Energy savings in the washroom

Cistermiser will again show its wide range of washroom control solutions, including water-saving systems featuring the latest infrared control technology.

Sensazone, for example, is an intelligent IR sensor-operated system designed to control water supply and light and fan functions in washrooms. Fulfilling the automatic sanitary water supply shut-off requirement in BREEAM Wat 4, the system operates via a PIR sensor, which triggers a solenoid valve to open at the water supply entry point, and ensures the valve is closed during periods of no occupation.

All light fittings are controlled to react to daylight, with a sensor ensuring activation only when natural lighting levels are insufficient. Extractor fan operation can also be configured; users can either control the fan run-on-time, or use the fan unit's own timer facility.



Hand hygiene for purchase or hire

TEAL Patents is working 'in partnership' with healthcare estates managers 'to deliver tangible hand hygiene solutions for a variety of problems'.

Available to purchase or hire, TEAL's medical range includes the Hygienius Prowash, and its latest system – the TEAL Stop n'Wash. A mobile handwash unit easily locateable to areas most at risk, the TEAL Stop n'Wash is designed to help prevent and contain outbreaks from healthcare-acquired infections (HAIs) such as norovirus, *C. difficile*, and MRSA.

"The Stop n'Wash is the hand wash unit if you are looking to contain infections, but our range is diverse," explained Chris Whieldon, sales director. "Working with estates managers, we can provide viable handwash facilities at short notice. Their visibility and manoeuvrability is essential to maintaining high levels of hand hygiene. That mobility, and no requirement for connection to mains water or drainage, means each unit can be sited easily at a point-of-need."

Nurse call 'from source to destination'

The Wandsworth Group will showcase its complete range of IPiN IP-based nurse call systems.

IPiN system is a fully IP-based nurse call system 'from source to destination', based on TCP/IP technology, enabling 'easy integration with other systems', including DECT telephones, and pagers.

Fully HTM-compliant, it reportedly offers the flexibility to adapt to hospitals' changing needs. The full-colour nurses' station touchscreen display provides real-time, prioritised nurse call information, while data logging can be used to track call patterns, and is accessible remotely via a secure connection.



Wandsworth has developed the system with 'IPiN Everywhere', a staff/patient tracking system that utilises the IPiN IP infrastructure to extend functionality from the bedhead to anywhere in the hospital grounds, 'thanks to unique user ID badges or tags'. Combining IR, RF, and low frequency signals, IPiN Everywhere

enables medical staff to activate either a 'panic', or an 'emergency call' button, so they can be quickly located. Vulnerable patients, meanwhile, can carry their nurse call button when they go to the bathroom, day room, or for treatment, and staff can then identify both the badge/tag, and the location, in real time.

'Unique' mental health windows

Two new Taurus Max healthcare windows – a Horizontal Slider, and an Automated Opening Window – designed specifically for mental healthcare applications, will be shown by ATB Secure.

The company says of the latter: "No other window product both features such

high security elements, and allows premium air flow and light transmittance, while retaining performance and non-oppressive good looks."

Both aluminium windows comply with BSEN 12020-2-2001, and come double glazed, or double or triple glazed, in the case of the Automated Opener. They can also incorporate Hammerglass – 'the



virtually unbreakable, second generation' polycarbonate sheet.

Also fixed into both, as part of the standard mental health specification, is a security mesh available in two light transmittance options. Fixing the security options into the window extrusion during production

'makes for a robust window able to withstand even the harshest treatments'.

The Sliding Window has an antiligature pull handle, and several locking options. The opening pane has a lock-off facility which can be designated at three different positions, and full lock facility, with 'keyed alike' euro profile cylinder.

Discreet radiant heating system

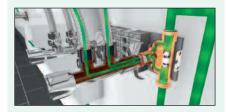
A radiant heating system that replaces radiators and skirting trim 'in one convenient package', developed in conjunction with the NHS, will be shown by DiscreteHeat.

The EasyClean LST was developed from the company's successful ThermaSkirt radiant domestic skirting heating – as seen on the BBC's 'Dragons Den', and incorporates new features including a bottom mounting rail that integrates smoothly into vinyl flooring, and a 'high security' top cover trim that seals the top edge to the wallcovering.

This radiant heating system can be

'simply mopped clean of infectious spores such as *C. difficile* and MRSA when the floor is cleaned'; 'there are no covers to lift/remove, no special tools and equipment are needed, and no deep cleans and blocked gangways'.

With a 'natural anti-ligature design', and offering 'even, comfortable heat that feels like underfloor in operation, but is as controllable and responsive as a traditional radiator', the system can be supplied in single-height configuration for bedrooms and living areas, and double-height for larger wards and 'hard-to-heat' spaces.



Drinking water up to scratch

Exhibiting at Healthcare Estates once again, Kemper UK & Ireland says it will present 'many new innovative technologies to help prevent the growth of *Legionella* and other waterborne pathogens within potable hot and cold water services', among them being a new system, HyTwin.

Designed to prevent stagnation up to the outlet valve to help meet hygiene requirements in drinking water installations, HyTwin was co-developed by Kemper and Schell, two wellestablished German valve manufacturers. In infrequently used washbasins, the system facilitates the movement of hot and cold water right up to the point-of-use, thus making a significant contribution to healthcare users' compliance with the specifications and criteria set out in both HTM 04-01, and the L8 Approved Code of Practice.

'Self-funding' carbon reduction

British Gas, which works closely with healthcare organisations 'to deliver significant guaranteed energy and carbon savings via optimisation and upgrading of an estate's energy-related assets', says it can offer 'solutions that deliver end-to-end, self-funding projects' using a comprehensive range of innovative energy and carbon reduction measures.

The company said: "NHS organisations are operating in a particularly tough environment. Year-on-year cost efficiency savings of at least 5% are required, and more challenging carbon reduction targets have also been set, requiring the NHS to reduce its 2007 CO₂ emissions by 10% by 2015, and by 34% by 2020.



'Better exploiting' energy-saving assets

Visitors to Trend's stand will discover how 'up to 84 per cent' of their healthcare estate's energy consumption could be controlled using a building energy management system. The company said: "Many buildings, of course, already have a building energy management system installed, and Trend's experts will explain how, in a time of tighter budgets, tough environmental legislation, and the need for greater financial accountability, saving energy and money could be within easy reach. However, while energy saving is crucial, close control of the environment is still paramount, and an efficient BEMS takes continuity of building services in its stride."

