



MAGNETOM ESSENZA rolls through the front door at Battlefield Imaging to expand imaging capabilities

Case Study

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"The MAGNETOM® ESSENZA enables us to do same-day or next-day diagnosis without having to compromise image quality — and the equipment is still affordable," says Barbara Marshall, RT, administrative director of Battlefield Imaging, Ringgold, GA. "That's extremely important in today's market."

A freestanding, American College of Radiology (ACR) accredited imaging center, Battlefield Imaging was the first all-digital imaging center in the North Georgia area, and has been recognized by Outpatient Care Technology as the 2007 Imaging Center of Excellence. The center was formed in 2004 as a joint venture between Hutcheson Medical Center, a 300-bed healthcare system, and Diagnostic Radiology Consultants, a private practice radiology group that works with Hutcheson Medical Center to provide leading imaging services to area residents.

A Financially Viable Solution

Like many diagnostic imaging centers and community hospitals, Battlefield Imaging faces decreasing reimbursements, which can make the operational decision to invest in new equipment particularly difficult. Yet, Battlefield's key stakeholders knew they needed to address patient overflow and other business needs. "From a business standpoint, we were very much in need of another magnet that could help us with our oncology backlog," says Marshall. "But we had to have a solution that would be financially viable for us and for the longevity of the center itself. The MAGNETOM ESSENZA met all the requirements."

John Nelson, MD, medical director of Battlefield Imaging agrees. "The biggest advantage of the MAGNETOM ESSENZA is that we were able to install a system at a reduced cost and still provide the same high quality to our physicians," he says. In fact, Andrew Kreek, MD, neuroradiologist at Battlefield Imaging, has been very impressed with the image quality. "I was very skeptical when I first heard about the magnet but the image quality is surprisingly good," he says. "The quality I've seen so far is equivalent to our other 1.5 Tesla magnet. There's been no compromise in quality."

Not only will the image quality be consistent, but it will also be delivered faster thanks to the additional MR unit. "We have been very focused on offering same-day or next-day service, especially for our oncology patients," says Marshall. "But with our current magnet, we were two to three days out before we could give the diagnosis to the oncologist. The MAGNETOM ESSENZA has afforded us the opportunity to offer same-day service for many of these patients, which means they can be treated in a timely manner."



Barbara Marshall, RT, Director,
Battlefield Imaging, Ringgold, GA USA

Leading Technology and a Wide Range of Clinical Applications

Designed to provide the power of 1.5T but at a low total cost of ownership, the MAGNETOM ESSENZA delivers innovative technology and a wide range of clinical applications—all to help increase patient throughput, which ultimately correlates to an improved bottom line.

The MAGNETOM ESSENZA features Tim™ (Total imaging matrix) technology, which combines up to four different coils, making patient and coil repositioning virtually unnecessary. Tim also enables parallel imaging for reduced acquisition times. And, the IsoCenter Matrix coil is permanently positioned at the isocenter of the magnet and therefore always in position and ready to scan.

For areas that are difficult to image, a Focus Shoulder Array is available for the MAGNETOM ESSENZA. This technology brings off-center images into focus and enables pristine image quality, leading to improved diagnostic confidence.

“There were some innovations included with the magnet that we were not expecting, such as the off-center imaging. We actually have better fat saturation with the shoulder coil. And, we usually don’t have to reposition the patient or the coil, which saves us additional time,” says Dr. Kreek. “The biggest benefit for us is that we can keep our lead time fairly short, which puts us in a very competitive position. And, we’re able to do that at a price point that is advantageous for us.”

The MAGNETOM ESSENZA also offers head-to-toe applications including neurology, orthopedics, body, angiography, cardiology, breast, oncology, and pediatric imaging.



MAGNETOM ESSENZA in place at Battlefield Imaging

“The core of our business is musculoskeletal, neuro, and abdominal imaging,” says Lawrence Samuels, MD, a Battlefield Imaging radiologist. “With its new, innovative sequences, the system provides great images for those core areas.”

“We can do virtually any study on the MAGNETOM ESSENZA,” agrees Dr. Nelson. “It’s really given our staff the flexibility to meet any need at any time.”



