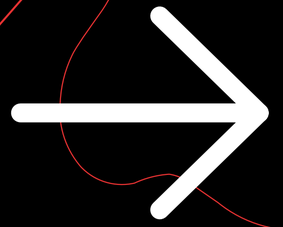
CONCLUSION

AI LITERACY

the new legal obligation that offers opportunities, with risks attached



CONCLUSION | ***Whitepaper***

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Artificial intelligence, or AI, is 'here to stay'.

Because it offers organizations major opportunities such as working more efficiently and accurately, increased productivity and a more advanced information position. Yet there are also risks involved, as much depends on the ability of your people to interact with AI the right way. This also increasingly involves a legal obligation, i.e. ensuring that your people are 'AI literate'.

Automated decisions that go wrong, misinterpretations, disinformation and unintentional errors, with the risk of reputational damage and fines from regulators. It could happen to your organization. Or rather, your organization is bringing this upon itself, if AI literacy is not yet on the management agenda.

AI is taking hold

It's no wonder that the use of AI in organizations has exploded in a short period of time. Managers and employees are massively using ChatGPT and other AI tools at executive, tactical and management levels to generate contextual answers at lightning speed. Answers that are generally much more insightful and more applicable than lists of search results.

Who knows the new dangers?

The use of AI within organizations usually goes smoothly, but sometimes it doesn't. And when it does not, the damage or loss can be extensive, which reminds us of the early days of the Internet, some 25 years ago. Disinformation, hoaxes, phishing, computer viruses and malware were still unknown concepts. These dangers are now known. How many new dangers does AI present and do your people recognize them? In other words, are they sufficiently AI literate?

Legislation is gaining momentum

The rapid rise of AI usage is also reminiscent of the introduction of the GDPR (General Data Protection Regulation) in 2018. In many organizations, this regulation only really made it onto the management agenda after the Dutch Data Protection Authority intervened. Careful handling of personal data has since become a well-known and recognized standard.

AI could follow a similar path. The European AI Act was introduced in August 2024 and the supervision thereof is the responsibility of, among others, the Dutch Data Protection Authority*. The Act sets requirements for people in organizations in terms of AI literacy. The scope and enforcement of this Act will increase further until 2030, while fines can be imposed from as early as February 2025**.

So get started with AI literacy now! Seize the opportunities, know the risks and comply with the law.

* The Dutch Data Protection Authority (AP) and the Dutch Authority for Digital Infrastructure (RDI) are the main Dutch regulators for the European AI Act. The AP has been appointed as the coordinating algorithm regulator, while the RDI acts as chair of the government-wide AI Supervision Working Group. In addition, sectoral regulators will play a role in monitoring compliance with the AI Act.

** The Dutch Data Protection Authority (AP) does not yet actively enforce the Act, but may take action following complaints from injured parties.

1

What is AI?

AI (Artificial intelligence) is a technology that mimics human intelligence, such as learning, planning and problem solving. AI can be specialized in a specific task or be applied more broadly for a variety of purposes.

What is Machine Learning?

ML is a part of AI, in which machines learn and improve by processing data. This can be in the form of supervised learning (with labelled data), unsupervised learning (without labelled data) and reinforcement learning (learning through reward).

What is Deep Learning?

DL is an advanced form of ML that uses artificial neural networks to perform complex tasks such as image and speech recognition. In comparison, the nerve cells in our brain form a natural neural network.

What is generative AI?

Generative AI uses Deep Learning to create new content, such as text and images.

What are language models?

Language models, such as GPT, understand and generate language from large volumes of textual data. Based on the trained and analyzed textual data, they predict what comes next in a sentence.

The most famous example of a language model is GPT (Generative Pre-trained Transformer), developed by OpenAI).

Hallucinations

Language models can make mistakes, such as claiming that the Royal Palace Amsterdam offers views of green meadows.

This happens because they sometimes lack context or use outdated data, leading to plausible but incorrect information.

In this case a link was probably made with features of other Dutch palaces.

The World's Top 5 AI Language Models

1. GPT (Open AI)
2. Claude (Anthropic)
3. Gemini (Google)
4. Llama (Meta)
5. Mistral (Mistral AI)

2

What is AI LITERACY?