As well as exhibiting at the show, between 10.30 and 11.00 am on 9 October, Trend will present, using best practice



examples, in the Energy Theatre on the exhibition floor, on 'How the NHS can better exploit an energy-saving asset'. The company added: "Simply by making your Trend BEMS work harder, you can reduce your energy usage, and make improvements in line with your carbon reduction commitments."

Making the right lighting choice

Reducing energy from lighting; cutting CO₂ emissions, and 'making the right decisions when upgrading to LEDs', will be the key messages from lighting manufacturer, Tamlite.

Joseph Smith, head of Sustainability, will explain, in the *HEJ* Product

Showcase theatre from 2.00-2.30 pm on 9 October, 'how to make informed decisions' when buying energy-efficient lighting, and particularly LED.

New products shown will include the IP65-rated EUROWP LED polycarbonate weatherproof luminaire, 'designed

for arduous conditions'. Now available with Philips LED technology, it delivers around 100 lm/W efficiency, and high colour rendering (Ra>80), and has a five-year, 50,000-hour, warranty.

For those seeking a luminaire combining 'ultramodern, high performance, and LED technology, with

a traditional appearance', the 2020 EXCEL LED high efficiency recessed office luminaire offers around 100 lm/W efficiency, and high colour rendering.

A new range of 'very long-life' LED emergency lighting solutions will also be shown.

'Significant' training announcements

Eastwood Park Training is returning to Healthcare Estates 'to make several significant announcements', while CEO, John Thatcher, will address 'Succession planning and workforce development in healthcare engineering and estate management' on the conference's first day

Technical healthcare engineering experts will be on hand to advise on the wide range of training offered, and launch 'several new initiatives'. There will also be a joint announcement with IHEEM on a new competency-based programme for the Authorised Person and Authorising Engineer, and 'news on further investment and growth'.

Senior personnel will discuss new training reflecting changes in several HTMs over recent months, the latest European guidance, and CfPP. They will also provide information on the new Level 3 work-based learning opportunities in healthcare support services; training to address the safety of working with medical equipment in the community; the 'refreshed' practical biomedical equipment maintenance programme, and recently updated water hygiene portfolio, plus the now established 'Essentials for Estates' course, encompassing budget planning, maintenance, health & safety, HR, and general management issues.

Lower footprint, smaller outlay

Supporting 'both strategic and operational energy management requirements', Low Carbon Europe says it has become the 'preferred supplier' in helping organisations 'reduce their carbon footprint, use less energy, and spend less money'.

It said: "With our clients increasingly recognising the benefits of being able to obtain immediate access to reliable energy management and carbon reduction advice, we launched our Retained Energy Management Service (or REMS) to provide the required expert knowledge and support.

"REMS offers an affordable, scalable way of obtaining help in a fast-changing, cost-escalating, carbon management environment, and a great opportunity to get your organisation's energy management 'in shape', and 'fit-for-purpose'. Our service can be designed to support your current in-house resources and capabilities, tailored to meet your specific requirements, and flexed to meet changes in demand."

Institute membership's many benefits

The Institute of Healthcare Engineering and Estate Management (IHEEM) is the UK's largest specialist professional engineering Institute for the healthcare estates sector.

'Promoting excellence in healthcare engineering and estate management', the Institute seeks to provide benefits that 'keep members up-to-date with developing technology and changing regulations'.

IHEEM offers:

- Registration with the Engineering Council at Engineering Technician, Incorporated Engineer, and Chartered Engineer level.
- Professional recognition and development.
- Conferences.
- A seminar programme.
- A monthly technical journal, Health Estate Journal.
- Branch networking
- On-line CPD 'mycareerpath'.
- Discounted fees.

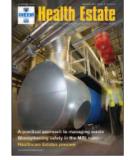
IHEEM recruitment/membership manager, Chris Parker, said: "Membership is available to individuals, companies, NHS Trusts, and universities. For more information on membership, benefits, and events, and how IHEEM can support your professional development, visit one of our two stands, conveniently located in the exhibition hall foyer (stand I1), and on the exhibition Floor (A18). Members of IHEEM's head office team, and existing Institute members, will be on hand to meet you."

On both stands visitors will also be able to meet the editorial and advertising teams

from Health Estate Journal, the official Institute magazine. Published 10 times a year, HEJ is recognised as an authoritative publication covering many of the most important issues facing healthcare estate and facilities management and engineering professionals. Each month the Journal, which is also fully accessible online, incorporates both in-depth technical articles

from specialists in the field, and the latest sector, product, and technology news.

This year *HEJ* will again publish the official Healthcare Estates show preview, show issue, and catalogue. Copies will be available on the IHEEM stands, and will also be widely distributed throughout the two-day show.





Storage solutions simplified

Mailbox, Stamford Products'
Healthcare Division, will profile new
products and services which integrate
with its established Medstor range of
healthcare modular storage systems.

The company says its 'efficient and effective' HTM71 and 63 storage systems 'vastly improve the control and location of medical stock'. The 'offer' is further enhanced via the integration of the Mailbox RFID system, featuring Dyane logistics management software, to automate re-stocking and purchasing of medical supplies. Offering 'multiple reading devices working on different frequencies complying with EPC Gen 2 UHF RFID and ISO 15693 standards', the RFID system is 'an easy bolt-on' to the many materials management solutions already installed UK-wide.

Also shown will be the iLOQ self-powered locking system, which Mailbox says 'eliminates the management problems' of mechanical keys and batteries, and the hard wiring of access control systems.

An 'immediate protective barrier'

Pall Corporation's QPoint tap water filter assembly, the latest addition to the company's range of advanced point-of-use filters for protection against waterborne pathogens, offers 'enhanced features, and improved performance', and a longer capsule life – of up to two months. With a fixed, chrome docking station, and exchangeable filter capsule, it 'reduces waste and cost, while simplifying installation and exchange'.

The filter capsule is designed and validated for retention of a broad spectrum of waterborne pathogens frequently found in drinking water, such as Legionella spp., Pseudomonas aeruginosa, nontuberculous mycobacteria, Escherichia coli, Aspergillus fumigatus, and Cryptosporidium parvum – all known to



cause infections in immunocompromised and vulnerable individuals.

QPoint offers 'an immediate, protective barrier' of double layer 0.2 micron sterilising grade filtration, without restriction on the volume of water used'.

