

# MIRACOLIX DIE BASIS UNSERES ÖKOSYSTEMS

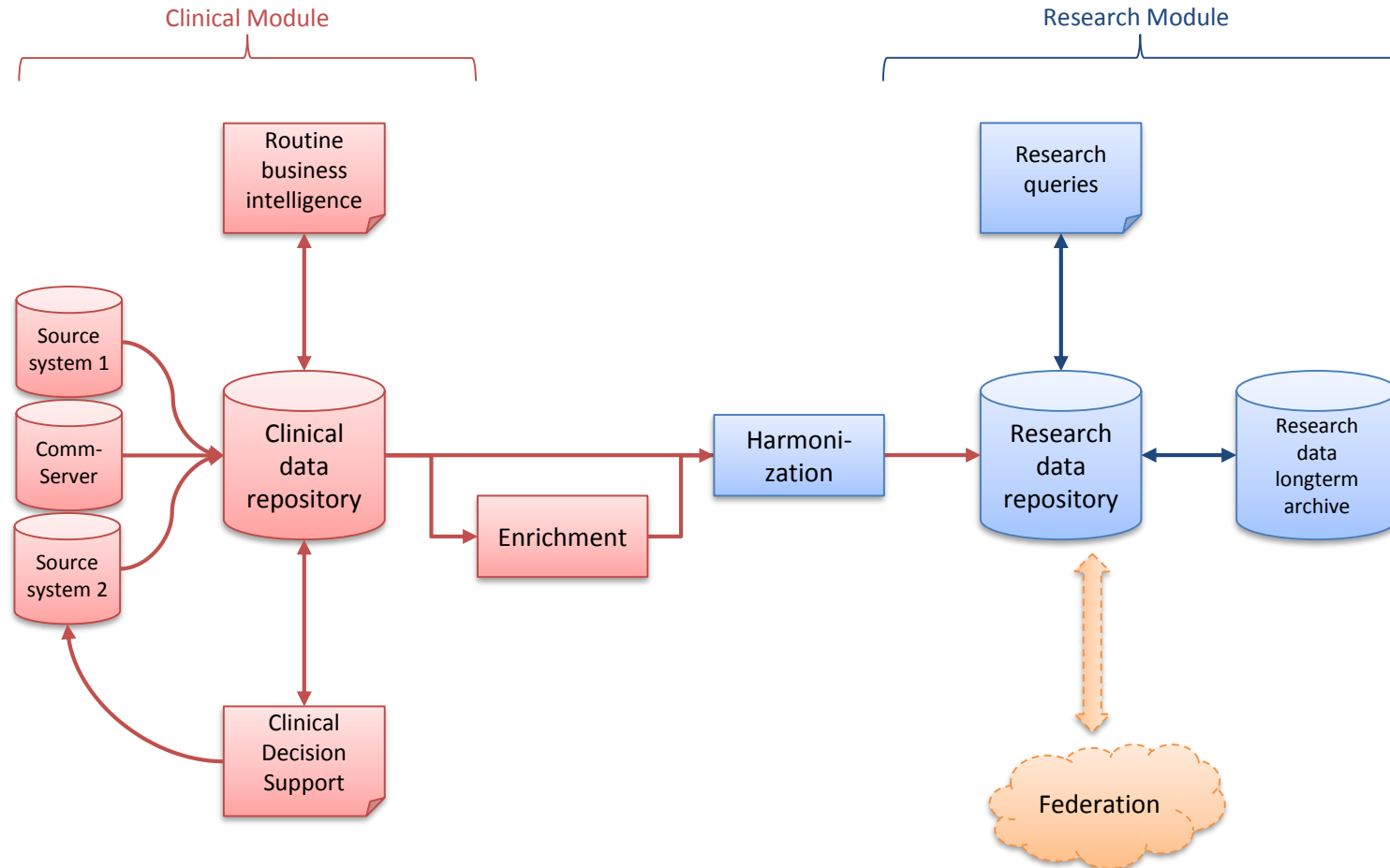
**Prof. Dr. Martin Sedlmayr**

Institut für Medizinische Informatik und Biometrie

