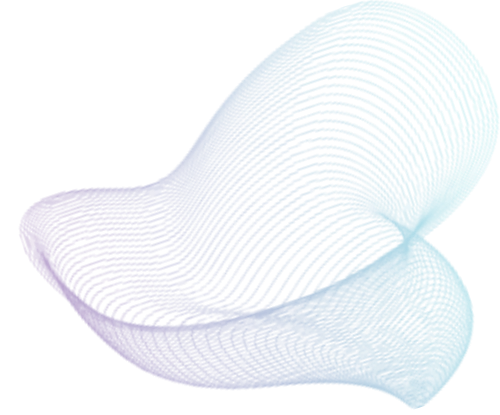


Cognitive edge-cloud with serverless computing



Enabling the Stateful FaaS Agent Pattern in EDGELESS

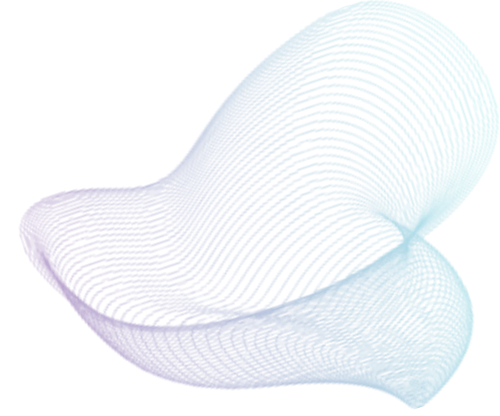
Claudio Cicconetti

ML4ECS workshop @ HiPEAC 2026 – Krakow PL



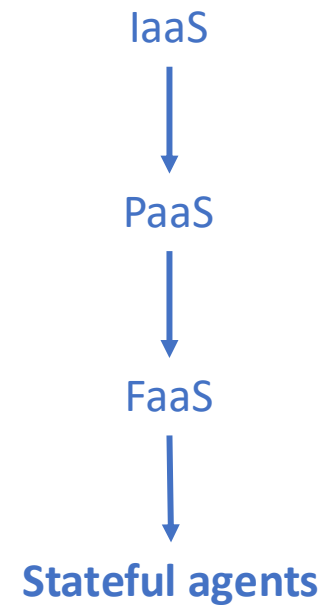
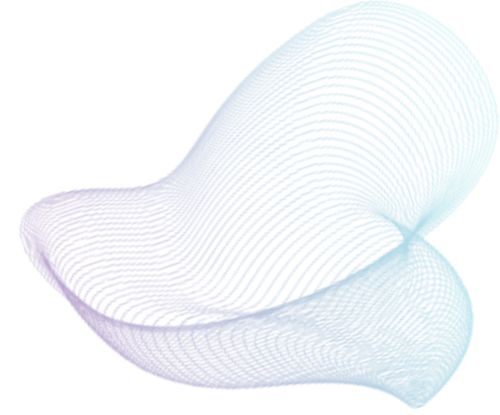
National Research Council of Italy

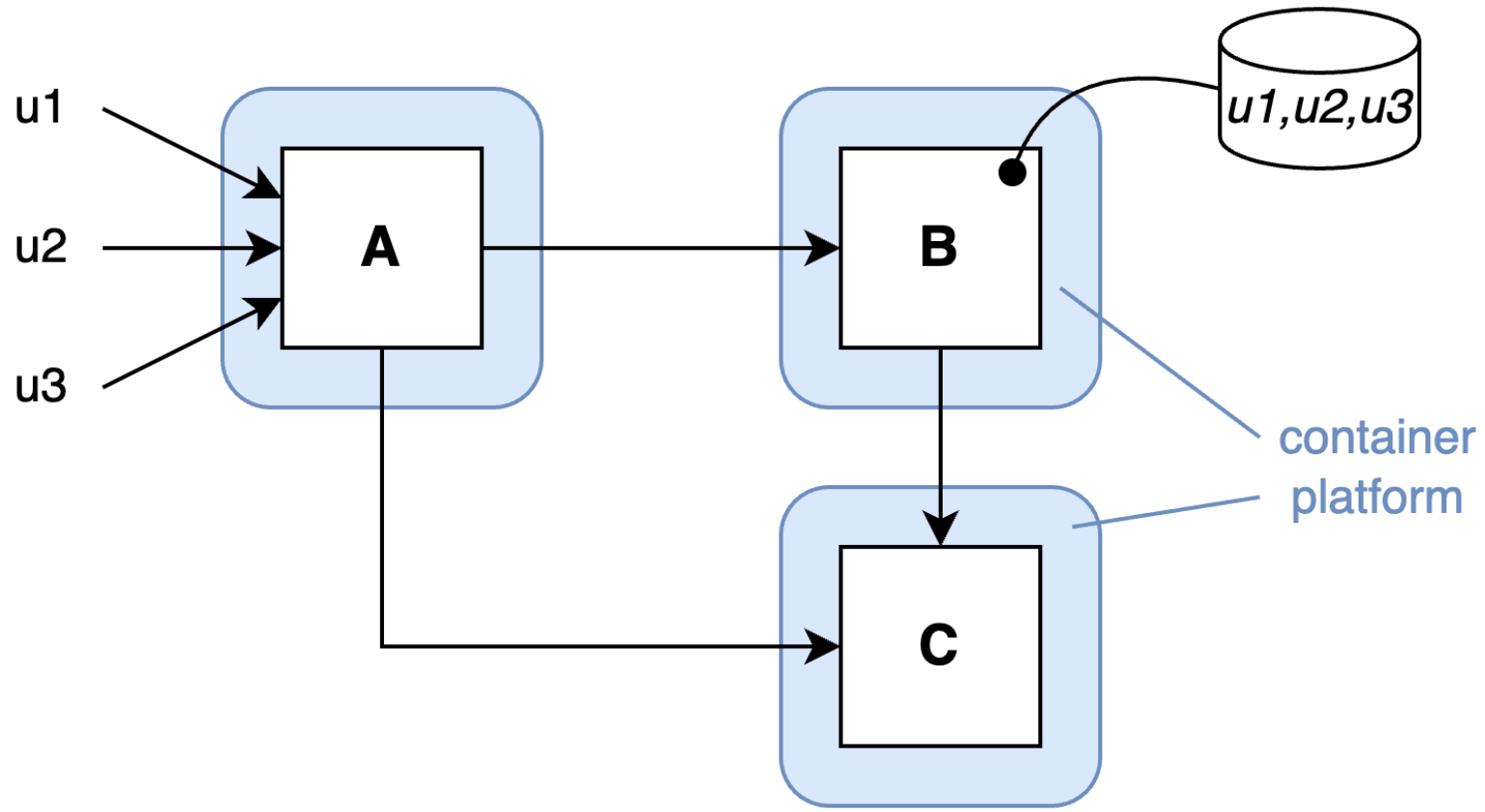
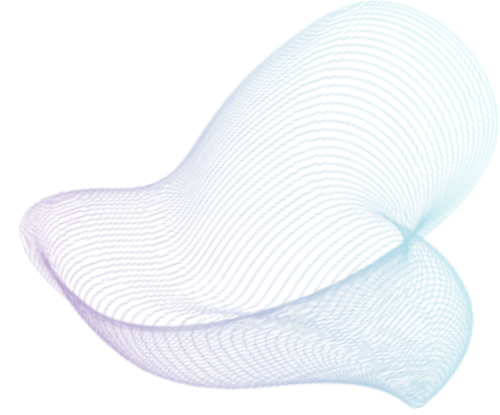




