CONNECT TO WIN

RETHINKING HEALTH

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CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

Data-Driven Medicine

IT strategy in the context of medical care and research

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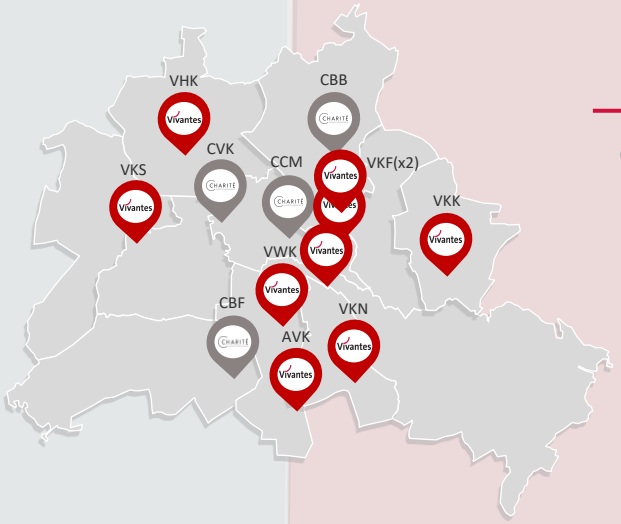
Centers and clinics at **4 locations**
132,000 inpatient cases (2020)
655,000 outpatient cases (2020)
16,391 employees (2020)

HIS: **Cerner i.s.h.med**



Vivantes

Centers and clinics at **9 locations**
205,000 inpatient cases (2020)
311,000 outpatient cases (2020)
17,876 employees (2020)

HIS: **Dedalus ORBIS**

Health City Berlin 2030:

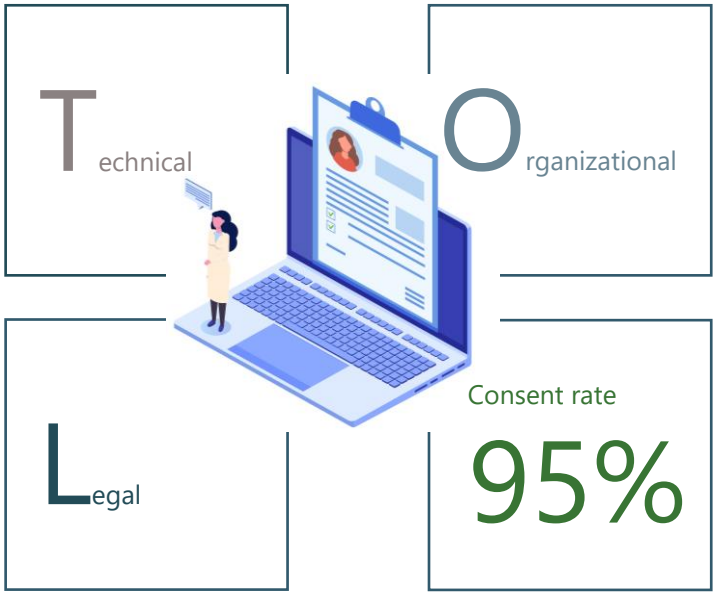
Goal: In 2030, Berlin as a healthcare location is in a leading position internationally in terms of medical care and innovation as well as biomedical research.

The IT-Cooperation between Charité and Vivantes

Consent management within the IT cooperation of Charité and Vivantes

Technical implementation
- Technical recording in the HIS
- Transmission to interoperability system that is integrated in the IT infrastructure
- Policy creation for release

Legal implementation
- Consent required at both clinics.
- Patient identification
- Validity 3 years
- Revocation possible at any time



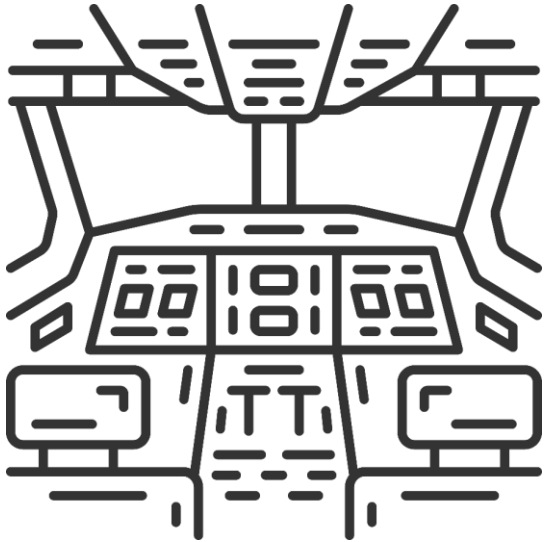
Organizational implementation
- Consent process in the context of signing the treatment contract
- Consideration of existing processes

