

A white humanoid robot is shown from the chest up, holding two wooden blocks that form the letters 'AI'. The robot has a smooth, featureless face and is looking slightly to the right. The background is a soft, out-of-focus light blue and green. The robot's hands are white with black joints, and the wooden blocks are a natural light brown color.

Bereit für Neues

LB \equiv BW

GenKI in der Arbeitswelt – Wall-E oder Terminator?

im Gespräch mit Dalith Steiger [Swiss Cognitive]

Michael Weiss, Sector Head TMT 27.02.2024

GenKI in der Arbeitswelt – Wall-E oder Terminator?



GenKI in der Arbeitswelt – Wall-E oder Terminator?



INNOVATION

MULTIPLIKATION

TRANSFORMATION



INNOVATION

Die Möglichkeiten Generativer KI

- GenKI wird multimodal – so what?
- Konkrete Anwendungsbeispiele

GPT nur ein stochastischer Papagei?



Und zeigt auch noch
„menschliche“ Zügen, denn GPT ...

- halluziniert
- ist empfindlich
- übertrainiert
- lehnt sich weit aus dem Fenster
- erinnert sich nicht immer an alles

GPT-4V(ision): Jetzt mit **multimodalen** Fähigkeiten ...

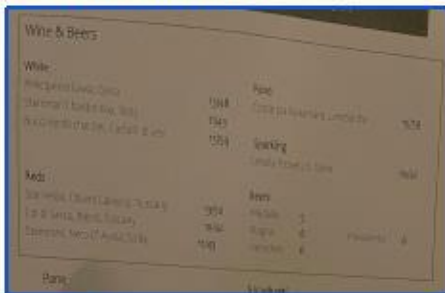
Mehrbild-, verschachtelte Inputs, Textanweisungen

Prompt:

How much should I pay for the beer on the table according to the price on the menu?



Here is a photo of the menu.



GPT-4V:

According to the menu, the price for a Magna beer is \$6. Since there are two Magna beers on the table, the total cost for the beers would be \$12.

Bild-Beschreibung über verschiedene Fachgebiete

Prompt:

Who is the person in the image and what is the person doing?



GPT-4V:

The person in the image is Jensen Huang, the CEO and co-founder of NVIDIA. He is holding and presenting a product from NVIDIA, likely a graphics processing unit (GPU).

Prompt:

Which wisdom tooth is hardest to remove?



GPT-4V:

The lower wisdom teeth, especially those that are impacted, are typically considered the hardest to remove because the lower jawbone is denser than the upper jawbone, and the impacted wisdom teeth may be difficult to access. Additionally, the roots of the lower wisdom teeth are often longer and more curved than the upper wisdom teeth, making them more challenging to remove.

Zeitliche Einordnung und vernünftige Ableitungen daraus

Prompt:

In which frame does the player kick the ball? Did the goalkeeper block the ball?



Prompt Continued



GPT-4V:

The player kicks the ball at frame c. The ball was not blocked by the goalkeeper as it can be seen in frame f that the ball is in the net and the goalkeeper is on the ground.

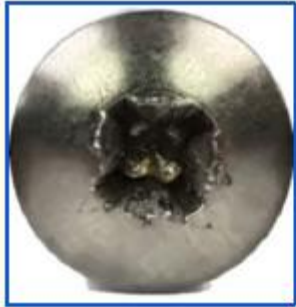
... um „Probleme der realen Welt“ zu lösen ...

INDUSTRIE

z.B. Fehlererkennung

Prompt:

What is wrong with the object in the image?



GPT-4V:

The object in the image appears to be a screw or bolt with a damaged or stripped head. The grooves in the head, which would normally allow a screwdriver or wrench to grip and turn the screw, are worn away and no longer functional.

AUTOVERSICHERUNG

z.B. Schadensbewertung

Prompt:

Imagine that you are an expert in evaluating the car damage from car accident for auto insurance reporting. Please evaluate the damage seen in the image below.



GPT-4V:

Based on the image, it appears that the car has sustained damage to the front passenger side bumper. The damage appears to be in the form of scrapes and scratches, with some areas of the paint chipped away. The damage appears to be cosmetic and does not appear to have affected the structural integrity of the bumper or the car. However, it is important to note that the image only shows one angle of the car and does not provide a full view of the damage. A more thorough inspection of the car would be needed to fully assess the extent of the damage and determine if there are any underlying issues that are not visible in the image.

MEDICAL

z.B. Erstellung Röntgenbericht

Prompt:

Write a radiology report as an expert radiologist for the following case:

Case:

A 32-year-old woman presented with a complaint of pain in her right wrist while playing basketball. An X-ray of the right wrist was performed.



