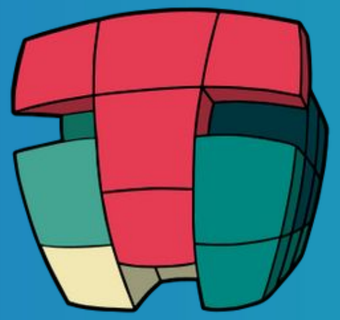


Tentris

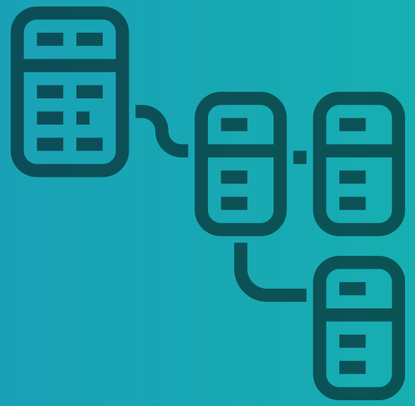
FROM TENSORS TO 10x

LSWT 2024
Leipzig, Germany
18.04.24

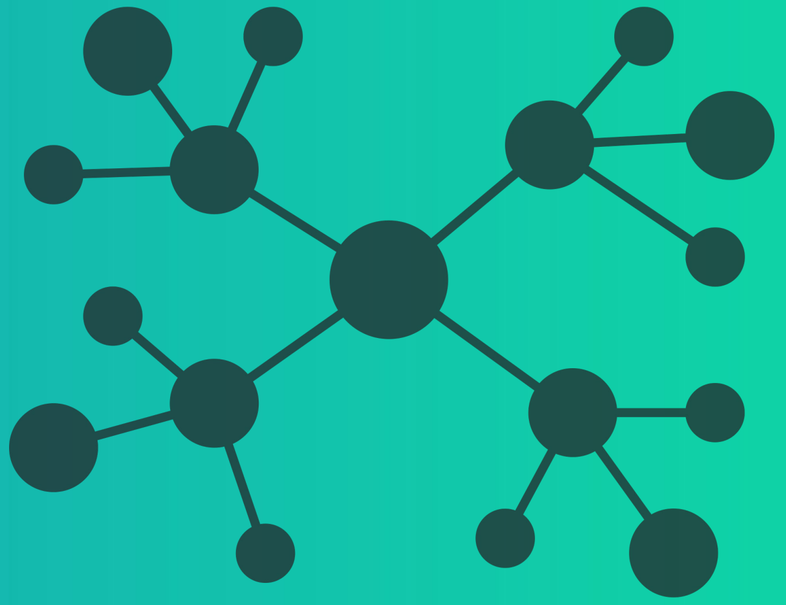
History of Digital Data Processing

Graph technologies will be used in 80% of enterprise data and analytics innovations by 2025.

Analog age



Tables with columns and rows



Knowledge Graphs

Problem

90% of companies face major challenges in storing and managing their data.

Large-scale storage solutions are resource-intensive and costly to administrate.

AI black box* algorithms are not compatible with EU data protection (GDPR).

Current graph databases are too slow for modern query loads.

