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AI literacy requirements of the EU AI Act

A practical guide

Executive summary

EU Regulation (EU) 2024/1689 (the "AI Act") establishes for the first time binding rules for the risk-appropriate use of artificial intelligence. Under Article 4, companies must make every effort to ensure that all persons involved in the development, deployment and use of AI have sufficient AI literacy.

This brochure translates the legal requirements into clear and feasible steps, especially for SMEs. It explains the legal foundations and transfers them into an integrated competence model that distinguishes between the individual (micro) and organizational (macro) levels.

The practical guide at a glance

- Understand the obligations under Article 4 of the AI Act and what they mean in practice.
- Get an easy-to-use model for identifying and developing AI literacy.
- Learn how to assign role profiles clearly and prioritize training.
- Connect compliance with strategic competence development in a pragmatic and effective way.

This brochure is a guide for all company employees. It helps to meet legal requirements while building AI literacy as a competitive advantage.

Legal basis

The AI Act (Regulation (EU) 2024/1689) is the first comprehensive EU law regulating artificial intelligence. It applies in all EU Member States with immediate effect and pursues two key objectives:

1. Promoting innovation by strengthening the development of trustworthy AI in Europe.
2. Managing risks, particularly to health, safety and fundamental rights.

A risk-based approach

The higher the risk posed by an AI system, the stricter the legal requirements:

- Prohibited systems would be social scoring or emotion recognition in the workplace, for example.
- High-risk systems would be those used in medicine, recruitment, education or critical infrastructure, for example.
- Other systems would be those subject to transparency obligations and voluntary codes of conduct.

Who is affected?

The AI Act applies to all companies that provide or deploy AI systems in the EU, irrespective of where they are based (market location principle).

The regulation distinguishes between several roles:

- Providers develop or distribute AI systems on the market.
- Deployers use them within the company.
- Importers, distributors and authorized representatives perform complementary tasks.

Important

Article 4 – the obligation to ensure AI literacy – applies to providers and deployers.

What does "AI system" mean?

According to the EU definition, an AI system is "a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments".

This definition not only covers complex models but also simple automated systems. Companies should therefore assess whether their digital solutions fall within the scope of the AI Act.

Article 4: Obligation to ensure AI literacy

Article 4 obliges providers and deployers to ensure, "to the best of their ability", that all persons involved have sufficient knowledge, ability and understanding when working with AI.

The objective

- Informed decisions in the deployment of AI
- Protection of safety, health and fundamental rights
- Promotion of responsible and innovation-friendly use of AI

Measures to promote AI literacy

The AI Act does not prescribe fixed measures, but requires concrete action.

Corresponding steps include:

- Training on AI fundamentals, legal requirements and ethical use
- Internal guidelines or manuals for safe deployment
- Establishing an AI officer role or an AI center of excellence
- Regular competence assessments and documentation

The requirement to act "to the best of one's ability" means that companies must take appropriate and reasonable measures tailored to their size, resources and context of deployment.

Sanctions

Companies that fail to take sufficient steps to promote AI literacy will risk sanctions. A lack of qualification may also lead to liability if damage could have been avoided through adequate knowledge.

Key message

The AI Act requires companies to ensure that their employees are competent in the use of AI. Legal certainty is not created by technology alone but through knowledge, competence and responsible deployment.

Practical implementation tools

What is this about?

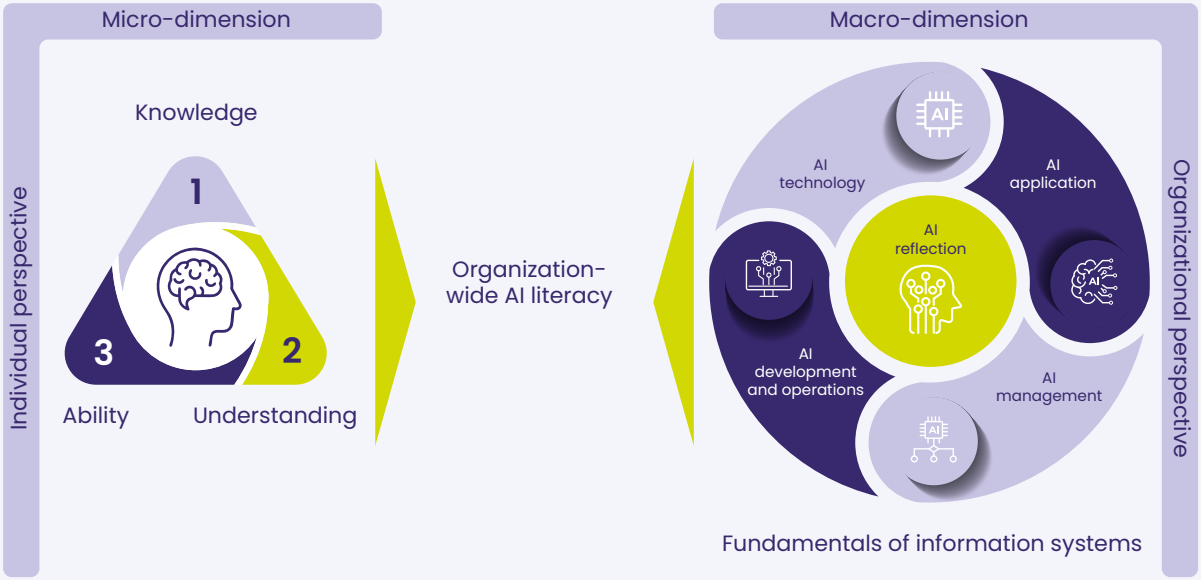
Article 4 of the AI Act makes AI literacy a mandatory requirement. This chapter explains how companies can translate these obligations into **structures, roles and measures** in a practical way, with a particular focus on SMEs.

