POWERED BY AI
ELEVATED BY YOU

Vivid™ S70N
Ultra Edition

gehealthcare.com/vivid

About GE Healthcare

GE Healthcare is a leading global medical technology and digital solutions innovator. GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world.

Follow us on Facebook, LinkedIn, Twitter and Insights , or visit our website www.gehealthcare.com for more information.

1. Forecasting the Future of Cardiovascular Disease in the United State, AHA Policy Statement, 2011, source: CIR.0b013e31820a55f5
2. Source: Healthcare Infrastructure and Procedural Volume for Ultrasound Imaging, Frost & Sullivan, 2018. Approx. 108.12 million echo exams are performed annually; Calculation based on 26% total global prevalence of CVD cases (422 million) undergoing echo exam; extrapolated from US study indicating roughly 26% of total prevalent CVD cases underwent echo exams percentage value validated from reports.https://www.prb.org/wp-content/uploads/2015/12/2015-world-population-data-sheet_eng.pdf
3. Kurt M, Shaikh K, Peterson L, et al. Impact on contrast echocardiography on evaluation of ventricular function & clinical management in a large prospective cohort. J Am Coll Cardiol. 2009; 53(9):802-810
4. Work Related Musculoskeletal Disorders In Sonography, Society Of Diagnostic Medical Sonography, 2018, Susan Murphey, BS, RDMS, RDCS, CECD https://www.sdms.org/docs/default-source/Resources/work-related-musculoskeletal-disorders-in-sonography-white-paper.pdf?sfvrsn=8
5. The Role of AI in Streamlining Echocardiography Quantification White Paper, Kristin McLeod - JB80498XX
6. Based on results of time and motion study conducted by GE "JB49055XX - Cardiac Auto Doppler"; study results indicated time savings related productivity increase up to ~8 on an annual basis for a facility per sonographer
7. European Association of Echocardiography recommendations for standardization of performance, digital storage and reporting of echocardiographic studies (Eur Journal of Echo 2008 – Evangelista, Badano, Monaghan, Zamorano, Lancellotti).
8. Recommendations for Quantification of Doppler Echocardiography: A Report From the Doppler Quantification Task Force of the Nomenclature and Standards Committee of the American Society of Echocardiography (JASE 2002)
9. Centricity Cardio Workflow v7 Intelligent Reporting out-of-the-box configuration compared to 2017 IAC guidelines excluding doppler. CCW Intellgent Reporting Outcome - JB74831XX
10. EchoPAC Suite is a marketing name for EchoPAC Plug-in
11. With the DICOM SR support, Measures & Analysis (M&A) for an exam can be sent at the end of the exam or when exported from local archive. The destination can be either a server on the network (Storage SCP) or a removable media (DICOM Media) depending on the DICOM dataflow selected. Custom measurements supported only for Adult Echo (TID5200) and Pediatric Heart (TID5220).
12. https://www.ncbi.nlm.nih.gov/pubmed/27689562
13. Data Breaches Will Cost Healthcare $4B in 2019, Threats Outpace Tech, healthitsecurity, source: t.ly/xrAA
14. 5 Tips for Controlling Costs in Hospitals and Biomed Shops, source: t.ly/l9n7
15. Errors in Sonography, DOI: 10.1007/978-88-470-2339-0_8. https://www.researchgate.net/publication/279616130_Errors_in_Sonography
16. e. a. M. Mårtensson, «High incidence of defective ultrasound transducers in use in routine clinical practice», European Journal of Echocardiography, vol. 10, no. 3, pp. 389-394, 2009. https://academic.oup.com/ehjcimaging/article/10/3/389/2396618 https://probehunter.com/wp-content/uploads/FULLTEXT01.pdf
17. A multicentre survey of the condition of ultrasound probes, Ultrasound. 2016 Nov, Published online 2016 Aug 1. doi: 10.1177/1742271X16662301. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5098704/
18. GE internal data
19. Digital Expert is only offered in the USA

AI **AFI LV with AI View Recognition**

Fully automatic recognition of the apical imaging views and measurements of GLS and segmental longitudinal Strain for LV.

