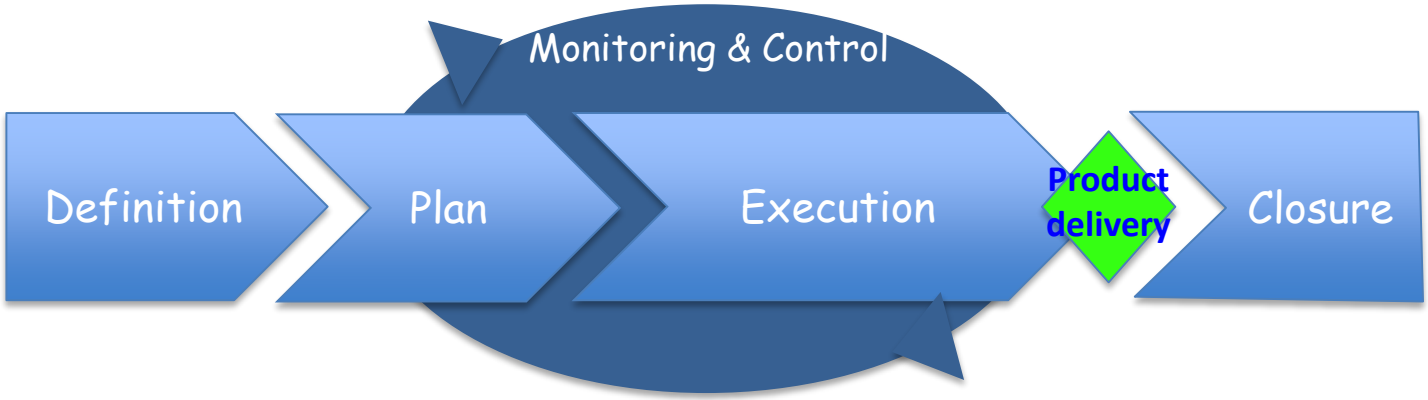
The product is the reason for the project's existence.

A successful product creates value / benefits for the customer





Closure



- *What has been done well? ?*
- *What could have been changed?*
- *What could have been improved?*

Review to do better next time!

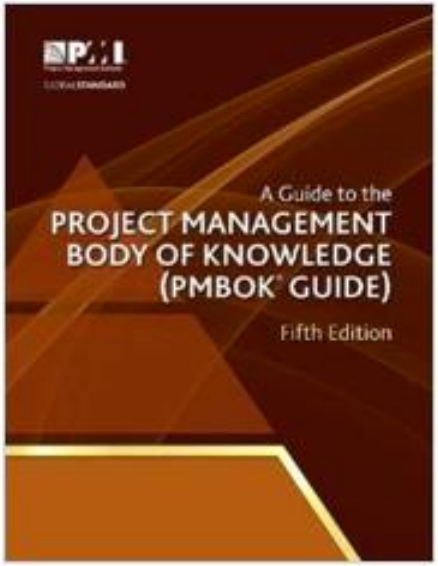
When the project or a module is completed

- Review:
  - Product vs requirements
  - Project execution vs plan
  - Risks

- Apply lesson learnt in next module /project

AND… don't forget to celebrate!

MAIN METHODOLOGIES



- Founded in US in 1969
- 650,000+ members in 204 countries.
- PMI produced the first Project Management Body of Knowledge (PMBOK) in 1996. Now arrived to 5th release
- The **Project Management Body of Knowledge** is a set of standard terminology and guidelines (a body of knowledge) for project management
- PMI introduced many credentials and a certification.

http://www.pmi.org

Credentials:

Certified Associate in Project Management (CAPM) - 3 days

understanding of fundamental project management theory, principles, techniques and methods.

Project Management Professional (PMP) - 5 da

Validates the competence to perform in the manager

Preliminary experience required

Other credentials

Program Management Professional (PgMP)
Portfolio Management Professional (PfMP)
PMI Agile Certified Practitioner (PMI-ACP)
PMI Risk Management Professional (PMI-RMP)
PMI Scheduling Professional (PMI-SP)
PMI Professional in Business Analysis (PMI-PBA)

