Module GESTION DE PROJET
POLYTECH
Université de Nice - Sophia-Antipolis

Deborah Rouchouse - Spiquel

Presentation

- ❑ 46 ans, 2 enfants

- ❑ Diplome universitaire DESS (MASTER2) Genie du Development Industriel (Universite de Nice – Sophia-Antipolis)

- ❑ Experience Professionnelle : +20 ans dans le Semiconducteur

- 1997 / 2013 : **Texas Instruments** avec 9 ans de HW Program Management de Circuits analogiques ou numériques et 2 ans de PMO Management – Produits : Complex OMAP/Tegra PMIC companion chips, PMIC/Wireless Charger USB devices, GSM/GPRS RF Integrated Modems

- J2013 / Janvier 2020 : **NXP** avec 6 ans de HW Project Managements sur des circuits Audio (analogiques/numeriques), “Smart Amplifiers” et System Project Manager (pour des solutions Audio comportant du HW / SW et System)

- Depuis Fevrier 2020 : **Goodix Technology** en tant qu’HW Technical Project manager

- ❑ Enseignant vacataire Polytech depuis 2016

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Si question : drouchouse@goodix.com

GOODiX

- Goodix is **integrated solution provider for applications based on IC design and software development** offering industry-leading software and hardware semiconductor solutions for smart devices, IoT applications, and automotive electronics.

- Goodix serves hundreds of millions of global consumers with quality products and solutions via renowned brands and is recognized as the largest biometric authentication solution provider for Android devices in the global market.

- Site : https://www.goodix.com/en

- Overview : https://www.goodix.com/en/about_goodix/profile/overview

GOODIX


The Most Popular Biometric Solution in the Era of Bezel-Less Smartphones
Goodix's IN-DISPLAY FINGERPRINT SENSOR™ has been commercially
utilized in 166 smartphone models of various brands
HUAWEI P40 Pro
OPPO Reno4 Pro
vivo X50 Pro
Xiaomi Mi 10 Ultra
Samsung Galaxy A71 5G
OnePlus 8 Pro
Motorola edge+
realme X50 Pro 5G
MEIZU 17 Pro
ZTE Axon 20 5G


Sensing the Pulse of Health
Goodix's Ultra-Low Power Heart Rate &
Blood Oxygen Detection Sensor Achieves
Commercialization on realme Watch
Real-Time Heart Rate Monitor
Blood Oxygen Level Monitor (SpO2)


Congratulations on the Launch
of Samsung Galaxy A71 5G
The First Commercialization of Goodix's Optical In-Display
Fingerprint Solution on Samsung Smartphones
Smooth • Optical IN-DISPLAY FINGERPRINT SENSOR™
Clear • Voice Calling Enhancement Solution

GOODiX

Key Facts

¥3721 CNY Million
Revenue in 2018

22.5+
R&D Investment Ratio(%)

4300+
Patents

1700+
Employees

Goodix Technology France S.A.S.
475 Rue Evariste Galois,
Le Garden Space – Batiment A, Biot

Module Gestion de Projet

Objectif

- Vous permettre de découvrir le management de projet, ses caractéristiques, son importance dans la réalisation d'un produit ou d'un service.

Compétences

- Connaître les missions d'un chef projet
- Identifier les besoins, les exigences des parties prenantes et le périmètre du projet
- Appliquer les outils de la gestion projet pour les projets scientifiques et techniques et dans tous les évènements organisés à Polytech Nice

Organisation du cours

- 16h sur 8 semaines : du 04SEPT20 au 13MOV20 (pas de cours Semaines 42 et 44)
- 2 notations : Exercises (Note1) + QCM (final sur les chapitres 2 à 7)(Note2) – Les 2 notes ont le même coefficient
- Support des cours : **Toutes les slides présentées seront postées dans Slack à la fin de chaque chapitre.**
- **En cours : pas d'ordinateur ouvert**

WHAT IS A PROJECT? KEY WORDS ?

WHAT DO WE MEAN BY PROJECT MANAGEMENT ?

End result of the project

REACT

RESOLVE

Evaluate the resources

COORDINATE

COSTS / BUDGET

TIME / SCHEDULE

MOTIVATE

MONITOR

Anticipate risks

TAKE DECISIONS

CONTROL

Plan the project as a whole

QUALITY

MEASURE

COMMUNICATE

Module Gestion de Projet / Project Management : Content

1. Introduction to Project Management
2. Project
3. Time
4. Resources
5. Cost
6. Quality
7. Risks Management

Chapter 1 : Introduction to Project Management :

1. Definition
2. Different types / Approaches of Project Management
3. Types of Certification

Chapter 1 : Introduction to Project Management :

1. **Definition**
2. Different types / Approaches of Project Management
3. Types of Certification

1.1 Project Management : Definition

- Project management is a practice that can be found everywhere. Project management does not belong to any specific domain or a field.

