Introduction

Active Focus Groups in AI Standardization

No intention of completeness

- ISO/IEC JTC 1 SC 42: Artificial Intelligence

- CEN-CENELEC JTC 21: Artificial Intelligence

- IEEE P7000: Ethics in Action in Autonomous and Intelligent Systems

- OMG AIPTF: Artificial Intelligence Platform Task Force

Active Groups in AI Standardization

Zur Information

N-Nummer	Dokument
9311	Projekt > Arbeitspapier NA 043-01-42 GA_N9311
9312	Sitzung > Tagesordnung NA 043-01-42 GA_N9312
9313	Projekt > Arbeitspapier NA 043-01-42 GA_N9313
9314	Projekt > Sonstiges NA 043-01-42 GA_N9314
9315	Projekt > Sonstiges NA 043-01-42 GA_N9315
9316	Projekt > Arbeitspapier NA 043-01-42 GA_N9316
9317	Projekt > Sonstiges NA 043-01-42 GA_N9317
9318	Projekt > Arbeitspapier NA 043-01-42 GA_N9318
9319	Projekt > Sonstiges NA 043-01-42 GA_N9319
9320	Projekt > Kommentare NA 043-01-42 GA_N9320
9321	Projekt > Kommentare NA 043-01-42 GA_N9321
9322	Projekt > Kommentare NA 043-01-42 GA_N9322
9323	Projekt > Kommentare NA 043-01-42 GA_N9323
9324	Projekt > Kommentare NA 043-01-42 GA_N9324
9325	Projekt > Kommentare NA 043-01-42 GA_N9325

So many projects, so many documents, so little time...

Ongoing Activities Related to Safety

- ISO/IEC TR 5469

- IEC TS 62998-3

- VDE-AR E 2842: Assurance-Case-based argumentation for the trustworthiness of a system potentially containing AI

- IEC TC 65 WG 23 Task Force Safety Recommendations for Smart Manufacturing

- ISO/AWI TS 5083: Road vehicles – Safety for automated driving systems

- ISO/AWI PAS 8800: Road vehicles – Safety and artificial intelligence

ISO/IEC TR 5469

Title: Artificial intelligence — Functional safety and AI systems

Scope: This document describes the properties, related risk factors, available methods and processes relating to:
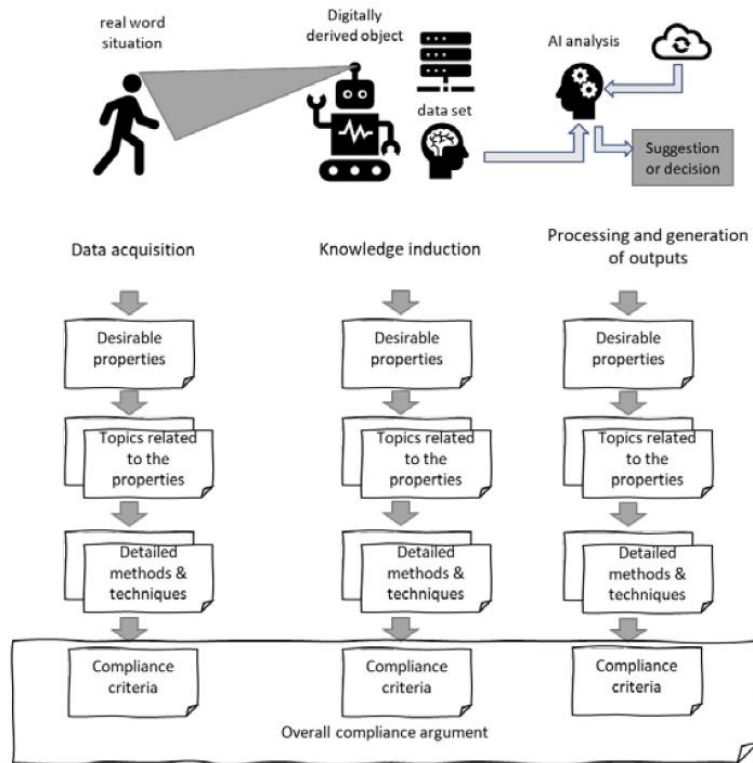
- Use of AI inside a safety related function to realize the functionality

- Use of non-AI safety related functions to ensure safety for an AI controlled equipment