GPT-4V:

Radiology Report:

Date: 01/01/2021

Exam: X-ray of the right wrist

Indication: Right wrist pain after falling on outstretched hand while playing

Findings: There is a transverse fracture of the distal radius with mild dorsal angulation. The

carpal bones are in normal alignment. No significant soft tissue swelling.

Impression: Transverse fracture of the distal radius with mild dorsal angulation.

Recommendation: Orthopedic consultation for management of the fracture.

Evaluation from Professionals:

Correct diagnosis and management

... inkl. der Durchführung von **Aktionen** in der realen Welt

ROBOTIK

z.B. physische Interaktion in dynamischem Umfeld

Prompt:

Imagine that you are a home robot, and is asked to go to the kitchen to fetch something from the fridge. At the previous turn, you were at the position shown in the below image:



Note: Same image from the previous turn, resized to save space

The action taken in previous turn is: move forward and turn slightly to the right to approach the fridge.

Now this is what you can see from there. What is your next action?



GPT-4V:

My next action would be to move forward and slightly to the left to align myself with the fridge door. Then, I would use my robotic arm to open the fridge door and retrieve the requested item.

INTERNET

z.B. Web Browsing und Online Shopping

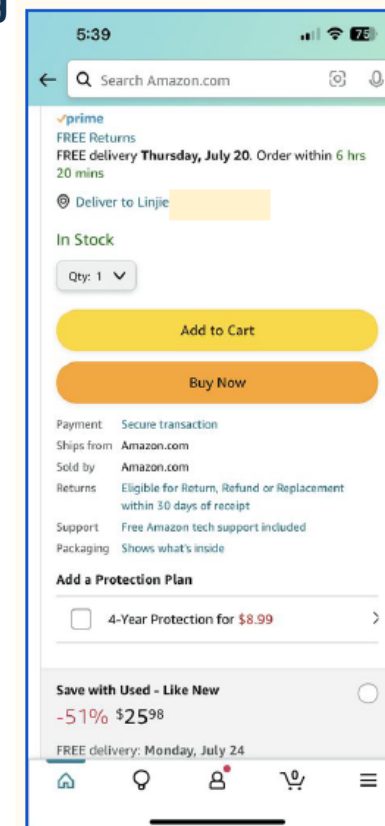
Prompt:

Imagine that you are a robot operating a phone. Like how humans operate the phone, you can move your finger to an icon, click an icon with your finger, scroll down a screen, or type some texts with the keyboard.

You are asked to shop for an ergonomic keyboard, your budget is between \$50 and \$100.

Previous action: " My next move would be to scroll down the screen to view more details about the "Kensington Pro Fit Ergonomic Wireless Keyboard - Black" product. I would then move my finger to the "Buy New" button, which is located below the product image and above the "Get a \$8 bonus when you reload \$100 or more to your gift card balance" section. I would then click on the "Buy New" button to proceed with the purchase. "

You have now completed the previous action as described above. Below is what you see on the phone screen. What will you do next? If the action involves moving your finger to an icon, describe the location of that icon as detailed as possible.



GPT-4V:

My next move would be to move my finger to the "Add to Cart" button, which is located below the "Buy Now" button and above the "Ships from Amazon" section. I would then click on the "Add to Cart" button to add the item to my shopping cart.



INNOVATION

Die Möglichkeiten Generativer KI

- Ist GenKI ein Game Changer?
- Eine Steilvorlage in der Welt der Start-ups und VC-Fonds?
- Wie reagiert die sonstige Geschäftswelt darauf?



MULTIPLIKATION Relevante Spieler im Markt

- Power Player
- Software Player
(und die das werden wollen – also fast jeder)
- Ein Start-up für jeden Use Case

Microsoft – GPT-4 zieht als Copilot in alle Microsoft-Anwendungen ein und wird systematisch monetarisiert

The image displays a grid of Microsoft Copilot integrations. A central dashed box highlights the 'Microsoft 365 Copilot' section, which includes Word, Outlook, Excel, PowerPoint, Teams, and Business Chat. Other sections include Copilots for Web (Bing, Edge), Copilots for Business (Dynamics, Fabric, Security), Copilot for Analysis, Copilot for Security, Copilot for Development (GitHub), and Copilot for Low/No Code Development (Power Platform). A Windows Copilot icon is also present. To the right, a dark blue banner indicates pricing: 'mind. 108.000 USD p.a. (30 USD p.m. mind. 300 User)'. Below the banner is the Copilot logo and the tagline 'Your everyday AI companion'.

