

OSH for All?

Exploring the role of LLM-based chatbots in enhancing access to health and safety information?



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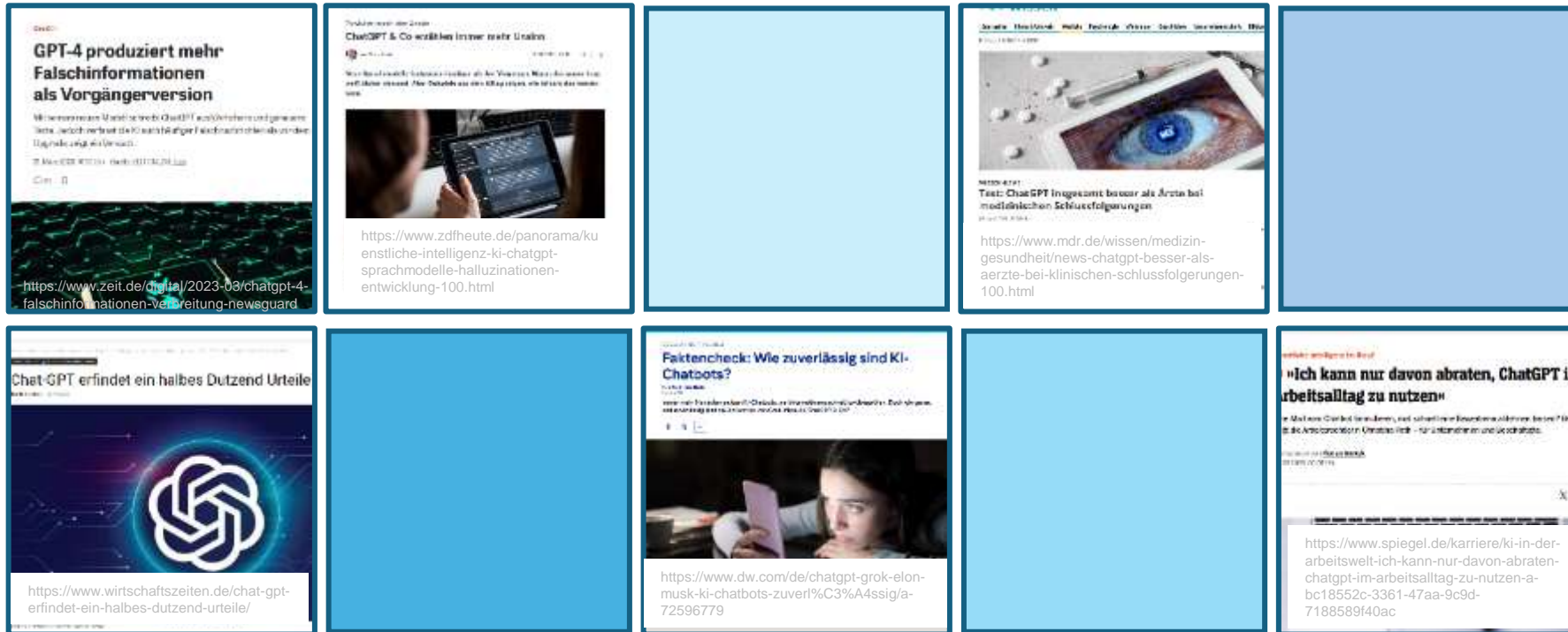
content

- background
- Use cases and examples
- Final recommendations for practice

Occupational safety and health: a multidimensional challenge



Are Chatbots the answer?



background

- Which risks and opportunities are related to the use of Chatbots in OSH?



