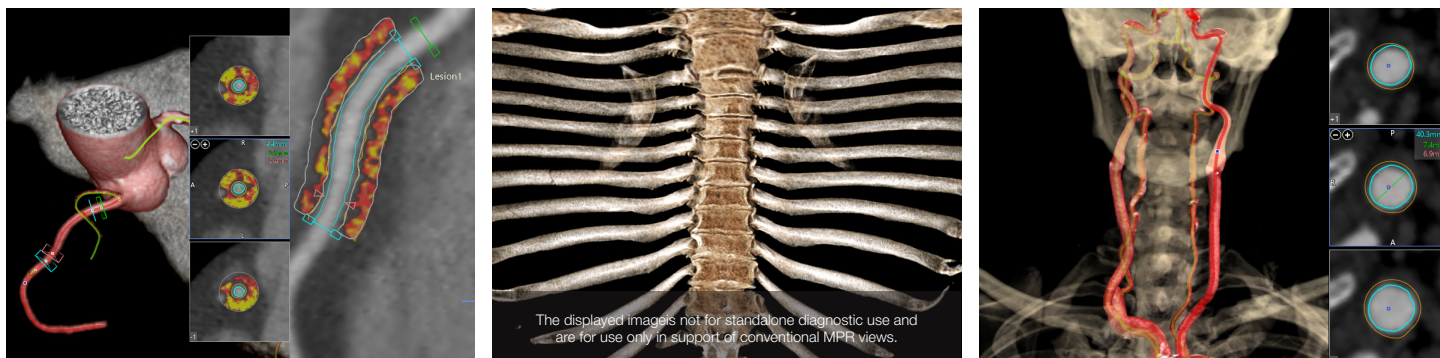


What's New in Vitrea® Advanced Visualization Version 7.15



In addition to our current Vitrea Advanced Visualization applications, we continue to improve and enrich our clinical offerings across all modalities.

New Features and Enhancements

Clinical Enhancements (7.15.8)

- CT Cardiac Analysis — The Perivascular CT Density¹ tool is a sub-feature of SUREPlaque and assists clinicians in evaluating the characteristics surrounding the blood vessels (perivascular wall or outer wall/surface):
 - Visualize different density regions around the vessel with ease using defined HU ranges
 - Quantify and export different metrics along with visualization of the density regions

Clinical Enhancements (7.15.7)

- TAVR: Show Overview labels no longer overlap orientation labels or patient information in the 3D viewer.
- A More and Less button added to the Analysis tab in TAVR, AAA, and Fenestrated Stent applications.
- When a vessel is created, it defaults to the full vessel. Now, if a different vessel is selected, the entire vessel is shown in the inset. If the display format is switched, the entire vessel is displayed in the inset.
- Runoff with POI (cube) display format button is now blue.
- Interact Fast setting is checked off as the default for all presets.
- CT Brain Perfusion 2D and 4D
 - Summary map results table overlay on CT viewer has been designed to be more compact for better brain visibility and much reduced obstruction in both CT Brain Perfusion 2D and 4D.
 - Summary map results table overlay is hidden in batches that are created in both CT Brain Perfusion 2D and 4D so that it does not obstruct the slice viewer. When creating batches and movies, if the cover page checkbox is checked then the summary map results will be visible on the cover page only.
- CT VScore™ (Calcium Scoring)
 - Region labels prefixed with “Other” are now able to be changed to a different anatomical structure from a list of dropdown names. In addition, the calcium burden (1) on coronaries and (2) on valves and related structures can now be reported separately.
- Olea Medical DICOM Viewer (OMDV) v1.2.0
 - Improves robustness of data loading in handling heterogeneous cases
 - Adds “ESC” keyboard shortcut to close the DicomTags window
 - Clears the filter on closing DicomTags window
 - Adds a disclaimer when launching OMDV (optional)
- PET/CT version 2.2.2.7. Update includes TLS 1.2 support
- 3D MPR version 2.4.1.8. Update includes TLS 1.2 support

¹ Perivascular CT Density is a separately licensable option.

