

Health Sector News

Integrated theatres 'most advanced yet'

Two new laparoscopic paediatric operating theatres at London's Chelsea and Westminster Hospital have been equipped with Karl Storz Endoscopy's latest integrated theatre system – the Karl Storz OR1 NEO.

Claimed by Karl Storz to be both the UK's most advanced integrated theatres to date, and London's only dedicated paediatric theatres, they form part of an ongoing development of the new Chelsea Children's Hospital at the healthcare facility, designed 'to provide world-class children's services', following the hospital's designation as the lead centre for specialist paediatric and neonatal surgery in North West London.

Among the OR1 NEO theatre system's features are an equipment mounting solution which ensures all the laparoscopic surgical equipment is off the ground, and can be articulated around the operating zone, eliminating cable trail and creating a safer, more ergonomic, environment, and fully adjustable coloured room lighting, for enhanced contrast of endoscopic



images and reduction of background glare and flicker to reduce eye strain among the surgical team.

Each theatre has three boom-mounted HDTV surgical viewing monitors positioned around the sterile field for optimum efficiency. An additional boom arm on the operating theatre lights provides touchscreen control of all surgical devices, and full room integration from within the sterile field, thus minimising infection risk. Integration is achieved via a Realistic User Interface (RUI), a feature 'unique' to the OR1 NEO, where a graphic image of the connected device appears on both the sterile touchscreen and the replica non-

sterile nurses' workstation. The same RUI control applies to operating theatre lights and tables, and offers the same level of integration for ancillary theatre equipment such as room lighting and blinds.

The equipment also includes Karl Storz's leading endoscopic camera platform: a 3-chip digital camera system in full HD (1080p), 'perfectly matched to the medical grade HD LCD monitors', ensuring 'crystal clear' surgical images. Cameras mounted in the operating theatre lighthoods and positioned around the room enable digital transmission to remote sites for educational and training purposes, and for capture and archiving of surgical images for medical records. Connections to the hospital network and teaching locations allow the surgical team to access patient notes and PACS images.

Simon Clarke, consultant paediatric surgeon, said: "I have been involved in the design process for our new children's hospital from the beginning, but was still in awe when I saw the new children's operating theatres for the first time."

Cover Story

Third IPiN project under way at Prince Charles Hospital

Healthcare technology specialist, The Wandsworth Group, is now part way through the third project in the phased introduction of its Ethernet-based IPiN nurse call system at Prince Charles Hospital in Merthyr Tydfil.

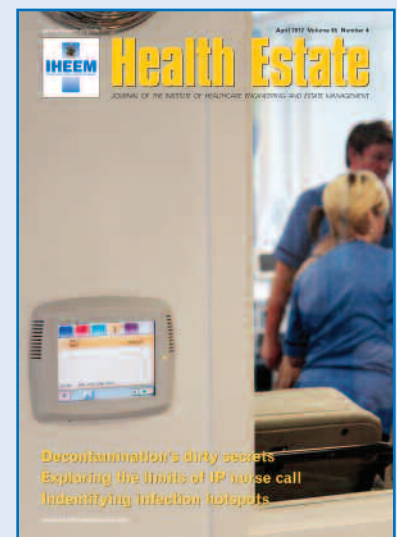
Wandsworth has been contracted to design, supply, install, and commission the system across the hospital's emergency department, day surgery unit, and 12 wards. The three departments are housed in separate buildings, and the emergency department and day surgery unit projects have already been completed. Installation of IPiN on the wards is being undertaken in phases as part of a wider five-year ward refurbishment programme which also includes upgrading of fire protection and addressing of asbestos issues.

Wandsworth is installing the system alongside its vertical bedhead trunking, which will accommodate additional

controls for any further systems that the hospital decides to install in the future. The nurse call components are being integrated with a fixed button panic attack system.

The nurse call systems for the emergency department and day surgery unit have already been networked together, a process that will also take place with each phase of the ward installation as it is completed – allowing the hospital team to manage the IPiN system and log data on the hospital network, and take advantage of the system's remote access facility.

A Prince Charles Hospital spokesman said: "The IPiN system's flexibility is a great advantage. Once staff are trained, it is easily to reconfigure should we change the use of particular space, and also offers the potential for integration with other manufacturers' equipment as the hospital's needs change."