Application and acceptance in everyday clinical practice
- Access and transfer of external data to the local repository
- 95% consent rate

*1 EVDS = Release from the obligation of secrecy
*2 KVNR = Health insurance number

Charité as platform driver

From isolated systems to the cockpit



Ill.: bsd studio

Patient level
Digital services → Participative decision support

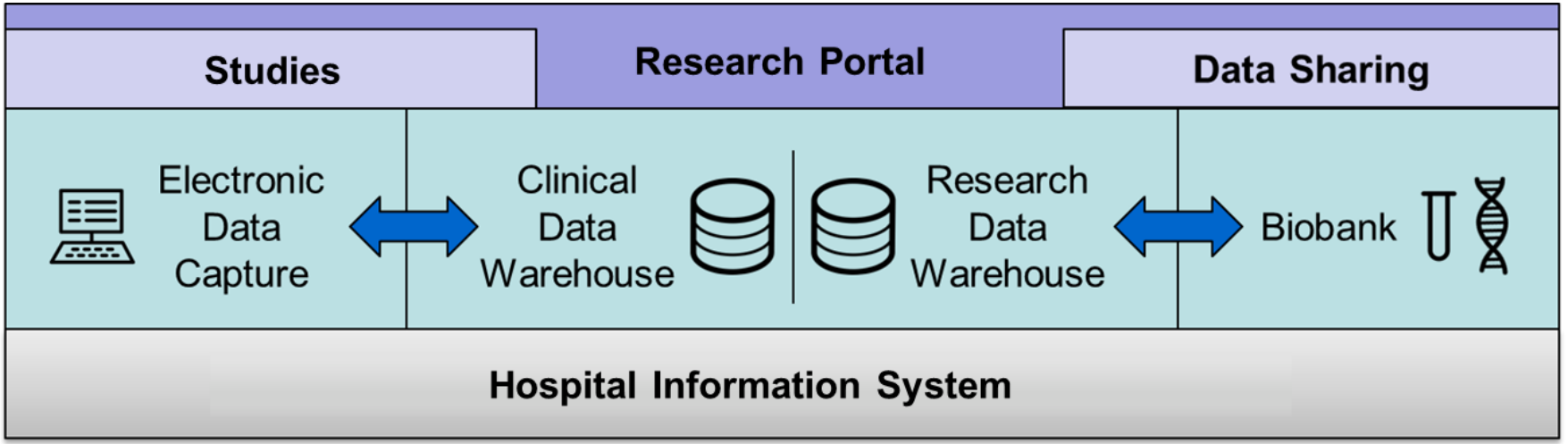
Employee level
Active involvement in the change process → Job satisfaction through digital know-how

Process level
Process responsibility through content experts → Networking of clinic and IT

Integration platforms

"One-stop store" for digital research offerings

Benchmark: Research data platform of the Vanderbilt University Medical Center, USA



