

DS/PAS 2500-4:2026

Artificial intelligence

Part 4: AI literacy



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Göteborg Plads 1

DK-2150 Nordhavn

Phone: 39 96 61 01

ds@ds.dk www.ds.dk

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Foreword

DS publication type

Publications by Dansk Standard begin with "DS", followed by one or more prefixes and a number, e.g. DS 282, DS/EN 5414, etc. If the publication is part of a series, there will be a hyphen followed by the number in the series, e.g., DS/PAS 2500-1 and DS/PAS 2500-2. A series is a non-prioritized sequence of publications that can be read independently of each other but address the same theme.

DS/PAS

This document is a DS/PAS. PAS is an abbreviation for Publicly Available Specification which is a publication prepared at national level and does not have the same status as an international standard. A PAS differs from an international standard by, for example, not having the same requirements for the degree of interested parties involvement or layout. Also, DS/PAS does not specify requirements that must be met but instead contains recommendations, information, and advice.

Preparation of the publication

The publication has been developed in collaboration between a number of players, gathered under Dansk Standard's committee for artificial intelligence, S-855. A big thank you to the committee's experts for participating in the development and production of the PAS, including especially: Lead author Grit Munk and the other authors David van Boven, Laura Bechsøfft Palm Mohr, Jesper Løffler Nielsen, Mona Persson, Peter Damm, and Sidsel Nag.



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Introduction

Artificial intelligence, AI, plays an increasingly important role in companies and organizations in the public sector, but many organizations still hesitate to implement the new technological solutions. Having the necessary knowledge about what AI is, what AI can do, what one should particularly be aware of, and what rules apply is challenging for many. It requires curiosity, determination, but also concrete skills.

This PAS is the fourth in the series designed to help you and your business acquire the skills needed to advance with AI. This specification focuses on the requirements for AI literacy, which originate from Article 4 of the AI Act, AI Act, which came into force on February 2, 2025¹. Article 4 focuses on both providers and deployers of AI.

This specification is intended for deployers of AI, i.e., organizations that have acquired or use an AI system that they have not developed themselves nor has it been developed for their specific needs. This specification is not directed at providers or developers of AI systems.

This specification is based on guidelines from the European Commission and the Danish Agency for Digital Government for the interpretation of Article 4 (see Annex A for more details). It guides businesses and organizations to get off to a good start but does not ensure full compliance with Article 4. Implementation of Article 4 must take place internally in each organization.

AI Act, Article 4:

Providers and deployers of AI systems shall take measures to ensure, to their best extent, a sufficient level of AI literacy of their staff and other persons dealing with the operation and use of AI systems on their behalf, taking into account the technical knowledge, experience, education and training of these persons, and the context the AI systems are to be used in, and considering the persons or groups of persons on whom the AI systems are to be used.

¹ <https://eur-lex.europa.eu/legal-content/DA/TXT/?uri=CELEX:32024R1689>

1. Scope

This document describes some of the requirements for skills expected according to Article 4 of the AI Act.

The specification contains descriptions of different levels of AI literacy that are relevant for different groups of employees and other individuals involved in the procurement, operation, and use of AI systems.

The document is aimed at deployers of AI systems with a particular focus on employees as system owners, operational managers of the system, and users.

This specification maps typical skills required, both technical, ethical and practical skills for system owners, operational managers of the system, and users.

The document does not cover review of the legal requirements of the AI Act, educational materials for the education sector or specific guidelines regarding industries, including providers of AI systems.

2. Normative references

Usually, in standards "Normative references" list the documents that are referred in the document in order to understand and comply with the standard.

This specification does not contain such normative references.

3. Terms and definitions

3.1

AI system

artificial intelligence system
machine-based system that is designed to operate with varying levels of autonomy and that can 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 [SOURCE: REGULATION (EU) 2024/1689, Article 3(1), modified – removed "means a", "may" replaced by "can"].

3.2

provider

natural or legal person, public authority, agency or other body that develops an AI system or a general purpose AI model or that has an AI system or a general-purpose AI model developed and places it on the market or puts the AI system into service under its own name or trademark, whether for payment or free of charge.

Note 1 to entry: A distributor, importer, deployer or other third party can be considered a provider of an AI system in certain circumstances.

[SOURCE: REGULATION (EU) 2024/1689, Article 3(3), modified – removed "means a", note to entry.

3.3

deployer

natural or legal person, public authority, agency or other body using an AI system under its authority except where the AI system is used in the course of a personal non-professional activity. The term is defined in Article 3, paragraph 4 of the AI Act.

3.4

system owner

in principle, the system owner is the organization's top management, but in this specification, the system owner is the person or entity responsible for acquiring the system.

3.5

user

person who interacts with the AI system when deployed.

3.6

affected person

directly or indirectly adversely impacted by the AI system (3.1) when used in accordance with its intended purpose or its reasonably foreseeable misuse.

