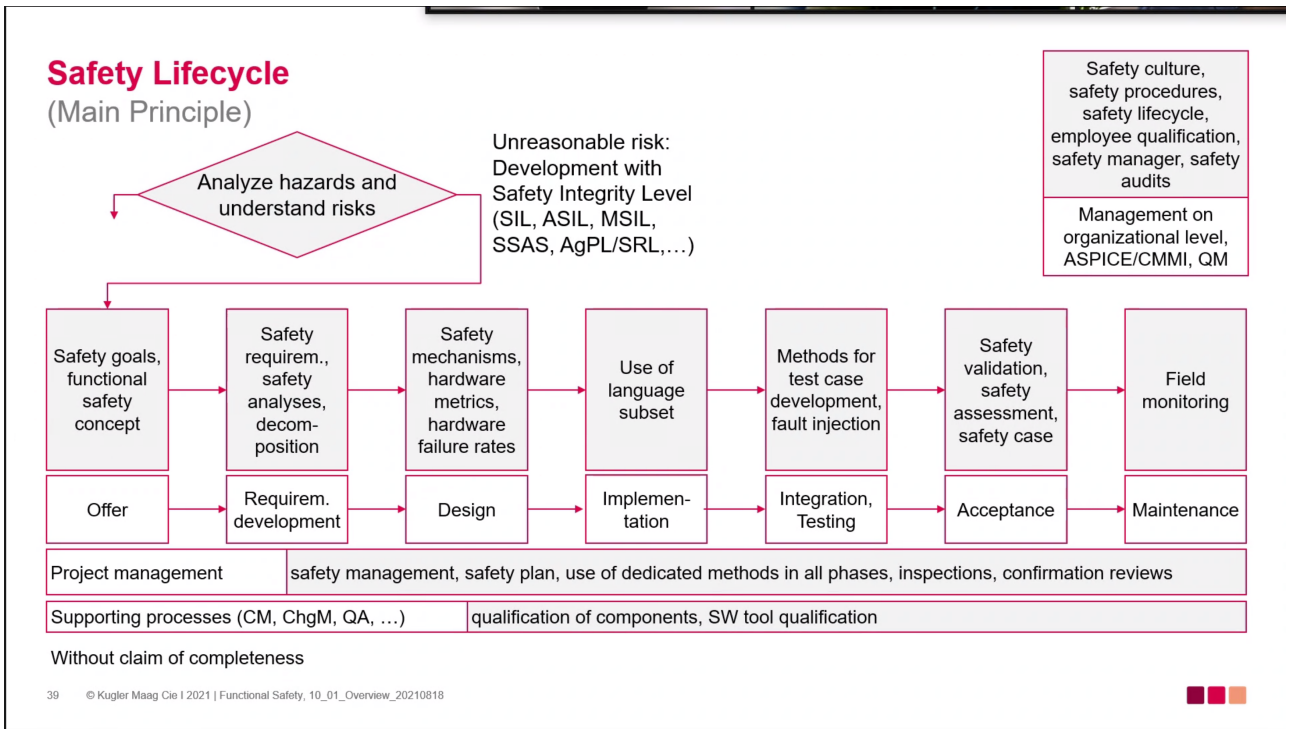
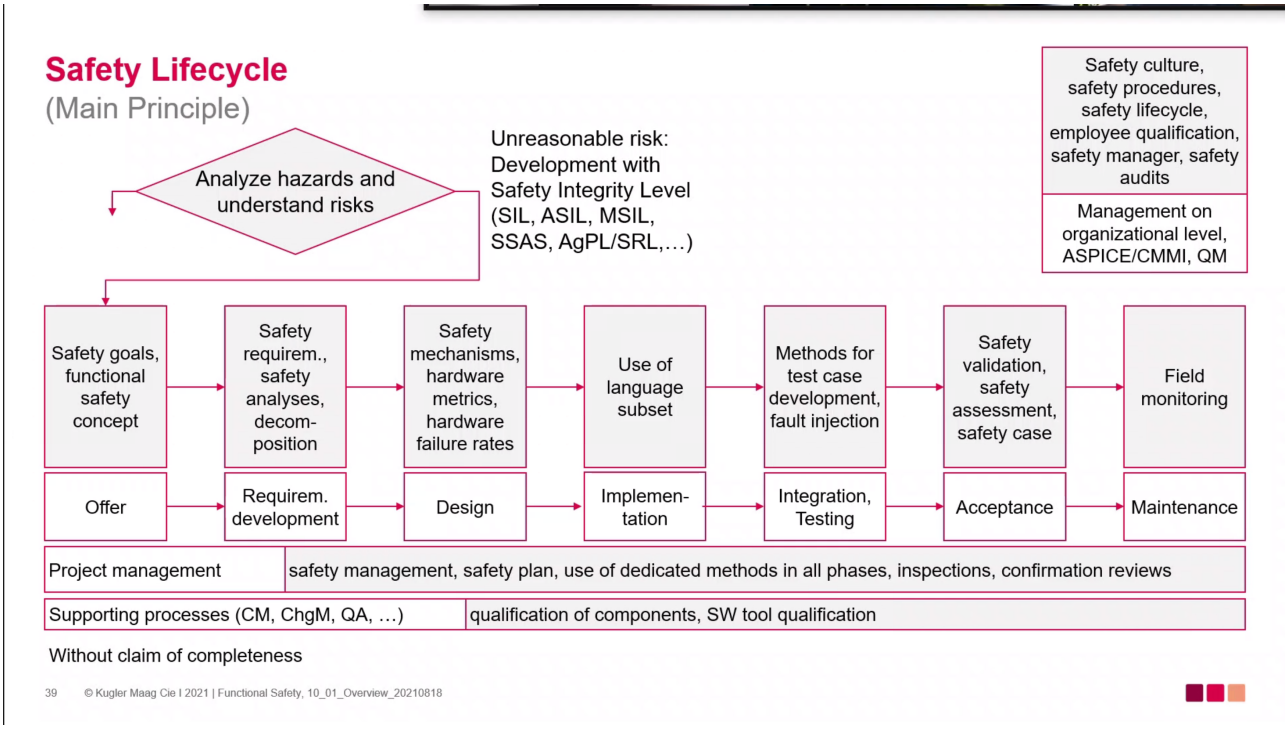
Safety Analyses Day 1