Clinical Enhancements (7.15.6)

- CT VScore™ (Calcium Scoring)
 - Additional MESA score plot displaying the 'MESA' Percentile' is now available. The updated MESA calcium scoring calculator that uses a specific percentage instead of a percentile range. 'Hoff', 'Nasu', 'MESA Range', and 'MESA Percentile' will all be available within the calcium scoring application.
- Processing speed and collage batch resolution improvements within Vitrea CT Brain Perfusion
- MPRs in all Cardiovascular protocols now default to MIP, except for Myocardial Perfusion, which defaults to Average
- Added MP4 Movie option to save movies in the MP4 container format. There is now an option to choose between AVI and MP4 in the Movie tab. Available in the Results tab from the Study List, Plus tab, or report. Movie files will be playable on mobile devices (iOS, Android) and on Chrome, Safari browsers on desktops.
- For Carotid and CoW applications, added additional pre-defined vessel names to the rename list including: Left Internal Carotid, Left External Carotid, Right Internal Carotid, and Right External Carotid
- When selecting TAVR valve plane, crosshair is now placed in the center of the valve plane points, to optimize the coronal and sagittal planes
- The TAVR worksheet has three new measurements: Left Carotid Min Diameter (parent vessel: Left Carotid), Right Carotid Min Diameter (parent vessel: Right Carotid), Innominate Min Diameter (parent vessel: Innominate)
- Colored frame now shown in MPR images for any zoom factor
- Probed Vessel CPR defaults to 1-up view
- Extended the volume load limit from 80 to 300 volumes
- Portrait mode pixmaps differentiated from the other (landscape or either) display format buttons
- Video Type displayed in the Results tab
- New viewer layouts for large body coverage datasets and portrait mode monitor
- Increased the maximum size of custom batch or MP4 movies
- Added a thickness slider in the MPR Viewer dropdown menu

CT Brain Perfusion 2D

- Perfusion maps display automatically without having to click Compute.
- A new Group column is available in the list view of the application tab of the Study List and Plus tab. The Group column gives a clearer picture of which volume stacks belong together as an appropriate sequence for processing brain perfusion to simplify loading the correct sets of volumes.
- When loading various perfusion types with extra volumes, the extra volumes lead to a rejection message and you cannot load the data to the viewer.

Retrieval of Prior Patient Study Information

This feature enables you to click a button to retrieve additional patient studies in all deployments. It also provides easy access to patient priors as a reference for comparison to the latest study.

Cobb Angle

- Basic functionality: The Vitrea software now includes a Cobb Angle tool which is especially helpful for MSK work of the spine, knees, pelvis/hips. Cobb tool is available wherever the angle tool is available (applications and viewers [slice viewer, MPRs, and oblique MPRs].)
- Cobb Angle Measurement Accuracy: Cobb angle measurements are tested to be accurate within a given error tolerance. The expected accuracy depends on the slice/pixel spacing as well as the length of the two reference lines used to draw the Cobb angle.
- Cobb Angle tool caliper functionality: Cobb angle measurements can be helpful for measuring upper-lower leg rotation, tibia torsion, or the anteversion angle of the femur.

Spectral Analysis¹

- Spectral Analysis - Cardiac addition
- Spectral Analysis - Vessel addition
- Spectral Analysis - Brain addition

Evidence Grouping and Export

The exporting workflow has been enhanced to allow the following actions:

- Combine multiple images/batches into one group and export them as a single series
 - Grouping is available in the Study List, “+” Tab and Export Reminder
 - Multiple groups can be exported together, and each group will be exported as a single series
- Rename individual images/batches and export each of them as a separate series
 - New Rename option is available in the right-click context menu
- Allow grouped evidence to be restorable on Query/Retrieve from PACS
- Display the exported images/batches in PACS in the order in which they were selected for export in Vitrea through a configuration

Added display of C-Arm angles

Added display of C-Arm angles to CT/MR applications for oblique MPR, 3D viewers and to batches.

Improved support of high resolution monitors

Better alignment with Windows display scale setting

Portrait Mode²

Many Vitrea applications can detect and display in portrait mode when a portrait monitor is available. Improvements to monitor resolutions have been made, and Vitrea can now be shown with 200% scaling.

Support for additional 3D Model export file formats

This release adds the OBJ (waveform object) and VRML (virtual reality modeling language) 3D Model export formats to the existing STL file format. OBJ is used for printing with multiple colors or textures and VRML is used in virtual reality software and applications.