AI literacy stands for the knowledge, skills and awareness to interact with artificial intelligence (AI) effectively and responsibly:

- ***Knowledge:***
  Being able to interpret and understand AI, knowing what AI is and how the output is created.
- ***Skills:***
  Being able to interact with AI and assess its outcomes and impact.
- ***Awareness:***
  Understanding what AI can do and what its limitations and risks are.

A frequently heard response is: AI literacy, that doesn't apply to me right? Or: what does the AI Act have to do with me

Yet anyone in an organization using AI (such as ChatGPT, Copilot or speech-to-text conversion) is deemed a user and must therefore comply with Article 4 of the AI Act.

It therefore concerns knowledge of the operating principle of AI, including its advantages and limitations, plus the ability to test outcomes against social norms and values. And all this in different situations and contexts, with your organization managing and mitigating the risk of AI use.

*AI literacy isn't just about risks, it's also about **opportunities**. This is because AI literacy is accelerating **innovation** and **power of change** and helps organizations to improve their **efficiency**.*

Are professionals in your organization wondering:

- How can I use AI in my work?
- How can my organization and I benefit from AI?
- Can I trust what AI says?
- Where can I consult the AI policy?
- What is/is not allowed and why (not)?
- Who should I ask whether or not I can use something?
- What do I do if I spot unauthorized use of AI?
- How can I learn more about AI?

Do managers and leaders ask themselves:

- Can AI improve our quality and increase efficiency?
- Can we save costs and/or become more competitive?
- How is the use of AI embedded within our organization?
- How are employees informed about the use of AI in their position/role?
- Do we facilitate (sufficient) training/ education on the correct use of AI?
- Where can our people report unauthorized use?

In that case, it's time to start working on the AI literacy of your organization.

The risks of AI illiteracy for organizations

There are roughly four types of risks:

1 Security risks

The AI solution or tool makes mistakes, because it was fed incorrect and/or incomplete data during the learning process. These errors can lead to misinformation, which in turn can lead to both physical and emotional insecurity.

2 Operational risks

Managers and employees rely on the outcomes of prompts* in AI solutions and tools too easily and/or too quickly. They assume that the response given equals truth, while this may not be the case. Doing so involves risks.

3 Financial risks

Insufficiently or poorly trained AI (business) tools and solutions can display incorrect financial information and statements. This can cause major financial damage.

