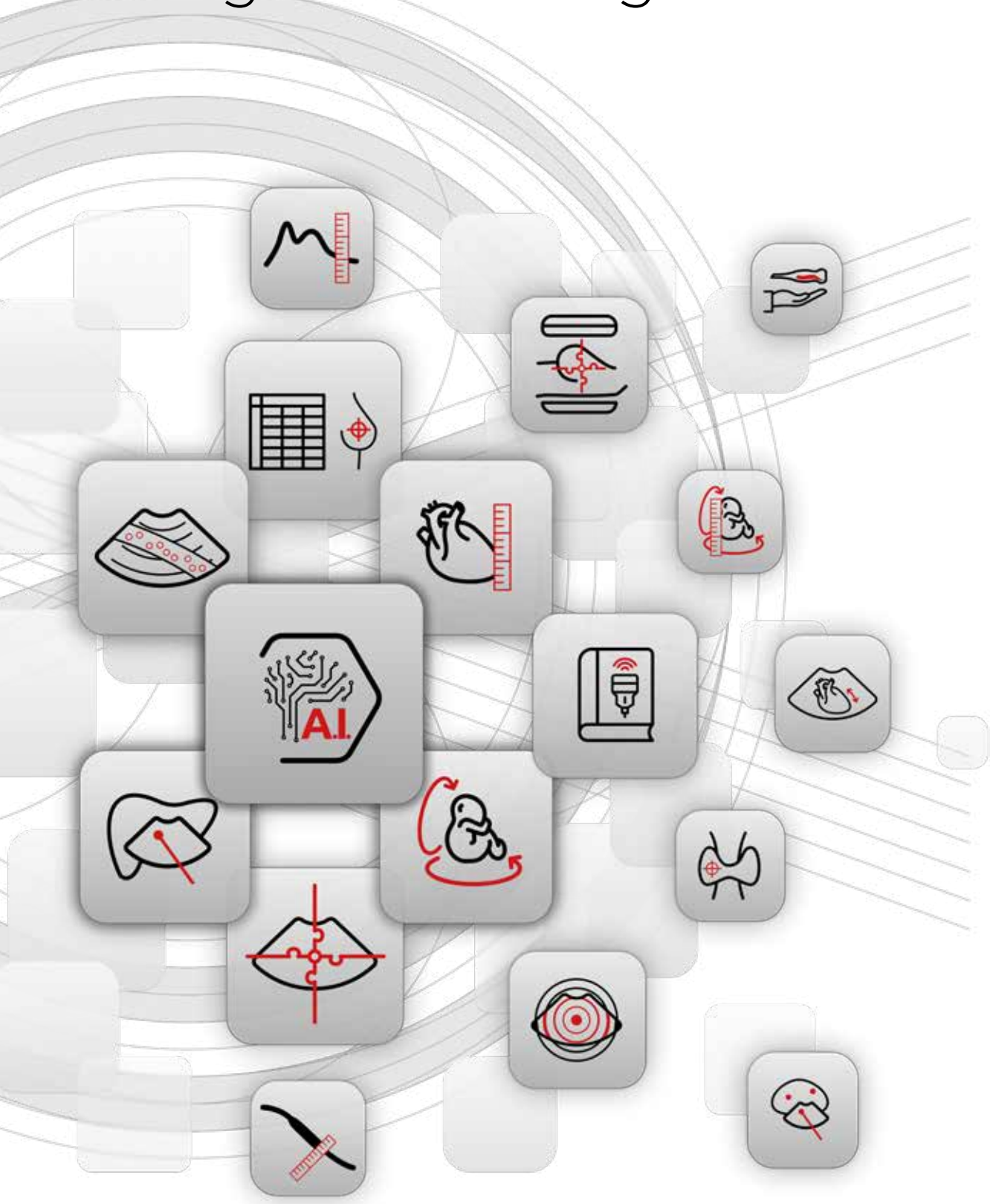
Advanced Technologies
& Augmented Insight™ Features



esaote
HEALTH WITH CARE

Abdominal Multiparametric Assessment

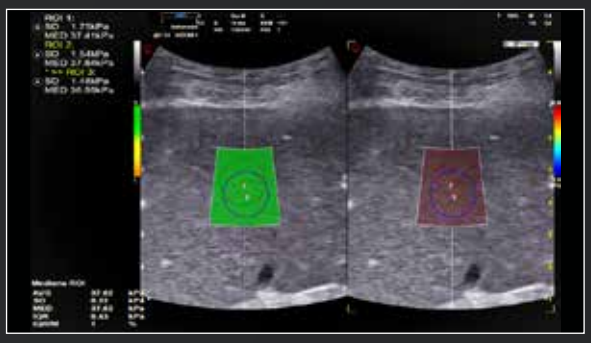
Esaote offers a comprehensive suite of advanced features to support the assessment and monitoring of major liver conditions, including fibrosis and steatosis, as well as spleen stiffness and sospicious focal lesions evaluation. In addition to the attenuation-based evaluation provided by QAI, liver steatosis assessment can be further refined through quantitative backscatter analysis enabled by QSI technology.

All measurements are consolidated into a dedicated report, with results displayed using bar graphs or spider charts to facilitate interpretation.