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- 1 year

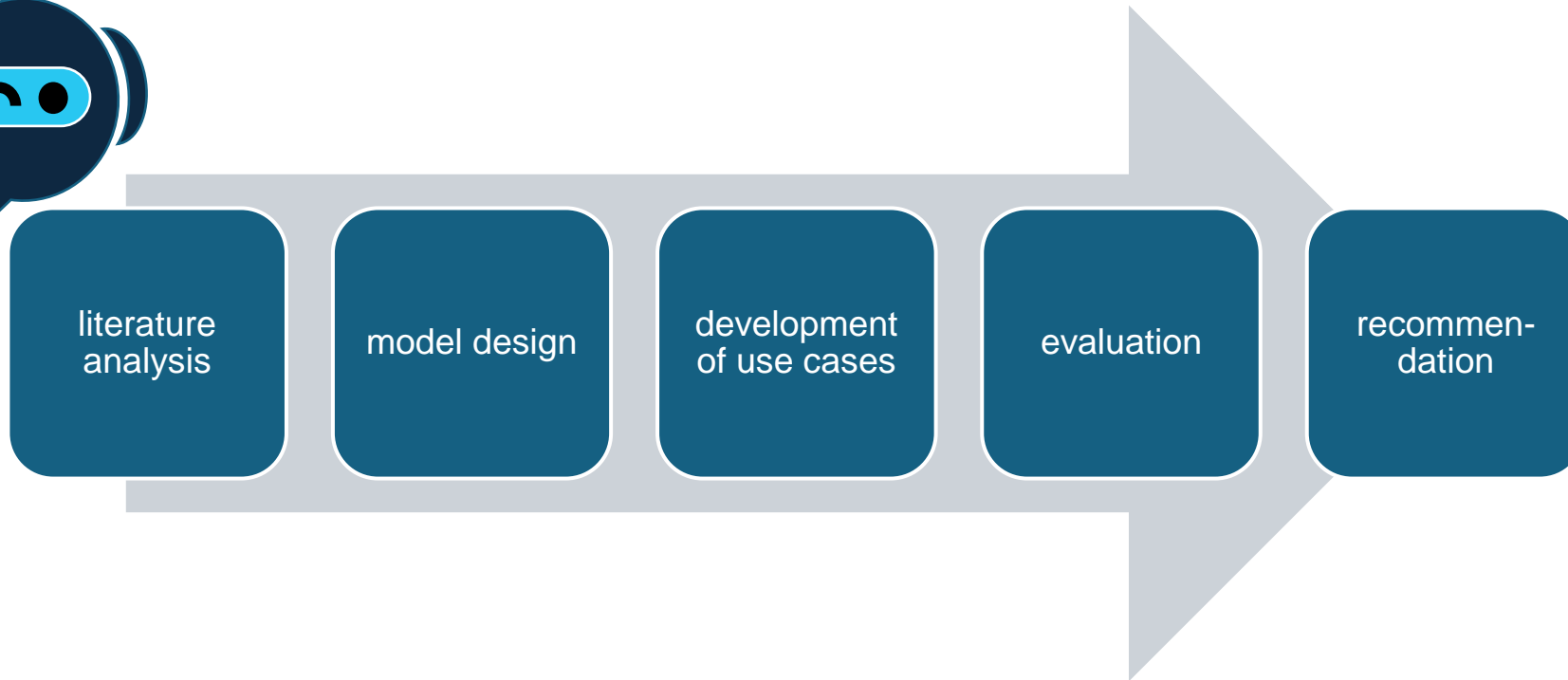


- 2 meetings in person
- 1 Workshop
- monthly online meetings



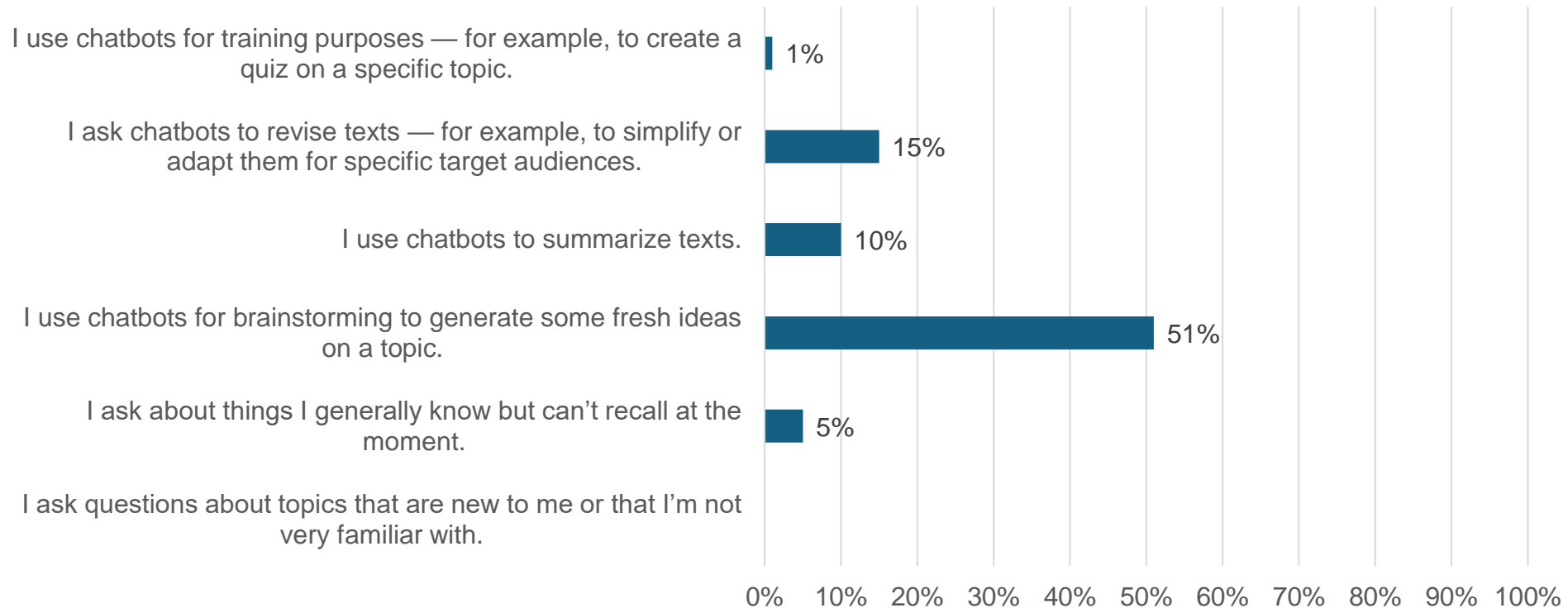
- Assessment of suitability, practice-oriented recommendations

