Softwares for MRT and CT:

Description

Software STORAGE PLUS PACKAGE is optional hardware for EXCELART, VISARD, FLEXART. In increases the main memory size of the host computer and the image disk storage capacity in order to handle the larger number of acquired images.

Software EXCELART Vantage Atlas SYSTEM UPGRADE PACKAGE the performance of the gradient power supply from a slew rate of 130 mT/m/ms to 200 mT/m/ms and supports more sequence features such as shorter minimum TR,TE and ETS (echo time spacing) values.

Software Dicom media option system permits images acquired using the Canon (Toshiba) CT scanner systems (all models) to be recorded on a CD-R. CD-Rs on which images are recorded conform to DICOM Digital Imaging and Communication in Medicine 3.0 standards and can be played back using not only Canon (Toshiba) CT scanner systems, but also other CD-R review station conforming to DICOM 3.0 standards.

Software Dual energy system allows an anatomical region to be scanned twice using different tube voltages and tube currents.

Software Raw data storage system is used to receive raw data via a network (Ethernet) from a CT scanner and store it on the HDD. This raw data storage system can be connected to the following CT systems.

Software Raw data storage system is used to receive raw data via a network (Ethernet) from a CT scanner and store it on the HDD or write to Blu-ray Disc (BD).

Software Thin slice kit makes it possible to scan 0.8/0.6 mm slices using the CT scanners, in additional to the currently available six slice thicknesses.

CT Software upgrade kit the system software to V5.00 or later for the X-ray CT scanner.

Software Raw data storage is designer to receive raw data acquired using the whole-body multislice X-ray CT scanner all models via an Ethernet network and save it in local HDD or an advanced intelligent tape (AIT).

Software Cardio Scoring is designer to calculate Ca scores in calcium evaluation based on non-contrast- enhanced ECG-gated CT data.

Software Cerebral blood perfusion study permits quantitative cerebral blood flow analysis to be performed using a CT scanner. Blood flow characteristics are analyzed based on the dynamic scan images obtained and the results are displayed as map images.

Software Quantitative bone mineral study system make it possible to calculate the bone mineral equivalent with high precision.

Software Cardiac function analysis is used to analyze cardiac function using data obtained by performing cardiac MPR processing for ECG-gated scan data according to the cardiac axis.

Software Multislice CT SYSTEM UPGRADE KIT for CT is designed to update the performance of the CT 8-slice system to generate 16 slice or 16-slice system to generate 32 slice per rotation using the Selectable Slice-thickness Multi-row Detector (SSMD).

Software Cardiac function analysis is used to analyze cardiac function using data obtained by performing cardiac MPR processing for ECG-gated CT data.

Software Body organ perfusion application analyzes the blood perfusion of an organ administering an iodinated contrast medium during a dynamic volumetric CT scan procedure

Software Colon view is a comprehensive tool for examining the colon using CT images.

Software 3D angio image display is for processing of the three-dimensional display from data generated by the X-ray reconstruction unit.

Software HIGH-ORDER SHIM KIT provides an additional high-order shimming function for Canon MRI systems.

Software CPU UPGRADE KIT is installed in Canon MRI systems to reduce the image reconstruction

time and system response time.

Software Pianissimo Plus Imaging PACKAGE for the EXSELAR (MRT-1500/P2,R2 and MRT-1051/P3,Q3,R3, MRT-1501/P2,Q2,R2). It reduce acoustic noise of some existing pulse sequences during examinations, offering a more comfortable and quiet environment for the patient.

The Software Cardiac Analysis Application is an optional package for Canon MRI systems.

The Software Cardiac Package is an optional package for Canon MRI systems. This package provides new imaging functions as well as pulse sequences that are useful for cardiac imaging.

The Software Contrast Free MRA Application is an optional application for Canon MRI systems. This application expands the functions of the Vascular package Contrast Free MRA.

Software DICOM 3.0 has several kinds of service class for Canon MRI system. The following service classes independently.

The Software DTI Application is an optional application for Canon MRI systems. This application provides new pulse sequences for DTI and new functions for imaging and post-processing in order to expand the functions of Neuro package.

The Software DTT Application is an optional package for Canon MRI systems. This application provides post processing software for Diffusion Tensor Tractography, which expands the range of clinical applications.

The Software Cardio Line Application is an optional package for Canon MRI systems. This application provides positioning assist functions for cardiac scans, which makes scan operations easier.

Software Display system upgrades the system software version 5.0 for dental application is used with images loaded in the MPR application. The system employs a number of cross-sectional X-ray CT images to reconstruct an image in a plane along the dental arch and images perpendicular to the plane, thus providing useful information for the diagnosis of diseases of the teeth and oral cavity.

Software CX Reconstruction Kit upgrades the system software version 5.0 for the Aquilion 64-detector row system with the cone Xact 3D volume reconstruction algorithm.

CT Software Upgrade Kit upgrades the system software version 5.0 for the X-ray CT scanner.

The Software Neuro Line application is an optional package for Canon MRI systems. This application provides positioning assist function for Head scan operations easier.

The Software Multi Voxel MRS application is an optional application for Canon MRI systems. This application provides advanced functions for proton spectroscopy. Proton spectroscopy provides spectral and metabolic information for enhanced diagnostic confidence in neuro examinations and is fully integrated in the imaging routine.

The Software Single Voxel MRS Application is an optional application for Canon MRI systems. This application provides new functions for proton spectroscopy analysis in order to expand the function of Neuro Package.

Proton spectroscopy provides spectral and metabolic information for enhanced diagnostic confidence in neuro examinations and is fully integrated in the imaging routine.

The Software Neuro Package is an optional package for Canon MRI systems. This package provides new pulse sequences for diffusion imaging, dynamic contrast imaging, and BOLD imaging as well as new imaging functions in order to expand the range of clinical applications.

This software supports automatic contour detection of the left ventricle, volume calculation, and wall-motion analysis. XIDF-QCA801 is a QCA (quantitative coronary analysis) and LVA (left ventricular analysis) software package for use in clinical practice and research. This software features automatic contour detection of the artery of interest and analysis of its dimensions.

This software supports automatic contour detection of the left ventricle, volume calculation, and wall-motion analysis XIDF-QCA802 is an LVA_BP (left ventricular analysis-biplane) software package

for use in clinical practice and research.

Software package for use in clinical practice and research.XIDF-QCA803 is a QVA (quantitative vessel analysis). The QVA software is used for quantitative analysis of blood vessel such as the aorta, iliac arteries, renal arteries, etc. QVA supports automatic contour detection for vessels up to 50 mm in diameter.

This software features automatic contour detection of the artery of interest and analysis of it dimensions. XIDF-QCA804 is a QCA (quantitative coronary analysis) and QVA (quantitative vessel analysis) software package for use in clinical practice and research.

QCA can be applied to an acquired image during coronary diagnosis and PCI. QVA software is intended for quantitative analysis of blood vessels as the aorta, iliac arteries, renal arteries, etc.

Software ADVANCED PROTON SPECTROSCOPY PACKAGE is optional for the Vantage and EXCELART systems. It enables data acquisition and processing for multivoxel proton spectroscopy. Proton spectroscopy provides spectral and metabolic information for enhanced diagnostic confidence in neuro examinations and is fully integrated in the imaging routine.