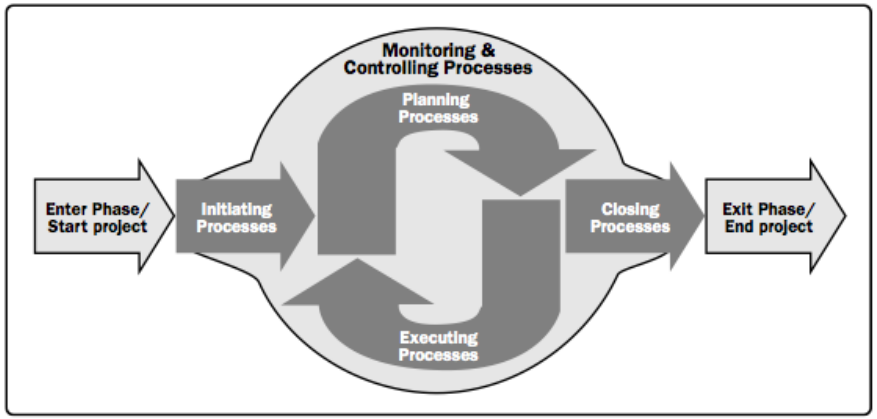


Figure 3-1. Project Management Process Groups

PMI methodology is based on

- **5 Process Groups** to describe the flow of the work
- **10 Knowledge Areas** to cover what a project manager needs to know in order to successfully manage a project

Table 3-1. Project Management Process Group and Knowledge Area Mapping

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality Management	8.2 Perform Quality Assurance	8.3 Control Quality	
9. Project Human Resource Management		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

PRINCE2®

- **PRINCE2** : **Projects In Controlled Environments, version 2**

- Founded In 1989 by the Central Computer and Telecommunications Agency (CCTA) and then adopted more widely in UK government and in the private sector

- PRINCE2 is now a *de facto* standard for project management in many UK government departments and across the United Nations system.

- 1.000.000+ exams taken worlwide

https://www.prince2.com/eur

Qualifications:

- **PRINCE2 Foundation :**

  PRINCE2 principles, terminology - 3 days

- **PRINCE2 Practitioner :**

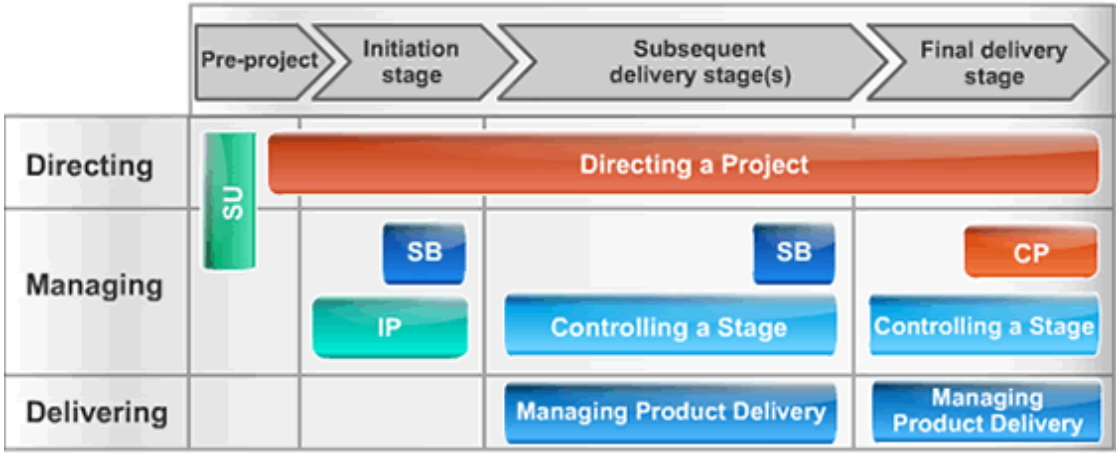
  apply PRINCE2 to the running and managing of a project – 5 days (Foundation + 2 days)

  No preliminary experience required

Others qualifications:

- **PRINCE2 Agile™**

PRINCE2®



Key
SU = Starting up a Project
IP = Initiating a Project
SB = Managing a Stage Boundary
CP = Closing a Project

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Highlights:
1. UK Government approved process oriented methodology
2. Reduces impact of risks like staff movement, decision making, stakeholder alignments etc

- PRINCE2® is a process-driven project management methodology based on 7 processes

- PRINCE2® covers the management, control and organization of a project. It devotes a special attention to roles and responsibilities