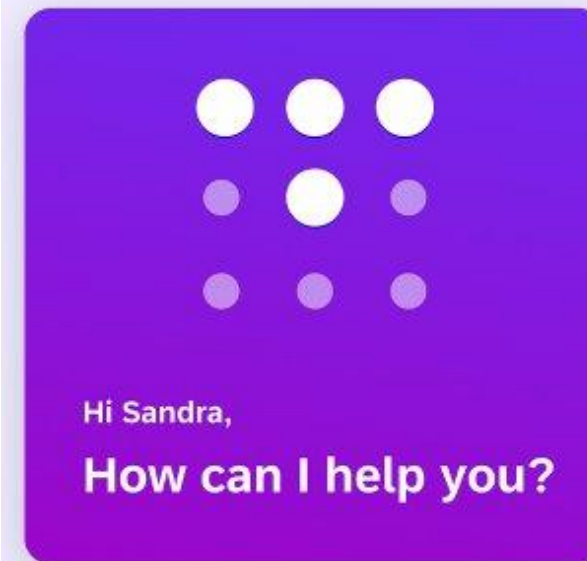
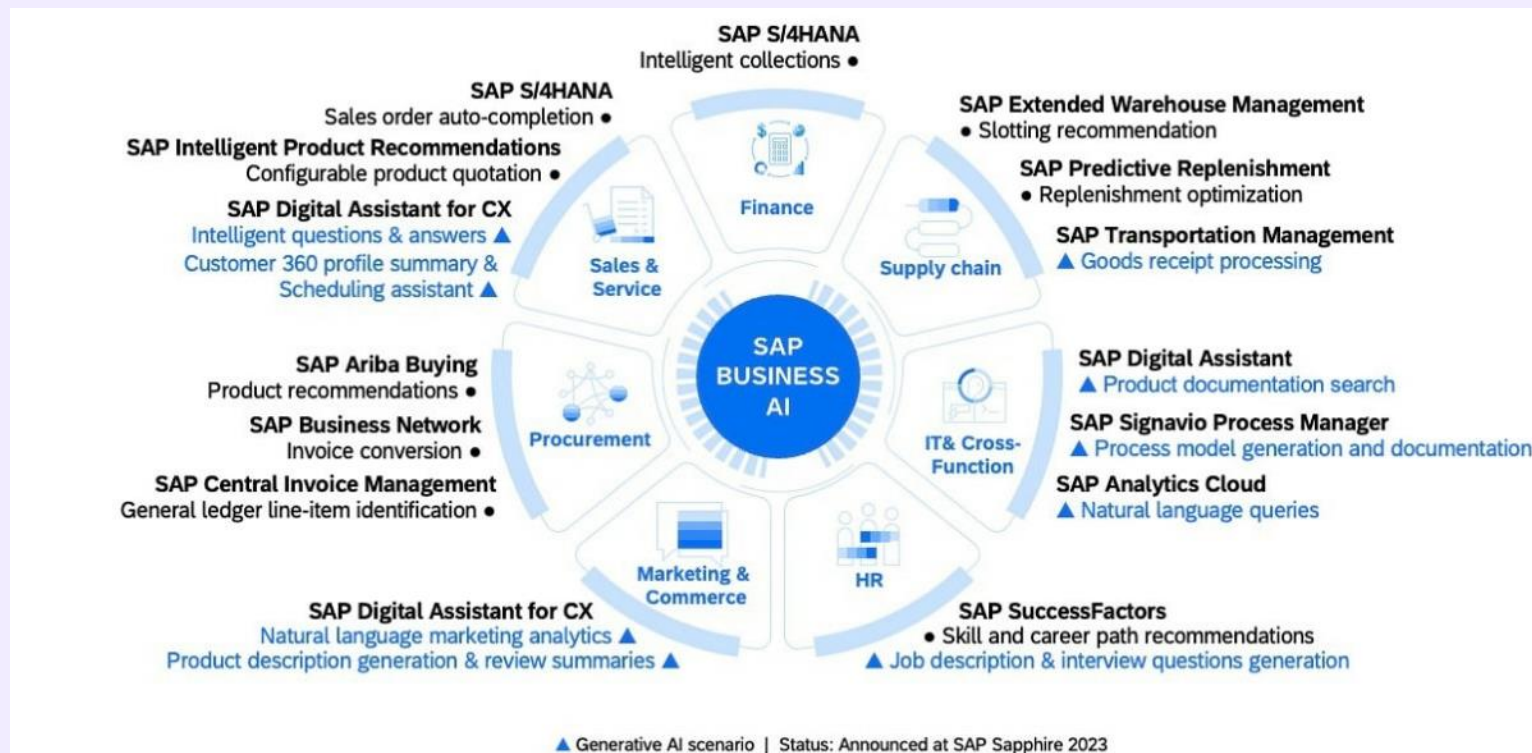
mind. **108.000** USD p.a.
(30 USD p.m. mind. 300 User)

