GALILEOS
ORTHOPHOS XG 2D
ORTHOPHOS XG 3D

Release Notes Workstation

English
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1 New functions and changes

1.1 GALAXIS and GALILEOS Implant

Innovations in version 1.9 and higher

1. GALILEOS
   - The strength of noise reduction has been minimized so that the image impression again reflects that of Version 1.7.2.

2. GALILEOS Implant
   - The new SICAT OPTIGUIDE surgical guide is supported by GALILEOS Implant 1.9.
   - The order form for surgical guides no longer needs to be printed.
   - Payment authorization can be granted via SICAT.
   - Sleeve planning: Display/entry of the D2 position ("drilling depth")
   - Surgical guide order: Detailed info on volumes can also be exported.
   - The implant database has been updated.

3. GALAXIS
   - Root canal measurement
     The length can be measured along a path (with max. 20 interpolation points) in the slice views.
   - Presentation mode
     By activating the "Use thicker lines for display" check box, the lines in the views are displayed thicker.

Innovations in version 1.8 and higher

- For ORTHOPHOS XG 3D: Automatic adaptation of panoramic curve to position of XG3D volume.
- GALILEOS Implant supports you in planning implants so that standard abutments can be used.
  In addition to implants, the implant database of GALILEOS Implant also contains the standard abutments of various manufacturers.
- GALILEOS Implant supports your implant planning in such a way that it can be implemented with a SICAT drilling template.
  In addition to implants and abutments, the implant database of GALILEOS Implant also contains the sleeve systems of various manufacturers.
- In the 3D view, you can preliminarily clip away parts of the volume ('3D clipping') to enable enhanced examination of the remaining part or better evaluation of the position of planning objects in the volume.
- You also can copy the current page of the planning report to the clipboard.
  GALILEOS Implant imports the practice logo for the planning report set in SIDEXIS XG.
1.1 GALAXIS and GALILEOS Implant

- SICAT (GALILEOS Implant) now also supports the following guided surgical systems:
  - Dentaurum - tioLogic pOsition
  - DENTSPLY Friadent - ExpertEase
  - Meisinger - 3D-Navigation-Control
  - MIS - M-Guide
  - SIC invent - SIC Guided Surgery
  - Zimmer Dental - Zimmer Guided Surgery
  - Pilot sleeves with an inner diameter of 1.1 mm, 1.5 mm, 1.8 mm and 2.1 mm

- The serviceability of the CAD/CAM functions has been improved:
  - For better differentiation between optical impressions and restorations, optical impressions are tagged 'A...' and restorations are marked 'R...'.
  - Optical impressions and restorations can be displayed or hidden via a single-click on the eye symbols.
  - The CAD/CAM functions 'Add implant(s) based on restoration', 'Register optical impression again' and 'Remove optical impression and its restorations' can be activated for active optical impressions as well as for active restorations.

- The space requirement of the implant database has been reduced by more than 1/3.

- The Implant database of GALILEOS Implant has been extended to include the following implant manufacturers:
  - Champions
  - Dyna Dental
  - Hiossen
  - Intra-Lock
  - Kentec
  - Keystone Dental
  - OCO Biomedical
  - TBR Group

- GALAXIS: Fullsize: Any view can be zoomed in GALAXIS via a double-click.

- GALAXIS: Support of the Windows clipboard: The active view can be copied to the Windows clipboard via Ctrl+C and menu. License management: GALILEOS Implant no longer needs a GALAXIS license to start.
Innovations in version 1.7.2 and higher

- General
  - Official support of Windows 7 (32-bit & 64-bit)
  - Minimum system RAM requirements increased: 2 GB (previously 1 GB)
  - Adaptation for HIPAA: Exported GALILEOS Viewer data conform to HIPAA setting of SIDEXIS
  - The GALILEOS Viewer now conforms to the HIPAA anonymization settings of SIDEXIS.
  - It is possible to burn DVDs under Windows Vista and Windows 7.
  - Detail volume reco now uses new Reco 1.7.2.
  - A default panoramic curve is now saved for data records imported for the first time even if the Panoramic dialog has not yet been opened.
  - The handling of multimonitor systems has been improved.
- GALILEOS Implant only
  - Adaptation for HIPAA: Anonymized patient data are also exported anonymized when ordering drilling templates.
  - Drilling template orders can be burned to DVD under Vista/Win7.
  - Advanced 3D rendering: Graphic card check revised
  - Presetting of path for orders changed from "D:\SICAT_Orders" to "C:\SICAT_Orders"
  - Threshold value for volume quality is not 0.7mm (instead of 0.5mm)
  - CAD/CAM
    - Progress bar during loading of CAD/CAM data added
    - SSI import: Restoration is focused and selected in step 1 and after the import; CAD/CAM: Backface rendering activated for "triangle mesh 3d" and "exact pan renderers"
    - Wait cursor during registration added, CAD/CAM: triangular network CAD/CAM objects are now deleted correctly; memory leak eliminated.
  - Planning report
    - Preview of planning report is now displayed in full screen display on the monitor, which contains the largest part of the window.
    - If no printer is installed an untranslated notice is displayed. This notice will be translated in a future version.

