

IN-CONVERSATION

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What is the feedback from the users thus far? Has this already been put on trial? If so, what are the results?

SwiftMR has received green light from the Korea Ministry of Food and Drug Safety (MFDS) and the US FDA in 2021. Since its official launch in Korea in Q4 2021, SwiftMR has processed more than 130,000 MRI exams in total and handles on average 30,000 exams monthly with zero down-time to date. In Korea market, SwiftMR's conversion rate stands at 68% and retention rate at a 100%.

We witness radiologists and MR techs who used to doubt anything to do with artificial intelligence turn into believers of technology. The users are especially impressed when outputs from decade old MRI scanners are reconstructed back to high quality in under 2 minutes while preserving all the clinically important details. The exact wordings are "SwiftMR equals to buying a new MRI scanner". Users are also satisfied with the usability of the product where next to no change is required to the existing workflow. The software is integrated into the internal hospital network in connection to the MRI scanner and PACS (Picture Archiving and Communication System), and image processing is carried out automatically once the scan is complete on the MRI.

SwiftMR uses AI-powered software to reduce MRI scan and wait time. AIRS Medical showcased their SwiftMR for the first time at MEDICAL FAIR ASIA 2022. Here we talk to Hyeseong Lee, Chief Executive Officer of AIRS Medical Inc.

Could you describe the latest healthcare tech from AIRS MEDICAL?

SwiftMR is deep-learning based MRI reconstruction software that reduces MRI scan times by up to 50% without compromising image quality. When MRI scans are made at shorter scan times, the resulting output image is of low-quality. This gap in image quality would be made up for during post-processing through SwiftMR. This product is built upon AIRS Medical's unparalleled deep learning technology in MR image reconstruction, which was demonstrated through global challenges. AIRS Medical topped 'fastMRI Challenge' hosted by Facebook AI Research (FAIR) and NYU Langone Health in 2019 and 2020 consecutively, scoring the best in all tracks.

Until a few years back, technology advancement in the field of MRI had been very much dependent on hardware, as in magnets and coils. With the advent of deep-learning, bible-like equations between hardware, scan time and image quality are all being decoupled. We build on top of the latest technology and take it beyond what conventional MRI can provide.

What are some of the benefits for the patient/user? An MRI exam can take as long as 90 minutes causing extreme discomfort for patients with claustrophobia or movement disorder, requiring sedation at times. Also, due to limited availability, the patient would need to book at least a month ahead of time for exams at tertiary hospitals. When scan times are cut in half, this would immediately enhance patient experience in and out of the scanner. Healthcare providers on the other hand would be able to better utilize the expensive asset as more patients can be scanned in the same hour and achieve an increase in revenue. If the institution does not have a pressing need to handle high volume, the same software can be utilized to enhance the image quality even further at current scan time. Whether it be for scan time reduction or image quality improvement, this virtual software solution can upgrade the whole fleet of MRIs at one go. In the long run, AIRS Medical believes that high-quality medical service including MRI exams ought to become more accessible and affordable to serve a broader community.

What inspired AIRS MEDICAL to come up with this technology?

A couple of years back, one of the co-founders of AIRS Medical had to rush his mother to the hospital. She had to take an MRI exam, but she could only do so after waiting 30 minutes in the corridor. When she finally got in, she had a hard time in the narrow, noisy scanner for another 30 minutes. The whole family felt helpless, waiting. Fortunately, she has recovered, but she now

needs to take routine check-up scans that she needs to book at least a month ahead of time. This 'waiting time' is not a problem just for this family, but it impacts up to 90 million patients worldwide. It translates to maximum 45 billion dollars of annual revenue forgone for healthcare providers globally. The cofounders thought this was a meaningful problem to solve.

So, what do you think is in store for the future of this technology?

SwiftMR is gaining reputation as a disruptive technology that is innovating a hardware-oriented industry by offering an equivalent software solution. This change is monumental as it will enable not only affluent countries but countries less invested in healthcare infrastructure to elevate the level of medical service through good use of technology. We strive to make this technology universal – meaning that the deep-learning module can overcome any differences in race, gender, age, geography. This will be proven through customer satisfaction and install base numbers as we expand into global markets including Southeast Asia and Latin America over the coming quarters.

AIRS Medical aims to introduce consecutive diagnostic test solutions that innovate the cost structure of the medical field based on exceptional technology and clinical expertise. We believe we can transform the healthcare ecosystem by solving its current analogue-dependency with self-learning data-driven medicine.