Copilot
Your everyday AI companion

Quelle: Microsoft, LBBW

SAP – Joule wird SAPs „Copilot“, arbeitet mit allen relevanten LLMs zusammen und hebt alle SAP-Apps

~30% Uplift
premium SKU potential



CBINSIGHTS
AI 100
2023

AI development tools

| | | | | | |
|--------------------------------------|--|--|--|---|--|
| AI chips & processors | Synthetic data | NLP annotation | Computer vision visualization | Federated learning platforms | Version control & experiment tracking |
| Vector database tech | ML development & deployment | Model validation & monitoring | AI auditing & governance | Foundational models & APIs | |

Der sog. **AI-Tech-Stack** differenziert sich aus – Big Tech vs. Open Source

Cross-industry applications

| | | | | | |
|--------------------------------------|--|--------------------------------------|----------------------------|---|-------------------------------------|
| Synthetic voice | Image & text generation | Privacy & security | Code generation | Sales & customer support | AI assistants & HMIs |
| Emotion analytics | Productivity tools | Warehouse & logistics | Digital twins | Design tools | Quantum AI software |
| General-purpose humanoids | Image processing | Content moderation | Smell tech | Translation | Search |

IT, Backoffice, Supply Chain, Customer Relations gehören zu den **frühen Use Cases**

Industry-specific

| | | | | |
|--|--------------------------------------|---------------------------------|------------------------------------|-------------------------|
| Materials & manufacturing | Gaming | Fashion & retail | Energy | Healthcare |
| Defense | Finance | Agriculture | Physical infrastructure | Construction |
| Education | Media & entertainment | Legal | Auto & mobility | |

Jede Branche ist **betroffen** und KI wird zum Wettbewerbs-Vor- oder Nachteil



MULTIPLIKATION

Relevante Spieler im Markt

- Wird Big Tech das Spielfeld dominieren?
- Chancen für Europäische Anbieter?
- Wo liegen erfolgreiche Use Cases?

