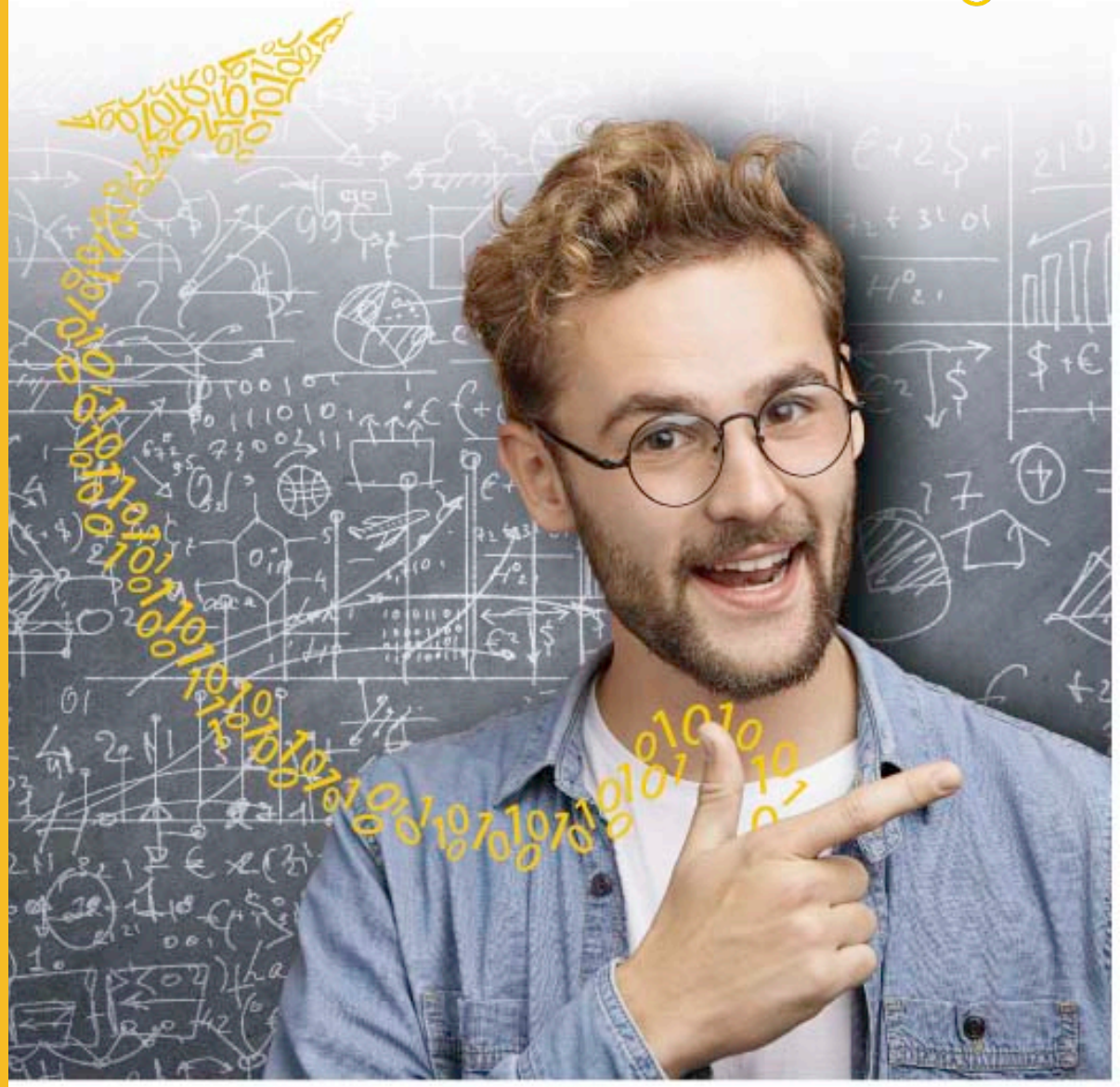
IT Project Management (ITPM)



June 27, 2020

Lionel Pilorget

Agenda

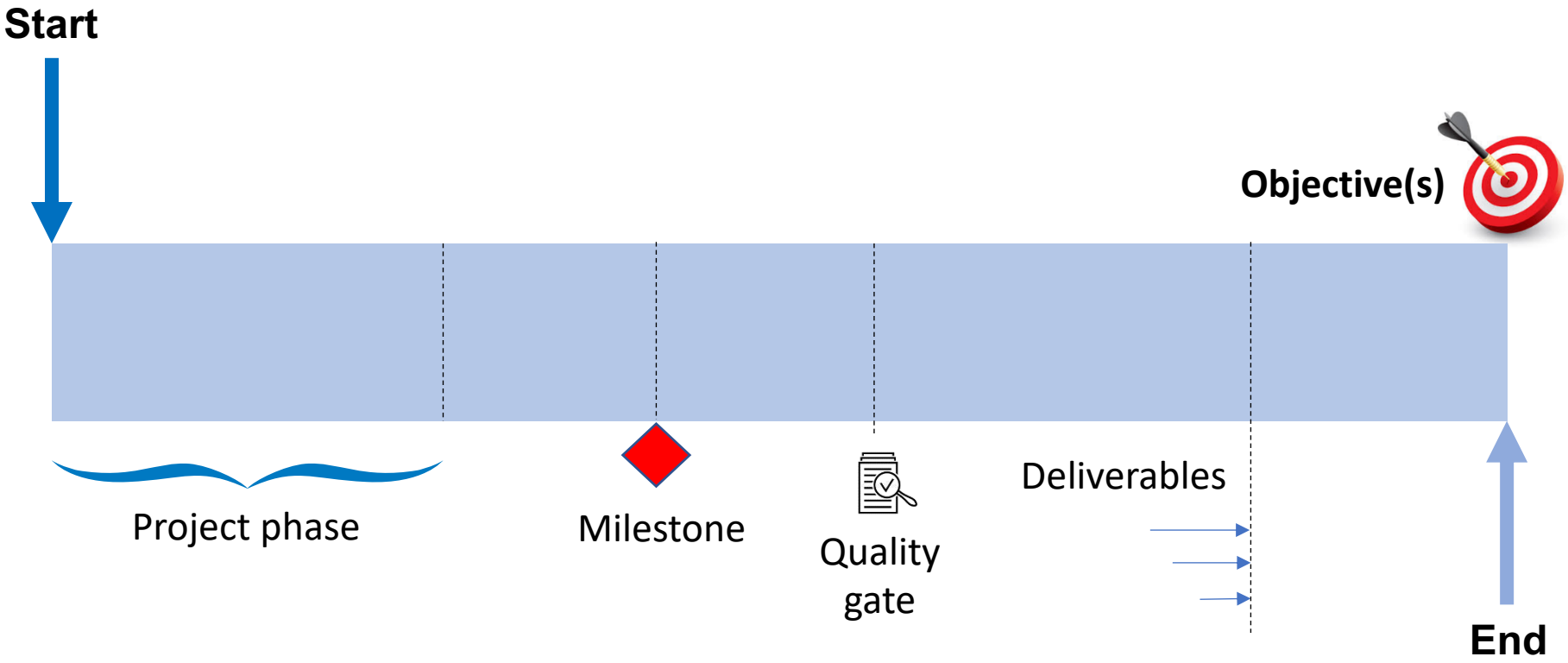
- What is an IT Project?
- Key elements of ITPM
- Plan, organize and manage risks (Exercise)
- Industrializing IT projects
- From Project to Product
- The hybrid approach

Ceci n´est pas un projet

Ceci n´est pas un projet.

See: https://www.khanacademy.org/humanities/art-1010/dada-and-surrealism/surrrealism/v/magritte-the-treachery-of-images-ceci-n-est-pas-une-pipe-1929

Project Components



Definition of an IT Project

A project is a temporary endeavor undertaken to create a unique product, service, or result.

Source: Project Management Body of Knowledge

An IT project is a temporary endeavor undertaken to create a unique product, service, or result by introducing, extending, upgrading or decommissioning IT Systems

