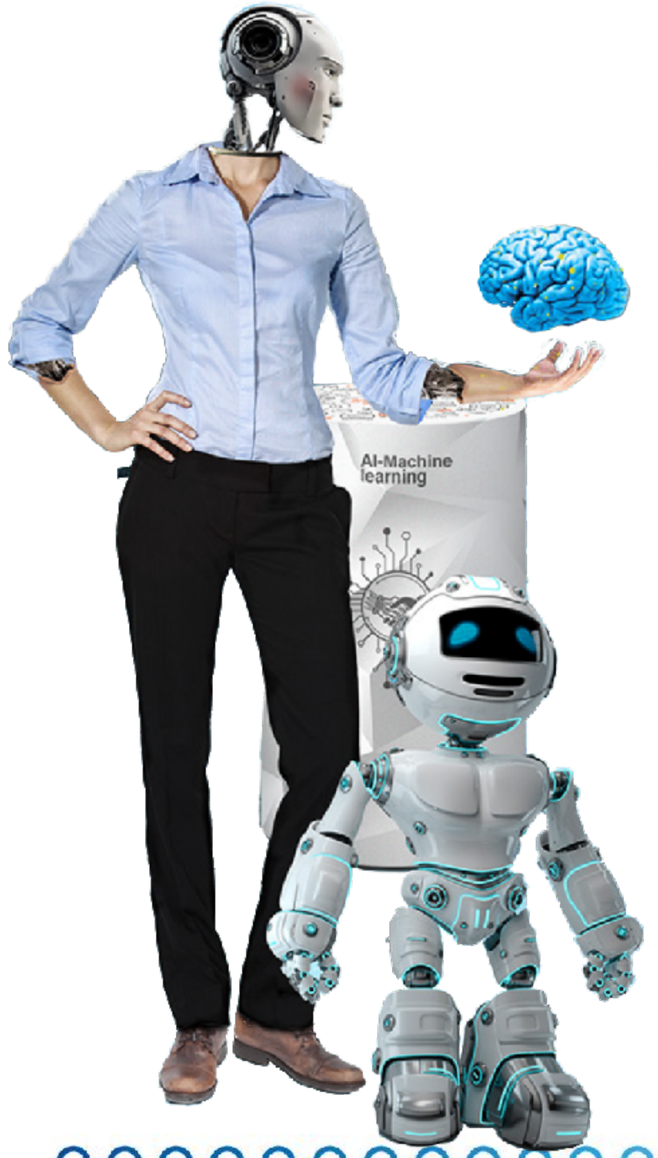

AI in education and research in the LLM era: The Norwegian Perspectives

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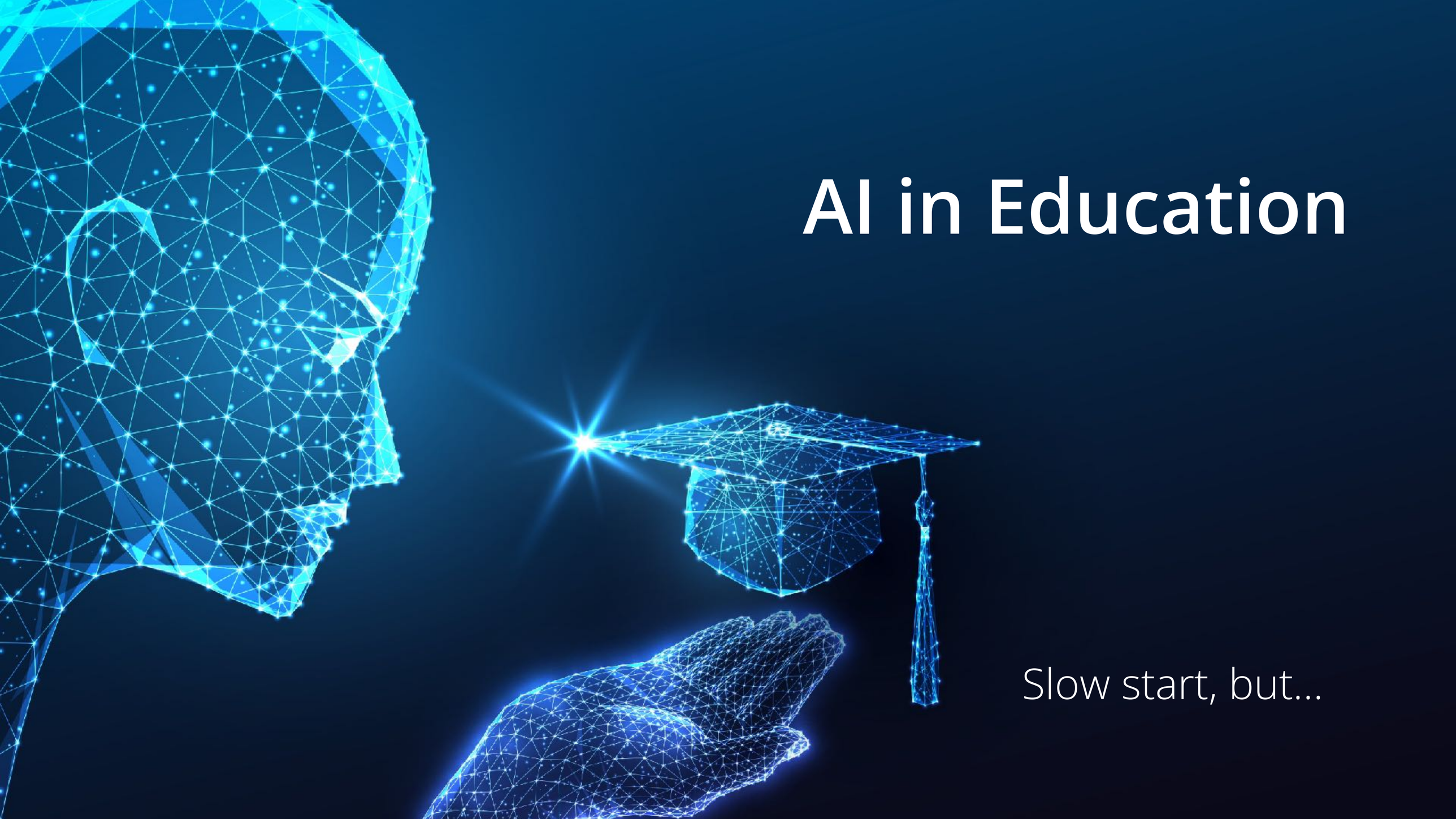
Background: Norway and technology

- **The values**
  - Privacy
  - Other ethical aspects
  - Freedom
- **The society**
  - Built on trust – deep in the Norwegian culture
  - Trust in the government and technology very high
  - A sharing culture

