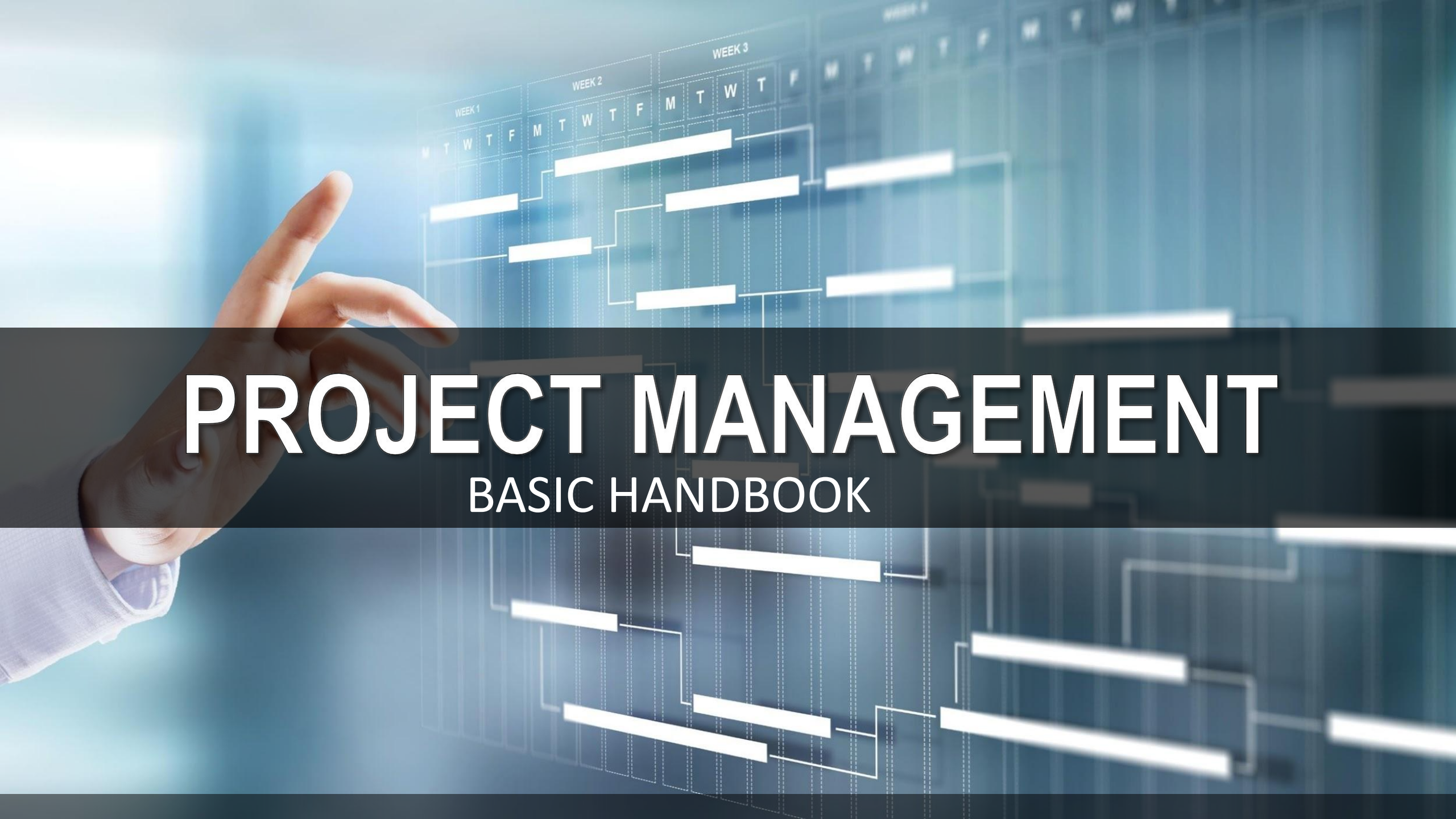


The background of the image features a hand in a light blue sleeve pointing towards a digital Gantt chart. The chart is overlaid on a calendar grid with columns for 'WEEK 1', 'WEEK 2', and 'WEEK 3'. Each week has sub-columns for days of the week (M, T, W, T, F). The Gantt chart consists of several horizontal white bars of varying lengths, connected by thin lines, representing project tasks and their durations. The overall color scheme is a cool blue with a soft, out-of-focus background.