CT Cardiac

Added display of cardiac phase % when patient demographics are hidden.

Cardiac Analysis: Multi-Vessel³

In addition to automatic probes of the three major vessels, an option to automatically probe branch vessels (up to 20 total vessels) is accessible from the Application tab or the Gallery window.

CT Lung Analysis

The Lung-RADS table was updated from version 1.0 to 1.1 (2019).

¹ The Spectral Analysis applications above are intended as add-ons to the Spectral Analysis workflow and require the Canon Spectral scanner such as Aquilion ONE Prism Edition.

² Not all integrated platform partner applications support portrait mode at this time. Use of unsupported applications in portrait mode may result in limited or lost functionality, so these applications should be used in landscape orientation.

³ The Cardiac Analysis: Multi-Vessel application is only available in certain geographic regions.

Olea Medical® DICOM Viewer (OMDV)¹

The Olea Medical DICOM viewer allows the display of medical images in DICOM format from CD/DVD/Blu-ray discs burned from the Olea Sphere application. Olea Medical DICOM viewer can also read external CD/DVD/Blue-ray discs, flash memory, or images from local and network folder locations.

Olea Sphere®

Olea Sphere version 3.0 SP33 is integrated into Vitrea Advanced Visualization version 7.15.7.

Functional MR (fMRI)² (7.15.6)

Functional MR is integrated into Vitrea Advanced Visualization and is a seamless fMRI mapping of the brain to identify critical functions.

Additional Olea Sphere SP33 Enhancements (7.15.6)

- MR Breast Advanced (Breastscape)
- Morphology tab - New chart for Morphology environment featuring a static curve display
- Lesion tab - New layout (Lesion T1 Dyn) allowing the display of T1 Dynamic and subtracted image series in the Lesion environment

MR Breast Advanced (Breastscape®)³

MR Breast Advanced is a semi-automated solution for diagnostic assistance in breast lesions. It provides automatic computation of the parametric maps, automatic segmentation of the lesion and calculation of the clinically relevant distances, lesion evolution follow-up, assistance to the structured preparation of the report, based on the latest edition of BI-RADS® Atlas, and creation of a report exportable as PDF.

MR Breast Advanced enhancements:

- Lesion Merge
- Early Signal Index
- Advanced Breast extraction mask and reporting
- Easier modification to anatomical landmarks

MR Breast Biopsy (BreastLoc)³

MR Breast Biopsy under MRI provides assistance for the planning of breast biopsies, integration of multi-vendor blocks and grid models, automatic localization (coordinates) of the targeted lesion, and exportable report of the biopsy plan.

Additional Olea Sphere SP29 Enhancements

- Olea Sphere Multi-b: Implemented the Stretched Diffusion Model
- Export enhancements now include: Fast, Basic or Advanced and additional export configurations as well as report export type
- New follow up mode in the carousel

¹ The DICOM viewer is not FDA cleared nor CE marked, and is therefore not intended for diagnostic purposes. This viewer replaces the VVerify DICOM viewer previously used.

² fMRI is available as an a la carte option.

³ MR Breast Advanced and MR Breast Biopsy are now available for sale in the US.

New Applications

Open Rib (7.15.8)

The Open Rib application automatically displays an unfolded unobstructed view of the entire rib cage, referred to as Open Rib. This allows a physician to instantly review the full rib anatomy in a single plane. Within the Open Rib application, the unfolded rib view can be quickly and easily triangulated to conventional MPR views for interactive image review. In addition to standard CT projections, the Open Rib application can also display the unfolded rib view in both SVR and Global Illumination.

The CT Open Rib application offers geometric and HU measurement tools. Within the application, it is possible to create a derived series batch of the Open Rib volume.

CT Carotid Auto Vessel¹ (7.15.8)

CT Carotid Auto Vessel enables a simplified workflow with the automatic initialization of internal carotids and vertebral artery vessels. The automated initialized vessels can be modified as per user need.

Body DWI Score² (7.15.8)

The Body DWI Score application is a post processing application of MR images that is intended to assist physicians in their review. This application supports visualization of threshold regions on Whole Body DWI (Diffusion-Weighted Imaging) images and ADC maps while providing measurement tools for the threshold regions. It also enables physicians to compare threshold region measurement values across multiple series for the same patient.

