Website address:
https://www.gesundheitsindustrie-bw.de/en/article/press-release/medical-diagnostics-and-materials-analysis-using-compact-magnetic-resonance

Medical Diagnostics and Materials Analysis Using Compact Magnetic Resonance

The Collaborative Research Center (SFB) "High Performance Compact Magnetic Resonance" (HyPERiON) has been exploring new avenues in magnetic resonance technology since 2022. Under the leadership of the Karlsruhe Institute of Technology (KIT), the researchers aim to develop high-performance magnetic resonance systems in a benchtop format to make them suitable for widespread use. The German Research Foundation (DFG) is now funding the SFB for another four years, providing approximately 12 million euros for this purpose.

Fundamental Technology with Great Potential

Magnetic resonance provides particularly precise information about the structure and properties of molecules. It is therefore a central method in chemistry, biology, and materials research. However, large dimensions, high costs, and complex operation have so far limited the use of the technology. The SFB is therefore focusing on the miniaturization of all central components of magnetic resonance technology. The new devices are intended to be significantly smaller and more cost-effective than current systems.

"Integration into a portable platform opens up new possibilities, for example in medical diagnostics, in the use of implants, in the development of new drugs, and even in border control inspections," explains SFB spokesperson Professor Jan G. Korvink from the Institute of Microstructure Technology at KIT.

In addition to KIT, the universities of Kaiserslautern, Konstanz, and Stuttgart are participating in HyPERiON.

Press release

18-Jun-2026
Source: Karlsruhe Institute of Technology (KIT)

Further information

- Karlsruhe Institute of Technology (KIT)