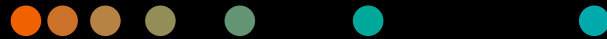


**ACUSON Sequoia Ultrasound System**

**See More.  
Know More.  
Do More.**

[siemens-healthineers.com/sequoia](http://siemens-healthineers.com/sequoia)



**SIEMENS**  
**Healthineers** 

# Designed to address today's challenges in ultrasound imaging

Experts agree that a conventional one-size-fits-all approach to patient care falls short of addressing the challenges of demanding caseloads, patient diversity and user variability.

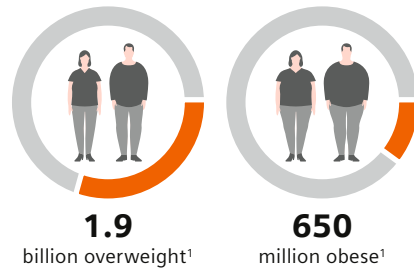
Healthcare providers want advanced technologies and applications that intelligently respond to both patient- and user-specific needs. Tailoring diagnosis and therapies to each patient's individual profile helps to improve clinical, operational and financial outcomes.

The ACUSON Sequoia ultrasound system uses BioAcoustic imaging to reduce the effects of ultrasound variability between users, patients and technology delivering greater clinical insights and precision medicine.



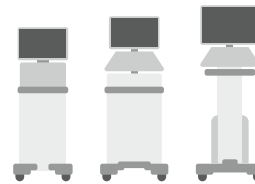


### Acoustic variability



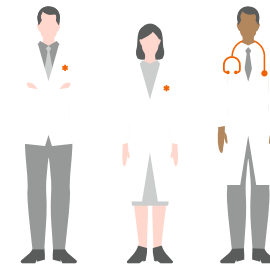
Ultrasound users are faced with a patient population that is increasingly harder to scan.

### Technological variability



Ultrasound devices are complex products. Differences in technology can inhibit the user's ability to generate accurate and reproducible measurements during an exam.

### User-specific variability



Studies have demonstrated that significant intra- and inter-observer variability can pose a challenge to the standardization of care delivery.

<sup>1</sup> World Health Organization (WHO), 2016

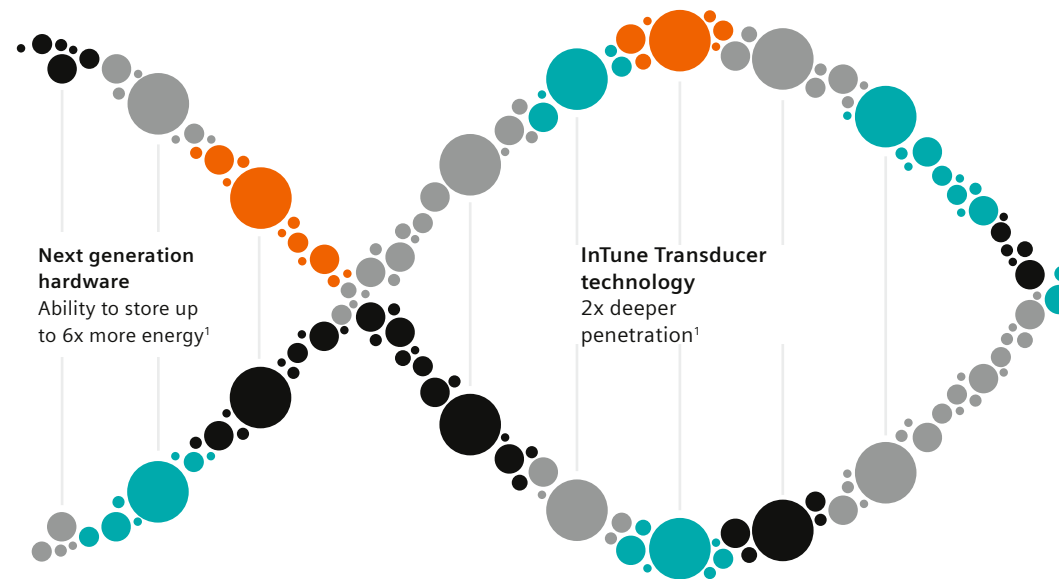
# See More. Know More. Do More.

Powered by BioAcoustic imaging technology

With patient-centric technology and applications at the core of its DNA, the ACUSON Sequoia system with BioAcoustic technology can adapt to patients unique characteristics.

