



**PHILIPS**

Ultrasound

Affiniti 70

**It understands  
your everyday**

Philips Affiniti 70 ultrasound system



# Provide the **best possible** care

Every day, you strive to provide the highest level of care to patients. But there are challenges:

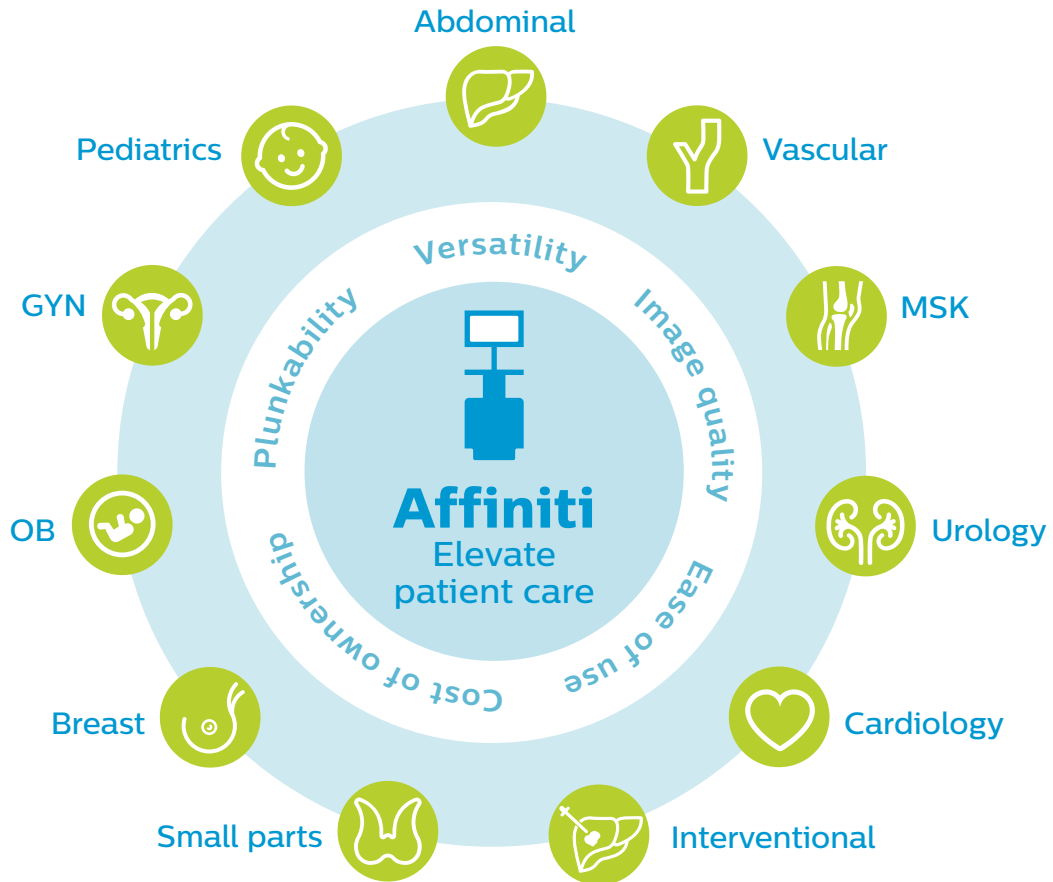
- A wide range of diagnostic needs
- Growing number of difficult-to-scan patients
- The learning curve of new technology
- Unreliable equipment that can break down
- Limited budget means compromising system quality

Philips Affiniti 70 provides you with the tools to overcome your daily challenges so you can provide the best possible patient care. Versatile, affordable, easy to use, precise, and built to last, the Affiniti 70 is the choice of clinicians worldwide.



# A universal ultrasound platform

Advanced capabilities and a flexible configuration mean that the Affiniti 70 can be customized for a wide range of exam types, providing exceptional image quality across all clinical segments.



# Workflow meets **WOW**

With Philips Affiniti 70, workflow meets wow. The system addresses the everyday need to scan quickly and deliver results efficiently, while incorporating those innovations that make Philips ultrasound the choice of those who demand quality images and proven clinical applications.

Affiniti 70's precision beamforming, PureWave technology, Tissue Specific Presets (TSP), and efficiency and automation tools deliver both performance and workflow for confident throughput.



## **Scan technically difficult patients with ease**

PureWave transducers are designed to increase penetration in technically difficult patients so that one transducer can facilitate diagnostic confidence on easy patients as well as difficult patients. It is the only system in its class with PureWave imaging across all clinical segments.

PureWave's power is strengthened by Affiniti 70's precision beamforming, which features a wide dynamic range to deliver superb spatial and contrast resolution, outstanding tissue uniformity, fewer artifacts, and reduced image clutter. Tissue Specific Presets (TSP) automatically adjust over 7500 parameters to optimize the transducer for the specific exam type, producing excellent image quality with little or no need for image adjustment.

Affiniti 70 is the only system in its class with PureWave imaging across all major clinical segments, allowing you to scan a wide range of technically difficult patients.

Transducers include:

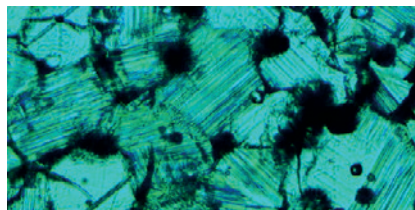
- PureWave C5-1 and the PureWave C9-2 for abdominal and OB patients
- PureWave S5-1 for cardiology patients and transcranial applications
- PureWave C10-3v for early obstetrical and gynecological exams
- PureWave eL18-4 for a diverse range of clinical applications, including breast, MSK, small parts, bowel, vascular, pediatrics and OB



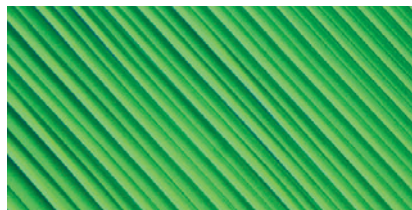
# Introducing a **revolutionary** ultra-broadband transducer

Philips eL18-4 PureWave linear array transducer represents a breakthrough innovation, incorporating both our highest frequency and ultra-broadband acoustic specification in a PureWave array design. The eL18-4 PureWave transducer covers multiple applications with one transducer and also reduces the need to switch transducers during an exam, with the excellent plunkability that allows users to quickly complete an exam. The eL18-4 transducer supports the most advanced features of Affiniti ultrasound, expanding its clinical versatility.

