# Project Management Fundamentals

Fondamenti di Project Management

2023

## PART 1 – INTRODUCTION TO PROJECT MANAGEMENT

# Seminar Part 1 Topics

## Part 1 – Introduction to Project Management

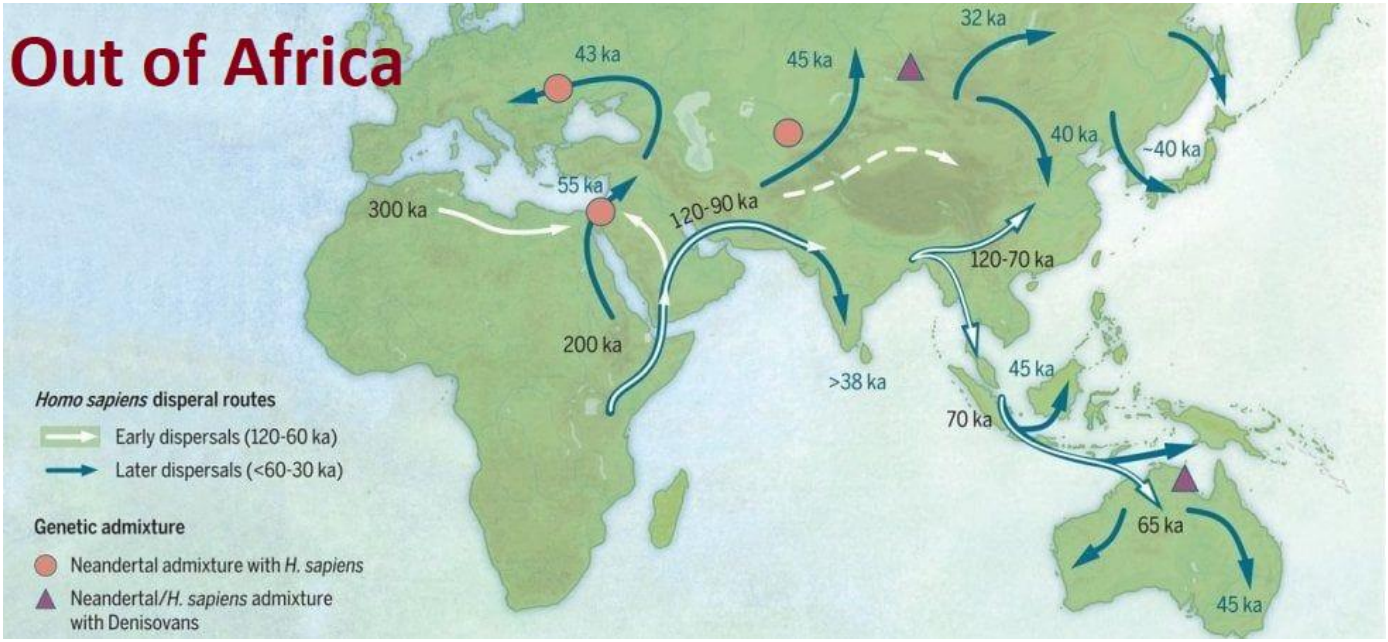
1) Project Management origins
2) Definitions
3) Ancient Project Management History
4) The Project Manager
5) Recent Project Management History
6) Predictive approach
7) V.U.C.A.
8) LEAN Thinking
9) Agile approach
10) Organizations that support projects
11) Associations / Certifications / Standards

# When does Project Management origin?

**From the very beginning of his existence the human kind has faced the necessity to cope with urgent needs: food, shelter, protections, reproduction, and more with civilization and progress.**
**Every time a human being elaborated a plan to reach a fundamental result he/she made his own project.**

**So what was the first project at all?**

**Anything earlier?**

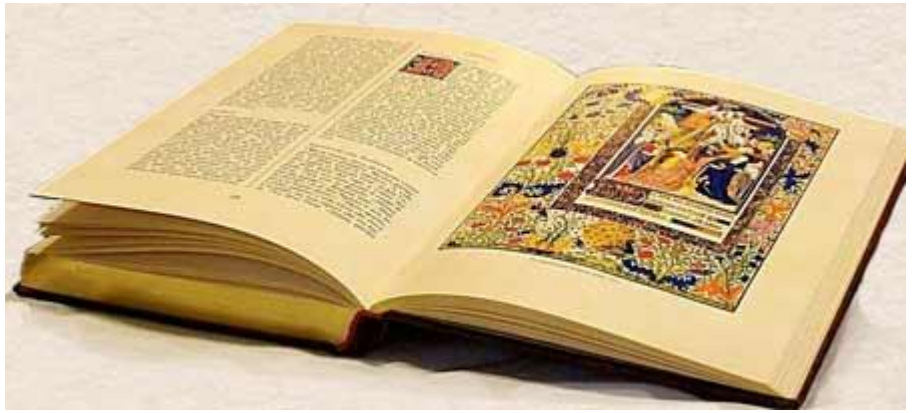


# Looking for some examples of projects in literature 1

**Lc 14,28-32** (Gospel of Luke: 80-90 A.D.)

28 "Suppose one of you wants to build a tower. Won't you first sit down and estimate the cost to see if you have enough money to complete it?
29 For if you lay the foundation and are not able to finish it, everyone who sees it will ridicule you, 30 saying, 'This person began to build and wasn't able to finish.'

31 "Or suppose a king is about to go to war against another king. Won't he first sit down and consider whether he is able with ten thousand men to oppose the one coming against him with twenty thousand?
32 If he is not able, he will send a delegation while the other is still a long way off and will ask for terms of peace.



# Looking for some examples of projects in literature 2

**Genesis 11, 1-9** (VI-V century b.C.) (The Tower of Babel)

[1]The whole world had the same language and the same words.
[2]When they were migrating from the east, they came to a valley in the land of Shinar and settled there.
[3]They said to one another, “Come, let us mould bricks and harden them with fire.” They used bricks for stone, and bitumen for mortar.
[4]Then they said, “Come, let us build ourselves a city and a tower with its top in the sky, and so make a name for ourselves; otherwise we shall be scattered all over the earth.”
[5]The LORD came down to see the city and the tower that the people had built.
[6]Then the LORD said: If now, while they are one people and all have the same language, they have started to do this, nothing they presume to do will be out of their reach.
[7]Come, let us go down and there confuse their language, so that no one will understand the speech of another.
[8]So the LORD scattered them from there over all the earth, and they stopped building the city.
[9]That is why it was called Babel, because there the LORD confused the speech of all the world. From there the LORD scattered them over all the earth. **[Failed]**


# Looking for some examples of projects in literature 3

**Odissey** (IX-VII century b.C.)
Find the way home **[Successful]**

**Epic of Giglamesh** ( XXII - XXI century b.C.)
is an epic poem from ancient Mesopotamia, and is regarded as the earliest surviving notable literature and the second [illegible] after the Pyramid Texts
Quest for immortality **[Failed]**

# Definition of Project

What do they have in common?

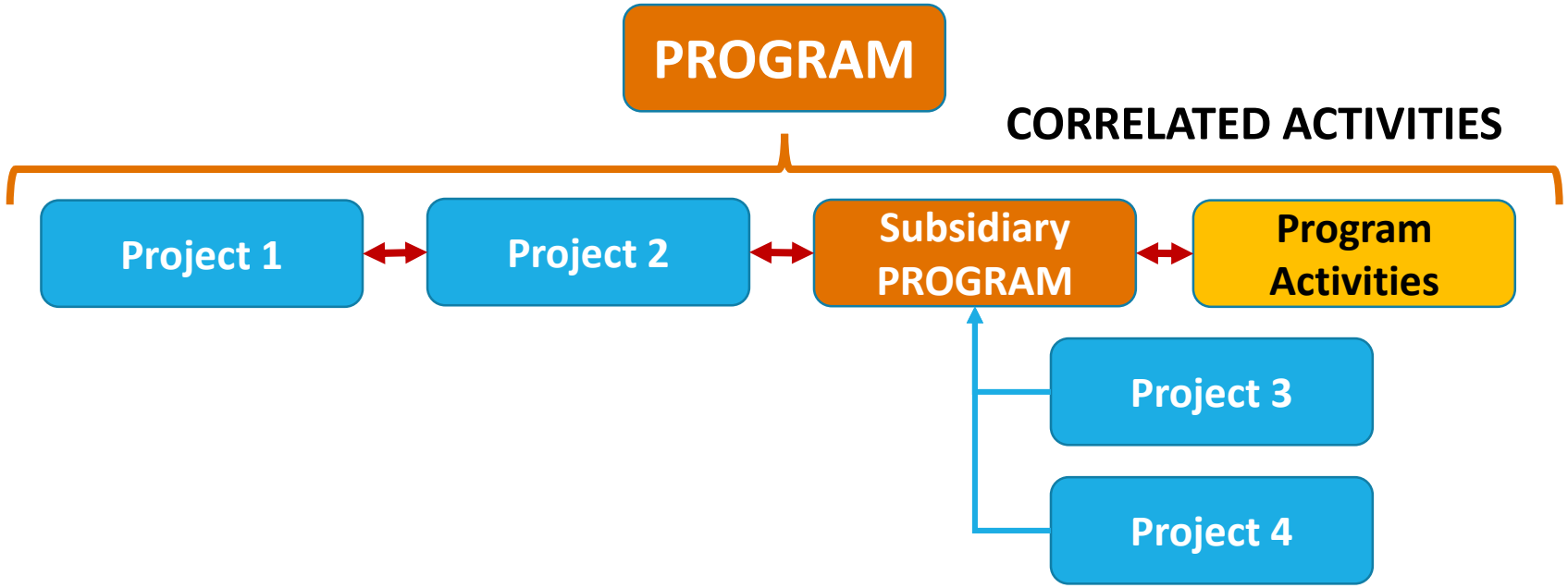
1. Unique
2. Temporary
3. Start and End well defined
4. An identified output

} **Project**

**Def. 1: Project** (PMBoK 7th Ed.)
A temporary endeavour undertaken to create a unique product, service or result. The temporary nature of projects indicates a beginning and an end to the project work or a phase of the project work.
Projects can stand alone or be part of a Program or Portfolio.

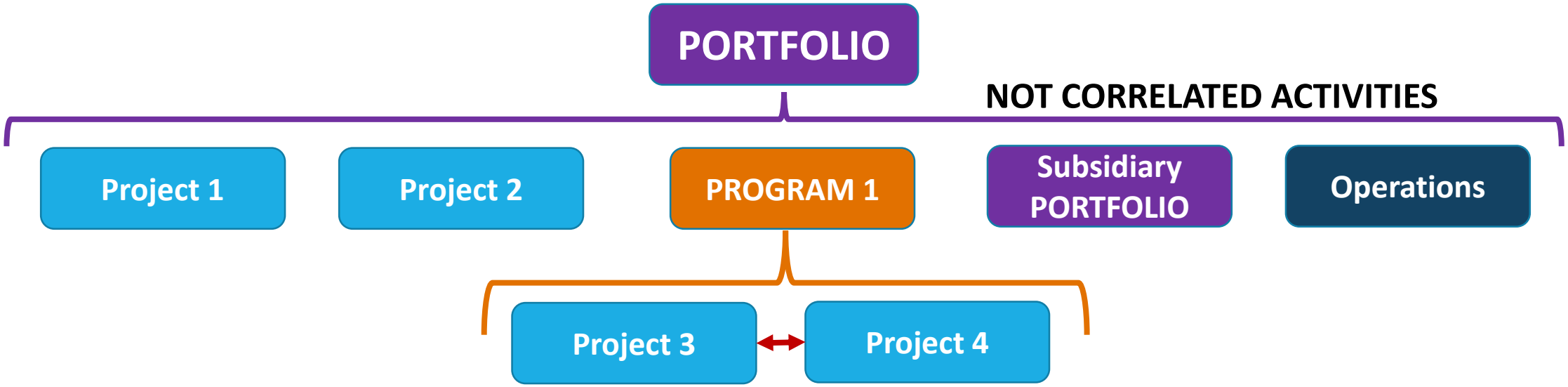
# Program

**Def. 2: Program** (PMBoK 7th Ed.)
Related projects, subsidiary programs, and program activities that are managed in a coordinated manner to obtain benefits not available from manging them individually