An unmatched list of advanced application offerings allows clinicians to personalize ultrasound to a patient's specific needs.

Powerful AI-enabled tools and user-centric interfaces improve workflow efficiency allowing clinicians to focus more on their patients.



<sup>1</sup> Data on file.



**See more**

---

Diagnostic confidence is improved with deeper and clearer images using BioAcoustic imaging.



**Know more**

---

Personalized advanced applications expand your clinical information with advanced imaging technologies that improve patient outcomes.



**Do more**

---

User designed experiences that improve workflow usability.



# See More

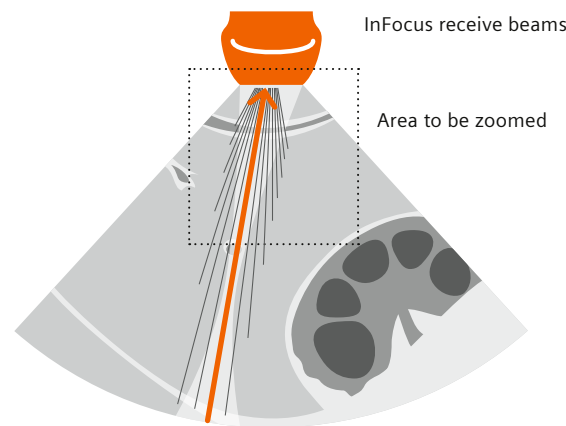
## InFocus Imaging and InTune Transducer Technology for all patients

### Fully focused images in record time

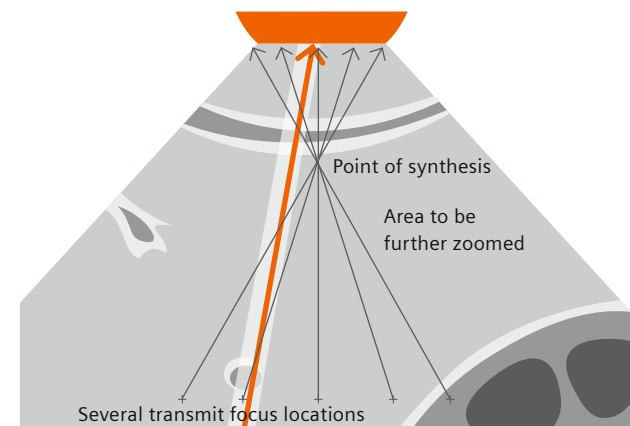
The ACUSON Sequoia system's powerful architecture eliminates the need for conventional focal zones to create a fully focused image with faster frame rates than conventional systems.

InFocus uses synthesized, retrospectively focused transmit beams throughout the field of view that focuses at all depths. More information is harvested from the usual transmit sequence, using massive

overlapping multibeam groups rather than individual or close parallel beam lines as in conventional systems. Secondary beamforming is enabled with InFocus and physics-based delay technologies. Amplitude corrections can be made across transmit events to significantly sharpen the image and improve spatial resolution beyond what is typical for a given transducer frequency.



InFocus utilizes multiple simultaneous receive beams covering a region with a single transmit.



Many receive beams per transmit event leads to many interrogations per image point.

## Offering the best signal fidelity

Next generation transducers specifically designed to produce optimal acoustics for each clinical use case. The acoustic matching between transducer and patient was optimized using advanced materials science and optimized test protocols, together with the electrical signal path between the transducer and system, resulting in superior signal fidelity.

Compact-pinless connectors further improve signal-to-noise ratio and feature one-handed plug and play connection.



DAX – a transducer so unique we had to give it its own name.



7L2 – deep linear transducer for additional diagnostic confidence.

## Image deeper

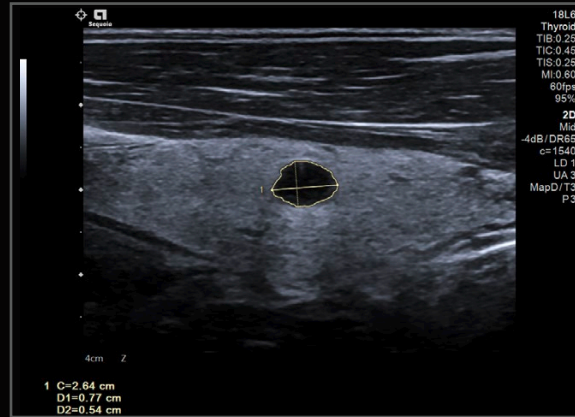
Scanning technically difficult patients can be a daily challenge for many ultrasound users. The innovative DAX and new 7L2 deep linear transducers are dedicated tools that allow you to see deeper, providing diagnostic confidence when you need it most.