Agile

- In Feb 2001, a number of leading thinkers who were using “Lighter” software development methods (The Agile Alliance) agreed on the Manifesto for Agile Software Development
- Agile software development is a set of principles in which requirements and solutions evolve through collaboration between self-organizing, cross-functional teams.
- Agile project management is used widely in the world not only in software development but also in other areas.
- Agile methods include SCRUM, DSDM, Extreme Programming (XP), FDD , Lean…

https://www.agilealliance.org

Agile certifications

The **Scrum Alliance** offers a number of professional certifications:

Certified Scrum Master (CSM)

to gain an understanding of the Scrum framework – 2 days

Certified Scrum Developer (CSD)

CSM + "Agile Engineering Practices" technical course - 3 days

Certified Scrum Professional (CSP)

one of the above + 36 months of successful Agile/Scrum work experience

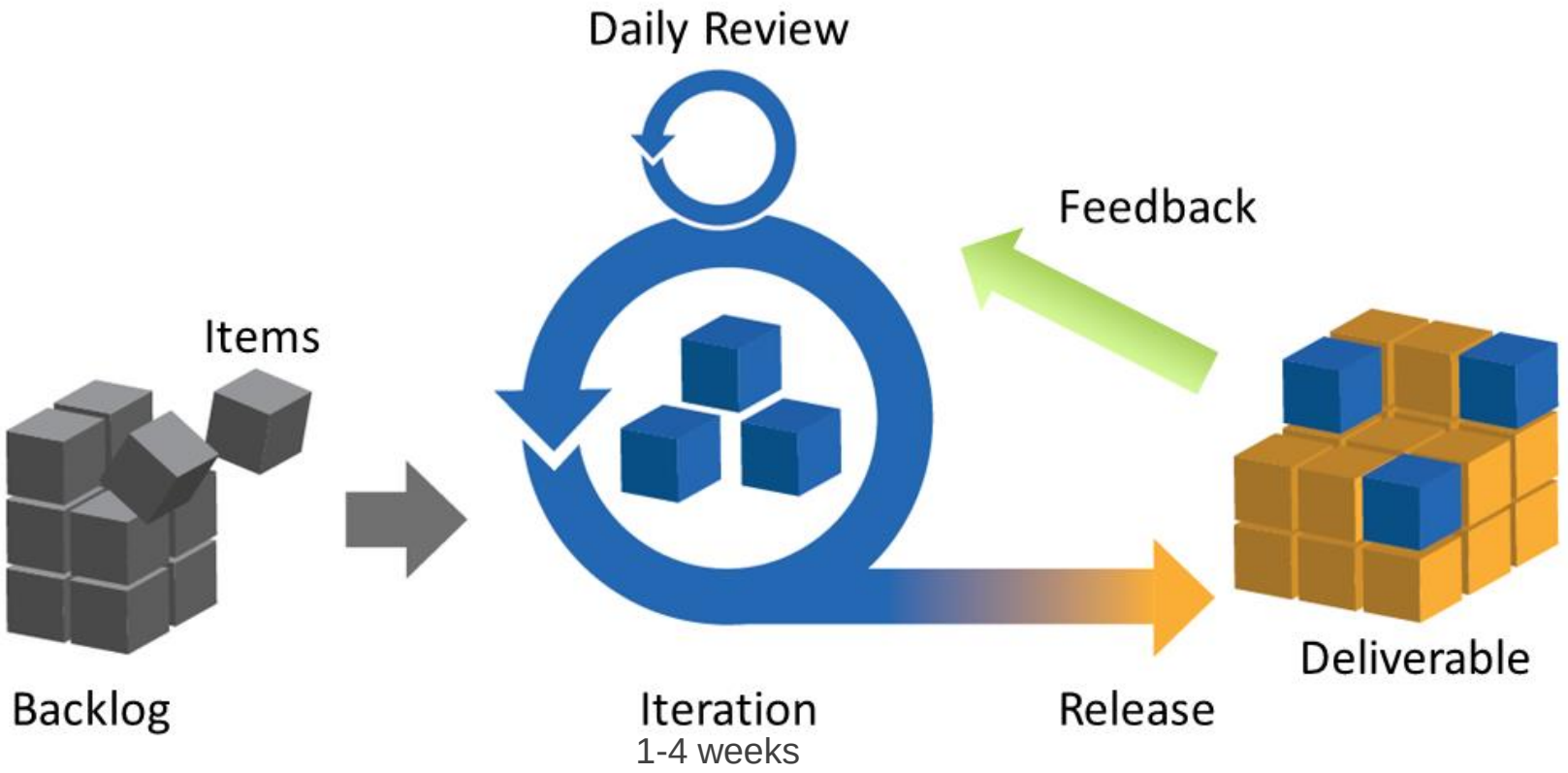
Other certifications:

PMI Agile Certified Practitioner (PMI-ACP) – 3 days + experience

experience **:** 2,000 hours of general project experience + 1,500 hours working with agile methodologies.