Software Proton SPECTROSCOPY PACKAGE is optional for the Vantage and EXCELART systems. Proton spectroscopy provides spectral and metabolic information for enhanced diagnostic confidence in neuro examinations and is fully integrated in the imaging routine.

Software Cardiac R6 PACKAGE is an optional package for the magnetic resonance imaging (MRI) system EXCELART Vantage series. This package provides new functions that are useful for cardiac function analysis in order to expand the range of clinical applications.

Software DRKS R6 PACKAGE is an optional package for the magnetic resonance imaging (MRI) system EXCELART Vantage series.

This package provides new pulse sequences that are effective for contrast MRA* imaging as well as new imaging functions.

Software DTIRS R6 PACKAGE is an optional package for the magnetic resonance imaging (MRI) system EXCELART Vantage series. This package provides new pulse sequences for DTI and new functions for imaging and post-processing in order to expand the range of clinical applications.

Software EPI R6 PACKAGE is an optional package for the magnetic resonance imaging (MRI) system EXCELART Vantage series. This package provides new pulse sequences for diffusion imaging, perfusion imaging, and fMRI (BOLD effect) as well as new imaging functions in order to expand the range of clinical applications.

Software F2 EDITION PRO PACKAGE is an optional package for the magnetic resonance imaging (MRI) system EXCELART Vantage. This package upgrades the Toshiba (Canon) MRI system software and adds pulse sequences to expand the system's clinical applications

Software SuperFASE R6 PACKAGE is an optional package for the magnetic resonance imaging (MRI) system EXCELART Vantage series. This package provides new pulse sequences that are effective for vascular imaging etc. and new imaging functions in order to expand the range of clinical applications.

Description Softwares Navigation System for neurosurgery, Spine, Trauma procedures etc.:

The Platform Origin Operating System facilitates intelligent and automatic synchronization of data between platforms and offers easy access to all new software capabilities. Universal patient data management software, that allows for import of patient data in DICOM format on 3rd Party systems. Easy and intuitive user interface for streamlined access to patient data and applications.

1. GENERIC ORIGIN FEATURES

- Full control with support of touch gesture interaction, as well as mouse and keyboard support
- Advanced data import & export features (PACS, USB, CD/DVD, Quentry and network folder)
- Support of various modalities including CT, MR, PET/SPECT, X-ray
- PACS access via DICOM "Query/Retrieve" and "Push" (compatible to all standard conform PACS systems)
- Receipt of data via DICOM "Push" and support of DICOM worklists
- Automatic content configuration of OR displays based on user pre-defined setups
- Optional HIS integration via HL7 interface (message types: SIU, ADT, ORM requires Origin Integration of HIS)
- Intelligent export of screenshots (.png or DICOM) and video recordings (.mp4 or DICOM) via DICOM "C-Store"
- Advanced patient data management tools including new patient creation, merging and editing
- · HIPAA-compliant feature set including authentication, accountability log and automatic log-off
- Easy to service through link to remote support (Connected Care)

2. ORIGIN SERVER SOFTWARE FEATURES

When installed on Node Server or compatible 3rd party servers, Origin Data Management includes Origin Server Software either for full planning or for image viewing workflows. It enables access to applications from any desktop PC, laptop or tablet connected to the hospital network (LAN/ WLAN / Internet) either from inside or outside the hospital.

- Mac OS and iOS devices compatible
- Full SSL encryption through HTTPS for higher security
- Scalability through Server Clustering with Load Balancing (e.g. Monte Carlo advanced dose calculation)
- Session Sharing and team planning functionality
- Fully web based image viewing workflow no client installation or configuration required
- Single Sign On (SSO) and support for Invoke Image Display IHE profile
- Software License valid for users within one clinical institution, concurrent users licensing model
- Each license contains 1 concurrent session
- Available on Node Server or Customer Server
- Allows remote access to all treatment planning applications

INCLUDED SERVICES

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Minimum Screen Resolution also for Client Monitors (Radiotherapy): 1920 x 1200

- Image Fusion with distortion correction possibilities for cranial MR data sets
- More accurate anatomical co-registrations through local deformations based on multi-ROI rigid fusions
- Adaptation of distorted MR against reference MR (e.g. DTI to T1) as well as MR to CT
- Generation of an adapted, artificial DICOM data set co-registered to the reference data set
- Automatic content update like objects and landmarks according to the new registration field
- Supports automatic and interactive segmentation on new data sets
- Direct comparison of distortion corrected with conventional results through toggling
- Colored deformation grid highlights local deformations for detailed inspection
- Amber-blue color overlay and spyglass functionality complement the verification toolsREQUIREMENTS
- Software Image Fusion

PLATFORM COMPATIBILITY:

- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation station

LIMITED PLATFORM COMPATIBILITY:

- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.
- 3D stereoscopic image viewing for O.R. or office
- View 3D volume renderings created by Software VIEWER 3D in real stereoscopic 3D
- Requires 3D display: either through article 3D DISPLAY CART or display purchased separately by customer
- Requires Software VIEWER 3D
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Quick and easy interactive 3D contouring tool for outlining of cranial vascular structures

- Side-by-side outlining on 2D DSA images and fused 3D image series
- Delineation of clinical target under consideration of dynamic contrast flow
- Visualization of 2D DSA projection as Color Intensity Projections (CIP)
- Proposal of nidus object
- Seamless outlining and fine-tuning of objects with SmartBrush, 2D and 3D Brush in 3D image data and in DSA projections
- Dedicated view layouts with selection of various fused 2D DSA pairs
- · Creation of multiple nidus objects for staging and follow-up
- Further usage of vascular object in navigation and RT Planning workflow

Pre-Requistes: Software Image Fusion Angio

INSTALLATION REQUIREMENTS:

Software can be installed on the supported hardware, 3rd party platforms or virtual machines, as long as the software and hardware requirements are fulfilled.

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Fibertracking enables the processing of diffusion imaging, highlighting detailed information about eloquent white matter structures.

- Combined deterministic and dual-tensor tracking for visualization of relationship between lesions and white matter tracts
- Region-of-interest based tracking using built-in simple ROI Brush, semi-automatic (Software SmartBrush) or automatic (Software Anatomical Mapping) segmentations
- Individual combination of live tracking with static regions-of-interest to tune results
- User-defined and anatomy-specific tracking templates available
- Intuitive user interface for manual adjustment of tracking parameters and instant update of fiber tracking results
- Fully automated DICOM DTI Data Preprocessing including De-noising, Motion- and Eddy Current Correction
- Conversion of results into 3D objects for use with 3rd party RT applications (requires Software DICOM RT EXPORT)
- Automatic calculation of colored fractional anisotropy (FA) and anisotropic diffusion coefficient (ADC) maps
- Support of DICOM DTI data from Siemens, Philips, GE and manufacturers using standard DICOM MR diffusion information (at least 6 and up to 256 directions)

REQUIREMENTS:

Software IMAGE FUSION

INSTALLATION REQUIREMENTS:

• Software can be installed on the supported hardware, 3rd party platforms or virtual machines, as long as the software and hardware requirements are fulfilled.

