



# **Zukunft gestalten: Innovative Geschäftsmodelle im digitalen Zeitalter**

Prof. Dr. Isabell Welppe  
*20. November 2023*



Welches sind die sieben teuersten Wörter für jedes Unternehmen?


<sup>1</sup> Das <sup>2</sup> haben wir <sup>3</sup>  
<sup>4</sup> schon immer <sup>5</sup> so <sup>6</sup>  
<sup>7</sup> gemacht.



Quelle Dall E im Auftrag von Isabell Welp

Famous last words: “Das haben wir schon immer so gemacht.”





*"Nicht die Stärksten  
überleben, sondern **die, die  
sich anpassen können**"*

Charles Darwin





**Was hilft bei  
Anpassung?**

DATENSCHUTZ!

Innovation

Es geht  
nicht!

Wär ja  
noch  
schöner

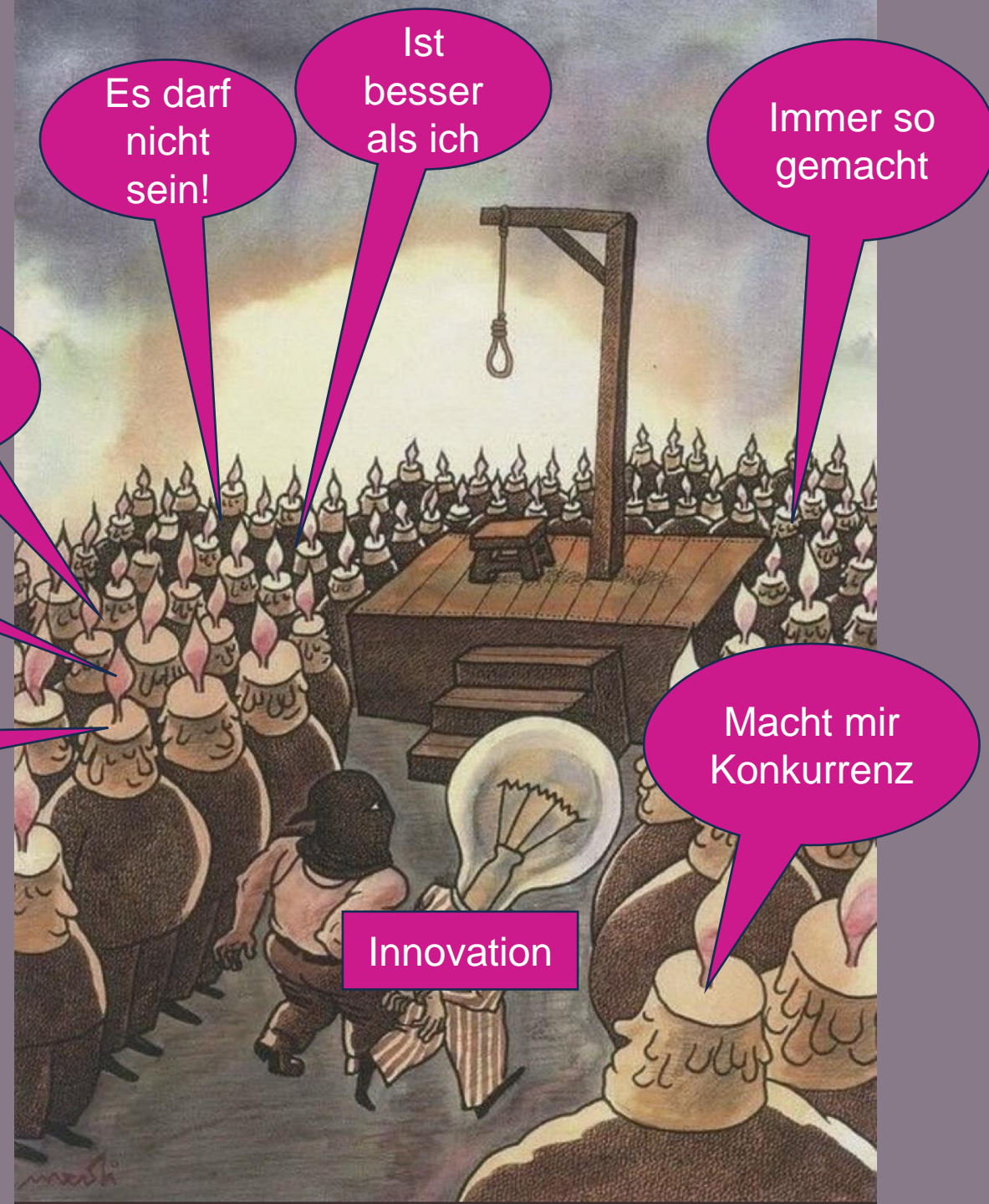
Es darf  
nicht  
sein!