- **Easy and reproducible data acquisition**
- **Clear and clinically meaningful report**
- **Availability of user defined and pre-determined cut-off values**

QElaXto 2D on liver

2D Shearwave elastosonography to assess liver tissue stiffness in kPa or/and ms-1 with a confidence map, automatic rejection and fibrosis index suggestion. Suggested cut-off values are available following either the rule of 4 or set manually by the user.

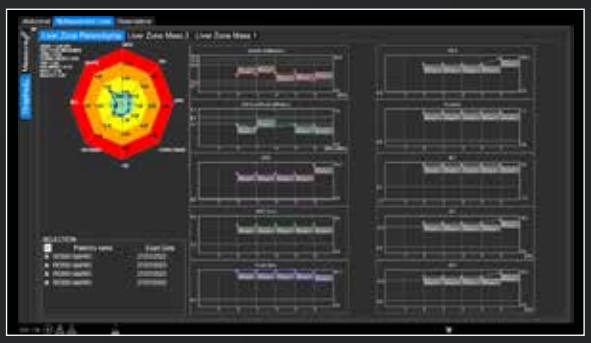


QElaXto 2D on spleen

2D Shearwave elastosonography is also available for assessing spleen stiffness, with a dedicated menu and stiffness color scale, in kPa or/and ms-1.

QAI on liver

Attenuation technology to enable the creation of a colored map of ultrasound attenuation for assessing liver steatosis with quantitative measurements.

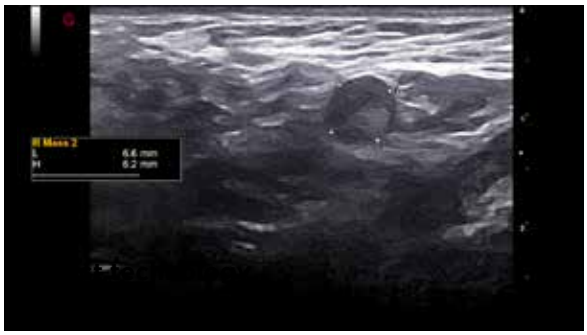


Multiparametric Report

Computing the data acquired from QElaXto 2D, QAI and other standardized liver parameters, enabling the creation of bar or spider graphs and trends throughout the examinations.

Breast Imaging & Assessment of Suspicious Lesions

The Breast Interactive Workflow (BIW) features a dedicated touchscreen menu that provides a smart dashboard with all the information related to suspicious areas.

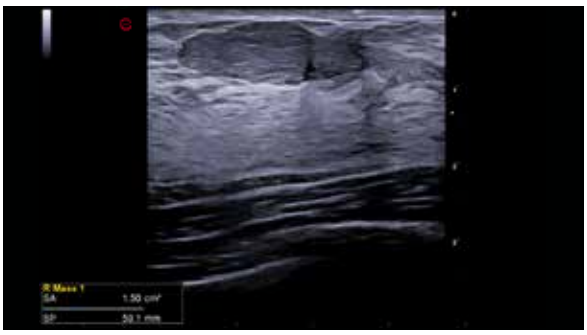


eDetect technology

AI-powered technology for contouring and automatically measuring breast masses.

- Area
- Perimeter
- Diameters

It supports clinicians in studying the lesion and automatically adds data from the detected contour to the report. Enabled in the BIW to further speed up the process.



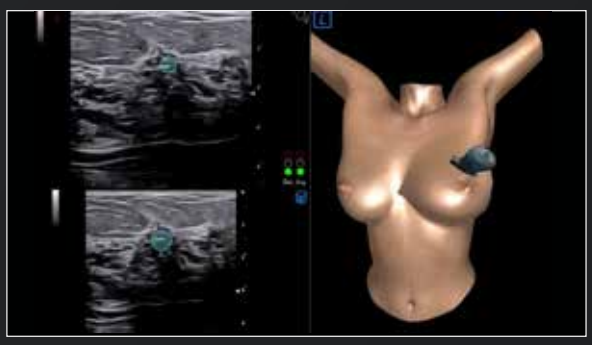
Breast Mass Analyzer (BMA) technology

AI-powered technology to support the classification of SUSPICIOUS breast lesions, according to the BI-RADS® category from ACR.

- Trained by breast experts
- Clinical validation with evidence of reduction unnecessary biopsies by up to 15%*
- Provide assistance in classification confirmation

Enabled from the BIW to further accelerate the workflow.

Additionally, BreastNav™ and BreastNav™ MRI provide a comprehensive breast imaging package for a multimodality approach. Specifically, BreastNav™ MRI enables fusion imaging based on a 3D model, combining a prone MRI dataset with real-time supine ultrasound, with AI providing automatic support for MRI breast segmentation.