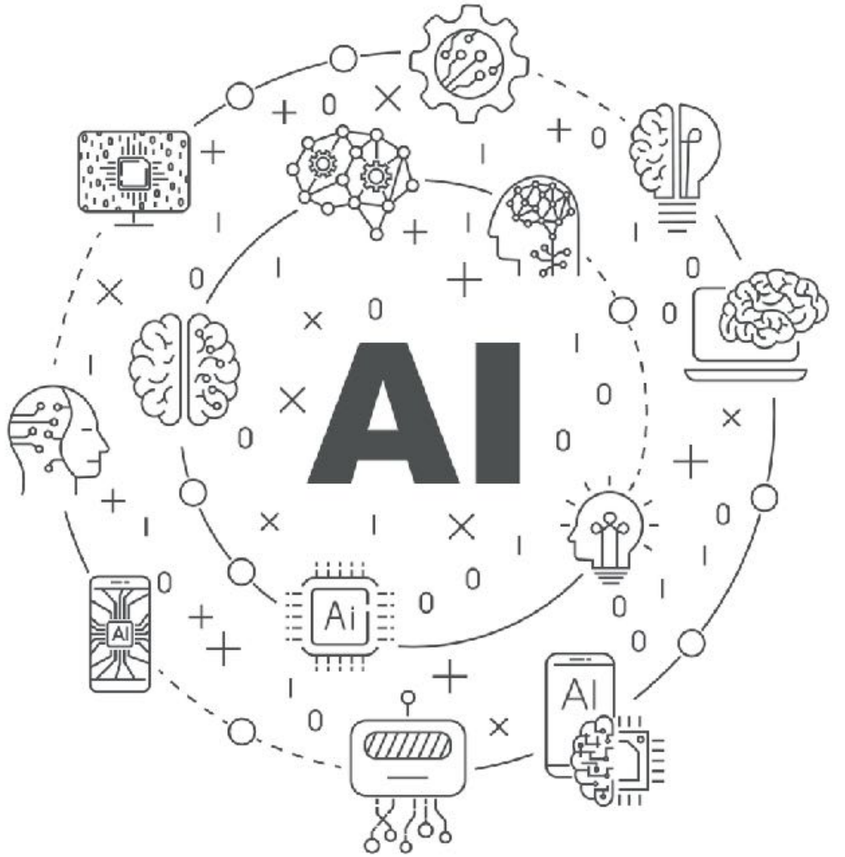


AI in Education

Slow start, but...

Education

- 24/7 student **tutoring and support**
- Working on finding ways to **integrate AI** in Schools and Universities
- Somewhat **comprehensive government strategy** (more than just AI)
- Ethical and Responsible AI
  - How to **preserve the trust**?
  - How to ensure it is **safe to use for students**?
  - How can it be used as a **tool for evaluation**?

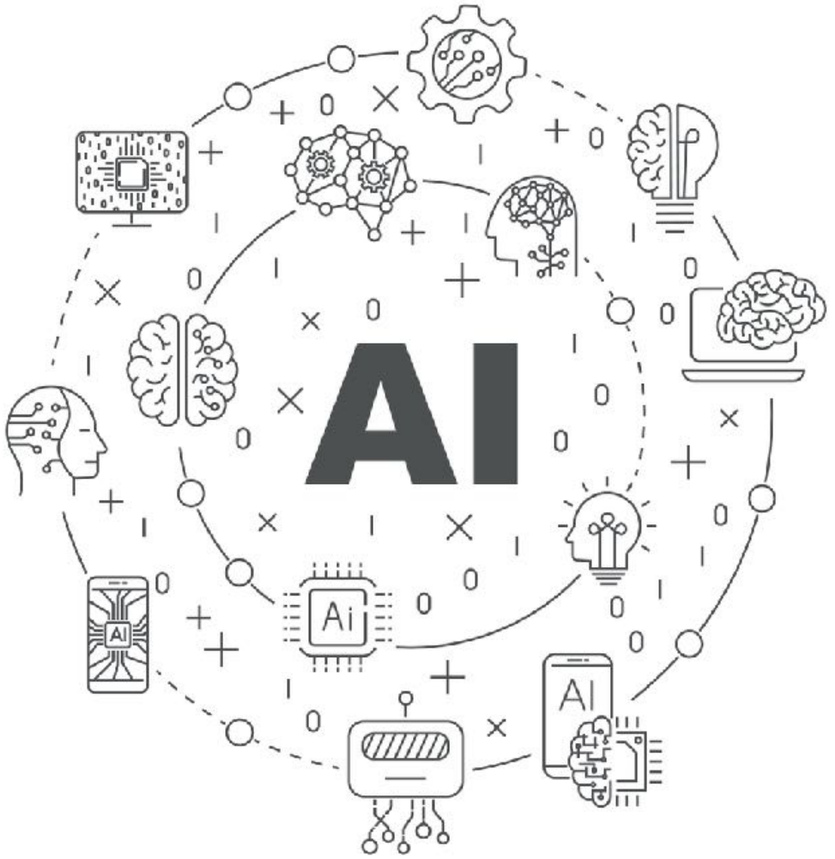


Focuses

- **Challenges**
  - AI development vs. educators' knowledge
  - AI and exams: both evaluation and cheating issues
  - Students' insecurity

Focuses

- **How to increase the educators AI knowledge:**
  - AI as a tool for teaching, learning and evaluation
  - Impact of AI on evaluation of learning



