

BEWATEC.ConnectedCare

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The Platform for the Digital Patient Journey.



The ConnectedCare digital platform supports and accompanies patients before, during and after their stay in hospital – hardware-independently, across all device worlds. ConnectedCare integrates existing hospital systems and information into a patient-centered platform, thus ensuring maximum investment security and a future-proof solution. From digital check-in from home to numerous services in the hospital to rehabilitation accompaniment – ConnectedCare provides patients with more orientation and comfort, simplifies processes in the hospital and improves the use of resources.

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BENEFIT

1. Added value for patients

More comfort

- Check-in from home
- Shortened waiting times
- Information, communication, interaction in one place
- Guided processes and better orientation
- High-quality entertainment

2. Added value for hospitals

More efficiency

- Prepared patients
- Better scheduling
- Shortened recording times
- Existing documents and information
- Plannable processes
- Involvement of patients in processes (menu ordering, etc)
- Simplified documentation
- Better use of resources

More future security

- Open, interoperable platform with interface standards for additional applications and services
- Hardware and system independent (Android, iOS, web app)
- Full investment security and future security due to highest adaptability of the system

REQUIREMENTS

- High-performance and secure Internet connection
- Modern WLAN infrastructure for patients
- Suitable for end devices from the Android 4.4 generation (KitKat) or iOS 9 (Apple), or higher
- Hardware requirements on-premise components: Minimum 4 cores, 8 GB RAM and 250 GB HDD
- Recommendation: Local entertainment streaming servers to save bandwidth

SCOPE OF SERVICES

1. System and device independence

ConnectedCare is available on all popular mobile devices and professional devices and can be used as a web app or downloaded from the app stores.

BYOD („Bring your own Device“) - patient's own mobile devices

- Hospital reaches patients throughout the patient journey
- Native App (iOS, Android): Download in app store before, during and after the hospital stay
- Web app: during the stay at the hospital

Professional Device – BEWATEC tablet

- Usable during the stay at the hospital
- Powerful hardware component that patients can use directly at the bedside
- Product design specially developed for everyday hospital use
- Meets the highest hygiene standards
- Highest patient comfort and theft-proof thanks to the special BEWATEC mounting systems.

2. Financing and licensing models

BEWATEC offers various financing and licensing models for both software and hardware:

Software

BEWATEC offers the ConnectedCare software platform in two license models, which differ in the scope of the features and modules included:

- **BEWATEC.ConnectedCare Enterprise**
- **BEWATEC.ConnectedCare Entry**

The hospital can choose freely between these two software licenses and through the purchase receives the right to use ConnectedCare on BEWATEC tablets and mobile devices including software maintenance.

The software licenses are charged as a case-based license calculation and can be paid as a one-time payment or, at the customer's request, annually, semi-annually, quarterly or monthly for the minimum term of 60 months.

Hardware

For the hardware, the hospital can choose between two financing options:

1. Purchase of the hardware

One-time purchase of the hardware including related services:

- Room components (BEWATEC tablets, BEWATEC phones, BEWATEC mounting systems etc)
- Central components (VoIP server, WISI Tangram, WISI Inca, IAC Box, etc)
- Software maintenance for central components
- Warranty service for BEWATEC hardware

The hardware becomes the property of the hospital.

2. Hardware rental

The hardware (room components including central components) and the associated services are combined with the desired software license in a complete package.

The remuneration takes the form of a case-based license calculation for the minimum term of 60 months and results from the total package provided by BEWATEC in the case of a full-service model and allocated to the cases.