The eL18-4 features our PureWave crystal technology, representing the biggest breakthrough in piezoelectric transducer material in over 40 years. In addition, the eL18-4 incorporates a multi-row array configuration for full electronic focusing in the elevation plane. Elevation focusing works in conjunction with azimuthal focusing to provide thin-slice imaging for exceptional detail resolution and tissue uniformity from near to far depth of field. This approach allows superb imaging across a wide range of applications and depth requirements.



Conventional PZT (x800)



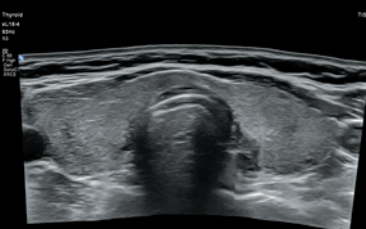
PureWave crystal (x800)

The Philips eL18-4 PureWave linear array transducer is our first high-performance transducer to offer ultra-broadband PureWave crystal technology and electronic elevation focusing.

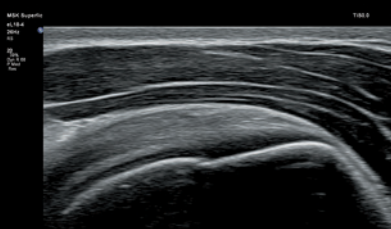
## Conventional versus PureWave

The pure, uniform crystals of PureWave are 85% more efficient than conventional piezoelectric material, resulting in exceptional performance.<sup>1</sup>

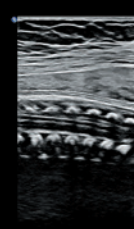
<sup>1</sup> Chen J, Panda R, Savord B. Realizing dramatic improvements in the efficiency, sensitivity and bandwidth of ultrasound transducers. Case study. 2006.



Thyroid with panoramic imaging

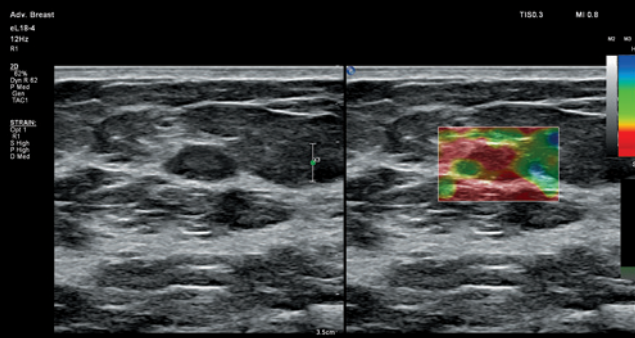


Supraspinatus tendon

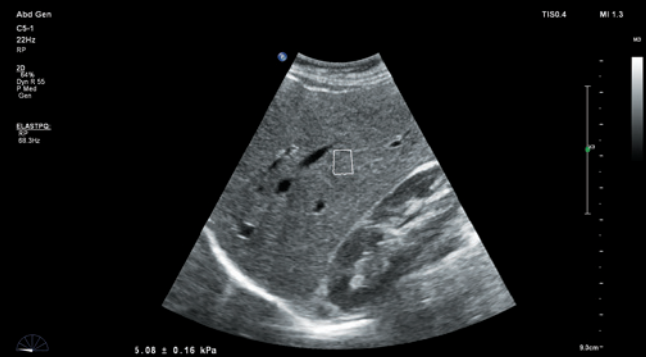


Fetal spine

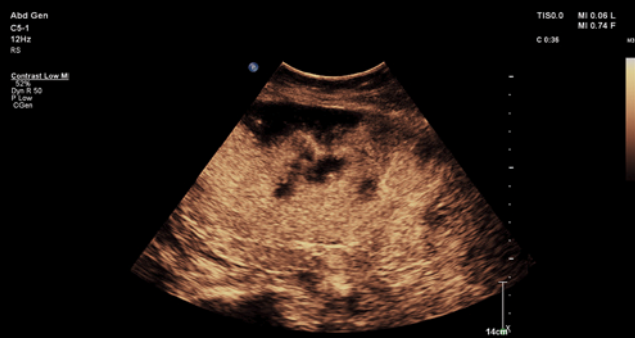
# Affiniti 70's outstanding image quality combines with advanced clinical functionality



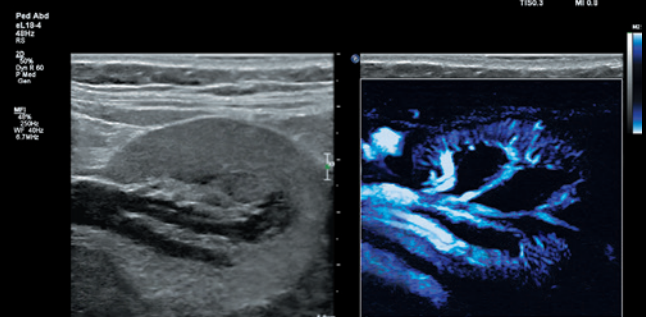
**Strain elastography**



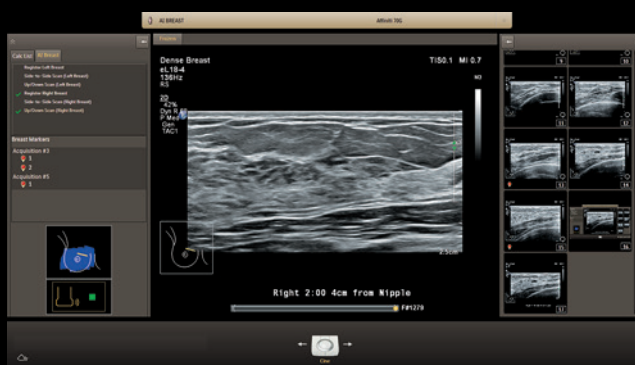
**Point quantification elastography**



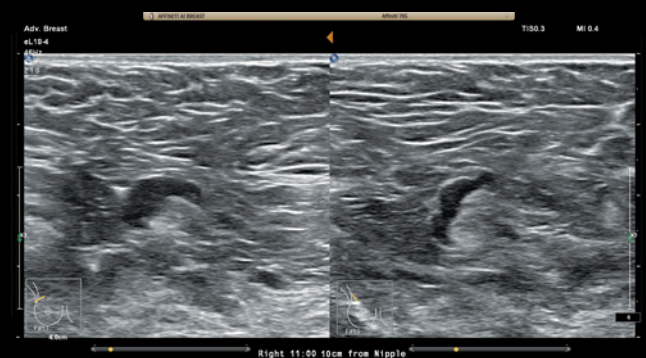
**Contrast-enhanced ultrasound**



**Pediatric kidney with MicroFlow Imaging**



**AI Breast visual mapping and auto annotate**



**AI Breast orthogonal view**

## Elastography

### Reveal more definitive information on tissue stiffness

Affiniti 70 supports both strain and shear wave elastography to assess tissue stiffness. Highly sensitive strain imaging requires no external compression and can be used to assess relative tissue stiffness across a variety of applications, including small parts, breast, and gynecology.