# Portfolio

**Def. 3: Portfolio** (PMBoK 7th Ed.)
Projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives



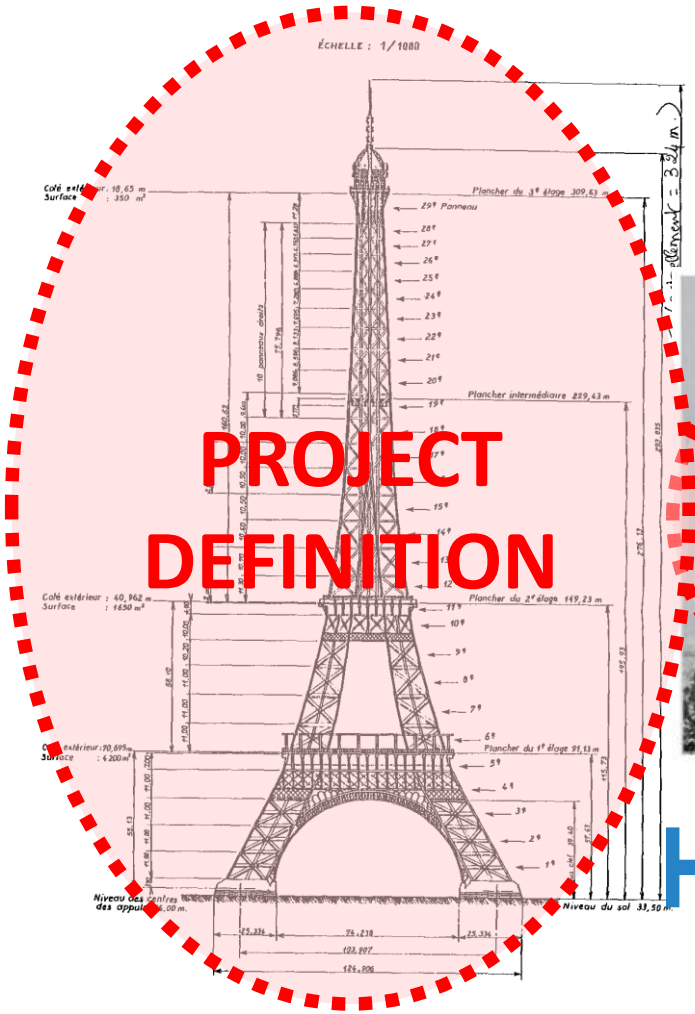
# Product and Outcome

**Def. 4: Outcome** (PMBoK 7th Ed.)
An end result or consequence of a process or project. Outcome can include outputs and artifacts, but have a broader intent by focusing on the benefits and value that the project was undertaken to deliver.

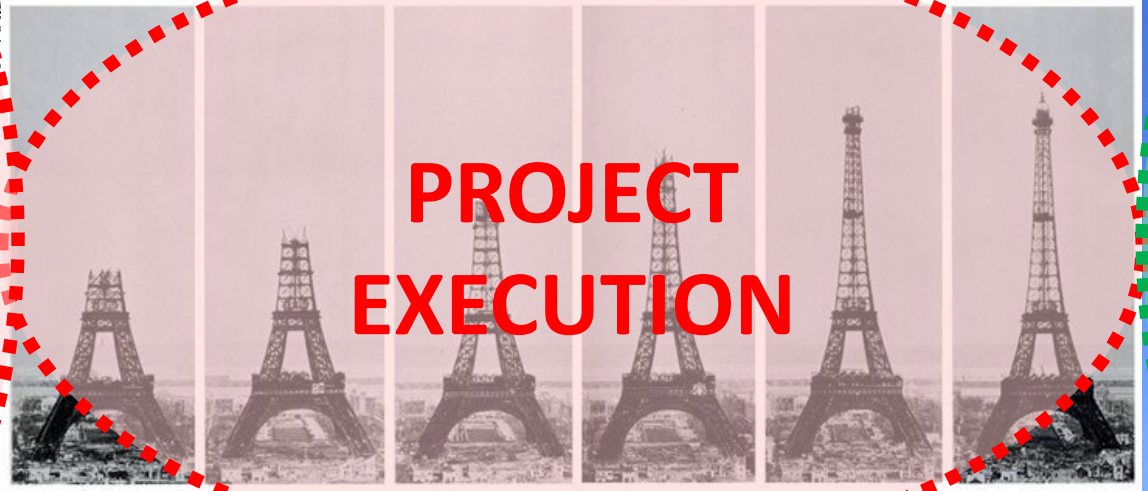
**Def. 5: Product** (PMBoK 7th Ed.)
An artifact that is produced, is quantifiable, and can be either an end item in itself or a component item.

Sahara Terraforming

# Example of Project : January 28th , 1887 – March 31st 1889




PROJECT DEFINITION



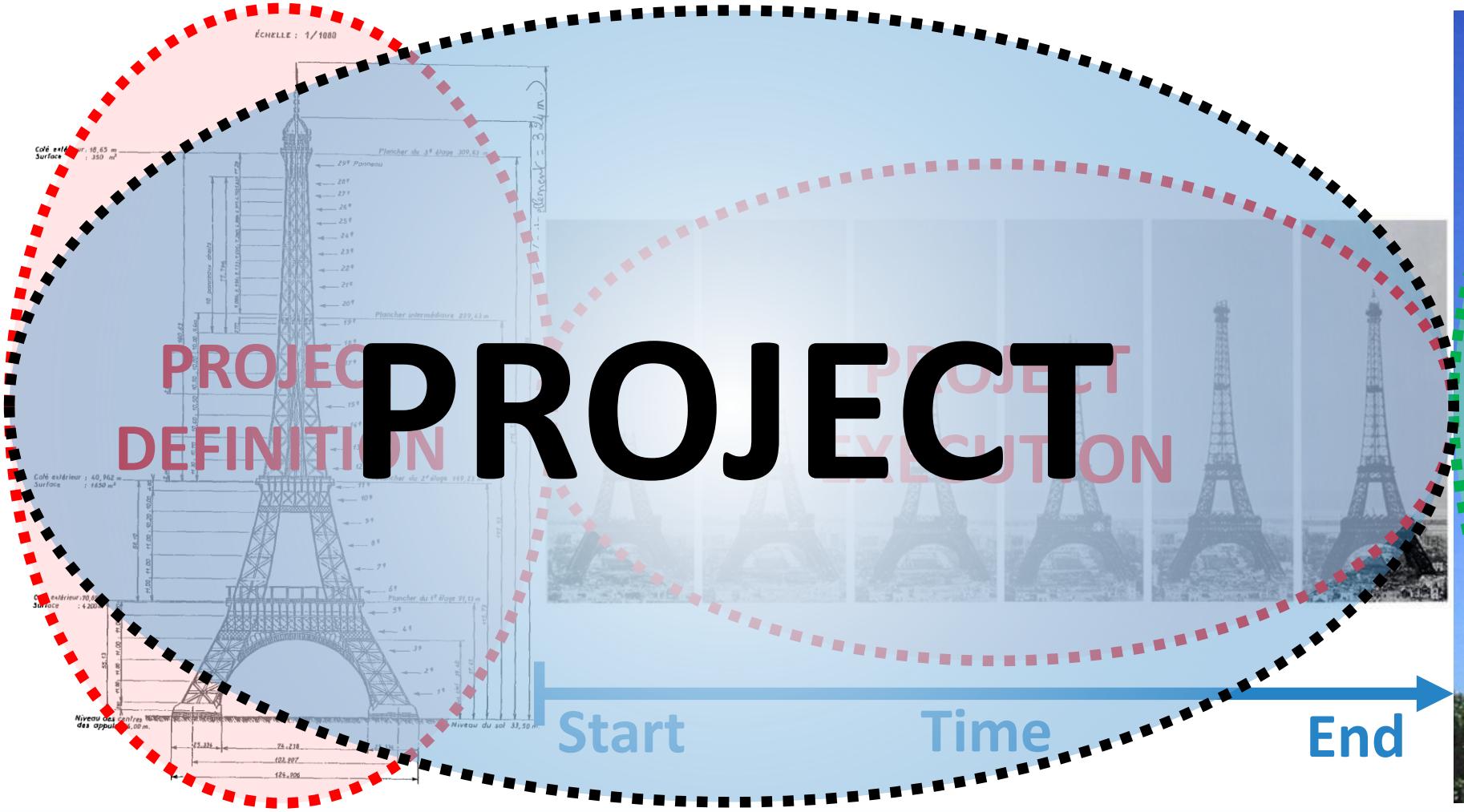
PROJECT EXECUTION

Start → Time → End

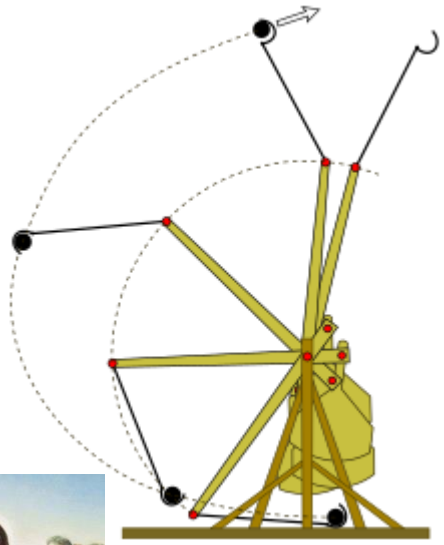
OUTCOME:

- TOWER
- ALL OTHER IMPLICATIONS SINCE 1899

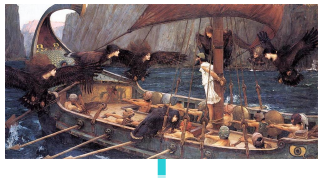
# Example of Project : January 28th , 1887 – March 31st 1889




# Ancient Project Management Storyline



In the Renaissance appeared in the Italian language the word “Progetto”. It meant: «a bizarre intent or purpose with little chance of success»

