

PHILIPS

Ultrasound

EPIQ Elite



Designed for a premium experience

Philips EPIQ Elite ultrasound for Ob/Gyn



What does it take to be **Elite in Ob/Gyn?**

EPIQ Elite premium ultrasound for Ob/Gyn meets the needs of today's most demanding practices through important advances.

- Powerful image processing
- Efficient workflow
- System intelligence

Designed for life

Our solutions are designed to give your patients peace of mind by giving you more information earlier in pregnancy and making it easier to help elevate clinical confidence.

Clinical confidence, earlier and easier

Be certain and decisive with Philips premium-quality imaging.

Made for you

With enhanced workflow, you can spend more time caring for your patients.

Your partner today and tomorrow

High-impact diagnoses require a trusted partner that brings you closer to your patients.



Amazing processing power

Our most powerful architecture

EPIQ Elite ultrasound features nSight Plus Imaging Architecture,* a more powerful beamforming technology providing next-generation imaging performance.**

The key to extraordinary real-time images

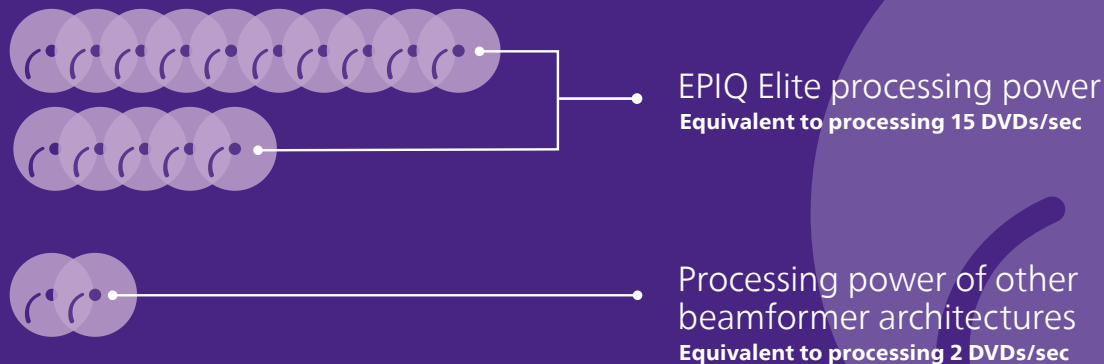
Incorporating a custom multi-stage precision beamformer along with massive parallel processing, this proprietary architecture captures an enormous amount of acoustic data from each transmit operation and performs digital beam reconstruction along with mathematically optimized focal processing. This creates extraordinary real-time images with exceptional frame rate, uniformity and penetration.

Pushing the limits in processing power

EPIQ Elite ultrasound is uniquely designed to process acoustic data at stunning rates. nSight Plus Imaging touches all aspects of acoustic acquisition and image processing, allowing you to truly experience ultrasound's evolution to a more definitive modality. The EPIQ architecture processes the equivalent of 15 DVDs/sec, while many software-based beamformer architectures struggle to process the equivalent of even 2 DVDs/sec.

*Not available on all transducers.

**Compared to release 7.0.



Quantifying breakthroughs*

Advances in imaging performance, compared to conventional premium systems**

- **Up to 76% increase** in penetration (penetration = ability to scan at depths and maintain resolution in order to complete the study)¹
- **Up to 213% increase** in temporal resolution (temporal resolution = ability to maintain resolution at high frame rates) for EPIQ Elite Advanced and a **160% increase** in temporal resolution for EPIQ Elite¹

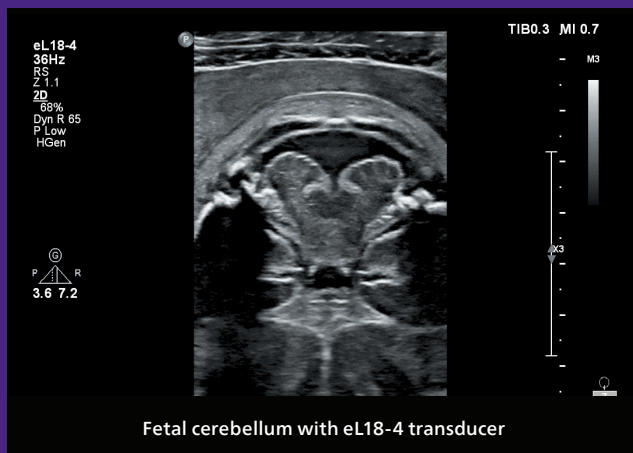
* 2013 quantitative engineering study comparing Philips iU22 ultrasound system with EPIQ.

** xMatrix is available on EPIQ Elite Advanced and as an upgrade path on EPIQ Elite.

Paradigm-changing imaging architecture

EPIQ Elite with nSight Plus Imaging doesn't just improve ultrasound performance, it redefines expectations about what is possible.²

Frame rate	Uniformity	Penetration
<p>Conventional</p> <p>Users must choose between frame rate and image quality.</p>	<p>Conventional</p> <p>Best resolution is limited to transmit focal zone.</p>	<p>Conventional</p> <p>Penetration limitations and poor sensitivity to weak signals.</p>
<p>nSight Plus Imaging</p> <p>More than doubles the frame rate without impact to image quality. Creates focused images with fewer transmit operations so you can experience both highly detailed ultrasound images and extraordinary temporal resolution.</p>	<p>nSight Plus Imaging</p> <p>Corrects focus during beam reconstruction for superb uniformity. Achieves uniformity through coherent beam reconstruction algorithms that apply mathematical focal correction coefficients continually at all depths of the image.</p>	<p>nSight Plus Imaging</p> <p>Superb penetration across full range of frequencies. Reinforces weak tissue signals with the ultra-wide dynamic range and unique beam reconstruction of the architecture, allowing enhanced penetration at higher frequencies, even on technically difficult patients.²</p>



xRes Pro next-generation image processing

EPIQ Elite ultrasound features xRes Pro, our next-generation high-resolution image processing approach that elevates tissue definition and clarity to new levels in OB imaging.