- Regardless of the size of the activities or effort required, every project requires project management.

- Project management is the process and activity of **planning**, **organizing**, **motivating**, and **controlling resources** to achieve specific goals of a project.

So **the goal of a Project manager** is to achieve all of the project goals and objectives
The primary constraints are **scope, time, quality and budget**.
The secondary — and more ambitious — challenge is to optimize the allocation of necessary inputs and integrate them to meet pre-defined objectives.

Chapter 1 : Introduction to Project Management :

1. Definition
2. **Different types / Approaches of Project Management**
3. Types of Certification

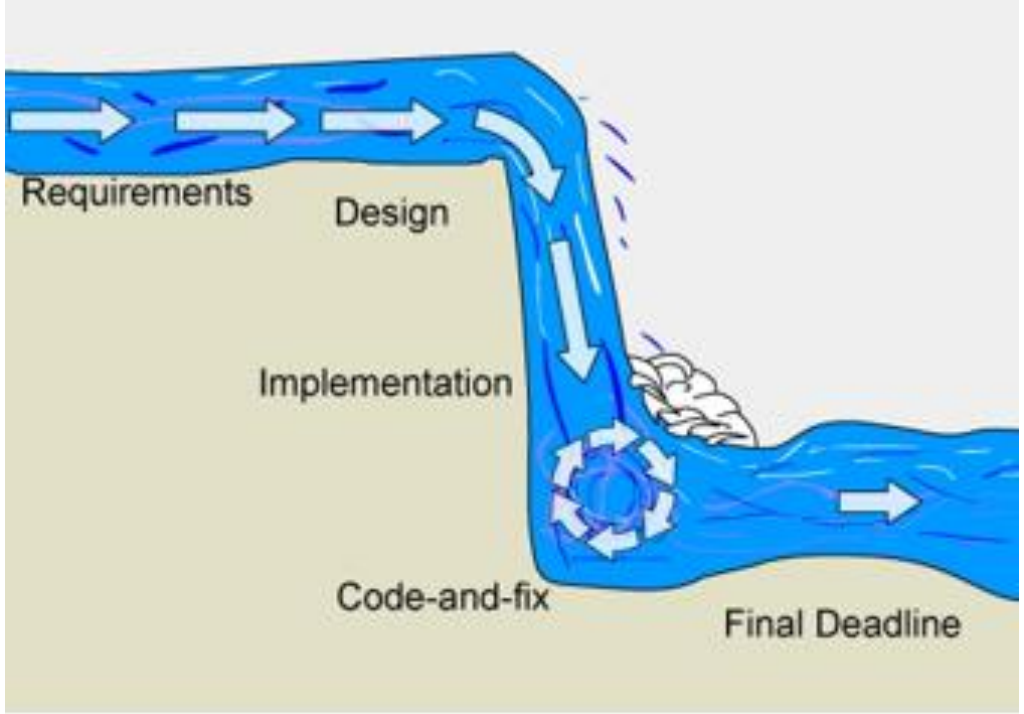
1.2 Project Management : Different Types / Approaches

- **The traditional approach :** identifies five components, or stages, of a complete project: Initiation / Planning and design / Execution / Monitoring and controlling / Closing

The simplest version of the traditional approach goes through these components one-by-one in the order described

1.2 Project Management : Different Types / Approaches

- Variant approach : **Waterfall**
  Waterfall methodology is the one that is the most used across all industries, and it is very common in software development and construction. There are many versions of the waterfall method, like below one :