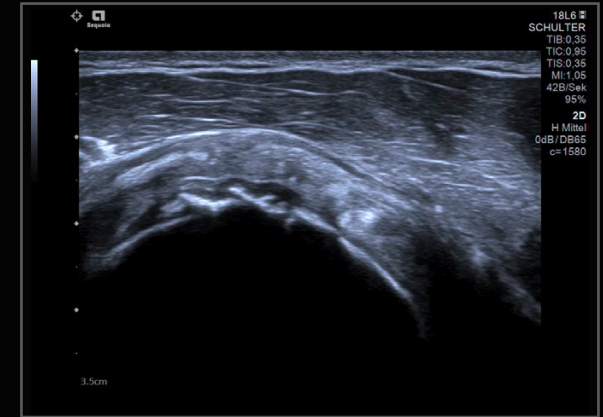
### InFocus imaging

Fully-focused imaging of the liver and IVC utilizing InFocus Technology that delivers image uniformity throughout the field of view.



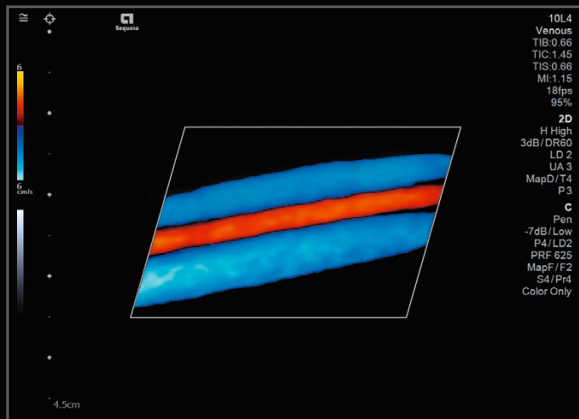
### eSieCalcs

The power of AI-enabled tools such as eSieCalcs can measure the long axis, short axis and circumference of structures like this thyroid mass above.



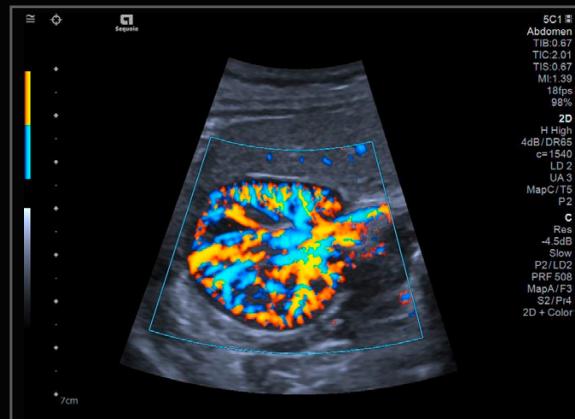
### High frequency linear transducer

Utilizing the high frequency 18L6 transducer you can visualize structure in greater detail resolution like this supraspinatus tendon.



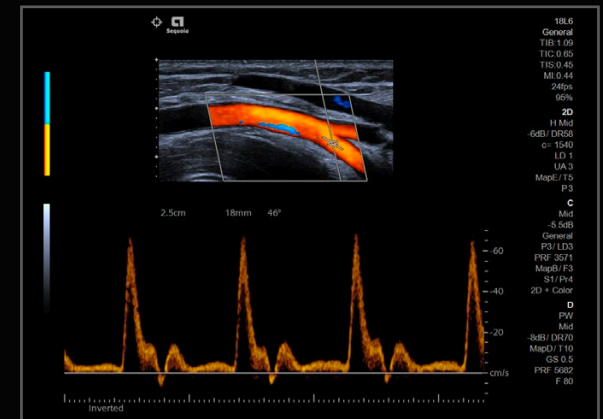
### Color flash suppression

Using smart algorithms, Color Flash Suppression Technology can automatically reduce flash artifact experienced from patient or transducer motion.