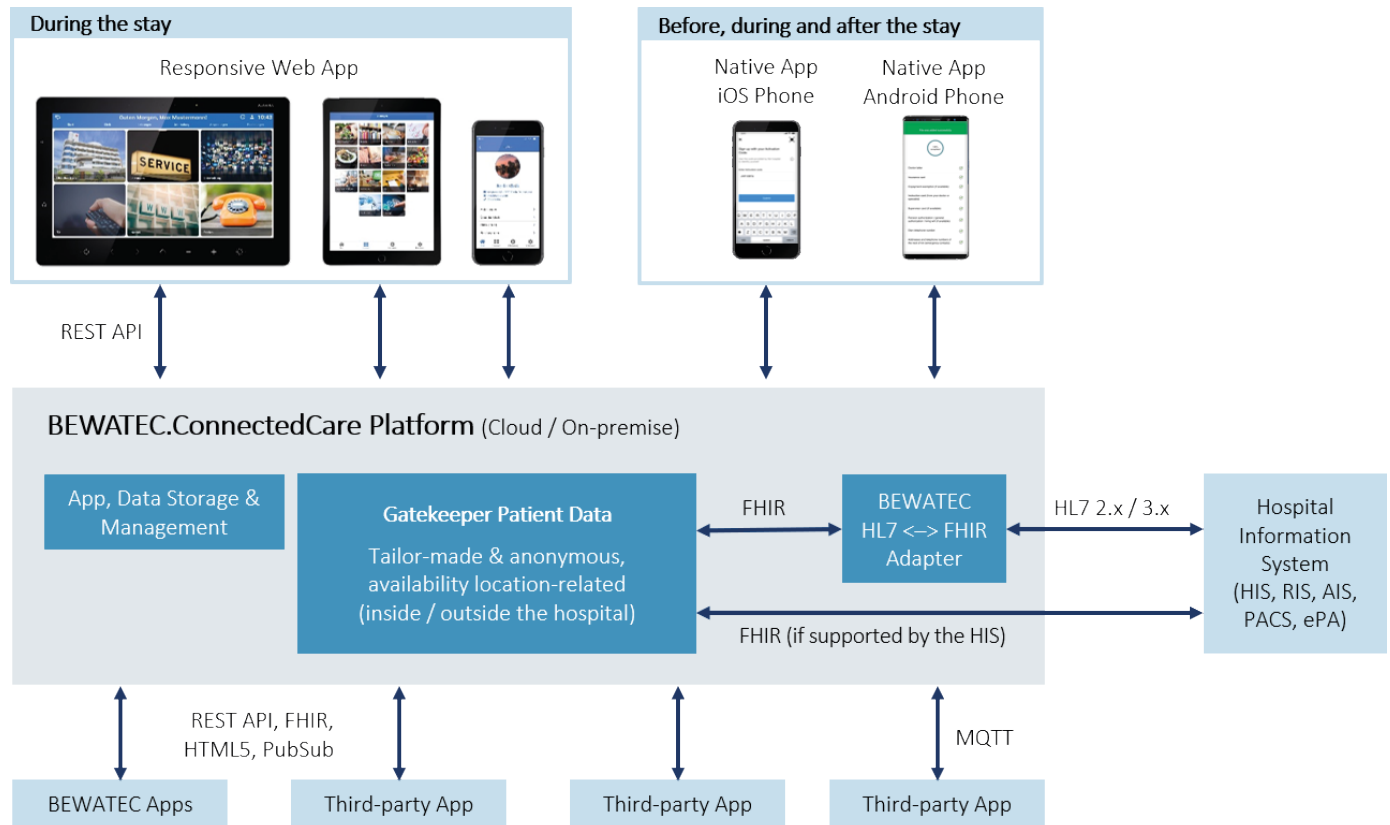
The hardware remains the property of BEWATEC.

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3. Infrastructure, data security and data protection