User-friendly – high performance

P4 (FASTEL), which manufactures self-testing emergency lighting systems and exit signage, says: "We are proud to be involved with the healthcare sector. Our emergency lighting and exit signage has been used extensively for over 20 years at many healthcare sites throughout the UK, including The Royal London; The Royal Hospital Chelsea; The Royal Marsden Hospital; Rampton Secure Hospital; Ashworth Hospital, and Fieldhead Hospital."

P4 will showcase its new FASTEL Wireless radio addressable, wire-free emergency lighting system, and its 'acclaimed' M-web+ system, which includes key functionality such as testing and reporting to individual luminaire level, remote monitoring, and e-mail fault alert. It will also show its range of 'stylish LED fittings and sign luminaires'.

P4 provides a six-year battery warranty across its luminaire range, while all its



products fully comply with British and European standards, and are designed 'to help users achieve significant ongoing cost and energy savings'. The company added: "Our systems are user-friendly, and all products are backward-compatible, providing total flexibility to expand or change systems as budget permits. We pride ourselves on providing unrivalled levels of technical support."

Refurbishment specialist debut

Medical refurbishment specialist, Devon Medical Turnkey Solutions, will be exhibiting for the first time.

The building division of medical equipment specialist Devon Medical undertakes 'anything from small room alterations, to large new builds with complex CT and MRI suite design'.

The company recently became a member of the Considerate Constructors Team, which operates a 'Code of Considerate Practice' to 'respect the community, protect the environment, and care for the workforce'.

UK operations director, Calum Peterson, said: "The majority of Devon Medical Turnkey Solutions' work is undertaken in sensitive locations, a factor which sees us strive, in all our projects, to present a strong feel of competent management, awareness of environmental issues, efficiency, and neighbourliness."



Lower cost fire suppression

Chelsea and Westminster Hospital NHS Foundation Trust and Eurostar are among recent customers of FirePro, a specialist in modular fire suppression products and control systems.

The company said: "We have case studies demonstrating how these two organisations chose FirePro equipment over traditional gas suppression, and saved money without detriment to fire cover, while improving sustainability and operational efficiency.'

The company added: "FirePro is an environmentally safe, highly effective, fire suppression system that extinguishes fire through chemical reaction, and not depleting oxygen. Ownership cost is lower than with gas suppression systems, since there are no pipes or pressurised cylinders, meaning faster installation, and less maintenance. FirePro may be used where CO₂ or FM200 systems are either discharged, or overdue for mandatory 10 year hydrostatic testing, or where water mist may not be the right answer."

Innovative solutions for critical care

Bender UK, the specialist provider of IPS components, theatre control panels, UPS systems, and Steris surgical products, will showcase its capabilities 'as a turnkey provider of innovative solutions for safe handling of electrical power and advanced provision of critical care products', spotlighting its 'unique' ATICs automatic changeover device.

The company said: "ATICS is the only device of its kind to specifically meet the healthcare market's needs. Other changeover devices are developed primarily for non-medical, industrial



applications, where the intrinsic level of device safety and reliability is set against the continuity of an industrial process, not the support of human life.

"ATICS removes the single-point-of-failure threat to power resilience inherent in traditional single supply cables, by enabling supply from two different sources. The primary supply maintains

normal operation, but, in the event of failure, ATICs transfers to the secondary supply within 0.5 seconds, to comply with

Specialist healthcare cleaning service

'Tailored facilities solutions to create healthier environments that deliver staff and patient expectations, and enhance the experience for all who attend your location', are promised by Elite Cleaning and Environmental Services, which provides daily and industrial cleaning and additional facility services, specialising in healthcare.

Delivering its services to over 140 locations, the company says it has developed 'productive partnerships' directly with NHS end-users, and two 'major healthcare facility services specialists'. It added: "We provide infection control expertise, along with quality monitoring, to ensure that we are delivering services to the tight



regulatory standards required in today's healthcare sector. Managers and staff benefit from a wide range of in-house and external training, which helps enrich and develop the levels of service delivery that our clients receive."

Wall-hung washroom pan

After successfully launching its wall-hung pan for commercial washrooms at the international exhibition, ISH, in Frankfurt earlier this year, Wallgate has further developed it for use within mental healthcare - by offering it complete with a bonded anti-ligature seat, to be launched at Healthcare Estates 2013.

Made from solid surface material, the



bonded seat can be the same or a contrasting colour from the WC pan. Charles Drew, Wallgate's secure sales manager, said: "We have seen increased demand for wall-hung pans to improve hygiene within en suites and washrooms, and have developed the design in line with our other damageresistant, anti-ligature, but 'conventionallooking' sanitaryware."

Wallgate will also demonstrate the use of electronics to automatically 'purge' WCs, basins, and showers, to avoid standing water and bacteria build-up. Its electronic controllers can be networked, and used to keep records of routine purges, 'rather than having to use staff to routinely run taps and flush toilets manually'.

Round-the-clock protection

Pointing out that healthcareassociated infections (HCAIs) resulting from medical care or treatment in hospitals, nursing homes, or even patients' own homes, are estimated to cost the NHS approximately £1 billion, Biomaster will exhibit its 'antimicrobial additive technology for hygiene-critical environments'.

The company added: "In March 2012, the National Institute for Health and Care Excellence (NICE) estimated that 300,000 patients a year in England alone acquired an HCAI as a result of care within the NHS."

Biomaster is a range of silver-based antimicrobial technologies, built in during manufacture, that 'prevent the growth of bacteria for its lifetime'. Using Biomaster-protected products in healthcare settings reportedly provides 'round-the-clock protection' against build-up of harmful bacteria, such as MRSA, *E. coli*, and *Legionella*. The technology is used globally in products ranging from beds, cubicle curtains, wall and ceiling paints, to floors and door handles.

Shedding light on carbon-cutting

Thorlux Lighting says customers can potentially reduce their energy costs by 75 per cent by using its luminaires and lighting control systems.

The British-owned lighting company, which has produced luminaires in the West Midlands for 77 years, will showcase examples from its 'Healthcarespecific' fittings range, including new products 'designed explicitly' for mental healthcare environments.

The company claims to be 'at the forefront of LED technology', with 'market-leading luminaire efficiencies', enabling those organisations it supplies to achieve 'maximum energy savings, with minimum ongoing maintenance', and 'a proven return on investment'. At Birmingham City Hospital, for example, it provided the design for, and oversaw the correct selection of, luminaires and controls to enable an 87% reduction in energy and associated carbon emissions.