TU Dresden

17.04.2018, ConhIT

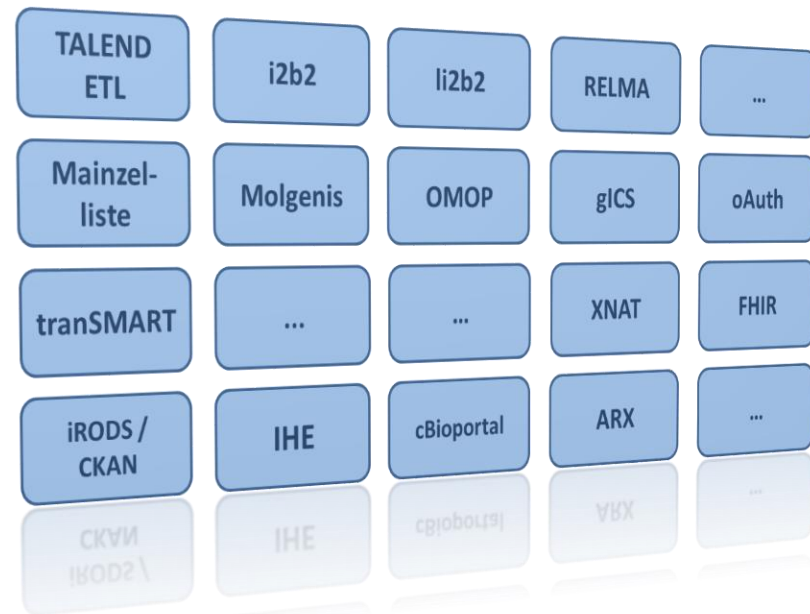
# Architektur des MIRACUM DIZ

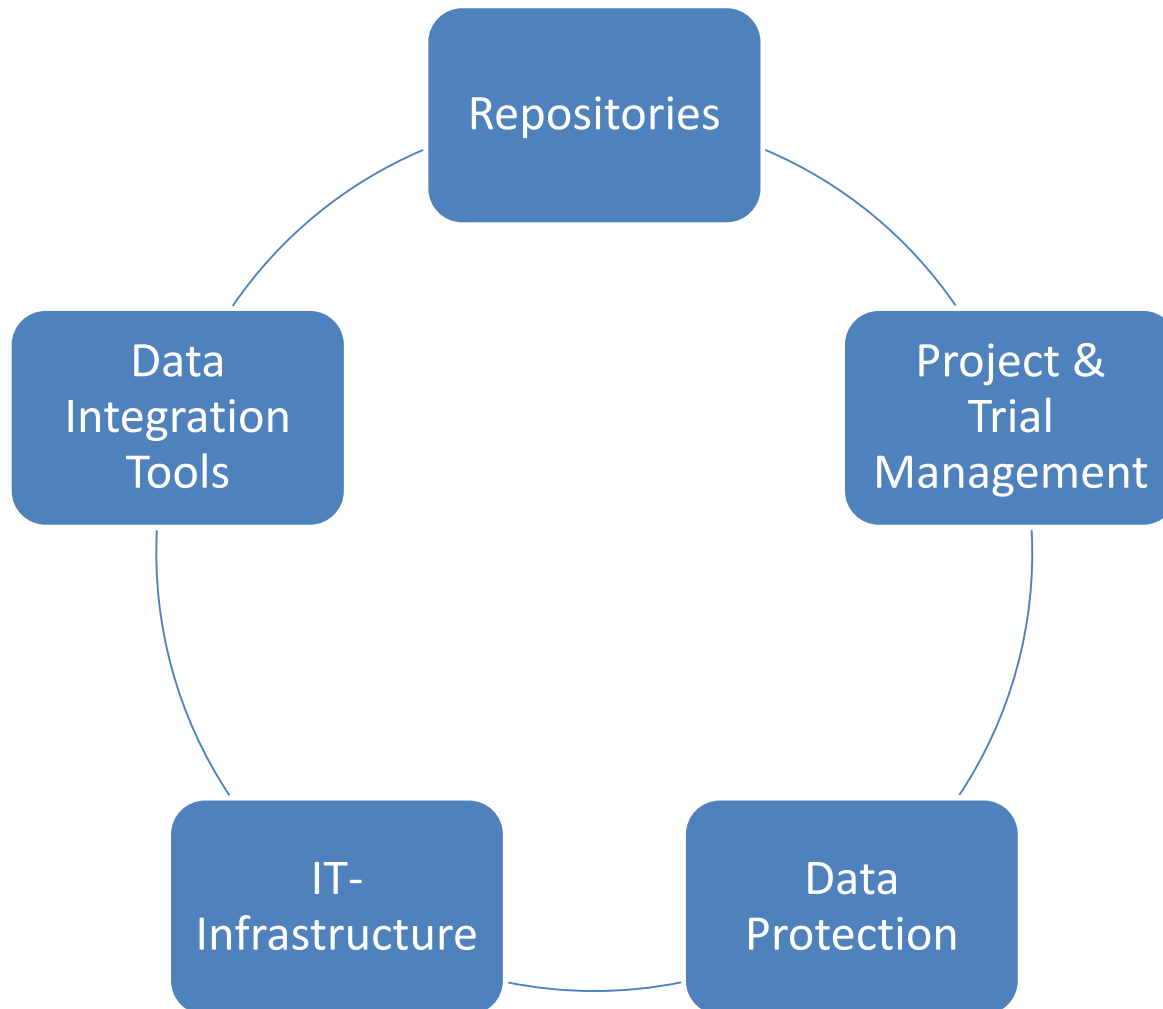


