A man in a white lab coat is looking intently at another man in a teal shirt. The man in the lab coat has a focused expression, with his eyebrows slightly furrowed. The background is a blurred clinical setting.

**PHILIPS**

Ultrasound

Affiniti

**It understands  
your everyday**

Philips Affiniti ultrasound system for vascular

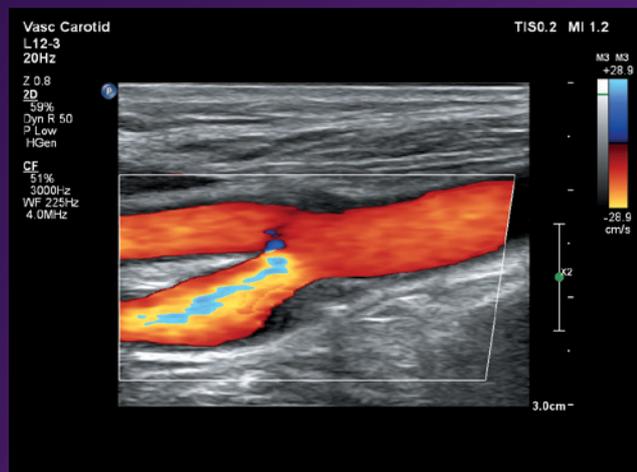
# Excellence in vascular performance

With its full range of vascular applications, you'll find that Philips Affiniti ultrasound quickly becomes an essential part of your day. Affiniti provides excellence in the full range of vascular imaging across patient types, including the technically difficult patient.

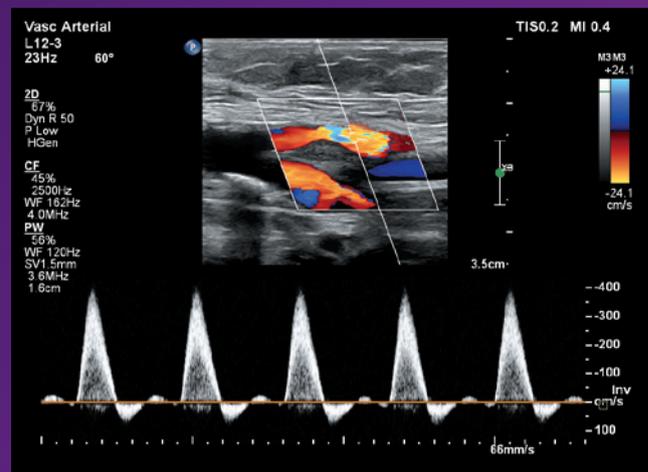
Designed to set you ahead and help you stay ahead, Affiniti addresses the everyday need to scan quickly and deliver results efficiently, while delivering innovations that respond to the needs of a busy vascular ultrasound department.



Panoramic imaging of a superficial vein



Carotid bulb stenosis



Ulnar artery stenosis



# Workflow meets **WOW**

Affiniti delivers exceptional image quality quickly, with little or no additional image optimization required. It has all the capabilities needed for day-to-day vascular scanning, plus advanced features and automation to enhance exam efficiency and simplify workflow.

## Automation tools save time

Affiniti reduces repetitive button pushes and steps so you can focus on what really matters.

### **Real-time iSCAN (AutoSCAN)**

Automatically and continuously optimizes gain and TGC to provide excellent images in 2D, 3D, and 4D modes.

### **Auto Doppler for vascular imaging**

Features color-box positioning and sample volume placement in just three steps, with an average of 67.9% fewer button pushes.

