

Advanced ultrasound imaging: user experience makes the difference

Low in cost and high in diagnostic value with applications that cover nearly every tissue in the human body, medical ultrasound has become one of the most popular imaging exams worldwide - and not just among healthcare professionals. Its popularity is likely to grow in coming years as practitioners look for ways to reduce costs while improving quality of care. The clinical and cost-saving potential of ultrasound might be better realized if the systems were more efficient and easier to use. Even though the clinical capability of ultrasound has increased remarkably over the last decade and a half, the operational aspects of ultrasound scanners have failed to keep pace with technological advances. Their computing architecture remains based on central processing units. Consoles are still relying on knobs, pods and trackballs. As a new entrant in the ultrasound arena, Carestream was free to seek higher value from leading edge technologies, building a computer architecture based on graphics processors, a touch screen and mechanical innovations that let the sonographer choose the best position for performing exams. International Hospital talked to Fabrizio Benigni about the CARESTREAM Touch Ultrasound System unveiled at RSNA 2014 and ECR this year.



Born in Rome, Italy, Fabrizio Benigni holds a degree in Mechanical and Biomedical Engineering. He started his career in sales with a company active in the orthopedic as well as shock wave therapy areas and moved on to GE Healthcare, first as Ultrasound Application Specialist, then as Product Manager, EMEA region and finally in a Sales & Marketing Management position, leading an international team. He is currently Europe Business Manager, Ultrasound with Carestream Health.

Q. Why has Carestream entered the ultrasound business at this time?

Carestream investigated this market and found many unmet customer needs where we believe we have an opportunity to make things better. The radiology ultrasound market is growing as more imaging is shifting to the non-radiation modality of ultrasound. Carestream can innovate in this space and it represents an opportunity for growth and expansion of our business while utilizing our

sales and service infrastructure that we currently have in place.

Q. What segments will Carestream be addressing?

Carestream will initially be entering the premium general imaging/radiology market. The product will be used in the Radiology department. Thus it was designed with a small footprint and advanced solutions from an ergonomic and workflow point of view so that it can easily be transported to image

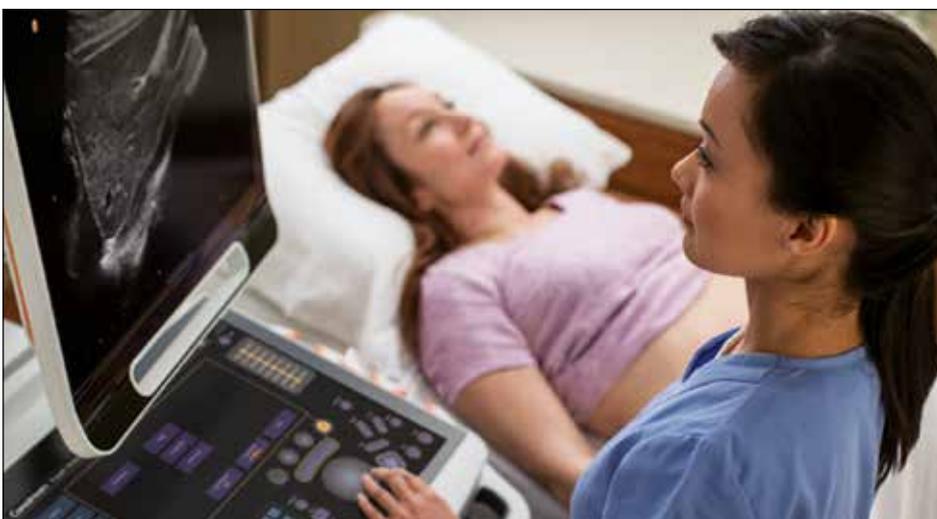
patients in other areas such as the ICU, NICU, Emergency Department, Operating Room, and Labour & Delivery. Last but not least, its imaging capabilities and wide range of probes will make the difference in a wider number of applications.

Q. What is the current product range and what are the intentions moving forward?

This is the first in a family of ultrasound products built with the same innovative architecture and differentiated by imaging performance and specific software features. The first product will compete in the premium tier and future releases will include mid and value tier offerings

Q. What are the significant differentiating features of the Carestream products vs the offering of other vendors?

One of the unique product features is the All-Touch control panel. The panel provides familiarity to the user with etched-patterned primary controls that provide tactile feedback but also has the flexibility of configurable secondary controls. Its sealed, flat surface is easy to clean and the configurable controls allows for easy upgrading to the latest features and functionality.



The CARESTREAM Touch Ultrasound System has a fully articulated control panel that swivels for optimal positioning of the system with respect to the position of the user.

There are a number of additional user features that set it apart from the competitors including:

- High-level computing power providing both speed and excellent image quality;
- Easy manoeuvrability and a small, lightweight footprint making the imaging process faster and easier;
- The “Swipe and go” badge log-on which saves time and promotes secure access;
- The “Smart connect” transducer technology that enables easy one-touch selection of the desired transducer;
- Cold boot time of an unprecedented 18 seconds to further enhance productivity, with no need for standby mode or battery backup; and
- Easy cart adjustments to allow sonographers to position the system where it is most comfortable to help reduce repetitive stress injuries.

Q. Can you tell us a bit about how the product was designed?

First of all by applying Voice of Customer to create a smarter solution; then the design process had the benefit of utilizing the best-in-class strategic suppliers. Because Carestream is new to the market and unhindered by legacy products, we chose to work with a combination of best-in-class suppliers, state-of-the-art technology and our own design innovation team to enable us to get to the market very quickly with a unique product that addresses the unmet needs of ultrasound professionals.

Q. What are Carestream’s mid term sales objectives for this new product line?

The initial primary markets will be the United States and Canada and Europe. We will expand to other regions soon.



CARESTREAM Touch Prime Ultrasound System and CARESTREAM Touch Prime XE Ultrasound System have both received FDA 510 (k) clearance and are now available in the US. These two premium systems are intended for general diagnostic ultrasound imaging within radiology.

CARESTREAM Touch Prime XE is the company’s flagship ultrasound product. It uses Carestream’s groundbreaking Touch Prime Syntek architecture to provide

enhanced resolution and increase the number of frames per second to better show moving structures whilst it optimizes image output with less noise and fewer artifacts. Improvements in imaging and Doppler provide a stable display of subtle contrast differences in tissue and can improve the ability to see small structures. CARESTREAM Touch Prime XE has the capacity to achieve frame rates of over 100Hz whilst maintaining image quality and functionality, as DICOM, wireless connectivity, barcode and card readers and elastography can all be selected within the system.

Both Touch Prime and Touch Prime XE have a sealed all-touch control panel that combines the speed and flexibility of a touch screen with the tactile feel of a traditional keyboard. Etched markings for the main keys allow the user to easily find them without looking away from the monitor. Both systems are easy to adapt ergonomically to individual users, thereby helping to reduce the risk of repetitive strain injuries.

Shipping is expected to begin in the fourth quarter of 2015 for both systems.