



HEALTHCARE EDITION

# ENTWICKLUNGS AUSRICHTUNG

ORC 4 / VIEWPOINT: *RELEASE OHE 18.3.1*

< E190001 >



**medizinisches Wissen verdoppelt sich alle 3,5 Jahre**  
(1950: 50 Jahre, 1980: 7 Jahre, 2010: 3.5 Jahre , 2020: 73Tage) [Densen,2011]

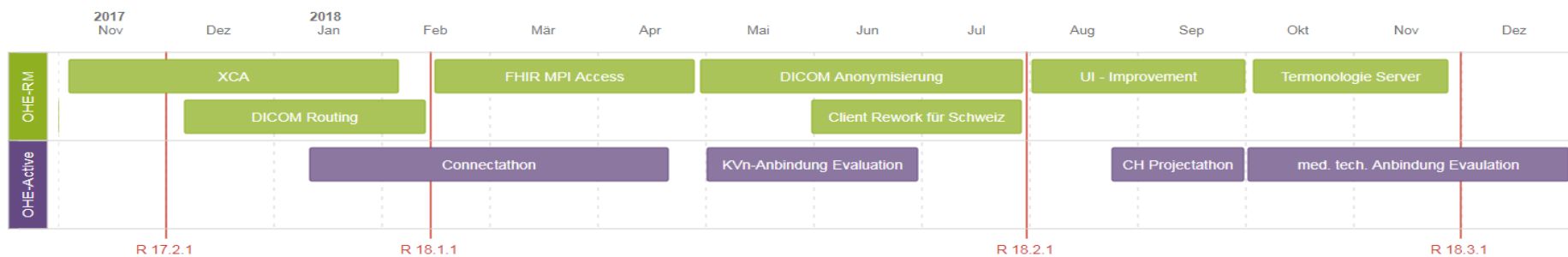
# 01

## VERSION 18 - RETROSPEKTIVE

## Orchestra Healthcare Edition – Status 2017

### Zielsetzung OHE v.18:

- DICOM Routing
- XCA - Cross-Community Access
- FHIR MPI Access
- Value Sets
- National Specifics for DE & CH



## Orchestra Healthcare Edition – R 18.1.1

### IHE Client enhancements [#OHE-1010 & # OHE-1081]

- Multi-repository selection
- Value Set Consumer [ITI-48] [ITI-60]

### Cross-Community Access [#OHE-85 & #OHE-84]

- Initiating Gateway & Responding Gateway

### EFA enhancement [#OHE-290]

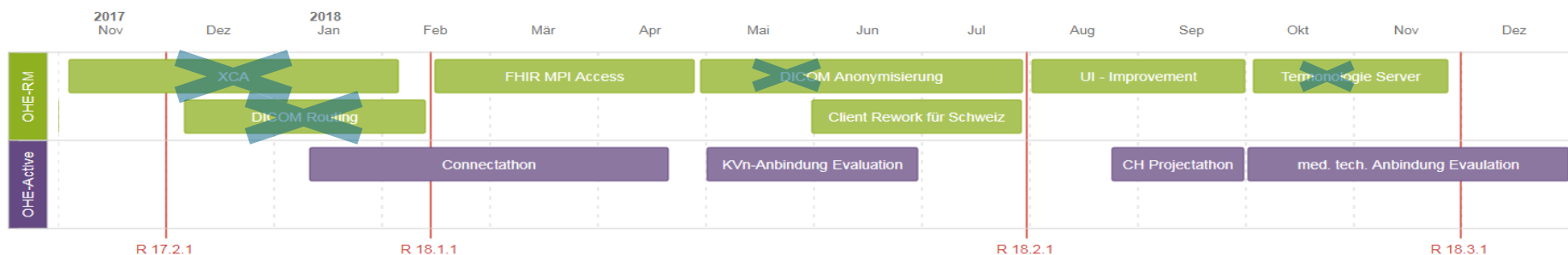
- Enable update of a policy
- Policy rollback if XDS transaction fails

### DICOM Router [#OHE-865]

- Pipe images to one or more destination systems
- Rules Engine to determine destination systems
- DICOM Metadata Enrichment (for research)