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As regular users of the *HEJ* website



will know, the site also features 'search' facilities to enable readers to quickly find, download, and print off, copies of current or past articles of particular interest to them, a full online 'Suppliers Guide', and an 'Events diary' section listing some of the key upcoming seminars, conferences, exhibitions, and other events, likely to be of most interest and relevance to healthcare estates and engineering personnel over coming months.

Registered readers will also receive regular email newsletters incorporating further topical news and information, while eligible organisations and individuals that do not already receive a printed copy of *HEJ* will be added to the monthly circulation list.



Brandon MD, Graeme Hall (second from right), with the HERCULES project team.

€1 m funding for lighting research

Brandon Medical has won €1 million of research funding from the European Union's Seventh Framework Programme, which it will use to lead a collaborative research consortium to develop future solid state lighting technologies for healthcare buildings.

The two-year 'High Efficiency and Rendered Colour Using LED Solid State Lighting', or 'HERCULES' project, will be led by Brandon Medical's MD, Graeme Hall, and is a collaboration between Brandon and commercial partners, Spanish firm, Diseño y Tecnología del Molde CUMSA, and Italy's GRD Segnaletica Stradale di PR. Target.

Brandon says HERCULES will produce 'a step-change solution for LED-based illumination systems'. It said: "It is based on an original concept that combines the light from different LED sources to produce near perfect colour rendition, and variable colour temperatures, with high energy efficiency. It will mean fewer LEDs for the same light power output, reducing energy consumption and costs. HERCULES will provide the normal benefits of LED lighting, including instant start-up and efficient dimming, but will also allow tuneable colour rendering."

Graeme Hall will lead a research consortium including two top UK research institutions, and Bradford Teaching Hospitals NHS Foundation Trust, which will provide testing facilities for the technologies in a clinical environment. UK-based solid state lighting technology company, Sagentia, will act as lead technical organisation, working alongside TWI, a not-for-profit research and technology organisation.

Urgent call for papers for Swiss event

Ingenieur Hospital Schweiz, the Swiss hospital engineering organisation, and organiser of the event, is calling for papers by 1 May this year for the IFHE (International Federation of Hospital Engineering) Europe's 5th European Conference in Bern, which will take place in the Swiss city in 2013.

IHS says it is also aiming to establish a scientific committee made up of one

representative per member state of the Federation.

English summaries of prospective papers should be emailed to IHS, at: ihs-gs@ihs.ch, by 1 May, after which the proposals received will be evaluated during September and October, and a final programme published on 1 December, 2012. For more information, T: +41 61 733 01 28, or visit: www.ihs.ch

Tough, waterproof, antibacterial board

Sealwise WCB is a new type of 'incredibly tough, waterproof-for-life' board, which 'looks like top-of-the range melamine-faced plywood or faced MDF, but which is actually made of PVC', and can be supplied with fully integrated antibacterial properties.

The board is reportedly easy-to-install, and 'ideal' for construction of furniture for decontamination suites, sluice rooms, kitchens and wetrooms, where Sealwise says the prevailing 'tough, wet, and often hot' environments 'rapidly condemn wood and fibre-based boards to decay'.



With smooth, clean surfaces, and an expanded PVC core for lightness and rigidity, Sealwise Waterproof Construction Board should 'last indefinitely', and, in anti-bacterial form, provides 'greater than 97% effectiveness' against bacteria such as *E. coli*, *Clostridium difficile* and MRSA. Other common applications include wall cladding and partitions.

Easy to wipe down, the material can be deep-cleaned with proprietary cleaners, while its humidity and moisture resistance make it 'perfect' for surgical and decontamination environments.

Mobile theatre for Moorfields satellite site

A Vanguard-supplied mobile operating theatre and adjoining ward deployed at an outreach facility at Harrow's Northwick Park Hospital, one of the main satellite sites of London's famous Moorfields Eye Hospital, is enabling the Moorfields Eye Hospital NHS Foundation Trust to continue treating NHS ophthalmic patients while a major refurbishment project continues to turn two floors of the building into a Moorfields day surgery centre.

Initially installed at Northwick Park to help ensure a smooth patient flow and continuation of specialist services during development of service provision between 2006 and 2011, the theatre comprises a self-contained day surgery facility, complete with operating room, anaesthetic, recovery, utility, and staff changing rooms.

