Workshop

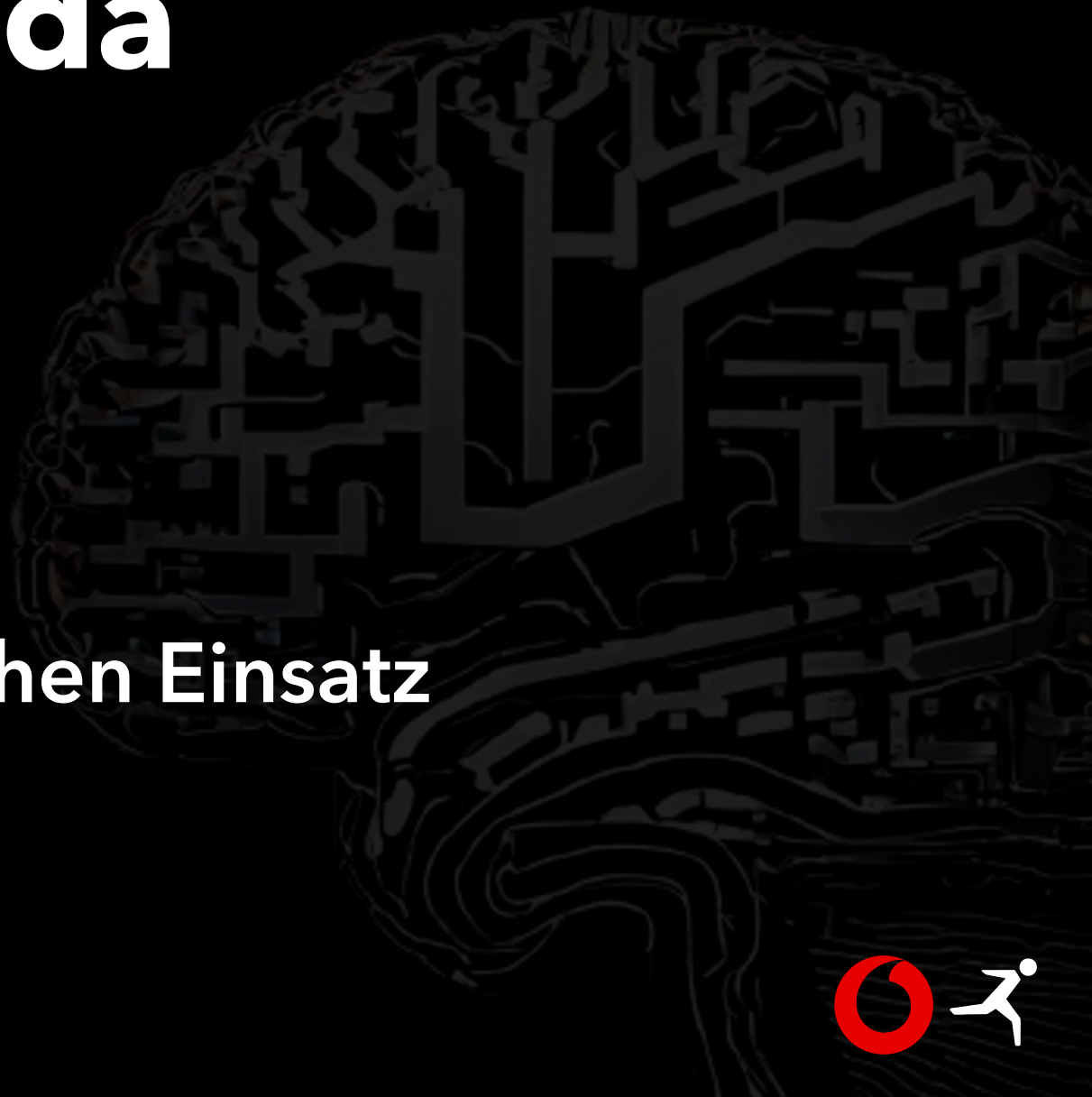
Künstliche Intelligenz in der Business-Welt