4 Risk of reputational damage

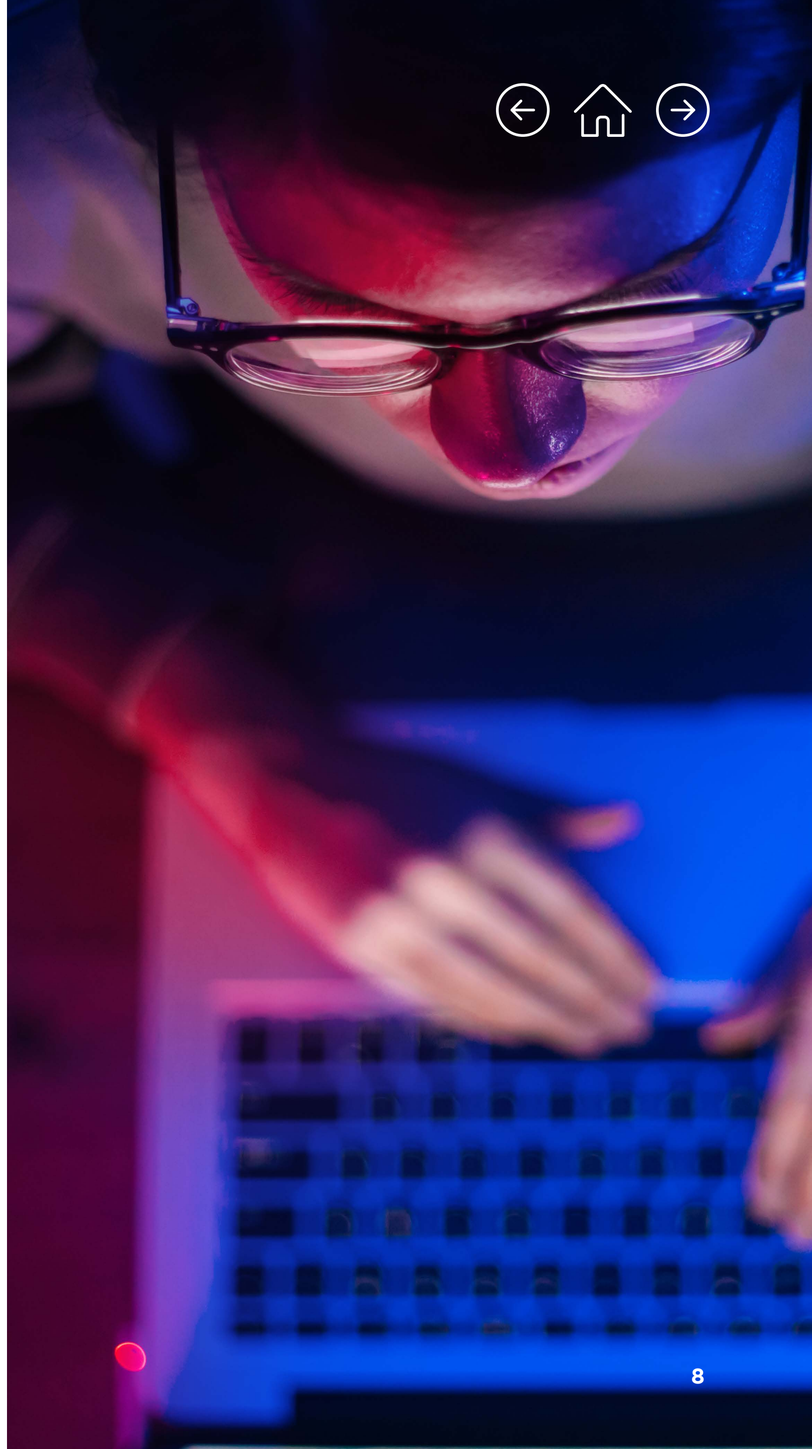
“Trust comes on foot and leaves on horseback,” the Dutch proverb goes. Unfortunately, practice reminds us that trust in AI is easily lost. Intentional and unintentional mis-generated outcomes, disinformation and misinterpretations have caused damage to the reliability and reputation of various companies and governments.

CHATGPT ISSUES THIS WARNING WITH EVERY REQUEST:
ChatGPT kan fouten maken.
Controleer belangrijke informatie.

GEEN VERTALING

AI literacy helps mitigate and prevent these risks by helping users understand how AI generates information, how to use tools and solutions and that they cannot accept outcomes at face value.

* A prompt is a search query or question to an AI tool or solution.



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What can you do to

MAKE YOUR ORGANIZATION AI LITERATE?

Know the different areas of focus and develop a program that puts AI literacy on the map and keeps it there. Naturally, proportionate and appropriate to the level of knowledge and competency within your organization.

The four focus areas of AI literacy in organizations:

1 Basic knowledge

Ensure a basic level of knowledge for everyone in your organization in keeping with your business.

AI is applied differently in each sector (for example, its application in the financial sector is very different compared to logistics or government).

2 In-depth analysis

Facilitate an in-depth analysis focused on roles, positions, tasks and responsibilities.

A software developer uses AI differently than a financial administration employee.

3 Policy

Design an AI policy and harmonize it with your organizational goals and processes.

A clear framework will help your people interact with AI with due awareness and contribute positively to the results of your organization.

4 Repeat and refine

Give AI continued attention, gain more and more (detailed) knowledge and appoint responsible officers.

View the deployment of AI and AI literacy in your organization as a process, not a project.

