Leading with machines on your team

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The New York Times

A Conversation With Bing's Chatbot Left Me Deeply Unsettled

A very strange conversation with the chatbot built into Microsoft's search engine led to it declaring its love for me.

INSIDER

The newest version of ChatGPT passed the US medical licensing exam with flying colors — and diagnosed a 1 in 100,000 condition in seconds

Forbes

DeepSeek Has Disrupted AI — Here's What It Means For You

Forbes

FORBES > LEADERSHIP > CAREERS

Educators Battle Plagiarism As 89% Of Students Admit To Using OpenAI's ChatGPT For Homework

FT FINANCIAL TIMES

Generative AI set to affect 300mn jobs across major economies

INDEPENDENT

Why tech bosses are doomsday prepping

Monumental risks of 'epoch-defining' AI mean even those building it are preparing for the worst

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Artificial intelligence – systems that can…

SENSE	COMPREHEND	ACT	LEARN
Observe | Register	**Discern | Detect | Infer**	**Decide | Make | Do**	**Adapt | Improve**

Kolbjørnsrud, Thomas and Amico (2017), Nilsson (1998)

Different types of AI, that can…

Analytical AI

Predict

Classify

Generative AI

Create

NO: ONE PERSON
GENDER: FEMALE
AGE GROUP: YOUNG WO
ETHNICITY: CAUCASIA
HUMAN BODY PART: HU
TIME: 331 S
DETECTION: 25621 PO
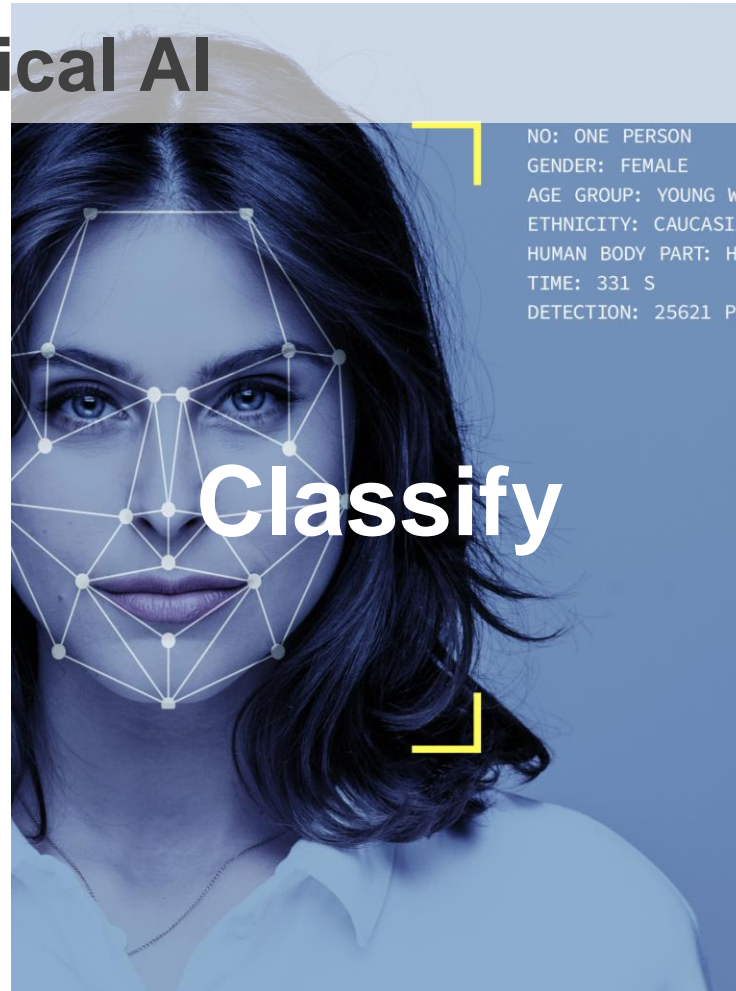
Writing better and faster with Gen AI?

Time Spent on Writing Subtasks (Minutes)

Legend:
- 🔵 Brainstorming
- 🟠 Drafting Text
- 🟡 Editing

NNGROUP.COM **NN/g**

With AI

No AI

5   10   15   20   25   30
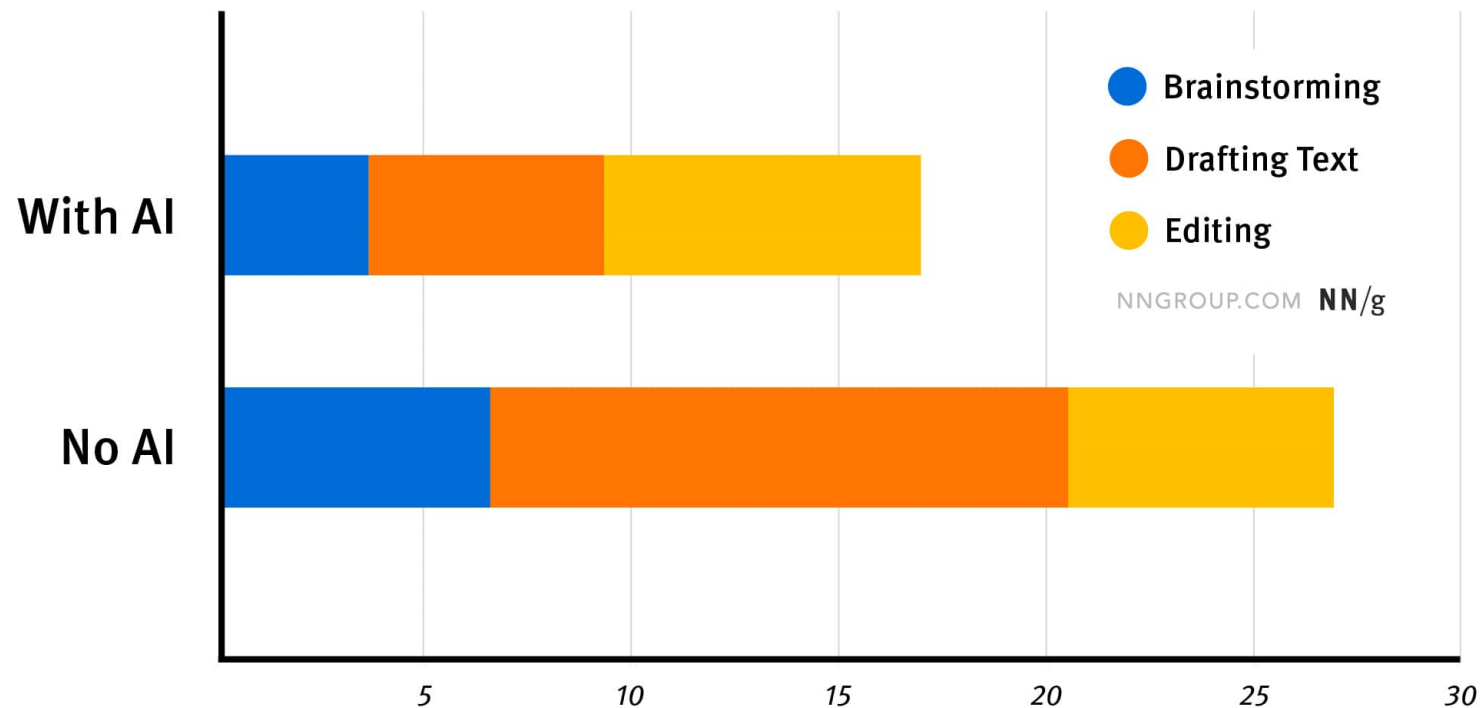
- Quality (scale: 1-7)
  - 4,5 with Gen AI
  - 3,8 without AI