Vom Hype in die Praxis



Agenda

I. Einführung in KI
II. Generative KI
III. Use-Cases
IV. Weg zum erfolgreichen Einsatz
V. Ausblick

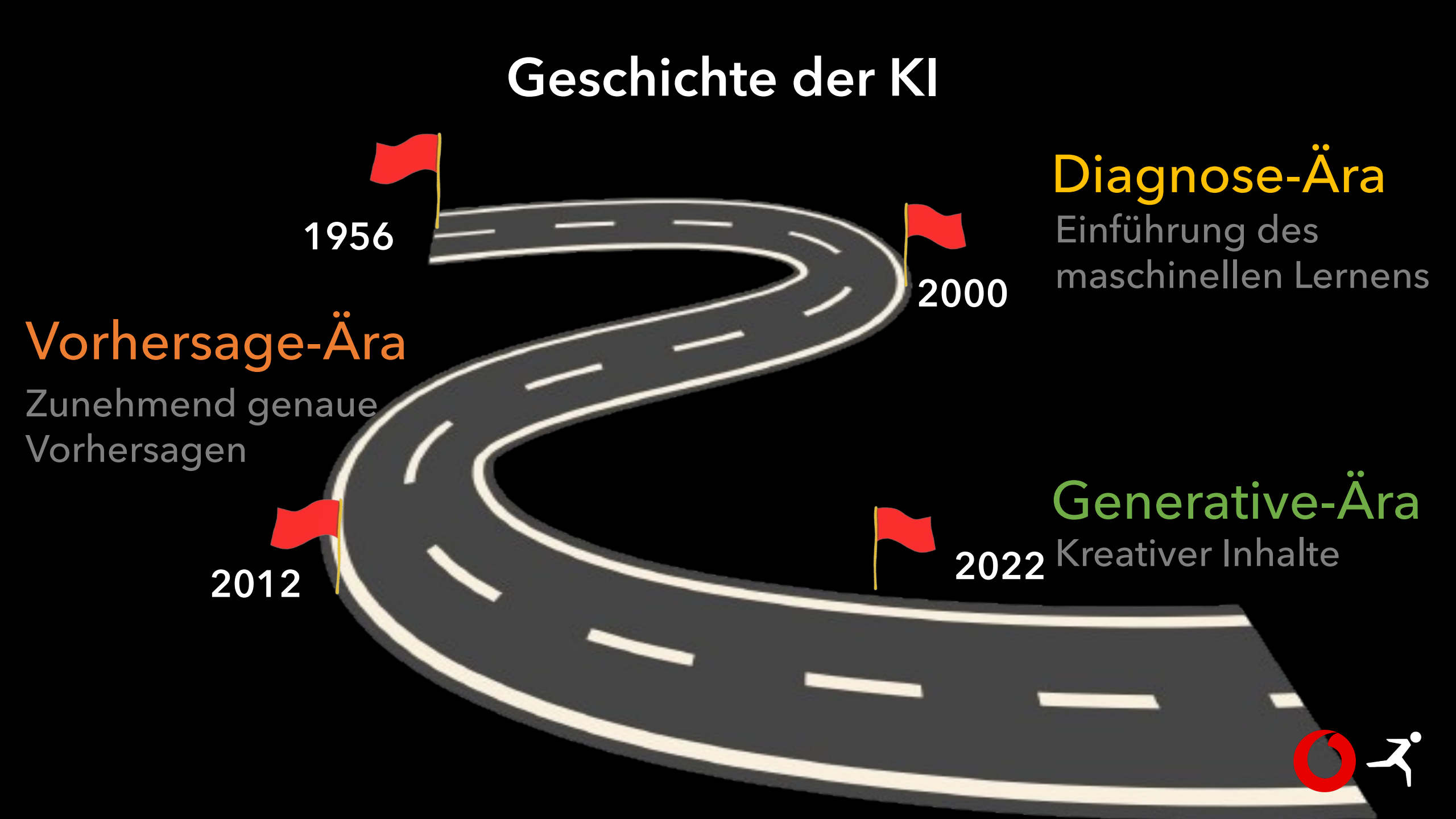


Teil 1 Einführung in KI

1. Geschichte der KI
2. Allgemeine Konzepte und Begriffe
3. Warum der Hype?



Geschichte der KI



Diagnose-Ära

Einführung des maschinellen Lernens

Vorhersage-Ära

Zunehmend genaue Vorhersagen

Generative-Ära

Kreativer Inhalte

Konzepte und Begriffe

Maschinelles Lernen

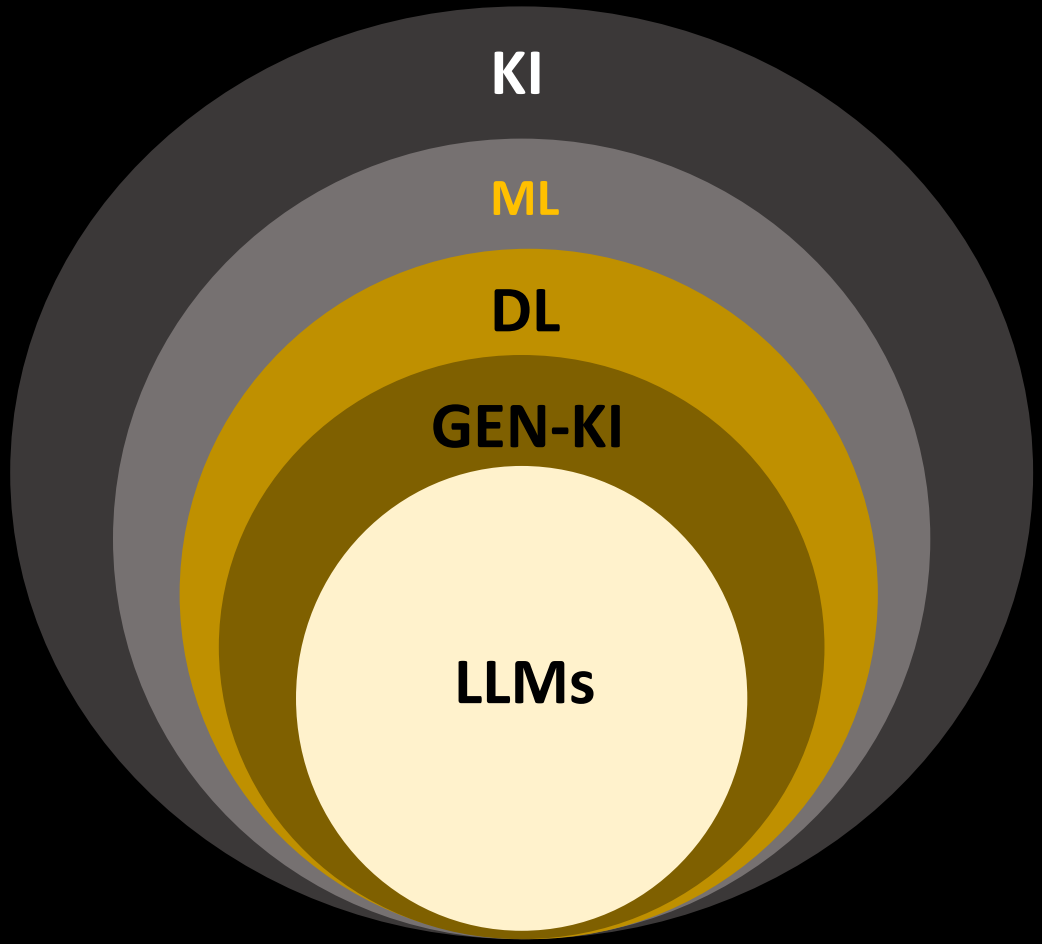
Computer lernen aus Daten

Deep Learning

Mehrschichtige neuronale Netzwerke für Fortschritte in Bild- und Spracherkennung

Large Language Models

Verwenden riesige Textdatensätze, um menschenähnliche Inhalte zu generieren



Künstliche Intelligenz

Entwicklung von Computersystemen, die menschliche Aufgaben erledigen können

Generative-KI

Computer erzeugen neue Daten

Warum der Hype?



Warum der Hype?