3.7

vulnerable group

set of persons who, due to socio-economic circumstances or protected characteristics, are more exposed to risk than they would be without the circumstance or characteristic
Note 1 to entry: Vulnerable groups are identified on the basis of the intended purpose and the reasonably foreseeable misuse of the AI system.

Note 2 to entry: Persons under the age of 18 are a vulnerable group.

Note 3 to entry: Persons can be in a vulnerable group when they are in socio-economic circumstances that make them dependent on the AI system's decisions for their livelihood, or entry to or ability to participate in society.
Note 4 to entry: Protected characteristics are listed in Art. 21 of the EU Charter.

Note 5 to entry: Vulnerable groups include persons who are unable take care of themselves or protect themselves against harm or exploitation, due to their protected characteristics.

Note 6 to entry: Vulnerable groups can include persons in power imbalance situations, such as lack of availability or access to individual and collective redress actions available to persons

affected, such as the right to compensation, the right to explanation and the right to contest decisions.

Note 7 to entry: Circumstances and characteristics can be temporary, for example due to life events such as changes in health status, financial distress, or transitional periods such as migration or job loss.

3.8

measures

initiatives taken and practices used to ensure that affected persons acquire the relevant skills.

3.9

intended purpose

use for which an AI system is intended by the provider, including the specific context and conditions of use, as specified in the information supplied by the provider in the instructions for use, promotional or sales materials and statements, as well as in the technical documentation

3.10

stakeholder

interested party

person, group or organization that can impact, be impacted by, or perceive itself to be impacted by a decision or activity.

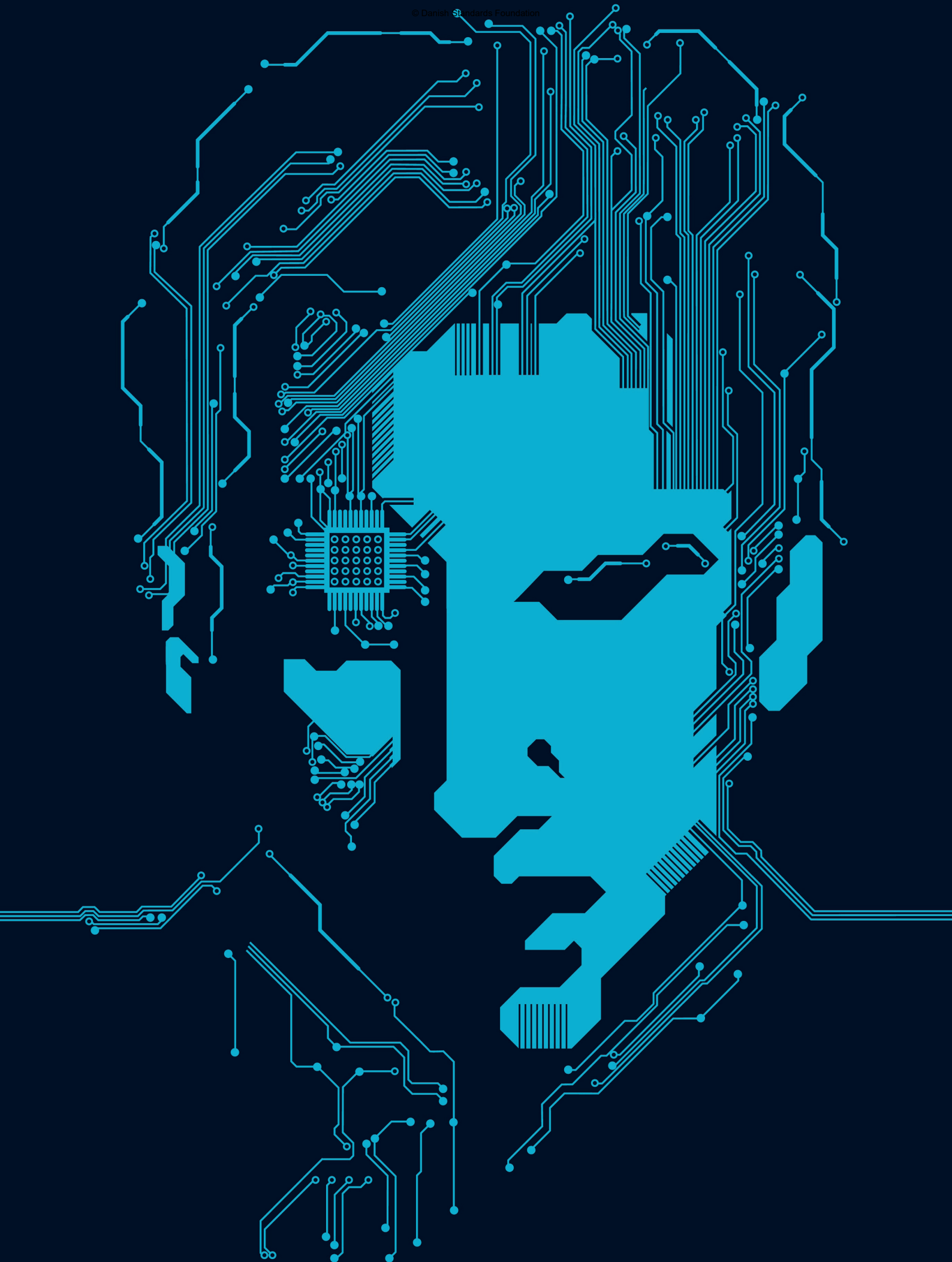
Note 1 to entry: Persons affected are a subset of stakeholders.