- 59% increase in productivity

Use of language models in creative work

Figure 1. Mean Ad Clicks by Conditions and User Expertise (95% Confidence Interval)
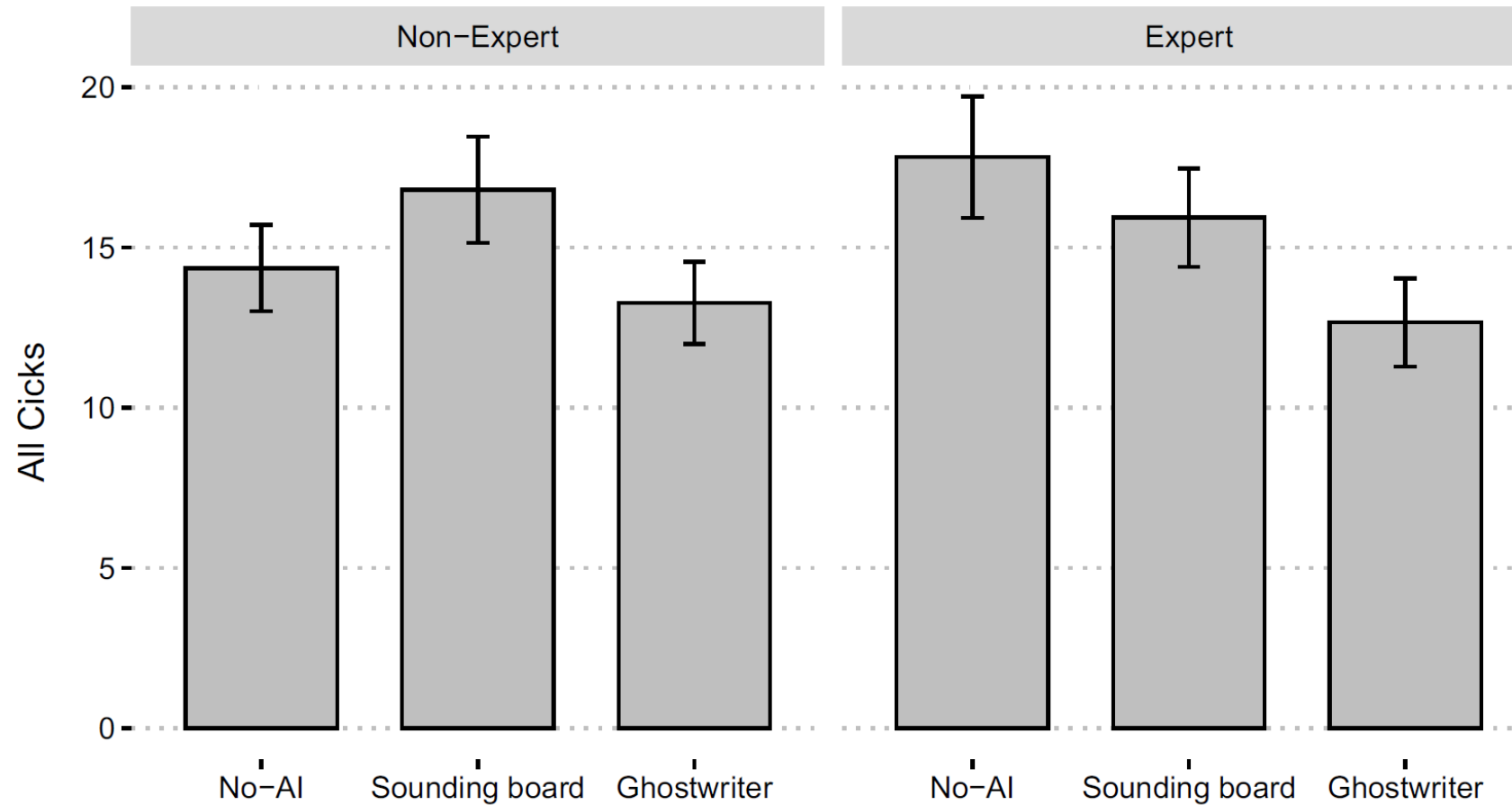
Example: LLM* as sparring partner on research methods

Manuscript_Need-solution pairs in tec...
Dokument

We are writing an academic article for the journal Research Policy. Please thoroughly review the method section and suggest improvements. The uploaded document contains preliminary title, abstract, methods, and reference list. Some questions to consider: What type of multiple case study design are we using and what are the best academic sources on our approach? What are the gaps or omissions in our discussion of our methods and research design? What are potential inconsistencies? What needs to be described more clearly? Please be specific in your recommendations and refer to the relevant sections, sentences, tables, and figures in the manuscript and the best academic sources for each advice.

+

Thank you, this is very helpful. Please expand on our particularly case study design with pre-defined protocols, documentation formats, and training of the 18 innovation searchers across the four projects/cases. We also have a combination of primary and secondary data where also the secondary data were collected according to our specifications. We need suggestions for how to describe our research design (terminology), how to justify our choices, and the best academic sources to back up our claims.

Nine pages of feedback – some were useful and triggered new ideas and moderate edits
(and some were too generic or irrelevant)

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Using LLM in medical diagnostics

Diagnostic Performance Outcomes
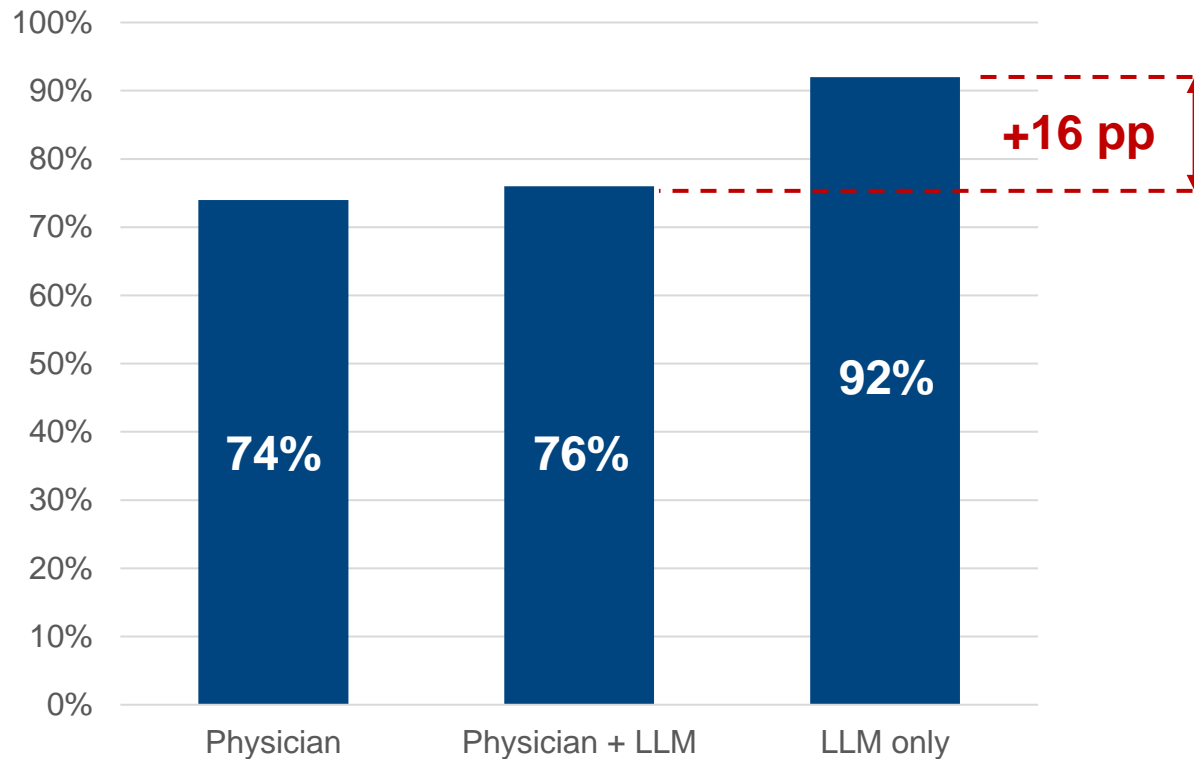
- Three treatment groups:
  - Physicians with conventional resources
  - Physicians with LLM
  - LLM only

- Physicians within family, internal, and emergency medicine

- *Note: The physicians were not trained in prompting. We know that how we prompt can have a big impact on the outcome.*