At real-time frame rates, xRes Pro uses multi-parametric precision filters that subdivide image elements, analyze this data and then apply advanced algorithms to sharpen borders and interfaces and provide superb tissue imaging.

Capture remarkable detail in perfusion

MicroFlow Imaging High Definition

MicroFlow Imaging High Definition (MFI HD) is a proprietary enhancement to CPA mode designed to detect low-volume, low-velocity blood flow found in fetal, placental, uterine and ovarian vasculature. MFI HD overcomes many of the technical barriers associated with conventional methods to detect small vessel blood flow with high resolution and minimal artifacts.

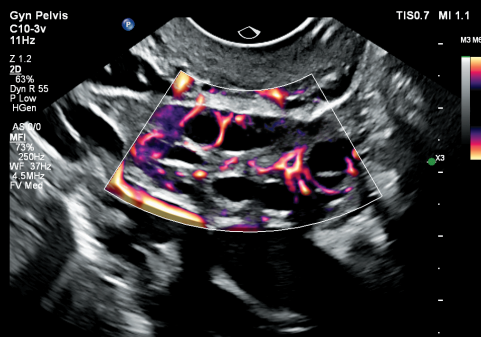
MFI maintains high frame rate and 2D image quality while applying advanced artifact reduction techniques. New 2D image subtraction, 2D blending and side-by-side display options offer excellent visualization versatility.

MFI HD enhanced ovarian perfusion visualization on endocavitary transducers in

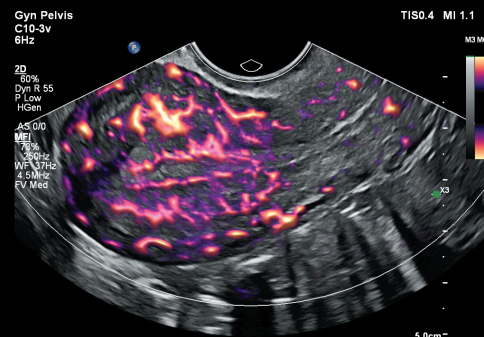


100% of Ob/Gyn users*

* Based on sample size n=21



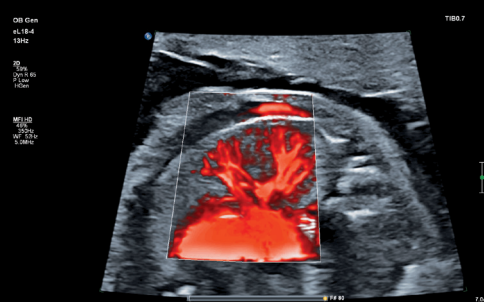
Ovarian blood flow MFI



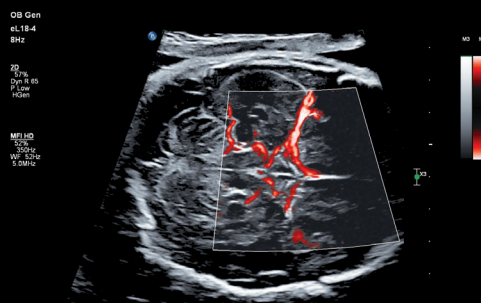
Uterine blood flow MFI



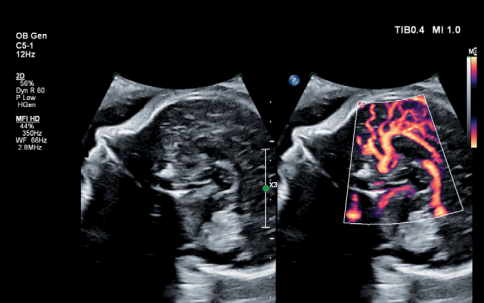
Fetal ductus venosus with MFI HD



Fetal lung perfusion with MFI HD



Fetal circle of Willis with MFI HD



Fetal brain pericallosal artery with MFI HD

Remarkable dimensionality in color modes

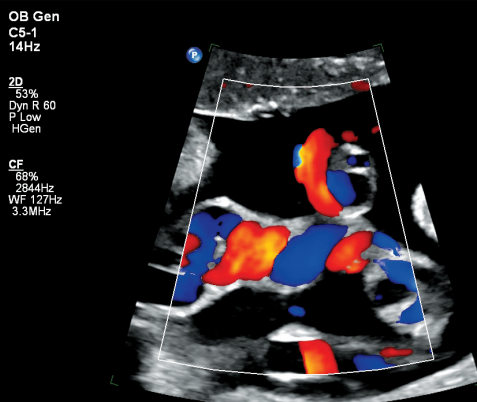
Flow Viewer provides a “3D-like” rendering of flow imaging data (color, CPA/CPAd, MFI and MFI HD) to help better visualize fetal vessels and fetal heart structures and enhance the aesthetic appeal of all color imaging modes.

The 3D appearance has its advantages in clarity and boundary definition over traditional color flow for vessel and fetal cardiac identification. This is achieved by creating a surface whose height depends on the color Doppler power or velocity magnitude and calculating light reflection at each point on the surface.

