

A Step ahead in **Fusion Imaging**

Virtual *Navigator*



Virtual
Navigator



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ISO 13485:2003 ISO 9001:2008

Specifications subject to change without notice
Information refer to products or modalities not approved in all countries.



Esaote S.p.A.

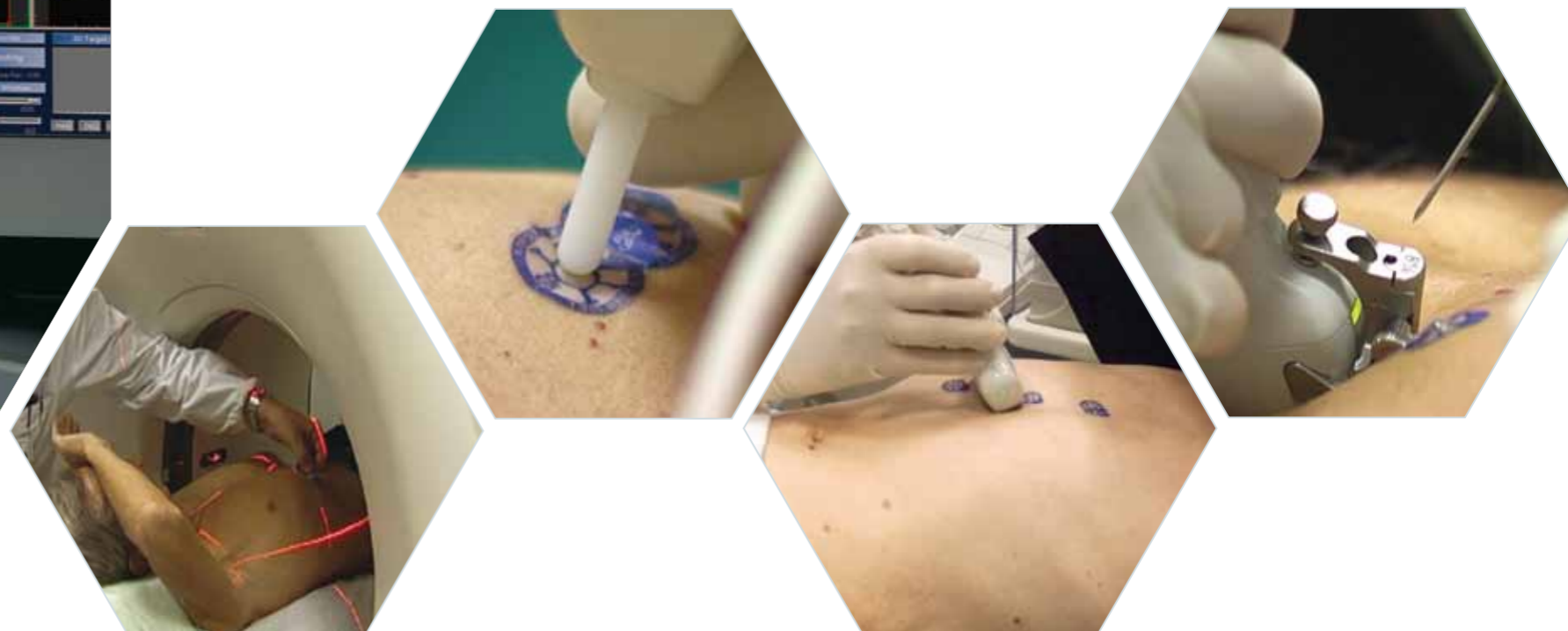
International Activities: Via di Caciolle, 15 50127 Florence, Italy, Tel. +39 055 4229 1, Fax +39 055 4229 208, international.sales@esaote.com
Domestic Activities: Via A. Siffredi, 58 16153 Genoa, Italy, Tel. +39 010 6547 1, Fax +39 010 6547 275, info@esaote.com