Gen AI boosting (some types of) knowledge work

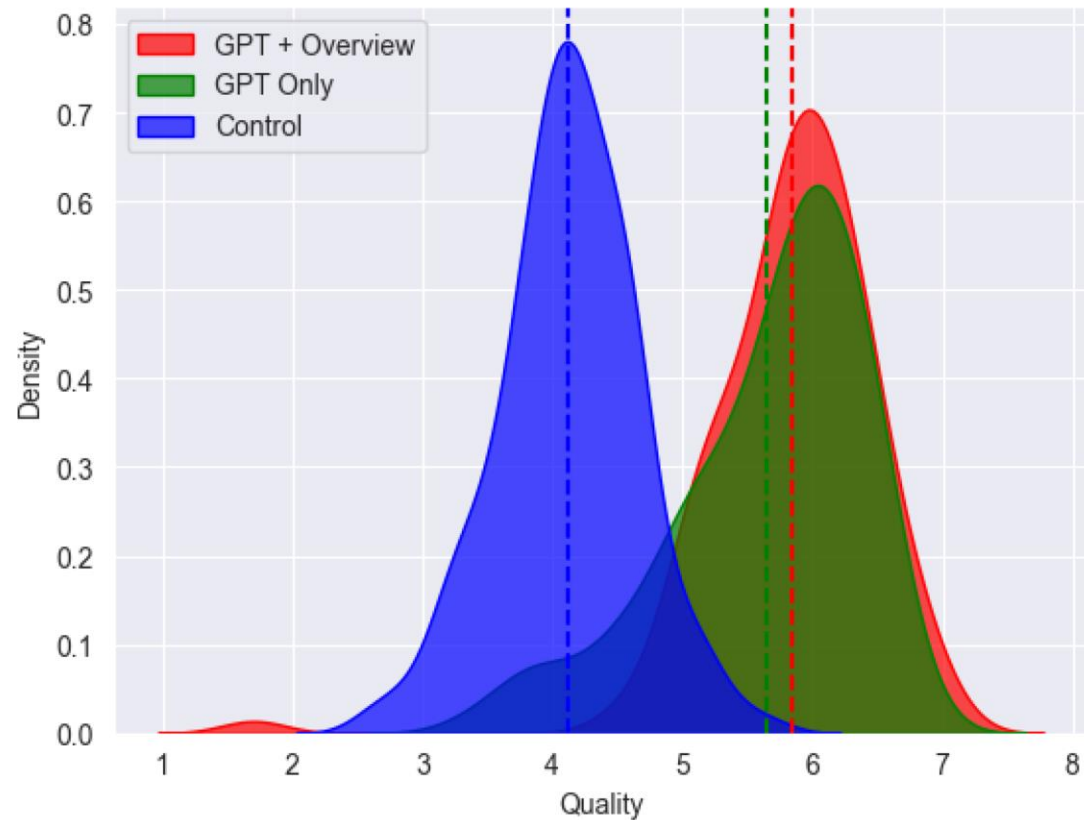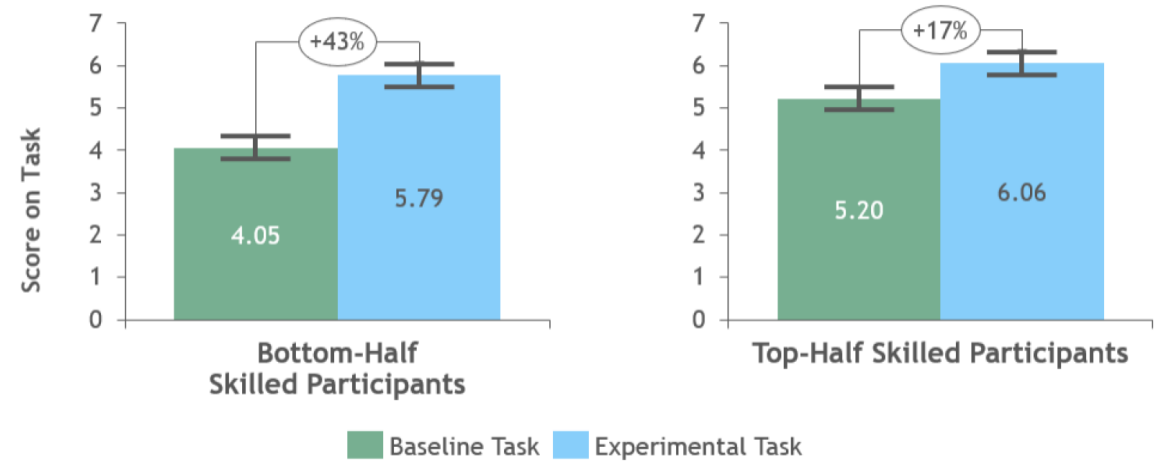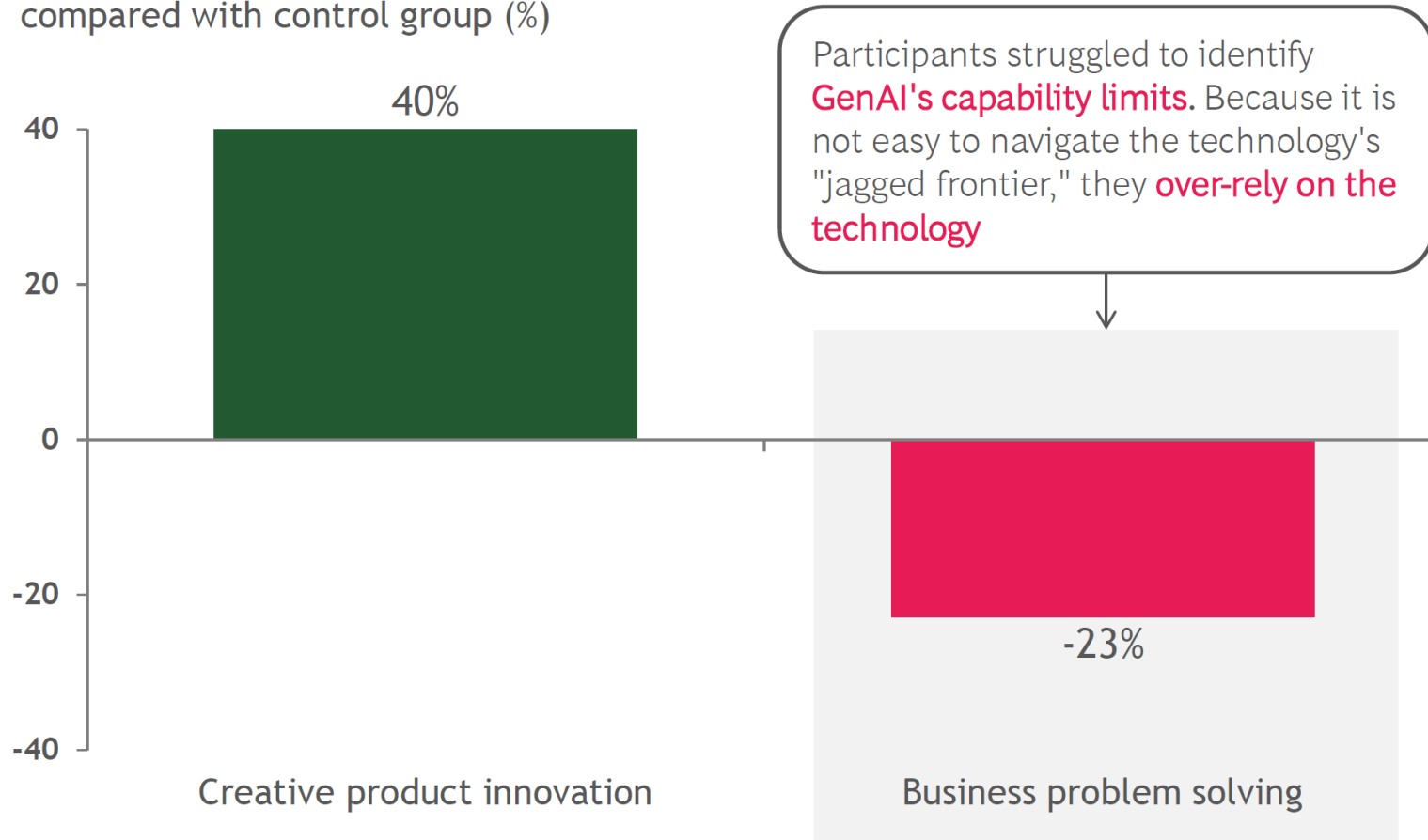Figure 2: **Performance Distribution - Inside the Frontier**