DWI Stitching² (7.15.8)

The DWI Stitching application is a pre-processing application for Body DWI Score that is intended to stitch multiple MR images and regions using different slice positions for each scan.

Lung CAD² (7.15.8)

In addition to the Visia™ CT Lung CAD application by MeVis Medical Solutions that is offered as part of Vitrea Advanced Visualization, another option for Lung CAD is now available. The Lung CAD option highlights lung nodule locations per volume within CT Lung Analysis. This functionality can be used across multiple volumes as well.

Auto MPR Brain³ (7.15.8)

The Auto MPR Brain application is a post processing software of CT brain images that is intended to align images into a standard anatomical position for review. It provides tools to reformat images parallel to a standard anatomical position.

Subtraction Viewer⁴ (7.15.7)

The Subtraction Viewer application supports fusion display of the original image and subtraction images generated by other applications. Subtraction Viewer can create CE boost volumes from any SCT input data in version 7.15.8.

¹ CT Carotid Auto Vessel is a separately licensed feature within the CT Carotid application.

² Body DWI Score, DWI Stitching, and CT Vitrea Lung CAD are not available for sale in the United States.

³ The Auto MPR application is only available in certain geographic regions. The Auto MPR application has been renamed to Auto MPR Brain in version 7.15.8.

⁴ The Subtraction Viewer application is only available in certain geographic regions. Subtraction Viewer is a viewer application that is intended for viewing subtraction CT images, but such subtraction processing is not part of this application. Subtraction Viewer only supports Canon datasets. CE boost is not available for sale in the US.

Administration, Integration and Security Enhancements¹

Windows 11 for Workstations is now supported (7.15.8)

Updated version of Vitrea AV Thin Client (7.15.8)

SQL Server 2019 Support

Support for SQL Connections without the use of SQL Browser (7.15.6)

SQL Browser service is not required to be running for Vitrea AV to function properly.

TLS 1.2 support in Vitrea AV - Enterprise deployments

Vitrea Thin Client Forward Compatibility

Vitrea thin client from version 7.15.3 will work with later versions of Vitrea such as versions 7.15.5 to 7.15.7. This is intended to shorten the time it takes to perform upgrades by not requiring a new version of the Vitrea client.

AutoSave Snapshots

The Vitrea software will save the session before automatically closing due to inactivity. The Vitrea Saved Session displays in the Results tab for the study so that it can be restored and you can resume your workflow.

This is a configurable option; consult the Administration Guide for Extend and Workstation Deployments, the Enterprise Deployment Administration Guide, or the Enterprise Single Server Administration Guide for more information.

Support for Microsoft Smart Card Sign-in

The Vitrea thin client now supports Microsoft Smart Card Sign-in for remote desktop sessions.

SpringShell (Spring4Shell) Update

The industry wide SpringShell security vulnerability is affecting Vitrea Advanced Visualization due to a commonly used code component called Spring Framework. An update has been made to Vitrea Advanced Visualization to remove the potential exploitation of the code.

Apache Log4j Update

In order to fully remediate the Apache Log4j issues seen across many medical and non-medical products, the Apache Log4j libraries have been updated to the latest version.

Vitrea AV Platform updated for higher-density GPU support

With these updates the Vitrea AV Platform automatically splits resources to optimize the number of users for higher density GPUs. Please refer to the technical specifications for more detail.

Validation Effort for DoD on Enterprise Single Server (ESS) Deployments²

In order to comply with U.S. Department of Defense (DoD) requirements, Vitrea Advanced Visualization version 7.15 Enterprise Single Server deployments have been validated with the highest security system configurations. Security Technical Implementation Guides (STIGs) listed in the Security Assessment Plan (SAP/SSP) and each corresponding checklist containing the testimony of results against those requirements are included.

¹ Windows 7, Windows 8.1 and Server 2008 R2 are no longer supported.

