

fujiXposure

fujiXposure newsletter – autumn 2010

Cottesloe Breast Imaging makes the transition to a digital environment ...and it's had a positive impact!



In January 2010, Cottesloe Breast Imaging commenced its transition to a digital environment by installing a FUJIFILM FCR Profect CS.

In early February 2010, the transition process continued with the installation of the first FUJIFILM FDR Amulet in Australia. Since that time, Cottesloe Breast Imaging has embraced the positive impact resulting from its conversion to this state-of-the-art digital system.

Cottesloe Breast Imaging Senior Radiographer/Sonographer, Jan Townsend, said after assessing other brands on the market, the Fujifilm FDR Amulet was selected because of its image quality.

"We chose to install both CR and DR systems in order to continue using our prone biopsy table and it was an easy conversion to CR with this option," Ms Townsend said.

"We also have a new analogue machine with 24 x 30cm capacity but since we wanted an 18 x 24cm DR (we use this size for most of our patients), using CR resolved this issue for screening larger breast sizes.

"With Fuji's proven track record in CR and our aim to experience a seamless conversion, we did not even consider any other CR system.

"The benefits of having CR and DR systems range from ease of use for our radiographers - due to the same work station configuration in both units - to having the same engineer and application people to service and look after us.

"...once the images are captured, we can view them virtually immediately..."

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"From an operations perspective, one of the most significant changes with the new digital environment has been how the images are now acquired and the ease with which the patient is processed.

"Once the images are captured, we can view them virtually immediately and this reduces patient waiting time in the Clinic.

"There is no longer any need for chemistry or wet processing which means we can use that area to create a larger and more environmentally friendly work space.

"Other benefits include improved workflow, enhanced image quality, the capacity to change image density and the need for fewer repeats.

"While Cottesloe Breast Imaging offers diagnostic as well as screening services, we expect to also see an increase in our daily throughput.

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Message from Peter Carmody, General Manager, FUJIFILM Medical Systems



With the increasing number of transitions to a digital environment comes a wealth of stories that profile the benefits of the experience and how it has dramatically changed each business operation.

In this edition, we provide an insight into three very different medical practices that have undergone the transition to a digital environment - Christmas Island Hospital,

Cottesloe Breast Imaging and Macarthur Cancer Therapy Centre.

As you will read in our articles, each has experienced major operational change that has transformed their business significantly.

Some common themes throughout are the benefits of the conversion process including more detailed images, seamless transition, improved workflow, fewer repeat images, reduced patient radiation dose and no more chemical handling, to name a few.

Without a doubt, the impact on each business has been transforming!

Another interesting read is our article on the FUJIFILM Medical Systems Projects Group.

A major goal of this specialist Projects Group is to provide a systemised and measurable project management process that aims to deliver meticulously planned and executed implementations to customers.

The article explains how the project management process works and how it provides customers with a satisfying, high-quality implementation experience.

As always, we hope you enjoy reading about these and other stories in our Autumn edition of *FujiXposure*.



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"One of the major advantages for patients has been the reduced radiation dose that comes with using digital imaging," she said.

Ms Townsend said staff managed the transition process smoothly with FUJIFILM Applications Specialists and Engineers on site to provide training during the install period.

"We were able to continue providing services using Dry Laser Film (FUJIFILM

DryPix 7000) throughout the transition process so there was no interruption to our workflow during the conversion period.

"The biggest adjustment for staff not familiar with working in a digital environment has been the change to viewing images on-screen rather than on film now the conversion is complete.

"We are extremely happy with our new equipment as the quality of the digital images using the FUJIFILM Digital system is without a doubt, far superior," Ms Townsend said.

Latest news on the FUJIFILM FDR Amulet

The FUJIFILM FDR Amulet 24 x 30cm system is now available in Australia. This DR mammography system is suitable for screening smaller or larger breasts on the one unit, without the need for multiple images.