PLATFORM COMPATIBILITY:

- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation station

LIMITED PLATFORM COMPATIBILITY:

- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

- Automated feasibility analysis of Stereotactic Radiosurgery/Radiotherapy for residual benign brain tumors during surgery
- SRS/SRT-plan feasibility analysis aims at reducing surgery times and decreasing morbidity by providing criteria for concluding subtotal resection
- Fully automatic planning and re-planning based on initial or updated tumor volume
- Automated simulation and intuitive side-by-side comparison of single fractionated, hypo-fractionated, and conventional fractionated treatment plans
- Automatic consideration of critical structure dose constraints
- Intuitive "traffic-light" display enables plan assessment by non-radiation oncologists
- Template based maximum and mean dose limits
- Comprehensive visualization of plan results: dose volume histogram, including dose conformity and constraints, and visualization of the dose distribution
- Optimized for navigation system
- Includes training which will be delivered in the most appropriate format at the discretion of including: onsite training at the customer facility or remote training via Learning Management System
- Software related updates and upgrades as well as 24/7 hotline support are covered by a separate Maintenance Service Contract "Software AHSA" and need to be purchased separately for each Software in the portfolio.

PRE-REQUISITES

• Software Viewer 3D, Segmentation Cranial, Image Fusion, SmartBrush, Intraoperative Structure Update (Navigation station Only)

TECHNICAL REQUIREMENTS

- Planning station Digital OR
- Navigation System with Cranial 3.0 or higher
- Node Server
- Node Customer Hardware
- Planning Workstation 7 Premium or higher
- For third party workstation refer to "RT Software Installation requirements" attached to this quote

- Planning of multiple trajectories for neurosurgical approaches
- Flexible 3D shapes for case-specific trajectory visualization (e.g. DBS leads, sEEG electrodes, shunts, biopsy needles etc.)
- Target and Entry can be displayed in DICOM image coordinates
- Apply safety margin around trajectories e.g. for BenGun approaches
- Verification of trajectories in Axial, Coronal, Sagittal, Probe's Eye and Inline reconstructions
- Fully integrated with Elem Software ents Cranial Distortion Correction, Basal Ganglia Segmentation, Fibertracking and Smartbrush
- Combined visualization of supplemental information such as Fibertracks, Nuclei and Leads
- · Multiple view layouts for optimal interactive target, entry and trajectory planning
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

PLATFORM COMPATIBILITY

- Minimum version of Patient Data Manager: 2.3
- Planning station Digital OR
- Navigation systems
- Planning workstations which meet minimum technical requirements
- Customer workstations which meet minimum technical requirements. Quotation of article 10959 CUSTOMER HARDWARE ID is mandatory
- Node server or customer server which meet minimum technical requirements

- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024
- Processor: 2 physical cores
- RAM: 4 GB

Software Lead Localization allows for automatic localization of implanted leads in post-operative CT scans.

- · Automatic detection of implanted leads in CT scans
- Manual editing of detected lead position
- Flexible 3D shapes for case-specific trajectory visualization (e.g. DBS leads, sEEG electrodes, shunts, biopsy needles etc.)
- Apply pre-defined Boston Scientific 3D lead templates to detected implants
- Adjust the orientation of Boston Scientific directional leads
- Verification of trajectories in Axial, Coronal, Sagittal, Probe's Eye and Inline reconstructions
- Fully integrated with Software Cranial Distortion Correction, Basal Ganglia Segmentation, Fibertracking and Smartbrush
- Combined visualization of supplemental information such as Fibertracks, Nuclei and Leads
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

PLATFORM COMPATIBILITY

- Minimum version of Patient Data Manager: 2.3
- Planning station Digital OR
- Navigation systems
- Planning workstations which meet minimum technical requirements
- Customer workstations which meet minimum technical requirements. Quotation of article 10959 CUSTOMER HARDWARE ID is mandatory
- Node server or customer server which meet minimum technical requirementsREQUIREMENTS
- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024
- Processor: 2 physical cores
- RAM: 4 GB

With Software Stereotaxy trajectories can be planned for both frame-based or non-frame based procedures. For frame-based stereotactic procedures Software Stereotaxy includes both Localization (MRI and CT) and Arc-Coordinate Calculation modules for a variety of stereotactic frame systems.

- Requires Software TRAJECTORY PLANNING CRANIAL
- Stereotactic localization of MR/CT images
- Intuitive definition of AC, PC and mid-sagittal-plane
- Definition of the trajectory (Target and Entry) in AC/PC relative Coordinates (Distances and Angles)
- Target and Entry displayed in AC/PC and DICOM image coordinates
- Multi-modal image based trajectory planning in stereotactically unlocalized images prior to surgery
- Supports various mounting orientations for supported frames(e.g. lateral-left, lateral-right, sagittal-anterior, sagittal-posterior)
- Automatic calculation & PDF print out of specific arc settings
- Planning of multiple trajectories for neurosurgical approaches
- Flexible 3D shapes for case-specific trajectory visualization (e.g. DBS leads, sEEG electrodes, shunts, biopsy needles etc.)
- · Adjust the orientation of Boston Scientific directional leads
- Apply pre-defined Boston Scientific 3D lead templates
- Apply safety margin around trajectories e.g. for BenGun approaches
- Verification of trajectories in Axial, Coronal, Sagittal, Probe's Eye and Inline reconstructions
- Fully integrated with Software Cranial Distortion Correction, Basal Ganglia Segmentation, Fibertracking and Smartbrush
- Combined visualization of supplemental information such as Fibertracks, Nuclei and Leads
- Precise distance measurement tool
- Multiple view layouts for optimal interactive target, entry and trajectory planning
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

INTEGRATION OF ONE OF THE FOLLOWING HARDWARE COMBINATIONS

Supported Combinations: Localizer / Headring / Arc SystemSee technical specification document for all details about supported configurations (e.g. plates)Elekta

- Vantage MR Indicator / Vantage Coordinate Frame / Vantage Multipurpose Arc
- Open CT Indicator / Coordinate Frame G / Multipurpose Arc
- Open MR Indicator / Coordinate Frame G / Multipurpose Arc
- CT Indicator / Coordinate Frame G / Multipurpose Arc
- MR Indicator / Coordinate Frame G / Multipurpose Arc Integra
- BRW-LF / HRA-IM / CRW-ASL
- BRW-LF / HRA-IM / Precision CRW
- BRW-LF / UCHR-AP / CRW-ASL
- BRW-LF / UCHR-AP / Precision CRW
- UCLF-0 / UCHR-AP / CRW-ASL
- UCLF-0 / UCHR-AP / Precision CRW
- LL01 / UCHR-AP / CRW-ASL
- LL01 / UCHR-AP / Precision CRW Inomed
- Revision R / Titanium Ring / ZD Arc
- Revision U / Open Ceramic Headring / ZD ArcPLATFORM COMPATIBILITY
- Minimum version of Patient Data Manager: 2.3
- Planning station Digital OR
- Navigation systems
- Planning workstations which meet minimum technical requirements

- Customer workstations which meet minimum technical requirements. Quotation of article 10959 CUSTOMER HARDWARE ID is mandatory
- Node server or customer server which meet minimum technical requirementsREQUIREMENTS
- Operating System: Windows 7 (64-bit) with Service Pack 1
- Graphics: DirectX 11 compatible with 512MB graphics memory
- Display resolution: 1280x1024Processor: 2 physical cores
- RAM: 4 GB

- segmented 3D objects are permanently added to MRI DICOM image data (burned-in) as contours or surface.
- DICOM compliant 3rd party applications are able to load these image series and use the burned-in 3D objects e.g. by using thresholding algorithms

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

INSTALLATION REQUIREMENTS:

Software can be installed on the supported hardware, 3rd party platforms or virtual machines, as long as the software and hardware requirements are fulfilled.

