



# A new era in premium ultrasound

Philips EPIQ 7 ultrasound system for women's health care

**PHILIPS**

# The new challenges in global healthcare

To help ease the unprecedented strain on hospitals and healthcare systems, premium ultrasound must continue to deliver more: improved quality, higher accuracy, faster and more consistent exams that lead to quick and more confident diagnoses the first time and in less time, even for technically difficult patients.



**Throughout our worldwide research into women's health care you've told us about the challenges you face:**

- I need more definitive image quality and advanced tools for all gestational ages and complex gynecological cases
- I am seeing more pregnancies in patients with high BMIs and I need to improve exam success on these technically challenging patients
- I am seeing higher referral rates with more complex cases, requiring improvement in workflow efficiency
- I have a desire to automate many system functions to assure ease of use and consistency of exams between users
- I need exceptional 3D surface rendering performance to better diagnose anomalies



# Introducing a new era in premium ultrasound for women's health care

It's our most powerful architecture ever applied to ultrasound imaging – touching all aspects of acoustic acquisition and processing, allowing you to truly experience ultrasound's evolution to a more definitive modality. Supported by our family of proprietary xMATRIX transducers and solutions for technically difficult patients for every exam type, this platform offers our highest level of premium performance.





# Performance

## More confidence in your diagnosis even for your most difficult cases

EPIQ 7 is the new direction for premium ultrasound, featuring an uncompromised level of clinical performance to meet the challenges of today's most demanding practices and technically difficult-to-image patients through every gestational age and for gynecology applications.



### **Our most powerful architecture ever applied to ultrasound imaging**

The power of this architecture touches all aspects of acoustic acquisition and processing, allowing you to truly experience the evolution to reaching a more definitive diagnosis easily.

### **Philips nSIGHT Imaging is a totally new approach**

The Philips proprietary nSIGHT Imaging architecture introduces a totally new approach to forming ultrasound images without compromise. nSIGHT Imaging incorporates the use of a new precision beamformer along with powerful massive parallel processing. This extraordinary architecture captures an enormous amount of acoustic data and then, unlike conventional systems that form the image line by line, reconstructs in real time optimally focused beams, creating precise resolution at all depths down to the pixel level.

# Breaking old rules. Creating new realities.

nSIGHT Imaging breaks the rules of conventional ultrasound to achieve new levels of clinical performance.

## Old rule 1

You must choose between frame rate and image quality

Conventional  
technology

nSIGHT Imaging

nSIGHT more than doubles the frame rate

For the first time you can experience both highly detailed ultrasound images and extraordinary temporal resolution and frame rate through virtually perfect beams with fewer transmit operations, breaking the traditional compromise of conventional architectures.

## Old rule 2

You must critically place a focal zone to achieve the greatest image clarity



Conventional  
technology

Best resolution  
limited to  
transmit focal  
zone area



nSIGHT  
Imaging

Effective  
reconstructed  
transmit beam  
uniformity

Now you can experience superb tissue uniformity all the way up to the skin line without the compromise of conventional transmit focus limitations through dynamic calculation and reconstruction of optimal transmit and receive focusing continually at all depths down to the pixel level.

## Old rule 3

You can't escape penetration limitations and sensitivity to weak tissue signals



C9-2 PureWave curved array

Superb penetration and resolution



nSIGHT Imaging

Visualize extraordinary levels of detail and contrast resolution with exceptional penetration at higher frequencies even on difficult patients through ultra-wide dynamic range and unique beam reconstruction that reinforces exceptional tissue information at greater depths with less noise.

### Image quality: the numbers tell the story

Comparing EPIQ 7 to conventional premium systems shows breakthrough advances in imaging performance:\*

- Up to **76%** increase in penetration  
(penetration = ability to scan at depths and maintain resolution in order to complete the study)\*
- Up to **213%** increase in temporal resolution  
(ability to maintain resolution at high frame rates)\*

\* Quantitative engineering study comparing Philips iU22 ultrasound system with EPIQ 7.

# Maximize extreme clinical capabilities

Philips pioneered advanced technologies such as xMATRIX and PureWave. The revolutionary nSIGHT architecture of EPIQ 7 makes xMATRIX and PureWave even more powerful.

