

“digiMINT”: The Education of Teachers Goes Digital

KIT project for digital learning in STEM education contributes successfully to initiative for quality enhancement in teacher education



KIT plans to develop digital learning contexts for teachers of STEM subjects, preparing them for the transition to the classroom. (Photo: Markus Breig, KIT)

Highly qualified teachers warrant the success of the German educational system. For this reason, the federal and state governments launched an initiative for quality enhancement (Qualitätsoffensive Lehrerbildung) that promotes, among other things, the digitization of teacher education. In view of this, the Joint Science Conference now recommends funding the KIT “digiMINT” proposal for digitized learning in the education of STEM teachers (MINT is the German equivalent of STEM). KIT is now invited to submit its full application in order to obtain funds of up to EUR 2.5 million from 2020 onwards for four project years.

“As a technology-oriented university, KIT focuses on the STEM disciplines in the education of teaching staff,” explains Professor Alexander Wanner, Vice President for Higher Education and Academic Affairs at KIT. “In conjunction with our unique special status as the Research University in the Helmholtz Association, KIT has already implemented a variety of innovative digitization projects in the STEM disciplines that form the foundation of the digiMINT project.”

Monika Landgraf
Chief Press Officer
Head of Corp. Communications

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-21105
Email: presse@kit.edu

Press contact:

Dr. Joachim Hoffmann
Editor/Press Officer
Phone: +49 721 608-21151
Email:
joachim.hoffmann@kit.edu

Based on the existing scientific expertise, KIT develops, tests, and evaluates digital learning contexts for teachers in the STEM disciplines and prepares them for transition to the classroom. digiMINT is targeted at achieving this in mathematics, information technology, natural sciences, technology, and engineering as well as in the educational sciences.

The digiMINT project to be implemented at KIT consists of four project phases. In the first phase, real and virtual learning environments (so-called makerspaces) will be set up at KIT. They form the foundation for the development of learning contexts for teaching staff in the various disciplines. Based on the formal curricula for the STEM subjects of the state of Baden-Württemberg, the second project phase will see the development of pertinent learning contexts with a high classroom relevance. In the third phase, the newly developed learning units will be tested on pupils, evaluated and adapted, where necessary. The goal of the fourth project phase is to implement the digiMINT innovations in a sustainable way in the courses offered at KIT and, at the same time, prepare them for transfer to other academic and educational facilities.

Within the scope of a science-driven procedure, the selection committee of the Joint Science Conference recommended the funding of 43 projects with an overall amount of up to EUR 79 million until the end of 2023. 26 of the selected projects, including the KIT digiMINT project, focus on the digitization in the education of teachers, while 13 others are concerned with the education of teachers for vocational schools. 4 further projects primarily work on the interface between these areas.

The selection committee consists of 18 experts from science, student body and the professionalization in the classroom field, as well as representatives from the federal and state governments. The deliberations also considered external expert reports by renowned national and international scientists.

Being “the Research University in the Helmholtz Association,” KIT creates and imparts knowledge for the society and the environment. It is the objective to make significant contributions to the global challenges in the fields of energy, mobility and information. For this, about 9,300 employees cooperate in a broad range of disciplines in natural sciences, engineering sciences, economics, and the humanities and social sciences. KIT prepares its 25,100 students for responsible tasks in society, industry, and science by offering research-based study programs. Innovation efforts at KIT build a bridge between important scientific findings and their application for the benefit of society, economic prosperity, and the preservation of our natural basis of life.

This press release is available on the internet at www.sek.kit.edu/presse.php

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This year’s **anniversary logo** recalls the milestones reached by KIT and its long tradition in research, teaching, and innovation. On October 1, 2009, KIT was established by the merger of its two predecessor institutions: the Polytechnic School and later University of Karlsruhe was founded in 1825, the Nuclear Reactor Construction and Operation Company and later Karlsruhe Research Center in 1956.