

a The first number in this and the other toned boxes signifies the part of EN 16590, while the second number, separated from the first by a slash, signifies the clause number of that part, e.g. "2/5" signifies EN 16590-2:2014, Clause 5.

b If machine functions are *not* affected, then go to EN 16590-3:2014, Clause 5.

c If machine functions *are* affected, then carry out hazard and risk analysis according to EN 16590-2:2014, Clause 6.

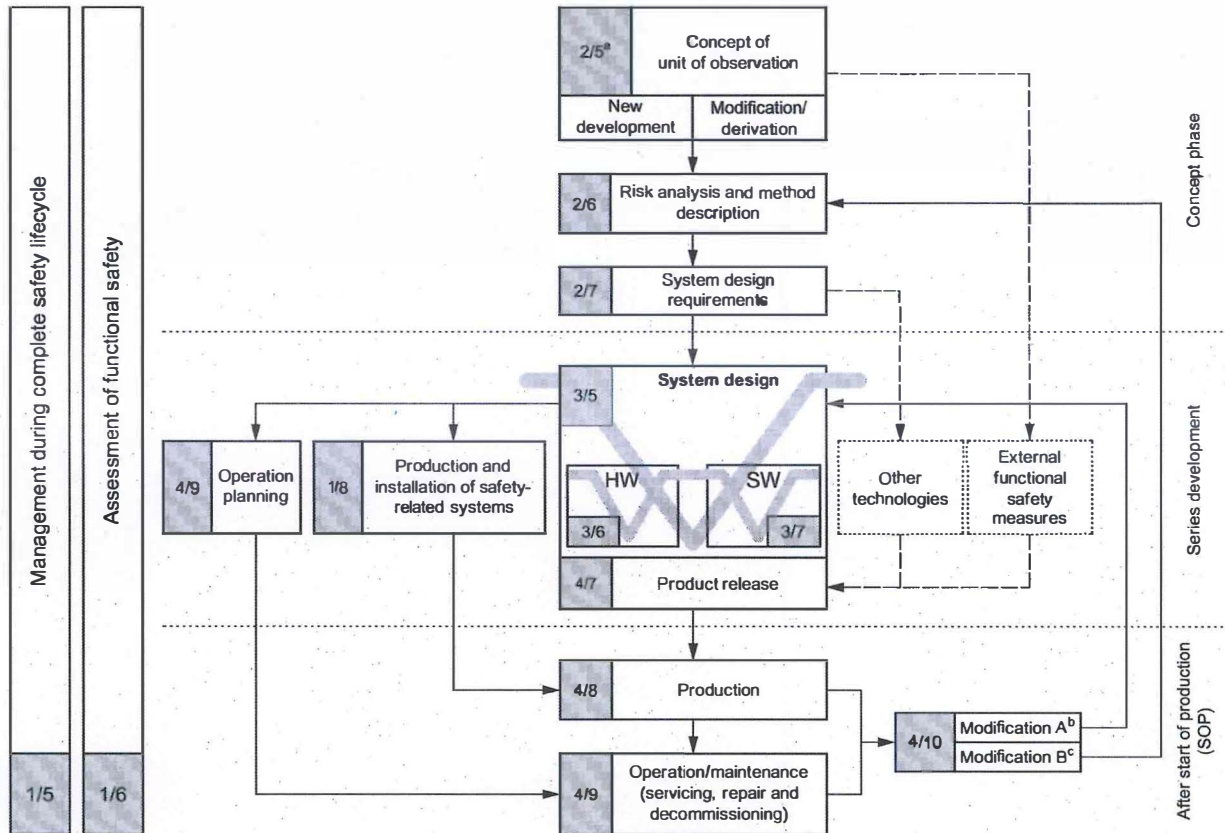


Figure 2 — Safety life cycle

5.4 Requirements — Functional safety management activities across safety life cycle

5.4.1 Functional safety culture

One task of management and all members of staff is to create a culture in which functional safety is given appropriate attention. This can be done, for example:

- by formulating the goals of functional safety and communicating them within the organisation, and
- reviewing the status of processes for achieving functional safety.

5.4.2 Continuous improvement

Management shall facilitate processes for continuous improvement. Means for doing this include

- the creation of company-specific procedures to fulfil the requirements of EN 16590,
- the provision of tools, templates, databases and other resources that will assist in performing safety-related activities, and

- obtaining feedback from safety-related parts findings from projects and transferring these findings to the members of new project teams.

5.4.3 Training and qualification

Performing the tasks in the safety life cycle requires appropriately qualified staff. The aim shall be to maintain a balanced degree of proficiency in

- technical safety concepts,
- methodology, and
- knowledge of the functional safety process and information related to requirements.

5.4.4 Safety management during development

The objective shall be to coordinate all safety-related aspects during development between all involved persons, departments and/or suppliers.

5.4.5 Assignment of safety responsibilities

The planning and execution of activities that incorporate functional safety into projects falling within the scope of EN 16590 represent a central management task for the individual or organisation responsible for the unit of observation.

Initially, responsibility for incorporation of functional safety lies with the project manager. The tasks resulting from this may be delegated. The lines of communication and decision-making with respect to the safety plan and the remedying of safety-related deficits shall be clearly defined.

In doing so, it shall be ensured that individuals have sufficient, documented qualifications and competency for their assigned tasks. The required training and experience can depend on the AgPL and the complexity of the unit of observation. Appropriately qualified individuals can also carry out multiple tasks. In particular, it is possible that tasks will be performed by appropriately qualified developers.

5.4.6 Assignment of tasks

The following is an outline of functional safety essential tasks.

Functional safety management tasks are the responsibility of a product safety manager or the manager of a safety team appointed by the project manager.

A quality management system is essential for carrying out the safety management activities. Functional safety management tasks include the prompt and proper delivery of the results of safety-related activities in all phases of the development process. The implementation of individual tasks may be delegated.

5.4.7 Planning of all safety management activities during development

5.4.7.1 General

All safety activities during the development phases of safety life cycle shall be planned, including at least the following:

- procedures and strategy for achieving functional safety;
- ensuring sufficient qualification of persons and organisational entities when assigning and delegating safety activities;