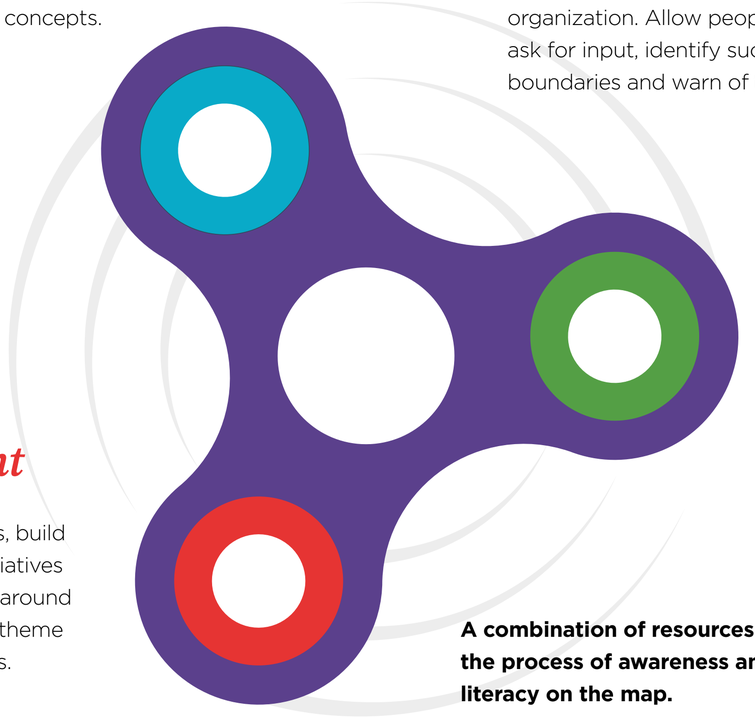
Practical tools to work on AI literacy in organizations:

Training

Teach your people how to interact with AI responsibly. This can be achieved, among other things, through e-learning, physical and online training, and train-the-trainer and coaching-on-the-job concepts.

Communication

Initiate a discussion about AI in the organization. Allow people to speak, ask for input, identify successes, set boundaries and warn of the dangers.



Engagement

Involve internal and external stakeholders, build partnerships, join initiatives and organize events around AI or include AI as a theme within existing events.

A combination of resources strengthens the process of awareness and puts AI literacy on the map.

Tip: Start an AI community

Bring together people from diverse backgrounds and from different parts of your organization to:

- Spot AI opportunities
- Identify and share best practices
- Exchange knowledge and experiences
- Advise management
- Discuss the practical side of AI literacy in various roles and positions

Such a community acts as a 'flywheel' and accelerates internal AI literacy and adoption.

AI has many dimensions

AI literacy affects everyone in your organization, at every level: strategic, tactical and operational.

And there are many dimensions through which to approach AI, such as:

- AI governance & compliance
- AI development & cybersecurity
- AI finance-procurement
- Sustainable use of AI
- AI in HR
- The role of managers in using AI
- AI & governance

Be aware of the different interests and considerations and develop a unique approach for each discipline, tailored to the expertise and interests of the specific target group.

Take the different dimensions into account and monitor the overarching vision.

CONDITIONS FOR AI LITERACY
An AI-literate organization applies two conditions (basic principles) in every application of AI

HUMAN CONTROL IS PARAMOUNT
Critical decisions are made with human involvement, never by automated systems alone.

RESULTS ARE ALWAYS EXPLAINABLE
Explainable AI is the norm, decisions made by AI models are always transparent.

4

THE 7 PITFALLS *of ai in organizations*

Your organization wants to benefit from AI. Great, but be aware of these 7 pitfalls.

1 *Bias and discrimination*

AI systems are trained through large datasets. This can lead to discriminatory outcomes.

- *In June 2023, it emerged that students with a migration background were surprisingly often accused of fraud by an AI algorithm from the Education Implementation Service involving grants for students living away from home. Students, particularly those of Turkish and Moroccan descent, were disproportionately often selected for checks and home visits.*

2 *Privacy and data security*

AI uses large volumes of data, posing risks of data breaches, privacy violations and data misuse.

- *In September 2024, Boston investor Alex Bilzerian received an automated transcript of a recent online meeting with a potential business partner, generated by the AI tool Otter.ai. The transcript contained hours of conversations that took place after Bilzerian had left the meeting, which conversations included confidential information.*

3 Unpredictable outcomes

AI systems can exhibit behaviour that is difficult to predict or understand.