Integration platforms

"One-stop store" for digital research offerings

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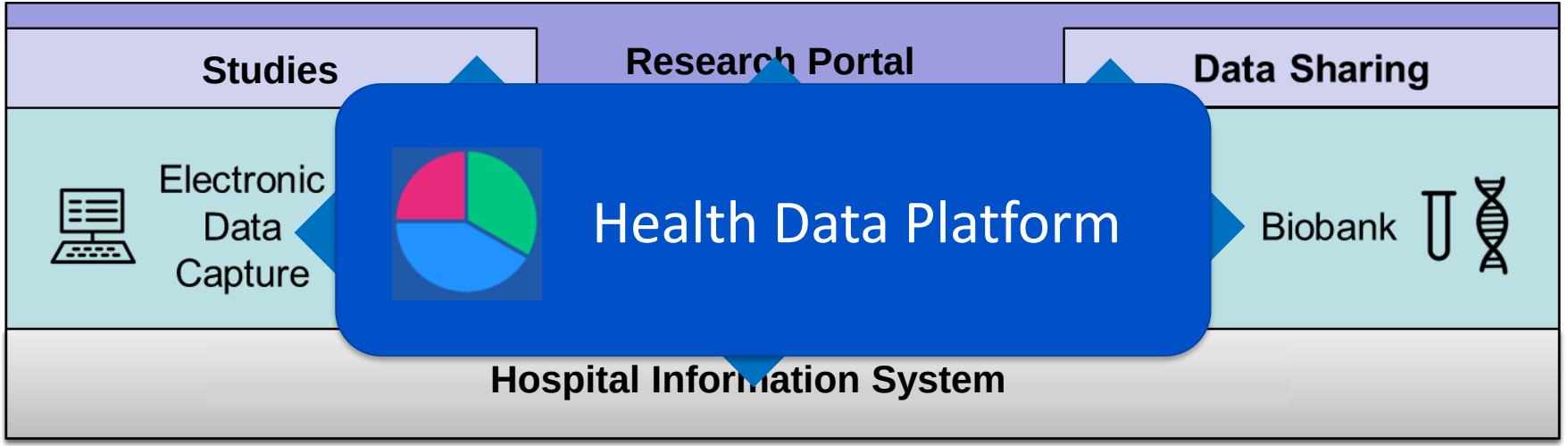
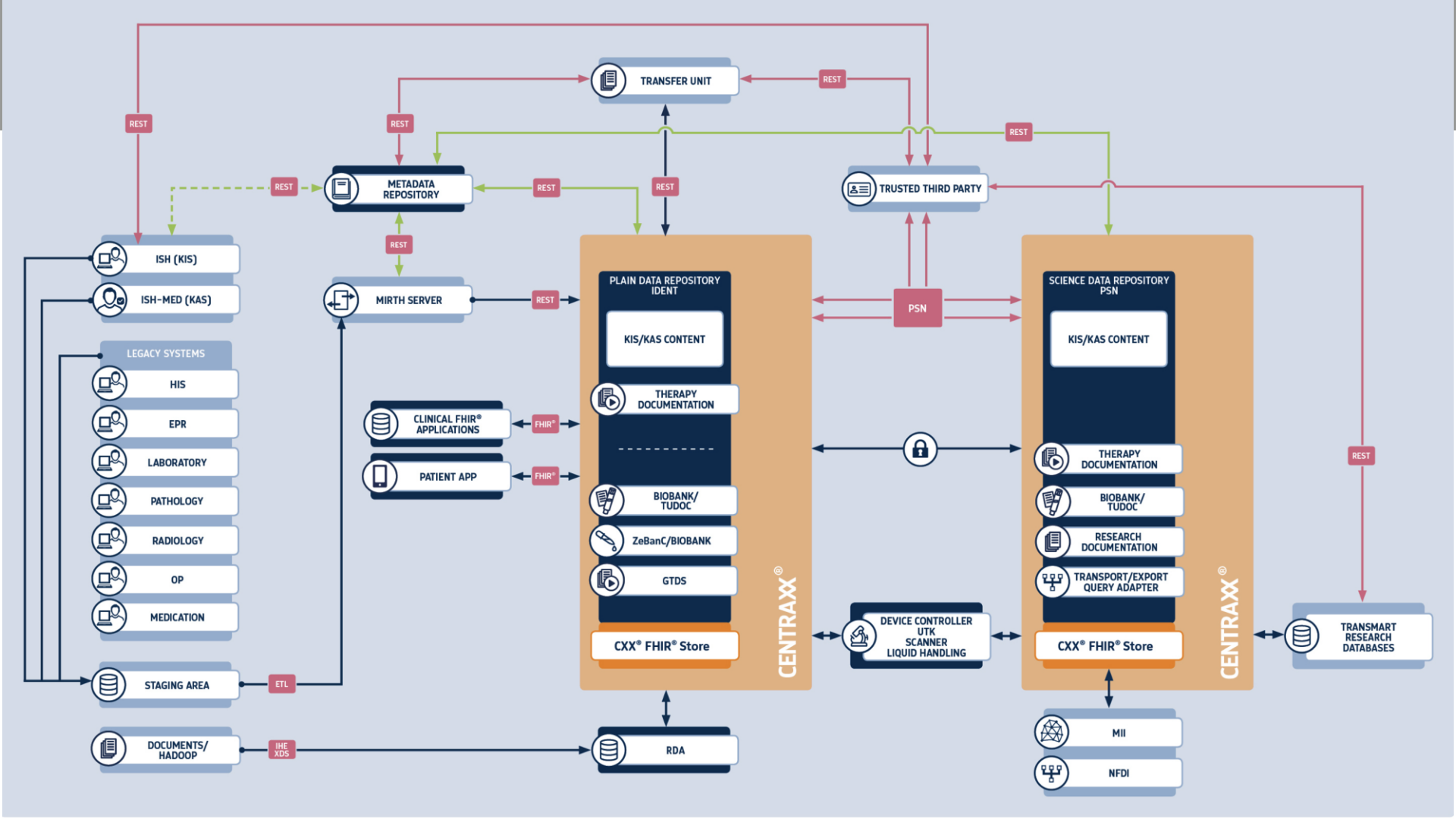


