PHILIPS

Ultrasound

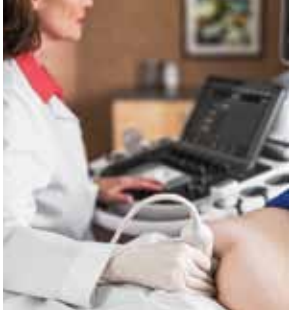
EPIQ 7

The **evolution** of premium ultrasound

Philips EPIQ 7 ultrasound system for women's health care

The new **challenges** in global health care

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



The **evolution** of 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.

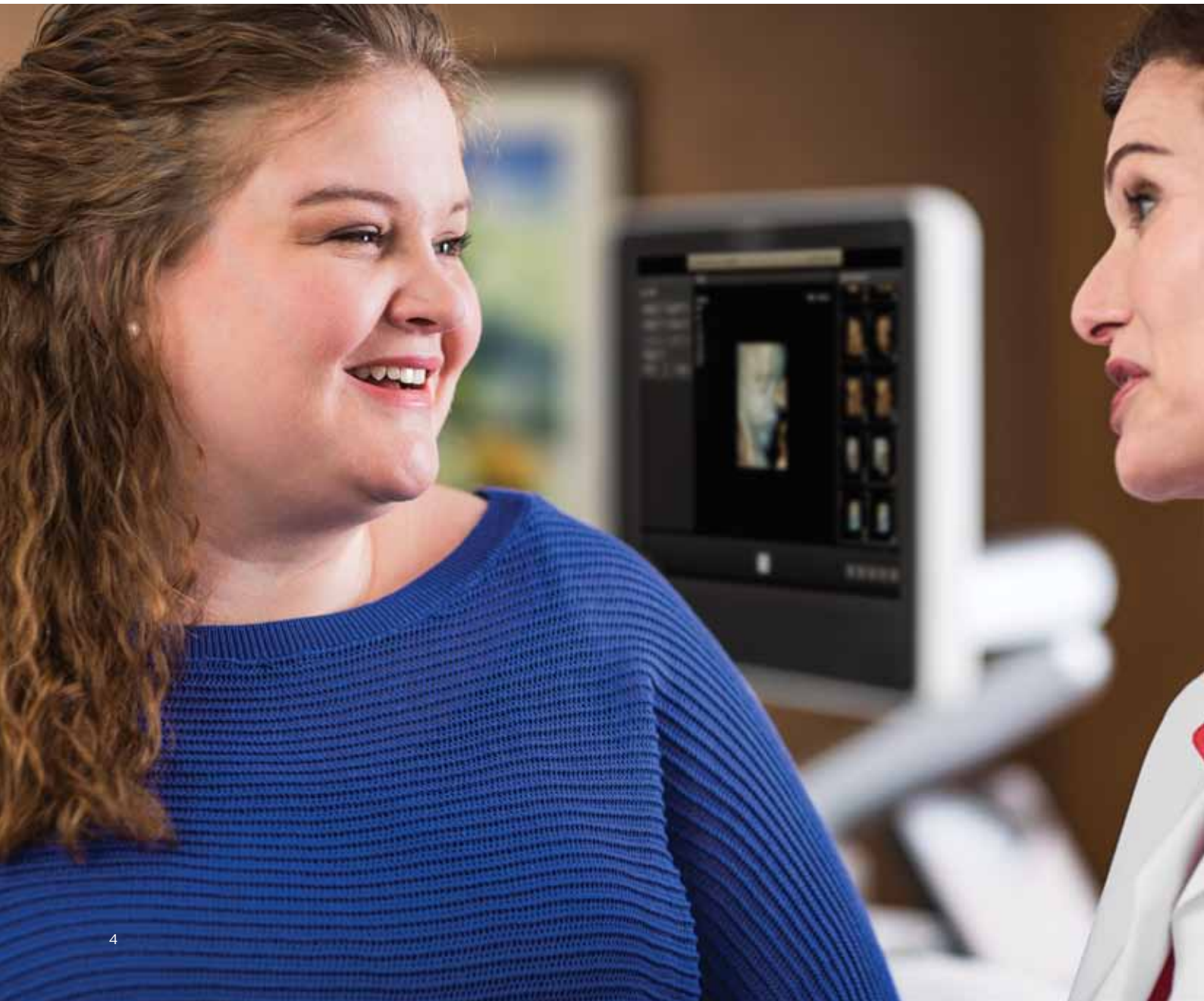
Key trends in global ultrasound for women's health care

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

Performance

More confidence in your diagnosis even for your most difficult cases

EPIQ 7 is the new direction for premium ultrasound, featuring an exceptional 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.