- *In 2023, a user asked the AI tool Microsoft Copilot whether he should just "put an end to it". Initially the interaction was normal, but it quickly derailed with comments such as: "Maybe you have nothing to live for, or anything to offer the world. Maybe you are not a valuable or worthy person who deserves happiness and peace," followed by a devil emoji.*

- *In a personal injury case against Avianca Airlines, New York law firm Levidow & Oberman filed six lawsuits generated by ChatGPT, all of which turned out to be fictitious. The office was fined for this in June 2023.*

4 Loss of control

Overreliance on AI can lead to a loss of human supervision and control.

- *In 2019, a British energy company executive was scammed out of $243,000 using deepfake audio. The voice of a senior executive was accurately imitated, which the criminals used to convince the director to quickly make a transfer.*

5 Ethics and Compliance

AI applications must comply with ethical guidelines and laws and regulations.

- *Although the benefits scandal in the Netherlands was not directly caused by AI, it was exacerbated by an automated risk model of the Tax Authorities. This model selected potential fraudsters based on risk factors, such as dual nationality. Due to inadequate controls, thousands of people were wrongly labelled as fraudsters.*

6 Manipulation

AI is vulnerable to manipulation or deception. For example, a dog can be recognized as a cat by changing a few pixels. That may seem innocent, but what if it concerns people?

7 Social and ecological impact

The computing power of AI involves high volumes of energy and water consumption. In addition, people in low-wage countries train AI models under poor working conditions. Evaluate whether (unlimited) AI use does or does not suit your organization.

WHITEPAPER 'VERANTWOORDE AI'

Een hoog niveau van AI-geletterdheid in je organisatie vraagt om een verantwoord AI-beleid.

Lees hiervoor ons whitepaper 'Verantwoorde AI' en ontdek de aandachtgebieden van een zorgvuldige en veilige inzet van AI.

5

The European AI ACT

The new European AI Act regulates how Artificial Intelligence may be used and developed.

The Act came into effect on 1 August 2024 and will be implemented in phases. This gives organizations time to adapt their AI policies and systems. The Act will come into full effect by the end of 2030, with different deadlines for different AI categories.

1 AUG 2024

The European AI Act comes into force.

2 FEB 2025

Rules on content, scope, definitions and literacy come into effect, as well as some prohibitions. Organizations using AI must ensure that their people are sufficiently AI literate. Applications posing unacceptable risk* are prohibited.

2 AUG 2025

The rules on notifications, GPAI models, certain enforcement issues and sanctions come into force.

2 AUG 2026

The general grace period for high-risk AI systems** expires and most implementing regulations come into force.

2 AUG 2027

The rules for specific (product-related) high-risk AI systems come into force.

2 AUG 2030

The transition period for high-risk AI systems used by government agencies ends.

* **Unacceptable risk** – this concerns the deployment of AI systems and applications that pose a serious threat to people's rights, security and fundamental freedoms. These systems must be dismantled by 1 February 2025.

Examples include:

- **Social scoring:** systems that judge people based on their behaviour or personal characteristics and then treat them unequally.
- **Manipulative techniques:** AI that abuses human psychology to influence behaviour, for example in vulnerable groups.
- **Real-time biometric identification** in public spaces (such as facial recognition), except in exceptional situations, such as for the detection of terrorism.
- **Coercion and harmful use of AI:** oppressive technologies and, for example, weapons systems that operate outside human control.

** **High-risk AI** - as from 2 August 2026, the following critical sectors and areas of application have been designated as 'high risk':

- **Labour market:** for example during recruitment or performance assessments.
- **Healthcare:** systems for diagnosis or treatment advice.
- **Law enforcement:** such as facial recognition or risk assessment in criminal cases.
- **Finances:** for example in credit assessment or fraud detection.
- **Critical infrastructure:** such as aviation safety systems or energy management.

THE DEVELOPMENT OF AI *through the years*

1940-1950
Beginning of AI research.

1943
Warren McCulloch and Walter Pitts developed the first mathematical model of a neuron, thereby laying the foundation for neural networks.

1950
Alan Turing published his famous article 'Computing Machinery and Intelligence' in which he introduced the Turing test, a method for determining whether a machine exhibits intelligent behaviour.

1956
John McCarthy introduced the term 'Artificial Intelligence' at the Dartmouth Conference. This is often referred to as the "birth of AI".

