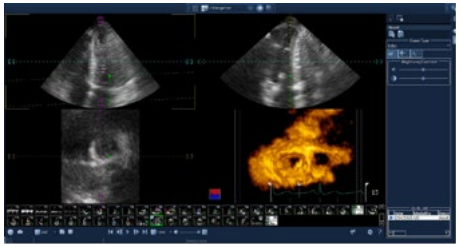
Agfa HealthCare

Enterprise Imaging for Cardiology



Enabling enterprise-wide, patient-centric cardiology clinical workflow

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ENTERPRISE IMAGING FOR CARDIOLOGY

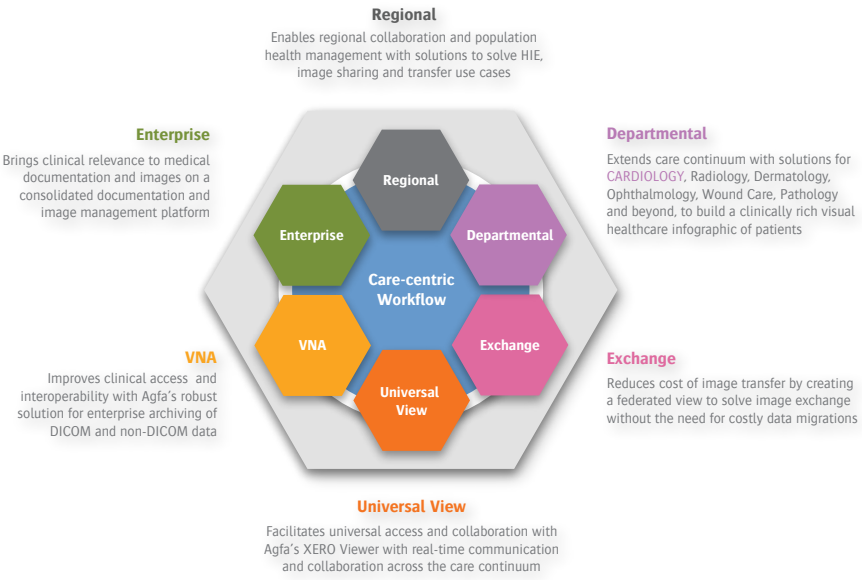
Enabling patient-centric cardiology clinical workflow

A cardiology workflow is always highly dynamic and continuously adapts to the patient's needs and status. You would like to have a standardized system that gives your clinicians a single point of access to a patient's complete cardiac file so you can improve departmental workflow, regulatory compliance, and reimbursements. You would like to have reports that are meaningful to help improve your ability to manage your patients and the overall cardiology services.

This is because in cardiology, one thing is always true - the patient is central!

Agfa HealthCare's Enterprise Imaging for Cardiology integrates patient information from different sources into a centralized system so clinicians can quickly access their patient's complete cardiology file, generate a report, and distribute it in a single session - even from a remote location. This improved workflow lets your clinicians focus on patient care, procedures, and exams, and lets your department operate more efficiently and cost effectively. It is accomplished with state-of-the-art technology including virtualization, the latest in software deployment, user interface, and relevant tool sets.

Enterprise Imaging for Cardiology is a key offering of Agfa HealthCare's Enterprise Imaging Suite.



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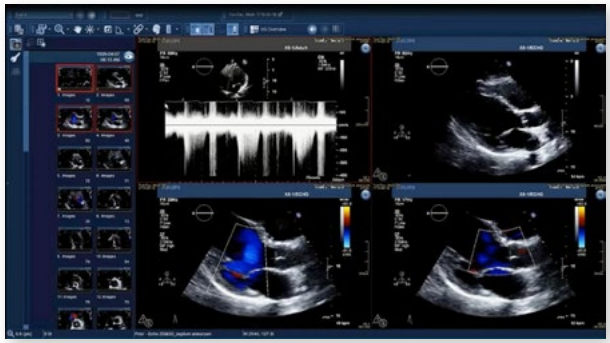
CARDIO BASE MODULE

Comprehensive 2D/3D/4D image review and cardiovascular measurements

The Agfa HealthCare Enterprise Imaging for Cardiology suite includes the Display Extension module which is a dedicated, tightly integrated viewer for cardiovascular ultrasound and cath lab examinations. Easy and quick image review is supported by a variety of time saving features. Prior studies can easily be compared with current examinations and the simultaneous display of cath lab, echo, vascular or nuclear medicine examinations provides additional clinical information.