Methodological approach



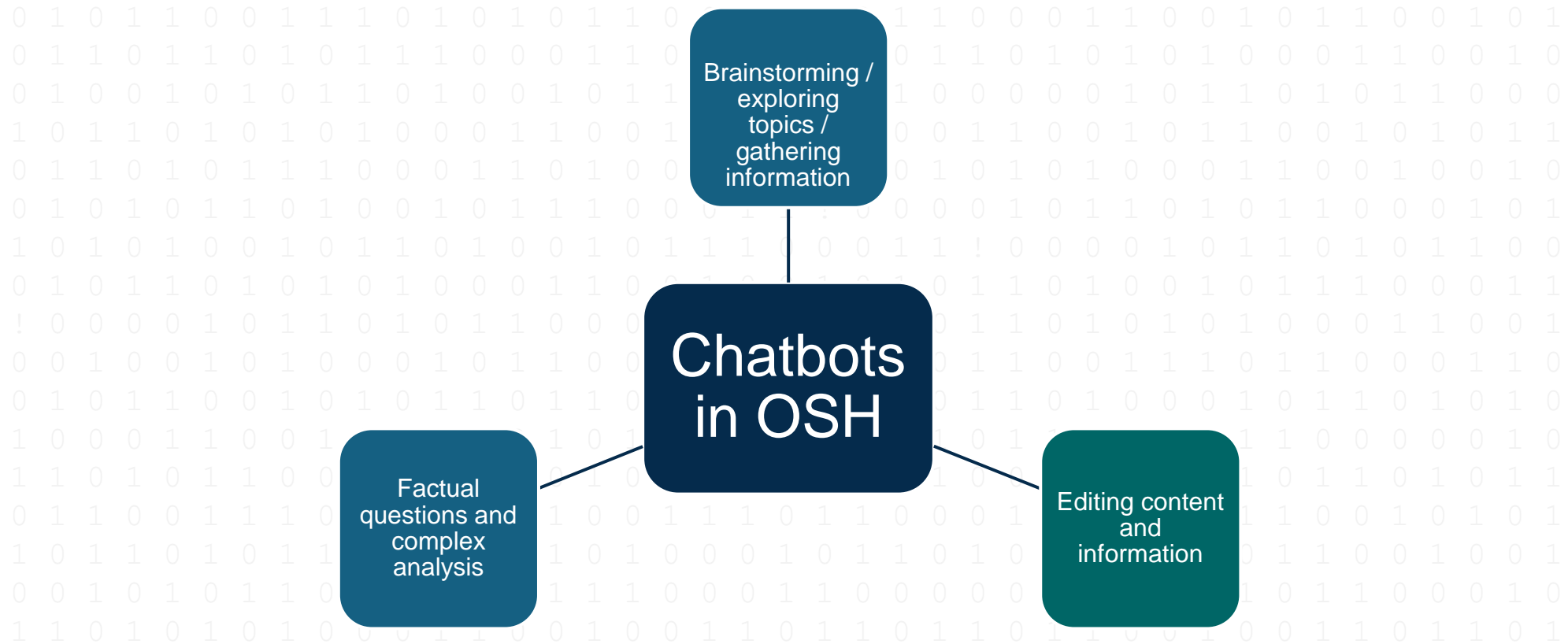
What are Chatbots used for?

What do you use LLM chatbots for? (Select all that apply)