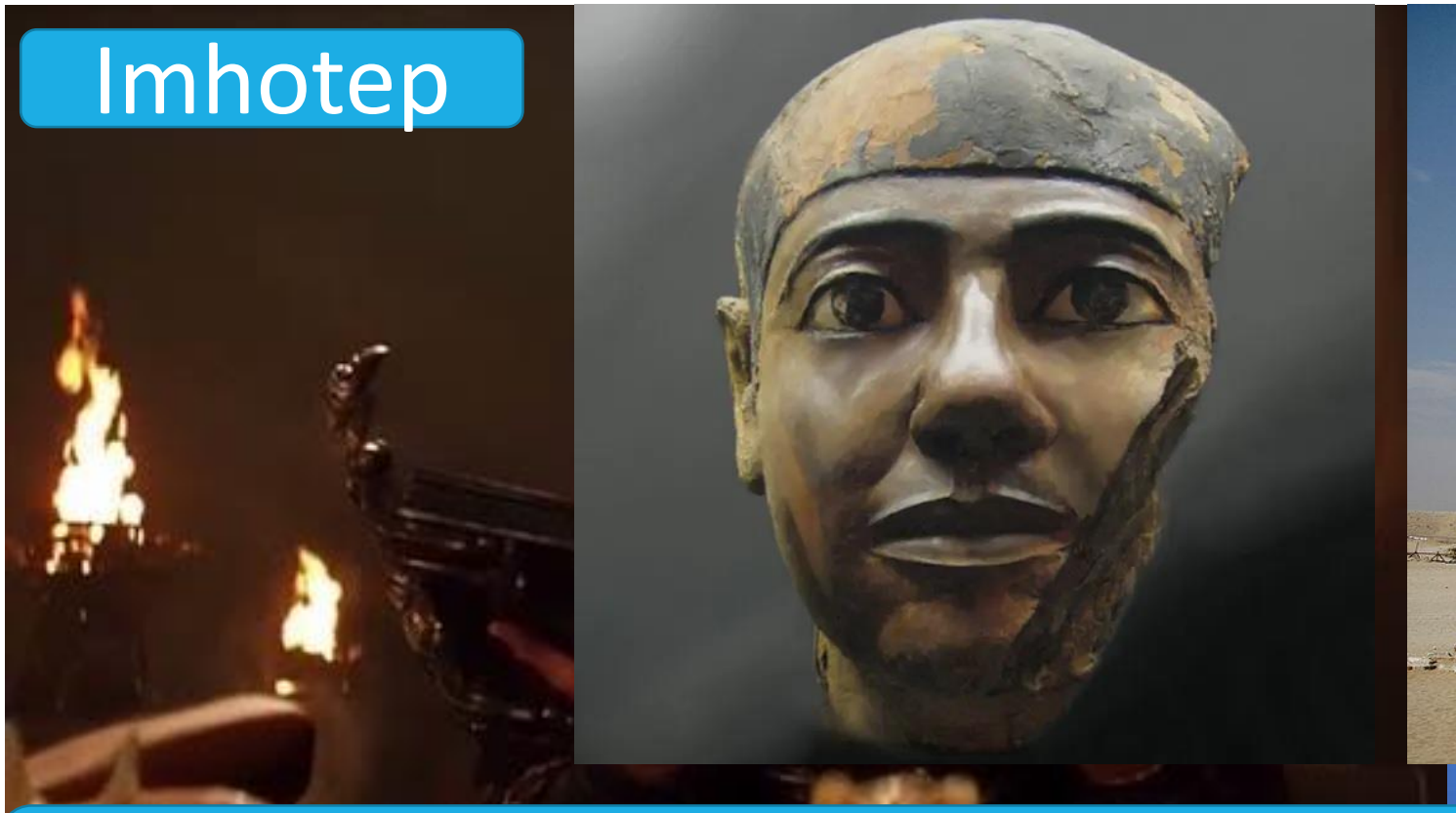


Fr: Projeter
En: Project
It: Progetto

PM

2200b.c. 900-700b.c. 600-500b.c. 80-90a.d. ~1400a.d. ?

# The first project Manager in history?




- One of the most important non- royal figures in ancient Egyptian history
- Vizier of the Old Kingdom (2686-2125 a.C.), during the rule of Pharaoh Djoser (2667 – 2648)
- First architect of history

NOT A PROJECT MANAGER!

# The First Project Manager in History

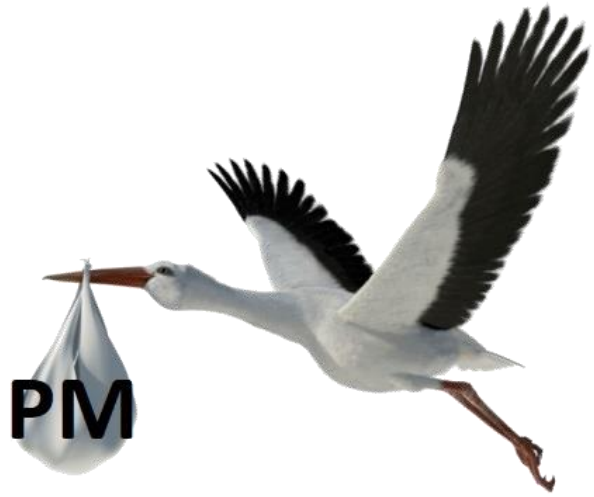
## Julius Robert Oppenheimer

Entitled as Project Manager for the «Manhattan Project»

- Duration: 7 years (1939-1946)
- Costs: 2 billions $ ( 28 billions $)
- People involved: 130.000
- 30 different locations in USA
- Scope: Producing the first Atomic Bomb in the human History.
- 1° test: Jult, 16th 1945, New Mexico, USA


**Defined as the most impacting war-event in human history**


# Project Management Storyline: is born!





Unfortunately, as you can see originated from war events:

- The name “Project” from the Renaissance by the nascent use of artillery
- The Project Management itself from the Atomic Bomb project
- And as we are going to see there were some other military applications that effected the Project Management History

# Definition of Project Manager and Project Management

**Def. 6: Project Manager** (PMBoK 7th Ed.)
The Person assigned by performing organization to lead the project team that is responsible for achieving the projects objectives. Project managers perform a variety of functions, such as facilitating the project team work to achieve the outcomes and managing the processes to deliver intended outcomes.
Additional functions associated with projects will be subsequently described.

**Def. 7: Project Management** (PMBoK 7th Ed.)
The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.
Project management refers to guiding the project work to deliver the intended outcomes.
Project teams can achieve the outcomes using a broad range of approaches (e.g., predictive, hybrid, and adaptive).

# Recent Project Management Storyline

Henry Lawrence Gantt

Gantt Chart


Polaris Program

P.E.R.T.

IPMA

PMI Project Management Institute
Project Management Institute

TOYOTA Crisis


ANSI American National Standards Institute

AGILE
Scrum
XP
Crystal
FDD
DSDM
Kanban
RUP
and few more...

Scrum Alliance

Scrum.org

ISO 21500

LEAN 6σ
Control
Define
Improve
Measure
Analyze

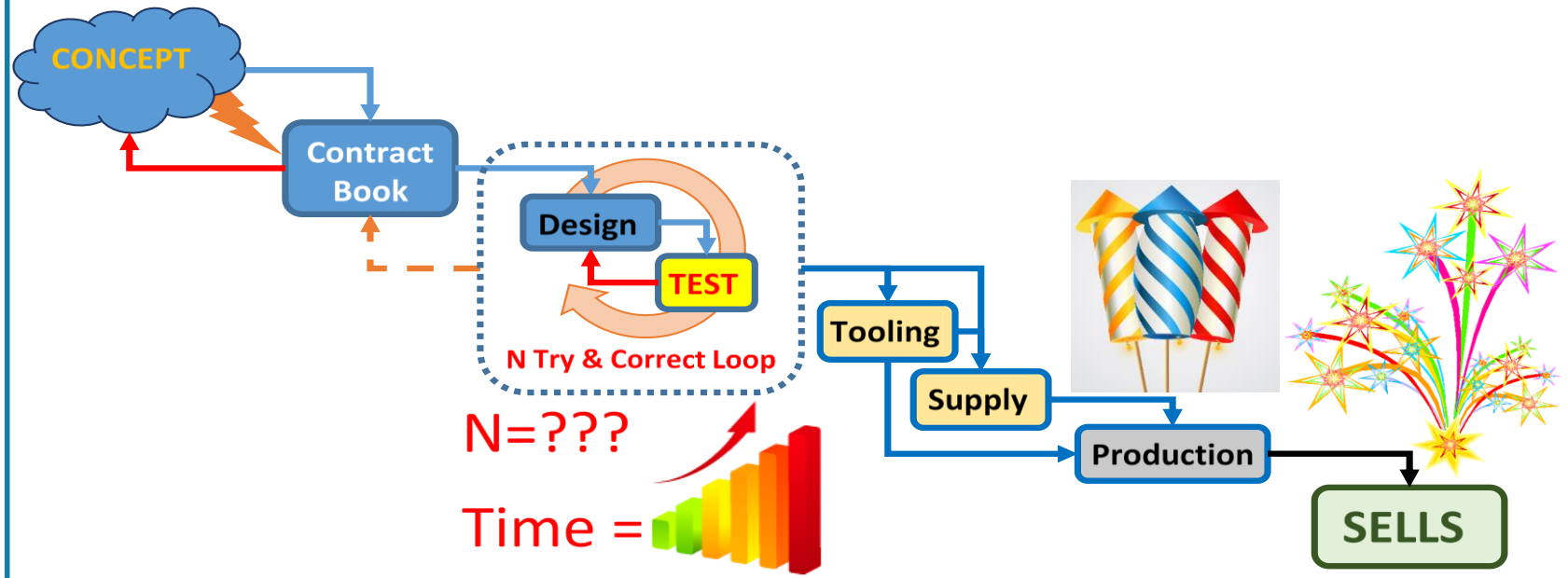
1917 1939 1949 1957 1964 1969 1984 1996 2001 2010 2012 2021

TODAY

# Predictive Approach

Project Management originated to improve the effectiveness of long term future planned efforts. The goal is to make effort less uncertain in the effects, for that the methodology exploit scientific approach and several tools born for the biggest part in the 20th century.

The classic Project Management is commonly intended as "Predictive", because it builds up plans to get to expected / wanted results, starting from uncertain initial conditions, defining efforts and actions to reach a future aim, not fully granted in results, time, costs..



The “Predictive” approach is usually identified with the «Waterfall» procedure, so called for the consequentiality of activities, linked by a Cause → Effect relationship.
The passage from a stage activity to another remember the sequence of little falls that allow the project to flow from its start to the end in a logical and controllable way.

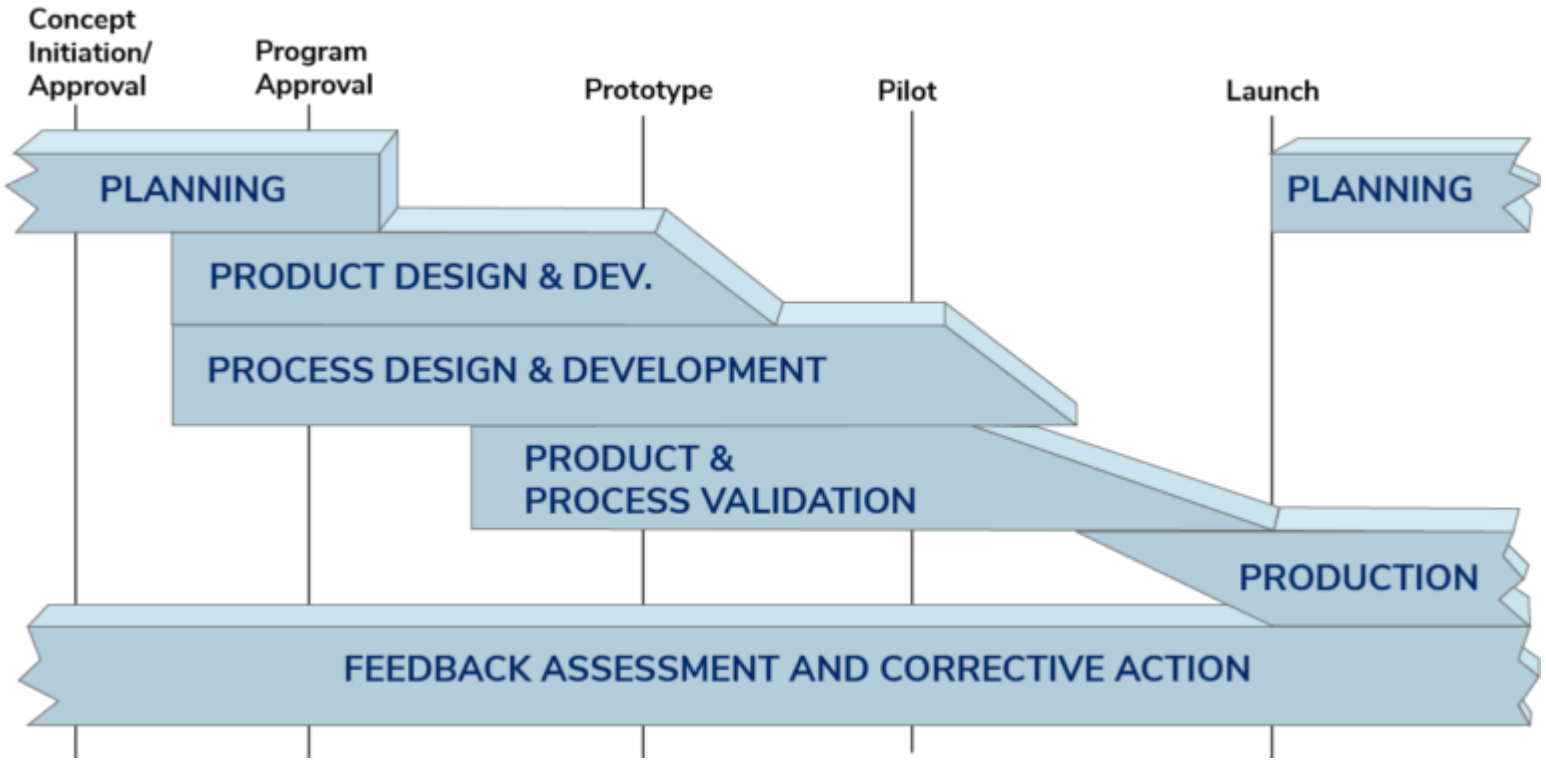
**Passages**

1. Understand requirements
2. Identify available information
3. Identify expected results (deliverables, products, outcomes)
4. Decompose the problem into smaller pieces (Work Packages)
5. Estimation of every single package in the better way possible
6. Correlate the single components
7. Make a plan
8. Executing → Monitoring →Closing

## WATERFALL

# Advanced Product Quality Planning – A.P.Q.P.

A Typical **PREDICTIVE** model is the l'APQP Process (IATF 16949 standard), used in Automotive field, to grant the performance of the supply and production chain.




