

VDE DGBMT Calls for the Consistent Implementation of Connected Medical Technology Now

Most hospitals have excellent technical equipment that continuously provides high-quality medical data. However, the potential for diagnostics and therapy remains largely untapped because the devices barely communicate with one another. In a new position paper, VDE DGBMT shows how connected medical technology could improve patient care in hospitals.

(Frankfurt am Main, June 18, 2026) Modern medical devices can continuously collect vital signs, imaging, and sensor data, process it locally, and interpret it using AI. However, efforts to systematically link this information, use it in an interoperable manner, and integrate it into clinical decision-making processes have so far been too infrequent. The German Society for Biomedical Engineering (DGBMT) within VDE therefore calls in a new position paper for medical technology manufacturers, hospitals, and health policymakers in Germany to better leverage the benefits of digital connectivity. While administrative processes are increasingly being digitized, the potential of connected medical technology in clinical care remains largely untapped.

Providing More Precise, Faster, and Safer Care for Patients

Various application scenarios illustrate the potential: When vital signs are continuously monitored, critical conditions such as sepsis, cardiac decompensation, or respiratory failure can be detected early. AI-supported analyses identify patterns and deviations from the patient's individual health status and prioritize alerts, thereby shortening response times and reducing complications.

Adaptive therapy and rehabilitation systems open up new possibilities for personalized care. Neuroprostheses, for example, adjust therapy parameters in real time to physiological changes,

thereby improving functionality, therapy efficiency, and patient satisfaction. The same applies to Functional Electrical Stimulation (FES) systems, which use targeted electrical impulses to artificially activate muscles. Or a closed-loop stimulation method that automatically measures, makes decisions, and intervenes without requiring a human to manually control every step.

Technical solutions have been developed! There are no gaps in the standards!

The technical foundations for connected medical technology are in place. Standards for interoperability have been established, but integration in practice is hampered by factors such as manufacturer-specific interfaces, incomplete semantic consistency, and inadequate cybersecurity and lifecycle management concepts. Hospitals also face organizational and economic hurdles, including separate responsibilities for medical technology and information technology, a shortage of skilled workers, and a lack of financing models.

Critical success factors for successful implementation!

VDE DGBMT recommends a coordinated approach by all stakeholders to establish networked medical technology on a widespread basis. For manufacturers, this means establishing open and standards-compliant interfaces even before user demand arises, implementing consistent “security-by-design” concepts, and conducting clinical validation of networked and AI-based functions. Hospitals should enshrine network capability and interoperability as procurement standards, strengthen governance structures, and implement pilot projects with measurable clinical endpoints. Joint integration pilots, clear responsibilities, and standardized testing processes are recommended. Policymakers should promote the mandatory use of existing international interoperability standards, digital infrastructure, and training programs.

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:

VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 130 years. VDE is the only organization in the world that combines science, standardization, testing, certification, and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for more than 100 years.

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.

Shaping the e-dialistic future.

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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