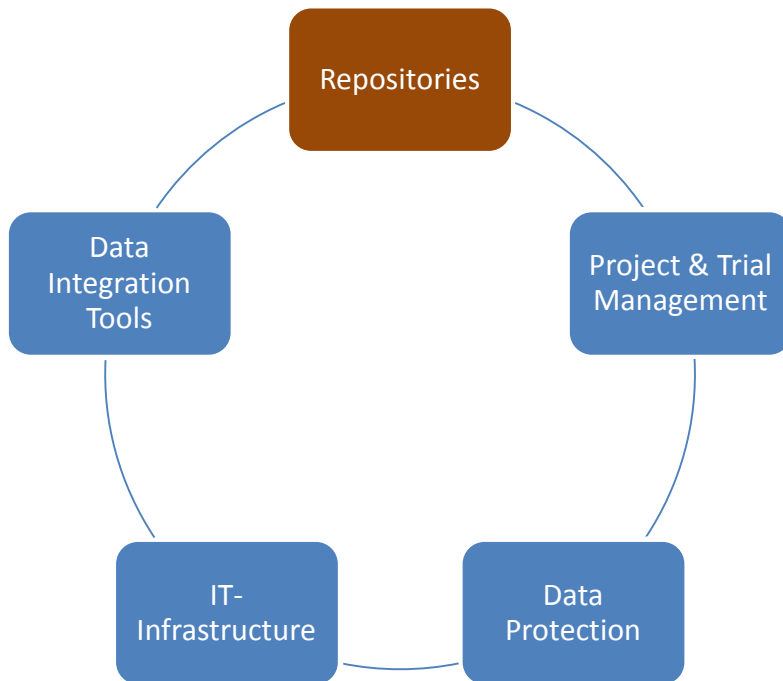
- Medical Informatics Reusable eCo-system of Open source Linkable and Interoperable software tools – X