**John F. Nelson, MD, Medical Director,
Battlefield Imaging, Ringgold, GA USA**

Inexpensive to Site & Install

"We had an 18 x 20-foot room we wanted to use for the unit," says Marshall. "When they told me that the unit would be rolled in through our hallways, I really doubted that. Normally for any magnet, you have to remove a ceiling or a wall in order to swing in the magnet. I just thought there was no way they could make that happen. But, in fact, they actually rolled the unit right down our six-foot hallway, through the glass doors, and into the room. It was incredible. Just incredible."

In addition to its small footprint, the system can often be set up fairly quickly. "Our installation process was incredibly fast. The entire project from initial planning, room renovations, and delivery of the system took about six weeks, which is the fastest I've ever heard of," says Dr. Nelson. "And, we did it at a minimal cost and without disrupting the workflow in our existing facility." Contributing to the ease of installation, the system's magnet weighs just 3.5 tons and has an ultra-short bore length of 145 cm. In fact, the minimum opening required to deliver the magnet is 59 inches long by 90 inches wide and 85 inches high*.

Once installed, the system is engineered to perform at an optimal operating cost, which could save facilities as much as 50 percent on their Magnetic Resonance (MR) energy bills, compared to older systems. The lower power requirements are achieved thanks, in part, to the reduced electrical load the system requires. Other 1.5T MRI systems may require up to 110 KVA electrical power while the MAGNETOM ESSENZA operates at just 45 KVA.

And, the unit's innovative cooling system also reduces AC load and associated costs. Unlike many other 1.5T systems with standalone chillers, much of the MAGNETOM ESSENZA's chiller is integrated into the system. The advanced design further helps to ensure maximum uptime with a state-of-the-art zero helium boil-off magnet. This makes the entire system easier to site and connect, and saves cooling costs.



The MAGNETOM ESSENZA control room at Battlefield Imaging.

Partnering to Create Solutions

The installation's completion, however, did not mark the end of the relationship between Battlefield and Siemens. "The one thing I can say about Siemens is that they don't just install and leave," says Marshall. "The support system all the way through the applications and protocols has been incredible. They are on a true journey with us to make sure our image quality is the best it can be."

"Siemens has been a business partner for us," agrees Dr. Kreek. "We see the sales staff as really offering us solutions as opposed to trying to sell us a product. That's probably been one of the most valuable parts of working with Siemens."

Battlefield Imaging was the first site in the US to install a MAGNETOM ESSENZA. Its key stakeholders have been so impressed with the system that they are purchasing a second one to replace another unit that they had not originally intended to replace. "We can erase the patient backlog that we've had with a minimal increase in our monthly budget," says Dr. Samuels. "It's been an excellent decision."

* Typical opening required for MAGNETOM ESSENZA Delivery is 65in x 101in x 101in and maybe reduced to 59in x 90in x 85in upon Siemens project management review.

An Unprecedented Installation

Battlefield Imaging is situated in a three-story building and the MAGNETOM ESSENZA was sited to be installed on the first floor, below medical offices. This meant that removing the roof to lower the unit into its designated space was not an option. Similarly, the outer wall that the room was situated against could not be deconstructed because of a vertical beam that could not be removed.

These conditions would likely have been significant obstacles—and required additional costs—for a standard 1.5T magnet. Yet, the MAGNETOM ESSENZA’s unique siting requirements made installation at Battlefield Imaging not only possible but also cost effective. In fact, the Siemens project manager evaluated the site and was confident that the MAGNETOM ESSENZA could be brought in through the front door and literally rolled down the hallway to its permanent location.

Although demanding, the installation of the MAGNETOM ESSENZA at Battlefield Imaging demonstrates the compact, easy-to-site nature of the system. The system’s magnet weighs just 3.5 tons and has an ultra-short bore length of 145 cm. In fact, the minimum opening required to deliver the magnet is 59 inches long by 90 inches wide and 85 inches high.*



MAGNETOM ESSENZA delivered through the front doors at Battlefield Imaging.

The entire delivery—from the time the system arrived onsite until it was in place—took just six hours. Throughout the delivery, Battlefield Imaging’s staff was able to continue to work uninterrupted and without any significant inconvenience. The fast installation and lack of deconstruction saved Battlefield Imaging considerable costs that may have otherwise been incurred with other 1.5T systems.