The FUJIFILM FDR Amulet incorporates a patented detector utilising dual layer Amorphous Selenium, that offers low dose, high resolution (50 micron) imaging. This system is very efficient at converting x-ray information into useable image data.

The FDR Amulet will also be available for mobile applications such as Breast Screen vans and mobile screening units.

Christmas Island Hospital goes digital with its new state-of-the-art x-ray equipment



As part of its transition to a digital environment, Christmas Island Hospital has recently installed a range of state-of-the-art x-ray equipment aimed at providing improved image definition as well as a cleaner and safer work process.

The new equipment – transported to Christmas Island by ship - includes a Fujifilm FCR Profect One with CR workstation, PACS Cube CD burner and DryPix 4000 printer.

On average, Christmas Island Hospital captures approximately 450 x-ray images each month.

Christmas Island Hospital Director of Nursing & Community Health, Terry Hicks, said the new digital equipment has the capacity to accommodate any increased screening activity in the future.

“...the digital x-ray image process is about 30 - 40% faster compared with wet processing...”

“The digital x-ray image process is about 30 - 40% faster compared with wet processing – which means it is also much quicker for clients.

“There is no chemical handling for staff, no risk of spillage and contamination and the image definition is greatly improved,” Mr Hicks said.

“Having access to images that provide more detail enables us to produce a clearer diagnosis. Similarly, with digital technology we are able to enhance images further, if required.

“Once the IT hardware was installed, the transition process proved seamless during the few days of installation. Staff were able to continue with wet processing, resulting in no down time. Onsite staff training took just a couple of hours.

“Doctors and nurses can conveniently view captured images on-screen making it more efficient for staff, clients and other doctors looking to retrieve the x-rays.

“As part of Stage 1 of the digital transition, staff can now burn images to DVD to send to both the Christmas Island GP and Fremantle Hospital for reporting. In urgent cases single images can be emailed if required. This is a great improvement, as mail delivery to the mainland takes approximately one week.

“The next stage of the process – expected to be completed by June 2010 - will integrate Christmas Island into the WA Health network enabling all images to be sent via the internet for reporting,” he said.

Mr Hicks said the digital transition process has been a positive experience to date with numerous benefits for clients and staff.

“...there is no chemical handling for staff, no risk of spillage and contamination and the image definition is greatly improved...”

About Christmas Island

Christmas Island is an external territory of Australia administered by the Australian Government Attorney-General's Department. It is located in the Indian Ocean on the rim of South East Asia, 360km south of Java and 2600km North-West of Perth. The nearest point on the Australian mainland is Northwest Cape. The Island has an area of 135 square kilometres with almost two-thirds declared as National Park.

Christmas Island has a modern hospital with a fully equipped operating theatre.



Macarthur Cancer Therapy Centre installs the FCR Capsula X for treatment verification prior to patient radiotherapy

The Fujifilm FCR Capsula X installed recently at the Macarthur Cancer Therapy Centre serves a completely different purpose to how it is used in a radiology practice – in fact, the system is used specifically for treatment verification to confirm areas that need to be targeted for radiotherapy.

Located at Campbelltown Hospital in Sydney's South West, the Macarthur Cancer Therapy Centre provides a range of services including Oncology Consultative Services, Chemotherapy, Radiation Therapy, Allied Health and Support Services.

Macarthur Cancer Therapy Centre is a joint service with Liverpool Cancer Therapy Centre. The Liverpool centre installed the FCR Capsula X in 2008 and has been very pleased with the results.

According to Nicole Cusack, Assistant Director of Radiation Therapy, Macarthur Cancer Therapy Centre, there are more than 50 radiation therapy staff at the Liverpool and Macarthur Cancer Therapy Centres and they are all very enthusiastic about the new FCR Capsula X system.

"The staff rotates through both centres so the transition and training period at Macarthur Cancer Therapy only took a couple of hours as many of them had already used the system at Liverpool," Ms Cusack said.