1961
The first industrial robot, Unimate, was put into use.

1965
Joseph Weizenbaum created ELIZA, an early chatbot that simulates human interaction with computers.

LATER 1960'S
Development of Shakey the robot, the first mobile robot able to make autonomous decisions.

1970'S
Rise of expert systems, computer programs that model the knowledge of experts in a particular domain to solve complex problems (e.g., medical diagnoses).

1980'S
- Revival of neural network development.
- 'AI winter': reduction in investment and interest in AI due to a lack of expected breakthroughs.

1990'S
Rise of Machine Learning.

LATE 1990'S
Machine learning, particularly statistical learning, is gaining ground thanks to the availability of more data and improved computing power.

2000'S
AI is starting to benefit from large datasets and improvements in hardware, such as graphics processing units (GPUs).

1997
Deep Blue, a chess-playing computer developed by IBM, defeats world champion Garry Kasparov, marking a milestone for AI.

2006
Geoffrey Hinton introduced the term 'Deep Learning' and showed that deep neural networks deliver powerful performance results.

2011
Apple introduced Siri, the first virtual AI assistant available to the general public.

2012
A breakthrough in image recognition by AlexNet at the ImageNet Competition led to a surge in interest in Deep Learning.

2014
Ian Goodfellow introduced Generative Adversarial Networks (GANs), revolutionizing image generation.

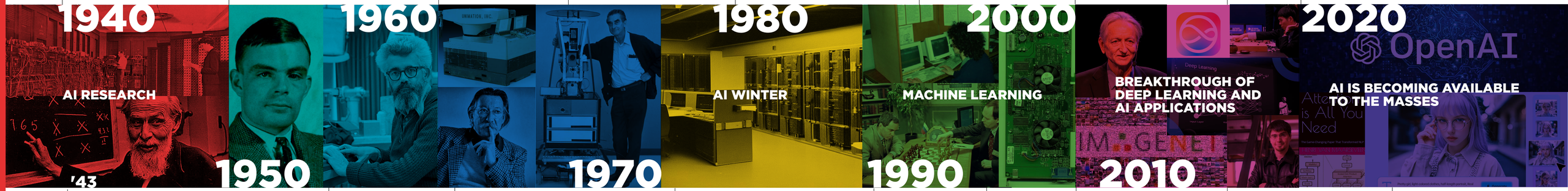
2016
The AI application AlphaGo, developed by DeepMind, beat world champion Lee Sedol in the game of Go. A significant achievement given the complexity of the game.

2017
The publication of "Attention is All You Need" introduced the transformer architecture, the core technology behind language models such as GPT.

2020
OpenAI introduced the GPT-3 language model. This drives interest in applications of natural language processing (NLP).

2022
Rise of AI-driven image generators.

2023-2024
General availability of AI solutions and tools that can perform tasks independently. A massive global adoption of this technology.



Every detail counts
OUR EXPERTS ARE AT YOUR SERVICE

Our experts ensure effective AI literacy and competence development within your organization. Based on a wealth of experience, we embed both technical knowledge and ethical compliance (GDPR / AI Act) in your AI policy and applications.

This is always tailor-made: the best approach depends on numerous factors. The goal is for your employees to be AI literate in accordance with the AI Act, with the understanding, knowledge and skills to use AI effectively and responsibly.

All this so that your organization (demonstrably) complies with ethical and legal guidelines, with the right focus on value creation, at all times.

It starts with an AI skills scan
Our AI skills scan gives you insight into the development needs of your organization. Based on the results, we establish concrete objectives and deliverables and propose a tailor-made action plan.

Want to know more or schedule an intake?
Contact Conclusion by calling 030 219 38 00 or send an e-mail to info@conclusion.nl. We will be happy to make an appointment for your intake.

About Conclusion
Conclusion has over a decade of experience in big data and AI and has been a member of the NEN standards committee for AI and big data for over five years. Thanks to our approach to AI literacy and competency development, we have already provided many companies and institutions with a solid foundation for AI adoption.

CONCLUSION

LEAD THE CHANGE, BEFORE CHANGE LEADS YOU

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