



# The University of Aberdeen celebrates its heritage in MRI

40th anniversary of world's first clinical MRI scan carried out at the University of Aberdeen



Dr Gordon Waiter, Director of the Aberdeen Biomedical Imaging Centre and Senior Lecturer at the University of Aberdeen, explains: *"A key factor in that success was the development of the 'spin warp' technique by Aberdeen scientists that allowed the whole body to be scanned in a much shorter time, without significant artifacts, thus enabling normal and diseased human tissues to be usefully imaged for the first time. 'Spin warp' is still the standard method of forming images and is used worldwide by all scanner manufacturers and hospitals today."*

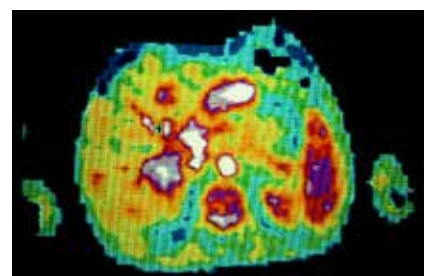
The University of Aberdeen has played an important role in the development of magnetic resonance imaging (MRI) going back forty years when the Department of Biomedical Physics and Bioengineering became the first in the world to conduct a clinical trial of MRI. The first patient was scanned on the August 28th, 1980 and following its successful outcome, the world's first diagnostic MRI service was introduced at Aberdeen Royal Infirmary in 1981.

Professor John Mallard who, in 1965, took up the new post of Professor of Medical Physics at the University of Aberdeen, was one of the pioneers in the development of MRI. In the early 1970s, he designed and built a prototype MRI scanner together with his team. In 1975 this was successfully used to scan a dead mouse, the first time that 'pathology' had been imaged by MRI.

In 2001, in acknowledgement of the pre-eminence of the University of Aberdeen in the field of medical MRI for over thirty years, the University was recognized with 'The Award of the Queen's Anniversary Prize'. The citation stated that "during this time the Department of Biomedical Physics and Bioengineering has been responsible for a number of significant developments that have had a major impact on medical diagnostic imaging worldwide."



Mark 1 scanner



First patient scan



Philips Achieva 3.0T MRI

“ Our decision in 2007 to select the Philips scanner was based on three main themes: access to cutting edge technology; access to Philips’ clinical applications team and the excellent service support provided by Philips.”

The University of Aberdeen remained in the forefront of research. In 1992, Grampian Health Board installed its first commercial clinical scanner to serve the patients of the northeast, with the University continuing clinical research on this system. In 2000, the University installed its first research focused commercial scanner in a purpose-built facility. This was replaced in 2007 with a Philips Achieva 3.0T MRI.

Dr Waiter explains: “The location of the Philips MRI system within Aberdeen Royal Infirmary means it is used by many different clinical research groups. The system is also available to NHS Grampian for advanced imaging that they might not necessarily be able to do on their 1.5T systems.”

Research at the Aberdeen Biomedical Imaging Centre, created when the Academic Department of Radiology and the Department of Biomedical Physics and Bioengineering joined forces, covers a wide range of areas, including neuro imaging with areas such as dementia, aging, fatigue and

brain inflammation; breast cancer and advanced cardiac imaging. 15,469 individuals have been scanned on the Philips 3T since August 2009, with 4,787 specifically for research, in 107 different research studies. In collaboration with NHS Grampian the University of Aberdeen has celebrated its 40th year anniversary of MRI research and development with a comprehensive upgrade to its Philips 3.0T scanner, including the acquisition of new technology and a new service solution.

Dr Waiter comments, “Our close connections with Philips Health Systems has provided state-of-the-art capabilities to the biomedical imaging research community at the University of Aberdeen. We are part of a worldwide network of leading researchers enabling us to access the most modern and effective imaging tools. Our decision in 2007 to select the Philips scanner was based on three main themes: access to cutting edge technology; access to Philips’ clinical applications team and the excellent service support provided by Philips.”



## Technology Maximizer

The University has invested in Philips Technology Maximizer Premium, a service solution that enables customers to maximize their investment by delivering (IT) hardware and software upgrades through their maintenance service contract, keeping the system technology state-of-the-art during the system lifecycle. Over 450 imaging systems in the UK are benefiting from Philips Technology Maximizer, with the University of Aberdeen being the first in Europe and North America to acquire the latest release of the highest level of Technology Maximizer for MRI, Technology Maximizer Premium.

### Benefits of Technology Maximizer:

- Staying clinically advanced
- Efficient use of investment
- Cost predictability
- Keeping medical imaging equipment secure and protected

Dr Waiter: "The 3T upgraded pathway with Technology Maximizer provides us with a known pathway of continuous upgrades for the next five to eight years. This fits with our philosophy of being at the cutting edge of research capabilities. It is important to us to upgrade and improve our scanner and one of the best ways we could see to do that was with Technology Maximizer. It will assist us in our forward planning, particularly in the area of cost commitment and this, coupled with the upgrades, gives us security and peace of mind."

Keeping imaging systems secure, compliant and protected from obsolescence is almost impossible if budget approval is necessary before upgrading. As every clinician and hospital leader knows, upgrades are vital to the performance and value of their systems. Performance is the key to increasing efficiency if hospitals are to take advantage of new opportunities to increase the quality of patient care.

Technology Maximizer is a software subscription and hardware refresh program that can assist keeping imaging systems in state-of-the-art condition for a full five to eight years after installation. Its structured program clinical capabilities and the performance of the equipment. For a predictable subscription

fee, the latest available software and hardware technology releases are available for a fraction of the cost of purchasing these items individually.

Dr Waiter: "From a financial perspective, it's much easier for us to budget this way, rather than trying to get one-off costs approved. The reason we chose Technology Maximizer is because we were thinking about future upgrade pathways for a predictable cost. It is an excellent way to do it. This fits with our ethos of continuing development, being at the cutting edge."

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Philips Technology Maximizer is supporting the award winning Biomedical Imaging Centre at the University of Aberdeen through continuous system upgrades, helping them to stay clinically advanced and to remain at the forefront of the latest technology.





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