Your time is precious.
Save it.
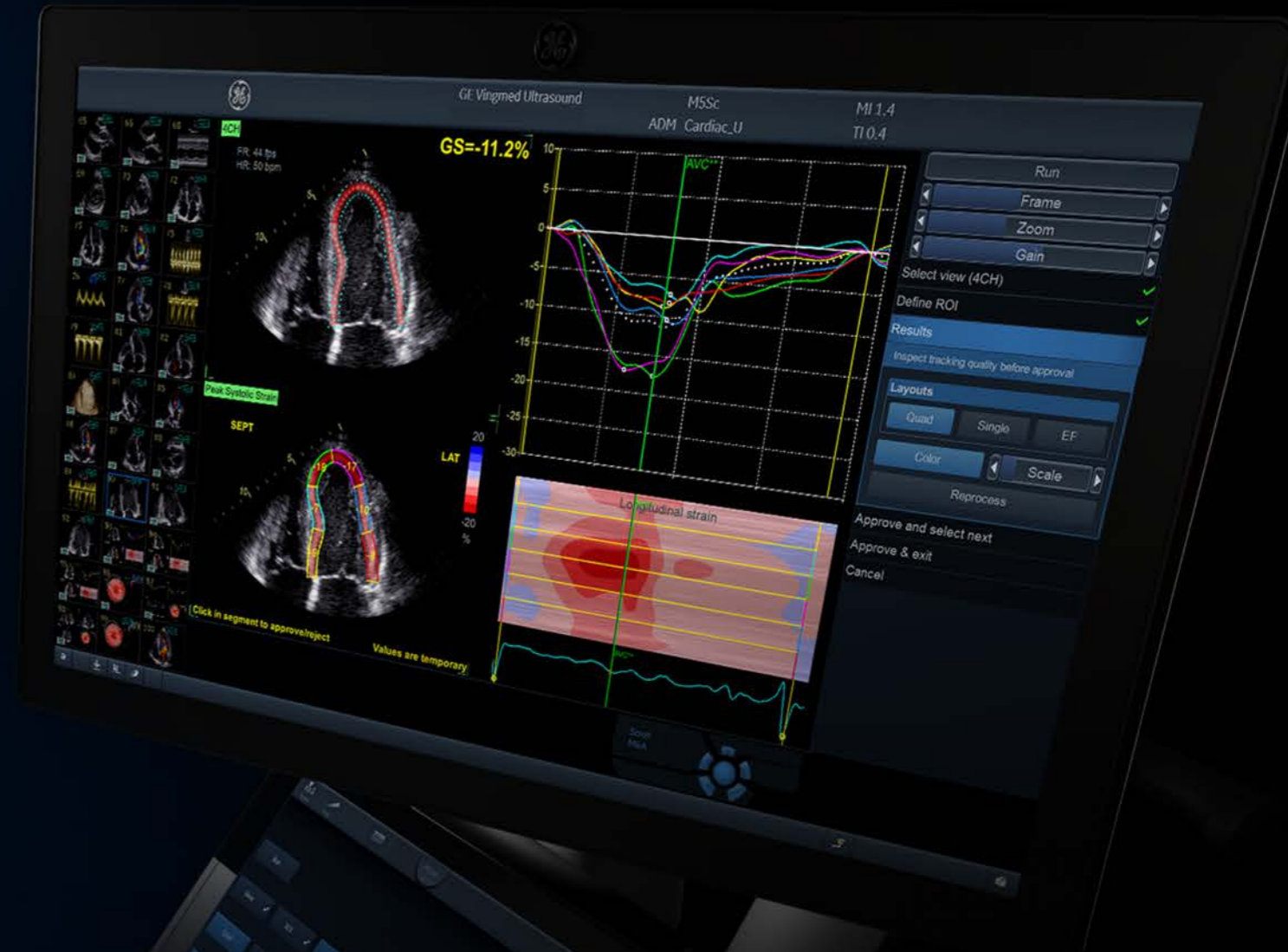
POWERED BY AI

Improve diagnostic speed and accuracy

Vivid S70N Ultra Edition introduces the latest AI-based technology to help reduce tedious tasks and improve workflow efficiency. Diagnose more confidently and accelerate exams via automated (AI-driven) Cardiac Doppler and 2D LV measurements.

The results are impressive. Exam time is reduced, and operator fatigue minimized with up to 80% less clicks to get 2D measurements, and inter-observer variability diminished. [5]

Discover the many innovations brought by the Vivid Ultra Edition, and more importantly, how these can contribute to make clinical practice - Elevated by You.

Ultra Fast.
Ultra Precise.
Ultra Efficient.

AI **Cardiac Auto Doppler with AI**

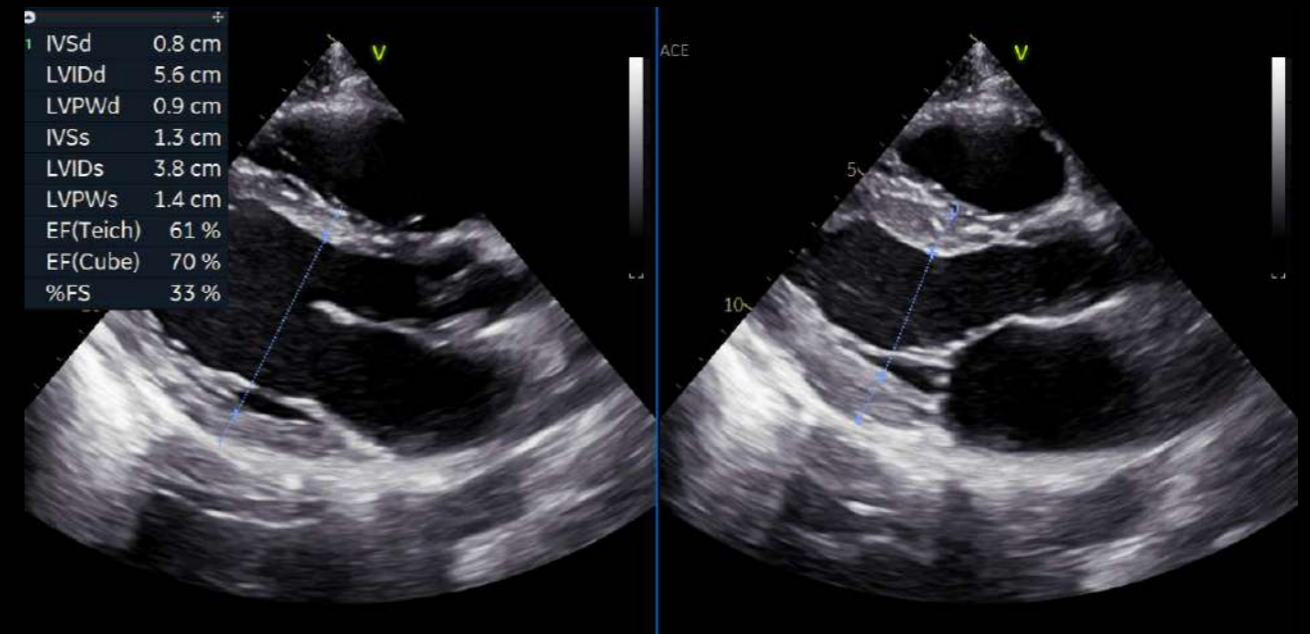| REDUCED TIME PER MEASUREMENT	LOWER INTER OPERATOR VARIABILITY	ACCELERATED WORKFLOW
UP TO **93%**	REDUCE VARIABILITY ~3x	
Fewer Keystrokes [6]	*Standardized exams with greater reproducibility [6]*	*Productivity improvement*

POWERED BY AI
ELEVATED BY YOU

At GE Healthcare we strive to empower you by reducing wasted time and effort. We aim to remove tedious tasks and help make every moment count for your patients – seeing problems clearly and quickly, performing procedures with great precision... and providing quality of care for all.