## MIRACOLIX

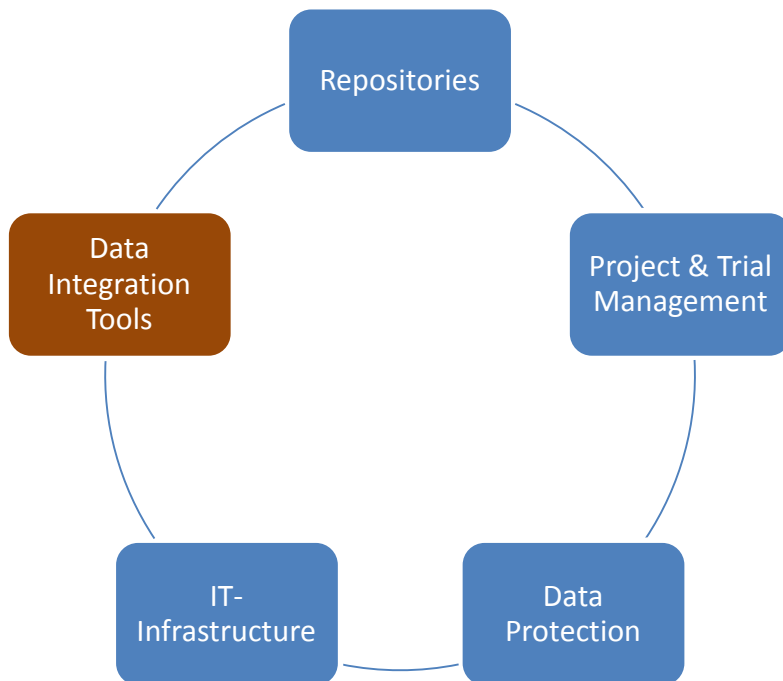
- MIRACOLIX ist
  - pragmatisch
  - modular
  - wiederverwendbar
  - open source
  - interoperabel
  - gefördert