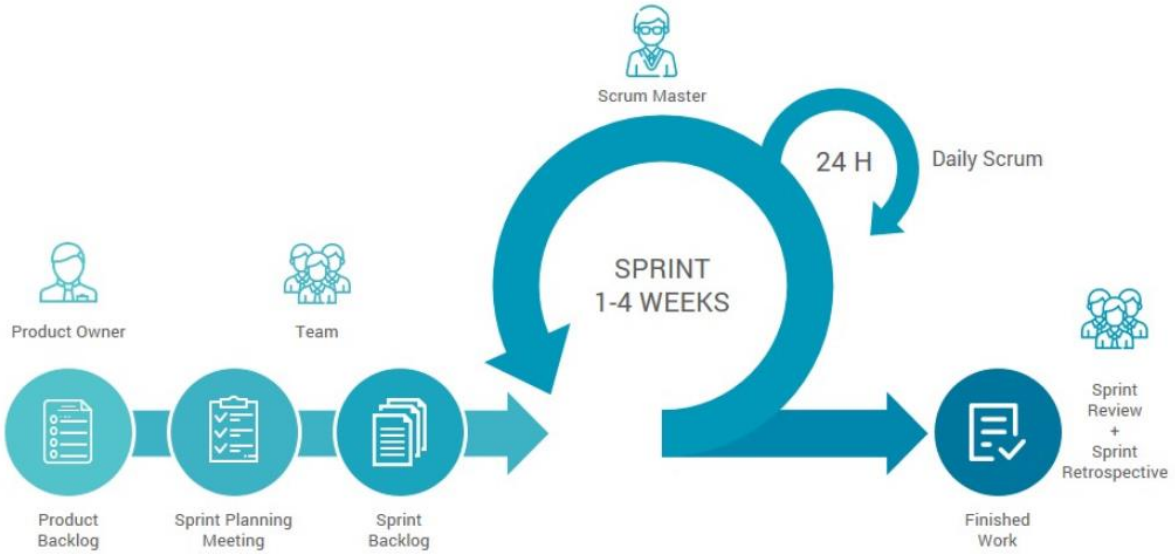


1.2 Project Management : Different Types / Approaches

- **Critical Chain Project Management** :
  This approach emphasizes the **efficient use of resources**. The “critical chain” of the project is the **longest sequence of tasks that are constrained by the availability of a resource.**
  - CCPM is less concerned with task order and scheduling.
  - Schedules and deadlines are seen as less important due to a phenomenon known as Parkinson’s Law, which states that “Work expands so as to fill the time available for its completion.”
  - Ironically, it seems that a lack of deadlines actually speeds up work, as workers will complete their tasks as quickly as possible rather than waiting until just before the deadline.

1.2 Project Management : Different Types / Approaches

- **Agile** : It is an **iterative and incremental method** of managing the activities in a **highly flexible and interactive manner**.
  - This approach allows teams to deliver projects piece-by-piece and make rapid adjustments as needed.
  - Especially useful in complex projects, Agile can result in more customer needs met at less cost. Agile-based methodologies are "**most typically" employed in software development** as well as the "website, technology, creative, and marketing industries.“