*not explainable or interpretable

Solution

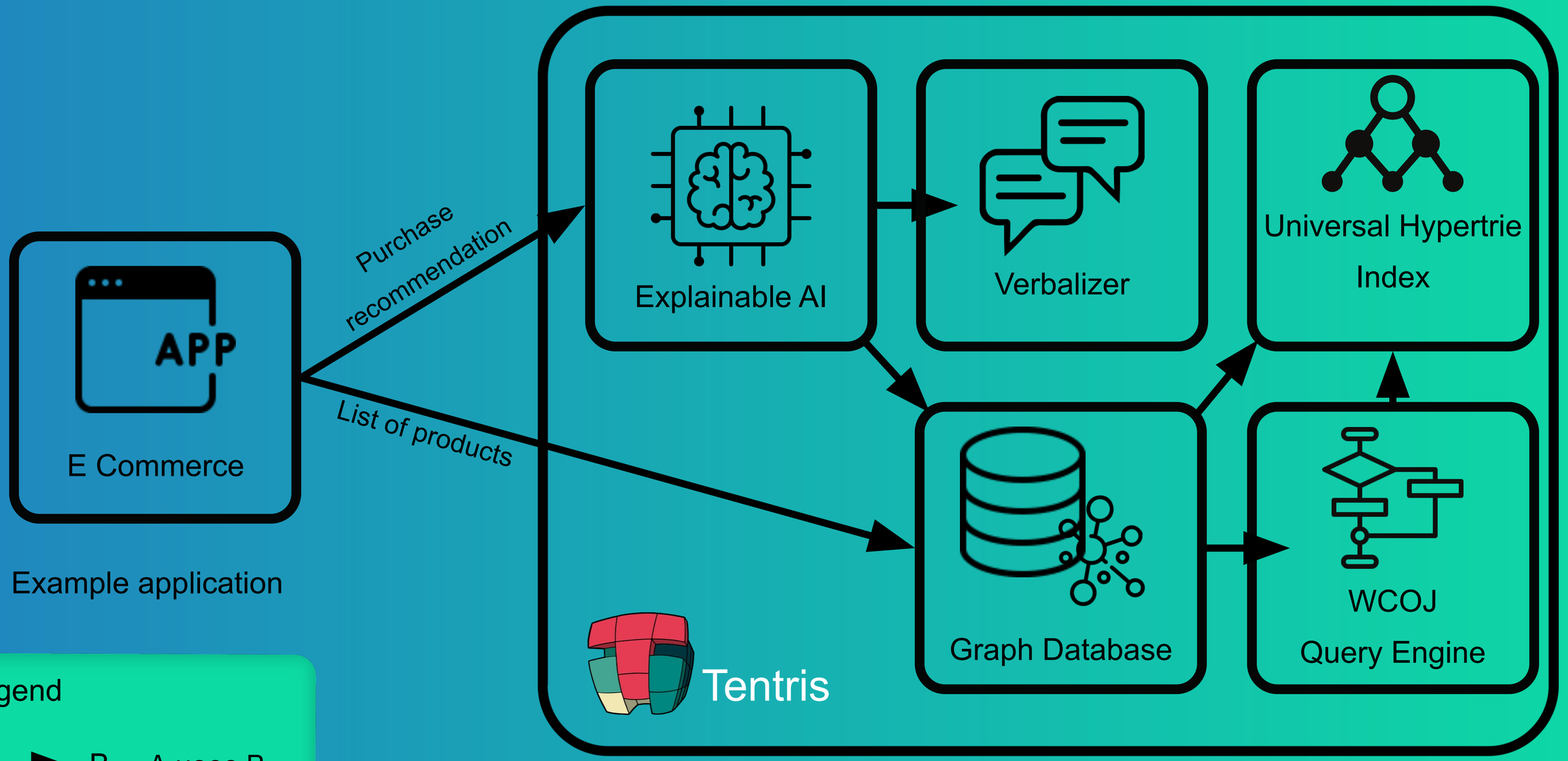
A highly scalable and sustainable next-generation graph database with DSGVO-compliant AI.