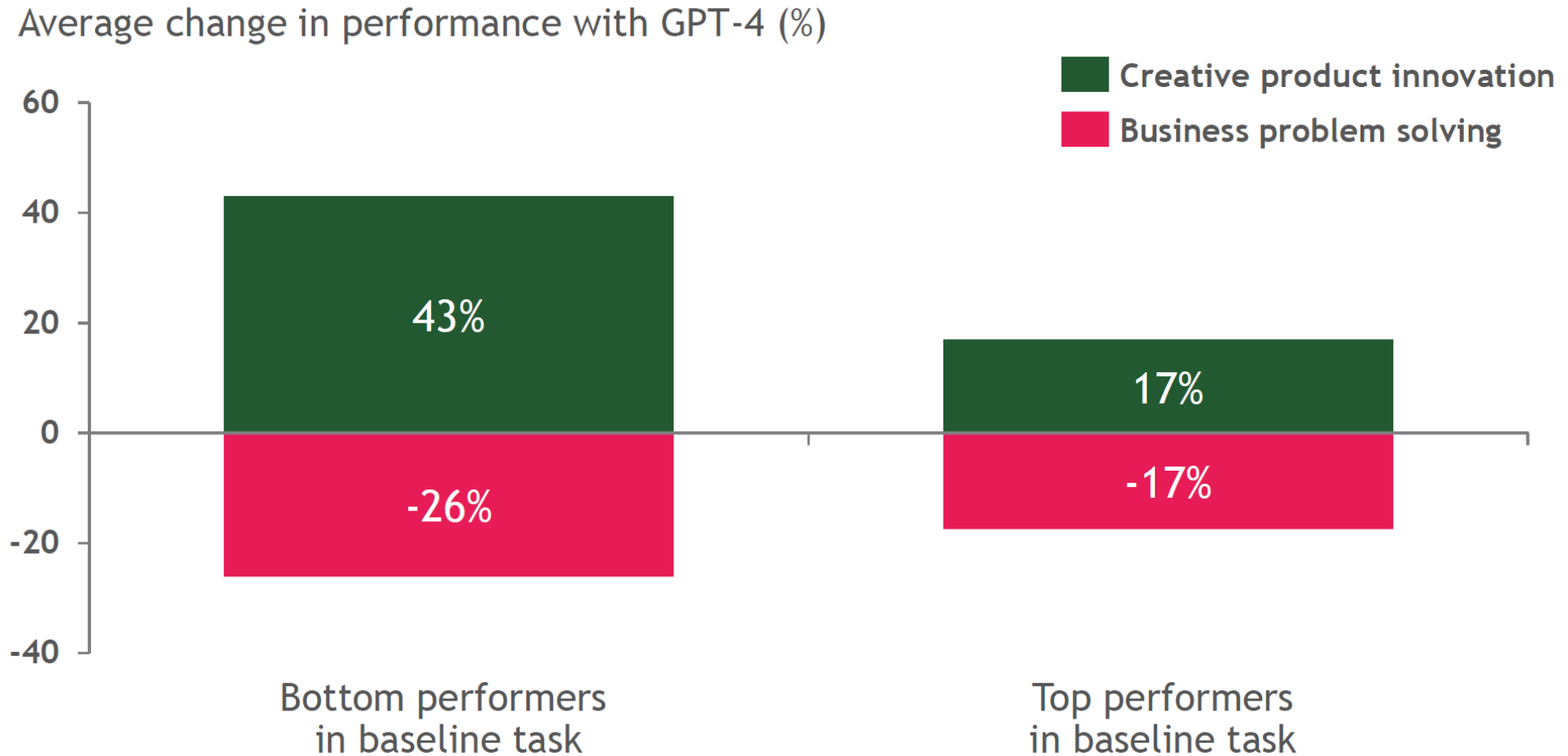Figure 5: **Bottom-Half Skills and Top-Half Skills - Inside the Frontier**

Helping and hurting performance, but when?

Difference in individual performance compared with control group (%)

40% — Creative product innovation

Participants struggled to identify **GenAI's capability limits**. Because it is not easy to navigate the technology's "jagged frontier," they **over-rely on the technology**

-23% — Business problem solving

Poorer performers are helped and hurt the most

Average change in performance with GPT-4 (%)

Legend:
- **Creative product innovation** (dark green)
- **Business problem solving** (pink)

Bottom performers in baseline task:
- Creative product innovation: 43%
- Business problem solving: -26%

Top performers in baseline task:
- Creative product innovation: 17%
- Business problem solving: -17%