ElastPQ shear wave elastography utilizes unique pulsing schemes to generate and measure the propagation speed of shear waves through tissue, which produces an absolute measure of tissue stiffness that has proven helpful to clinicians in assessing diseases such as liver fibrosis. Easy to use and reproducible, ElastPQ shear wave is a simple and easy method to help monitor patients at risk for liver disease and may help reduce or avoid conventional liver biopsies.

## Contrast-enhanced ultrasound (CEUS)

### Dynamic organ and tumor assessment in real time

With Affiniti 70, you can easily add contrast-enhanced ultrasound (CEUS) to nearly any exam. Affiniti 70 provides immediate optimization of CEUS studies and exceptional performance across multiple agents and applications, which allows for dynamic assessment of organ and tumor perfusion in real time.

## MicroFlow Imaging

### Remarkable sensitivity and detail in assessing blood flow

MicroFlow Imaging is designed to detect slow and weak blood flow anatomy in tissue. MicroFlow Imaging overcomes many of the barriers associated with conventional methods to detect small vessel blood flow with high resolution and minimal artifacts.

## Anatomical Intelligence for Breast (AI Breast)

### Enhanced screening and diagnostic workflow

AI Breast facilitates breast screening exams while preserving superb image quality for full diagnostic studies. The AI Breast feature is powerful software that utilizes the new eL18-4 with integrated electromagnetic tracking coils in conjunction with a specially designed mattress and table top field generator to perform breast screening exams. AI Breast allows visual mapping of screened anatomy documenting full coverage of the breast during the acquisition phase. Images are stored while performing sweeps to allow review on the system. During acquisition, key images can be bookmarked for quick review. Images can be auto-annotated and quick orthogonal views of anatomy can be retrieved easily for enhanced workflow and documentation.

## Automation tools save time

Philips Affiniti 70 system is equipped with automation features that reduce repetitive button pushes and steps, leading to enhanced workflow.

- **Real-time iSCAN (AutoSCAN):** Automatically and continuously optimizes gain and TGC
- **Auto Doppler for vascular imaging:** Color-box positioning and sample volume placement in just three steps, with an average of 67.9% fewer button pushes
- **SmartExam guided workflow:** Increases consistency, reduces keystrokes, and decreases exam time by 30%-50%<sup>1</sup> by automatically planning and processing application protocols

<sup>1</sup>Drose J. Saving time while increasing revenue. University of Colorado Hospital. April 2007.

## Q-App quantification applications

Affiniti 70 offers a wide variety of sophisticated Q-Apps to quantify ultrasound image information.

### General Imaging Q-Apps

- Intima Media Thickness (IMT)
- General Imaging 3D Quantification (GI 3DQ)
- Region of Interest (ROI)
- MicroVascular Imaging (MVI)
- Vascular Plaque Quantification (VPQ)

### Cardiology Q-Apps

- Intima Media Thickness (IMT)
- Region of Interest (ROI)
- Strain Quantification (SQ)
- Automated Cardiac 2D Quantification<sup>A.1</sup> (a2DQ<sup>A.1</sup>) and a2DQ<sup>A.1</sup> LA
- Automated Cardiac Motion Quantification<sup>A.1</sup> (aCMQ<sup>A.1</sup>)
- Mitral Valve Navigator<sup>A.1</sup> (MVN<sup>A.1</sup>)



