

# Scale up your RDF game

## Efficient SPARQL querying with **Tentris**

Wait less – query more.

An abstract network diagram with various sized nodes and connecting lines, rendered in a lighter shade of purple than the background, creating a subtle pattern across the slide.

# Building the next-gen graph database **Tentris**.



**Alexander  
Bigerl**

Dev / Director

7Y experience in  
graph database dev  
and research

PhD candidate 



**Tobias  
Rebert**

Business / Director

5Y experience in  
project management  
of startups

M.Sc. 



**Nikolaos  
Karalis**

Dev

5Y experience in  
graph database  
dev and research

PhD candidate 



**Axel  
Ngonga**

Research

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

Prof. Dr. 



Gefördert durch:



aufgrund eines Beschlusses  
des Deutschen Bundestages

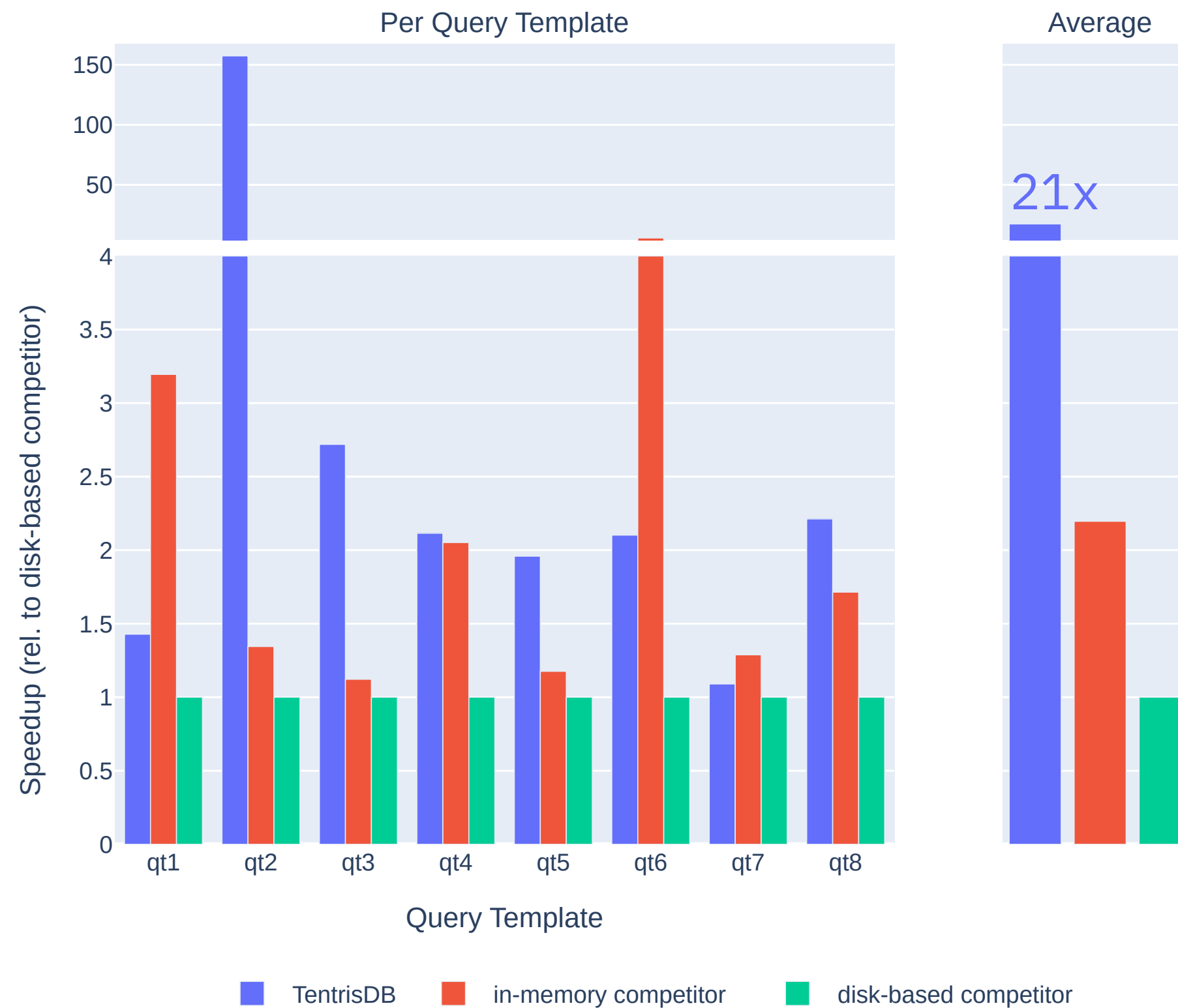


# The RDF bottleneck: What's holding back semantic tech in the last 20 years?

- ✗ **Poor read and query performance at scale**  
(>1B triples)
- ✗ **Poor write performance:** unsuitable for data-intensive use-cases
- ✗ **Steep learning curves:** semantic technologies' potential being underutilized