The Trust's service delivery manager, Ann Arnold, elaborated: "The Vanguard theatre enabled the specialist teams and consultants to deliver continued and convenient access to treatment that we



regularly carry out, without disruption to our patients. Then, in 2008, a ward unit was installed alongside the theatre, to operate in tandem for an additional three years, as a 'satellite' treatment centre while the refurbishment took place. Patients were admitted, prepared, operated on, received in recovery, and discharged, without requiring admission to the main Northwick Park facility, being treated and supported by Moorfields doctors and staff throughout. We're delighted with the delivery of the units, and the support from Vanguard's staff."

Medical gas system's 'increased functionality'

BeaconMedæ has launched 'the second generation' (Mk 2 variants) of its Medipoint medical gas alarms.

The Medipoint 26 is specifically designed to monitor departmental gas pressure of up to six gases under 'normal', 'high pressure', and 'low pressure', conditions. Incorporating a new 'repeating' facility, the system allows gas status to be monitored at a master panel, and simply replicated to multiple slave panels located elsewhere, without having to install more than one set of pressure sensors. BeaconMedæ's 'hi-lo' pressure sensors include built-in line contact monitoring, so gas pressure is constantly monitored at the pipeline.

The Medipoint 125 (pictured), meanwhile, is designed to monitor source equipment for up to five gases in five status conditions. Input cables from source equipment such as the medical air plant are connected to a 'master' panel. Subsequent 'slave' panels on the network are configured with a unique user-set panel ID to replicate conditions to multiple locations.

Other key features include:



- A '100% touch-proof' board for added user safety.
- Surface-mounted components to reduce heat and extend life.
- A Relay Interface populated with on-board relays which convert medical gas inputs into volt-free outputs, offering integration into a BEMS.
- An anti-microbial fascia.
- Adjustable volume control.
- Back-up battery supply.

BeaconMedæ says that, should additional gases be required later, they can be added 'at the flick of a switch'.

The Medipoint alarm meets the requirements of HTM02-01, and is CE marked according to the Medical Devices Directive MDD 93/42.

News in brief

Fast charge CCTV battery tubes

Developer of surveillance and security solutions, MEL Secure Systems, has introduced a range of battery tube solutions for overt and covert CCTV and ANPR applications, which can also be used for temporary radio stations and Wi-Fi networks, fully charge in four hours, and reportedly provide sufficient power to run all day. With aluminium housings, the IP65 rated-tubes come in a range of sizes, and contain lithium ion batteries with capacities from 94-188 Ah.

Patient 'app' for nurse call handset

Static Systems' Fusion-IP healthcare communication system now includes a 'simple, highly cost-effective', patient entertainment solution for hospital wards. Fusion nurse call patient hand units will now operate 'off-the-shelf' televisions using SSG's Patient Entertainment 'app', which harnesses the standard infra-red functionality on all new televisions, eliminating the need for a separate TV remote control. Patients receive Freeview television and radio at no cost, while the hospital avoids the expense of bespoke terminals, and is not tied into a contract.

Yorkon's framework agreement

Off-site construction specialist, Yorkon, has been awarded a four-year framework agreement by the Government Procurement Service for the supply of bespoke modular buildings across the public sector, including to the healthcare sector. Simon Ambler, director at Yorkon, said: "Our appointment follows a rigorous independent assessment of our off-site building system and services, as well as assurance of supply, our quality management procedures, regulatory compliance, commitment to innovation, and costs."

Sustainability Institute launched

A centre that will promote environmental improvements and undertake research into reducing the impact of the built environment was officially launched on 29 March by Leeds Metropolitan University. The Leeds Sustainability Institute will 'tackle the challenges of creating more sustainable places, communities, and economies'. Institute director, Professor Chris Gorse, said: "The Institute already has a wealth of knowledge and experience, but the economic, environmental, and social challenges require a connected approach, embracing leading experts from a broad field of industry, academia, and society."

New wiring inspection reporting course

A new Eastwood Park one-day course, set to run from next month, will assist estates and facilities managers and electrical contractors with the requirements of the latest BS 7671 Electrical Installation Condition Report (EICR).