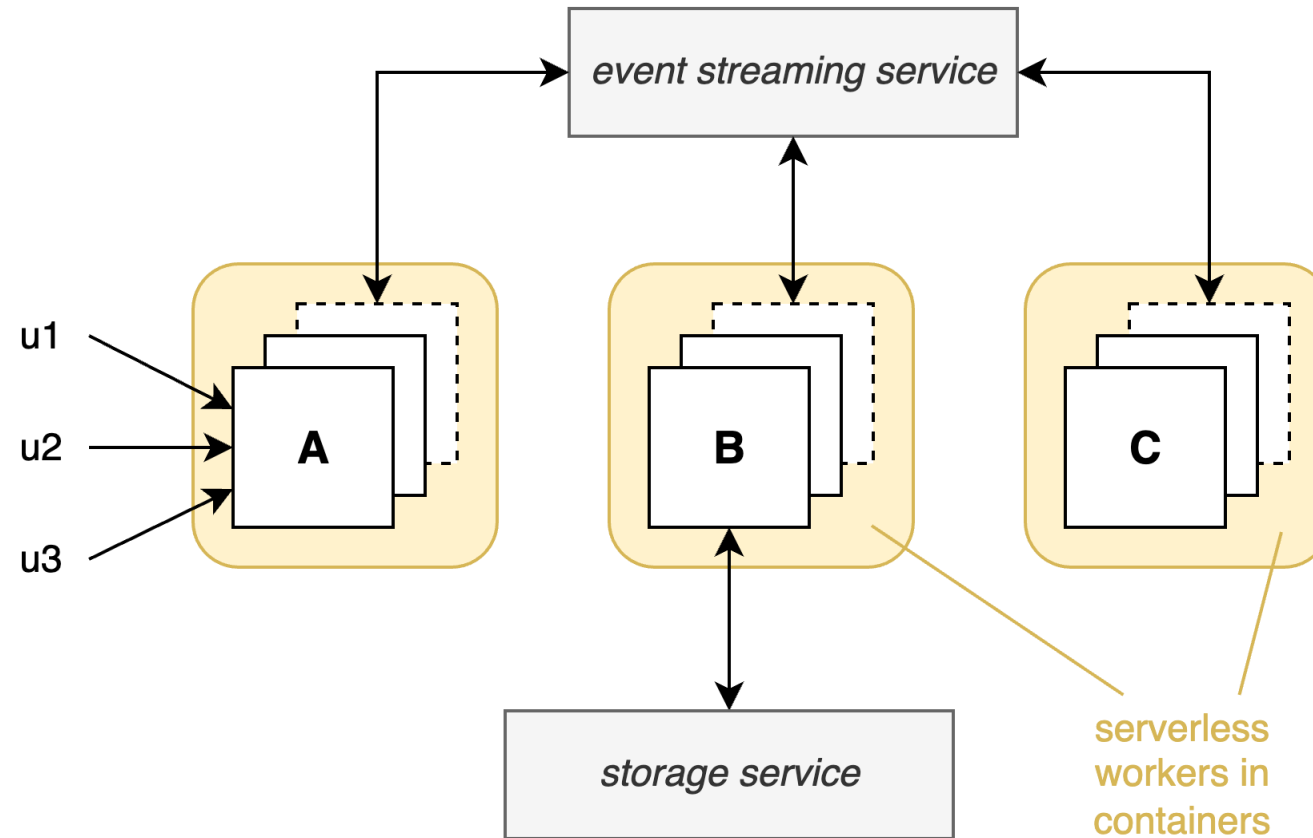
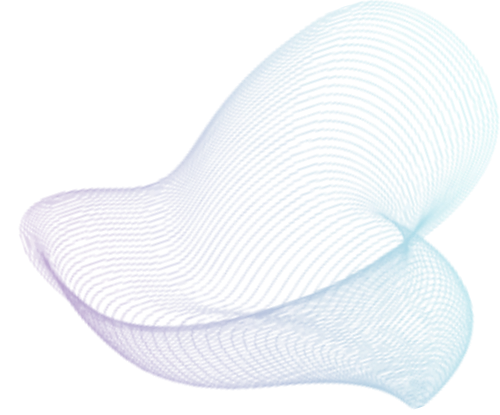
What's the Stateful FaaS Agent Pattern?

