

John McEwan, electrical estates officer, University Hospital Ayr, shows one of the hospital's original nurse signal stations, which were replaced during the two-phase scheme



# Out with the old - in with the new

## Cost-effective, trouble-free upgrade to IP nurse call benefits patients and nursing staff at University Hospital Ayr

In a two-phase scheme, completed ahead of schedule and with minimal disruption to patient care, the nurse call system at University Hospital Ayr has been upgraded to 21st Century IP (internet protocol) technology.

John McEwan, electrical estates officer, told *Hospital Bulletin*: "The existing equipment was the original-install from when the hospital was built in the early 1990s, so it was around 20 years old and approaching the end of its life.

"We were experiencing intermittent problems and it was starting to be expensive to maintain. It was a natural progression from old to new technology. We went through the full tender process for each phase. Static Systems won the contract on both occasions. They were the most cost-effective."

In fact it was old to new in more ways than one as Static Systems supplied the hospital's original system back in the 1990s.

The chosen technology was



Static Systems' Fusion-IP Codem nurse call system, which is specifically designed for ward upgrade applications.

"The contract was for Static Systems to supply, install, commission and hand over to our staff once they were fully conversant with the equipment," explained John, "only then would they switch over power to the new system."

"Following the tender process in 2012, the first phase, which began in January 2013 and was completed by the end of March, covered seven wards. One ward was completed and handed over at a time. The second phase, which saw six further wards upgraded was completed in February 2014."

To enable the upgrades to take place a standalone mobile nurse call system was purchased. This was set up during the week before work was to commence on each ward with a "soak" period for the staff to become familiar with the system. Once this was achieved, Static Systems' installation engineers were able to request the estates team to switch off the power to the old system so they could begin its replacement.

The standalone, mobile unit went through a decontamination process for each new ward, following a protocol established by the hospital's infection prevention and control team, who instructed Static Systems' engineers in the best practice technique required.

Also, before the work could commence, a full HAI-SCRIBE assessment was carried out for each ward. HAI-SCRIBE is the acronym for "Healthcare Associated Infection System for Controlling Risk In the Built Environment", NHS Scotland's effective tool for the identification and assessment of potential hazards in the built environment and the management of these risks during construction and refurbishment work. Working through the document enables participants to identify any potential problems from the activity to be undertaken and to ensure that appropriate

precautions are taken as necessary.

The document enabled the key stakeholders for each ward to identify likely problem areas such as the impact of airflow patterns during the removal of ceiling tiles and the potential for dust. Infection prevention and control, health and safety, the departments, and contractors were all involved in the process.

The HAI-SCRIBE contractor endorsement was completed by Bob Back, Static Systems' contract manager, who project managed the two-phase scheme for University Hospital of Ayr.

High-risk patients were moved and to ensure that minimum dust was generated HEPA filtered vacuums cleaners were used during the removal of the limited number of ceiling tiles. However, the majority of the work was at the bedhead, where no dust was generated.



As the patients have protected meal times, Static Systems did not work in the wards during those periods. The project's consulting engineers set out the time scales and coordinated the schedule of work between the hospital and Static Systems.

The installation engineers also received a fire and safety induction and the infection prevention and control team gave hand hygiene instruction.

As John explained: "Three installation engineers were usually on site, together with the commissioning engineer, who trained the nursing staff in the operation of the system and our estates engineers from a maintenance point of view.

"Our engineers were trained in such things as how the power supply is set up. They will carry out run of the mill things, such as replacing any breakages, etc. We have a standard service contract with Static Systems.

"At the beginning of the first phase the installation engineers were completing the upgrade of a ward in a week," said John. "Towards the end of the phase they were able to complete two wards in a week. The original schedule of work allowed for



an installation programme of around three months, but with the installation team picking up speed as they became familiar with the wards it took a lot less.

"Paul Kelly was Static Systems' lead engineer for the first phase as he was for the second, so when that began they hit the ground running."

Each ward was commissioned before the temporary wireless system was taken out. Once the commissioning certificate was issued the wireless system was removed and decontaminated before being installed in the next ward in the contract programme. Once all the wards were upgraded the existing network cabling was re-connected to enable the original transfer



facilities to be retained.