Powered By
Edison

CLINICAL EXCELLENCE
for the Echo Lab

LESS CLICKS, UP TO[5]
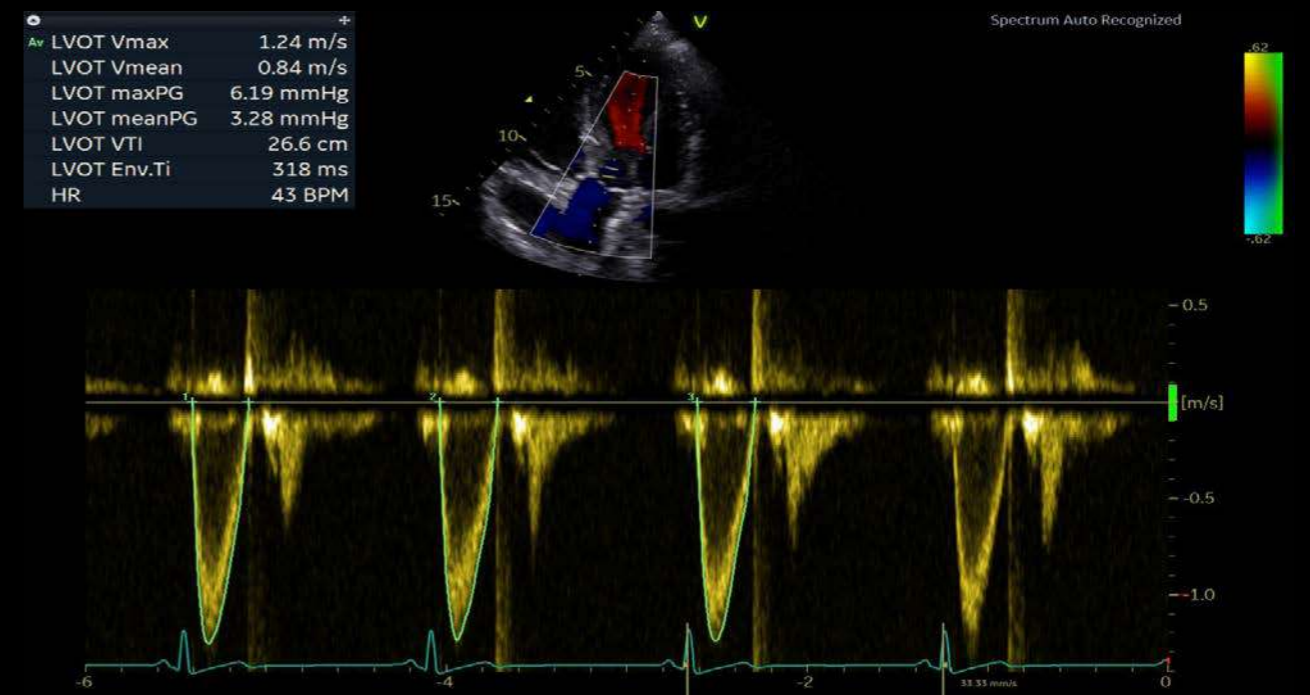### -80%

AI **AI Auto Measure 2D**

With the power of AI, the manual caliper measurements can be completed with 3 clicks: **Freeze – Measure – Auto.** A full set of reproducible measurements will instantly appear on the screen.

IVSd	0.8 cm	
LVIDd	5.6 cm	
LVPWd	0.9 cm	
IVSs	1.3 cm	
LVIDs	3.8 cm	
LVPWs	1.4 cm	
EF(Teich)	61 %	
EF(Cube)	70 %	
%FS	33 %	

ACCURACY[5]
98%

AI **AI Auto Measure Spectrum Recognition**

With the power of AI, a wide range of Doppler measurements can be completed with 2 clicks: **Freeze – Measure.** A Doppler trace and full set of associated measurements will instantly appear on the screen.

