



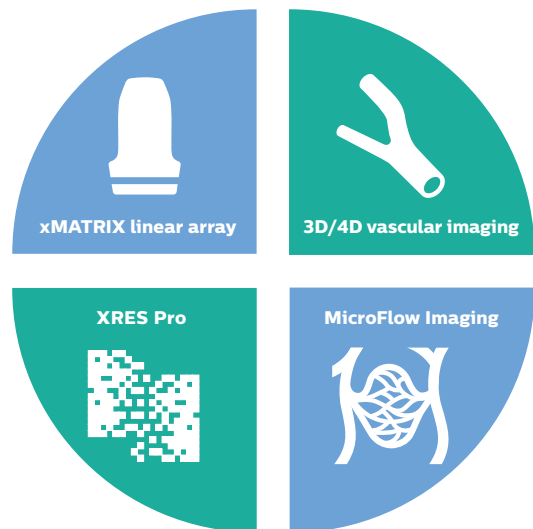
**PHILIPS**

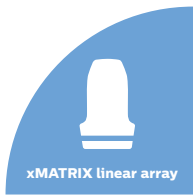
Ultrasound

# The ultimate solution for **vascular assessment**

Ultrasound is an exceptional modality to assess vascular health, however new ultrasound technology to better address the vascular application has not changed significantly in the last two decades.

The Philips ultimate ultrasound vascular solution provides revolutionary imaging formats and complementary clinical tools to help clinicians assess, monitor and treat vascular disease, and deliver exceptional patient care. The Philips ultimate vascular solution is comprised of four key features that work together to aid clinicians in the diagnosis and treatment of vascular disease.





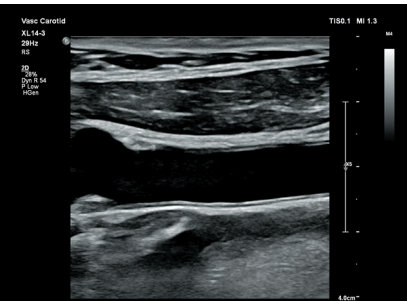
# XL14-3 xMATRIX linear array transducer

The new XL14-3 xMATRIX transducer incorporates an amazing 56,000 elements, all connected to a separate micro-channel. The XL14-3 transducer features multi-dimensional electronic focusing for ultra-thin slice imaging of vascular anatomy and plaque morphology.

**96%** of users surveyed preferred to use XL14-3 to assess vulnerable plaque.\*



High definition zoom of intimal wall detail using the XL14-3 xMATRIX linear array transducer



Thin slice imaging of the carotid artery showing exceptional plaque definition

**Conventional**  
mechanical focus



Divergent beam limits image clarity through depth of field

**xMATRIX**  
electronic multi-dimensional focus



Thin slice imaging maintains clarity and uniformity throughout depth of field



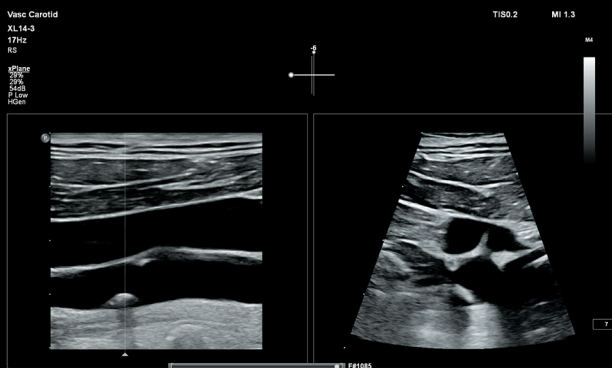
**Exceptional diagnostic confidence** when assessing stenosis and vulnerable plaque.