PROJECT MANAGEMENT

BASIC HANDBOOK

WHAT IS A PROJECT

A UNIQUE AND UNREPEATABLE EVENT

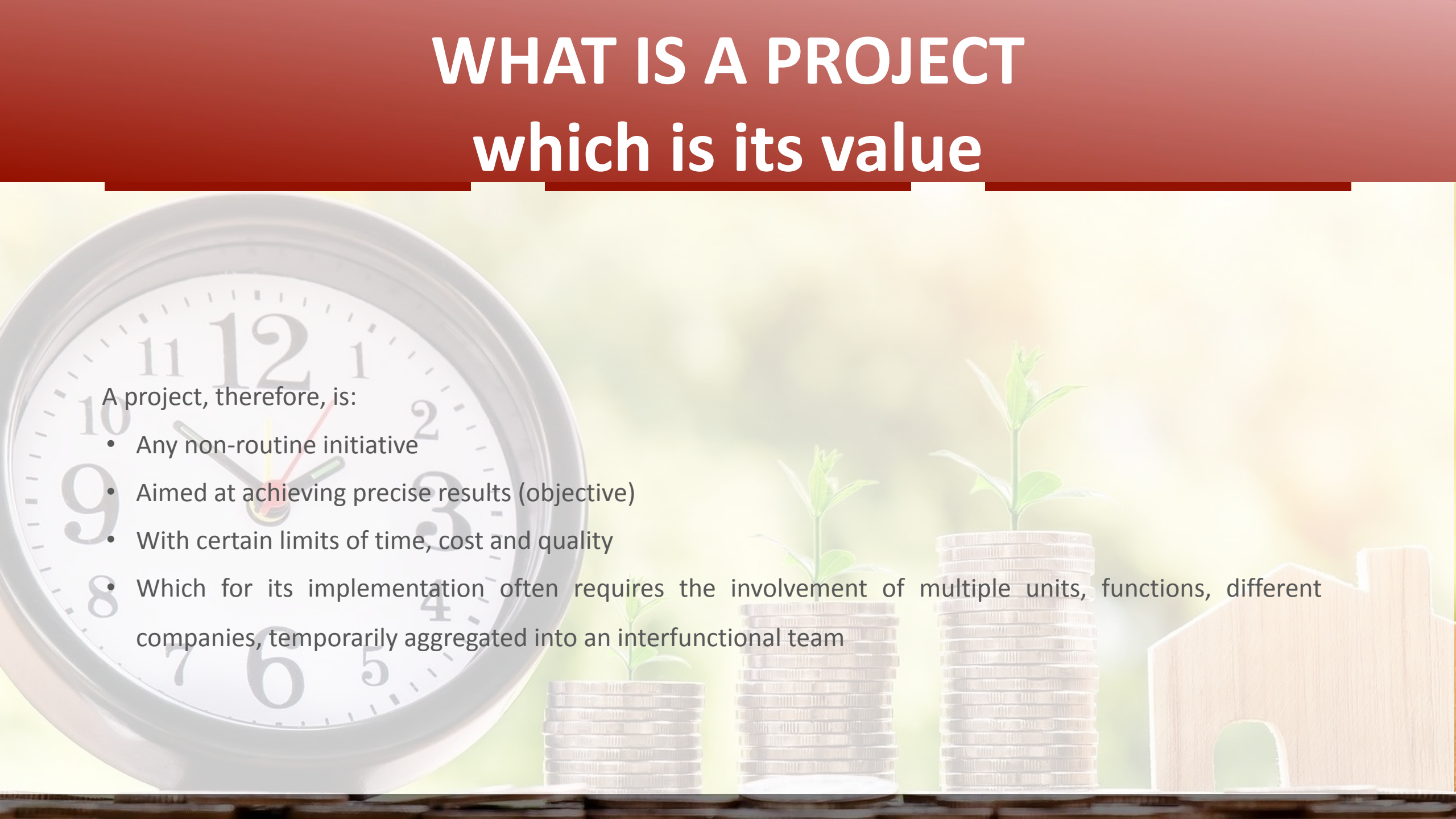
A project is a set of temporary activities that have defined start and end times.

It's basically a unique and unrepeatable event! No project will ever be the same as another.

Every project has its history, its critical issues, its obstacles. It will be characterized by specific dynamics that support it, others that contrast it.

WHAT IS A PROJECT

which is its value



A project, therefore, is:

- Any non-routine initiative
- Aimed at achieving precise results (objective)
- With certain limits of time, cost and quality
- Which for its implementation often requires the involvement of multiple units, functions, different companies, temporarily aggregated into an interfunctional team

WHAT IS A PROJECT GENERATION OF RESULTS

The realization of a project **generates results**.

The value, therefore, **is calculated by evaluating the impact that the project could have or will have in relation** to the investment that it requires or has required.

But be careful!

The value that is obtained is not always justified by the investments that the realization of the project will absorb. In the initial phase, with the client, you will have to carefully evaluate this relationship and find a way to measure it, to make the first important decision: ***whether or not to realize the project!***

THE 7 MANAGEMENT LEVELS TO EFFECTIVELY MANAGE A PROJECT



WHY DO PROJECTS FAIL?

THE 5 CAUSES



Goals

Change of project objectives

The project **loses its importance** or its strategic value for the organization. Or it is directed on a different path, or there are additional requests or modifications to existing ones



Requirements

Poor definition of requirements/specifications

The Project Manager **did not sufficiently** investigate **the expectations** of the Client and the main Stakeholders and did not define the expected outputs with them



Risks

Underestimation of risks

If the possible risks and the actions that can be taken to mitigate them are not defined, both the group and the project **fall at the mercy of chance.**



Planning

Poor planning of activities

This causes a **dispersion of energy, a disconnection in the project group, a lack of clarity** in "who does what", de-responsibilization among people, misunderstandings about what must be achieved.



Involvement

Failure to engage stakeholders

It determines a lack of support or even **their opposition** to the project

HOW TO INCREASE YOUR CHANCES OF SUCCESS?

THE 5 GOOD PRACTICES



1 Stakeholders

Involve stakeholders

Identify them all, listen to them carefully to understand **expectations and goals**, communicate with them constantly to gain their support and buy-in.



2 Goals

Define unique goals

Define the **value** that the project will bring, the **requirements** for the product to be created, its **perimeter**, what must be done and what must not be done



3 Risks

Identify possible risks

Implement measures to **mitigate their effects** on the project



4 Planning

Plan activities

Identify through the **WBS** all the activities to be carried out and the intermediate products to be achieved



5 Communication

Communicating with the work group

Objectives, timescales, results to be achieved, **to involve and motivate them** in the project

THE STAKEHOLDERS

Stakeholders are the bearers **(holders)** of interests **(stake)** on the project.

From the early initial stages, **it is essential to map all stakeholders** (or at least the main ones) and evaluate their position towards the project.

Some stakeholders are evident and manifest from the initial stages, others could become apparent at a later stage.