Eastwood Park describes EICR – previously referred to as 'the Periodic Inspection Report' – as 'one of the more significant amendments' to come from the BS7671:2008 Amendment 1 to the new 17th edition electrical wiring regulations, adding: "EICR has been designed to ensure that a more detailed and comprehensive periodic reporting process is in place. Every electrical installation requires inspection and testing periodically to confirm that it



Peter Handforth.

is safe for continued use. Within healthcare buildings this is commonly carried out every five years – as 'fixed wiring testing'."

Eastwood Park's electrical tutor, Peter Handforth, added: "With periodic inspection mostly conducted by an electrical contractor, estates and facilities managers must be familiar with the detailed requirements to ensure that inspection and testing is undertaken correctly.

They need to be absolutely clear about the extent and any limitations on the inspection and testing, and their contractor's competence and capabilities, and also to be able to understand and interpret the contents of the report. This one-day course will offer sound practical advice and guidance."

Door strikes compatible with lockcases

The 'popular' range of Universal electric strikes from ASSA, part of ASSA ABLOY Security Solutions, is now fully compatible with its most popular lockcase.

Suitable for entrance and final exit doors, the unmonitored 70 and 71, and the monitored 570 and 571 electric strikes, are reportedly ideal for use in healthcare facilities, and can now be used with ASSA's best-selling ASSA Modular 1520 escape sash lock, and all ASSA Modular lockcases.

Available in 12 V or 24 V AC or DC variants, the 70 and 570 ASSA electric strikes are both fail-locked versions suited to high security projects, and are access restricted should a power cut or other emergency occur, while the 71 and 571 are fail-unlocked, and thus well-suited to high traffic areas. All four strikes are now compatible with the ASSA Modular 1520 escape sash lock, ASSA's best-selling lockcase, which has a deadlocking latchbolt and deadbolt, and a long throw.

ASSA's Universal electric strikes can be used on fire-rated doors when specified with the correct faceplate and mechanical lock. Highly vibration and impact-resistant, and designed to withstand 7,000 N, they are designed 'for maximum flexibility'.



First Turkish PPP healthcare project

Mott MacDonald has been appointed as lenders' technical advisor by the YDA and INSO joint venture – consisting of YDA Insaat Sanayi Ticaret A.S., and Inso Sistemi Per Le Infrastrutture Sociali S.P.A Is Ortakligi – for the development of the €440 million Kayseri Integrated Health Campus in Kayseri, Turkey. The project will be the first ever public private partnership (PPP) project in the Turkish healthcare sector.

The 385,000 m² campus will include a 1,283 bed main hospital, a 200-bed rehabilitation hospital, a 100-bed high-security psychiatric hospital, an administration building, and technical

service centre. The development will also feature a 140,000 m² commercial area which will include shops, supermarkets, and restaurants, and entertainment and sports centres.

Mott MacDonald's project director, John Seed, said: "In 2009, the number of hospital beds per 10,000 people in Turkey was 26.9, compared with 48 in Greece, 52 in Poland, and 83 in Germany. The Turkish healthcare market is one of the world's fastest-growing. To ensure that it is able to match its requirements, much-needed investment is essential." Construction of the campus is expected to take up to three years.

NHS could 'save a fortune', claims Sustain

Carbon reduction specialist, Sustain, says its latest research indicates that the NHS could save between £100 m and £150 m annually by cutting its utility bills.

Using ERIC data, Sustain analysed the utilities spend in the NHS in England, and found the NHS spends £500 m annually on energy and water. While 'the average' NHS Trust spends £1.3 m on energy, it says many could potentially



Matt Fulford.

reduce this 'by at least £250,000'.

Matt Fulford, the company's head of Low Carbon Buildings, said: "Even the more conservative £100 m saving across the NHS could pay for 12,260 heart bypass operations or the treatment of 21,600 stroke patients. The kinds of measures Trusts could easily adopt are tried and tested steps been proven to work, including changing lamps in existing light fittings, ensuring existing

heating systems are running well, and temperature settings are in place to reduce running time, and insulating buildings and boiler rooms."

Sustain collected ERIC data on 389 NHS Trusts, and, for the 185 NHS Trusts which fall under the Carbon Reduction Commitment scheme (CRC), cross-referenced it against the latest returns to check for consistency. Each Trust's energy and water spend was benchmarked against both Sustain's internal benchmarks, and benchmarks from the Carbon Trust and CIBSE.