Graphic depiction of the XL14-3 transducer with lens removed and 56,000 elements

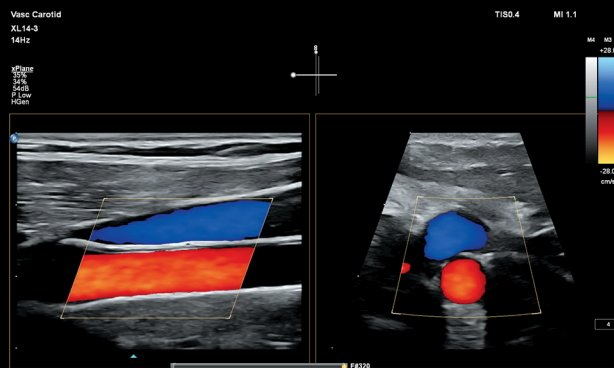
The world's first xMATRIX linear array transducer produces unique imaging formats that can easily be integrated into your vascular application protocols. The XL14-3 xMATRIX transducer offers Live xPlane imaging that goes beyond the conventional approach to vascular exams by offering real time images in both the longitudinal and transverse planes simultaneously.



**70%** of users believe that using Live xPlane imaging could reduce carotid exam time by 20%.\*



Simultaneous Live xPlane imaging showing the carotid artery in orthogonal planes



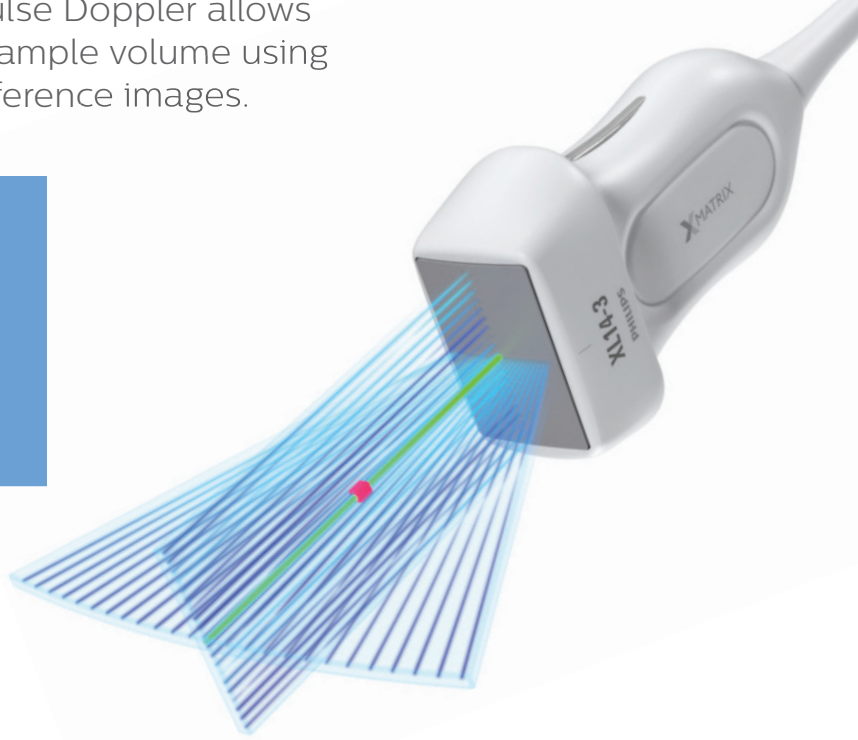
Live xPlane color Doppler easily documents flow in two planes simultaneously

**Live xPlane imaging** eliminates the need to rotate the transducer to acquire orthogonal views – a simple move of the trackball can provide complete anatomical evaluation, saving exam time.