**Tentris's storage efficiency, request performance and algorithms reduce costs and CO<sub>2</sub> emissions.**

- ✓ **Efficient querying:**  
Our worst-case optimal joins (WCOJs) are asymptotically faster than binary joins.
- ✓ **Efficient indexing:**  
Our Hypertrie index supports faster queries and updates without raising storage demands.
- ✓ **Easy to use:**  
Runs anywhere, standard compliant, clear interfaces.



# BSBM Business Intelligence Use-Case

Our disk-based **Tentris** comes out ahead of both disk-based and in-memory competitors.

# Showcasing the ease of use and performance of **Tentris**

**live demo**



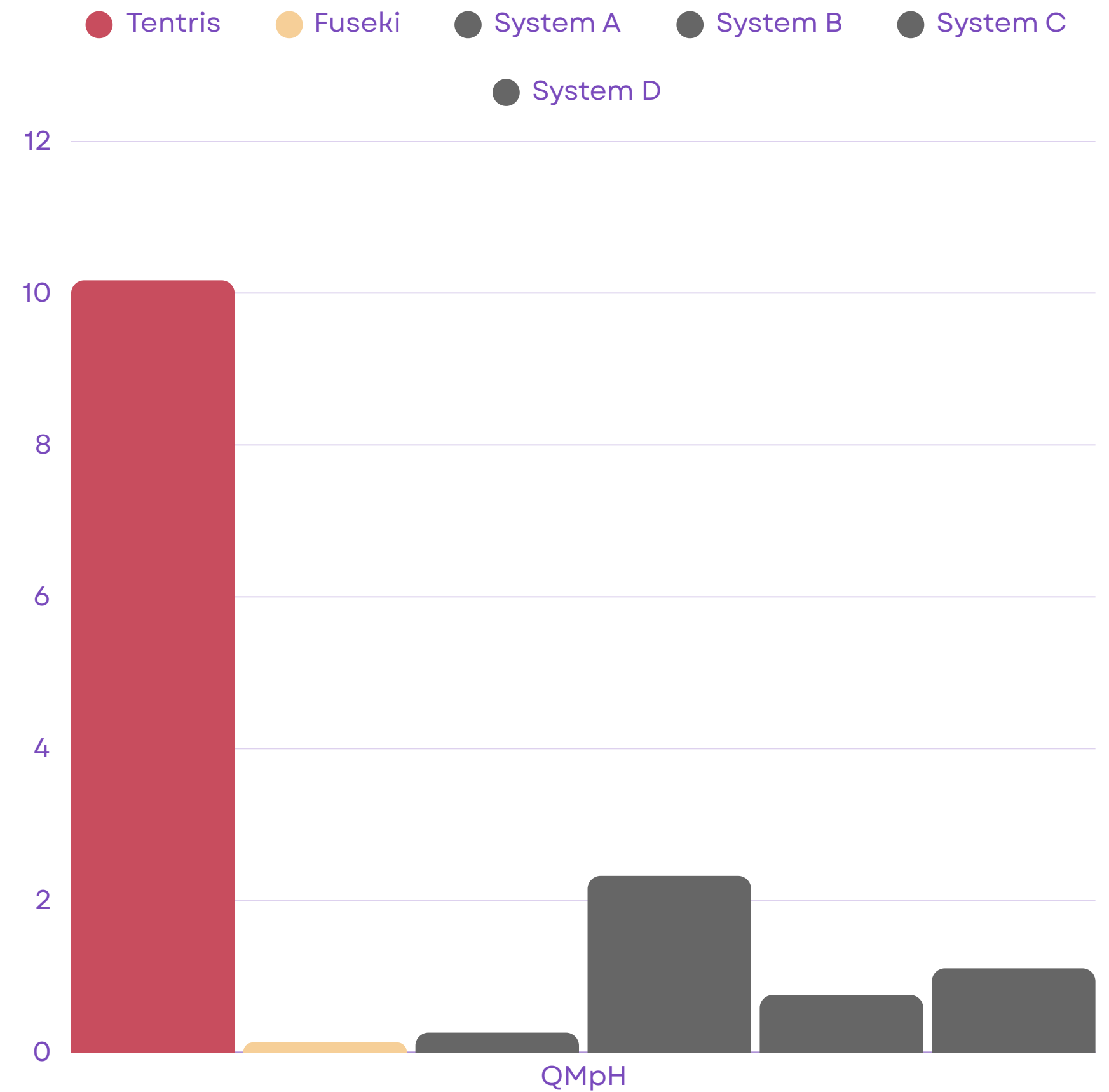
Thank you for your  
attention.