The next evolution of edge-cloud models

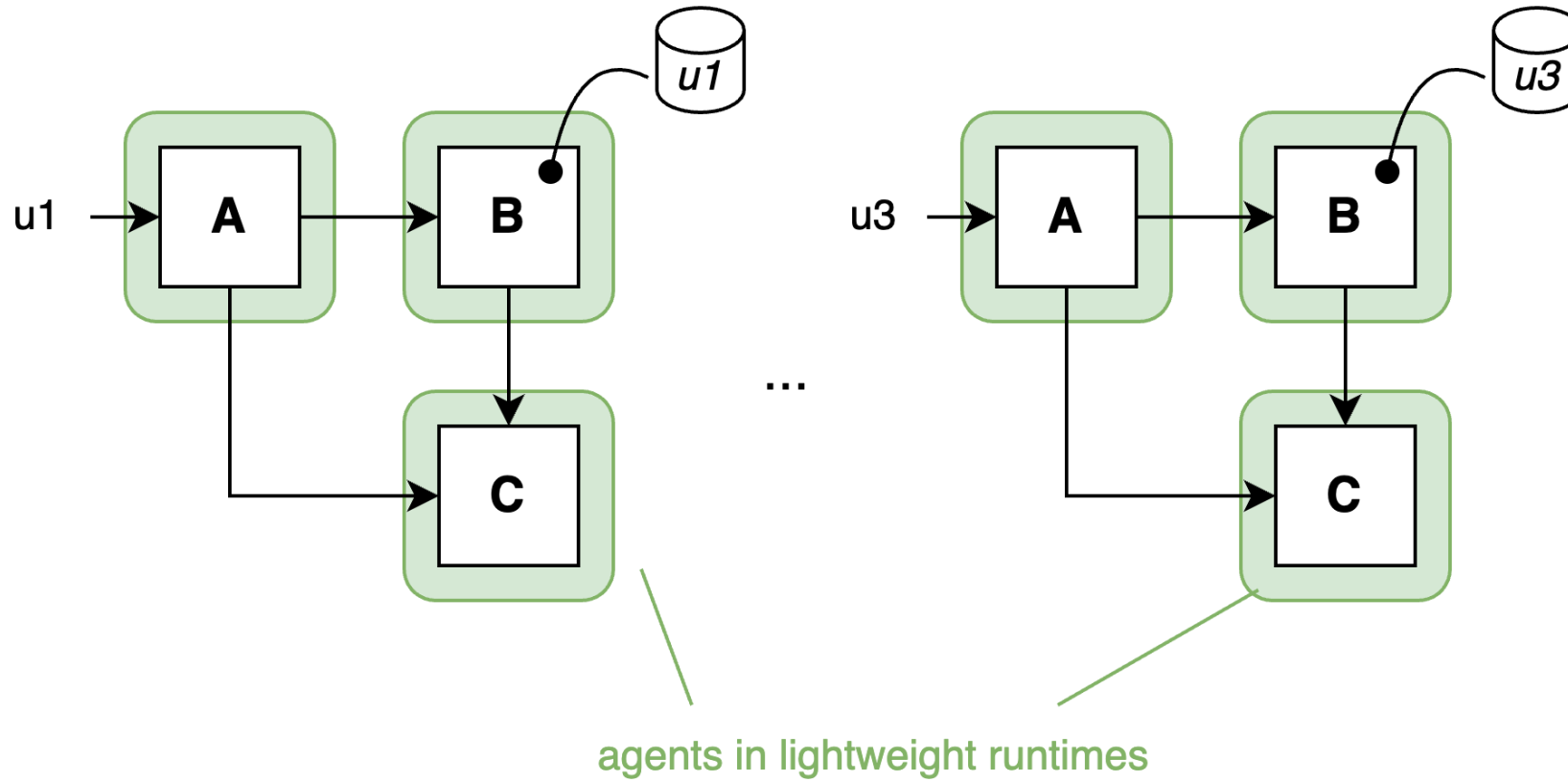
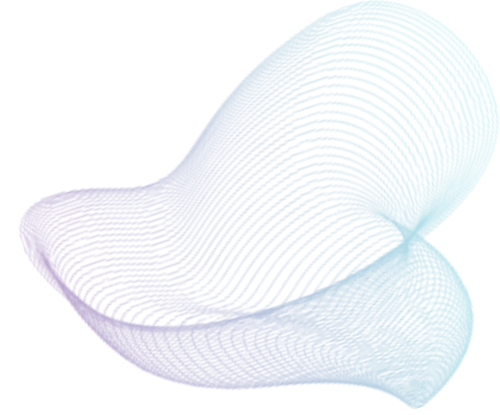