- Use of AI systems to design and develop safety related functions

Status: DTR expected mid of 2022

ISO/IEC TR 5469

ISO/IEC TR 5469
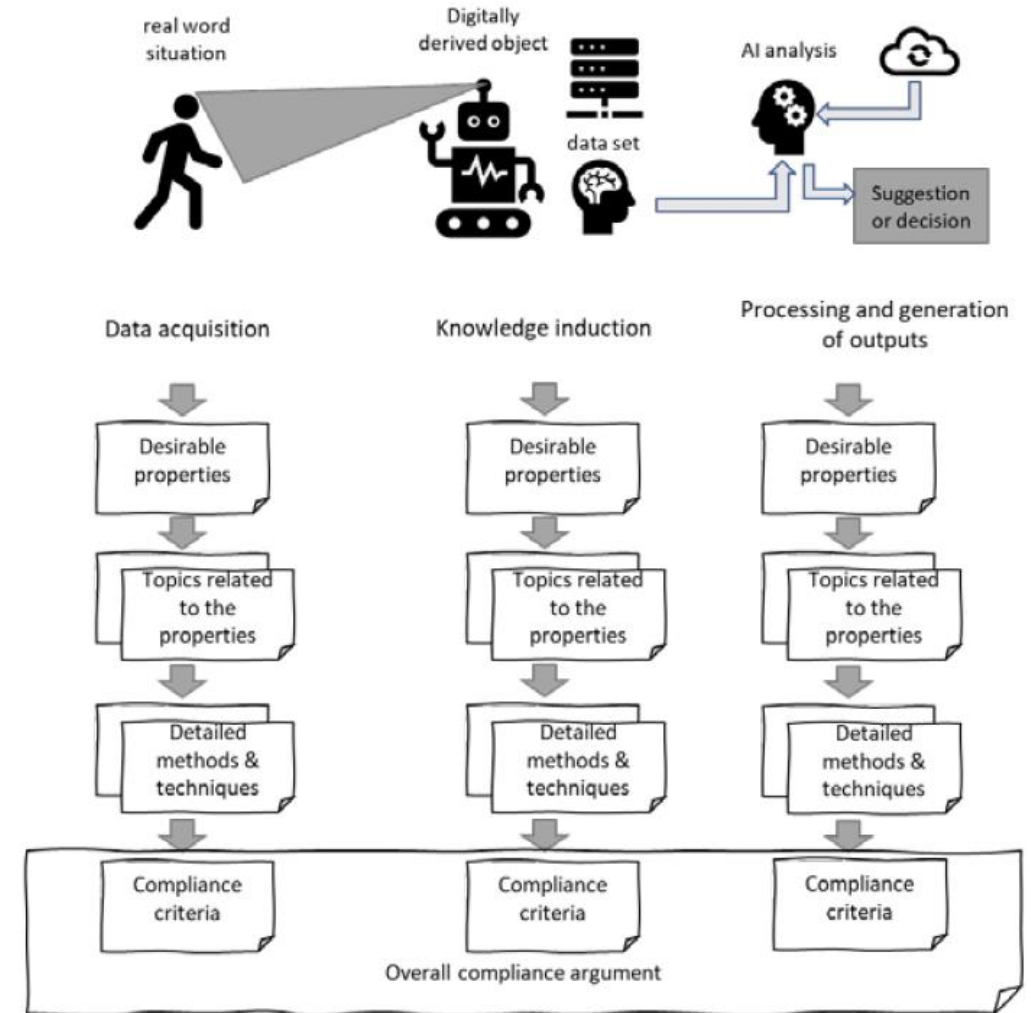
Stage: knowledge induction from training data and human knowledge			
Desirable property: Specifiability			
Topic	**Details**	**KPI**	**Available methods with references**
specification of the dataset	• amount of data • type of data needed (e.g., object classes, ODD, weather conditions, geographic domain, background scene) • division of data between training, validation and testing	• dataset coverage • dataset distribution • example: the dataset contains images acquired for different road types during differing weather conditions, and the data acquisition takes place during daytime.	• manual curation • active learning
specification of labeling policy	• data annotation • treatment of occluded objects • number of annotators annotating the same data	• labeling quality distribution • example: the road lane boundaries are marked pixel by pixel. Each image is annotated by two independent annotators. The amount of 10 % of randomly selected data is additionally annotated by a third annotator..	