John explained: "The upgrade included changing the nurse call unit and the mains power point at the bedhead. The previous brushed stainless steel back plate was also changed to a clean, white enamel back plate.

"Existing bathrooms did not have pull cords, so that was where Static Systems did more of a traditional installation, fitting pull cords in the shower areas and near the toilet / washbasin area. Other than that it was like-for-like throughout the 13 wards which were updated over the two phases."

In common with many hospitals in Scotland, the bedhead services at University Hospital Ayr are incorporated into a wall unit which carries the services in one half and hanging space for the patient's clothes and a drawer in the other half. The upper half of the services area houses the nurse call system and low voltage equipment, while the lower half houses 240v sockets and light switches.

Perhaps the most dramatic visual change and where the upgrade in technology is most apparent is at the wards' nurses stations. John explained: "The old-style, multi-light staff indicator unit was a large, stainless steel panel, with an indicator light for each room and a call transfer switch. It has been replaced with a discrete, touchscreen." Static Systems mounted the new, much smaller panel on a special plate to cover the area of the original staff indicator panel.

"The new system is really user-friendly," said John. "When a call is activated it tells you which room and which bed. The old system only advised which room, not which bed."

Summarising the success of the two schemes, John said: "Static Systems has delivered a good project, on time, with minimum disruption to the wards. There have been no complaints from the nursing staff, which is always a good sign."

"Importantly, in the current economic situation, the scheme was also delivered within budget and ahead of schedule. We've had a good working relationship with Static Systems and their installations engineers."

Echoing John's comments, Jacqui Hillan, charge nurse, station 1, a general surgery ward, said:

"We've eighteen

beds and one nurse station here. There were no issues, no disruption to patient care. It all went smoothly. Our upgrade took about a week. The training was good and the touchscreen is easy to use.

"The system's great. It's a benefit being able to turn down the call sound. Previously there were only two volume settings.

"The big benefit is seeing what room, what bed space, the call is coming from. You can see exactly who needs your help."

Jacqui added: "The handset is better for patients, especially for those with arthritic hands. A lot of our elderly patients who have been with us previously, and had experience of the earlier units, mention how much better the new ones are. The hand unit also has a light, like a torch, which staff find useful at night."

A new outpatients department at University Hospital Ayr also features Static Systems Fusion-

IP Codem. "It's been installed across both floors, in the dental, podiatry and renal dialysis clinic areas - 27 nurse call units in total,"

said John. "The handsets in the dialysis area also incorporate functions to control the patient TVs. The department's bedhead trunking - vertical and horizontal - was also supplied by Static Systems."

Fusion-IP Codem is part of Static Systems' Fusion-IP family of IP-based nurse call systems, complying with HTM 08:03. It uses platform independent technology, allowing the connection of past, present and future system protocols. This makes Fusion-IP one of the most advanced nurse call systems available.

Specifically designed as a ward upgrade system, Static System's Fusion-IP Codem provides modern, functional equipment using existing or new wiring.

The nurse call equipment is bus wired using Cat 5 cable. Multiple systems can be simply connected together via a LAN.

The system's nurse call facilities included as standard allow for patient-to-nurse and staff-to-staff emergency call. Additional levels of call can be incorporated for cardiac alarm, patient / disabled WC, drugs cupboard, etc. As with the original system, University Hospital Ayr chose to include call transfer, enabling patient calls to be transferred to another ward.

Fusion-IP Codem is easily expandable and ideally suited for



ward refurbishments, acute and specialist hospitals.

The patient hand units provided were designed in consultation with the Royal National Institute for the Blind (RNIB), and assessed as suitable for use by people with a range of disabilities.

In addition to basic nurse call functionality, a comprehensive range of apps is available for Static Systems' Fusion-IP systems, allowing facilities such as wireless call buttons, bed transfer, smartphone connectivity, paging and remote access to be added as required.

The tender for both phases was sent out by Hugh Laidlaw, estates manager NHS Ayrshire & Arran. The contract was managed by John McEwan, with FLN (Forbes Lesley Network) as consulting engineers.

On the new outpatient department, Static Systems was a subcontractor to M&E contractor Irvine Group, while Heron Brothers was the main contractor.

For more, call Static Systems Group on 01902 895551 or visit [www.staticsystems.co.uk](http://staticsystems.co.uk)

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