Ist  
besser  
als ich

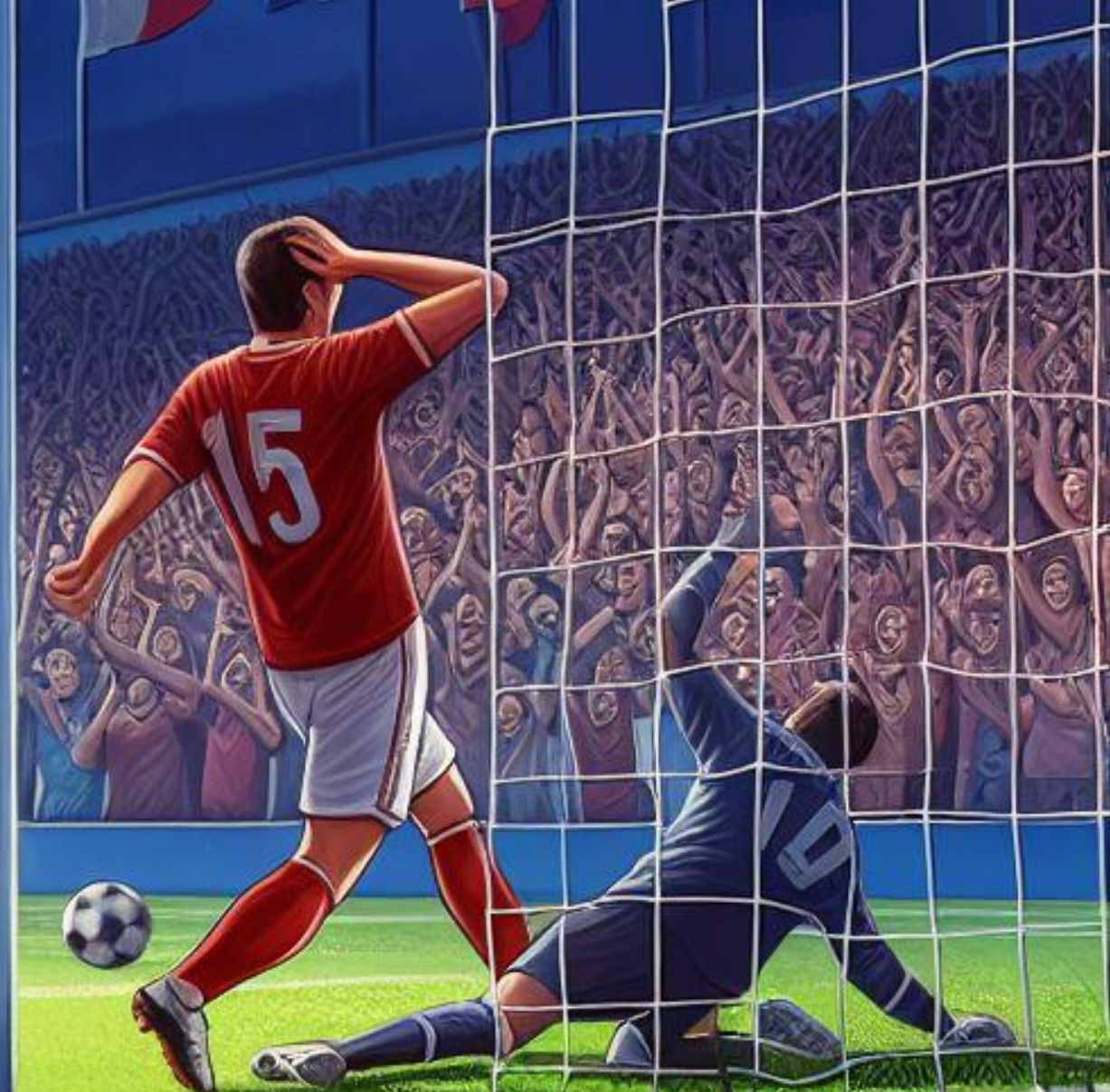
Immer so  
gemacht

Macht mir  
Konkurrenz

Innovation



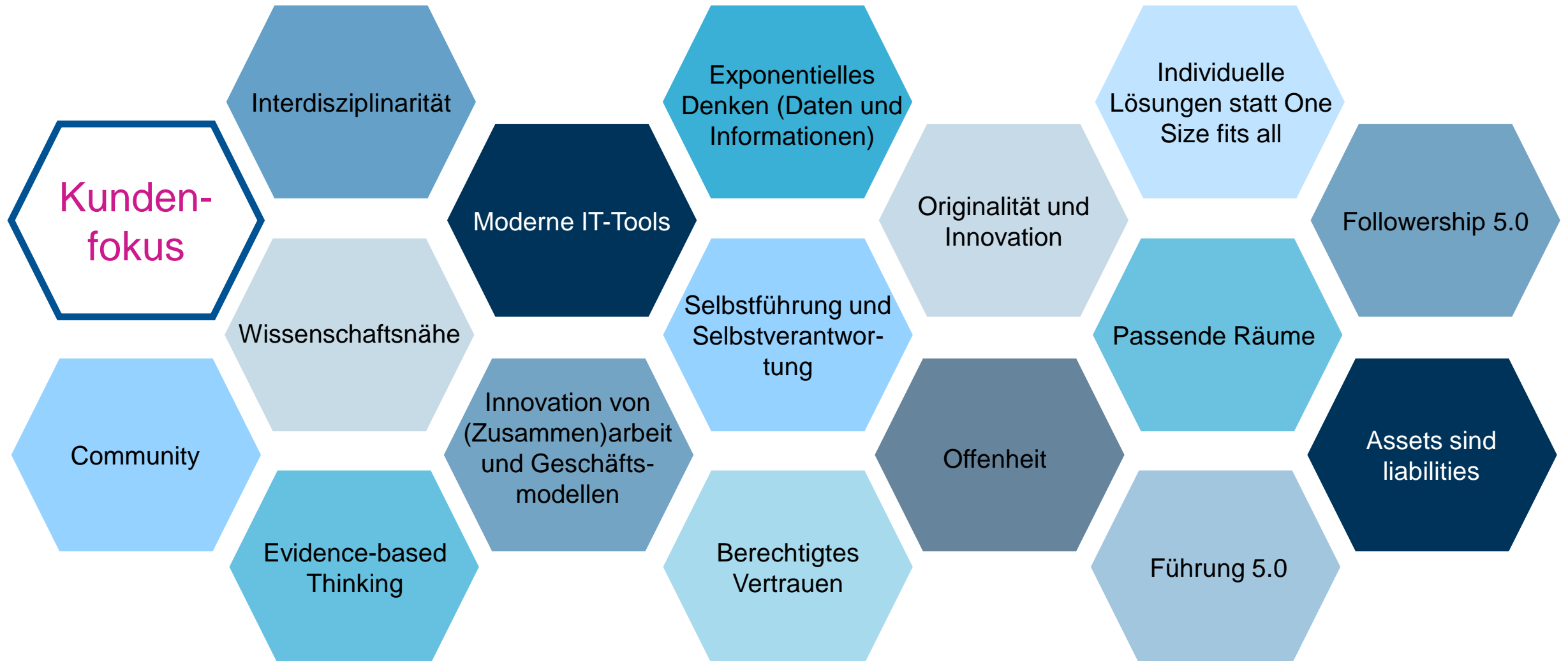




Aufs eigene Tor spielen



# (Neue) Erfolgsfaktoren für digitale Transformation







23andMe



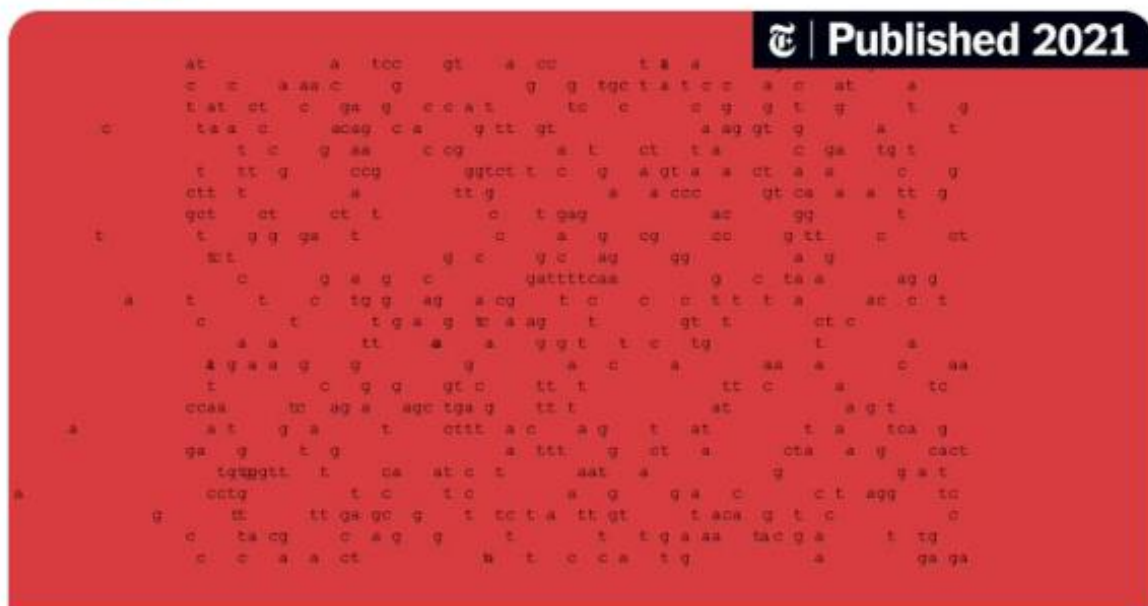
Morgan Housel ✓  
@morganhousel

...

Making the Moderna vaccine:

“They never had the virus on site at all; they really just used the sequence, and they viewed it as a software problem.”

[Tweet übersetzen](#)



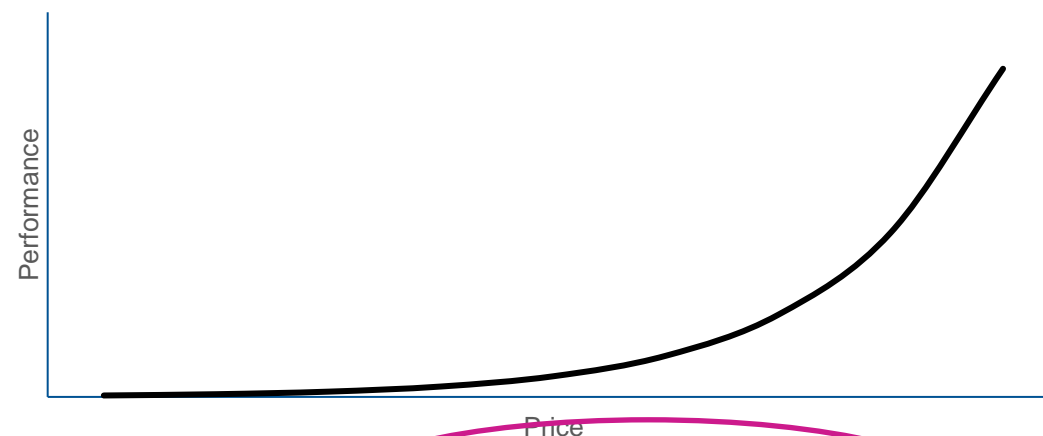
nytimes.com

A DNA Sequencing Revolution Helped Us Fight Covid. What Else Can It Do? (P...  
Ultrafast and ultracheap sequencing could reshape the future of health care.