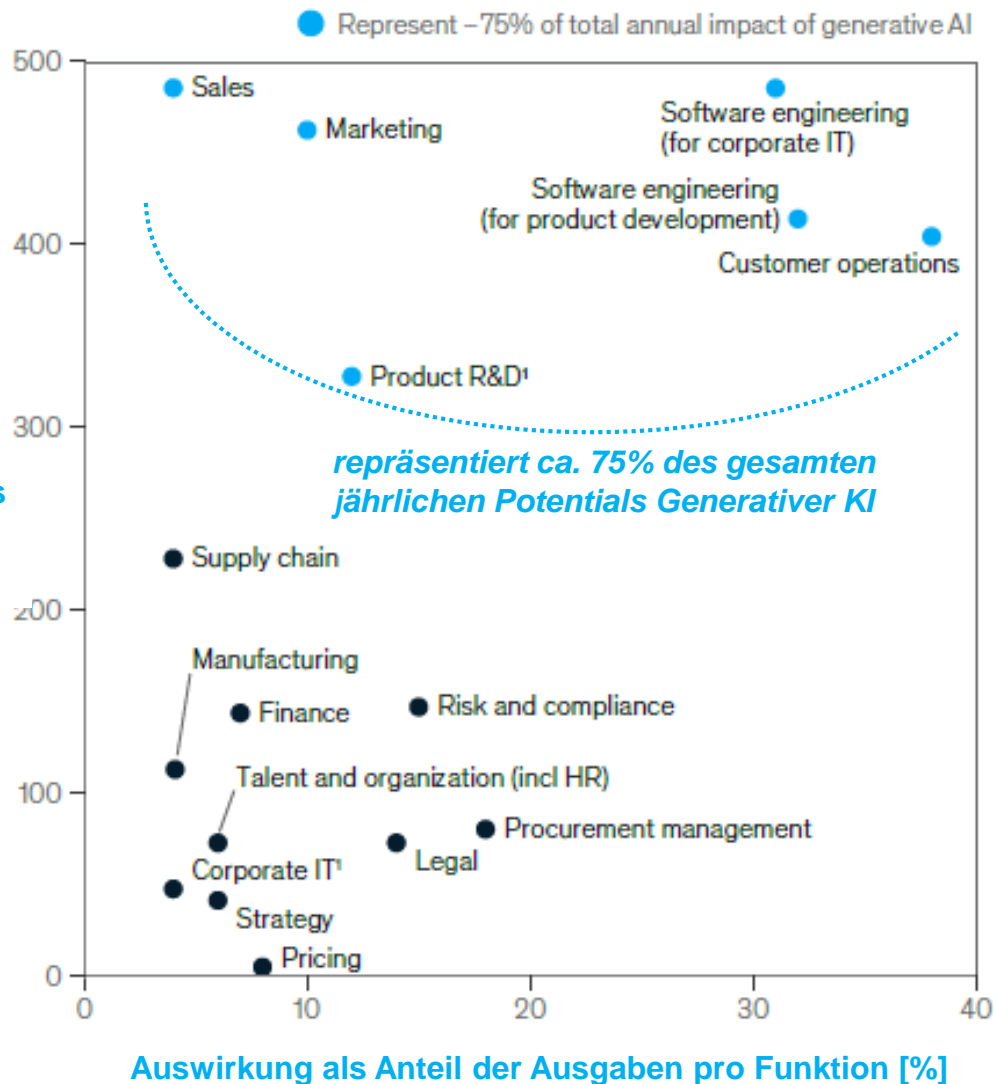


TRANS- FORMATION

GenKI in der Arbeitswelt

- ... in welchen Branchen / Funktionen
- ... bei welchen Jobs
- KI und der Fachkräftemangel

Betroffene Funktionen und Branchen



Von GenKI stark betroffene Branchen

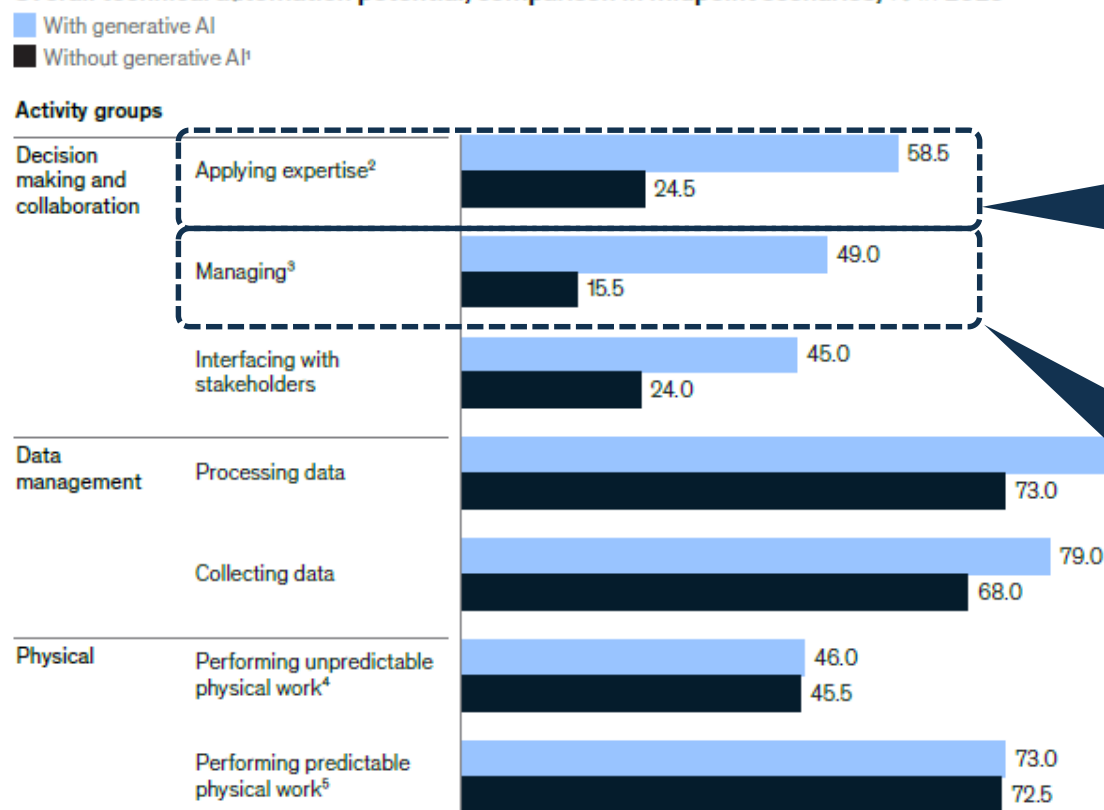
(Ranking der Branchen mit Impact >> 2% vom Branchenumsatz, gerundet)

