

Innovative solution found to ensure continuation of interventional radiology services during major refurbishment of IR suite

First-of-its-kind modular interim interventional radiology facility

The challenge: to continue to be able to offer the full range of interventional radiology services while the existing suite was being refurbished.

The solution: an industry-leading system installed into a modular interventional radiology unit, adjacent to the hospital and the first-of-its kind in the UK.



The challenge

Lancashire Teaching Hospitals NHS Foundation Trust faced a difficult situation when the interventional radiology facility at Royal Preston Hospital was due for a major refurbishment. As the Trust's major vascular/trauma centre the dilemma for the Trust, with the possibility of the room being out of commission for six months, was how to continue to offer a vital service during refurbishment and installation of new equipment.

A solution was found via a collaboration between Philips Healthcare and Vanguard Healthcare Solutions, a leading medical infrastructure company focusing on providing modular clinical environments and support staff. Although modular units have been used for some time for cardiac cath labs, they have not been used before for vascular labs with a relocatable Azurion with FlexArm. Vanguard created a bespoke modular unit, featuring an interventional radiology system, Philips Healthcare's Azurion with FlexArm. The elements of the new modular build were created off site using modern methods of construction, before being craned into position. Vanguard also completed the enabling works, and a corridor linking the theatre to the hospital's ward 2A, and the creation of a medical gas bank and plantroom.

With Philips and Vanguard working together with the Trust, they were able to deliver a complete solution, taking into account more than just the equipment, but all elements required to enable a successful unit to provide continuation of service.

"We wanted something sleek and compact with a small footprint and we found that in the Azurion with FlexArm."

Dr Anup Mathew, Consultant Interventional Radiologist



The solution

Vanguard and Royal Preston Hospital had successfully partnered previously, so were an obvious choice for this project. Vanguard contacted Philips and with time being of the essence, everything moved quickly. Conversations started in the summer of 2020, with orders being placed early September and the system going live early December. All this was accomplished with the added complications of working within the Covid restrictions.

Without the solution provided by Vanguard the Trust would have had to reduce its services. Dr. Mathew comments, *“Our existing system needed replacing; the X-ray equipment was fifteen years old, and the room needed several improvements. One of our project managers suggested a solution, modular temporary IR facilities, but at that point the proposal was discarded. However, further along the line, it was felt to be the only solution – to employ a modular lab while upgrading the current room and at the same time undertake to deliver our normal services. If we hadn’t chosen this solution, we would have had to reduce our services. We have a hybrid theatre with the surgeons, which we could have used, but it would have meant a lot of weekend working, impacting on morale, the wards and emergency services.”*

Philips’ Azurion with FlexArm had already been selected as the replacement system for the refurbished interventional radiology suite at Preston. Dr. Mathew comments, *“I first saw a model of the Azurion with FlexArm at a LINC conference, and what impressed me most about the system was the level of manoeuvrability and flexibility in the positioning of the machine, considering the variability of procedures we carry out; we need imaging from head to toe. The other factor was the size of the system. There are good machines available, but they occupy a lot of space, whereas the Azurion with FlexArm is very compact with a small footprint.”*

“From our point of view, the Philips system offered better image quality and quicker procedures; no messing around with settings.”

Dr Anup Mathew, Consultant Interventional Radiologist

Although the unit is adjacent to the hospital, it feels like part of the hospital. Dr. Mathew says, *“It is almost seamless. You don’t feel as if you have entered a separate room – it feels like part of the hospital. The only thing with such portable solutions is that they won’t be in the middle of the hospital but attached to the side of the building or car park. Therefore, the buy-in from all involved is vital. In our case the key people involved are happy with the ‘portable’ unit and as soon as the anaesthetists worked there, they were pleasantly surprised.”*

Philips Azurion with FlexArm

The acquisition of the Azurion with FlexArm has resulted in an ergonomic set-up which benefits patients as well as staff. It means shorter procedure time for the patient, less radiation and with the FlexArm, which moves around the patient, less claustrophobic. Patients also like 'Comfort Themes', which is unique to the Azurion platform. The screensaver of dolphins is very well-received and remembered by patients on subsequent visits, making for a calmer environment.

Azurion with FlexArm is a ceiling-mounted image-guided therapy system with a 20" flat detector for a variety of procedures, from complex multi-disciplinary procedures to more simple diagnostic procedures. It is the first Azurion with FlexArm in the UK to be added to a modular unit and as such offers great potential as it can be used across a range of specialties including radiology, cardiology and neuro. This means, and this is the 'beauty' of FlexArm, it can be expanded into other disciplines; in fact, the Preston team has enquired about using it for neuro procedures, which is a move away from what was initially planned for, which was vascular.

It rotates on no less than eight axes to create virtually unlimited flexibility to perform imaging. The Azurion FlexArm's capabilities in movement allow the system to move around the patient, ensuring that access can be achieved for all staff with ease, minimising table movements and ensuring swift and safe procedures. This has been shown to reduce system positioning time by 27 percent, compared to labs with standard ceiling-mounted C-arms. FlexArm's unlimited imaging and staff positioning flexibility, as well as procedure cards and flexible workspots, create the ideal multi-purpose treatment environment to support different specialist medical teams to work in one room seamlessly.

Elaine Hewitt, lead IR (Interventional Radiology) Radiographer, commenting on the main factors influencing the decision to go for Philips' equipment says:

"When we visited an existing installation of the Azurion with FlexArm in Wales and I saw the machine in action, it was the image quality that blew me away! Also, from manoeuvrability, to touch settings at the tableside, being able to control through the FlexVision screen - the functionality is great. In addition, we are pleased with the lower dose we are achieving, and the room ergonomics are proving popular with staff. With the system in the modular unit up and running first we were able to have a useful trial run. It also meant that we learnt and could tweak a few things before going live with the permanent installation."



"It was the image quality that blew me away!"

Elaine Hewitt, Lead IR Radiographer

