xtention
IT with care.

Orchestra eHealth Suite

Our software portfolio for your eHealth solutions

Orchestra
eHealth Suite

The Orchestra eHealth Suite

Groundbreaking portfolio

Today's healthcare sector requires seamless communication and swift, secure data exchange between service providers involved in the treatment process and their patients, both within and beyond system boundaries.

The Orchestra eHealth Suite's powerful, mutually compatible modules allow you to create tailored eHealth solutions that meet the requirements for a central exchange platform. The Health Service Bus is an efficient integration platform that creates the foundation for an open and future-proof system architecture. In addition to modules that uniquely identify patients and service providers,

the Orchestra eHealth Suite provides a complete electronic patient record for aggregating documents, images and structured medical data. Authorized service providers can access the relevant patient records via a web portal. Using the patient portal, patients can also view and manage their own records.

Numerous interfaces based on international standards coupled with advanced security functions allow you to integrate the Orchestra eHealth Suite into your existing eHealth solutions across institutions. Further value-adding modules help all stakeholders involved in the treatment process to collaborate in context.

Powerful modules

The Orchestra eHealth Suite modules are programmed using cutting-edge technology, and we are constantly enhancing them in close cooperation with our partners and customers.

Versatility adds value, creates synergy and safeguards your investment
The Orchestra eHealth Suite includes powerful modules that you can use in various applications and data-exchange scenarios.

Standard software products complemented by a wide array of services
As well as standard software, the x-tention group provides services ranging from consulting, individual development and implementation to operating the entire solution.

Orchestra
eHealth Suite

Integration Engine & Connectivity Extensions

Transfer patient data flexibly and securely

Master Data Management

Identify patients and service providers across institutions using unique identifiers

Community Health Record

Exchange medical data securely between institutions

Provider Engagement

Involve cooperating doctors in the treatment process

Collaboration Extensions

Provide value-added services for improved collaboration between service providers and patients

Patient Engagement

Involve patients in their treatment process

Platform Services

Core services for unified, overarching capabilities

The Orchestra eHealth Suite

Our software portfolio for your eHealth solutions
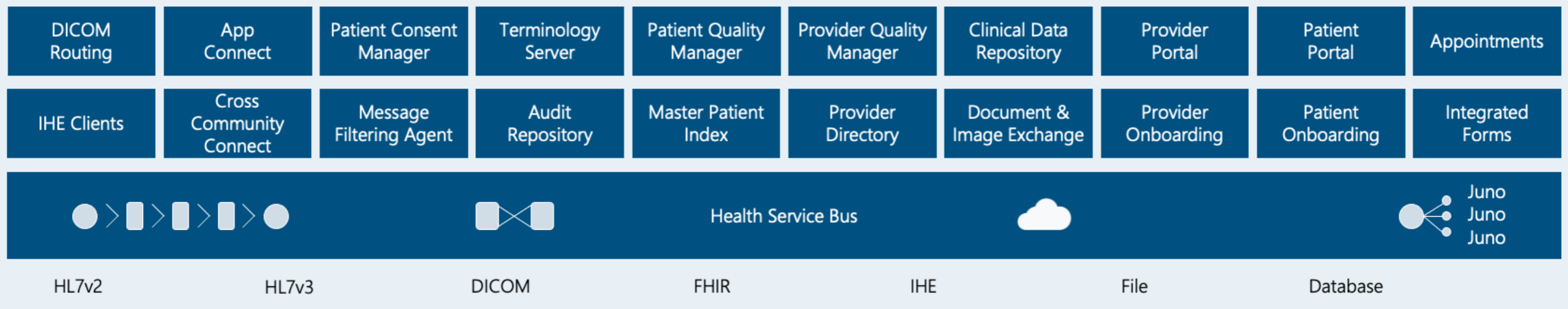
Administrator | Care Nurse | Clinician | Physician | Specialist | Patient