**APQP PHASES | IATF 16949 CORE TOOL**

1. Plan and Define
2. Product Design and Development
3. Process Design and Development
4. Product and Process Validation
5. Feedback, Assessment and Corrective action

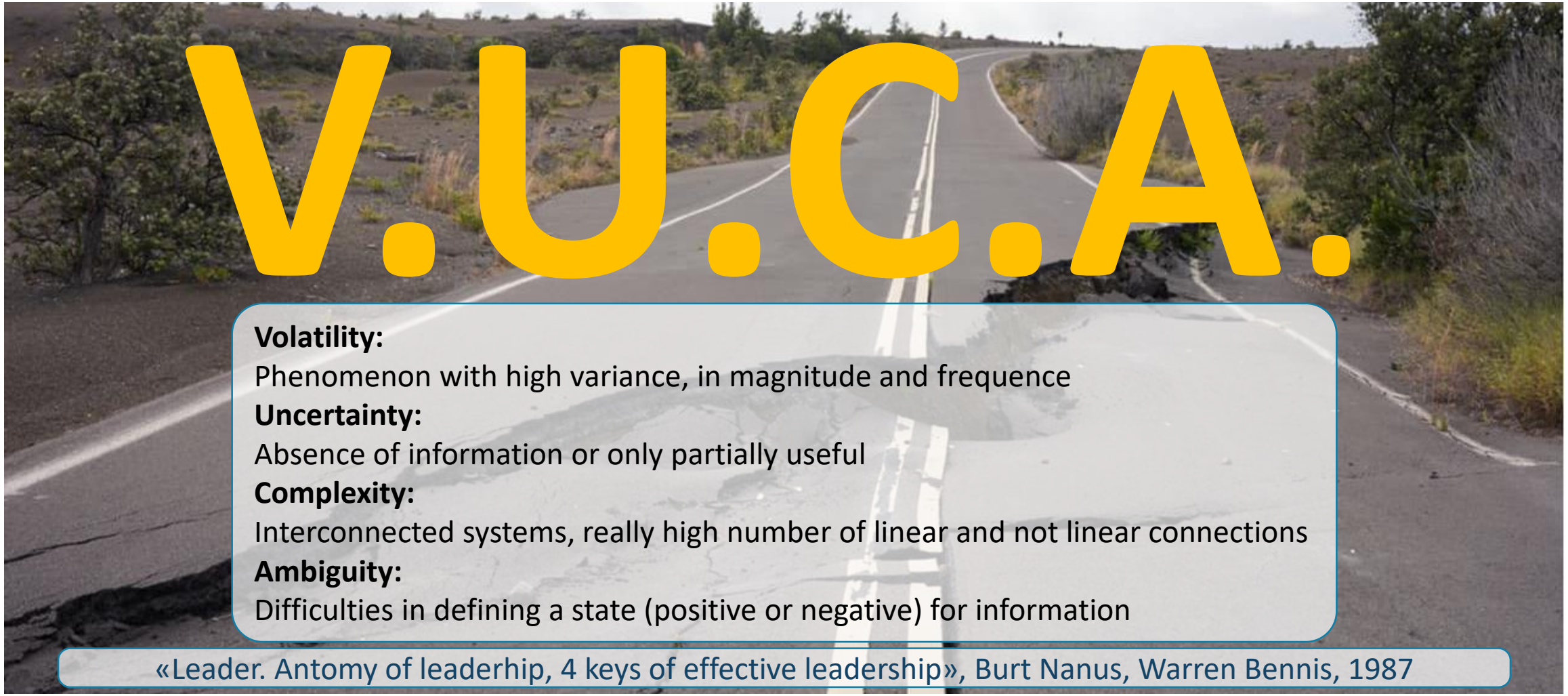
# Waterfall: when can you use it

Characteristics of Predictive Approach:

- It needs well defined requirements
- It develops a rigid plan based on a contract
- It moves foreward by subsequent and dependent steps
- It links costs and performance to the plan
- Issues encountered above, impact on the action taken below → this require a risk management

So with Galilean scientific decomposition method, using technical and methodological knowledges, thanks to the thaumaturgical predictive powers, it is reasonable to drive every kind of project to a good end!

# Well but…something has broken!




**Volatility:**
Phenomenon with high variance, in magnitude and frequence
**Uncertainty:**
Absence of information or only partially useful
**Complexity:**
Interconnected systems, really high number of linear and not linear connections
**Ambiguity:**
Difficulties in defining a state (positive or negative) for information

«Leader. Antomy of leaderhip, 4 keys of effective leadership», Burt Nanus, Warren Bennis, 1987

# Complicated vs Complex

The acronym V.U.C.A. identify a world in fast mutation, in which is very difficult to make long sight plans, needs changes continuously without continuity solutions.
This situation force the use of more adaptive solutions.

**COMPLICATED**
(Latin: Cum – plicum)

With folds, that could be unravelled to easily mange the problem.
Like the Euzones' fustanella, the skirt with hundreds of folds it could be unfolded (Explained = put on a plane)

Greek Euzones

**COMPLEX**
(Latin: Cum – plexum)

With texture (of the fabric )
Couldn't be simplified with decomposition, because this process could damage irremediably the whole object.
Like a surgical operation the whole body have to be cared, because it cannot be teared down and rebuilt without permanent unwanted complications.

# Complicated vs Complex

**COMPLICATED ISSUE:**
Galilean scientific approach, reductionist, decomposition in sub-units.
These problems can be driven to a number if smaller problems, that could be solved independently one from the others.

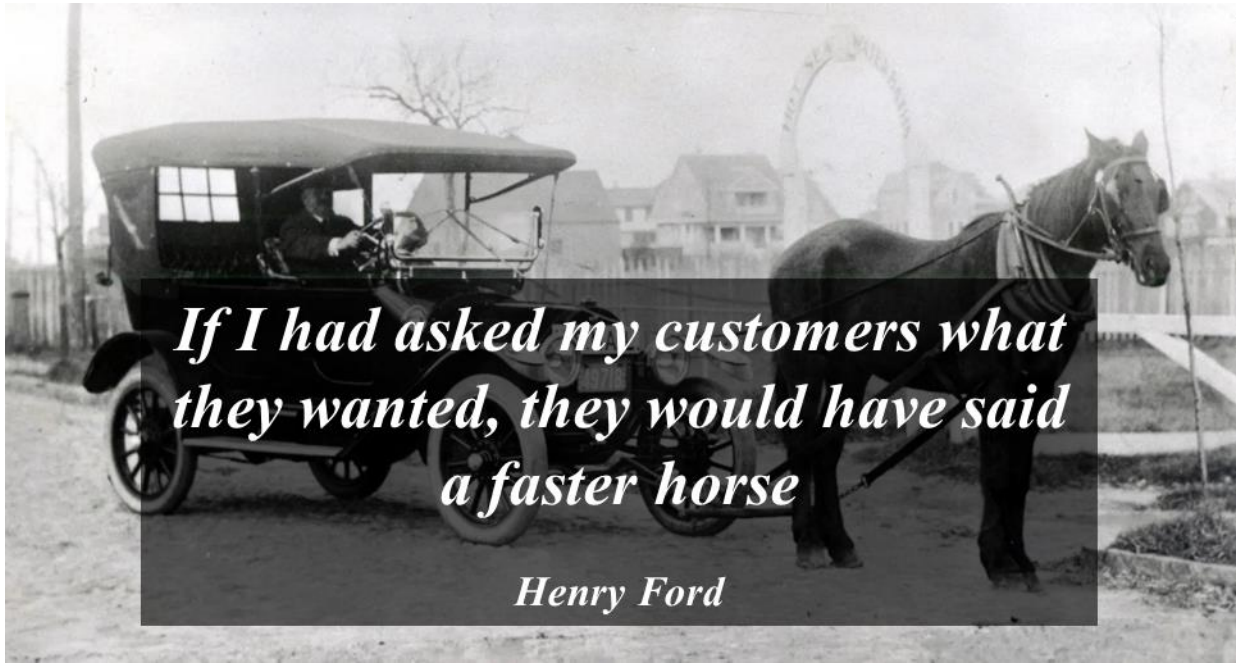
**COMPLEX ISSUE**
Systemic approach / organic / holistic
These problems for their nature couldn't be reduced into smaller problems, principally due to their huge amount and not clearly defined dependencies among the different variables involved. In this situation should be used solutions that can deal with the problem as a system or an organism (Holistic solutions)

| | COMPLICATED | COMPLEX |
|---|---|---|
| Etymology | **Cum Plicum** (with folds) | **Cum Plexum** (with texture ) |
| Relationships | Many Linear | Really a lot Linear and Not Linear |
| Approach | Analytic | Systemic |
| Solution | Unfolded and decomposed | Understood in its entirety |
| Example | Mechanism | Organism |

Fonte: "Prede o ragni"- A. F. De toni, L. Comello

# Mass Production

Between autumn 1913 and spring 1914 the Ford factories moved from handicraft production to Mass Production.
With the start of production of Ford Model T was introduced the **«Key concept of interchangeability of components and ease of assembly»**, this more than continuously moving assembly line caused the affirmation of mass production.

# Brief Toyota story

After WW2, TOYOTA that had already started his own adventure in vehicles production since 1937, faced a lot of issues that threatened his existence.
In 1949 a deep crisis induced the company to fire a consistent part of workers and the president Kihishiro Toyoda was forced to resign.
Under the new direction of Eiji Toyoda and Taichi Ono the Toyota Production System base, called «Lean Production» in the 80s when US experts studied this innovative production system were placed.

Toyota couldn't access to the same resources as Ford or GM, so they had to find new solutions and ideas to cope with competition on the automotive market.
The two new leaders found new methodologies, optimizing production with the annihilation of any waste, fully employing resources, introducing a new work organization and a new product development («funnel» development).

# Value

**Def. 8: Value**
The Value is what a customer is available to pay for, it could be a product, service, etc.

The concept of Value is the base on which the entire Lean Production thought is built .

- Everything that creates Value has to be enhanced and empowered
- Everything that doesn't create Value has to be eliminated

Value in Projects **(PMBoK 7th Ed.)**:

- The Value is the ultimate indicator of project success
- The Value, and the benefits that contribute to it, may be defined in quantitative and/or qualitative terms
- The Project Team estimate the progress and adapt themselves to maximize Value

# Value

**Another definition of value from PMBoK is:**

- The Worth, importance or usefulness of something.
- Different stakeholders perceive a value in different ways.
- Customers can define value as the ability to use a specific feature or function of a product.
- Organizations can focus on business value as determined with financial metrics, such as the benefits less the cost of achieving those benefits, Societal value can include the contribution to groups of people, communities, or the environment.

**Def. 9: System for value delivery (PMBoK 7th Ed.)**

A collection of strategic business activities aimed at building, sustaining, and/or advancing an organization.

Portfolios, programs, projects, products, and operations can all be part of an organization's system for value delivering.