3:13 nachm. · 26. März 2021 · Twitter Web App

141 Retweets · 18 Zitierte Tweets · 895 Gefällt mir“-Angaben

## Das neue Paradigma



Im Zentrim: *Informationen / Daten*



**Exponential organizations**

# Tesla: Full Self-Driving Capability

## Full Self-Driving Capability

\$10,000



- Navigate on Autopilot
- Auto Lane Change
- Autopark
- Summon
- Full Self-Driving Computer
- Traffic Light and Stop Sign Control

Coming later this year

- Autosteer on city streets

ADD

FEATURE DETAILS

2022



### Car dNFT Metadata

#### VEHICLE MODEL

Tesla Model 3

#### MILEAGE & SOFTWARE

777 miles; 2022.24.8

#### PAST SALES

2022 / \$59,990

#### SERVICE RECORDS

2022 / Enhanced autopilot

2027



### Car dNFT Metadata

#### VEHICLE MODEL

Tesla Model 3

#### MILEAGE & SOFTWARE

42,000 miles; 2027.10.2

#### PAST SALES

2022 - \$59,990

2025 - \$51,000

#### SERVICE RECORDS

2022 / Enhanced autopilot  
2023 / Tire rotation and alignment  
2024 / Air filter change

#### ACCIDENT REPORT

2026 / Collision; minor damage

Web3



Besser



Innovation



# Kai-Fu Lee

Autor von AI Superpowers, CEO @Sinoventures



ICH: "Mr. Lee, was interessiert Sie an europäischen Start-ups, würden Sie hier investieren wollen?"

KFL: "Nichts."

KFL: "27 verschiedene Gesetze, Ihre Steuern sind doppelt so hoch. Nein danke."

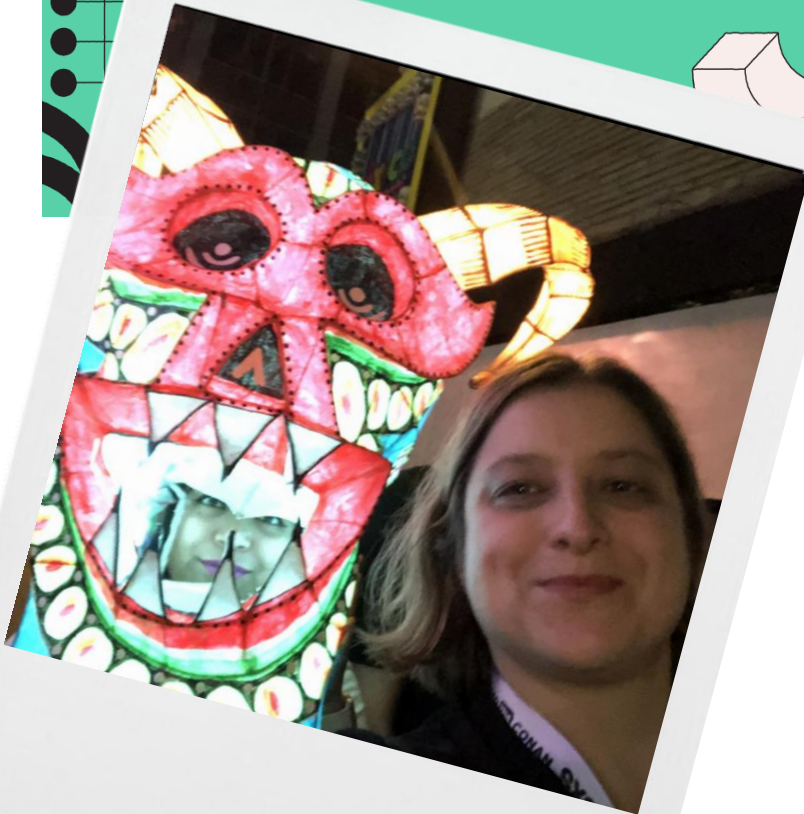
ICH: 🙄

... geht weg...

KFL: "Warten Sie bitte"

KFL: "Wenn Sie mir bitte alle Masterarbeiten schicken könnten, die von Studenten der TUM in Technik und Naturwissenschaften geschrieben wurden. Deutsche Wissenschaftler sind sehr kreativ und sehr erfinderisch."





*“Ah, du bist von der TUM? Ihr habt den Hyperloop Contest 4(!) (vier) Mal [jetzt] in Folge gewonnen? Glückwunsch!!!”*



**“Wann werdet Ihr ein Hyperloop-Transportsystem in Deutschland bauen???”**





ICH: „Darf ich ein Bild von Ihrer Rakete machen?“

UT: „Warum?“

ICH: „Oh, ich will es ISAR Aerospace schicken“

UT: „SIE KENNEN ISAR AEROSPACE???“

ICH: „Ja“

UT: „Die sind DIE BESTEN, viel besser als Elon.  
Wann schickt Deutschland Raketen von Isar Aerospace zum Mond?“





KI



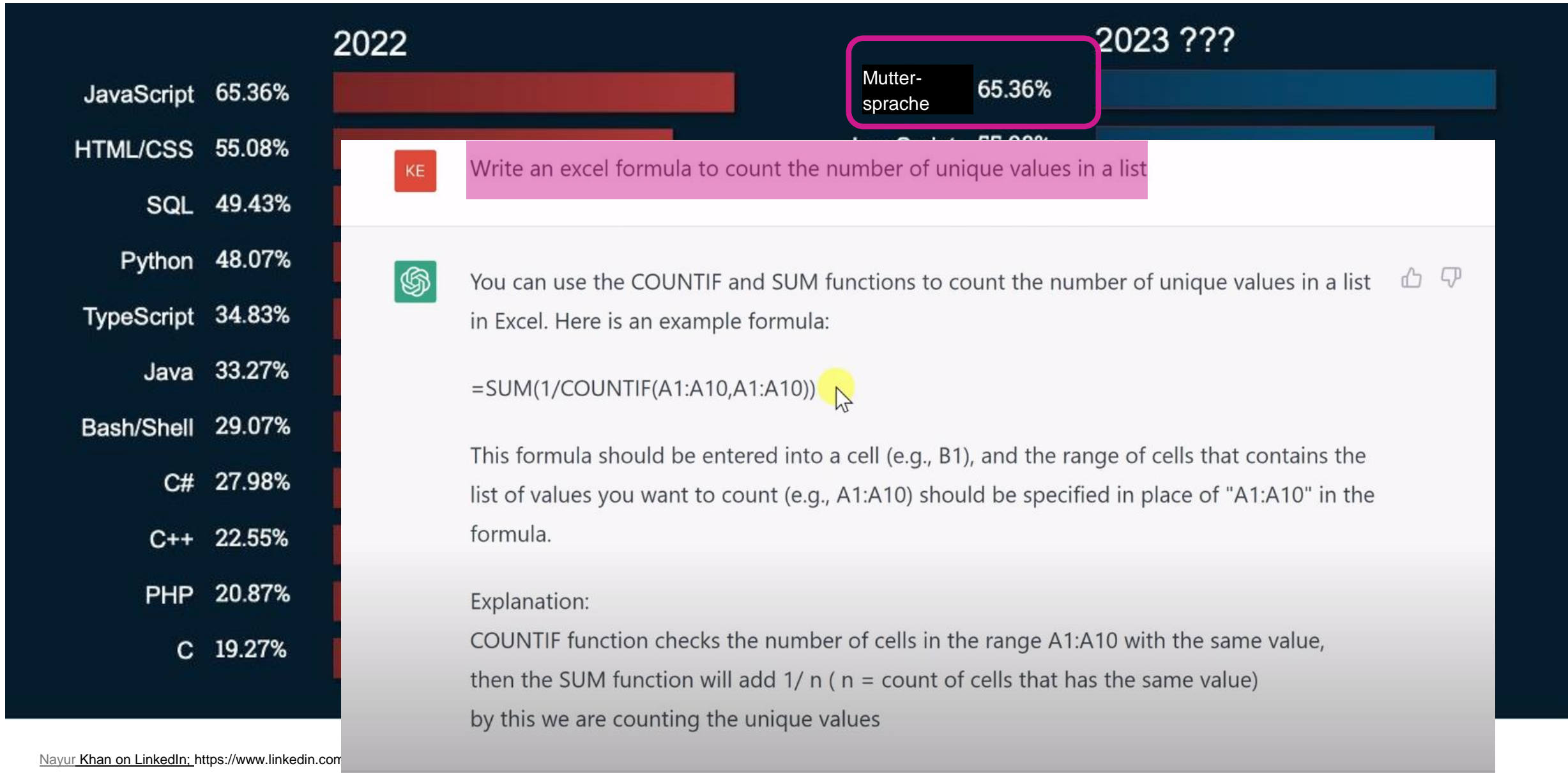
A close-up portrait of Sundar Pichai, CEO of Google, smiling and wearing glasses. He is positioned in the center-left of the frame. To his left, a large yellow star is partially visible against a blue background. To his right, there is a light blue background with magenta text.