Anwendbarkeit



Inklusion



Potenzial



Anwendbarkeit

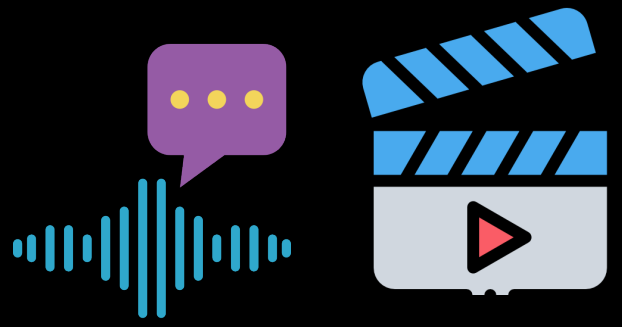




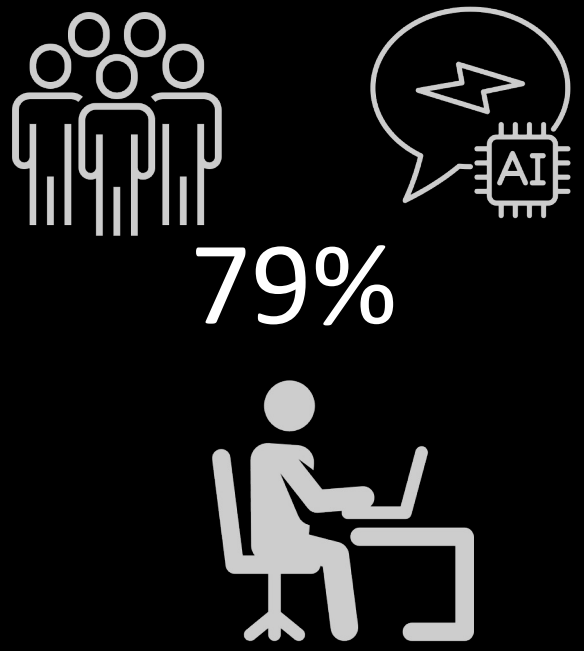


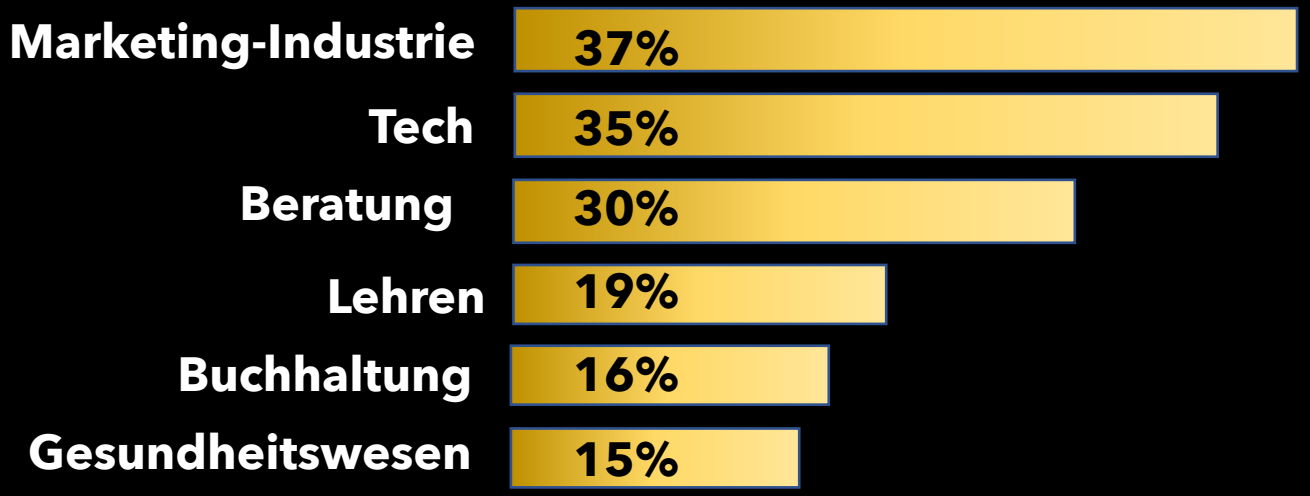






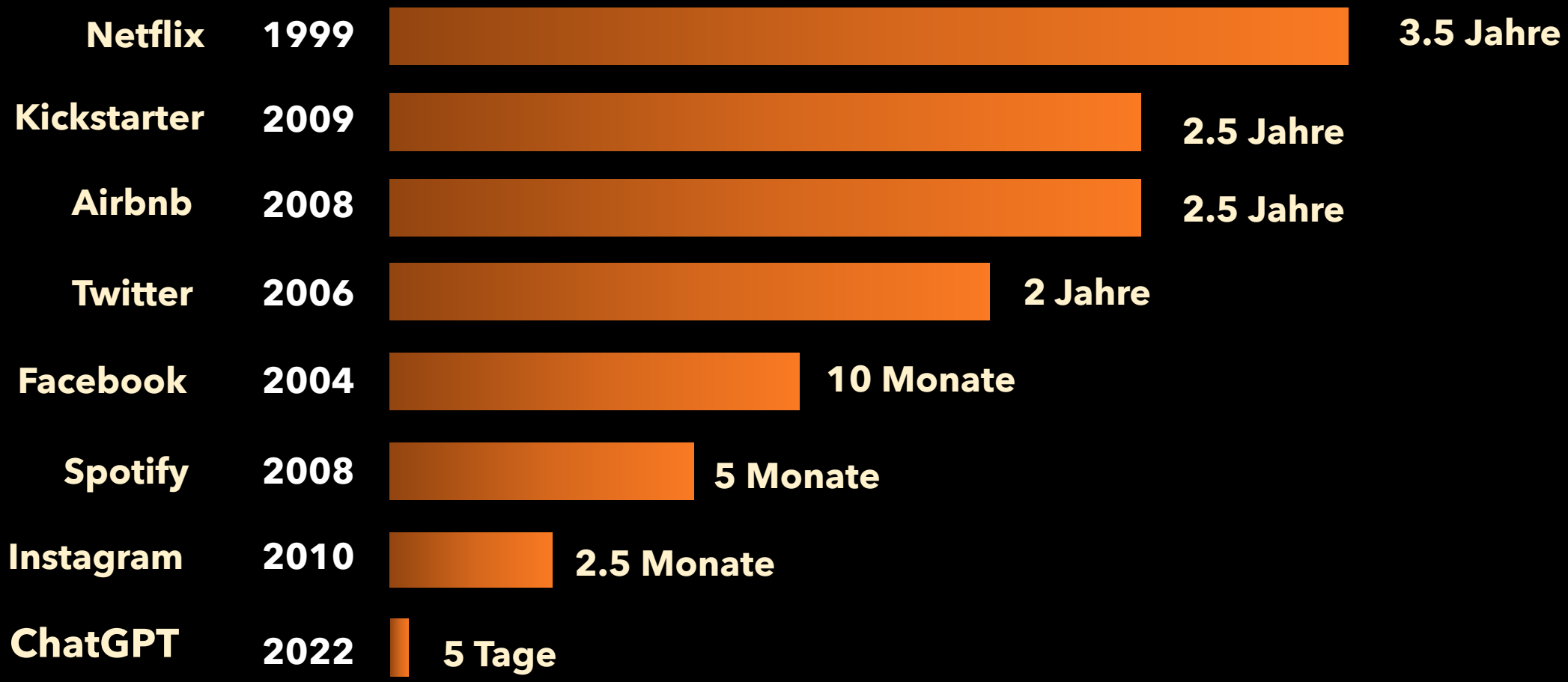
Inklusion





Quelle: Satistica, BCG

Zeit, die benötigt wurde, um 1 Million Nutzer zu erreichen



Quelle: Statistica

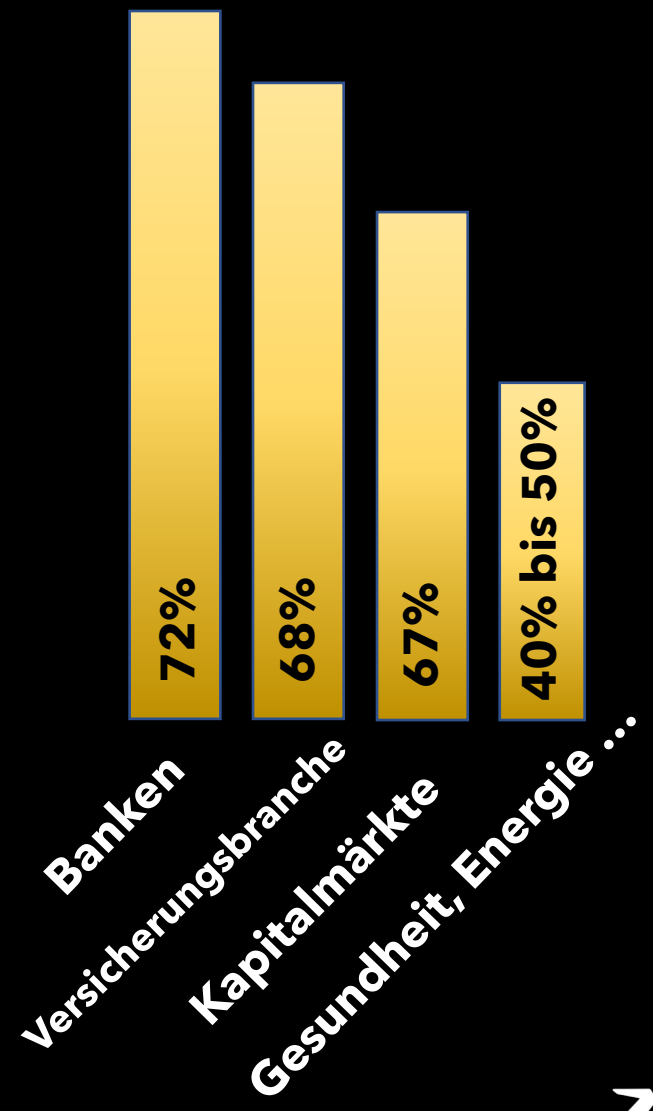
Potenzial

Produktivitätssteigerung um 40 bis 50%[1]



Kosteneinsparungen von mehr als 10 %[2]





Quelle: 1.Accenture 2.BCG 3.Harvard Business Review

Teil 2 Generative KI

1. Konzept
2. LLMs
3. Gen-KI für Unternehmen

Konzept

Generative AI erzeugt kreative Inhalte wie Bilder, Texte, Musik, Videos, Code …






















Video 1


Video 2


Video 3


Video 4

In welchem Video wurde KI eingesetzt?

Konzept

Text-zu-Text

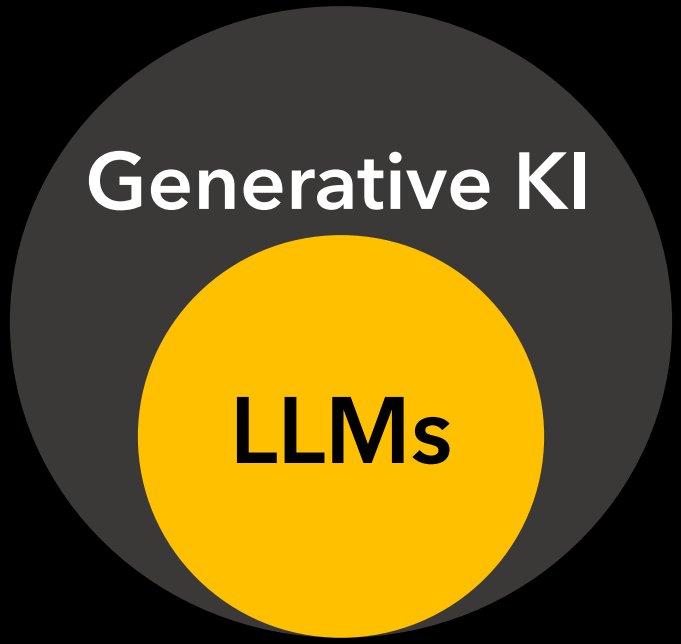


GPT-3

Text-zu-Bild

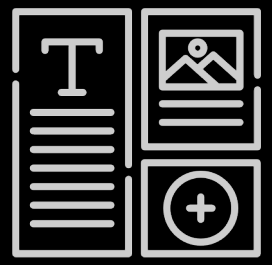


DALL-E



Multimodal

GPT-4



Demo

Persönlicher Assistent



Mode

- Query Files
- Search Files
- LLM Chat (no context from files)

Upload File(s)

Ingested Files

File name
Max_Mustermann_CV.pdf
financial_statement_2002.pdf
Anna_Mustermann_CV.pdf
financial_statement_2023.pdf
Onboarding.pdf

De-select selected file

Selected for Query or Deletion

All files

Delete selected file

Delete ALL files

LLM: local

Summarize in 5 Bullet points the experience of Anna Mustermann

- IT Project Manager at Tech Solutions Inc. since June 2014, leading multiple IT projects from initiation to successful implementation
- Managed cross-functional teams and fostered collaboration and communication for high-quality solutions
- Developed project plans, budgets, and risk management strategies to ensure project success
- Led the implementation of an ERP system using SAP ERP, Oracle Database, and Business Process Management from January 2016 to March 2017
- Holds a Master's degree in Business Administration with a focus on Strategic IT Management and is a certified Project Management Professional (PMP)

Sources:

1. Max_Mustermann_CV.pdf (page 1)
2. Anna_Mustermann_CV.pdf (page 1)

Retry | Undo | Clear

Type a message...

Submit

Additional Inputs

Mode

- Query Files
- Search Files
- LLM Chat (no context from files)

Upload File(s)

Ingested Files

File name
Max_Mustermann_CV.pdf
financial_statement_2002.pdf
Anna_Mustermann_CV.pdf
financial_statement_2023.pdf
Onboarding.pdf

De-select selected file

Selected for Query or Deletion

All files

Delete selected file

⚠ Delete ALL files

LLM: local

Who is better suited for a developer job?