### **SmartExam protocols**

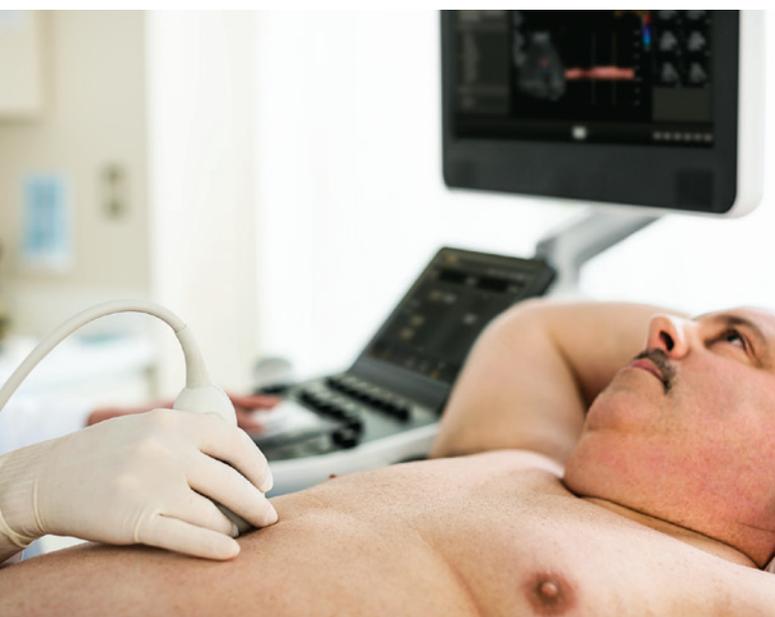
System-guided SmartExam protocols facilitate exams, with an onscreen menu that guides you through required views by exam type, automatically enters annotation, and builds your report. These protocols have been clinically proven to reduce exam time by up to 50% by reducing keystrokes and alerting the user to any missed views.<sup>1</sup>



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

# A **full range** of transducers supports virtually any vascular application

<b>Transducer</b>	<b>Applications</b>
<b>L12-3</b>	Carotid, lower extremity and upper extremity
<b>C5-1</b>	Abdominal vascular
<b>eL18-4*</b>	Carotid and superficial vascular
<b>S5-1</b>	Cardiology and transcranial Doppler
<b>L15-7io</b>	Surgical and superficial vascular
<b>C8-5</b>	Cerebrovascular
<b>D2tcd</b>	Transcranial Doppler



## **PureWave imaging increases penetration**

PureWave transducers are designed to increase penetration in technically difficult patients so that one transducer can facilitate diagnostic confidence for difficult-to-image patients as well as those who are easy.

## **Precision beamforming**

The power of PureWave is strengthened by the precision beamforming of Affiniti, 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**

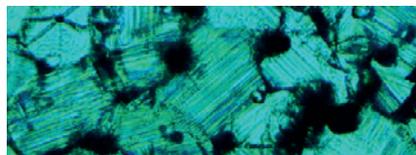
Tissue Specific Presets (TSP) automatically adjust over 7,500 parameters to optimize the transducer for the specific exam type, producing excellent image quality with little or no need for image adjustment.

\*The eL18-4 does not appear in the photograph above but is shown on page five.

# 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 supporting a diverse range of clinical applications while delivering extraordinary imaging and depth-of-field performance.

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

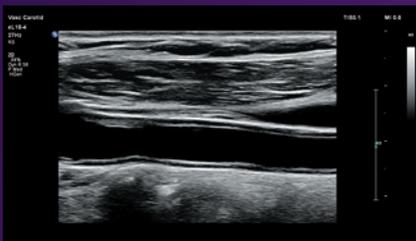
The pure, uniform crystals of PureWave are 85% more efficient than conventional piezoelectric material, resulting in exceptional performance.<sup>2</sup>

<sup>2</sup> Chen J, Panda R, Savord B. Realizing dramatic improvements in the efficiency, sensitivity and bandwidth of ultrasound transducers. Case study. 2006.

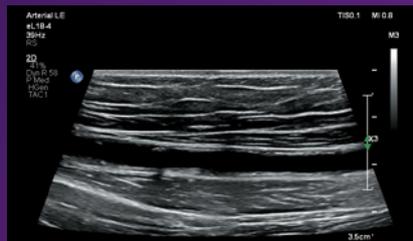


## eL18-4 at a glance

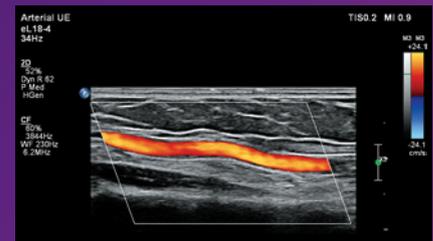
- Ultra-broadband PureWave crystal
- 50 mm array aperture
- Multi-row array with fine elevation focusing
- Fine pitch with 1,920 active elements
- Advanced full solution elastography support
- MicroFlow Imaging support
- Contrast-enhanced ultrasound (CEUS) support
- Precision biopsy support
- Optional integrated EM tracking



Intimal-media complex of carotid artery



Gastrocnemius artery with trapezoid imaging



Sural artery flow

# Enhance confidence

Affiniti's outstanding vascular performance combines with advanced clinical functionality, including CEUS, TCD fusion, and Anatomical Intelligence Ultrasound (AIUS).

