

AI in Medicine and Research – Secure, Networked, Practical

KIMed – the Network for Artificial Intelligence in Medicine – brings together data-leading institutions, methodological and technical partners, and users from the field of medicine. Together, they aim to establish a powerful and secure research environment and to specifically promote innovations in AI. One of the network’s key projects is the design of a protected infrastructure for processing medical data in Saxony. This infrastructure will enable the use of large, networked data sets in accordance with strict data protection guidelines. In this way, KIMed is creating the conditions for modern AI applications to be developed in a secure structure and used in medical research and practice in the future.



Main Project Objectives



Network Development and Governance

A sustainable network that connects and coordinates research partners, whilst establishing an effective network governance, and initiating new third-party funded projects by members



Networking to Establish a Protected Research Environment

A Secure Processing Environment (SPE) concept that enables the secure processing and analysis of sensitive medical data without the need for physical transfer



KIMed Portal for Data Access and Networking

A central portal for accessing medical data sources, generating synthetic data, and networking existing data sets



Testing of Cooperative Demonstrators in the SPE

Practical application examples, which demonstrate the benefit of the protected research environment and offer researchers and clinical partners innovative applications



Training, Further Education and Consulting

Training courses for all network partners and advising network partners on the optimal use of the network’s resources

Stronger Together

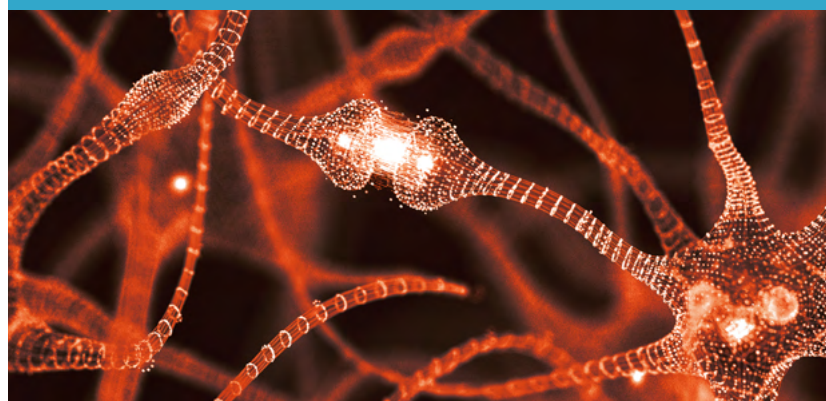
All these measures strengthen and bind the future fields of health and digital technology together. This significantly contributes to Saxony’s emergence as a prominent research and innovation location for the healthcare industry and healthcare provision. The initiative is of central importance not only for the Free State of Saxony, but also has national and international relevance.

KIMed is a joint project between Leipzig University, Dresden University of Technology and Mittweida University of Applied Sciences. The network seeks to shape the future of medicine – for better care, research, and teaching.

Do You Work with Medical Data or Develop AI Solutions?

Become part of our network and actively shape AI innovations. Let us promote the responsible AI use in medicine and research.

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Work Packages (WP)

WP 1: Project Coordination and Network Development

WP 1 ensures the sustainable coordination of network activities. The network brings together healthcare providers, researchers, and industry. With a clear governance structure, it provides platforms for exchange, cooperation and growth, supporting both joint and individual strategic initiatives, products and projects. Moreover, developing financial models will prove beneficial for the KIMed network management and for the planned operation of a protected application and research environment, the Secure Processing Environment (SPE). By providing appropriate legal and technical frameworks, trust-based cooperation can flourish whilst managing and maintaining the network efficiently.

WP 3: AI-relevant Medical Data Source Compilation in the KIMed Portal

WP 3 lays the foundation for the KIMed Portal, a central platform for medical metadata, tools and analysis pipelines. The portal provides a web-based overview, systematically summarising AI-suitable data sets from a range of sources, including imaging, genomics or sensor technology. The overview also features descriptions of these data sets and relevant algorithms. The necessary metadata is extracted in a structured manner and documented, in close consultation with experts in the fields of medical informatics and statistics. Furthermore, the work package ensures that the KIMed network upholds methodological standards and the linkage of existing data sets.

WP 5: Training, Consulting and Services

The overarching goal of WP 5 is to create a platform that offers targeted online training courses to network partners. Not only do network partners advise one another on various aspects of their work within the network, they also use their expertise to provide support on funding and MDR-related issues. By constantly improving these services through continuous feedback from network partners, the training courses and information events remain relevant.

WP 2: A Secure Processing Environment (SPE) Concept

WP 2 focuses on the organisational, legal and technical foundations of SPEs. The aim is to conceptualise a secure and legally compliant framework for processing health data using AI methods in SPEs. As a result, the team is in the process of creating structures for administration, governance and control mechanisms. This includes data access agreements, trustees, registers, and intellectual property regulations, with due consideration for data protection requirements and the Medical Device Regulation (MDR). Concurrently, implementing technical components and designing master study protocols ensures the trustworthy, efficient, and legally compliant use of AI methods on health data.

WP 4: Demonstrators for AI-supported Medicine in the SPE

In WP 4 the exemplary demonstrators will be set up in the SPE based on approved algorithms and existing research and development results. The aim is to demonstrate their use in the network and evaluate the benefits of the services. The first pipelines are already in place, including examples for OMICS analyses, ontology services, and the de-identification of clinical texts. There are potential applications in other areas too, including oncology, cardiology, neurology, and drug safety. To facilitate this transition, a series of workshops will be organised, along with technical and organisational coordination to ensure seamless integration into the KIMed network and medical practice.

WP 6: Communication and Visibility

WP 6 manages central communication within the KIMed project. This includes stakeholder and target group analyses alongside the development of corporate design, communication guidelines and concepts. To increase visibility, networking materials are distributed at organised events, trade fair and congress appearances. Whilst the design, implementation, and maintenance of the website and social media activities boost the network's digital reach. By communicating project results clearly to the target audience, the networking between research, practice and the public strengthens in the long term.



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