Based on the provided context, both Max and Anna have some experience related to IT and technology. However, their backgrounds and expertise differ:

Max's experience includes:

- Bachelor of Science in Computer Science
- Software Engineer role with responsibilities such as developing web applications using various technologies and mentoring junior developers
- Proficiency in programming languages like Java, Python, C++, JavaScript, and frameworks such as Spring Boot, Django, React.js, and databases like MySQL, MongoDB, PostgreSQL

Anna's experience includes:

- Master of Business Administration (MBA) with a focus on IT management
- IT Project Manager role with responsibilities such as leading projects from initiation to implementation, managing cross-functional teams, and developing project plans
- Certified Project Management Professional (PMP)

Based on the information provided, Max's experience seems more directly related to

Retry | Undo | Clear

Type a message... Submit

Additional Inputs

Mode

- Query Files
- Search Files
- LLM Chat (no context from files)

Upload File(s)

Ingested Files

File name
Max_Mustermann_CV.pdf
financial_statement_2002.pdf
Anna_Mustermann_CV.pdf
financial_statement_2023.pdf
Onboarding.pdf

De-select selected file

Selected for Query or Deletion

All files

Delete selected file

⚠ Delete ALL files

LLM: local

Sources:
1. Onboarding.pdf (page 1)
2. Onboarding.pdf (page 1)

What was the net income of 2002?

The net income for the year ended June 30, 2002 was $78,516. (Refer to the provided context in the statement of income and retained earnings.)

Sources:
1. financial_statement_2002.pdf (page 3)
2. financial_statement_2002.pdf (page 6)

Summarize financial statement of 2023?

Retry | Undo | Clear

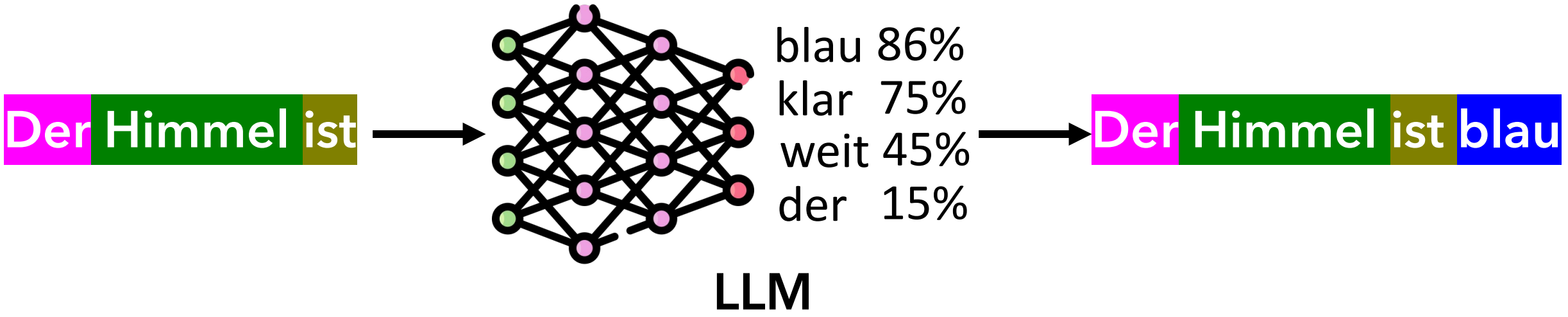
Type a message... Submit

Additional Inputs

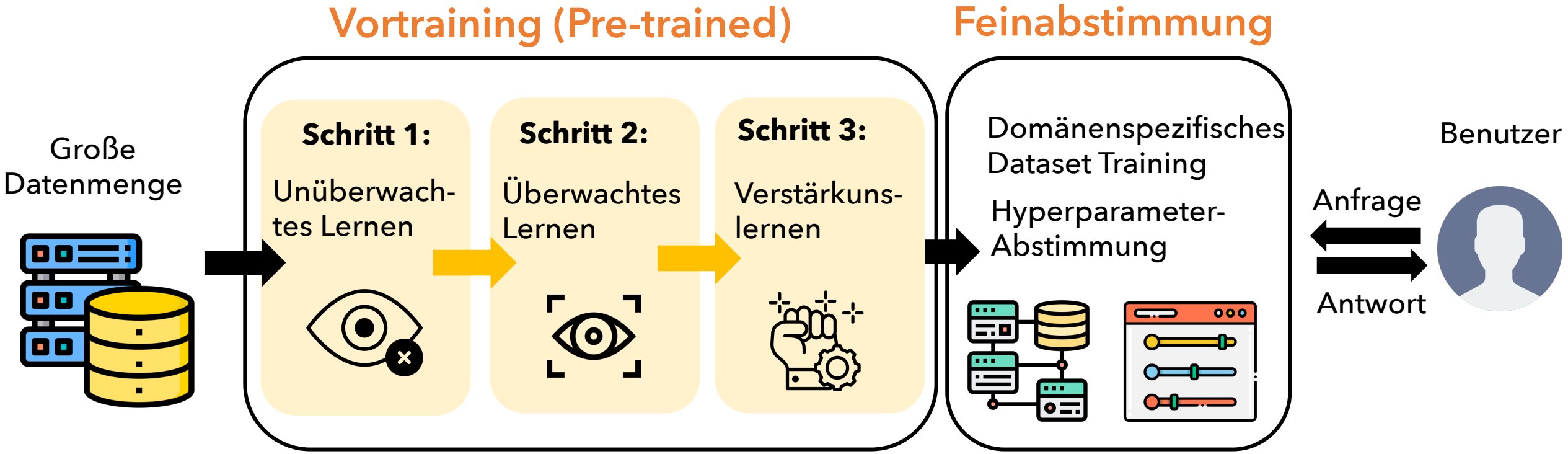
1. Wie entsteht ein LLM ?

2. Wie ist ein LLM trainiert?

Wie entsteht ein LLM?



Wie ist ein LLM trainiert?