"...the FCR Capsula X system is used specifically for treatment verification to confirm areas that need to be targeted for radiotherapy..."

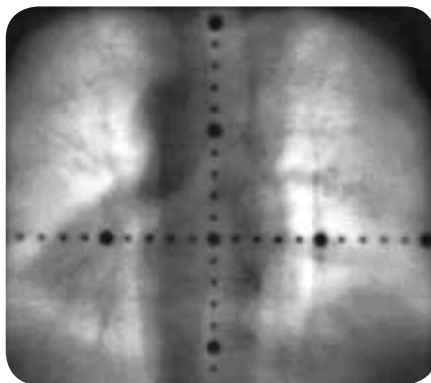


Image 1: Taken with the regular method, electronic portal imaging.

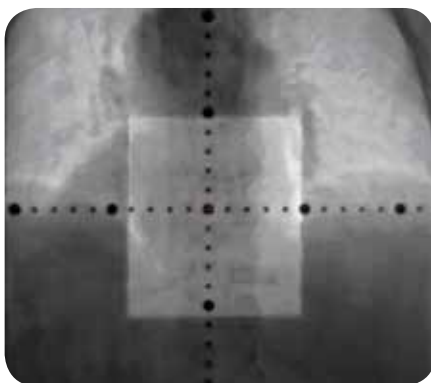


Image 2: Taken with the Fujifilm FCR system. Although of the same patient, they are of slightly different treatment areas but the comparison between the quality of the 2 systems is still clearly apparent.

"The treatment machines – linear accelerators – have electronic portal imaging (EPI) capabilities that are able to provide electronic treatment verification images. This is the primary method of image verification. However, there are instances when the images are not optimal, so the Fujifilm FCR Capsula X system is used instead which adds great improvement to the image.

"Images captured with the FCR Capsula X serve as a very clear off-line comparison when used for evaluation purposes with a Digitally Reconstructed Radiograph (DRR).

"A DRR is generated from a cancer patient's CT scan data. As part of the assessment process the DRR is then compared with an FCR Capsula X image

to verify that we will be treating the correct area.

"Prior to the installation of the Fujifilm Capsula X system, hard films were taken when EPI images were inadequate.

"Using the FCR Capsula X, we now have radiology quality images that can accommodate large palliative fields, allowing us to see the detail we require very clearly.

"There is no more processing of hard films, it is virtually maintenance free and much more environmentally friendly than wet processing.

"...the FCR Capsula X allows us to see the detail we require very clearly..."

"For the type of imaging we perform, we require special cassettes that sit under the patient. Once captured, the image is exported from the FCR Capsula X to an Oncology Information System, Multi-Access V8.3, which serves as an electronic medical record.

"Our cassettes also have extra lead and copper in them to accommodate higher powered radiation," she said.

Ms Cusack said funding for the FCR Capsula X was generously provided by the *24 Hour Fight Against Cancer Macarthur*, a fund raising organisation that dedicates 100% of every dollar raised in the Macarthur area towards initiatives such as state-of-the-art medical equipment, reference materials, education resources and many other services that are needed by family and friends in the Macarthur region who are dealing with cancer.

"The *24 Hour Fight Against Cancer Macarthur* has been instrumental in providing a lot of much needed equipment and we have always been most appreciative of their support," Ms Cusack said.

New Products Create a Buzz at RSNA 09 Fujifilm proves it's more than you imagined.

Planning for the 95th Annual Radiological Society of North America (RSNA) Scientific Assembly and Annual Meeting took a unique spin – instead of just making sure that our products and messaging were presented at the booth, a commitment to creating a complete Fujifilm experience was pursued. The entire planning team (both US and Tokyo based) dedicated itself to delivering an experience that demonstrated our remarkable depth of product offering within a fully integrated portfolio. And with the addition of a remarkable line-up of new products, visitors left the booth embracing this year's theme: "We're More Than You Imagined."