### Base TS [#OHE-990]

- Minimization of web service parameters
- TLS Support for login
- Authentication of users through LDAP



## Orchestra Healthcare Edition – R 18.2.1

### IHE Clients - National Enablers

[#OHE-1121 & #OHE-1134 & #OHE-1135]

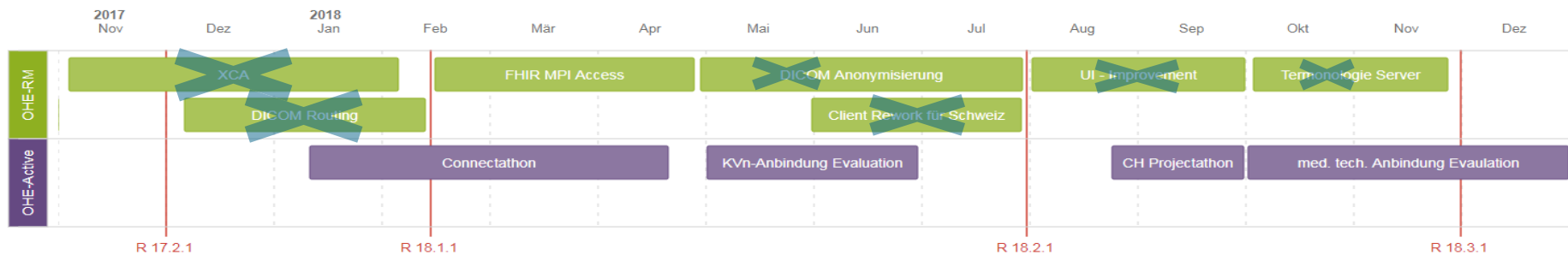
- ELGA: Human requestor & transaction id
- EFA: Return-parameter rework
- EPD: CH-Audit Logging

### HL7 Versions-Switch [#OHE-1135]

- Switch HL7v2 Versions v.2.3.1 & v.2.5.1
- Improve UI with logging

### Remove Metadata & Documents [#OHE-999]

- ITI-86 Remove Documents
  - Incl. Implementation of Audit Message
- ITI-62 Remove Metadata
  - Incl. Success and Failure handling
  - Incl. Implementation of Audit Message
- ITI-41: Reprovide after removal (ITI-86)



## Orchestra Healthcare Edition – R 18.3.1

### DICOM Module Features

[#OHE-1157 & #OHE-1150 & #OHE-1267 & #OHE-1426 & #OHE-1588]

- MPPS Channel & DICOM Router v2.0
- Radiation Dose Package
- DICOM Worklist Inbound

### Document Encryption [#OHE-1154]

- Decryption channel for Document
- Encryption channel for Document

### Terminology Server [#OHE-1126 & #OHE-1071]

- Import for IHE SVS value sets
- Role based code system access

### FHIR Bridge [#THP-698]

- Address classic MPIs with FHIR

### Pharmacy Documents [#OHE-1198]

- Query Pharmacy Documents

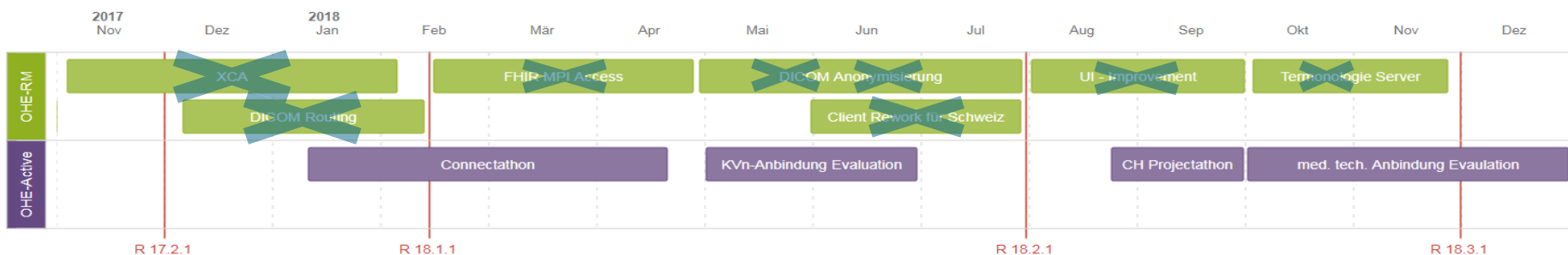
### RESTful Query to ATNA [#OHE-1328]