# Performance

you can see

Abd Vasc  
C9-2  
31Hz  
RS



Liver

TISO.6 MI 1.0

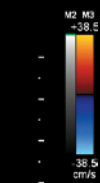


Abd Vasc  
C9-2  
19Hz

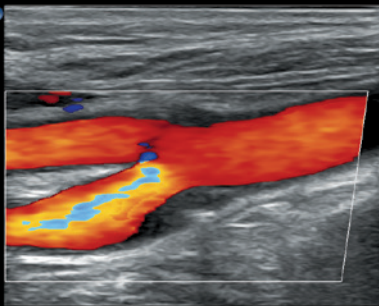


Celiac axis arterial flow

TISO.4 MI 1.2

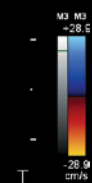


Vasc Carotid  
L12-3  
20Hz



Carotid bifurcation

TISO.2 MI 1.2

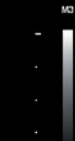


Abd Renal  
C5-1  
74Hz  
RS

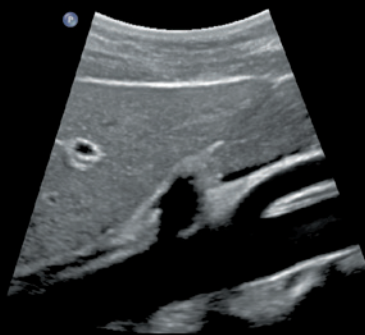


Liver and kidney

TISO.4 MI 1.3

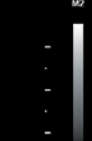


Abd Vasc  
C9-2  
60Hz  
RS

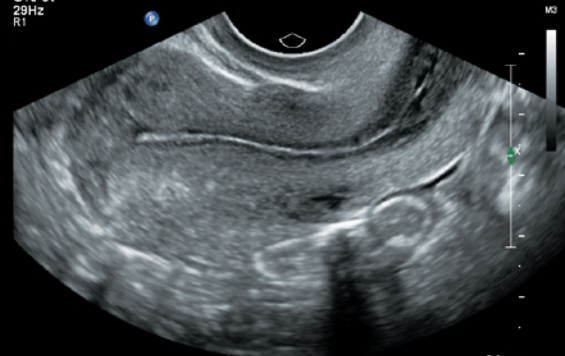


Abdominal aorta

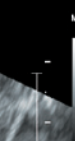
TISO.5 MI 1.1



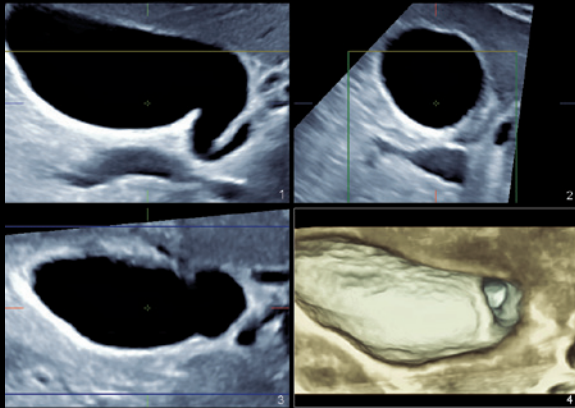
Gyn Pelvis  
C10-3v  
29Hz  
R1



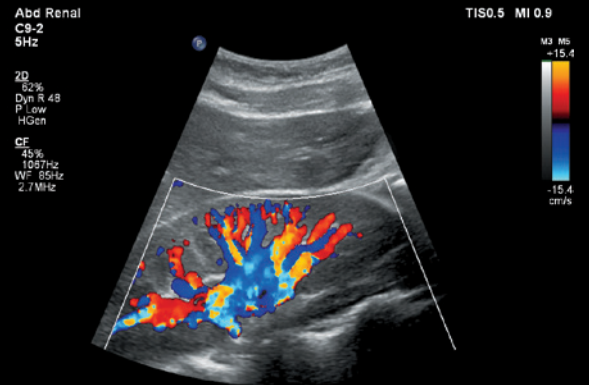
Uterus



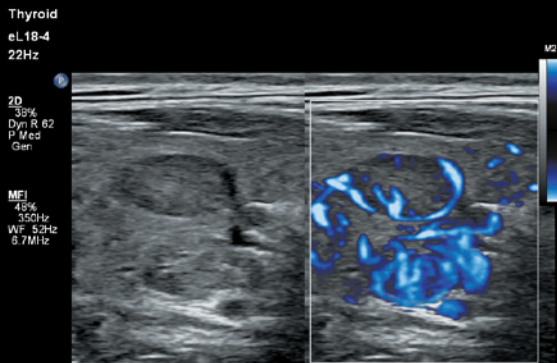




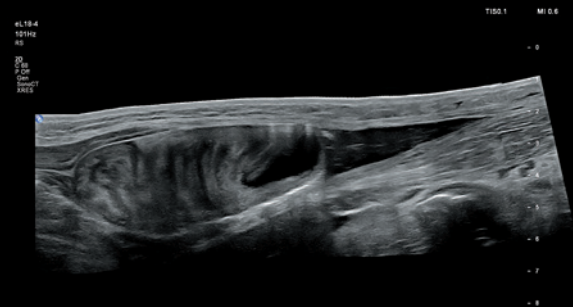
Freehand sweep volume of the gallbladder



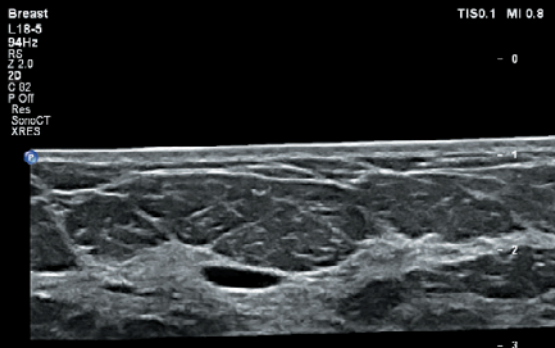
Kidney color flow Doppler



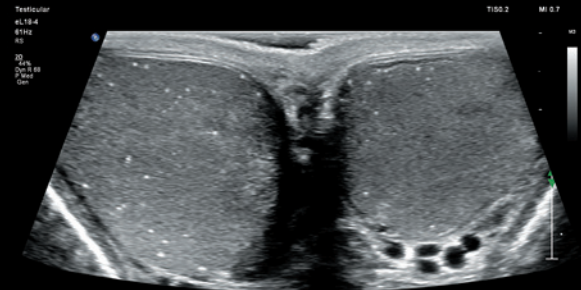
Thyroid MicroFlow Imaging



Herniated bowel panoramic imaging



Breast cyst panoramic imaging



Bilateral testicles

# Powerful multimodality fusion capabilities

## Conventional ultrasound

The time it takes:  
**10-15 minutes**



## Anatomical Intelligence

The time it takes:  
**< 1 minute**

### Image fusion\* and navigation

Image fusion combines the inherent advantages of multimodality imaging directly on the ultrasound system using electromagnetic tracking. By combining historical CT/MR/PET with live ultrasound and real-time position of the patient, the clinician has access to a powerful diagnostic tool, while reducing radiation burden and maximizing throughput in the department.

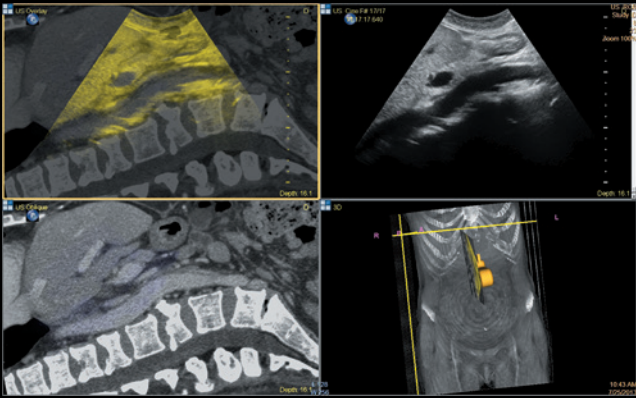
### Auto Registration – image fusion, simplified

Affiniti's exclusive Anatomical Intelligence Ultrasound (AIUS) comes to image fusion with automated registration with live ultrasound. Unique anatomical information within cross-sectional image volumes is analyzed and automatically fused with the ultrasound structures, allowing the user to achieve image fusion within seconds – in 1/10 the standard alignment time. A complementary technique to diagnostic CEUS or biopsies/ablations, image fusion with AIUS is fast and simple, allowing you to focus less on setup and more on the procedure ahead.

