



Smart Medical Information
Technology for Healthcare

Sustainably improve Clinical Research and Patient Care.

AIMS

- Merging information systems from health care and research via Data Integration Centers (DIC)
- Demonstrating the effectiveness of Data Integration Centers (DIC) with three practical use cases
- Optimizing clinical studies through expanded research capabilities to generate new medical knowledge
- Further development and creation of education and training programs in the field of medical informatics
- Integrating new research findings into personalized medicine for patients

CONSORTIUM

Medical research based on the reuse, consolidation and analysis of medical data is increasingly enabling the development of new, improved treatment methods, pharmaceuticals and technologies. This is the starting point for the consortium Smart Medical Technology for Healthcare or SMITH for short. SMITH uses innovative IT solutions to create the conditions for research and patient care coming closer together.

For this purpose, seven of the ten university hospitals participating in the SMITH Consortium are establishing Data Integration Centers (DIC). The goal of the generic infrastructure is to make data from routine care usable for medical research. This is done in close cooperation with the Universities of Aachen, Jena and Leipzig, along with two non-university research institutions and four industrial partners.

The use of the results by further network partners is made possible via the SMITH Service Platform. SMITH is one of four consortia of the Medical Informatics Initiative (MII) funded by the German Federal Ministry of Education and Research (BMBF).

USE CASES

The Methodical Use Case

PheP – Phenotyping Pipeline supporting Clinical Evaluation Projects

In the methodological Use Case PheP, the consortium is developing innovative data analytic methods that automatically extract medical information from electronic patient records. Evaluation projects and calculations on the existing data lead to continually growing patient-related information. Clinical research and patient care can be optimized in the long term, thanks to the rich data stock.

The Clinical Use Cases

ASIC – Algorithmic Surveillance in Intensive Care

With the ASIC Use Case, SMITH promotes the improvement of patient care through the use of available clinical routine data. This is demonstrated by the example of the treatment of patients with Acute Respiratory Distress Syndrome (ARDS), a disease that currently still causes the death of around 40 percent of all affected patients. The ASIC App developed for this purpose serves as an early warning system by alerting healthcare professionals to potential ARDS.

SMITH Added Value



For the researcher

Cross-site, secure access to research-relevant data and algorithms via the SMITH Service Platform



For the patient

Improvement and personalization of diagnostics and therapy



For the medical scientist

Decision support for individualized patient care



For the life science industry

Innovation through effective research collaborations

HELP – Guideline-based Use of Antibiotics in Infectious Medicine

The HELP Use Case thematizes the guideline-compliant use of antibiotics for the targeted control of certain bacterial infections. The focus is on supporting infectiology by means of the HELP App. This provides medical staff with rapid information for a responsible antibiotic therapy of staphylococcal bloodstream infections.