Pre-register for  
our Beta!



# WDBENCH

- 1.25B triples
- General knowledge queries
- WikiData-based Benchmark
- real-world queries
- Queries containing optional/left joins

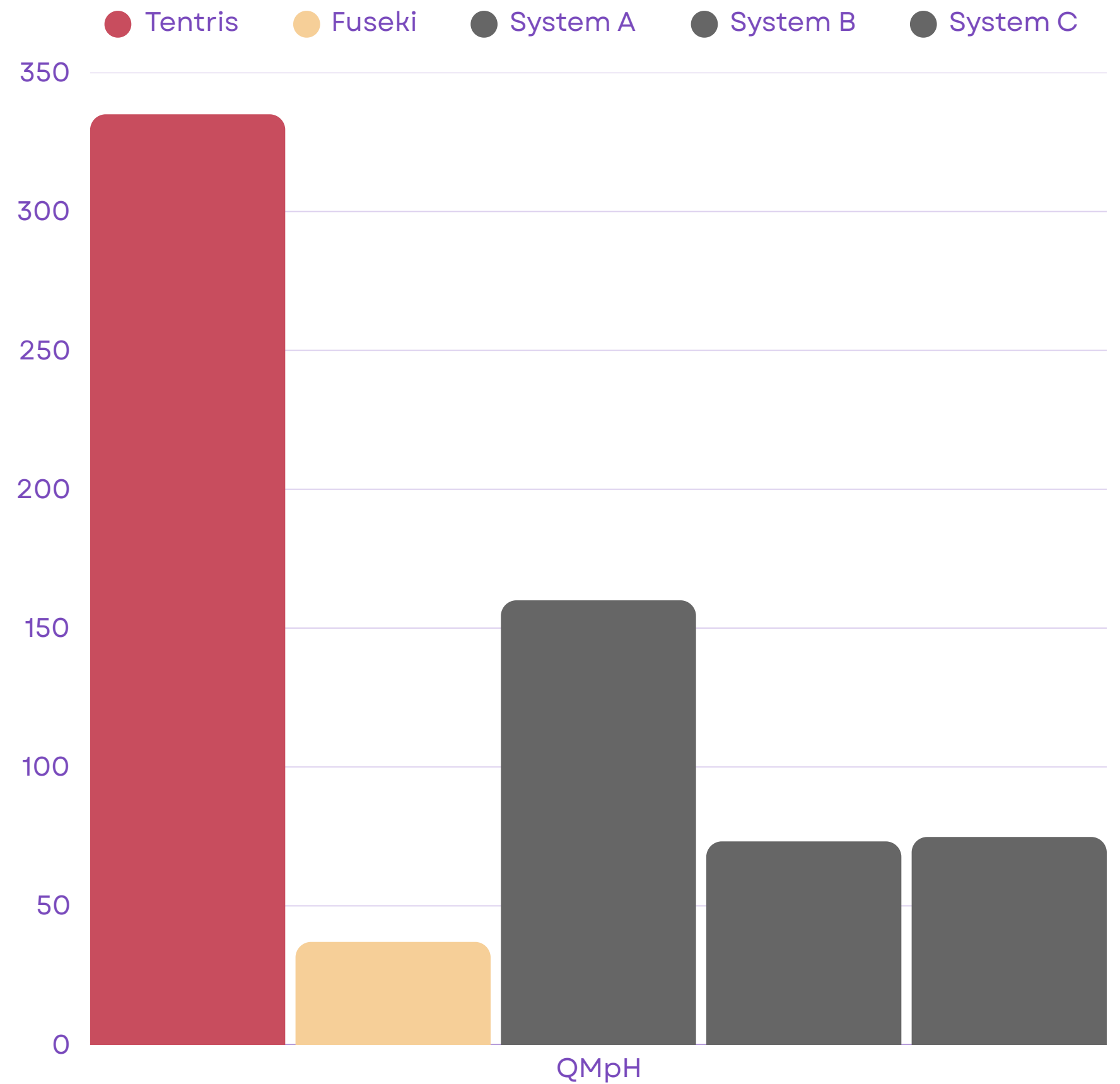




BENCHMARK

# WatDiv

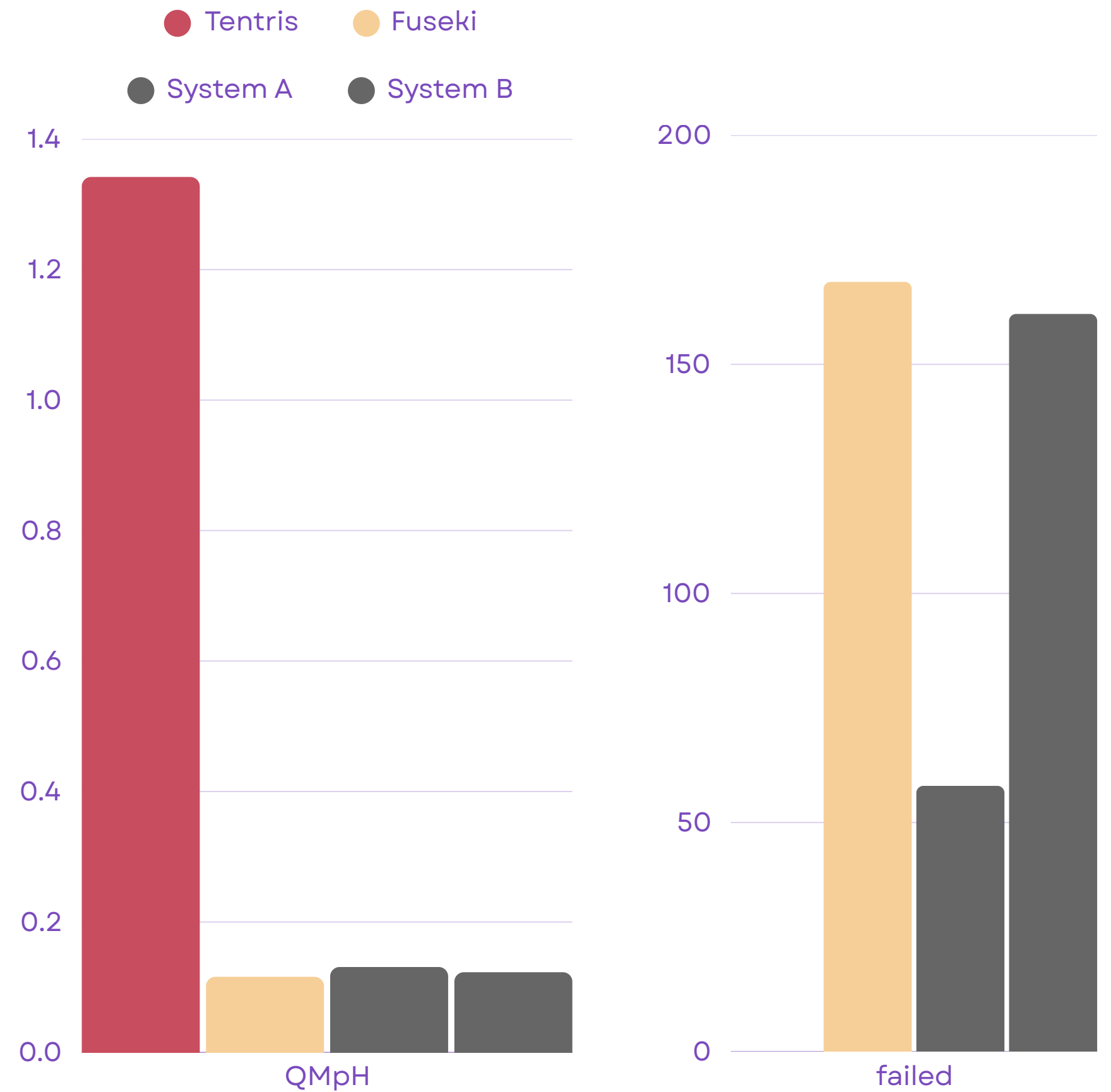
- 1B triples
- Complex analytic queries
- Synthetic data



## BENCHMARK

# XAI

- 40M triples
- Most complex queries
- Synthetic data based on Yago4 dataset
- simulates instance retrieval of OWL class expressions
- executed through OWL2SPARQL bridge



BENCHMARK

# UPDATES

- Replaying DBpedia changelogs