Spectrum Auto Recognized

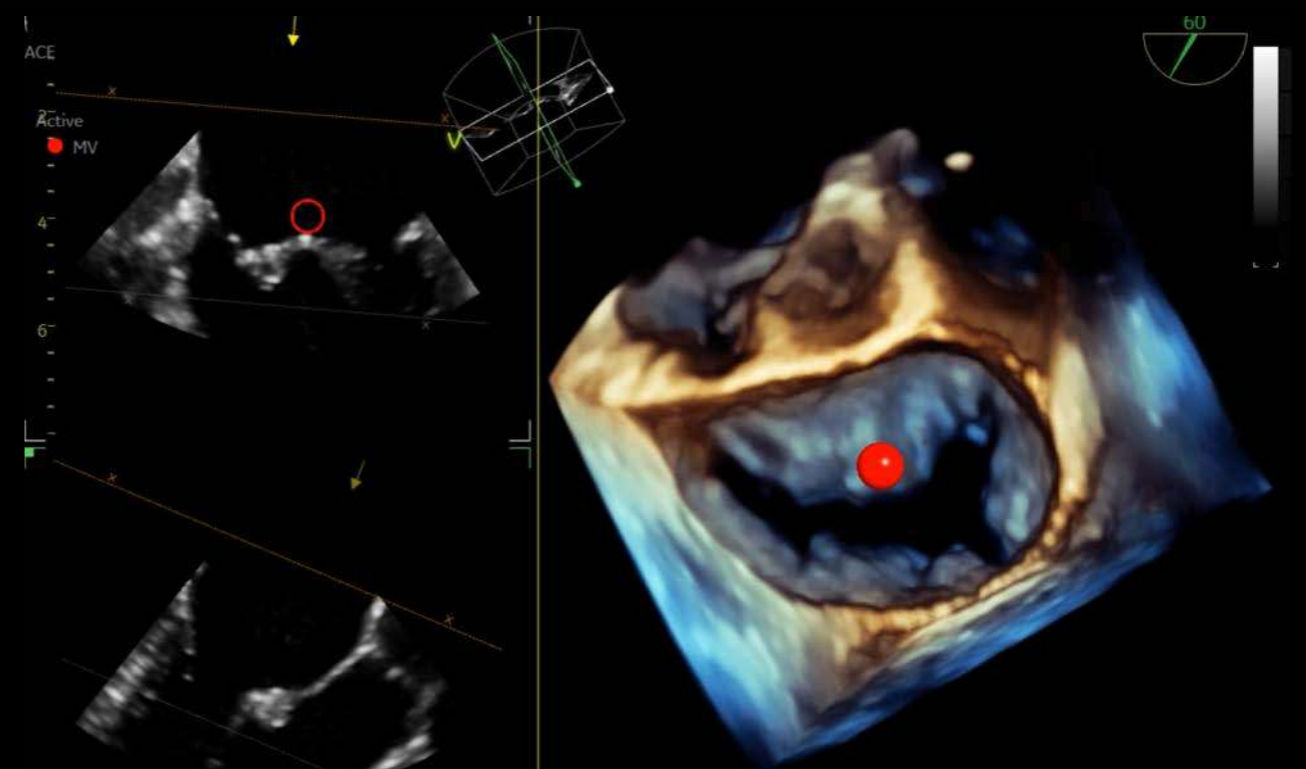|	
LVOT Vmax	1.24 m/s
LVOT Vmean	0.84 m/s
LVOT maxPG	6.19 mmHg
LVOT meanPG	3.28 mmHg
LVOT VTI	26.6 cm
LVOT Env.Ti	318 ms
HR	43 BPM

HD Color

HD Color is a 4D color flow rendering technique for volumetric flow perception and semi-transparent visualization of origin and size of high velocity jets

CLINICAL EXCELLENCE
for Interventional Procedures

Demand for interventional procedures is growing and so are expectations of the heart team. Grow your capacity and capabilities with advanced ultrasound and conquer difficult cases.

Structural heart procedure success depends on preparation, collaboration and clear communication. This complex task is rewarding, and the entire team contributes.

Vivid S70N Ultra Edition offers precise and uncomplicated tools to plan your interventions. With new visualization and navigation techniques, the heart team can see clearly, communicate quickly, and perform procedures with great precision.

4D Markers

Make annotations that are viewable from all angles on 4D ultrasound volume data sets and their 2D views, facilitating communication in the echo lab, cath lab and OR.
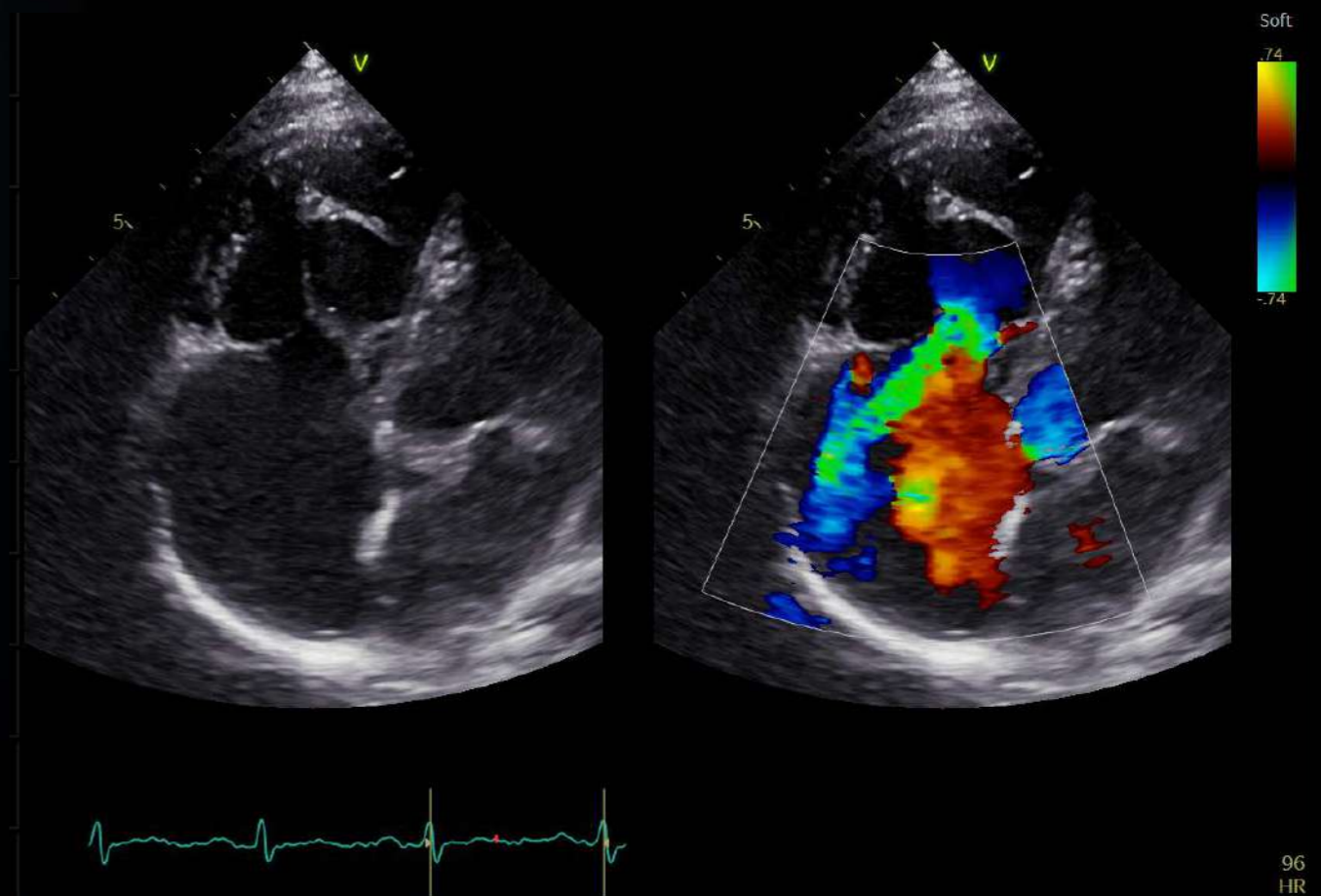
CLINICAL EXCELLENCE
for Pediatrics