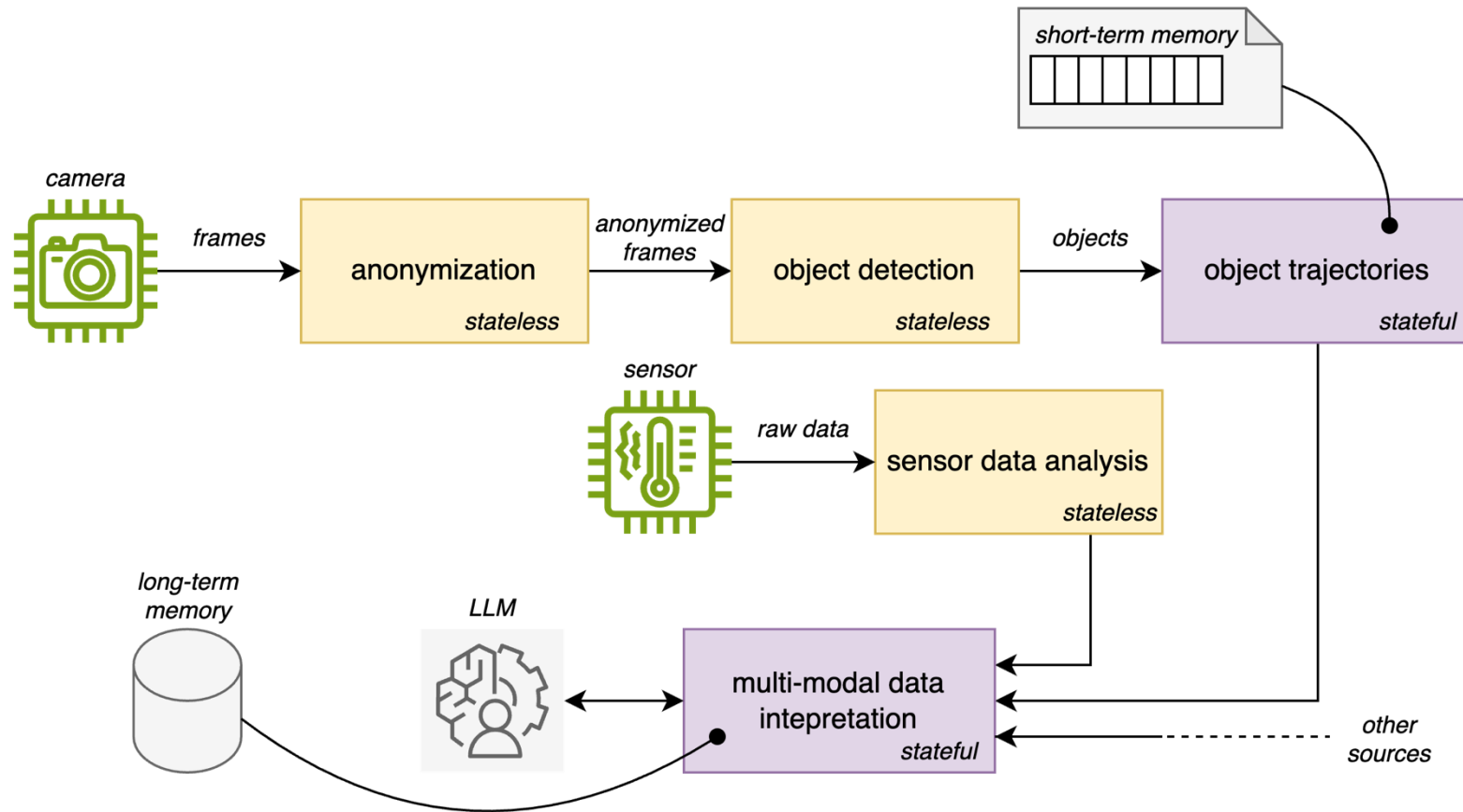
Serverless computing

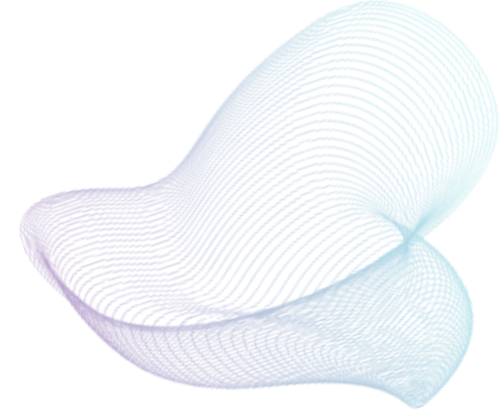


Stateful (FaaS) agents



An example service





Our contribution

A new experimental platform

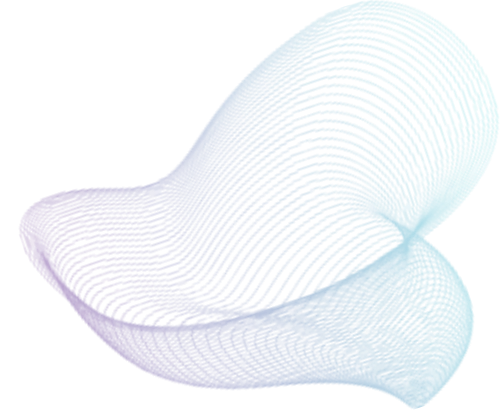
- **Clean-slate OSS project**

- Developed in a modern programming language (Rust)
- Minimal set of dependencies (gRPC, WebAssembly)