- Export of 3D objects, markers and image fusion data as DICOM RT "Struct"
- Enables the usage of Software results with any other to 3rd party RT application

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

INSTALLATION REQUIREMENTS:

Software can be installed on the supported hardware, 3rd party platforms or virtual machines, as long as the software and hardware requirements are fulfilled.

Intelligent, indication-specific Smart Views for cranial indications exploiting anatomical information from Anatomical Mapping

- Dedicated Smart Views for aneurysm, pituitary adenoma and brain tumor
- Decide on surgical approach based on multi-modal 3D visualization
- Indication-specific 3D visualization of relevant anatomical structures
- Interactive visualization of superficial veins of the brain and vessels surrounding tumor
- Automatic, region-of-interest specific 3D visualization of aneurysm and surrounding vessels
- Textbooklike visualization of anatomical structures
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

PLATFORM COMPATIBILITY

- Planning station, Navigation station
- Planning station, Navigation station only with "Remote Processing for Software "
- Customer planning stations or servers which meet Minimum Technical Requirements

- Software VIEWER 3D
- Software IMAGE FUSION
- Software SMARTBRUSH
- Software AUTOMATIC SEGMENTATION CRANIAL
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Intelligent, indication-specific Smart Views for spinal indications exploiting anatomical information from Anatomical Mapping

- · Automatic, anatomically aligned multi-planar reconstructions along the spinal cord
- Effortless assessment of pedicle anatomy
- Quick and easy estimation of screw dimensions
- Intraoperative or postoperative verification of screw placement
- Optimize workflow by preparing views in the office and access them later in the O.R.PLATFORM COMPATIBILITY
- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Planning station (requires Performance Upgrade Kit for)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)

- Software Viewer 3D
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Quick and easy interactive 3D contouring tool for outlining of pathologies and anatomical structures in medical images.

- Instant volume generation by outlining on just two orthogonal slices using multi-modal "Side by Side" or axial, coronal and sagittal view configurations
- Intelligent contour propagation with ambient edge detection supporting various CT, MR, CBCT or PET sequence
- Point coordinates and multi-line distance measurement support approach-planning
- Fast contour adaptation using "SimpleBrush" or "SmartBrush" modes
- Threshold segmentation based on user-defined intensity values e.g. for vessels, burned-in objects or fractures
- Intuitive user interface with both mouse and touch control compatibility
- Automatic creation of "Volumetric Report" PDF files per object with representative screenshots and details on geometrical measurements like volume, RECIST and MacDonald criteria
- Smooth creation of additional organs at risk or objects, based on Software SEGMENTATION (optional)
- Expandable with SmartBrush Angio for neurovascular indications

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

INSTALLATION REQUIREMENTS:

Software can be installed on the supported hardware, 3rd party platforms or virtual machines, as long as the software and hardware requirements are fulfilled.

Automatic segmentation of anatomical brain structures on MR and CT- data sets

- Structures include, but are not limited to: Brainstem, Cerebrum, Chiasm, Geniculate Body, Optic Nerve, Optic Tract, Precentral Gyrus, Temporal Lobe, Ventricles (20+ more objects)
- Thorough Anatomical Mapping based on a Synthetic Tissue Model
- Automatic body part detection
- Customizable list of objects to be segmented depending on workflow and clinical protocol
- Immediate data processing upon patient selection configurable
- Teaching tool for visualization and identification of patient anatomy in diagnostic images

PLATFORM COMPATIBILITY:

- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation station

LIMITED PLATFORM COMPATIBILITY:

- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

- Automatic MR-based segmentation of structures in the basal ganglia region
- Thorough Anatomical Mapping based on Synthetic Tissue Model
- Synthetic Tissue Model definition supported by 7T MRI
- Automatic body part detection
- Customizable list of objects to be segmented depending on workflow and clinical protocol
- Immediate data processing upon patient selection configurable
- Teaching tool for visualization and identification of patient anatomy in diagnostic images
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

PLATFORM SUPPORT

- Planning station, Navigation station
- Planning station, Navigation station only with Remote Processing for Software
- Customer planning stations or servers which meet Minimum Technical Requirements

Object Manipulation is a versatile and streamlined toolbox in order to quickly generate, review, manipulate and edit organs at risk and anatomical structures. Furthermore, Object Manipulation allows for quick and precise virtual reconstruction of bony anatomy.

- Template based organs at risk generation and defining of favorite structures
- Optimized 2D/3D view layout enables fast navigation and review of organs at risk
- 6 degree of freedom object manipulation incl. user friendly adjustment of rotation point of objects and measurement grid for enhanced positioning of objects
- Interactive Smart Shaper ensures rapid volumetric optimization of contoured structures
- Intuitive boolean operation tools allow Copy, Union, Subtraction and Intersection operations
- Safety margins can be easily added to multiple objects at the same time
- Measurement functions for angles(2), distance and traverse lines
- Point Measurement (HU / grey value, DICOM coordinates)(3)
- Mirroring function of segmented objects for utilization as virtual templates for reconstructions of defect/malformed/non-existing bony structures
- Auto-Match function enables surface to surface- or volume alignment of implants to segmented anatomical structures(1)
- Smart RT structure type assignment
- Intuitive user interface with both mouse and touch control compatibility
- Smooth creation of additional organs at risk or objects throughout the body based on Software SEGMENTATION
- Selection of different 2D and 3D interpolation brush types, based on Software SMARTBRUSH
- Allows import of 3rd party binary STL files to integrate standard or customized implants for treatment planning, based on Software IMPORT / EXPORT(2)
- Enables export of 3D objects using the binary STL file format for rapidprototyping of medical models or manufacturing of customized implants, based on Software IMPORT / EXPORT(2)REQUIREMENTS: This application reveals its full potential if combined with Software SEGMENTATION, Software IMPORT / EXPORT, Software SMARTBRUSH articles

INSTALLATION REQUIREMENTS:

Software can be installed on the supported platforms, 3rd party computer hardware or virtual machines, as long as the software and hardware requirements are fulfilled.

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.(1) only supported by Craniomaxillofacial Workflow(2) only supported by Craniomaxillofacial and Spinal Workflows(3) only supported by Cranial Workflow

- Automatic segmentation of anatomical vertebrae, spinal cord and spinal canal on CT data sets
- Objects are created for each anatomical structure, which can be visualized in spine planning, navigation and augmented reality applications
- Thorough Anatomical Mapping based on Synthetic Tissue Model
- Automatic body part detection
- Customizable list of objects to be segmented depending on workflow and clinical protocol
- Immediate data processing upon patient selection configurable
- Teaching tool for visualization and identification of patient anatomy in diagnostic imagesPLATFORM COMPATIBILITY
- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Software Virtual iMRI Cranial facilitates the continued use of preoperative treatment plans by elastically morphing preoperative data in order to match with intraoperative CT or MR images.

- Compensation of surgery-related brainshift due to resection, loss of liquor/CSF and other effects
- Multi-modal deformable co-registration (independent of the modality used intraoperatively CT or MR)
- · Intra-operative plan update including anatomic, vascular and functional data
- No need for repetition of related planning steps like fiber tractography or image segmentation
- Anatomical localization of stiff and soft structures with synthetic tissue model
- Biomechanical simulation of brainshift by using a finite element model
- Creation of virtual MR images showing an updated intraoperative status and enabling the continuous use with the navigation system

REQUIREMENTS:SOFTWARE:

- Software Segmentation Cranial
- Automatic Image registration (AIR)
- Origin Data Management
- Software Image Fusion
- Software SmartBrush
- Cranial Navigation

INSTALLATION REQUIREMENTS:

• Software can be installed on the supported hardware, 3rd party platforms or virtual machines, as long as the software and hardware requirements are fulfilled.