## **xMATRIX is the leading-edge, versatile ultrasound transducer technology**

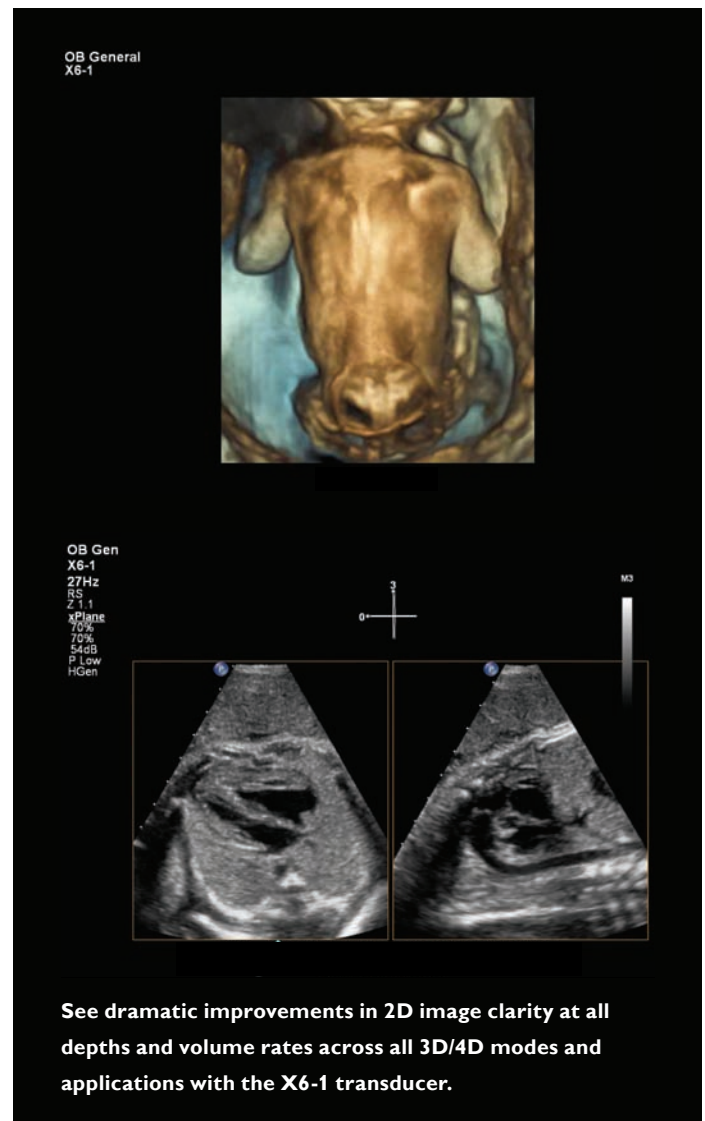
No other premium ultrasound system can run the complete suite of the world's most innovative ultrasound transducers. With the touch of a button xMATRIX offers all modes in a single transducer: 2D, 3D/4D, Live xPlane, Live MPR, MPR, Doppler, color Doppler, and CPA.

## **nSIGHT Imaging makes powerful xMATRIX technology even more so**

Achieve ultra-thin 2D slices. Your first step in volume imaging, Live xPlane allows you to create two full-resolution planes simultaneously, allowing you to capture twice as much clinical information in the same amount of time. Acquire near isovoxel resolution to reveal images from any plane within the volume. Now it's all possible. Export 3D MPRs in the X-, Y-, and Z-plane to any PACS system with MPR DICOM Export. Present superb, real-time 4D volume data in obstetrical exams. Gather a volume of the fetal heart in as little as a two-second acquisition compared with the 12-second acquisition time of conventional volume imaging.

## **Greatly enhance the power of the X6-1 transducer for OB and GYN applications**

We're delivering the advances you've been asking for, such as significant enhancements in X6-1 2D image clarity at shallow depths. You can now implement elevation compounding on the X6-1 with no frame rate penalty for enhanced speckle reduction and contrast resolution at all depths. See dramatic improvements in volume rates across all 3D/4D modes and applications. Users can now perform real-time 4D imaging of the fetal heart with the X6-1 with image quality once reserved for 2D images.



