

A Step ahead in **Fusion Imaging**

Virtual
Navigator





Fusion Imaging of Real-time Ultrasound & CT/MR

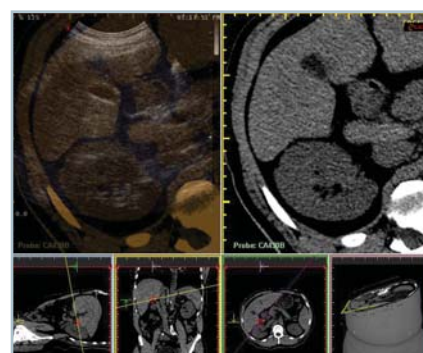
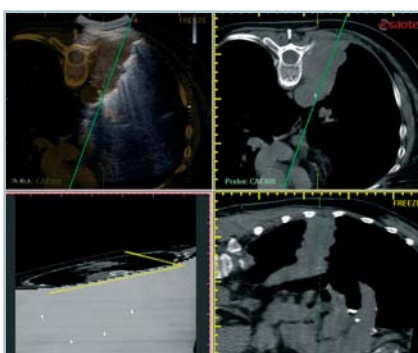
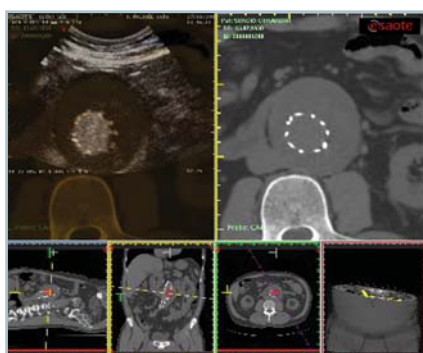
Esaote's Virtual Navigator Technology combines two different imaging modalities: real-time ultrasound scanning and static imaging (e.g. CT/MR) to guide the user inside the human body to reach the desired target.

The Fusion Imaging and Tracking System features result in a perfect correlation of ultrasound and CT/MR images. This can significantly increase the precision and accuracy of image-guided diagnosis and procedures.

The Virtual Navigator is the ideal solution to improve practice workflow, for example by identifying internal liver lesions and supporting interventional imaging quickly and easily.

The Virtual Navigator, moreover, allows CT/MR images to be merged with contrast ultrasound real-time scanning, which can increase user confidence through different modalities.

The Virtual Navigator is fully integrated in Esaote's MyLab70 XVision ultrasound system.



Courtesy of R. Lencioni, MD - Cisanello Hospital, Pisa, Italy; A. Martegani, MD - Valduce Hospital, Como, Italy; L. Solbiati, MD - "Ospedale di Circolo", Busto Arsizio, Varese, Italy.



Exam Procedure

The conventional Virtual Navigator examination consists of different phases which allow the operator to obtain the best results in the shortest amount of time:

> STANDARD CT/MR EXAMINATIONS

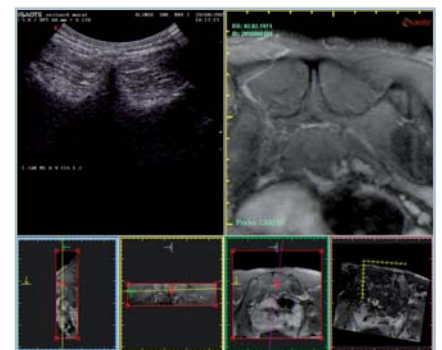
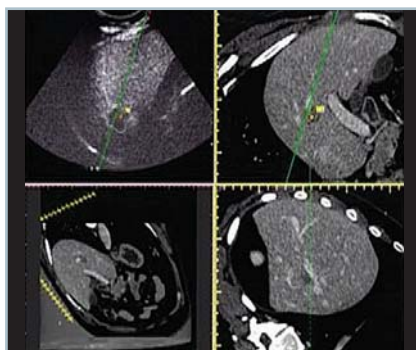
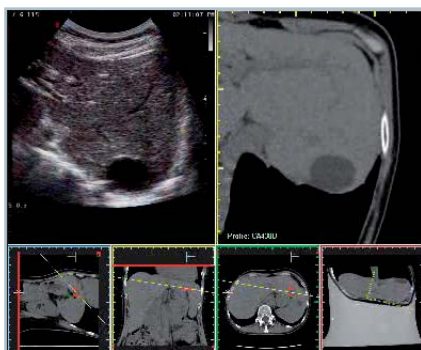
> **DICOM DATA LOADING** - The CT/MR images can be transferred via media or network (PACS).

> **CORRELATION PROCEDURE** - Virtual Navigator produces the best volume matching due to three different techniques:

- **Skin Markers:** the best user-independent recording technique. Specific skin markers are applied on the patient before the CT/MR acquisitions. Maintained during the ultrasound scan, the markers allow for automatic spatial correlation.

- **Manual:** the fast and easy technique for every CT/MR scan. The user can select a random plane on both ultrasound and CT/MR images to be correlated.
 - **Internal Markers:** the advanced feature for internal correlation. The user is free to select the anatomical structures or pathologies of interest (vessel bifurcation, cyst, etc.) as internal positioning markers.
- > **NAVIGATION** - During the real-time ultrasound modality, the user can simultaneously display the same arbitrary CT/MR planes visualized in the ultrasound scanning, maintaining a perfect and precise spatial correlation.

Additionally, Virtual Navigator's overlapping feature, double biopsy line and measurements capability on both ultrasound and CT/MR volumes allow the user to receive constant and real-time feedback on the image correlation status.





Virtual Navigator



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