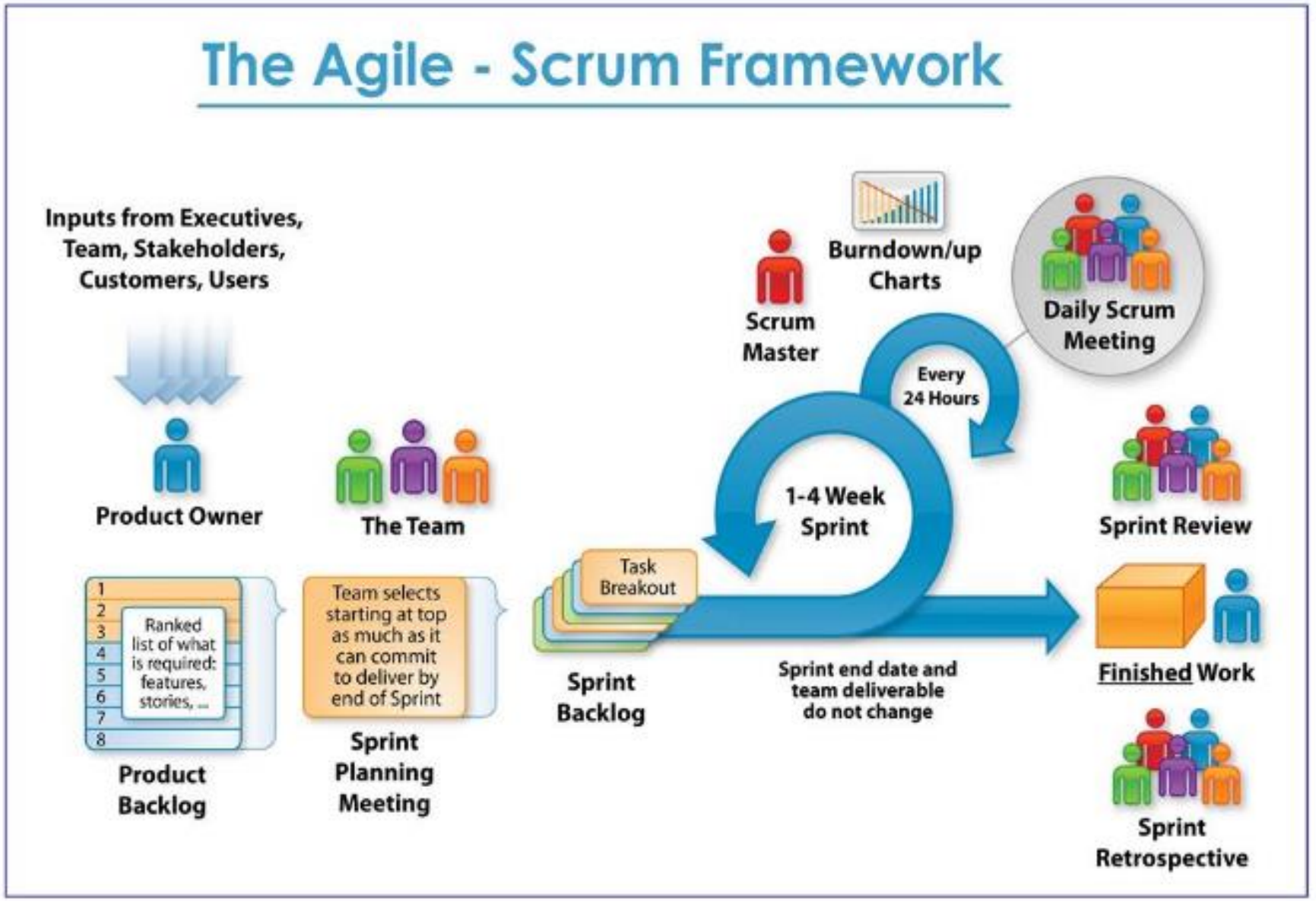


1.2 Project Management : Different Types / Approaches

- **Agile** :
  Agile is an umbrella term for multiple project management methodologies, including:
  - **Scrum** : the product is built in **a series of fixed-length iterations called sprints** that give teams a framework for shipping software on a regular cadence.
    The Scrum framework :
    - A **product owner** creates a prioritized wish list called a **product backlog**.
    - During sprint planning, the team pulls a small chunk from the top of that wish list, a **sprint backlog**, and decides how to implement those pieces.
    - The team has a certain amount of time — **a sprint (usually two to four weeks)** — to complete its work, but it meets each day to assess its progress (**daily Scrum**).
    - Along the way, the **ScrumMaster** keeps the team focused on its goal.
    - At the end of the sprint, the work should be potentially **shippable**: ready to hand to a customer, put on a store shelf, or show to a stakeholder.
    - The sprint ends with a **sprint review and retrospective**.
    - As the next sprint begins, the team chooses another chunk of the product backlog and begins working again.

1.2 Project Management : Different Types / Approaches

- **Agile** :
  - **Scrum**



1.2 Project Management : Different Types / Approaches

- **Agile** :
  - **Scrum** :

