



# Artificial Intelligence for Echocardiography Analysis

Unlock the diagnostic and prognostic value of  
echocardiography to help diagnose heart disease earlier



## EchoGo

[ultromics.com/echogo](https://ultromics.com/echogo)

# Using AI to Automate Diagnostics for all

Since 2011, Ultromics has been focused on solving the pain points with cardiac imaging - using innovative AI and Machine Learning to improve diagnostic accuracy and save time – enabling physicians to make the right diagnoses of the #1 global killer - Heart Disease.

Many diagnostic tests require manual inputs and analysis, making them time consuming, expensive, and leaving room for error.

Ultromics' products enable cloud-based automation of one of the world's most popular methods of heart disease testing, Echocardiography, where unexpected error rates as high as 20% have been documented.

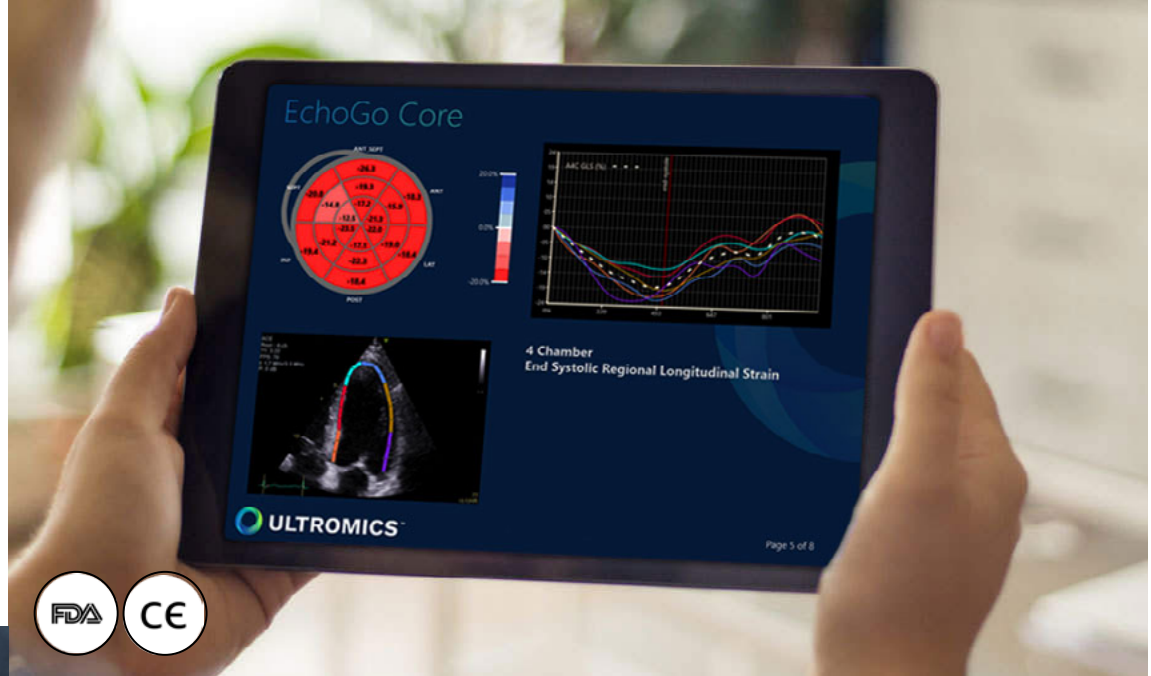
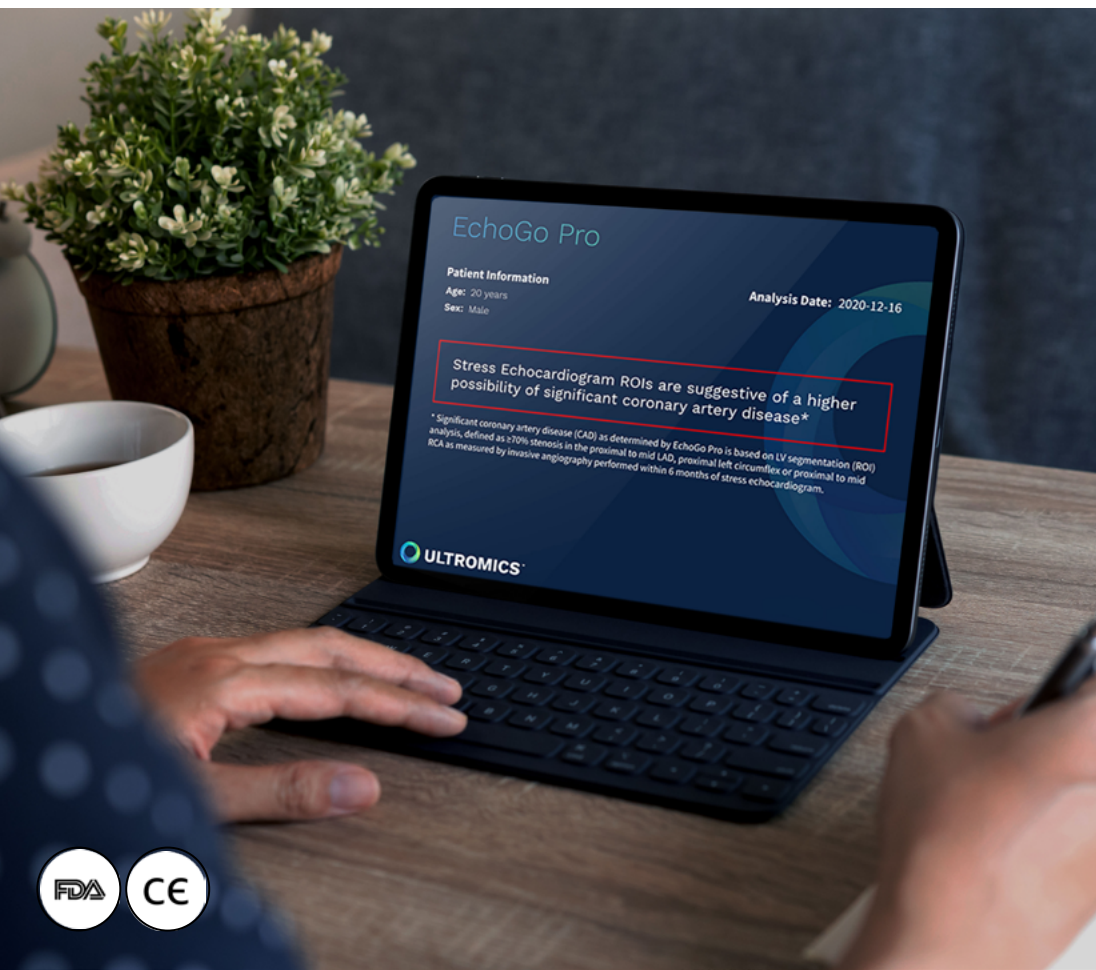
Using Artificial Intelligence, Ultromics is revolutionizing Cardiac imaging and helping providers better diagnose, treat, and manage Heart Disease.







