

# E Introduction

## Basic elements

### Project definition

#### Definition according to ICB4

A **project** comprises a one-off, temporary, multidisciplinary and organized endeavor to achieve defined work results within the framework of predefined requirements and boundary conditions.

In order to achieve the project objectives, the work results must meet certain requirements and must be delivered within the framework of numerous restrictions and specifications such as time, costs, resources and quality standards or requirements.

#### Definition according to DIN 69901:05-2009

A **project** is a project that is essentially characterized by its uniqueness of the conditions in their entirety, e.g.

- Target
- Time, financial, personnel and other limitations,
- Project-specific organization

#### General project definition

A **project** is a temporary organization created to carry out a relatively unique, medium-to-term strategically significant medium-scale business process.

#### Project features

Projects are tasks with special characteristics. The following are the main **characteristics of projects**:

- (Relative) novelty, uniqueness, time limit
- Defined goals
- High dynamics
- Medium to large volume
- Risks
- Temporary, own, closed organizational unit, temporary organization
- Social systems
- Short to medium-term
- Strategic importance
- Different specialists and method specialists
- Limited clearly defined resources
- Special feature and complexity
- Influences culture

Project work	Line work
<i>Project work includes innovative work with</i>	<i>Line work includes routine tasks with</i>
new starting situation	known starting situation
new procedures	known procedures
Goals to be defined	known targets
Project processes to be defined	already defined processes
defining results	already defined results
one-time	repeating
brings changes	continuous
is limited in time	unlimited in time
is interdisciplinary, cross-divisional	is isolated, each functional area works for itself
includes limited resources assigned to the project	includes resources allocated to the entire company
requires extraordinary resources	allocated fixed resources
is innovative	is repetitive

Fig. 0.00 Delimitation «Project business - day-to-day business»

### Traditional process model: Sequential project phases

In the **traditional process model (waterfall model)**, a distinction is made according to the following sequential **project phases**. The name of the phases can be freely chosen depending on the project type. However, concept and implementation phases must be distinguished from each other.

- Pre-project or initialization phase
- Planning phase
- Implementation or implementation phase
- Completion phase

During the planning phase, a **project plan** is created. This includes the following **detailed plans**:

- Work breakdown structure (WBS)
- Expense plan
- Schedule
- Milestone plan
- Cost plan
- Resource plan
- Communication plan