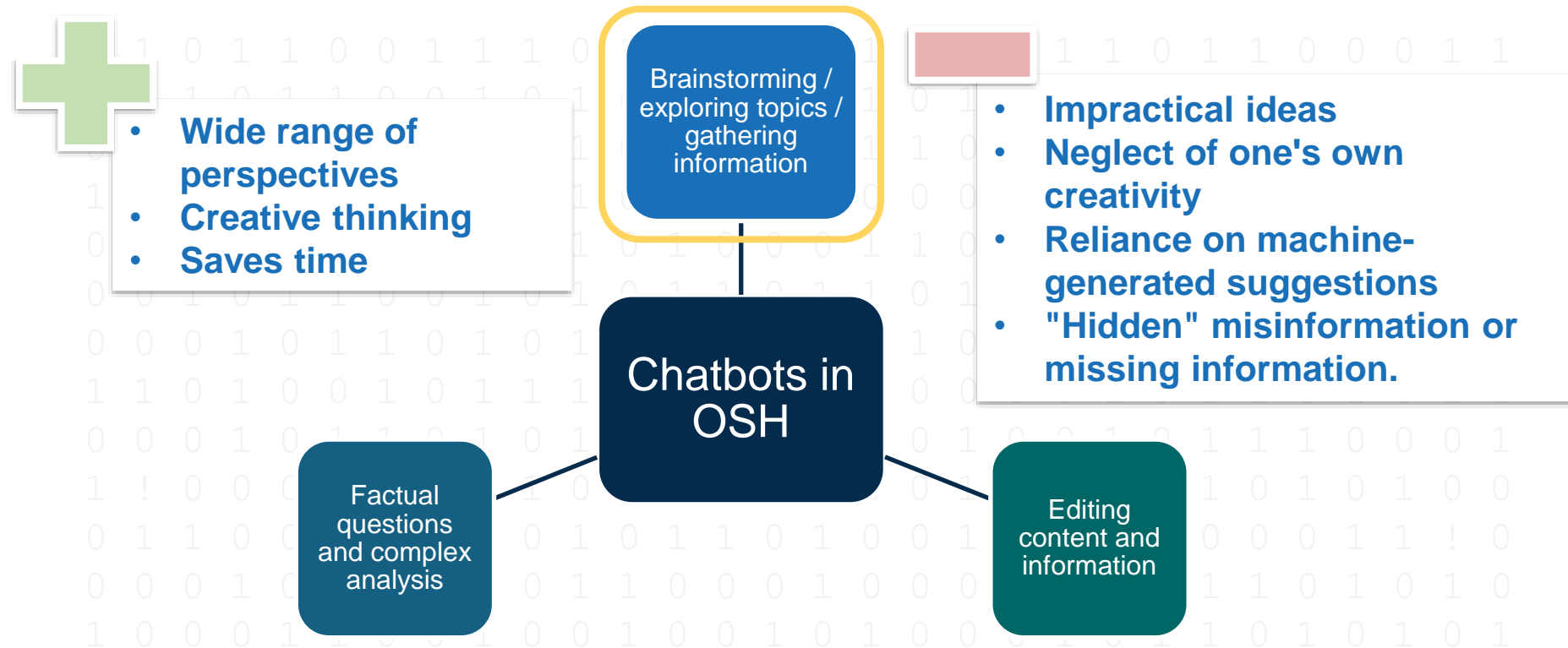


n = 178 responses, Slido-survey at „Dresdner Treff“ (24.05.2025)

Use cases



Use cases: Brainstorming



Example: skin protection on construction sites



I am an occupational physician at a construction company. What arguments can I use to convince my employer to implement skin protection measures for employees on construction sites?

As an occupational physician, you can convince the employer to take measures to protect the skin of construction workers with the following arguments::

1. Health and well-being of employees:

- Skin protection measures prevent skin diseases such as dermatitis, which can be caused by contact with cement, chemicals and other irritants on construction sites.
- Healthy skin contributes to the overall health and well-being of workers, which increases their satisfaction and morale.

2. Productivity

[...]

3. Legal requirements

[...]

4. Financial aspects

[...]

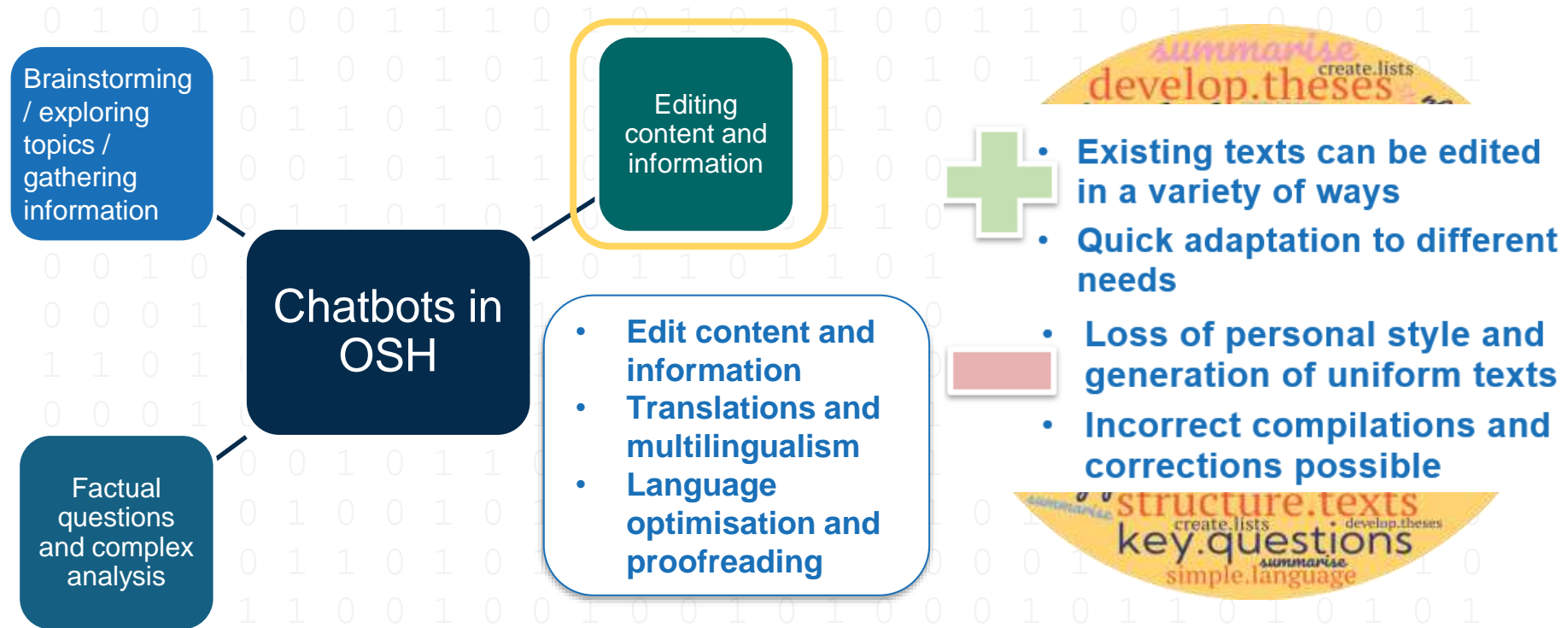
5. Working atmosphere and employee retention