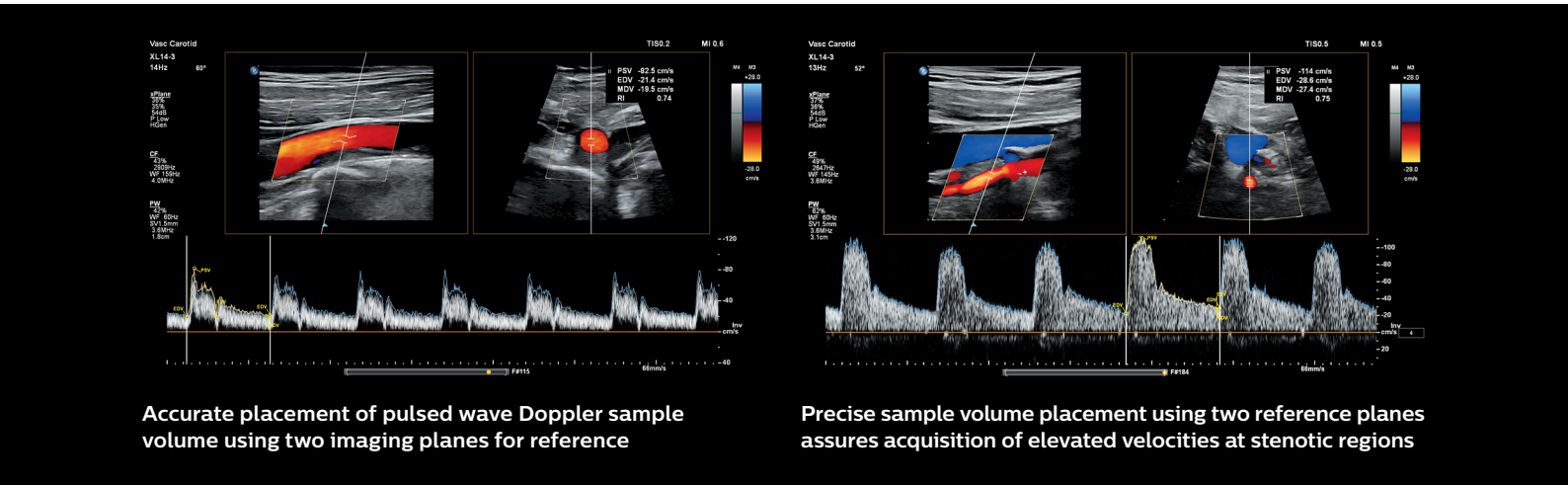
\* External user study on EPIQ Elite based on 27 respondents. Study report available upon request.



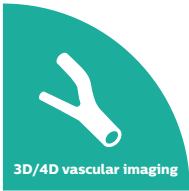
The XL14-3 xMATRIX transducer also offers Live xPlane Doppler capabilities. Live xPlane pulse Doppler allows precise placement of the Doppler sample volume using both longitudinal and transverse reference images.



**93%** of users feel that Live xPlane Doppler could reduce sample volume placement errors, providing greater reproducibility and consistency among users.\*



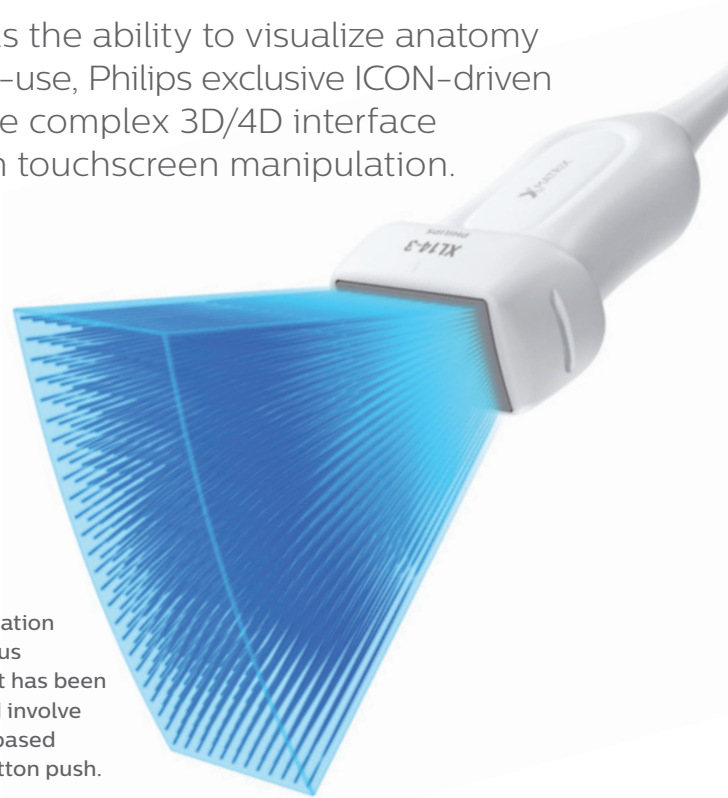
**Live xPlane Doppler** reduces sample volume placement errors and provides greater reproducibility and consistency when sampling significant stenosis.



