

Digital Transformation | SMART Standards

Geduld ist bitter, aber ihre Frucht ist süß.

IDI_S plenary

2025-10-08

Speaker: Janos Koschwitz

- Digital Transformation Manager at **DKE**
- focus upon SMART Standards and the DKE digital strategy
- representative of the DKE in the **Initiative for Digital Standards (IDiS)** of DIN and DKE
- member of the Business Innovation and Digital Transformation Group CEN/CENELC
- over 10 Years experience as Software Developer and CTO

“Digitalization is not an end in itself — it must always serve to reduce costs or enhance productivity”



Scope, participants & cooperation

- common national initiative of DIN and DKE since 2019 to
- encourage the **digital transformation for standards**
- industries, federations und research institutions
- ensure that SMART Standards of DIN and DKE are **compatible in the customers point of view**
- focus on **global cooperation** instead of destructive competition



In Germany, the Initiative Digital Standards (IDIš) is the think tank for SMART Standards with customer-driven projects and deliverables like Specs or Whitepapers.

IDIš cooperates with SMART User Group (Afnor)

DIN Solutions is a member of the Digital Standards Alliance (SAE ITC)

SMART Standards

wie sie in den Pilotprojekten von QI-Digital demonstriert werden. Ziel ist es, ein ganzheitliches digitales Ökosystem zu schaffen, in dem Qualitätssicherung als integrierter, kontinuierlicher Prozess verstanden wird. Im Folgenden werden zentrale Werkzeuge einer digitalen QI vorgestellt, deren Anwendung es ermöglichen soll, auf die dynamischen Anforderungen moderner Produktionsumgebungen zeitnah zu reagieren, Konformität in Echtzeit zu überwachen und die Rückverfolgbarkeit entlang globaler Lieferketten signifikant zu verbessern.

2.3.1 SMART Standards



We want and should use AI Tools

Why SMART Standards?