PLATFORM COMPATIBILITY:

- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation station

LIMITED PLATFORM COMPATIBILITY:

- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

- High resolution, volumetric maps separating regions of contrast clearance from contrast accumulation over time
- Supports assessment and clinical decision making before, during and after Cranial treatments
- Serves clinical specialties from Radiotherapy, Neurosurgery to Neuro-Oncology
- Color-coded visualization of accumulation and clearance regions without overlap
- Calculated from delayed contrast MRIs which are acquired with a delay of more than one hour
- Acquisition of cranial, delayed contrast MRIs is a mandatory imaging requirement
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

PLATFORM SUPPORT

- Planning station
- Planning station, Navigation station only with Remote Processing for Software
- Customer planning stations or servers which meet Minimum Technical Requirements

- Review of medical image data in Mixed Reality
- View 3D volume renderings and native 2D image data created by Software VIEWER 3D in Mixed Reality
- Laser sword" functionality to interact with the image data and to point at anatomical structures of interest
- Collaboration mode with up to four participants in one session. Everybody is seeing the same anatomical model allowing to jointly discuss the clinical case.
- Requires Software VIEWER 3D
- Requires MAGIC LEAP ONE MEDICAL. Several units are required to take advantage of collaboration mode.
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio. 22 | 26334 | Software CURVATURE CORRECTION SPINE
- Multi-rigid Image Fusion tailored to adapt spine curvature and match multiple vertebrae from MR-to-CT or CT-to-CT
- Enables multi-modality target definition with SmartBrush Spine in Spine SRS procedures
- Enables multi-modality planning and intra-operative plan updates for Spine IGS procedures including Airo
- Multi-level vertebrae co-registration based on multi-ROI rigid fusions
- Automatic ROI definition per vertebrae based on Anatomical Mapping separating bony from soft tissue
- Makes cumbersome, manual ROI setting for local rigid fusions obsolete
- Generation of an adapted, artificial DICOM data set co-registered to the reference data set
- · Automatic content update like objects and landmarks according to the new registration field
- Supports interactive segmentation on new data sets
- · Direct comparison of curvature corrected with rigid alignment results through toggling
- Colored deformation grid highlights local deformations for detailed inspection
- Amber-blue color overlay and spyglass functionality complement the verification toolsPLATFORM COMPATIBILITY
- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation station

LIMITED PLATFORM COMPATIBILITY

- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally recommended: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Ele Software ments (Server)REQUIREMENTS
- Software Image Fusion
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

- Fast and precise fusion, based on mutual information algorithm enables to exploit all anatomical & functional data sets simultaneously
- Automatic fusion of numerous modalities including CT, MRI (T1, T2, FLAIR, MRA), PET, SPECT
- Automatic pair selection with instantaneous pre-alignment and fusion
- Possibility of manual fine-adjustments in all dimensions
- Definition of a "Region of Interest" in all dimensions to exclude areas from fusion
- Color overlay in amber-blue and Spyglass functionality for reviews
- · Ability to fuse a series of image datasets from different modalities and points of time
- Compatible with datasets of various body regions
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

PLATFORM SUPPORT

- Planning station, Navigation station
- Customer planning stations or servers which meet Minimum Technical Requirements

- Intuitive image viewing, manipulation and data enrichment software specifically developed for surgeons
- Instantaneous, high-quality 3D visualization for analysis by and increased diagnostic confidence of the surgeon.
- 3D volume rendering of CT, MR, PET, SPECT datasets, with presets for visualization of skin, bone, vessel, DRR and MIP
- Toggle functionality to select between default and anatomical-specific textures and view anatomical data based on personal preferences
- Manual or automatical alignment of ACS and 3D views along the Frankfurter horizontal plane
- Superimposition of 3D dataset visualization and surgical planning data (volume objects, trajectories and labeled points)
- 3D multi-planar reconstructions in multiple planes (axial, coronal, sagittal, oblique)
- Concurrent display of multiple medical image series with flexible hanging protocols
- Image annotations and measurement functions for distance, angles and circles
- Selection of region of interest to cut and zoom onto the relevant anatomical volume
- Crop functionality to cut viewing plane into 3D visualization along any freely definable direction
- Equipment removal functionality from 2D and 3D reconstructions for better anatomical viewing
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Planning Software to enable planning of screws and trajectories for Spine & Trauma procedures.

- Manual planning of any type of screws on CT, XT and MR
- Automatic planning of thoracic and lumbar pedicle screws on CT
- Automatic rod visualization and rod length estimation on CT
- Different screw visualization options
- Runs on all navigation platforms as well as PC/ServerPLATFORM COMPATIBILITY
- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation station LIMITED PLATFORM COMPATIBILITY
- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally recommended: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

- Automatic segmentation of anatomical Craniomaxillofacial structures on MR- and CT- data sets
- Structures include, but are not limited to: Ethmoid Bone, Eye, Frontal Bone, LeFort I / II / III Template, Mandible, Maxilla, Skull, Optic Nerve, Orbit (20+ more objects)
- Thorough Anatomical Mapping based on a Synthetic Tissue Model
- Automatic body part detection
- Customizable list of objects to be segmented depending on workflow and clinical protocol
- Immediate data processing upon patient selection configurable
- Teaching tool for visualization and identification of patient anatomy in diagnostic imagesPLATFORM COMPATIBILITY
- 3rd party Planning Workstations and Servers (which meet minimum technical requirements)
- Planning station
- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Planning station (requires Performance Upgrade Kit)
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)INCLUDED SERVICES
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Frameless co-registration of 2D angiography data and 3D vascular image sets

- Robust fusion of 2D DSA projections and 3D volumetric image data
- Usage of diagnostic data for planning to avoid additional scanning with localizer frame
- Support of multiple 2D DSA acquisitions: frontal, lateral and oblique angles to support the outlining from different perspectives
- Manual selection of 2D and 3D fusion pairs enabled
- Selection of ROI (Left/Right, Basilar Artery) to support the co-registration
- Colored visualization of blood contrast flow for better recognition of early and late contrast phase
- Further usage of co-registration in navigation workflow and Software SmartBrush Angio
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Generic article for different data formats for comprehensive virtual preoperative treatment planning:

- Enables the Export of 3D objects as STL file format for rapid prototyping of 3D models or manufacturing of customized implants
- Allows the Import of 3rd party STL files into Software to integrate standard or customized implants for treatment planning (1)
- Segmented 3D objects are permanently added to MRI DICOM image data (burned-in) as contours or surface
- DICOM compliant 3rd party applications are able to load these image series and use the burned-in 3D objects e.g. by using thresholding algorithms(1) only supported by Craniomaxillofacial and Spinal Workflows

INCLUDED SERVICES:

- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

REQUIREMENTS:

For STL Import the article

Software OBJECT MANIPULATION is required

INSTALLATION REQUIREMENTS:

Software can be installed on the supported software platforms, 3rd party computer hardware or virtual machines, as long as the software and hardware requirements are fulfilled.