## MicroFlow Imaging

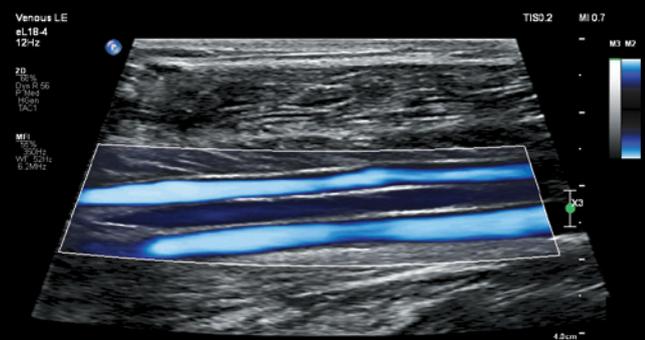
### Remarkable sensitivity and detail in assessing blood flow

MicroFlow Imaging is a proprietary mode 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. MicroFlow Imaging maintains high frame rate and 2D image quality while applying advanced artifact reduction techniques. New 2D image subtraction, 2D blending, and side/side display options offer excellent versatility in visualization. MicroFlow Imaging is available on these transducers: C5-1, C9-2, L12-3, C8-5, and eL18-4.

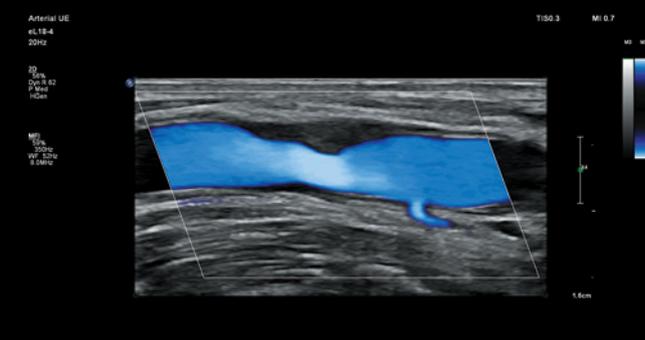
## Precision interventional guidance capabilities

### Heighten confidence in interventional procedures

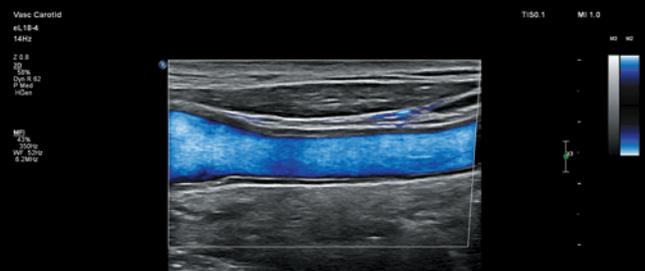
Biopsy procedures, for many practices, are a routine part of an ultrasound examination. Using precision-guided biopsy techniques provides confidence in obtaining tissue targets to reduce multiple needle passes. Support for the Civco Verza™ Guidance System provides an advanced biopsy guidance system with virtually no dead zone. Civco Verza brackets are available on these transducers: C5-1, C9-2, L12-3, L12-5, L18-5, and eL18-4. The eL18-4 will support new needle visualization capability to enhance the display of needle reflections for enhanced confidence during interventional procedures.



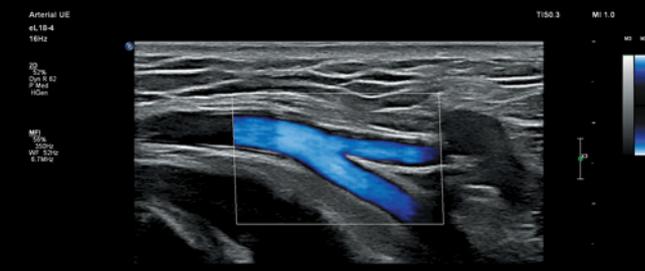
Posterior tibial vein demonstrated with MicroFlow Imaging



Brachial artery narrowing with MicroFlow Imaging



Carotid artery intimal-media and MicroFlow Imaging



Brachial artery bifurcation with MicroFlow Imaging

### Contrast-enhanced ultrasound (CEUS)

CEUS provides for immediate optimization of contrast-enhanced studies and exceptional performance across multiple agents and applications.

