INNOVATION TO STREAMLINE CARDIOVASCULAR IMAGING
4 Clinical Areas and Multiple Modules

**cvi42. PLATFORM**

**cvi42. REPORT**

- Magnetic Resonance (MR)
  - Cardiac MR
  - 4D Flow
  - Strain
  - Quantitative Perfusion

- Computed Tomograph (CT)
  - Cardiac CT
  - Auto-Plaque

- Interventional (IP)
  - Mitral Valve
  - Aortic Valve

- Electrophysiology (EP)
  - ADAS 3D LV††
  - ADAS 3D LA††

Automated with AI for an Integrated, Best-in-Class Solution

**cvi42. PLATFORM**

Powerful and fully HIS-enabled to streamline cardiovascular reading and reporting

**VIEWER**
- Multiple image synchronization options
- Full complement measurement tools
- Compare baseline and follow-up scans

**PATIENT DATA**
- Review and edit study data
- Create and share comments for case review
- Fully embedded in HIS

**SERIES OVERVIEW**
- Quick overview of complete study
- Filter series based on contours or orientations
- Series composer to combine or rearrange series

**REPORT**
- Auto-populating report
- Automated reference values
- Drag and drop images
- Multiple export formats
- HL7 compatible†

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† New license required.
††ADAS 3D is licensed and manufactured by Adas3D Medical and distributed by Circle CVI.
Comprehensive, fast, accurate reading and reporting for cardiac MR

Function
Detect wall motion abnormalities, stroke volume, ejection fraction, volumes and masses

**SHORT AXIS**
- Full ventricular and atrial assessment
- Automated AI-based ventricular contour detection
- Circle’s thresholding tool

**MULTIPLE LONG AXIS**
- Quick and highly reproducible LV assessment
- Semi-automated contour detection
- Dynamic assessment of atrioventricular junction

**LONG AXIS**
- Fully automated AI-based LV and LAVRA assessment
- Automated ventricular contour detection

**MYOCARDIAL STRAIN**
- Fully automated AI-based LV assessment
- Radial, circumferential and longitudinal strain
- Strain rate, displacement, velocity and torsion and torsion rate
Flow

Quantify flow, automatically calculate Qp:Qs and correct for aliasing

2D FLOW
- Full flow analysis for volumes, fraction, velocities and gradients
- Semi-automated contour detection
- Offset correction and antialiasing
- Flow comparisons and Qp:Qs

4D FLOW†

Pre-Processing
- Crop large data sets to a ROI
- 4D offset correction and antialiasing
- Comprehensive 4D viewer for flow dynamics

Segmentation
- PCMRA optimization for small or big sized vessels
  - Advanced vessel segmentation, centerline correction and extraction for multiple structures
- Export volume as STL file

Analysis
- Diverse flow visualization
- Automated vessel lumen detection and planar flow measurement
- Semi-automated Qp:Qs calculation:
  - Pulse Wave Velocity
  - Circumferential and axial
- Wall Shear Stress

Advanced Research Tools
- Calculation and visualization in 3D including direct, residual, delayed and retained flow components, relative pressure, Wall Shear
- Stress and energy loss
Tissue

Assessment of myocardial scar, edema, MVO, ECV and iron concentration

**T1 & T2 SIGNAL INTENSITY**
- Analysis of early and late enhancement and T2 weighted images
- AI-based contour detection
- Semi-automated regional scar, global scar, edema and MVO analysis
- Derive and synchronize contours between series

**T2* MAPPING**
- Global and regional T2* analysis
- T2* color overlay
- Reporting of iron content

**T1 & T2 MAPPING**
- Global and regional T1 & T2 analysis
- Motion correction
- T1, T2 and ECV map generation with customizable color charts
Perfusion

Detect myocardial blood flow perfusion defects to assess Ischemic Heart Disease

QUALITATIVE ANALYSIS
- Simple viewing for visual analysis of rest and stress perfusion images next to scar and wall motion series

SEMI-QUANTITATIVE PERFUSION
- Polar map and curve display of perfusion parameter including MPR

FULLY AUTOMATED QUANTITATIVE PERFUSION
- Vendor neutral
- Absolute ml/g/min
- Pixel maps and polar map display of perfusion parameters including MPR
- Free breathing acquisition (cvi42 MoCo)
- Dual bolus, pre-bolus, and single bolus support
- Multi stress and multi agent contrast support
Assess complex cardiovascular morphology in 2D/3D with diverse measurement tools

**4D VIEWER**
- 3D/4D data display
- DVR, Angio and MIP renderings
- Full and semi-automated segmentation and calculations

**MPR**
- Full complement measurement tools
- Predefined, customizable worklists
- 3D/4D volume rendering
- Vessel surfing

**VASCULAR**
- Vessel lumen and stenosis measurements
- Semi-automated vessel segmentation and centerline extraction
- Volume and MIP renderings
Automated non-invasive pre-procedural planning for the EP Lab

**ADAS 3D LV†,††**
- Visualize the fibrosis (LGE-MRI) in 3D colored images
- Quantify Core scar and Border Zone (BZ) volumes
- Navigate 9 layers from endo to epicardium
- Visualize automated detected corridors of BZ tissue
- Quantify LV wall thickness (CT)

**ADAS 3D LA†,††**
- Visualize the distribution and quantify the amount of enhanced fibrosis
- Visualize and navigate around the LA in 3D
- Display adjacent structures including the esophagus

A new partnership between EP and Cardiac Imaging

**Pre-Procedure Planning**
before any electronanatomical mapping

**Peri-Procedure Use**
with EAM systems

- **Acquire**
  DE MRI and/or CT images and import into ADAS 3D

- **Analyze**
  ADAS 3D images to plan to procedure

- **Identify**
  Areas that may be challenging to find only using EAM

Utilize MR/CT imaging to quantify LV/LA fibrosis and LV wall thickness

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Fast and efficient Structural Heart interventional planning

AORTIC VALVE†
- Assisted annulus detection based on anatomical landmarks
- Measurements of aortic annulus, LVOT, sinus of Valsalva, sinotubular junction
- Automated C-Arm perpendicularly position

MITRAL VALVE†
- Placing detection of mitral, aortic and apex landmarks
- Simple annulus definition and Mitral calcification
- Extensive mitral infographics

VASCULAR ACCESS
- Automated segmentation
- Smart control points
- Centerline correction
- Centerline-based cross sectional views

TRANS SEPTAL
- Ability to define different structures
- Visualize structures in fluoroscopic Simulation
- View access route from IVC to Mitral Valve

Better understanding of anatomy to predict, plan and visualize aortic and mitral procedures
Specialized tools for Coronary Artery Disease Assessment using Cardiac CT

**CORONARY ARTERIES**
- Vessel and valve anatomy in CTA
- Segment and extract centerlines for stenosis measurements
- Vessel displays including projected, stretched, straightened CPR and multi cross-sectional

**PLAQUE ASSESSMENT**
- Automated quantification for calcified, non-calcified, and low-density non-calcified coronary plaque

**CALCIMUM SCORING**
- Quantification of plaque load in coronary arteries
- Automated Agatston classification and percentile demographic ranking
- Customizable threshold and calibration factor

Automated and powerful integration for Auto-Plaque quantification

¹ New license required.
Continuous Innovation for Efficient, Accurate and Optimized workflow Based on User Experience

Brief Summary: Indications, contraindications, warnings and precautions can be found in the product labelling. CAUTION: Federal law (USA) restricts these devices for sale by, or on the order of a physician. The system is intended for use only by trained Healthcare Professionals.