

# Rhineland-Palatinate Promotes Competence Center for Quantum Computing

The Competence Center Quantum Computing at the Fraunhofer ITWM has already been 2020 from the baptism. It is one of meanwhile eight centers which together form the Fraunhofer Competence Network Quantum Computing. Its expansion is supported by the state of Rhineland-Palatinate with further funding. Clemens Hoch presented the director of the institute, Prof. Dr. Anita Schöbel, with a notice of funding in the amount of 1.2 million euros.

Prof. Dr. Anita Schöbel is working with Prof. Dr. Manfred Hauswirth (Director at the Fraunhofer Institute for Open Communication Systems FOKUS) responsible for the topic “Quantum Computing” within the Fraunhofer-Gesellschaft. Central research questions are, for example: Which application scenarios are suitable for computation with a quantum computer? How can algorithms be developed for this and translated into applications?

The focus of the competence center is quantum HPC (High Performance Computing). Compared to classical computing, quantum computing promises both an acceleration of certain algorithms as well as and the possibility to compute extremely complex problems in the first place.

## Future Technology With Potential

The “Quantum High Performance Computing” competence center now brings together numerous projects with a wide variety of from quantum chemistry to financial mathematics, projects with financial mathematics, projects with an energy focus or material simulation to quantum image processing or quantum machine learning. The overriding goal of the diverse activities is always: the development of quantum-based computing strategies for industrial applications.

## Minister of Science Clemens Hoch Hands Over Funding Notification

“You have made good use of the start-up funding,” emphasized Science Minister Hoch at the handover ceremony. In the second funding phase, the researchers will deepen the work packages. This includes identifying further applications – a strategy also endorsed by the Industrial Advisory Board. It consists of representatives of BASF, Debeka, Deutsche Bahn and Schaeffler. The state of Rhineland-Palatinate will continue to support the expansion of the center of excellence in quantum computing in the future: Up to five million euros will be made available over the next three years, so that quantum computing can be used to solve problems of social, scientific and economically relevant problems supported.



*Prof. Dr. Anita Schöbel, Director of the Fraunhofer ITWM, and Minister of Science Clemens Hoch. In the background, the quantum computer System One from IBM, which is being operated by Fraunhofer near Stuttgart.*