Creating **new realities**, redefining clinical expectations

nSIGHT Imaging goes beyond conventional ultrasound performance for new levels of definition and clarity.

Philips *n*SIGHT Imaging is a totally new approach

The Philips proprietary ***n***SIGHT Imaging architecture introduces a totally new approach to forming ultrasound images. Unlike conventional systems that form the image line by line, ***n***SIGHT creates images with superb resolution down to the pixel level.

Extraordinary architecture

nSIGHT Imaging incorporates a custom multi-stage precision beamformer along with massive parallel processing. This proprietary architecture captures an enormous amount of acoustic data from each transmit operation and performs digital beam reconstruction along with mathematically optimized focal processing to create real-time images with exceptional resolution and uniformity.

Frame rate

Conventional
Users must choose between frame rate and image quality

***n*SIGHT Imaging**
More than doubles the frame rate without impact to image quality

nSIGHT Imaging creates superbly focused images with fewer transmit operations so you can experience both highly detailed ultrasound images and extraordinary temporal resolution.

Uniformity

Conventional
Best resolution is limited to transmit focal zone

***n*SIGHT Imaging**
Corrects focus during beam reconstruction for superb uniformity

nSIGHT Imaging achieves superb uniformity through coherent beam reconstruction algorithms that apply mathematical focal correction coefficients continually at all depths of the image.

Penetration

Conventional
Penetration limitations and poor sensitivity to weak signals

***n*SIGHT Imaging**
Superb penetration across full range of frequencies

nSIGHT Imaging architecture's ultra-wide dynamic range and unique beam reconstruction reinforces weak tissue signals allowing enhanced penetration at higher frequencies even on difficult patients.

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)

*2013 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 ***n***SIGHT architecture of EPIQ 7 makes xMATRIX and PureWave even more powerful.

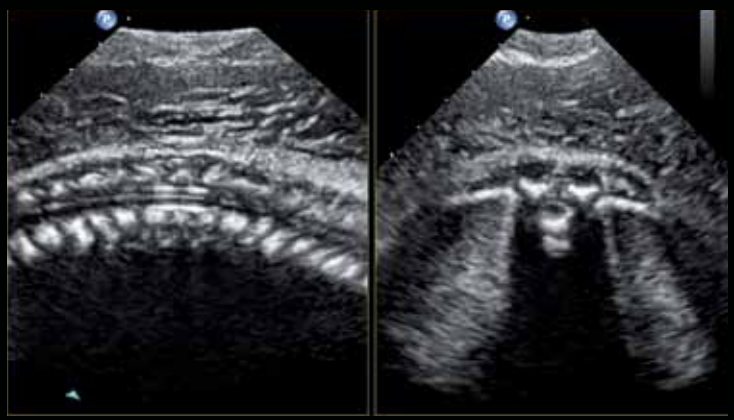
xMATRIX is our most leading-edge, versatile ultrasound transducer technology

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.

Only with EPIQ: Gather fetal heart volumes in a two-second acquisition.

***n*SIGHT Imaging makes powerful xMATRIX technology even more so**

Achieve ultra-thin 2D slices. Use Live xPlane imaging 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. 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. Now it's all possible.



Fetal spine – Live xPlane

Spina bifida

EPIQ 7 ***n***SIGHT architecture enhances both the penetration and image quality of PureWave transducers.

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 quality 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.

Bring your most challenging cases to EPIQ 7 with our PureWave solutions from gynecological surveys to the first trimester through third trimester exam.

- 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

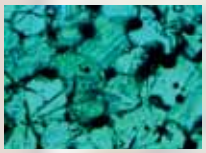
nSIGHT enhances PureWave imaging for exquisite detail resolution.

26-week gestation

24-week gestation

The **power of PureWave** to image technically difficult patients

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.



Conventional (x800)

PureWave (x800)

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.