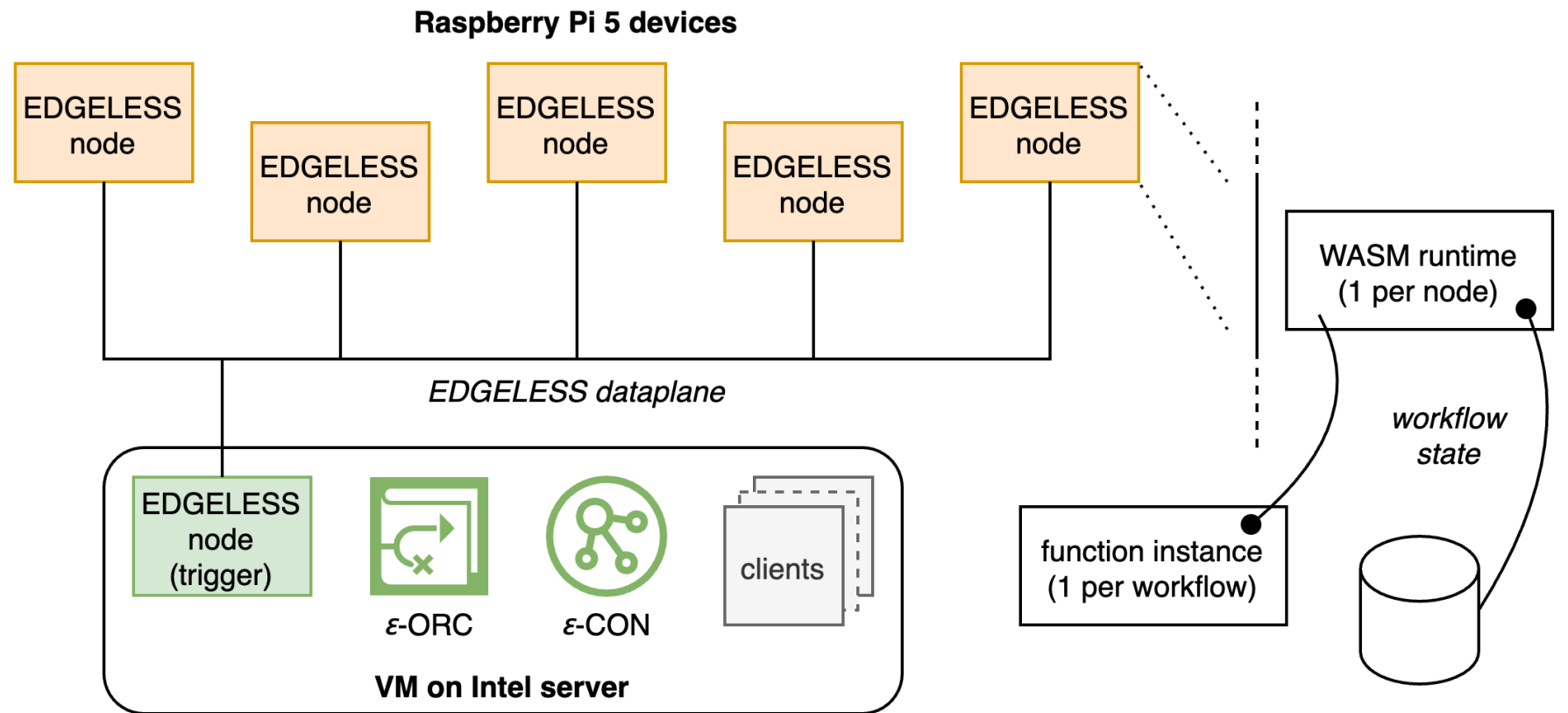
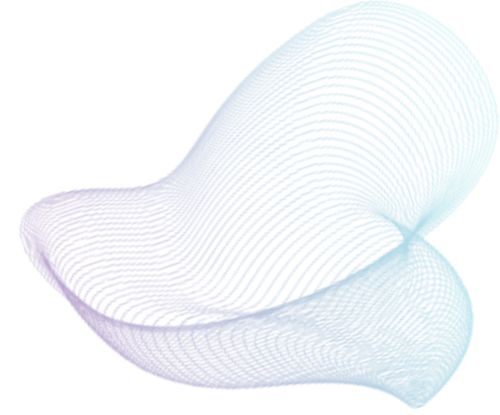
- Supported by a broad ecosystem of **mature technologies** to support use cases



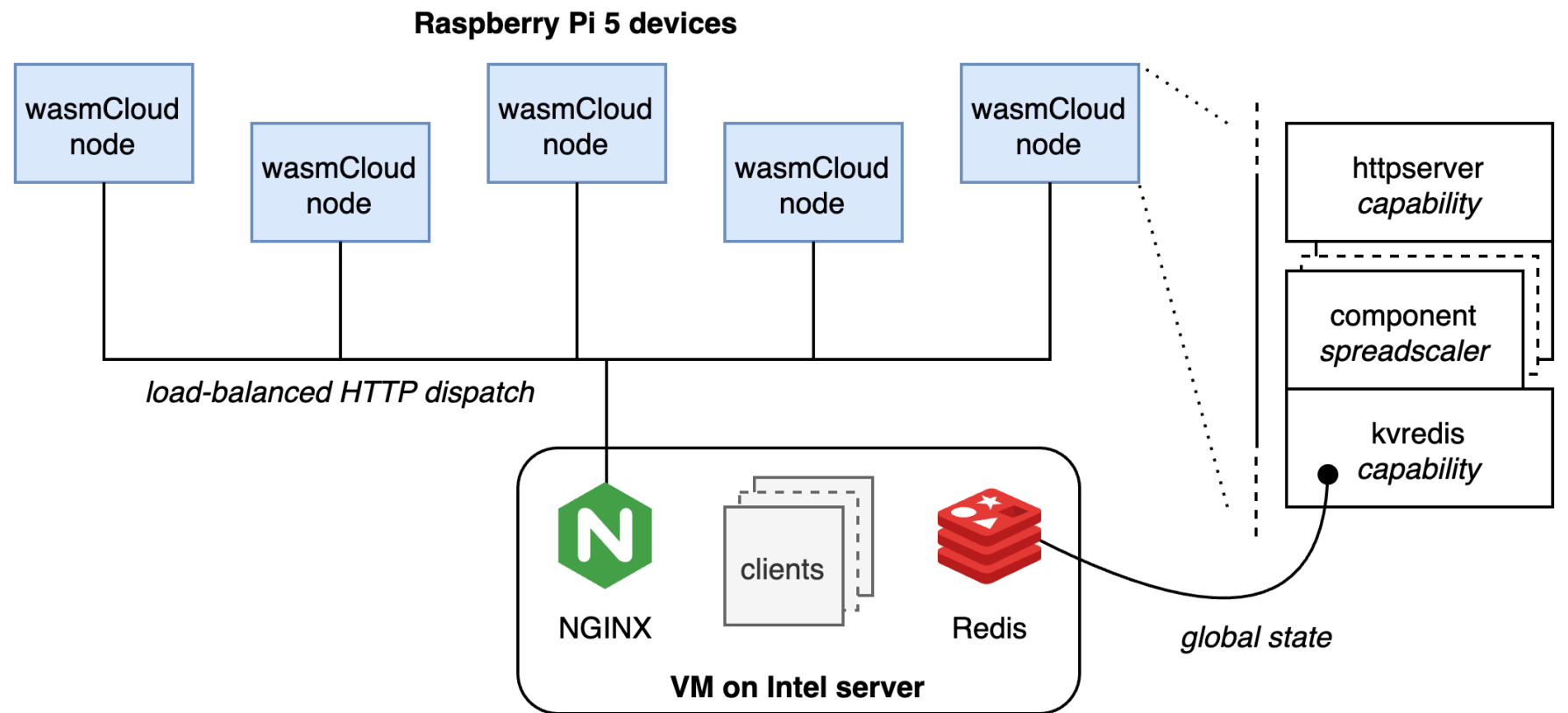
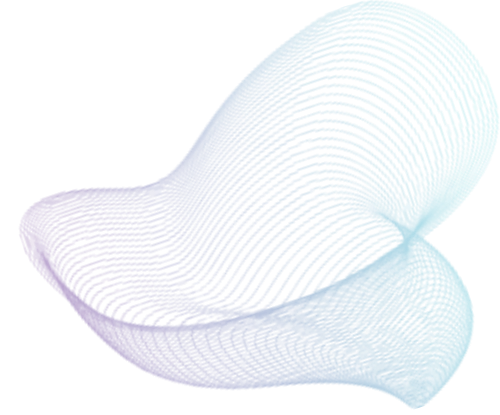