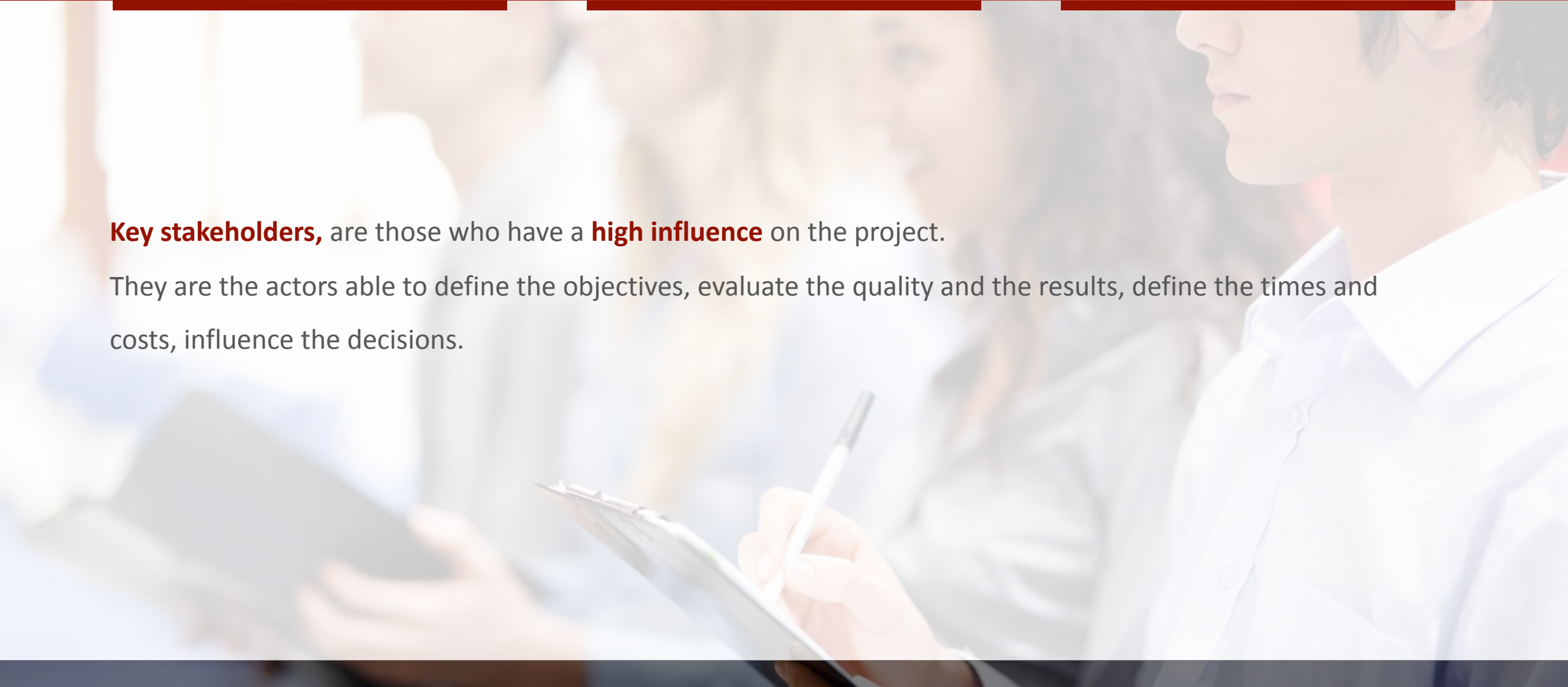
Having a map of the main stakeholders and the type of support they could provide, allows the Project Manager **to know in advance** who could be considered an **ally** capable of **sponsoring the project**, and who instead could **hinder it**.

KEY STAKEHOLDERS

WHO AM I?

Key stakeholders, are those who have a **high influence** on the project.

They are the actors able to define the objectives, evaluate the quality and the results, define the times and costs, influence the decisions.



KEY STAKEHOLDERS

WHO AM I?



Client

He is the **one who requested the project** and is considered our main customer. He will be able to **facilitate decisions**, facilitate **approval** for the involvement of the group's resources and **obtain project funding**. He will also be able to **support the Project Manager** in identifying the main stakeholders of the project



Working Group

The team that will be involved in the project is a stakeholder, who could be **more or less motivated to participate**. They can be people who deal with other things and are "lent to the project" for a part-time basis



Strategic Suppliers

They are another type of key stakeholders. They also have a **strong impact** on the implementation, based on their **skills** and in terms of **time** and **costs**.



End Users

Even though they do not have real decision-making power, they have a significant importance in **evaluating what will be achieved**. Let's think about a software that users will use and on which they will express their satisfaction or not.



Boss

Both the head of the Project Manager and each head of the resources that will make up the project team. **Bosses are important**, especially when people are "lent" for a fraction of their work time. Each boss will be able to **promote or not** the energies to be given to you.

OTHER STAKEHOLDERS

OTHER TYPES



In relation to the type of project, then, there may be **further types of Stakeholders**, such as **regular bodies**, **social communities**, **the Managers** of the organization.

Mapping all stakeholders can be challenging.

However, it allows the Project Manager and his Client to understand the **project perimeter**, discover how it may **be affected**, anticipate any **obstacles** and be able to manage them.

STAKEHOLDERS MAPPING

MUST REVEAL



Interests

The **interests** they have in the project



Expectations

Their **expectations**, what they would like to see happen and how



Goals

What are their personal **goals**, what do they want to achieve



Support

What kind of **support** (positive or negative) can each provide?

THE PROJECT LIFE CYCLE

THE FOUR PHASES

The life cycle of projects, especially complex ones, is divided into **four** main **phases**:



Each phase of the life cycle has its own **specific purpose**.

PURPOSE OF EACH LIFE CYCLE



CONCEPTION

Define the scope of the project and assign the mandate to carry it out



PLANNING

Detail what will be done to achieve the result, including all the elements that will allow us to monitor its smooth execution



EXECUTION AND CONTROL

Provide the client with the expected output and manage change requests



CLOSURE

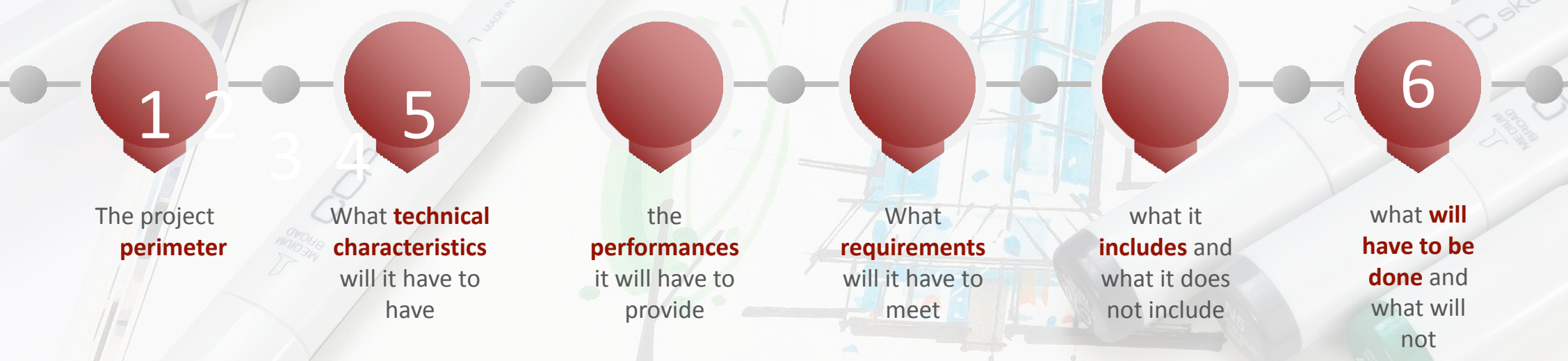
Deliver the result to the client and capitalize on the acquired know-how

THE ANALYSIS

OBJECTIVE AND VALUE OF THE PROJECT

In this phase, the Project Manager and Client , **define the objective of the project** and **what value it has** for the organization.

