ARTIFICIAL INTELLIGENCE

Technologies at a Glance

August 2025

"TECHNOLOGIES AT A GLANCE" REPORT

ANALYSING KEY TRENDS
FOR INFORMED
DECISION-MAKING

Agenda

01 **In a nutshell**
Discover, in a nutshell, what artificial intelligence is, the key benefits it offers to companies, and why it demands our attention today.

02 **Introduction**
Artificial intelligence and its main technologies.

03 **Tech radar**
A visual tool that categorizes and ranks artificial intelligence technologies based on their maturity (adopt, trial, assess, explore).

04 **Deep dive on key technologies**
Learn more about artificial intelligence's technologies: generative AI, agentic AI and predictive AI.

05 **Conclusion**
A quick glance at projections, opportunities and risks.

06 **Sources**

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01 Artificial Intelligence
In a nutshell

- **What is Artificial Intelligence (AI)?**

  Artificial Intelligence is described by the EU as « the ability of a machine to display human-like capabilities such as reasoning, learning, planning and creativity » ([European Parliament](#)).

  Artificial Intelligence is the technology that enables « technical systems to perceive their environment, deal with what they perceive, solve problems and act to achieve a specific goal ». In short, AI learn from experience, new information and is capable of adapting its behaviour.

  Why now?

  AI is not new and was already researched 50 years ago. However, recent advances in computing power, the availability of major data quantities and the development of new algorithms have led to significant evolutions in AI in the recent years.

  Today, AI is central in the digital transformation of society and has been made a priority by numerous companies and States.

  For what?

  Applications of AI is already seen in everyday life, from online shopping and advertising, web searches, personal assistants and chatbots, automated translation, smart homes and cities, to more urgent applications, such as fighting disinformation.

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The three kind of AI based on capabilities

Artificial Narrow AI

Also known as Weak AI, Artificial Narrow AI ca, be trained to perfom a single or narrow tasks.

It cannot perform outside of its defined task.

Under this category fall two types of functional AI:

- Reactive Machine AI: systems with no memory designed to perform a very specific task.
- Limited Memory AI: systems that can recall past events and outcomes for a small amount of time to decide on a course of action.

General AI

Artificial General Intelligence (AGI), also known as Strong AI, can use previous learnings to accomplish new tasks in various contexts.

AGI are able to learn and perform any intellectual tasks, just as a human being.

- Today's ChatGPT, LLaMA, Deepseek, etc., can be considered as early-emerging AGI, according to Google's DeepMind classification.
- Another functional type of AI that falls into this category is the Theory of Mind AI (theoritical today). Adding to Theory of Mind to AI would allow the system to understand the thoughts and emotions of users, and simulate human-like relationships.

Super AI

SuperAI, or Superintelligence AI, is a concept purely theoritical for now. If ever created, it would think, reason, learn, make adjustements and possess cognitive abilities that surpass those of humans.

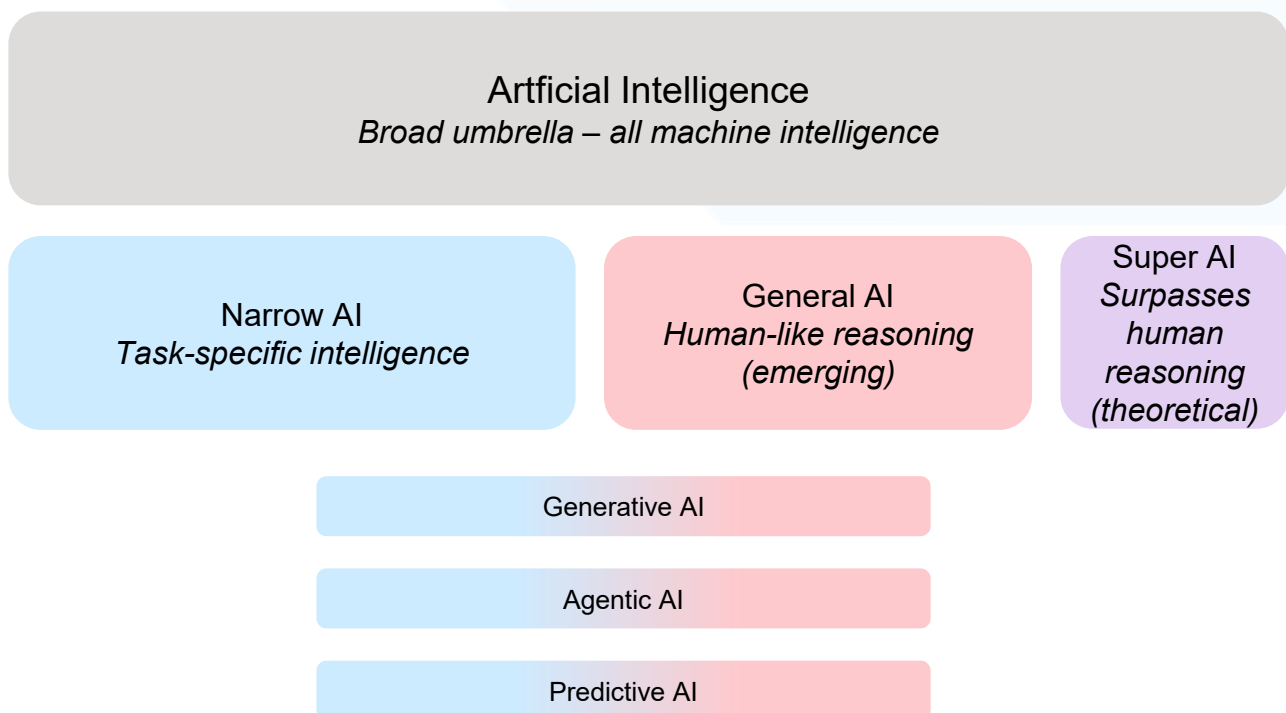Super AI would be capable of understanding human sentiments, and have beliefs and desires of their own.