*„AI  
tiefgreifender  
als Feuer  
und  
Elektrizität“*

Sundar PichAI



# Was sind ab jetzt die wichtigsten Programmiersprachen?



# 1. Kosten sinken...

# 2. Umsätze steigen...

# In allen Unternehmens- funktionen

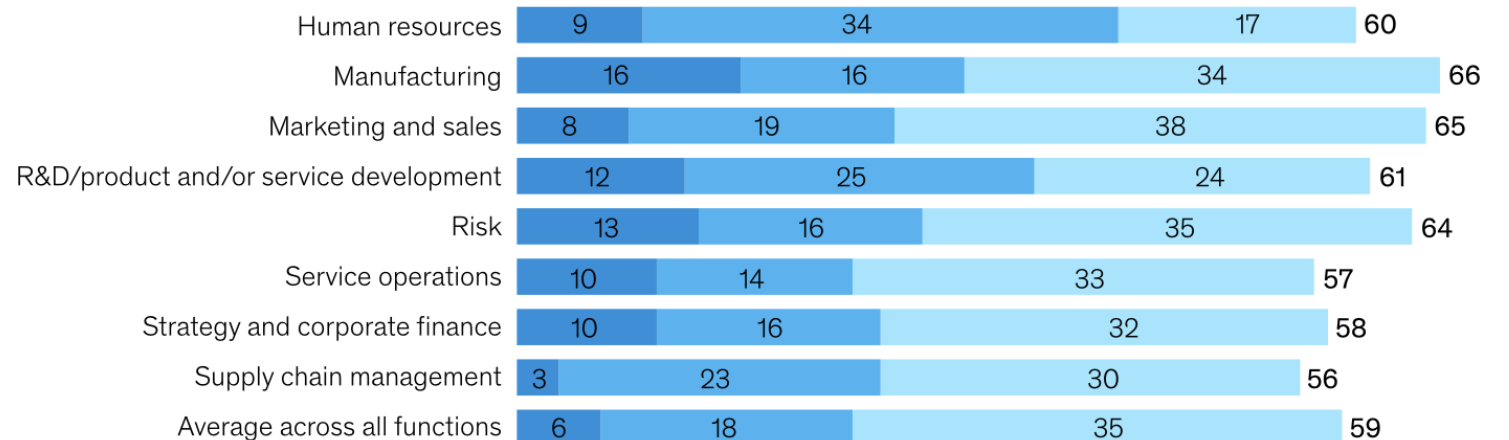
**Cost decreases** from AI adoption in 2022, % of respondents<sup>1</sup>

■ ≥20% ■ 10–19% ■ <10%



**Revenue increases** from AI adoption in 2022, % of respondents<sup>2</sup>

■ >10% ■ 6–10% ■ ≤5%

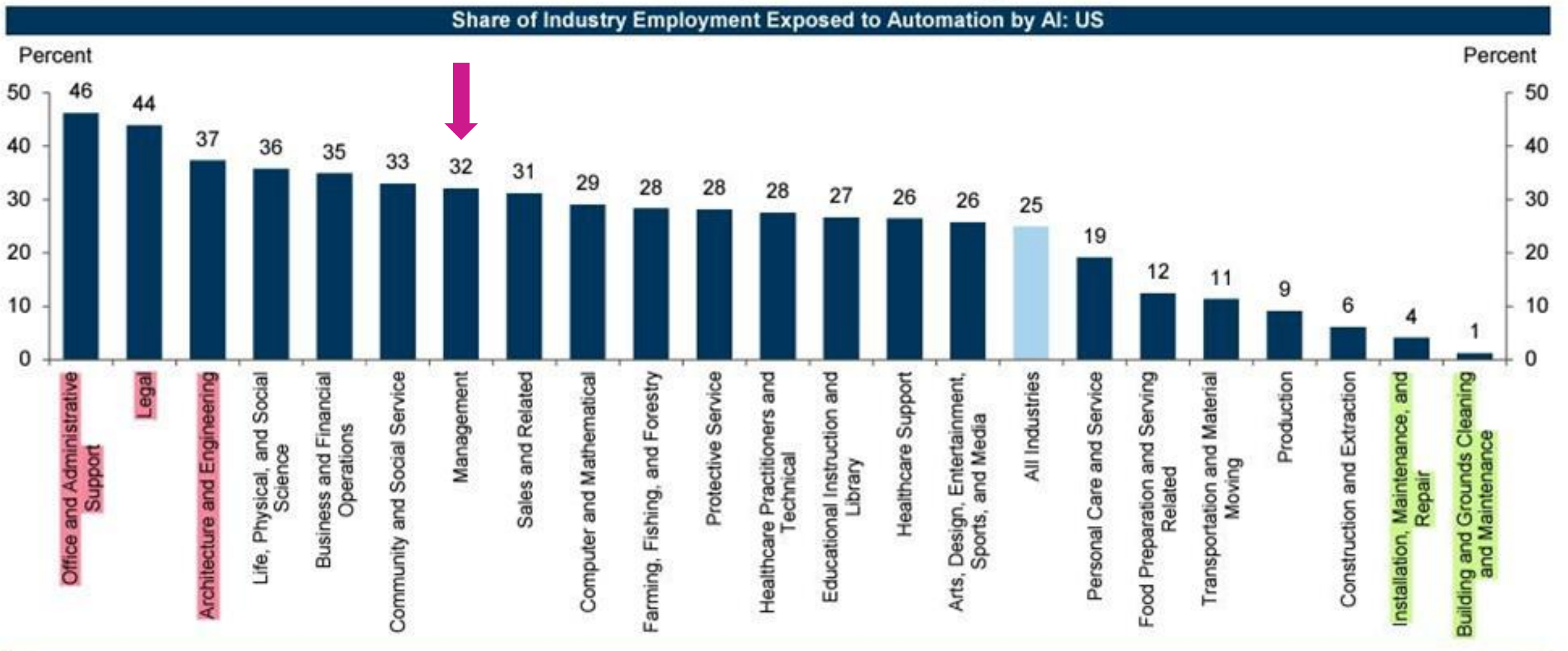


<sup>1</sup>Question was asked only of respondents who said their organizations have adopted AI in a given function. Respondents who said “cost increase,” “no change,” “not applicable,” or “don’t know” are not shown.

<sup>2</sup>Question was asked only of respondents who said their organizations have adopted AI in a given function. Respondents who said “revenue decrease,” “no change,” “not applicable,” or “don’t know” are not shown.