It is necessary to carry out an in-depth analysis, with all stakeholders (internal and external to the organization), to define:



DELIVERABLES E MILESTONES

WHAT ARE THEY

Once the objective has been clarified, and starting from this, the **intermediate products** (or **deliverables**) are identified, which must be concretely verifiable and approved by the Client.

The **approval moments** of the intermediate products are also called key activities (or **milestones**).

Identifying the intermediate products also allows for an **estimate** of the production **times** and **costs**, which will then be compared with the time and cost constraints of the project, to evaluate any gaps with respect to the project perimeter. It is also in this phase that a method and the relative procedure for managing changes to the project are established and agreed upon.

THE FOUR QUESTIONS

FUNDAMENTALS

Once the project's raison d'être (the why) has been defined and the project's broad outline has been defined, it is necessary to confirm/specify:



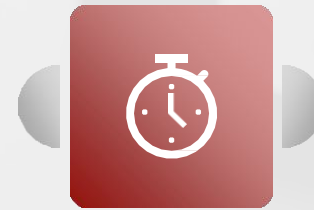
What

What is there to do



Who

Who will do it



When

When, how long, and in what order



How much

With what resources, that is, **how much** will it cost

To define what needs to be done, the **Work Breakdown Structure** or **WBS** is used.

THE WBS

WORK BREAKDOWN STRUCTURE

The WBS is structured on two macro levels: that of the **result** (good or service expected as the output of the project) and that of the **activities**.

Its construction starts from the **objective** of the project and the **intermediate products** (deliverables) identified as components of the result in the conception phase.

Each intermediate product is in turn broken down into more elementary parts, up to the desired level of detail. This allows the Project Manager and the project team to fully understand what must be produced during the project.

The results (components) of the most elementary level are called **work packages**.

For each individual work package, the **activities** necessary to achieve it are defined. These can also be further broken down, up to the elementary activities. Each *work package* must be assigned to a single organizational unit.

THREE STRATEGIES

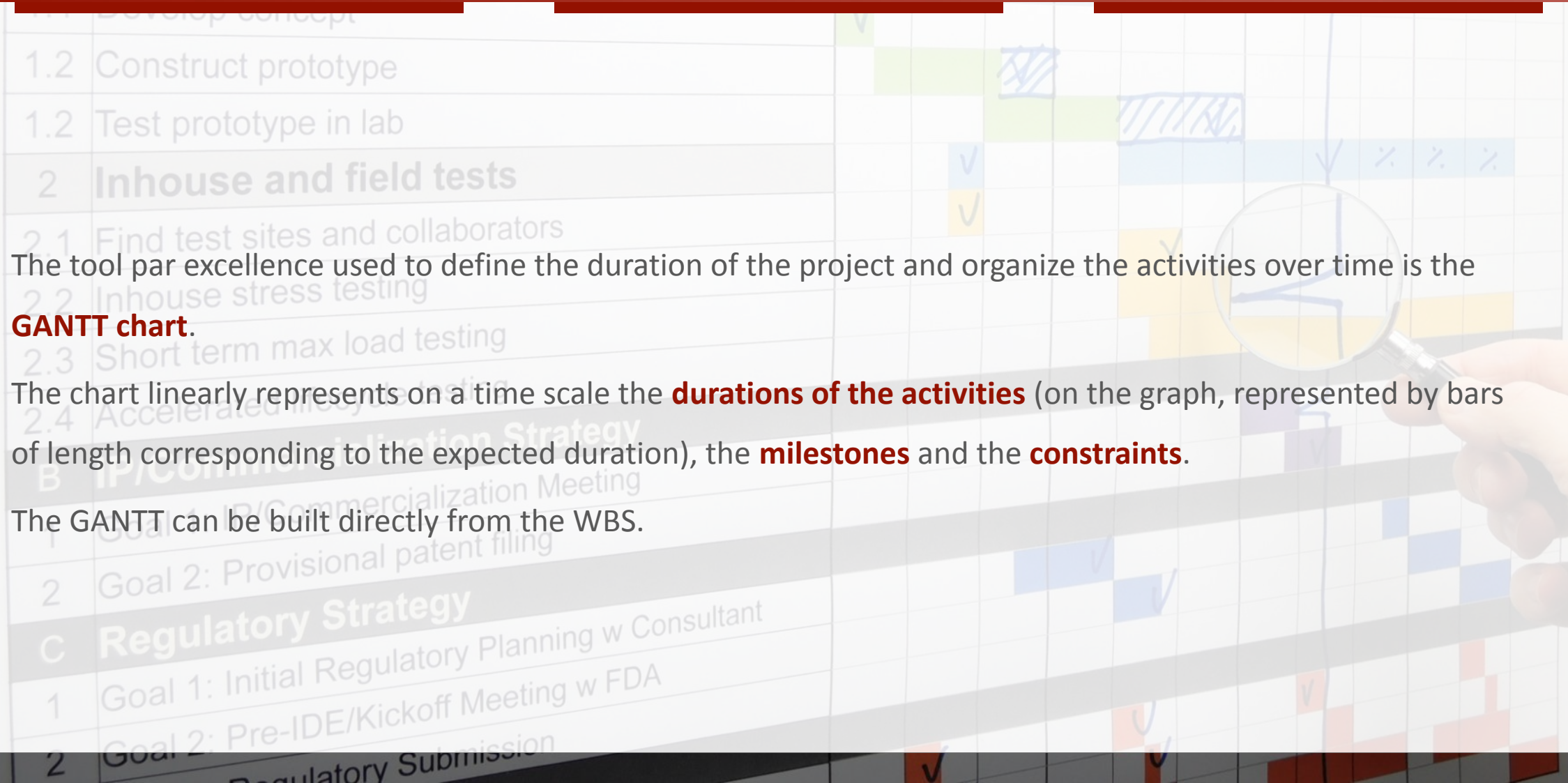
TO BUILD THE WBS

To build the WBS, you need to pay **attention to three things**, which apply to both results and activities:
compliance with the **S.M.A.R.T. criterion**, the so-called **100% rule**, and the **level of detail**.