Overview

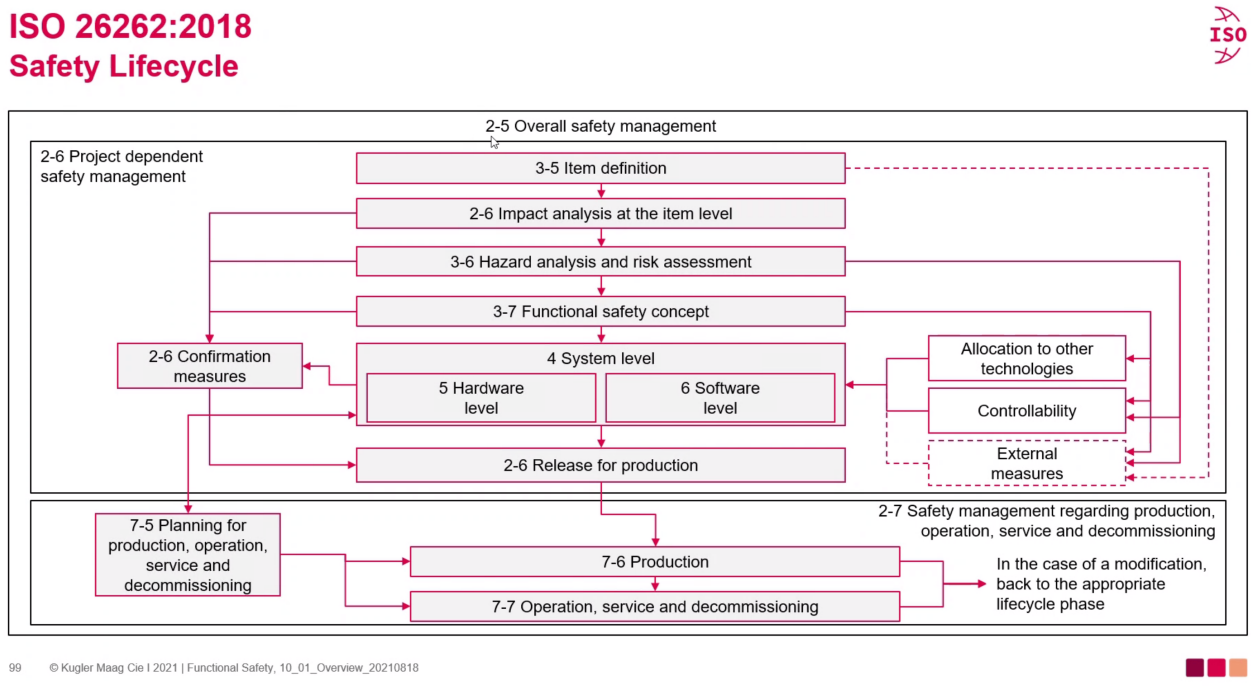
- Security?
  - From external hardad
  - Fuctional safefy?
- Safety?
  - from the operation of a system(product, device)
- Safety Analysee (ISO26262-9, clauese 8)
  - to identity faults
  - to examin thje consequnce of faults and fauliures on functions, behavior and design
  - to provicde information on conditions and causes taht could lead to violation oof a safety goal
  - to iddentify new functional or non-fuctional hards not pre considered
  - to veritfty validate saftety goal concepts reqs.
  - to identify addtional reqs. for avoidence dections and control of faults.
- Safety LifeCycle



- Safety LifeCycle(main priciple)



- Safety LifeCycle (iso2626P:2018)