BreastNav™

3D modeling technology to support the follow-up of suspicious areas:

- Recording of the 3D dataset with lesion localization
- Retrieval of the dataset during future ultrasound examinations
- Recording of scanning sweeps

BreastNav™ MRI

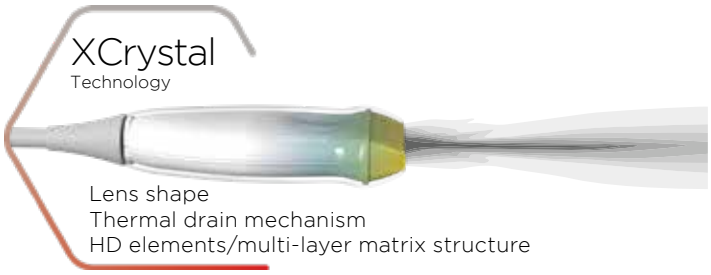
- AI-powered technology to support second-look examinations after the detection of suspicious masses on MRI.
- MRI dataset acquired in PRONE position
- Real-time ultrasound in SUPINE position
- Fusion of both modalities through 3D adaptive modeling
- Localisation of the lesion in US imaging

* Interlenghi M, Salvatore C, Magni V, Caldara G, Schiavon E, Cozzi A, Schiaffino S, Carbonaro LA, Castiglioni I, Sardanelli F. A Machine Learning Ensemble Based on Radiomics to Predict BI-RADS Category and Reduce the Biopsy Rate of Ultrasound-Detected Suspicious Breast Masses. Diagnostics (Basel). 2022 Jan 13;12(1):187. doi: 10.3390/diagnostics12010187. PMID: 35054354; PMCID: PMC8774734.

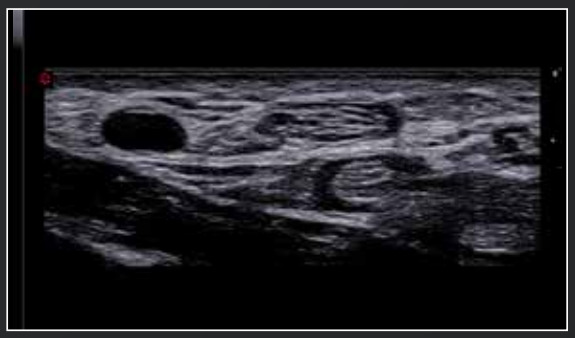
Excellence in Superficial Imaging

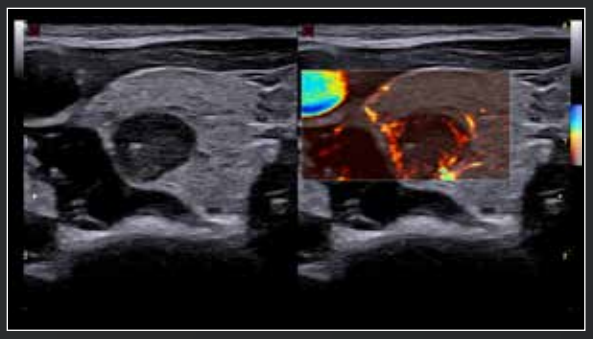
As a long-standing specialist in the manufacture of high-frequency probes, Esaote offers a broad portfolio of transducers to meet various clinical needs for superficial examinations. Thanks to XCrystal array technology, Esaote provides an unparalleled level of imaging detail, from the ultra-nearfield to deeper areas.
Additionally, our latest hockey stick probe, featuring an outstanding ergonomic design and shape, provides access to the narrowest zones with exceptional sub-millimeter resolution.

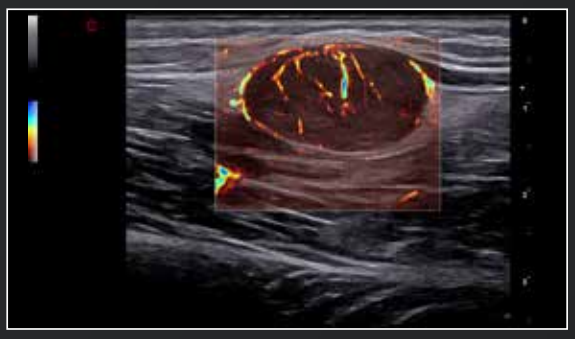
- **A portfolio of various dedicated high- and very high-frequency probes**
- **XCrystal array technology**
- **Sub-millimeter resolution in B-Mode explorations**
- **Ultra sensitivity in color modes**




LMX 4-20 in MSK imaging


IHX 6-25 in MSK imaging


microV technology on thyroid


microV technology on MSK

Urology – Targeted Biopsies with UroFusion

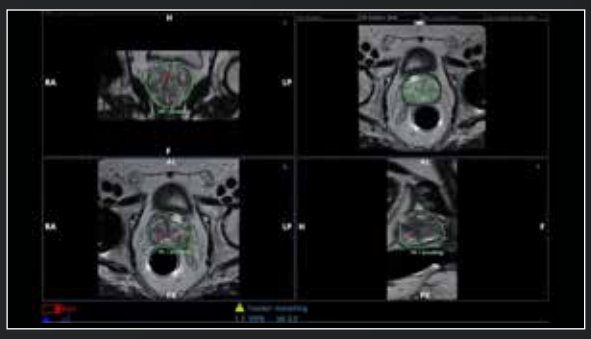
The MyLab™ E80 remains at the forefront of urological diagnostics, offering a comprehensive prostate imaging solution that supports both transperineal and transrectal approaches. It ensures exceptional image quality, complemented by various technologies such as vascularization and contrast imaging, as well as elastography techniques, to support high standards of diagnostic imaging.

With UroFusion, Esaote's state-of-the-art fusion imaging solution tailored for targeted prostate biopsies, you can achieve a higher level of simplicity and efficiency.