Note 2 to entry: Stakeholder includes relevant regulatory bodies, national public bodies, bodies that enforce the protection of fundamental rights, and market surveillance authorities.

3.11

top management

person or group of persons that leads or controls a deployer or a provider.



4. AI literacy

This publication specifically addresses AI literacy required by Article 4 of the AI Act.

Article 4 requires that the organization, whether private or public, ensures that employees have *sufficient* knowledge to deploy AI, i.e. *manage and/or use* AI.

4.1 Introduction to the concept

The necessary skills for AI literacy depend on the type of AI, the context in which the system is used, and the employee's role in relation to the use of the AI system. In other words, not all employees need to have the same level of literacy. Therefore, we distinguish four organizational roles that are typically involved in the use of an AI system, namely top management, system owner, operations staff, and user.

To achieve a sufficient level of AI literacy among the four groups, a risk assessment of the specific AI system should precede the process. If the system is classified as a high-risk AI system, higher levels of knowledge are required about safety and risks associated with the use of the system.

In addition, employees should have the relevant level of knowledge to comply with other relevant legislation, such as the EU General Data Protection Regulation, GDPR.

The preamble of the AI Act (recital no. 20) states that the adequacy of AI literacy must also be viewed in light of the AI Act's other requirements, including requirements for transparency (Article 13 of the AI Act) and human oversight (Article 14 of the AI Act). This means that the more requirements of the AI Act a given organization falls under, the more AI literacy are required. This way, the requirement for AI literacy will ensure that deployers of AI systems have the necessary competence, knowledge, and understanding to take into account their respective rights and obligations in relation to the AI Act, so that they can make an informed deployment of AI systems and be aware of the strengths and weaknesses that the use of AI systems may entail, cf. Article 3, paragraph 56.

4.2 Risk assessment

Article 3, paragraph 2, of the AI Act defines risk as follows:

the combination of the probability of an occurrence of harm and the severity of that harm

The AI Act does not define what kind of "harm" is referred to, but examples can be found in the text of the AI Act, including in the first sentence of the AI Act (recital no. 1):

The purpose of this Regulation is to improve the functioning of the internal market by laying down a uniform legal framework in particular for the development, the placing on the market, the putting into service and the use of artificial intelligence systems (AI systems) in the Union, in accordance with Union values, to promote the uptake of human centric and trustworthy artificial intelligence (AI) while ensuring a high level of protection of health, safety, fundamental rights as enshrined in the Charter of Fundamental Rights of the European Union (the 'Charter'), including democracy, the rule of law and environmental protection, to protect against the harmful effects of AI systems in the Union, and to support innovation

This means that the requirements of the AI Act for AI literacy aim, among other things, to minimize risks/harm related to:

- Health
- Safety
- Fundamental rights as defined in the EU Charter.

Particularly with the requirement to respect fundamental rights, the risk assessment in the AI Act differs from traditional risk assessments, as we know them from, for example, product safety regulations or IT security frameworks such as ISO 27001.



4.3 Technical, practical, and ethical skills

In this specification, the requirements for AI literacy are divided into technical, practical, and ethical skills. It should be understood as follows:

Technical skills concern the basic knowledge of AI, for example, understanding how the systems are developed, that the system makes a difference, which data sources are used, and how data is weighted, interpreted, and presented.

Practical skills concern the ability to use a specific system. That is, how to use the system, which tasks one may and may not solve with the system. Additionally, what precautions one should take in the context in which the system is to operate.

Ethical skills concern the understanding as to whether the use of a specific AI system has implications for people and society. Likewise, it is important that users can reflect on ethical issues in their feedback about the use of the system, for example, the level of transparency or bias.

4.4 AI literacy depending on roles and responsibilities

The level of AI literacy depends on roles and responsibilities. The appropriate level of AI literacy is determined by whether the person is the system owner responsible for the operation of the system on behalf of the organization, whether the person is an user of the system, or whether the person is a user who uses the material generated by the system. Here, the roles should be understood conceptually, i.e., the roles in your organization may be called something else, but it is important to assign responsibility.