What do we mean by AI literacy in information systems?

AI literacy = knowledge + ability + understanding, complemented by three principles:

- **Social-technical thinking:** Considering people, organization, technology and law together.
- **Action-oriented implementation:** Competence becomes visible through action, not through certificates.
- **Continuous learning:** AI literacy is a process, not a fixed state.

Two levels – one target



Mnemonic

Micro builds on macro – without roles, processes and governance, individual competence remains ineffective.

The 2-step process model

1. Bottom-up – What is already in place?

- Skills inventory (competence matrix, digital profiles)
- Self-assessment (standardized questions + short case studies)
- Everyday observation (shadowing, feedback, simulation)

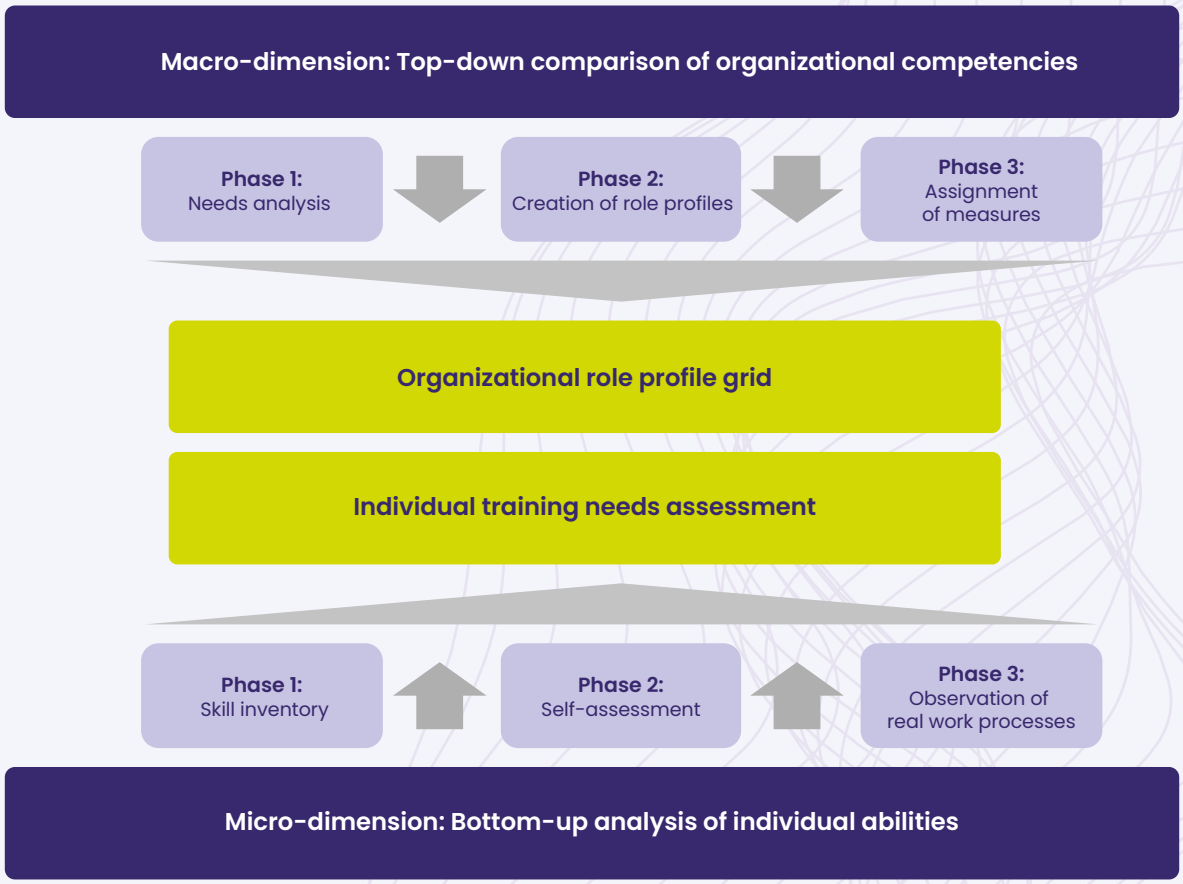
2. Top-down – What do we need?