1. The objectives and sub-objectives as well as the activities at each level must be clearly defined, i.e. S.M.A.R.T.:
Specific – Measurable – Actionable – Relevant – Timeable
2. Any branch of the WBS and for any level “the **sum** of the work of the “**child**” levels must **equal 100%** of the work represented by their “**parent**”. That is, each level must include **everything that is necessary** to achieve the result of the level above it.
3. **The level of detail** depends on the **level of control** you want to achieve. Typically, as long as the results and activities are SMART, the level of detail is appropriate.

THE GANTT CHART

TOOL FOR ORGANIZING ACTIVITIES OVER TIME



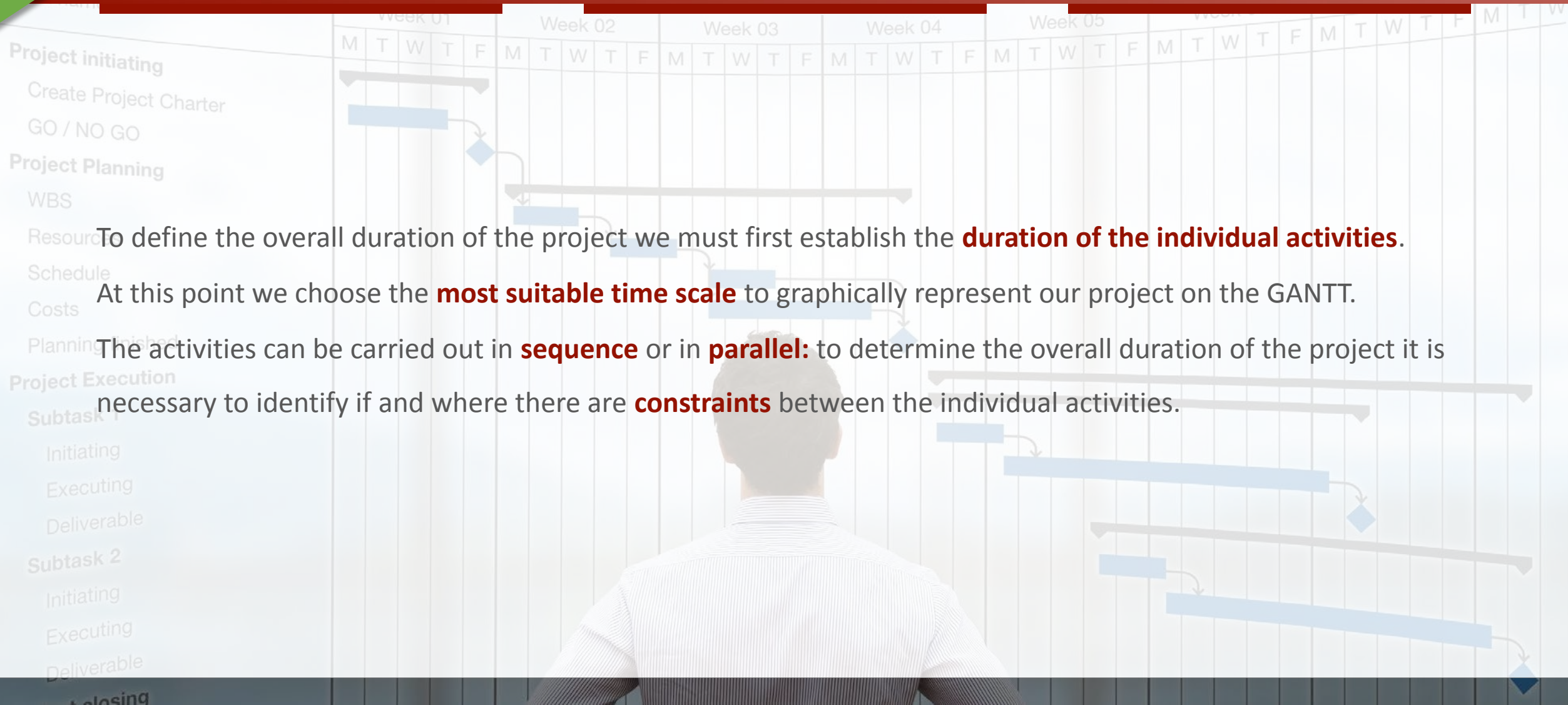
The tool par excellence used to define the duration of the project and organize the activities over time is the **GANTT chart**.

The chart linearly represents on a time scale the **durations of the activities** (on the graph, represented by bars of length corresponding to the expected duration), the **milestones** and the **constraints**.

The GANTT can be built directly from the WBS.

GANTT

THE TIME SCALE



To define the overall duration of the project we must first establish the **duration of the individual activities**.

At this point we choose the **most suitable time scale** to graphically represent our project on the GANTT.

The activities can be carried out in **sequence** or in **parallel**: to determine the overall duration of the project it is necessary to identify if and where there are **constraints** between the individual activities.

GANTT

THE CONSTRAINTS

There are **4 types** of constraints:

End-Beginning

a

b

Activity B cannot start until A has finished

Start-Start

a

b

The two activities A and B must start at the same time

End-End

a

b

The two activities A and B must finish at the same time

Start-End

a

b

A cannot start until B is finished

Constraints between activities are represented by **arrows** connecting the ends of the activity bars

Milestones are **key points** and are represented by highlighted symbols and positioned on the corresponding date (e.g.

presentation to the customer)

ALLOCATION OF RESOURCES

RESOURCES, TIME AND COSTS

To complete the project plan we must determine the resources we need to carry it out: these have a **cost** that goes to make up the **project budget**.

A **resource** means **everything that contributes to the realization of the project activities**, both in terms of labor and materials.

The cost of **labor** is determined as a function of **time**. It can be actual labor, that of people, expressed in man-hours or days; or machinery, supplies or equipment that we rent on a temporary basis, such as a construction crane or the rental of an office to host the team.

The cost of **materials** (e.g. construction materials) instead depends on the **quantity**.

The distribution of resources on the activities is essential to be able to complete the team and organize it in the best way; it allows us to **confirm the overall times** and above all **the cost budget**, and to understand what the cost **trend** will be during the work.

ALLOCATION OF RESOURCES

RESOURCES, TIME AND COSTS

To size resources, we start from the **activities**.

Each activity is assigned the **person** or **organization** that will be responsible for it and the **people who will carry it out**.

The amount of **work needed** to complete the activity is then defined, usually expressed in **hours-days/man** or **hours-days/machine**. In addition to the people involved in the project, for example, we may need to rent a crane; or request a permit to occupy public land, which determine a cost based on the duration.