Top management, system owner, operations staff as well as users must have the necessary basic understanding of how the AI system works, for example, what specific limitations the system has. Is there, for example, a risk of bias or "hallucination" and what would be the implications in the context in which the system operates? The basic understanding must at least be a general understanding of AI in the organization: What is AI? How does it work? How is AI used in our own organization? What are the opportunities and risks of using AI?

Possible aspects include:

- being familiar with the precautions that need to be taken when using AI
- being familiar with how to interpret the AI system's output in an appropriate manner
- understanding how decisions made with the help of AI can affect other people.

In practice, it is important to develop a common language so that people involved can better understand each other and provide qualified feedback.

System owners shall also:

- Consider the risks of putting the AI system into operation: What do users need to know when they use an AI system? What risks do they need to be aware of? Should they be aware of ways to reduce possible harmful effects?
- Initiate actions to increase AI literacy for employees that take into account:
 - differences in technical knowledge, experience, education, and training. What do users know about AI and the organization's use of AI systems? What knowledge do they lack?
 - the context in which the AI system is to be used, as well as which individuals will be affected by the system, in which sector it is to be used, and for what purpose the AI system is to be used.

5. 5-step model

There is no universal solution that ensures a sufficient level of AI literacy.

The 5-step model outlines a process that can help your organization develop a higher level of AI literacy, tailored to your specific competencies and AI systems. The model is not a complete list of requirements from Article 4, but it provides your organization with a basic structure for improving your AI literacy.

The model consists of 5 steps:

Step 1: Map needs, existing systems, roles, and responsibilities

Step 2: Set goals

Step 3: Plan skills development and test

Step 4: Implement skills development

Step 5: Evaluate

Figure 1: 5-step model



Step 1: Map needs and existing systems

Many organizations are already using AI. Here the first step is to map all AI systems in the organization as well as levels of AI literacy among individuals who directly or indirectly interact with the organization's AI systems.

Other organizations have not yet started using AI-based systems. Here the first step is to identify which needs and tasks may be better covered by an AI-based solution.

Whether it concerns AI systems that are already in use, or whether the organization is envisaging to make use of an AI system, it is necessary to understand the risks and opportunities that come with the system. It is also important to consider how responsibilities will be distributed. It is a good idea to work with specific roles and areas of responsibility, i.e., a form of framework around AI.

Suggestions for a roadmap:

- Make sure that the purpose of the AI system is well-defined, so that it is clear what the AI system will be used for, what it will not be used for, how it should be used and how it should not be used. These aspects are the system owner's responsibility.
- Make sure that all the interested parties of the AI system are identified. This includes users, affected persons and any vulnerable affected persons: What is their role, what are their interests, what do they expect of the system and what negative consequences may they face. These aspects are the system owner's responsibility.



- Make sure that the system is risk-classified according to the AI Act, so that relevant requirements in relation to the system are identified, e.g., in the case of high-risk AI systems. These aspects are the system owner's responsibility.
- Make sure that other relevant legislation is complied with, e.g., the Data Protection Act and the Working Environment Act. These aspects are the system owner's responsibility.
- Make sure that the adequate level of AI literacy is identified for the various interested parties. Consider also whether this should lead to an effort to raise the level among some of the interested parties. These aspects are the system owner's responsibility.

Suggestions for possible actions:

- Workshops may be organized for representatives from different employee groups (possibly including an occupational health and safety representative) in order to identify interests and consequences. Users can often contribute with important concrete knowledge about the problems the proposed system will solve and any unintended consequences it may have.

Step 2: Set objectives

Set objectives for AI literacy based on roles and risk levels. For each group of employees working with AI systems, review what knowledge and what tools are necessary in order to reach a sufficient level of AI literacy and to use the AI system responsibly. It is often a good idea to involve representatives from the different employee groups directly in this mapping process. You may also consider involving representatives of affected individuals, such as patient associations or school boards.

Suggestions for a roadmap:

- Develop concrete measures to manage risks if it is a high-risk system.
- Consider whether the necessary knowledge to make informed decisions is present among the employees who will use the system.
- Identify the options to provide the necessary information to individuals that will be affected by the system.
- Decide who is responsible for making sure that 1) the system works and is used, 2) that there is a sufficient degree of human oversight in the decisions made based on the system, and 3) that users are informed to an adequate extent.

Suggestions for actions:

- Use your network to seek information on similar organizations and incorporate their experiences
- Use questionnaires to identify current skills.

Step 3: Plan competence development and testing

Make a plan for how all involved employees, including top management, system owners, operational staff, and users, acquire the right skills at the relevant level. Consider whether skills of the employees and the organization's resources, such as skills development, match the skills required for using the system. If that is not the case, it may be necessary to look for another AI system or another solution.

