



THREATS AND  
OPPORTUNITIES  
OF AI

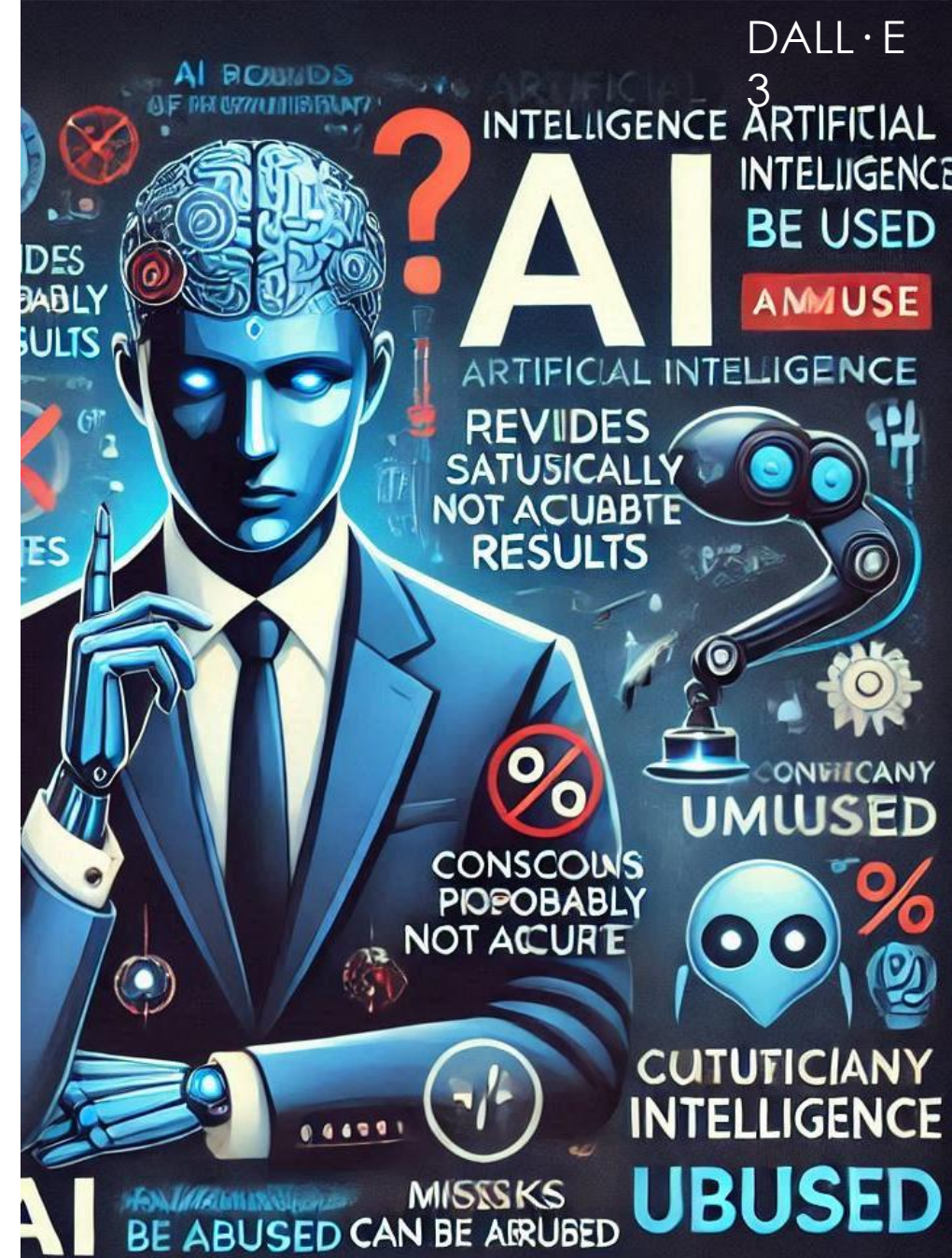
## Threats from AI? – AI will take over humans?

- ▶ As we have learned, AI does not have self-awareness, a will, or any kind of aspiration for supremacy, but it is a machine based on mathematics and defined and controlled by humans. There is also no mechanism by which AI could achieve the alleged supremacy.
- ▶ For this reason, the proposals made to suspend the development of artificial intelligence are unfounded. Also, the suspension would only stop the AI development of responsible actors and give a head start to non-responsible actors.



