



ISO

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AI FOR MANUFACTURING
WORKSHOP

Standards Landscape, Ongoing Activities & Strategy

Current Landscape

Ongoing Activities

Strategy & Roadmap

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LANDSCAPE

Current Standards Landscape

- **Key standards relevant to AI in Manufacturing**

- ISO/IEC 42001:2023 — AI management system governance, policies, and risk controls across the organization
- ISO/IEC 23894:2023 — Guidance on AI-specific risk management, feeds directly into 42001
- ISO/IEC 5338:2023 — AI system lifecycle processes from data readiness through deployment and monitoring
- ISO/IEC 5259 Series — Data quality frameworks and measurable criteria for analytics and machine learning
- ISO/IEC 22989:2022 — Common vocabulary and terminology baseline for all AI standards

Coverage Areas — ISO/IEC 5259 and 19941 handle data quality and interoperability; 23894 and 42001 cover risk and trustworthiness; performance and testing benchmarks for manufacturing contexts are largely absent.

Gaps vs. Emerging AI Paradigms — No standards exist for agentic AI in production environments, foundation model deployment in industrial settings, or physical AI that bridges intelligent decision-making with actuation.

ONGOING

Ongoing Activities

Active Working Groups & Committees

ISO/IEC JTC 1/SC 42 — Five WGs covering AI governance, trustworthiness, data, and performance

ISO/TC 258 WG17 — AI for project, programme, and portfolio management

Standards Under Development

ISO/CD 21520 — AI in PPM; concepts, governance, and responsible use (target: 2026)

ISO/IEC 42119-8 — GenAI testing, benchmarking, and red teaming (target: 2026)

ISO/IEC 42005 — AI system impact assessment (publication imminent)

Published in Last 2 Years

ISO/IEC 42001:2023 — AI management system requirements

ISO/IEC 5338:2023 — AI system lifecycle processes

ISO/IEC 42006:2025 — Certification body requirements for AI management systems

Related Initiatives

ISO/IEC/ITU 2025 International AI Standards Summit — UN-backed global AI governance alignment

SC 42 GenAI amendment track — Updating foundational standards to cover generative and agentic AI