Navigation software for image-guided neurosurgery.

- Smart composition of view layouts provides optimal data selection based on available patient data
- Navigation on multiple fused data sets (e.g. CT, MR, FLAIR, MRA, DSA, PET, SPECT)
- Intuitive customization and population of 3, 4 or 6 views layouts viadrag-and-drop
- Individually configurable navigation views (selection between multiple 2D reconstructions and 3D visualizations)
- Overlay of fused CT and ultrasound image sets consolidates relevant anatomical details of different modalities in one view
- Adjustment of overlay threshold and transparency for direct comparison with underlying dataset
- 3D Smart Approach view simulates path from incision to defined target structure with dynamic zoom, optimizing spatial orientation
- Dynamic 3D view visualizes patient data with a cut perpendicular to the instrument plane to visualize the structures surrounding the instrument
- Display of fibers in true red-green-blue color code for detailed functional information
- Real-time tracking and visualization of navigated instruments (e.g. Cranial Pointer, Microscope, Ultrasound, etc.) in 2D and 3D navigation views
- In-plane distance measurement between navigated instrument tip and anatomical landmark
- Smart, virtual extension of navigated instrument to the center of the defined target structure visualizes deep-seated anatomy supporting approach planning
- Definition of view center to adjust the data seen in a view, e.g. both the navigated instrument tip and a deep-seated lesion
- Digitizing of anatomical landmarks for later reference and documentation
- · Acquisition of instrument offset defines a trajectory and supports biopsy planning
- Screenshot feature for documentation purposesAPPROACH PLANNING SUPPORT
- 3D Smart Approach view: Automatic 3D visualization of bone (MR-based when no CT available), cortex, cerebrum and cortical vessels (based on MRI T1 with contrast agent) summarizes relevant information
- Virtual scrolling through 3D patient plan reveals underlying anatomy and planned objects providing guidance during approach planning
- Virtual scalpel simulates craniotomy and creates a bone flap object that can be exported and saved for documentation purposes
- Choice of Approach Planes (relative to instrument, patient position and setup), Inline reconstructions and Axial, Coronal and Sagittal views

REQUIREMENTS

- Registration Software Cranial
- Navigation Pointer Cranial/ENT
- Patient Reference Array Cranial (2 pcs)
- Patient Reference Attachment Arm OPTIONAL
- Navigation Software Cranial Extension Angio Instrument Setup Software Cranial/ENT
- Alignment Software VarioGuide
- Patient Reference Attachment Universal
- Patient Reference Package Skull Mounted

PLATFORM COMPATIBILITY

- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Navigation station (requires Performance Upgrade Kit)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care

 From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio. 	ł

Extension of Navigation Software Cranial to support neurovascular surgery.

- Dedicated navigation layouts consisting of co-registered pairs of 2D DSA and 3D angiographies and axial, coronal and sagittal views uniting blood flow and anatomical information
- Nidus object (created with Software SmartBrush Angio) displayed on navigation data to support approach planning
- Visualization of 2D DSA data as Color Intensity Projection (CIP) to differentiate early and late contrast flow phases
- Interactive display of dynamic color-coded contrast flow projections to analyze surgical targetREQUIREMENTS
- Navigation Software Cranial
- Software Image Fusion Angio

OPTIONAL

- Software SmartBrush Angio
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Software for registration of cranial patient data for image-guided neurosurgery.

- Paired points matching technique to correlate image set to patient anatomy
- Anatomical landmarks or marker-based patient registration
- Semiautomatic Multi-Modality Donut Marker detection
- Registration based on pre-operative CT or MRI data sets
- Planning of anatomical landmarks for "Rescue Registration" in case of registration loss

REQUIREMENTS

- Navigation Software Cranial
- Softouch Registration Pointer

OPTIONAL

- Registration Software Extension Surface Matching Cranial
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Extension of Registration Software Cranial to support surface matching registration of cranial patient data for image-guided neurosurgery.

- Registration based on available CT or MRI patient data
- Minimizes skin-shift inaccuracies compared to marker-based registration methods
- Pre-registration based on guide points acquisition for a more robust registration result
- 3D display of patient data for registration area identification
- 3D threshold adjustment for optimized registration results
- Animated registration 'guide' for set-up and tool specific support with continual feedback
- Contactless acquisition of surface registration points on patients skin with Z-touch Laser Registration Pointer
- Selective acquisition of registration points with the Softouch Registration Pointer anywhere on the patients skin to support challenging patient positioning, i.e. prone position
- Acoustic and visual registration status information
- Automatic correlation of acquired surface points with anatomical data
- Easy verification of registration result through display of acquired points in the 3D patient data view

- Registration Software Cranial
- Z-touch Laser Registration Pointer
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Software to integrate instruments for image-guided neuro- and ENT surgery.

- Surgical instrument integration with diameter, length and instrument trajectory using instrument adapters (S, M, L, XL clamps and M, ML, L, XL arrays) and Instrument Calibration Matrix
- Pathway control of instruments through pre- or user-defined Inline and Probe's Eye navigation views
- Visualization of patient data and instrument shapes in 3D for comprising overviews and improved spatial orientationREQUIREMENTS
- Navigation Software Cranial or Navigation Software Cranial/ENT
- Instrument Calibration Matrix
- Instrument Integration Accessory Package (2 Sizes)

OPTIONAL

- Instrument Integration Accessory Package (4 Sizes)
- Instrument Adapter Clamp (Cylindrical Instruments)
- Instrument Adapter Clamp (Rectangular Instruments)
- Instrument Adapter Offset 45°
- Multiple Tip Pointer Package
- Instrument Set ENT (5 Tips)
- Instrument Set ENT Extension Structure Acquisition (2 Tips)
- Instrument Suctions Package (Set of 4)
- Instrument Suctions Package (Set of 7)
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Software for precise alignment of the VarioGuide to a defined trajectory.

- Dialog box guided step-by-step adjustment of VarioGuide joints
- Dialog box auto-proceed function minimizes user interaction during alignment process
- Alignment summary with quantitative deviation measurement for result verification

- VarioGuide Alignment System
- T-Adapter Headholder
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Virtual intraoperative acquisition of structures for real-time update of patient data.

- Anatomical structures and objects are marked according to navigated instrument tip
- Visualization of objects relative to anatomical structures
- Intraoperative comparison of treatment plan with actual outcome
- Optimized visualization and documentation of resection results

REQUIREMENTS

- Navigation Software Cranial/ENT
- Instrument Setup Software Cranial/ENT
- Multiple Tip Pointer Package
- Instrument Set Extension Structure Acquisition (2 Tips)
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Enables intraoperative point acquisition to define resection cavity using a navigated instrument.

- Modification of preoperatively defined tumor object based on acquired surface points
- Live simulation of object modification during surface acquisition in axial, coronal and sagittal views
- 3D object update upon completion of point acquisition
- Export of updated object for use with Software Adaptive Hybrid Surgery Analysis

- Navigations Software Cranial or Navigation Software Cranial/ENT
- Instrument Setup Software Cranial/ENT
- Software SmartBrush
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Registration software to support surface matching registration of cranial and ENT patient data for image-guided neuro- and ENT surgery.