In larger projects or in large organizations, it may be preferable to start with a pilot project where individual employees test their skills against the system. This may lead to a revision of the competence development plan.

A pilot project also has the advantage of revealing whether the system meets expectations and actually solves the problem. It also reveals whether the risk categorization is adequate, or whether sensitive personal data is being generated in the process, for example during the collection of biometric data. Finally, it reveals whether other individuals are affected by the effort, or whether extensive data collection about the work performance of each employee is taking place.

(continued on the next page)

4

Suggestions for a roadmap:

- Make a plan for the various interested parties, according to their role in relation to the system.
- Consider types and extent of training in relation to the organization's resources.
- Plan an introductory program for new employees.
- Conduct a test of the system.

Possible initiatives for competence development:

- E-learning courses for managers and employees.
- Local AI communities for sharing knowledge and challenges.
- Videos, brochures, and podcasts to ensure inclusion in training.
- Bootcamps, seminars, or workshops.
- Game-based learning for system-specific training.
- Peer training or mentoring programs, where experienced employees guide colleagues.
- Career counseling that finds the right level of digital skills for the individual.

Step 4: Implement competence development

It is well known that culture eats strategy for breakfast. It is therefore important that an effort to increase the level of employee skills is accompanied by an understanding of why this is important. A shared strategy in the organization can help maintain focus on competence development. Consider raising awareness through training that explores ethical, technical, and legal aspects of AI systems. Consider offering specialized training to employees who are active users of AI systems. Follow the developments and define responsibilities for the specific roles.

Suggestions for a roadmap:

- Make training and awareness a part of the organizational strategy
- Ensure the necessary transparency about the use of AI
- Integrate requirements from relevant legislation for high-risk AI systems
- Set specific goals for when you have reached the planned level.

Suggestions for actions:

- Develop a data ethics policy that ensures employee involvement and transparency in the use of AI
- Consider developing an AI governance framework that ensures allocation of responsibilities and roles in the organization.

5

Step 5: Evaluate

Conduct regular reviews of whether objectives have been met. Follow up on whether objectives for increased skills have been met among the various employees. Also, follow up on whether the AI systems make tasks easier or faster, as expected, and whether the right risk level was anticipated. Based on the results, organizations can specify new objectives and develop measures to raise and maintain the level of AI literacy. The results can also be a basis for making changes to the systems if they are not adequate.

AI literacy are not an end goal but a constant process. The development and application of AI is rapid, creating new opportunities and risks that may not yet be known.

Suggestions for a roadmap:

- Conduct periodic reviews of implementation and achievement of objectives
- Assess if the risk level is maintained
- Make changes in competence development or in AI systems as experience shows what works.

Suggestions for actions:

- Regular reports
- Internal or external audits
- Baseline reviews
- Emails, newsletters, written information about necessary updates and maintenance of skills
- Videos, brochures, and podcasts to ensure optimal dissemination
- Local AI communities with ongoing meetings
- Feedback loops via surveys on training needs

6. Recommended skills for different roles in the organization

When acquiring an AI system

	Technical skills	Management/ practical skills	Ethical skills
Top management	There are no specific requirements for top management's skills in the AI Act, but it would be beneficial if top management, like the rest of the organization, has a basic understanding of what AI is and of the consequences of implementing AI systems in the organization.	Top management should understand the organizational changes and the economic consequences that the introduction of AI systems in the workplace can entail. Top management should be able to allocate the necessary resources for upgrading of AI literacy.	Top management should understand what data ethical and occupational health and safety-related consequences the introduction of AI systems can entail.
System owner (The system owner has an appropriate mandate to make decisions on behalf of the organization regarding the acquisition of an AI system to fulfill a specific purpose. The system owner knows the organization's business area and relevant legislation in the field).	Must understand the purpose of the AI system and the risks associated with the acquisition of the system. Must have an overview of existing and upcoming AI systems within a specific business area, so that the new AI system can function with other systems it needs to interact with, or that are used in related processes.	Is responsible for defining and initiating a roadmap. Set specific goals for AI systems and the necessary skills. Qualify an implementation plan for the system, where assessment of risks and implementation of the system are carried out proportional to the system's risk level.	Assess whether the system has an acceptable level of data protection. Assess whether the system has an acceptable energy consumption as to possible alternatives. Assess whether there may be issues regarding copyright. Assess impact on occupational health and safety, cf. legislation.

