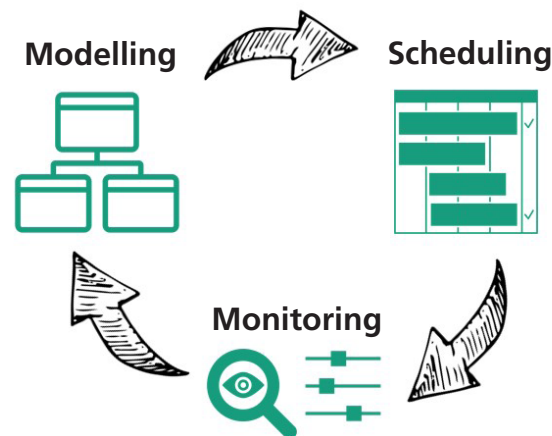


Objectives

The project COCKPiT aims at improving the management of construction processes and at supporting the communication among its various participants. The method is based on the minimization of waste during the whole process, in line with the principles of "Lean Management".

The result will be a methodology integrated into an IT solution, with the aim of:

- supporting collaborative process modelling of repetitive and non-repetitive constructions;
- enabling short-time scheduling based on collaborative modelling;
- allowing for real-time progress monitoring, used to update process modelling and scheduling, so as to meet real conditions on-site.



Project partners



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Financing



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COLLABORATIVE CONSTRUCTION PROCESS MANAGEMENT



Project context

The construction industry is one of the biggest share of the market for small and medium enterprises (SMEs) in the Bolzano province. Unfortunately, it is generally plagued by a low productivity rate, bad resource management, frequent delays and cost overruns.

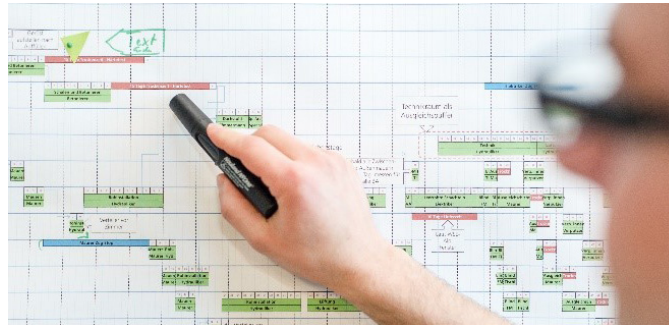
The main reasons are:

- high fragmentation of the sector, mostly consisting of professional individuals or SMEs;
- high complexity of the final product and high unpredictability of the work environment on a construction site, characterized by unforeseen circumstances and subject to uncontrollable external factors.

These aspects make activity planning difficult, also due to the low degree of digitalization and IT-support in the construction sector.



In this setting, a flexible activity planning together with a high level of communication between the stakeholders are needed to promptly adjust the building process, so as to react to possible causes of delays and cost increases.



Goals

Collaborative process modelling

Participation of all the different actors involved in the construction project from the very beginning of the planning stage, in order to achieve a more reliable construction process model. The model is supposed to be comprehensive of all relevant process information for execution.

Short-time scheduling

Construction schedule for short period of time and periodically revised based on the actual results achieved on the construction site. The schedule is thus flexible and tailored to counteract potential changes of plan or delays due to unforeseeable circumstances.

Real-time progress monitoring

Real-time monitoring aimed to have a constant, instant comparison with the process as planned. The schedule can be then revised based on the progress data, thus allowing an interactive optimization of the construction process.