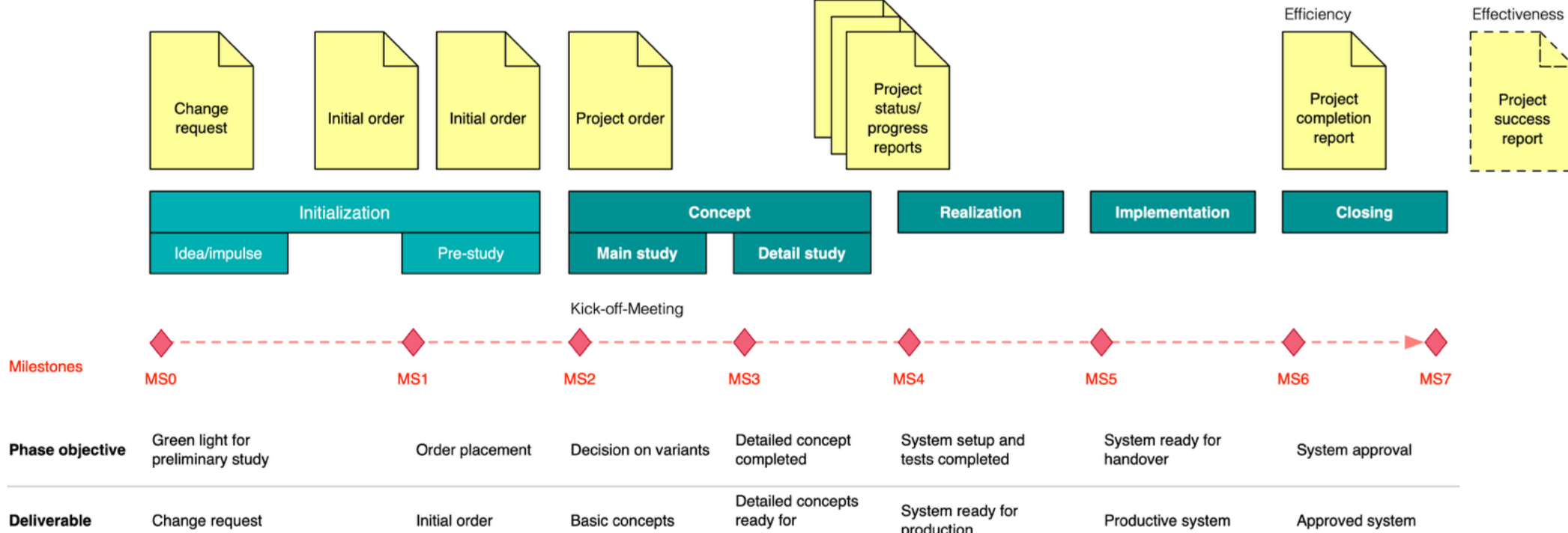


Fig. 0.00 Waterfall model (2)

### Life or Product life cycle

A system goes through during its **life or Product life cycle** the following **phases**:

- Development (initialization, planning)
- Realization (implementation)
- Use
- Disposal

In life or Product life cycle included project phases are development and implementation.

### Agile process model: Scrum \*

Due to its simple structure and its clearly defined roles, **Scrum** is quickly learnable and applicable. Above all, it includes the advantage of agility. Scrum is one of the best-known agile methods today.

Every 24 hours, the team meets for a meeting (duration: max. 15 minutes) in the **Daily Scrum**. In it, each individual participant answers the following **questions**:

- What have I achieved since the last Daily Scrum?
- What prevented me from doing this?
- What should I achieve by the next Daily Scrum?
- What support is needed to become more effective and efficient?

During the Daily Scrum, the Scrum Master notes all obstacles in the impediment backlog that the Scrum team encounters while working.

The developers organize themselves. The Scrum Master is responsible for the development process. Requirements are defined, prioritized and changed by the product owner. The developers worked directly with the product owner.

The developers worked in undisturbed development cycles (sprints). The default for a sprint is 30 days. For shorter projects, the sprint can also be set to 15 days.

A **sprint** consists of the following **four phases**:

1. Sprint Planning
2. Development/Implementation
3. Sprint Review
4. Sprint retrospective

The result of a sprint is a product increment.

In the "Sprint Planning" phase, the goals of the sprint are defined, the user stories to be implemented in the sprint are transferred from the product backlog to the sprint backlog and it is determined how the user stories are to be implemented. During a development cycle (sprint), the product owner cannot make changes to the requirements planned for that period. During a sprint, the product owner takes his ideas of further development into the product backlog and thus provides for them for the upcoming sprints.

In the "Development/Implementation" phase, the user stories defined in the sprint backlog are implemented in a self-organized manner. Progress is collected and analyzed in a self-organized manner. The Daily Scrums also take place here.

In the Sprint Review, the sprint team presents the new functionality (product increment) to the product owner. Feedback is collected. Effects on the product backlog are covered.

In the "Sprint Retrospective" a review of the sprint that has taken place is carried out, possible improvements are identified and processes are optimized for the next sprint.