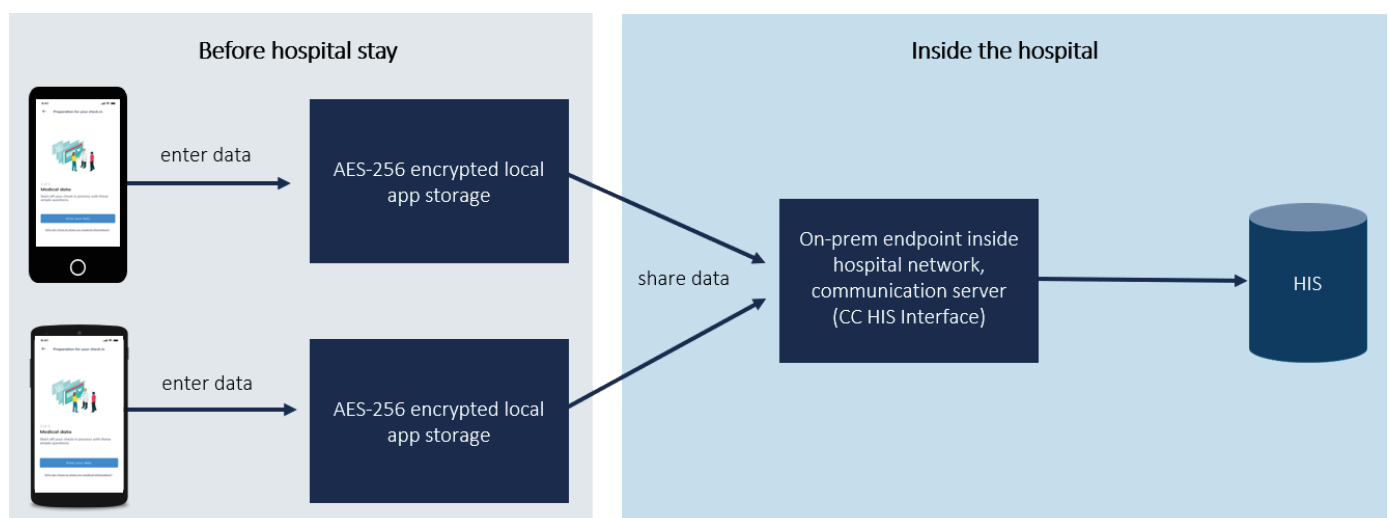
The infrastructure behind ConnectedCare – scalable and high-performance

The entire ConnectedCare infrastructure can be easily integrated into the hospital's IT infrastructure. The following diagram shows the infrastructure of the ConnectedCare platform at a glance:



Secure storage of patient data

The following figure shows the different locations for storing patient data during the Patient Journey with ConnectedCare:

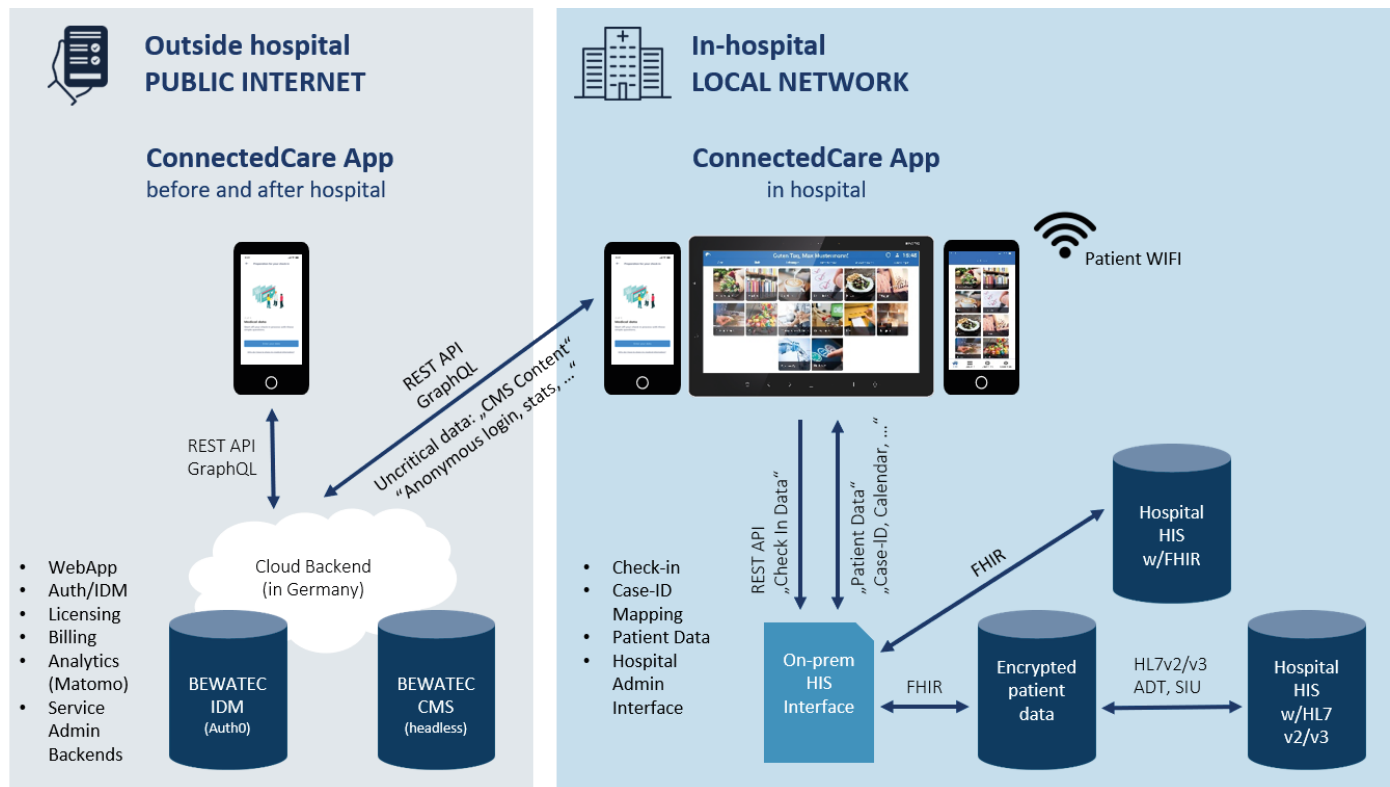


- Two-source storage concept for data: 1. personal and medical data on-premise via HIS; 2. system and process data from the ConnectedCare App via Internet
- Sensitive patient data (from the HIS) is never stored within the ConnectedCare App
- Patients can transmit their data to the HIS in encrypted form via the local hospital network endpoint (communication server) TLS
- The ConnectedCare data protection and data security concept is fully based on the statutory data protection provisions of the federal government and the general data protection requirements of the EU-DSGVO

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Data flow between the ConnectedCare App and the Hospital Information System (HIS)

The following illustration shows in a simplified way the data flow between the ConnectedCare App and the HIS of the hospital as well as the integration of the necessary, relevant system components, which have to be integrated locally into the existing hospital network infrastructure (on-premise):



- Data communication in compliance with data protection regulations using end-to-end encryption up to the HIS interface in the secure hospital-internal network
- Communication between data encrypted by AES-256 on the patient terminal and the hospital's IT infrastructure via standardized interfaces (HL7v2/v3, FHIR, ADT, SIU, etc), which can communicate with all desired system components
- Identity management via Auth0 (currently the world's most trusted identity management solution)
- Patients log in to ConnectedCare with email and password and add their case ID later at the hospital
- If required, the HIS interface can be virtualized for easy maintainability
- The HIS interface is provided by BEWATEC but operated by the hospital – BEWATEC has no access to patient data

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4. ConnectedCare licenses at a glance

ConnectedCare is offered in two different license models: BEWATEC.ConnectedCare Enterprise and BEWATEC.ConnectedCare Entry. The following list shows the included and planned features and modules contained in the licenses, with a note on the usability on BEWATEC Professional Devices and / or mobile devices.

■ available for BEWATEC tablets ■ available for mobile devices ✕ included in standard version ○ optional add-on