Scenario A: tomorrow is almost like today

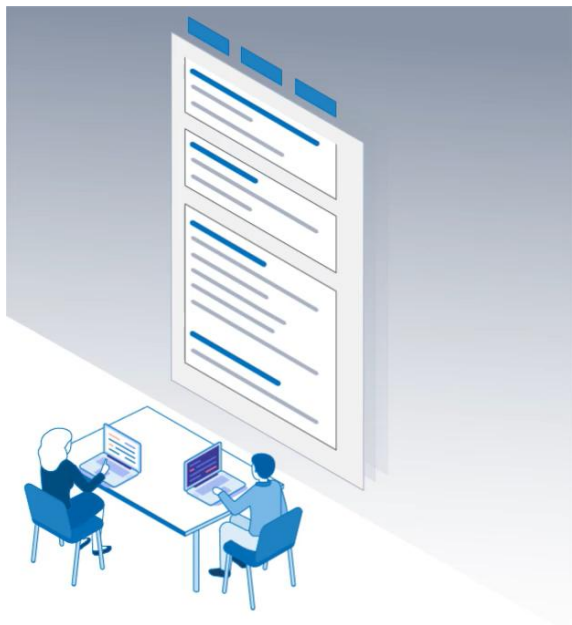


Scenario B: tomorrow with *SMART from the start*



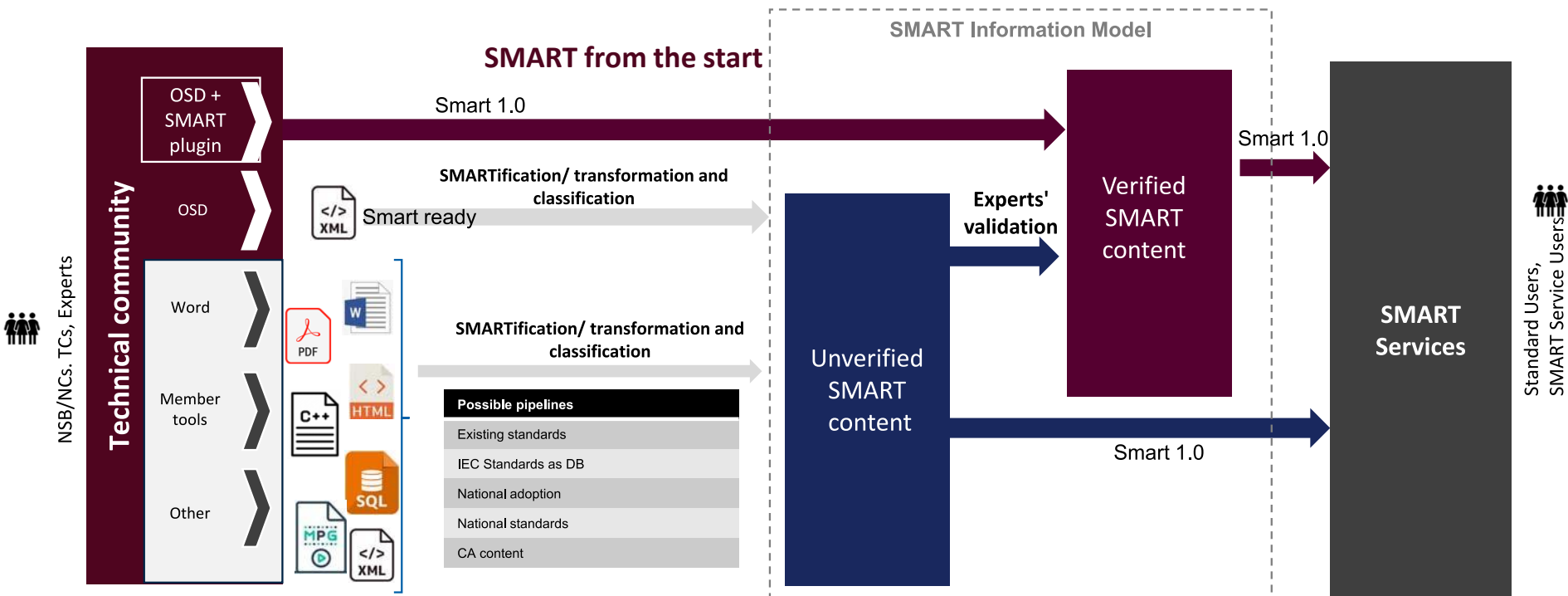
- **costs, quality** (minimized **risks**) and **time-to-market** decide over failure or success
- only **SMART Standards** can **eliminate** additional costs and time for value-adding **post-processing**
- only **SMART Standards** can **minimize** costs and time for **human interactions** and enable **fully automated processes**