Copilot-readiness

- **Deep assessment of whether the public sector, incl. our university is copilot-ready**
  - Collaborative effort with Norwegian Data Protection Authority and other actors, including Microsoft

NTNU Datatilsynet Microsoft Crayon Sikt NEMO NOOR

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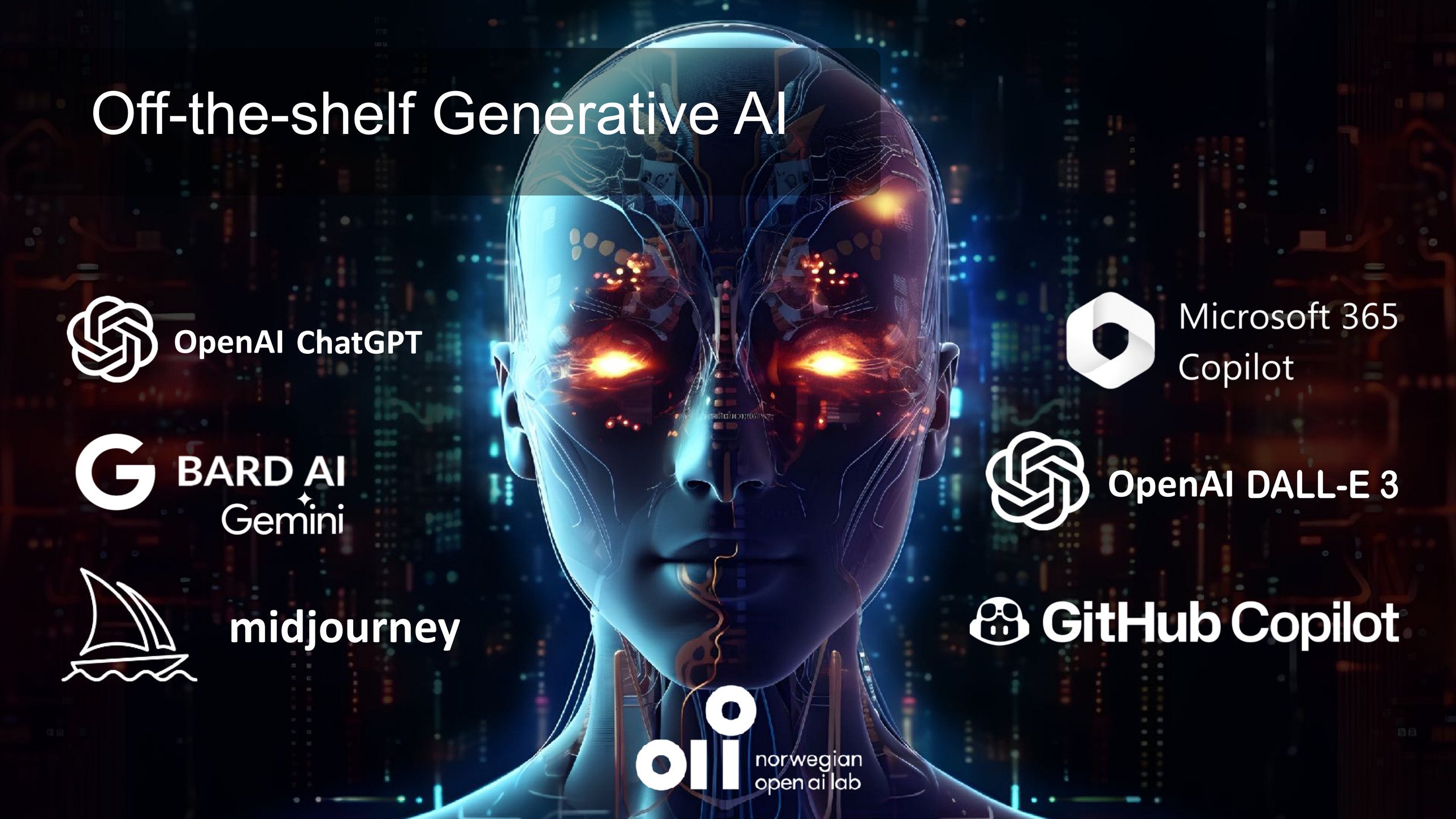
AI Research

Values and culture...