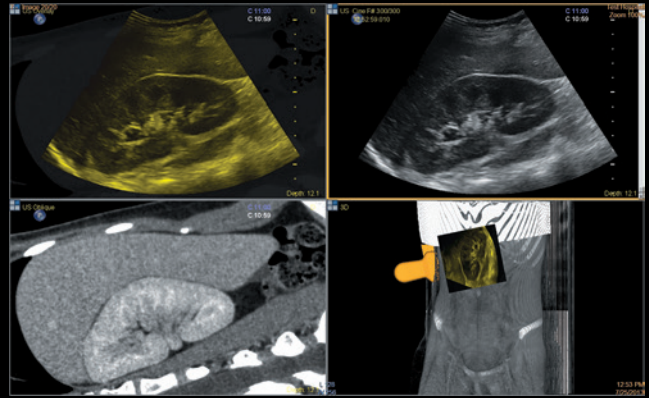
\* Image fusion on Affiniti is not commercially available in North America.



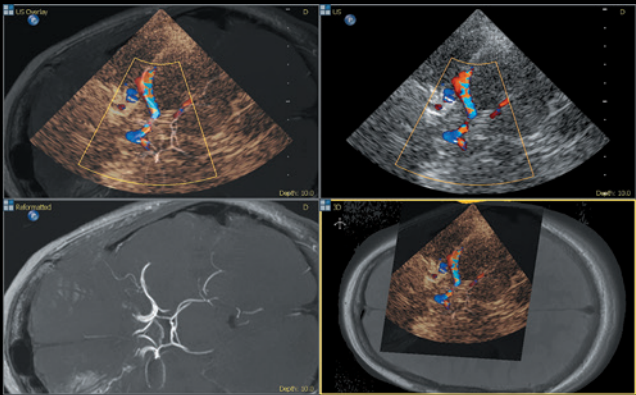




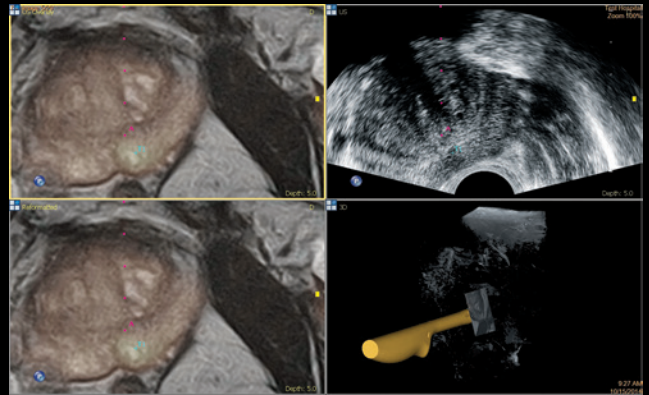
**Image fusion of liver and aorta**



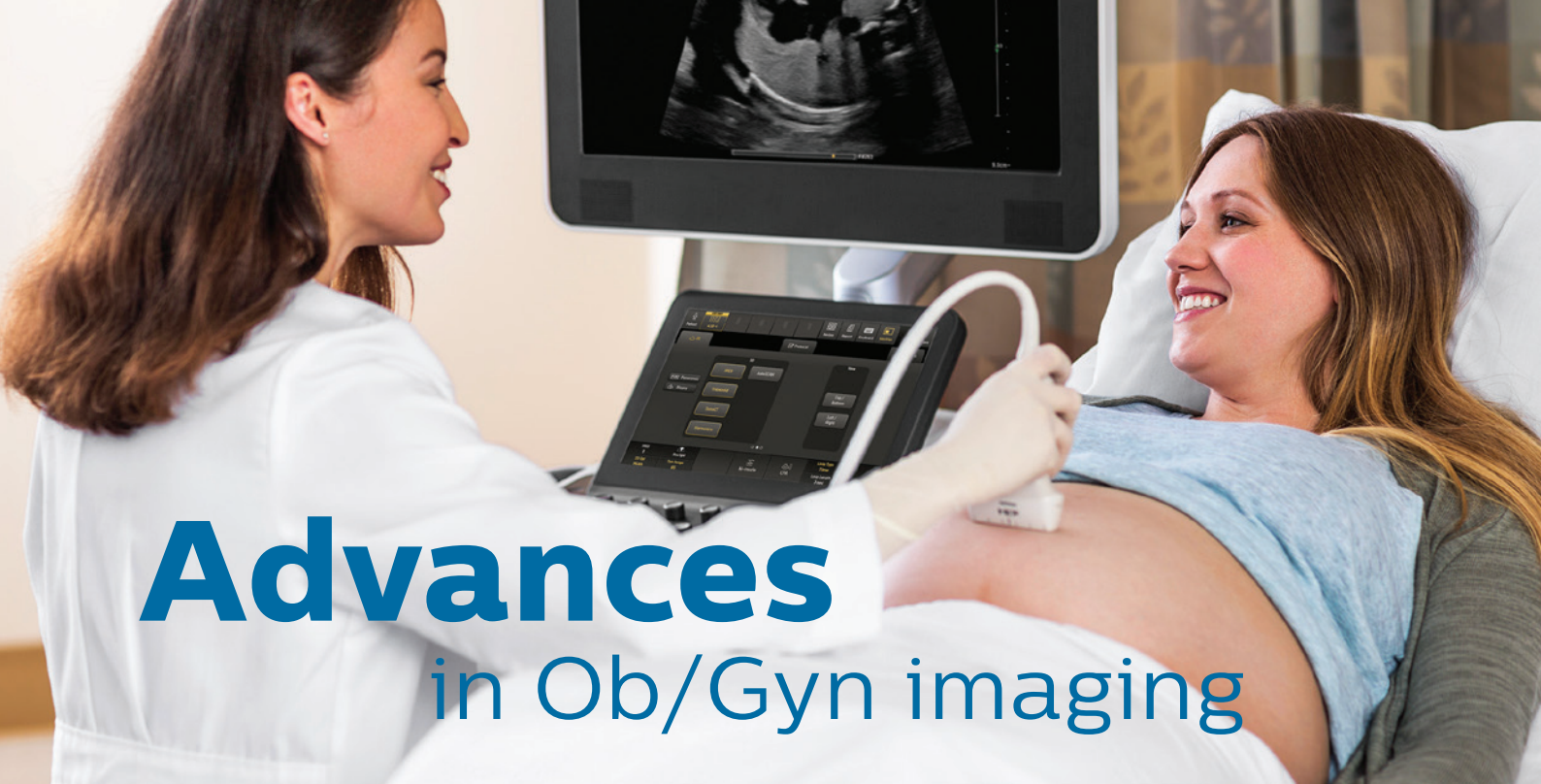
**Image fusion of liver and kidney**



**Transcranial image fusion**



**Prostate fusion**



# Advances in Ob/Gyn imaging

## TrueVue with TouchVue interface

### Photorealistic 3D fetal imaging at your fingertips

TrueVue offers a powerful 3D visualization tool that produces highly realistic imaging of fetal and gynecological anatomy. TrueVue features an innovative internal light source that provides illumination at any location within the 3D volume for exceptional visualization of anatomy. The internal light source allows the freedom to adjust the amount of light and shadow displayed on anatomical structures to reveal subtle detail not obtainable with conventional 3D rendering.