Products were strategically positioned throughout the booth to clearly demonstrate the integration capability of the portfolio and Fujifilm's versatility as a medical imaging company. The company's entire portfolio provides a product for each stage of the medical imaging process. The company's comprehensive product line allows physicians to order an exam with Synapse RIS, take the image with one of the CR, DR and FFDM Modalities and view and diagnose the Image using Synapse PACS.

Women's Health

The Mammography section of the RSNA booth was bustling with activity again this year as new products including new direct radiography (DR) and computed radiography (CR) systems along with new workstations and future technologies were highlighted throughout the week.

Fujifilm generated buzz with the introduction of its first DR Full Field Digital Mammography (FFDM) system. Known as the FDR AMULET™ (Aspire HD in the US), this new system provides the world's best resolution for FFDM and delivers exceptional image quality that provides facilities with the confidence they need for the detailed visualisation that's required in mammography.

As the first company to receive FDA approval for a CR based system in the US, Fujifilm continued to demonstrate its leadership in CR FFDM by introducing several improvements to this technology. The second generation FCR PROTECT will provide all of the same great features of the company's computed radiography (CR) FFDM solution with several enhancements and a new workstation.

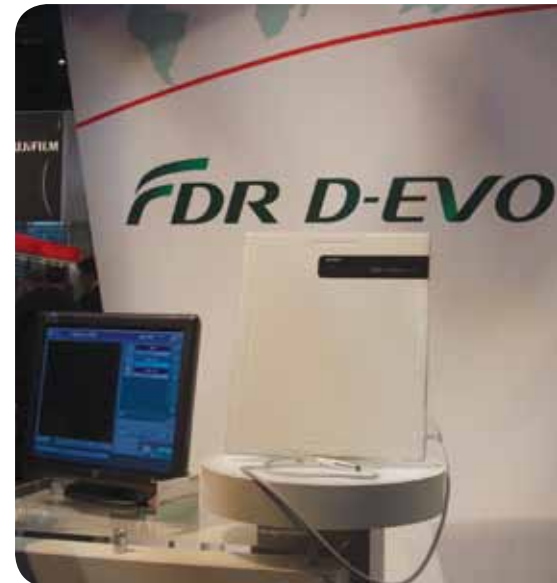
"The FDR Amulet™ is a testament of Fujifilm's commitment to women's health imaging," stated Peter Prouten, Fujifilm Australia's National Sales Manager who attended RSNA 2009. "There are over 200 FCR Protects installed in Australia for mammography and we are looking forward to the same level of success with the FDR Amulet FFDM system."

Through a strategic licencing agreement with Raytheon BBN, Stereo Digital Mammography (SDM)¹ was demonstrated in the Women's Health section of the booth. This advanced technology provides radiologists with the ability to see behind overlapping structures, with faster reading times and other related workflow efficiencies enhancements. SDM technology provides radiologists with a 3D image of a breast -similar to the way an audience views a 3D movie.

Imaging Systems

The Imaging systems division at Fujifilm Medical Systems also showcased a variety of new products this year. These products are designed to meet varying the needs and budgets of nearly any imaging environment.

The FDR D-EVO™² the latest addition to Fujifilm's impressive line-up of groundbreaking DR products was shown for the first time at RSNA. This lightweight DR cassette is designed to act as an easy transition to DR without modification to an existing imaging environment. The FDR D-EVO™ uses an innovative new technology to provide clinicians with a light weight (less than 3kg), flexible diagnostic tool and Fujifilm's renowned image quality.



"FDR D-EVO™ is a testament to Fujifilm's dedication to intelligent product evolution. Fujifilm developed a portable DR cassette-based solution that offers outstanding flexibility, speed and value without compromising image quality," says Penny Maier, Fujifilm Medical USA Director of Marketing, Imaging Systems. "The FDR D-EVO™ also offers clear advantages to radiographers with its lower weight for easier positioning and comfort, along with quick cycle times to minimise waiting."