## Threats from AI? – mistakes, incompetent use, misuse?

- AI can make mistakes
  - Yes, AI can and most certainly does make mistakes, because neural network-based AI provides statistically probable, not precise, results. In some applications, it is relevant whether AI makes more or fewer mistakes than humans.
- AI can be used incomprehensibly
  - Yes, AI is a powerful tool, and there are risks associated with using AI that need to be known and managed.
- AI can be deliberately misused
  - Yes, deliberate abuse is already the order of the day, but everything can be abused.

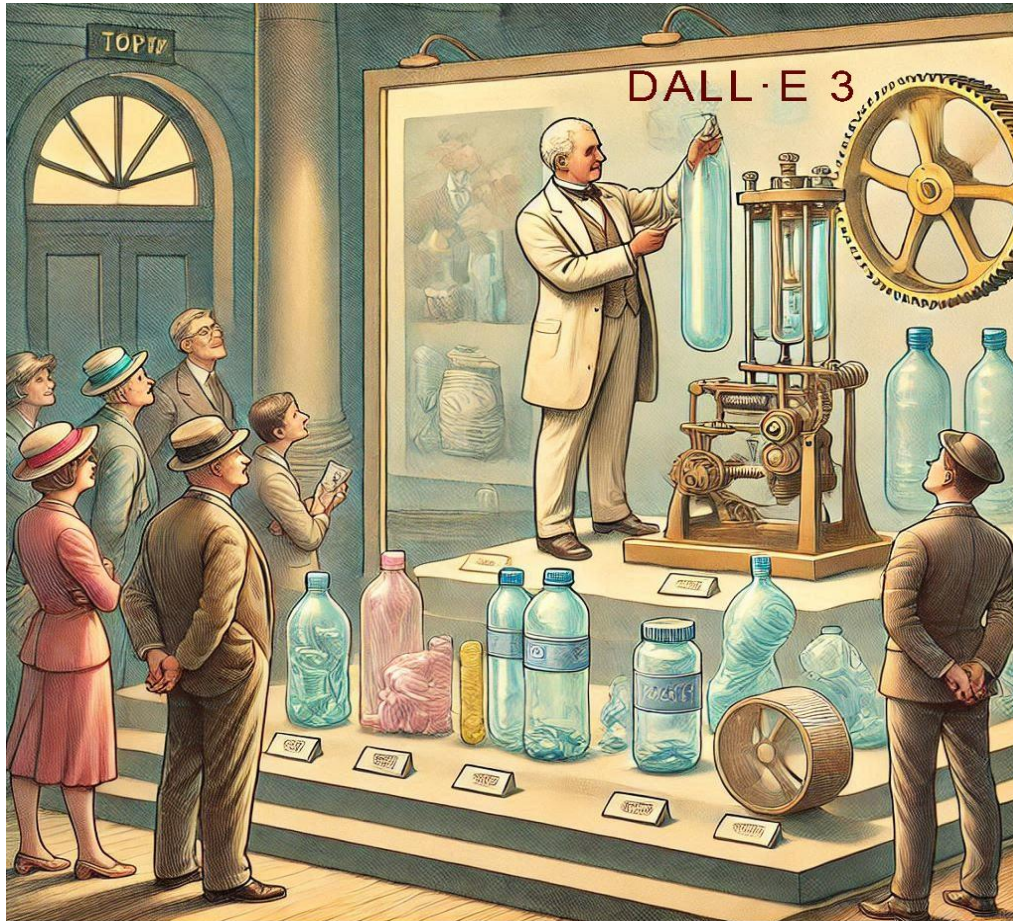




# Threats from AI? – The influx of low-quality AI outputs

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The threat is real: Due to the wide availability of generative AI applications and their ease of use, speed and affordability, large volumes of low-quality outputs are published. This influx of low-quality AI outputs displaces and obscures human outputs in their mass, as well as generative AI outputs that have been produced thoughtfully and responsibly and vetted before publication. Thus, the comparison with plastic pollution is justified.