“Anyone who has ever had a magnet installed knows how incredible our installation was,” says Barbara Marshall, RT, director of Battlefield Imaging. “It was awesome that they could roll that huge piece of equipment down our hallway.”

* Typical opening required for MAGNETOM ESSENZA Delivery is 65in x 101in x 101in and maybe reduced to 59in x 90in x 85in upon Siemens project management review.

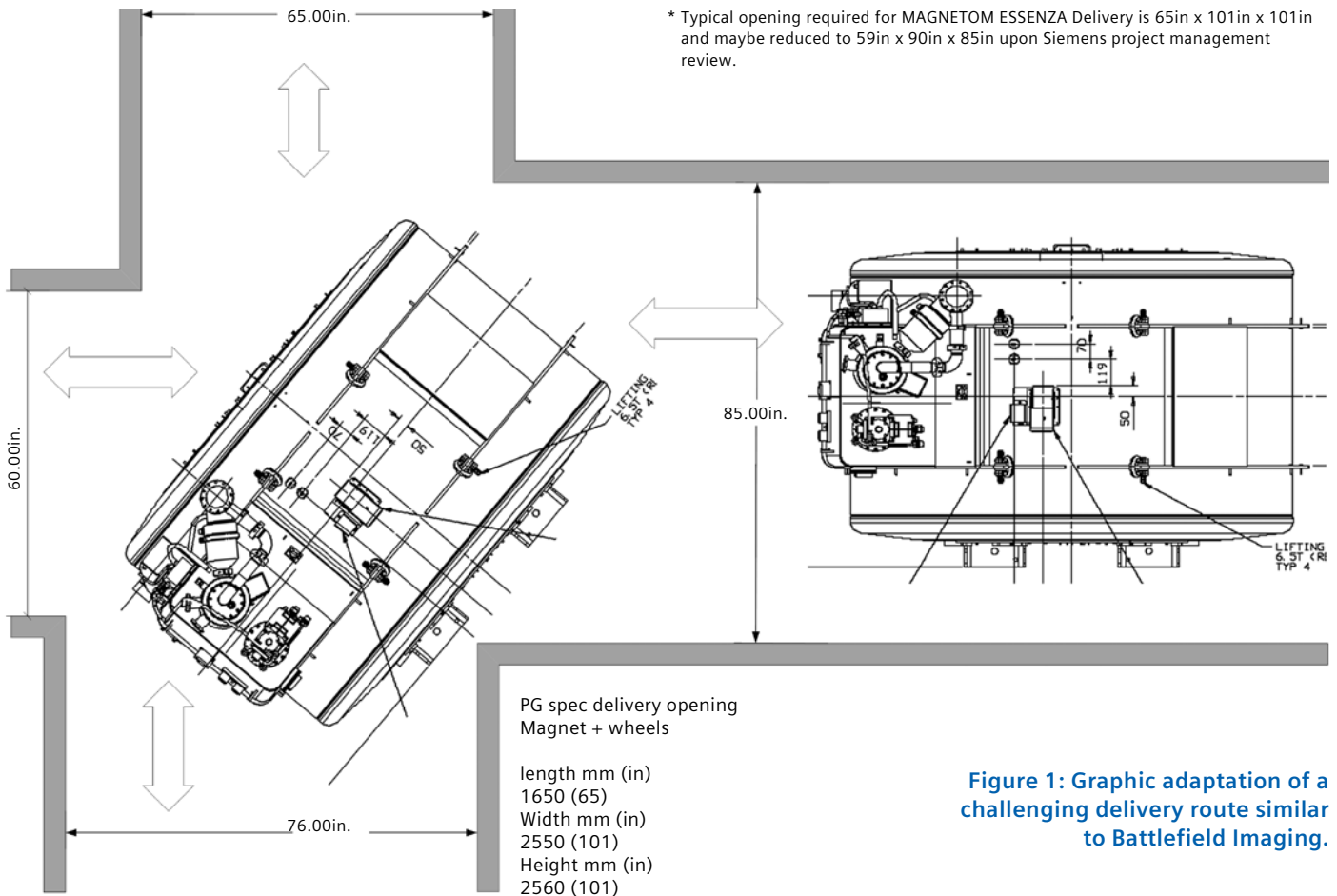


Figure 1: Graphic adaptation of a challenging delivery route similar to Battlefield Imaging.

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