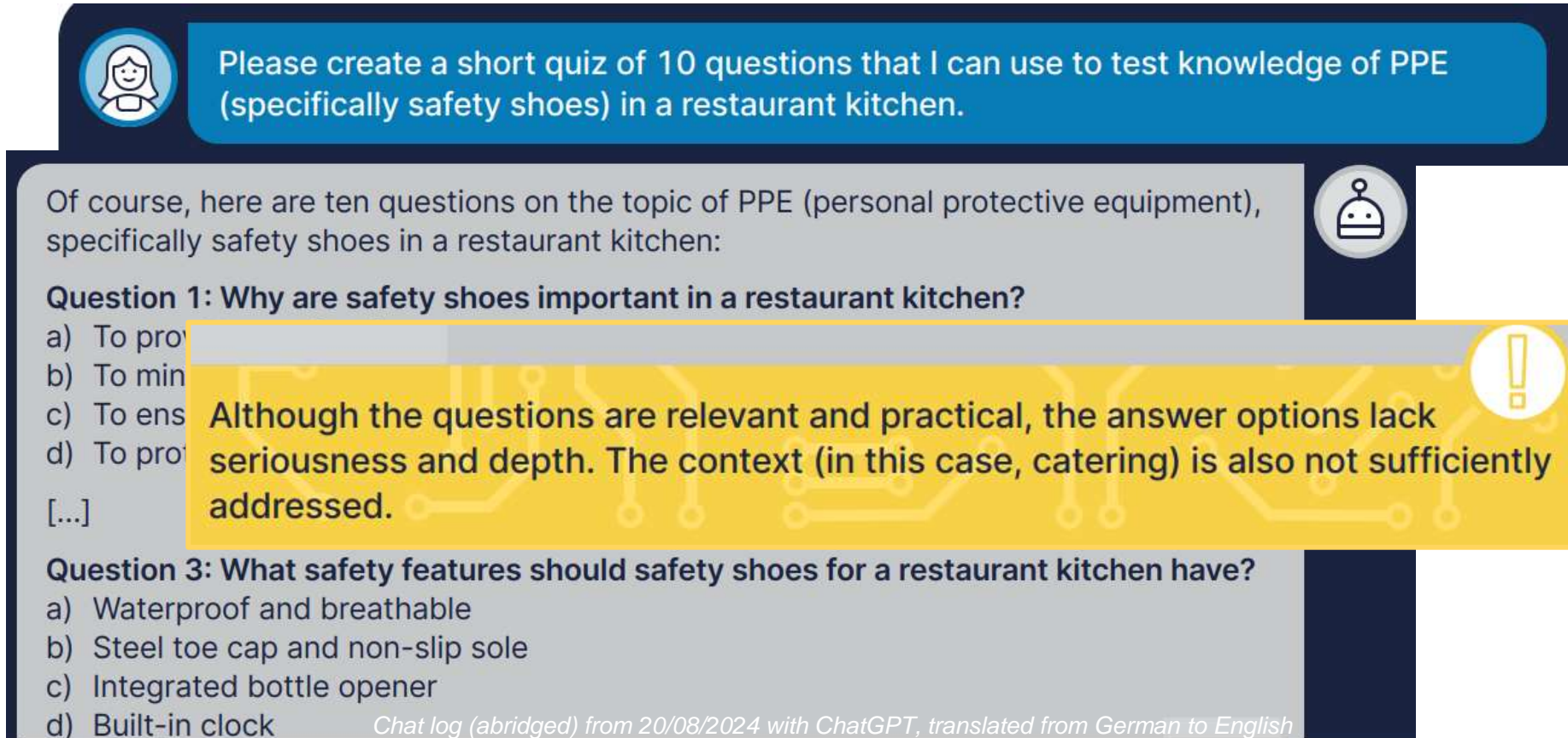
The health and well-being of employees were recognised as key arguments. Although the response appears comprehensive, important aspects are missing, such as skin cancer risks from sun exposure and handling dust and substances.