Orchestra eHealth Suite

DICOM Routing	App Connect	Patient Consent Manager	Terminology Server	Patient Quality Manager	Provider Quality Manager	Clinical Data Repository	Provider Portal	Patient Portal	Appointments
IHE Clients	Cross Community Connect	Message Filtering Agent	Audit Repository	Master Patient Index	Provider Directory	Document & Image Exchange	Provider Onboarding	Patient Onboarding	Integrated Forms

Health Service Bus

Juno Juno Juno

HL7v2	HL7v3	DICOM	FHIR	IHE	File	Database

HIS	RIS	PACS	LIS	DMS	PVS	Other Networks	APPs	Medical Device

Integration Engine & Connectivity Extensions

Transfer patient data flexibly and securely

Health Service Bus

Integrate systems and control data flows

Using a tool such as the Health Service Bus opens up numerous options and opportunities when creating your own IT landscape. The Health Service Bus is a modular, highly integrable platform for connecting all existing applications and building an interoperable system landscape. Highly flexible, it allows you to connect new applications in keeping with your requirements while continually optimizing existing systems. Thanks to architecture that is tailored to individual customer needs, you can not only map simple interface requirements but also the complex scenarios of a service-oriented architecture. The Orchestra eHealth Suite Health Service Bus supports all common communication technologies, such as MLLP, TCP/IP, JDBC, SOAP, REST, DICOM Worklist and TLS certificate-based communication. It also supports standards such as HL7 v2.x, HL7 v3, FHIR, XML and EDIFACT. The Orchestra Designer provides the ideal user interface for the development and test environment, allowing you to develop the interface with almost no coding necessary. This makes it easier to train employees and increases maintainability.

DICOM Routing

Control radiological workflows

The DICOM Routing module enhances the classic Health Service Bus functions, adding all functionality relating to DICOM Routing, MPPS, Dose DB as well as change and anonymization functions. The module is integrated directly into the core Health Service Bus technology, giving you the level of convenience and performance you expect.

IHE Clients

Integrate non IHE-compliant applications into the data exchange

The IHE Client module is the easiest way to make existing systems IHE-compatible. The Orchestra eHealth Suite's IHE clients were developed based on Health Service Bus architecture and map various IHE stakeholders. Thanks to its modular structure, the IHE Clients module can also act as a participating system in electronic health records in Austria (ELGA) and electronic case records in Germany (EFA 2.0).

App Connect

Integrate web applications and mobile applications via Hl7 FHIR interfaces

The App Connect module gives you many of the functions you need to integrate web applications and mobile apps safely and securely via HL7 FHIR interfaces. State-of-the-art, resource-based interfaces ('REST') allow read and write access to cross-institution electronic patient records. All accesses to medical and administrative data are subject to individual authorization checks.

Cross Community Connect

Exchange patient data with other healthcare networks

Exchanged documents can be displayed in a specific view in the Provider Portal module.

Message Filtering Agent

Filter HL7 messages in accordance with existing consents

The Message Filtering Agent module filters out HL7 messages where a patient has not consented to their data being exchanged between institutions. If a patient has neither consented nor objected, the messages in question can be stored temporarily. This ensures that data only leaves the medical institution if a patient has given their consent. Patient consents can be generated and managed via web interfaces, or in the Patient Consent Manager and Patient Onboarding modules.

Quick and easy to integrate
Support from numerous standard interfaces, such as HL7v2, HL7v3, CDA, FHIR, DICOM and IHE, which can be easily adapted.

Tried and tested in numerous projects
The Orchestra eHealth Suite modules have been used for many years in a large number of national and international projects, and they have been enhanced based on customer requirements.

Master Data Management

Identify patients and service providers across institutions using unique identifiers

Master Patient Index

Identify and connect patient data across institutions

The Master Patient Index module is essential for exchanging medical data between institutions and is a key component of any forward-thinking eHealth strategy. Using a powerful matching algorithm, it compares master data from various systems, links related patient data under a single, unique patient number and creates a golden record. The Master Patient Index can reduce duplicates, help you to set up a cross-institution patient record, support cross-institution processes and improve billing accuracy. It can easily be integrated into existing system landscapes using standard interfaces based on HL7 or IHE integration profiles.