### Transcranial image fusion

Transcranial image fusion supports more confident answers in applications such as stroke therapy while reducing dependence on repeat CT or MR scans in routine follow-up cases.

## Quantify image information

Q-Apps quantify ultrasound image information to help you turn images into answers.

### Vascular Q-Apps

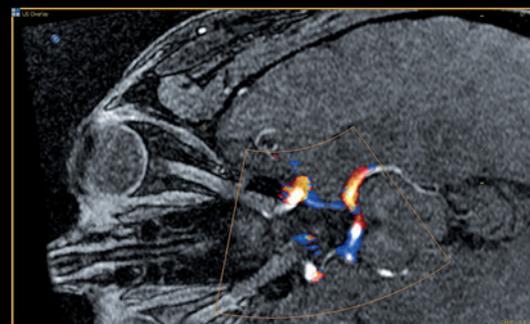
- Intima Media Thickness (IMT)
- Region of Interest (ROI)
- MicroVascular Imaging (MVI)
- Vascular Plaque Quantification (VPQ)

### Cardiology Q-Apps

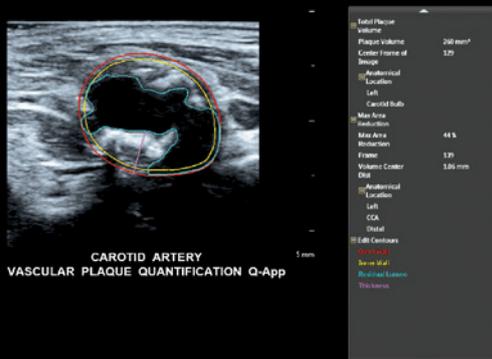
- Intima Media Thickness (IMT)
- Region of Interest (ROI)
- Strain Quantification (SQ)
- Automated 2D Cardiac Quantification<sup>A.I.</sup> (a2DQ<sup>A.I.</sup>)
- Automated Cardiac Motion Quantification<sup>A.I.</sup> (aCMQ<sup>A.I.</sup>)



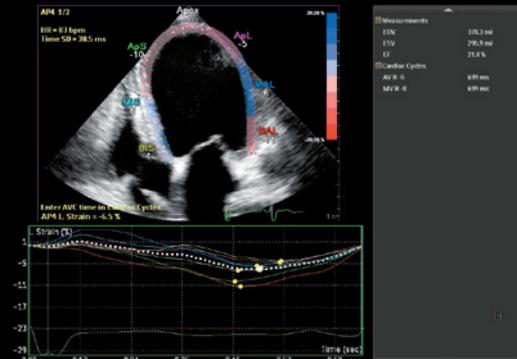
Automatic carotid intima media thickness measurement for fast and easy access to IMT data



Transcranial image fusion combines multimodality images with live ultrasound



VPQ allows advanced analysis of plaque volume and morphology

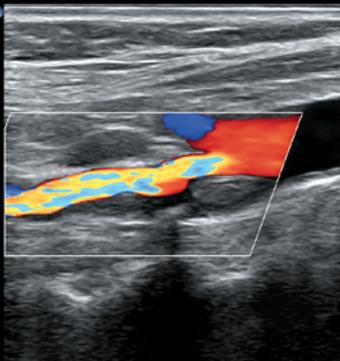


aCMQ<sup>A.I.</sup> provides both EF and GLS from the same 2D images

# Performance

you can see

Vasc Carotid  
L12-3  
17Hz  
2D  
60%  
Dyn R 50  
P Low  
HGen  
CF  
51%  
3000Hz  
WF 225Hz  
4.0MHz