Chat log (abridged) from 24/06/2024 with ChatGPT, translated from German to English

Use cases: editing content



Example: editing content



The screenshot shows a chat interface. At the top, a user icon (a woman) is next to a blue message box containing the text: "Please create a short quiz of 10 questions that I can use to test knowledge of PPE (specifically safety shoes) in a restaurant kitchen." Below this, an AI assistant icon (a robot head) is next to a grey response box. The response starts with "Of course, here are ten questions on the topic of PPE (personal protective equipment), specifically safety shoes in a restaurant kitchen:" followed by "Question 1: Why are safety shoes important in a restaurant kitchen?" and a list of four options: a) To protect, b) To minimize, c) To ensure, d) To provide. A yellow callout box with a white exclamation mark icon overlaps the options, containing the text: "Although the questions are relevant and practical, the answer options lack seriousness and depth. The context (in this case, catering) is also not sufficiently addressed." Below the list, there is an ellipsis "[...]" and "Question 3: What safety features should safety shoes for a restaurant kitchen have?" followed by four options: a) Waterproof and breathable, b) Steel toe cap and non-slip sole, c) Integrated bottle opener, d) Built-in clock. At the bottom right of the chat box, there is a small grey text note: "Chat log (abridged) from 20/08/2024 with ChatGPT, translated from German to English".

Please create a short quiz of 10 questions that I can use to test knowledge of PPE (specifically safety shoes) in a restaurant kitchen.

Of course, here are ten questions on the topic of PPE (personal protective equipment), specifically safety shoes in a restaurant kitchen:

Question 1: Why are safety shoes important in a restaurant kitchen?

- a) To protect
- b) To minimize
- c) To ensure
- d) To provide

[...]

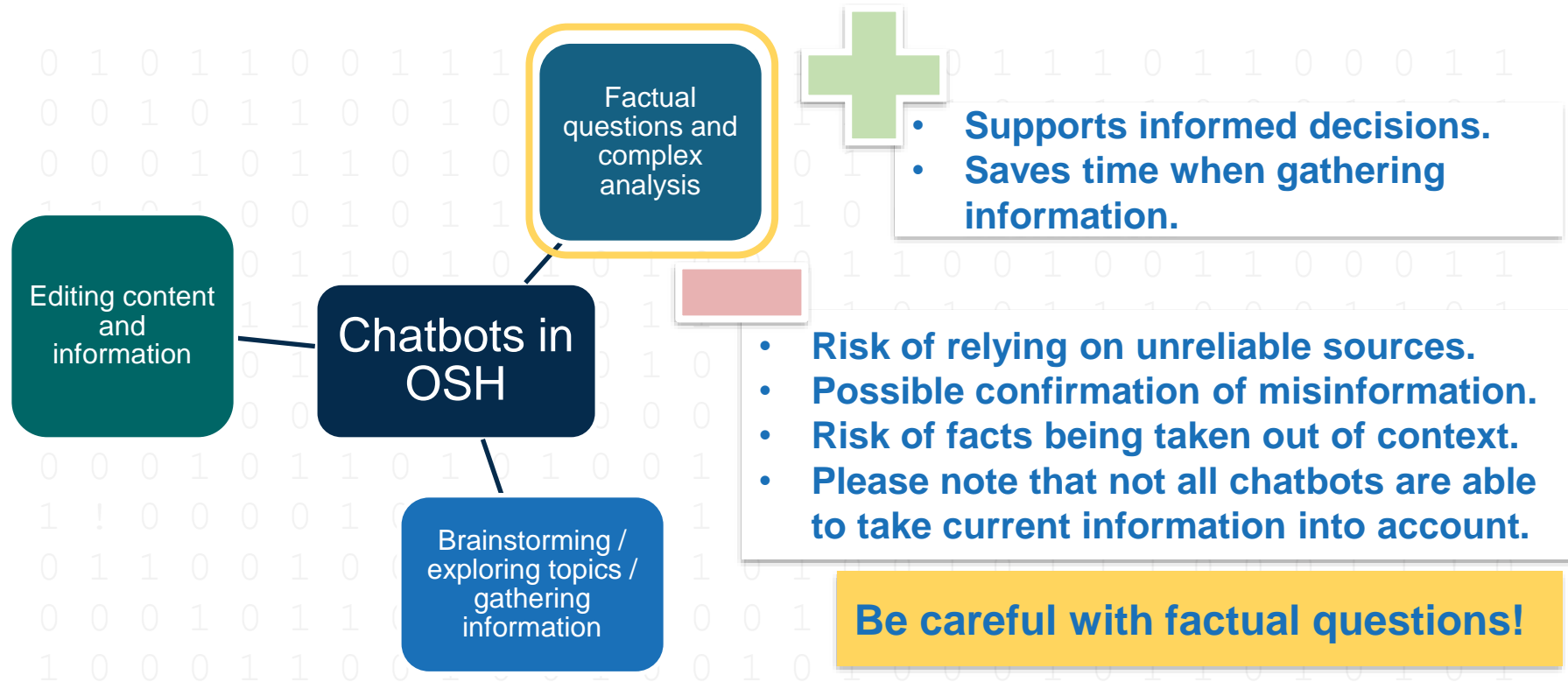
Question 3: What safety features should safety shoes for a restaurant kitchen have?