### Slow flow

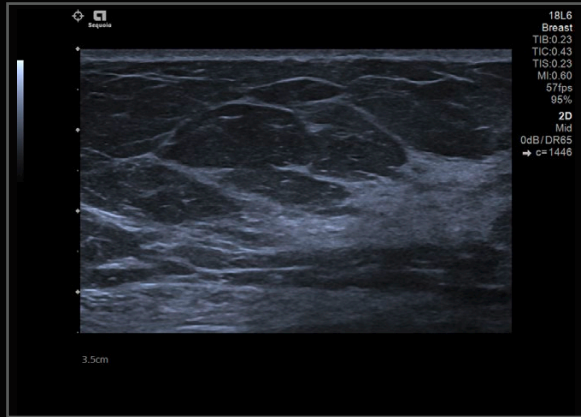
Using smart filters and adaptive signal enhancement, slow flow can image smaller, low-flow vessels further into tissue like this kidney with reduced flash artifact.



### Doppler TEQ

Visualize clean and clear Doppler waveforms thanks to Doppler TEQ. Scale, gain and baseline are adjusted automatically with full post-processing capabilities.





### Speed of sound correction

Adjusting the speed of sound improves contrast and detail resolution allowing for the most accurate representation of the tissue like this breast example.



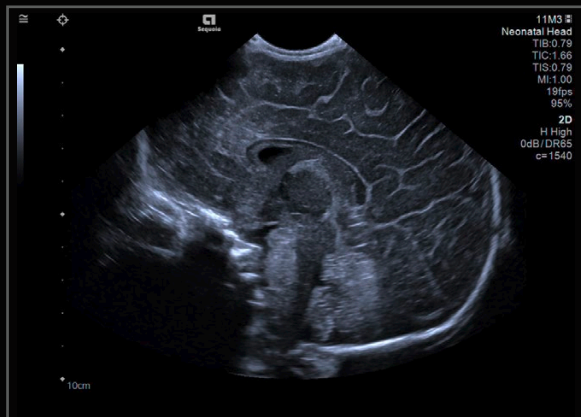
### High frequency curved transducer

Superior contrast resolution of this 21-week fetus utilizing the 9C3 palmer grip transducer for improved ergonomic work flow.



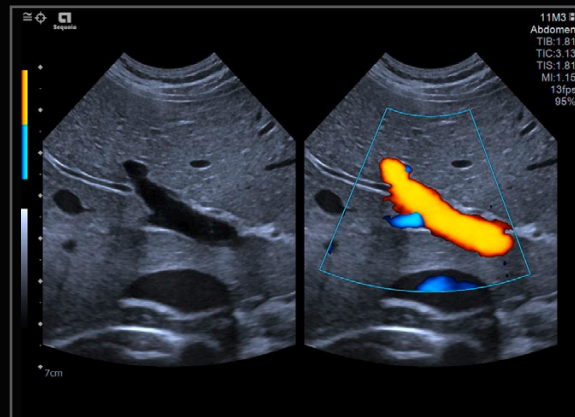
### Volume imaging

3D/4D imaging allows you to visualize anatomy in new dimensions for improved confidence like this coronal view of an IUD.



### Single crystal

See detailed resolution like never before with the 11M3 micro-convex transducer similar to this neonatal head.



### Live Dual

Visualize 2D and color Doppler imaging in real time using Live Dual, shown here with the portal vein.



### Cardiac imaging

An apical four chamber view with the 8V3 pediatric cardiac transducer offers exceptional tissue definition, valvular detail and blood flow visualization.

# Know More

## Personalized Advanced Applications

### Patient-centered approach to diagnosis

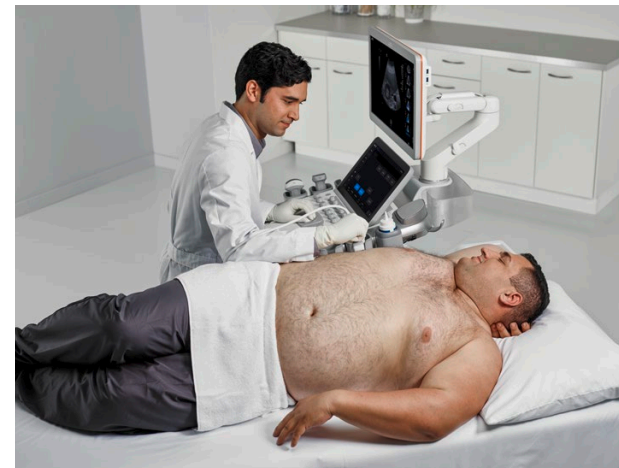
The ACUSON Sequoia was built from the ground up with dedicated hardware for exceptional performance in applications such as contrast enhanced ultrasound (CEUS) and elastography.