Off-the-shelf Generative AI



Generative AI and Machine Learning

Off-the-shelf systems

OpenAI ChatGPT

Microsoft 365 Copilot

BARD AI Gemini

OpenAI DALL-E 3

midjourney

GitHub Copilot

- Easy to use
- Low cost
- No permanent competition advantages

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Classical machine learning

- Training of models from scratch
- Require often **large amounts of data and teams** with both data scientists and data engineers
- **High-cost** projects

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Pre-trained models & Own data

- **Exploit the power** of large and pre-trained models with own unique data.
- **Less expensive to** realise
- Less **need** for large amount of own data
- Make AI **available** for small organisations

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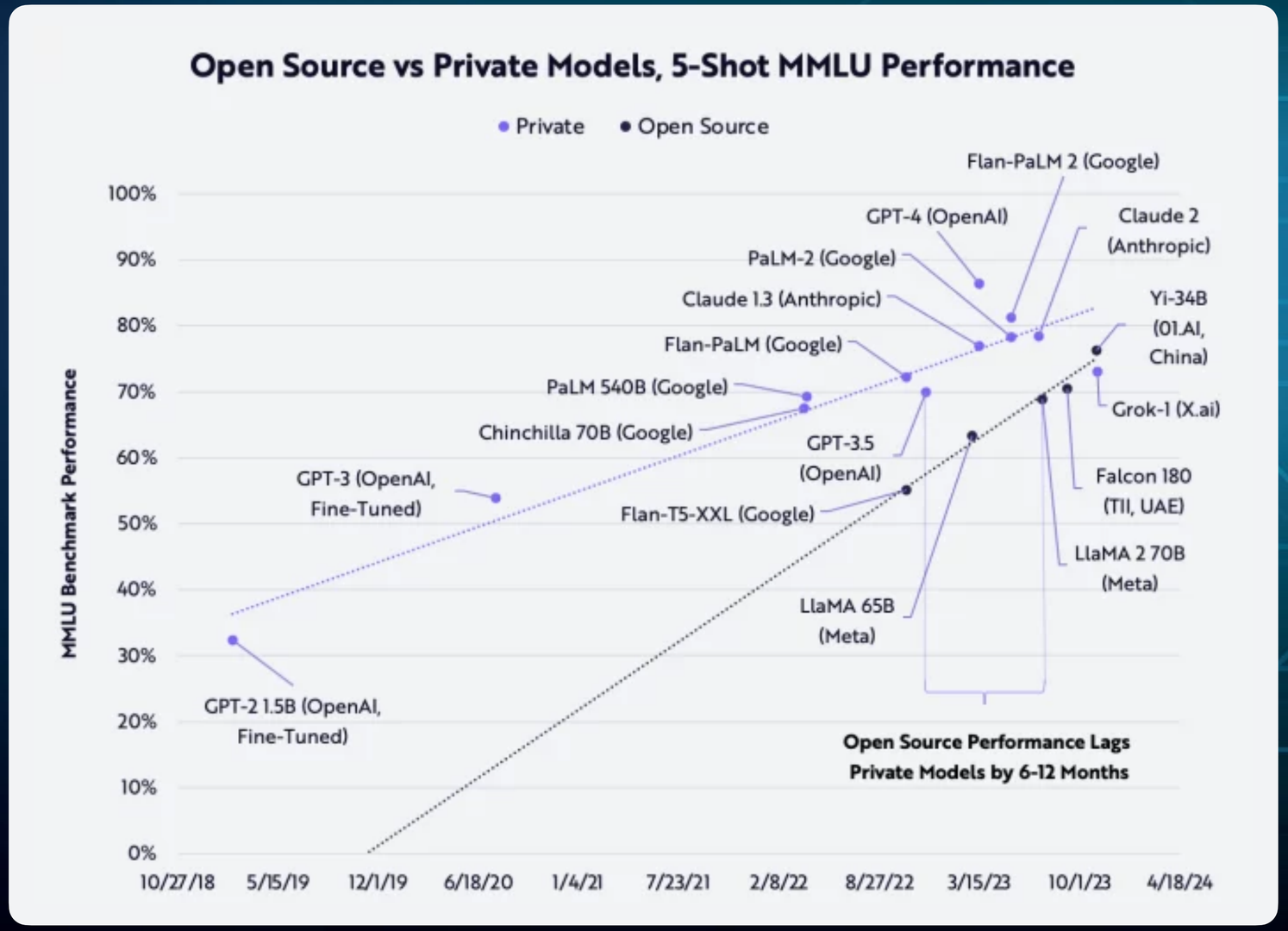
Open vs. Private/closed models