Research collaborators and partners



Built in partnership with NHS, EchoGo is the world's first cloud-based SaaS platform which uses AI to analyze echocardiographic data instantly and reliably - without the need for software on site.

The ground-breaking platform delivers high-fidelity diagnostic and prognostic indicators at scale, providing physicians with the most complete view of their patients physiology allowing for earlier diagnoses of heart disease, and initiating therapies and interventions that will help save lives and extend lifestyles.

# Technology Built on Outcomes

The foundations of EchoGo's ground-breaking technology and internationally patented Artificial Intelligence was trained from a one-of-kind outcomes-based dataset ethically sourced, enabling Ultromics not only to provide high-fidelity diagnostic and prognostic indicators, but also accurately predict outcomes such as mortality and extended hospitalizations.

Spun out of the University of Oxford, one of the world's most prestigious scientific and academic venues, EchoGo was built with the leading minds in the space of Artificial Intelligence and Machine Learning, and has been refined and validated over many years using the most rigorous scientific best practices, with leading organizations such as NHS England.





# Benefits of using EchoGo

Embedding EchoGo into diagnostics reduces opportunities for human error and allows all health systems, hospitals, cardiology practices, and imaging centers to provide their patients with precise, accurate, and timely heart disease diagnostics.

For medical professionals, AI-enabled diagnostics empower more accurate analysis, and increases echo capacity and throughput by up to 25%. For patients, diagnostics are highly reliable, increasing safety and limiting preventable deaths.

At a global level, AI standardization allows institutions to more effectively manage resources. By reducing need for trained staff, EchoGo helps resolve globally recognised staff-shortage issues. And since EchoGo operates in the cloud, institutions do not need to manage, install or update echo software. Practices worldwide can benefit from rapid innovation and product advancement which is continually updated.