(CS) coming soon (already included in release management) N/A not available

time
limited
offer

Modules / Features			Enterprise	Entry
Hospital Content	■	■	✕	✕
Meal Plan	■	■	✕	✕
Indoor Maps	■	■	✕	✕
Push Notifications ¹	■	■	✕	✕
TV and Radio (IP) ^{1, 2}	■	■	✕	✕
Internet / Browser	■		✕	✕
Game Center	■		✕	✕
eBooks Skoobe ²	■	■	✕	✕
Mirror	■		✕	✕
WLAN Client & WLAN Hotspot	■		✕	✕
Weather	■		✕	✕
Map Navigation (Google Maps, Apple Maps)	■	■	✕	✕
Administrational Access to the CMS	■	■	✕	✕
Language Packages	■	■	✕	✕
Patient Survey	■	■	✕	○
Complaint Management	■	■	✕	○
Check-in Services: Check- & packing lists, master data upload, journey planning ³		■	✕	○
Interface HIS (HL7, FHIR, etc) ^{1, 2}	■	■	✕	○
Interface Third-party Apps with Parameter Transfer (Rest API, HTML5, PubSub, MQTT)	■	■	✕	○
BEWATEC.DeviceManagement (mandatory component for BEWATEC tablets)	■		○	○
Telephony ¹	■		○	○
Billing License via BEWATEC tablet ¹	■		○	○
Pay-TV (e.g. Sky) ^{1, 2}	■	(CS)	○	○
eMagazine (e.g. sharemagazines) ^{1, 2}	■	■	○	○
Speech Aid SpeechlessHelp	■		○	○
TV Remote ¹	■		○	○
Room Control (integration third-party app) ^{1, (3), 4}	■	■	○	○
Mouth-Mouse Navigation Bar ²	■		○	○
Eyetracking Skyle ²	■		○	○
Service Booking	■	■	○	○
Shop ⁴	■	■	○	○
Meal Ordering (e.g. OrgaCard, Logimatika, Kost, Sanalogic) ^{1, 2, 3, 4}	■	■	○	○
VideoVisit ^{1, (3)}	■		○	○
Patient Anamnesis Hospital ^{(3), (4)}	■	■	○	○
Service Call ^{1, 4}	■	(CS)	○	○
Video Operating Manual	■	■	✕ (CS)	✕ (CS)
Analytics	■	■	✕ (CS)	✕ (CS)
Check-in Services: Document upload ³ , Patient Anamnesis Home		■	✕ (CS)	○ (CS)
Check-out: Checklists	■	■	✕ (CS)	○ (CS)
Quick Feedback (Smiley Survey)	■	■	✕ (CS)	○ (CS)
Therapy Videos ^{2, 4}	■	■	✕ (CS)	○ (CS)
Video-on-Demand ^{1, 2}	■	■	○ (CS)	○ (CS)
Check-out: Digital Discharge Documents ^{1, 3}	■	■	○ (CS)	○ (CS)
Billing License via BYOD ¹		■	○ (CS)	○ (CS)
Patient Appointments ^{1, 3}	■	■	○ (CS)	○ (CS)
Service Desk ¹	■		○ (CS)	○ (CS)
Indoor Navigation ¹	■	■	○ (CS)	○ (CS)

¹ only in the secured hospital network | ² additional hardware or third-party content / licensing costs | ³ HIS interface required

⁴ interface for third-party apps required

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5. Detailed overview of the ConnectedCare features and modules

The following list describes the features and modules included in ConnectedCare in detail.