- **AI-guided package**
- **Applicable to both TP and TR approaches**
- **Fast and accurate automatic synchronisation**
- **Automated comprehensive report**

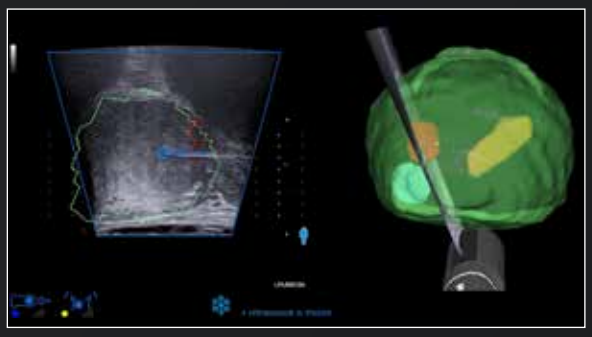
Bi-planar probe for transperineal approach

End-fire array for transrectal approach



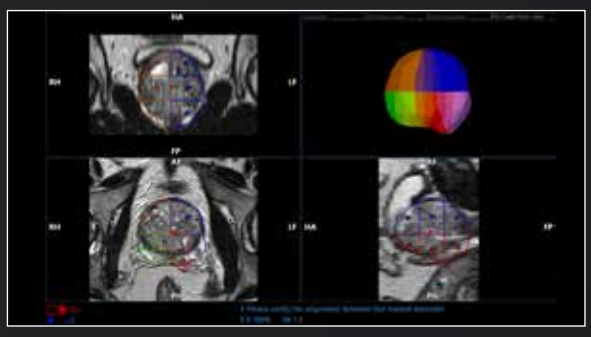
MRI dataset integration

- Automatic import from PACS, CD, or USB
- One-click prostate segmentation using AI-based algorithms
- Automatic synchronization of all MRI series (T2 Axial/Sagittal, ADC, DWI)
- Automatic target cloning across all series after initial placement



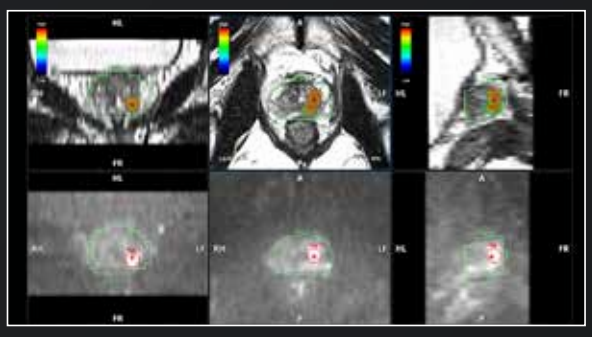
Seamless synchronization

- Fast 3D prostate scan with a single probe sweep
- Instant ultrasound AI-powered segmentation
- Automatic MRI fusion for precise, streamlined diagnostics



Smart MRI-guided navigation & biopsy

- Automatic MRI series selection based on real-time ultrasound and probe type
- Biopsy trajectory visualized on both MRI and ultrasound views
- Live 3D mapping of prostate, targets, and probe position
- Accurate sample tracking with segmentation support for systematic biopsies



Prostate Attention Map

- Innovative feature designed to enhance prostate biopsy planning
- It analyzes prostate MRI data to visually highlight areas of potential clinical interest through an intuitive color-coded map
- Empower clinicians with additional insights while keeping control of decision-making in their hands

Obstetrics – Details and Easiness

In its constant pursuit of innovation, Esaote ultrasound systems deliver excellent image quality with dedicated high-frequency probes. With AI-based tools that streamline workflow and measurements, they support clinical decision making and optimal care throughout pregnancy.

AutoOB and AutoScan plane detection

Combination of two AI-based technologies to enable immediate and accurate proposals of fetal measurements, ready for confirmation: **BPD, HC, TCD, AC, FL, TL, HL, RL, UL, Fib L, CRL.**

microV and BrightFlow technologies

The combination of these two advanced technologies enables the detailed visualization of even the tiniest vessels, with enhanced flow assessment and a striking 3D-like effect, particularly useful for exploring the fetal heart and brain vasculature.

ADM – Automatic Doppler Measurement

ADM technology streamlines your workflow by automatically measuring pulsed wave Doppler during obstetric examinations and integrating the results directly into the patient report.

Obstetrics libraries

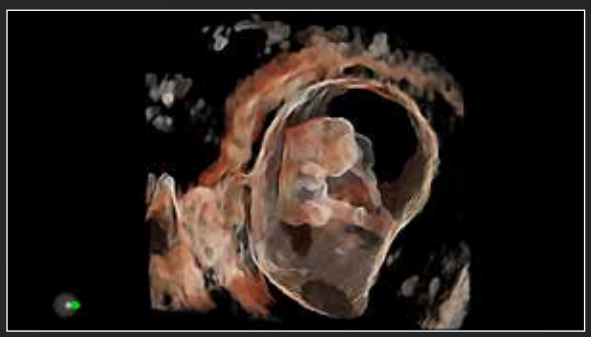
Innovative application-dedicated tools built into MyLab™ systems for user reference. These 1st, 2nd, and 3rd trimester libraries supports operative training by providing anatomical, echographic scanning, and textual descriptions of the most important anatomical sites.

For advanced imaging, Esaote offers full 3D/4D capabilities through its latest volumetric probe, the lightest on the market, providing comfort during daily use and versatility with outstanding B-Mode and precise 3D/4D rendering.

