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Cover Story

Pandemic Prevention Strategies

MROpen EVO System - The Next Generation in Positional MR Imaging

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ASG Superconductors is an Italian company specialising in superconductive magnets design and in manufacturing innovative superconducting wire (MgB2) and MRI systems. HealthManagement.org spoke to Marco Belardinelli, the Business Unit Director of the MRI Division at ASG, with a special focus on the technology and market development of the MROpen EVO, the "best MRI experience" system based on unique superconducting technology and other innovative applications.

Can you tell us something about the MROpen EVO MgB2 MRI Scanner?

The MROpen EVO system is the next generation in positional MR imaging. The MROpen EVO is the world's only superconducting, cryogen-free MRI system, offering high-quality imaging, a small carbon footprint and all of the functionality of a truly positional MRI system. The wide open design of the MROpen EVO is extremely patient-friendly, greatly reducing claustrophobia and offering the patient high-quality diagnostic images in a comfortable scanning environment.

ASG Superconductors has been offering an MgB2 MRI system for several years. Is the new product an upgrade over the last one?

It definitely is. The MROpen EVO is powered by a brand new digital spectrometer and a new software interface completely designed and developed in-house from start to finish. We released new coils and positioning tools to increase efficiency and to better stabilise the patient while being scanned in an upright and weight-bearing position. We also developed new pulse sequences to complete the offering for the end-user.

The MROpen EVO MRI Scanner uses cryogen-free technology. Can you please explain how that works?

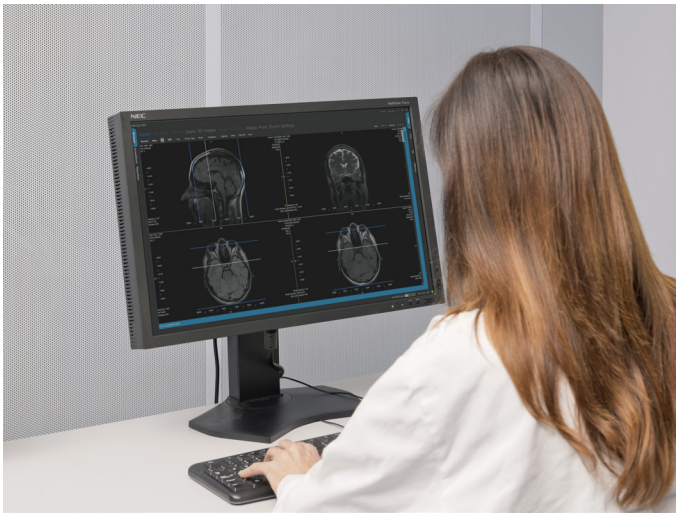
Superconductivity is a wonderful property. It allows an enormous amount of current density, i.e. the strong magnetic field required by MRI clinical scanners, but unfortunately, it comes at a cost. Superconductivity needs insanely low temperatures. Conventionally closed MRI scanners work at around 4K, (approx. -270°C or -450°F) thanks to a bath of cryogen liquid helium. In other words, conventional scanners use a bath of boiling helium to keep the magnet cool. But helium isn't a renewable element, and nowadays, it is not only hard to find it but also very expensive. Those who are waiting for a helium refill following a so-called "magnet quenching" know what I am talking about. We at ASG have a different approach. Thanks to MgB2, our own technology, we can have superconductivity at a higher temperature. Still very low, but high enough to allow the use of a closed gas cooling system making the MROpen EVO the only cryogen-free and superconductive open MRI Scanner available in the market.

How is this scanner different from other products in the market?