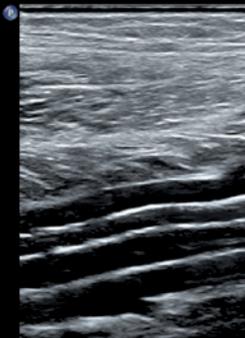
TIS0.1 MI 1.2



4.0cm

ICA stenosis

Vasc Venous  
L12-3  
27Hz  
RS  
2D  
84%  
Dyn R 45  
P Low  
HGen

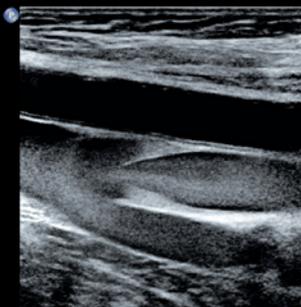


TIS0.3 MI 1.3



Deep calf veins

Vasc Venous  
L18-5  
28Hz  
RS  
2D  
70%  
Dyn R 50  
P Low  
HRes

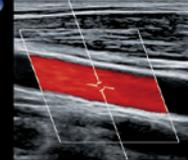


TIS0.1 MI 0.7

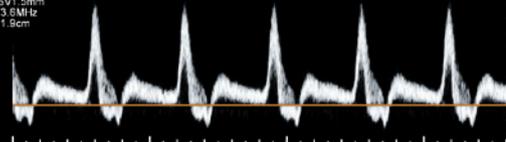


Valvular sinus of femoral vein

Vasc Carotid  
L12-3  
18Hz  
50°  
2D  
51%  
3750Hz  
Dyn R 50  
P Low  
Gen  
CF  
51%  
3750Hz  
WF 393Hz  
5.0MHz  
PW  
50%  
WF 60Hz  
SV1 5mm  
3.0MHz  
1.9cm



TIS0.2 MI 0.6



Common carotid artery

Vasc Carotid  
L12-3  
30Hz  
RS  
2D  
48%  
Dyn R 50  
P Low  
HGen



TIS0.2 MI 1.3



4.0cm

ICA stenosis

Abd Vasc  
C5-1  
15Hz  
2D  
56%  
Dyn R 62  
P Med  
HRes  
CF  
48%  
3077Hz  
WF 338Hz  
3.1MHz