IEC TS 62998-3

Title: Safety of machinery – safety-related sensors used for the protection of persons. Part 3: Sensor technologies and algorithms
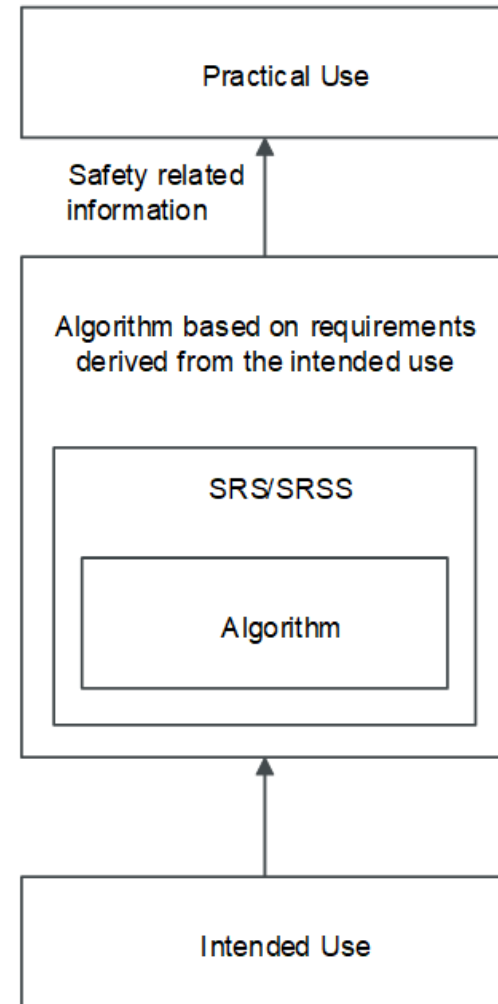
Scope: This document gives guidance on:

- …

- appropriate use of algorithms during the integration of SRS or SRSS by the integrator to improve execution of measurement information or provide decision information derived from measurement information;

- use of algorithms during design and development of a SRS by the manufacturer to achieve appropriate detection capability.

