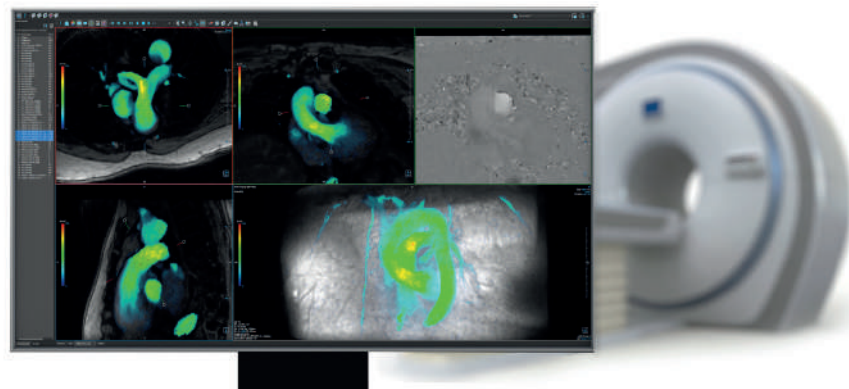# Medis Suite MR
Cardiac diagnostics made simple.

A comprehensive, time-saving and validated solution for Cardiac MR post-processing

Product Specification Sheet

Medis Suite Platform

- Support for Cardiac MR studies of all major MR vendors
- Import of studies from local storage media or via DICOM connectivity from scanner or PACS.
- Centralized database, thick client solution possible with multiple clients
- AutoQ for preprocessing data and the generation of AI myocardial contours
- Effortlessly review series side by side, utilize cross-referencing tools, quickly page through series, and perform simple caliper measurements.
- Enhanced workflow by running multiple apps or prior exams in parallel
- Generate enhanced clinical reports that combine all measurements into a single document. Capture snapshots, add comments, save as PDF, and view in text format. Support for XML, DICOM Structured Report, and JSON output
- User log in and Role Based Access Control
- User interface and User manual available in multiple language for the clinical applications
- Seamless deployment of upgrade from server to clients **NEW**

QMass Function Module

- Automated LV and RV function analysis on SAX images by deep learning contours and automatic series detection **NEW**
- Area-length and Bi-plane volumetric analysis methods for long axis cines enhanced with deep learning contour detection.
- Quantification of custom volumes, such as atrial volumes
- Auto-detection of papillary muscles and trabeculae with "MassK mode"
- Quantification of EDV, ESV, SV, %EF, CO, CI, indexed values (BSA and height), (time to) peak filling and ejection rate
- Various BSA calculation methods for indexed results
- Normal ranges embedded and calculations of z-scores **NEW**
- Analysis of regional parameters, such as wall motion, wall thickness, wall thickening and wall thickness changes over time

QMass Delayed Signal Intensity (DSI) module and T2w analysis

- Various threshold calculation methods for automatic infarct detection
- Enhanced workflow by deep learning contours **NEW**
- Quantification of infarct size (% and mass) and infarct transmurality
- Quantifying regions of hyper-, intermediate and hypo-intense signal intensities
- Threshold per slice or per sequence of slices
- T2 weighted analysis for oedema detection
- Combined DSI and T2 weighted analysis for calculating myocardial salvage
- T2-ratio

QMass Time Signal Intensity (TSI) module

- Enhanced Contour registration to correct for breathing motion
- Baseline correction methods
- Automatic calculation of relative upslope
- Signal intensity curves per myocardial segment and user defined ROI's
- Set transmural range for measurement of subendocardial and subepicardial perfusion curves
- Segmental results are generated and are part of the XML and JSON report output
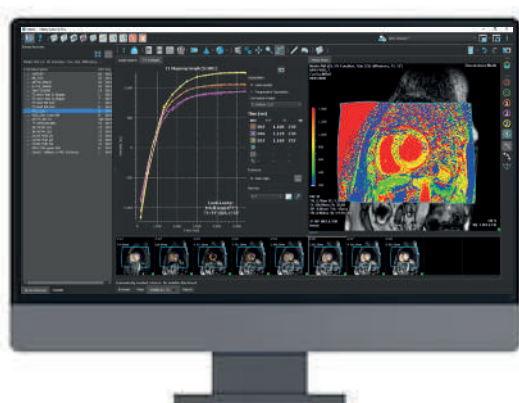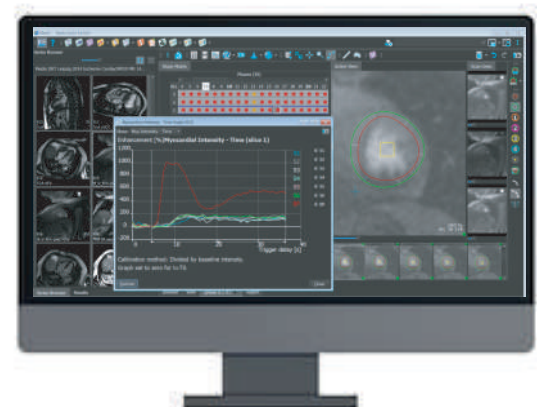
QMass T1 and T2/T2* analysis module

- Measure T1 value based on automatic motion corrected T1 Maps
- Calculation of T1 relaxation time in MOLLI and Look Locker sequences
- Calculation of residual maps
- Color overlay
- Quantification of iron overload from T2* analysis **NEW**
- Fast quantification of T2 and T2* decay time and decay rate
- Correct for breathing motion