Standard to specialist fenestration

Fendor claims to have firmly established itself as the 'go-to market leader' in specialist fenestration products, having secured work in the refurbishment of all four UK high secure mental health hospitals, and 'countless' medium and low secure units.

With a large portfolio of bespoke window solutions, and secure curtain walling and doors, the company is, it acknowledges, 'perhaps less well known within healthcare' for its standard commercial and fire glazing businesses.

Director, Sue Fortune-Duffy, explained: "The successful launch of our SlideVent and CleanVent windows for high and medium secure applications, and our unique Home Office-approved custodial range, has meant that we are largely



perceived as a specialist manufacturer, but most of our business is actually in standard commercial glazing systems, comprising 'ordinary' windows, doors, and screens. For estates teams seeking a quality solution for a general hospital project, Fendor offers Europe's most thermally efficient, cost-effective systems."

Focus on water system safety

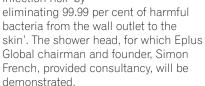
Eplus Global, which will share its stand with Multishower, provides 'total services for *Legionella* and *Pseudomonas* control'.

It offers 'three key products' that it maintains will 'impact on customers' *Legionella* control, reduce water usage and improve safety in showers, provide secondary protection using either non-chemical or chemical additives, and maximise the efficiency of water heating in hard water environments'.

These are non-chemical scale control system, KalGUARD; Abulox for low-level disinfection without 'PIN' coding, and with 'low COSHH implications, and easy-to-maintain equipment', and 'state of the art' ionisation for non-chemical applications, 'with total 24/7 control and remote monitoring,

for peace of mind in controlling *Legionella* and *Pseudomonas* in water systems'.

Eplus Global is also the main agent for the Medi-Shower (pictured), an antimicrobial shower head and hose that reportedly reduces infection risk 'by



Also MD of training, consultancy, and auditing business, Water Hygiene Training, Simon French has 28 years' *Legionella* control experience, having trained HSE officers, environmental health officers, Responsible and Authorised Persons, and engineering staff, throughout the UK, Ireland, and the Middle East.

Multishower, meanwhile, says the Medi-Shower, which it will manufacture, integrates a 'proven, effective, antimicrobial additive', with a patented water-saving technology, in a 'simple, yet innovative, design'.

Claimed benefits include:

- Lower risks associated with bacterial build-up.
- 'Substantial' savings in energy and water usage.
- Ease-of-maintenance.

Multishower added: "Our Medi-Shower shower head is easy to retrofit, and it is well worth visiting our joint stand with Eplus Global to discover more."

Doortop alarm to be exhibited

A doortop alarm developed to prevent attempted suicide from the tops of doors in mental health wards and similar settings will be a key focus on the Intastop stand.

Intastop said of the system: "Its design is such that the issues faced by estates and project managers previously, such as using a sloped door top, or a curtain, which can present other privacy and health and safety issues, are now eradicated."



Intastop will also show its widely used Antibacterial Impact Protection Sheet, and a new product line, Finger Safety Hinges, said to provide 'permanent protection' against finger trapping on the vulnerable hinge side of the door. The system is reportedly ideal for healthcare, child care, and educational facilities. Designed for double and single swing doors, the hinges are fire-tested to European Standard EN1634-12000.

Maximising safety in the use of medical gas systems

Rochdale-headquartered Medical Gas Services says that, cumulatively, its specialist employees have over 150 years' experience with medical gas pipeline and cylinder installations.

The company says of one of its current major concerns: "In the light of the volume of EFA (Estates and Facilities Alert) notices relating to medical gases, the whole issue of the correct installation, maintenance, and operation, of medical gas systems is clearly deemed highly important by the DH. The EFA notice preceded by the NPSA RRR 006 alert highlights the issues relating to use of medical gas cylinders within healthcare, but we still see a number of dangerous and risky practices employed by Trusts.

"Among the benefits of good cylinder management are improved safety; the

eventual reduction in cylinders on site; improved knowledge of their location; and improved fire safety and cost savings year-on-year, coupled with peace of mind and compliance.

"To achieve such benefits, a thorough site audit – by a company independent of the gas supplier, followed by ratification against the gas supplier's invoiced total and required number of cylinders, and adequate training for portering and estates and facilities staff, are essential."

The company added: "Compliant, safe, anti-bacterial impregnated cylinder management products ensure a safe, efficient, method of storage, while compliant signage and labelling help keep storage areas clean, well-ordered, and as safe as possible, in the event of fire."

Pulp macerators – trust the experts

Exhibiting its Panaway & SOLO units, Haigh is an established name in the manufacture, supply, and service, of macerators for hospitals worldwide.

Haigh says its specialist macerators will work with products from all leading pulp suppliers, 'tackling key challenges users face, such as space, energy consumption, speed, and reliability'.

The company said: "With outstanding sustainability credentials, and costefficient water and energy usage, we have a macerator to suit every hospital. Our macerators are proven to improve infection control; deliver significant environmental and running cost benefits, and save time."



The Haigh service includes free site surveys; expert installation advice; cost-efficiency forecasting; on-site training; servicing of all 'makes' of machine, and advice on pulp products.



Vital Energi invests in healthcare team

Specialist in sustainable energy generation and management, Vital Energi, has appointed an established team of 'healthcare energy specialists' who, together, 'have worked on more than 25 of the most significant NHS energy schemes carried out in the UK in the past 15 years'.

Ashley Malin, project development director, said: "Our aim is to assist Trusts and Health Boards to achieve sustainable year-on-year reductions in energy usage and generation costs. Vital Energi can not only design solutions for healthcare customers that encompass energy and carbon reductions, efficient generation, district heating, and improved infrastructure resilience, but also ones that address backlog maintenance."

lan Whitelock, joint MD, added: "Our healthcare team collaborates closely with our energy management division to ensure that our proposals optimise the benefits achievable from monitoring, measuring, and reducing, energy consumption, in conjunction with the design of efficient and sustainable solutions for energy generation."

'Zero impact'

Mitsubishi Heavy Industries Air Conditioning Europe (MHIACE) says it will introduce in Manchester 'a unique product to the UK and European market', following its ongoing success

in Japan.



The Q-ton CO₂ technology heat pump is described as 'both cost-effective and ecofriendly', with a 'zero impact on the ozone layer'.

MHIACE says

it is the only product of its kind able to achieve a hot water temperature of 90°C with a Coefficient of Performance (COP) greater than or equal to 4, and ambient air temperatures as low as –25°C. The system also maintains a COP of over 2.3 at –25°C.

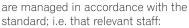
Does your MGPS meet the standard?