With its industry leading performance, the ACUSON Sequoia system enables healthcare professionals to access the clinical information needed for personalized precision medicine.

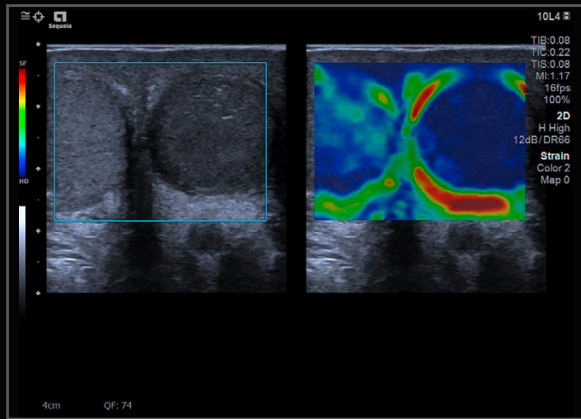
This unique patient-centric approach to diagnosis leverages the comprehensive advanced applications toolbox offered by the ACUSON Sequoia system – from quantification and characterization of tissue to interventional procedures.



Tissue characterization using CEUS imaging can lead to faster diagnosis.

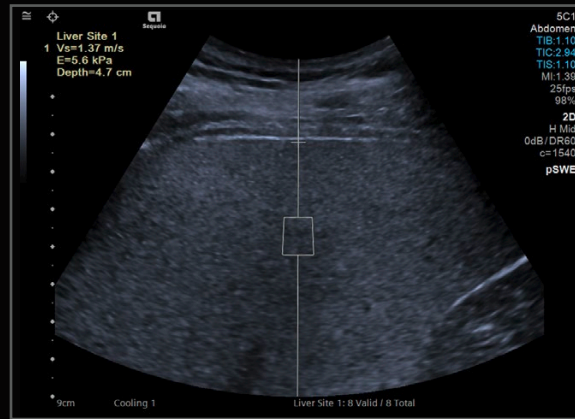


Tissue quantification using shear wave elastography imaging can improve diagnostic results while reducing costs.



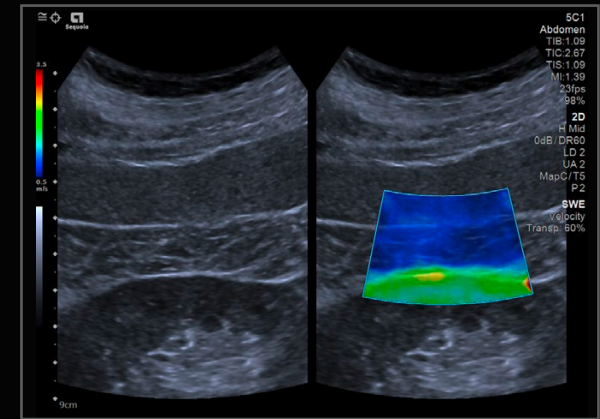
### Virtual Touch Strain Elastography

Provide a simple and qualitative measure of lesion stiffness relative to the surrounding tissue in color and gray scale maps as demonstrated in this image of testicular torsion.



### Virtual Touch pSWE

Raise the benchmark for shear wave accuracy when compared to conventional ultrasound providing tissue stiffness quantification with increased confidence in the liver.



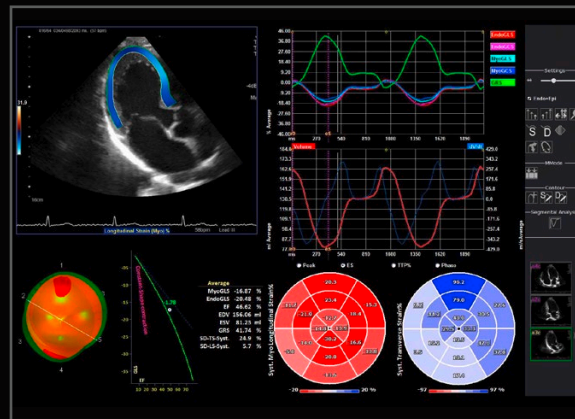
### Virtual Touch 2D SWE

Display qualitative and quantitative color maps to measure shear wave speed with precision and repeatability, like this example of the renal interface.