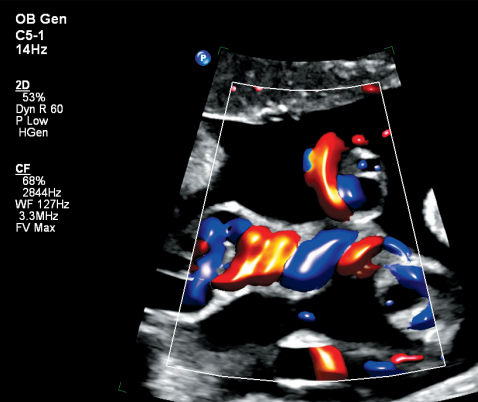
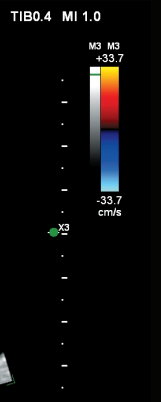
Enhanced visualization of complex hemodynamic patterns

Better color containment within the vessel lumen

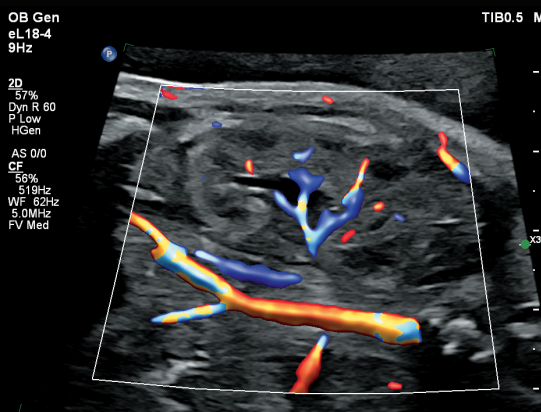
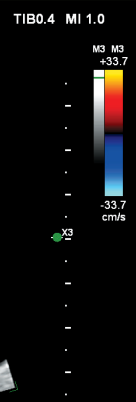
Better boundary demarcation between adjacent vessels and fetal heart chambers and outflow tracks



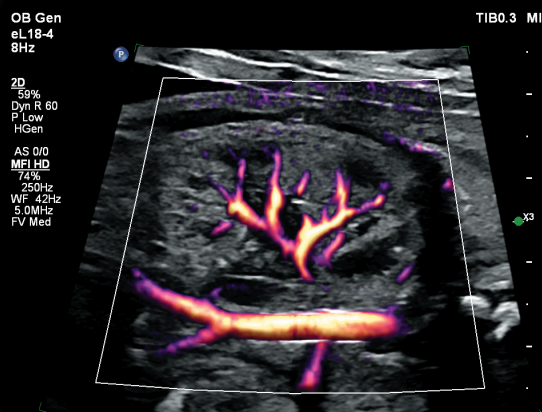
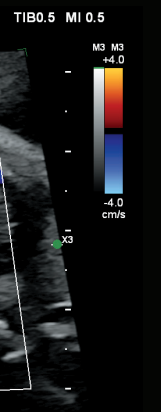
Three-vessel umbilical cord without Flow Viewer



Three-vessel umbilical cord with Flow Viewer

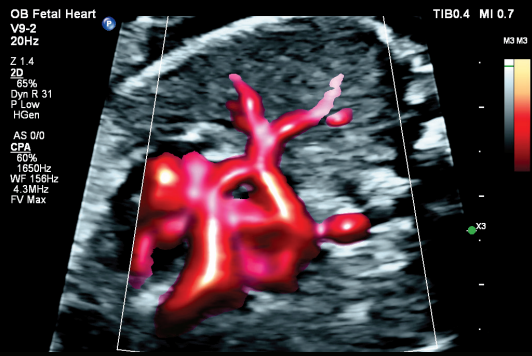


Fetal kidney with Flow Viewer applied to color flow with eL18-4 transducer

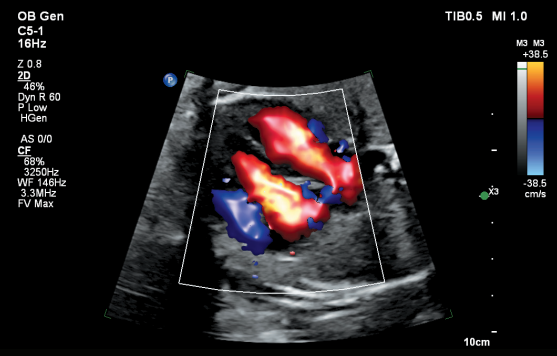


Fetal kidney with Flow Viewer applied to MFI HD with eL18-4 transducer

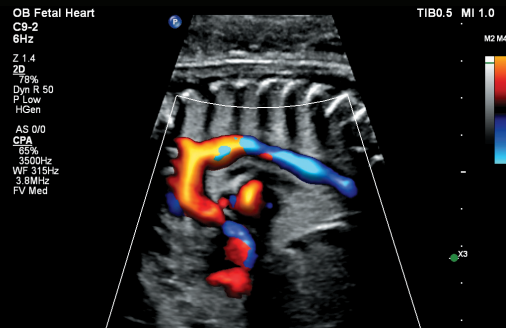




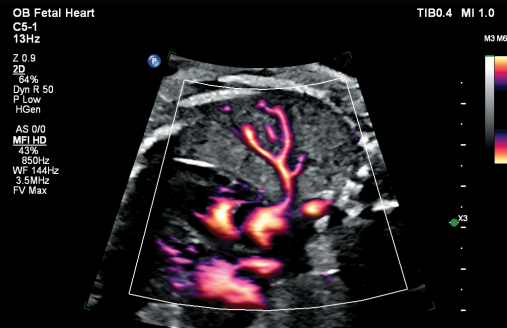
Fetal heart outflow tracks CPA with Flow Viewer



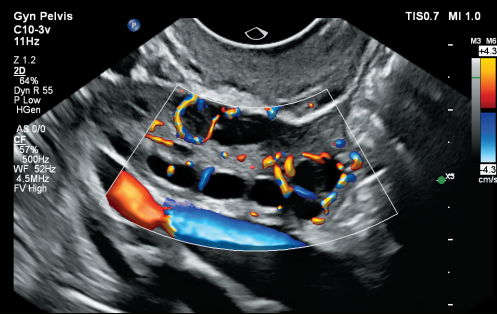
Fetal heart four-chamber color flow with Flow Viewer