Any hospital with a medical gas pipeline system (MGPS) will need an Authorising Engineer service to meet HTM 01-02 standards.

BOC's Richard Maycock, IEng MIHEEM (pictured) is AE for several NHS Trusts and private hospitals, and can also provide remote AP and AE services.

He manages BOC's
Healthcare's Medical
Engineering Services team,
which provides a full range
of services to ensure hospital
medical gas pipeline systems
meet the required standards.

As the Authorising Engineer, he will work with the Authorised Person (AP) to ensure that such systems



- Are familiar with the system, its valving, alarms, and emergency reserves.
- Review relevant documentation, and management systems.
- Have evidence of up-to-date training.



His team can also deliver training courses to ensure that estates, EBME, nursing, and portering staff, meet the HTM standard. Other services offered range from providing Operational Policy, 'Asfitted' drawings, and specification and design, to providing an Authorised Person, annual test and inspection, audits, and risk assessments.

Supporting the design of workplaces

Dräger has supported the design of workplaces in acute medical care settings for over 50 years, and 'knows the challenges' its customers face.

The company said: "With our expertise in complex processes, we can work with



you to develop the right concept, and thus produce tailored, flexible, futureproof solutions."

At the Dräger Design Centre in Lübeck, northern Germany, users and planners can work with Dräger experts to plan and design their medical workplaces 'under realistic conditions'. Dräger's bespoke 3D rendering software allows customers to visualise and test their design concepts. By simply 'dragging and dropping' the design elements, users can create a realistic representation of the clinical area, with equipment and personnel incorporated. A 'walk-through' function allows users to simulate the workplace layout.

'Outstanding concepts' and service

Maquet Hospital Solutions, a solutions provider at over 5,000 locations worldwide, says it offers 'outstanding concepts for operating theatres, hybrid operating theatres, catheter laboratories, and intensive care units'.

The company said: "For decades, the name Maquet has been synonymous with innovative, complete concepts that ensure that the patient gets the best possible medical treatment, and that the hospital benefits from tried-and-tested solutions, increased efficiency, and cost savings. The focus is on providing the optimum solution for individual hospitals via a dedicated and experienced project team.

"Each project has a Maquet project manager as the hospital's single point-ofcontact, from design through to handover and beyond. Healthcare facilities thus benefit from having a project manager who will deal with all sub-contractors and third parties throughout, has a vast level of experience, and will deliver a futureproof, state-of-the-art facility."





Lengthy track record in lighting

Whitecroft Lighting says it has been pioneering low energy lighting solutions in the healthcare sector for over 20 years, and is 'proud to be associated with some of the most prestigious healthcare developments in recent years'.

Visitors to its stand will be able to see how healthcare sector customers can achieve energy savings 'of up to 50%' with LED technology, 'using specifically designed lighting solutions', and 'still meet the differing demands dictated by infection control and user requirements'. On-stand demonstrations will focus on 'the key clinical areas critical to any healthcare organisation'.

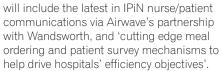
'Infotainment for connected hospitals'

The latest bedside and in-room patient entertainment 'for today's connected hospitals' will be shown by Airwave Healthcare.

Alongside hardware including standalone

healthcare televisions and 'TV on arm' solutions, will be the latest in 'smart' and touchscreen technologies 'incorporating intuitive middleware, to support the demands of today's paperless hospital'.

Touchscreen demonstrations



Further patient infotainment solutions shown will include Airwave's AirCAST, which provides detailed patient and hospital information via the 'familiar interface' of a television and its 'red buttor'.



IHEEM-recognised Legionella training

Water and water treatment specialist, SMS Environmental, originally formed in the summer of 2001 by a group of process scientists and engineers, says it 'knows its water', and 'what should, and what shouldn't be, in it'.

Since the company's establishment 12 years ago, the SMS Environmental team has provided 'cutting-edge' *Legionella* testing and risk assessments, and treatment systems to clients closely monitoring their water to ensure that

their systems are kept in safe, optimal condition. This year, SMS says it has become the first company to offer Legionella awareness training that is IHEEM-recognised, and conforms to the HSE and Department of Health guidelines, 'L8', and HTM 04-01. SMS will showcase its new training programme, alongside its 'web-based' Legionella management software, Opuz 12. A discount on training packages will be available to IHEEM members attending the event.

Efficient water storage and control

Delayed action float valve manufacturer, Keraflo, says its products provide 'accurate, environmentally efficient, water storage and tank control, helping to support best practice and water compliance'.

Keraflo explained: 'Delayed action float valves represent the optimum specification choice for healthcare washrooms. Installers and managers of cold water storage systems can benefit from a swift open and close functionality, with no run-on, no dribble, and no water wastage, ensuring maximum water tank

capacity at all times. Filling the tank at full bore means maximum water turnover, keeping stored water healthy, and maintaining an uninviting habitat that reduces the risk of potential bacterial growth." Water hammer is also reportedly eradicated via a delayed action float valve, thanks to the smooth opening and closing mechanism, which also prevents wear on the pump head.

Keraflo will also showcase its Tanktronic 'integrated electronic solution' for water storage tank monitoring and management. Comprising a sensor and



wall-mounted electronic user interface, it enables users to gain 'very accurate' digital readings of water levels, tank volume, and temperature, and to manage and control filling.

Designing for dementia care

The Dementia Services Development Centre (DSDC) at the University of Stirling says it has worked with individuals and organisations 'to improve the design of care environments to make communities dementia-friendly; to influence policy, and to improve services for people with dementia', for over 25 years.

It says: "Design is about more than shaping the physical environment to counter the impairments which come with dementia. It involves addressing



standards, practices, and behaviours, of professional staff, and changing the way we engage with people with dementia in the environments they live in. Getting

design right can make a fundamental difference to the lives of people with dementia, and DSDC works with others to improve design for people with dementia – in hospitals, care homes, housing, people's own homes, and communities.

"The aim," the DSDC adds, "is to provide design services which help ensure that environments are enabling for people with dementia; to produce high quality information on the key areas of design, and to deliver specialist training and development, and professional support packages."

Bringing light to 'dark spaces'



Planetsaver offers LED flat panels, retrofit lamps, and luminaries, fitted with Planetsaver 'Dims to Low' technology, which it says can help user organisations ensure that previously dark areas can remain lit even when people are not using them, 'while reducing energy costs by up to 90 per cent'.