Content creation with Online Standards development

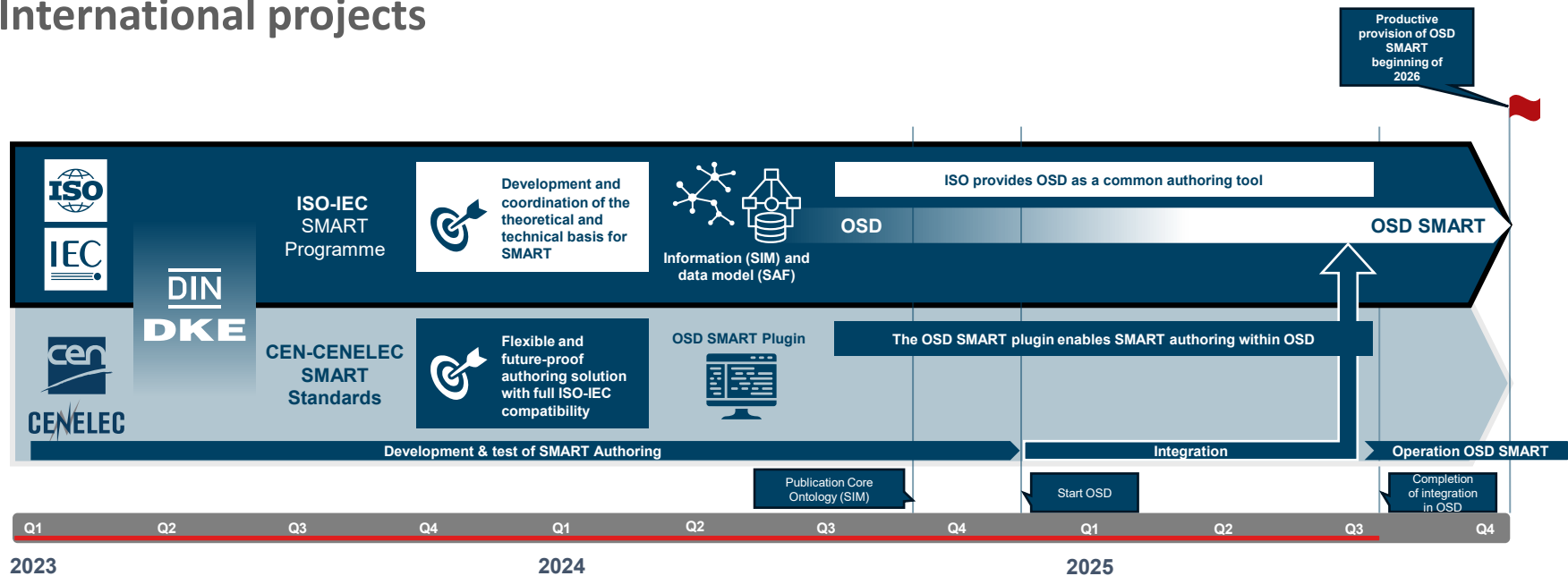


- Expertenwissen ist der beste Content
- OSD can be the baseline
