

During the 95th annual meeting of the
Radiological Society of North America
29th November 2009- 3rd December 2009

SuperSonic Imagine

The young, international, innovative company has entered the medical imaging market with rapid growth and never-seen-before technology.

Aixplorer®

A revolutionary MultiWave Ultrasound System equipped with major technological breakthroughs.



Press Contacts:

Michele Debain: Global Marketing and Education Manager

Michele.debain@supersonicimagine.fr

Dan Conley: Beacon Communications

dconley@beaconpr.com

+1 (312) 423 7944

SUPERSONIC IMAGINE

SuperSonic Imagine, based in Aix-en-Provence, France, is a young, multicultural company with over 100 employees worldwide and a strong commitment to providing advanced technology to improve medical diagnosis. SuperSonic Imagine was founded in 2005 by world renowned ultrasound and medical imaging research scientists and under the direction of Jacques Souquet.

One of the leading technologies used by SuperSonic Imagine is the development of MultiWave™ Technology which is based upon the simultaneous interaction between conventional longitudinal waves and shear waves in tissue. MultiWave Technology ensures both impeccable image quality and new imaging techniques such as ShearWave™ Elastography.

ShearWave Elastography is a true technological breakthrough in the imaging world as it permits an electronic palpation, even in deep, hard to reach organs and it provides true tissue elasticity in real-time.

ShearWave Elastography is the only technology in the world that can measure shear wave velocity in order to produce a color coded map (see fig 1) of true local tissue elasticity, as shear wave velocity is directly related to tissue stiffness. Combining other technologies such as SonicTouch™ and UltraFast™ Imaging, ShearWave™ Elastography delivers true tissue elasticity in real-time and in a reproducible, user-skill independent manner.

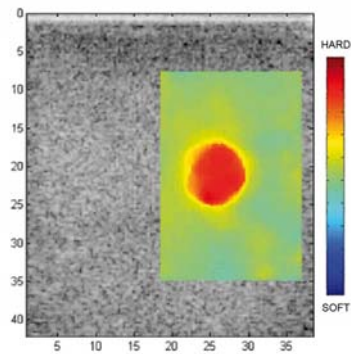


Figure 1: Elastography map showing stiff tissue

This innovation rests on 25 international patents and submissions that are solely owned and solely used by SuperSonic Imagine. This technology is made possible through a close collaboration with the Langevin Institute (Laboratoire Ondes et Acoustiques) the Physics and Industrial Chemistry School of Paris. SuperSonic Imagine has also worked closely with the Curie Institute in Paris and the CNRS (French Central Scientific Research entity).

After investment fund raising of 36,5 million Euros (even in the middle of a financial crisis!), and three years of Research & Development, SuperSonic Imagine commercialized its first product, the Aixplorer®, end of 2008.

Since April 2008, clinical trials have been testing this new technology with prototypes situated in 17 sites around the world; 10 in Europe and 7 in the USA [Boston Medical Center, Yale Medical Center, Thomas Jefferson Medical Center, Northwestern Memorial, Sally Jobe Breast Center, University of Southern California and John Hopkins Medical Center (consulting)].

AIXPLORER®

Aixplorer® is a next-generation ultrasound system from SuperSonic Imagine with a unique architecture that provides impeccable images as well as, a new imaging technique: ShearWave™ Elastography

For the very first time ever, an ultrasound system with an all software-based architecture can provide both impeccable B-mode images and display tissue stiffness or elasticity information using shear waves. Aixplorer® brings the clinician significantly enhanced diagnostic information as ShearWave™ Elastography is an additional parameter to characterize tissue.

Aixplorer was named after its birthplace, Aix-en-Provence, in France.

The Aixplorer ultrasound system harnesses proprietary SonicSoftware™, an all software based architecture that transfers conventional beam forming and scan conversion from hardware to software creating a system with great speed, accuracy & flexibility. This innovative software was created by in-house scientists using the latest generation multi-core processors along with the latest advanced technology from the graphic video industry.



The unique architecture of **SonicSoftware™** enables **MultiWave™** Technology.

What is MultiWave™ Technology?

MultiWave Technology is based on the interaction in tissue between conventional longitudinal waves, or B-mode, with shear waves. Aixplorer is the only system available that can generate, capture and compute shear wave velocity resulting in the bi-dimensional display of true tissue elasticity.

Aixplorer® exploits two types of waves to better characterize tissue:

- One **ultrasound wave** to ensure outstanding B-mode image quality. With SonicSoftware™ tissue conspicuity, lateral and contrast resolution and delineation of structures are improved and render impeccable image quality
- One **ShearWave™** to display, in real-time, true local tissue elasticity.



The Science behind Aixplorer

Using the unique architecture of SonicSoftware™, Aixplorer can produce shear waves in the tissue and simultaneously image and compute the motion of these waves, displaying tissue elasticity in real-time.

Aixplorer uses technology called SonicTouch™ to create low-frequency shear waves in the body through several focused beams of acoustic energy. This acoustic energy is safe and can be highly localised allowing it to be projected to a specific area of the body.

UltraFast™ Imaging is the revolutionary technology that captures shear wave propagation movement in tissue. To capture a shear wave, acquisition rates must be at least 5,000 Hz. **Aixplorer functions at speeds of up to 20,000 Hz while standard acquisition speeds of conventional ultrasound are around 100 Hz.**

By measuring the speed of the propagation of the shear waves, Aixplorer produces a true tissue elasticity color map (red represents stiff tissue, blue represents soft tissue) (see fig 1) which can aid in the diagnostic process, as tissue elasticity can be related to pathology. In general, the stiffer a tissue is the more likely it is to be linked to the development of fibrous tissue around the focal point of cancer.

Benefits of Aixplorer

- Dedicated packages for the Breast, Thyroid* and Abdomen*
- Improved lesion characterization through clarity, improved conspicuity and better delineation of normal and abnormal structures.
- Sharper borders and superior lateral and contrast resolution in different tissue densities from fatty to dense.
- Simultaneous impeccable resolution while in B-mode, Color and Power Doppler.
- Imaging in ShearWave Elastography displaying local tissue elasticity in real time.
- Reproducible results that can be tracked over time.
- User skill independence.
- Time-saving easy upgrades of software.
- Easy reporting with software-integrated BIRADS®.
- Intuitive ergonomic design for comfort and ease of use.
- DICOM compatibility.

**Available for delivery December 2009*