- Another theoretical AI today is the Self-Aware AI, that could be categorised under the Super AI category. Self-Aware AI would have the ability to understand its own internal conditions, it would have its own emotions, needs and beliefs.

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Generative, predictive, and agentic AI can be seen as narrow AI because they are still optimized for specific tasks and bounded contexts, yet they also carry traits of general AI as they increasingly integrate reasoning, adaptation, and multimodality.

Generative models create across text, images, or code, predictive systems anticipate outcomes beyond fixed rules, and agentic AI couples decision-making with autonomous action, together pointing to broader problem-solving capacity.

Artficial Intelligence
Broad umbrella – all machine intelligence

| Narrow AI *Task-specific intelligence* | General AI *Human-like reasoning (emerging)* | Super AI *Surpasses human reasoning (theoretical)* |

Generative AI

Agentic AI

Predictive AI

While not yet human-level intelligence, their convergence shows a clear trajectory from specialized tools toward more general, flexible AI. Moreover, OpenAI's goal is to develop Artificial General Intelligence (AGI).

Artificial Intelligence
Towards where are we going today?

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10 key technologies
Artificial intelligence - Tech radar

General AI

ADOPT

Generative AI for content creation
AI systems that produce new content (text, code, images, video, or audio) by learning patterns from large datasets.

Predictive AI for demand forecasting
AI systems that use historical data to forecast future events or trends, typically using statistical models or ML.

Natural Language Interfaces (via LLMs)
User interfaces that allow people to interact with systems using natural language (typed or spoken), backed by large language models.

TRIAL

Generative AI for structured data
Use of GenAI models to help generate, complete, or analyze structured data like tables, spreadsheets, or dashboards.

Agentic AI
AI systems that can autonomously plan, make decisions, and take actions over multiple steps toward a goal, often using memory, tools, or APIs.

Digital Twins
(through Predictive AI & GenAI)
Virtual replicas of real-world systems that combine simulation (GenAI) and real-time prediction (ML/AI) for decision support.

ADOPT

TRIAL

ASSESS

EXPLORE

ASSESS

Sel-Improving Agentic AI
Agents that evaluate and improve their own performance over time via feedback loops, retries, and self-optimization.

Multimodal Reasoning Agents
AI agents capable of understanding and reasoning across different types of input (text, image, audio, video) and combining them intelligently.

Edge AI
Refers to running AI models directly on local devices without relying on cloud connectivity.

EXPLORE

Generalist Embodied AI
AI systems capable of performing diverse physical tasks in the real world using robots or AR/VR agents, often trained across domains.

Theory-of-Mind
AI with the ability to model other agents' beliefs, goals, and intentions, enabling more human-like interactions and decision-making.

Non-exhaustive list of general AI technologies

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Technologies to watch

General AI

Generative AI

Function
Create new content of data

Input types
Text, images, code, audio, videos, prompts

Output types
Text, images, code, audio, videos, simulations

Strengths
Creativity, human-like content, fast iteration

Limits
Can hallucinate, needs promot skills, lacks deep reasoning

Maturity level (2025)
Between trial and adopt

Examples
ChatGPT, Midjourney, Copilot, Perplexity, DALL.E

Agentic AI

Function
Autonomously plan and execute multi-steps tasks

Input types
Natural language instructions, goals

Output types
Actions, decisions

Strengths
Multi-steps reasoning, automation

Limits
Fragile autonomy, error possible, experimental for now

Maturity level (2025)
Between assess and trial

Examples
AutoGPT, Devin, OpenAgents, LangChain agents

Predictive AI

Function
Forecast future outcomes based on past data

Input types
Stuctured data, historical events

Output types
Probabilities, forecasts, predictions

Strengths
High return on investment in sectors like finance

Limits
Requires large and high-quality of data

Maturity level (2025)
Between trial and adopt

Examples
Prophet, Azure ML Forecasting, Amazon Forecast

05 Conclusion

A quick glance at projections, opportunities and risks

Artificial intelligence represents a continuum of technological evolution, from narrow AI systems designed for specific tasks, to **the aspirational, however approaching, concept of general AI, capable of human-like reasoning** across domains, and the speculative prospect of super AI, surpassing human intelligence entirely.

While narrow AI is rapidly progressing toward general AI, its entire transition will depend on **advances in machine learning architectures, natural language processing, reinforcement learning, and cognitive modelling**. These technologies collectively aim to bridge the gap between specialized competence and generalised reasoning.

Technical challenges, ethical dilemmas, and governance questions must be resolved to ensure that future AI systems are not only powerful but also transparent, safe, and aligned with human values.

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