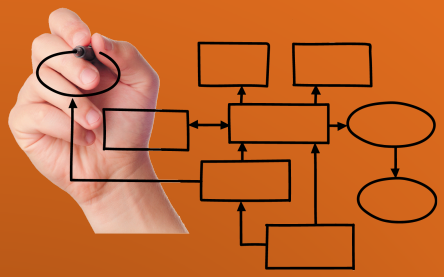
No risk no fun

Don´t experiment: use the ITPM

SUCCESSFUL IT PROJECT MANAGEMENT

3 Key elements of a PM method

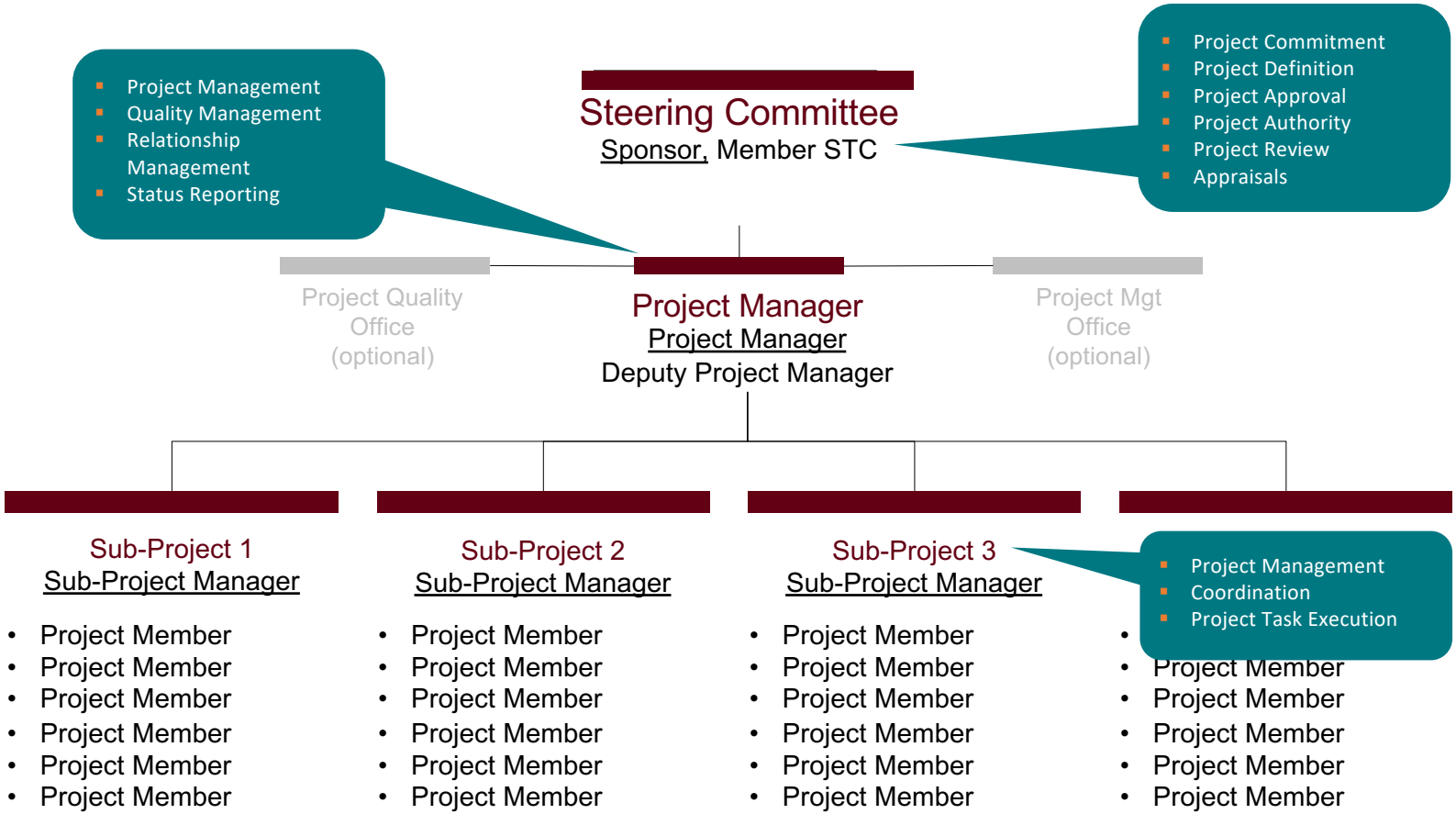
Project Organization



Project Phases

Support Processes

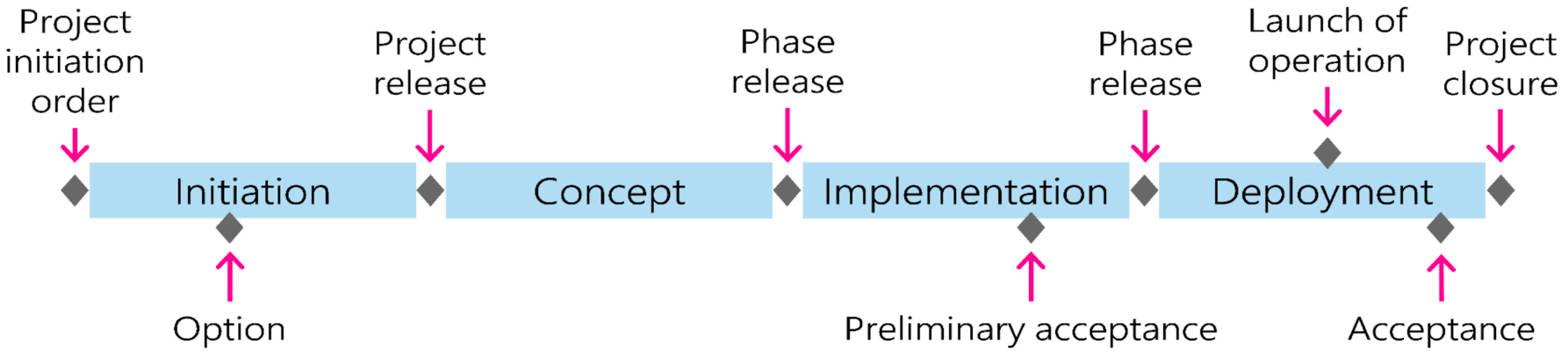
Project Organisation



Example: RACI for Projects

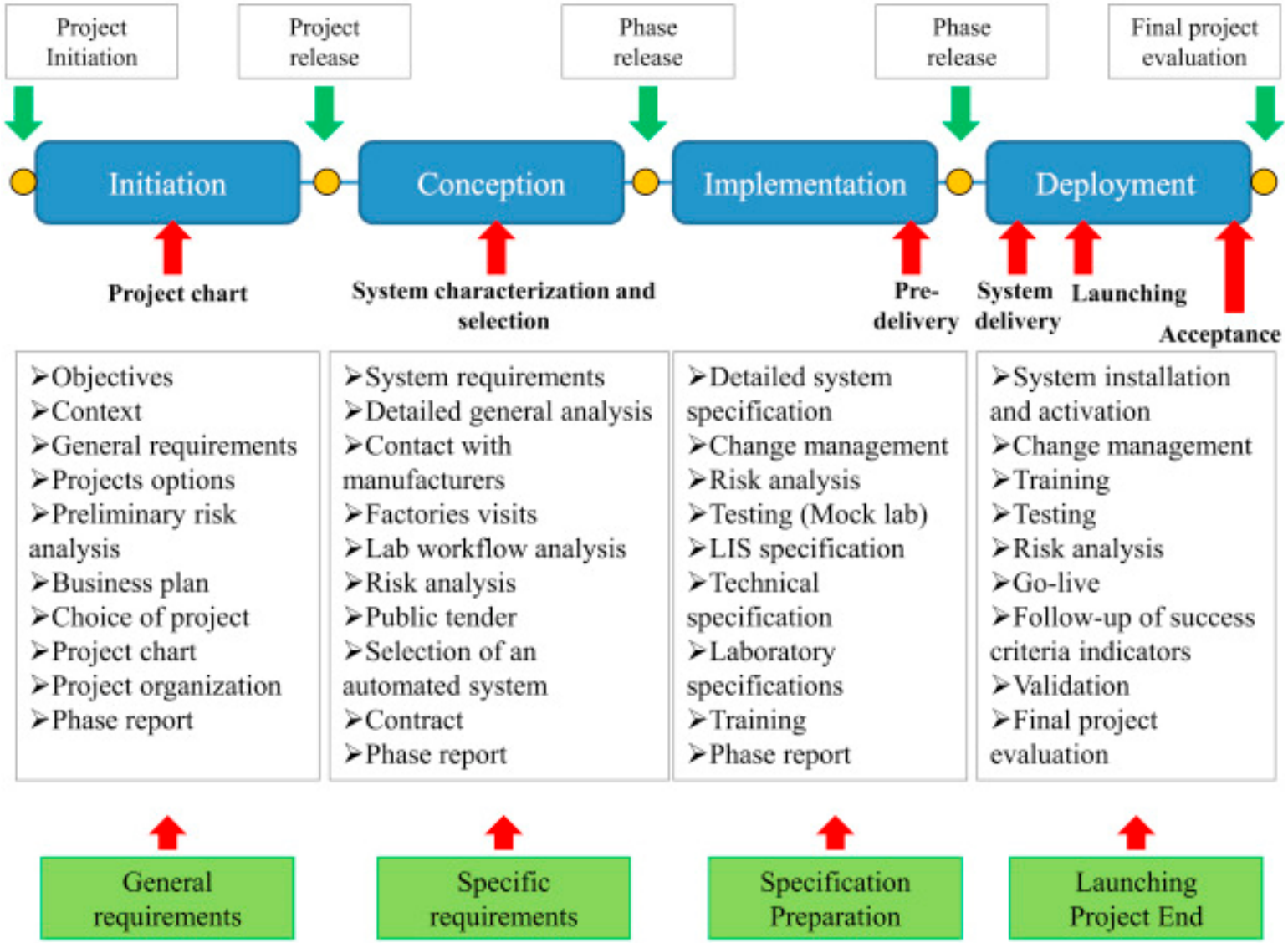
W: writer / R: Reviewer / A: Approval / I: Informed					*project specific*																				
Phase	**Deliverable**	Board of Directors	Portfolio Manager	**STC (Steering Committee)**	**Sponsor**	**Project Manager (+ PMO)**	**Project Quality Office**	**Sub-project Manager**	Business Analyst	Key User	Process Owner	Business Stakeholders	Finance - Controlling	Head IT	Test Manager	Test coordinator	IT Development	Head IT Development	Training Manager (HR)	Expert (technical or Business)	Trainer (K-user, Business Analyst or specific)	System Owner (Technical)	Head IT Production
Phase 1: Initiate	PM-Template_Project mandate.doc		R	I	A	W						I		I									
	PM-Template_Business Case.xls	A	R	A	A	W	I						R										
	PM-Template_Feasibility study.doc		R	(A)	A	W	R		W	R	A	R		R				R					
	PM-Template_Project Charter.doc		R	A	A	W	R	R				R		R									
Phase 2: Define	PM-Template_Request for Proposal.doc			A	A	R	R	W	W	R	A	R		R									
	PM-Template_Business specifications					A		R	W	R	A	R		R			R						
	PM-Template_Technical specifications and operation					(A)		R	R					A			W	A					W
	PM-Template_QA Strategy					A	R	R	W			R			I	R							
Phase 3: Build	PM-Checklist_Phase-Build					W		W															
	PM-Template_Training delivery					A		R	W	R									W				
	PM-Template_Training material					A		R	W	W	R	R								R	W		
	PM-Template_Working Instruction					A		R	W	W	A	R								R			
	PM-Template_System documentation and operation manual					I		I												R		W	A
Phase 4: Implement	PM-Template_Cutover scenario					A	R	W	W	R		R		R								W	A
	PM-Template_Acceptance Protocol.doc					R		R	R	W	A				R								
Phase 5: Post-Implement	PM-Template_Final report.docx			A	A	W	R	R				A		A									A
	PM-Template_Final presentation.pptx				A	W	R	R															

Project Phases according to Hermes



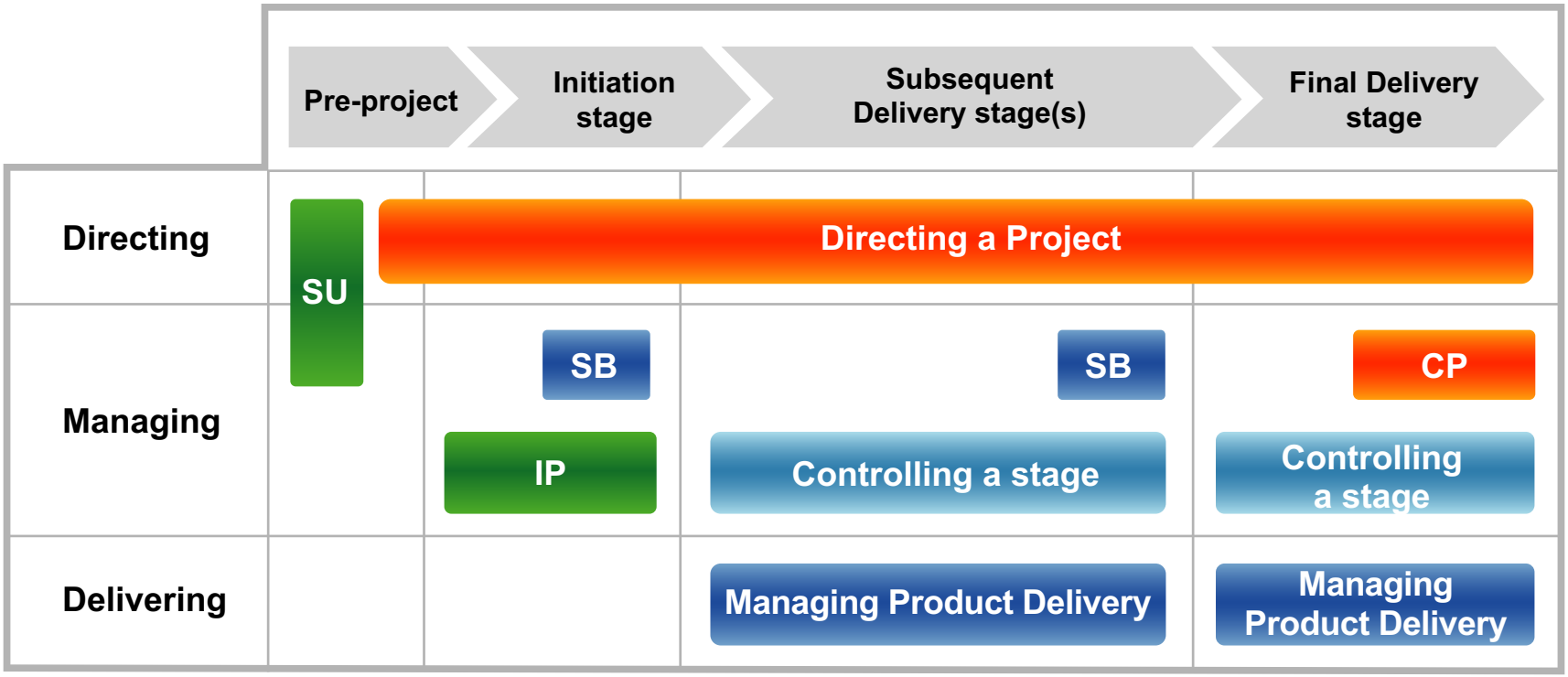
Source: hermes.admin.ch

Example based on Hermes



Source: https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X(17)30212-4/fulltext

Project Phases according to Prince2

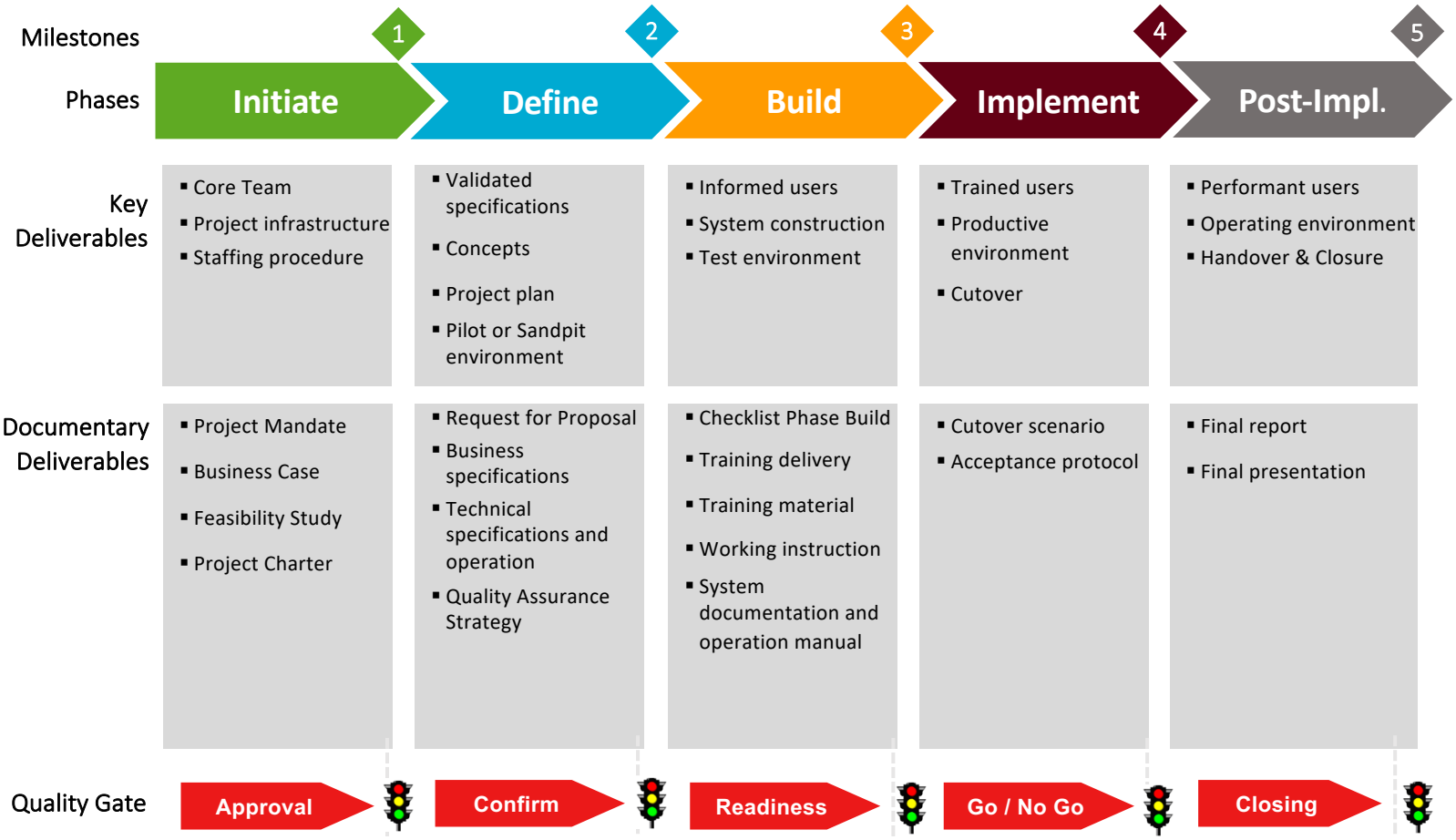


Key
SU = Starting up a Project
IP = Initiating a Project
SB = Managing a Stage Boundary
CP = Closing a Project

Based on OGC PRINCE2 ® material. Reproduced under licence from OGC.