Customer Benefits

- Quick and easy image review: high performance viewer with multiple time saving features to speed up image review and enhance user experience
- Multimodality image viewer: display and side by side comparison of prior studies across various modalities
- Extension of ultrasound systems: allows the user to import measurements from ultrasound systems and provides comprehensive off-line measurement packages (echo, vascular ultrasound, cath lab)
- 2D image review of ultrasound and cath lab studies including modality specific display modes
- ECG display and R-wave to R-wave display (ECG cropping)
- Dual source imaging: simultaneous display of both cath lab systems
- Display of acquisition angles from cath lab system
- Window leveling and sharpening/edge enhancement



CARDIO BASE MODULE OPTIONS

The Agfa HealthCare Enterprise Imaging for Cardiology suite helps to automate your workflow, speed up your daily reading and provides a variety of viewing options.

Cardiac and Vascular Measurements
Complete packages of echocardiography and vascular measurements

3D Option
Comprehensive review, Volume Rendering Technique (VRT) and Multi Planar Reconstruction (MPR) rendering of 3D/4D ultrasound image data.

AutoLV
Biplane left ventricular volume quantification with only two clicks. Fast and intuitive automation of Simpson's biplane method. Automatic contour detection in end-diastole and end-systole calculate volumes, ejection fraction and global longitudinal strain.

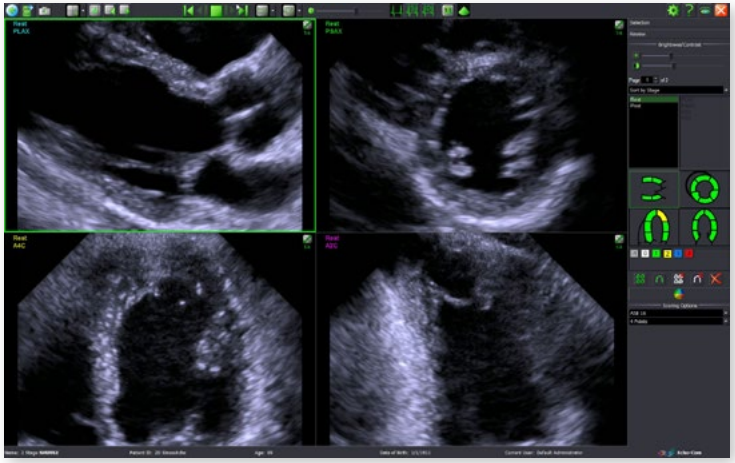
AutoStrain
Automatically quantify global and regional left ventricular strain and function based on 4-chamber, 3-chamber and 2-chamber views of the left ventricle with a single mouse click.

AutoIMT
Assessment of arterial intima media thickness. Automatic tracing of blood intima and media-adventitia. Automatic calculation of average to increase diagnostic confidence.

STRESS ECHO

An intuitive workflow optimized solution to review and analyze your 2D stress echo studies

Agfa HealthCare's Enterprise Imaging for Cardiology stress echo tool provides a streamlined workflow for routine stress echo analysis. The software automatically arranges the synchronized loops for rapid viewing. Additional shuffle functions are available for the comparison of arbitrary loops. An easy wall motion scoring with quick assignment tools makes your analysis easier and faster.