# EchoGo | Benefits



## More agile

Automation frees up clinicians' time, and could increase echo capacity and throughput up to 25%



## Discover more

Analyzes numerous features to provide deep diagnostic and prognostic insights



## Make decisions with confidence

Retrieve accurate, reproducible results - with QC accreditation



## Future ready

Secure, global, high-performance, cost-effective and constantly improving platform



## Analyze consistently

Removes human error and standardizes analysis



## Cost effective scaling

No upfront costs and pay as you go pricing. Scale as cases grow and connect anywhere in the world *anywhere in the world.*



# Intelligent Services Built on Microsoft's Azure Cloud

**Microsoft Azure**

EchoGo's FDA-cleared and CE Marked technology is built on the Microsoft Azure Cloud infrastructure, the leading cloud services provider in the healthcare setting.

The platform is integrated directly into a customer's image repository and DICOM image exchange platform, with data analyzed remotely through the cloud using the highest level of data security.

Automation of analysis through Azure happens within minutes to the preferred destination for reading by the cardiologist, without the need for any special training. All reports are saved on the cloud for easy retrieval from anywhere and at any time.

The platform is vendor agnostic, integrates seamlessly into customers' existing workflow, and is available to all physicians and their patients – regardless of rural or urban care settings.





# Features



## Fully managed

There is no manual installation, updates or maintenance



## Fast deployment

Get set up in as little as 2 weeks, through a single, cloud connection



## Built-in security

Embedded security, data sovereignty (ISO 27001) and compliance to the highest medical device standards



## Vendor neutral

Use on any PACs and vendor - and access from anywhere



## Minimal training

Plug and play - no special training required



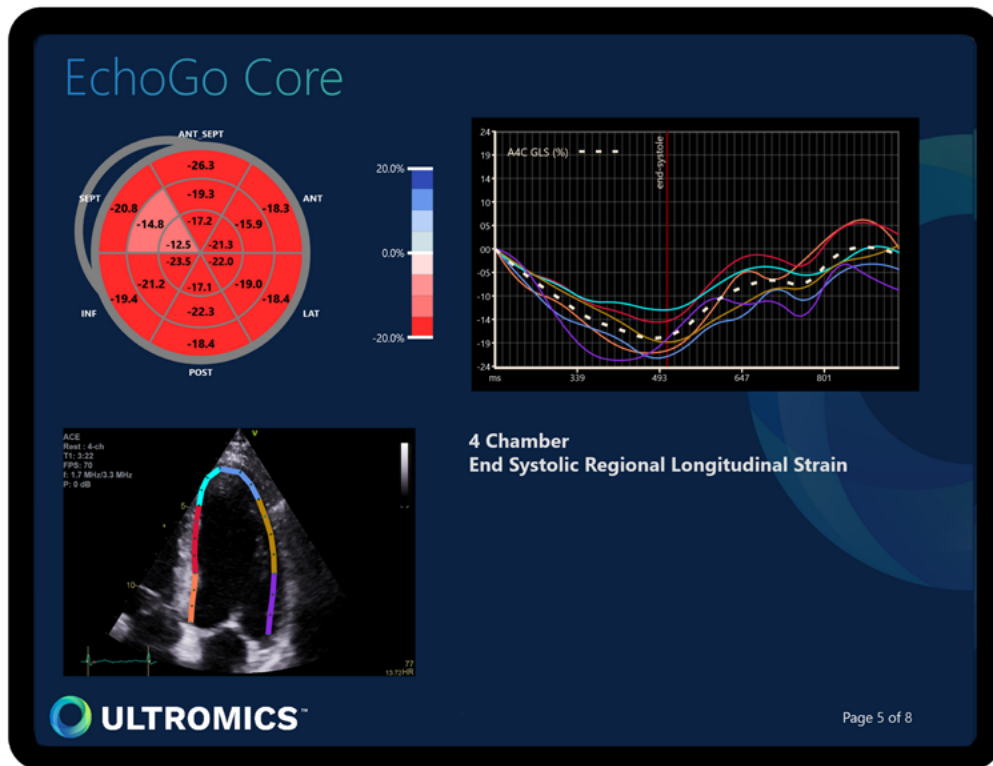
## Technical support

Dedicated account manager and live support





# Automated Measurements that Predict Outcomes



EchoGo automates key prognostics for echocardiograms – specifically Left Ventricular Ejection Fraction (LVEF), the “gold standard” measurement of heart function, and LV Strain analysis.