Fast, scalable and easy to administrate

Resource-efficient database engine and algorithms

Correct explanations for AI and data

Architecture

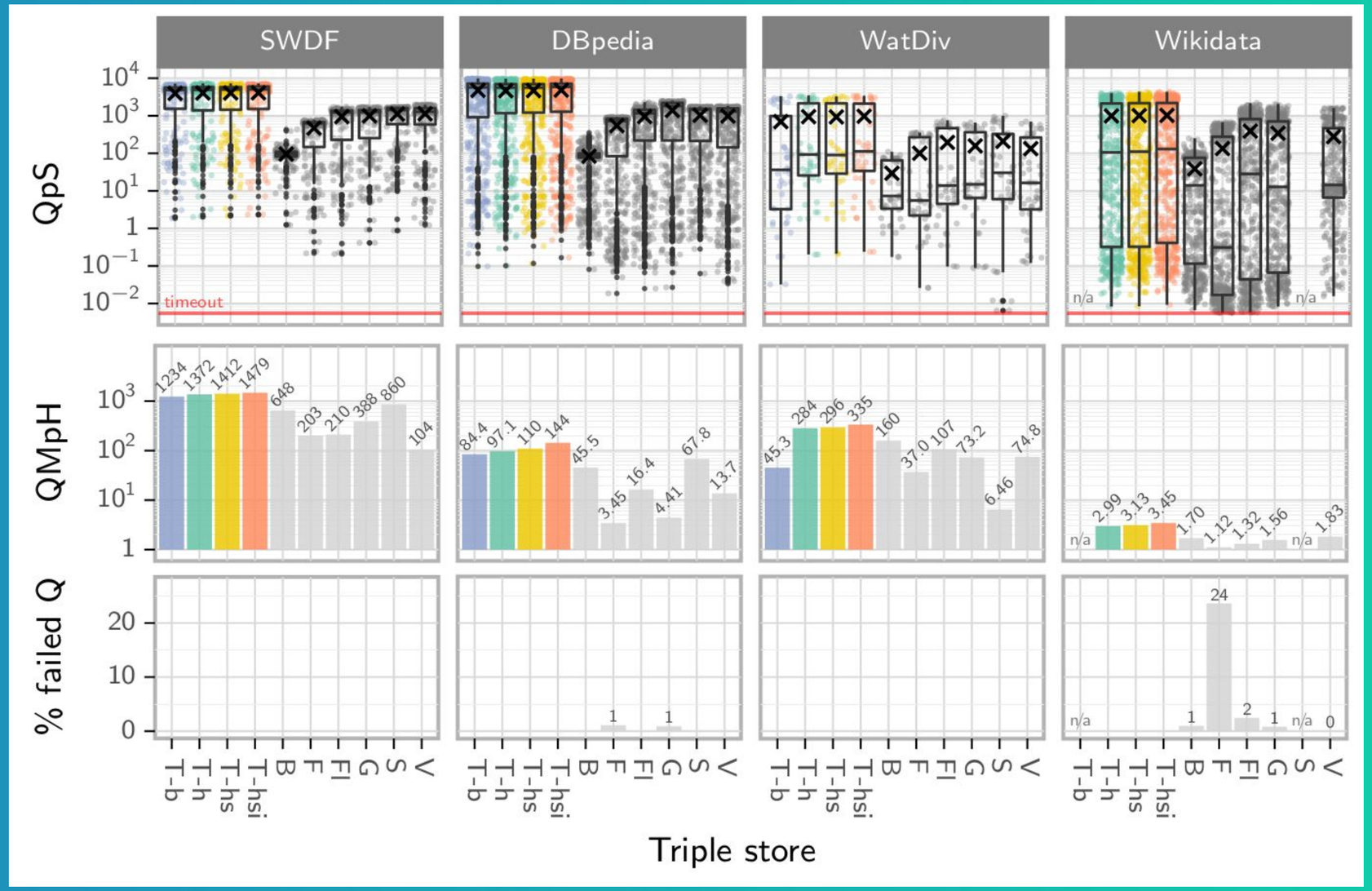


Example application

Legend

A → B A uses B

Tentris Benchmarking Results



Tentris Benchmarking Results

	Runtime (sec.)			
	Carcinogenesis	Mutagenesis	Semantic Bible	Vicodi
CELOE	268.90±116.04	165.27±145.11	172.04±140.27	334.99±43.87
EvoLearner	62.21±26.11	70.77±47.53	18.44±5.53	236.92±80.90
ELTL	26.15±2.11	15.83±16.56	4.73±0.98	335.90±205.39
ECII	25.62±6.11	20.40±4.00	6.73±1.67	37.12±25.12
$\text{NCES2}_{m=32}$	**0.02***±0.00	**0.02***±0.00	**0.01***±0.00	**0.03***±0.00
$\text{NCES2}_{m=64}$	<u>0.03</u>±0.00	<u>0.03</u>±0.00	<u>0.01</u>±0.00	<u>0.03</u>±0.00
$\text{NCES2}_{m=128}$	0.03±0.00	0.03±0.00	0.02±0.00	0.04±0.00
$\text{NCES2}_{m=\{32,64\}}$	0.05±0.00	0.05±0.00	0.03±0.00	0.06±0.00
$\text{NCES2}_{m=\{32,128\}}$	0.06±0.00	0.06±0.00	0.03±0.00	0.06±0.00
$\text{NCES2}_{m=\{64,128\}}$	0.06±0.00	0.06±0.00	0.03±0.00	0.07±0.00
$\text{NCES2}_{m=\{32,64,128\}}$	0.09±0.00	0.09±0.00	0.05±0.00	0.10±0.00

Competitive Advantage

Our storage efficiency, request performance and short AI computing times reduce costs and CO_2 emissions.

bis zu **10x**

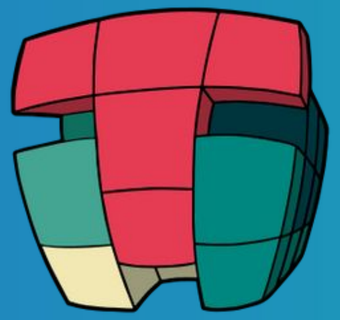
Lower operational costs

bis zu **100x**

Reduktion der CO_2-Emissionen

bis zu **1000x**

Reduction of AI and query runtime



Tentris

THE FASTEST GRAPH DATABASE.
WITH GDPR-COMPLIANT AND EXPLAINABLE AI.

