The Program management

The birth of Project Management

- **At the end of XIX century** some huge infrastructure have been planned with a new mentality.

- Differently form the past they were conceived on the basis of an economical return rather than to show the power rt the richness of a sovran (e.g. Pyramids). We are talking about dams for hydroelectric power systems, network of rails, roads or channels for navy like Suez.

- The principles of Scientific management were so applied to this type of works by **Henry Gantt**, a colleague of Taylor that develop a tool for project management around the years 1910/1915.

- The idea was not completely original but at the end his name was given to the tool he used in the Hoover Dam construction over the Colorado river.
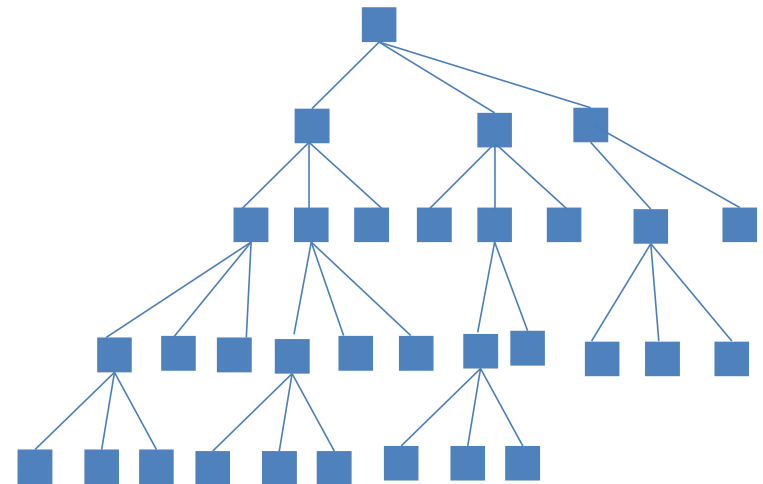
Gantt diagram (1)

- A Gantt diagram is a bar chart that illustrates the evolution of a **project schedule , split in his elementary phases,** the **dependency relationships between activities** and the **current status**.
  - the tasks to be performed are listed on the vertical axis
  - The list of the tasks represent the work breakdown structure (WBS) of the project.
  - The time intervals on the horizontal axis in the graph shows the duration of each activity, defining the start and finish dates of them.
  - The current schedule status is shown using percent-complete shadings and a vertical "TODAY" line.
- Gantt charts were usually created using an early start time approach, where each task is scheduled to start immediately when its prerequisites are complete. This method maximizes the float time available for all tasks.

Gantt diagram (2)

- The earliest Gantt charts were drawn on paper and therefore had to be redrawn entirely in order to adjust to schedule changes.

- For many years, project managers used pieces of colored cartoon for bars so they could be adjusted as needed.

- In the 1980s, information technology allowed widespread creation of complex and elaborate Gantt diagram and now all are made by software which can easily adjust to schedule changes.

- Gantt method is still one of the most widely used management tools for project scheduling and control

- Of course, other methodologies more sophisticated were introduced in Business

- Despite of it, I suggest to draw a simple Gantt diagram on paper to start up any plan.

How to build a Gantt diagram

- The fist step is the most important and has nothing to share with visual graphic.

- **To split a program in elementary phase defining what is called the work breakdown structure (WBS) is the most complex and creative operation** inside the Gantt method. Once defined it, the rest is an easy deductive task.

- The WBS is the base not only of a planning activities but is used normally as the way to manage the investment related to the plan.