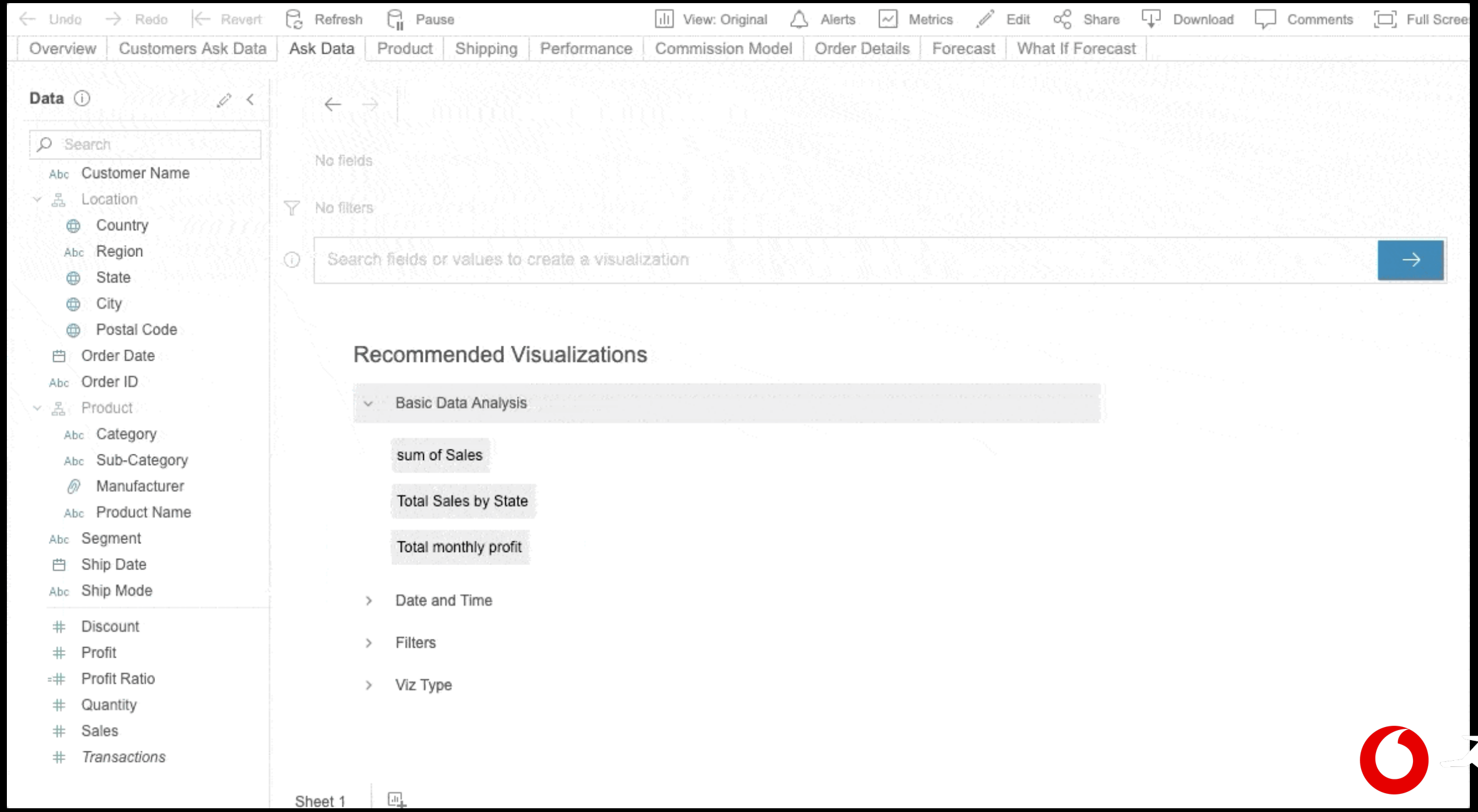
* Zahlen für Llama 2 70B

Teil 3

Use-Cases



Visuelle Use-Cases: Tableau AI



Datenbank Assistent

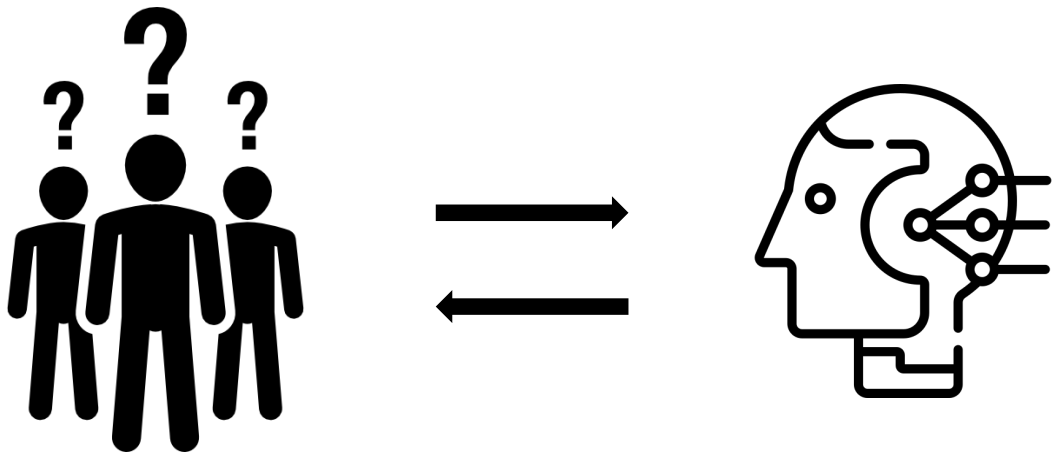
Herausforderung

Manager

Data-Analyst



Demo



Chat | SQL

Demo: Datenbank Assistance

Chatbot

what is this database about ?

The database contains information about employees, projects, task logs, and tasks. It includes details such as employee names, emails, departments, positions, project names, start and end dates, project managers, contract prices and durations, task logs with descriptions, and task details like names, assigned employees,

Retry | Undo | Clear

Type a message...

Submit

Chat

Chat | SQL

Demo: Datenbank Assistance

Chatbot

what are the tasks. that are in progress and to whom are they assigned ?

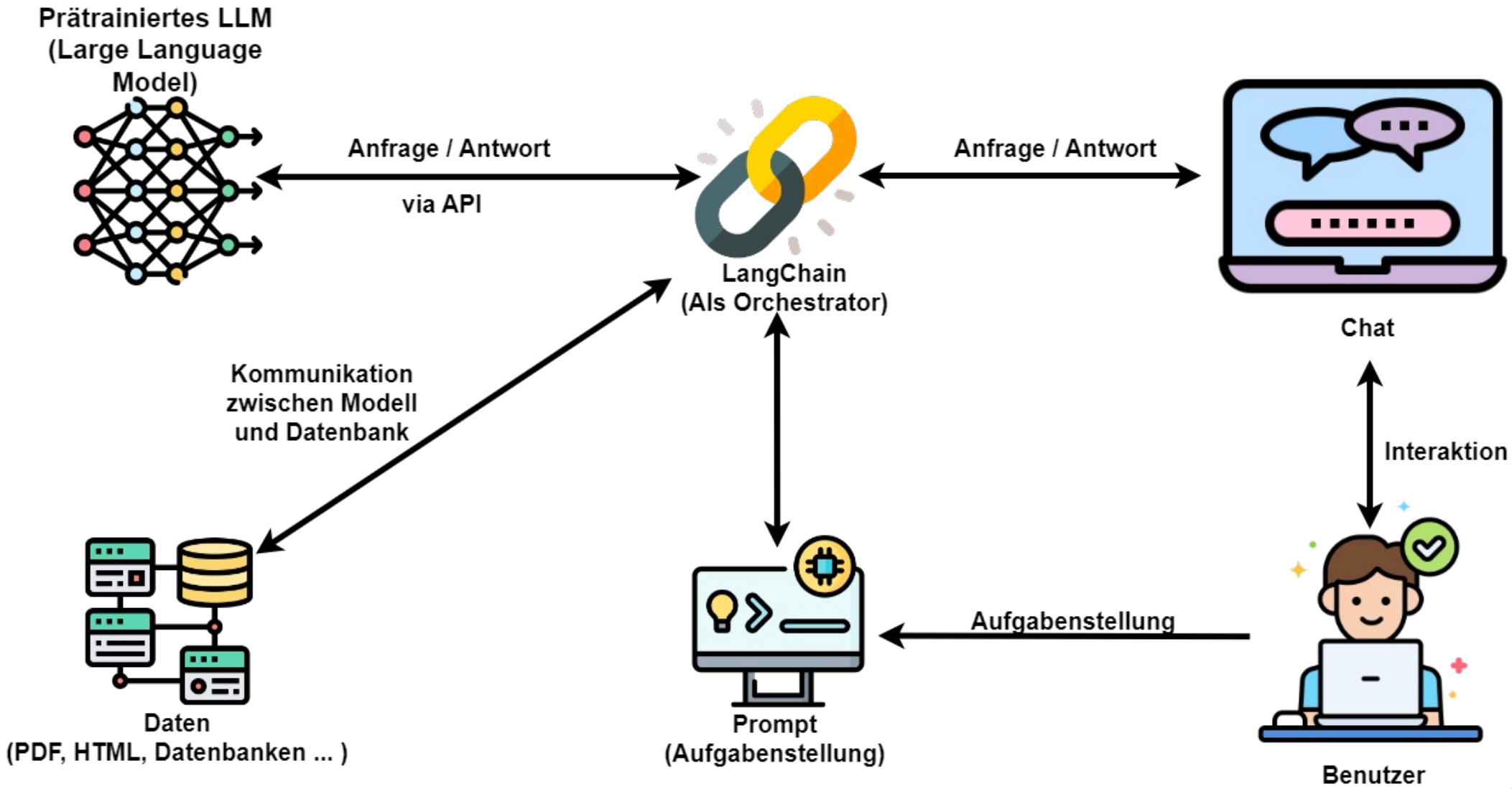
Design UI task is in progress and assigned to Alice Johnson. Schema Migration task is in progress and assigned to Bob Smith.