Source: Prince2

Proposed Project Phases

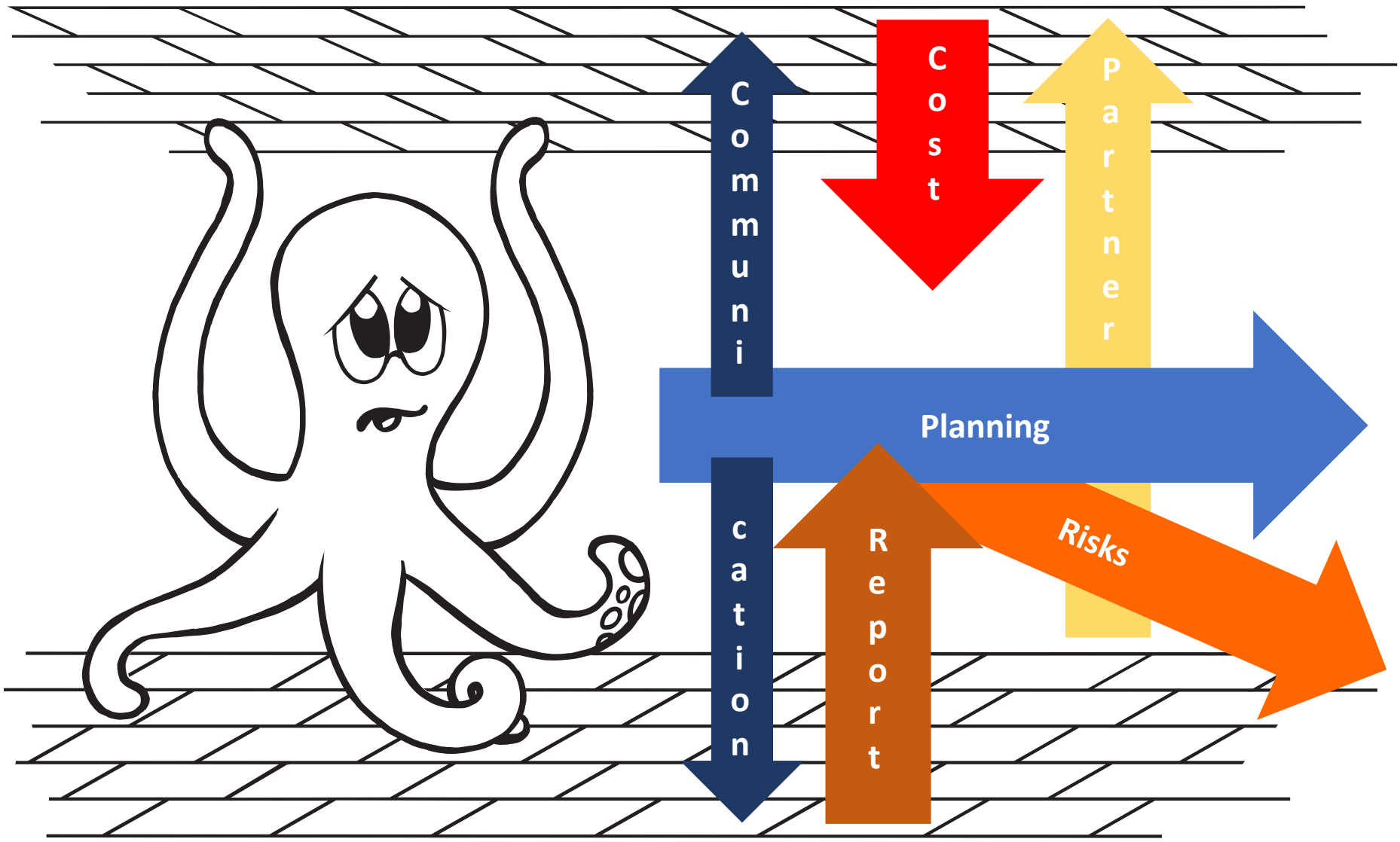


Adjust the phases to the project complexity

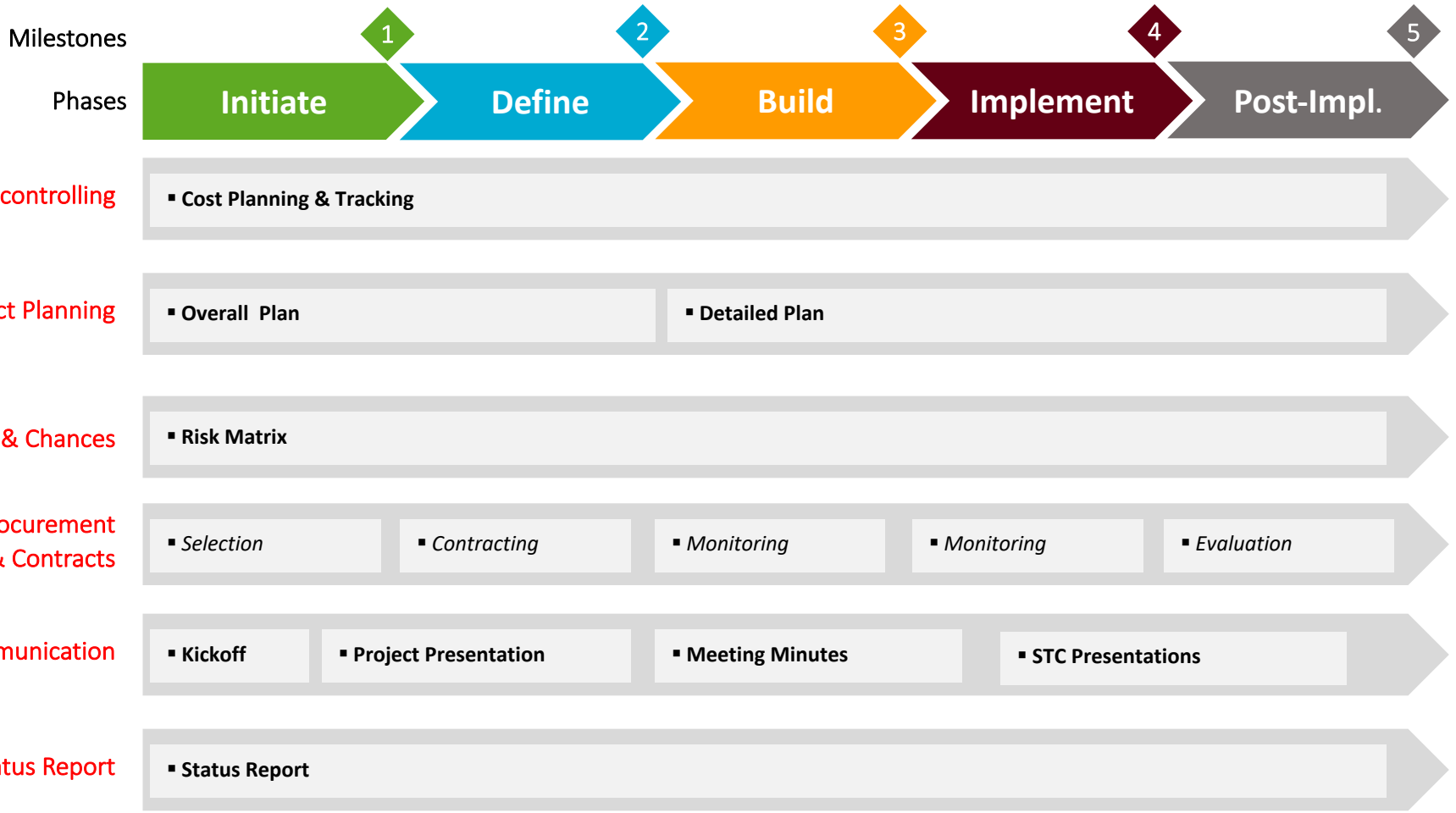
	Quantitative	Qualitative	Tools
Small	- less than 50 mandays - less than 1 month - less than 50 TCHF	- in one business area only - little complex - no many participants	- Project controlling - Low coordination
Medium	- more than 50 mandays - less than 6 months - between 50 and 250 TCHF	- cross-functional - complex - strategic	- Project Method - Risk Management
Big	- more than 50 mandays - more than 6 months - more than 250 TCHF	- very cross-functional - highly complex - very strategic	- Project Method - Risk Management - Program Management

What is a Support Process?

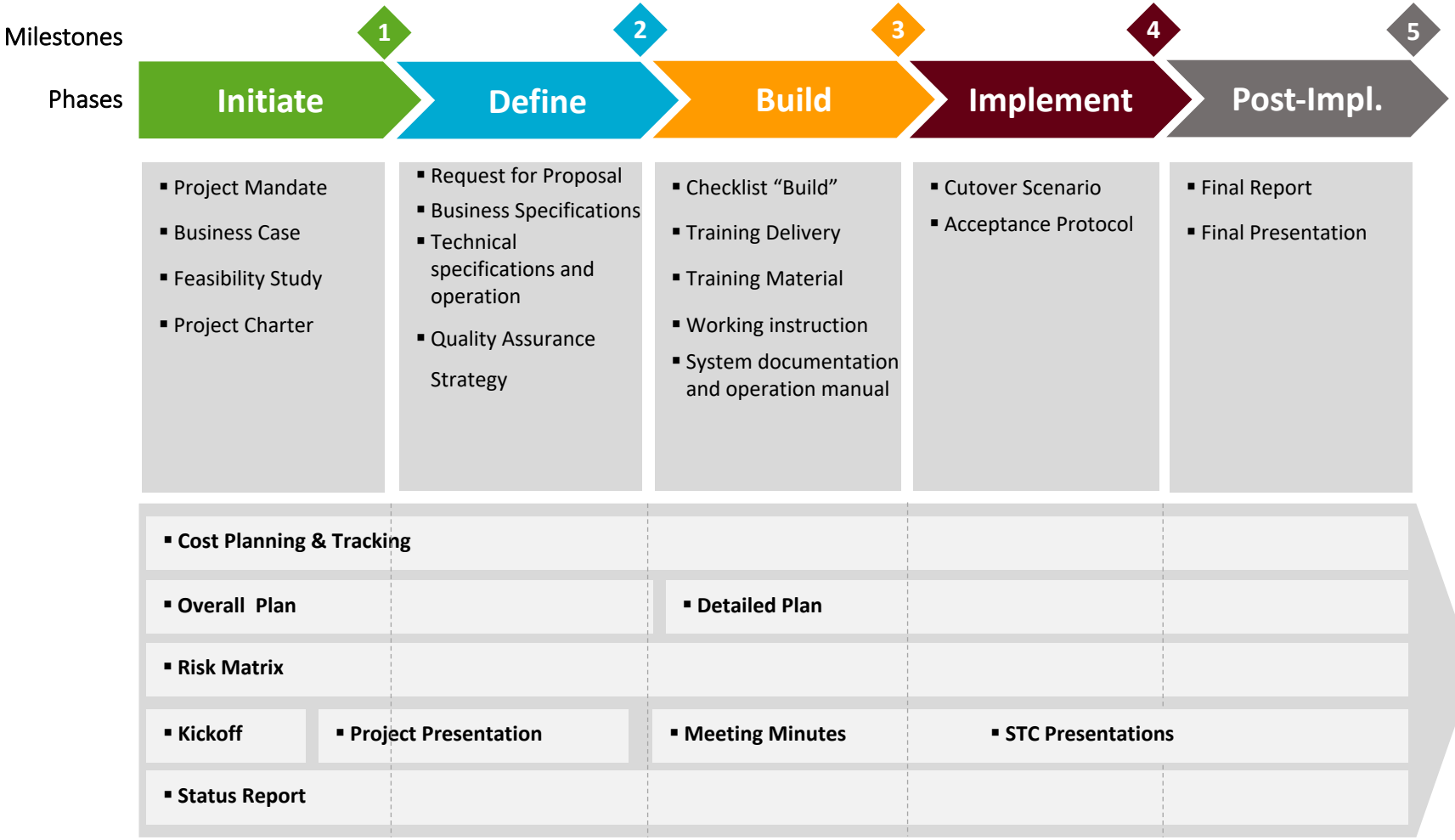
Proposed Support Processes



Deliverables for Support Processes



Project Management Toolbox



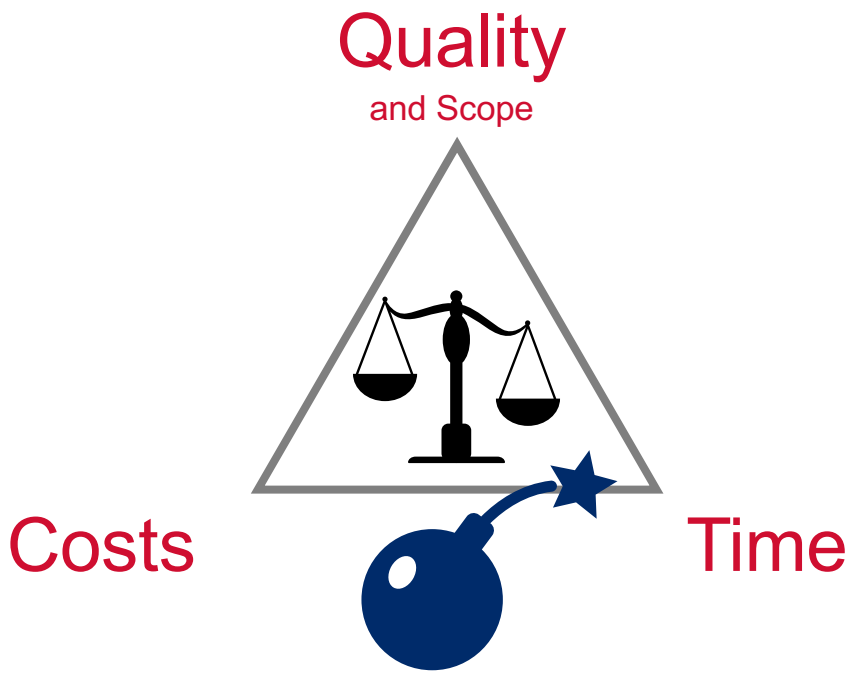
A Project grows always with the team together

Milestones

1 **Initiate** | 2 **Define** | 3 **Build** | 4 **Implement** | 5 **Post-Impl.**

The ultimate challenge…

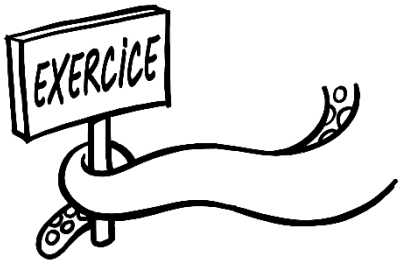
Projects and all tasks are always driven by …