SPONSORED BY THE

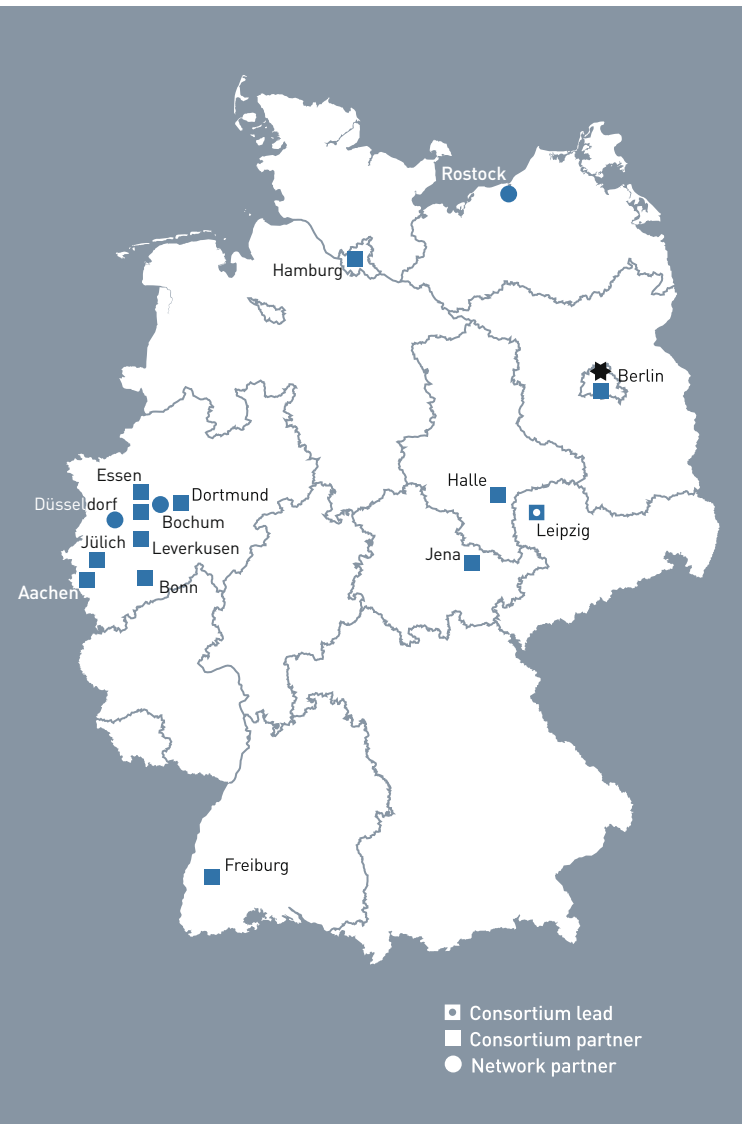


Federal Ministry
of Education
and Research



Smart Medical Information
Technology for Healthcare

Funded sites of the SMITH Consortium during the development and networking phase



CONSORTIUM PARTNERS

- Aachen:**
 - RWTH Aachen University / University Hospital RWTH Aachen*
- Berlin:**
 - ID Information & Documentation in Health Care GmbH & Co. KGaA
- Bonn:**
 - University Hospital Bonn*
- Dortmund:**
 - Fraunhofer Institute for Software and Systems Engineering ISST
- Essen:**
 - März Internetwork Services AG / Essen University Hospital*
- Freiburg:**
 - Averbis GmbH
- Halle:**
 - University Hospital Halle (Saale)*
- Hamburg:**
 - University Medical Center Hamburg-Eppendorf*
- Jena:**
 - Friedrich Schiller University Jena / Jena University Hospital*
- Jülich:**
 - Jülich Research Center
- Leipzig:**
 - Leipzig University / University of Leipzig Medical Center*
- Leverkusen:**
 - Bayer AG

* University hospital with Data Integration Center (DIC)



NETWORK PARTNERS

- Bochum:**
 - University Hospitals of the Ruhr University of Bochum
- Düsseldorf:**
 - Düsseldorf University Hospital
- Rostock:**
 - University Medical Center Rostock

Coordination Office

- Berlin:**
 - ★ TMF - Technology, Methods and Infrastructure for Networked Medical Research (TMF)
 - ★ German Association of Academic Medical Centers (VUD)
 - ★ German Association of Medical Faculties (MFT)

CONTACT

OFFICE

Leipzig University
Faculty of Medicine
SMITH Office
Philipp-Rosenthal-Str. 27
04103 Leipzig
Germany
Phone: +49 341 97-16720
E-Mail: info@smith.care

HEAD OF THE CONSORTIUM

Prof. Dr. Markus Löffler
Director of the Institute
for Medical Informatics,
Statistics and Epidemiology (IMISE)
Leipzig University
Härtelstraße 16–18
04107 Leipzig
Germany

1ST SPOKESMAN

Prof. Dr. André Scherag
Director of the Institute
of Medical Statistics,
Computer and Data
Sciences (IMSID)
Jena University Hospital
Bachstraße 18
07743 Jena
Germany

2ND SPOKESMAN

Prof. Dr. Gernot Marx
Head of the Department
for Intensive Care Medicine
University Hospital
RWTH Aachen
Pauwelsstraße 30
52074 Aachen
Germany

Updated in: March 2021