Training can exacerbate the problem

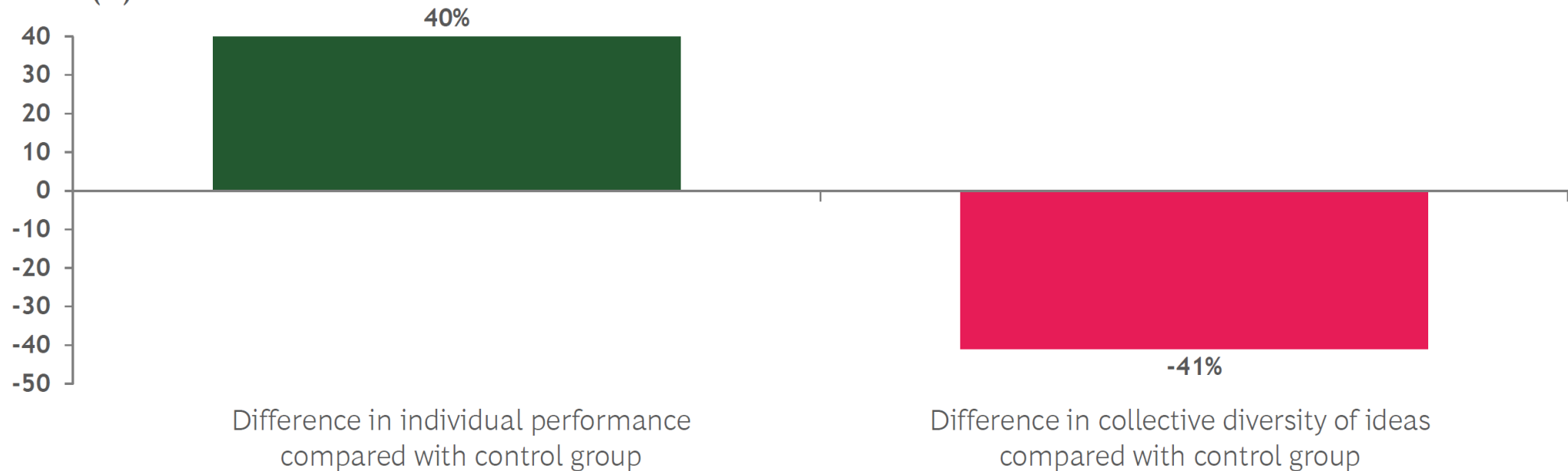Average change in individual performance with GPT-4 compared with control group (%)
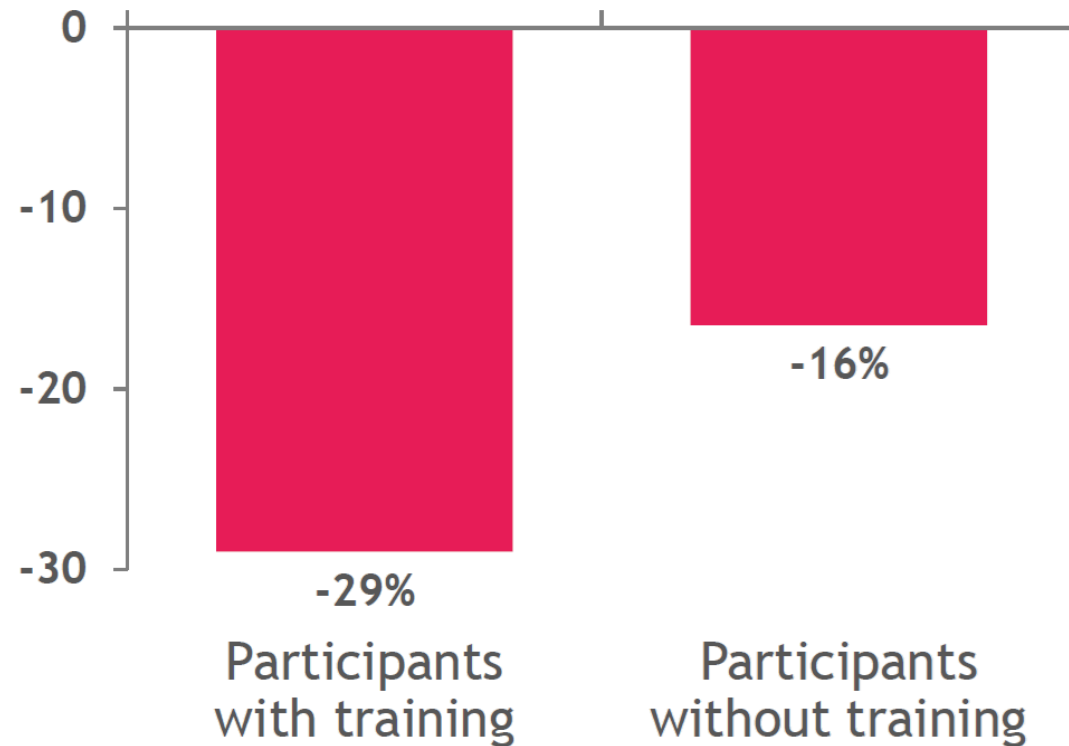
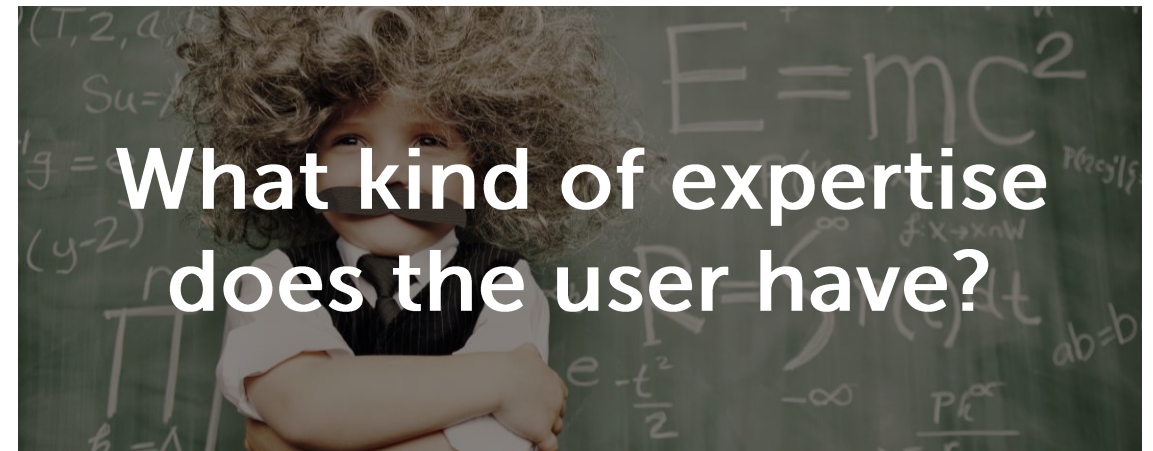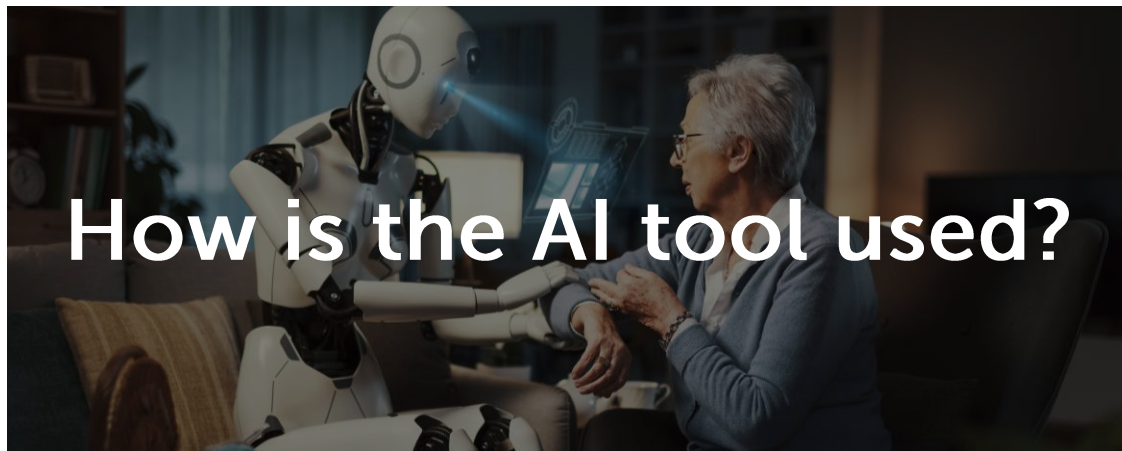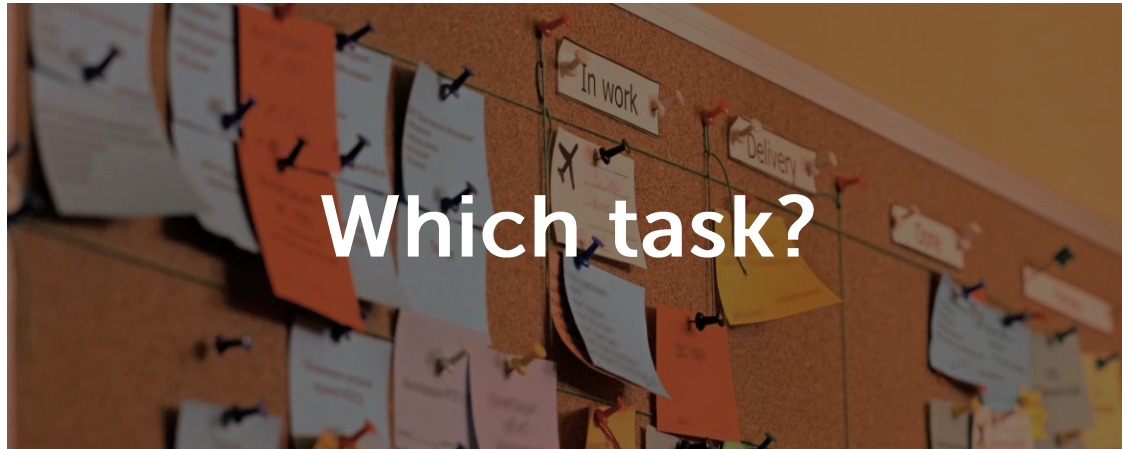# Good for the individual, bad for the organization?

While GPT-4 boosts creativity on an individual level…

…it hurts collective creativity due to repetitive ideas

Change in performance with GPT-4 (%)

40%

-41%

Difference in individual performance compared with control group

Difference in collective diversity of ideas compared with control group

Four key questions in Gen AI adoption

Which task?

Which capabilities does the AI tool have?

How is the AI tool used?

What kind of expertise does the user have?

HUMAN
Previously, humans were the only intelligent and learning actors in organizations

MACHINE
Now, we have intelligent machines that can learn too

Human-machine synergies

Machine Learning

+ Human Learning
———————————
= Organizational Learning

" *In the old days, the decision process was often very black and white – and based on experience and gut feel. Now, when the machine comes up with different recommendations for two cases that look very similar at first glance, we start to scratch our heads and **dig deeper**. Ultimately, this leads us to making **better decisions**.*

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Organizational intelligence

The ability of collectives of intelligent human and digital actors to acquire and apply knowledge to solve problems and adapt

How can AI make your organization more intelligent?
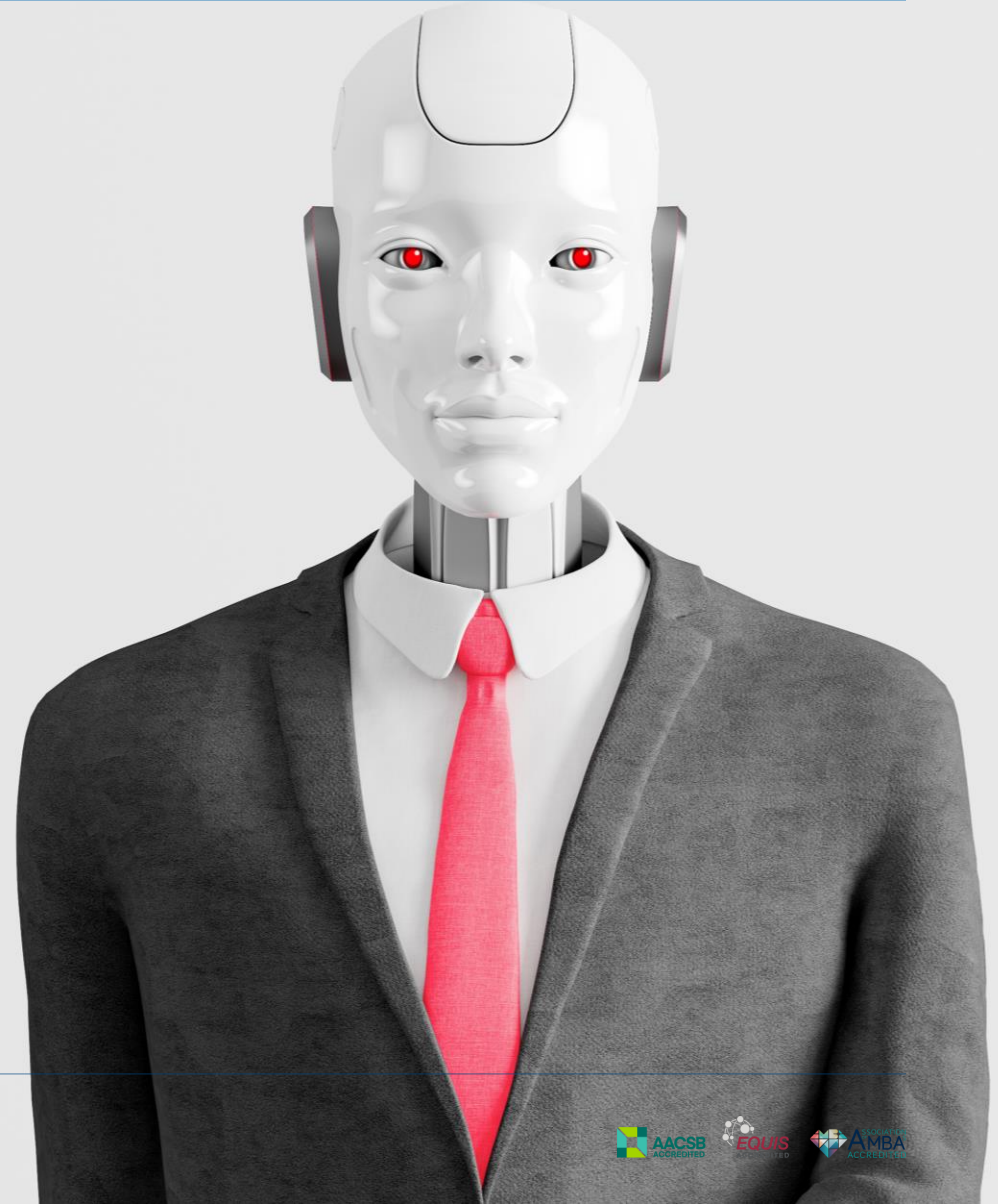
SPACEMAKER