In addition, the GlassVue feature provides an early, more transparent view of the fetal anatomy than traditional ultrasound. The advanced 3D imaging tool goes beyond the surface to reveal bone, organs, and other internal structures. Users have control over the amount of transparency in the 3D volume.

TrueVue features an interactive interface called TouchVue. The TouchVue interface utilizes the Affiniti 70 touchscreen to allow fingertip control of both volume rotation and internal light source position directly on the TrueVue 3D image.

## aReveal<sup>A.I.</sup> automatic 3D segmentation

aReveal<sup>A.I.</sup> uses an anatomical intelligent algorithm (AIUS)\* that enhances 3D workflow and reduces the time and complexity of obtaining fetal face images. With a simple button push, aReveal<sup>A.I.</sup> automatically sculpts away 3D data proximal to the fetal face by recognizing the geometry of the fetal skull, revealing the fetal face surface.

## aBiometry Assist<sup>A.I.</sup>

### Streamlines fetal measurement and reporting workflow

Virtually every obstetrical ultrasound examination includes standardized measurements of fetal structures to assess age and growth trends. aBiometry Assist<sup>A.I.</sup> uses anatomical intelligence of fetal anatomy to automatically preplace measurement cursors on selected structures, which users can quickly accept or edit. This helps reduce conventional measurement steps and streamlines obstetrical report generation. aBiometry Assist<sup>A.I.</sup> allows selection of auto measure function for BPD, HC, AC, and FL fetal structures.





With **TrueVue**, a moveable light source illuminates 3D volumes internally or externally.

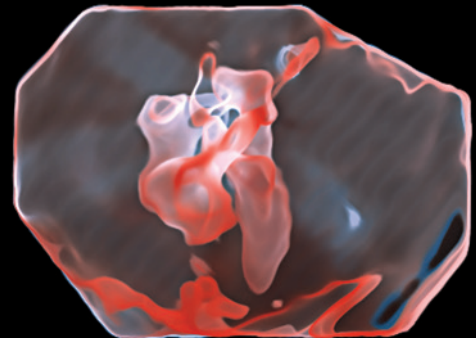


Different examples of light source position and depth

The **GlassVue** feature provides an early, more transparent view of the fetal anatomy than traditional ultrasound.

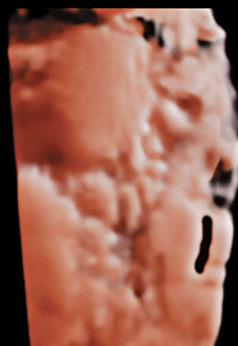


11 weeks of gestation



Fetal heart at 29 weeks of gestation

**aReveal<sup>AI</sup>** is an advanced feature of Philips AIUS that removes extraneous information to quickly and easily reveal the fetal face.



Before aReveal<sup>AI</sup>



After aReveal<sup>AI</sup> applied

**\* AIUS turns data into information**

Anatomical Intelligence Ultrasound (AIUS) looks at a patient's ultrasound data and applies adaptive system intelligence using 3D anatomical models to create easier and more reproducible results.



# Cardiology capabilities

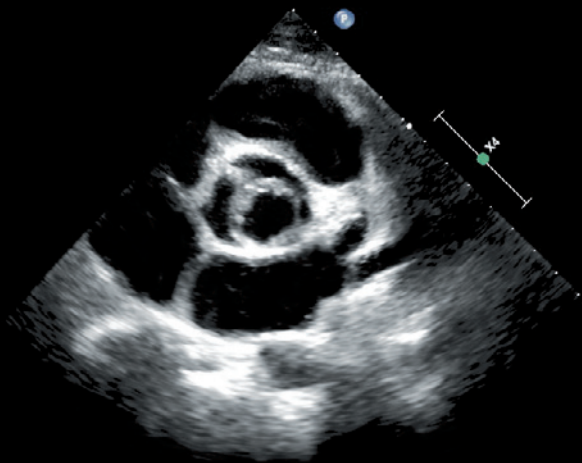
Affiniti 70 is a comprehensive echocardiography solution that addresses the needs of a busy department or office while incorporating those innovations that make Philips ultrasound the global leader in echocardiography.



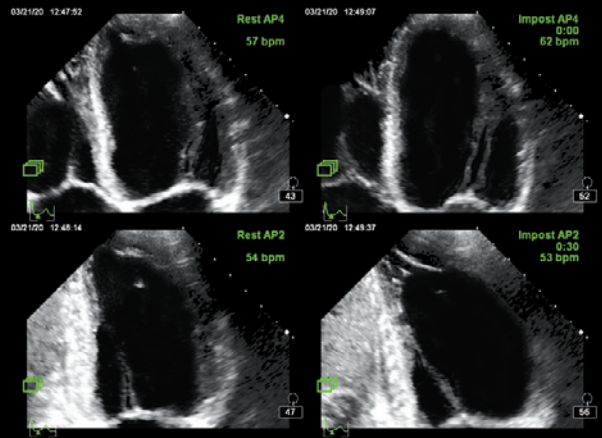
## **A comprehensive cardiovascular solution**

- Adult echocardiography including Live 3D TEE
- Pediatric echocardiography including MicroTEE
- Stress echocardiograph
- Left Ventricular Opacification (LVO)
- Vascular imaging
- Quantification tools