The smallest cardiac patients can pose the biggest care challenges with difficult to diagnose, severe conditions.

That's why GE Healthcare designed the high-end Vivid S70N Ultra Edition with the extraordinary processing power of cSound to help you evaluate and navigate the complexities of pediatric hearts with speed, clarity and confidence.

Pediatric imaging

Visualize small anatomies with speed, clarity and confidence thanks to Vivid S70N Ultra Edition's superb high-resolution imaging and dedicated pediatric probes.
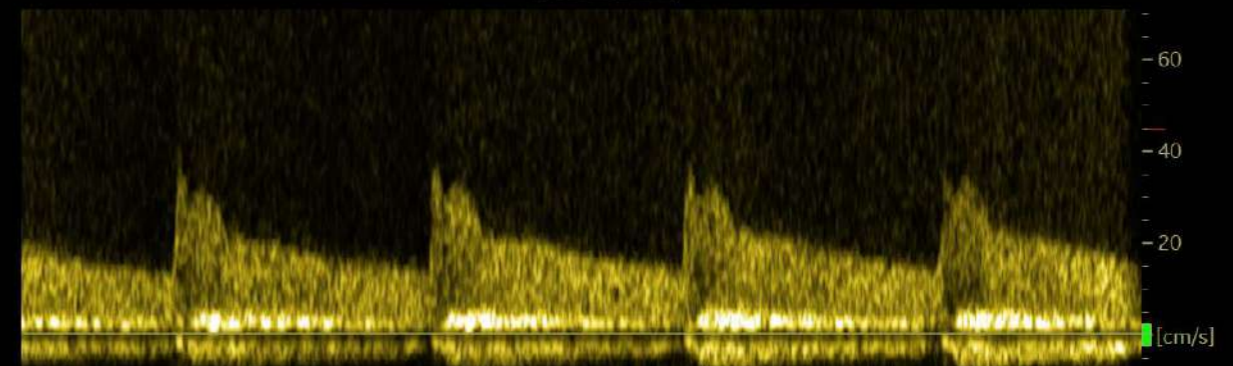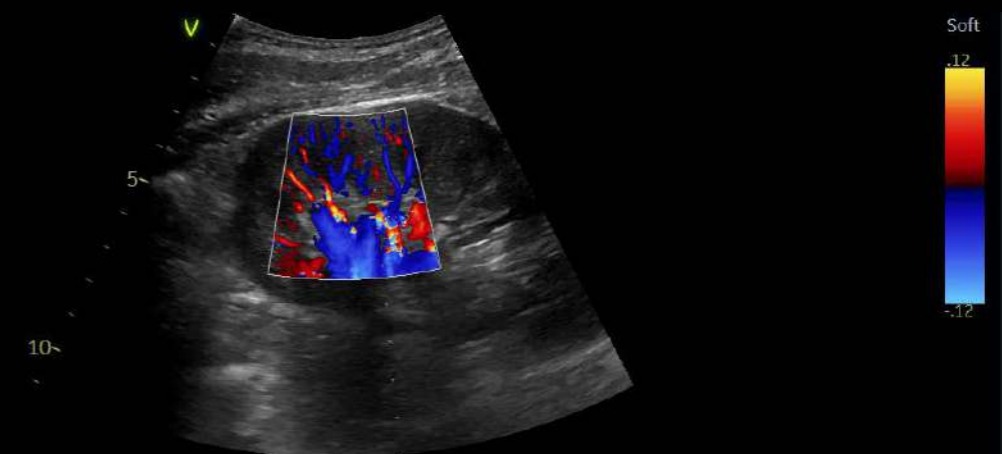
Vascular quantification

Develop fast and complete quantitative assessment of vascular anatomies, such as the Intima Media Thickness, with dedicated vascular measurement tools.
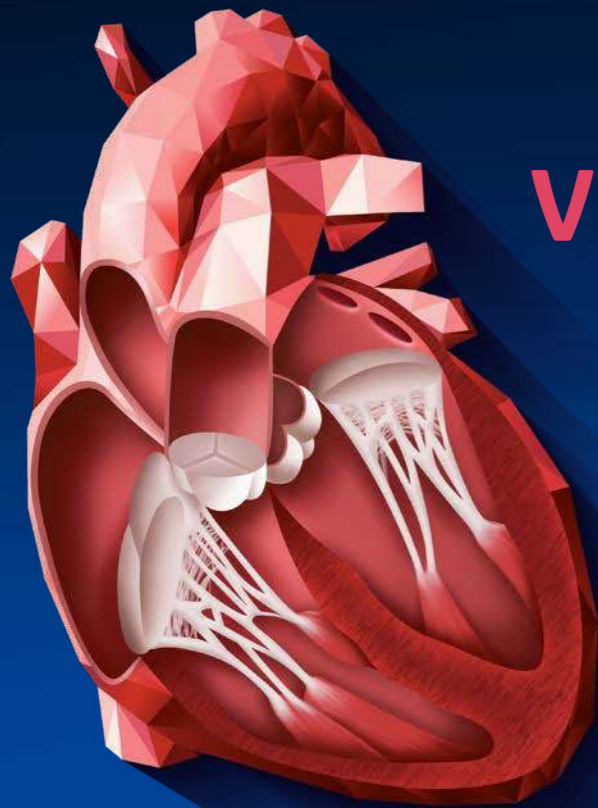