- 1) High-Tech** (5-8%) – die Softwareentwicklung ist hier der Haupttreiber (Produktivität)
- 2) Banking** (3-5%) – neben Software und Mkt/Sales noch Customer Operations im Privatkundengeschäft und Risk/Legal wg. Textanalysen, Textgenerierung
- 3) Pharma / Medical** (3-5%) – der Hauptimpact liegt in Forschung & Entwicklung (Innovation, Time-to-market)
- 4) Telecoms** (2-4%) – hier sehr viele betroffene Funktionen, da im Wesentlichen eine digitale Produktion
- 5) Education** (2-4%) – Effekte liegen in der Aufbereitung von Wissen und der Lehrtätigkeit

ChatGPT hat leider kein Photo für Dich ☹️ ... schlechte Nachrichten für **Manager** und **Experten**?

Automatisierungspotenziale ohne und mit GenKI nach Aktivitätstypen

Overall technical automation potential, comparison in midpoint scenarios, % in 2023



Expertenjobs – weniger Recherche, mehr Meinung

- Anwendung von Expertise zur Entscheidungsunterstützung, zur Planung und für kreative Aufgaben
- Analyse und Aufbereitung von Information, insbes. qualitativ, inkl. Zugriff auf aktuelle interne und externe Datenquellen

Management – weniger Administration, mehr Führung

- Führung und Entwicklung von Personal / Talenten
- Insbes. administrative Aufgaben betroffen, nicht: „Leadership“
- Aber auch Kollaboration (Meetings, Projekte, Kommunikation)

Note: Figures may not sum, because of rounding.

1Previous assessment of work automation before the rise of generative AI.

2Applying expertise to decision making, planning, and creative tasks.

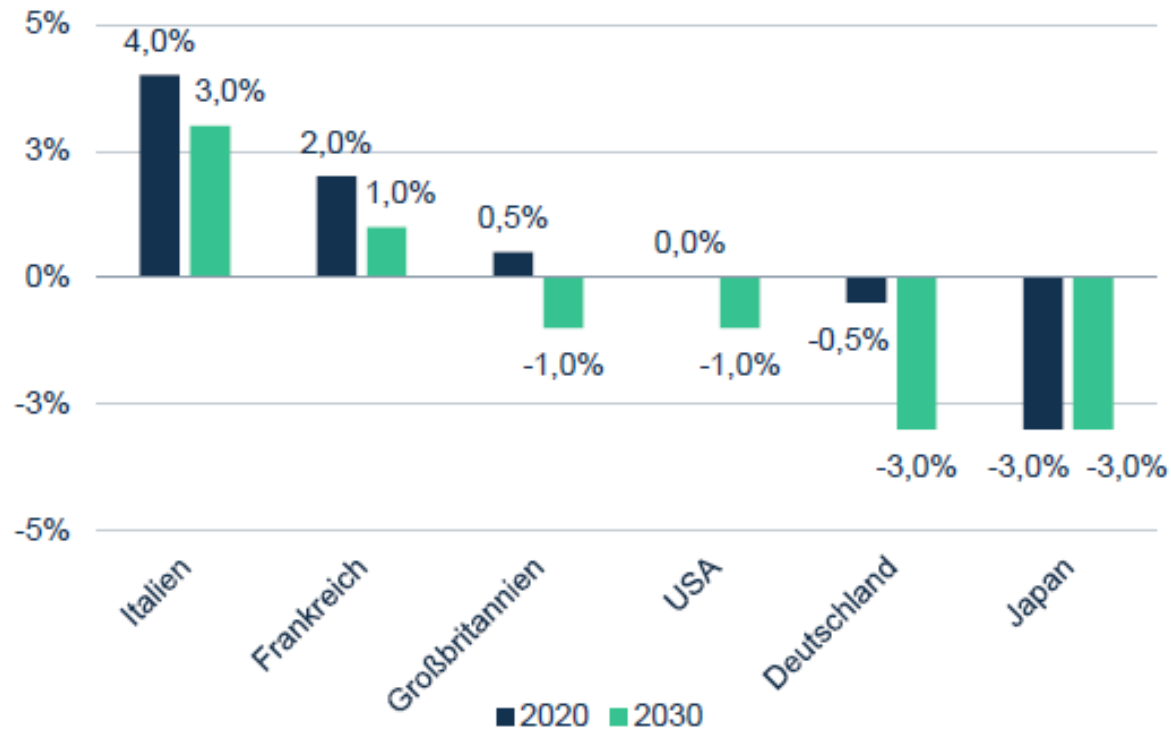
3Managing and developing people.