Source: McKinsey Global Survey on AI, 1,684 participants at all levels of the organization, April 11–21, 2023

Exhibit 5: One-Fourth of Current Work Tasks Could Be Automated by AI in the US and Europe





# Studien



**Studie 1:** Kundendienstmitarbeiter, die Kundenanfragen in einem Unternehmenssoftwareunternehmen bearbeiten.

**Studie 2:** Erfahrene Manager (z.B. Marketingfachleute, Personalverantwortliche), die routinemäßige Geschäftsdokumente (z.B. Pressemitteilungen) verfassen, deren Erstellung etwa eine halbe Stunde dauert

**Studie 3:** Programmierer, die ein kleines Softwareprojekt programmieren, das ohne KI-Unterstützung etwa drei Stunden in Anspruch nimmt

# Ergebnisse



**Studie 1:** Kundendienstmitarbeiter, die KI einsetzen, konnten 13,8 % mehr Kundenanfragen pro Stunde bearbeiten.

**Studie 2:** Manager, die KI einsetzen, können 59% mehr Geschäftsdokumente pro Stunde schreiben.

**Studie 3:** Programmierer, die KI einsetzten, konnten 126% mehr Projekte pro Woche programmieren.

# Generative AI at Work\*

Erik Brynjolfsson  
Stanford & NBER

Danielle Li  
MIT & NBER

Lindsey Raymond  
MIT

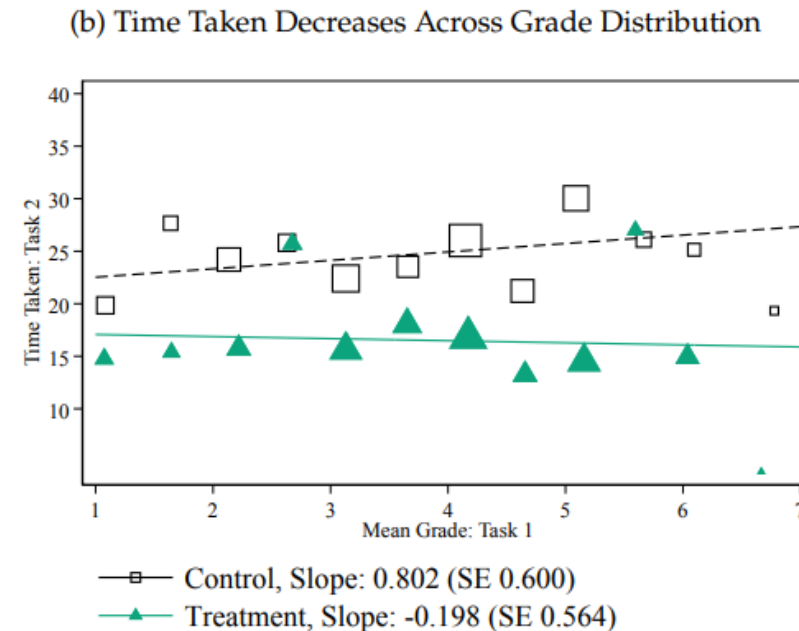
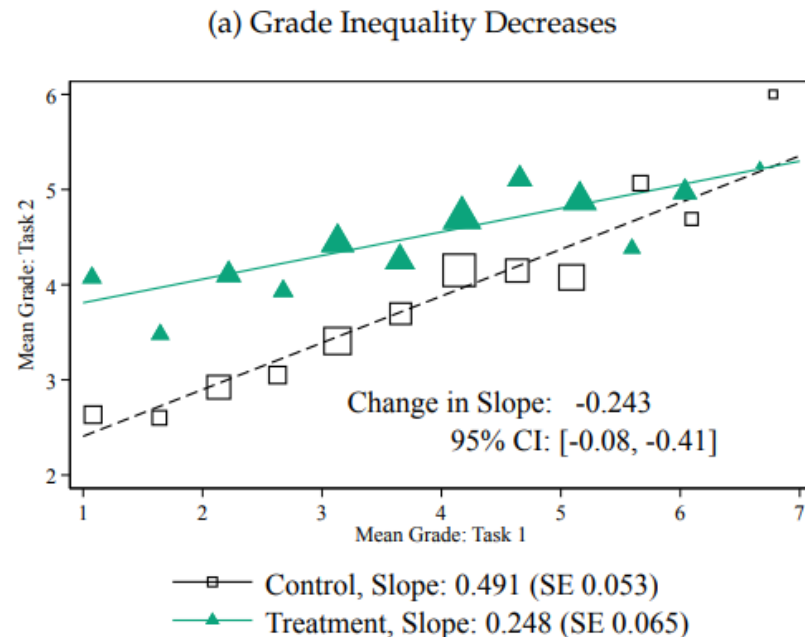
April 25, 2023

Please see [here](#) for latest version

- 5000 Mitarbeiter des Kundendienstes eines Fortune-500-Softwareunternehmens hatten Zugang zu generativen KI-Tools
- 14% produktiver geworden
- Getestet über ein Jahr
- Real-world setting: Zum ersten Mal außerhalb des Labors gemessen

# Die Verwendung von ChatGPT verringert die Leistungsunterschiede zwischen Einzelpersonen

81% entschieden sich dafür, es bei der zweiten Aufgabe zu nutzen mit Nützlichkeitsbewertung von 4,4 von 5 Punkten.



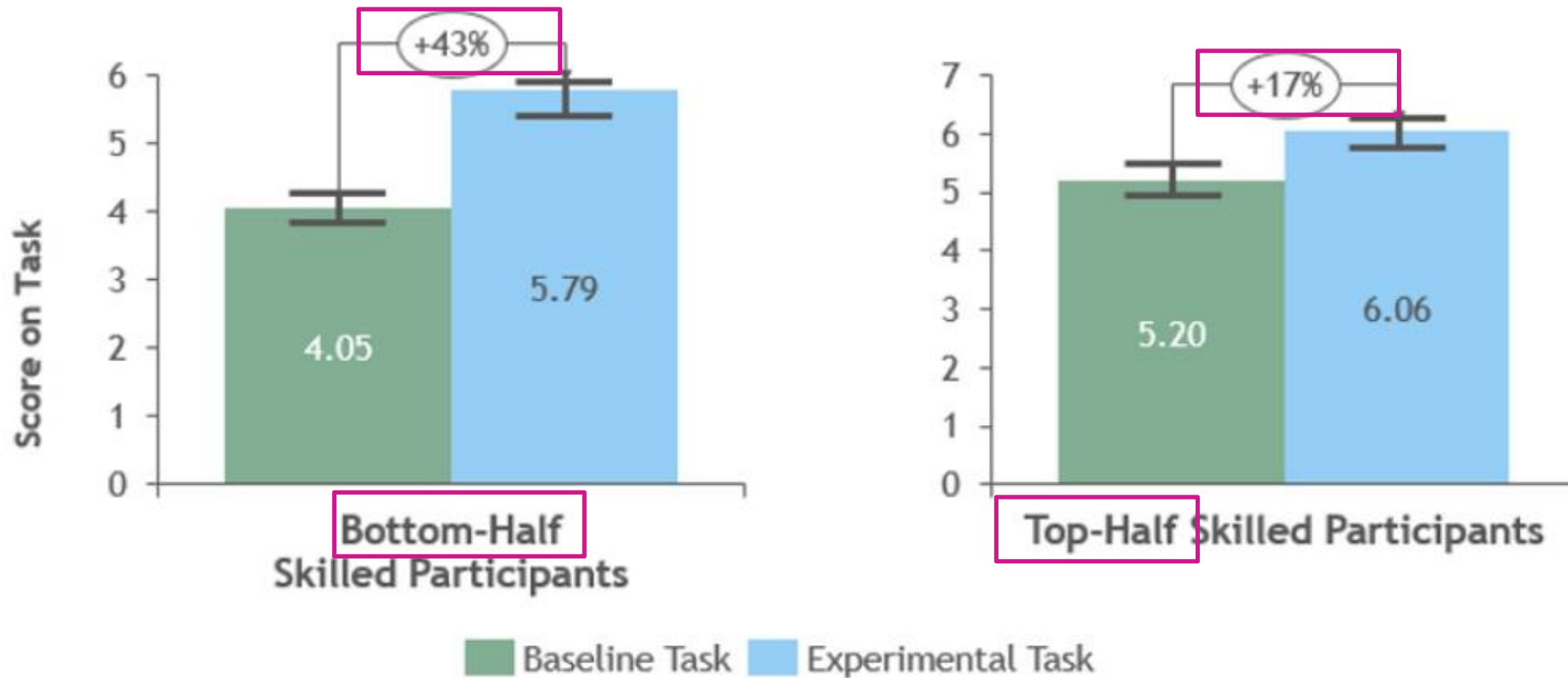


"Berater, die KI einsetzen, erledigten im Durchschnitt **12,2% mehr Aufgaben**, erledigten Aufgaben **25,1% schneller** und erzielten **40% hochwertigere Ergebnisse** als Berater ohne KI.