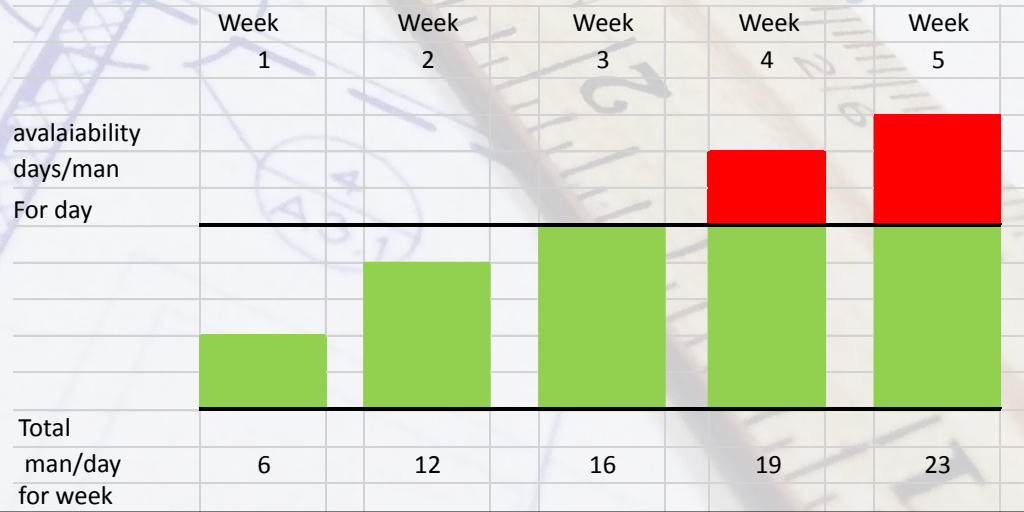
Knowing the cost of each resource per unit of time and the amount of work needed, the **cost of labor** is calculated for the individual activities and for the project as a whole.

THE LOAD DIAGRAM

THE LEVEL OF RESOURCE COMMITMENT

With this information, the **load diagram** is constructed, which traces the level of resource commitment required in each unit of time (for example, a week).

It is a **bar diagram** corresponding to the unit of **time** (represented on the GANTT), whose length corresponds to the **number of man-days** required for all the activities to be carried out in that specific period.



THE RISK MANAGEMENT PROCESS

THE FIVE MOMENTS

A **risk** is anything that, if it occurs, can have a negative impact on the outcome of the project. Risk management must be considered in the conception phase and then carefully planned.

The risk management process is divided into **five stages**:



Identification

What can be at risk:
which activities or which
aspects of the outcome



Documentation

Document in writing
the risks that have
been identified



Analyses

Identify the **likelihood**
of it happening and the
impact it may have on
the project



Response Plan Definition

decide **which** risks to
manage and **how** to
manage them:
whether to work to
avert or reduce the
threat, or to minimize
the damage



Monitoring

Monitor risks during
the implementation
phase and in the
prompt execution of
countermeasures
identified in planning

Since situations can change during the course of the work, it is advisable to **review the risk analysis** also during the implementation of the project.

THE CRITICALITY MATRIX

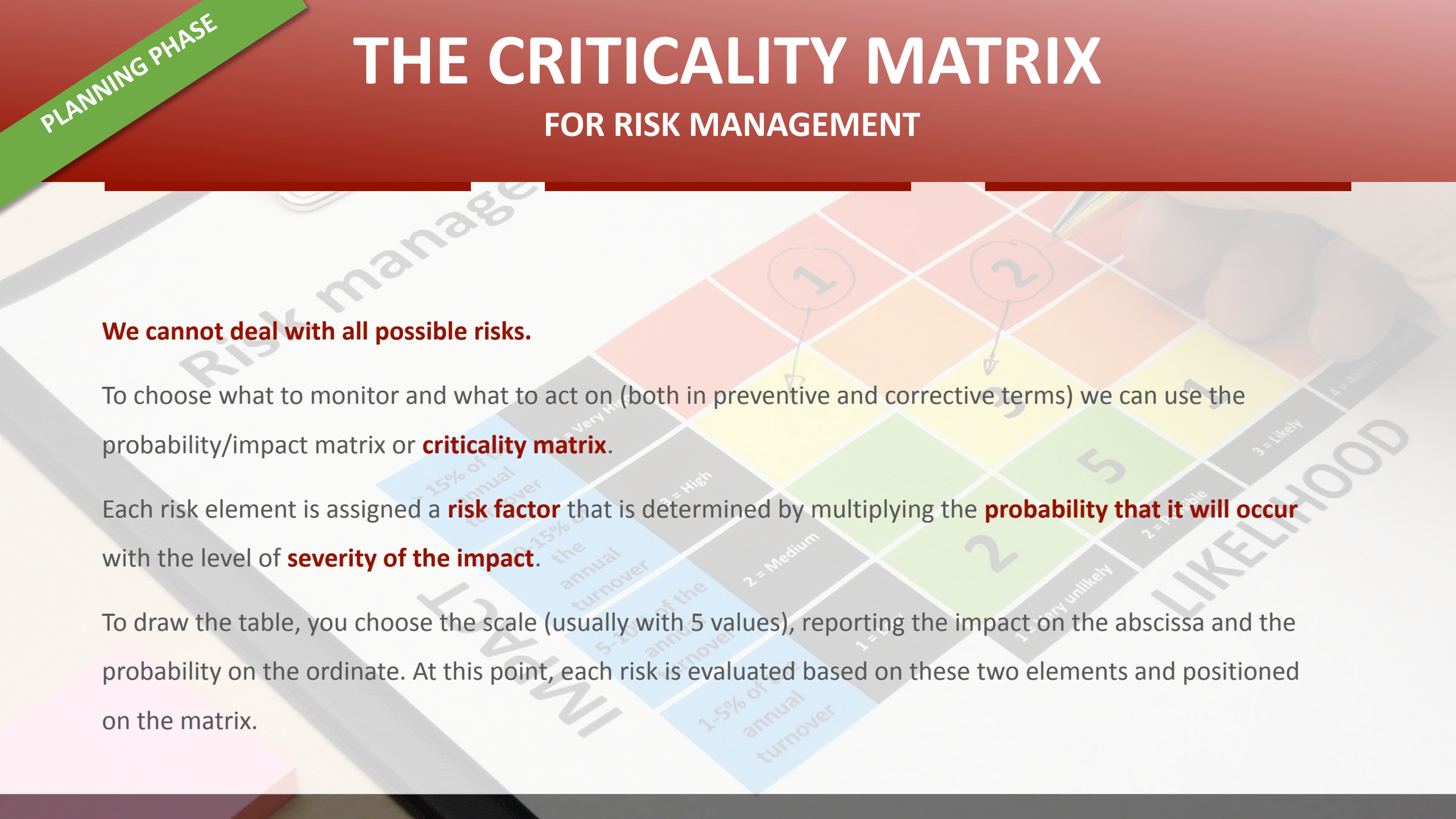
FOR RISK MANAGEMENT

We cannot deal with all possible risks.