- RESTful Query for the ARR

### Cross-Community Patient Discovery [

#OHE-1366]

- ITI-55 Initiating Gateway
- ITI-55 Responding Gateway



## Orchestra Healthcare Edition – R 18.3.1

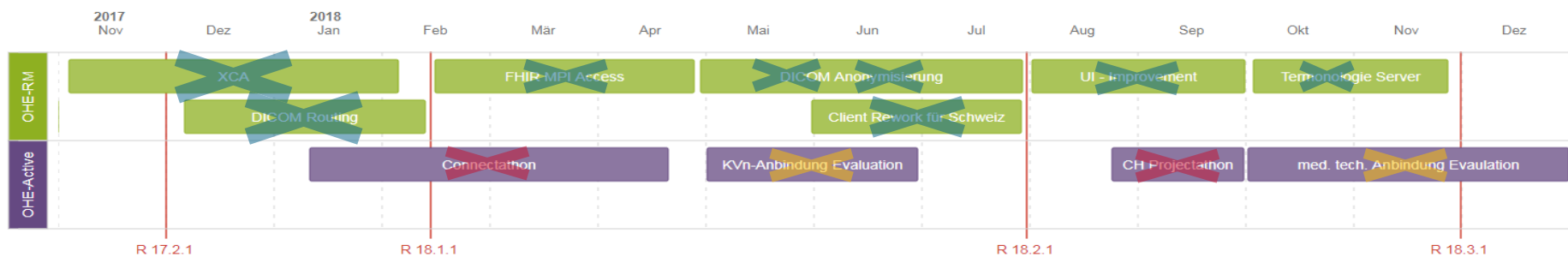
### Patient Relation Management API [#OHE-1305]

- REST (FHIR oriented) API for querying
  - Physicians
  - Appointments
  - Hospitals
  - Patients

### ARR Block-Chain Assurance

[#OHE-1415 & #OHE-1550]

- Submission of unique identifier to BC
- Validation of integrity





# Orchestra Healthcare Edition v. 18

- **R 18.1.1:** 23.02.2018
- **R 18.2.1:** 23.03.2018
- **R 18.3.1:** 30.11.2018



Connectathon 2018 The Hague  
Projectathons 2018 CH (EPD-Box)



15.000 h Core Development



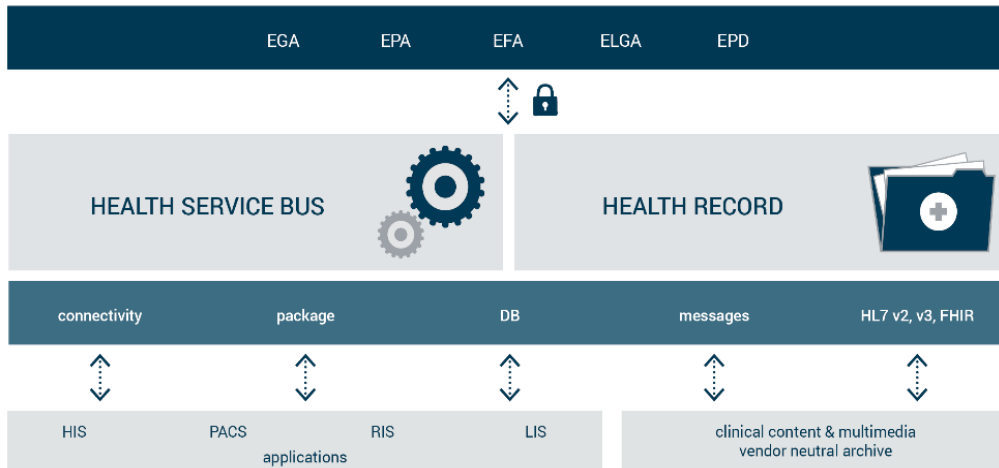
8.000 h Healthcare



1.300 h Interoperability



26 OHE - Projects



# 02

## VERSION 19 - ROADMAP

## Orchestra Healthcare Edition – Status 2018

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### Zielsetzung OHE v.19:

- DICOM Management Point
- XCF - Cross-Community Fetch
- FHIR XDS Access
- LDAP Management UI



## Orchestra Healthcare Edition – R 19.1.1

### DICOM Service Package [#OHE-1420]

- C-FIND Channel
- C-GET Channel
- C-MOVE Channel
- C-STORE Channel

### Cross Community Fetch [#OHE-1383]

- ITI-63 (Cross Gateway Fetch)

### Mobile Package [#OHE-1554&#OHE-1556]

- FHIR XDS Bridge – FHIR Query
- Internet User Authorization



## Orchestra Healthcare Edition – R 19.2.1

### Restricted Metadata Update [#OHE-1551]

- ITI 92 (Restricted Update Document Set)

### Multi-Patient Queries [#OHE-1576]

- ITI-51 (Multi-Patient Stored Query)

### RMD-based Cleaner [#OHE-1649]

- GDPR compliant auto-clearing



## Orchestra Healthcare Edition – R 19.3.1

### LDAP Mgmt User Interface [#OHE-1151]

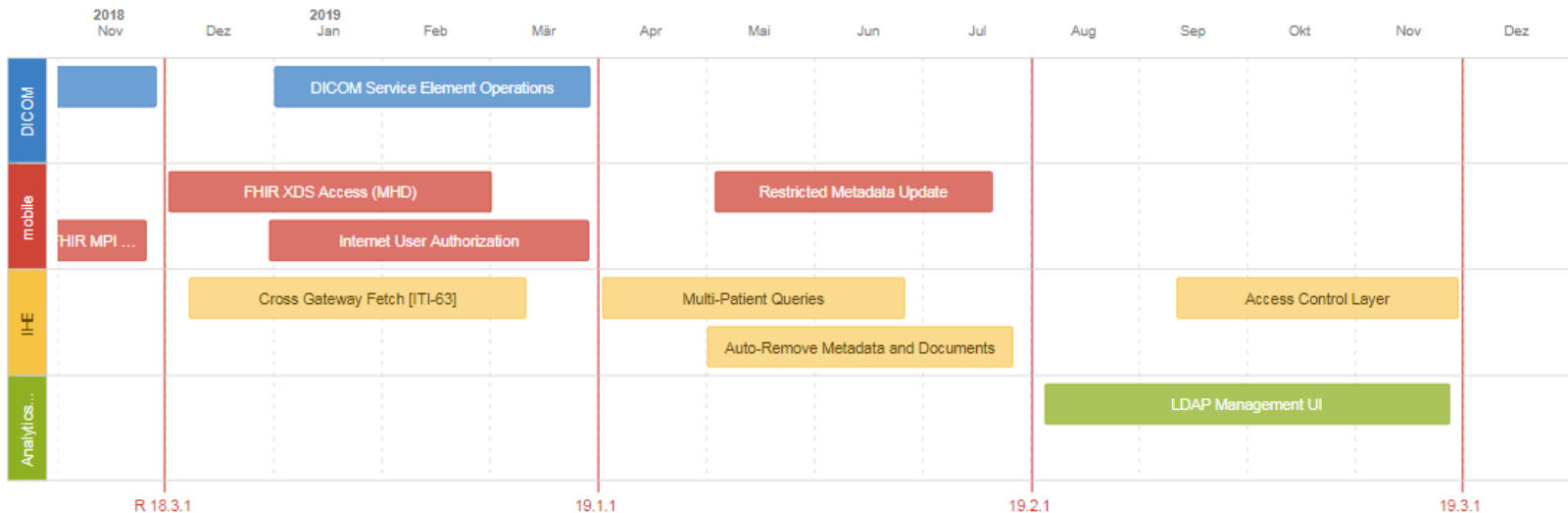
- Healthcare Provider Directory
- Personal White Pages