(table continues on the next page)

System owner (continued)		Assess the need for human intervention, e.g. in relation to AI-driven decisions and automated decisions. Define the expected level of risk and errors. Decide on the distribution of responsibilities. Assess whether the system's level of risk and errors is acceptable in relation to the specific context and applicable legislation in the area.	
Employees responsible for system operation and maintenance Employees responsible for system operation must be expected to be IT professionals	Operate the system on behalf of the organization, including access, roles and rights, monitoring and alarms, system maintenance, integration with other solutions and systems, etc. Assess whether the system is the right tool for the task. Assess the tool according to certification requirements etc.		Assess whether the system has the right level of information security in relation to the organization's other context, policies, certifications, and existing technical and organizational measures.
User (The user operates in his/her area of expertise and knows what challenges and needs the organization faces. The user is expected to change his/her working method).		The user should be involved early regarding needs and expectations related to the AI system that is to be implemented.	

Table 1: Recommended skills when acquiring an AI system

When using an AI-system

	Technical skills	Management/ practical skills	Ethical skills
System owner	Must understand the purpose of the AI system and the risks associated with the acquisition of the system.	Must be able to identify and define the necessary skills of employees to use the system. Must be able to define acceptable error level/risk for the system and for the employee. Define objectives/ deadlines for improving employee skills.	Understand which employees are affected by the system, and what consequences it has for them and their occupational health and safety. Be able to develop an AI policy that ensures employee involvement and transparency in the use of AI. Be able to establish which individuals are affected by the system and whether the consequences are acceptable.
Employees responsible for system operation and maintenance	Should be able to define objectives for evaluation. Should be able to solve immediate problems and possibly adjust the systems after test.		
User	Should have basic knowledge of AI, including knowledge of limitations/risk of bias of the specific system. Should be able to assess the quality of output, e.g. in relation to a decision or support for a decision.	Be able to provide feedback when there is a need for system improvements. Be able to assess consequences for individuals affected by the AI system.	Be aware of his/her responsibility in relation to human oversight. Understand the basic data ethical/legal requirements for the specific system.

Table 2: Recommended skills when using an AI system

When evaluating an AI system

	Technical skills	Management/practical skills	Ethical skills
Top management		Be able to make decisions about changes or possible discontinuation of the system. Be able to add any additional necessary resources for upskilling.	
System owner	Periodically be able to assess whether objectives are met/ task solved. Assess whether risk level was correct, and possibly adjust.	Assess any efficiency improvements, including resource consumption vs. results. Adjust competence development. Identify macro trends relevant to the organization. Ensure bottom-up reporting of specific needs. Implement follow-up updates and upskilling.	Assess any negative consequences for users and affected individuals.
Responsible for operation and maintenance	Follow-up on fatal errors/security breaches. Be able to make changes to the AI systems as experience shows what is ineffective. Propose alternatives.		
User	Define any deficiencies in the system.	Account for lack of own competences.	Account for changes in the work environment. Identify problematic consequences for affected individuals.

Table 3: Recommended skills when evaluating an AI system

7. Cases

7.1 Case 1: A Danish trade union

A Danish trade union is implementing an AI system used for providing advice to members. The idea is that members can quickly get answers to many standard inquiries, allowing more effort to be put into developing offers to member.

Roadmap:

Step 1: Mapping of needs, existing systems, roles, and responsibilities

An increasing number of members has given rise to a need to service members without taking time away from the development of new offers to members, and without needing to hire a larger number of new employees. A system has been found that can function with the other relevant systems. A steering group has been established, consisting of two directors, relevant department heads, and middle managers. The responsibility for the implementation and operation of the system is shared between the relevant middle managers. The implementation of the system is expected to lead to new roles among the employees. In this phase, workshops on specific topics have been held.

Step 3: Plan competence development and testing

The competence development consists of targeted training based on an already existing effort for improved AI literacy.

The existing effort is the introduction of Copilot, which is a generative AI system. This effort consists of an e-learning module aimed at all employees focusing on basic knowledge about AI, including the risk of hallucinations and the responsibility of employees to check if the result is correct. Additionally, a security element to ensure that sensitive data does not leave the organization, a data ethics code, and a Q&A. This basic course is supplemented by a full-day course for users of the extended license.

Step 2: Define objectives

An overall objective has been formulated: To achieve membership growth without (too many) additional hires and to free up time in the department for the development of new services for the members.

In formulating the objective, it was important to ensure that it was not perceived as an effort aimed at dismissing employees, but rather to focus on handling standard inquiries and providing quick answers to simple questions. There is also a focus on making it visible to members where AI is used in counseling. This is not about high-risk AI, but it is ensured that the system does not have access to the member database.

The targeted training includes the employees who will use the system and focuses on specific challenges, e.g. that the system will lead to new tasks for employees who need to keep their "new colleague" updated with relevant information and updates.

Things "we say to each other" must now also be included in the system, and how do you do that. Emphasis is also put on the risk of incorrect answers and hallucinations.

Ambassadors who are proficient in the system and can act as mentors will be trained. It is considered whether a seminar would be relevant.