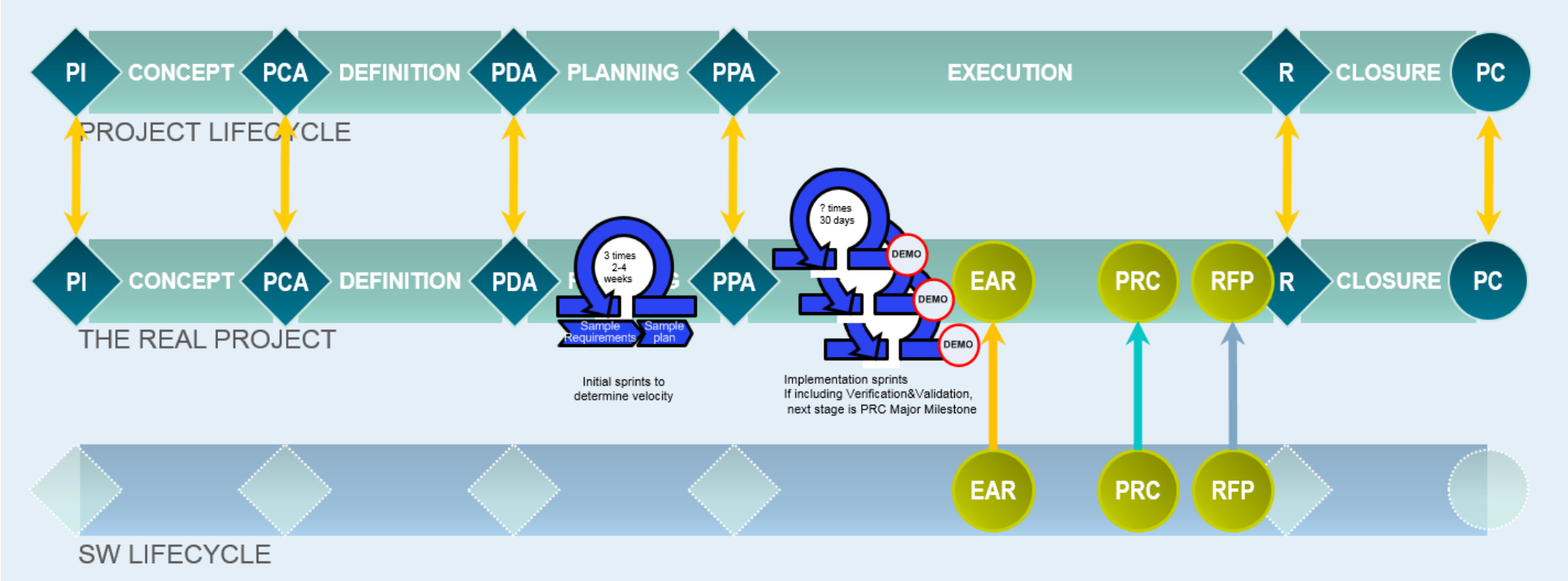
https://www.scrumalliance.org/why-scrum

1.2 Project Management : Different Types / Approaches

- **Agile** :
  - **Kanban** - A lean framework for process improvement that is frequently used to manage work in progress (WIP) within agile projects. Kanban has been specifically applied in software development.
  - Extreme Programming (XP)
  - eXtreme Manufacturing (XM)
  - Crystal Clear
  - Scrum ban (mixed scrum and kanban approach)

1.2 Project Management : Different Types / Approaches

- Different types of Project management approaches :
  - **Conclusion** :
    - There is no better approach, it depends of the project scope / company organization / …
    - We can combine in one Project different PM approaches



Chapter 1 : Introduction to Project Management :

1. Definition
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3. **Types of Certification**

1.3 Project Management : Different certifications

- **From PMI :**
  in 1969, the Project Management Institute (PMI) was formed in the USA.PMI publishes A Guide to the Project Management Body of Knowledge (PMBOK Guide), which describes project management practices that are common to "most projects, most of the time." PMI also offers multiple certifications.

  Link : http://www.pmi.org/Certification.aspx
  - **PMP** : Project management Professional – PMP is one of the most important industry-recognized certification for project managers. Globally recognized and demanded

  - **CAPM** : Certified Associate in Project Management - understanding of the fundamental knowledge, terminology and processes of effective project management.

  - **PgMP** : Program Management Professional – for multiple, complex projects to achieve strategic and organizational results.

  - **PMI ACP** : PMI Agile Certified Practitioner - It's the only agile certification that requires a combination of training, experience and an exam.

1.3 Project Management : Different certifications

- **From Prince2** :
  Acronym for **PR**ojects **IN C**ontrolled **E**nvironments is a **process-based method** for effective project management. Used extensively by the UK Government, PRINCE2 is also widely recognized and used in the private sector, both in the UK and internationally.

  PRINCE2 is a project management methodology **: it is what a project manager should do**. It is made up of processes, principles and themes that step you through the project from conception to close

  PMP is based on the Project Management Body of Knowledge (PMBOK) - which is the knowledge of the project management profession. **It is what a project manager should know**.

  So PRINCE2 and PMP are complementary

  Link : https://www.prince2.com/prince2-qualifications-explained
  - PRINCE2 Foundation
  - PRINCE2 Practitioner

1.3 Project Management : Different certifications

- **Agile :** Certification by
  - APMG-International
  - ESI International
  - Scrum Alliance
  - …

Chapter 2 : Project:

1. Project Definition
2. Project scope
3. Project Lifecycle
4. Work Breakdown Structure (WBS)

Chapter 2 : Project:

1. **Project Definition**
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2.1 Project: Definition

- “It's a temporary endeavor undertaken to create a unique product, service or result..” (PMI - PMBOK ® Definition)
- “Planned set of interrelated tasks to be executed over a fixed period and within certain cost and other limitations.” (businessdictionary.com)
- “a project is an individual or collaborative enterprise, possibly involving research or design, that is carefully planned to achieve a particular aim” (Wikipedia)

Clear objective with Specific Delivery

Unique

Time delimited : with a START and an END

It operates within defined boundary conditions

Coordinated effort (inter-related / cross functional …)

2.1 Project: Definition

For your information only

- **What is a Project in Semiconductor industry** ?
  - **A HW / IC Project**
  - **A SW project**
  - **A System project :**
    - One System project using with 2 work packages (IC + SW)
    - System project including IC and SW sub-projects
    - System project including IC + FW and SW sub-project
    - System Project with IC, SW, IP, Package sub-projects
  - **A Technology project**
    - Front-End Project (Process qualification)
    - Package Project
    - IP Project

Chapter 2 : Project:

1. Project Definition
2. **Project scope**
3. Project Lifecycle
4. Work Breakdown Structure (WBS)

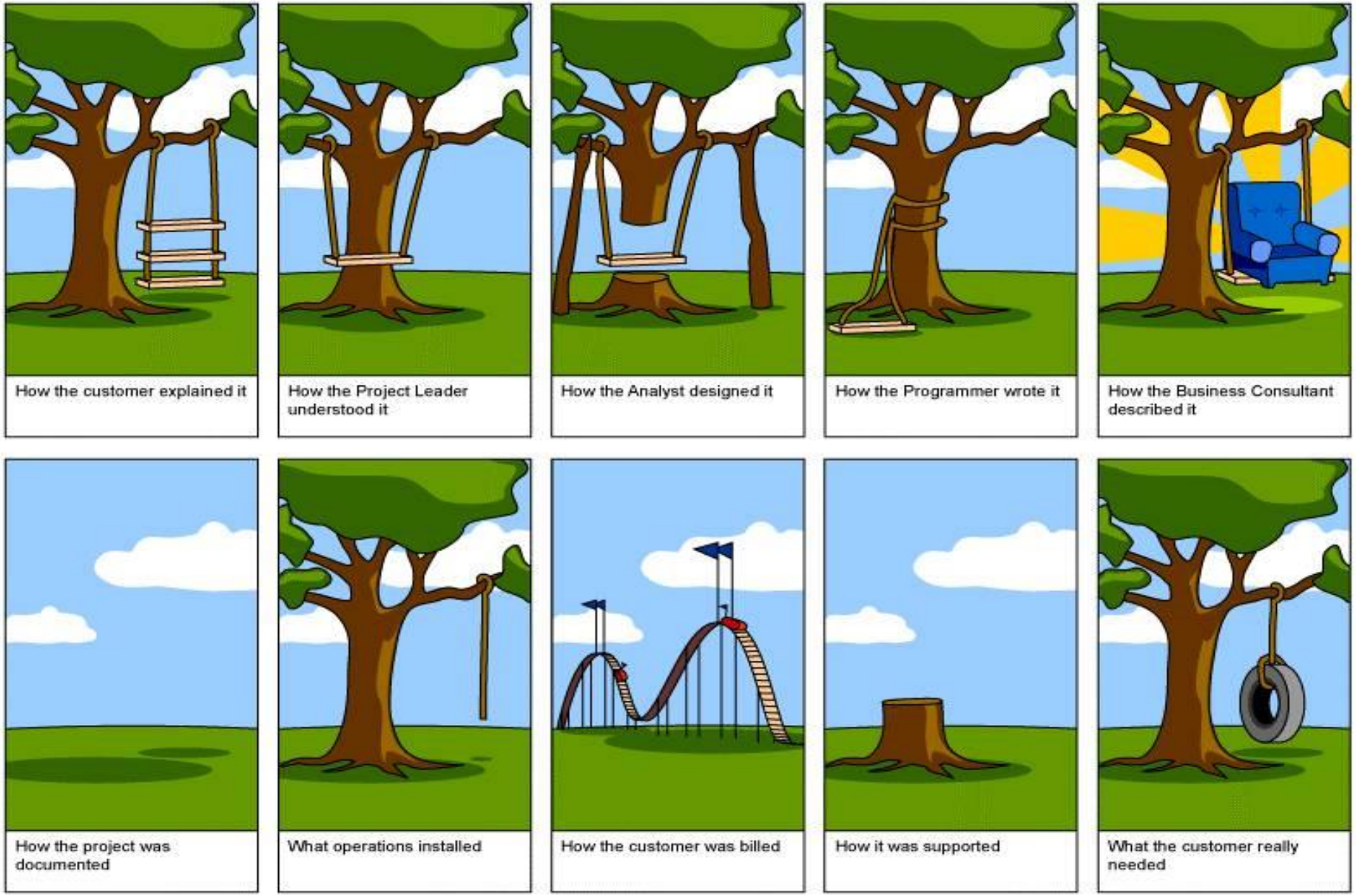
2.2 Project scope

- In case if you start the project without knowing what you are supposed to be delivering at the end to the client and what the boundaries of the project are, there is a little chance for you to success.

- The **main purpose of the scope definition is to clearly describe the boundaries of your project**.
  Clearly describing the boundaries is not enough when it comes to project. You need to get **the client's agreement as well.**
  The defined scope of the project usually included into the **contractual agreements between the client and the service provider. Statement of Work (SOW) is one such document.**

- In case, if you feel that you do not have enough information to come up with a high-level scope statement, you should then work closely with the client in order gather necessary information.