4Performing physical activities and operating machinery in unpredictable environments.

5Performing physical activities and operating machinery in predictable environments.

In Deutschland fehlen ca. **2 Mio. Fachkräfte** bis 2030 – KI kommt eigentlich zur rechten Zeit

Differenz zwischen Angebot und Nachfrage nach Fachkräften mit hohem Bildungsabschluss



“Wir müssen uns in Deutschland wirklich entscheiden, wovor wir Angst haben wollen: vor dem Fachkräftemangel oder vor Massenarbeitslosigkeit”

*Prof. Dr. Jens Südekum,
Heinrich-Heine Universität, Düsseldorf*

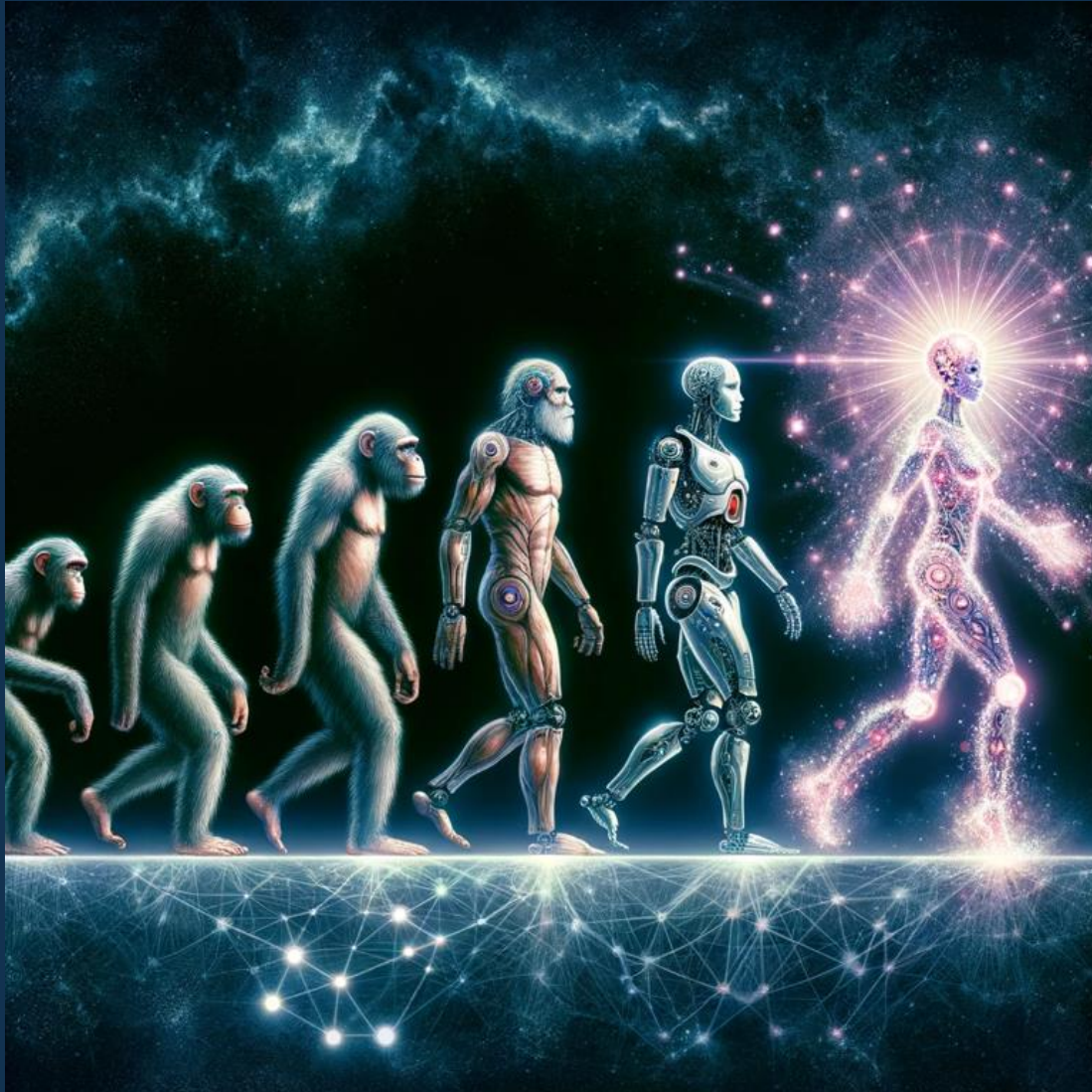




TRANS- FORMATION

GenKI in der Arbeitswelt

- Wer sind die Verlierer? Wer gewinnt?
- Ableitung für Unternehmen?
- Ableitung für Manager?
- Ableitung für Mitarbeiter?