Modules / Features	Description
Hospital Content	The Hospital Content feature provides patients before, during and after their stay at the hospital with all relevant information on their mobile devices, e.g. about the wards and facilities of the hospital. In addition, the hospital content is also available to patients within the hospital on the BEWATEC tablets. The content can be maintained independently by the hospital via a CMS (Content Management System). For the introduction of the module, the hospital receives a demo instance including demo content, as well as extensive training in the use of the module's content management system.
Meal Plan	With the Meal Plan Module, patients can view current meal plans on the BEWATEC tablet or their mobile device. The meal plans can be uploaded by the responsible employees in various formats (e.g. PDF) via the content management system.
Indoor Maps	The Indoor Maps Module helps patients find their way around the hospital- for example with location maps on mobile devices and on BEWATEC tablets. Indoor maps can be uploaded by the hospital in various formats (e.g. PDF) via the content management system.
Push Notifications	The Push Notifications feature enables hospitals to send individual messages via the BEWATEC.Device-Management to the BEWATEC tablet at the patient bed. In addition, in the course of check-in services, messages can be sent via ConnectedCare to patients' mobile devices.
TV and Radio (IP)	Activation of the IP-TV / IP-Radio function for use on the mobile devices and on the BEWATEC tablet within the hospital. Necessary hardware components must be ordered separately (TV streamers, head-end transcoders, etc).
Internet / Browser	Activation of the web browser so that patients can surf the Internet on the BEWATEC tablet.
Game Center	The Game Center Module offers patients with entertaining offline games in a secure games pool an expanded entertainment offering on the BEWATEC tablets. The following 10 games are included: aa, Monkey Jump, Puzzle Tap, Sudoku, Unblock, Bubble Shooter, Tap the Frog, Swipe & Don't Fall, Clans Runner and Jewels.
eBooks Skoobe	With the eBooks Skoobe Module Integration, patients can borrow an unlimited number of books and read them on a mobile device or the BEWATEC tablet after creating a user account for a flat rate fee.
Mirror	The Mirror Module enables the patient to activate the webcam built into the BEWATEC tablet and to have his mirror image displayed in real time on the tablet. This module is particularly advantageous for patients who need to train their motor skills due to an accident or medical intervention.
WLAN Client & WLAN Hotspot	WLAN Client: With the WLAN Client, BEWATEC tablets have a WLAN interface in addition to the network interfaces for LAN and Bluetooth. This enables the BEWATEC tablet to connect to an existing hospital WLAN. WLAN Hotspot: Activation of the WLAN function Hotspot, whereby the BEWATEC tablet serves as a WLAN access point for the patient's mobile devices.
Weather	The Weather Module activates a location-related weather display on the BEWATEC tablet for the patient.
Map-Navigation (Google Maps, Apple Maps)	ConnectedCare supports the use of Google Maps and Apple Maps.
Administrational Access to the CMS	Each hospital receives administration access to the content management system (CMS) so that the content in the CMS can be managed and maintained independently by the hospital. Even regularly changing content, such as weekly meal plans, can be easily kept up to date. The CMS ensures that the content is optimally displayed on every type of device- be it a smartphone, tablet, laptop or BEWATEC tablet.

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Language Packages	By activating a language pack, the menu navigation is available in the corresponding language. This only refers to the menu navigation. The availability and automatic change of the language within modules / third-party applications and the clinic's own content is not automatically included here. Language changes relating to hospital content, third-party applications or modules must be implemented separately or agreed with the module providers. The following languages are available: Arabic, Chinese, Croatian, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hebrew, Italian, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Turkish. In addition, the menu interface can be extended by further languages if required.
Patient Survey	With the Patient Survey Module, patients can provide feedback on their hospital stay directly at the patient bed via the BEWATEC tablet or their mobile device. This provides the hospital with an effective instrument for statistical surveys through numerous combinable analysis options. The content can be maintained independently by the hospital via the survey system. Each hospital receives several logins, via which the survey templates can be independently edited and adapted by the responsible employees.
Complaint Management	With the Complaint Management Module, patients can make an ad hoc digital complaint via the BEWATEC tablet or their mobile device, which is forwarded directly to the responsible hospital staff. In addition, the complaints are recorded in a results database and can therefore be evaluated quickly and easily. The complaint form can be maintained independently by the hospital via the complaint management system.
Check-in Services: Check & packing lists, data upload, travel planning	Patients can use various check-in services digitally from home via their mobile devices even before the start of their hospital stay. In addition to the option of entering their master data at home, patients receive useful checklists and advance information, as well as assistance with travel planning. In addition, the hospital can advertise optional and additional services to patients in advance and provide general information about their upcoming stay.
Interface HIS (HL7, FHIR, etc)	The support of the HL7 2.x / 3.x and FHIR interfaces ensures secure data exchange with the hospital information system (HIS). This is used, among other things, for the communication of authentication-relevant patient data. Communication and data exchange take place under strict security protocols so that sensitive data can never be accessed unencrypted (end-to-end encryption). On-premise components are provided for interaction with the HIS.
Interface Third-party Apps with Parameter Transfer (Rest API, HTML5, PubSub, MQTT)	Support for the Rest API, HTML5, PubSub and MQTT interfaces ensures secure and efficient data exchange with third-party apps. Using the interfaces, location or patient parameters, for example, can be transferred to the third-party systems.
BEWATEC.DeviceManagement (mandatory component for BEWATEC tablets)	With BEWATEC.DeviceManagement, hospitals have a centralised system at their disposal with which all BEWATEC devices can be managed easily and efficiently. This license includes access and use of the BEWATEC.DeviceManagement by up to a maximum of three administrators and regular provision of free updates.
Telephony	The Telephony Module activates the IP telephone function on the BEWATEC tablet and enables the use of the telephone application for simple operation via the touch screen of the BEWATEC tablet. The telephone system and other hardware are not included.
Billing License via BEWATEC tablet	Through the integration of a billing system, the hospital will be able to offer and bill patients for paid services via the mobile device and the BEWATEC tablet. For the integration of one of the billing systems supported by BEWATEC, a license of BEWATEC is charged depending on the billing system. The costs for the billing system itself are not included in this license. BEWATEC recommends the accounting system iS.hospital of the manufacturer osoTec GmbH. All other accounting systems must be checked in advance.
Pay-TV (e.g. Sky)	With the Pay-TV Module Integration, Pay-TV broadcasters such as Sky can be provided on the mobile device while taking FSK protection into account. Patient authentication, which can be implemented with the BEWATEC systems, is required to comply with FSK protection. An additional subscription, e.g. from Sky, is required for the use of pay-TV services. Any necessary hardware, such as decoding modules, receivers, CAM modules and smart cards, is not included in the license and must be purchased separately or provided by the pay-TV provider.