These indicators are the most important for detecting heart failure, particularly Strain which is a powerful prognostic for disease states such as Heart Failure (50% of heart failure patients will present with Heart Failure with Preserved Ejection Fraction). Adding Strain analysis can identify heart failure patients earlier than just calculating LVEF alone.

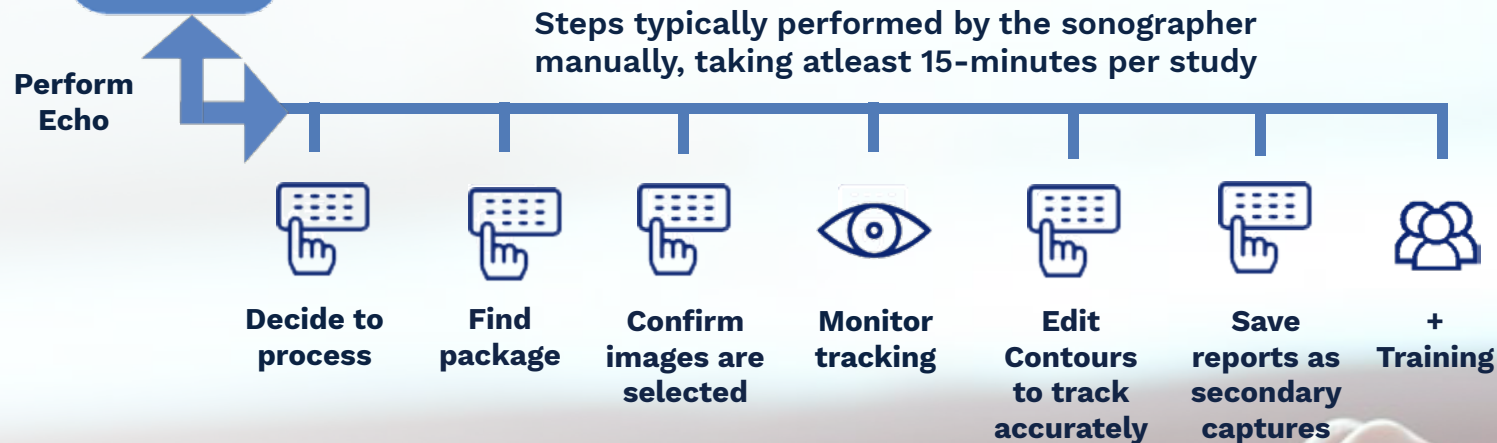
Using AI, EchoGo automates the entire Echo analysis pathway in the cloud, to produce EF and Strain with 0% variability - with results so precise they are effective predictors of mortality and extended hospital stays.

# Save time + improve performance

Analysis with EchoGo happens instantly



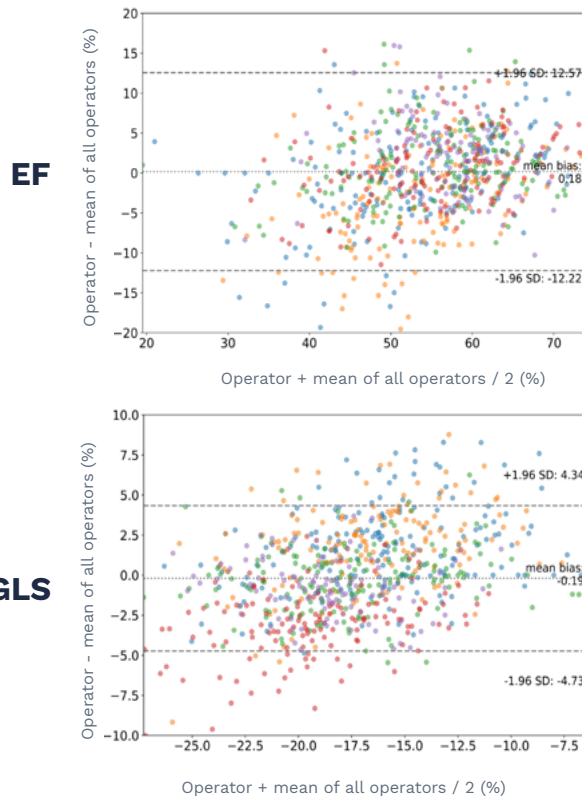
EchoGo is the only echocardiography analysis solution that eliminates all the manual steps and their corresponding variability in results, to save laboratories time and money. Up until now, manual analysis has stunted the advancement and adoption of key diagnostic and prognostic indicators such as Cardiac Strain. EchoGo automates every part - including View Classification, Contouring, Cycle Selection and Extraction and Quantification of Diagnostic and Prognostic Indicators.