Customer Benefits

Easy and fast routine tool

- Reduce your mouse clicks with functions such as auto-layout, sorting and synchronization functions
- Quick browse through all selected clips in the review by using the "dog-ear"

Quick analysis and reporting

- Easy color-coded wall motion scoring with quick assignment tools and 16- and 17-segment scoring layouts
- Export of wall motion scoring values

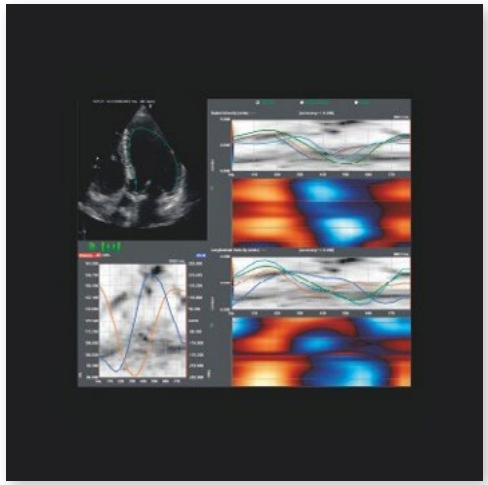
Customization

- User setting options for customized personal preferences
- Different scoring options like 4, 5 or 7 points model
- Different workflow options with or without pre-selection of clips

2D CARDIAC PERFORMANCE ANALYSIS

Vendor independent software solution to quantify left ventricular function in cardiac ultrasound data

2D Cardiac Performance Analysis (CPA) is a vendor independent offline solution for the quantification of left ventricular deformation. Detailed analysis of myocardial velocity, displacement, strain and strain rate is performed based on 2D speckle tracking in long or short axis views. Basic parameter assessment and comprehensive result export options make 2D CPA suitable for research and routine use.



Customer Benefits

One application for a variety of indications

- Regional myocardial function analysis
- Quantitative support for stress echo
- Study of the diastolic function
- Tool to help the selection of patients for CRT
- Early detection of impaired heart function in cardiomyopathies

Early detection of LV dysfunction

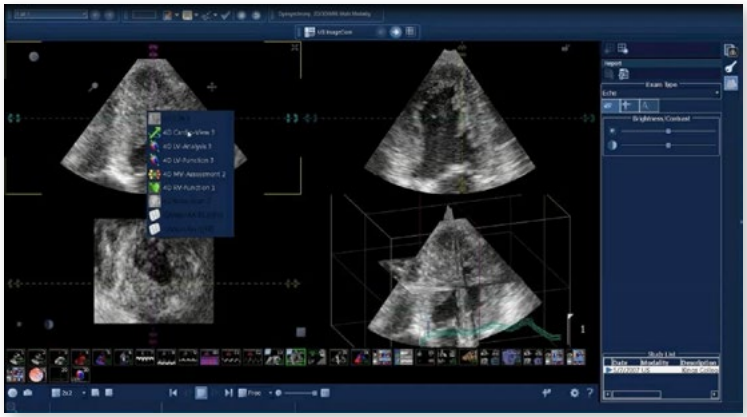
- Global longitudinal strain is an earlier indicator for LV dysfunction than EF

Facilitated communication and presentation capabilities based on export to standard file format

4D VIEWING

Spend your time on your patient and not on navigation – use the D'Art™ navigation tool from TomTec Imaging Systems

4D Cardio-View™ software from TomTec Imaging Systems is a vendor independent offline solution to review and analyze 3D echo data. It offers an easy and fast navigation to get a 3D view with just two clicks by using the unique D'Art navigation tool. Features like the multi-slice D'Art (multiple 2D slices), basic measurements and workflow based volume measurements make 4D Cardio-View an all-purpose solution for any cardiac structure. All measurements and views can be stored as bookmarks for easy retrieval at any time.