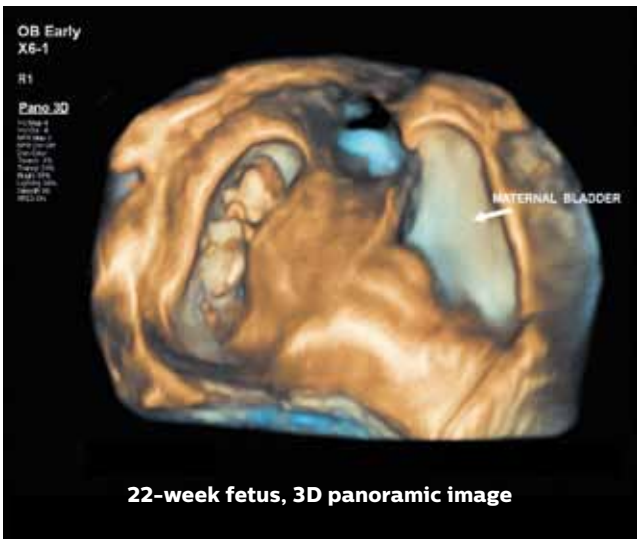
Fetal foot
25-week gestation, BMI = 40

Fetal abdomen
30-week gestation, BMI = 40.1

Fetal abdomen, technically difficult patient, BMI = 80

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.



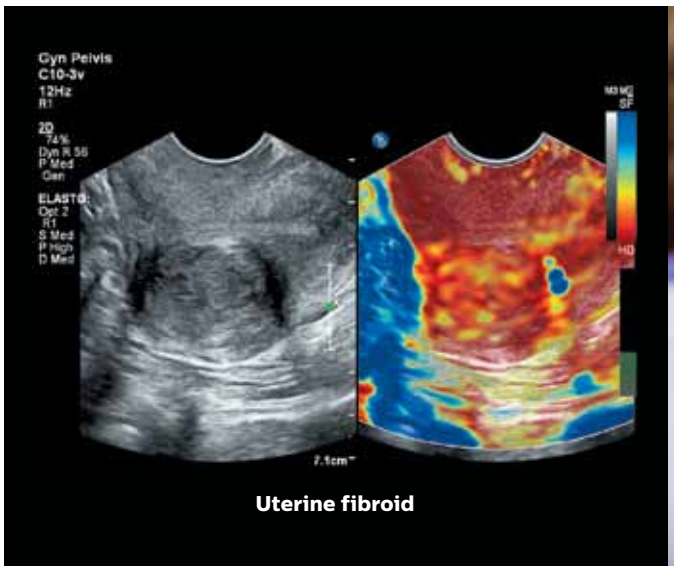
22-week fetus, 3D panoramic image

Uniquely designed for **elastography** – revealing more definitive information on tissue stiffness

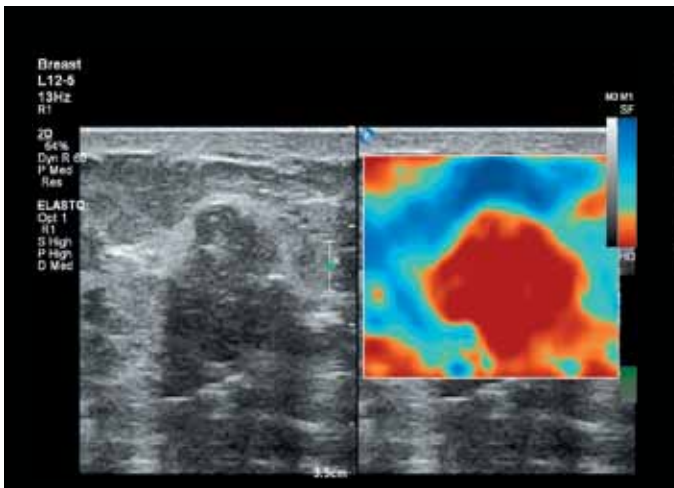
EPIQ 7 is uniquely designed to support both strain and shear wave methods of elastography. Highly sensitive strain imaging requires no external compression and can be used to assess relative tissue stiffness across a variety of applications. Shear wave elastography utilizes unique pulsing schemes to generate and measure the propagation speed of shear waves through tissue. This technique produces an absolute measure of tissue stiffness that is helpful in assessing diseases.