How the outputs of generative AI were seen in autumn 2022



How the outputs of generative AI are starting to be seen now

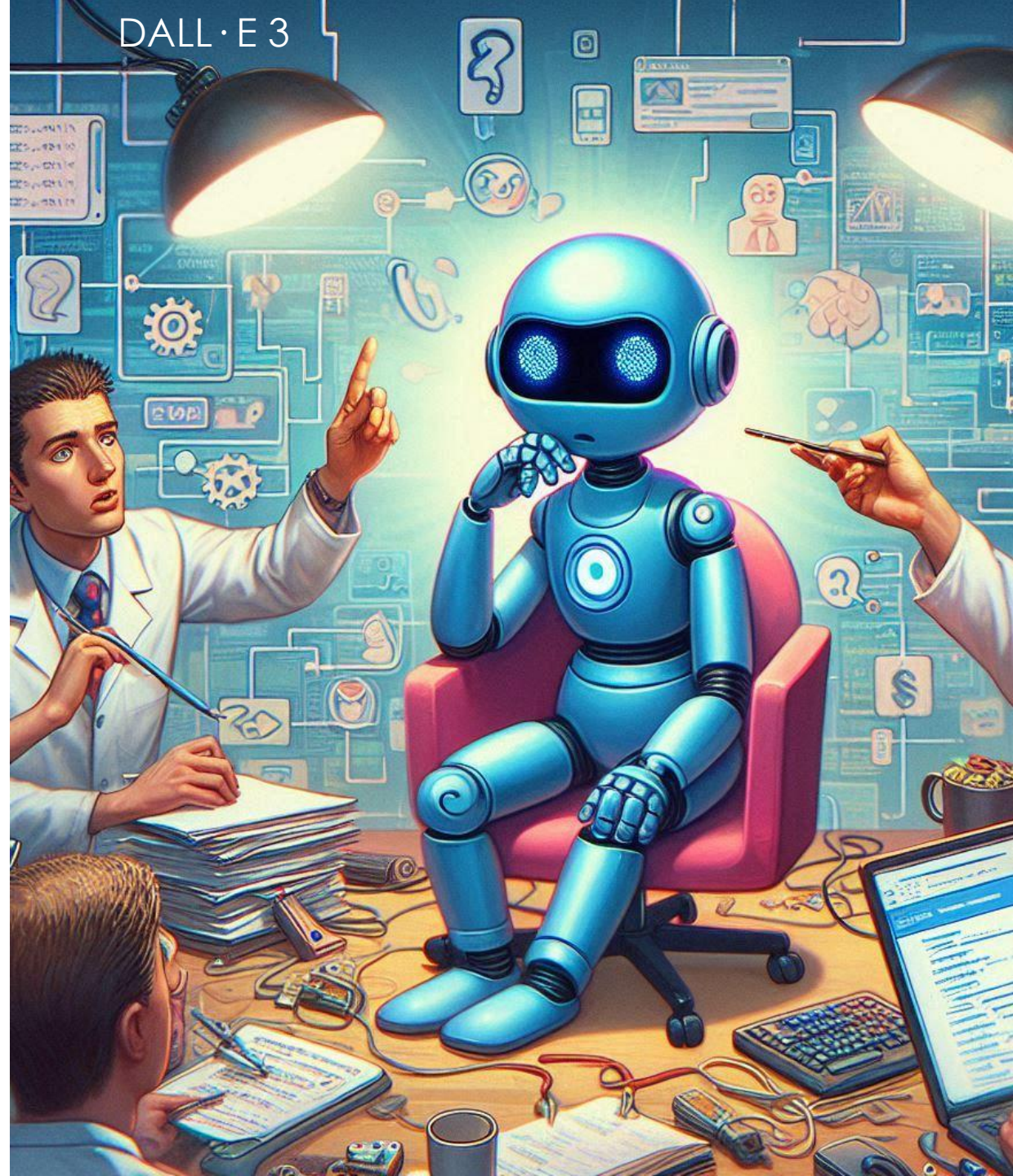
## Threats from AI? – Are we in control of the change?”

- Unpreparedness for the advent of AI
  - High expectations of AI's capabilities may lead to efforts to apply AI to applications where AI is not the right or best solution.
  - Good and functional AI solutions can also cause such rapid changes that the environment does not have time to adapt to the change.
- Unequal distribution of the benefits of AI
  - The magnitude and speed of change brought about by AI are likely to cause situations in which some groups will benefit significantly from AI, while others will suffer more harm or loss from it.