## Only with EPIQ

Gather fetal heart volume in a 2-second acquisition

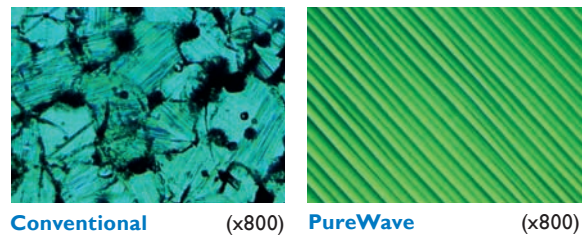
**nSIGHT Imaging strengthens the power of PureWave to image technically difficult patients you see every day**

With a complete family of PureWave transducers, your most difficult diagnoses are now easier. PureWave crystal technology represents the biggest breakthrough in piezoelectric transducer material in 40 years. The pure, uniform crystals of PureWave are 85% more efficient than conventional piezoelectric material, resulting in exceptional performance. This technology allows for enhanced penetration in difficult patients and for excellent detailed resolution.

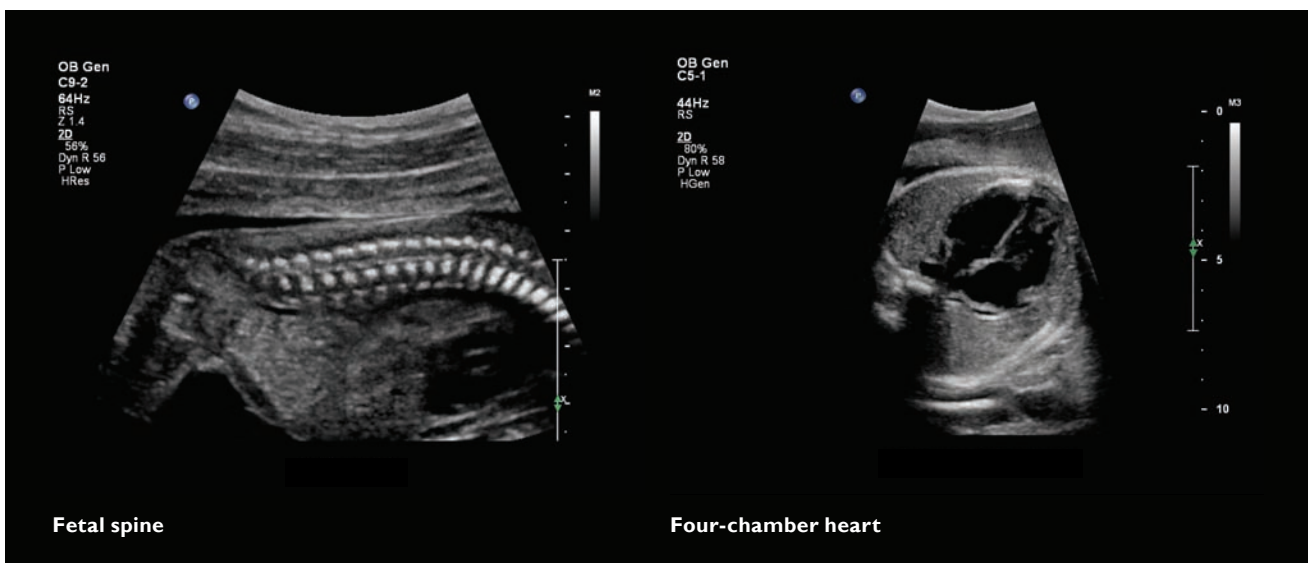
EPIQ 7 nSIGHT architecture enhances both the penetration and image quality of PureWave transducers. Bring your most challenging cases to EPIQ 7 with our

PureWave solutions from gynecological surveys to the first trimester through third trimester exam:

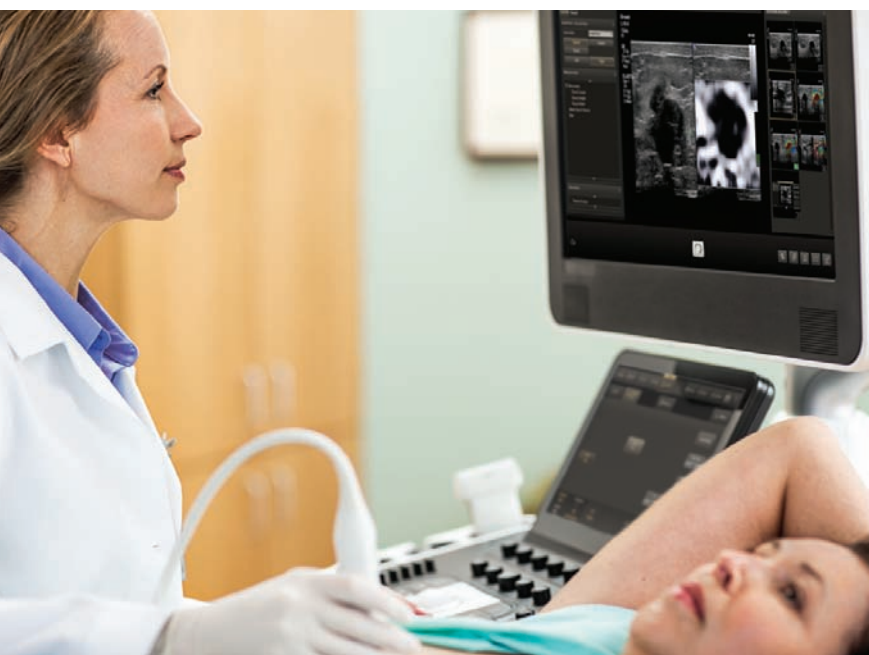
- New C9-2 transducer designed for high-frequency OB imaging, especially in the first, second, and even into the third trimester
- C10-3v transducer ideal for challenging fibroid and complex ovarian cases, as well as first trimester imaging
- C5-1 transducer suited for the largest abdomens all the way through the third trimester, patients with gestational diabetes, or premature rupture of membranes
- X6-1 xMATRIX transducer excels at diagnostic requirements that go beyond 2D imaging, bringing PureWave to a new level that includes live volume imaging and live imaging in two planes simultaneously



PureWave crystals have virtually perfect uniformity for greater bandwidth and twice the efficiency of conventional ceramic materials. The result is excellent imaging and Doppler performance.





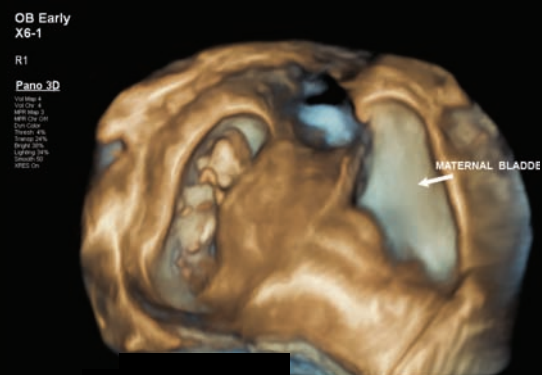


**Exclusive panoramic volume imaging  
with xMATRIX**

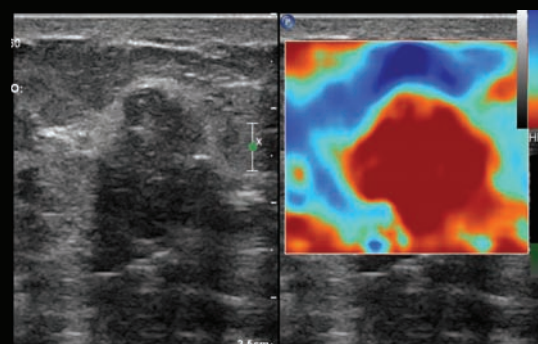
Panoramic volume imaging uses Live xPlane imaging to acquire a calibrated volume over an extended field of view. Easily capture, visualize, and quantify 3D panoramic volumes. For the first time, you can capture an entire third-trimester fetus or an entire uterus in one 3D panoramic volume. Now have exceptional demonstration of the spatial relationships between structures when a single volume is not enough to capture the entire region of interest, get a global perspective of the examination area to easily and quickly identify target structures.

### Significant addition to the power of elastography

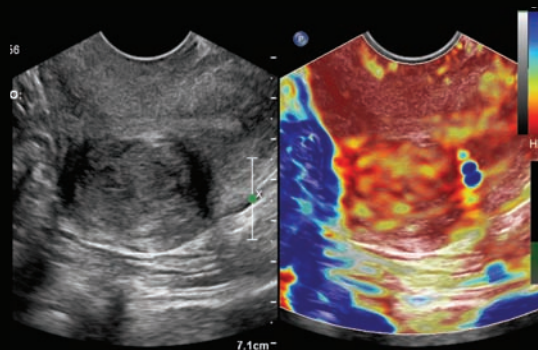
Studies have shown that a combination of sonography and ultrasound elastography, a technique that enables evaluation of relative tissue stiffness, could potentially reduce unnecessary biopsies. EPIQ 7 offers the most sensitive strain elastography solution in the market for both breast and gynecological applications. No additional compression required means increased exam consistency and reproducibility.