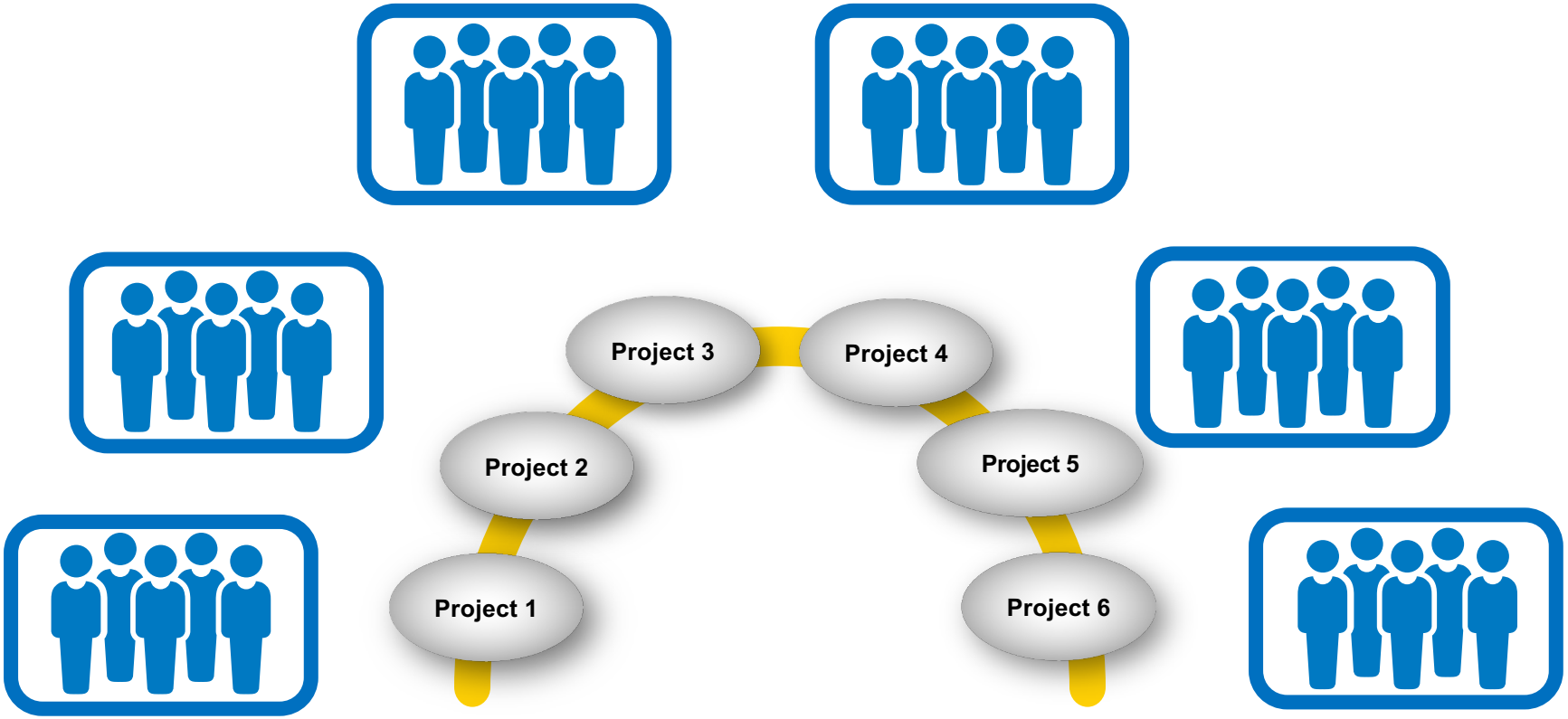


… and it is the ultimate challenge to keep that in balance !

Manage an IT Project

- Project duration
- Budget estimation
- Project Organigram
- Risk Matrix





Helpdesk Outsourcing

The company has different locations over 4 continents and wants to harmonize the helpdesk processes.
The IT Management asks you to investigate possibilities to reduce IT costs, especially by analyzing an outsourcing model in India. This should apply to IT Helpdesk and 1st Level Support.

Data Entry outsourcing

Outsource your data entry work, or hire entry agents.

Learn More

Web Developement outsourcing

Outsource troubleshooting

Learn More

IT Support outsourcing

IT Support for your Business or for your customer. Build your team.

Learn More

Network Support outsourcing

Outsource troubleshooting

Learn More

Help Desk otsourcing

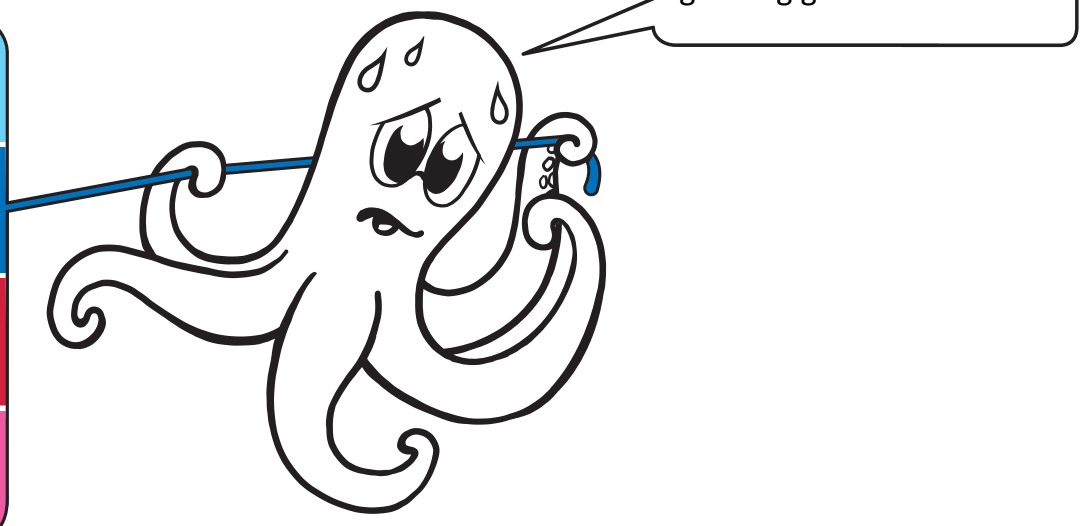
Outsource your help desk to our technical agents.

Learn More

Global CRM

The company wants to have a global CRM system in place to manage local and international customers with the same platform.
The idea is to have a cloud solution in place so that customer data sets are available all over the world as some customers become global players.

- Multiple Vendors providing on premise CRM Solutions at various business locations
- Data management processes are not clearly defined, data duplication and redundancy Is a problem
- Maintaining multiple CRM systems is costly & inefficient; internal support needed
- Integration with marketing is not possible; no clear customer profiles & journeys are created



eBilling

Saving time, paper and money…

- Send invoices electronically to our customers
- Direct delivery of e-bills from our software solutions
- No printing and shipping costs
- Better data quality: no need for subsequent credit data enquiries
- Higher delivery rate as there is no change of address and quicker payment receipt
- Unchanged credit processes

Cloud-based HR Management

Outsourcing of Payroll and Personnel Administration

- More time for core business?
- Cost effectiveness
- Need for clearly defined processes especially fro the routine tasks
- No in-house skills in HR Management?
- Need for smart Engagement and Recruitment through leveraging social data

New data center

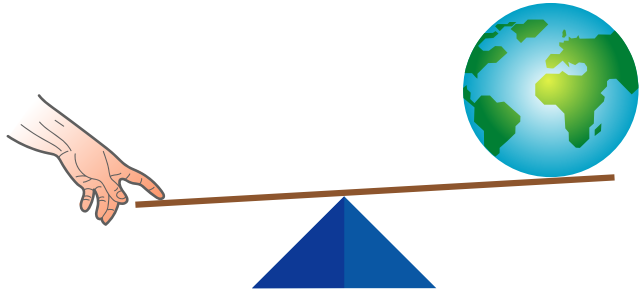
Many HW are end of life and the current data center is not compliant anymore as it does not fulfill the new security requirements. The idea is to move from the in-house infrastructure to a modern cloud infrastructure.

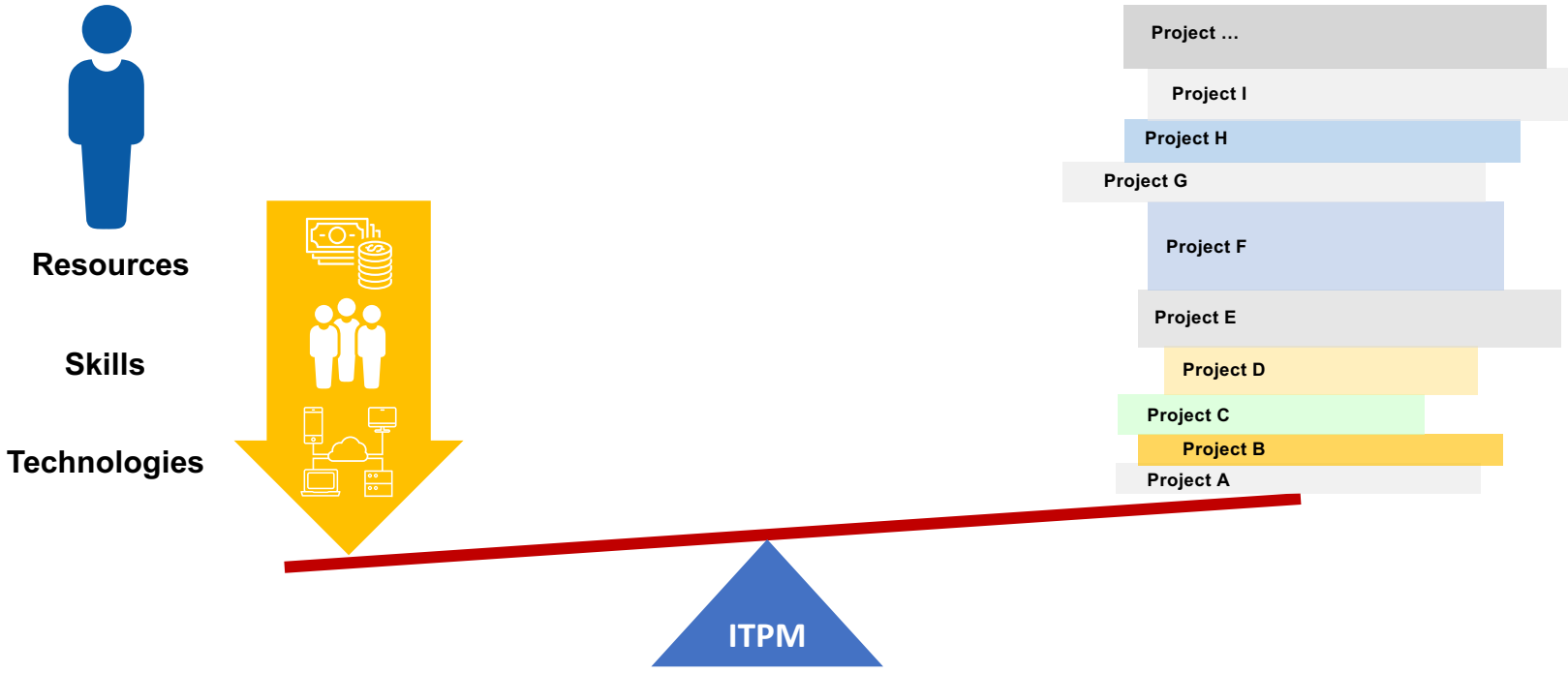
Data Management

Within the digitalization, it has been noticed that the quality of data is not sufficient. The project should aim at identifying the major gaps, finding sustainable procedures and addressing the new GDPR requirements concerning data privacy.

Industrialize your IT Projects

Archimedes once said:
"Give me a place to stand,
and I shall move the world."





Leverage with simple management activities

1) Have project roles in place for the whole organisation
2) Use a top-down approach
3) Systematic use of lessons learned (learning organisations)
4) Automate where possible (for instance in the testing area or for the deployment of releases)
5) Re-use (put templates in place)
6) Collect experience values

ITPM remains challenging

Source: http://en.techbizdesign.com/biz/fail-software-projects/

And you all know what may happen…

How the customer explained it

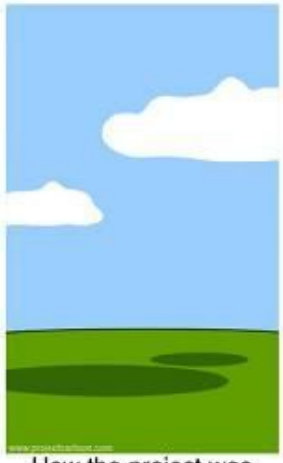
How the project leader understood it

How the analyst designed it

How the programmer wrote it

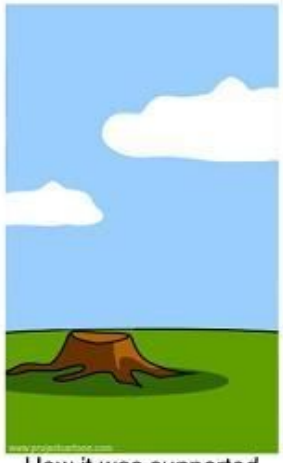
What the beta testers received

How the business consultant described it


How the project was documented

What operations installed

How the customer was billed


How it was supported

What marketing advertised

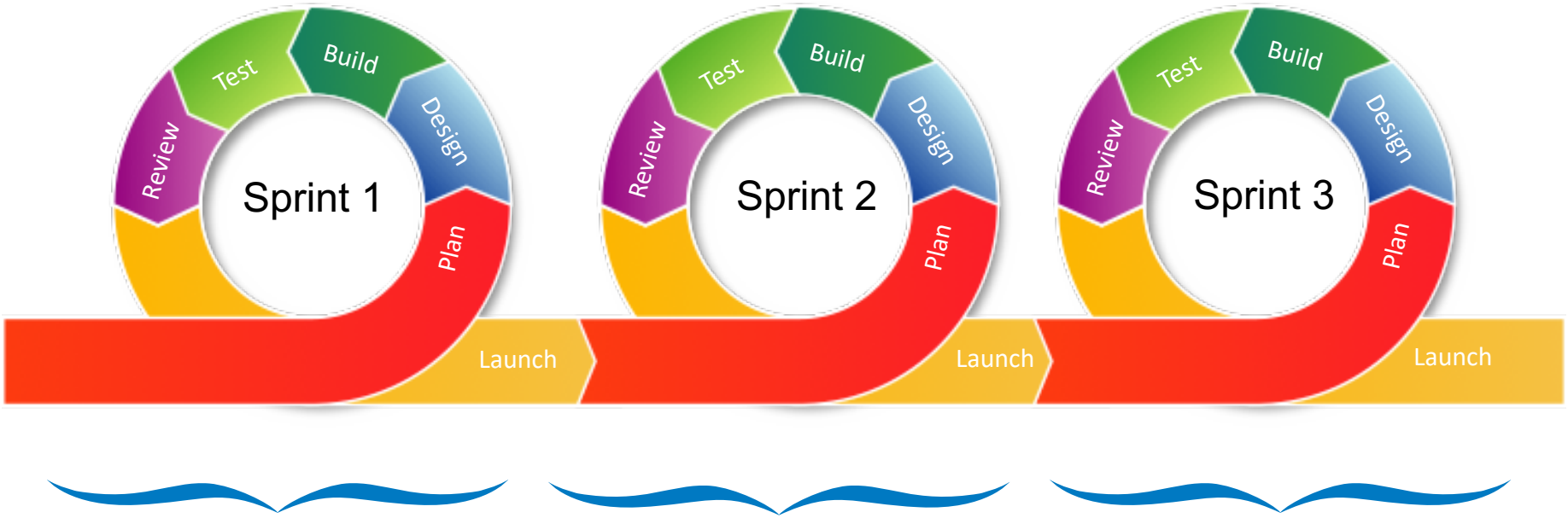
What the customer really needed

A new approach: the Agile Manifesto

Picture of the Agile Manifesto meeting on 2001

Source: https://agile-lounge.com/18-years-of-agile-manifesto-for-software-development/