PRINCE2Agile Practitioner Certificate – 3 days + being a PRINCE2 practitioner

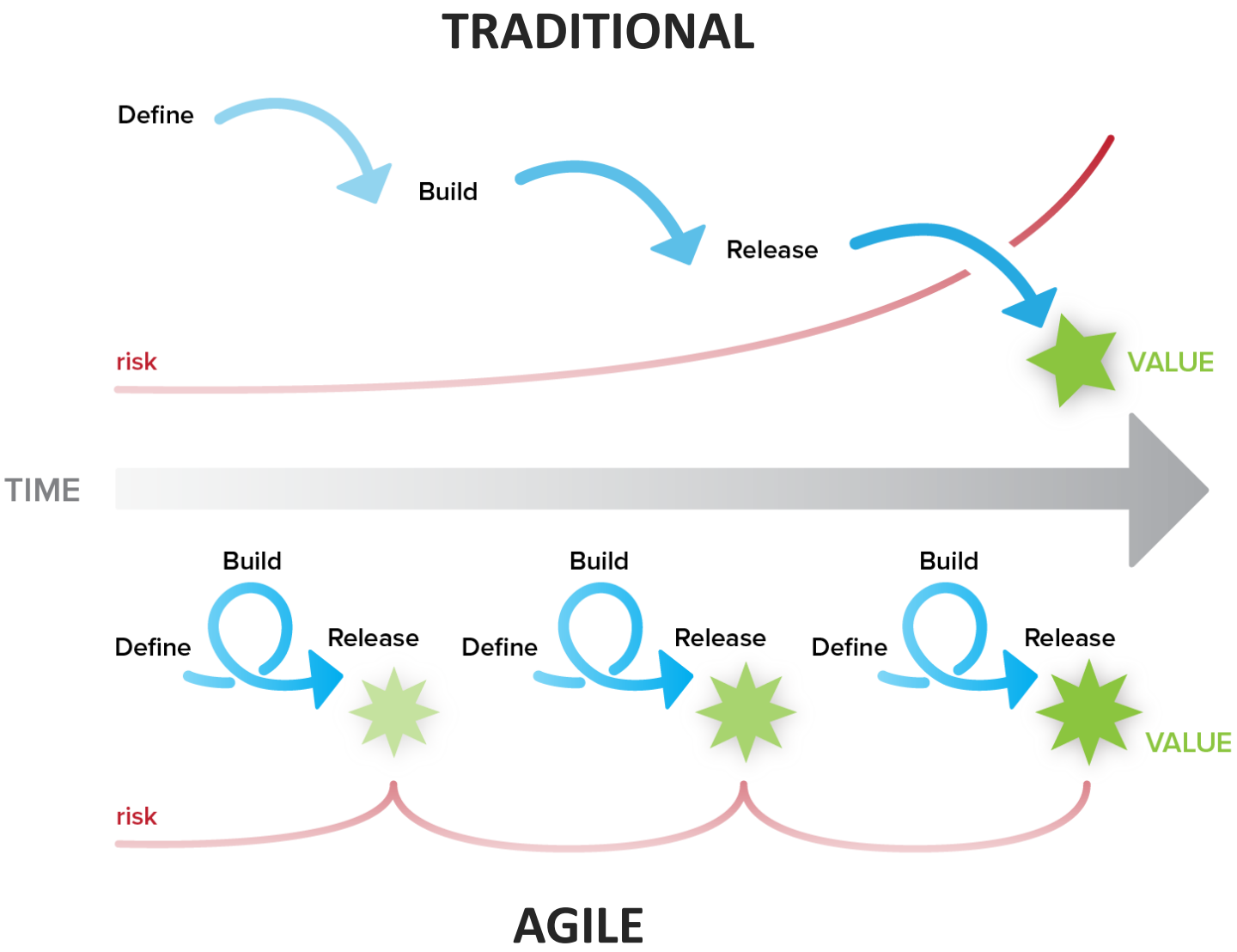
Agile



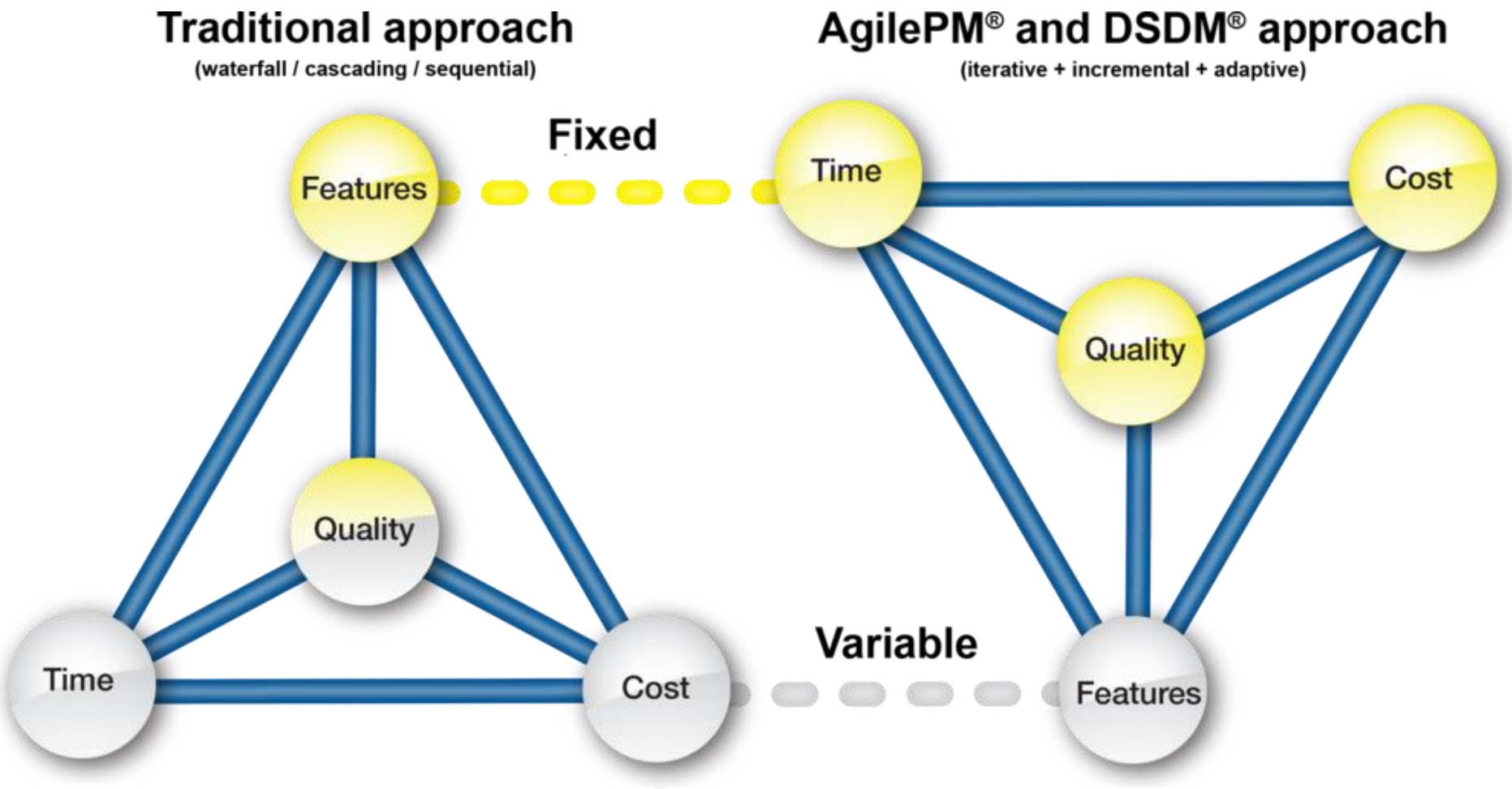
- Agile is based on an iterative, incremental method of managing the design and build activities.

- Agile is based on the team committing to achieve a goal, organizing itself and delivering at regular small intervals

Development methodologies comparison



Focus comparison



… and for the future?

- Blended methodologies
- Product value and benefits more central

- Business Model Canvas
- Lean Start Up

THANK YOU!

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