# Basic principles of Lean Thinking 1

## The Toyota Production System avoids as plague

Overburden
(無理: muri)

Overburden slows down the system, till the stop, and overexploit the system up to his break

Variations
(斑: mura)

Variations do not allow the system to keep the effort constant and levelled. They create spikes and wastes in the productive capacity.

From the Theory of Queues:
When a system overcomes 80% of his maximum capacity, every variation can generate a stop

Flux is not generated!

Wastes
(無駄: muda)

Avoiding wastes allows to exploit to his maximum capacity the resources available.
Very often the Lean Thinking is simplified with this only assumption.
Easy to understand at the superficial level, but it involves a lot of consequences and needs actions that cannot be only improvised with the common sense.

**MUDA:** Every thing that DOES NOT add value to the final customer is considered a **WASTE!**

**PRODUCTION:** 7 Wastes

1. Transportation
2. Inventory
3. Motion
4. Extra-processing
5. Defects/Reworking
6. Overproduction
7. Waiting


**PRODUCT DEVELOPMENT:** 10 Wastes

1. Production of unneeded things
2. Waiting
3. Delegato works without adding value
4. Unneeded processes
5. Uncompleted work
6. Multitasking (continuous switch of activities)
7. Make evident defects at the end of the project
8. Team that doesn't work up to his potential
9. Lack of knowledge
10. Indulge desires more than rational needs


**Waste +1: Waste of Brain/Talent**

If there is one only person that think over 10/100/1000 we are wasting all other ideas

**Last famous words: Lü… Lü s'al vol pensàr, al fa l'azienda! (former owner of SISMA)**

# Basic principles of Lean Thinking 2

**KAIZEN:** continuous improvement (progressive step by step)

改善

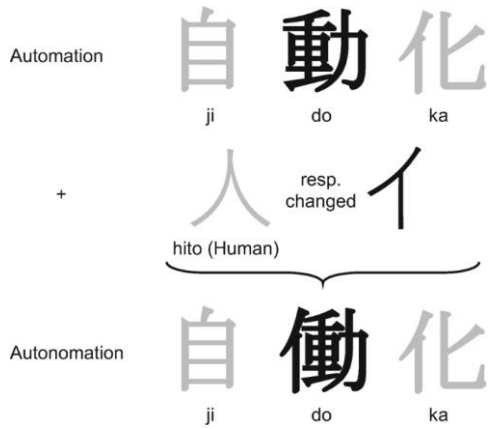
**KAIKAKU:** radical improvement (disruptive)

改革

**GEMBA:** Where the value is created (Jap: Crime scene, the shopfloor)

現場

**Jidoka:** Autonomation = automation with human face




**Poka Yoke:** Error proof

ポカ よけ

**Try Fast:** Try rapidly, fail on little thing, improve rapidly

**KANBAN:** (Postcard) Visual stock management system

看板

**ANDON:** The way by which every worker could stop the production line. Continuous quality check during production.

行灯

## **NUMMI** (New United Motor Manufacturing, Inc.) **- 1984**

Was a  joint-venture between the typical mass producer: GM and the typical Lean producer: TOYOTA.
In an old GM factory at Fremont, California; already closed in 1982.
The company started the production under the direction of a fully TOYOTA management.
It transplanted with success the lean methodologies in the USA forcing local mass producers to align with this new production method.

# AGILE manifesto

The world of IT projects for its intrinsic lack of materiality  had suffered more than any other di V.U.C.A. effects.

For this reason from February 11 to 13  2001, in a resort on the Utah mountains, a group of 17 developers had a meeting with the aim to define the values and key principles of a new model of driving IT projects.

From this agreement came out a fist of tips that generated the agile frameworks, based on the adaptive approach and lean principles.

# AGILE manifesto

**AGILE:**

- ADAPTIVE methodology
- Based on Lean principles:
  - Production of VALUE
  - Maximize the Project ROI
  - Introduction of Takt Time
- It works better with initially uncertainty conditions
- Allow the continuous learning and environment adaptation


This means never confuse effort with results.

## Manifesto for Agile Software Development

We are uncovering better ways of developing
software by doing it and helping others do it.
Through this work we have come to value:

**Individuals and interactions** over processes and tools
**Working software** over comprehensive documentation
**Customer collaboration** over contract negotiation
**Responding to change** over following a plan

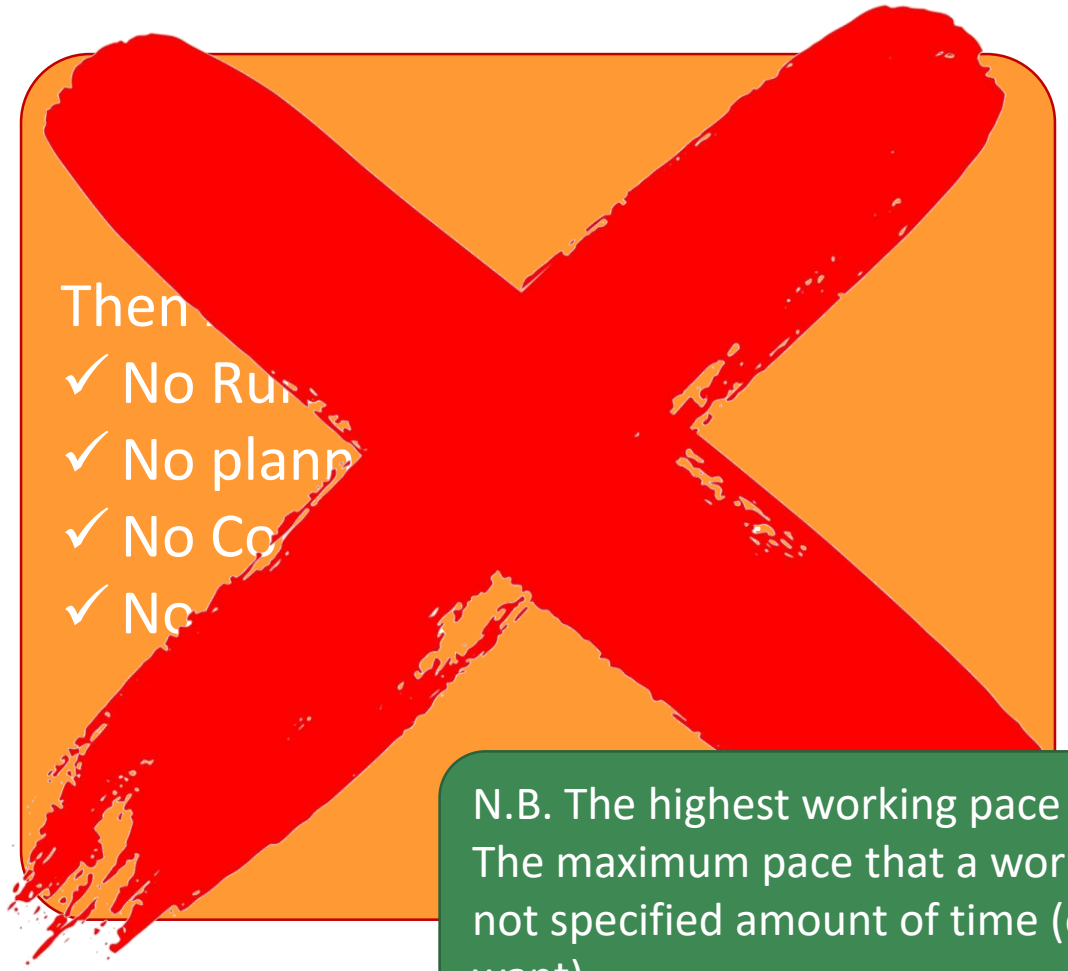
That is, while there is value in the items on
the right, we value the items on the left more.

# What does Agile Means:

Then AGILE means:
- ✓ No Rules
- ✓ No planning
- ✓ No Control & monitoring
- ✓ No feedback

AGILE require
- ▶ Overall Planning
- ▶ Definition of backlog
- ▶ Time boxing or flow management
- ▶ Continuous feedback & check
- ▶ Focus on value creation
- ▶ Team working
- ▶ High paced environment

# What does Agile Means:



Then
- ✓ No Ru
- ✓ No plann
- ✓ No Co
- ✓ No

AGILE require
- Overall Planning
- Definition of backlog
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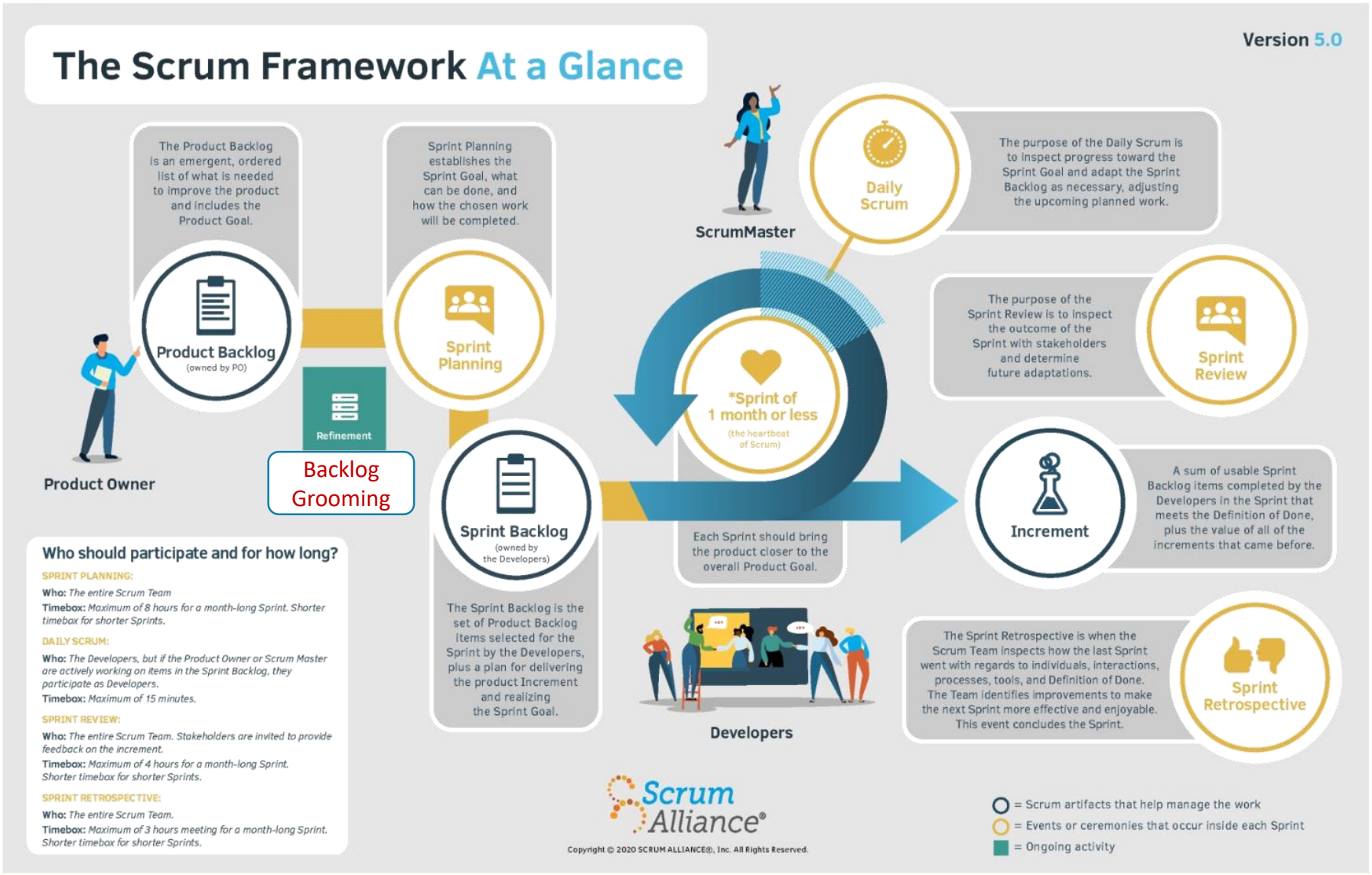
- Focus on value creatio
- Team working
- High paced environme