Significant addition to the **power** of elastography

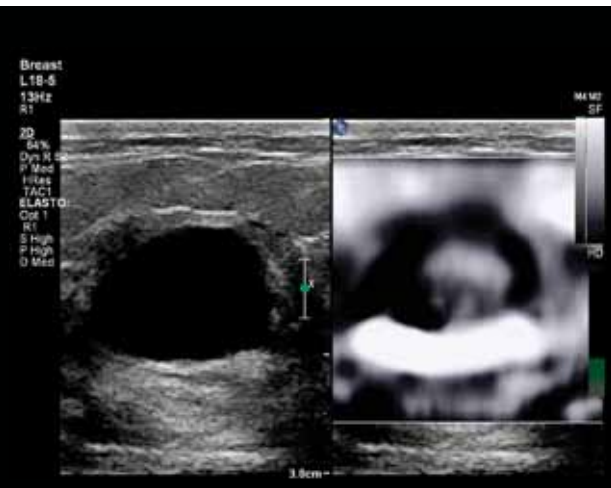
Studies have shown that a combination of sonography and ultrasound elastography, a technique that enables evaluation of relative tissue stiffness, could potentially reduce unnecessary biopsies.[1] EPIQ 7 offers the most sensitive strain elastography solution in the market for both breast and gynecological applications. No additional compression required means increased exam consistency and reproducibility.



Uterine fibroid



Breast lesion elastogram



Breast cyst elastogram/bullseye artifact

[1] Ferraioli G, et al. Point shear wave elastography method for assessing liver stiffness. World J Gastroenterol 2014 April 28;20(16):4787-4796.

Exceptional images

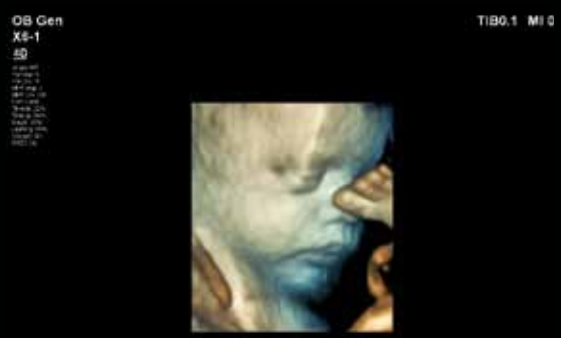
for a new era

Fetal heart, Live xPlane

Fetal diaphragm

Nuchal translucency

Placental cord insertion

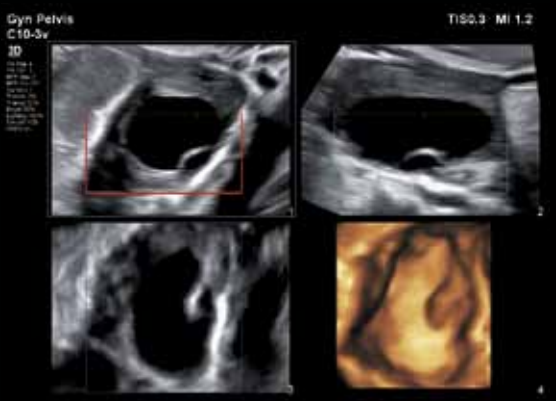


Fetal face

Cerebellum

Intrauterine device

Fetal spine



Ovarian cyst

13-week fetal kidney

Fetal abdomen

34-week gestation

Automation supports the way you work

This powerful architecture also supports automation designed to aid your workflow and increase your confidence in the most challenging exams, such as first trimester or fetal heart.

- 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

SmartExam

SmartExam decreases exam time by 30–50%, keystrokes by as many as 300 per exam, and results in a high level of consistency among users.[2] It is fast and easy to customize, providing consistent 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 improved 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.

[2] University of Colorado, Protocols Study, Apr. 2007.

Designed to **reinvent** the user experience

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

More than 80% of sonographers experience work-related pain, and more than 20% of these suffer a career-ending injury.[3] The EPIQ 7 tablet-like interface results in dramatic reduction in reach and button pushes.

Advanced workflow

The design of the platform features "walk-up usability," meaning that users can perform an exam with minimal training.[4] The system offers the automation to drive efficiency throughout exams with features such as Real Time iSCAN (AutoSCAN), which automatically enhances gain and TGC continuously to provide excellent images in 2D, 3D, or 4D.

Amazing fit to your environment

At just 104 kg (230 lb), 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.*

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

Library quiet

EPIQ 7 is almost silent when running. A noise 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 54.6 cm (21.5 in) 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.

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 54.6 cm (21.5 in) wide screen and ambient lighting that provides subtle visual cues for the keyboard, OEMS, and transducer ports.

A tablet-like touch interface allows quick navigation to system functions and results in dramatic reduction in reach and button pushes, with 40% to 80% less reach and 15% fewer steps†.