The FDR AcSelerate® made a return to the RSNA booth this year. A "must see" among booth attendees at both RSNA '08 and RSNA'09 this automated table and upright system provides unprecedented image quality and potential for dose reduction. Visitors to the booth were impressed by the system's lightweight ergonomic design that takes much less effort to use, position and operate than traditional systems. The FDR AcSelerate® is now available in Australia.

The popular FCR Go™ continued to draw crowds at the Fujifilm booth again this year. The FCR Go™ portable digital x-ray system gives radiographers tools to maximise efficiency remotely while assuring that all imaging patients receive the highest quality care regardless of exam location.

Medical Informatics

While new products are generally the highlight of RSNA, Fujifilm Medical Systems also celebrated the tenth anniversary of Synapse® business market leadership. To commemorate this milestone Fujifilm Medical Systems USA announced the formation of its Medical Informatics Division. Formerly known as Network Systems, this new group will integrate all functions associated with the company's informatics offering and creates a platform for future growth.

Several organisational changes are part of this restructuring, which integrates the former Empiric and ProSolv Cardiovascular divisions into a single organisation.

"The establishment of the Medical Informatics business unit reflects Fujifilm's vision to integrate medical information into a common platform capable of positively impacting the entire care cycle from prevention to treatment," says Robert Cooke, Vice President and General Manager, Medical Informatics USA. "Today, we have been successful with the imaging domains we serve through our integrated Synapse offering across the disciplines of radiology and cardiovascular imaging and in the future our goal is to extend this coverage into additional healthcare domains."

Along with the development of the Medical Informatics departments, there

were several enhancements to the each area of the Synapse product line this year. New products included the introduction of Synapse® 3D, and Synapse® Cardiovascular.

With a host of brand new software and modalities, innovative imaging technologies, the launch of a new division and previews of exciting future technologies; there was certainly no shortage of exciting news from RSNA 2009. The company has proven that it is truly more that you imagined. The year ahead certainly holds promise as Fujifilm looks to continually triumph in the medical market.

¹ In development stage only. Not yet available in Australia.

² Not yet available in Australia. To be released in late 2010.

Synapse® Virtual Infrastructure.

Synapse® Virtual Infrastructure (SVI) is a new concept to describe the melding of current Synapse® software with virtualisation products from VMWare. The products include VMware vSphere and vCenter Management software.

Fujifilm offers Synapse® Virtual Infrastructure for all the Synapse® Products; RIS, PACS, Cardiovascular.

There are many advantages gained from moving towards these environments:

- Server Consolidation
- Reduced Hardware Requirements & Increased Server Utilisation
- Management of Virtual Infrastructure from a Single Point of Control
- Automation of the Virtual Infrastructure to Ensure Optimal Performance
- Reduced Power Consumption with Virtualisation, due to reduced hardware requirements
- Business Continuity
- Improved Data Protection Capabilities
- Implementation is Simple, Cost-Effective and provides a highly available system
- Ability to build a Reliable & Cost-Effective Disaster Recovery Solution

What is Virtualisation?

Virtualisation is a proven software technology that is rapidly transforming the IT landscape and fundamentally changing the way people compute. Today's powerful x86 computer hardware was originally designed to run only a single operating system and a single application, but virtualisation breaks that bond, making it possible to run multiple operating systems and multiple applications on the same computer at the same time, increasing the utilisation and flexibility of hardware.

Virtualisation is a technology that allows you to transform hardware into software.

The Terminology of SVI

Virtual Machine (VM): A software platform that, like a physical computer, runs an operating system and application. The Virtual Machine is the Server instance that runs within the physical Virtualisation server.

SVI Session: The SVI Session is a Virtual Server instance that runs within the physical VMWare Host Server. Multiple sessions can be run on physical hosts.

SVI High Availability (HA): This is the VMWare feature that allows for multiple Virtual servers to be part of a group of servers and allows for any servers to fail over to one of the other servers to ensure continued operation with minimal disruption to the end-user.