3D/4D environments:

*TPI - Tri-Planar Imaging | *TSI - Thick Slice Imaging | *TMI - Tomographic Mode Imaging

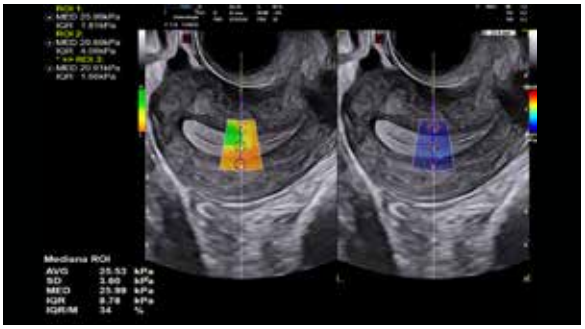
Baby Face with XLight 3D render



First trimester fetus with XGlass 3D render

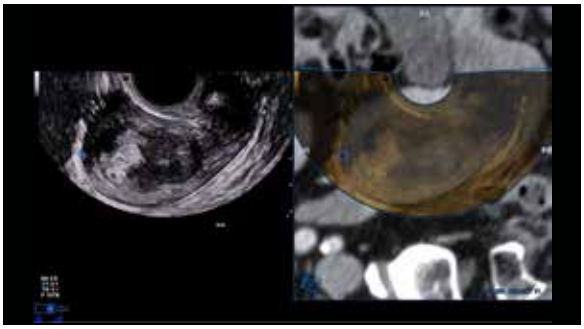
Gynecology

Esaote's gynecology probes offer high-quality images with excellent contrast resolution, enhancing clinical confidence when detecting abnormalities using both transabdominal and transvaginal approaches. Advanced 2D and 3D imaging provide high-quality information, even in challenging cases, covering complex pelvic examinations and medically assisted procreation.



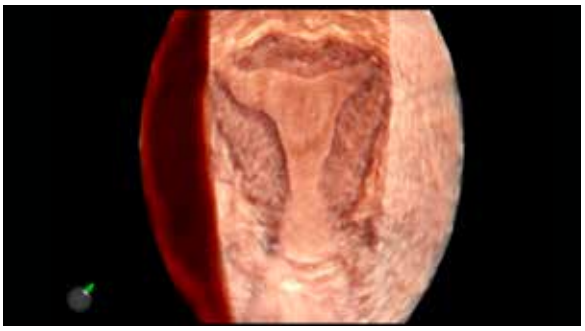
QElaXto 2D

Available on both convex and endocavitary probes, Esaote Shearwave elastography is suitable for the quantitative assessment of tissue stiffness in kPa or m/s, with a color-coded map representation and a reliability map.



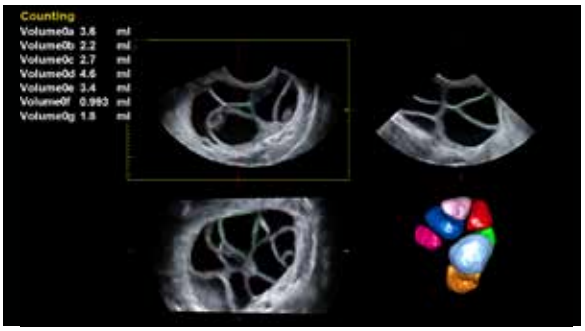
Virtual Navigator

The Virtual Navigator is Esaote's fusion imaging technology that, by combining the information from both MRI datasets and transvaginal US imaging, has potential applications in the assessment of complex multifocal diseases, including deep infiltrating endometriosis (DIE).



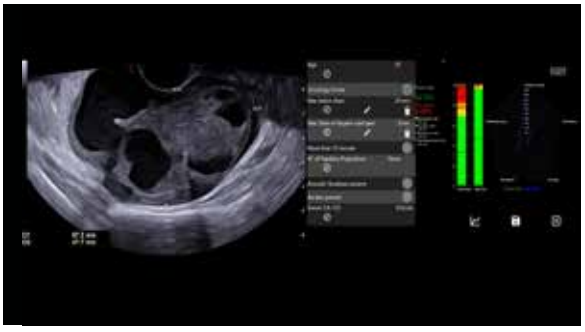
3D/4D technology

Esaote's new volume rendering algorithm quickly provides realistic 3D reconstructions of the uterus, enabling evaluations of its shape and size. Benefit from a fully customizable concavity line in the Thick Slice Imaging (TSI) 3D environment to highlight specific structures, such as the endometrium.



In Vitro Fertilization (IVF)

Follicle monitoring is a critical aspect of fertility management. XVRA is the innovative Esaote tool that automatically calculates follicle volume, thus helping to identify the best oocytes to be collected.



IOTA-Adnex

Implement a validated risk stratification model that estimates the likelihood of benign and malignant ovarian tumours to support clinical decision-making*.

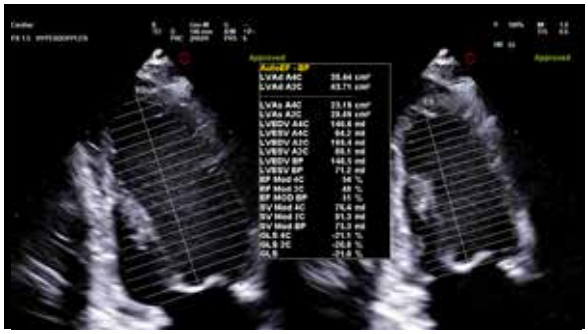
Gynecology library

Innovative application-dedicated tool built into MyLab™ systems for user reference. This gynecology library supports operative training by providing anatomical, echographic scanning, and textual descriptions of the most important anatomical sites.