- Registration based on available CT or MRI patient data
- Minimizes skin-shift inaccuracies compared to marker-based registration methods
- Pre-registration based on guide points acquisition for a more robust registration result
- Registration result rating (good, medium) for increased safety
- Color-coded registration accuracy mapping with pointer distance to surface indication
- Possibility to acquire additional registration points to "improve" registration result
- 3D display of patient data for registration area identification
- 3D threshold adjustment for optimized registration results
- Animated registration 'guide' for set-up and tool specific support with continual feedback
- Contactless acquisition of surface registration points on patients skin with Z-touch Laser Registration Pointer
- Selective acquisition of registration points with the Softouch Registration Pointer anywhere on the patients skin to support challenging patient positioning, i.e. prone position
- Acoustic and visual registration status information
- Automatic correlation of acquired surface points with anatomical data
- Easy verification of registration result through display of acquired points in the 3D patient data view

- Navigation Software Cranial/ENT
- Z-touch Laser Registration Pointer
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Image-guided surgery software for Spine and Trauma navigation:

- Real-time tracking and 2D/3D visualization of a pointer and of up to 4 instruments simultaneously in various views
- Compatibility to multiple pre- and intraoperative imaging and registration options (CT, XT and MR)
- Large variety of navigation view options (Inline and Probe's eye views, 3D view, DRR view, Cropped DRR view, Autopilot view)
- Simultaneous navigation on multiple fused datasets (e.g. MR, XT; in combination with Software Image Fusion)
- Overlay of preplanned objects into navigation views (e.g. tumor volume, screws; in combination with Planning Software)
- Automatic anatomy based centering of navigation view to eliminate manual adjustments and simplify MIS procedure workflows
- Automatic selection of navigation views based on the approach and orientation of the instrument (e.g. for pedicle screws or SI screws)
- Quick adjustment of navigation views to the curvature of the spine to see both pedicles in a locally aligned axial view in complex deformity and scoliosis cases
- Instrument based intraoperative screw planning

PLATFORM COMPATIBILITY

- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Navigation station (requires Performance Upgrade Kit)
- Planning station (requires Performance Upgrade Kit)

- Accessory Package Spine Basic
- Registration Software Spine
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Instrument Setup Software for Spine and Trauma navigation:

- Enables the preparation of multiple instruments such as drill guides, pedicle access needles, taps, screwdrivers and chisels for the use with the Navigation Software Spine & Trauma 3D
- Includes many predefined instruments from software, DePuy Synthes and Aesculap with assembly instructions, specific visualizations and accuracy check
- Other 3rd party instruments can be calibrated with different visualization possibilities
- Enables a quick and remote-controlled re-calibration method for screwdrivers, when screw sizes are changed during the procedure
- Frequently used instruments can be stored as favorites for a more streamlined and efficient instrument setup workflow

PLATFORM COMPATIBILITY

- Planning Navigation station (Ceiling-Mounted)
- Navigation station

LIMITED PLATFORM COMPATIBILITY

Navigation station (requires Performance Upgrade Kit)

- Accessory Package Spine Basic
- Navigation Software Spine & Trauma 3D
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Manual registration for Spine and Trauma navigation:

- Points are planned in the dataset and acquired with the navigation pointer ("Paired Points").
- Registration works on CT and XT datasets
- Supports Disposable Clip-on Remote Control for more streamlined point acquisition.

PLATFORM COMPATIBILITY

- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Navigation station (requires Performance Upgrade Kit)

- Accessory Package Spine Basic
- Navigation Software Spine & Trauma 3D
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Manual surface-matching registration for Spine and Trauma navigation:

- Points are acquired with the pointer and automatically matched to the bone surface in the dataset.
- Integrated video guidance supports the user during the acquisition.
- Automatic monitoring of achieved registration accuracy and improvement suggestions if applicable.
- Supports Disposable Clip-on Remote Control for more streamlined point acquisition.

PLATFORM COMPATIBILITY

- Planning Navigation station (Ceiling-Mounted)
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Navigation station (requires Performance Upgrade Kit)

- Accessory Package Spine Basic
- Navigation Software Spine & Trauma 3D
- Registration Software Spine
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Software for combining intraoperative ultrasound images with navigated patient data using various ultrasound systems from 3rd party company "BK Medical". Full Digital Integration of bkActiv, bk5000 and Flex Focus 800 ultrasound systems.

- Newest product features:**Complementing cranial navigation systems, Ultrasound Navigation allows the integration of an affordable real-time imaging solution with small foot-print suitable for almost every neurosurgical O.R.Version 1.1 addresses what neurosurgeons are truly looking for:
- Automated workflows reduce screen interaction for less disruptive clinical workflows.**o Automatic switch into 3D scan mode and automatic start/stop of 3D scan via intelligent instrument detection without any screen interaction at any time during surgery to rapidly obtain updated patient data for navigation. Helps to minimize workflow disruptions.o Automatic application switch to and from Cranial Navigation 4 via optical instrument detection additionally reduces user interaction with the system.o Automatic detection of selected angle for "Hockeystick" X18L5s BK medical probe
- Improved acquisition of 3D ultrasound data
- delivers optimal image qualityDigital integration of top-notch quality ultrasound systems by BK Ultrasound dedicated for neurosurgery
- Detailed Feature Set:**
- High-quality display of digitally transmitted live ultrasound images
- Support of unlimited number of pre-calibrated probes for plug-and-play ultrasound integration
- Automatic probe and settings recognition (e.g. depth, gain, freeze) by the navigation system
- Continuous tracking of ultrasound probe via the Ultrasound Navigation Adapter Array provides improved orientation and interpretation of ultrasound data
- Ultrasound cone plane visualization in the preoperative MRI/CT data set in axial, coronal and sagittal view orientation
- Colored superimposition of live 2D ultrasound image onto pre-operative and intra-operative MRI/CT data set enables assessment of intraoperative anatomical changes
- Superimposition of pre-operatively (on CT/MR) outlined structures directly onto 2D and 3D ultrasound images for comparison with surgical plan
- Time-synchronized acquisition of improved 3D ultrasound data sets (compared to analog ultrasound integration)
- Navigation in reconstructed 2D views (axial, coronal, sagittal) of intraoperatively acquired 3D ultrasound data sets
- True plug and play due to service calibrated probes

- Minimum Cranial Navigation software 3.1.3
- Minimum PDM 2.4
- Minium Tracking Service 4.0
- Depending on ultrasound machine the corresponding Ultrasound Integration Hardware Package
- License/software by 3rd party manufacturer BK Medical for Flex Focus 800 : UA1518 Neuro Pro
- License/software by 3rd party manufacturer BK Medical for bk5000: UA2334 NeuroNavigation
- License/software by 3rd party manufacturer BK Medical for bkActiv: UA2620 Neuro Navigation
- Only specific BK probes are supported. Get in touch with your contact person in order to receive an up to date list of compatible BK probes. Further 3rd party manufacturer licenses/software might be applicable. Please get in touch with your local BK Medical representative. PLATFORM COMPATIBILTY
- Planning Navigation station (Ceiling-Mounted)
- Navigation station Ceiling-Mounted Dual Display
- Navigation station Ceiling-Mounted Single Display
- Navigation station Dual Display
- Navigation station Single Display
- Navigation station Dual Navigation System

- Navigation station Dual Navigation System
- Navigation station System
- Navigation station (only in combination with performance upgrade)NOTES
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio

This software eliminates the need for manual registration and the problem of limited access to anatomical landmarks for an optimized and convenient workflow, especially after patient draping.