Resource Allocation: Resource allocation is the practice of assigning resources (memory) to individual Virtual machines (Sessions). Resource allocation is the process of assigning and reserving memory on the hardware to each virtual machine. Each session is allocated a portion of the RAM that resides in the server hardware.

Virtual Infrastructure Management: The management of the VM infrastructure with Virtual Center provides management, configuration and monitoring for all virtual Servers and their virtual machines.

FUJIFILM Medical Systems assigns specialist Project Management for CR, DR and Dry Laser Imager Implementations

by Tom Conway, Project Director, FUJIFILM Medical Systems Australia

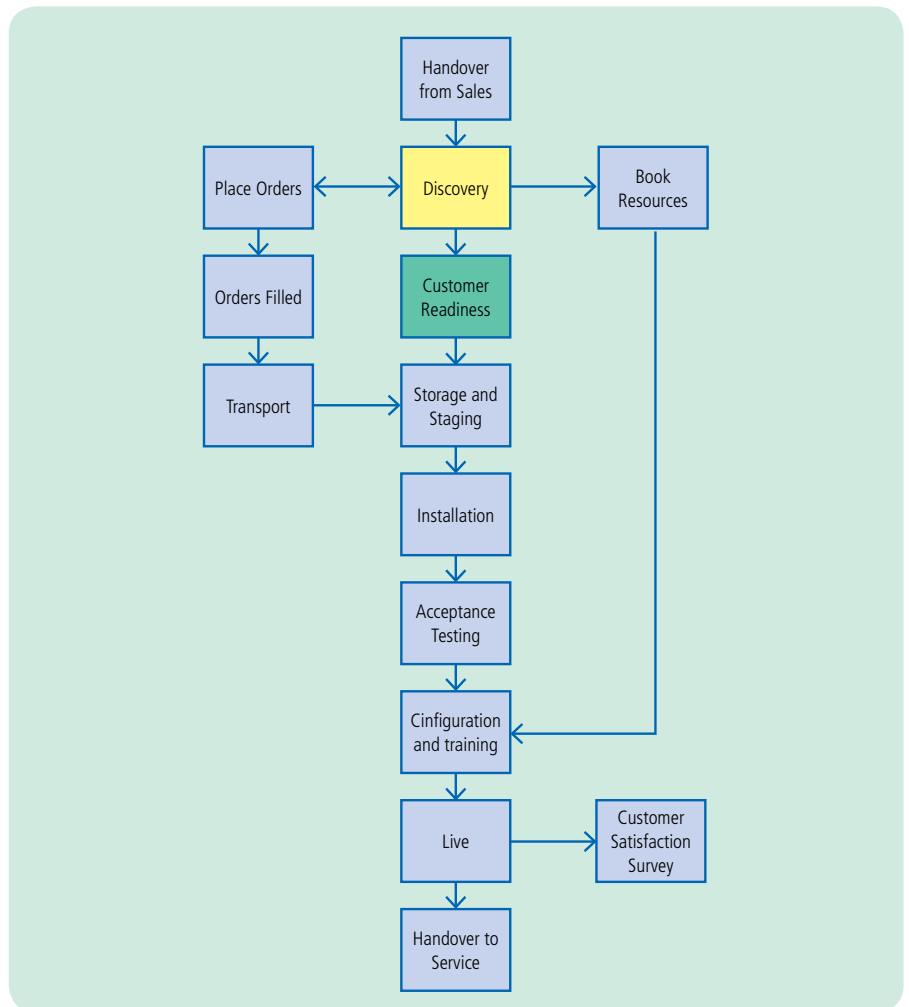
To ensure a high level of customer satisfaction, FUJIFILM Medical Systems assigns a specialist Projects Group to manage the implementation of all Computed Radiography (CR), Digital Radiography (DR) and Dry Laser Imagers (DryPix film printer).

A major goal of the FUJIFILM Medical Systems Projects Group is to provide a systemised and measurable project management process that aims to deliver meticulously planned and executed implementations to customers.