Distribution of output quality across all the tasks. The blue group did not use AI, the green and red groups used AI, the red group got some additional training on how to use AI.

Figure 5: **Bottom-Half Skills and Top-Half Skills - Inside the Frontier**



# Use Cases

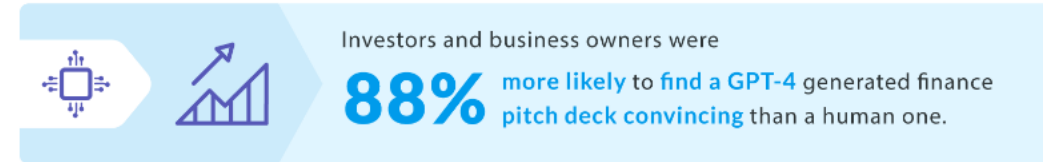
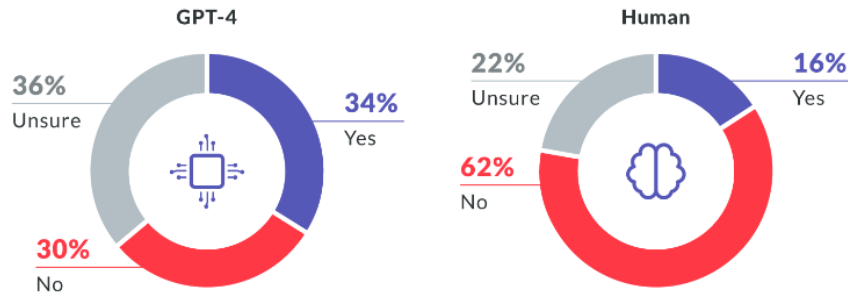


# GPT-4 übertrifft Menschen bei Pitch Decks

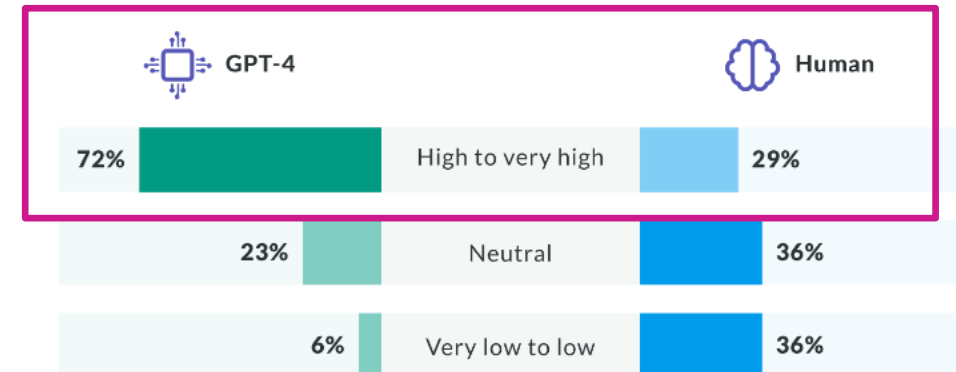
Would you copy the style used in this pitch deck to apply to your own?



Would you invest in it?



What is the overall quality of the pitch deck?



- Investoren sagen, dass die von **GPT-4** erstellten Pitch Decks **2x überzeugender** sind
- Die **Wahrscheinlichkeit**, dass Investoren nach der Lektüre eines GPT-4 Pitch Decks **investieren**, ist **dreimal höher**

# KI kann ein Grafikdesign für **nur 0,08\$** erstellen, verglichen **mit 150\$** für menschliche Arbeit



Image Courtesy: AI Gengrau, Twitter

## Human

Cost \$150

Time 5 Hours

## Generative AI

Cost \$0.08

Time < 1 Minute





**BECK'S**  
150 YEARS

# AUTONOMOUS

---

THE BEER THAT MADE ITSELF

FROM RECIPE TO MARKETING A BEER MADE WITH AI







Jason Allen's A.I.-generated work, "Théâtre D'opéra Spatial," took first place in the digital category at the Colorado State Fair.  
via Jason Allen





The diagram appears to represent the "Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management System." It's a complex flowchart detailing the various stages, processes, and decision points involved in defense acquisition and life cycle management. Here's a high-level breakdown:

### 1. Phases of the Lifecycle:

- Material Solution Analysis (MSA):** Before entering the acquisition process, there's a decision point called Material Development Decision (MDD). Following this, the MSA phase begins.
- Technology Development Phase:** This phase seems to focus on refining the technologies involved and ensuring they are mature and viable.
- Engineering & Manufacturing Development Phase:** Here, the focus is on the detailed design and development of the system.
- Production & Deployment Phase:** This phase involves the actual production of the systems and their deployment.
- Operations & Support Phase:** After deployment, this phase ensures that the systems are supported and maintained throughout their operational life.

### 2. Key Components:

- Joint Capabilities Integration & System:** Driven by the needs and integrates various capabilities.
- Oversight Review:** Various points for oversight and decision-making to ensure the acquisition is on track.
- Contracting:** Various contracting points and strategies across the life cycle.
- Major Products:** Depicts various product outcomes at different stages.
- Logistics/ Sustainment:** Focuses on sustaining the system post-production.
- Defense Acquisition System:** Event-driven points in the life cycle.
- Technical & Business Requirements:** Requirements that need to be met during the process.
- Financial Management:** Financial planning and budgeting aspect of the acquisition.
- Planning, Programming, Budgeting, & Execution Process:** Calendar-driven processes for planning and budgeting.

- Evolutionary Acquisition Strategy:** The diagram also mentions an evolutionary approach to acquisition, hinting at a process that allows for iterative development and deployment.
- Flow Indicators:** The diagram uses arrows and lines to indicate flow, decisions, and transitions from one phase to the next.
- Color Coding and Symbols:** Different colors are used to indicate different components of the acquisition system. Symbols like triangles indicate decision points, while ovals typically represent processes or actions.
- Footnotes:** The bottom section provides additional details, key abbreviations, and clarifications on the processes.

Overall, this diagram appears to be a comprehensive overview of the entire life cycle of defense acquisition, from conception to deployment and support. It incorporates both the technical and business sides of the process, emphasizing key decision points, oversight, and financial considerations.

