

AI Management & Lifecycle Standards

**A practical guide to the
ISO/IEC framework for
trustworthy artificial
intelligence systems.**

ISO / IEC · 2024 — 2025

Core AI Management

System Standards

Two foundational standards that anchor every programme for trustworthy AI.

GLOBAL

ISO/IEC 42001:2023

The foundational global standard for an Artificial Intelligence Management System. It defines requirements for governing AI-specific risks and operating AI within an organisation.

EU AI ACT

prEN 18286

A harmonised European standard developed for EU AI Act regulatory purposes. It helps providers of high-risk AI systems meet the Quality Management System requirements in Article 17.

AI System Life Cycle

ISO/IEC 5338:2023

The operational backbone for engineering AI-enabled systems

01

Inception

Identifying business needs and feasibility.

02

Design & Development

Defining architecture and acquiring or preparing data.

03

Verification & Validation

Testing the model against requirements and intended behaviour.

04

Deployment

Releasing the system into an operational environment.

05

Operation, Monitoring & Re-evaluation

Tracking performance, detecting drift, and keeping the AI accurate and safe.

06

Retirement

Securely decommissioning the system and archiving or destroying data.

Supporting

Lifecycle Standards

Three complementary frameworks that round out the lifecycle picture.

TERMINOLOGY

ISO/IEC 22989:2022

Provides foundational AI concepts and terminology. Defines what constitutes an AI system and outlines its lifecycle phases.

DATA LIFECYCLE

ISO/IEC 8183:2024

Provides a framework for managing the data lifecycle — from planning through to data decommissioning.

IMPACT ASSESSMENT

ISO/IEC 42005:2025

Provides guidelines for AI System Impact Assessments, used to evaluate risk throughout the operational lifecycle.

Data Lifecycle

ISO/IEC 8183:2024

Ten sequential phases — from idea to decommissioning.

01

Idea Conception

Aligning data strategies with primary AI project concepts.

02

Business Requirements

Defining user needs and legal compliance guidelines.

03

Data Planning

Outlining data sourcing, safety, and infrastructure requirements.

04

Data Acquisition

Gathering or generating required data streams.

05

Data Preparation

Cleaning, labelling, organising, and enriching data.

06

Building a Model

Developing, training, and internally verifying AI models.

07

System Deployment

Transitioning the model into a live production environment.

08

System Operation

Monitoring whole-system validation and accuracy.

09

Data Decommissioning

Securely deleting, archiving, or repurposing historical data.

10

System Decommissioning

Safely disposing of the overall hardware and software framework.

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