The process is scalable and executed in a uniform format, regardless of whether it is a single printer installation or a multi-site CR and printer install.

This article explains how the project management process works and how it provides customers with a satisfying, high-quality implementation experience.

The flowchart below maps out the steps in the process.



Hand over from Sales

The key account manager responsible for the sale orders the equipment and hands over the information to the project director who ensures the sales documentation is complete. The project director assigns a project manager to coordinate the initiative through to completion and hand over to the Service department.

Discovery

Discovery is the most critical part of the project. Project managers do not make assumptions regarding implementations. Each piece of customer information is sourced directly, documented and communicated back to the customer to confirm the requirements.

The project manager contacts the customer and walks them through the Discovery checklist. This checklist is designed to:

- Confirm the accuracy of the order
- Confirm the delivery address, times and instructions
- Determine storage and staging areas and all network, power, furniture requirements for staging
- Determine any customer specific requirements for asset numbering and electrical tagging
- Confirm customer has appropriate licencing to own and operate equipment
- (For DR equipment) confirm that the surroundings are environmentally suitable for the operating requirements of the X-Ray detector and generator; also arrange with customer to have an electrician scheduled
- Advise the customer of requirements for network, power and furniture for the new equipment
- Obtain from the customer configuration data such as AE Titles, IP addresses, PACS and DICOM peripherals (e.g. CD/DVD burner) connections for the new equipment
- Determine the customer's testing requirements of the new equipment and arrange with the customer to have physicist or equivalent scheduled

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- (For printer installations) advise the customer on how to complete the printer configuration matrix that specifies what tray/film type each modality is to print to
- Determine the remote access method that FUJIFILM Service staff will use to support the equipment
- Determine whether any AEC (Automatic Exposure Chamber) configuration is required on existing X-Ray generating equipment and arrange with the customer to have the equipment vendors scheduled to conduct calibration testing during installation
- Determine if the customer uses stationary grids and provide recommendations
- Advise the customer regarding appropriate scheduling of patient bookings for the proposed 'go live' to complement the training schedule
- Advise the customer as to the staff requirements for training and to determine any specific QA/QC requirements

Once the Discovery process is complete, the project manager books the required resources to perform the installation and provides them with the full project documentation.

Customer Readiness

The project manager confirms with the customer that all required customer actions identified during the Discovery process have been performed and that the installation is ready to proceed.

Storage and Staging

Equipment delivered to the customer is stored prior to installation and pre-staged where possible to reduce any downtime and inconvenience to the customer's normal operations.

Installation

Fully trained systems engineers perform the installation using a standard procedure. Equipment is calibrated using dosimeters and phantoms.

Acceptance Testing

Prior to equipment being used, a complete range of acceptance testing is performed with the customer and regulatory authorities to ensure the equipment is installed and operating and meets individual state regulatory requirements

Configuration and Training

FUJIFILM Applications trainers perform initial configuration of CR and DR equipment to enable the workflow

improvements identified in Discovery. Training is conducted on a super-user training model whereby key users are trained and tested in competency. Super-users are then able to train the rest of the customer staff.

Customer Satisfaction Survey

Post 'go live', customers are invited to complete a Customer Satisfaction Survey (CSS) to provide their objective opinion of our performance. The feedback from the CSS is used to review our processes for any potential improvement.

Hand over to Service

Installation reports are submitted to the service coordinators to register the customer's purchased equipment on the FUJIFILM Service system. Customers are provided with information regarding how to contact service support on FUJIFILM's 24-hour 1800 number. Preventative maintenance programs for the equipment are programmed in to the service system to ensure regular servicing is scheduled and performed.

Ultimately, FUJIFILM Medical Systems aims to provide a seamless digital transition that is supported by detailed planning and preparation, comprehensive customer communication and skilled implementation.

Next edition: Project Management - Synapse PACS/RIS implementations.

FUJIFILM
MEDICAL SYSTEMS

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