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eMagazines (e.g. sharemagazines)	Via the eMagazine Module Integration, an eMagazine library, e.g. from sharemagazines, can be integrated and made available to patients during their hospital stay on BEWATEC tablets and mobile devices. An additional subscription, e.g. to sharemagazines, is required to provide the eMagazines services.
Speaking Aid SpeechlessHelp	With the SpeechlessHelp Module, patients who cannot speak or only with difficulty due to their illness have the opportunity to communicate their wishes and needs via the BEWATEC tablet by means of images and audio tracks. The output language for the nursing staff can also be selected differently from the input language, which simplifies communication with foreign-language patients.
TV Remote	With the TV Remote Module, patients can conveniently and hygienically operate wall TVs via the BEWATEC tablet. This requires the use of supported TV sets from the SAMSUNG Hospitality TV Series 690.
Room Control (integration third-party app)	With the Room Control Module, light, blinds, heating and ventilation etc are controlled simply via an interface on the BEWATEC tablet. This requires the integration of a front-end and back-end solution and a corresponding building management system. For use via mobile devices, the HIS interface is also required.
Mouth-Mouse Navigation Bar	The BEWATEC tablet can be completely operated with a so-called mouth-mouse (HID-Device) via the Mouth-Mouse Navigation Bar Module, even by patients with limited mobility. The navigation bar is displayed at the bottom of the touchscreen.
Eyetracking Skyle	With the Eyetracking Skyle Module Integration, the eye movements of the patient are recorded and converted via so-called „eye tracking“, so that the BEWATEC tablet can be controlled via this. Since the calculation of the point of view is carried out on the hardware of the system itself, no computing capacity of the controlled BEWATEC tablets is required for this.
Service Booking	With the Service Booking Module, patients can use their mobile devices and the BEWATEC tablets to book in-house services – for example, appointments for physiotherapy, applications, hairdressing, massages, etc – and make bookings for in-house services.
Shop	With the Shop Module, the hospital can integrate a kiosk / shop system for its own products and make them available to the patient via the mobile device or the BEWATEC tablet.
Meal Ordering (e.g. OrgaCard, Logimatika, Kost, Sanalogic)	With the Meal Ordering Module Integration, patients can order their own meals during their hospital stay using their mobile device and the BEWATEC tablet. This requires the integration of a front-end and back-end solution of the kitchen system. An interface to the HIS is also required for patient authentication.
VideoVisit	The VideoVisit Module offers valuable support in dealing with infectious diseases: It allows doctors and nurses to connect with their patients for a visit via a video call to the BEWATEC tablet directly at the patient's bed. In this way, physical contact can be greatly reduced for patients with an infectious disease, without having to forego the confidential medical conversation with eye contact. Optionally, the customer's own Active Directory (AD) can be connected via SAML or LDAP. For this purpose the interface HIS is required.
Patient Anamnesis Hospital	With the Module Integration Patient Anamnesis Hospital, patients have the possibility to fill out anamnesis questionnaires during of their stay in the hospital via their mobile devices or via the BEWATEC tablets. Authentication is done manually by the patients in the patient information system. For automated authentication, the interface HIS and third-party apps are also required. For digitally supported patient anamnesis, the integration of a front-end and back-end solution of the patient education system is required.
Service Call	The Service Call Module Integration is a useful addition to the nurse call and can be used by patients on their mobile devices and on BEWATEC tablets. By defining the specific requirements of the patient, the process of communication between patients and nursing staff is made much more efficient, economical and service-oriented.