An AUTODESK product

AUTODESK
Forma

OBOS

NORDR

PUPA Life over space

The Substitution Principle

Replacing intelligent humans
with intelligent machines does not make an organization more intelligent, rather more efficient

The Diversity Principle

Increasing the diversity of intelligent actors, such as hiring people with different knowledge, skills, and mindsets as well as deploying different forms of artificial intelligence, improves an organization's ability to solve complex problems and adapt.
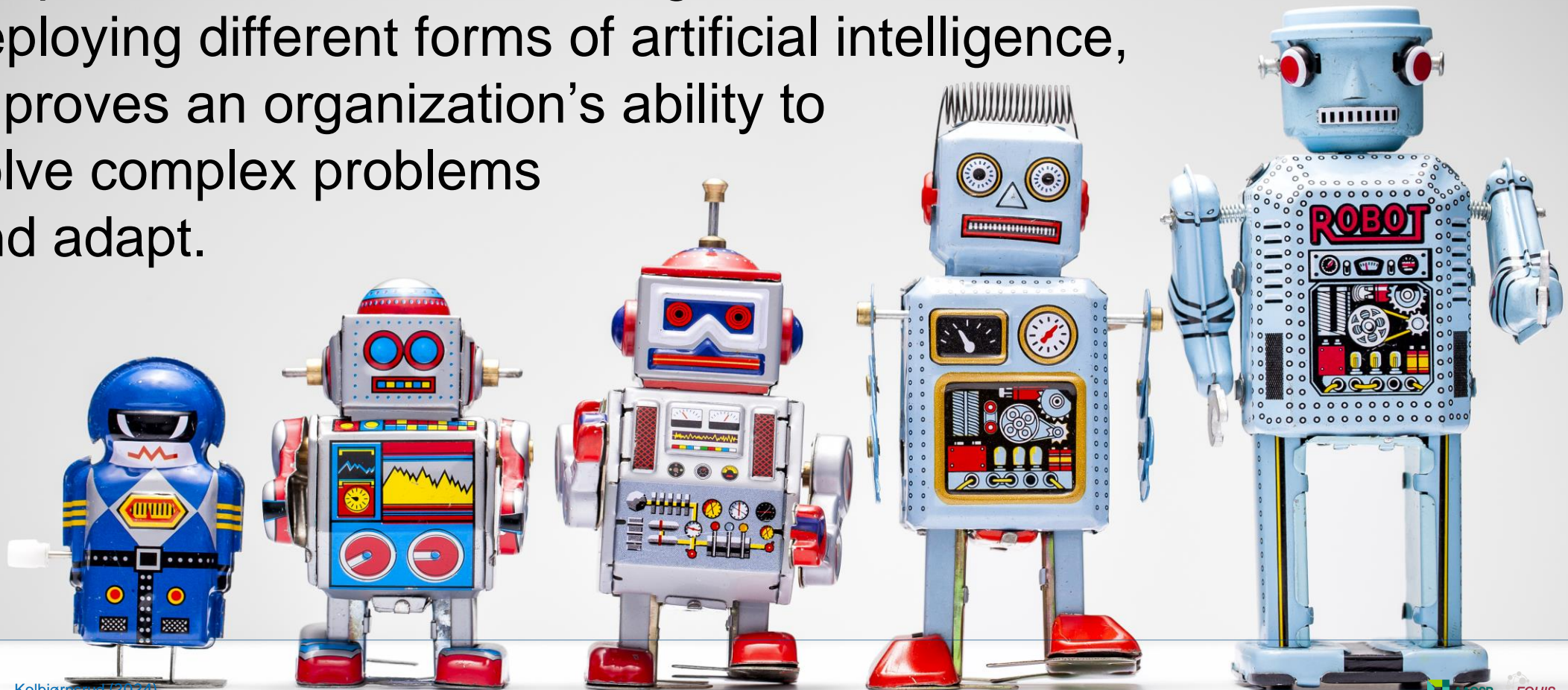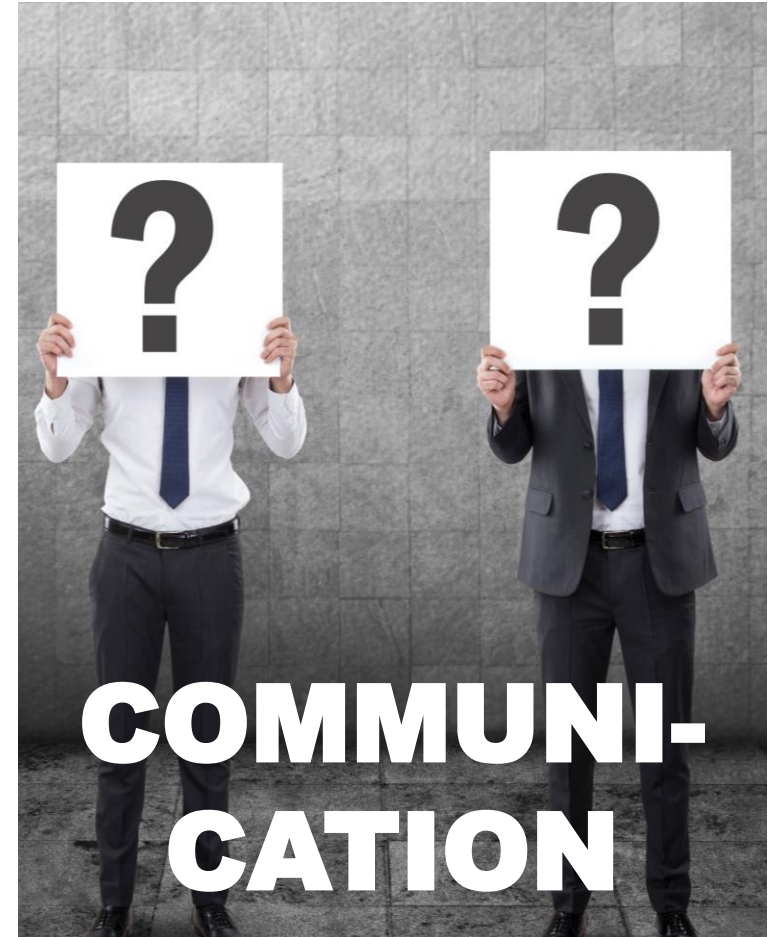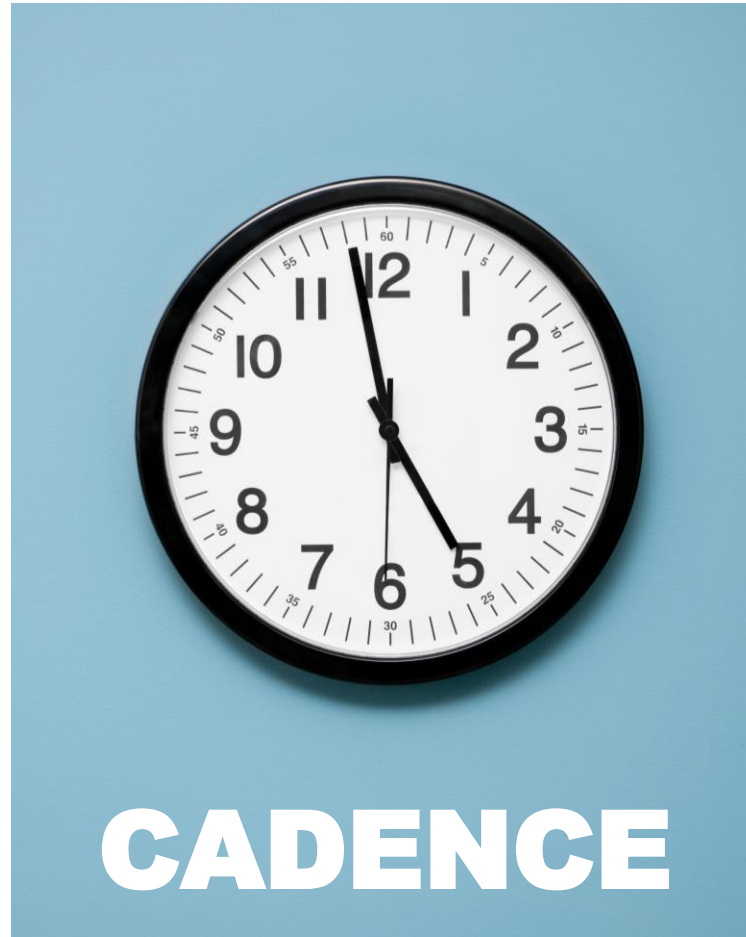
The Collaboration Principle