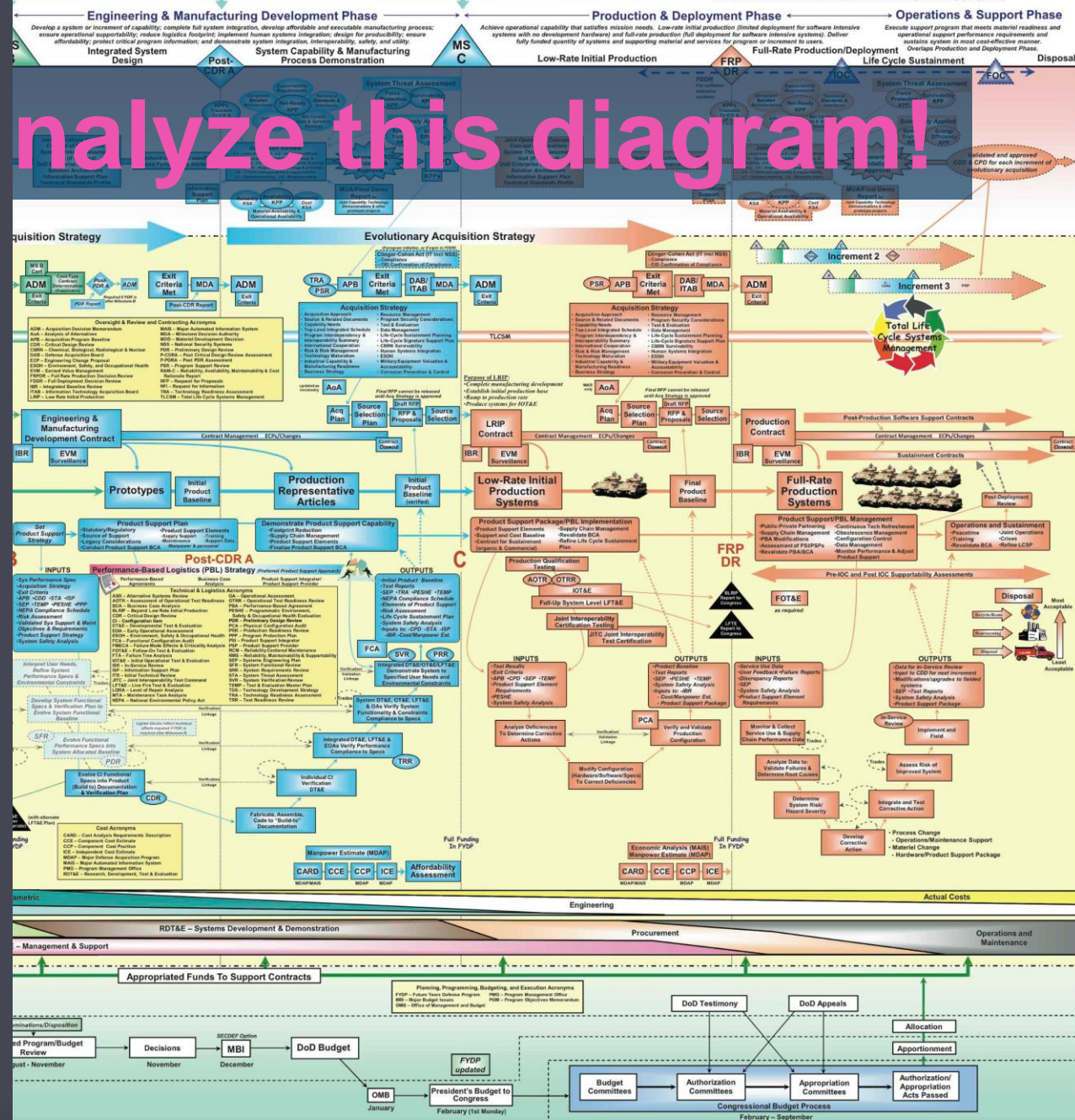


## Technology, and Logistics Life Cycle Management System



acquisition process at any point, consistent with phase-specific entrance criteria and statutory requirements

This chart is a classroom aid for Defense Acquisition University students. It provides a national illustration of the process of decision support systems used to develop, produce and field a weapon system for national defense. Defense acquisition is a complex process with many activities that are shown here and many concerned activities that are not shown. This is a high-level illustration. Complete process information is on back of this chart. For more information, see the Defense Acquisition Portal (<http://dap.dau.mil>).





@THEAIPAGE



E



Hydroxyzine 25mg

My doctor wrote me this prescription. What is it for?

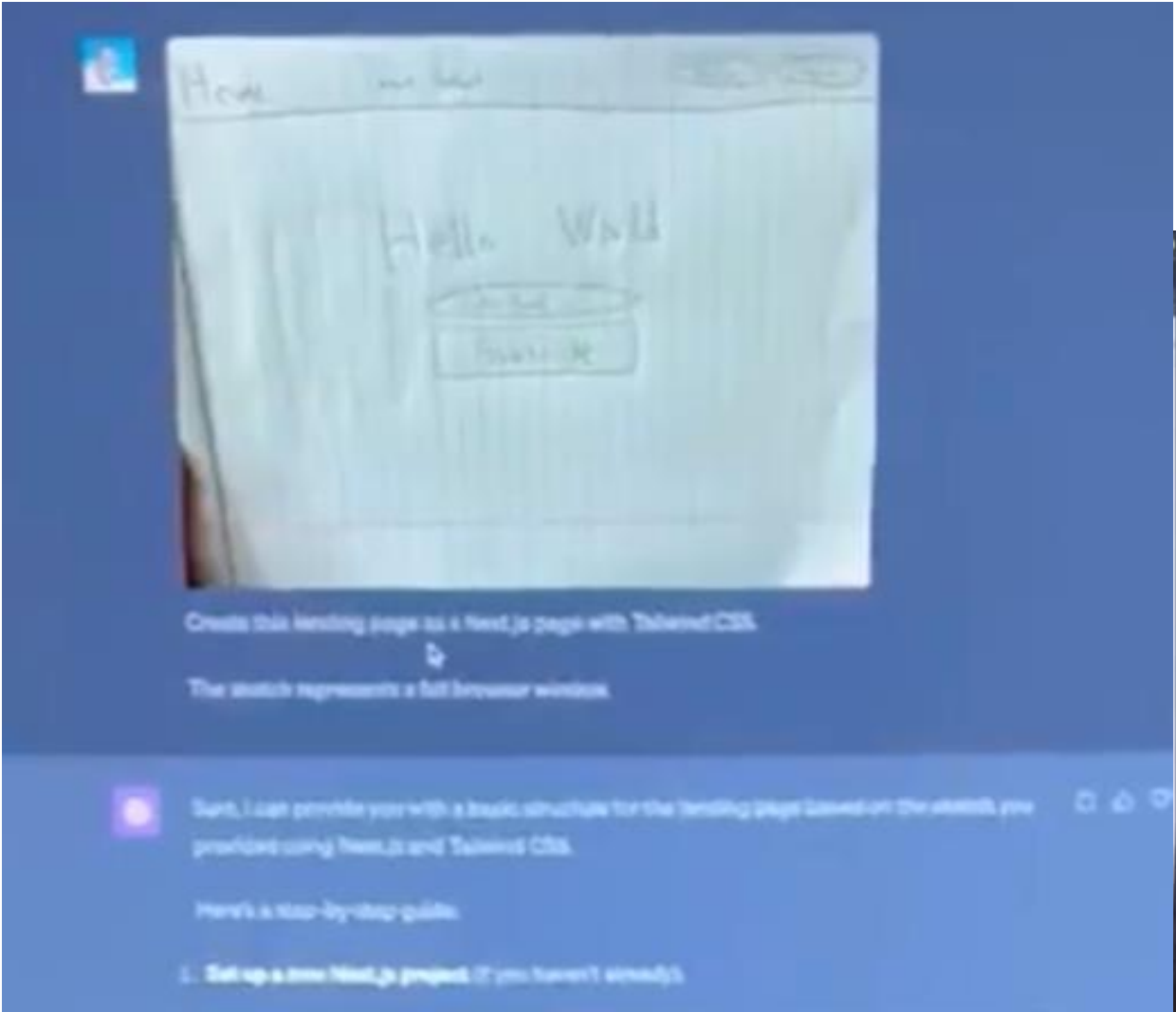
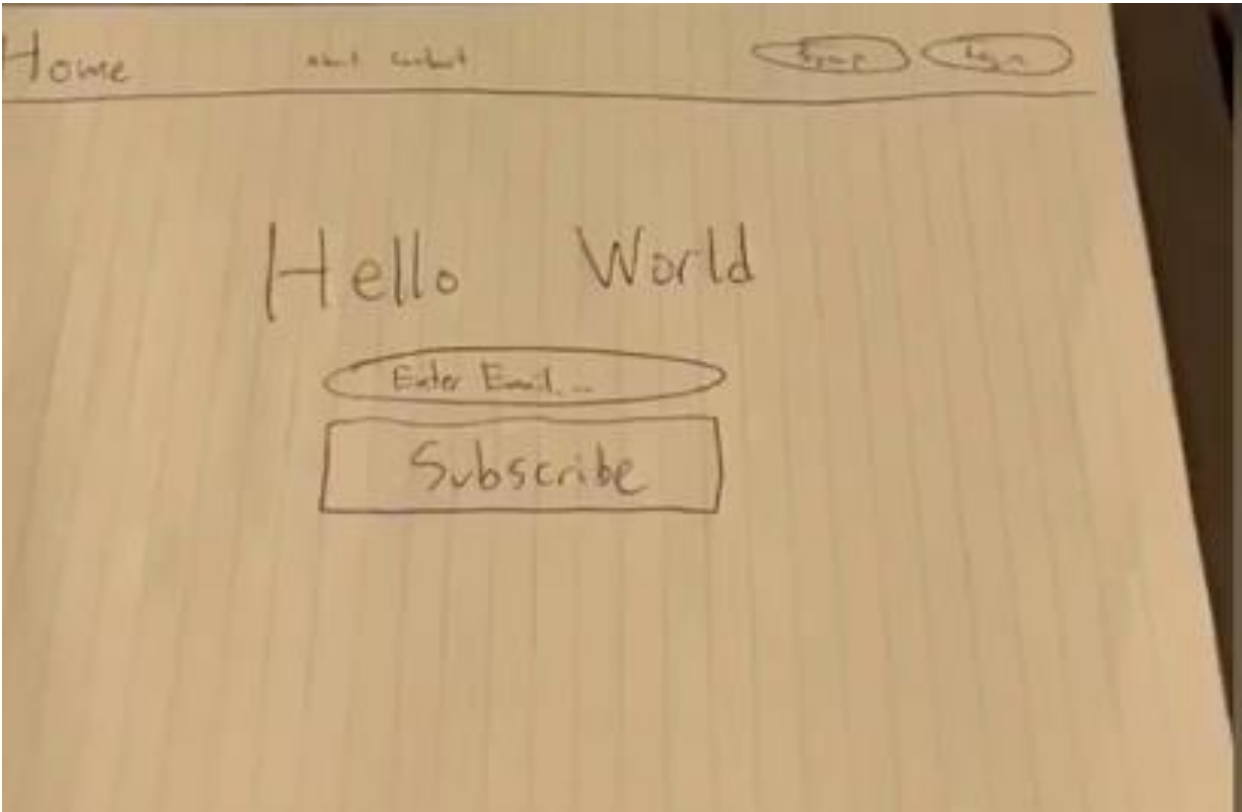