2.2 Project scope



2.2 Project scope

- In the **PMBOK® 5th Edition** :
  "- **Project Scope** : this is the work that must be completed to achieve the final scope of the project, namely the products, services and end results

PMBOK® 5th Edition

2.2 Project scope

The scope states what the **objectives of the project are and what goals must be met to achieve success**

- Objectives must be clear :
  - ➔ Make sense for all project Stakeholders
  - ➔ Must be beneficial to all project Stakeholders

- A good Objective must be **SMART** or **SMARTED** :
  - **S : Specific**
  - **M : Measurable**
  - **A : Achievable**
  - **R : Realistic**
  - **T : Time Limited**
  - **E : Ethical**
  - **D : Documented**

- An objective must be specified by
  - ➔ **Deliverables / Time / Cost / Resources**

- These are **measurable criteria**

- Revised periodically with Stakeholders

Chapter 2 : Project:

1. Project Definition
2. Project scope
3. **Project Lifecycle**
4. Work Breakdown Structure (WBS)

2.3 Project Life cycle

- Definition :
  - Project life cycle defines the inter-related phases of a project and provides a structure for monitoring and controlling the progression of the work.
  - The Project Life Cycle refers to the four-step process that is followed by nearly all project managers when moving through stages of project completion.

- Usually four Phases are defined :

2.3 Project Life cycle

- **Project Initiation :** Defines the phase start and authorises action
  → A strategic need for the project or service must be recognized by upper management.

Ask yourself the following questions during Initiation:
What is the strategic need ?
Will the development of a project solve it?
What are the specific goals of the project?
Do we have enough resources to create and support the project (rough estimation)?

- **Project Planning :** Defines the objectives and the work required
  → Once management has given the OK to launch a project, a more formal set of plans is established.

Ask yourself the following questions during Planning:
What is the project purpose, vision, or mission?
Are there measurable objectives or success criteria?
Do you have a description of the project, requirements and risks?
Can you adequately schedule and budget high level milestones?

2.3 Project Life cycle

- **Project Execution :** Measure, monitor and adjust as needed
  → This is when the work of the project is performed. Required materials, tools, and resources need to be available to reach the project goals. During this phase, performance is continually measured to ensure the project is successful.

Ask yourself the following questions during Execution :
Are all resources being tracked?
Is the project on budget and on time? Do we need to do requirements adjustments ?
Can resource planning be optimized?
Are there developed features followed quality requirements?

- **Project Closure :** Formal acceptance of the project deliverables, end of phase
  → This phase begins once the project has been completed.

Ask yourself the following questions during Closure :
Are the project's completion criteria met?
Is there a project closure report in progress?
Have all project artifacts been collected and archived?
Has a project postmortem been planned?

2.3 Project Life cycle

- **Project Initiation :** Defines the phase start and authorises action
  → A strategic need for the project or service must be recognized by upper management.

  This phase typically involves :
  - Creation of the statement of work (SOW → contractual agreements between the client and the service provider) or creation of a business contract.
  - Presenting the business case.

- **Project Planning :** Defines the objectives and the work required
  → Once management has given the OK to launch a project, a more formal set of plans is established.

  This phase typically involves :
  - Creation of schedule
  - Creation of a resource plan
  - Creation of a budget
  - Creation of a quality plan

2.3 Project Life cycle

- **Project Execution :** Measure, monitor and adjust as needed
  → This is when the work of the project is performed. Required materials, tools, and resources need to be available to reach the project goals. During this phase, performance is continually measured to ensure the project is successful.

  This phase typically involves :
  - Schedule Monitoring and Control
  - Develop and manage Project team
  - Control of budget
  - Quality Control

- **Project Closure :** Formal acceptance of the project deliverables, end of phase
  → This phase begins once the project has been completed.

  This phase typically involves :
  - Lessons Learnt
  - Project celebration

Chapter 2 : Project

1. Project Definition
2. Project scope
3. Project Lifecycle
4. **Work Breakdown Structure (WBS)**

2.3 Work Breakdown Structure (WBS)

- French Acronym : Structure de Découpage du Projet – SDP or Organigramme des tâches (OT)