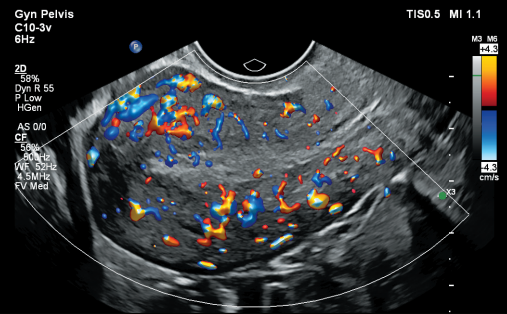
Aortic arch CPA with Flow Viewer



Pulmonary vein and fetal heart MFI with Flow Viewer



Ovary color flow with Flow Viewer



Uterus color flow with Flow Viewer

Flow Viewer enables ...

sharper delineation of vascular flow margins as compared to traditional color flow in

100% of cases*



more definitive fetal cardiac chamber and outflow tract identification in the second trimester as compared to traditional color flow in

100% of cases*



more definitive ductus venosus identification in the second trimester as compared to traditional color flow in

100% of cases*

more definitive umbilical cord three-vessel identification as compared to traditional color flow in

100% of cases*

*Based on sample size of n=20

Expanding your HD work environment

Experience full high-definition viewing with the new immersive Philips HD MAX display.

HD MAX uses high-contrast dynamic range and enhanced black levels for subtle delineation of grayscale values.

- 24-inch display
- 40% brighter than OLED technology¹
- Meets ACR display standard for diagnostic imaging brightness levels
- Exceptional fit for the Philips MaxVue imaging mode
- Supported by an ergonomic arm



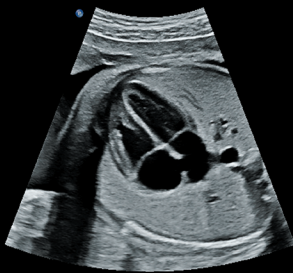
Philips
HD MAX
display is

40% brighter
than OLED
technology³

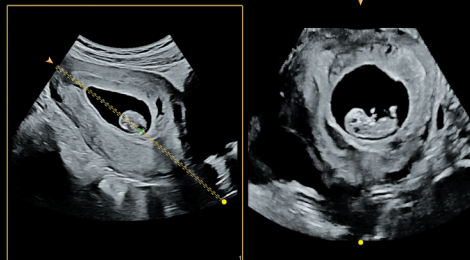
HD MAX features superb off-angle viewing for visualization of clinical images throughout the scanning room.



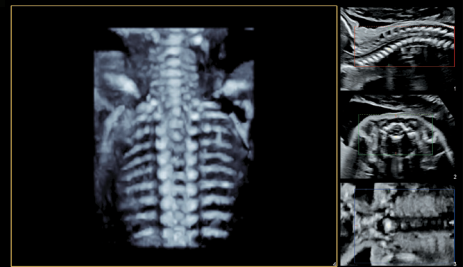
Experience the power of **PureWave**



Exceptional detail with the V9-2 transducer



First-trimester imaging using the V9-2 transducer with FlexVue feature



An expanded view of the fetal spine using the V9-2 transducer and TrueVue

V9-2 transducer

Pairing the V9-2 transducer with the EPIQ Elite premium ultrasound system offers exceptional Ob/Gyn imaging.

- First PureWave mechanical volume transducer
- Lightest in its class
- Exceptional ergonomic design
- First, second and third trimester applications

Supports additional technology

- 2D, 3D and 4D
- STIC
- xRes Pro
- TrueVue/GlassVue
- TouchVue/MPR Touch
- Flow Viewer
- MicroFlow Imaging
- 3D Auto Edit
- Biometry Assist
- FlexVue



Discover ultra diagnostic confidence

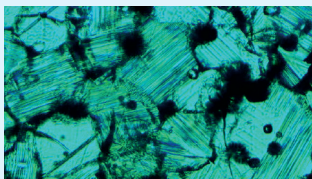
Ultra-broadband has never been seen in Ob/Gyn ultrasound before, not even at the premium level. The Philips eL18-4 ultra-broadband transducer provides superb 2D detail resolution, along with the penetration needed to help physicians elevate clinical confidence, especially in those critical first and second trimester OB exams.

The combination of superb detail resolution and penetration is made possible by advanced PureWave crystal technology with fine-elevation focusing capability.

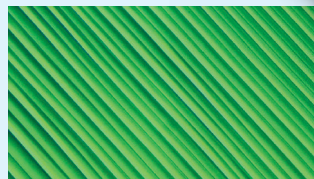
- Multi-row array configurations provides full electronic focusing of the elevation plane
- Elevation focusing works in conjunction with azimuthal focusing to provide thin-slice imaging



The eL18-4 fine-elevation focused linear transducer generates ultra-broadband frequencies from 2 to 22 MHz.



Conventional PZT (x800)

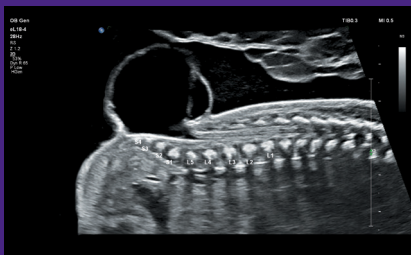


PureWave crystal (x800)

Power to scan the technically difficult patient

While superb image quality is essential in Ob/Gyn ultrasound, the increasing number of patients with high BMIs makes it crucial to find ways to enhance exam success on these technically difficult patients. PureWave is your answer.⁴

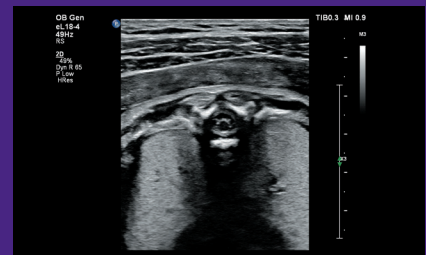
PureWave crystals have enhanced uniformity for greater bandwidth and twice the efficiency of conventional ceramic materials. The result is excellent imaging and Doppler performance.⁵