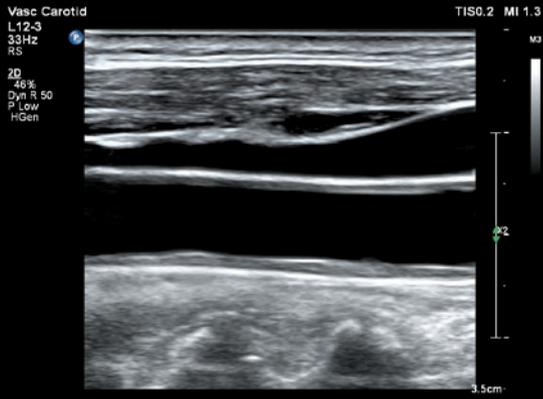


TIS0.6 MI 1.0

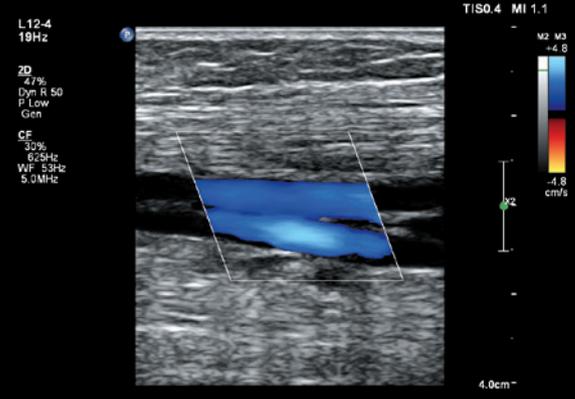


7.0cm

Aorta with celiac and SMA origins



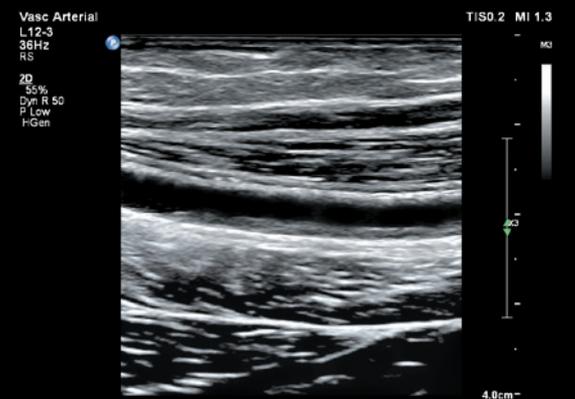
CCA intimal-media thickening



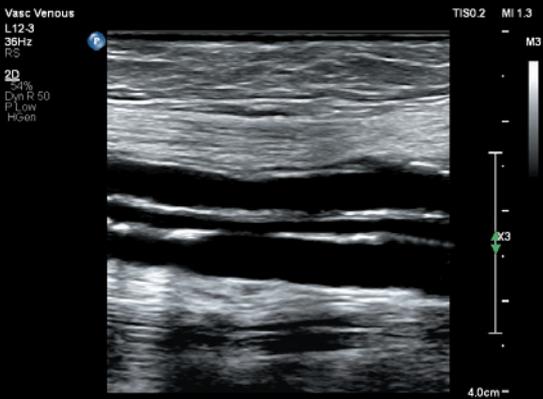
Calf vein color flow



Celiac axis arterial flow



Arterial stent stenosis



Posterior tibial vasculature



Renal parenchyma



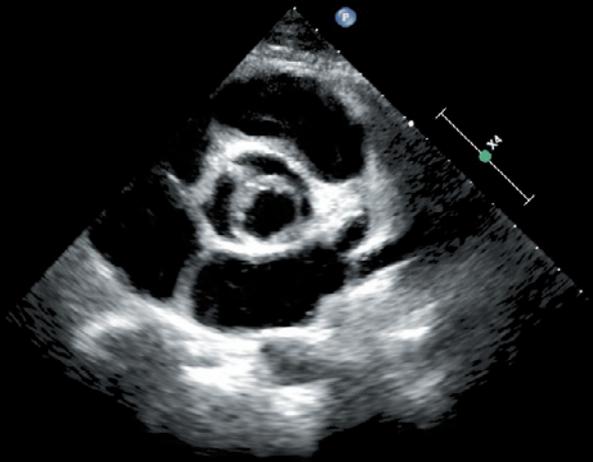
# Cardiology capabilities

Affiniti 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.

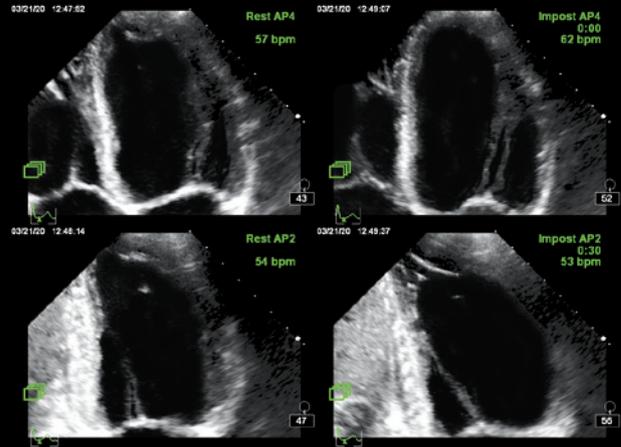


## **A comprehensive cardiovascular solution**

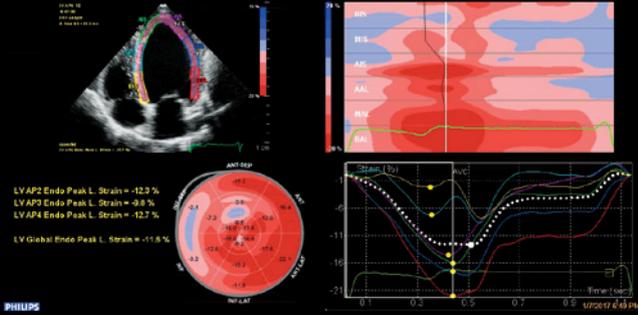
- Adult echocardiography including Live 3D TEE
- Pediatric echocardiography including MicroTEE
- Stress echocardiography
- Left Ventricular Opacification (LVO)
- Vascular imaging
- Quantification tools