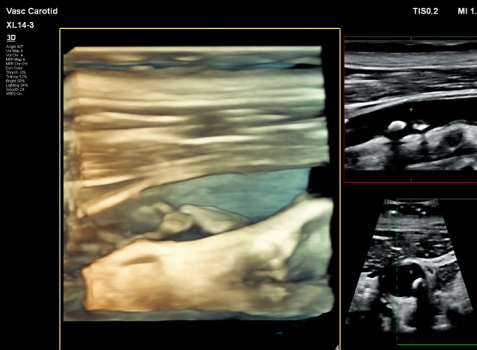
# 3D/4D vascular imaging

The XL14-3 transducer also has the ability to visualize anatomy in amazing 3D/4D with easy-to-use, Philips exclusive ICON-driven workflow, which transforms the complex 3D/4D interface to a simple one-step task with touchscreen manipulation.

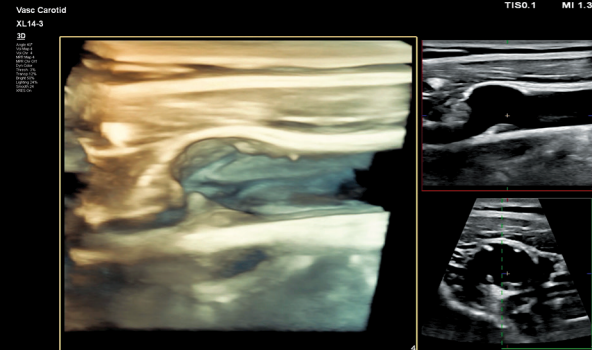
**100%** of users believe they will integrate 3D/4D ultrasound visualization into their vascular exam based on their Philips ease of use ICON-driven workflow.\*



Clinicians can see directly into a vessel to evaluate plaque spatial location and composition, as well as 3D flow data to assess stenotic or tortuous conditions. One of the challenges of 3D/4D user interfaces in the past has been the difficulty in negotiating different 3D anatomical views. This could involve as many as ten steps to achieve the desired view. Philips new ICON-based AutoVue function can instantly render new 3D views with a single button push.



3D/4D imaging using the XL14-3 transducer shows stunning visualization of vascular anatomy



3D/4D imaging reveals greater insights into plaque location and structure

**High quality 3D/4D visualization** of vascular anatomy provides an ideal communication tool to facilitate clinical decisions among providers and enhance consultation with patients to help them understand their conditions.

\* External user study on EPIQ Elite based on 27 respondents. Study report available upon request.

The 3D/4D user interface also offers the ability to generate a vessel cast using flow data. 3D vessel casting allows the direct visualization of flow for further analysis of stenotic or tortuous conditions.

**78%** of users believe that visualizing vessel cast using 3D/4D flow data will assist in providing direct assessment of stenotic or tortuous conditions.\*



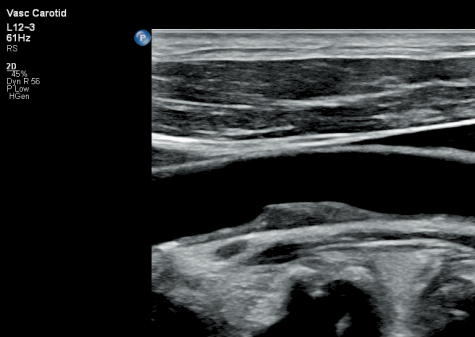
3D vessel cast allows direct analysis of flow disturbance as a result of plaque in the carotid artery

The XL14-3 xMATRIX array with 3D vessel cast demonstrating normal bifurcation of the carotid artery

