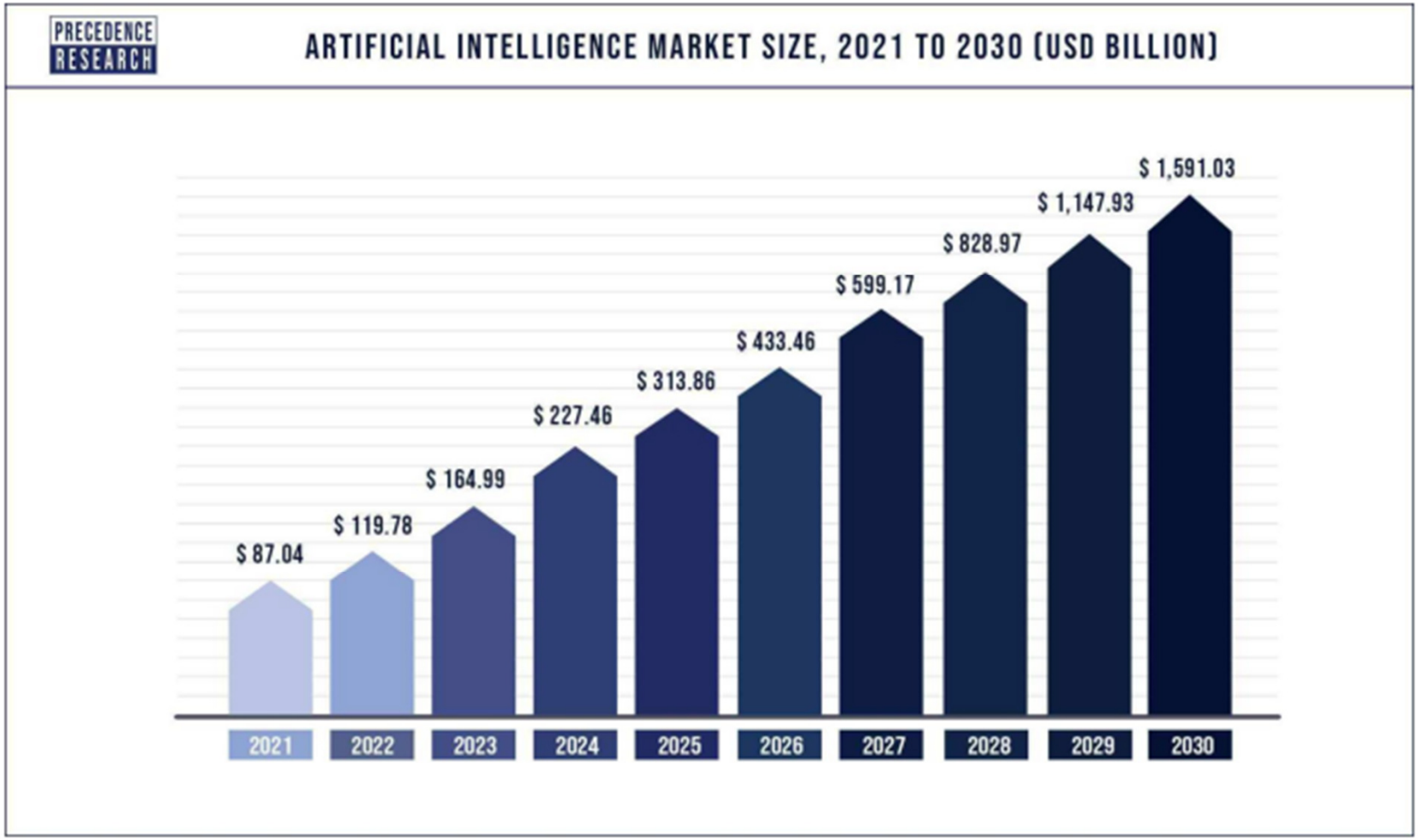
AI - the new Electricity

Artificial Intelligence (AI) will influence every industry



AI in Software Industry

McKinsey estimated 13 trillion $ of global GDP value by 2030 due to AI.

Software Industry (strongly affected by AI) : Web Search; On-line Advertysing; Languare translation; Social Media, Virtual assistants, chatbots.

AI is advancing due to the rise of :

- Data+Computational resourses
- Talents (Easy to access AI courses on MOOC, Coursera, University)
- Ideas (100 AI papers/per day)
- Tools (open source platforms Pytorch, Kerras, Tensorflow, mxnet, etc.)

AI – in Non-Software Industry

Non-Software Industry (still long way to go): Manifacture, Agriculture, Retail, Transportation, Logistics, etc.

Major bottleneck in Non-Software Industry :

- Valuable business use cases ???
- Lack of enough (labelled) data
- Lack of AI expertise in the company

AI in Education

AI is a TOOL - how we will use it depends of us. It can serve for good or harm, as any other technology.

Stakeholders: industry, educational system, AI experts, society

Role of University : prepare the workers for the new jobs

AI in the school - complement/auxiliate /speed up the education

Teachers /Professors – guide the students in using AI tools wisely;
-validate the knowledge created /extracted by AI (new role)

AI challenges :

- Potential threat to humankind (?) => we become lazy, no much efforts
- Jobs are missing due to AI but Jobs are also missing workers ?
- Militarized AI is a commonly shared concern
- AI experts have different opinions

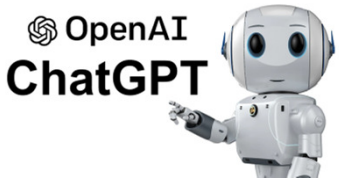
Narrow vs General AI

- **Narrow AI:** machines perform a single function (internet search, face/speech recognition, disease detection, recommender systems

- **General AI:** machines can reason and think like a human (attributes associated with the human brain, such as common sense, background knowledge, transfer learning, abstraction, causality).

- Chatbots of OpenAI (Chat GPT) and Google DeepMind (first steps of GAI)
- Autonomous vehicles (Level 5)

- **Artificial Super-Intelligence** – machines can outperform humans. Long-standing debate, optimists focus on the opportunities of the technology and other fear it could result in disaster for humanity.



Food for Thought

- Ethical issues that the advances of AI raise
- How human ethics and values can be embedded into AI algorithms ?
- Socially responsible AI
- Safety, reliability , transparency, trust, explainable AI (XAI)
- Regulation, regulation, regulation is the key

- One hundred year study of AI, Stanford University

2021 Report 2 https://ai100.stanford.edu/