The company said: "Lighting is such an important part of safety and security. Unlit corridors, car parks, and rooms, can cause anxiety, lead to accidents, and even make areas less safe. However, keeping the lights on costs money, and balancing safety, security, and economics, has historically been difficult. This task is now considerably easier; lighting products incorporating Dims to Low technology work by operating the lamp at full brightness when people are present, but reducing its output when they are not."



Invoking dementia patients' memories

'An exciting collection of ground-breaking display products is helping improve the lives of dementia patients in hospitals across the country' - says Bradford-based New Vision Signs & Graphics, designer and installer of 'innovative displays which help trigger memories for elderly patients, and improve the hospital environment'.

'Picture This' is an interchangeable slide frame system that shows images on corridors and in side wards. Designed to enhance recognition and awareness, it uses pictures 'to invoke past memories'.

'Kodak-style slide frames', backlit with LED lighting, feature interchangeable images, and 'work particularly well with bygone scenes and nostalgic visions of childhood', while 'Memory Boxes', within which patients place a personal object they can recognise and remember, can be installed by their beds.

Horne warns on outlet fittings

Designer, developer, and manufacturer, of thermostatic valves for mixing and temperature control applications, Horne Engineering, is warning healthcare estates engineers in the process of removing the outlet fitting (often called a straightener) of their clinical taps in a bid to reduce Pseudomonad contamination risk that 'this will actually exacerbate the issue of retrograde contamination, while also introducing other problems'.

The company said: "The outlet fitting is a vital component of the Horne Optitherm tap's design, and performs several critical functions." They are:

■ The integral flow regulator governs the flow at a constant 6 L/min - 'optimised for handwashing without splashing'.

■ The integral flow conditioner ensures water falls from the outlet 'in a laminar and steady column,' avoiding splashing, and the creation of aerosols.

■ The 'lattice' structure provides surface tension to stop the flow immediately on

> closure, retain water between actuations, and minimise the area of the air-water boundary. "The spout must not drain down - a process where the released water is replaced with contaminated air/dust/ water vapour from the local

environment: in such instances. potential pathogens are sucked into a perfectly warm, dark, moist environment, with abundant oxygen, every single time the outlet is used."

Protecting those at risk

An extensive range of 'standard' and bespoke anti-ligature products 'for environments where people may be at risk to themselves or others', including door and window furniture, lighting, plumbing, washroom products, ventilation grilles, security screws and fixings, and dispensers, is offered by the Anti-Ligature Shop.

The company claims to be the only supplier of specialist antiligature products 'all under one roof'. It said: "Over the past few



years we have worked with, maintained, specified, and supplied, various anti-ligature products for the mental healthcare sector, supporting personnel in the sphere to reduce incidences of self-harm. Our anti-ligature products are ideal for use in psychiatric wards, hospitals, mental health centres, care homes, and prisons, to protect all aspects of a room that might put a person

Demonstrating 'the power of CHP'

ENER-G will demonstrate its new range of combined heat and power (CHP) solutions, 'especially adapted for the NHS'.

The company said: "According to an NHS SDU report, CHP offers NHS England 'the most significant impact on operational costs and carbon'. ENER-G Combined Power has a proven track record in delivering energy projects across a variety of NHS Trusts, and to more than 50 hospitals."

These hospitals include Birmingham Heartlands - where, under a pilot NHS Carbon and Energy Fund scheme, ENER-G designed, built, and installed, a complete Energy Centre (pictured) through the public-private partnership funding mechanism, 'with guaranteed

savings'. The Centre, operated and maintained by ENER-G, delivers critical power, heating, and cooling.

As part of an 'integrated energy management approach', ENER-G also replaced 'ageing' lighting throughout the hospital.





'Unique' clinical waste destruction

A patented British technology that combines destruction of organic, solid wastes at source, with clean generation of hot water, will be launched by OCR.

The EA-approved PyroPure 'small-scale process' for destroying clinical waste is reportedly 'unique', and should 'reduce, or even eliminate' the need for clinical grade bins and the 'cost and carbon impact' of their collection. The residue is treated as grey water, leaving only 'easily recyclable' glass and metal. PyroPure's key benefits are:

- Waste is destroyed safely and cleanly on site as soon as it is generated.
- The costs and environmental impact of collection, incineration, and landfill, are removed.
- All organic waste types are destroyed.
- No need to empty waste bags, or remove wrappings.
- Plastic and organic waste can be combined and processed simultaneously.
- Waste storage in bins is eliminated.
- The 'system by-product' is a free source of hot water.

'Fully integrated' medical engineering

Starkstrom, 'a leading UK manufacturer and supplier of cutting edge equipment for medical facilities for over 40 years', said: "Whether you need a single product, or a complete range of equipment with seamless communication between all components, S-equiP, our fully integrated solutions range, has the answer. Visitors to the Starkstrom stand will be able to see a range of S-equiP products."

Starkstrom's product portfolio has grown recently to include VisionOR, a multi-level audio-visual communications platform designed in partnership with Richard Wolf's CORE system, that is 'custom-designed, vendor-neutral, and



future-proof'. It has been developed to allow maximum flexibility and ease of use, enabling the entire operating theatre team 'to work in the most effective way possible'.

Starkstrom says that all its products are 'packed full of infection-fighting innovations'; examples will be shown on its stand.

A clearer vision guaranteed

Vistamatic, which says it offers 'the leading brand of glazed privacy vision panels', can design and supply 'for all levels of healthcare environments – from maternity areas to challenging high-secure mental health environments'.

The company claims to produce the widest range of observation solutions available, including 'BetweenGlassBlinds', and 'Smart Glass'.

Vistamatic panels come in many shapes, colours, thicknesses, and designs; the company says that 'with privacy vision panels, there is no one-size-fits-all solution'.

One of its Vistamatic's innovations is a 'totally self-contained' switchable glass panel, designed for use within a door, that requires no external wiring – making it 'cheaper and easier to install than other switchable glass viewing panels.' Vistamatic also manufactures cordless BetweenGlassBlinds 'ideal'

for environments where cords may not be suitable, again available in range of colours and different glass types.

All Vistamatic products come with a variety of operating methods, including anti-ligature options.

Sensorial role

According to flooring specialist, Tarkett, 'while flooring represents a relatively small part of the overall weight of materials required for a building, being in permanent contact means it has a major functional and sensorial role'.

Promising to bring 'the ultimate flooring experience' to Healthcare Estates 2013, the company says: "We believe it is possible to improve the healthcare experience to make it more pleasant for all stakeholders through considered interior design and decoration, and have made it our goal to supply all the tools required to support this."