* Van Calster B, Van Hoorde K, Froyman W, Kaijser J, Wynants L, Landolfo C, Anthoulakis C, Vergote I, Bourne T, Timmerman D. Practical guidance for applying the ADNEX model from the IOTA group to discriminate between different subtypes of adnexal tumors. Facts Views Vis Obgyn. 2015;7(1):32-41. PMID: 25897370; PMCID: PMC4402441.L

Cardiology

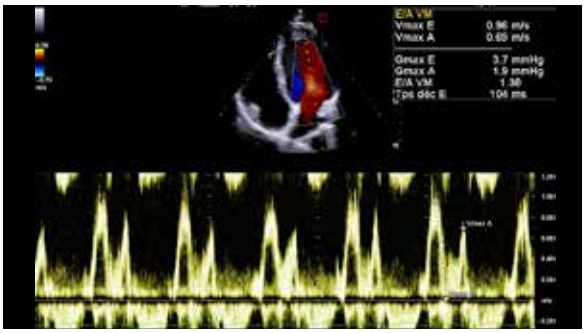
Esaote's cardiology solution leverages XCrystal probe technology to deliver exceptional clarity in B-Mode and fluidity in color Doppler imaging. Additionally, it accelerates workflow with a comprehensive package of AI-based measurements and advanced features for assessing flow and stiffness in both cardiac and vascular explorations.



AutoEF

Automatic assessment of the left ventricular ejection fraction. Based on AI, AutoEF enables the EF in a few seconds with just one click, both in:

- **2 chambers**
- **4 chambers**

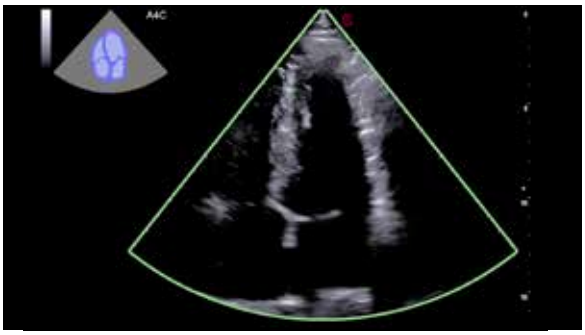


AutoCM

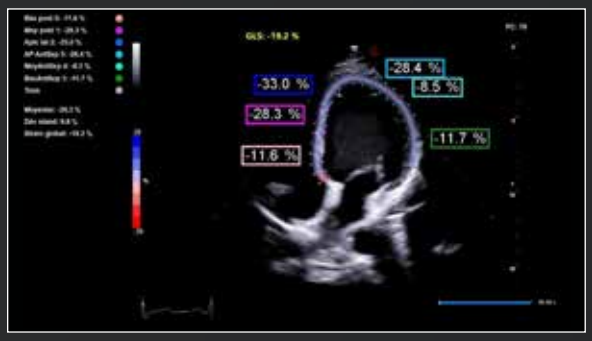
Automatic B-Mode and Doppler cardiac measurements. Immediate AI-powered measurements of the LV parasternal long axis section and E/A wave in apical with just one click, accelerating your workflow and providing accurate values:

- **B-Mode LV dimension**
- **PW-Mode E/A**

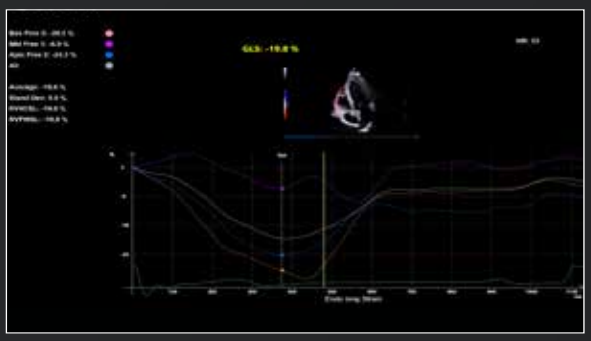
Esaote's **HeartScan Assistant** supports clinicians during echocardiographic exams by automatically recognizing the scanning plane and displaying it on the screen. The ultrasound sector is highlighted with a color-coded overlay that indicates the confidence level of the recognition, providing immediate visual feedback.



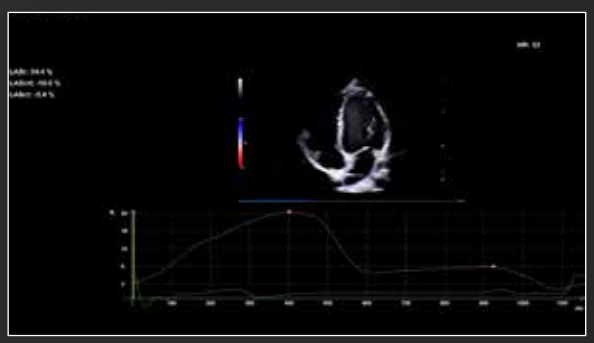
Esaote's strain package streamlines cardiac assessment, delivering a quick and reliable evaluation of LV (AI-powered), RV, and LA function, enabling confident diagnoses and management.