It's Wednesday at 4 pm. Can I park at this spot right now? Tell me in 1 line.

Yes, you can park for up to 1 hour starting at 4 pm.

# Software durch Zeichnen und Skizzieren erstellen





**Werden ich meinen Job an KI  
und ChatGPT verlieren?**

# Nein.

A man in a suit and glasses is looking at a computer monitor. The monitor displays a colorful abstract image. The background is a solid blue color.

Sie werden  
Ihren Job an  
eine Person  
verlieren,  
die KI und  
ChatGPT  
verwendet

# AI und Leadership



# Ein Experiment zur Führung von Teams



## Want a happy worker? Let robots take control.

CSAIL study finds that human subjects prefer when robots give the orders.

[Watch Video](#)

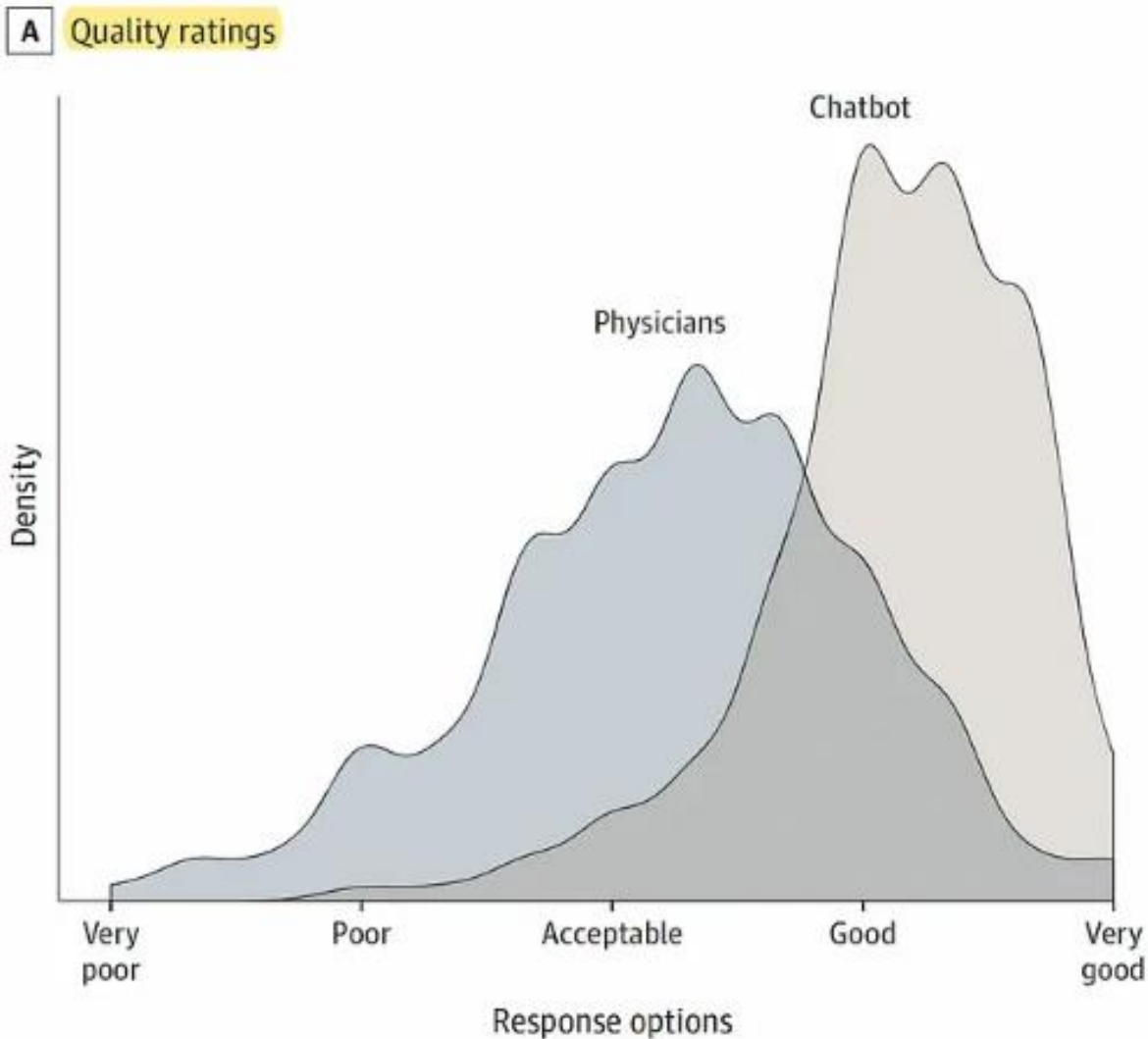
**Adam Conner-Simons | CSAIL**  
**August 21, 2014**

▼ [Press Inquiries](#)

[PRESS MENTIONS](#)

# KI versus menschlichen Arzt

Figure. Distribution of Average Quality and Empathy Ratings for Chatbot and Physician Responses to Patient Questions



# NetDragon Websoft - World's First Company to Appoint an AI-Powered Robot as Its CEO



Sep 13, 2022 — 11 min read



# NetDragon





NetDragon

# NetDragon Websoft Holdings Ltd

€1.60

↓ 13.04% -0.24 1 Y

14 Apr, 22:59:46 UTC+2 · EUR · FRA · Disclaimer

1 D

5 D

1 M

6 M

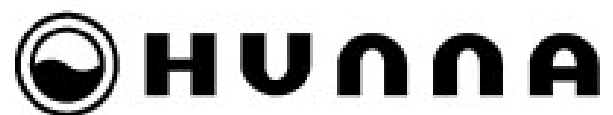
YTD

1 Y

5 Y

MAX





## Founding Team



**IndigoVX**  
AI CEO



As Europe's first-ever AI CEO, IndigoVX is revolutionizing leadership at Hunna Technology, blending AI and human intelligence. [Read the full press release.](#)

Was wird AI nicht ersetzen?



variances

(non-substitutable) positive variance be preserved and utilized?





**Prof. Dr. Isabell Welp**  
TUM School of Management

Mail: [welp@tum.de](mailto:welp@tum.de)

- Head of the **Group of Strategy and Organization**
- Professor at the faculty of the TUM School of Management
- Member of several Advisory Councils
- Research Fellow at University College London (UCL)
- Digitalisation, Leadership, Strategy, Emerging Technologies, New Work