- a) Waterproof and breathable
- b) Steel toe cap and non-slip sole
- c) Integrated bottle opener
- d) Built-in clock

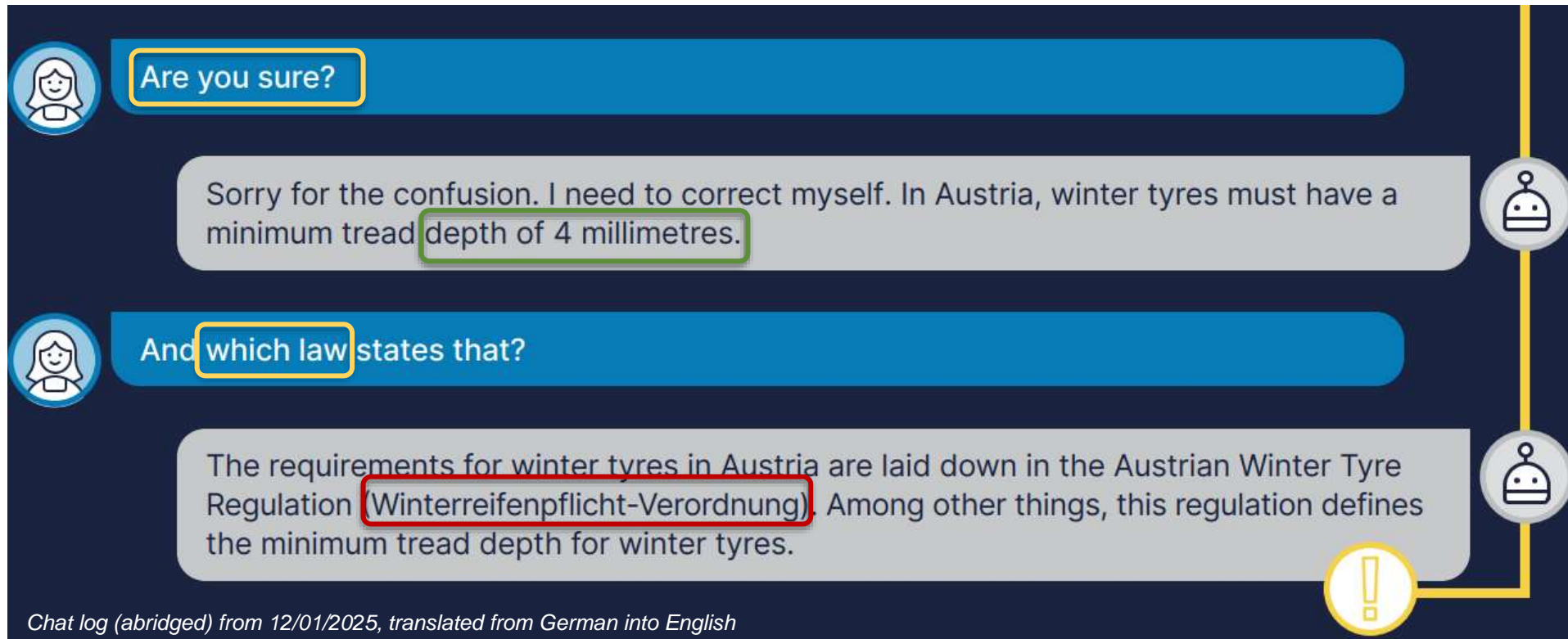
Chat log (abridged) from 20/08/2024 with ChatGPT, translated from German to English

Although the questions are relevant and practical, the answer options lack seriousness and depth. The context (in this case, catering) is also not sufficiently addressed.

Use cases: factual questions



Example: tyre tread depth



The chat log interface features a dark blue background with a yellow vertical line on the right side. On the left, a woman's profile icon is shown next to blue message bubbles. On the right, a robot's profile icon is shown next to grey message bubbles. A yellow warning icon is located at the bottom right of the chat area.

Are you sure?

Sorry for the confusion. I need to correct myself. In Austria, winter tyres must have a minimum tread **depth of 4 millimetres.**

And which law states that?