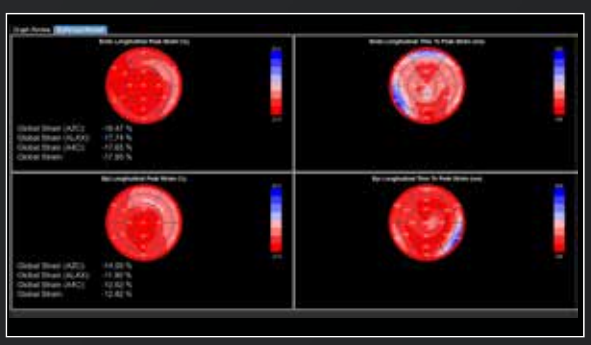
XStrain™ LV



XStrain™ RV



XStrain™ LA

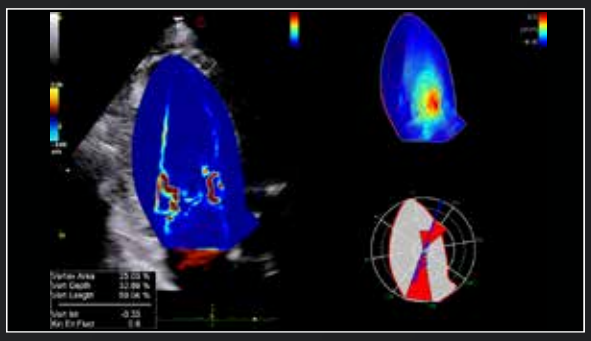


Bull's eye XStrain™ LV representation

HyperDoppler technology revolutionizes cardiovascular assessments by providing a detailed analysis of intracardiac flow dynamics, delivering deeper insights for enhanced diagnostic confidence.

- **Flow velocity vector map**
- **Circulation parametric map**
- **Energetic and energy loss map**

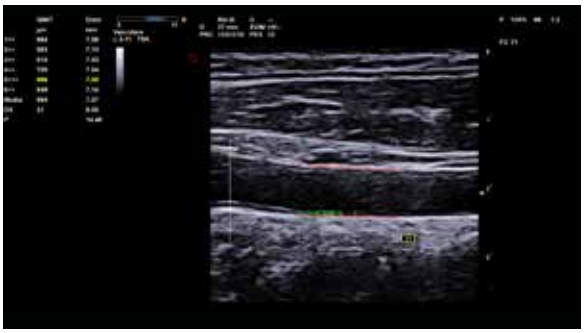
HyperDoppler – vortex intensity map



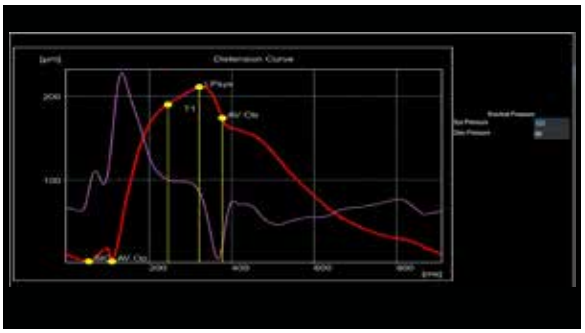
HyperDoppler – kinetic energetic map

Vascular

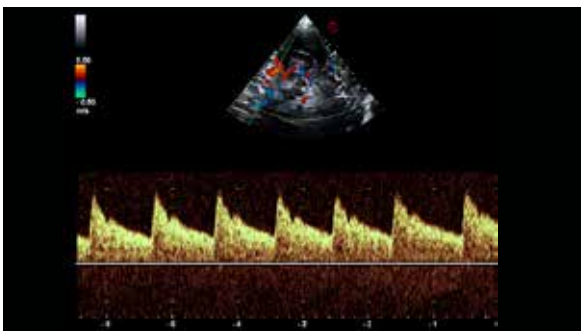
Esaote's comprehensive vascular ultrasound suite, featuring microV, BrightFlow, and NeuroFusion, delivers advanced imaging capabilities, ranging from vessels to brain perfusion, enabling confident diagnoses and improved patient care.