Patient Quality Manager

Tool to check and optimize assignment results

The Patient Quality Manager module provides a graphical user interface for checking and manually assigning patient master data when the match between the master data of similar patients is too weak to merit automatic linking. Task lists give you a quick overview of outstanding assignment tasks, allowing you to compare the corresponding patient master data easily and efficiently. Statistics allow you to continually check and improve the quality of the data and assignments. The module also provides extensive configuration tools for optimizing the matching algorithm in line with customer-specific requirements.

Provider Directory

Directory service for consolidating service provider and institution data

The Provider Directory module is a central index of all service providers and institutions and the relationships between them. Duplicate entries can be identified and merged using powerful algorithms. The automatic generation of unique service provider identities is a key additional benefit when using service provider data across institutions, particularly if you want to integrate local systems from different institutions. Standardized interfaces based on HL7 or IHE integration profiles allow you to store, query or export service provider and organization data. Digital identity certificates (tokens) are created and enhanced with corresponding service provider data, forming a central, cross-institution authentication service.

Provider Quality Manager

Manage and consolidate service provider master data

The Provider Quality Manager module has a graphical user interface where you can manage and manually assign service providers if they do not match existing service provider identities sufficiently to trigger an automatic assignment. In addition, the Provider Quality Manager gives you an overview of existing service provider identities that have been merged, proposing those that are suitable candidates for manual assignment. This creates a central directory with optimum data quality.

Community Health Record

Exchange medical data securely between institutions

Document & Image Exchange

Store documents and images securely and exchange them interoperably

The Document & Image Exchange module contains an IHE XDS-compliant directory of registered documents and image data (document registry) as well as a central location for storing documents (document repository). Existing decentralized document and image archives can also be integrated. A subscription function actively notifies linked primary systems about new or changed data. The module provides extensive authorization functionality and checks electronic patient consents when data is accessed.

Clinical Data Repository

Store and exchange structured medical data

The Clinical Data Repository module stores structured medical data such as lab results, diagnoses, procedures, medications, vaccinations, vital signs and allergies. It provides various HL7 interfaces, ensuring that data can be received securely. By integrating with the Document & Image Exchange module, you can extract data from structured medical documents and call it up in consolidated form as an On-Demand Document. Integrated deduplication and aggregation of redundant data help you keep track of relevant medical information at all times.

Patient Consent Manager

Create and manage electronic patient consents

In the Patient Consent Manager module, it is easy to create and manage electronic patient consents, ensuring that cross-institution data exchange complies with data protection regulations at all times. You can create and save general or institution-specific consents for a patient on the graphical user interface. The Document & Image Exchange module evaluates these consents and automatically adjusts the access rights to the cross-institution patient record. If a patient wishes to withdraw consent, you can display and selectively deactivate existing consent documents.

Maximum protection for medical data
The Orchestra eHealth Suite provides extensive security functions to protect sensitive personal data. These include authentication, encryption, auditing and access logs. In accordance with data protection regulations, access to medical data depends on patient consent and user authorization.

Provider Engagement

Involve cooperating doctors in the treatment process

Provider Onboarding

Create a user account and a doctor entry in the directory service

The Provider Onboarding module allows you to create a user account and use various services. After registering, you can link yourself to your organization and use apps or a web-based provider portal to access patient data that you are authorized to view. The necessary authorization and authentication processes for these apps use OAuth2.

Provider Portal

Service providers can access electronic patient records

The Provider Portal module gives you easy, web-based access to cross-institution electronic patient records. It allows you to see a quick summary of the entire record; use various filtering, grouping and history functions to select and sort documents, images and structured medical data; and view the data in detail. You can also use various communication services that are integrated into the Provider Portal module. You can exchange messages securely in the context of the record, set up personal subscriptions that notify you when new documents are added, upload documents and manage electronic forms.

Equipped for any challenge
The Orchestra eHealth Suite helps you overcome the challenges faced by modern healthcare institutions by using industry standards such as IHE and HL7 FHIR. These are perfect for cross-institution and organization-wide solutions as they can easily be integrated into any environment on a plug-and-play basis. A standardized solution enables customers to easily understand, implement and use it.