To choose what to monitor and what to act on (both in preventive and corrective terms) we can use the probability/impact matrix or **criticality matrix**.

Each risk element is assigned a **risk factor** that is determined by multiplying the **probability that it will occur** with the level of **severity of the impact**.

To draw the table, you choose the scale (usually with 5 values), reporting the impact on the abscissa and the probability on the ordinate. At this point, each risk is evaluated based on these two elements and positioned on the matrix.



RISK FACTORS

PROBABILITY AND IMPACT

In particular, the **probability** that the risk may occur is estimated:

- 1: **unlikely** (0/20%)
- 2: **unlikely** (20/50%)
- 3: **likely** (50/60%)
- 4: **very likely** (60/80%)
- 5: virtually certain (80/100%)

Then the damage caused in the event that the problem were to occur is assessed:

- 1: **no damage**
- 2: **marginal** (any delays can be compensated)
- 3: **significant** (delays or increased costs that cannot be compensated)
- 4: **critical** (unplanned credits and resources must be requested)
- 5: **catastrophic** (this leads to project failure)

The risk factor allows us to outline three areas:

- the **unacceptable risk area** (with a factor of 16 to 25, high probability / high impact) that can lead to project failure;
- the **attention area** with a risk factor between 8 and 15, which can lead to extra costs and time but does not jeopardize the project, must still be monitored and on which we must be ready to intervene;
- an **acceptable risk area**, (between 0 and 7) for which we can define countermeasures.

PROBABILITY	5	10	15	20	25		Acceptability Area
	4	8	12	16	20		Attention Area
	3	6	9	12	15		Unacceptability area
	2	4	6	8	10		
	1	2	3	4	5		
	IMPACT						

RESPONSE STRATEGIES

HOW TO MANAGE RISKS?

There are different strategies to respond to a risk; **prevent it, transfer it, mitigate it, identify an alternative plan.**



Prevention

Work to **reduce the probability** of the event

Transfer

Transferring the “burden” of risk to others

Attenuation

Taking **safety margins**

Alternative plan

Alternative actions, defined in advance and agreed with the client, which will be implemented in the event of the risky event occurring

DEFINITION OF THE BUDGET

WHAT ARE THE TYPES OF COST

To build the **project budget**, we start from the WBS.

The WBS structure helps us: both to identify the cost items needed to produce each intermediate product; and, in the control phase, to monitor its progress

. Item by item, we must identify **all the cost elements** that compose it. The costs can be:



IMPLEMENTATION AND CONTROL

THE FUNDAMENTAL TASKS OF THE PM

In many projects, especially if complex and/or large, this moment is marked by a **kick-off meeting**, which has both an operational function (aligning participants and sharing information from the Project Plan) and a motivational function, because it is one of the constitutive moments of the team.

In addition to any direct activities, during the Execution phase the Project Manager has some fundamental tasks. He must:

- **Monitor and evaluate progress in relation to the basic project plan of the event**

- **Identify all deviations from the original plan in a timely manner and make the necessary adjustments, i.e. intervene in the problem areas and update the forecasts to the end**

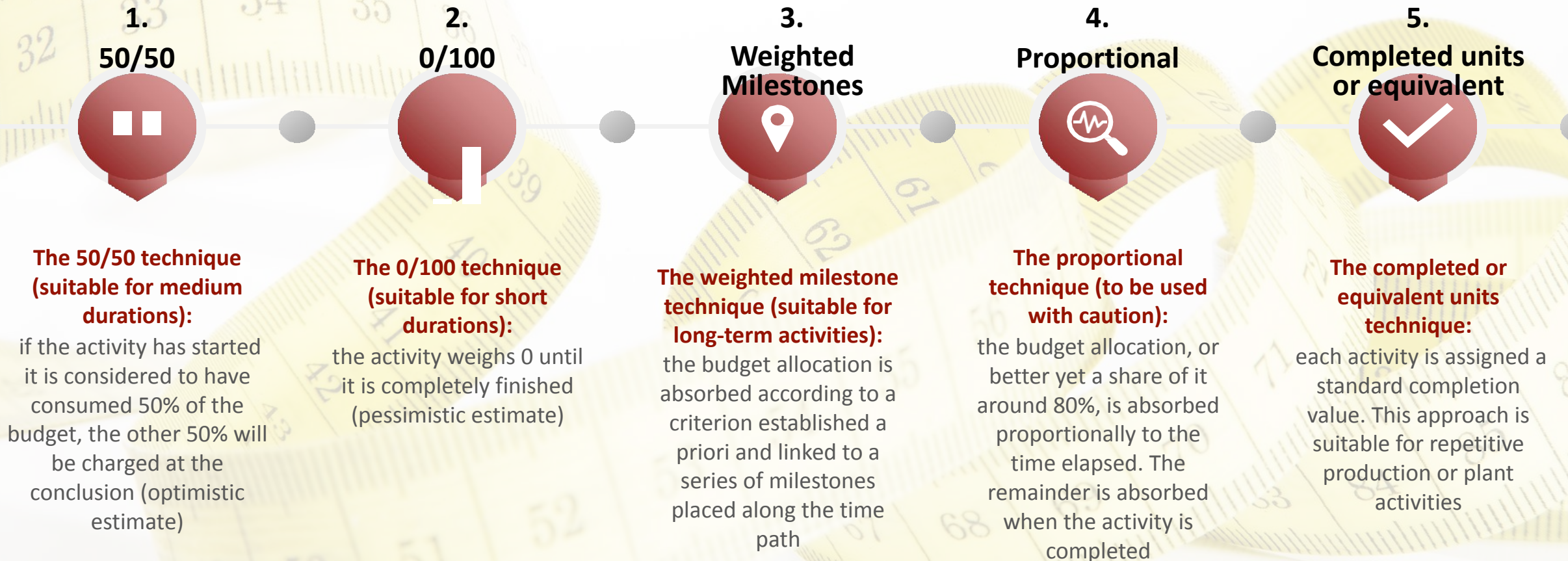
- **Identify and resolve issues that may hinder project success**

- **Manage any requests for changes to the time/cost/requirement perimeter**

The basic project plan (i.e. the photograph of the project at time zero), is the document to refer to check how we are doing in terms of TIME, COSTS and QUALITY (RESULTS)

HOW TO MEASURE THE STATE OF PROGRESS OF THE WORKS

There are several methods to evaluate the level of progress of activities (**SAL**).



