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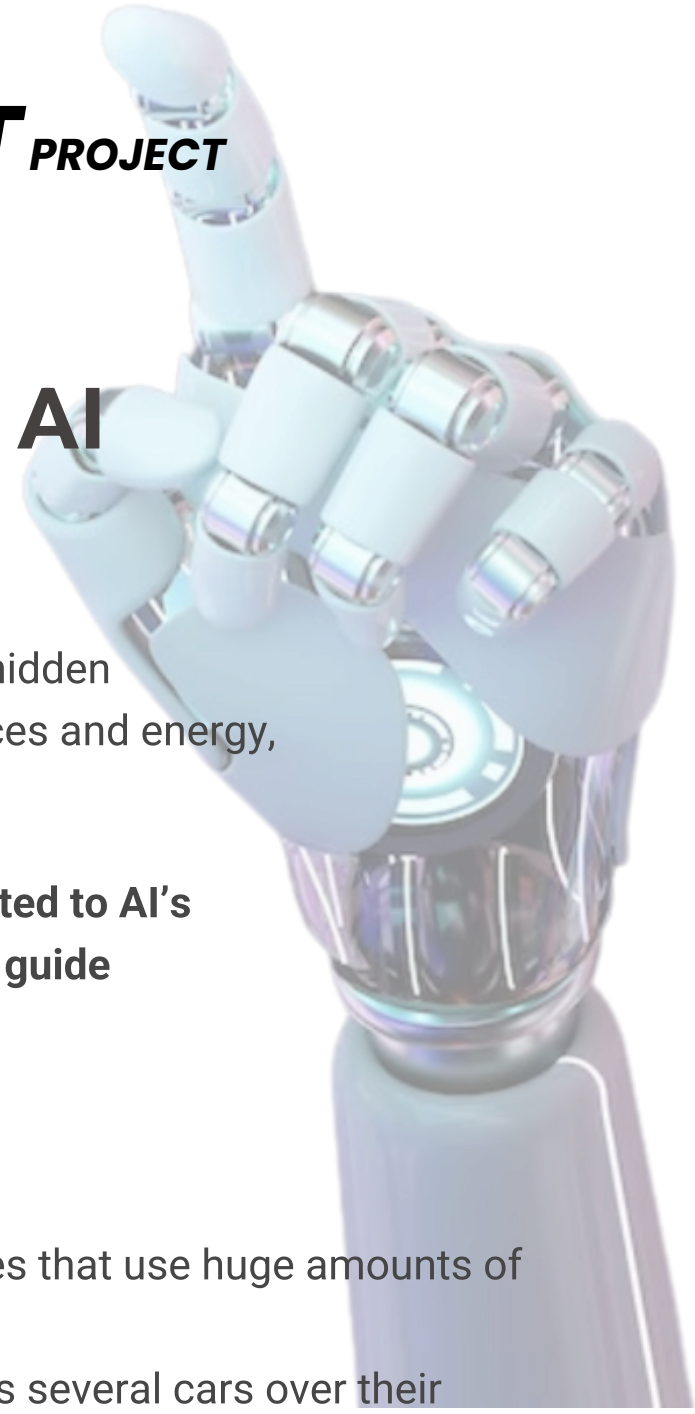

# ENVIRONMENTAL FOOTPRINT OF AI

## 🌍 WHY IT MATTERS

Artificial Intelligence is not only algorithms and innovation – it comes with hidden environmental costs. Training and running AI models consume vast resources and energy, shaping a significant ecological footprint.

**A special section of the AI-ERIT Tutorial for Teachers is devoted to AI's environmental impact, helping lecturers raise awareness and guide students toward sustainable digital practices.**

## ⚡ MAIN ENVIRONMENTAL IMPACTS

- High energy consumption – Large AI models require powerful data centres that use huge amounts of electricity.
- Carbon emissions – Training one large AI model can emit as much $CO_2$ as several cars over their lifetime.
- Water usage & pollution – Data centres need massive water volumes for cooling, often discharged back into the environment warmer or contaminated.
- Resource extraction – Hardware relies on rare minerals like lithium and cobalt, causing deforestation, biodiversity loss, and hazardous mining.
- E-waste – Rapid hardware replacement generates electronic waste, polluting land and water.

## 🌱 WHAT CAN BE DONE

- Use AI tools mindfully – avoid unnecessary queries and heavy model runs.
- Prefer sustainable providers that use renewable energy.
- Reuse and share trained models instead of duplicating processes.
- Raise awareness and advocate for greener practices in education and research.

*AI is powerful, but it must be developed and used responsibly. Recognising its environmental footprint helps us move toward a sustainable digital future.*

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