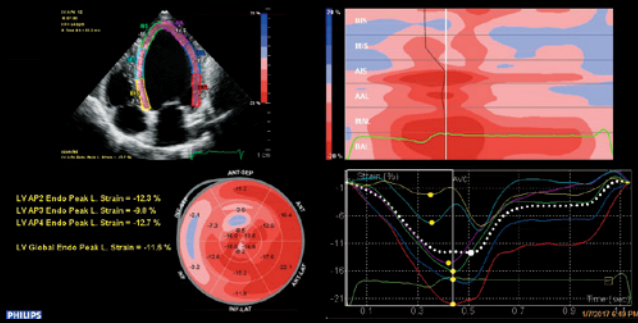




**Bicuspid aortic valve**



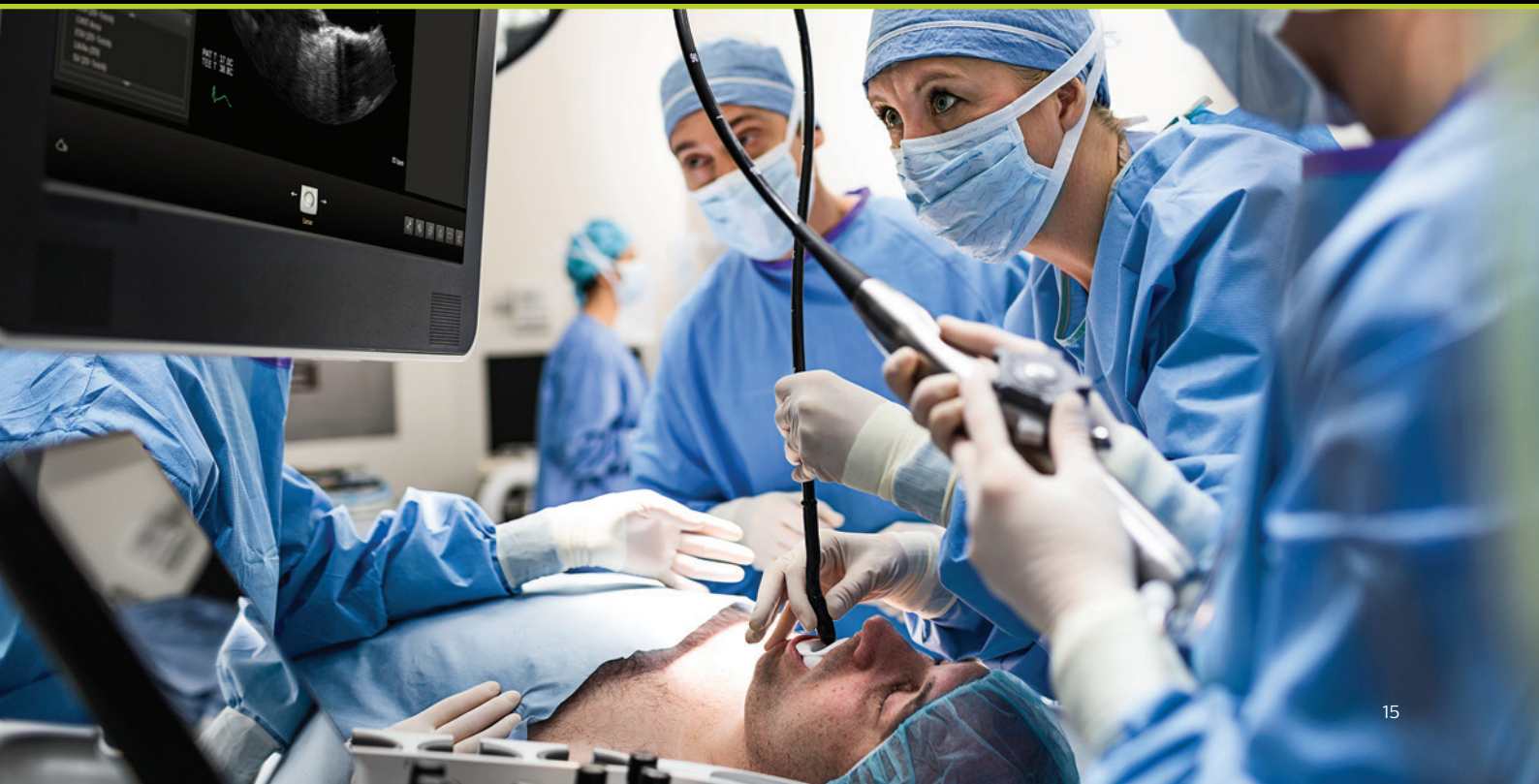
**Stress echo**



**aCMQ<sup>AI</sup> provides both EF and GLS from the same 2D images**



**Mechanical mitral valve**



Designed around your everyday workflow, Affiniti 70 offers walk-up usability, ergonomics, and mobility.

# Comfort meets **competence**

Philips leverages the experiences of its customers to design Affiniti 70 to address the challenges of daily scanning. We understand the reality of tight spaces, high patient volume, technically difficult patients, and time constraints, and we've designed the system with thoughtful details to help lighten your workload.



You won't notice it's there unless it's gone, but users have reported that easy clip, our innovative cable management solution, keeps cables tangle-free and reduces damage while decreasing cable strain to enhance comfort while scanning.

## MaxVue high-definition display

With a touch of a button, MaxVue brings full high-definition display quality to ultrasound imaging. Now you can experience extraordinary visualization of anatomy with 1,179,648 more image pixels when compared to the standard 4:3 display format mode. MaxVue enhances ultrasound viewing during interventional procedures and provides 38% more viewing area to optimize the display of dual, side/side, biplane, and scrolling imaging modes.

**Over one million more pixels per image**

**38% larger viewing area**

Standard  
format 4:3

**1024 X 768  
pixels**

**MaxVue**

Full high definition  
format 16:9

**1920 X 1080 pixels**





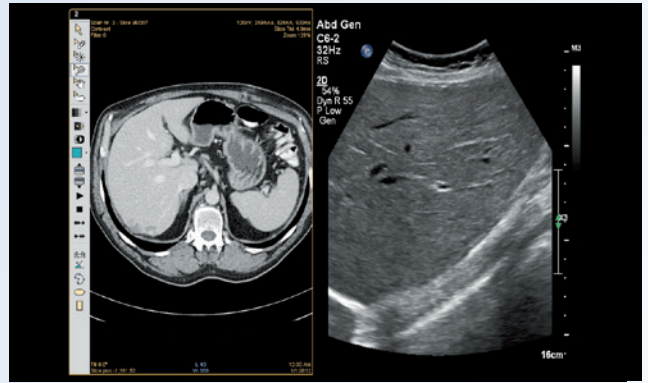
With image replication and TGCs on its tablet touchscreen, Affiniti 70 was designed to reduce reach and button pushes.