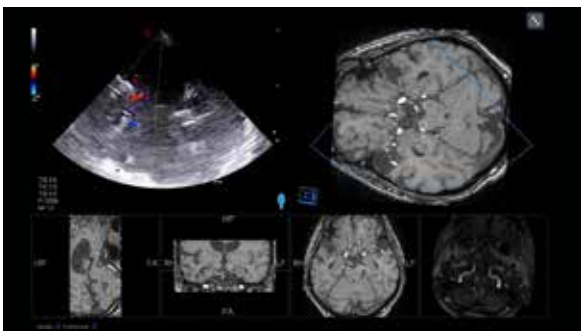
Real-time RF-based QIMT



RF-based QAS technology



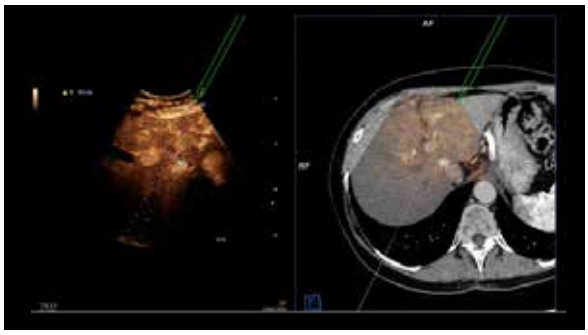
Combination of CFM and PW in TCD



NeuroFusion with Virtual Navigator

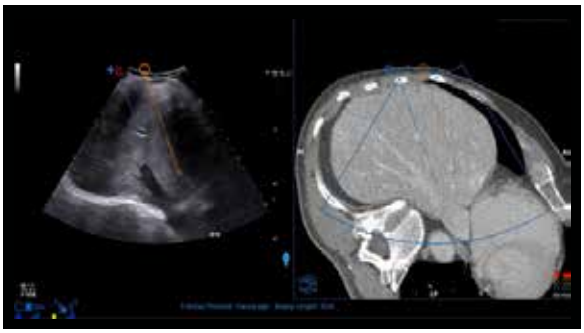
Interventional Radiology

Designed to support ultrasound assisted procedures, Virtual Navigator enables easy fusion imaging with pre-acquired CT or MR images through an ultra-simplified workflow, with a specific focus on complex biopsies and focal therapy procedures. It includes advanced tools such as breathing and body motion compensation, as well as needle tracking. Virtual Navigator can be used in combination with CnTI™ Clear technology for contrast media examinations and is compatible with CIVCO omniTRAX™ disposables for automatic synchronization.



Needle tracking

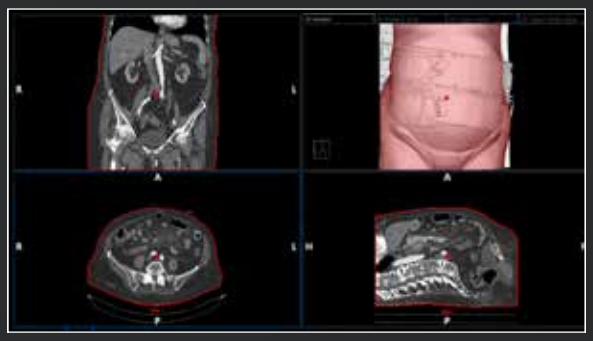
This license enables virtual needle guidance with CIVCO eTRAX™ and virtuTRAX™, supporting clinicians during image-guided interventional procedures.



Needle Insertion Planning

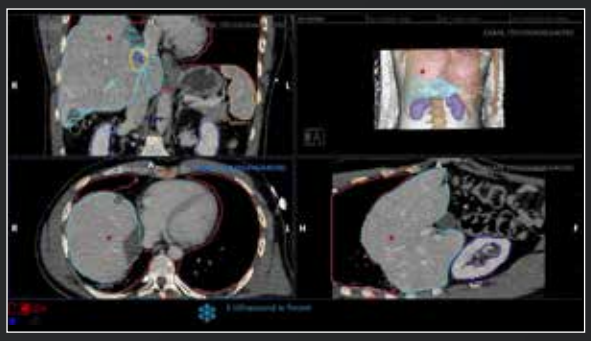
This feature facilitates clinicians in visualizing the virtual path of the needle, helping them to determine the best approach and optimal insertion point to accurately reach the target while avoiding sensitive areas and facilitating the multi-needle approach.

Esaote's innovative and exclusive AI-driven AutoSYNC function enables automatic synchronization via a 3D camera. It also enables an Augmented Reality environment.



AutoSYNC via 3D camera

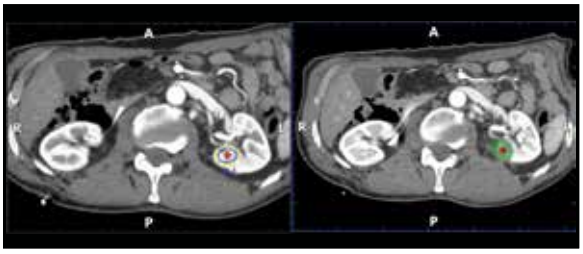
Powered by AI for abdominal interventional procedures with fusion imaging based on a fast coupling between the second modality imaging (CT-MR dataset) and the 3D surface photo acquired directly from the patient using the 3D camera.



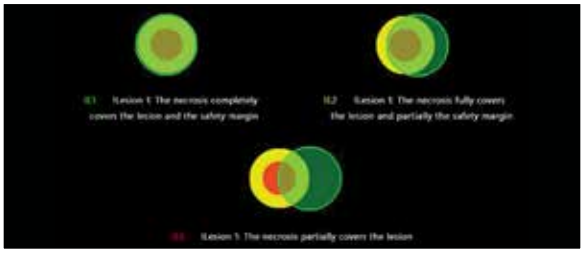
Augmented reality

Augmented reality allows for the superimposition of a 3D representation of organs on the second modality. It can also be combined with the real-time 3D camera to visualize internal organs such as the liver, gallbladder, kidneys, and spleen.

For more effective management of focal treatments, you can benefit from the exclusive Esaote Ablation Confirmation Suite (ACS), which is integrated directly into your device.



ACS – Comparison pre-post ablation with elastic fusion



Qualitative and quantitative ablation analysis

Powered by AI, ACS compares the area to be treated (pre-ablation CT data) with the necrotic zone (post-ablation CT data) through elastic fusion, and then highlights possibile areas in need of further treatments. These areas, displayed as a new target, are directly visible under CT-US fusion navigation mode.

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Via Enrico Melen 77, 16152 Genova, ITALY, Tel. +39 010 6547 1, Fax +39 010 6547 275,
info@esaote.com - www.esaote.com

Italian design

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