**Bicuspid aortic valve**



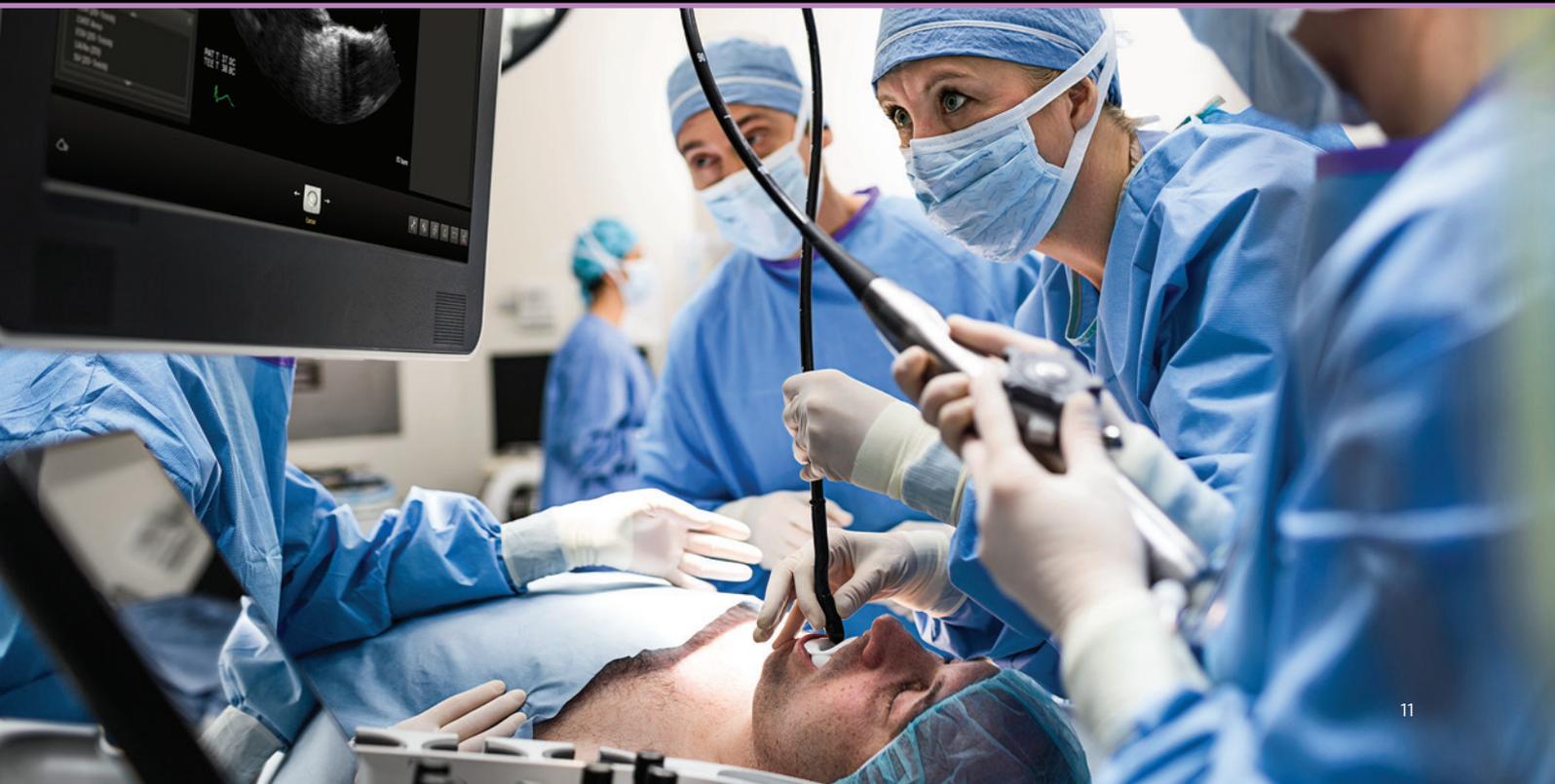
**Stress echo**



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



**Mechanical mitral valve**



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

# Comfort meets **competence**

Philips leverages the experiences of its customers to design Affiniti 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 is designed to reduce reach and button pushes.



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



One of the lightest in its class, the system can be pushed down hallways and through tight spaces easily.



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.

### 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>3</sup>

### Reduced reach and button pushes

To enhance exam efficiency, Affiniti 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>4</sup> we've designed our intuitive, tablet-like touchscreen interface to reduce reach and button pushes.

### Scanning comfort

Affiniti 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 is one of the lightest in its class and is 16% lighter than its predecessor.\* 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.

\* HD15

<sup>3</sup> 2014 internal workflow study comparing Affiniti to HD15.

<sup>4</sup> Society of Diagnostic Medical Sonography, Industry Standards for the Prevention of Musculoskeletal Disorders in Sonography, May 2003.

Built to withstand the rigors of daily use, Affiniti offers low operating costs and is backed by Philips support and value-added services. The Affiniti 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 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 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.



Support 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 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 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 that 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 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 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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