- This is the second objective of the Gantt method. Identify each activity means define the structure of the purchasing process
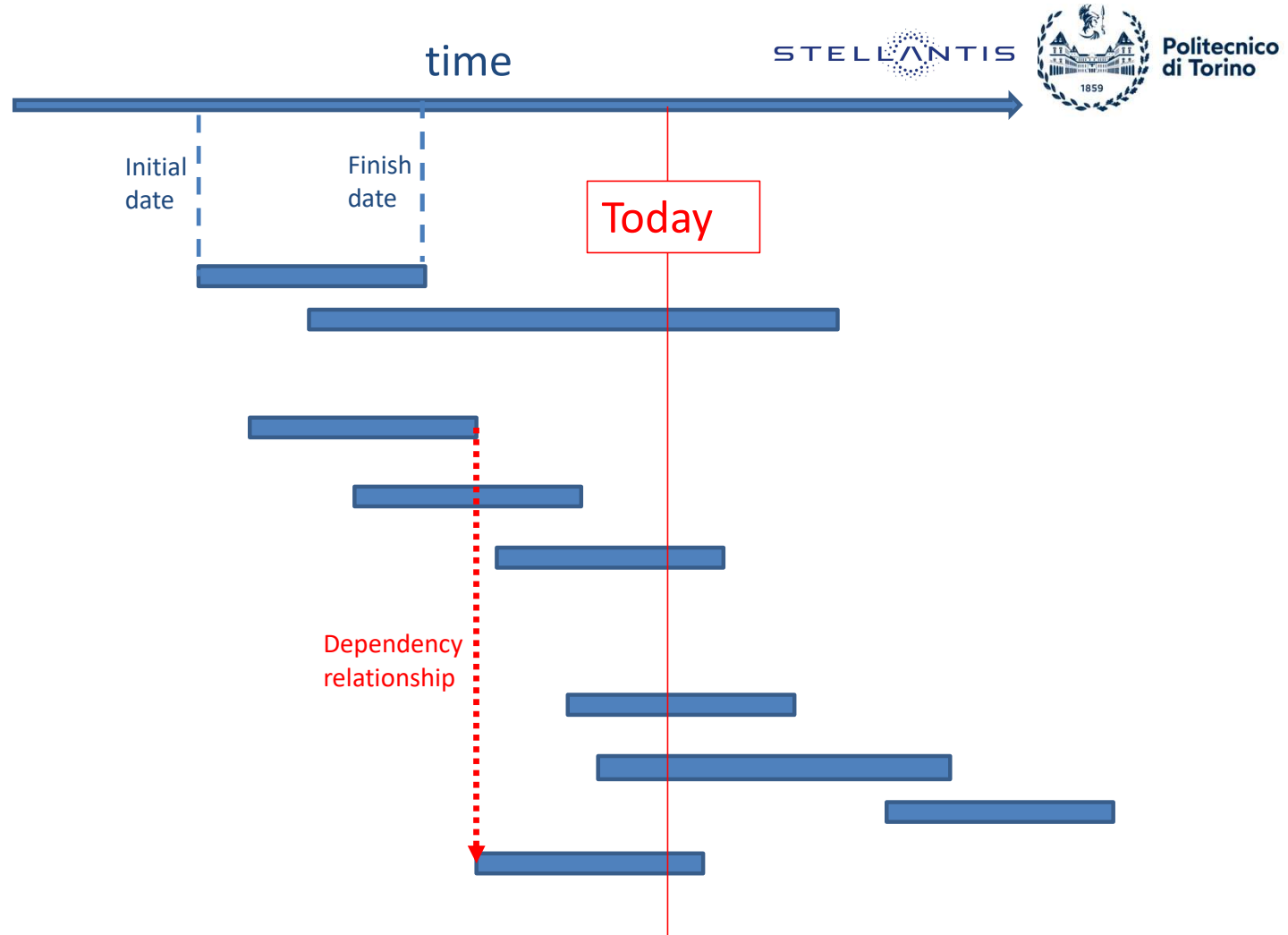
WBS and economic investment control

1. Phase 1
   1. Subphase 1
      1. Element 1
      2. El 2
      3. El 3
   2. Subphase 2
   3. Sub 3
   4. Sub 4
2. Phase 2
   1. Subphase 1
      1. Element 1
      2. El 2
      3. El 3
3. Phase 3
4. Phase 4

- To build a simple WBS means build a hierarchical Data Base.

- In automotive the program are all "capital intensive" and the monitoring of capital expenditure must be the most carful possible

- If the structure is assigned with economical information, it will be easy to identify during the project evolution easily the advance of the economic development (specifications, commitment, order, delivery, cash out) in a split or aggregated way.

- This approach will be useful to manage the approval making easy the respect of economic Delegation of Authority

- Further the WBS will be the base of time control

The full Gantt

1. Phase 1
    1. Subphase 1
        1. Element 1
        2. El 2
        3. El 3
    2. Subphase 2
    3. Sub 3
    4. Sub 4
2. Phase 2
    1. Subphase 1
        1. Element 1
        2. El 2
        3. El 3
3. Phase 3

time

Initial date   Finish date   Today

Dependency relationship