### Access Control Layer extension [#OHE-1645]



# Orchestra Healthcare Edition v 19.\*

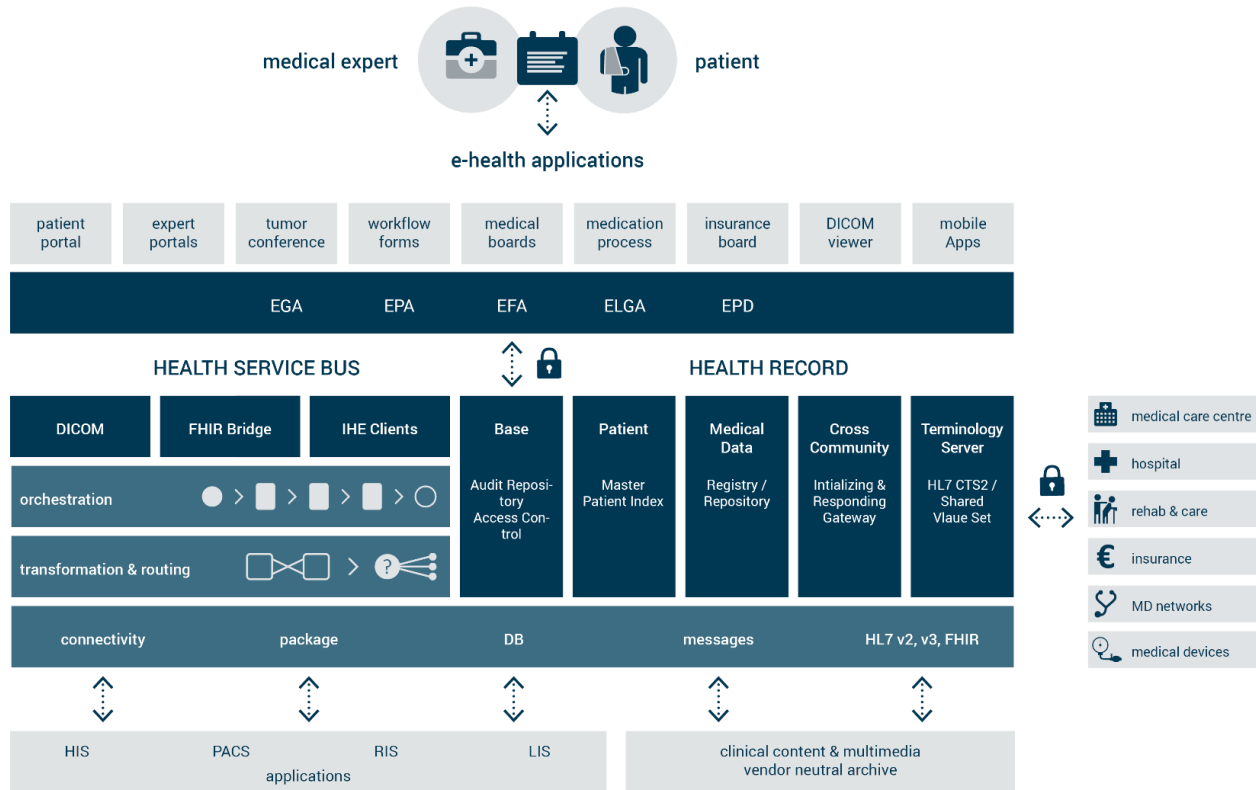
- **R 19.1.1:** 29.03.2019
- **R 19.2.1:** 31.07.2019
- **R 19.3.1:** 29.11.2019