Retry | Undo | Clear

Type a message... | Submit

Chat

Erklärung


Prätrainiertes LLM
(Large Language
Model)
Anfrage / Antwort
via API
LangChain
(Als Orchestrator)
Anfrage / Antwort
Chat
Kommunikation
zwischen Modell
und Datenbank
Interaktion
Daten
(PDF, HTML, Datenbanken ...)
Prompt
(Aufgabenstellung)
Aufgabenstellung
Benutzer



Reply.com



Reply AI Campaign



Reply AI Film Festival



Reply Xmas 2022



Reply Xchange



Reply Awards Gala

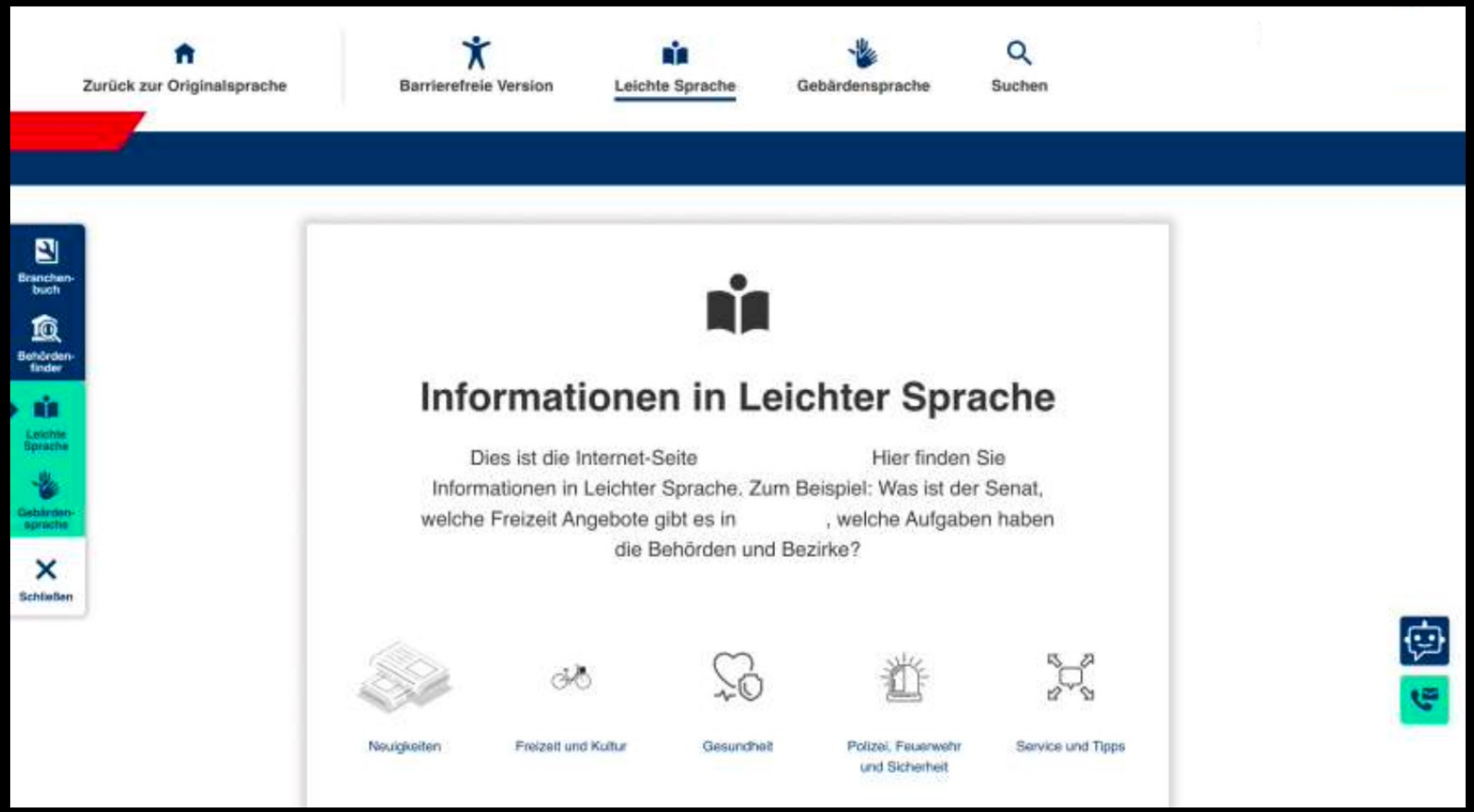
EMPLOYEE EMPOWEREMENT



It's estimated that 11% of data that employees input into ChatGPT contains confidential information, leading many corporations to restrict access to the ChatGPT website within their IT environments.

Our solution ensures compliance by utilizing the ChatGPT model through Azure OpenAI services, a compliant sandbox. Alternatively, fully on-premises deployment of LLMs like Meta Lama and Falcon can be considered.