UCLH efforts recognised

The Estates and Facilities Department at the University College London Hospitals NHS Foundation Trust won the Award for the Best Initiative by a Public or Uniformed Service at the recent 2012 Climate Week Awards, held at London's Lancaster House.

The Department, led by estates and facilities management director, Trevor Payne, was recognised for driving forward a low carbon agenda across the Trust and its buildings, and for spearheading efforts to encourage other NHS Trusts and private health sector providers to reduce their carbon footprint. An Estates Department-devised carbon management plan saw the Trust achieve a 14% cut in

its carbon footprint in 2011, and a 6% reduction in its energy costs. Locally, 73 carbon champions were recruited, and a 'Carbon Oscars' ceremony hosted, while on a national footing, Trevor Payne and his team worked closely with the BRE to develop a new online NHS Sustainability Portal (*HEJ* – January 2012).

The UCLH Estates and Facilities Department also created what the Climate Week Awards judges dubbed 'an eBay-style reuse system for the NHS (www.nhsreuse.co.uk)', via which Trusts can exchange equipment, and a new NHS Sustainability Day of Action, which took place on 28 March (see *HEJ* – February 2012, and page 6 of this issue).



Trevor Payne receiving the Award from one of the judges, Lucy Neville-Rolfe, executive director, Corporate and Legal Affairs, at Tesco.

Even more in control

Trend Control Systems has launched the first two models in 'a new generation' of building energy management system (BEMS) controllers.

Although small, the Trend IQ411 (pictured) and IQ412 reportedly offer 'advanced capabilities not found on any other building services controller, even much larger ones'. With features that simplify installation, engineering, and commissioning, they are said to be ideal for energy-efficient, highly distributed local control of services such as underfloor heating, natural ventilation, small air handlers, and air-conditioning terminal units, and are designed as 'perfect drop-in replacements' for Trend IQ211/212 and IQ70 controllers



'nearing the end of their operational lives'.

Ethernet connectivity and a web server are standard, and there are versions connectable to a Trend LAN and/or BACnet.

Compatible with earlier Trend control and monitoring equipment, the controllers are reportedly quick to set up and commission, and have an improved optimum start/stop algorithm.

Doors not to mess with

Fitzpatrick says that, 'for buildings that demand the highest security and protection', architects and specifiers should 'look no further' than its 'Yobstopper' doorset, which, with steel bindings, steel hinges, and angle gap guards, is 'a door not to contend with'.

Fitzpatrick said: "The steel box section frame, plus the choice of embedded steel mesh, exposed steel, or anti-graffiti properties, offer a real solution for isolated areas in buildings that need specialised security."

'A cost-effective and aesthetically pleasing option', the Yobstopper Steel has a powder-coated steel face available in any RAL or BSL colours, and comes with 12 mm stainless steel continuous hinges and gap guards. The Yobstopper Steel facing option is 'ideal for communal spaces and entrance doors that might come under accidental harm or intended damage, but still require a professional appearance'.

The Yobstopper Original offers a through-coloured GRP face, strengthened with embedded steel weldmesh. The 51 mm thick, high performance door is 'extremely resistant to physical attack', while the embedded mesh provides a 'very visual' deterrent.



Supporting a positive safety culture

The British Safety Council has launched an e-learning version of its well-established 'IOSH Working Safely' course – 'designed to provide people at any level, in any sector, with a sound grounding in the essentials of health and safety'.

Delivered via the internet, the course covers areas including personal responsibilities for working safely; identifying common hazards at work; an organisation's responsibilities for protecting workers and others from harm; basic risk assessment principles; basic risk controls for different situations; and the importance of reporting incidents and 'near misses'. Also covered are preventing pollution and minimising waste, meaning that health and safety



John Phillips.

and environmental basics are covered in a single course, accessible online, 24 hours a day, seven days a week.

John Phillips, BSC director of qualifications and standards, said: "This new course provides a vital understanding of the basics of health and safety and environmental management, and helps support a positive safety culture. It has been approved by the Institution of Occupational Safety and Health (IOSH), the world's biggest professional health and safety body."

Delegates who finish the course and go on to successfully complete an online multi-choice assessment and online hazard spotting exercises will receive a certificate from IOSH.