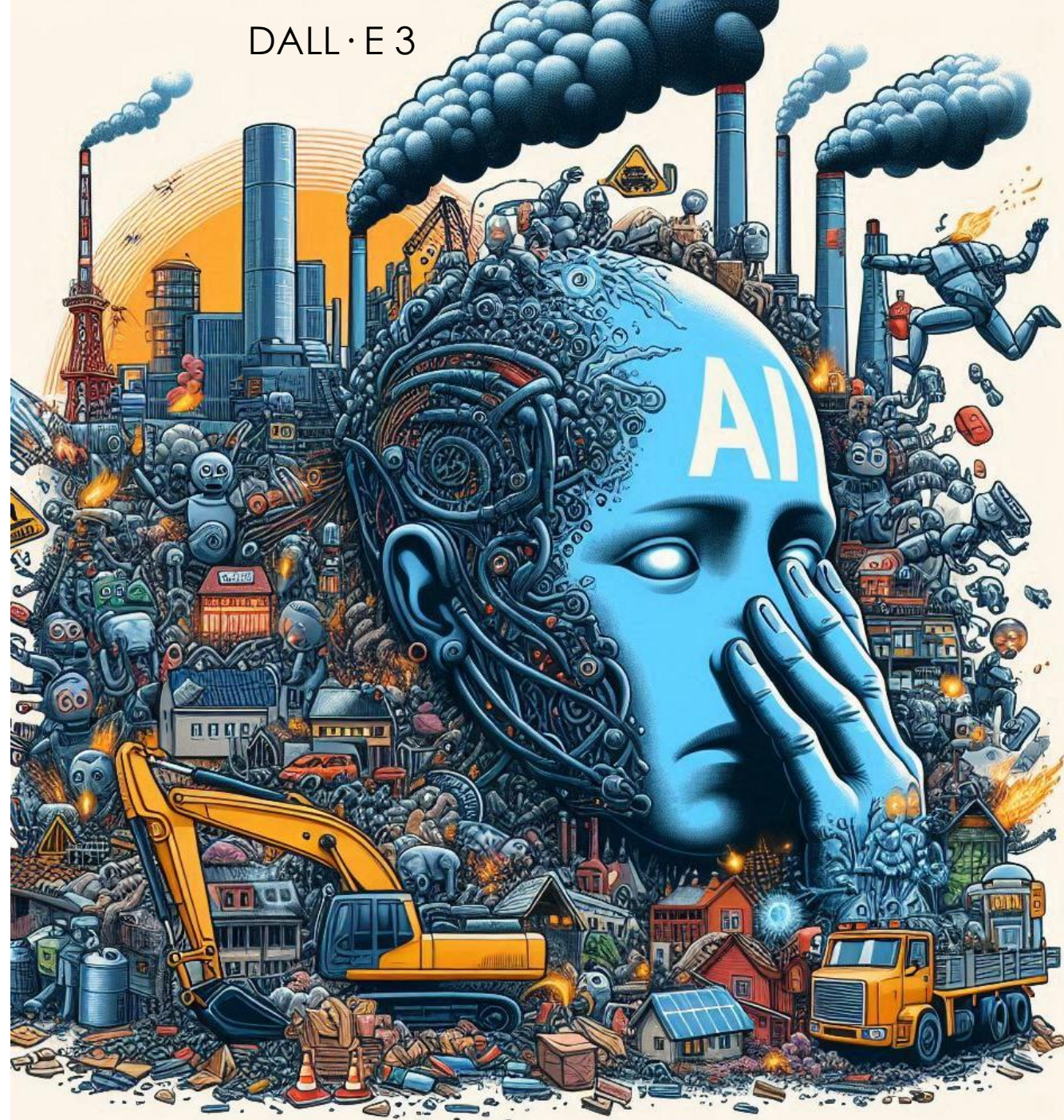
## Threats from AI? – lack of traceability

- The lack of traceability and transparency of AI-generated data is a significant problem.
- Efforts are being made to alleviate the problem, e.g. **Explainable AI (XAI)**, where the AI algorithm explains how it achieved its results.
- However, it is impossible to create a comprehensive trace of the information produced by AI due to the neural network's black box problem; the output is based on the values of a huge number of calculation parameters of the neural network, and the significance of these is impossible to understand, even if the values are known.



## Threats from AI? – the need for energy for AI

- ▶ The use of artificial intelligence and, in particular, the training of large neural networks, such as large language models, consumes significant amounts of energy. This is a significant problem in a situation where we should be fighting climate change by all means.
- ▶ Of course, we can hope that AI will help us in various ways in the fight against climate change, so that energy investment in AI will pay for itself also in terms of the well-being of our environment.