The contribution of flooring to health, through comfort, functionality, and indoor air quality, is explored in a new Tarkett guide for healthcare professionals and designers, to be showcased in Manchester.

'Supreme control' for bathrooms

'Protection is at the heart' of Reliance's range for the healthcare bathroom, the specialist in temperature and flow control explains.

Reliance offers TMV3-approved thermostatic technology 'for peace of mind in hospital and care home sanitary water systems'. The company said: "Thermostatic mixing valves, taps, and shower controls, protect against scalding and *Legionella* growth. Extended lever handles, or infrared activation, facilitate operation by those with restricted dexterity or movement, and enable nonmanual use – to minimise crosscontamination risk for all users."

The Showerguard C3 Concealed Sequential Shower Control (pictured) is among Reliance's expanding range of



shower controls and fittings for healthcare washrooms. Providing TMV3-approved protection, it is 'engineered for straightforward installation and maintenance'. Removal of the cover plate allows access to components, and Reliance's 'unique' cartridge-style construction means the thermostatic working parts can be serviced/replaced in one piece.

Don't fall behind on MRI safety

UK-headquartered Metrasens says its latest advance in MRI safety – 'the world's first ferromagnetic detection systems' (FMDs) – 'effectively combine maximum MRI safety with optimal workflow efficiency'.

The company said: "MRI is an extremely valuable, safe, medical imaging modality. Great care is needed, however, to protect patients, staff, and the hospital's imaging technology investment, because the MRI field is always on. Ferromagnetic items inadvertently taken into the MRI room can become projectiles, pulled at up to 40 mph into the magnet, and putting at risk anyone, or anything, in their path. Although every MRI facility has processes to reduce the risks, unfortunately the number of projectile incidents and nearmisses continues to increase."



Metrasens's Ferroguard Assure safety system detects risk items 'well before they reach the MRI doorway', while Ferroguard Screener 'detects the smallest ferrous items' (e.g. hair-pins) on patients, 'reducing image artefacts, time-wasting rescans, and resulting reductions in efficiency'.

'Dramatically reduced' power bills

First-time attendee, Turner Engine Powered Services (Turner EPS), official UK distributor for Capstone, will exhibit a Capstone C30 (30 kWe) microturbine on its stand.

The company explained: "Capstone Turbine Corporation is the world's leading producer of low-emission microturbine systems, and was first to market with commercially viable air bearing turbine technology. These award-winning systems have logged millions of documented runtime operation hours."

Among the key benefits of Capstone microturbines are:

- 'Extremely low' downtime with average uptime of '98-99 per cent'.
- Capstone turbines have just one moving part – the turbine generator shaft bearing (an air bearing, requiring no oil or maintenance).



- Only six hours of planned maintenance annually.
- 'Very low' emissions 'less than 10% of those from an internal combustion engine'.

Turner EPS added: "In hospital applications, an on-site, Capstone-powered CHP system is far more fuel-efficient and environmentally beneficial than utility power and boiler heating, and can dramatically cut monthly power bills."

Help with funding for schemes

Established in July 2011, The Carbon and Energy Fund (CEF), together with strategic partners from the Department of Health, NHS Scotland, and NHS SBS, was set up to assist NHS Trusts to deliver CHP-type projects, together with wider estate energy efficiencies and renewable measures.

Over the past two years, it has delivered two tranches of energy infrastructure projects valued at £75 million. These completed projects are saving NHS Trusts £16 m, and 80,000 tonnes of carbon emissions per annum, respectively. CEF is currently in the process of delivering a third tranche of projects, valued at £30 m.

CEF provides NHS Trusts with the technical expertise to:

- 'Transfer risk to whoever can best manage it', principally private sector organisations.
- Enable NHS organisations to realise the benefits of large-scale procurement.
- Make competitive and task-specific funding (15-30 year energy infrastructure finance) available to the NHS.
- Provide a fast, robust, procurement route for the NHS, reducing overall risk and costs.
- Provide the NHS with the necessary task-specific technical, legal, and project management resources, and ongoing support for projects.
- 'Prove and audit' savings annually for the whole contract period, with reimbursement for savings not achieved.



Pride in innovation

Zip claims to have 'invented' instant boiling water in the 1980s, and says it 'maintains world leadership' in boiling water provision for hot drinks in the workplace.

The company says its strong position has been earned 'via continual product development'. Zip Industries chairman, Michael Crouch AO, said recently: "We get such a great kick out of innovating; we are always thinking what can we do, and how can we do it better."

One outcome is the introduction of energy-saving products that Zip says reduce the operating costs of instant

boiling water systems by 'more than fifty per cent over earlier models'. Another is 'the introduction of healthier inbuilt water filtration 25 times finer than that of the past, filtering out chemical tastes and odours as never before to provide crystal-clear, better-tasting water, boiling, or chilled'.

Zip will demonstrate its 'highly energyefficient' Hydroboil Plus boiling, and new HydroTap, boiling, chilled, and sparkling, filtered water systems, and Zip Inline – 'an energy-efficient solution to providing handwash facilities, without the dangers of potential scalding or *Legionella*'.

Corrosion protection

Over the past 12 years, Midland Corrosion Services says it has investigated numerous corrosion failures in closed heating and cooling systems in buildings including hospitals and healthcare premises, which it says 'have resulted in expensive damages, repairs, and widespread disruption'.

With this is mind, it now offers a continuous corrosion monitorina service to keep such systems 'in tip-top condition at all times'. The company explained: "All important system parameters which influence corrosion will be recorded and relaved to our central facilities via the GPRS network. Our corrosion experts are able to view how a customer's system conditions are changing over time, on a '24/7' basis, and, with the use of pre-set alarms, can respond to any adverse or emergency circumstances – such as system leaks, pressure drops, or the onset of corrosion - before significant corrosion damage occurs.

Parameters monitored include:

- Dissolved oxygen levels.
- Pressure.
- Make-up water supply.
- Conductivity.
- Galvanic current.
- Crevice corrosion.
- Temperature.



Aiming for 'site-wide efficiencies'

Already 'trusted by over 100 NHS hospitals and 6.100 healthcare facilities worldwide'. Dalkia, 'the proven leader for reliable energy efficiency projects that guarantee savings on operational costs, and reductions in CO2', will show its latest solutions for reducing carbon emissions and 'delivering energy security' for hospitals.