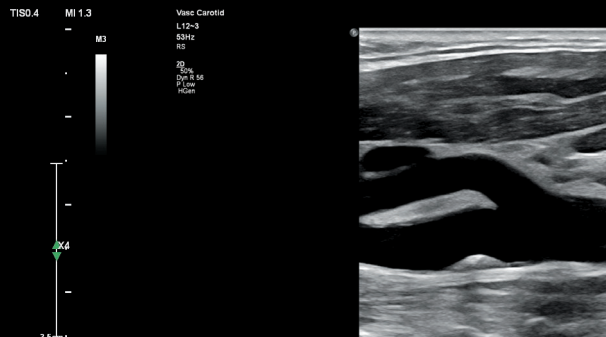


## XRES Pro

Philips next-generation image processing elevates vascular imaging to new levels by providing superb delineation of vessel interfaces and enhanced plaque texture conspicuity.

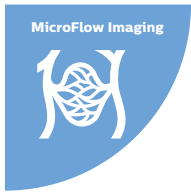


XRES Pro next-generation image process reveals subtle details of plaque morphology



XRES Pro enhances border definition and elevates detection of plaque

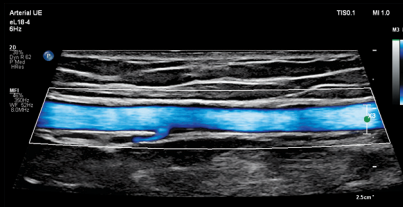
By reducing vessel haze and artifacts, **XRES Pro** elevates diagnostic confidence during vascular imaging of patients, including those that are technically challenging.



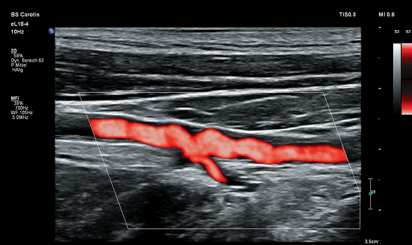
# MicroFlow Imaging

Philips MicroFlow Imaging is designed to detect slow and weak blood flow anatomy in tissue and enhance the resolution of flow in vascular exams. With high resolution and minimal artifacts, clinicians can visualize and characterize subtle flow disturbances around stenotic plaque to make confident diagnoses.

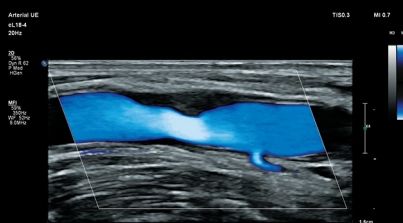
**93%** of users felt MFI helped detect slow or weak blood flow in tissue as well as enhanced resolution of flow in vascular exams.\*



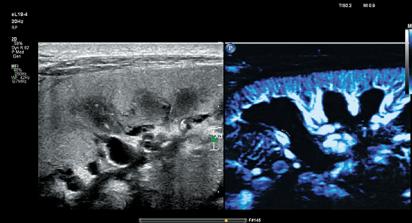
MicroFlow Imaging reveals exceptional flow resolution in an upper extremity vein



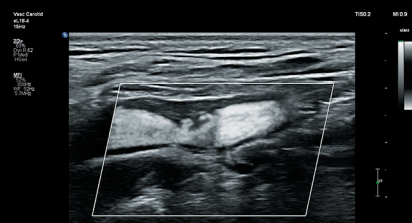
MicroFlow Imaging provides outstanding visualization of flow and intimal interface



MicroFlow Imaging reveals high resolution flow around thrombus collection



MicroFlow Imaging demonstrates subtle flow patterns within a renal transplant



MicroFlow Imaging demonstrates superb flow detail surrounding a vulnerable plaque in the carotid artery

Philips ultimate ultrasound vascular solution provides revolutionary imaging formats and complementary clinical tools to help clinicians assess, monitor and treat vascular disease and deliver exceptional patient care.

**Experience a new level of vascular assessment.**

\* External user study on EPIQ Elite based on 27 respondents. Study report available upon request.



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