Organizational intelligence requires **collaborative skills** from both human and digital actors

New dynamics in cross-functional teams

Supports cross-functional collaboration

Increases the need for cross-functional collaboration, i.e., makes it more challenging

Scientists and technologists have different…

CULTURE

CADENCE

COMMUNI-CATION

Integrating AI and other types of expertise

"There will continue to be a scarcity of science and tech talent, but even more importantly talent that sits at that intersection. Such **"incubation" talent** will end up being the difference maker in allowing organizations to lead the charge into the biggest opportunity spaces of the future."

Chief Product Officer, Research and Incubations,
big global tech company

The Explanation Principle

Intelligent organizations provide purpose, **seek explanations**, and take responsibility

Algorithmic opacity

"Competency without comprehension"

(Dennett, 2017)

ML algorithms:
Perfectly explicit,
imperfectly explainable

Burrell (2016); Kolbjørnsrud, Hukal, Kvålshaugen & Johannessen (unpublished manuscript)

When important decisions can't be explained

UK risks scandal over 'bias' in AI tools in use across public sector

Kiran Stacey

Systems operating across government departments and police forces raise concerns about accountability and discrimination

- UK officials use AI to decide on issues from benefits to marriage licences

📷 The DWP said in response to a FoI request that it could not reveal details of how the algorithm works in case it helps people game the system. Composite: Guardian Design/EPA

Kate Osamor, the Labour MP for Edmonton, recently received an email from a charity about a constituent of hers who had had her benefits suspended apparently without reason.

"For well over a year now she has been trying to contact DWP [the Department for Work and Pensions] and find out more about the reason for the suspension of her UC [Universal Credit], but neither she nor our casework team have got anywhere," the email said. "It remains unclear why DWP has suspended the claim, never mind whether this had any merit ... she has been unable to pay rent for 18 months and is consequently facing eviction proceedings."
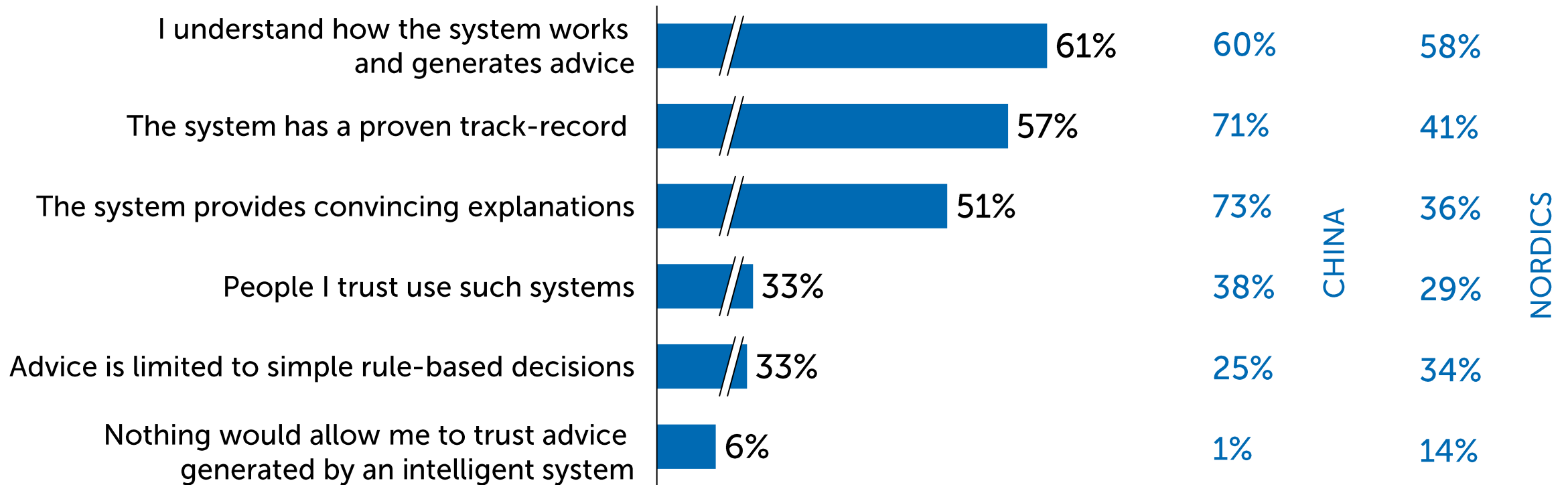
Osamor has been dealing with dozens of such cases in recent years, often involving Bulgarian nationals. She believes they have been victims of a semi-automated system that uses an algorithm to flag up potential benefits fraud before referring those cases to humans to make a final decision on whether to suspend people's claims.

"I was contacted by dozens of constituents around the beginning of 2022, all Bulgarian nationals, who had their benefits suspended," Osamor said. "Their cases had been identified by the DWP's Integrated Risk and Intelligence Service as being high risk after carrying out automated data analytics.

"They were left in destitution for months, with no means of appeal. Yet, in almost all cases, no evidence of fraud was found and their benefits were eventually restored. There was no accountability for this process."
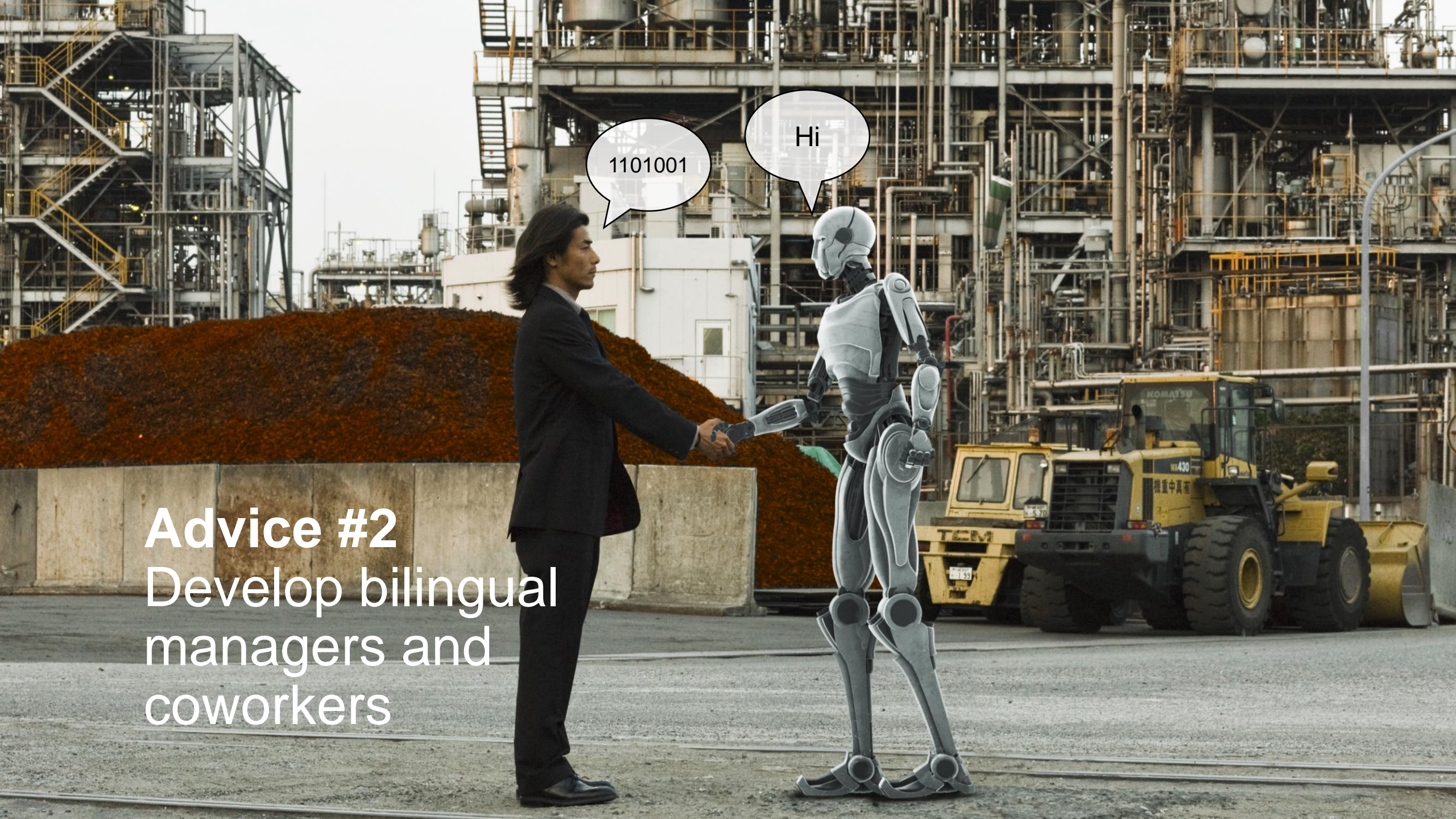
To trust technology, we must understand it