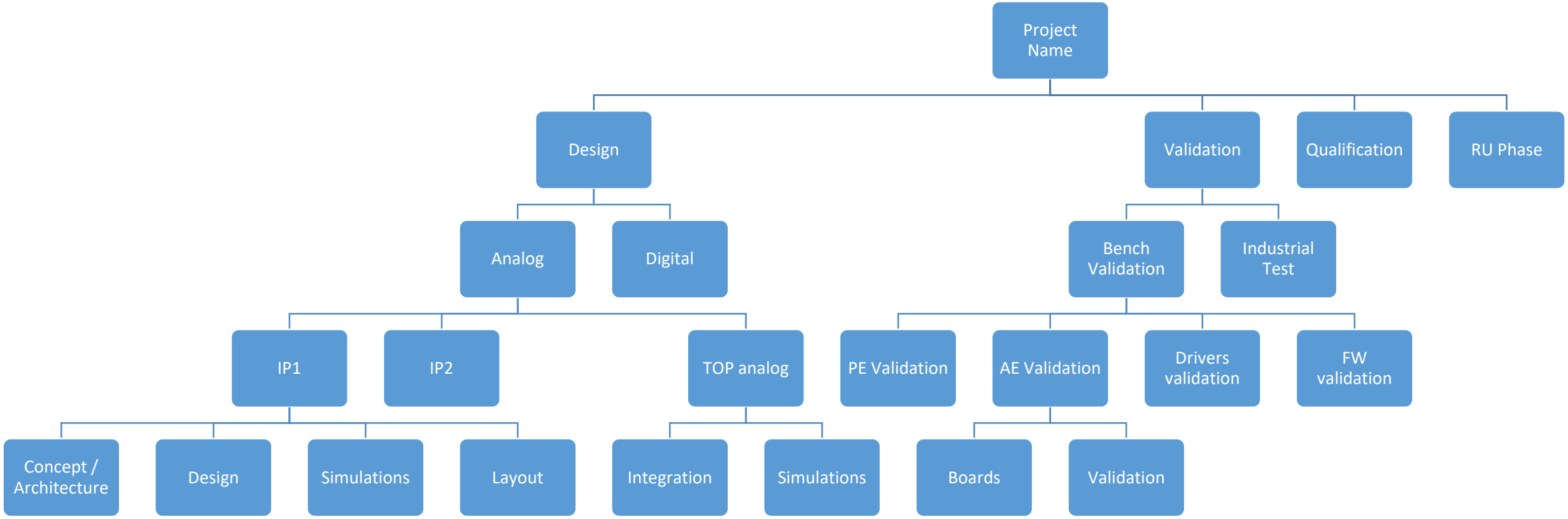
- « Providing a structured vision of what has to be delivered » (PMBOK – 5th Edition)

- The work breakdown structure visually defines the scope **into manageable chunks that a project team can understand**, as each level of the work breakdown structure provides further definition and detail.

- The project team with the Project manager creates the project work breakdown structure **by identifying the major functional deliverables and subdividing those deliverables into smaller systems and sub-deliverables**.
  These sub-deliverables are further decomposed until a single person can be assigned.
  At this level, the specific **work packages** required to produce the sub- deliverable are identified and grouped together.
  The work package represents the list of tasks or "to-dos" to produce the specific unit of work.

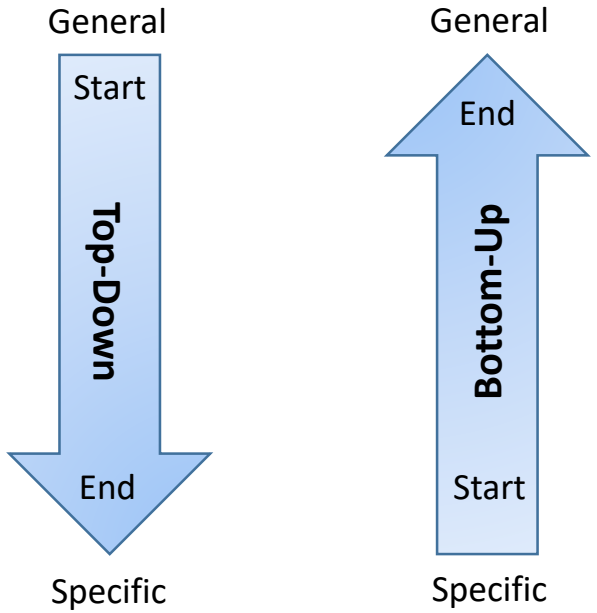
- Main benefits :
  - Defines all the work needed
  - Subdivides a project into smaller work items / tasks / activities
  - Groups the activities logically
  - Helps to identify the activities

2.3 Work Breakdown Structure (WBS)



2.3 Work Breakdown Structure (WBS)

- How to develop a WBS :
  - **Top / Down** : you need to take the biggest task or module in the project and break them down. It requires more logic and structure and generally it is a preferred method for creating WBS. This approach will identify the solution first and then dissect the solution into smaller steps required to implement it.
  - **Bottom up** : by starting to define all the deliverables of the project to allow to build sub-groups of deliverable after to create the groups and move up to the Top.
  - **Mind-mapping Technique**: This is a very useful technique used by most Project Specialists and especially for the Project Managers.
    In this approach, we need to write the task in a non-linear, branching format and then create the WBS structure.



  - Decomposition can be done :
    - By phase
    - By Major deliverable
    - By professions
    - By contracts

- The WBS represents ALL product and project work. The total work at the lowest levels should roll up to the higher levels so that nothing is omitted and no extra work is performed. This principle is also called **the 100% rule.**