- SMART Content written by experts
- “SMART from the Start”
- Goal: (expert) verified SMART Standards

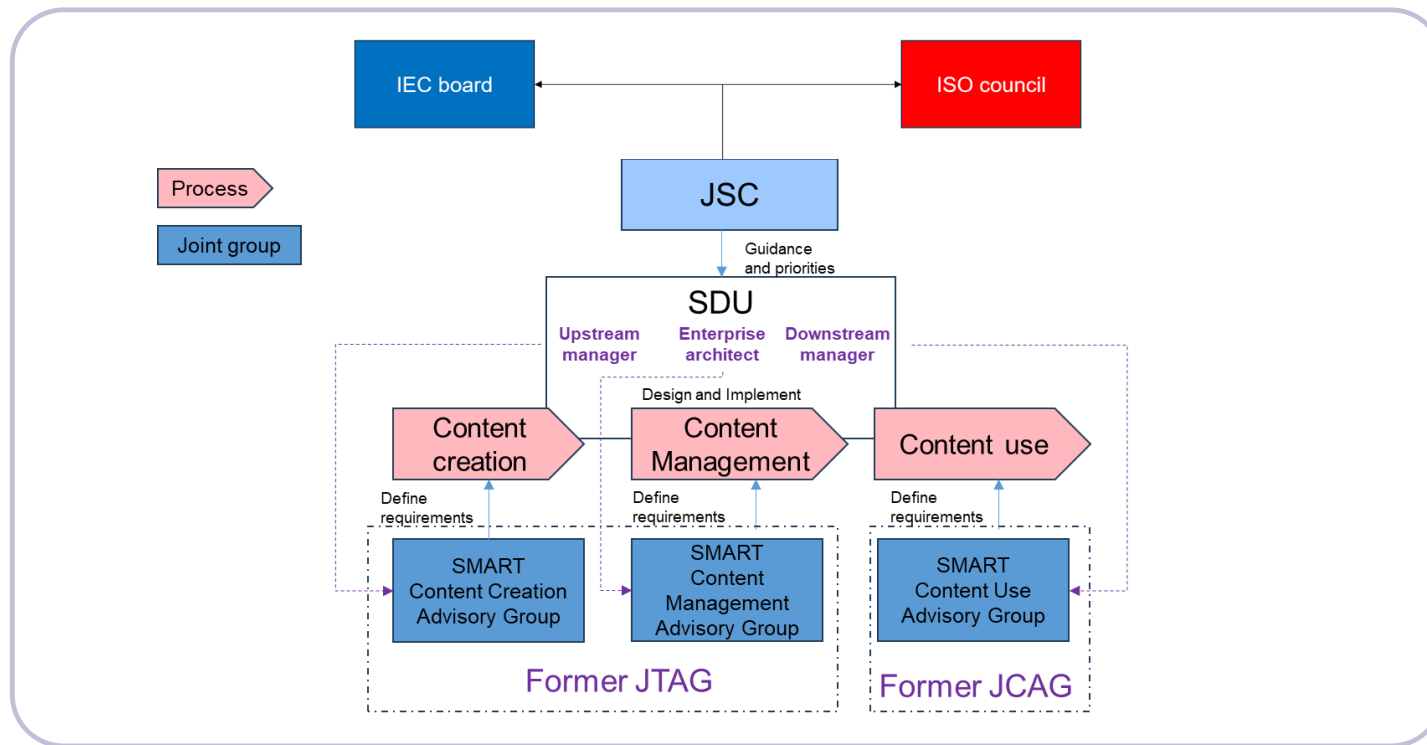
SMART Standards – IEC-ISO End-to-end concept