By implementing site-wide carbon management strategies, Dalkia says 'significant' cost and carbon reductions are possible, using 'proven energy-efficient technology', and best practice optimisation techniques. By combining these with energy awareness campaigns, hospitals can, it says, achieve 'sustainable carbon reductions'.

The company said: "Our extensive resources enable Trusts to benefit from



new energy plant and technology to enhance environmental performance. By integrating the most appropriate heating, electricity, and standby generating systems, backed by energy performance contracting, Dalkia can provide solutions that best match needs utilising the latest developments, including modern CHP systems, and renewable technologies."

'Integrated estates service' launched

Eric Wright Group has unveiled an integrated estates service 'designed to meet the changing needs of the NHS'.

The company has over 10 years' experience of delivering asset management, design, build, and refurbishment, 'plus a portfolio of FM services', to NHS organisations.

Recent projects include the design and build of a £4.3 m health centre in Colne, a dementia-friendly community hospital in Clitheroe, and the construction and management of the £31 m 'Bolton One' community facility – a collaboration between the healthcare community, the city's University, and the local authority.

Managing director, Jeremy Hartley, said: "We recognise that the NHS landscape is changing, and that it is



essential to deliver a quality product and service tailored to meet clients' needs.

"Healthcare estates professionals are under pressure to maximise their estates' potential, increasing asset utilisation, while reducing costs and carbon footprint. Working with one company to deliver integrated services strengthens relationships, improves communication, and saves time and money."

Opening solutions

ASSA ABLOY Security Solutions will showcase 'a host of door opening solutions' suitable for healthcare buildings that it says 'address convenience, hygiene, and fire safety'.

Tina Hughan, head of Marketing for ASSA ABLOY UK, said: "With extensive healthcare sector experience, in projects ranging from those involving secure mental health facilities, and large-scale public sector hospital builds, to smaller specification work, ASSA ABLOY Security Solutions can provide answers to some of the most pressing questions within healthcare specification.

"Healthcare Estates is the ideal place for us to showcase our hygienic, convenient, and cost-effective solutions."

Innovation and 'a few surprises'

On show for the first time on the Static Systems stand will be 'Ventura' (pictured), the company's new horizontal bedhead services trunking solution, 'designed for the modern healthcare environment', and based around modular build.

'Growing ever more comprehensive and flexible', SSG's Fusion-IP range of nurse call systems will also

feature in Manchester, Visitors will, in the company's words, "be able to see how the Fusion-IP 'family' has expanded to



accommodate the communication needs of all healthcare environments ranging from simple systems for smaller community hospitals and treatment centres, to hi-tech new-build schemes employing the latest IP technologies".

Static Systems will also show its Fusion-Centra fire alarm system management software. Part of the 900evo

range, it is designed to reduce overheads and maintenance costs on multi-panel sites.



Easier staff location

The 08 system from wireless nurse call system specialist, Courtney-Thorne, which will be demonstrated in Manchester, incorporates touchscreen technology featuring 'instant on-screen' call message, with a locating facility via 'unique on screen mapping', and a call hierarchy that gives emergency calls 'absolute priority', as the company puts it, 'saving vital seconds in what is potentially a critical situation'. All call history information can be viewed instantly, printed, or exported, from a wide range of report types and onscreen graphs. The company added: "This is combined with quick, clean installation, and guaranteed better value than hardwired systems."



Faster flooring installation

ARDEX, which manufactures high performance tiling and flooring products and systems (photo shows Ardex flooring in the new Institute of Transplantation at the Freeman Hospital, Newcastle), has developed a range of products specifically designed for fast-track installations that 'minimise downtime and disruption, and ensure a perfect finish every time'.

The company said: "ARDEX products, incorporating the unique 'Rapidry Formula' technology, have controlled drying and hardening properties, allowing the product to be walked on, and the installation of the final floorcovering to be completed, in the shortest possible time. Our products offer the ideal solution for environments in use 24 hours-a-day. guaranteeing 'fast track' installations, and minimising disruption in hospital wards, theatres, and corridors."

Filters offer 'immediate protection'

A range of single-use water filters that includes cartridges, shower heads, and spouts, will be shown by specialist in sanitary equipment, Delabie.

Each Biofil filter has a hollow fibre membrane with a filtration threshold of 0.1 micron, absolute rated, 'delivering microorganism-free water without changing the water's chemical composition'. Delabie says the filters 'provide immediate protection' against waterborne nosocomial infections, such as Legionella and Pseudomonas aeruginosa.

The company said: "The filtration surface is twice as large as on filters that incorporate a folded membrane, with the risk of cloaging reduced. Biofil filters for Legionella and Pseudomonas aeruginosa have a maximum lifespan of 62 days,



will withstand thermal and chemical shock treatment, and are easily installable without tools."

Two filter types are available:

- Sterile filters 'for all germs' (CE medical device class IIb).
- Filters for Legionella and Pseudomonas aeruginosa.

Comprehensive clean air solutions

Recent innovations from Medical Air Technology (MAT), which provides clean air technology for the healthcare, manufacturing, and laboratory sectors, include its Screenless UCVS Freeflow ultra-clean ventilation system, 'setting a new benchmark for the modern operating theatre'.

The company said: "High performance functionality and durability help overcome the evolving requirements of theatre design, which increasingly require more space at ceiling level to enable a more flexible choice of equipment.

MAT lav-up cabinets, another recent addition, are purpose built to provide 'an extremely high level of cleanliness'. The self-contained cabinets require only a 13 amp power supply, and are 'ideal' for



installation within existing conventional theatres, or lay-up preparation rooms requiring extra protection from airborne bacteria.

Providing 'a comprehensive range of solutions', mainly for operating theatres, aseptic suites, and containment laboratories, MAT manufactures, supplies, designs, and installs. The company recently moved to a new facility at Trafford Park, Manchester.

Voyage of Discovery

Showcased by Apollo Fire Detectors will be its 'world-class' Discovery range of fire detection products.

Experts from Apollo will highlight the many benefits of the Discovery range of analogue addressable fire detectors, designed for medium-to-large applications with specific system requirements. Discovery is, the company says, 'ideally suited' to healthcare installations, 'where adaptability to changing conditions, and protection against unwanted alarms, are paramount'.

Discovery detectors can operate in one



of five operating modes, each approved to EN54 standards. Apollo has 'a long history' of supplying detectors and other fire detection equipment for large-scale hospital projects, as well as to clinics, pharmacies, and laboratories.