Results

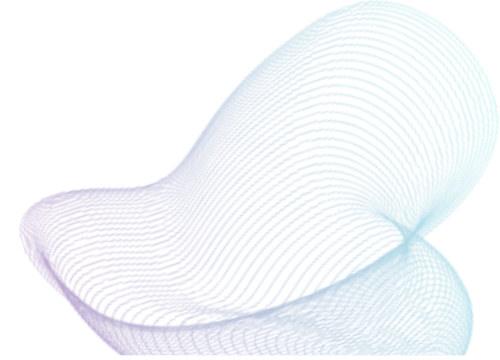
A small-scale deployment with EDGELESS...



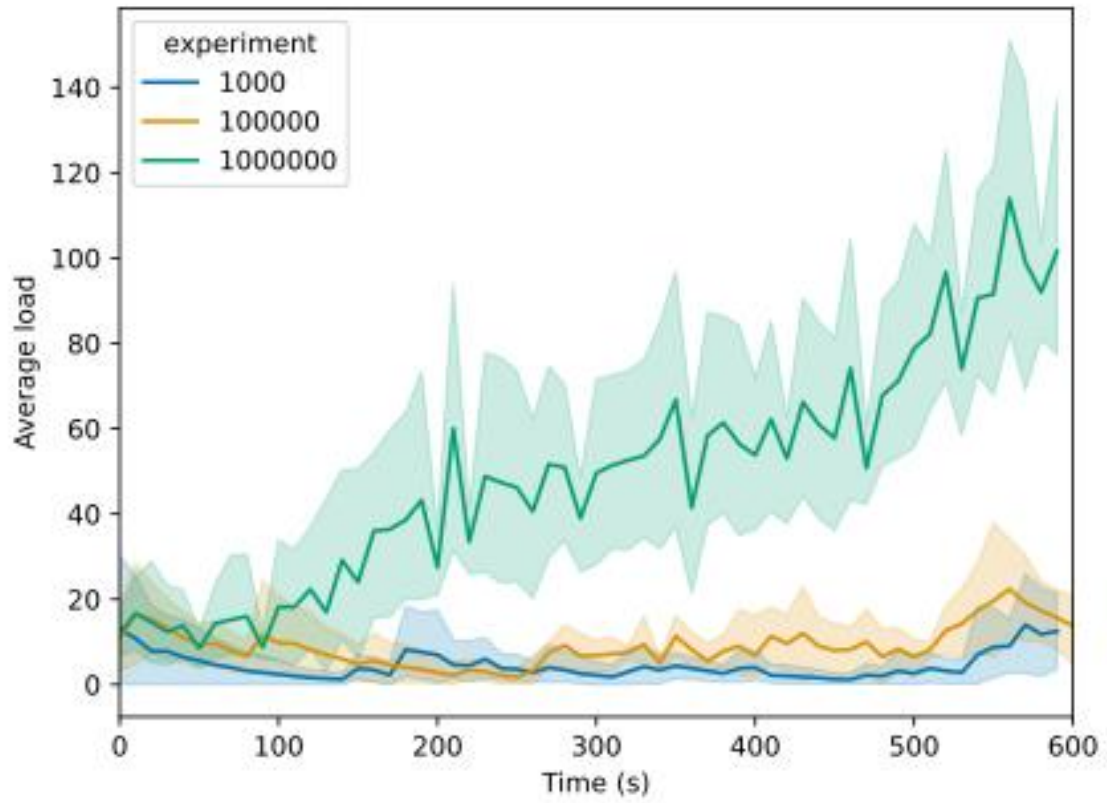
...and wasmCloud



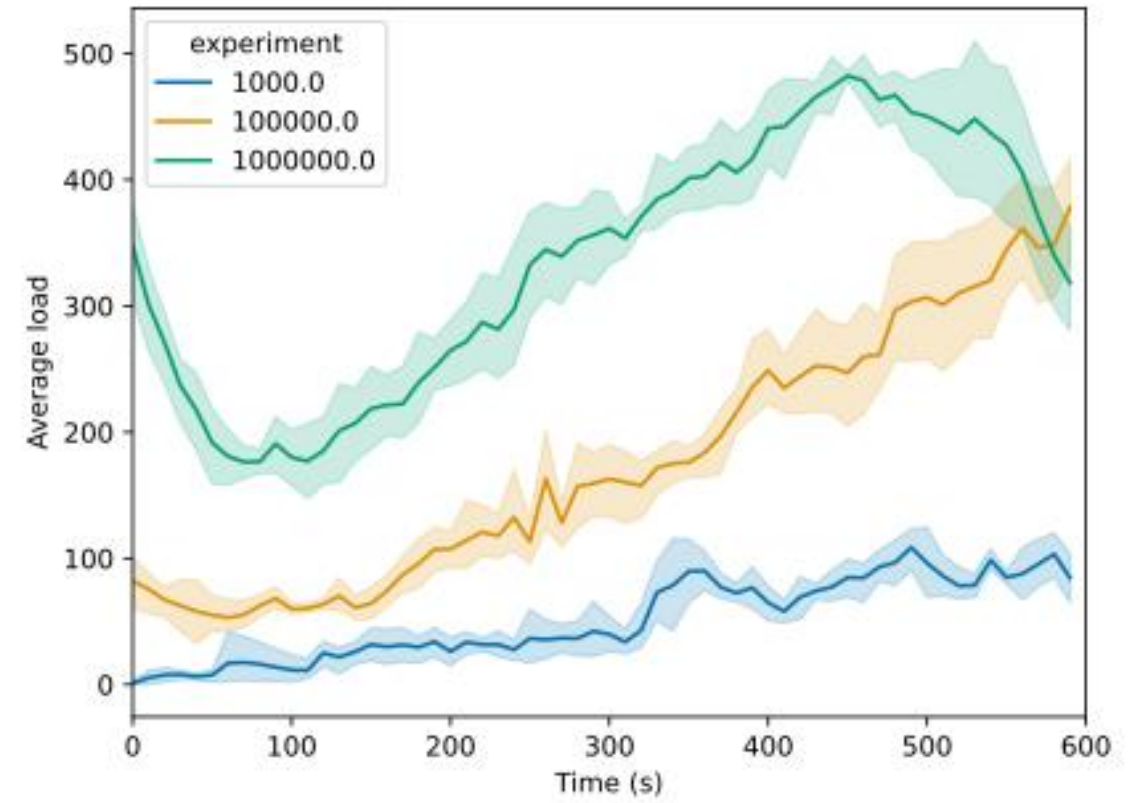
Average load



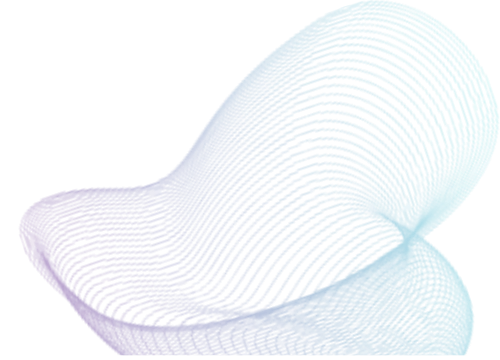
EDGELESS



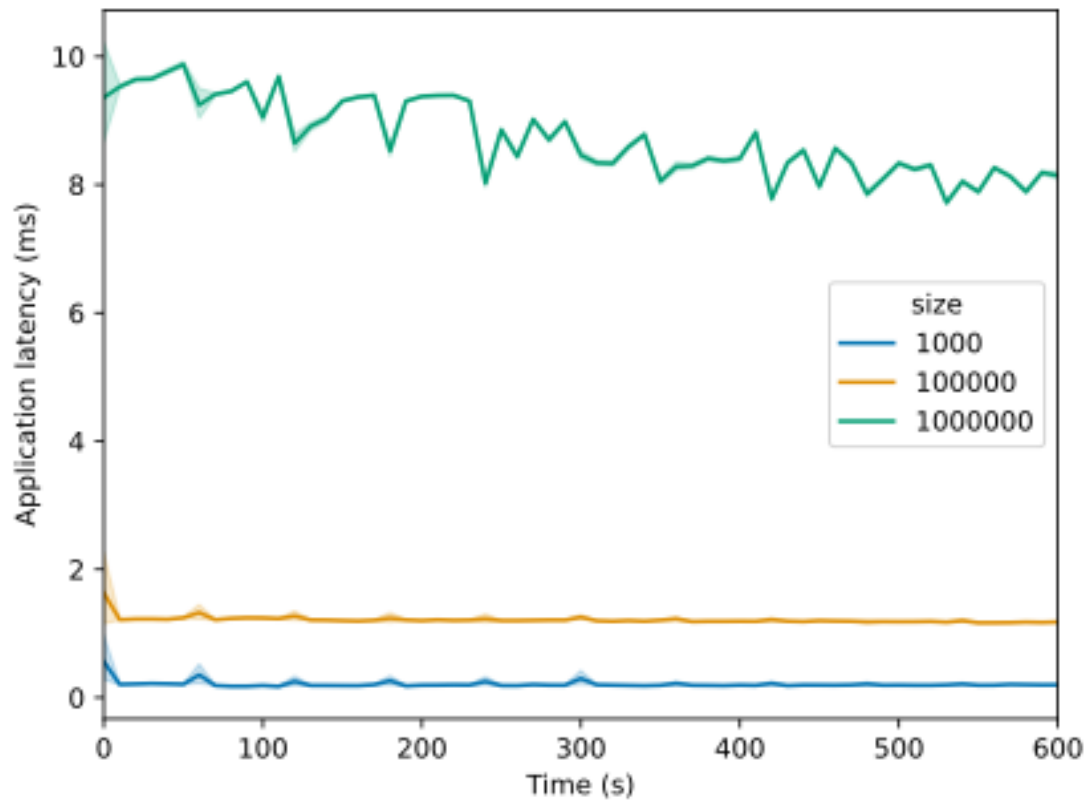