- Needs analysis (areas of application, tasks, controls)
- Role profiles (morphological box, target levels per dimension)
- Assignment of measures (training, guidelines, responsibilities)

Output

Documentation of clearly prioritized learning objectives, roles and measures

2-step process model for determining AI literacy requirements in organizations



Define roles in a structured way

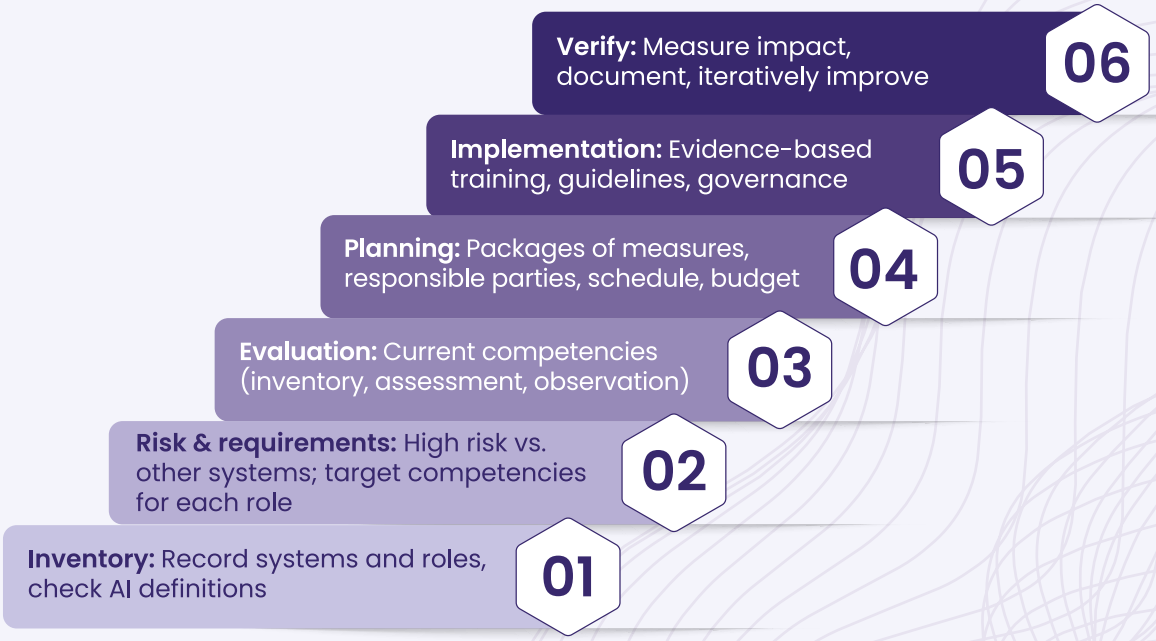
For example, using a morphological box

Parameter (characteristic)	Specification for the target role (example)
Functional role	Manager / Project lead
Type of organization	Private sector (industrial company, e.g. mechanical engineering)
Domain context	R&D / Digitalization / Business Development
AI usage type	Controlling and strategic selection of AI systems
Decision-making involvement	Strategic + budget responsibility
Basic information systems competence	High: Understanding of information systems, digital transformation and process integration
Technology competence	Low to medium: Ability to evaluate technological options and limitations
Development & operational competence	Low: Understanding of development processes and technical dependencies (e.g. data pipelines)
Application competence	Medium to high: Ability to integrate AI solutions into innovation projects
Management competence	High: Management of projects, teams and roadmaps, coordination with specialist departments
Reflection competence	High: Assessment of ethical, legal and societal implications of AI innovations

Benefits

Training and measures can be derived directly for each role.

How we implement it in 6 steps



Success criteria

Clarity about roles • Documented competencies • Active controls • Regular updates

Recommen-dations

Objective

Fulfil the obligation under Article 4 of the AI Act effectively and reasonably, with clear steps, roles and evidence.

1. Initial review – 3-step check (ex ante)

1. **Function:** What does the AI system do in our organization? (application scope, degree of automation)
2. **Role:** What responsibilities does the person have? (tasks, decision-making authority)
3. **Organization:** What resources and structures do we have? (time, budget, governance)

2. Role-based operationalization

Path 1 – Basic training (mandatory for all)

- **Basics:** Opportunities & risks, secure use, data protection & law (GDPR interfaces).
- **Target:** Minimum level of knowledge, ability & understanding.

Path 2 – Role-specific expertise building

- **User:** Apply standard tools safely, handle data correctly, interpret results, prompt basics.
- **Integrator:** Low or no code, understand interfaces, implement simple use cases, embed processes.
- **Developer:** APIs & models, architecture, MLOps (monitoring, drift, retraining), documentation.

Verification: Role grid (target levels per competence field) + participation & effectiveness of measures.

Recommended KPIs

- Basic training coverage (percent), pass rate
- Role fit (target vs. actual for each competence field)
- Incidents or findings (e.g. incorrect operation, data protection issues)
- Audit readiness (documentation status, up-to-date records)

3. Consolidate – from project to structure

- **Institutionalize**: AI officer / CoE / ethics
- **Cycles:** Regular needs analyses, updating role profiles, refresher training
- **Evaluation:** Measuring effectiveness (KPIs), lessons learned, continuous improvement

A detailed analysis can be found in the white paper.

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