→ Consistent expansion of the Health Data Platform and other components with partners from science & industry


TRANSFER UNIT
REST
METADATA REPOSITORY
TRUSTED THIRD PARTY
ISH (KIS)
ISH-MED (KAS)
MIRTH SERVER
LEGACY SYSTEMS
HIS
EPR
LABORATORY
PATHOLOGY
RADIOLOGY
OP
MEDICATION
STAGING AREA
ETL
DOCUMENTS/ HADOOP
IHE XDS
RDA
CLINICAL FHIR® APPLICATIONS
FHIR®
PATIENT APP
PLAIN DATA REPOSITORY IDENT
KIS/KAS CONTENT
THERAPY DOCUMENTATION
BIOBANK/ TUDOC
ZeBanC/BIOBANK
GTDS
CXX® FHIR® Store
CENTRAXX®
PSN
SCIENCE DATA REPOSITORY PSN
KIS/KAS CONTENT
THERAPY DOCUMENTATION
BIOBANK/ TUDOC
RESEARCH DOCUMENTATION
TRANSPORT/EXPORT QUERY ADAPTER
CXX® FHIR® Store
CENTRAXX®
DEVICE CONTROLLER UTK SCANNER LIQUID HANDLING
TRANSMART RESEARCH DATABASES
MII
NFDI

Technology: watch the basics

- Goal: choose a system that can grow with end users
- Our inhouse clients are the sovereigns of their captured data
- Our data-centric system breaks through legacy system's barriers
- We partner with patients and patient groups
- We are always learning: we are poised to take advantage of AI, Machine Learning, IoT, and Cloud Services
- We support the explosive growth of Translational and Personalized Medicine
- Software should be a medical device

Technology: do it step by step

WATCH THE NECESSITY IN HEALTHCARE
THERE IS NO EASY WIN, BE HUMBLE AND DO THE DIRTY WORK IN 4 STEPS:

1. CAPTURING: PROVIDE PRIMARY SYSTEM AND INTERFACES (DONE)

2. CLEANING: CONNECT DATA TO SOURCE AND CONSENT (DONE)

3. HARMONIZING: MAP DATA TO ONE GENERAL LANGUAGE (ON)

4. PARTICIPATION: AI GOES TO DATA AND NOT THE OTHER WAY AROUND

Syntactic interoperability in IT cooperation

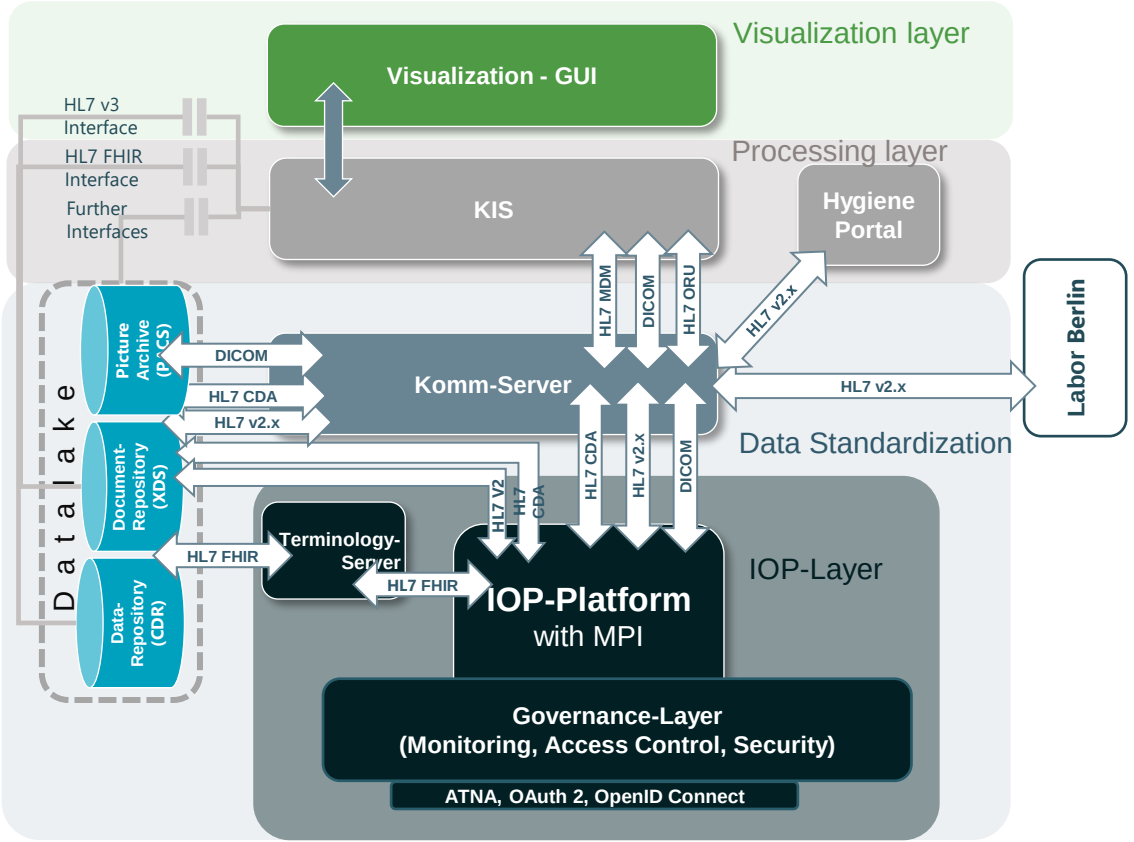
Implementation of the interoperability solution in IT cooperation.

Per company exist:

- an IHE platform with patient index (MPI)
- a document registry (IHE Registry)
- one or more IHE repositories
- a clinical data repository

Success factors of sustainable implementation:

- Focus on recognized international standards
- Establishment of a flexible, service-oriented IT architecture
- Ensuring compatibility with federal gematik/IT developments



GDPR and MDR regulations

- Don’t fight regulations, embrace regulation and use them
- Be part of a network
- And data security officer, ethical committee, legal department and IT are your friends!

Summary - IT Strategy

- Innovations are data-driven
- Innovations must be scalable - worldwide!
- Innovations of the Charité strategy are sustainable

➢ International success by linking basic academic research and implementation with industry

RETHINKING HEALTH

Wir denken Gesundheit neu.

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Thank you for your attention!!!

„Wir denken Gesundheit neu (Rethinking Health)“

Martin Peuker
04.11.2021

Personal note…

- If Louis Pasteur and Robert Koch would have seen the **devastating state of Healthcare-Data-Hygiene** we are in today, they would have picked up the broom themselves. In many ways Data and Bacteria have a similar effect. If you properly address Data or Bacteria, they will boost your system. If you ignore and neglect their powers, they will take you down.

- Since we have all the right tools to start cleaning, accumulating, analyzing and protecting data today, it's time to combine those strengths for future healthcare. **All players need to cooperate in a synergetic way in order to fully activate the powers of artificial intelligence for personalized medicine. DigiCore and OECI will help lead the way**"