Source: ark-invest.com

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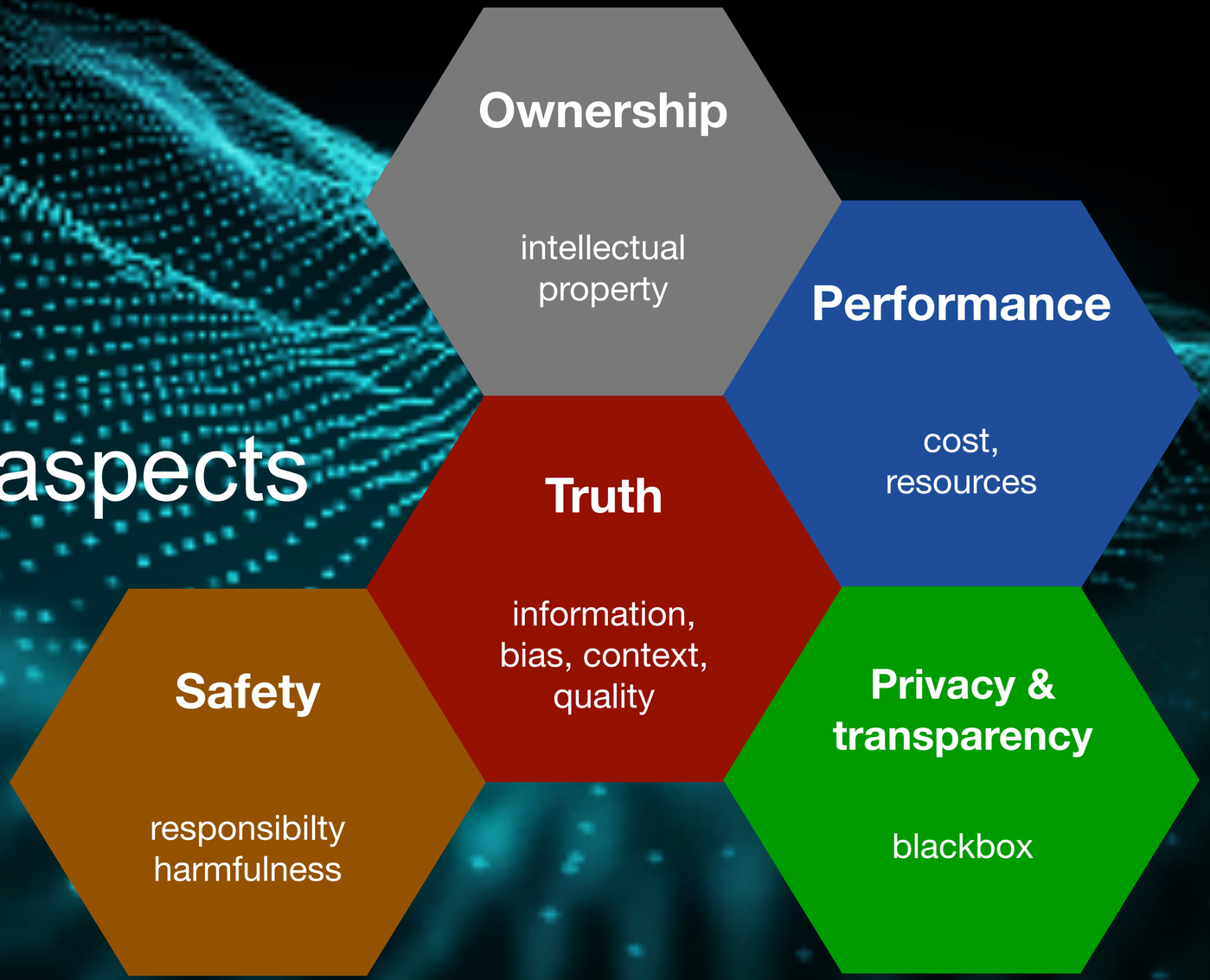
More than ethical aspects