### 22-week fetus, 3D panoramic image



### Breast lesion elastogram

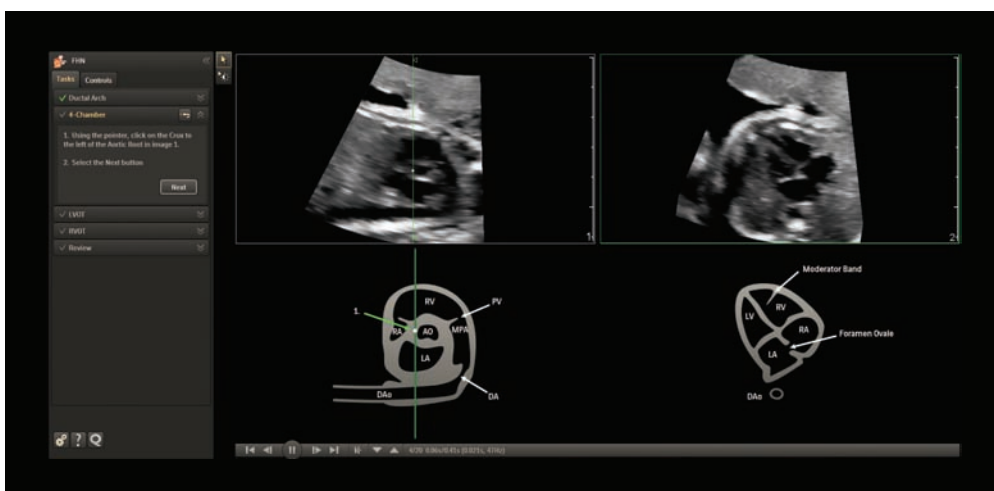


## Uterine fibroid



# Turn images into answers

This powerful architecture also supports automation designed to aid your workflow and increase your confidence in one of the most challenging exams – the fetal heart.



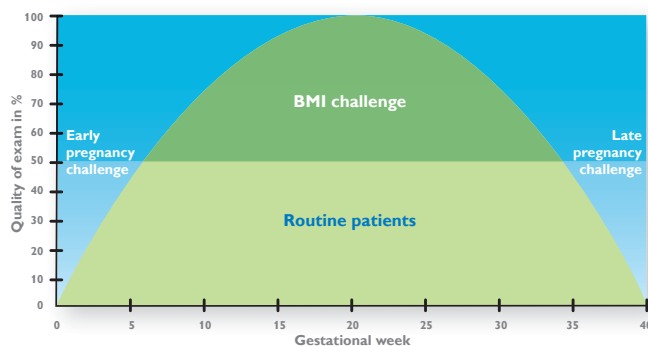
## EPIQ performance

- Solutions for technically difficult-to-image patients for every gestational age and for gynecological exams
- Image the entire fetus in one 3D panoramic calibrated volume
- Most powerful system without compromise available today among leading ultrasound manufacturers

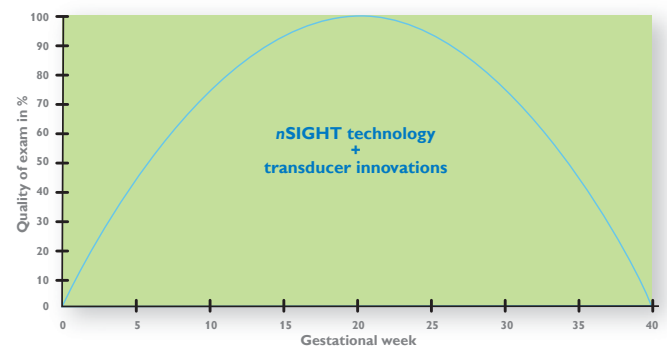
A series of simple instructions and reference 2D schematics, guide you through the next three views to give you the standard views required in an easy to use, exportable four-up format.

### Fetal Heart Navigator (FHN)

xMATRIX technology allows you to acquire the fetal heart volume in as little as two seconds, while Philips Fetal Heart Navigator automatically aligns the ductal arch view as a baseline for other views.



You face many challenges in your practice every day.