# 03 QUO VADIS?

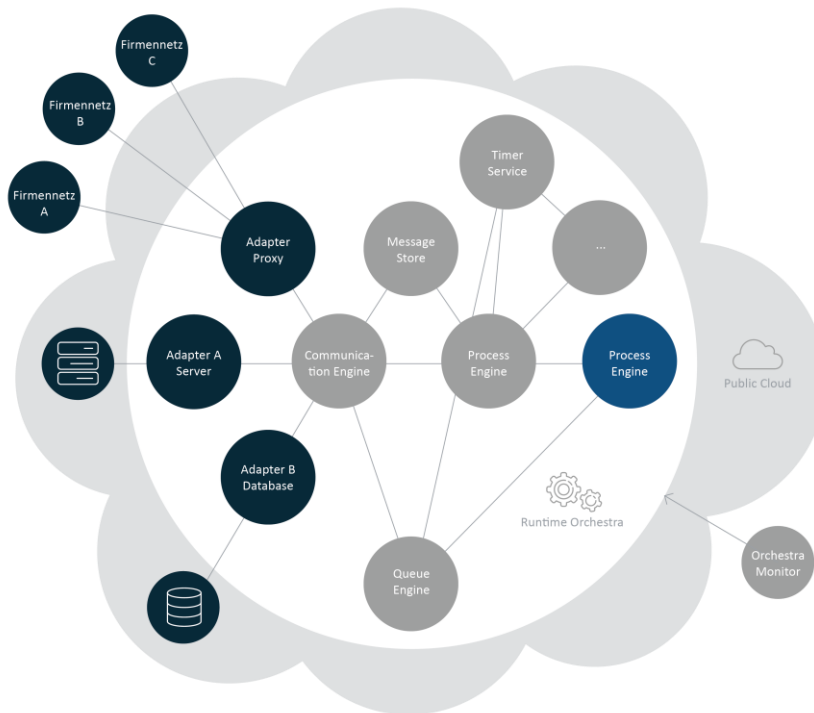


# Orchestra Healthcare Edition



## Research Directions

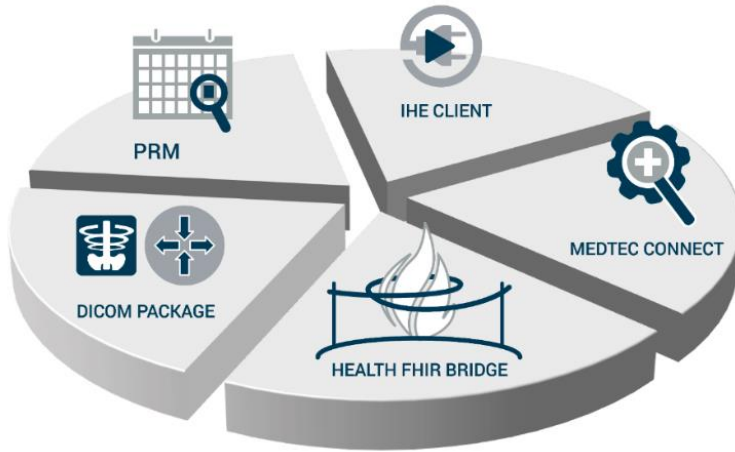
*Self-organizing cognitive auto scaled predictive artificial intelligence service for health(care?)*



- **Microservice-Architectures**
- **Communication Security**
- **Machine Learning**
- **Artificial Intelligence**
- **Robotics**
- **Semantics**

# Orchestra Healthcare Edition - Module

## ORCHESTRA HEALTH SERVICE BUS



### PRM API

Christian Bauer (x-tention)

### DICOM Package – Routing

Matthias Allerstorfer (x-tention)

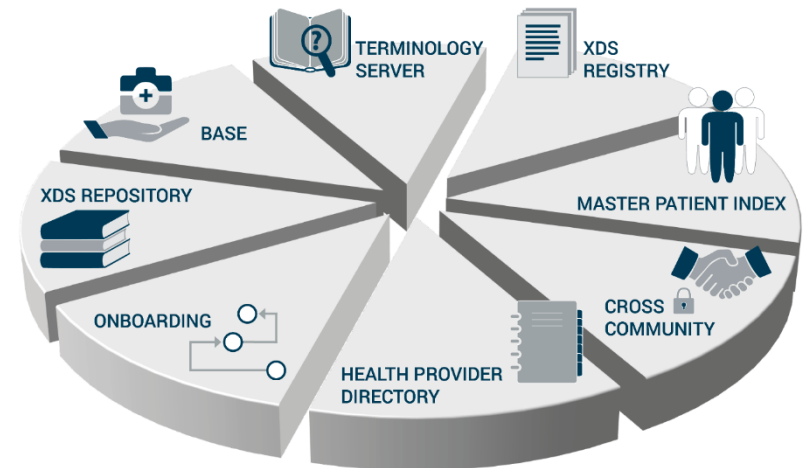
## MedConnect – Cubile & Orchestra

Georg Samhaber (x-tention)

## Health FHIR Bridges

Stephanie Fürst (x-tention)

## ORCHESTRA HEALTH RECORD



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