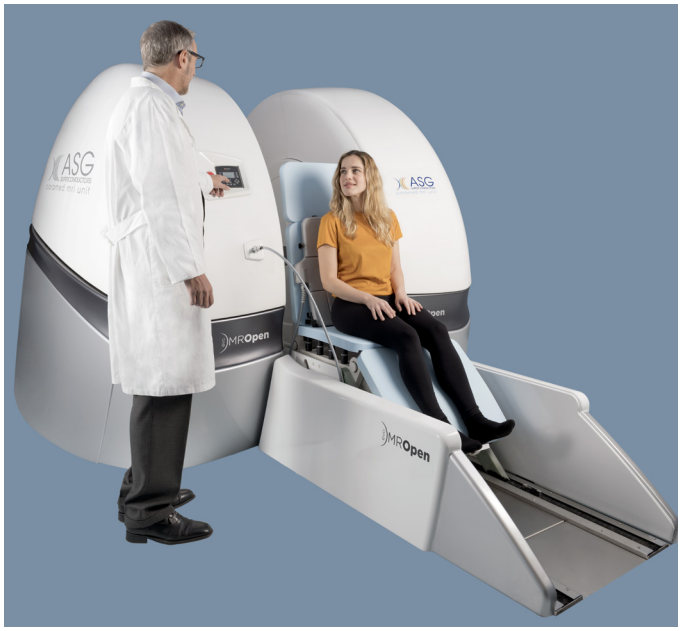
MROpen EVO provides exceptional patient comfort, delivering a light MRI examination in a relaxing and reassuring environment. You can walk into the scanner, and you can sit, lie slightly backward, lie horizontally or even stand. With no barrier between the patient and the surrounding environment, patients can see around them at all times or enjoy watching TV while comfortably sitting in the scanner undergoing an MRI procedure. All this simply can't happen in conventional closed MRIs or even in "traditionally open" (C-shaped) systems.

Who is the product designed for, i.e. who is the main target market for the scanner?

The MROpen EVO is designed for the patients and to offer them the best MRI experience along with the opportunity to have a more accurate diagnosis when upright and/or



Operator Console - MR-GUI Pro acquisition software



MROpen Evo – The upright cryogen-free superconductive MR scanner

weight-bearing examinations are necessary. To this extent, the imaging centers offering our solution can deliver a better and more appealing service to their patients, and the radiologist can benefit from the additional information coming from scans performed in non-traditional ways. In fact, being able to scan a patient in the position of symptom makes a big difference.

Is there any data or feedback on patient experience with the product? What has been the response from centres that have installed the scanner?

The best answer to this question would come from the patients and from the centers themselves. Countless times our customers have seen patients showing up at their doors because they couldn't complete a scan anywhere else because of their specific condition or because of claustrophobia, and we take huge pride in knowing we are giving them an option. The MROpen EVO installation and customer base are growing and what's interesting is that several of our customers decided to install the MROpen in more than one of their centres: either as a stand-alone solution or as a complimentary one combined with traditional scanners.

What would you say are the primary clinical advantages of the MROpen EVO Scanner?

The primary clinical advantage would definitely be the possibility of scanning the patient in the position of symptoms and compare the results with a regular supine examination. Over the years, we have witnessed many diagnoses changing when putting the patient in an upright or weight-bearing position compared to the standard MRI. Not to mention the many cases in which the wideness of the MROpen EVO made it the only system where certain patients could undertake an MRI because of their condition. Misdiagnosis not only provides bad service to the patient, and this alone should be enough, but it also increases the overall costs of the health system considering all the additional exams and procedures the patient will have to ultimately go through.

How can imaging centres benefit from using the MROpen EVO Scanner?

The first way is by offering a service almost nobody else offers and by giving the patients the opportunity to undergo a stress-free MRI exam. MRI equipment has become a commodity. Almost all imaging centres today use different versions of the same technology, and it is difficult for them to differentiate their offering to the patients. The MROpen EVO not only gives the opportunity to stand out from the competition, but it also does so by making the overall MRI experience way better for the patient and by giving the radiologist a new set of information that you can only access when the patient is scanned in a non-supine position.

Anything else you would like to add?

We are constantly working to improve the MROpen EVO in order to make the best MRI experience even better. AI integration and technological advancements are only two of the aspects we are working on. Finally, since customers and patient awareness is crucial, we are investing in communicating the MROpen EVO uniqueness to all of our targets: radiologists, MRI centres, patients and the research world in a new way, at least for us. The next step is a brand new product website, it will go live in October, and it will be the next step in our new digital communication. ■

Website: www.mropenevo.com