SCRUM is the most popular SW agile method



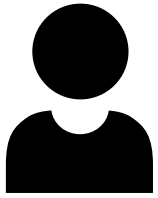
2 to 6 weeks

- Quick delivery -> one sees if the direction is still right
- The whole team is involved -> no hidden costs
- Requirements are always reviewed -> you get what you see
- Backlog is regularly prioritized -> possibility to adapt to new customer needs

3 SCRUM Roles

Product Owner: Responsible for the Product

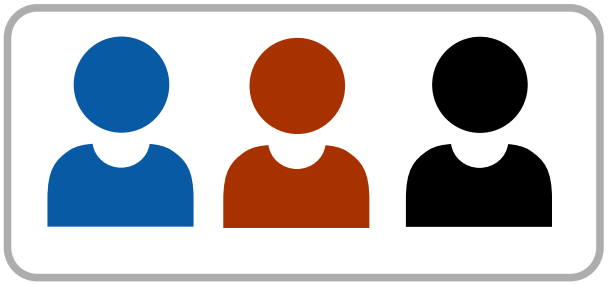
Scrum Master: Responsible for the Process

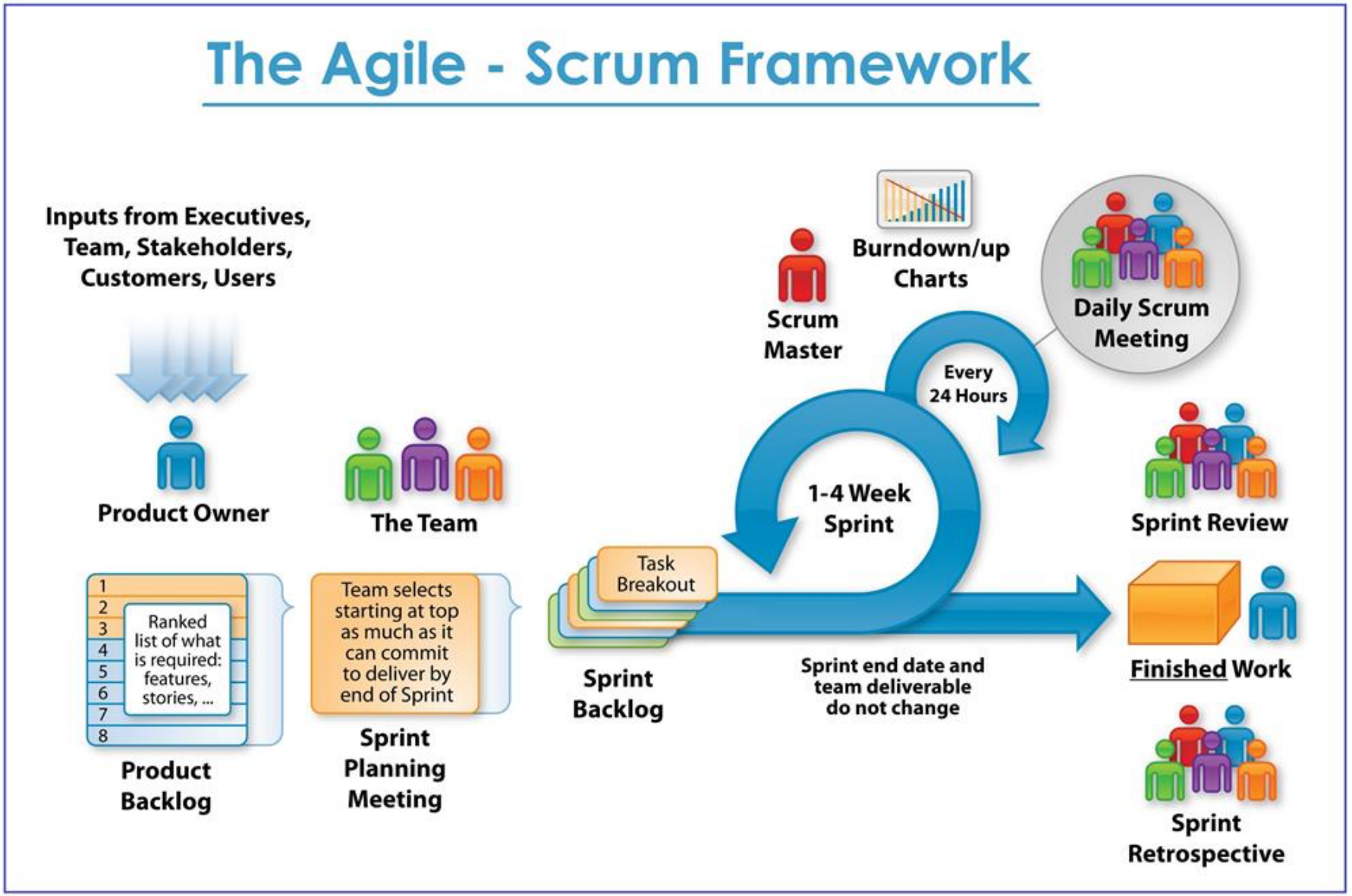


Scrum Developer : Employees

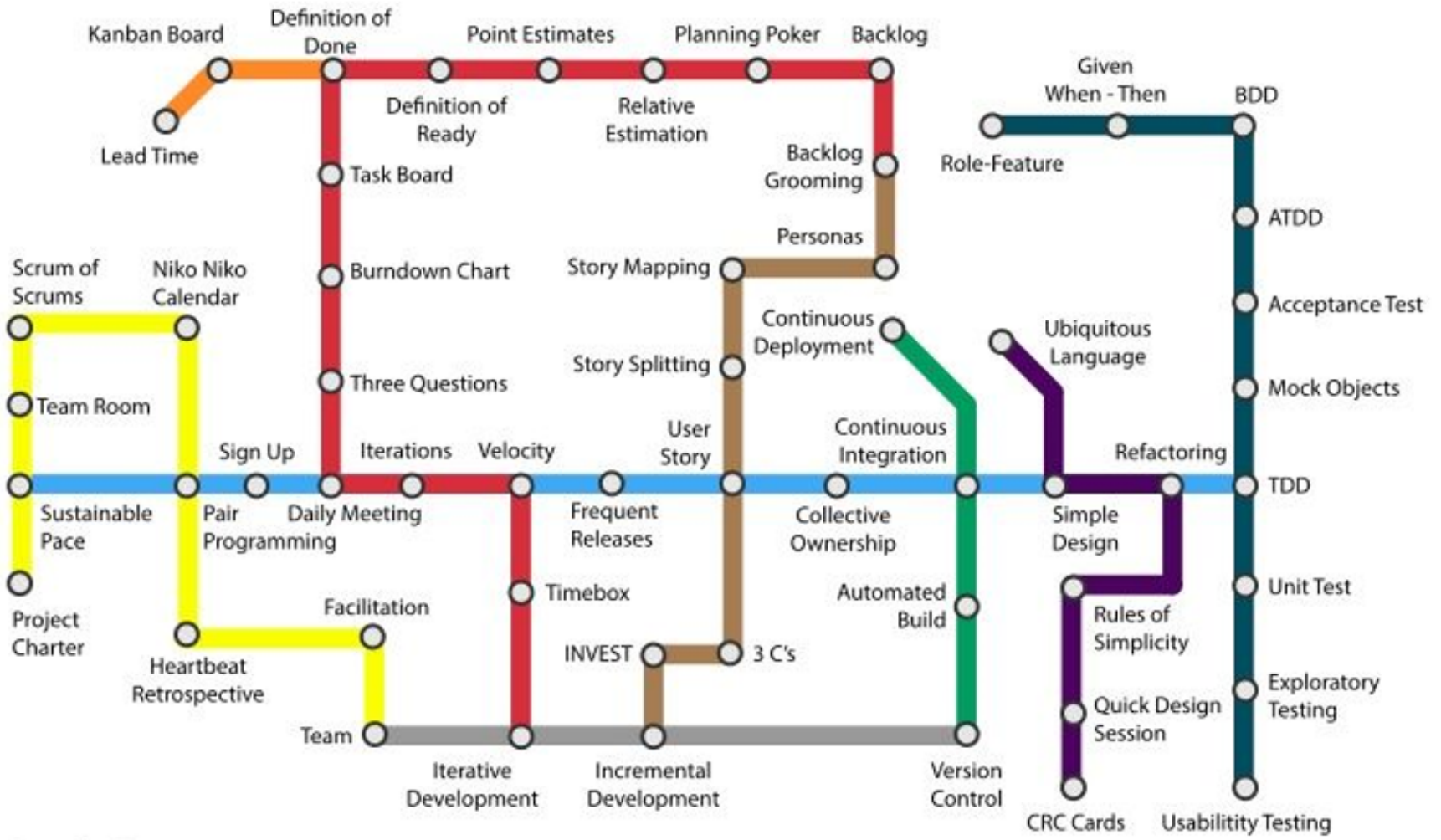
Stakeholder

Scrum Team

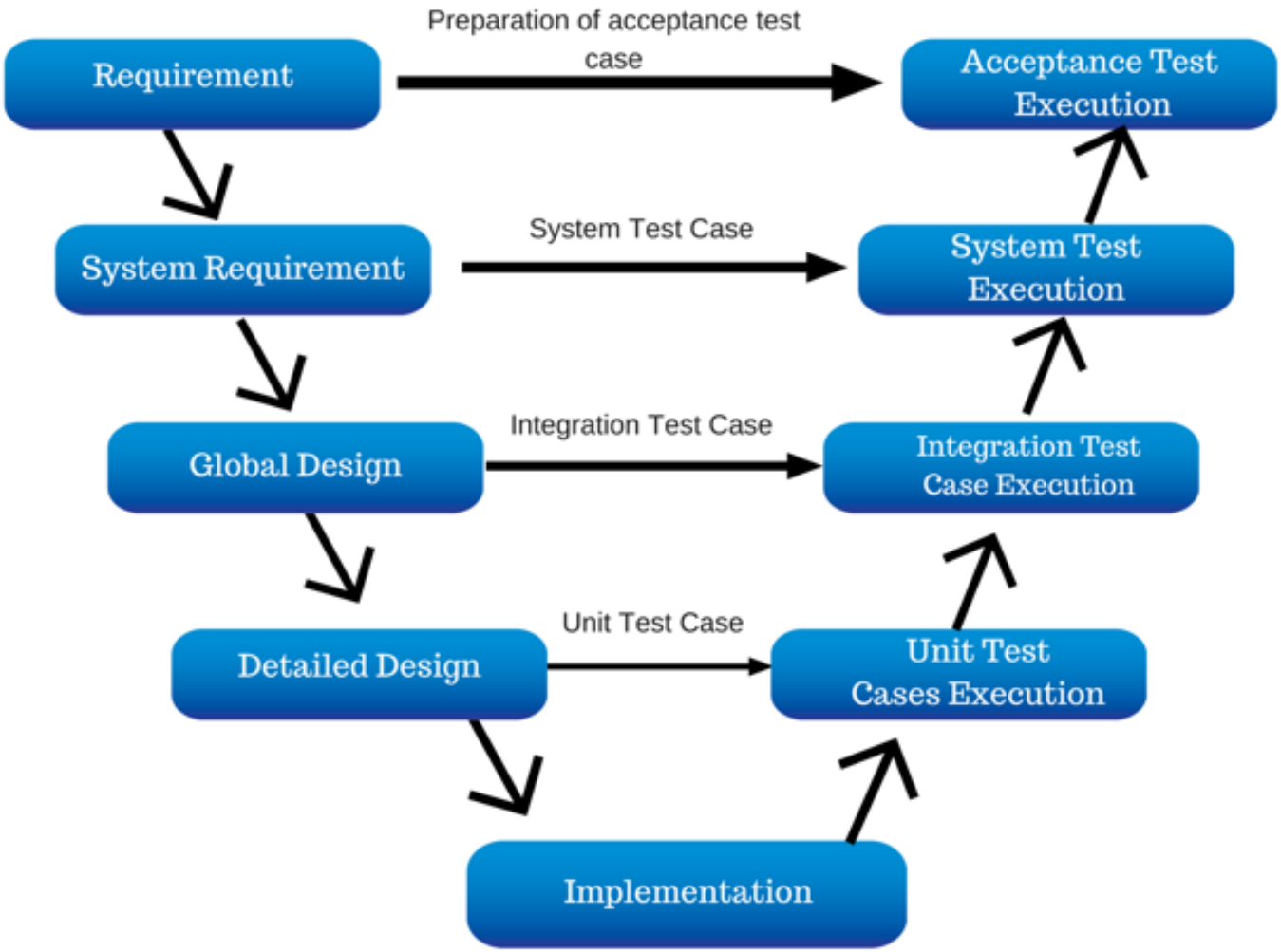



The Agile - Scrum Framework
Inputs from Executives, Team, Stakeholders, Customers, Users
Product Owner
The Team
Scrum Master
Burndown/up Charts
Daily Scrum Meeting
Every 24 Hours
1-4 Week Sprint
Sprint Review
Task Breakout
Sprint Backlog
Sprint end date and team deliverable do not change
Finished Work
Ranked list of what is required: features, stories, ...
Product Backlog
Team selects starting at top as much as it can commit to deliver by end of Sprint
Sprint Planning Meeting
Sprint Retrospective

Agile Tribes



Waterfall approach (V Model)