OSD SMART in connection to the European and International projects



IEC-ISO Governance Structure



Not only modalities - Relations

PROVISION

Components made of single constituent polymer or polymer blend should be used.

RECOMMENDATION

1

Relation 1 (xor)

CLAUSE 4.1

Single constituent polymers or polymer blends

PROVISION

Components made of single constituent polymer or polymer blend should be used.

RECOMMENDATION

1

PROVISION

When this is not possible a reduced number of recyclable polymers should be used.

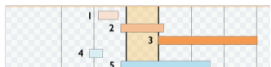
RECOMMENDATION

1

NOTE

A common method for post shredding is separation by density, diff

FIGURE 1



Selected this provision:

"When this is not possible a reduced number of recyclable polymers

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Close

Delete

Add new relation

No more waiting please

SMART STANDARDS

Loading...



DIN-DKE implementation of SMART from the start



Task description

- Clarify copyright and licensing frameworks for the digital use of SMART Standards
- Address challenges of intellectual property rights (IPR) in machine-readable and interoperable formats
- Support companies, developers, and researchers in the legally compliant integration of SMART Standards into digital tools and services
- Provide guidance for balancing accessibility, monetization, and innovation in the digital standards ecosystem

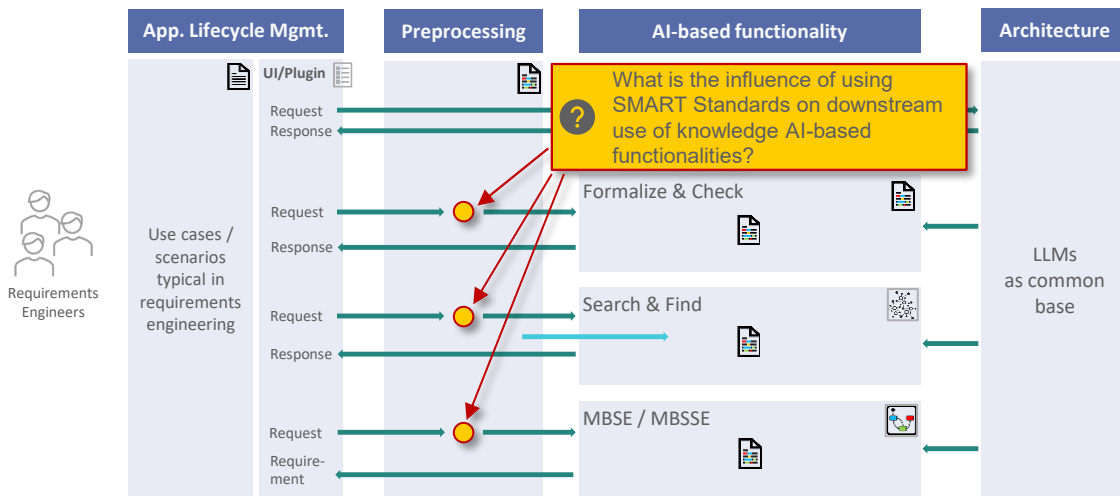
Goals

- Analyze current copyright and licensing practices for standards in digital environments
- Propose harmonized licensing approaches to improve interoperability and reusability of SMART Standards
- Create recommendations for international alignment of licensing policies (in terms of SMART Standards)
- Strengthen trust and legal certainty for all stakeholders in the digital transformation of standards





The KIMBA project motivates the use of SMART Standards and their semantics to improve AI-based functionalities in RE



- KIMBA is rooted in AI-based RE and MBSE the Automotive domain.
- Focus lies on downstream AI-based support in typical RE scenarios, such as Formalizing & Checking or MBSE artifact generation, based on a comprehensive knowledge corpus.
- An AI-based preprocessing stage provides the corpus from multi-format inputs ranging from laws and norms to customer requirements.

Consortium



Funded by

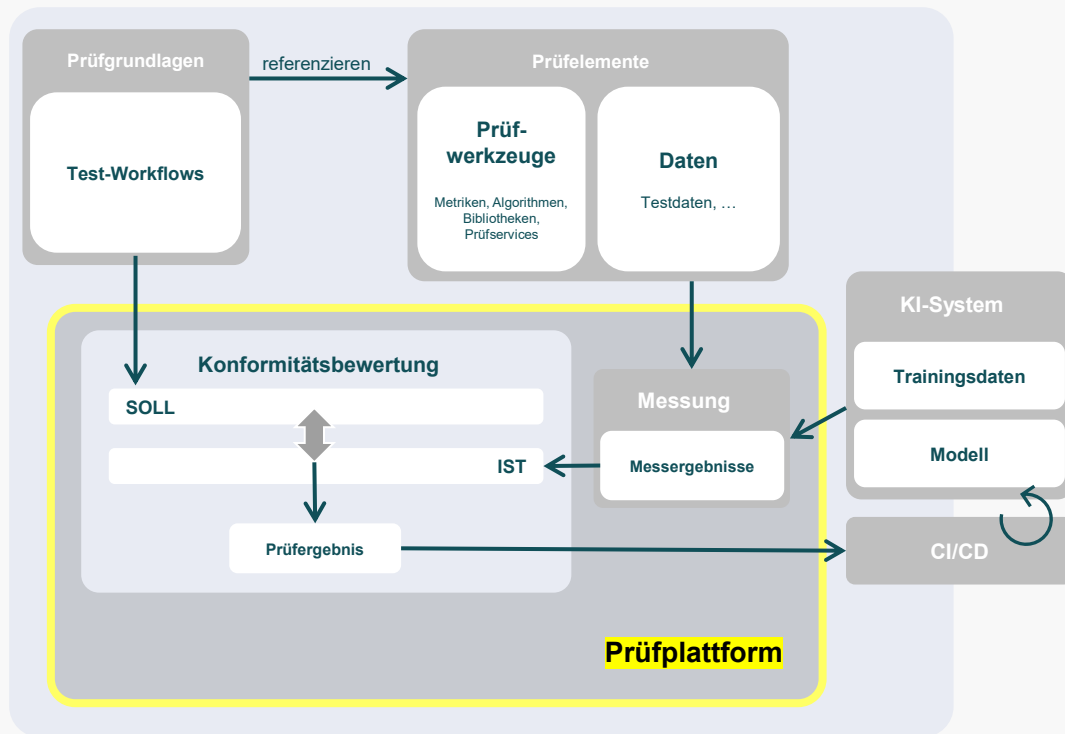


Project duration: 9/2024 – 8/2027

Consortium lead: BMW

- SMART Standards can act as common feed for AI-based functionalities.

