AQLS

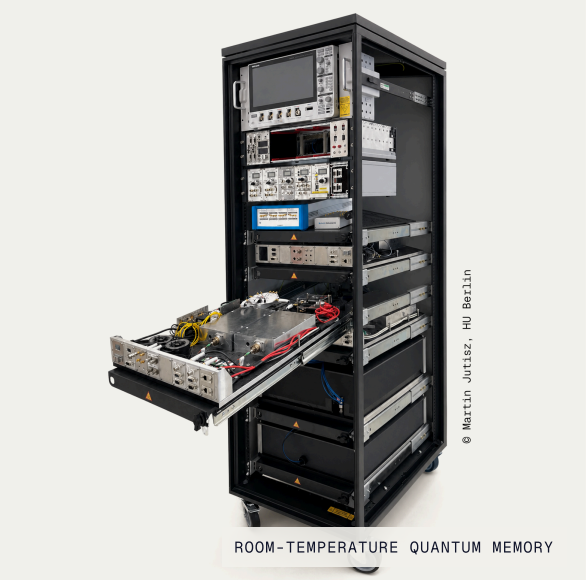
— QUANTUM MEMORY

Storing quantum states of light on demand.

The AQLS memory platform uses hot caesium vapour to store single photons, preserve their quantum state and retrieve them on demand. It is designed around the requirements of quantum-repeater experiments without cryogenic cooling infrastructure. **It is compatible with AQLS's narrow-band entangled photon source.**

The rack-mounted system was developed by the Integrated Quantum Sensors group at HU Berlin, where the AQLS memory platform was integrated.

Image adapted from Fig. 1 in M. Jutisz, A. Erl, J. Wolters, M. Gündoğan and M. Krutzik, "Stand-alone mobile quantum memory system," *Physical Review Applied* 23, 024045 (2025),DOI: 10.1103/PhysRevApplied.23.024045,CC BY 4.0. Image isolated and background modified by AQLS.



ROOM-TEMPERATURE QUANTUM MEMORY

Hot caesium atomic vapour	No cooling infrastructure required
Lasers and electronics in a 19-inch rack	Mobile system architecture