Source: http://www.codekul.com/blog/methodologies-software-testing-life-cycle

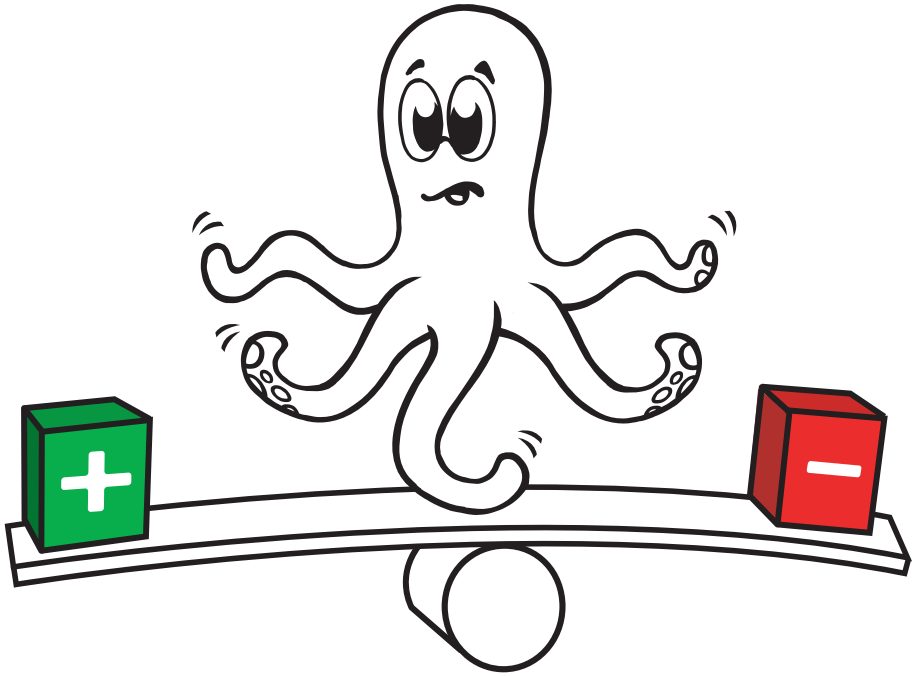
Agile (Product) versus Waterfall (Project)

Waterfall

Scrum

Extreme Programming

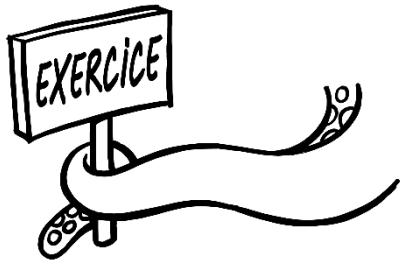
Kanban



Classic versus Agile

Set up

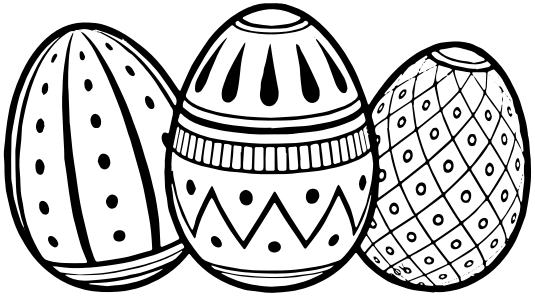
- team of 4 to 5 members
- minimum three roles. i.e. cutter, painter, and a tester/QA.
- pack of crayons, scissors and printed Easter Egg Sheets

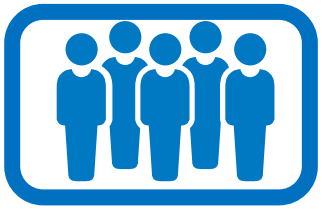


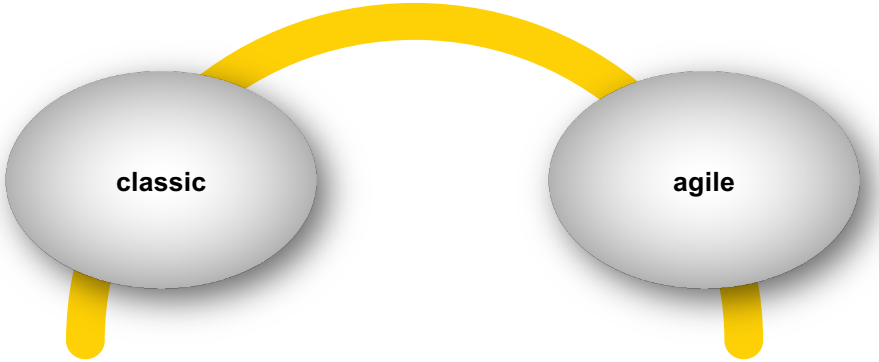
Rules overview

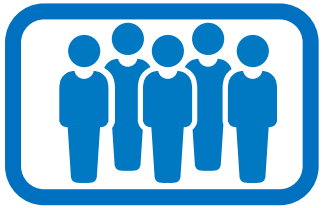
The goal is to provide as many colored paper eggs as possible.

1) Each egg must have at least two different colors
2) Two separate people must complete each coloring activity
3) Each egg should be minimum 90% filled with color
4) White space doesn't count as color
5) Cutting must be around oval edges of the egg
6) Eggs with major distractions in cutting will be disqualified





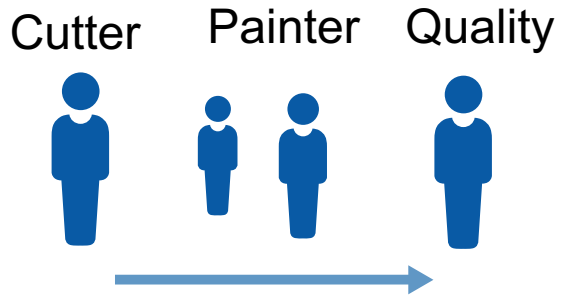


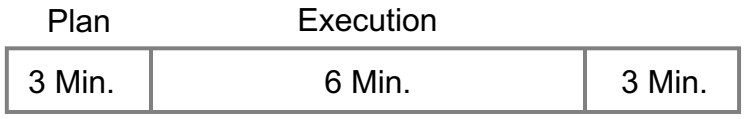


Source: http://www.360pmo.com/traditional-vs-agile-approach-managing-work

The Easter Egg Battle

Classic

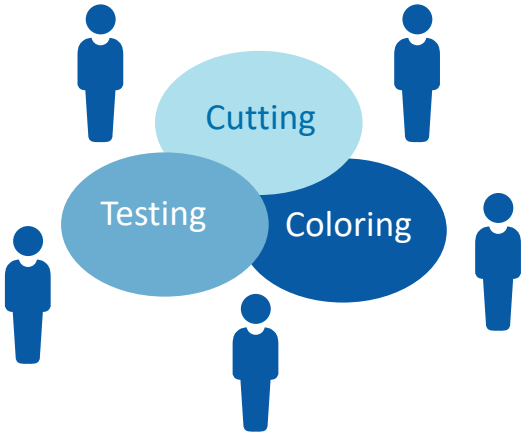




- **Delivery**: 3-minute planning, 6 minutes execution and 3 minutes learning (which optionally can be merged with QA)
- **Organization**: team members are assigned specific roles; cutters (who cut the eggs out), painters (who paint the eggs) and QA (who are the only ones that can assess and correct the eggs). Each team member can only perform a role he was assigned to.

Work organized around the team

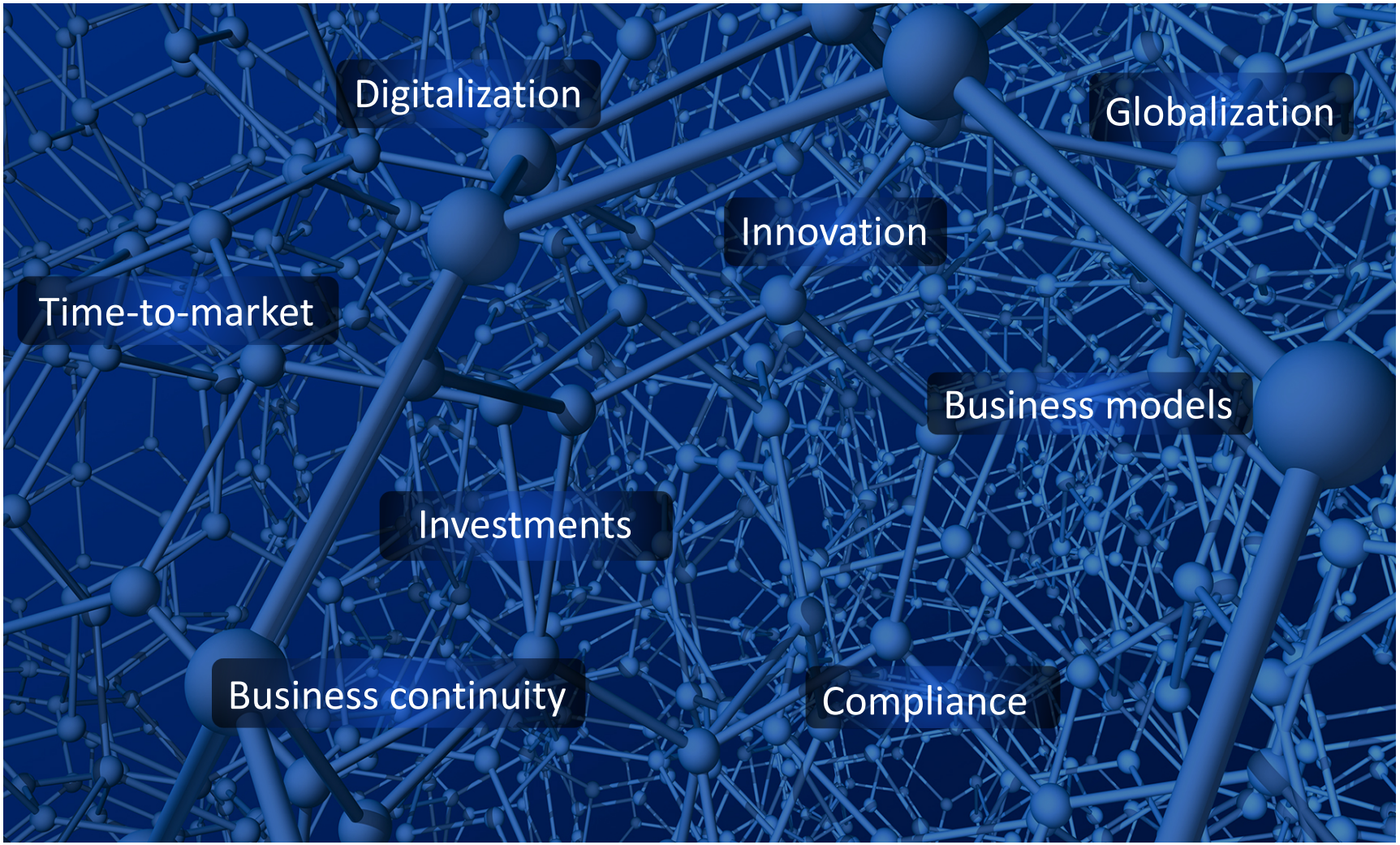
Agile



- **Delivery**: 1-minute planning, 2-minute execution and 1-minute retrospective (learnings)
- **Organization**: the roles within the team are made obsolete — everyone within the team can perform any activity

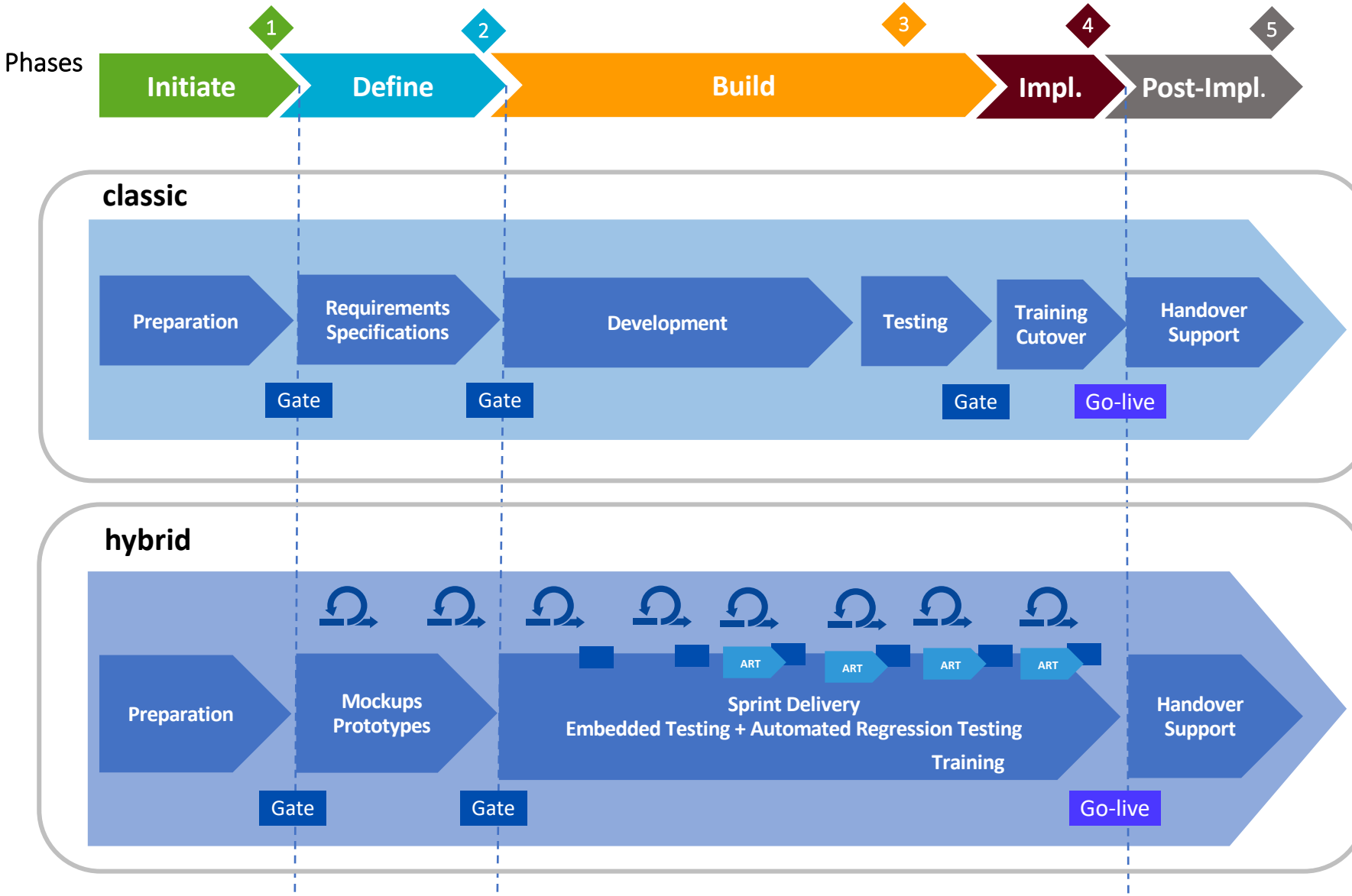
Team organized around the work

The reality remains complex



How to practice agility

Hybrid Approach: a possible phased alignment



ART: Agile Release Train

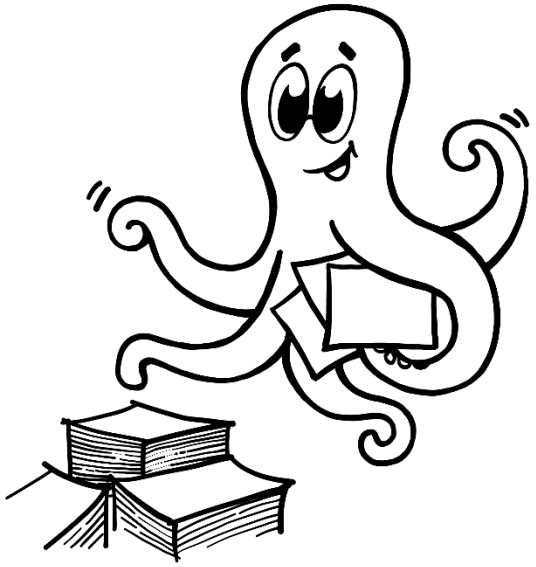
Field of investigation: organizational impact