² Vitrea Extend deployments are no longer DoD ATO certified on versions 7.15.7 and later

Partner Integration Enhancements

The following enhancements are now included within our partner integrated versions in Vitrea Advanced Visualization:

Cedars Cardiac Suite

Cedars added support for hosting the license server on enterprise single server and Vitrea extend deployments, allowing a single server to host both the Cedars clinical applications and its license server.

Medis® Suite Cardiovascular MR

- Medis Suite supports the following operating systems: Windows 10, Windows Server 2012Rs, Windows Server 2016 and Windows Server 2019. In all cases, Medis Suite requires a 64-bit architecture. (7.15.7)
- Detection and handling of expired licenses (7.15.7)
- QMass is now able to export regional values for SAX and DSI in AHA 16 segment model in the XML and JSON formats. (7.15.7)
- QStrain is now able to export regional values in AHA 16 segment model in the XML and JSON formats. (7.15.7)
- Updates to the semi-automatic algorithm which is executed upon launch of the data into Medis to provide enhanced contours. This technology is based on Medis Deep Learning, but it does not include on-site learning or changes to the installed algorithm.
- Updates include Semi-automatic detection of contours of LV on the LAX (2ch, 3ch and 4ch), making LAX function and GLS strain analysis quicker and better reproducible.

TOMTEC (7.15.7)

- GE V204 data support
- GE 6CV-d transducer support
- Phillips Affinity 3D support
- Canon 3D render-improvements
- Autostrain SAX (requires license)
- Autostrain LV/RV/LA improvements
- Support for Phillips Native 2D (high frame rate)
- Measurement improvements
- IMAGE-COM improvements

Partner Integration Applications

All partner applications are available from all deployments (workstation, extend, enterprise – including enterprise single server). Canon Medical integrates the latest versions from its partners.

Features	Version
4DM by INVIA	2018.0.0.180
Cedars Cardiac Suite	2017.10
iCAD VeraLook® CT Colon CAD	1.1.10 and 1.1.5
Medis® Suite Cardiovascular MR	<div> <div>■ Medis® Suite 4.0.56.4</div> <div>■ QFlow® 8.1.148.2</div> <div>■ QStrain 4.2.2.2</div> <div>■ QMass® 8.1.154.2</div> <div>■ QFlow 4D® 1.1.82.2</div> </div>
Mirada Nuclear Medicine	4.4.4
Mirada Oncology Fusion	3.6.11
Mirada RTx	1.8.6
NeuroQ™	3.80
TOMTEC	2.51
Visia™ CT Lung CAD by MeVis™ Medical Solutions	5.8

Vitreia Lifecycle Updates: As Canon Medical continues to develop value added solutions that enhance your organization's patient planning, important product lifecycle notifications will keep you informed about any changes to the software solutions. For Vitrea product lifecycle information, access the Canon Medical Informatics, Inc. website. www.vitalimages.com/customer-success-support-program/product-lifecycle.

Vitreia and all third-party marks designated with a ® are registered in the U.S. and may have protection in other countries. Marks not owned by Canon Medical Informatics, Inc. are the property of their respective holders. Medis® Suite Cardiovascular MR is owned and manufactured by Medis. Cedars-Sinai Medical Center Cardiac Suite is owned and manufactured by Cedars-Sinai Medical Center. Visia™ CT Lung CAD is owned and manufactured by MeVis Medical Solutions. Olea products are owned and manufactured by Olea Medical®. iCAD VeraLook® CT Colon CAD is owned and manufactured by iCAD. 4DM is owned and manufactured by INVIA. Mirada Oncology Fusion™, Mirada Nuclear Medicine and Mirada RTx are owned and manufactured by Mirada Medical. TomTec Ultrasound is owned and manufactured by TOMTEC IMAGING SYSTEMS GMBH. Cerebral Aneurysm Analysis is manufactured by Canon Medical Systems. Designated marks are registered in the US and may have protection in other countries.

Canon Medical offers a full range of diagnostic medical imaging solutions including CT, X-Ray, Ultrasound, Vascular and MR, as well as a full suite of Healthcare IT solutions, across the globe. In line with our continued Made for Life philosophy, patients are at the heart of everything we do. Our mission is to provide medical professionals with solutions that support their efforts in contributing to the health and wellbeing of patients worldwide. Our goal is to deliver optimum health opportunities for patients through uncompromised performance, comfort and safety features.