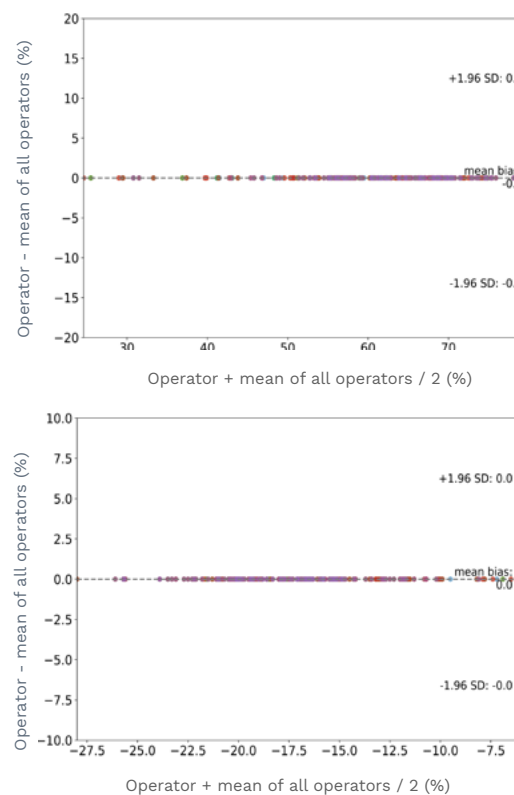


# Greater Precision

## Competitor software



## EchoGo



EchoGo was assessed by accredited echocardiographers, against semi-automated software which required manual operation and contouring. EchoGo provided 0% bias and 0% inter-observer variability which allowed better tracking, vs manual tracing software.

