

Atos High Performance Computing powers Artificial Intelligence Healthcare Workflows at the University of Munich Hospital

Munich, Germany and Paris, France – September 14 2021 – Atos today announced that it is delivering a high-performance computing (HPC) AI infrastructure to the **Klinikum der Universität München (LMU Klinikum)**, one of the largest university hospitals in Germany and Europe. Together with NVIDIA, Atos is providing Klinikum's Clinical Open Research Engine (CORE) with the necessary computing capacity and expertise to develop and train powerful AI healthcare models.

The use of artificial intelligence (AI) in medicine has enormous potential to help with patient plans as well as make clinical medicine more patient-specific and economical. However, in order for the developed AI models to be put into use for healthcare services a number of hurdles must be overcome. For example, the use of AI in medicine is limited by the availability and access to patient clinical data. Such structures are an essential building blocks for the translation of AI-based models into clinical practice. At LMU Klinikum, one of the largest university hospitals in Germany and Europe, the concept of the Clinical Open Research Engine (CORE) was developed as a collaborative intraclinical project.

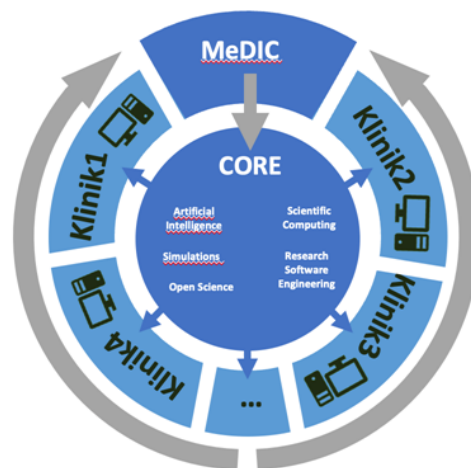
CORE consists of a Kubernetes-based NVIDIA GPU cluster into which clinical data is transferred in specified profiles. Highly complex AI models can then be developed and trained on this data. The extremely high GPU computing power of the specialized server accelerates the training of the models enormously, so that even advanced architectures with a high iteration rate can be developed quickly and with state-of-the-art methods. A key aspect of CORE is that the data always remains in the custody of the hospital and the methods of processing, as well as evaluating the algorithms, are centrally and openly available.

Based on the [NVIDIA DGX A100 system](#), which was specially developed for AI infrastructure, Atos is configuring the computing cluster and supporting the LMU Klinikum with the installation and integration of CORE. Atos brings its extensive expertise in the fields of HPC & AI as well as from the projects it has already implemented in the research environment. For example, Atos operates the [fastest supercomputer in Europe for the Jülich Research Center](#), and just recently the [University of Paderborn commissioned Atos to build a new supercomputer](#).

Joerg Stein, Head of Healthcare and Life Sciences Central Europe at Atos, says: "We are very pleased about the assignment and the trust in our HPC & AI expertise. LMU Klinikum is one of the most renowned universities in Germany and a pioneer in the field of AI-based research and diagnostics. Our long-standing partnership with NVIDIA and our experience in both high-performance computing clusters and handling sensitive data enable us to provide the best possible support for LMU Klinikum's research efforts. This project, which is one of the first ever in clinical operations, also clearly demonstrates that the need for HPC in the healthcare sector is growing."

Prof. Dr. Christian Hinske, Leiter der Stabsstelle Digitale Medizin des LMU Klinikums, says: "Atos has proven itself as a leader in deploying high performance NVIDIA compute systems, technical support, and infrastructure for AI in medicine. We are initially creating and deploying AI models in our neuroradiology, neurology, pathology, and cardiology clinics to help with more efficient workflows, detection of anomalies, automatic measurements, flagging of urgent cases, and integration of patient data in one place."

Craig Rhodes, EMEA Industry Lead for Healthcare and Life Sciences at NVIDIA, says: "AI is helping to advance healthcare across a broad range of user cases, including improving hospital workflows, detection of anomalies, supporting flagging urgent cases, patient monitoring, integrating patient data all leading to better personalized medicine and patient outcomes. With high performance NVIDIA DGX systems and customizations from Atos, LMU Klinikum's AI Center of Excellence will help bring better care and treatments to patients."



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Image: Graphical representation of the CORE concept. The data generated in the clinics are integrated in the Medical Data Integration Center and routed via defined interfaces to the intraclinical CORE computing cluster. There, further processing takes place on collaboratively developed and centrally administered methodological frameworks. The results of the data processing can then also be made available to the clinics via defined interfaces.

Additional information for journalists:

For more information on ThinkAI, please go to Strategize the Artificial Intelligence journey for any industry now (atos.net)

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