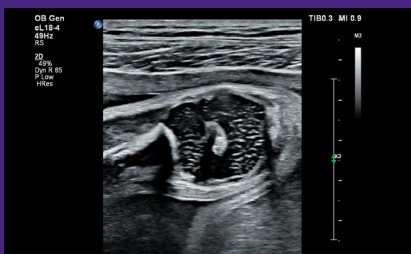
Myelomeningocele demonstrated using the eL18-4 transducer



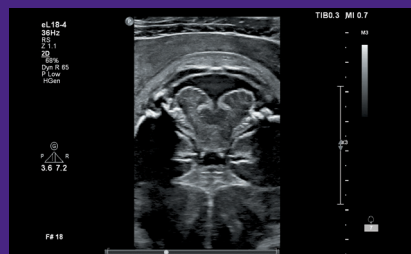
Fetal profile shown using the eL18-4 transducer



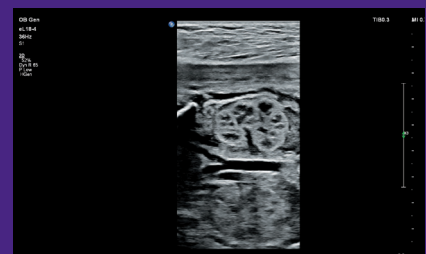
Imaging with the eL18-4 transducer reveals the fetal spinal cord



The eL18-4 transducer shows the fetal patella



Fetal brain as shown by the eL18-4 transducer



Fetal kidney detail using the eL18-4 transducer

The power of PureWave

When you're seeing more patients with high BMIs, finding ways to enhance exam success on these technically challenging patients becomes even more crucial. **PureWave is your answer.**

Image even 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 technically difficult patients and for excellent detailed resolution.⁴



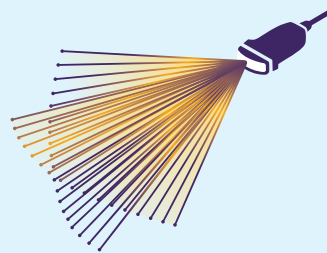
PureWave transducers:
X6-1, C9-2, C5-1,
C10-3v, eL18-4
and V9-2.



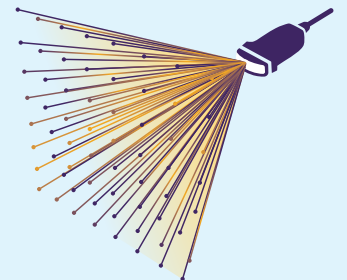
Overcome imaging challenges

xMatrix* is our most leading-edge, versatile ultrasound transducer technology available.

With the touch of a button, xMatrix offers all available modes in a single transducer: 2D, 3D/4D, xPlane, Live MPR, MPR, pulsed wave Doppler, color Doppler and CPA.



xPlane imaging



Volume imaging

* xMatrix is available on EPIQ Elite Advanced and as an upgrade path on EPIQ Elite.

Visualize the challenging with ease

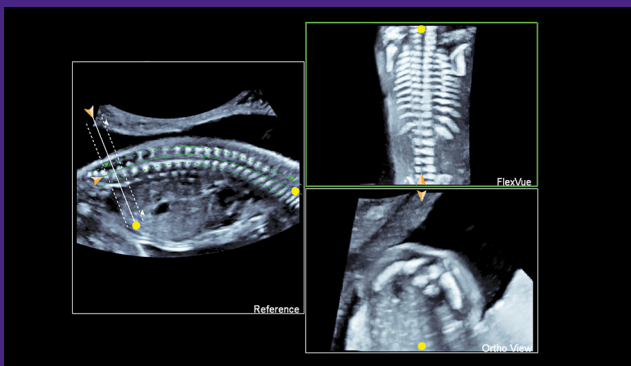
You need the ability to quickly visualize a wide variety of planes of section within 3D volumes. FlexVue with Orthogonal View is a highly versatile tool that allows for easy visualization of technically difficult anatomical views from 3D volumes that are essential for diagnosis of Ob/Gyn pathology.

Easily evaluate anatomy

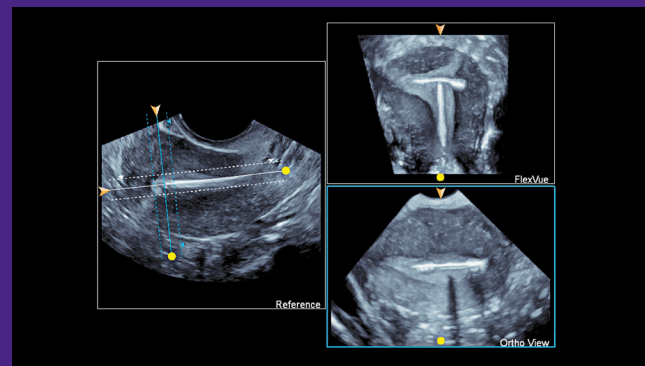
FlexVue with Orthogonal View displays structures in their entirety in projected views. Even when a structure is curved, you can easily evaluate the anatomy in a wide variety of planes of section. The coronal and transverse planes are imperative for diagnosing uterine malformations and IUD placement. FlexVue with Orthogonal View is particularly useful in assessing the uterine anomalies where the cervix and uterine body are not always in the same plane due to their curvature. FlexVue with Orthogonal View is also useful in assessing the fetal spine where all portions of the spine are not always in the same plane due to their curvature.

Tissue Emphasis Control

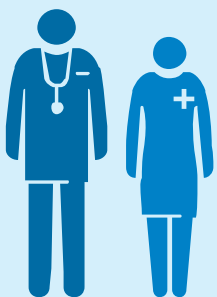
You now have the ability to change the image appearance of the projected view produced by FlexVue. FlexVue offers Tissue Emphasis Control, which allows you to change the range of intensity projections from Maximum Intensity Projection to Minimum Intensity Projection in just four stages.