Affiniti 70's friendly design and library-quiet operation enhance patient comfort.



To reduce the time required for mobile scans, the system can be put to sleep in two seconds, and then moved to a new location, where it starts up in just seconds.



With multimodality query retrieve, you can review DICOM CT, NM, MR, mammography, and ultrasound images without using an external reading station.

### Walk-up usability

The intuitive, intelligently designed user interface and system architecture have been validated by studies that show that users with ultrasound experience require minimal training on system use to be able to complete an exam.<sup>1</sup>

### Reduced reach and button pushes

To enhance exam efficiency, Affiniti 70 places relevant, easy-to-learn controls right at your fingertips, streamlining workflow. Because 80% of ultrasound clinicians experience work-related pain, and more than 20% suffer a career-ending injury,<sup>2</sup> we've designed our intuitive, tablet-like touchscreen interface to reduce reach and button pushes.

### Scanning comfort

Affiniti 70 is designed to make a full day of scanning comfortable. The control panel with 180° of movement and generously sized 54.6 cm (21.5 in) articulating monitor enhances scanning comfort whether standing or sitting. The touchscreen is one of the largest in its class, so you can easily make selections and control scanning while focusing on your patients.

### Ready when you need it

At just 83.5 kg (184 lb), Affiniti 70 is one of the lightest in its class and is 16% lighter than its predecessor.<sup>†</sup> With its small footprint and fold-down monitor, pushing the system down hallways and in tight spaces is easy. When an exam is finished, a full suite of DICOM and PC format capabilities makes information-sharing simple. Structured reporting facilitates patient workflow by giving you the ability to transfer measurements, images, and reports over network share, and wireless capability plus easy connection to printers helps you document exams.

### Analysis, reporting, connectivity, and post-processing capabilities

Measurements and calculations packages elevate clinical throughput and efficiency, while advanced connectivity tools enable efficient data transfer to wherever it is needed. Customizable report templates provide consistent layouts and enhance report readability. Active native data allows post-processing of many exam parameters so that you can finalize images before transfer to PACS.

<sup>1</sup> 2014 internal workflow study comparing Affiniti to HD15.

<sup>2</sup> Society of Diagnostic Medical Sonography, Industry Standards for the Prevention of Musculoskeletal Disorders in Sonography, May 2003.

<sup>†</sup> HD15

Built to withstand the rigors of daily use, Affiniti 70 offers low operating costs and is backed by Philips support and value-added services. The Affiniti 70 system boasts a low total cost of ownership, making it a smart investment.

# A **smart** investment

## Enhance uptime

- A modular design for enhanced reliability and rapid repair
- Philips remote services\* monitoring, which corrects issues using a standard Internet connection, reducing the need for service calls
- Access to our award-winning service organization

## Responsive relationships

The value of a Philips ultrasound system extends far beyond technology. With every Affiniti 70 system, you get access to our award-winning service organization, our competitive financing, and educational programs that help you get the most out of your system.



## Exceptional serviceability

The system features a superb modular design for rapid repair.

Affiniti 70 consumes nearly

**40%**  
less power

than its predecessor.\*\*

It consumes less energy than a toaster and generates less heat, which can help you save on energy and cooling costs.



Service Request button for immediate access to Philips support.

\* Not all services available in all geographies; contact your Philips representative for more information. May require service contract.

\*\* HD15



# Count on us as your patients count on you

The value of a Philips ultrasound system extends far beyond technology. With every Affiniti 70 system, you get access to our award-winning service organization,\* competitive financing, and educational tools that help you get the most out of your system.\*\*

## Always there, always on

We work as one with your team to keep your Affiniti 70 system running smoothly.

### Remote service capabilities maximize efficiency

Easy, rapid technical and clinical support through remote desktop enables a virtual visit with a Philips expert.

If you prefer to keep your know-how in-house, the OmniSphere Remote Technical Connect application† allows your BioMed team remote access to Philips systems on your network so that you can have remote service capabilities your way.

### Remote software distribution boosts performance over the entire system lifecycle

Remote software distribution provides a simple, convenient, and safe process to seamlessly receive updates at a time the suits you, keeping your system at peak performance now and in the future.

### Proactive monitoring solutions maximize uptime

Philips proactive monitoring increases system availability by predicting potential system disruptions and proactively acting on them, letting you focus on what is most important – your patients.

### Immediate support request at your fingertips

The support request button allows you to enter a request directly from the control panel, for a fast and convenient communication mechanism with Philips experts without leaving your patient, minimizing workflow interruption.

### On-cart transducer test provides confidence in your transducer quality

On-cart transducer test provides a non-phantom method to test Affiniti 70 transducers at any time, giving you confidence in your diagnostic information.

Affiniti offers a defense-in-depth strategy, implementing a suite of security features designed to help clinical IT professionals and healthcare facilities provide additional patient data privacy and virus protection, as well as protection from unauthorized access via the ultrasound systems on hospital networks.

## Sharing risk, increasing the return on your investment

Partner with us to maximize utilization and uptime of your Affiniti 70 system.

### Utilization reports for confident decision-making

Data intelligence tools can help you make informed decisions to improve workflow, deliver quality patient care, and decrease the total cost of ownership. The on-board utilization tool provides individual transducer usage data and the ability to sort by exam type. The OmniSphere Utilization Optimizer takes this a step further by providing easy-to-use charts and graphs for all of your applicable† networked Philips systems.

## Understanding your needs, designed for you

Our flexible RightFit service agreements, education offerings, and innovative financing solutions can be adapted to meet your needs and strategic priorities.

- **Technology Maximizer Program:** helps keep your system performing at its peak by continuously providing the latest software from Philips at a fraction of the cost of the same upgrades purchased individually over time.
- **Xtend Coverage:** lets you choose additional service coverage for your ultrasound equipment at the time of purchase to more easily calculate your total cost of ownership.
- **Clinical education solutions:** comprehensive, clinically relevant courses, programs, and learning paths designed to help you improve operational efficiency and enhance patient care.

\* Philips is rated number one in overall service performance for ultrasound for 23 consecutive years in the annual IMV ServiceTrak survey in the USA.

\*\* Optional. Not all services available in all geographies; contact your Philips representative for more information. May require service contract.

† Check with your Philips representative for system compatibility.



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