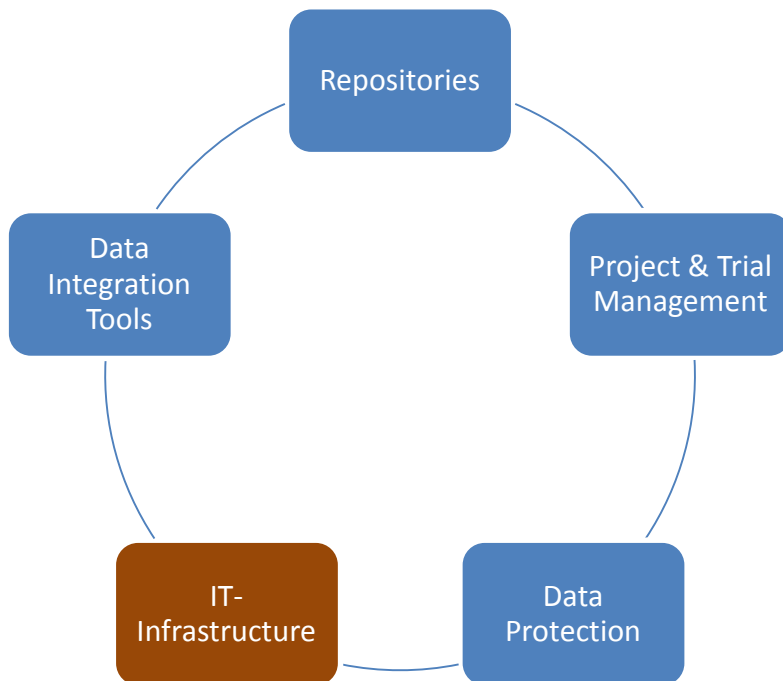




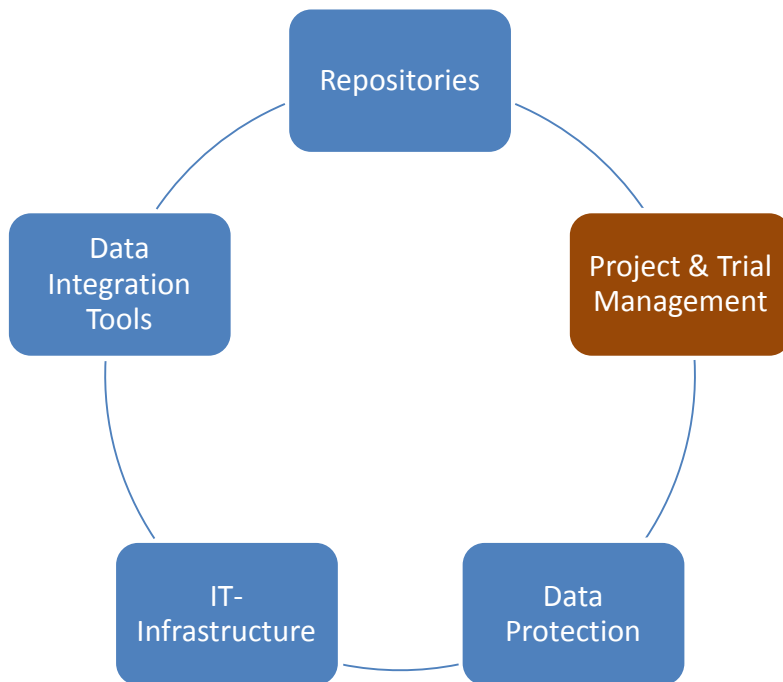
- Data Repositories, Exploration & Visualization
  - i2b2 & IDRT Tools
  - tranSMART
  - OMOP CDM & OHDSI Tools
  - XNAT
  - cBioportal
  - galaxy
- Longterm Archiving and Sharing
  - iRODS
  - CKAN



- MIRACUM Metadata Repository
  - based on Samplify.MDR
- ETL Tools
- Data Harmonisation/Mapping Tool
  - Erlangen Ontology-based Mapping Tools based on GBA / BBMRI ERIC CS IT tools
  - MOLGENIS (BiobankConnect)
- Natural Language Processing Tool
  - Averbis Information Discovery Tool
- Connector Components
  - required for the federated network of DICs
  - based on i2b2, Samplify Broker/Connector, Arachne

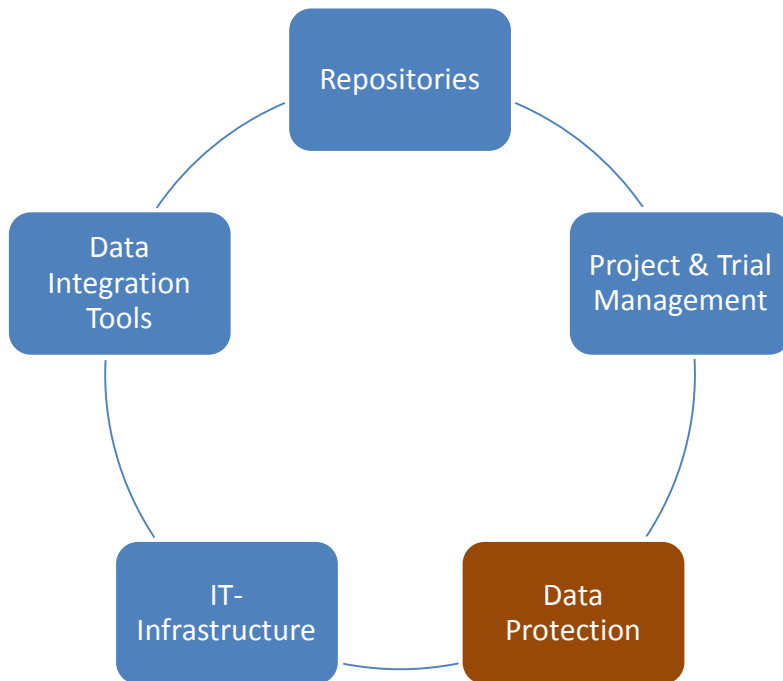


- Federated Authentication
  - OAuth
  - Accounts issued in home institutions can be used via DFN-AAI
- Tools for Development, Deployment and Monitoring of IT Solutions
- Sharing and Deployment of Software Pipelines for Analysis of OMICs Data
  - Galaxy, Galaxy Tool Shed & Docker