wasmCloud



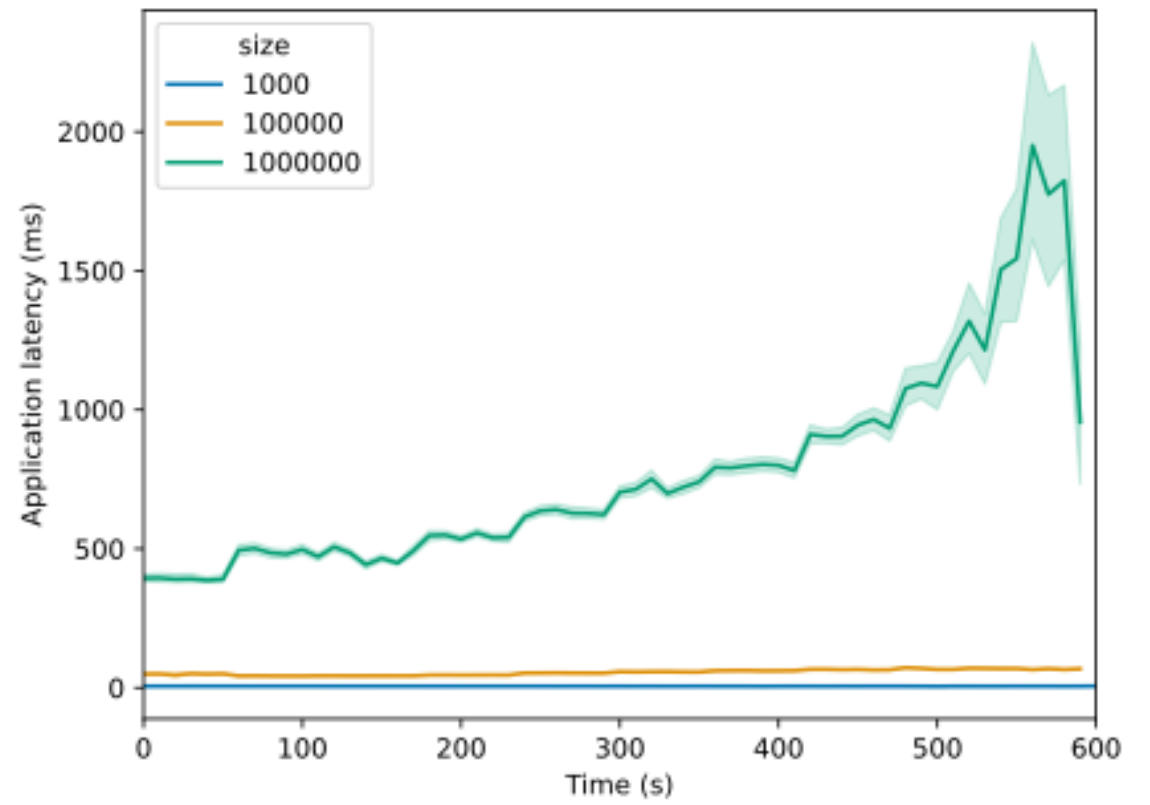
User latency

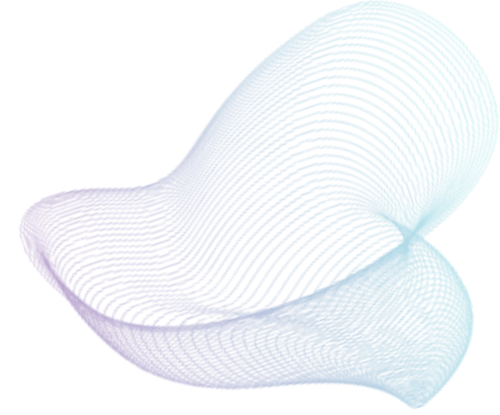


EDGELESS



wasmCloud

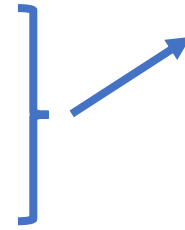




Conclusion

Looking ahead

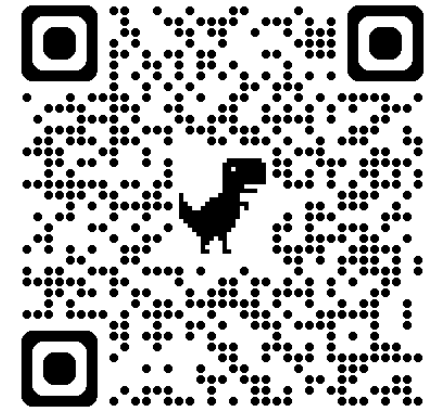
- EDGELESS is not (only) deliverables & scientific publications
BUT, also, an *open-source project*
- Long-term sustainability plans, leading to the **creation of a community**

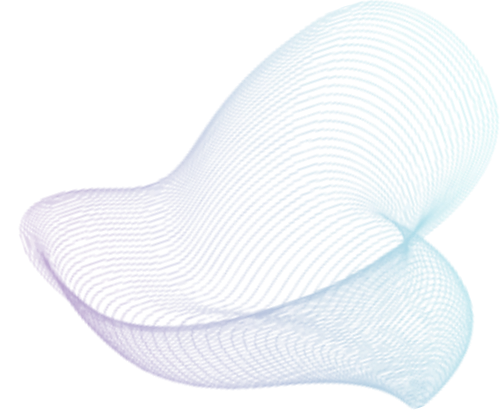


<https://edgeless-project.eu/>



<https://github.com/edgeless-project/edgeless>





Thanks for your attention