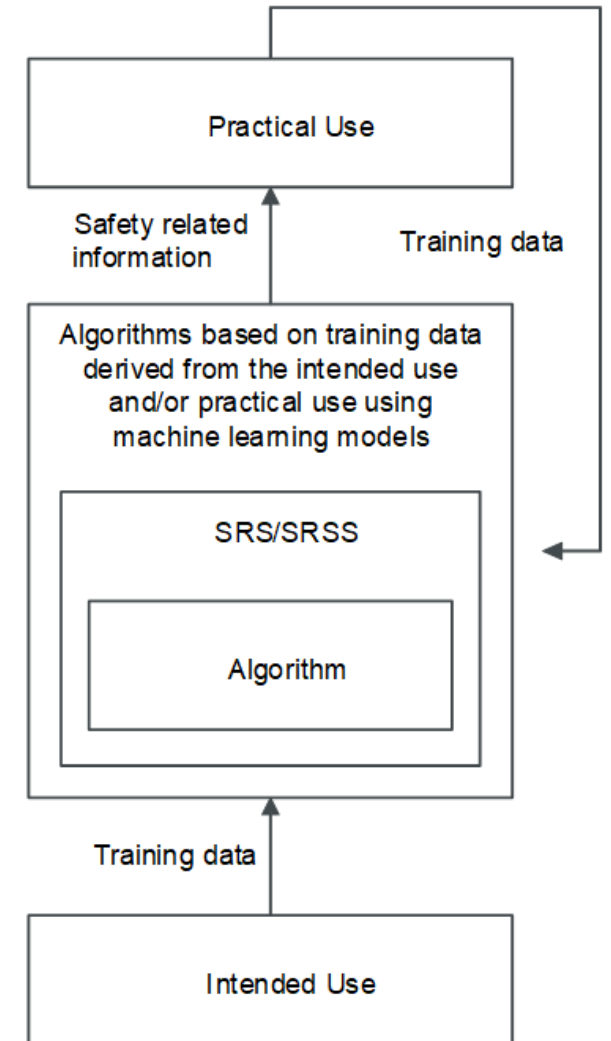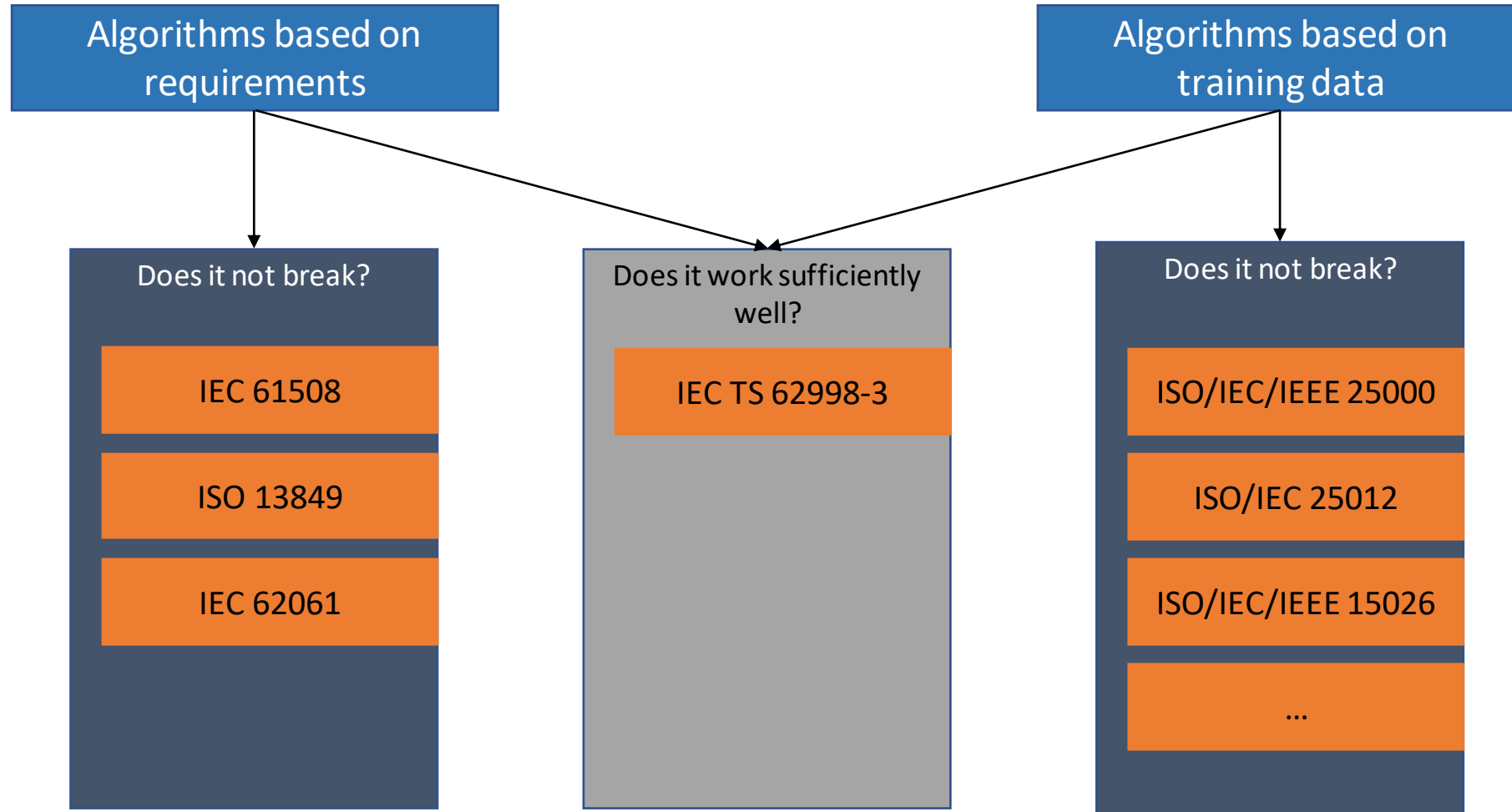**Status**: Waiting for CD 2 comments

IEC TS 62998-3

Algorithms based on requirements

Practical Use

Safety related information

Algorithm based on requirements derived from the intended use

SRS/SRSS

Algorithm

Intended Use

Algorithms based on training data

Practical Use

Safety related information

Training data

Algorithms based on training data derived from the intended use and/or practical use using machine learning models

SRS/SRSS

Algorithm

Training data

Intended Use

Thank you

It is possible to have advanced algorithms in safety-related systems if a proper engineering process is in place.