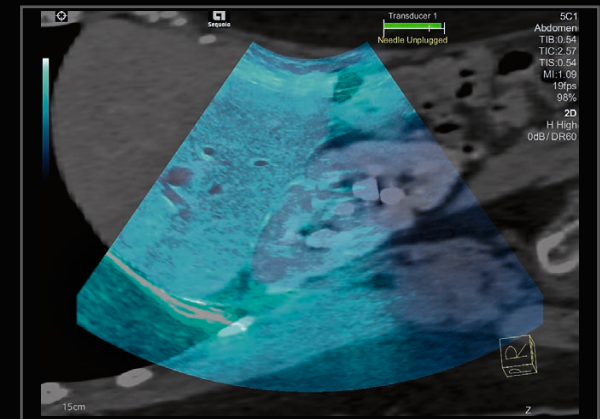
### CEUS imaging

The ACUSON Sequoia has twice the sensitivity than previous systems for improved diagnostic confidence<sup>1</sup>.



### Velocity Vector Imaging

Assess myocardial motion and mechanics with global longitudinal strain (GLS), global circumferential strain (GCS), and global radial strain (GRS) using semi-automated syngo VVI.



### Fusion imaging

Combine imaging modalities like this example of CT and ultrasound fusion for improved diagnostic confidence.

<sup>1</sup> Compared to ACUSON Sequoia 512 ultrasound system



# Do More

## Designed by users, for users

The variability inherent in the ultrasound scanning process can pose a challenge for users. In an effort to eliminate variability, Siemens Healthineers hosted 170 workshops with 365 ultrasound users worldwide to create an ultrasound system designed by users, for users.

Leveraging automation, machine learning and listening to ultrasound users, every detail was re-imagined to reduce complexity and improve user experience.

### Preferred by users

Overall usability of an ultrasound system determines how well advanced technologies and diagnostic tools are able to expand healthcare professional's clinical capabilities. The ACUSON Sequoia was evaluated by an independent user experience design and development company in terms of user performance and user satisfaction.

The ACUSON Sequoia earned a system usability score (SUS) of 86% and user preference score of 82%, scoring higher than the conventional ultrasound systems participating in the study.<sup>1</sup>

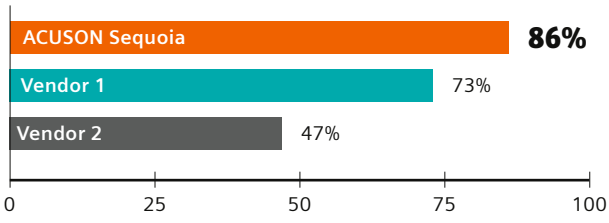
<sup>1</sup> Macadamian Usability Test Study using the ACUSON Sequoia. Study result data on file. More information also available at [macadamian.com](http://macadamian.com).



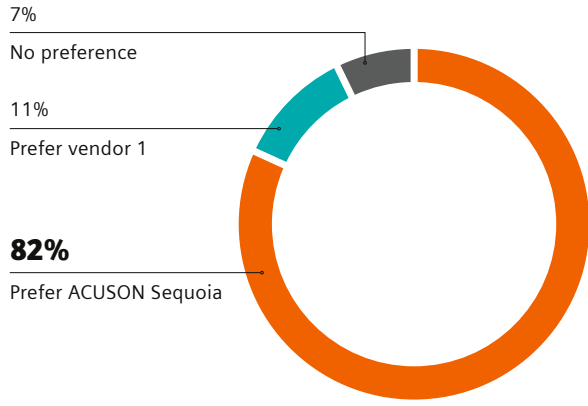


More information: [macadamian.com](http://macadamian.com)

### Average system usability score



### User preference





# Do More

Workflow enhancements that save time –  
easy to learn, easy to love



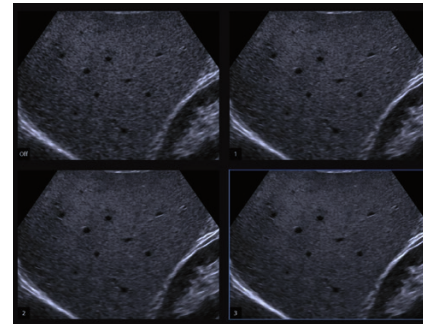
## 1-touch registration

Machine learning technology automatically selects the correct transducer and exam type for a patient scan supporting a seamless workflow.