d	0.12 cm
IMT A Avg	0.59 mm
IMT A Max	0.76 mm
IMT A Min	0.40 mm
IMT A SD	0.08 mm
IMT A Pts	694
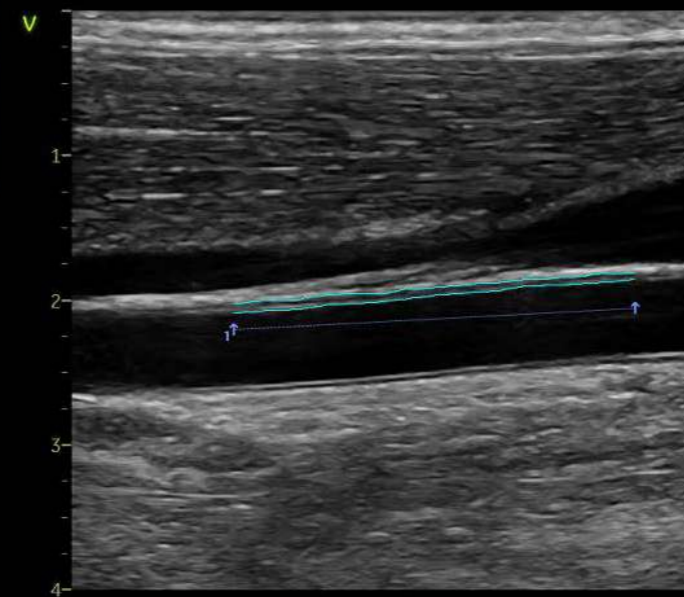
Abdomen diagnosis

Visualize tissues and flow patterns with greater details thanks to Vivid S70N Ultra Edition's high-resolution imaging.

CLINICAL EXCELLENCE
beyond Cardiology

The demand for multi-purpose, cost efficient ultrasound systems with uncompromised image quality is growing. Your Vivid S70N Ultra Edition will exceed your expectations across a wide range of applications.

While Vivid S70N Ultra Edition has been designed to address your needs for cardiac imaging, it proves very versatile as well, capable of providing you with superb images thanks to cSound technology, and diagnostic capabilities for a wide range of applications beyond the heart.

Vivid S70N Ultra Edition's efficient workflow, wide probe range and quantification tools ensure the confidence you need for speedy and accurate diagnosis also under challenging conditions.

Lightweight and slim, the Vivid S70N Ultra Edition is easy to maneuver. This facilitates your movements as you walk in the corridors from one department to another, and if need be, gives access to scanning at patient bedside.

Accurate diagnostics and precise measurements are achievable with premium image quality, dedicated presets and tools on your Vivid system.

Vivid **S70N** Ultra Edition

VIVID HEART
APPLICATIONS

A wide range of clinical applications for use in
Core Echo Lab, Interventional and Pediatrics.

VISUALIZATION AND NAVIGATION

Ultra Edition

4D Markers	FlexiSlice
FlexiViews	View-X

HD Color

FLOW QUANTIFICATION

Ultra Edition

Cardiac Auto Doppler **AI**

AI Auto Measure Spectrum Recognition **AI**

VALVES AND CHAMBERS QUANTIFICATION

Ultra Edition

4D Auto AVQ

4D Auto MVQ

4D Auto LVQ

AI Auto Measure 2D **AI**

Auto EF **AI**

AFI FUNCTIONAL IMAGING

Ultra Edition

AFI LV with AI View Recognition **AI**

AFI RV

AFI LA

VISUALIZATION AND NAVIGATION

Why guess? When you can see.
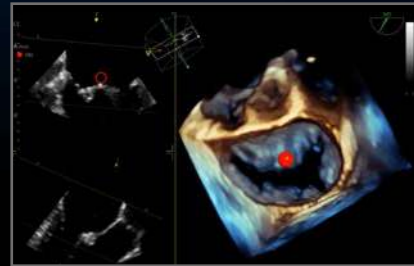
New in Ultra Edition

4D Markers

Make annotations that are viewable from all angles on 4D ultrasound volume data sets and their 2D views, facilitating communication in the echo lab, cath lab and OR.
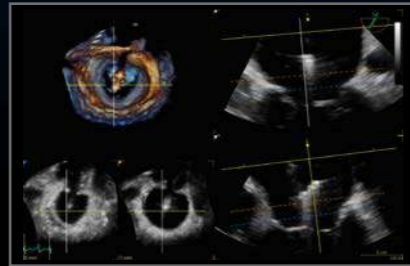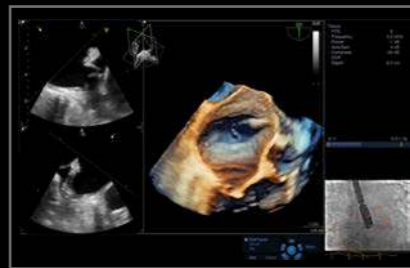
FlexiSlice