FlexVue demonstrates a curved fetal spine in a complete projected planar view and FlexVue with Orthogonal View in a corresponding transverse view



FlexVue with Orthogonal View produces a complete projected coronal view of the uterus with an IUD perforating the myometrium and the corresponding transverse view



95% of Ob/Gyn users surveyed feel that FlexVue with Orthogonal View **may improve their workflow***⁶

85% of Ob/Gyn users surveyed feel that FlexVue with Orthogonal View **may enhance their diagnostic confidence***⁶



Exceptional 3D/4D workflow

An intuitive touch

TouchVue and MPR Touch are easy, intuitive methods of 3D workflow. Simple finger gestures on the system's touch panel allow you to control 3D volume rotation in all axes, zoom and edit volume, and size and position MPR parameters.

When in TrueVue Pro 3D photorealistic rendering mode, TouchVue allows the internal light source to be positioned in all axes.



EPIQ Elite offers easy, intuitive workflow with the right touch to enhance detailed Ob/Gyn exams.

Bring clinicians and Ob/Gyn patients closer together with "lifelike" TrueVue Pro 3D imaging display with the intuitive TouchVue 3D volume workflow

Real life, illuminated

Philips TrueVue Pro virtual light sources can be placed anywhere within the acquired 3D volume, allowing manipulation of light and shadow on anatomical structures to enhance clinical confidence and promote maternal-fetal bonding.



Light source, umbilical cord



Light source, upper right



Light source, deep in gestational sac

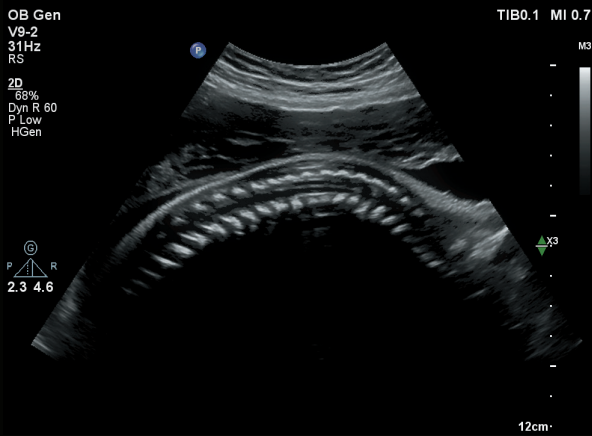


Light source, lower right

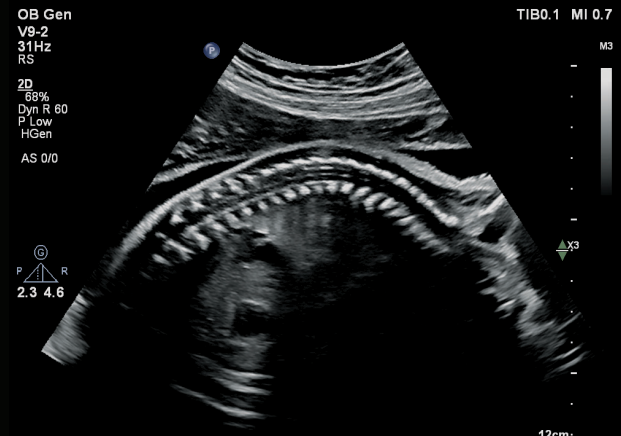


Enhance workflow with real-time image optimization

Next Gen AutoSCAN enhances fetus image uniformity






AutoSCAN off



AutoSCAN on

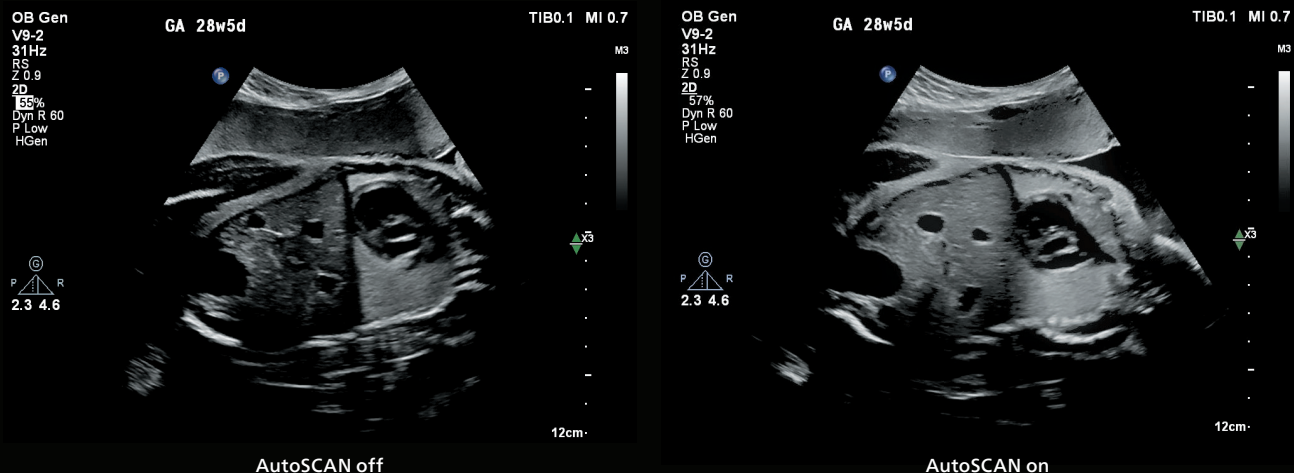
Next Gen AutoSCAN improves image uniformity

Adaptively adjusts image brightness at every pixel and reduces the need for user adjustment while also improving transducer plunkability. Compared with previous generations of AutoSCAN, Next Gen AutoSCAN offers significant advantages.