For information on new features and handling, please refer to the GALAXIS/GALILEOS Implant Operating Manuals.
Innovations in version 1.7 and higher

- CEREC meets GALILEOS
  In GALILEOS Implant, the virtual CEREC model and the designed restoration can be displayed in the 3D volume, whereby surgical planning has been supplemented by the key aspect of prosthodontics.
  The automatic implant positioning proposal from GALILEOS Implant is provided based on the position and insertion axis of the crown designed with CEREC. It is then checked for its surgical feasibility and corrected if necessary.
- Findings-oriented operation (new toolbar)
  GALAXIS now offers the possibility of marking findings in the 3D volume, describing the findings and retrieving the automatically saved views, slices and image settings at the push of a button.
  This findings-oriented mode of operation offers a very fast and intuitive documentation alternative. The processing of the findings is continued even while a GALILEOS Viewer CD is being burned.
- The appearance of the yellow orientation lines has been adapted:
  - The lines are omitted in the center ("cross hairs") to ensure that no important details are hidden.
  - The lines can be switched completely on and off.
- The rendered 3D view has been improved.
- The TSA is now tiltable.
  In order to simplify the display, only a TSA slice is still displayed.
- Navigation by jumping: A double-click in a 2D view causes the focus/position to change to the position of the double-click.
- The CEPH and radiological views can be "tilted" by the "Nose upwards" and "Nose to the left" options.
- GALAXIS' tiltable slices and 3D interaction are also available without a license (dongle).
- The selected presettings of the panoramic curve are saved for each user.
- Any files desired can be added when burning a GALILEOS Viewer CD.

1.2 GALILEOS workstation

Innovations in version 2.2 index 012 and higher

- Ensure operation following Windows 10 Update

Innovations in version 2.2 and higher

- Implementation of constancy test according to DIN standard 6868-15 test item 5 and processing of the acceptance test according to DIN standard 6868-161, test item 4.3.3.
- Windows 8.1 64 bit support.
Innovations in version 2.1 and higher

- Following a combined scan (face scan + X-ray), Galaxis is started instead of, as was previously the case, the face scan viewer if the check box is activated.
- Face scan calibration errors are now displayed correctly in SiConst.
- Dose values are corrected in the service exposure for GALILEOS Comfort\textsuperscript{PLUS}.
- Activation of the acceptance test according to DIN standard 6868-161, test item 4.3.3.

Innovations in version 2.0 and higher

- Support for GALILEOS Comfort\textsuperscript{PLUS}.
- HD mode and new program for template scans with GALILEOS Comfort\textsuperscript{PLUS} units.
- Service applications have a uniform look and feel with ORTHOPHOS XG 3D.
- The location can now be added to the units as free text.
- 2D acceptance test step omitted.
- Implementation of acceptance test according to DIN standard 6868-161, test item 4.3.3.

Innovations in version 1.10 and higher

- Support for operation with Facescan
- Setting options for MARS and noise reduction in SIDEXIS Manager (CBRecoSettings)
- ExportLib: All DICOM volumes now have an offset which can be deactivated using the UseScannerCoordinateSystem (Profiles.xml) parameter.
- The stability of the software is significantly improved during servicing.
- RCU 2.2:
  - Various bugfixes and improvements to image quality

Innovations in version 1.9 and higher

- Metal artifact reduction:
  The automatic metal artifact reduction identifies metal objects during the 3D reconstruction and reduces the resulting metal artifacts.
- New CD structure:
  Analogous to the CD structure for ORTHOPHOS XG 3D, a Sirona Reconstruction Server (RCU) CD is now supplied for GALILEOS as well.
- Asian character sets can be displayed on the GALILEOS EasyPad.
- The Classic PAN view is available in SIDEXIS with all systems.
- Further improvements of the reconstruction algorithm, e.g. noise reduction and volume optimization, have been implemented.
- GALILEOS server/workstation supports Windows 7 Professional (32-bit & 64-bit).
1.3 Sirona Reconstruction Server

Innovations in version 2.5.1 and higher
- Rectification of the ND filter bug
- Sirona Control Server (SCS) Dongle Patch:
  The patch corrects the problem of the dongle only working very slowly with USB 3.0. This resulted in GALILEOS Implant requiring a long time to start (sometimes more than 2 minutes).
- Windows 10 (64 bit) support.

