Standarder

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Motivasjon for standardisering

- I pålitelighetsanalysene trenger vi pålitelighetsparametere slik som feilrater og reparasjonstider
- Hvordan skal vi finne tallverdier for disse?
- Vi kan kjøpe datahåndbøker, slik som OREDA og PDS Datahåndboken
- Dette er generiske data, men vi ønsker kanskje også å benytte «våre egne data»
- Da trenger vi å samle inn feilhistorikk, informasjon om reparasjoner, forbedringstiltak osv
- Vi trenger også statistiske metoder vi kan benytte på «standardiserte» data

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ISO 14224:2016

Petroleum, petrochemical and natural gas industries. Collection and exchange of reliability and maintenance data for equipment

- ISO 14224:2016 provides a comprehensive basis for the collection of reliability and maintenance (RM) data in a standard format for equipment in all facilities and operations during the operational life cycle of equipment

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ISO 14224:2016

- ISO 14224:2016 describes data collection principles and associated terms and definitions that constitute a "reliability language" that can be useful for communicating operational experience
- The failure modes defined in the normative part of this International Standard can be used as a "reliability thesaurus" for various quantitative as well as qualitative applications
- ISO 14224:2016 also describes data quality control and assurance practices to provide guidance for the user

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ISO 20815:2018

Petroleum, petrochemical and natural gas industries — Production assurance and reliability management

- ISO 20815 describes the concept of *production assurance* within the systems and operations associated with exploration drilling, exploitation, processing and transport of petroleum, petrochemical and natural gas resources
- ISO 20815 focuses on production assurance of oil and gas production, processing and associated activities and covers the *analysis of reliability and maintenance* of the components
- This includes a variety of business categories and associated systems/equipment in the oil and gas value chain, not only hydrocarbon production, but also associated activities such as drilling, pipeline installation and subsea intervention

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IEC 61508

Functional Safety of Electrical/Electronic/ Programmable Electronic Safety-related Systems

- IEC 61508 is consisting of methods on how to apply, design, deploy and maintain automatic protection systems called safety-instrument systems (SIS)

- IEC 61508 is a basic functional safety standard applicable to all industries. It defines functional safety as: “part of the overall safety relating to the EUC (Equipment Under Control) and the EUC control system which depends on the correct functioning of the SIS, other technology safety-related systems and external risk reduction facilities.”

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IEC 61511-1:2016

Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and application programming requirements

- IEC 61511-1 gives requirements for the specification, design, installation, operation and maintenance of a safety instrumented system (SIS), so that it can be confidently entrusted to achieve or maintain a safe state of the process. IEC 61511-1 has been developed as a *process sector* implementation of IEC 61508:2010