QFlow module

- Phase-contrast MR blood flow analysis
- Automatic contour detection
- Various background correction methods to correct for flow-induced artifacts
- Phase unwrapping to correct for aliasing
- Color-coding to visualize velocities
- Display of min and max velocity pixels
- Calculation of velocities, blood flow, regurgitation in up to 4 ROI's
- Calculation of maximum pressure and mean systolic pressure gradient
- Quantification of CSF flow

QFlow 4D module

- Automatic mitral valve tracking for flow and regurgitatoin quantification **NEW**
- Support for manual tricuspid, aortic and pulmonary valve tracking
- Simple MPR (multi planar reformatting) tool to quantify flow volumes, regurgitation fraction and peak flow velocity
- Automatic noise removal **NEW**
- Phase unwrapping functionality to correct for aliasing
- Automatic background offset correction **NEW**
- Various overlay options are available, including color overlays for speed, streamlines, and vectors.
- Visualize flow patterns on 2D anatomical images
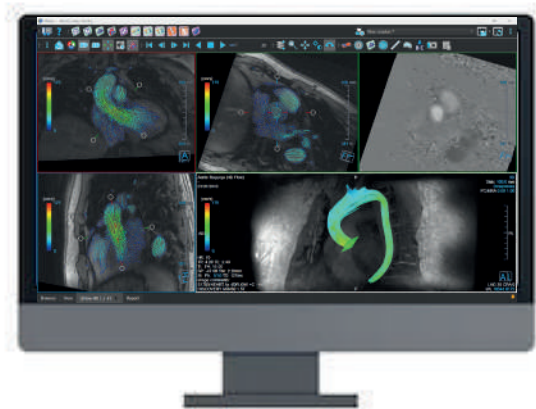
QStrain

- Automatic strain quantificiation for LV, RV, LA and RA using deep learning contour detection and automatic series detection **NEW**
- Quantification of global longitudinal, radial and circumferential strain as well as regional analysis
- Rubber banding and other contour editing tools to allow for easy contour manipulation
- Quantification of delta rotation
- Quantification of 16 segment AHA strain parameters: strain, strain rate, velocity and displacement
- Generate results for endo, mid and epicardial wall
- More extensively research report can be exported in XML and MS-Excel
- Quantification of Inward Displacement (InwD) and Inward Displacement Index (InwInd) allowing for the objective evaluation of regional dysfunction

3DView module
- Viewing 3D MR and CT Angiography series, double oblique viewing, MPR, MIP, slabbed MIP, VR
- CPR (Curved Planar Reformatting)
- Efficient caliper measurements, including double distance measurement
- Sculpting (isolating custom volume of interest)
- Create reformats

QMap T1, T2 and ECV mapping
For research use only

- Create parametric maps for T1, T2 and ECV
- Comprehensive results for myocardial segments represented in a bullseye plot and up to 4 user-defined ROIs per slice
- Display of relaxation or decay curves
- Automatic Motion Correction for pre- and post-contrast T images
- Flexible manual motion correction
- Flexible co-registration of T1 native (pre-contrast) and T1 post-contrast maps
- The 16 segment model results are part of the XML and JSON report output
- Save maps as DICOM and results to MS Excel
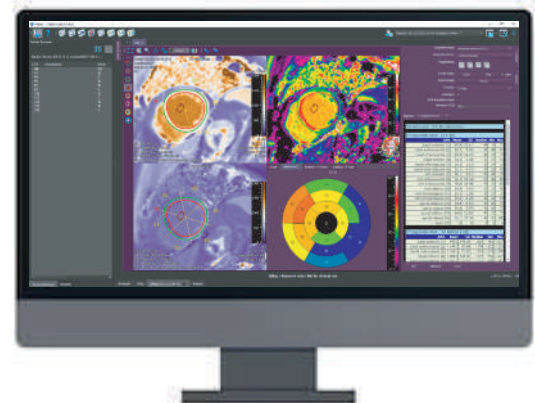
QStrain Hemodynamic Forces and PV loop
For research-use only
- Instant calculation of Hemodynamic Forces from routine apical views, based on a mathematical model validated against 4D Flow MRI
- Hemodynamic Forces (HDF) analysis for the evaluation of IntraVentricular Pressure Gradients (IVPGs), a global property describing LV function
- Calculation of non-invasive PV loops from routine apical views including a simulator tool.

Available packages

Medis Suite MR — Packages

	Modules	Premium Plus	Advanced	Essentials	Add-on 4DFlow	Add-on PV-loops
Clinical	Medis Suite Platform	✓	✓	✓		
	AutoQ	✓	✓	✓		
	3D View	✓	✓	✓		
	Function Global	✓	✓	✓		
	Function Regional	✓	✓			
	DSI	✓	✓	✓		
	TSI	✓	✓			
	T1	✓	✓			
	T2/T2*	✓	✓			
	2D Flow	✓	✓	✓		
	4D Flow				✓	
	Strain LV	✓				
	Strain RV and Atrium	✓				
	Inward Displacement	✓				
Research	T1	✓	✓			
	T2/T2*	✓	✓			
	ECV	✓	✓			
	Hemodynamic Forces	✓				
	PV-Loops					✓