Innovations in version 2.5 and higher
- Implementation of constancy test according to DIN standard 6868-15, test item 5 and processing of the acceptance test according to DIN standard 6868-161, test item 4.3.3.
- Windows 8.1 (64 bit) support.

Innovations in version 2.4 and higher
- Dental enamel is no longer detected as metal in GALILEOS Comfort Plus exposures.
- Compatibility with .Net Framework 4.5 is ensured.

Innovations in version 2.3 and higher
- Support for up to 16-bit gray value depths in the event of a third-party 3D export.
- Extension for GALILEOS Comfort PLUS volumes.

Innovations in version 2.2 and higher
- Improved calibration

Innovations in version 2.1 and higher
- MARS: Metal artifact reduction (ORTHOPHOS XG 3D)
- HD mode: High definition mode (ORTHOPHOS XG 3D)
- Image quality improvement: Homogeneity (ORTHOPHOS XG 3D and GALILEOS)
- Image quality improvement: Contrast (ORTHOPHOS XG 3D and GALILEOS)

Innovations in version 2.0 and higher
- Metal artifact reduction

Innovations in version 1.8 and higher
- Support for ORTHOPHOS XG 3D
Innovations in version 1.7.2 and higher

- During servicing for collimator adjustment, the tolerance lines for the edge of the thyroid gland were removed again.
- Dose display in SIDEXIS: The dose is now displayed in the "Describe image" dialog box.
- Improved reconstruction: Improved homogeneity in volume (soft tissue and bones) and better display outside of 100% volume.
- Third-party export supports resolution of 0.15 mm and 0.2 mm and 16-bit export

Innovations in version 1.7 and higher

- Necessary changes to GALILEOS mechanical collimator.
- Asian character sets can be displayed on the GALILEOS EasyPad.
- Classic PAN artifact reduction is available in all systems.
- Improved calibration.
- Improved reconstruction algorithm (SNR, homogeneity in volume).
- Sirona Control Server with Restart button.
- Windows Vista support, including for GALILEOS Server.

Innovations in version 1.6 and higher

- Changes to GALILEOS Comfort, taking new license IDs into account.
- Classic PAN: New panoramic view with blurring technology (depending on licensing and country-specific permissions).

Innovations in version 1.5 and higher

- Integrated function for creating the GALILEOS Viewer with one data set.
- Faster reconstruction
- Faster data transmission from the unit to the RCU thanks to data compression.
- Further languages: Japanese, Korean, Dutch, Portuguese, Russian.
- One-button rescue: Rescue cases can be easily imported with just one click.
- Empty DataContainers are deleted upon service start.
- New VO2 program for creating a volume with 300 µm voxel edge length – enables faster processing with smaller data volumes.
- Reduction in data volumes - the size of the reconstructed 3D volume has been reduced from 256 to 180 MB.

Innovations in version 1.4 and higher

- Sirona Control Server can be started from every workstation.
- Sirona Control Admin for rescue cases and license management can be easily started from SIDEXIS Manager.
- Dose measurement converted to persistent radiation to enable an extended bandwidth of dose measurement meters to be used.
1.4 ORTHOPHOS XG 3D workstation

Innovations in version 1.5 index 014 and higher
- Ensure operation following Windows 10 Update

Innovations in version 1.5 and higher
- Implementation of constancy test according to DIN standard 6868-15 test item 5 and processing of the acceptance test according to DIN standard 6868-161, test item 4.3.3.
- Windows 8.1 64 bit support

Innovations in version 1.4 and higher
- Activation of the acceptance test according to DIN standard 6868-161, test item 4.3.3.

Innovations in version 1.3 and higher
- Implementation of acceptance test according to DIN standard 6868-161, test item 4.3.3.

Innovations in version 1.2 and higher
- VOL 1 program HD mode (high-definition mode).
  In HD mode 2 1/2 as many individual projections are created, which are used to ensure a more refined reconstructed image quality. This can reduce typical DVT/conebeam artifacts.
- VOL 2/VOL program HD mode (high-definition mode)
  The volume area in the object/field of view (FoV) corresponds to a cylinder with a diameter of approx. 5 cm and a height of approx. 5.5 cm.
  HD mode (high-definition mode)
  HD mode offers a voxel resolution of 100 µm.

1.5 ORTHOPHOS XG workstation

Innovations in version 1.1 index 004 and higher
- Ensure operation following Windows 10 Update
- Bug fix in the installer for compatibility with Sidexis 4 during migration from SIDEXIS XG.

Innovations in version 1.1 index 003 and higher
- Bug fix in the installer for compatibility with pre-installed “XG 3D workstation in versions 1.5 and higher” and “GALILEOS workstation in version 2.2 and higher”.
- Windows 8.1 64 bit support.
We reserve the right to make any alterations which may be required due to technical improvements.