EPIQ 7 makes it easy to be green

25%

less power

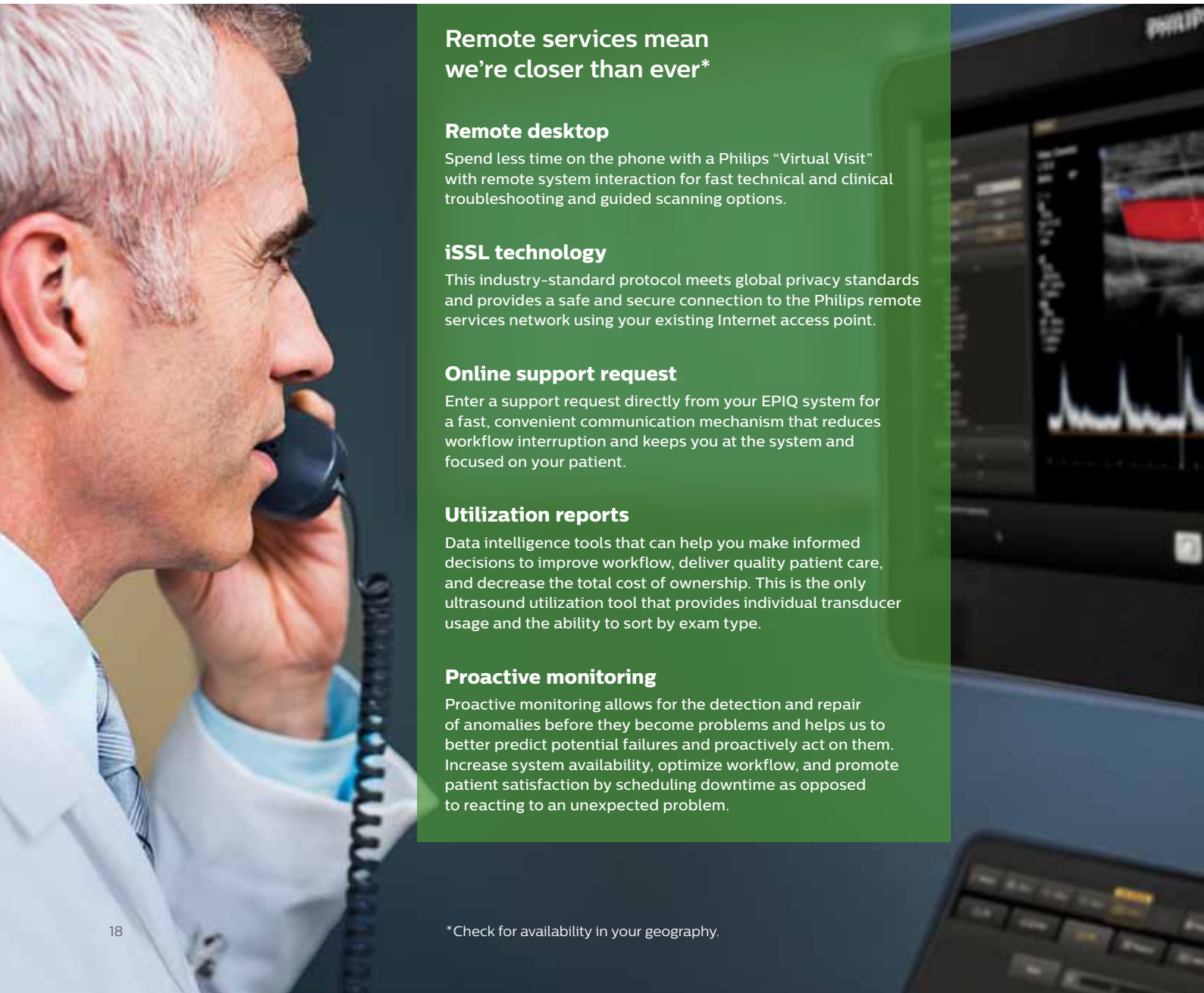
EPIQ 7 is one of the greenest systems we have ever designed. It consumes 25% less power than our legacy premium ultrasound.

[3] Society of Diagnostic Medical Sonography, Industry Standards for the Prevention of Musculoskeletal Disorders in Sonography, May 2003.
[4] External user study where all users had over 90% success (gold standard in usability) on their set tasks with no training on EPIQ, Jan 2013.
* Check for availability in your geography.
† 2013 engineering study comparing Philips iU22 ultrasound system with EPIQ.

Advanced **support services** are proactive and predictive

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.

Proactive 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.

*Check for availability in your geography.

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

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

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.

Please visit **www.philips.com/EPIQ**

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