- ISO 26262 2nd Edition
    - 6. Product development SW level
        - 6.5 General topics for the product development at the software level
        - 6.6 Spec. of SW safety req.
        - 6.7 SW Arch. Design
        - 6.8 SW Unit Design
        - 6.9 SW Integration and verification
        - 6.10 Software integration and verification
        - 6.11 Testing of the embeded SW

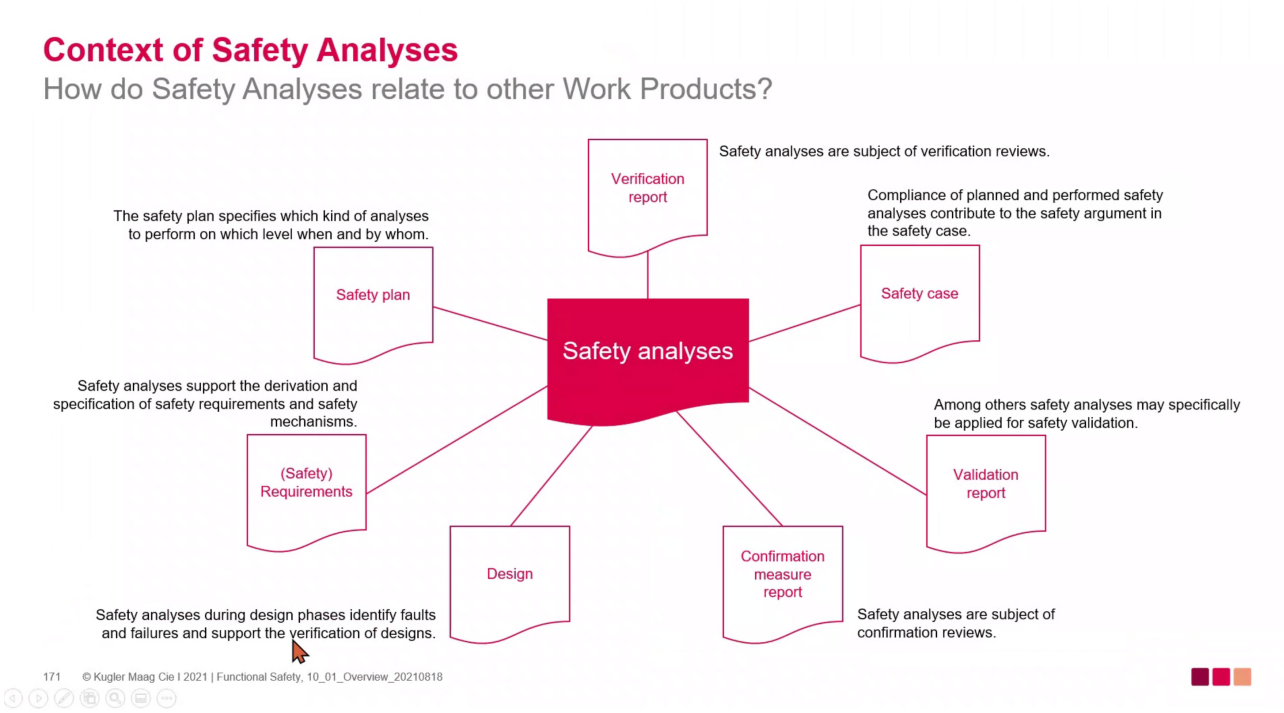
    - ISO 26262-6
        - Design phase verify - *Safety analysis report*
        - 6-7 Dependent failures anaysis report

- ISO 26262-0 ASI-orifented and safety -oriendted Analyses

- Req for ASIL- and safety-orifened analyses
    - Reqs decomposition with respect to ASIL tailoring :Rules and guidence for decomposing safety reqs into redundant safety reqs to allow ASIL tailoring
    - Critra for coexistance of elemets :priove critedra for coexistence of safety-related sub-elements assigned ddiffence ASILs
    - Analysis of depenedent fialures : Identift any sing event or signle cause that bypass or invailidate the indepence between elements.
    - ssafty analyses : Examin the consequences of fauls and failures on functions, behavio

- Why to peform Safety Analyses?
    - To identifty hazards
    - faulut and failures
    - support and verify the design
    - specify safety mechanisms
    - derive test cases

- How do safety Analyses realte to other Work Products ?



- **Summarry**
    - importante element dureing the dev. of safety-realted automotive electionic systmes
    - iso26262 reqs perfoming safety analyses to support reqs and design activies on system
    - Safety analyses help to systemically undersatnd risks of desgin by analyzing faults and thier consequences.

    - There is not one single method to perfom safety analses.

Safety Analyses

Responsibility

- PM (project manager)
    - Safety Activities are perfomed
    - Complience with iso26262 is achieved
    - the saftey manger is appointed
- Safety Manager

Planning

- **hall incldue**
    - the activities and procedure for achieving fuctional safety
    - analysis of dependent failures and the safety analyses
    - the integartion, verification and validation acitivies