With a distance gauge and two viewing layouts, this interactive tool for obtaining 2D or render views in live or replay mode may provide enhanced insight as well as save time.
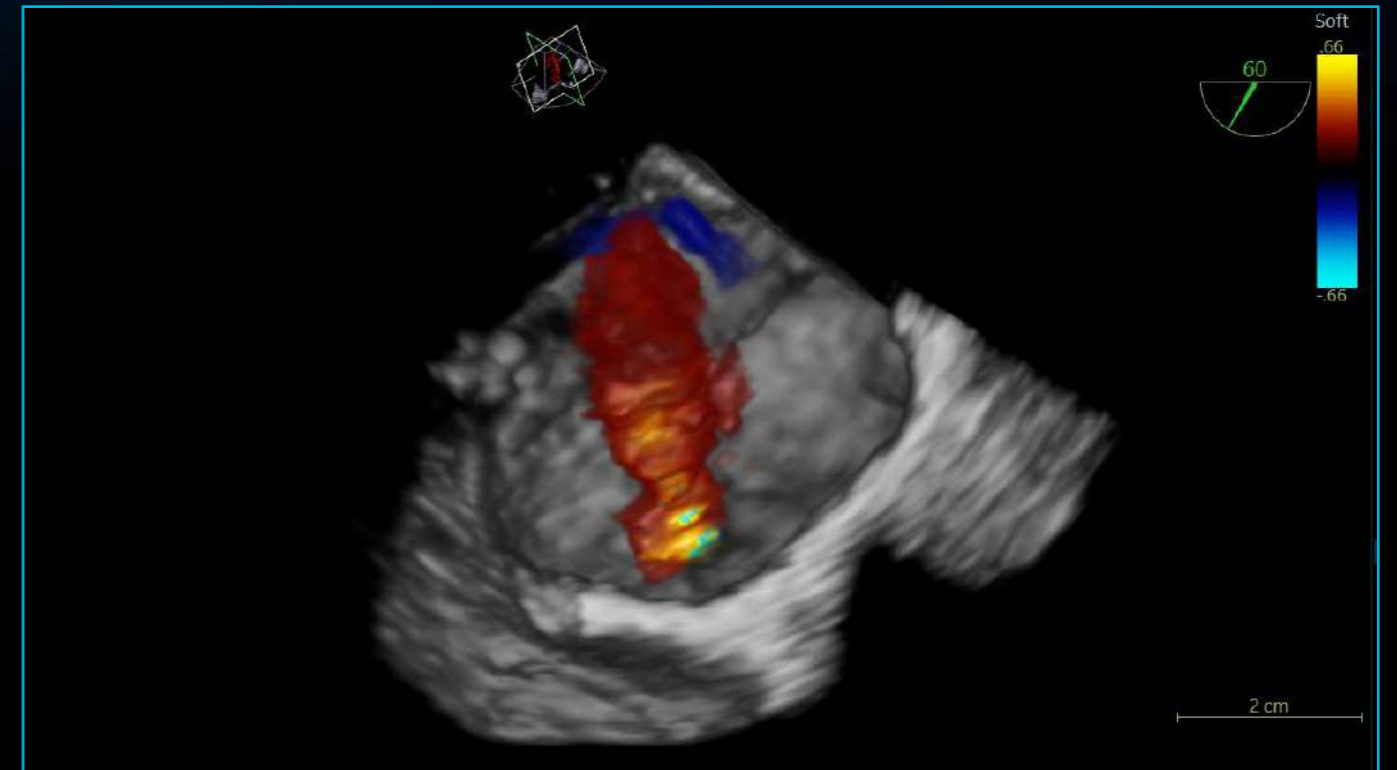
FlexiViews

Gain quick access to predefined 4D/multiplane views during live mode, potentially reducing scan time during complex interventional procedures.

View-X

See X-ray from fluoroscopy in real time right on your Vivid S70N Ultra Edition screen as a picture in picture, facilitating communication between team members.

Ultra Edition | **HD Color**

4D color flow rendering technique for semi-transparent visualization of origin and size of high velocity jets.

Benefits:
- Enhance spatial relationships between flow and the surrounding structures
- Suppress non-diagnostic low flow information
- Work seamlessly with other visualization techniques such as 4D markers
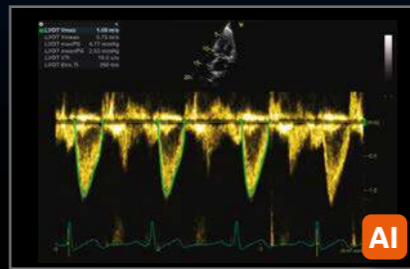- Supports 4D color flow data also from previous releases