What would allow you to trust advice from an AI system?*

		CHINA	NORDICS
I understand how the system works and generates advice	61%	60%	58%
The system has a proven track-record	57%	71%	41%
The system provides convincing explanations	51%	73%	36%
People I trust use such systems	33%	38%	29%
Advice is limited to simple rule-based decisions	33%	25%	34%
Nothing would allow me to trust advice generated by an intelligent system	6%	1%	14%

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Advice #1
Don't make people
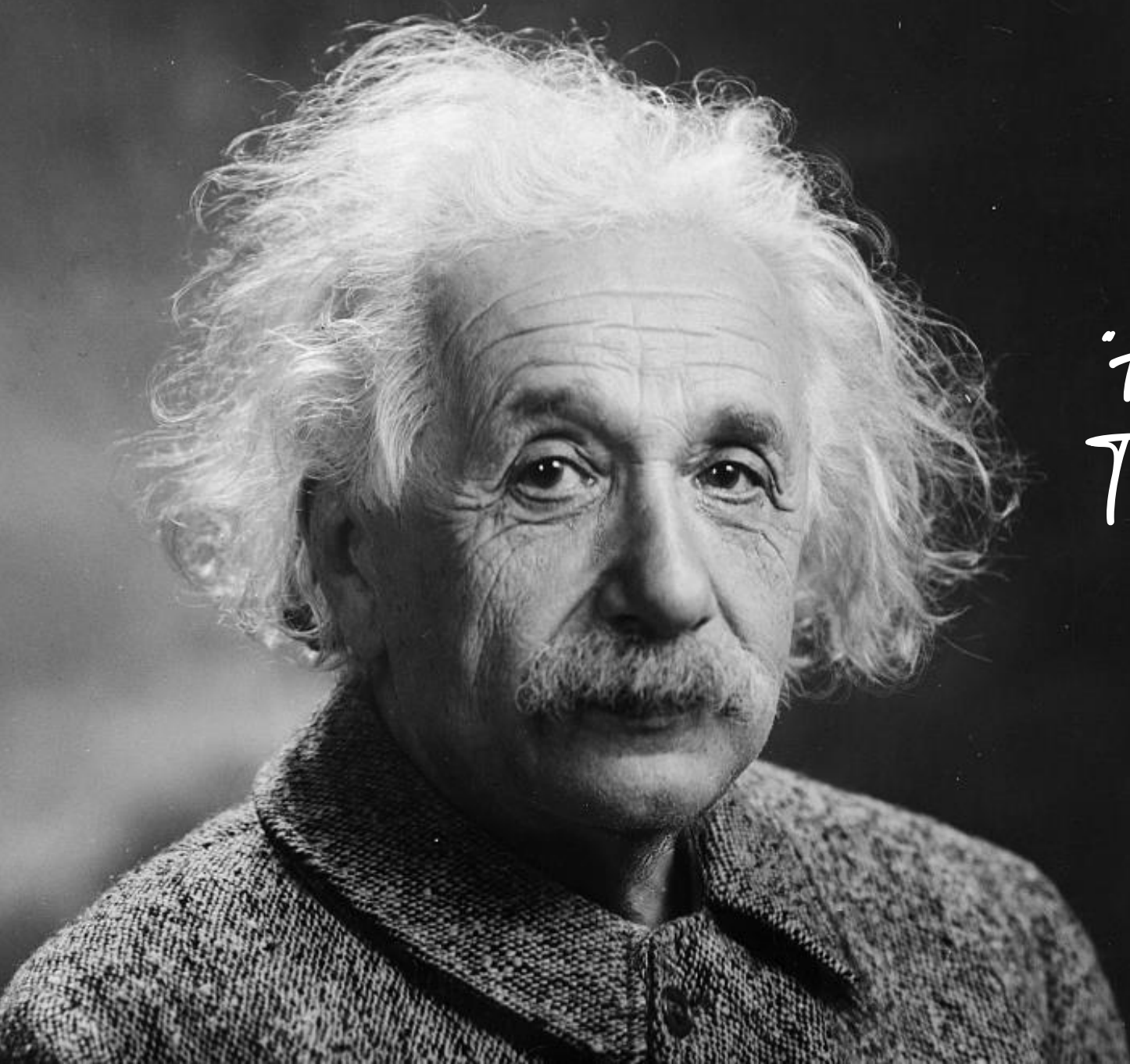do machine work

Advice #3
Build
tech
skills

Advice #4
Encourage
critical
thinking

Advice #5
Try – and take responsibility!

"Any fool can know.
The point is to understand."

Reading more in new article

Structuring the Organization

Designing the Intelligent Organization: SIX PRINCIPLES FOR HUMAN-AI COLLABORATION

Vegard Kolbjørnsrud[1]

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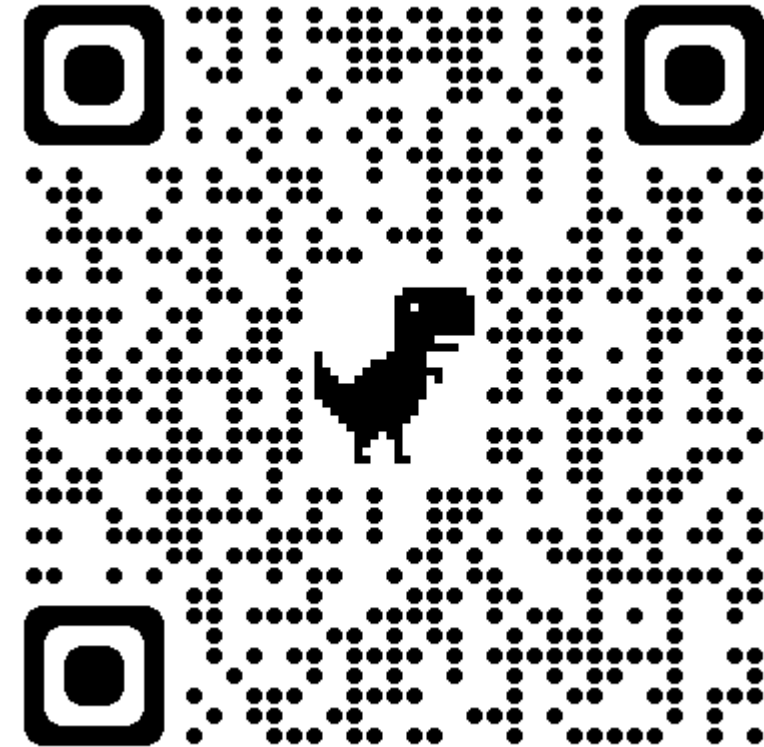
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