# 0% Variability

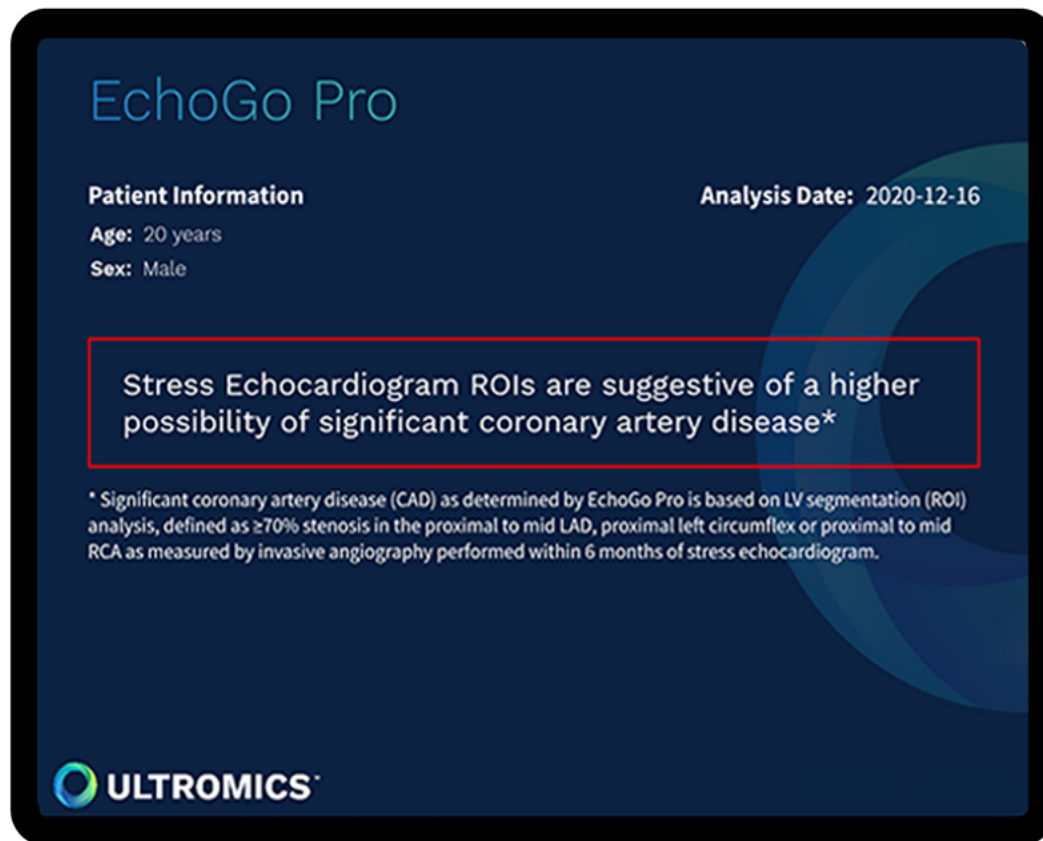
for greater diagnostic confidence

Most Echo analysis softwares require manual drawing or editing of the myocardial contours. As these contours define the regions/points being tracked, different operators contouring differently will obtain different deformation values. For all techniques, operator experience and training is an important factor in accuracy of measurements. EchoGo Core removes opportunities for manual differentiations and errors, providing 0% variability.

## Cover Costs

Use Medicare Add-On Code  
+93356, to reimburse costs for  
Myocardial Strain Imaging

# Coronary Artery Disease Diagnosis Support



EchoGo also supports CAD diagnoses in stress echocardiography. The platform goes beyond traditional measures of analyzing CAD by enabling comprehensive quantification and characterization of the heart anatomy, trained on thousands of features which can't be detected by eye.

The findings from EchoGo support the identification of 81 clinically relevant features that may cause heart attacks - and is proven to help diagnose CAD with greater sensitivity.

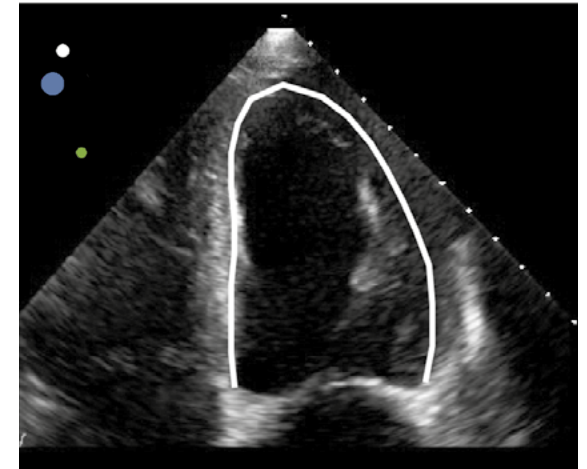
Using EchoGo is significantly better than stress echo testing alone - with an accuracy far better than reported for nuclear perfusion imaging - representing a more accurate, safer, accessible and low cost test.





## Confidently Detect CAD

EchoGo can detect CAD to the same ability as experienced clinicians, with >10% greater sensitivity. This aids performance of more junior clinicians, which can help improve capacity and resources.



**>10%  
Sensitivity**

CAD detection

**Fewer false  
positives**



## Increase Accuracy

EchoGo has been tested across multiple hospitals, including Oregon Health and Science University (US) and the NHS (UK), showing favorable outcomes when EchoGo is used with stress echo to guide the decision for CAD diagnoses. EchoGo improved CAD detection over 90% and was shown to reduce the number of false positives, limiting the need for SPECT Stress and CT angio referral.



## Improve Outcomes

EchoGo is proven to identify CAD with increased accuracy which could reduce the number of misdiagnosis, rescans and referrals for alternative testing such as nuclear medicine and CT angio. Patients could be identified earlier so preventative steps can be taken and outcomes can be improved through accelerating time to treatment and implementation of lifestyle modifications and pharmacotherapies.

## 0% Variability

Operator and vendor  
independent



## Analyze Consistently

Up until now, stress echo has depended on visual interpretation of regional wall motion in black and white cine-loops, criteria is derived from a balance between hard evidence, expert opinion, clinical experience and common sense. EchoGo overcomes the qualitative interpretation of SE by automating CAD analysis in the cloud, without the need for manual analysis.







Ultromics is a global health technology company which provides artificial intelligence solutions to support echocardiography analysis – empowering physicians to make fast, accurate decisions when diagnosing cardiovascular disease. The technology was born at the University of Oxford and built in partnership with the NHS (UK) and validated with leading healthcare sites around the world.

For more information visit: [ultromics.com](https://www.ultromics.com)