Vision: Skalierbare (Automatisierte) KI-Prüfung auf Prüfplattformen



MISSION KI Qualitätsstandard

Hochrisiko-Anwendungsfälle

- AI Act legt umfassende Anforderungen für risikoreiche KI-Anwendungen fest
- **Ziel:** Gewährleistung von Sicherheit, Zuverlässigkeit und Schutz der Grundrechte
- **Umsetzung:** Basierend auf KI-Implementierungsstandards von CEN/CENELEC

Niedrigrisiko-Anwendungsfälle

- Ein erheblicher „versteckter“ Anteil von KI-Anwendungen mit geringem Risiko wird durch eine harmonisierte Normung nicht vollständig erfasst
- Unterstreicht den Bedarf an Low-Risk KI-Qualitätsstandard
- **Ziel:** Praxistauglich KI-Qualität sicherstellen und potenzielle Fehlfunktionen effektiv minimieren
- **Umsetzung:** Basierend auf dem MISSION KI Qualitätsstandard

Kooperationspartner

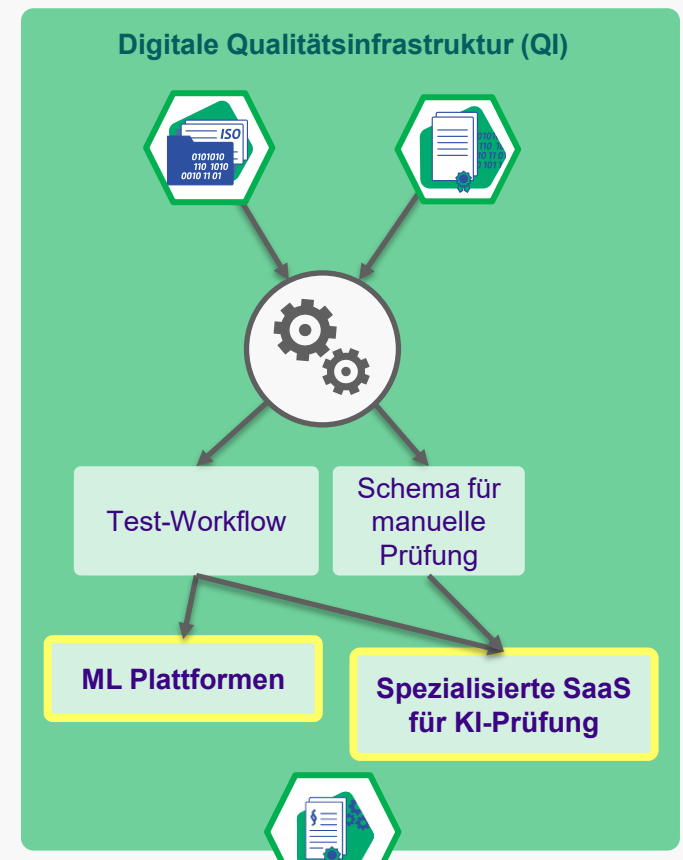
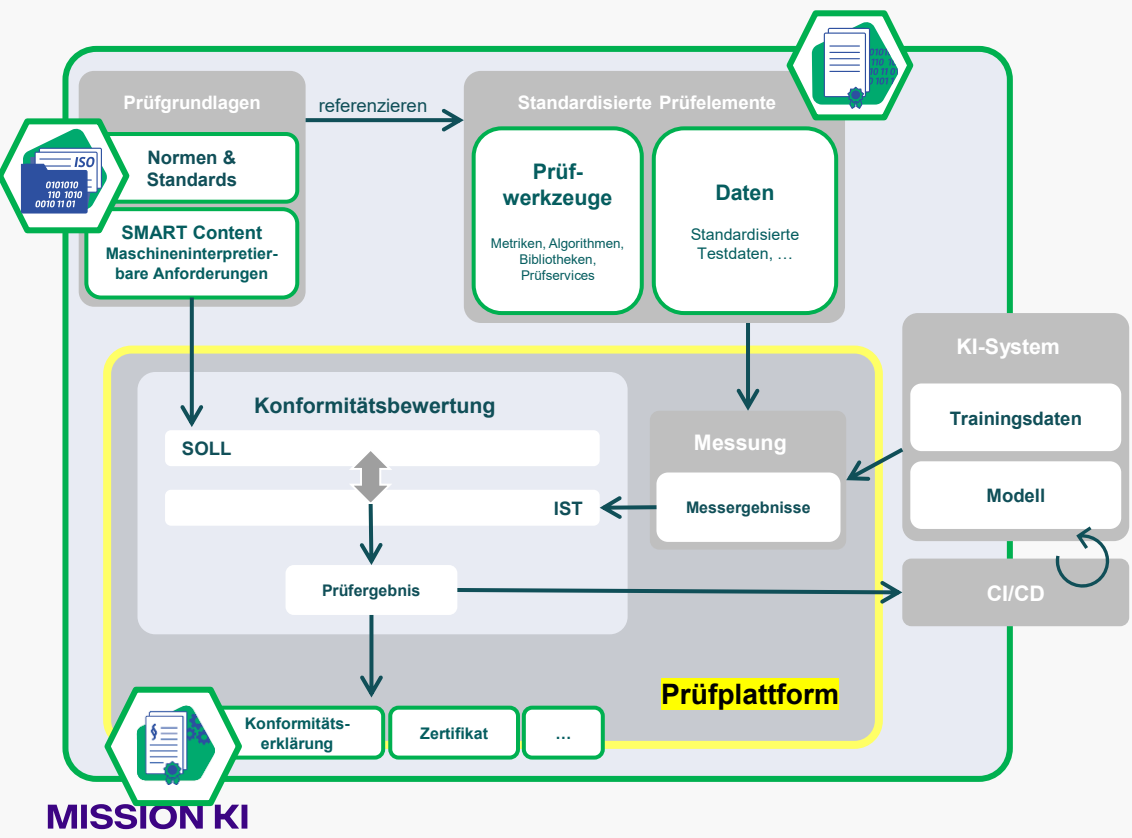


Anschlussfähigkeit des Qualitätsstandards an EU AI Act

Auszug

 Verlässlichkeit	Article 15 (Accuracy, robustness, cyber-security)	Article 17 (Quality management system)	Article 53/55 (Obligations for provider of GPAI models)	Article 72 (Post-market monitoring)	Article 73 (Reporting of serious incidents)
 KI-spezifische Cybersicherheit	Article 15 (Accuracy, robustness, cyber-security)		Article 53/55 (Obligations for provider of GPAI models)		
 Datenqualität, -Schutz und -Governance	Article 10 (Data and Data governance)		Article 13 (Transparency and provision of information to deployers)		
 Nicht-Diskriminierung	Article 15 (Accuracy, robustness, cyber-security)	Article 10 (Data and Data governance)		Article 53/55 (Obligations for provider of GPAI models)	
 Transparenz	Article 11 (Technical documentation)	Article 12 (Record-keeping)	Article 13 (Transparency and provision of information to deployers)	Article 50 (Transparency oblg. for providers / users)	
 Menschliche Aufsicht und Kontrolle	Article 14 (Human oversight)		Article 53/55 (Obligations for provider of GPAI models)		Article 72 (Post-market monitoring)

Vision: Automatisierte KI-Prüfung & digitale Qualitätsinfrastruktur (QI)



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