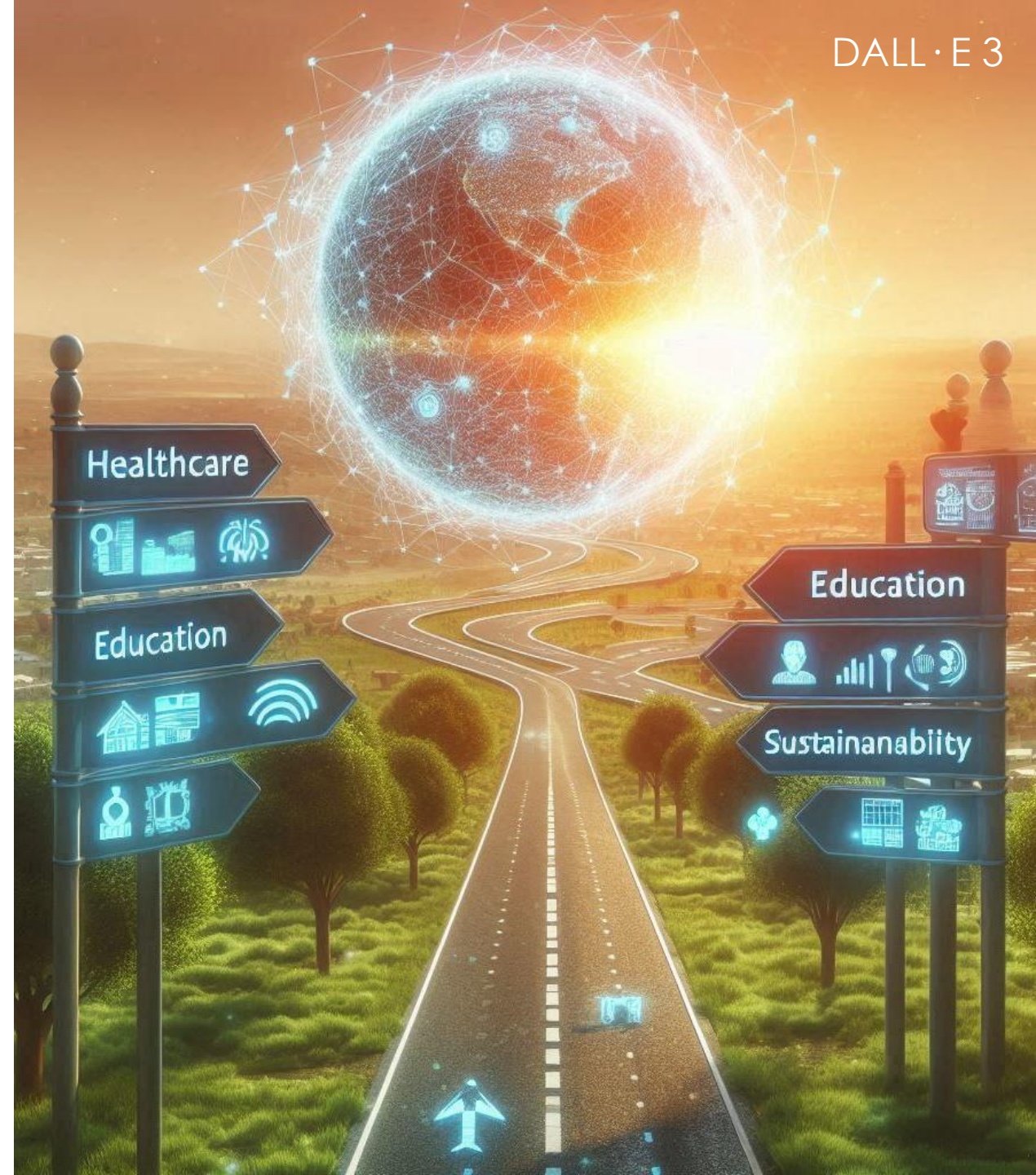
## Regulation of AI

- Various parties have woken up to the fact that the management of the risks posed by AI requires regulation. The EU has tackled the risks of AI with its AI Act.
- However, the regulation of AI will inevitably lag behind the technological development of AI, and the preparation and application of regulation will be cumbersome and challenging.
- The regulation of AI is also a balancing act between the development opportunities of AI and the risks posed by AI.



## On the possibilities AI

- ▶ We can hardly even fully imagine the future possibilities of AI. However, we can expect that AI will help us significantly in healthcare, food production, the fight against climate change, environmental protection, logistics, productivity improvement, etc.
- ▶ When assessing the possibilities of AI, it is good to understand that they are not based on any kind of new intelligence, but on the ability of AI to model the interdependencies between phenomena with unprecedented efficiency.



## Summing up the threats and opportunities AI

- ▶ All development involves both threats and opportunities. Both must be identified, and both must be discussed.
- ▶ AI is a tool that the user is responsible for. A skilled user benefits from the tool, and an unskilled user can cause damage with it.