N.B. The highest working pace in Agile environment is defined as : The maximum pace that a working Team is able to maintain for a not specified amount of time (or as much longer as they need or want)




SCRUM framework

**Roles**

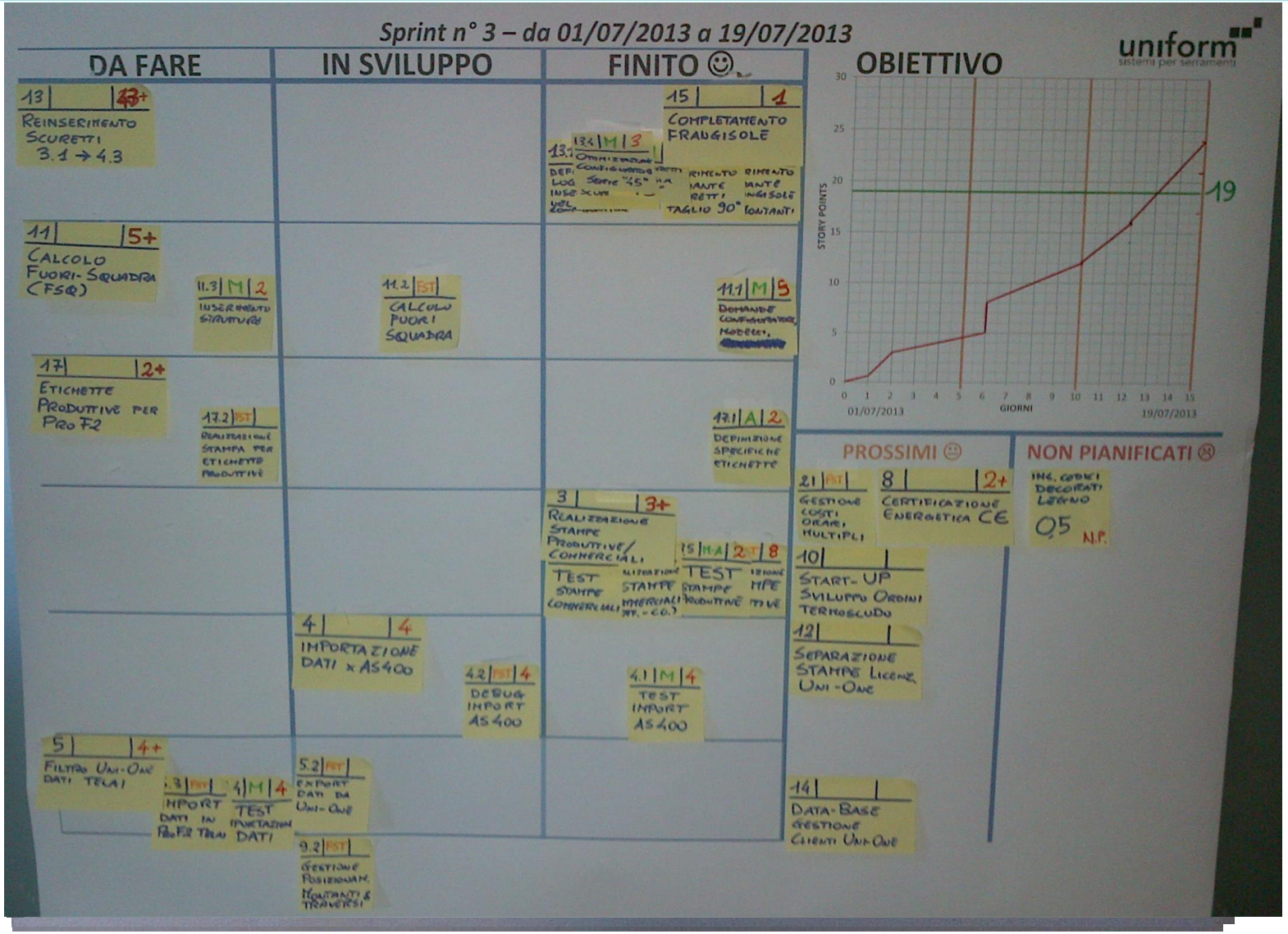
1. Scrum Master
2. Product Owner
3. Team Member

**Ceremony**

1. Sprint Planning
2. Daily Scrum
3. Sprint Review
4. Sprint Retrospective

**Artifacts**

1. Product Backlog
2. Sprint Backlog
3. P.S.P.I (Potentially Shippable Product Increment)


Sprint n° 3 – da 01/07/2013 a 19/07/2013
DA FARE
IN SVILUPPO
FINITO
OBIETTIVO
uniform
sistemi per serramenti
STORY POINTS
GIORNI
01/07/2013
19/07/2013
19
PROSSIMI
NON PIANIFICATI
13 | 13+ REINSERIMENTO SCURETTI 3.1 → 4.3
15 | 1 COMPLETAMENTO FRANGISOLE
11 | 5+ CALCOLO FUORI-SQUADRA (FSQ)
11.3 | M | 2 INSERIMENTO STRUTTURE
11.2 | BST CALCOLO FUORI SQUADRA
11.1 | M | 5 DEMANDE CONFIGURATEUR MODELLI
17 | 2+ ETICHETTE PRODUTTIVE PER PRO F2
17.2 | BST REALIZZAZIONE STAMPA PER ETICHETTE PRODUTTIVE
17.1 | A | 2 DEFINIZIONE SPECIFICHE ETICHETTE
3 | 3+ REALIZZAZIONE STAMPE PRODUTTIVE/ COMMERCIALI
TEST STAMPE COMMERCIALI
TEST STAMPE PRODUTTIVE
4 | 4 IMPORTAZIONE DATI x AS400
4.2 | BST | 4 DEBUG IMPORT AS400
4.1 | M | 4 TEST IMPORT AS400
5 | 4+ FILTRO UNI-ONE DATI TELAI
5.3 | BST IMPORT DATI IN PRO F2
4 | M | 4 TEST IMPORTAZIONE DATI
5.2 | BST ESPORT DATI DA UNI-ONE
9.2 | BST GESTIONE POSIZIONAM. MONTANTI & TRAVERSI
21 | BST GESTIONE COSTI ORARI MULTIPLI
8 | 2+ CERTIFICAZIONE ENERGETICA CE
10 | START-UP SVILUPPO ORDINI TERMOSCUDO
12 | SEPARAZIONE STAMPE LICENZ UNI-ONE
14 | DATA-BASE GESTIONE CLIENTI UNI-ONE
ING. CODICI DECORATI LEGNO 0,5 N.P.

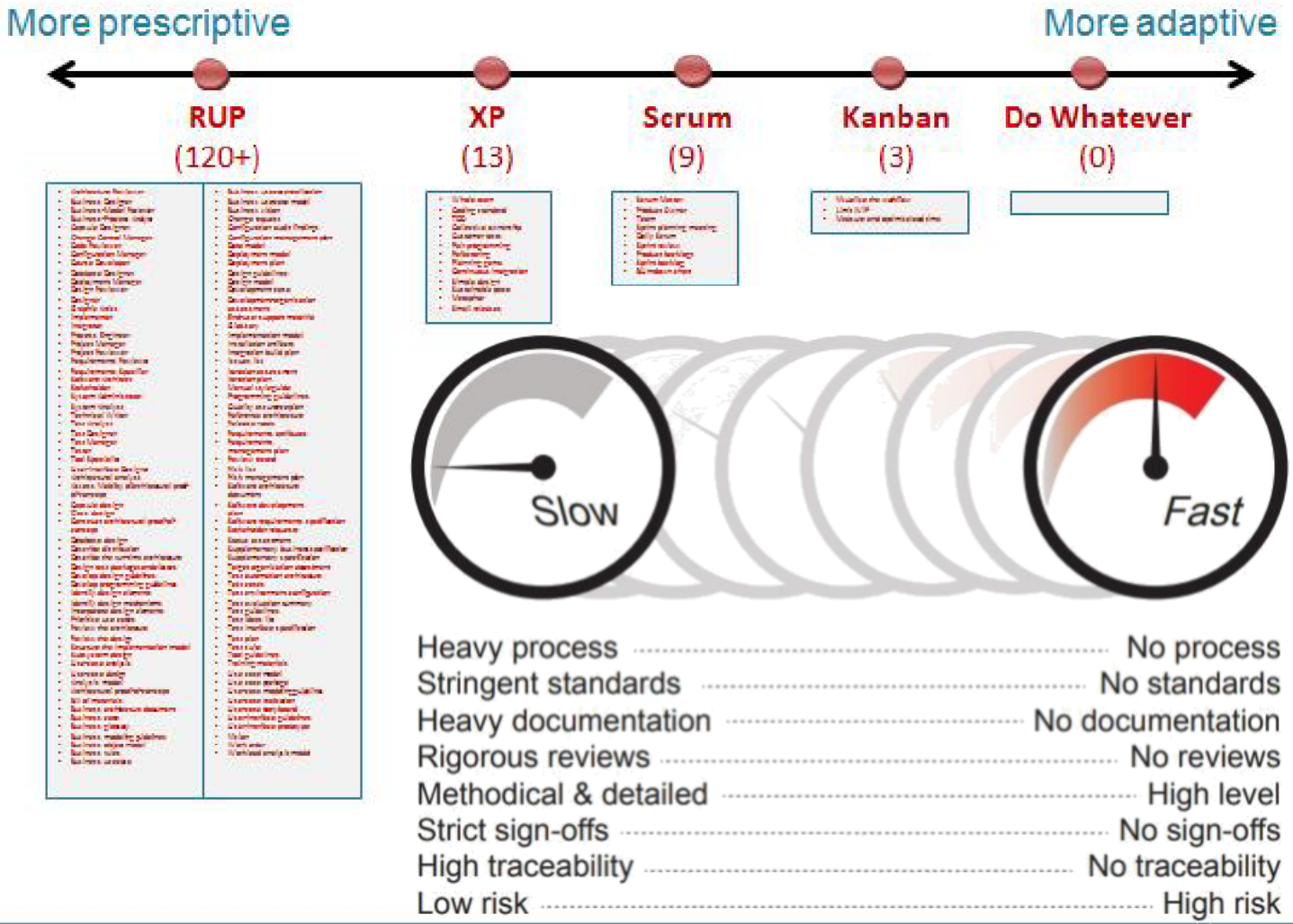
**Scrum? Never heard before!**

Scrum is a term that comes from rugby.
Is the melee in which the contested ball have to be conquered by one team to be played again.

The analogy is due to  the concerted effort needed to get the work done in the proper way.

Ireland vs Italy - Rugby World Cup, October 2, 2011

# Frameworks and speed




Clearly the framework to choose depends on the needs of the organization.
Faster the pace higher the risks.
Less documentations, less constrains but also less rail to keep the project on track.
Perform in a “free to fly” environment involves a great consciousness, technical and managerial skills, the ability to align with technical and business aims, coordination, team working and empathy.

# Scaling “Agile”


Scrum
Lean software development
Kanban (process + method)
Extreme Programming (**XP**)
Continuous Integration (**CI**)
Continuous Delivery (**CD**)
Feature Driven development (**FDD**)
Test Driven Development (**TDD**)
Crystal Clear
...

Lightweight approaches

Scrum-of-Scrums
Scrum at Scale (**Scrum@Scale**)
Large-scale Scrum (**LeSS**)
Scaled Agile Framework (**SAFe**)
Disciplined Agile Delivery (**DAD**)
Dynamic Systems Development Method (**DSDM**)
Agile Project Management (**AgilePM**)
Agile Unified Process (**AUP**)
Open Unified Process (**OpenUP**)
...

Fuller approaches (beyond 1 team)

The Agile umbrella include all the principal frameworks.
The challenge at present is on the scalability of the method.
Manage a single Scrum team build by 5±2 developers, 1 Scrum Master (SM) and 1 Product Owner (PO) is a thing, running a big project with several teams scattered among USA, Europe, India and Australia, working H24 is quite another.
Of course the management methods involved are different.