Step 4: Implement competence development

The specific initiatives must contribute to the ongoing development of AI literacy. This includes, e.g., ongoing AI tips on how to use Copilot, which everyone has access to. Part of the purpose of the ongoing advice is to ensure that the systems are also used in practice and that AI is seen as 'part of our daily work routine'.

Transparency should be assured as to where AI makes decisions that affect employees, e.g., the distribution of minor administrative tasks.

Step 5: Evaluation

Periodic tests of the system must be carried out every 6 or 12 months once it is operational, as elements of the system are likely to be replaced or updated.

There will be an evaluation of member satisfaction with the system as well as employee evaluation of the system.



7.2 Case 2: A Danish telecom company

A Danish telecom company has implemented an AI system designed to help employees use AI without data being exposed in public AI tools exposed in public AI tools.

Roadmap:

Step 1: Mapping of needs, existing systems, roles, and responsibilities

According to an internal analysis, many employees use public AI tools to assist them in their daily work. To ensure that all information and data from the organization stay within the organization, the relevant departments have developed and implemented an internal AI solution based on the OpenAI model, which is a generative AI system, so all functions can be used without the data being disclosed to others.

Step 2: Define objectives

The solution is intended as a support tool that can also optimize employee workflows. The relevant departments focusing on data, AI, and information security have together set the objective of developing workflows while securing the data, so that an employee does not inadvertently share information that should not leave the organization.

Step 3: Plan competence development and testing

The competence development/training of employees consists of ongoing teaching, demonstrations of the solution at joint meetings and on the intranet, as well as training videos on an internal training site. Selected employees are also trained to build virtual assistants for their respective areas. The assistants are to help upload data and documents that fit a specific department. There is ongoing testing of responses from the assistants, knowledge is added, and information is elaborated to get as accurate and relevant answers as possible.

Step 4: Implement competence development

Initially, the AI solution and competence development are tested in a single department to catch any issues before rolling it out to the entire organization.

The implementation of the AI solution takes place one step at a time. There are ongoing information campaigns to ensure that everyone is familiar with the tool.

Step 5: Evaluation

Periodic tests of the tool must be carried out to ensure that no unwanted data is unintentionally generated. Additionally, users provide ongoing feedback if they experience that the information is not correct or can be misunderstood.

Annex A

(Informative)

Definition of an AI system

According to Article 3 of the AI Act, 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 is originally based on a definition by the OECD from November 2023. The OECD has updated their definition to also describe the lifecycle of AI systems. The lifecycle phases of an AI system include:

- I. *design, data, and models; which is a context-dependent sequence that includes planning and design, data collection and processing, as well as model building*
- II. *verification and validation*
- III. *implementation*
- IV. *operation and monitoring.*

These phases often occur in an iterative manner and are not necessarily sequential. The decision to take an AI system out of operation may occur at any time during the operation and monitoring phase.

For a more detailed elaboration of content and delimitation of the concept, see the EU Commission's detailed guidance on the subject².

² The Commission publishes guidelines on AI system definition to facilitate the application of the first AI Act's rules | Shaping Europe's digital future: <https://digital-strategy.ec.europa.eu/en/library/commission-publishes-guidelines-ai-system-definition-facilitate-first-ai-acts-rules-application>

B

Annex B

(Informative)

Q&A on Article 4 of the AI Act

The European Commission's recommendations for understanding Article 4 of the AI Act.

AI Literacy – Excerpt from EU Commission's Questions & Answer³

What is AI literacy for article 4 of the AI Act?

The definition is based on Article 3 (56) of the AI Act, which states: 'AI literacy' means skills, knowledge and understanding that allow providers, deployers and affected persons, taking into account their respective rights and obligations in the context of this Regulation, to make an informed deployment of AI systems, as well as to gain awareness about the opportunities and risks of AI and possible harm it can cause.

Which target group is in scope of article 4 of the AI Act? Who are 'other persons'?

Article 4 of the AI Act is a key provision to ensuring that all providers and deployers of AI systems equip their staff with the right skills, knowledge and understanding of the system(s) provided or deployed. This concerns anyone in the organization directly dealing with an AI system and reinforces the provisions of transparency (Article 13 of the AI Act) and human oversight (Article 14 of the AI Act) included in the Regulation. At the same time, Article 4 indirectly contributes to the protection of affected persons, because it ensures an effective application of the AI Act rules. Persons dealing with the operation and use of AI systems on behalf of providers/deployers means that these are not employees, but persons broadly under the organizational remit. It could be, for example, a contractor, a service provider, a client.

Is there effectively an actual obligation to measure the level of the knowledge of employees?

Article 4 of the AI Act does not entail an obligation to measure the knowledge of AI of employees. Yet, it affirms that AI providers and deployers should ensure a sufficient level of AI literacy taking into account the technical knowledge, experience, education and training of employees.