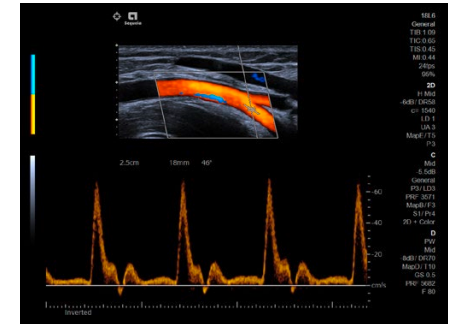
## Gesture detecting transducers

Tap anywhere on the transducer to quickly activate and start scanning with the ACUSON Sequoia's unique sensor technology.



## UltraArt real-time quad-display

Exclusive UltraArt universal image technology allows users to select their image preference from a real-time touch screen display.



## Doppler TEQ

Visualize clean and clear Doppler waveforms thanks to Doppler TEQ. Scale, gain and baseline are adjusted automatically with full post-processing capabilities.

### **OLED monitor**

High-dynamic range display with wide viewing angle.

### **Large intuitive touch display**

A 15.6" touch display gives you more space to define your own intuitive workflow.

### **Floating control panel**

Designed to fit every room and workflow, the control panel can swivel 180 degrees for a seamless workflow.

### **Central locking and steer pedals**

A central locking mechanism eliminates the need to lock each wheel individually, enhancing maneuverability.



### **Multiple storage areas**

2 integrated storage bins and storage shelf option.

### **Integrated gel warmer**

An integrated gel warmer which can be placed on either side of the system.

### **Optional ECG leads and pencil port**

Shared-service cardiac functionality.

### **Compact Pinless connector ports**

Improved signal to noise ratio and easy one handed connection.



red*dot* design award  
winner 2019



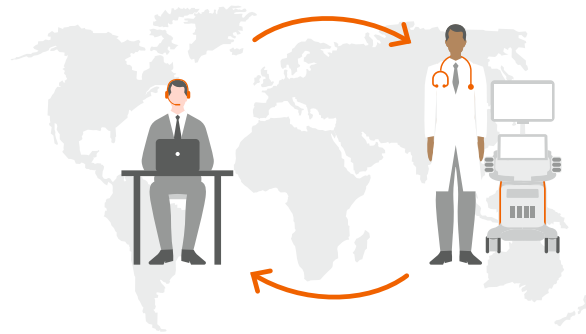
# Do More

## Solutions designed for maximum performance

### Smart Remote Services (SRS) powered by eSieLink

SRS is the foundation for connecting your ultrasound system with a global Siemens Healthineers team of technical and application experts.

A secure SRS network connection allows for faster service response time, interactive application support and remote software updates. SRS enables the latest system software and performance enhancements reducing system down time and the ability to remotely monitor and improve system optimization.



<sup>1</sup> Subscription required. Availability of subscription depends on country.

### teamplay Fleet

teamplay Fleet provides greater system insights using a fast online portal connection to manage the performance and system maintenance – 24/7.

### Digital education with PEPconnect

Engage in learning activities at any time and on any device for a personalized learning experience with PEPconnect and PEPconnection<sup>1</sup>. Access a workforce education management plan as well as analytics and progress report tracking.

### Designed for Growth

Built for the future, the ACUSON Sequoia system can grow as department and clinical needs expand. A modular design ensures components and applications can be seamlessly integrated to offer the latest clinical and operational applications.

The ACUSON Sequoia enables long-term investment protection, sustained innovation and upgradability for maximum return on investment.









# Why Siemens Healthineers?

## Shaping the future of healthcare

At Siemens Healthineers, our mission is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

An estimated five million patients worldwide everyday benefit from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics and molecular medicine as well as digital health and enterprise services.

We're a leading medical technology company with over 120 years of experience and 18,500 patents globally. With over 50,000 employees in more than 70 countries, we'll continue to innovate and shape the future of healthcare.



### **Keeping you protected from Cyber Threat**

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The Windows 10 operating system and state-of-the-art cybersecurity program protects the privacy of your data and strengthens your systems' resiliency from external cyberattacks.

The scientific overlay is not that of the individual pictured and is not from a device of Siemens Healthineers.

The products/features mentioned in this document may not be commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details. Standalone clinical images may have been cropped to better visualize pathology.

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*syngo* VVI is a trademark of Siemens Healthcare GmbH.

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