# Organizations and Projects

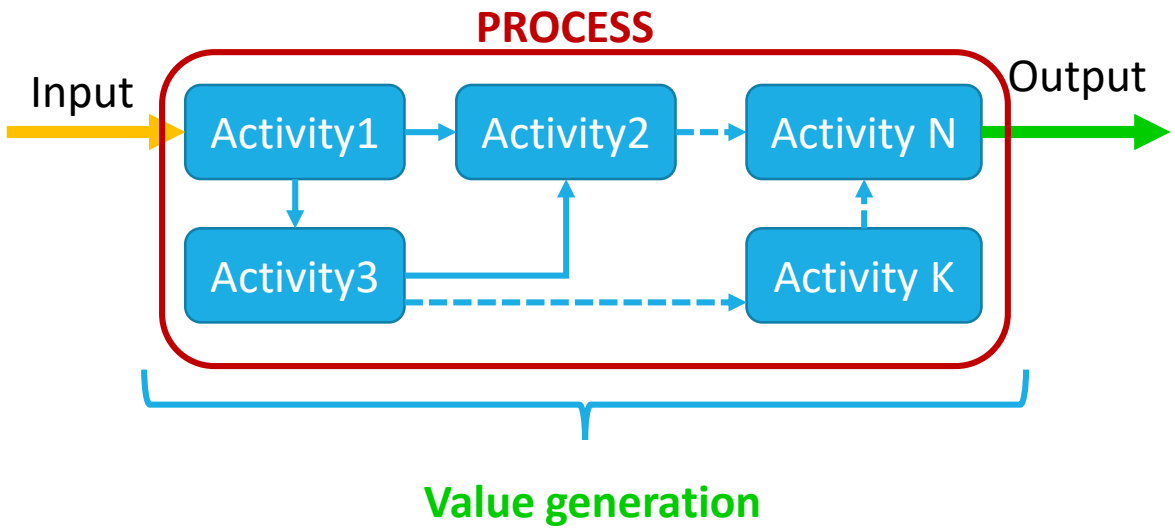
Common economic organizations are not structured to sustain the efforts needed to execute projects, but are usually “based on functions”, and focused on performing processes.

**Def. 10: Process** **(Corso di Gestione Aziendale AA 2014-2015; R. Castagna, A. Rolla; Politecnico di Milano)**

A Process is a sum of activities interrelated and characterized by:

- INPUT
- OUTPUT
- Added Value

The main difference between a Project and a Process is that the second is designed to be replicated identically (or with minimum tuning) an undefined number of times. This is not clearly suited to face the one time / one shot challenges typical of projects.



# PROCESS vs PROJECT

Dong Dianhu Manor housing development - Shanghai

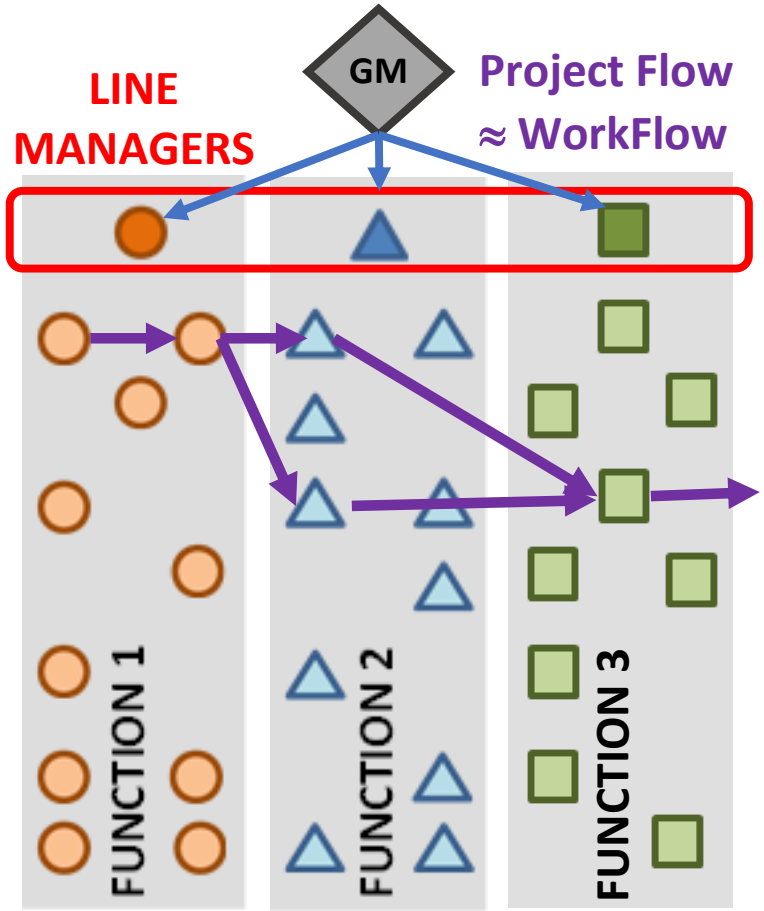
VS

## Which organizations structure is needed?

# MATRIX

The need of managing projects gave birth to matrix organizations. Here projects intersect with functions, taking advantage from interfunctional teams, and from already existing expertise, to cope with the projects' challenges.

# Functional

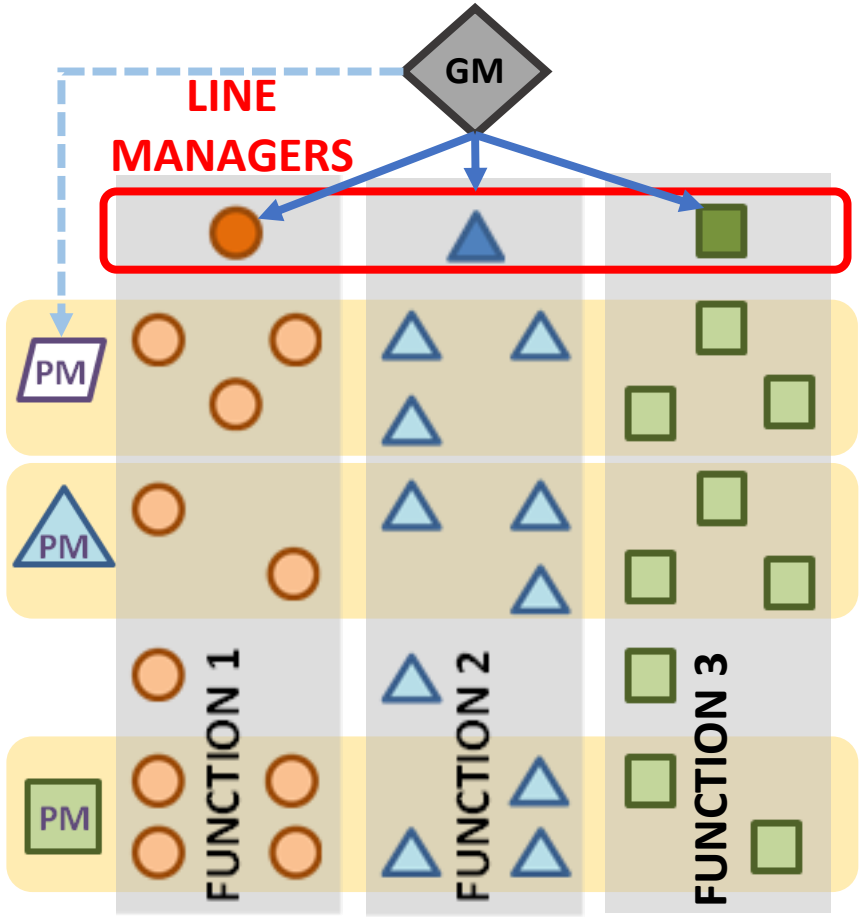



Functional Organization

Functional organizations are the classics organization designed for operations, they support repetitiveness and are focused on processes and efficiency.
In this kind of organizations Projects are identified with processes, to be repeated when needed.
The project flow is compared to a work-flow, and it moves forward through the different phases, often detached one from another because they are performed by different functions, without a overall identity.

| | |
|---|---|
| **Project Management:** | Absent |
| **PMO:** | Not present |
| **Autority:** | Line Managers |
| **Power of PM:** | Null |

# Weak Matrix

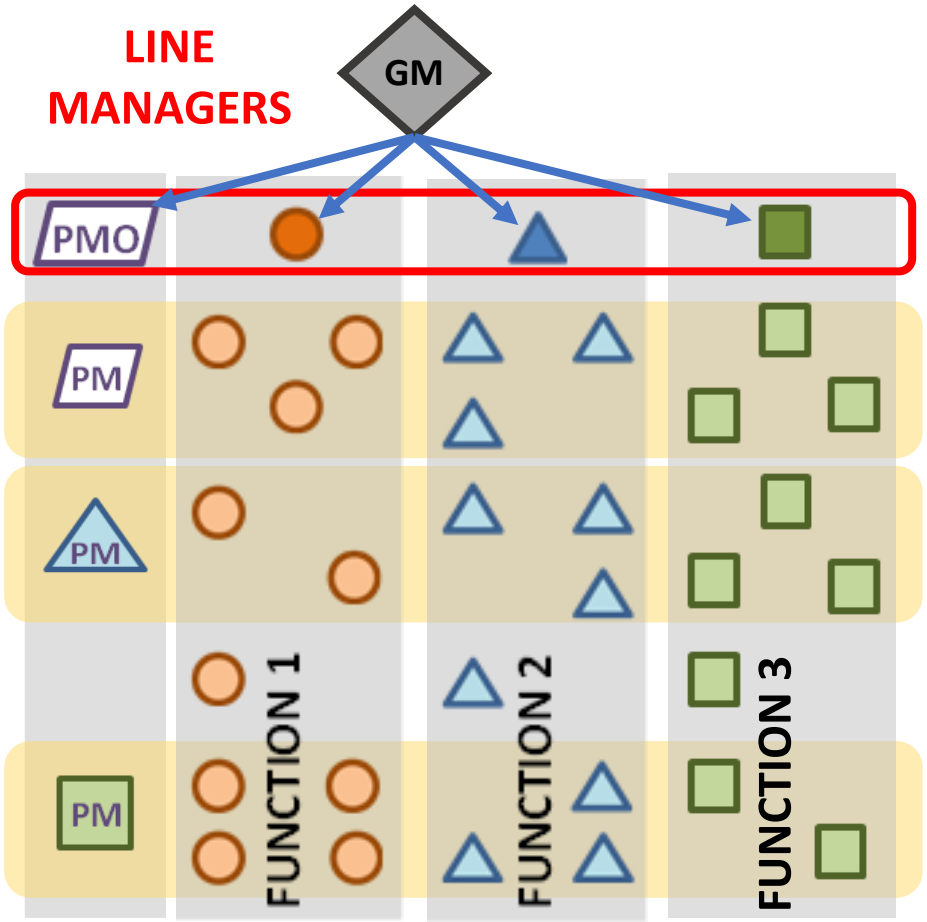



Weak Matrix Organization

In a Weak matrix Organization projects are identified but they are subordinated to processes and the «Business as Usual».
The operations needs to come first, this generates a poor performance of projects, with delay and cost increase due to stops or lack of assets.
A Project Manager needs to borrow resources and Team Members, that usually work part-time on projects where they are assigned

| | |
|---|---|
| **Project Management:** | Present |
| **PMO:** | Not present |
| **Autority:** | Line Managers |
| **Power of PM:** | Scarse |