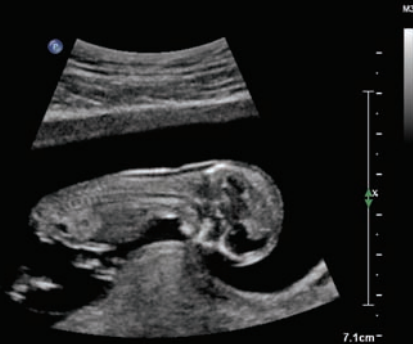
Philips EPIQ 7 system meets those challenges – bring us your toughest cases.

# Exceptional

images for a new era

OB General  
C9-2

63Hz  
RS  
2D  
55%  
Dyn R 60  
P Low  
HRes



12 - WEEK FETUS

OB Gen  
V6-2

30Hz  
RS  
2D  
33%  
Dyn R 50  
P Low  
HRes



27 - WEEK FETAL HEAD

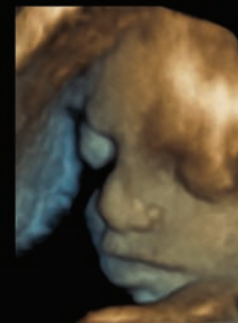
OB Early  
C10-3v

21Hz  
RS  
2D  
43%  
Dyn R 60  
P Off  
HGen



6 - WEEK GESTATION WITH HEMORRHAGE

OB Gen  
X6-1



FETAL FACE

OB Gen  
C5-1

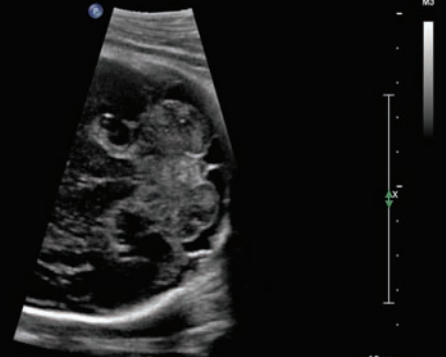
44Hz  
RS  
2D  
80%  
Dyn R 58  
P Low  
HGen



FOUR CHAMBER HEART

OB Early  
C9-2

49Hz  
RS  
2.1.1  
2D  
63%  
Dyn R 58  
P Low  
HRes



CEREBELLUM





# Designed

## to reinvent the user experience



EPIQ 7 has completely reinvented the premium ultrasound user experience. Ease of use, workflow, and ergonomics ... we've revolutionized how you interact with an ultrasound system from every standpoint, and kept it beautifully intuitive.

More than 80% of clinicians and sonographers experience work-related pain, and more than 20% of these suffer a career-ending injury.<sup>1</sup> With EPIQ 7 a new tablet-like interface results in dramatic reduction in reach and button pushes.

### Amazing fit to your environment

At just 230 lbs. (104.3 kg), EPIQ 7 is lightest in its class and 40% lighter than the heaviest competitive premium system. Place it in sleep mode, and boot up in seconds. Exceeds Society of Diagnostic Medical Sonography ergonomics for maneuverability by 76% to easily fit into tight spaces. Wireless\* DICOM further aids workflow.

### Advanced workflow

The design of the platform features “walk up usability” meaning that users can perform an exam with minimal training. The system offers the automation to drive efficiency throughout exams with features such as Real Time iSCAN (Autoscan), which automatically optimizes gain and TGC continuously to provide optimal images are achieved in 2D, 3D, or 4D.



Tablet-like touch interface allows quick navigation to system functions.

1. Society of Diagnostic Medical Sonography, Industry Standards for the Prevention of Musculoskeletal Disorders in Sonography, May 2003.

\* Check for availability in your geography.



### Library quiet

EPIQ 7 is almost silent when running. A sound test determined that EPIQ 7 runs at 37-41 dB, which is equivalent to the sound of a library.

### Scanning comfort

Multiple degrees of articulation for both the control panel and 21.5-inch (54.6 cm) LCD monitor with 720° of freedom allows for ergonomic alignment whether sitting or standing for scanning comfort.

### Efficiency is built in

Integrated efficiency tools address the expanding demand for greater throughput and exam consistency.

### SmartExam

SmartExam decreases exam time by 30-50%, keystrokes by as many as 300/exam, and results in a higher level of consistency among users. It is fast and easy to customize, providing consistent and accurate annotation,

automatic mode switching, and missed view alerts to streamline exams. The result is more time to focus on your patients, increased confidence in complete studies, less focus on requirements, less repetitive motion, less stress, and enhanced schedule maintenance and department efficiencies.

### Efficient fetal scanning

Ability to create protocols for all trimesters and specialty exams such as trisomy 13 and 21.