Customer Benefits

No laborious navigation. Get a view of complex structures in a few seconds

- Unique D'Art navigation displays any 3D view with only two clicks D'Art Multi-Slice offers multiple 2D slices of your region of interest
- Smart region navigation helps focus your navigation and Landmark navigation shows your points of interest in one view
- Restore your views and measurements from bookmarks any time

Visualization of multivendor 3D data

- Enhanced image rendering
- Adapted presets based on different vendors
- Store your own render preset adjusted to your preferences

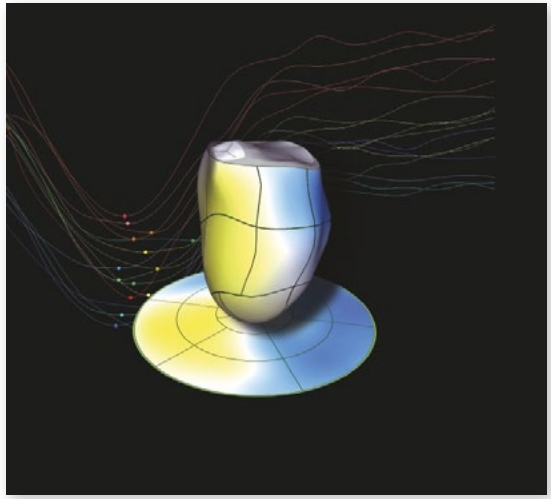
One generic tool for any cardiac structure

- Easy and intuitive tool for LV and generic volume measurements including LV myocardial mass
- Distance, area, curve and angle measurements in pathologies like ASD, VSD size, location, and shape
- Measurements in volume rendered and 2D views

4D LV-ANALYSIS™

3D quantification of left ventricular global and regional function and dyssynchrony

Volume quantification and function analysis of the left ventricle based on 3D data has proven to be more accurate and reproducible than using 2D clips.* 4D LV-Analysis from TomTec Imaging Systems is a vendor independent offline solution for 3D speckle tracking. It provides an automated workflow for quantitative and reproducible analysis of left ventricular deformation and global strain values. 4D LV Function™ is a basic application for the assessment of left ventricular volumes, EF and GLS while 4D LV Analysis allows for advanced investigations including twist, regional strain and deformation analysis. Results are mapped onto the LV Beutel surface for clear visualization. All results can be stored and exported.



Customer Benefits

3D speckle tracking for quantitative analysis of 4D LV function

- Automated Beutel initialization and tracking of endocardial motion
- Easy navigation in complex structures

Fast and easy analysis of global and regional deformation

- Entire analysis with only four clicks
- Clear results presentation with Bullseye and strain-time curves

Beutel visualization shows localized wall motion abnormalities

- Parameter mapping on dynamic Beutel surface

*Sources : Hung, J., Lang, R., Flachskampf, F., Shernan, S.K., McCulloch, M.L., Adams, D.B., Thomas, J., Vannan, M. & Ryan, T., "3D Echocardiography: A Review of the Current Status and Future Directions," Journal of the American Society of Echocardiography, March 2007, pp. 213-233.
Tsang, W., Kenny, C., Adhya, S., Kapetanakis, S., Weinert, L., Lang, R.M., & Monaghan, M., "Interinstitutional Measurements of Left Ventricular Volumes, Speckle-Tracking Strain, and Dyssynchrony Using Three-Dimensional Echocardiography," Journal of the American Society of Echocardiography, Nov. 2013, pp. 1253-1257.
Plana, J.C., Galderisi, M., Barac, A., Ewer, M.S., Ky, B., Scherrer-Crosbie, M., Ganame, J., Sebag, I.A., Agler, D.A., Badano, L.P., Banchs, J., Cardinale, D., Carver, J., Cerqueira, M., DeCara, J.M., Edvardsen, T., Flamm, S.D., Force, T., Griffin, B.P., Jerusalem, G., Liu, J.E., Magalhaes, A., Marwick, T., Sanchez, L.Y., Sicari, R., Villarraga, H.R., & Lancellotti, P., "Expert Consensus for Multimodality Imaging Evaluation of Adult Patients during and after Cancer Therapy: A Report from the American Society of Echocardiography and the European Association of Cardiovascular Imaging," Journal of the American Society of Echocardiography, Sept. 2014, pp. 911-939.