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Video Operating Manual	In the video operating instructions, the functionalities of the software are clearly explained to the patient, which reduces queries from hospital staff and supports the marketing of chargeable services.
Analytics	The Analytics tool enables the hospital to monitor user behavior (data is professionally anonymized, BI reports on the use of the system, GDPR-compliant).
Check-in Services: Document upload, Patient Anamnesis Home	Patients can already fill in anamnesis forms and provide documents digitally via their mobile devices before they go to hospital. These are transferred to the hospital during check-in by means of encrypted data transmission (data protection-compliant).
Check-out: Checklists	Patients receive digital checklists via their mobile devices and the BEWATEC tablet, which they can use to optimally prepare for their discharge and the time after their stay in hospital.
Quick Feedback (Smiley Survey)	The Quick Feedback Module provides hospitals with a powerful tool for measuring customer satisfaction via the BEWATEC tablet or the patient's own mobile devices. With individual questions and simple answers via smileys, hospitals can immediately find out how satisfied their patients are. Due to its simplicity, this type of survey generates a significantly higher response rate than conventional survey methods.
Therapy Videos	With the Therapy Videos Module, the hospital can provide its patients with therapy-accompanying information and instructions in the form of videos, texts and images via the mobile device and the BEWATEC tablet. In this way, the hospital can provide its patients with videos and information accompanying therapy before, during and after their stay in the hospital. The content must be provided by the hospital and made available via the content management system.
Video-on-Demand	With the Video-on-Demand Module Integration, patients can be offered a library of films that can be called up at any time within the hospital via the BEWATEC tablet and the mobile device. An additional subscription and additional hardware may be required to provide the video-on-demand services.
Check-out: Digital Discharge Documents	With the Check-out Module, the hospital can digitally send discharge documents to its patients on discharge. The information and data is then not only available to the patient himself via his mobile device, but he can also release it for his further treating physicians.
Billing License via BYOD	The billing license via BYOD enables the clinic to offer and bill patients for fee-based services via their mobile device. Any hardware required is not included in the license and must be purchased separately.
Patient Appointments	With the Patient Appointments Module, hospitals have the opportunity to show their patients upcoming appointments on their mobile devices and on the BEWATEC tablets during their hospital stay.
Service Desk	The Service Desk is an access-protected area on the BEWATEC tablets – especially for accessing service-oriented modules which may only be viewed and used by nursing staff / doctors. For example, a nurse / doctor can authenticate himself by inserting an NFC service card into the card reader of the BEWATEC tablet and thereby start an RDP client with preconfigured parameters.
Indoor Navigation	Improvement of orientation in the building and reduction of search times through the integration of digitized maps including a link to existing access points.

For Sales and Support please contact your local BEWATEC partner

Connexus Communications Limited
Unit D2
Baldonnell Business Park, Naas Road, Dublin 22,
D22 Y940
Ireland
T: 00 353 1 4105866, info@connexus.ie www.connexus.ie