Patient Engagement

Involve patients in their treatment process

Patient Onboarding

Create a user account and link it with the corresponding patient record

In the Patient Onboarding module, patients can easily create user accounts, which allows them to use various services. For example, they can access their data in a web-based patient portal or via apps. The necessary security is guaranteed using a two-step self-registration process with email address verification. After registering, the patient can link their user account with the corresponding cross-institution electronic patient record. They can also use the Patient Onboarding module to manage their data exchange consents and to authorize apps to access their data. The necessary authorization and authentication processes for these apps use OAuth2.

Patient Portal

Patients can access their electronic patient records

The Patient Portal module actively includes patients and their relatives in the treatment team. It allows patients to view their medical data, such as doctors' letters, lab results and diagnoses, in their cross-institution electronic patient record. Using the service provider search, patients can quickly find doctors and organizations in their area.

Doctor and patient come together as a treatment team
Web-based portal interfaces make it very easy for patients to access their cross-institution electronic patient records.

Collaboration Extensions

Value-added services for improved collaboration between service providers and patients

Integrated Forms

Create customer-specific forms in a structured manner

The Integrated Forms module allows service providers and patients to record structured data in a sophisticated way. Using electronic questionnaires, the module helps you to record administrative or medical information, such as a patient's medical history or follow-up care details. Once the user has released the forms, they are available in the cross-institution electronic patient record.

Appointments

Store and share patient appointments

The Appointments module stores examination and treatment appointments for patients in a structured, easily accessible format. Appointments can be received via the HL7 messages typically used in hospitals. Using modern HL7 FHIR interfaces (in conjunction with the App Connect module), the received appointments can be displayed in web and mobile applications. The Appointments module therefore takes on an intermediary role between the capabilities and communication standards of existing hospital systems and the applications used by patients and external service providers.
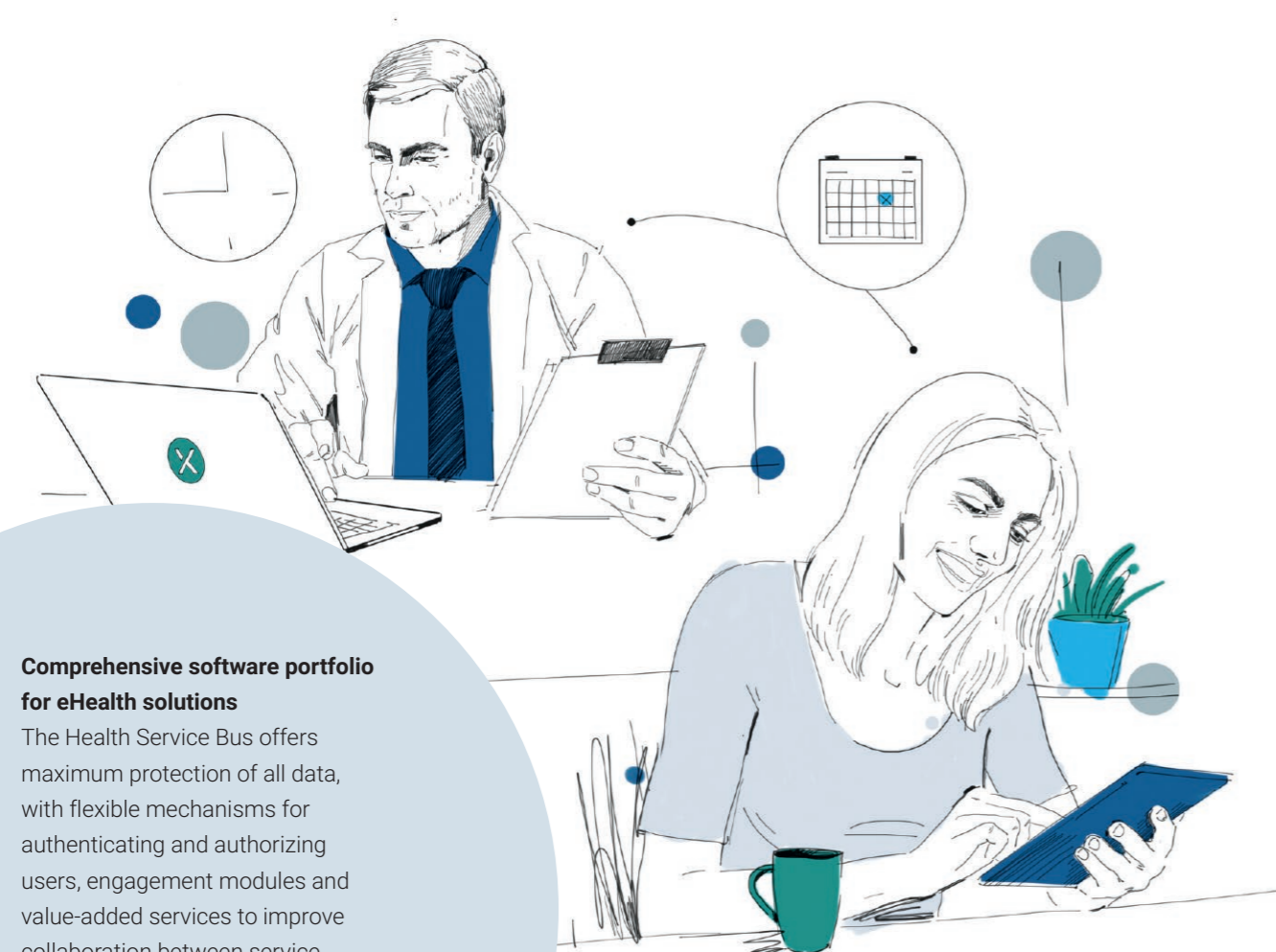
Comprehensive software portfolio for eHealth solutions
The Health Service Bus offers maximum protection of all data, with flexible mechanisms for authenticating and authorizing users, engagement modules and value-added services to improve collaboration between service providers and patients.