 <p>Reduces button pushes by up to 54% with pixel-by-pixel real-time optimization*</p> <p>Requires fewer button pushes in 84% of exams*</p>	<p>Enhances image quality of reviewed images in 65% of cases through the use of post-processing controls**</p>  <p>Enables users to modify images to meet clinical expectations in 70% of cases**</p>	 <p>Reduces need for repeat scanning, with 84% of users reporting that rescanning the patient due to unsatisfactory image quality resulting from inappropriate image settings could be avoided with the use of post-processing controls**</p>
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Improves user satisfaction with AutoSCAN in **100% of cases***



* When comparing release 10.0 performance to release 7.0 performance.
 ** Based on sample size of n=37.
 † As demonstrated using the Philips image quality and image uniformity satisfaction questionnaire.

More reproducible results

Anatomical Intelligence for Ultrasound

At the heart of the powerful EPIQ Elite architecture is our Philips exclusive Anatomical Intelligence for Ultrasound (AIUS), designed to elevate the ultrasound system with advanced organ modeling, image slicing and proven quantification.



Before 3D Auto Edit



After 3D Auto Edit



Biometry Assist

One touch to reveal

3D Auto Edit uses a proprietary anatomical intelligence algorithm that automatically sculpts away data around the fetal face by recognizing the geometry of the skull.

A welcome assist during the obstetrical exam

Biometry Assist uses anatomical intelligence to automatically preplace measurement cursors on selected structures to assess fetal age and growth trends.

A solution made for OB

The earlier, the better

The Philips OB solution for earlier diagnosis focuses on three main areas to enhance the experience of both physician and mother-to-be: image quality, lifelike imaging and efficient workflow.

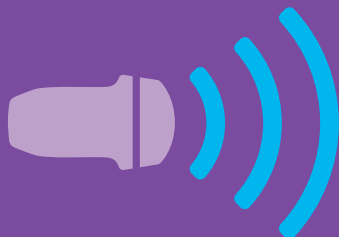
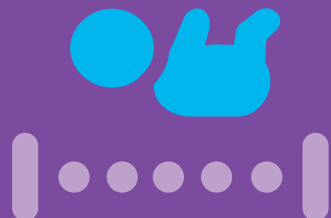


Image quality

Philips eL18-4 transducer with MicroFlow Imaging and V9-2 transducer offer outstanding imaging quality for evaluating fetal anatomy. Leading-edge image quality for confident fetal health assessments.

Lifelike imaging

TrueVue, with its internal light source, provides innovative 3D/4D imaging, allowing for highly detailed images of the fetus.



Efficient workflow

TouchVue and MPR Touch are easy, intuitive methods of 3D workflow using simple finger gestures to control 3D volumes and MPR parameters. Biometry Assist combined with SmartExam uses anatomical intelligence to semi-automate fetal measurements, and FlexVue is a highly versatile tool that allows visualization of technically difficult anatomical views from 3D volumes that are essential for diagnosis.

EPIQ Elite brings efficiency to premium ultrasound

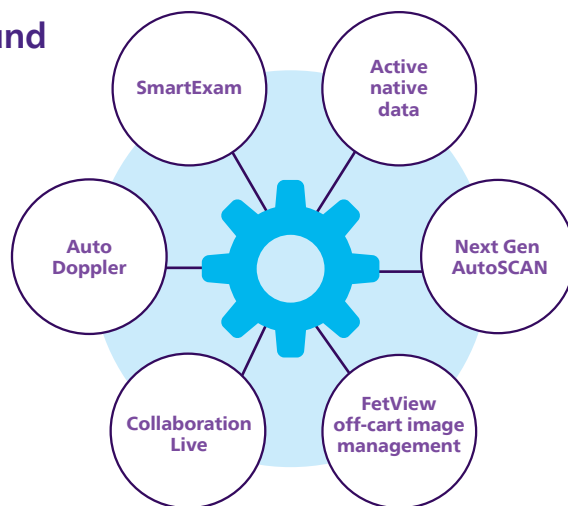
The EPIQ Elite tablet-like interface dramatically reduces reach and button pushes, with 40% to 80% less reach and 15% fewer steps.³

SmartExam

Enhances user workflow with automatic system-guided protocols that can be easily customized to suit your needs, and with Image Reorder, you can select and move images within thumbnail views.

Efficient from start to finish

- Tablet-like user interface results in **40% to 80% less reach** and **15% fewer steps**⁴
- SmartExam protocols facilitate exams with an onscreen menu guiding you through required views and modes while **automatically entering annotations and prompting for measurements**.
- High Q Auto Doppler takes ten steps from a conventional exam to three steps, and **reduces button pushes by an average of 68%**⁷
- Improved satisfaction for Auto Scan in **100% of cases**⁸



Value you can count on



Streamline your workflow and securely connect with patients and colleagues

FetView is a convenient off-cart way to organize and digitize your women's health workflow so you can manage patient data and documentation for Ob/Gyn all in one place. Through this real-time access to clinical data, you gain a comprehensive picture of patient health and fetal development to support timely decision-making.

- Organize referrals and patient care with this secure cloud-based solution
- Import all images, videos, and measurements from ultrasound devices from any vendor over a secure DICOM connection displayed in a clearly structured and customizable layout
- Communicate directly with your patients through the myFetView dedicated patient portal and share ultrasound images and videos, as well as examination reports online

Ultrasound Collaboration Live with Multi-party*

Extend your team without expanding it

Remote access to help elevate diagnostic confidence, now with simultaneous multi-party communication.

Up to six users can quickly and securely talk, text, screen share and video stream directly from the ultrasound system for access to multiple clinical resources at a distance, allowing for fast time to diagnosis.**



Flexible financing

Innovative solutions tailored to you, with the financial flexibility to manage capital budgets and return on investment, supporting your continued growth.



Defense-in-depth security

Philips ultrasound is developed for security as well as clinical capability.⁸



Award-winning service

Philips has ranked #1 in ultrasound service for nearly 30 years in a row.[†]



Comprehensive clinical education

To improve operational efficiency and support patient care.