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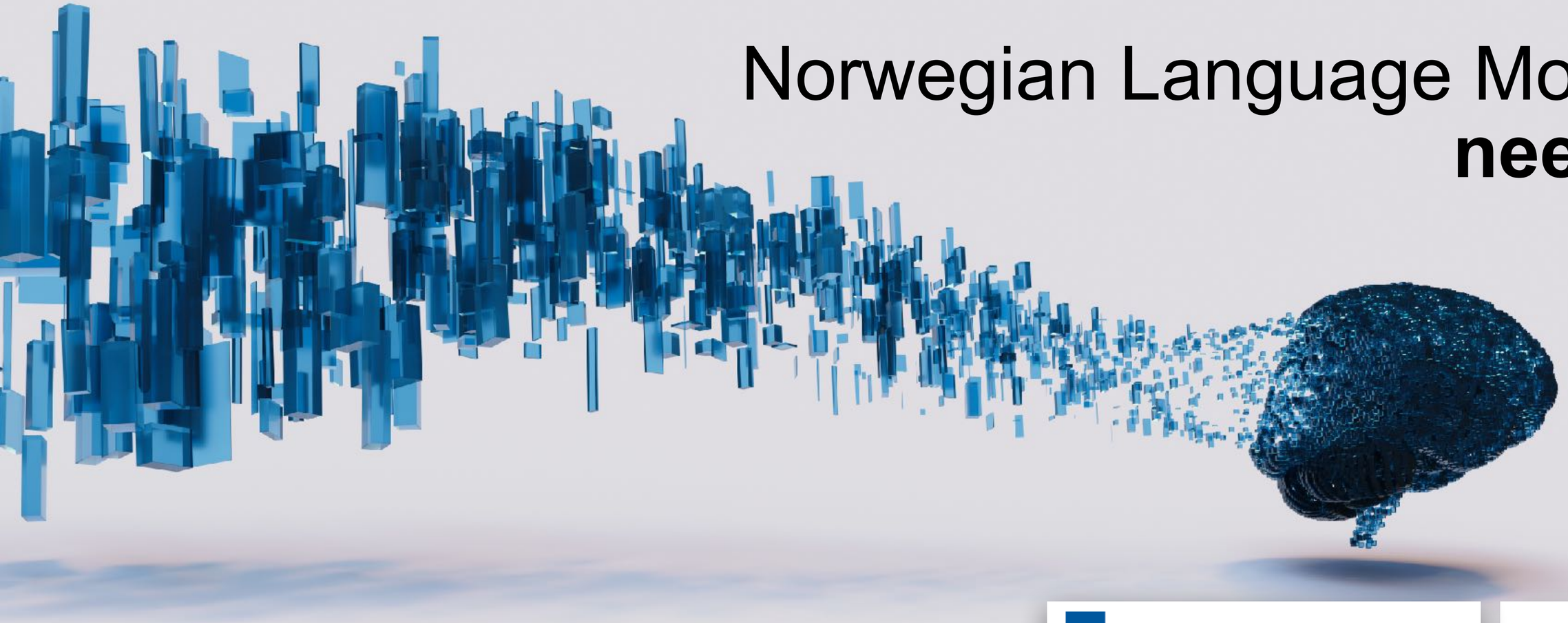
Norwegian Language Models **needed**



Ensure **transparency** and respect for **intellectual property**

National aspects: **culture**, **values**, **regulatory aspects**

Can be customised to needs and domains

National Library of Norway

NorwAI

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Big dilemma!