### Real Time iSCAN

Automatically optimizes gain and TGC to continuously provide an optimal image in 2D, 3D, or 4D.

### Active native data

Active native data allows for post-processing of many exam parameters.



Easy viewing and efficient use even in darker scanning environments with a large 21.5-inch (54.6 cm) wide screen and ambient lighting that provides subtle visual cues for the keyboard, OEMS, and transducer ports.

## EPIQ 7 makes it easy to be green

EPIQ 7 is one of the greenest systems we have ever designed. It consumes 25% less power than our existing premium ultrasound.

# Advanced support services are proactive



We understand your challenges: uncertain economic times, changing healthcare landscapes, and the impact of healthcare reform. We know that efficient workflows and system uptime are critical success factors in running an effective healthcare business.

Philips is committed to offering innovative solutions to provide you with world-class services that move from reactive to proactive and with predictive service models that provide high system availability and enhanced workflow to help you deliver high-quality patient care.

## **Remote services mean we're closer than ever\***

### **Remote desktop**

Spend less time on the phone with a Philips “Virtual Visit” with remote system interaction for fast technical and clinical troubleshooting and guided scanning options.

### **iSSL technology**

This industry-standard protocol meets global privacy standards and provides a safe and secure connection to the Philips remote services network using your existing Internet access point.

### **Online support request**

Enter a support request directly from your EPIQ system for a fast, convenient communication mechanism that reduces workflow interruption and keeps you at the system and focused on your patient.

## **Utilization reports**

Data intelligence tools that can help you make informed decisions to improve workflow, deliver quality patient care, and decrease the total cost of ownership. This is the only ultrasound utilization tool that provides individual transducer usage and the ability to sort by exam type.

## **Pro-active monitoring**

Proactive monitoring allows for the detection and repair of anomalies before they become problems and helps us to better predict potential failures and proactively act on them. Increase system availability, optimize workflow, and promote patient satisfaction by scheduling downtime as opposed to reacting to an unexpected problem.



# and predictive



The remote desktop allows Philips service engineers to gain a live view of your system's console for remote operation, real-time clinical troubleshooting, and issue resolution.

## Exceptional serviceability

The system features superior modular design for rapid repair, getting your system up and running quickly.

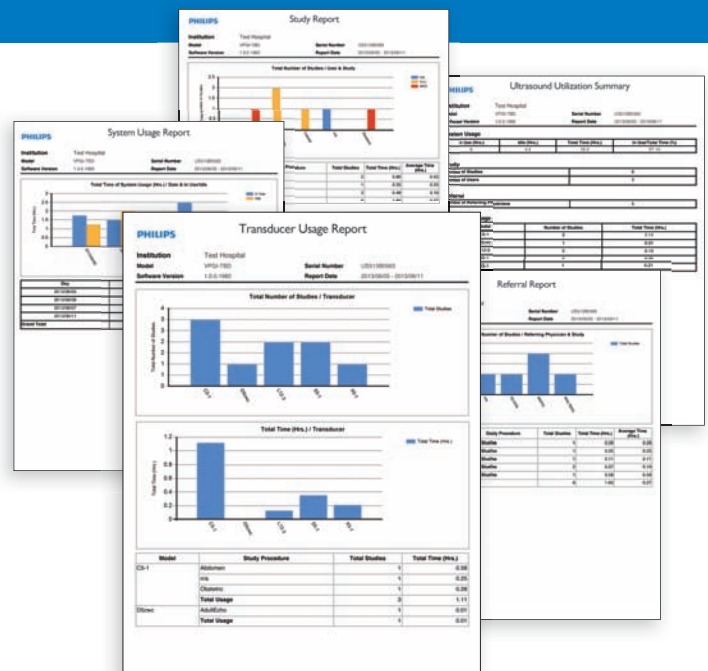
## Intelligent software architecture

Software is easily optimized, maintained, and restored by the service user without risk to patient data, giving you peace of mind when dealing with software anomalies and confidence that your data is safe.

This software architecture takes patient data privacy to a new level. Patient data is stored on a separate partition and physical location to provide protection and ease of removal, providing you total control of your data.

## Clinical education solutions

Our comprehensive, clinically relevant courses, programs, and learning paths are designed to help you improve operational efficiency and enhance patient care.



Philips offers the only ultrasound utilization tool that provides individual transducer usage and the ability to sort by exam type.

\* Check for availability in your geography.

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