Die Europäische Union fördert zusammen mit dem Bundesministerium für Wirtschaft und Klimaschutz über den Europäischen Sozialfonds Plus (ESF Plus) das Programm „Existenzgründungen aus der Wissenschaft (EXIST)“ in Deutschland.

Gefördert durch:

Bundesministerium für Wirtschaft und Klimaschutz

Kofinanziert von der Europäischen Union

eXIST Existenzgründungen aus der Wissenschaft

aufgrund eines Beschlusses

Competition

In our experiments, none of our competitors could keep up with us in various performance tests.

	Tentris	Neo4j (2010)	MarkLogic (2003)	Stardog (2012)	Ontotext (2000)	Neptune (2019)
Market Position	**Newcomer**	**Marktführer Graph Analytics**	**Marktführer Local Apps**	**Marktführer Reasoning**	**Marktführer Server Apps**	**Marktführer Scalability**
Next-Gen Query Engine	✓	✗	✗	✗	✗	✗
Universal index	✓	✗	✗	✗	✗	✓
explainable AI	✓	(✓)*	✗	(✓)*	✗	(✓)*
Funding Status	**Pre-Seed (geplant)**	Series F (2021) $ 391M	Series F (2015) $ 102M	Series B (2020) $ 12M	Exit (2022) > $ 30M	Eigentum von AWS

*nur black-box KI

Business Model

Our market entry is through solution providers and data-driven e-commerce and pharmaceutical companies.

S-PACKAGE

1500€ /year/db

- 32 parallel clients
- E-mail support
- Video tutorial

M-PACKAGE

2000€ /year/db

- 128 parallel clients
- E-mail support
- Video tutorial

L-PACKAGE

3000€ /year/db

- ∞ parallel clients
- Access to XAI
- 2-day onboarding
- E-mail support
- Video tutorial

Founders

We are aware of our challenging path! Our team brings the ideal mix of capabilities and traits to write a great success story!

Alexander Bigerl
CEO

5Y experience in graph database dev and research

PhD student

Tobias Rebert
COO

3Y experience in startup dev and project management

PhD student

Caglar Demir
CTO

4Y experience in explainable AI dev and research

Dr. rer. nat.

Axel Ngonga
CSO

20+Y R&D in ML and knowledge graphs, Stanford top-2%

Prof. Dr.

Market Size

With our disruptive technology, we will become the market standard by 2030.

2022

$ 63.4M
Global database market
Total Available Market (TAM)

$ 2.6M
Global Graph Database Market
Serviceable Available Market (SAM)

2026

$ 99.1M
Global database market
Total Available Market (TAM)

$ 4.48M
Global Graph Database Market
Serviceable Available Market

8M € ARR
Serviceable Obtainable Market

Join our story to unlock the full potential of data!

Let us have a chat and talk about product roadmap and financial model!

Alexander Bigerl

CEO

Email Address

alexander@tentris.io

Phone

+4917645817090

Kundensegmente

Fokus Pilotprojekte

- eine bereits in Betrieb befindliche Graphdatenbank
- XAI auf Graphdaten benötigt
- LOIs und Netzwerk aus Forschungsprojekten

Early Adopter - Layer Player

- eine bereits in Betrieb befindliche Graphdatenbank
- Kunden unserer Multiplikatoren (LOI), die uns als Backend nutzen (Layer Player)

Early Adopter - E-Commerce / Pharma

- eine bereits in Betrieb befindliche Graphdatenbank
- RDF-Framework
- große Datensätze und komplexe Anfragen

Calculation Example

Shipping company tracking international freight with 20-40 employees - on average one million queries per year

query costs on average 0.01ct/kWh of electricity according to Venture Beat

ca. 10.000€ of electricity costs

Tentris: 90% reduction of run time / 90% reduction of costs

Tentris saves

9.000€ / year/ database