

Closing Major Diagnostic Gaps in Osteoporosis with AI

About six million people in Germany live with osteoporosis, which is often diagnosed too late. To enable early diagnosis, the Munich-based company Bonescreen has developed CE-certified, AI-based screening software that analyzes existing CT data. The German Society for Biomedical Engineering within VDE (VDE DGBMT) and the Klee Family Foundation have honored this approach with the Award for Innovation in Medical Technology 2026.

(Frankfurt am Main, September 30, 2026) According to the International Osteoporosis Report, around 90 percent of cases in Germany are diagnosed very late; in Switzerland, the figure is as high as 95 percent (as of 2021). As a result, bone loss is already well advanced, and patients have usually already suffered their first fractures. Prof. Dr. Jan Kirschke, co-founder of Bonescreen, notes: "With an early diagnosis, simple measures such as a healthy diet, vitamin D intake, or sufficient exercise can significantly slow down hormone-related bone loss. We also have good therapeutic care in Germany, but it reaches many people too late. We want to change that for as many patients as possible with our solution."

The idea of using existing data for AI-supported screening convinced the jury of the VDE DGBMT and the Klee Family Foundation. The prize for innovation in medical technology, worth 15,000 EUR, is awarded every two years to solutions for medical challenges that arise from collaboration between engineering and the natural sciences.

High Trust: Bringing Scientific Evidence into Practice

Prof. Dr. Jan Kirschke began exploring this topic more than 25 years ago in his doctoral dissertation. After intensive research, he and his colleagues founded Bonescreen in 2022 to develop a screening product for osteoporosis. Dominik Maurer, also a co-founder of Bonescreen, says: "As a company, we have conducted further clinical studies in collaboration with partners such as the Technical University of Munich, the University Medical Center

Freiburg, and the University of Ulm. After all, scientific evidence is essential for our product to meet the high standards of medical technology.”

High Efficiency: Automated Analysis of Existing CT Scans Using CE-Certified AI

To enable early diagnosis of osteoporosis and reduce the workload, Bonescreen uses existing computed tomography (CT) scans for analysis. This allows radiology practices or clinics to perform screening at the push of a button without the need for additional examinations. The AI-powered screening software calibrates the image data and extracts quantitative biomarkers, ensuring that early detection is based on the same parameters as those used in traditional DXA (dual-energy X-ray absorptiometry).

“We have developed several algorithms that structure, classify, and evaluate image data. Distinctive features determine what can and cannot be evaluated,” explains Kirschke. The software operates in accordance with guidelines and is CE-certified. “As a company, we are certified under the strictly regulated EU Medical Device Regulation (MDR) 2017/745, and the entire development process complies with the specified quality criteria to ensure the highest level of reliability,” adds Maurer. Nearly 100 radiology practices in Germany are now using the Bonescreen solution.

Looking to the Future: An App for Patients and Screenings for Other Diseases

The successful market launch and the Innovation Award provide a solid foundation for the future. Bonescreen is currently developing an app that allows patients to manage their screening data independently. “We’re also exploring whether our model can be adapted to other underdiagnosed common diseases. The integration of MRI images, for example, could open up new possibilities—always with the goal of improving patient care,” says Maurer.

About the German Society for Biomedical Engineering within VDE (VDE DGBMT):

The German Society for Biomedical Engineering within VDE (VDE DGBMT) is the scientific and technical society for medical technology in Germany. It was founded in Frankfurt am Main in 1961.

The VDE DGBMT brings together experts from all areas of technology applications in medicine and deals with the entire range of topics in biomedical technology. It organizes conferences and workshops for expert audiences and is the sponsor of two international scientific journals: Biomedical Engineering and Current Directions in Biomedical Engineering published by De Gruyter Brill. Position papers, statements and expert contributions discuss current topics independently and neutrally. In addition, the DGBMT awards promotional prizes for young scientists, for scientific excellence and innovation, and for patient safety in biomedical

engineering. Last but not least, it represents German biomedical engineering in international bodies.

For more information, visit www.vde.com/dgbmt

About VDE:

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Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development “on the job”. Within the VDE network more than 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts, and around 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electrical.

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The VDE (VDE Association for Electrical, Electronic & Information Technologies) is headquartered in Frankfurt am Main. For more information, visit www.vde.com

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