- Automatic registration of intraoperative images from one intraoperative imaging device.
- After manual data transfer each intraoperative scan is immediately available at a navigation station. Includes for the first year after initial installation related software updates and upgrades within terms of use. Additional service costs occur, if not installed remotely via Connected Care. From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.
- Platform Compatibility**
- Navigation station System (vers. 1.x with performance upgrade only)
- Navigation station System (vers. 2.x)
- Navigation station
- Navigation station Ceiling-Mounted
- Planning Navigation station System
 Software Compatibility
- Patient Data Manager 2.6
- Spine & Trauma Navigation Software 1.5IMPORTANT NOTICEIt is the user's responsibility to configure the imaging device, the OR table including all positioning aids as well as the patient reference array supporting the image acquisition of anatomical ROI and all CT markers of the registration matrix. The latter needs to be visible in the 3D Dataset for a successful automatic registration. We recommends the setup of a direct network connection between the intra operative scanner and the navigation station for an easy data transfer.

Automatic image registration with 3D C-Arms for Spine and Trauma navigation:

- Automatic registration of intraoperative 3D C-Arm scans during open or minimally-invasive procedures
- Pre-calibrated tracking arrays and a digital protocol enable a streamlined and automatic registration process with direct and automatic exchange of DICOM data and the system status• An intuitive GUI visualizes the system status, tracking information and enables remote camera adjustments3D C-ARM COMPATIBILITY(additional costs from C-arm manufacturer may apply)
- Ziehm RFD
- Siemens Arcadis Orbic
- Siemens Cios Spin
- GE OEC 3DPLATFORM COMPATIBILITY
- Planning Navigation station (Ceiling-Mounted)
- Navigation station Ceiling-Mounted
- Navigation stationLIMITED PLATFORM COMPATIBILITY
- Navigation station (requires Performance Upgrade Kit)

- Accessory Package Spine Basic
- Navigation Software Spine & Trauma 3D
- Registration Kit depending on the 3D C-Arm model
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Microscope Navigation software for the integration of surgical microscopes and robotic visualization systems from Haag-Streit (formerly Moeller-Wedel), Leica and Zeiss.

- Integration of multiple microscopes and robotic visualization systems per navigation system
- Seamless integration with Navigation Software Spine & Trauma 3D and Cranial/ENT
- Further enhanced visualization of objects and captivating view compositions in 4K (available with Navigation station)
- Easier setup through plug and play cabling (available with Navigation station) and instant autodetection of connected device and its tracking array position
- Improved ease-of-use with system-assisted user calibration
- Application prestart allows for immediate image injection without further manual interaction
- Microscope tracking with visualization of optical axis and its focal point as instrument tip
- Reconstructed "Probe's Eye" view displays patient dataset according to microscope orientationREQUIREMENTS
- Navigation Software Cranial/ENT, Navigation Software Spine & Trauma 3D
- Microscope Adapter With Tracking Array (model-dependent)
- Interface Cables Microscope Integration

PLATFORM COMPATIBILITY

- Planning Navigation station (Ceiling-Mounted)
- Navigation station Ceiling-Mounted (ZEISS KINEVO 900 Standard with 3DOF Robotics only)
- Navigation station
- Navigation station (Haag-Streit/Moeller not supported)
- Navigation station (ZEISS KINEVO 900 & TIVATO 700 not supported)
- Navigation station (Haag-Streit/Moeller not supported)

LIMITED PLATFORM COMPATIBILITY

- Navigation station (requires Performance Upgrade Kit, ZEISS KINEVO 900 Standard with 3DOF Robotics only)
- Navigation station (requires Performance Upgrade Kit, ZEISS KINEVO 900 & TIVATO 700 not supported)
- Additionally required: Remote Processing for Software (Client) combined with a Node or 3rd party Server with Remote Processing for Software (Server)SUPPORTED DEVICES
- ZEISS KINEVO 900 (Standard and Advanced)
- ZEISS TIVATO 700 (Advanced)
- ZEISS OPMI PENTERO 900
- ZEISS OPMI PENTERO 800
- ZEISS OPMI PENTERO / PENTERO C
- LEICA ARVEO 8
- LEICA ARVEO / M530 OH6
- LEICA M530 OHX (requires SDI Video Out for Navigation station)
- LEICA M720 OH5/OHC5
- LEICA M525 OH4/OHC4
- HAAG-STREIT 5-1000 (HS Hi-R 1000 + FS 5-33)
- HAAG-STREIT 3-1000 (HS Hi-R 1000 + FS 3-43) TERMS AND CONDITIONS
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Extends Navigation Software Microscope with Head-Up Display and Video Overlay functionality.

- Visualization of planned structures injected as outlines into ocular
- Visualization of injected outlines as video overlay on navigation screen
- Displayed structures include anatomical objects, fiber tracts, trajectories and points
- View selection includes 'Probe's Eye' and 'Augmented Outlines'
- Ergonomic remote control of navigation functionality via microscope handle
- For an optimal workflow following additional software is recommended: Software SmartBrush, Software Fibertracking, Software Trajectory Planning and Software Segmentation Cranial

- Navigation Software Microscope
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Extends Navigation Software Cranial Extension Head-Up Display with Augmented Reality and Navigation Update functionality.

- Visualization of planned structures injected as semi-transparent volumes into ocular
- Visualization of injected volumes as video overlay on navigation screen
- Augmented structures include anatomical objects, fiber tracts, trajectories and points
- View selection includes 'Probe's Eye', 'Augmented Volumes', virtual 360° 'Target' view and 'Overview'
- Picture-in-Picture view selection includes 'Probe's Eye', 'Target', 'Navigation+Volumes' and 'Navigation' (axial, coronal, sagittal)
- Touch-based rotation of any microscope view on the navigation screen
- Compensation for anatomy shift by matching vessels (Maximum Intensity Projection) or planned objects with anatomy seen
- Immediate, adjustable Maximum Intensity Projection for navigated data set
- · Smart autofocus on navigated instrument tip
- For an optimal workflow following additional software is recommended: Software SmartBrush, Software Fibertracking, Software Trajectory Planning and Software Segmentation Cranial

- Navigation Software Microscope Extension Head-Up Display
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.

Extends Navigation Software Microscope Extension Augmented Reality with Robotic Movement (6DOF) functionality for the Robotic Visualization System ZEISS KINEVO 900.

- Automatic follow and focus to navigated instruments tip (i.e. tool tracking with smart autofocus)
- On demand full robotic parallel alignment (in six degrees of freedom) and focus to planned trajectory with Move to Pin or navigated instrument with Move to Tool
- Patient-related bookmarking of microscope position (i.e. anatomical landmark) with Set / Clear Pin
- Return to previously stored position anytime during surgery, either on demand with Move to Pin or continuously with Stay on Pin (i.e. when O.R. table is moved)
- Continuous hands free alignment with tubular instruments or brain access devices

REQUIREMENTS

- Navigations Software Microscope Extension Augmented Reality PLATFORM COMPATIBILITY
- Planning Navigation station (Ceiling-Mounted)
- Navigation station

SUPPORTED DEVICES

- ZEISS KINEVO 900
- Includes for the first year after initial installation related software updates and upgrades within terms of use additional service costs occur, if not installed remotely via Connected Care
- From the second year on software related updates and upgrades as well as 24/7 hotline support are covered by a separate license support contract for each individual software and needs to be purchased separately for each software in the portfolio.