ISSUE PROBLEM MANAGEMENT

A problem (or issue) is a **formally defined difficulty** that can impede the progress of the project and for which no solution agreement has yet been reached. It can be technical difficulties, unavailability of resources, unclear requirements, etc.

The problem must be analyzed to find a **feasible solution**, which must be **recorded and shared with the project team** and, if necessary, with the client.

It is necessary to pay attention to some elements.

- First of all, the **ways in which problems are managed**, which must be included among the project "procedures" starting from the Planning stage.

- Then to **corrective actions**: the responsibility and deadline for each of them must be clearly assigned and communicated.

- Finally, it is necessary to create a **file with the registration of the problems**; this helps us to manage the project in a timely manner and to create a "historical memory" that can be useful in the future for similar projects.

ISSUE PROBLEM MANAGEMENT

A **change** request is any insertion, deletion or modification of:

Scope: time, financial, output, logical and organizational dimensions.

Contents of the project contract: some assumptions, management approaches, project organization, summary plans, related projects

Approved outputs

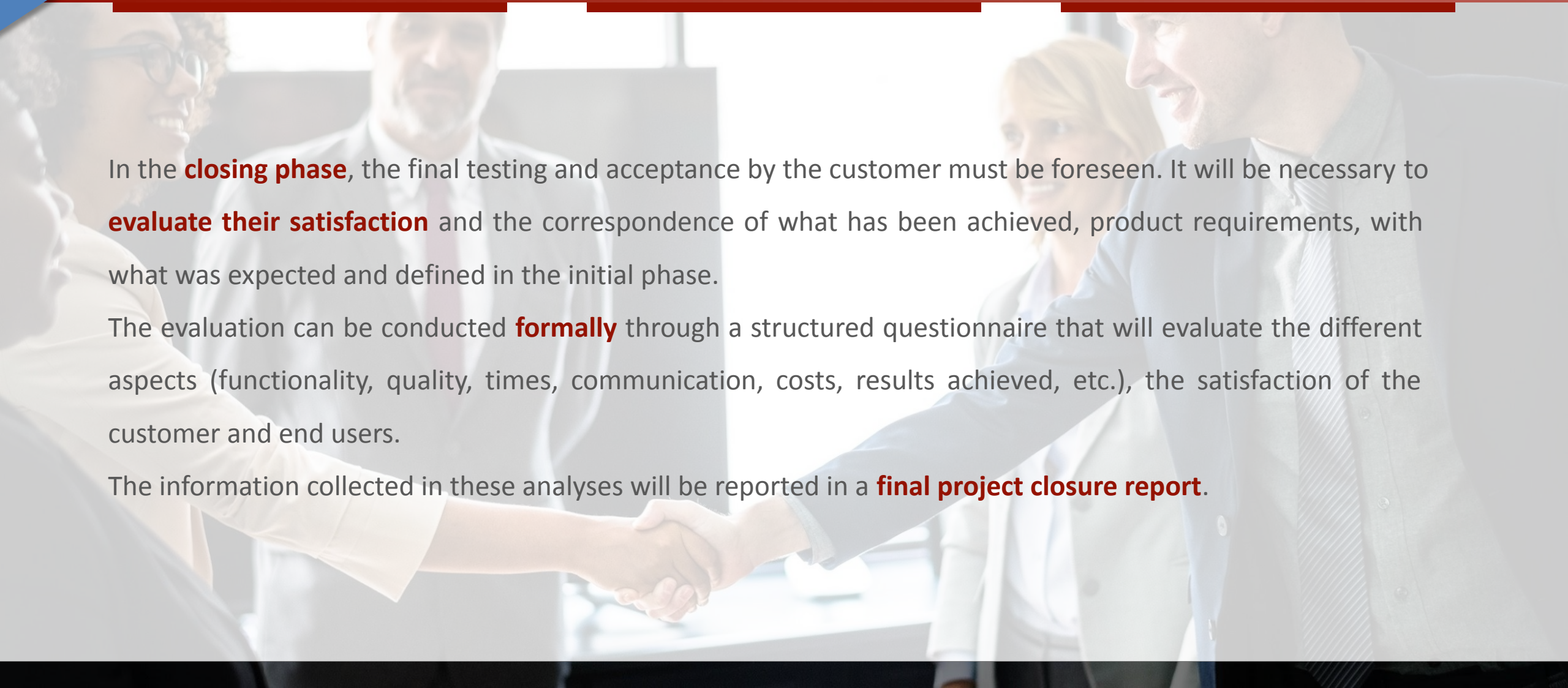
FINAL TESTING

DELIVERY TO THE CUSTOMER

In the **closing phase**, the final testing and acceptance by the customer must be foreseen. It will be necessary to **evaluate their satisfaction** and the correspondence of what has been achieved, product requirements, with what was expected and defined in the initial phase.

The evaluation can be conducted **formally** through a structured questionnaire that will evaluate the different aspects (functionality, quality, times, communication, costs, results achieved, etc.), the satisfaction of the customer and end users.

The information collected in these analyses will be reported in a **final project closure report**.



LESSON LEARNED

WHAT WE HAVE LEARNED

A very important aspect for the Project Manager is what is called **Lesson learned**.

Every project is a learning opportunity, useful for consolidating skills and for managing future projects.

A good practice is therefore for the Project Manager to involve the Project Group in a **detailed analysis** of the project carried out.

This analysis can be conducted in a **final meeting**, in which the **successes** and **weaknesses** of the project carried out are analyzed, phase by phase.

A tool that can facilitate this meeting can be the **SWOT Analysis**.

The output of these meetings will translate into recommendations to be shared not only in the Group, but with the project sponsors and more generally within the organization in the form of **case histories**.