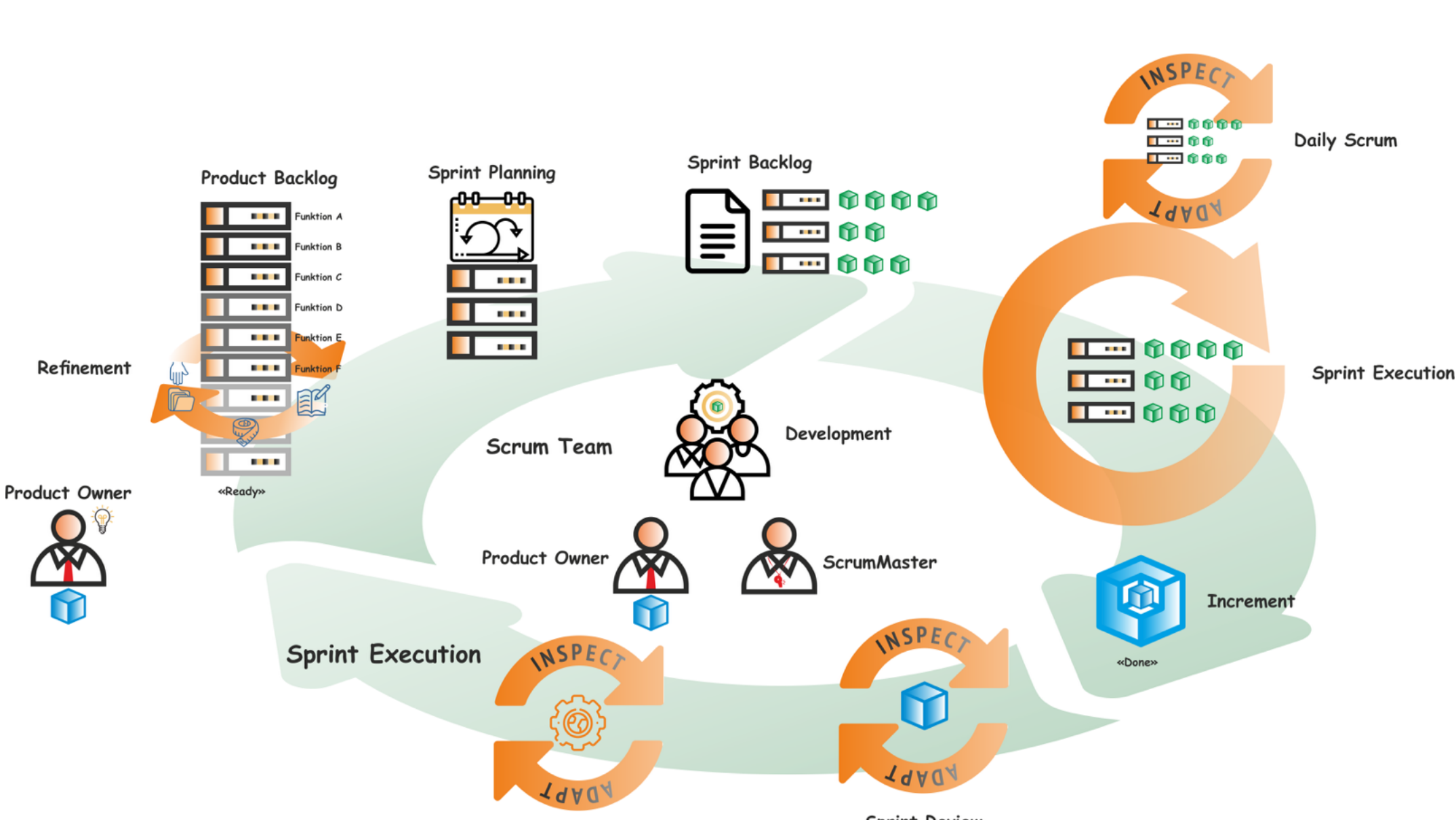


Fig. 0.00 Scrum framework

### Decision support: flow-oriented or agile

During the project initialization, the fundamental question arises as to which **approach** should be chosen **for project implementation**:

- Flow-oriented approach (e.g. Waterfall model)
- Agile approach (e.g. Scrum)

The **flow-oriented approach** is suitable for projects whose requirements can be determined as completely as possible at an early stage of the project. Thus, the project can set effort, budget and finish date at the end of the preliminary study. Any additional requests must be made via Change Management via Request for Change (RFC). The flow-oriented approach is suitable for companies that have an extensive organizational structure and whose leadership style in projects is characterized by arranging and controlling.

If the requirements for the project product are unclear in a project (at the beginning of the project and can only be defined in a sharp manner), an **agile approach** consisting of small repeating (iterative) steps is suitable. Each iteration (sprint) results in a potentially deliverable product increment, which represents a value for the customer in the form of functionalities. Thus, after each iteration, for example after 30 days, customer feedback is given in a review, the goals can be adjusted and the product can be further developed according to the new requirements.

Although there is currently a hype about agility, an agile approach is not suitable for every project.