Platform Services

Core elements of cross-system interoperability

Terminology Server

Manage terminology and code systems

The Terminology Server allows you to manage and query medical terminology and code systems. The module provides the foundation for a semantically standardized and integrated system landscape that can cover several subsystems. Functions such as version management and cross-mapping make daily medical life easier. The Terminology Server works according to the Common Terminology Services 2 standard (HL7 CTS 2) and the IHE profile SVS when importing and exporting value sets.

Audit Repository

Store audit logs centrally

The Audit Record Repository allows you to log all transactions performed by the Orchestra eHealth Suite modules and integrated systems from beginning to end. The module creates logs not only for read and write accesses to patient master data, medical data and documents, but also when access authorizations are changed, granted or rejected.

The central Audit Repository can process messages in a wide range of audit formats, e.g. IHE ATNA or HL7 FHIR.
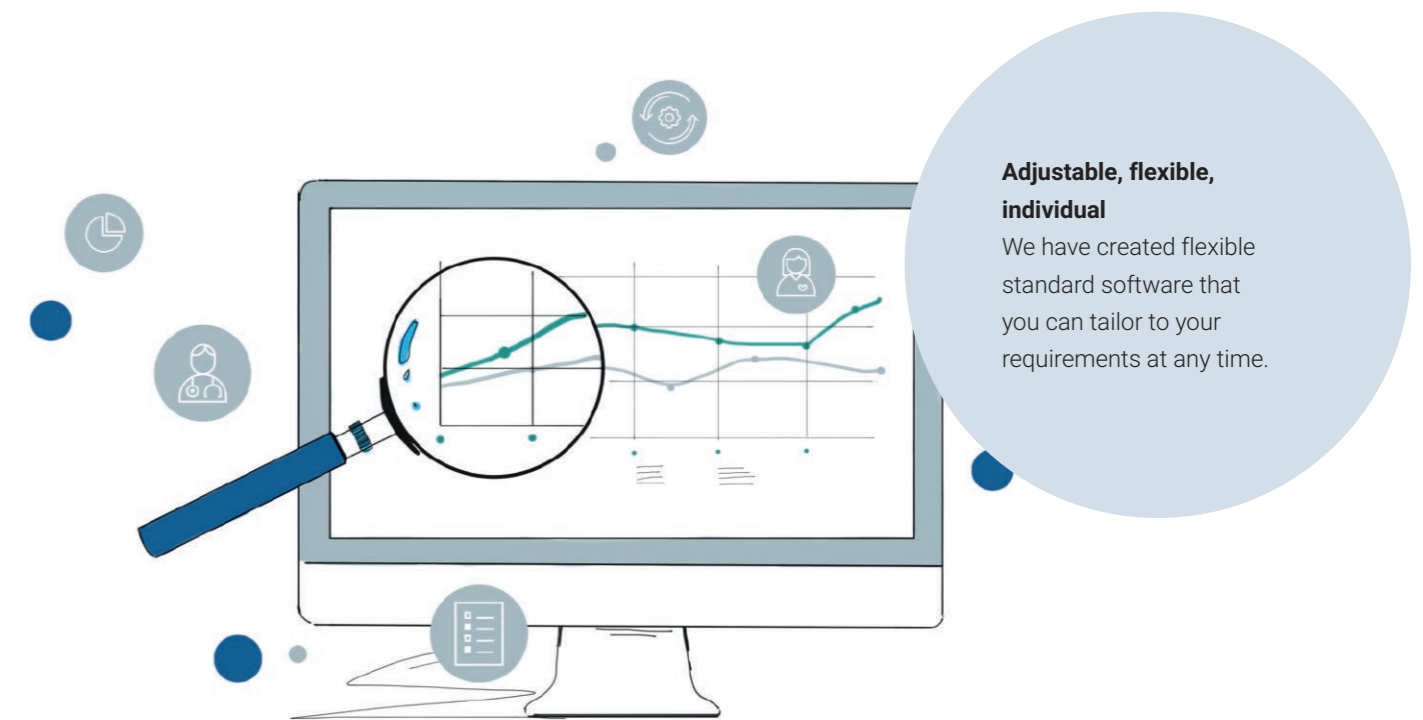
Adjustable, flexible, individual
We have created flexible standard software that you can tailor to your requirements at any time.

Success stories

Let our customers speak for themselves

We are proud of how the x-tention group supports internationally renowned players in healthcare and industry, ensuring the success of their digitalization processes. Each company and sector has its own individual challenges and requirements, and all of them need forward-thinking ideas. Our experience from numerous projects and long-standing business relationships allows us to understand complex requirements and develop the ideal solution for every objective.

St Claraspital
In besten Händen.

GE

HÄVG Hausärztliche Vertragsgemeinschaft AG

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AOK
Die Gesundheitskasse.

Martin Litsch
Chairman of the board, German Federal Association of Public Health Insurance Funds (AOK-Bundesverband)

'In our opinion, connecting the various stakeholders in the healthcare sector will have a positive effect on the care received by our members. We have chosen the x-tention group as our partner for implementing our digital health network and developing the electronic patient record – not least because of their many years of experience working on national and international networking projects.'

UNIVERSITÄT HEIDELBERG
ZUKUNFT SEIT 1386

Oliver Reinhard
Head of the Centre for Information and Medical Technology (ZIM), Heidelberg University Hospital

'When it comes to implementing our PEPA (personal, cross-institution patient record), the x-tention group is our ideal partner for exchanging treatment-related information between cooperating institutions at Heidelberg University Hospital while involving the patient.'

Klinikum
Wels-Grieskirchen

Mag. Dietbert Timmerer
Managing director and director of administration, Wels-Grieskirchen Hospital

'Wels-Grieskirchen Hospital has been a customer and partner from the beginning. We value how x-tention works with us to develop our IT solutions and then maintains and operates them securely. x-tention's sector expertise brings us continued benefits.'

x-tention group

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