- **Organization / Structure**
- **Business processes**
- **Culture / Management Style**
- **Knowledge Management**

A unique and amazing experience

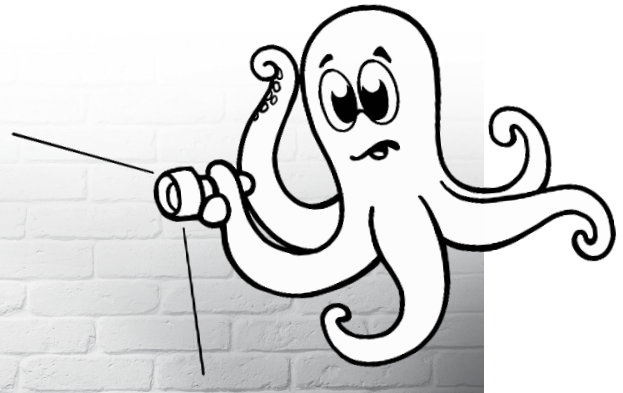
Take away and must know!

- The key components of a project
- The 3 basic elements of a project management method
- The difference between “Waterfall” and “Agile”
- The SCRUM Approach
- The hybrid approach



Literature

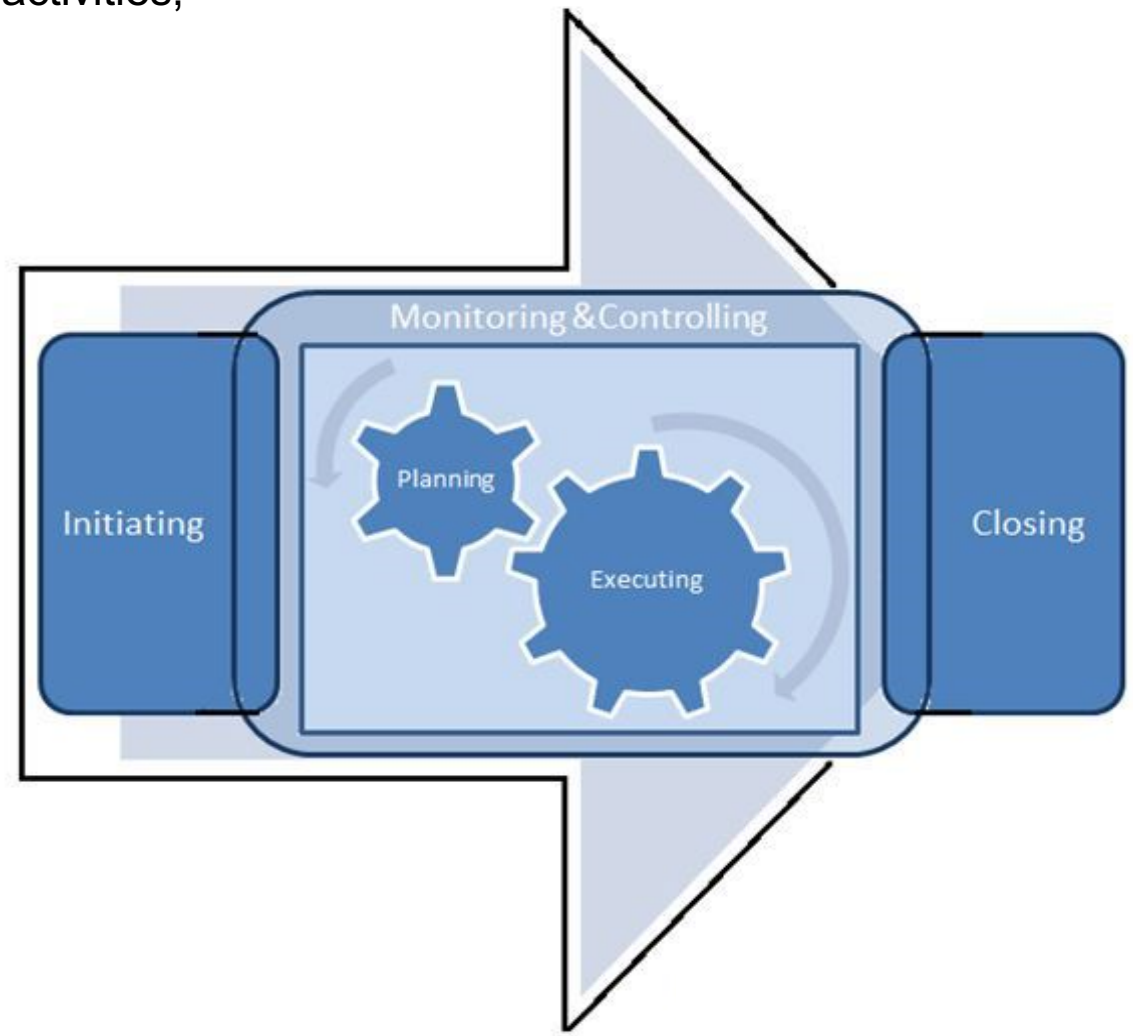
- Mangiapane M, Büchler R (2015) Modernes IT-Management. Springer, Wiesbaden
- Pilorget L, Schell T (2018) IT Management. Springer, Wiesbaden



PM Definitions and Templates

Project Phase

Phase = Bundle of project activities,
with a start and an end

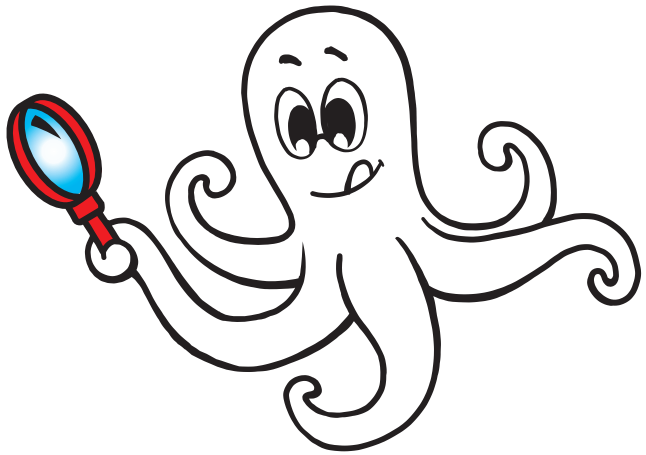


Milestone

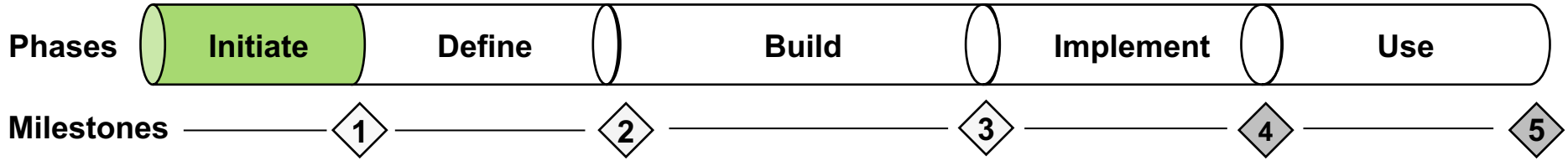
Milestone = each project phase ends with a milestone which indicates that a significant stage of the project has been reached (as the word “mile stone” means)

Quality Gate

Quality Gate = determines whether the project has achieved the exit criteria, which means if the milestone has been reached or not, and if the results are satisfactory or not.



Initiate Phase



Key Deliverables

- ☺ **Trained Team**
- 💻 **Project Environment**

Documentary Deliverables

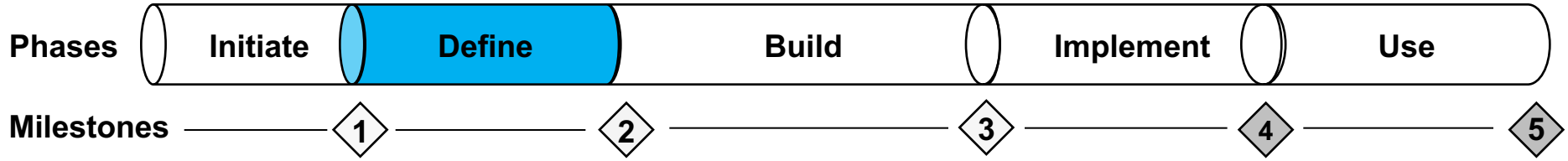
- Credit Application
- **IT Project Form**
- **Project Charter**
- **Project Plan** (preliminary)
- **Shaping the document landscape**
- Request for Proposal and Vendor Selection
- System Technical Environment Planning (STEP)
- Validation Check
- Validation Plan
- Document Registry
- Risk Items List and Risk - Mitigation

Quality Gate

Approval

- ✓ Objectives clearly identified and achievable?
- ✓ Project activities developed in the right direction?
- ✓ Willingness to generate the needed effort?
- ✓ Realistic planning?
- ✓ Risks identified?

Define Phase



Key Deliverables

- **Accepted Business Processes**
- *Sandpit and/or Development Environment*

Documentary Deliverables

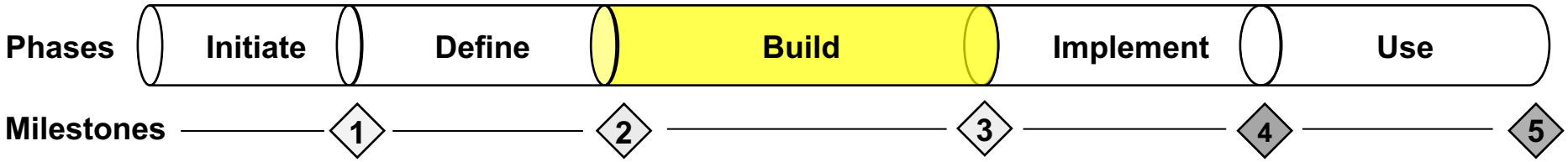
- System Requirements Analysis **(SRA):**
  - **Functional Design Report**
  - **GAP Analysis**
- System Delivery Specifications **(SDS)**
  - **Process List & Flows**
  - **Data Model/Load**
  - **Programs**
  - **Interfaces**
  - **Authorisations**
- Product Evaluation and Recommendation (PER)
- **Milestone 1 Review Protocol**

Quality Gate

Confirm

- ✓ Defined solution as a good answer to achieve the goals of the project?
- ✓ All changes needed identified and properly assessed?
- ✓ Specifications available?
- ✓ Project strategy delivery adequate to achieve project goals?
- ✓ Reviewed Business Case still approved?
- ✓ Enough resources?

Build Phase



Key Deliverables

Accepted System

Development and Consolidation Environment

Documentary Deliverables

Technical System Design (**TSD**):
- **Development List**
- Business Conditions
- **Data Model/Load**
- **Programs**
- **Interfaces**
- **Authorisations**
- **Customisation**

Product Acquisition and Installation (PAI)

Test and Fault Report (**TST**):
- **Test Strategy & Scenarios**
- Functional Unit Test
- **Integration**
- **Regression**
- **User Acceptance**

Security Plan and Test Protocol

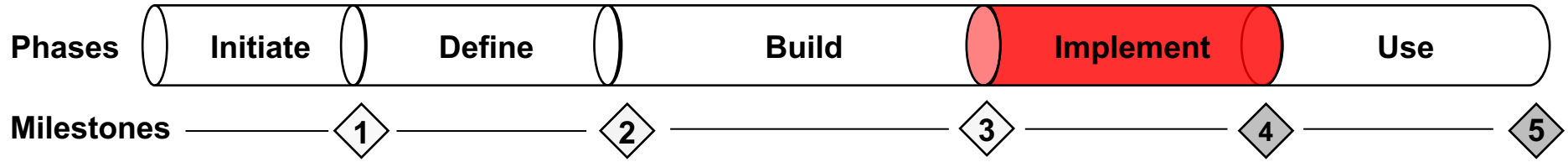
User Procedure Development (**UPD**):
Strategy, Plan and Manuals

Quality Gate

Readiness

- ✓ Project on track?
- ✓ System functionalities available according to the defined requirements?
- ✓ Cost baseline?
- ✓ Milestones and deliverables on track?
- ✓ Reduced risks thanks to mitigation measures?