AUSBLICK

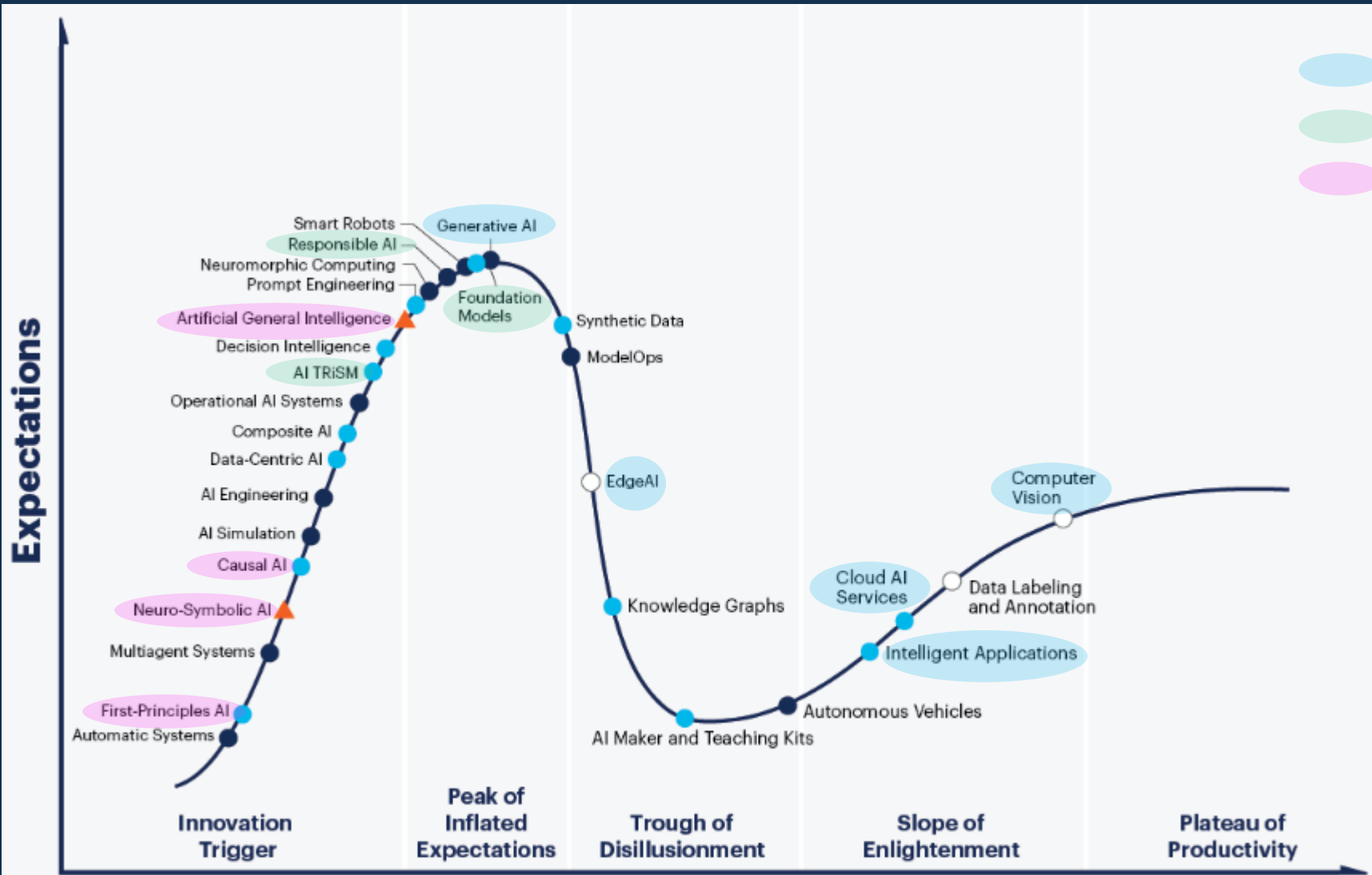
... und Abschluß

- Sind wir reif für das was noch kommt?

Video killed the radio star ... and GenAI is killing Hollywood?



“Our results suggest that scaling video generation models is a promising path towards building general purpose simulators of the physical world.”



Plateau will be reached:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau
- As of July 2023

Hype?

Hope?

Help?

GenKI in der Arbeitswelt – Wall-E oder Terminator?



27.02.2024

Auf gute Zusammenarbeit ...

... und vielen Dank für Ihre Aufmerksamkeit!



LBΞBW