4D MV-ASSESSMENT™

Improve your diagnostic confidence for mitral valve therapy

4D MV Assessment from TomTec Imaging Systems is used for comprehensive morphological and functional assessment of the mitral valve. Based on an easy and intuitive workflow the application package generates models of anatomical structures such as MV annulus, leaflet and the closure line. Automatically derived parameters allow quantification of pre and postoperative valvular function and comparison of morphology. 4D MV-Assessment is a unique tool for the presentation of anatomy and findings and visualizes the complex morphology and dynamics of the mitral valve.

Customer Benefits

Fast quantitative analysis

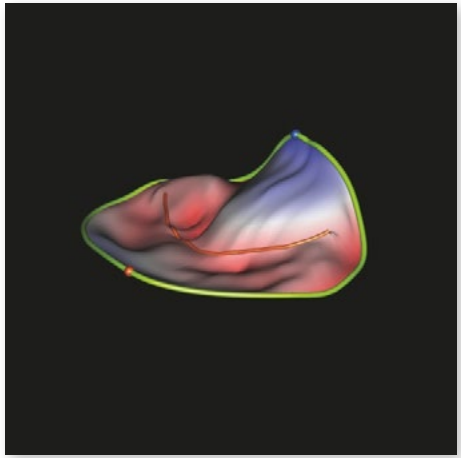
- Workflow-driven analysis
- High level of automatization
- Supports 4D TTE and 4D TEE data
- Dynamic visualization and quantification of mitral valve morphology and function
- Comprehensive measurements

Increased diagnostic confidence

- Preoperative functional assessment
- Postoperative recovery monitoring

Facilitates interdisciplinary communication

- Quantitative parameters in 20 seconds
- Intuitive visualization of valvular structures



4D RV-FUNCTION™

3D quantification tool for RV volume and function

A unique 3D surface model (representing the true shape and size of the RV).

Customer Benefits

See a 3D surface model of the RV shape

- Measurement of RV EDV, ESV and EF
- Quantification of the RV to facilitate the management and treatment of patients with congenital heart disease, heart failure and pulmonary hypertension
- Automated calculation of ED and ES phase for drawing initial contours
- Automatically calculates three MPR views (4CH, sagittal, coronal)
- Display of the unique 3D surface model
- Overcomes the limitation of 2D - no geometrical assumption

Your alternative to MR

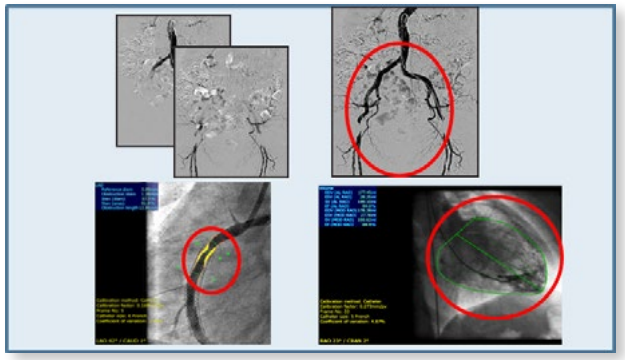
- Closely correlates with MRI
- RV 3D measurements are robust and reproducible
- 3D Echo is widely available, less time-consuming, and less expensive than MR

QC AND LV ANALYSIS

Agfa HealthCare's Enterprise Imaging for Cardiology includes several packages, Powered by Medis and TomTec for clinical and research, for DSA, coronary, left ventricular and vascular structures, and for challenging bifurcations. TomTec Cath-QCA is a fast and intuitive package for stenosis quantification of coronary artery angiograms. TomTec Cath-QLVA is a clinical analysis package to quantify left ventricular volumes and function of angiograms. QAngio™ XA from Medis Medical Imaging System enables the analyses of coronary segments close to vessel origin and coronary bifurcations and has extended capabilities specifically for research tasks.