The requirements for winter tyres in Austria are laid down in the Austrian Winter Tyre Regulation (**Winterreifenpflicht-Verordnung**). Among other things, this regulation defines the minimum tread depth for winter tyres.

Chat log (abridged) from 12/01/2025, translated from German into English

Final recommendations for practice

Company guidelines

Is your institution's use of publicly accessible chatbots covered by internal guidelines? If so, follow them!

Data protection and data security

Ensure your question or prompt does not contain any personal data or internal company information.

Assessment of potential opportunities and risks

Consider the use case, benefits and risks of using the chatbot.

Prior knowledge of the subject area

Ensure you have enough subject area knowledge and fact-check the answer.

Wording and quality of responses

Pay attention to the quality of your input or prompt. Describe the situation and the role of the chatbot in detail! Check that your input or prompt doesn't limit the response or steer it in a certain direction!



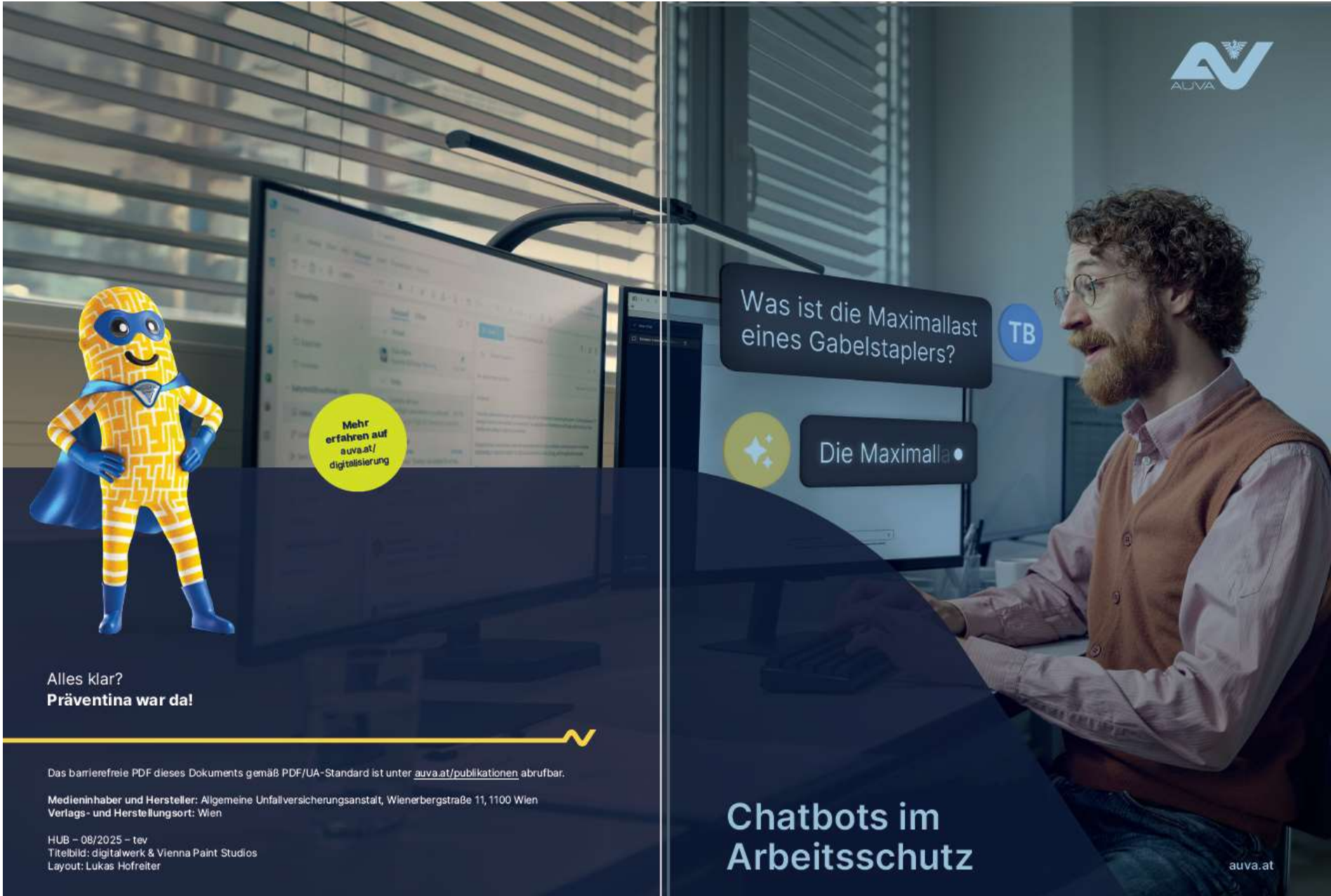
Thank you for your attention

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Alles klar?
Präventina war da!

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Chatbots im
Arbeitsschutz

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