

AI in hospitals

Smart Health Chat for the German medbo hospital group



Reference project:

medbo

“T-Systems created an easy way for us to dive into the world of artificial intelligence and guided us through the proof of concept as a trusted expert.”

Veronika Steinkohl, Deputy Director of HR and Management Spokesperson, medbo

medbo – that’s the name of the medical facilities in Bavaria’s Upper Palatinate district. The company specializes in psychiatry and psychotherapy for adults, children, and adolescents, as well as neurology, neuroradiology, and special competencies in forensic psychiatry. It is organized as a public agency in the form of a municipal company and receives public funding. The healthcare company provides outpatient, inpatient, and day-care treatment in eight locations: Amberg, Cham, Parsberg, Regensburg, Roding, Weiden in der Oberpfalz, Wöllershof, and Wörth a.d. Donau. Its headquarters, including administration, is in Regensburg. medbo cooperates closely with the University of Regensburg in the areas of psychiatry and psychotherapy for adults, children, and adolescents, resulting in the creation of three chairs to closely dovetail research, teaching, and treatment.

Like many other medical companies, medbo has recognized the potential of digital applications to support hospital and hospital-adjacent processes. Its nearly 4,000 employees confidently use digital workflows for their everyday work. medbo also operates the IBP, the largest educational institution in the healthcare sector in eastern Bavaria, as well as the medbo nursing schools, the company’s own vocational schools for nursing and nursing assistance at Regensburg Regional Hospital. Digital learning has long taken root here.

Still, as is the case in other regions, demographic change is a bitter truth in this corner of Bavaria as well, because the hospitals have to cope with increasing numbers of elderly patients. What’s more, the huge demand for medical, nursing, and therapeutic staff is difficult to meet due to the severe skills shortage. As such, further digitalization and a reduction of staff workload are essential to the healthcare provider’s viability. Artificial intelligence (AI) is one of the technologies that medbo is exploring to handle the situation. AI has attracted a lot of attention in recent years, particularly in the medical sector. The potential of digital assistants in preparing for decisions, or as tools that handle administrative tasks such as documentation, is readily apparent – with the associated relief for the skilled staffers.



At a glance

- Reduce the workload of hospital staff
- Get started with artificial intelligence and explore its potential
- Search for a fast, cost-effective proof of concept
- Scenario: Internal knowledge management and content creation
- Use of T-System’s sovereign generative AI framework for healthcare: Smart Health Chat
- Customer-specific knowledge base enriched through retrieval-augmented generation
- Vector database built and filled with customer’s data and information sources
- Hosted in the Open Telekom Cloud
- Built in just a few days, POC (proof of concept) over nine weeks
- Highly intuitive user experience and time savings when formulating texts
- Extensive support by T-Systems as an experienced AI partner
- medbo is gathering in-house experience that will serve as a foundation for its future AI strategy
- The Open Telekom Cloud is a sovereign hosting platform that can be used even for highly sensitive data from the hospital and healthcare sectors
- Out-of-the-box AI chatbot that can quickly be adapted to customer needs; strong customer focus and high level of AI expertise from T-Systems

Reference in detail

Customer pain points

“We wanted to gain experience with the possibilities and limits of AI first-hand,” says Veronika Steinkohl, the Deputy HR Director and Management Spokesperson at medbo, about the project’s objectives. To do so, medbo established a POC (proof of concept) to get started with artificial intelligence. How much relief can the technology actually provide for staff?

medbo wanted to start quickly and with little expense – with an out-of-the-box AI solution that does not require any training effort and can be implemented and used even without internal AI expertise. One key condition was defined quickly—the POC was not to use any personal data and would only be used internally.

The team decided to implement a kind of enterprise search/knowledge management feature. To do so, it chose a conversational AI solution to find and summarize information from internal sources – in this case, the Board area’s 5 GB of documents such as press releases, minutes, construction reports, forms, and more in a variety of data formats (pdf, txt, docx, msg, xlsx). medbo found T-Systems to be an excellent partner for getting started with AI.

How T-Systems solved it

“Smart Health Chat proved to be the perfect solution for medbo’s requirements,” explains Steven Richter, Account Manager at T-Systems. Similar conversational AI solutions are already being used for production in other scenarios, such as for an automotive manufacturer.

The Smart Health Chat is hosted in the Open Telekom Cloud. “Of course, we weren’t able to deploy the existing solutions on a one-to-one basis – automotive information isn’t much help for administrative staff at a hospital group,” says Jan Müller from T-Systems’ Specialist Sales unit with a grin.

Still, this conversational AI solution already has many important features on board—it understands chat-based input and can browse sources, identify relevant knowledge, summarize it, and output it as text. Thomas Rothenbacher, Project Manager at T-Systems, explains: “We only had to give the bot the right context to ‘understand’ the hospital environment. We designed our sovereign generative IT framework flexibly for cases exactly like this.”

The bot gets access to appropriate data sources through RAG (retrieval-augmented generation) approach. When the sources are extracted, the data is transformed and stored in a vector database. This database then serves as a continuously updated “context source”, which the bot searches when given the corresponding prompts. Both elements – the AI chatbot itself and the specific vector database – run on a customer-specific tenant on the Open Telekom Cloud. This ensures that the data remains in-house and no one else can access it. The operational chatbot was created in just a few days. The project team then tested the solution over a period of nine weeks.

Business impact

The medbo team members have given high marks to the tool’s features and user interface, as well as to the collaboration with T-Systems, summarizing: “The contact persons had business and technical competencies, and the operation of the software was comprehensible. We were in good hands with T-Systems.” They particularly emphasized the fast availability of the AI service and the time saved when formulating texts. The bot gave the administrative staff a first step into the world of AI.

The POC gave medbo a cost-effective opportunity to gather its first experiences with using AI and set the course for the next steps with this new technology. In addition to internal texts, the Smart Health Chat can also search external data sources and add them to its vector database. What’s more, the AI concept also allows for the use of sensitive data—the RAG concept ensures data sovereignty, while the Open Telekom Cloud and its supplementary agreements are compliant with German laws such as §35 SGB (regarding the processing of social data) and §203 StGB (regarding secrecy protection for professional secrecy holders).

In addition, the Smart Health Chat also has a variety of additional use cases. Open interfaces enable its use in E2E automation or integration with omnichannel management platforms.

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