Customer Benefits

- DSA package to visualize digital subtraction angiograms, providing enhanced display of XA vessel images using automated image masking and DSA summation over time (vascular trace).
- Cath-QCA providing automated calibration in two clicks; and stenosis diameter by diameter and area.
- Cath-QLVA for calculating left ventricular volumes including Ejection fraction (EF), stroke volume (SV) and cardiac output (CO).
- Various single plane and biplane calculation methods are available like Area-Length and Simpson method of disc for all results.
- QAngio™ XA includes Isocenter calibration, reducing analysis time and observer variability; T-shape and Y-shape bifurcation analysis and the analysis of right ventriculograms.

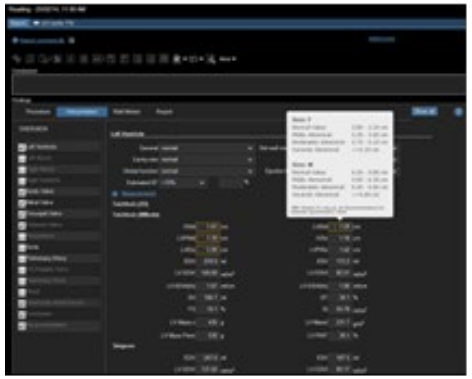


STRUCTURED REPORTING

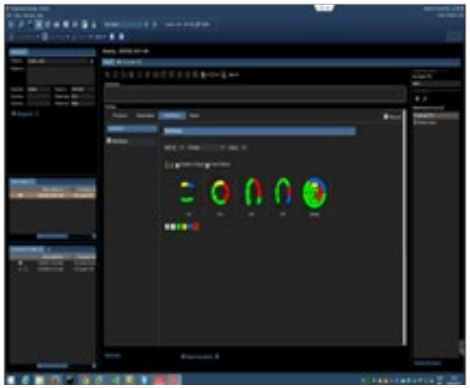
Clinical users require a solution which offers tight integration between imaging and reporting, thereby providing real time measurement data flow from imaging to reporting and eliminating the need for manual entry of data. Enterprise Imaging for Cardiology provides structured reporting modules for adult echocardiology (TTE, TEE and stress echo) and vascular ultrasound (head, neck, abdominal, upper and lower extremity). Reduce transcription effort and the need for handwritten worksheets, create high quality detailed reports, and speed up routine work with the intuitive layout of reports thus reducing report turnaround time.

Customer Benefits

- Task driven workflow reading tasks
- Section based report design, with configurable rendering templates
- Access to previous reports
- Text macros to speed up report creation



Automatic measurement transfer expedites findings selection



Wall motion analysis built-in

Reports follow task based workflow for prelim, final and addendum report creation and export.

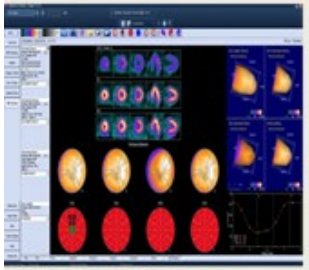
NUCLEAR CARDIOLOGY AND HYBRID IMAGING

Leading-edge software for cardiovascular quantification and image review of SPECT, PET, Hybrid-CT, and CFR patient studies

Enterprise Imaging for Cardiology's platform offers the quantification, review, and reporting of cardiac perfusion and function through its seamless integration with 4DM. Providing four supported levels of integration (SPECT for Nuclear Cardiology exams, Hybrid choices fusing SPECT with CT and PET with CT, and PET with Coronary Flow Reserve (CFR)), users can optimize their productivity, clinical decision making and maximize their modality utilization with this comprehensive solution.

Customer Benefits

- Delivers advanced processing algorithms developed by INVIA, LLC under license from the University of Michigan, , including fusion of CT with SPECT or PET images, and reproducible quantification and image displays
- A comprehensive solution for physicians and technologists.
- Integrated workflow includes quality assurance measures; intelligent workflows for greater efficiency; the quantification of myocardial perfusion and blood pool studies; and multiple review screens.
- Configurable to help meet physicians' varying requirements.



Nuclear cardiology SPECT re-processing

Hybrid imaging processing for SPECT, PET and CT fusion

CONTACT

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