CUSTOMER SERVICES & PUBLIC SECTOR



Public institutions are legally mandated to provide content in easy language to enhance citizen participation, but resource limitations hinder this effort.

This solution employs a fine-tuned LLM to translate standard content into easy language, promoting accessibility.

CUSTOMER SERVICES & SALES



The Car Sales Assistant solution is designed to shape a new model of interaction among humans, products and their brand, leveraging on new AI and real-time technologies.

Thanks to generative AI users interact with voice, gestures and text with their personal sales assistant, which helps in retrieving detailed information about the vehicle, and configuring the car in a non-linear experience.

Teil 4 Weg zum Einsatz

1. KI-TRiSM
2. Roadmap für Unternehmen

KI-TRiSM



Erklärbarkeit

ModelOps

KI-Applikations sicherheit

Privatsphäre

DIE VIER SÄULEN VON KI-TRISM



Erklärbarkeit

Rückverfolgbarkeits-mechanismen sichern Genauigkeit, Fairness, Verantwortlichkeit, Stabilität und Transparenz von KI-Algorithmen.



ModelOps

DevOps für die Bereitstellung von ML-Modellen.

ModelOps für das Management des Lebenszyklus traditioneller ML-Modelle.



KI Applications-sicherheit

Gewährleistung der Sicherheit von Modellen vor **Cyber-Bedrohungen**. Entwicklung von **Sicherheitsprotokollen** und **Maßnahmen** gegen unbefugten Zugriff oder Manipulation.



Privatsphäre

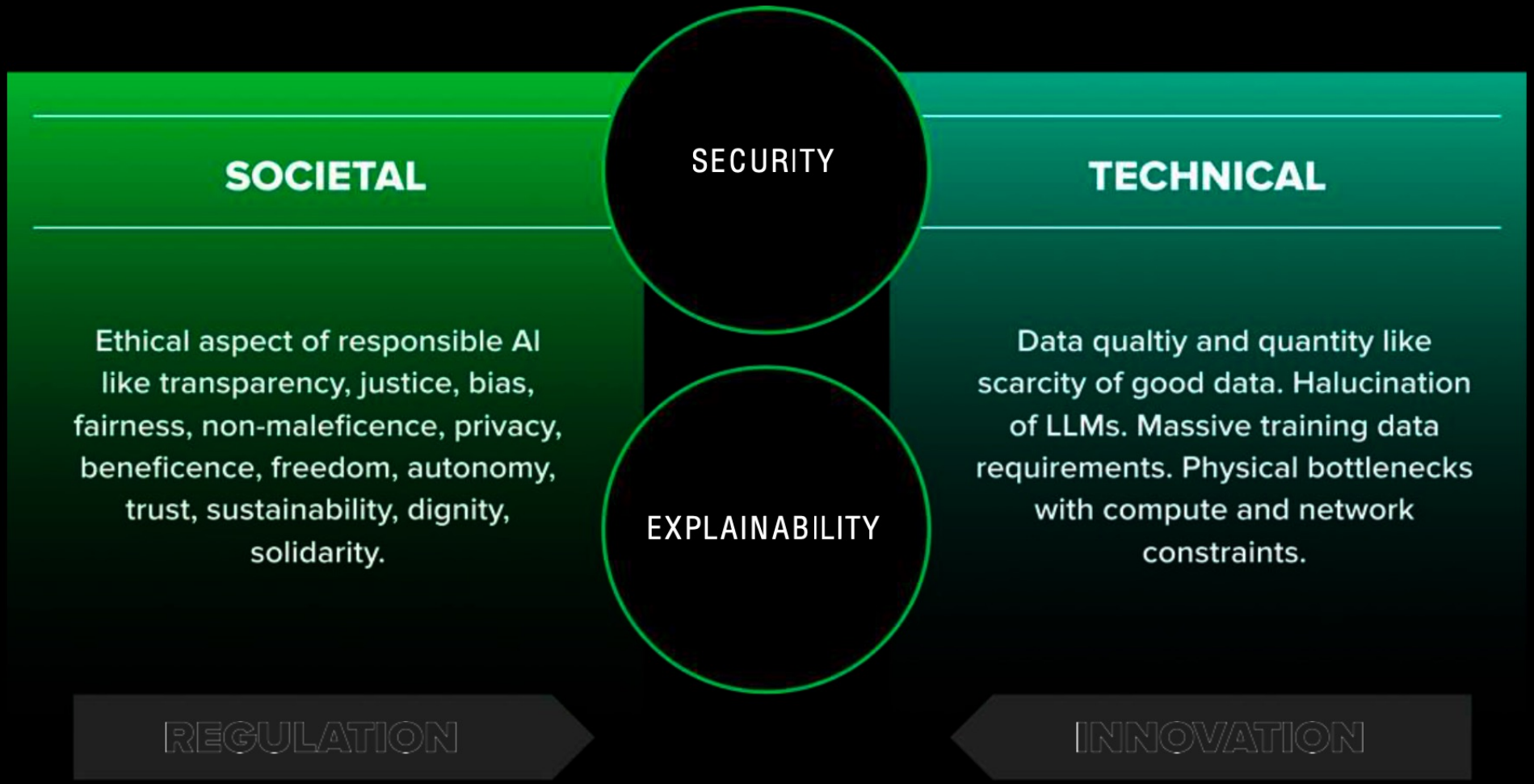
Schutz von Daten für das Training oder Testen von KI-Modellen. **Entwicklung** von Richtlinien und Verfahren für die **Datenerhebung**, -**speicherung** und -**nutzung**

Roadmap für Unternehmen



1. Strategische Ausrichtung
2. Entwicklung von Kriterien zur Bewertung von generativen KI-Initiativen.
3. Priorisierung und Umsetzung
4. Erstellung klarer Metriken für den Erfolg
5. Erstellung einer Roadmap zur Implementierung von Anwendungsfällen

THE RISING CHALLENGES OF AI



FROM NARROW TO LARGE

AI STAGES	ARTIFICIAL NARROW INTELLIGENCE (ANI)	ARTIFICIAL GENERAL INTELLIGENCE (AGI)	ARTIFICIAL SUPER INTELLIGENCE (ASI)
	Execute specific focused tasks, without ability to self-expand functionally	Perform broad tasks, reason and improve capabilities comparable to humans	Demonstrate intelligence beyond human capabilities
TIMING	**Today**	**Soon**	**Soon after AGI**
IMPLICATIONS	Outperform humans in specific repetitive functions, such as driving, medical diagnosis and financial advice	Compete with humans across all endeavours, such as earning university degrees and convincing humans that it is human	Outperform humans, helping to achieve societal objectives or threatening human race

Künstliche Intelligenz in der Business-Welt

Vom Hype in die Praxis