Implement Phase



Key Deliverables

- ☺ **Trained Users**
- 💻 **Production Environment**

Documentary Deliverables

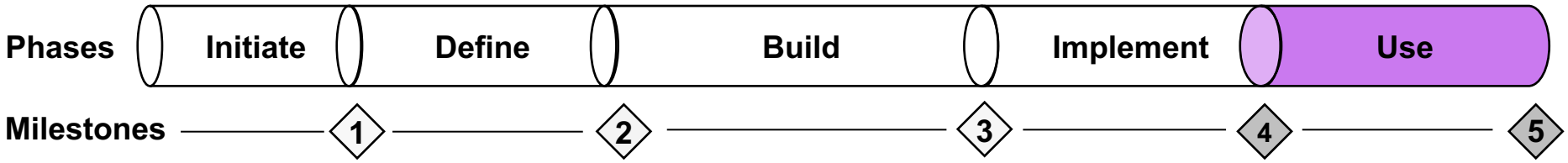
- Stress Test Protocol
- User Training Protocol
- **Technical Operations Protocol**
- **Cutover Plan and Contingency Planning**
- **Validation report**
- **Problem and Change Management Procedure**
- Audit Report

Quality Gate

Go / No Go

- ✓ Readiness of productive system ?
- ✓ Rework needed ?
- ✓ Productive rollout plan available and plausible ?
- ✓ Project organisation ready to take sound and quick decisions?
- ✓ Risks and planned measures discussed with all persons concerned?
- ✓ Persons feel “in charge”?

Use Phase



Key Deliverables

- ☺ Performant Users
- 💻 **Operative Environment**

Documentary Deliverables

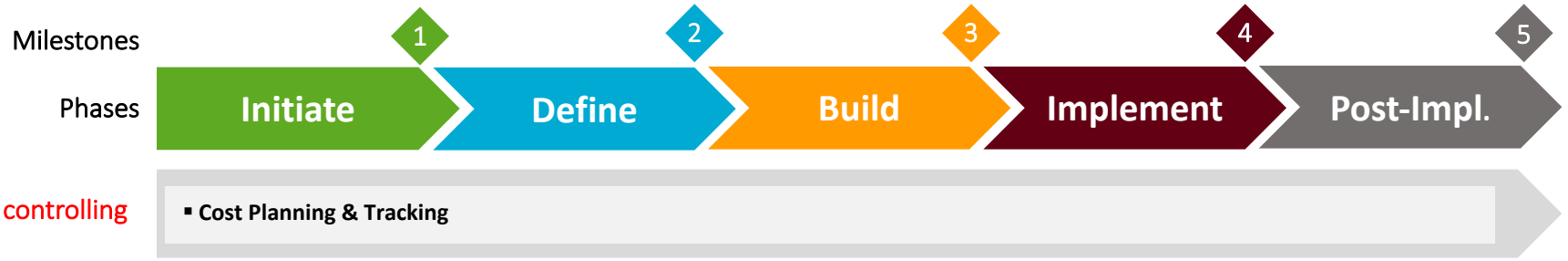
- 🗁 **Post Implementation Review / Business Assessment Protocol / Lessons learned**
- 🗁 **Future Enhancements Protocol**
- 🗁 **Handover Checklist including Risk Assessment Protocol**
- 🗁 Core Compliance Audit

Quality Gate

Closure

- ✓ Goals met?
- ✓ Budget target achieved?
- ✓ Good planning baseline?
- ✓ Project organisation well trained and suitable?
- ✓ Delivery strategy effective and appropriate?
- ✓ Concerned persons sufficiently involved?
- ✓ Transparent steering done?

Cost Planning & Tracking



Project Name		Year					
in CHF, incl. VAT							
Cost element	**Supplier**	Jan	Feb	Mar	Apr	May	Jun
TOTAL		0	0	0	0	0	0
Project expenditure		**0**	**0**	**0**	**0**	**0**	**0**
Facility							
Machines, Furniture							
IT-expenditure							
Communication							
Marketing							
Travel expenses							
Consultancy, Revision							
Transaction charges, postage							
Leasing							
Other costs							
Investments		**0**	**0**	**0**	**0**	**0**	**0**
Real estate							
Renovation own estate							
Renovation external estate							
Machines							
Furniture							
Software							
Hardware							

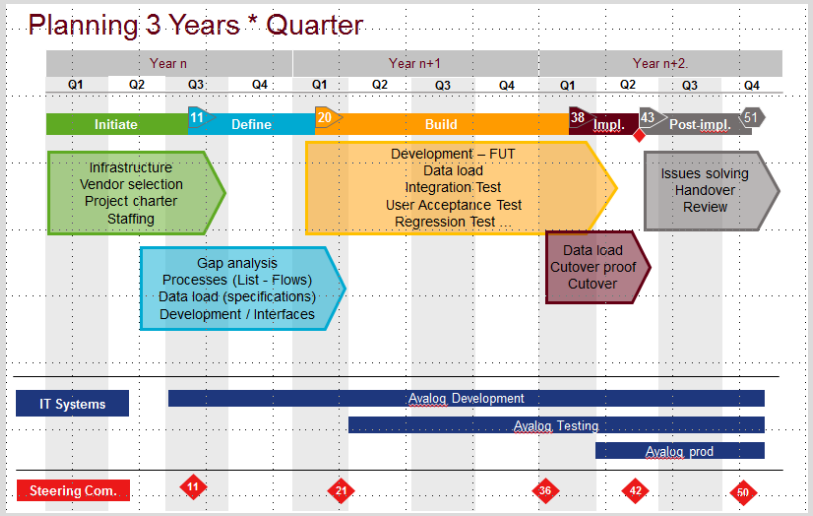
Project Planning

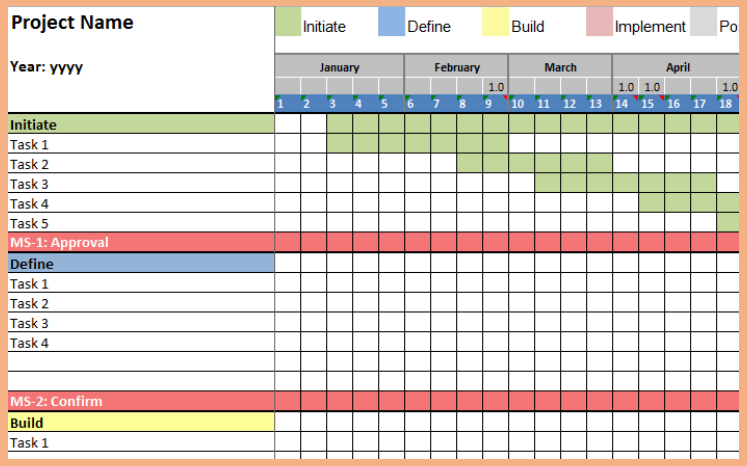
Milestones 1 2 3 4 5

Phases: **Initiate** | **Define** | **Build** | **Implement** | **Post-Impl.**

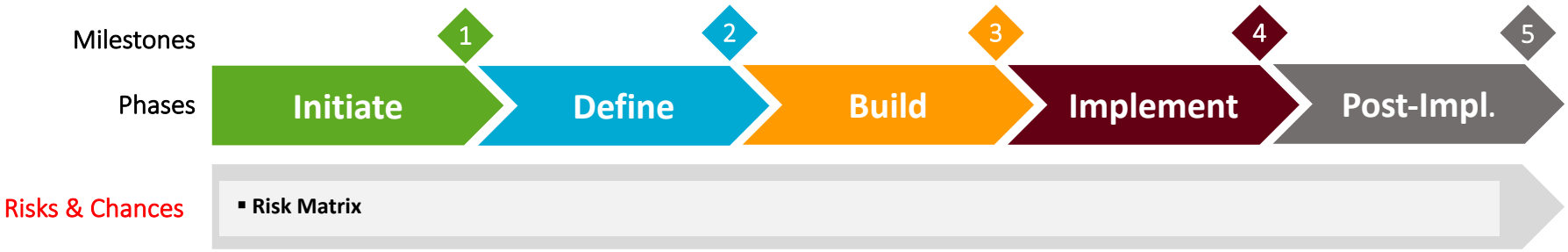
Project Planning

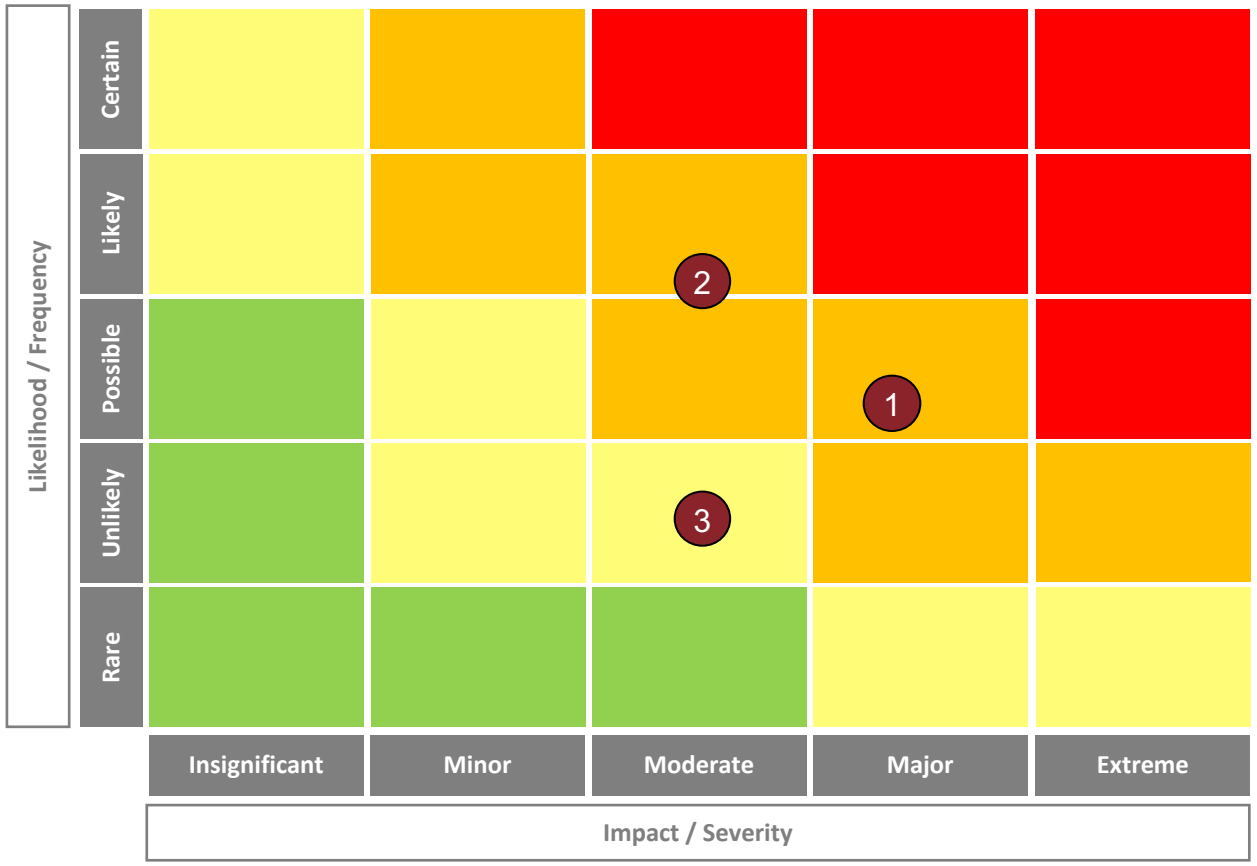
- **Overall Plan**
- **Detailed Plan**





Risks & Chances





Procurement & Contracts

Milestones	1	2	3	4	5
Phases	Initiate	Define	Build	Implement	Post-Impl.
Procurement & Contracts	▪ *Selection*	▪ *Contracting*	▪ *Monitoring*	▪ *Monitoring*	▪ *Evaluation*

Request for Proposal

- **Overall Requirements**
- **Functional Requirements**
- **Technical Requirements**
- **Non-functional Requirements**
- **Financial Conditions**

Communication

	1	2	3	4	5
Milestones					
Phases	Initiate	Define	Build	Implement	Post-Impl.
Communication	▪ Kickoff	▪ Project Presentation	▪ Meeting Minutes	▪ STC Presentations	

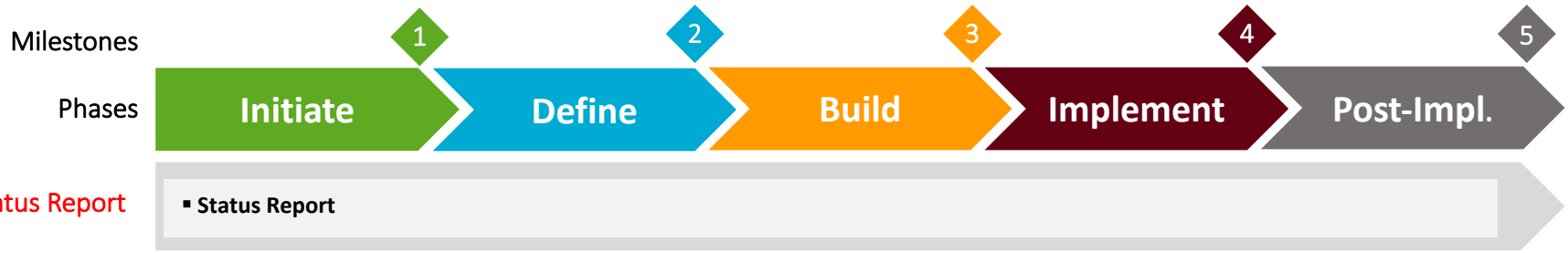
Agenda

1. Aim and Rationale
2. Delivery Strategy
3. Project Plan
4. Project Organization
5. Project Approach
6. Risk Management
7. Next steps

Agenda

1. Status Planning
2. Status Scope & Quality
3. Status Costs
4. Status Resources
5. Risk Assessment
6. Decision : Approval Milestone
7. Critical Success Factors
8. Next steps

Status Report



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xx

Project description	**Project Management**
xx	• **Sponsor**: xx • **PL**: xx

Current Phase: xxx

Cashout (TCHF)		**Planning (main Milestones)**		**Scope**
Total Cashout		• Start:	xx.xx.201x	• xx
Budget:	xx	• MS01 (Initiate):	xx.xx.201x	• xx
Actuals:	xx	• MS02 (Define):		• xx
Forecast:	xx	• MS03 (Build):		• xx
		• MS04 (Implement):		
Current Year		• MS05 (Post-Impl.):		
Budget:	xx	• End:		
Actuals:	xx			
Forecast:	xx			
R		Y		G

Overall
Decision needed
• xx • xx
Y

Main activities

Key achievements	**Present key activities**	**Main risks / Dependencies**
• Xx • Xx	• Xx • Xx	• Xx • Xx

KNOWLEDGE

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