A world leader in sustainability

Philips is committed to lifecycle circularity for its systems.^{††}

* EPIQ and Affiniti ultrasound systems on release 10.0.

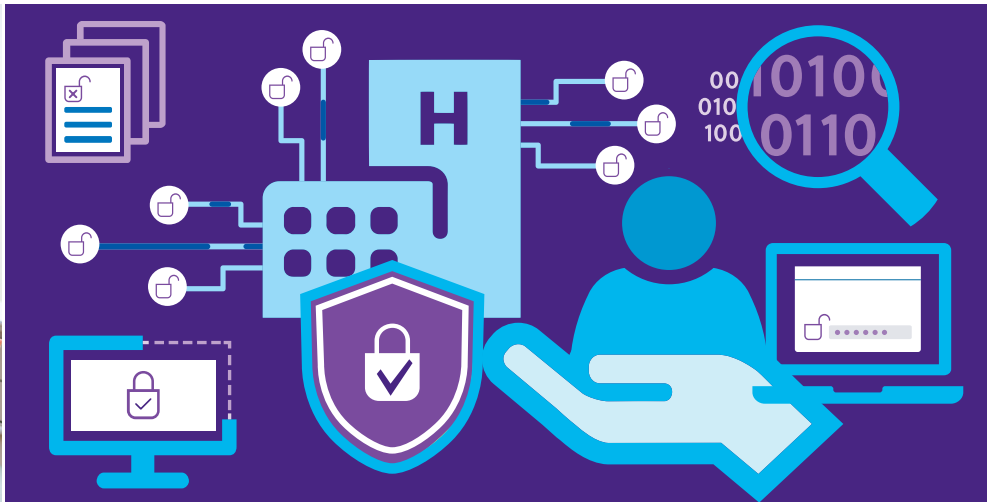
** Contract required. Collaboration Live is intended for remote diagnostic use on release 9.0 or higher.

† Philips is rated number one in overall service performance for ultrasound for 28 consecutive years in the annual IMV ServiceTrak survey in the USA.

†† Philips again achieved a #2 ranking in the leading sustainability benchmark in Dow Jones Sustainability Indices and achieved second place in 2020 on the Wall Street Journal's "100 Most Sustainably Managed Companies in the World" list.

Protect your patients

Powerful system security protects sensitive patient data



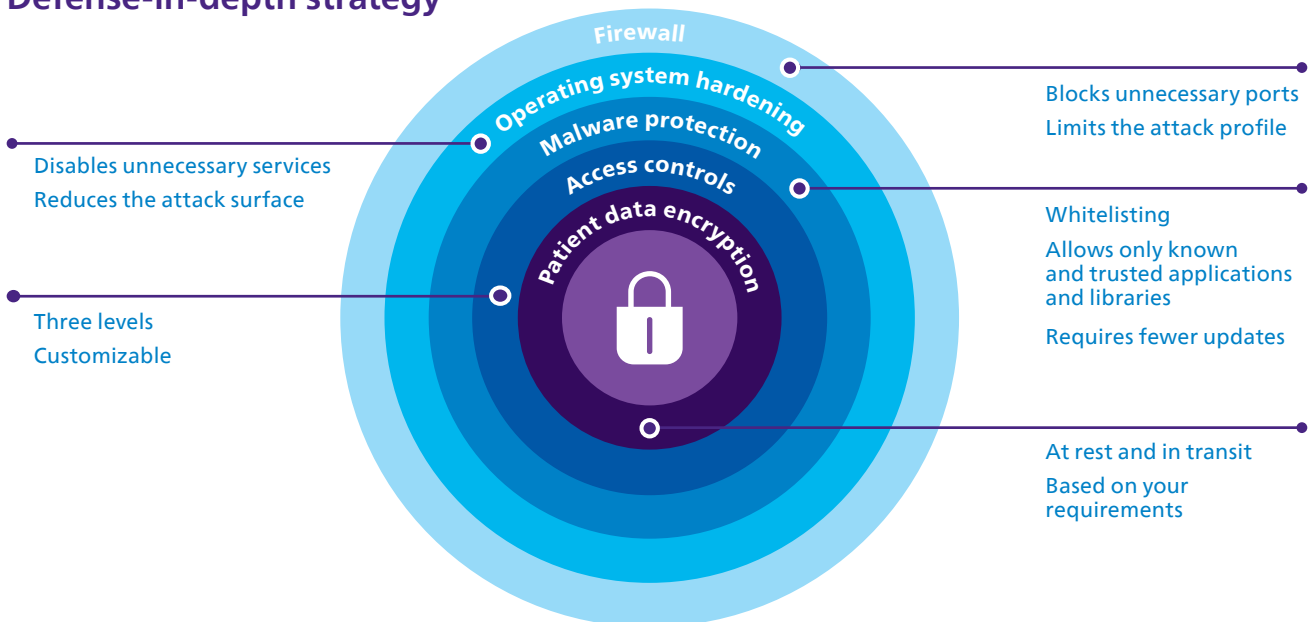
Hospitals and healthcare organizations are spending more to protect their systems and patient data from cyberattacks. Of healthcare providers, one-third of large data security incidents occur in hospitals.² That is why healthcare cybersecurity spending will exceed \$65 billion over the next five years.³

Ultrasound devices are highly mobile and can exist in a wired or wireless environment. As a result, Philips has made security a high priority for ultrasound systems. The EPIQ Elite platform with Windows 10 is built around a powerful defense-in-depth

principle and delivers an outstanding set of data security features comprising of five core layers.

Defense-in-depth strategy uses a multi-layered defense that is more difficult to penetrate than a single barrier. This is a basis for best practices in medical device security. Philips recognizes the importance of securing your medical devices and protecting your patient data. Together we can maintain a secure environment by remaining vigilant and identifying the ever-changing cybersecurity threat landscape.

Defense-in-depth strategy





Reference

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