FLOW QUANTIFICATION

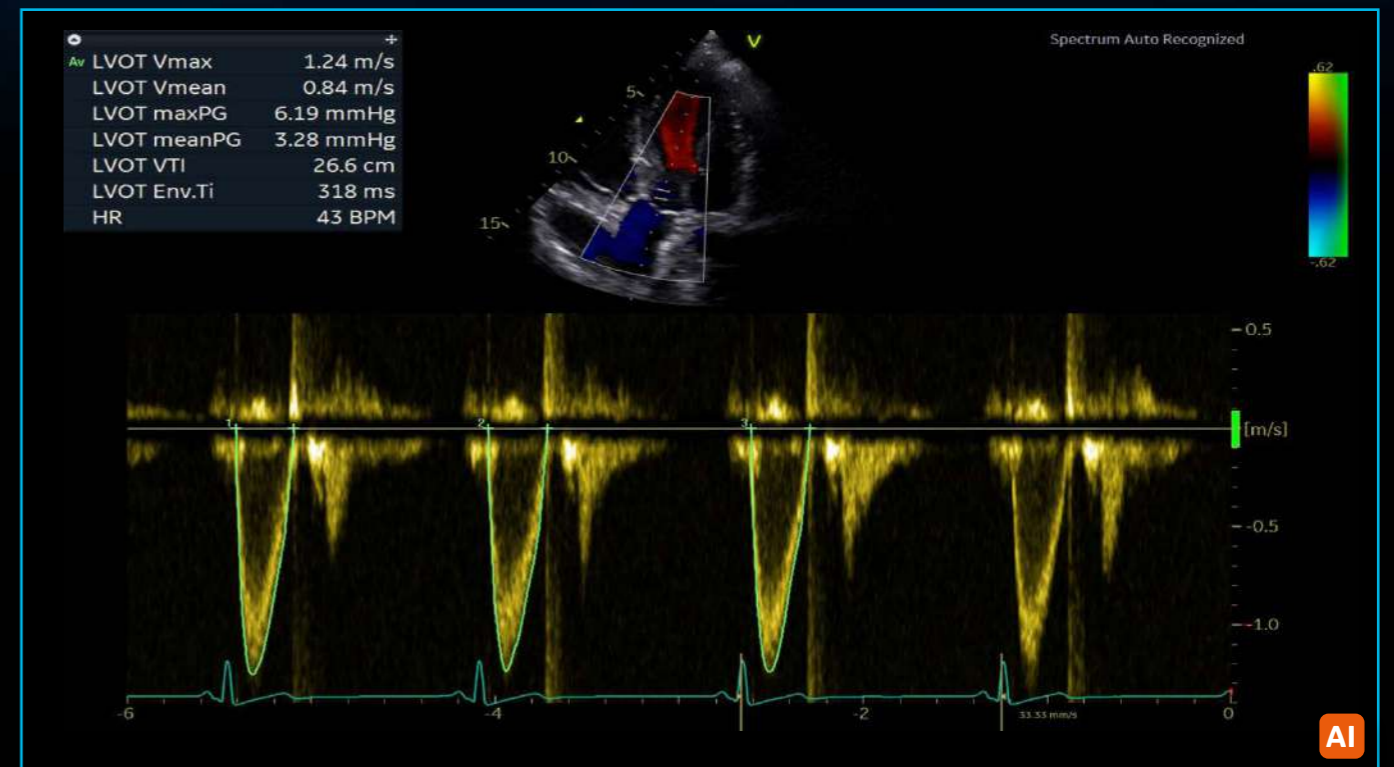*Your time is precious. Save it.*

New in Ultra Edition

Cardiac Auto Doppler

Semi-automatic Cardiac Doppler measurements.

Benefits:

- Enhances reproducibility of follow-up studies when used in automated mode [6]

- Offers Doppler measurement in multiple cardiac cycles as recommended by guidelines for irregular heart rhythms [7,8]

- Supports less experienced users with advanced automation

| Ultra Edition | **AI Auto Measure - Spectrum Recognition** |

Semi-automatic selection of appropriate spectral Doppler measurement tool.

Benefits:

- Enables fewer manual interactions by automatically opening the appropriate measurement tool [5]

- Works seamlessly with Cardiac Auto Doppler

- Enhances reproducibility of follow-up studies when used in automated mode [5]

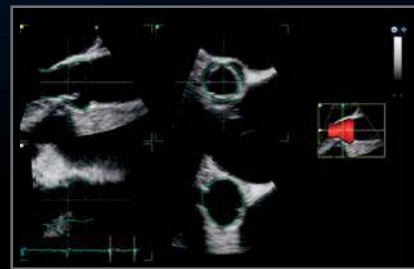- Supports less experienced users with advanced automation

APPLICATIONS POWERED BY **AI**
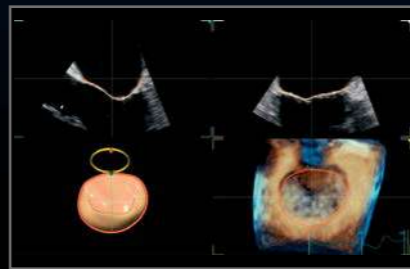
VALVES AND CHAMBERS QUANTIFICATION

New in Ultra Edition

Precision at the heart of quantification.
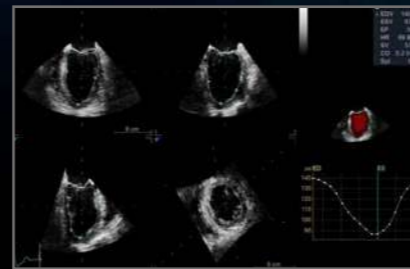

4D Auto AVQ

Automatically segment, align and quantify the aortic outflow tract – vital to device sizing and orientation for TAVI/TAVR procedures.

4D Auto MVQ

Supporting TEE images, this integrated package helps visualize and quantify the mitral valve via a semi-automatic, surface-detecting algorithm.

4D Auto LVQ

Adapted to work with full volume data sets acquired with the 4D TEE transducer, 4D Auto LVQ for TEE brings you a fast and easy automated method for left ventricle quantification, including volumes and ejection fraction.

Ultra Edition

AI Auto Measure 2D

Semi-automated LV dimension measurements (2D calipers) in the parasternal long axis view, reducing manual interactions.

Benefits:
- Achieves fast measurements of left ventricle dimensions:
  - Up to 80% less clicks [5]
  - No need to scroll to look for ED and ES frames
  - Reduce manual workflow during analysis of cardiac images
- Improves reliability and repeatability of measurements – potentially increasing reproducibility for follow-up studies

Ultra Edition

Auto EF

Powered by AI-based View Recognition, Auto EF provides semi-automated quantification of left ventricular volumes and ejection fraction.

Benefits:
- Achieves fast measurements of ejection fraction
- DICOM® support. Assessment of the left ventricle ejection fraction also on data sets acquired on other vendors' systems

APPLICATIONS POWERED BY **AI**