³ <https://digital-strategy.ec.europa.eu/en/faqs/ai-literacy-questions-answers>

Compliance with Article 4: What should be the minimum content to consider for an AI literacy programme complying with article 4 of the AI Act?

The AI Office will not impose strict requirements regarding Article 4 of the AI Act and its “sufficient level of AI literacy”. On the contrary, it considers necessary a certain degree of flexibility, considering the broad topic of AI literacy and the fast-evolving technology that AI is. Yet, as a minimum, to comply with Article 4 of the AI Act, providers and deployers of AI systems should:

- a. Ensure a general understanding of AI within their organization: What is AI? How does it work? What AI is used in our organization? What are its opportunities and dangers?
- b. Consider the role of their organization (provider or deployer of AI systems): Is my organization developing AI systems or just using AI systems developed by another organization?
- c. Consider the risk of the AI systems provided or deployed: What do employees need to know when dealing with such AI system? What are the risks they need to be aware of and do they need to be aware of mitigation?
- d. Concretely build their AI literacy actions on the preceding analysis, considering differences in technical knowledge, experience, education and training of the staff and other persons, including 1) how much the employees/persons know about AI and the organization’s systems they use, 2) what else they should know, taking into account the context the AI systems are to be used in, 3) their knowledge of the persons on whom the AI systems are to be used, as well as 4) which sector and for which purpose/service the AI system is being used.

Considerations a, b, c, and d include legal and ethical aspects. Therefore, connections to the EU AI Act (i.e., understanding of the AI Act) and to principles of ethics and governance are encouraged.

Do we have a risk-based approach on following the AI Literacy requirements of article 4 of the AI Act?

Organizations should tailor their strategy for AI literacy to their specific context. If the organization’s AI systems are high-risk AI systems, according to Chapter III of the AI Act, additional measures may be relevant to ensure that employees are aware of how to handle the given AI systems and avoid and/or mitigate their risks.

Is an AI training mandatory for article 4 of the AI Act or are other AI literacy initiatives also allowed?

In many cases, simply relying on the AI systems’ instructions for use or asking the staff to read them might be ineffective and insufficient. Article 4 of the AI Act is intended to provide trainings and guidance as most appropriate on the basis of each target group’s level and type of knowledge, as well as given the context and purpose of the AI systems used in the organization.

What should be the format of a mandatory AI training in companies?

There is no one-size-fits-all when it comes to AI literacy, and the AI Office does not intend to impose strict requirements or mandatory trainings. The requirements for a training depend on the concrete context.

When it comes to compliance with article 4 of the AI Act, are there requirements for specific industries, including financial services and healthcare?

No, the AI Office does not impose requirements for specific sectors. Yet, the context – including the sector and the purpose – in which AI systems are provided/deployed should be taken into account when developing an AI literacy initiative. Moreover, the level of risk of AI systems should be considered.

AI literacy extends to other persons acting on deployer's behalf: should any service provider using AI have a contractual obligation to demonstrate AI literacy?

This depends on the concrete type of AI system and risk. In general, people working for a service provider or contractor need to have the appropriate AI literacy to fulfil the task in question (same as the employees).

Does a company, whose employees are using ChatGPT for, e.g., writing advertisement text or translating text, need to comply with the AI literacy requirement of Article 4 of the AI Act?

Yes, they should be informed about the specific risks, for example hallucination.

Can we consider people with a degree/experience in AI development as AI literate (in the context of article 4 of the AI Act) without taking any further action?

Normally yes, but it depends on the AI tool in question and their specific qualification. This is particularly relevant in view of the speed of the technological developments.

The organization should ask itself: Do these technical employees know what needs to be known about the AI systems of the organization and how to deal with them? Are they aware of all risks and how to avoid/mitigate them? Moreover, the organization should consider what else these employees might need to know; e.g., legal and ethical aspects of AI

Are AI literacy training concepts allowed to differentiate between different levels of detail?

Yes, Given the difference between AI systems and that the level of knowledge and experience, as well as the type of education and training received, might vary, having different levels of training or learning approaches can be appropriate.

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DS PAS 2500-3: 2023: <https://www.ds.dk/da/download/ds-pas-2500-3-2023?srsId=AfmBOoo9Cj0w53oZS6T44zNqM5aylVm0fol3jh7POJjtI5te6dA5sbe9>

The EU's AI office has gathered a number of examples of companies training in AI literacy: <https://digital-strategy.ec.europa.eu/en/library/living-repository-foster-learning-and-exchange-ai-literacy>

The EU's AI office has compiled a Q&A regarding AI literacy: <https://digital-strategy.ec.europa.eu/en/faqs/ai-literacy-questions-answers>

The EU's page on the AI Act: <https://artificialintelligenceact.eu/#>

REGULATION (EU) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on artificial intelligence
<https://eur-lex.europa.eu/legal-content/DA/TXT/?uri=CELEX:32024R1689>.