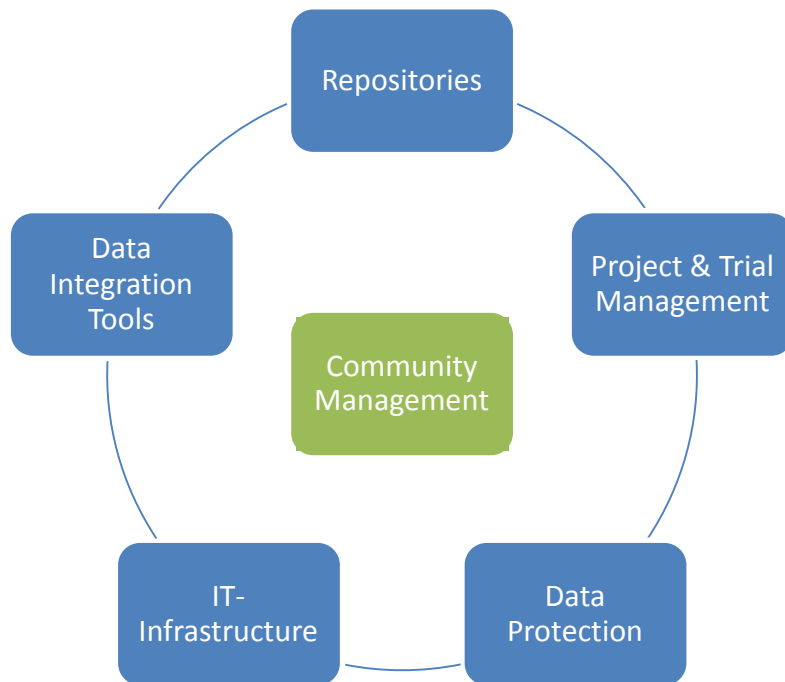


- Project Proposal Management
  - Atlassian Confluence
  - ProSKIVE
- Hospital-/Faculty-wide Trial-/Project Registry
  - Includes all relevant metadata including eligibility criteria (→ recruitment tool)
  - based on prototypes existing in Erlangen, Frankfurt, and Freiburg





- ID-Management Tool
  - Mainzliste
- Data Anonymization Tool
  - e.g. ARX (<http://arx.deidentifier.org/>)
- Consent Management Tool
  - gICS (generic informed consent service)



- Alle Entwicklungen werde als Open Source veröffentlicht
  - Originalsoftware
  - Anpassungen
- Alle Entwicklungen werden unterstützt
  - Foren, Mailinglisten, Slack, ...

- Verfügbarkeit der Daten
  - Existenz, Formate, Schnittstellen
- Terminologien
  - ICD-10-GM, OPS, LOINC, ... ???
  - NSG AG Interoperabilität; Kerndatensatz
  - Nationale Aktivitäten (SNOMED)
- Heterogenität der Werkzeuge
  - Lange Liste von Tools mit eigenen Entwicklungs- und Releasezyklen
  - Zusammenarbeit mit Entwicklern & Anlehnung an Distributionen
  - Referenz DIZ als Blaupause für das eigene DIZ



- Schnürt das Installationspaket und bietet Support
- Erhält im Gegenzug Support für andere Komponenten
- MCC Erlangen für i2b2, Freiburg für galaxy, Dresden für OHDSI, Magdeburg für XNAT, ...



➤ **Starke Community**

# MIRACOLIX @ MIRACUM



TALEND ETL	i2b2	li2b2	RELMA	...
Mainzel-liste	Molgenis	OMOP	gICS	oAuth
tranSMART	...	...	XNAT	FHIR
iRODS / CKAN	IHE	cBioportal	ARX	...
CKAN iRODS	IHE	cg obol ej	ARX	...