www.esaote.com

<p>FRANCE Esaote France S.A.R.L. ZA du Bel Air 10, rue de Témar, 78105 Saint Germain en Laye Tel. +33 1 8204 8900, Fax +33 1 3061 7210 info@esaote.fr</p>	<p>GERMANY Esaote Biomedica Deutschland GmbH Max-Planck-Straße 27a 50858 Köln Tel. +49 2234 688 5600, Fax +49 2234 688 5601 info@esaote.de</p>	<p>SPAIN Esaote España S.A. Avda San Sebastian, s/n 08960 Sant Just Desvern, Barcelona Tel. +34 93 473 2090, Fax +34 93 473 2042 info@esaote.es</p>	<p>THE NETHERLANDS AND BELGIUM Pie Medical Benelux B.V. P.O. Box 1132 6201 BC Maastricht Tel. +31 43 3824650, Fax +31 43 3824651 benelux@pie.nl</p>	<p>UK Esaote UK 400 Thames Valley Park Drive, Reading, Berkshire. RG6 1PT Tel. +44 118 965 3500, Fax +44 709 288 0231 infoUK@esaote.com</p>	<p>NORTH AMERICA Esaote North America, Inc. 8000 Castlaway Drive, Indianapolis, IN 46250 Tel. +1 317 813 6000, Fax +1 317 813 6600 info@esaoteusa.com</p>
<p>BRASIL Brazilian Direct Office Rua Tomas Carvalhal, 711 04006-001 São Paulo SP Tel. +55 11 2589 0533 Fax +55 11 2589 0527 edson.lopes@esaote.com</p>	<p>ARGENTINA Esaote Latinoamérica S.A. San Martín 551, Cuerpo 'C', Piso 8, (C1004AAK) Buenos Aires Tel. +54 11 4326 1832, Fax: +54 11 4328 1245 info@esaote.com.ar</p>	<p>INDIA Esaote Asia Pacific Diagnostic Private Limited F-1, Level 1, Global Arcade, Near Global Business Park M.G. Road, Gurgaon (Haryana)-122002 Tel. +91 124 4775600, Fax +91 124 4775699 info@esaote.in</p>	<p>HONG KONG AND FAR EAST Esaote China Ltd 18/F, 135 Bonham Strand Trade Centre, 135 Bonham Strand, Sheung Wan, Hong Kong Tel. +852 2545 8386, Fax +852 2543 3068 esaote@esaotechina.co</p>	<p>CHINA Esaote Shenzhen Medical Equipment Room 2608, Tower B Beijing Global Trade Center 36 North Third Ring Road East, Dongcheng District, 100013, Beijing Tel. +86 010 58257766, Fax +86 010 52257760</p>	<p>RUSSIAN FEDERATION AND CIS Esaote S.p.A. 18 Leningradsky prospekt Off. 5 and 6, Moscow 125040 Tel. +7 495 232 0205, Fax +7 495 232 1833 esaotemscow@yandex.ru</p>

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Virtual Navigator is not available for sales in the USA.



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.

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).

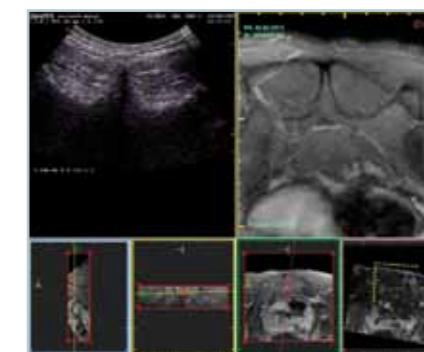
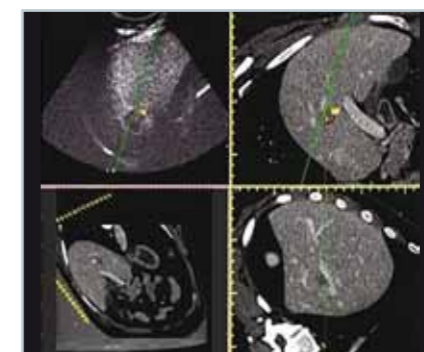
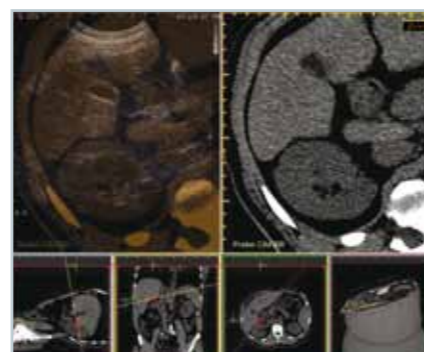
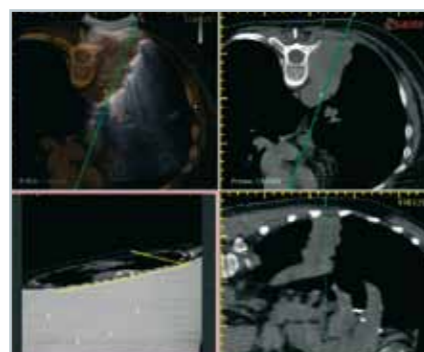
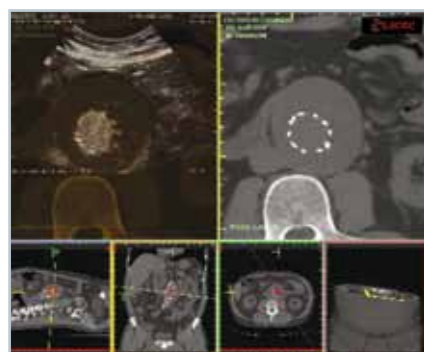
> **CORRELATION PROCEDURE** - **Virtual Navigator** produces the best volume matching due to three different techniques:

- **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.



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.