# Balanced Matrix

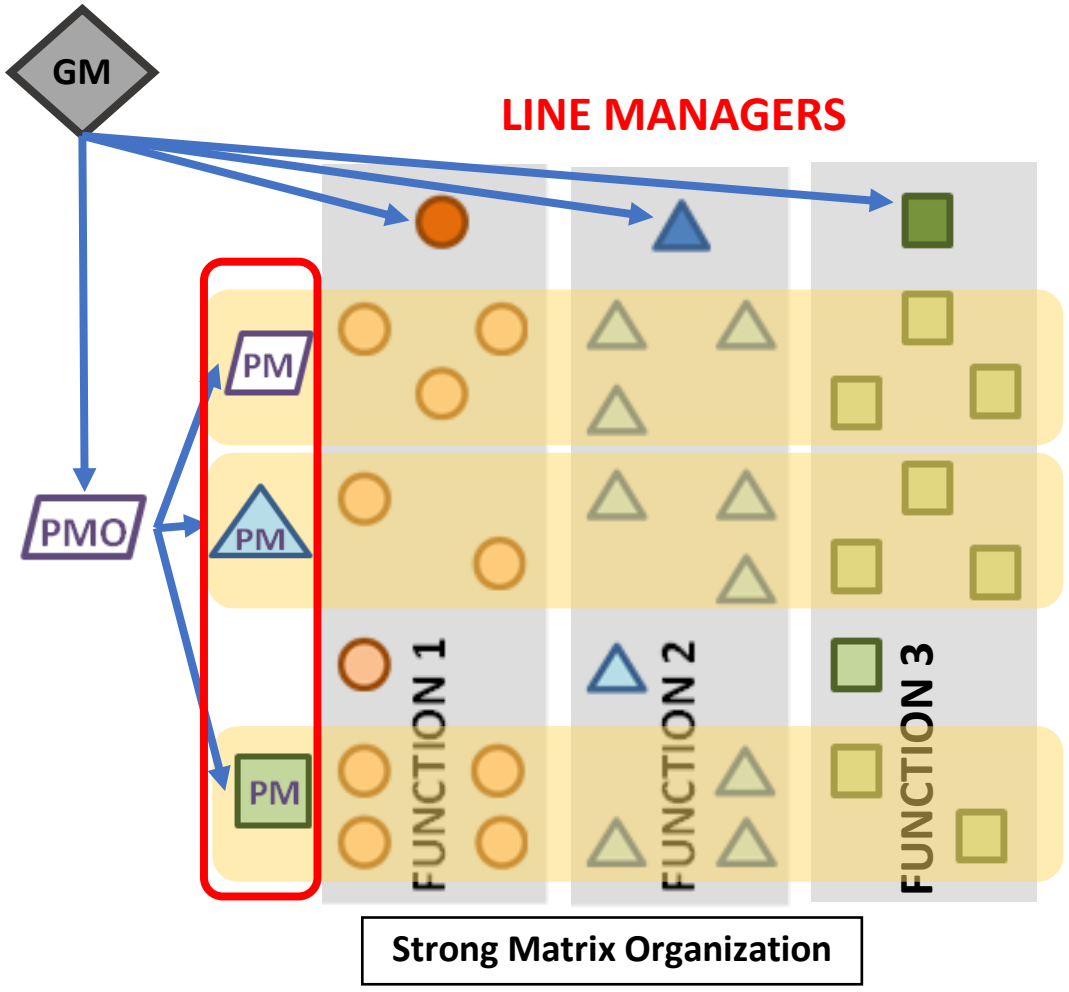



Balanced Matrix Organization

Toss a coin (…to your Witcher ♪♫♩ ♪♫…) to make a decision.
Projects share with functions/operations the same priority, so there is no clear assumption on who goes first.
Resources and people are shared and it is not clear who can decide what is more important, the project task or the operations' duty.
Projects are identified, but the priority is swinging between projects and operations.

| | |
|---|---|
| **Project Management:** | Present |
| **PMO:** | As a line manager |
| **Autority:** | Equivalent (projects = functions) |
| **Power of PM:** | As other professionals |

# Strong Matrix

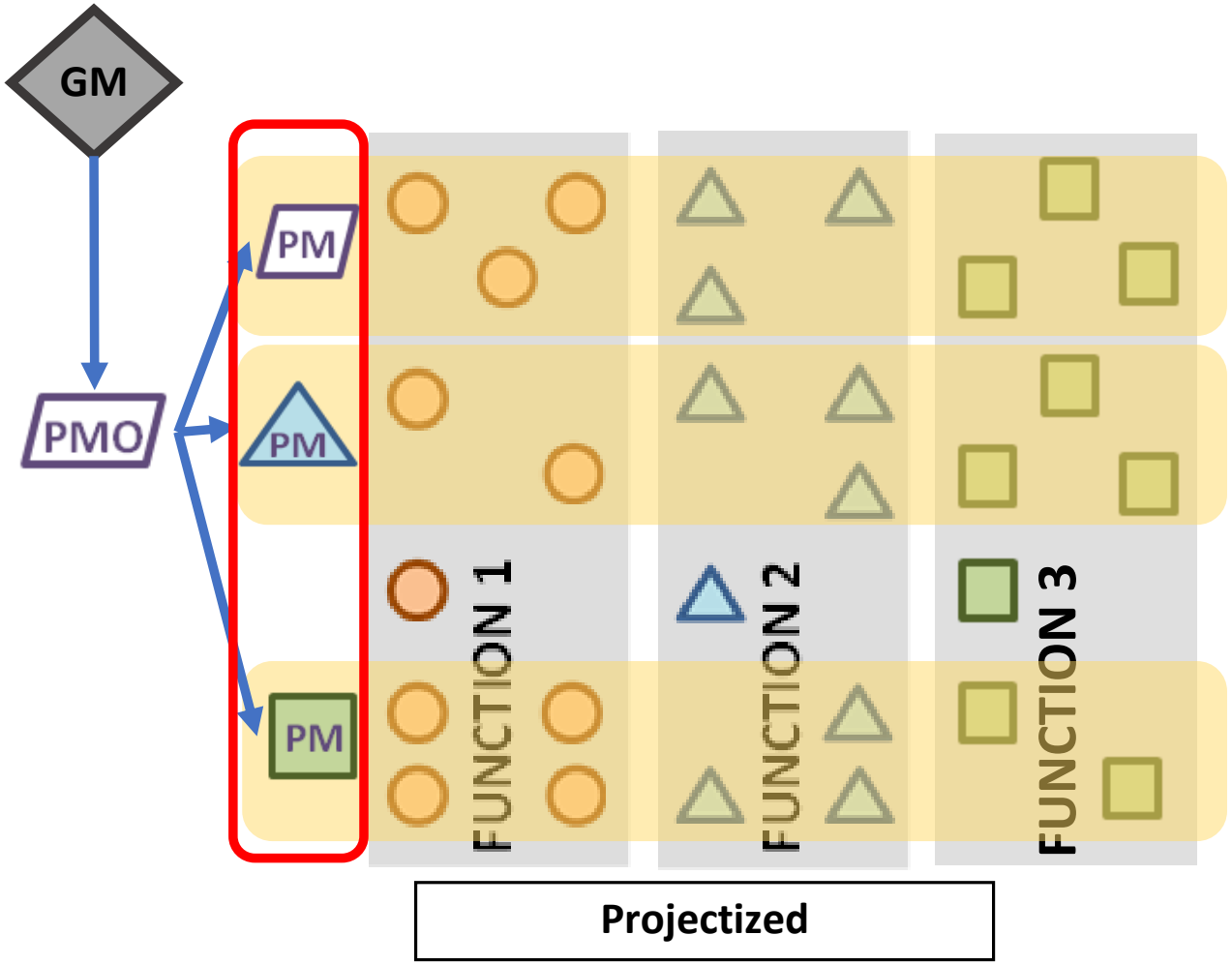



Strong Matrix Organization

In Strong Matrix organizations Projects overcome operations, so the project needs to have an higher priority than operations duties.
Functions performs operations but are principally the place in which projects find their well trained and experienced resources.
The PMO is efficient and powerful and drive the organization's business.

| | |
|---|---|
| **Project Management:** | Present and empowered |
| **PMO:** | Coordinate the business |
| **Autority:** | On projects |
| **Power of PM:** | Over the line managers |

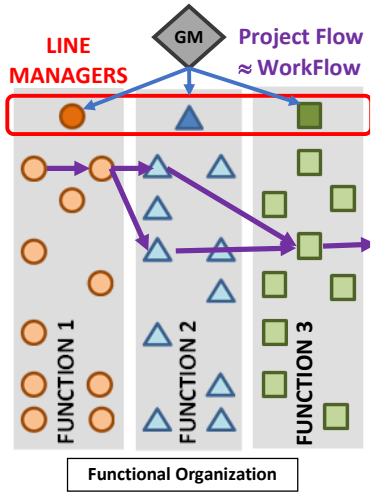
# Projectized



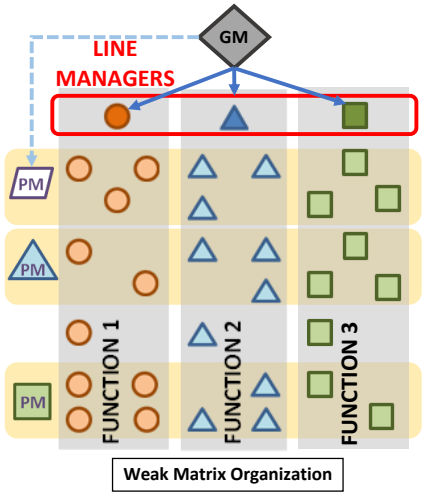

In Projectized organizations the business is only on the projects performed.
No operations are presents, the project team are formed to attend a project (with internal and external resources) and disbanded after a project conclusion, and in case single resources or groups are involved in new projects.
Projects are the business and the PMO is the decisions room.

| | |
|---|---|
| **Project Management:** | Foundamental |
| **PMO:** | Drive the business |
| **Autority:** | On projects |
| **Power of PM:** | Full over the project |

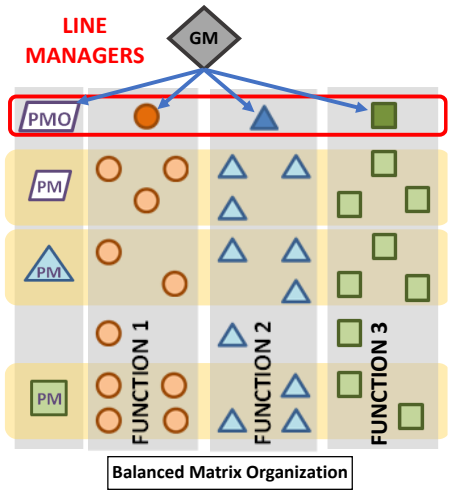
# Organizations comparison



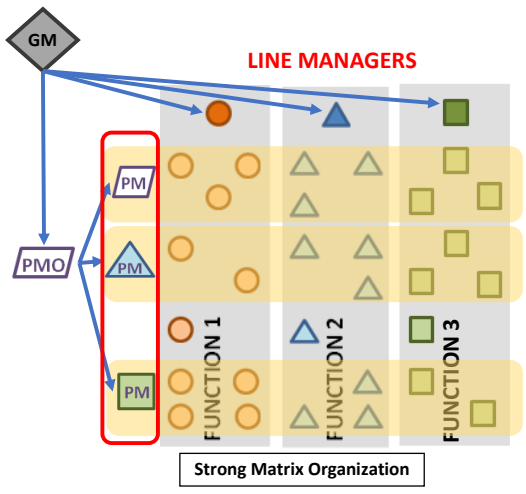
Functional Organization



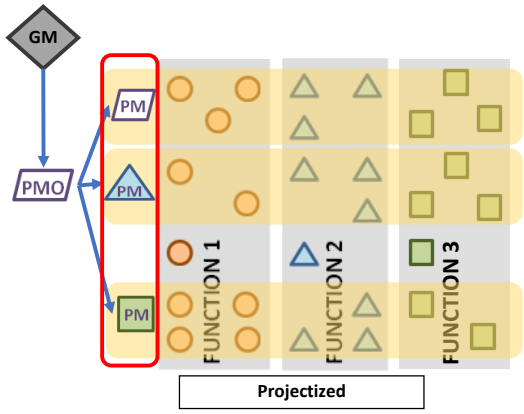
Weak Matrix Organization



Balanced Matrix Organization



Strong Matrix Organization



Projectized

Power of the Project Manager

**Project Manager's Role**

SOLICITATOR | FACILITATOR | NEGOTIATOR | PLANNER | COORDINATOR | DECISION MAKER

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