



STATIC SYSTEMS GROUP

SSG's cutting-edge critical alarm systems chosen for The Midland Metropolitan University Hospital

November 2024

Project overview

The Midland Metropolitan University Hospital (MMUH) is a state-of-the-art healthcare facility located in Smethwick, West Midlands, which opened in October 2024. The 736-bed hospital, half of which are single en-suite rooms, features a sleek, modern design, and cutting-edge technology. The MMUH is set to lead the way in the provision of exceptional patient care, innovative research, and world-class education.

SSG, a Halma company, played a vital role in the design, manufacture and installation of several critical alarm systems essential for the safety and well-being of patients, staff and visitors at the MMUH. These included nurse call, patient and staff safety alarms, and a comprehensive fire alarm system.

SSG's involvement in the MMUH project spans several years, encompassing distinct phases to ensure seamless system integration and functionality. The initial one-year design phase saw SSG consult extensively with Sandwell and West Birmingham Hospitals NHS Trust, alongside Balfour Beatty and its design team. This collaborative approach ensured that SSG's proposed systems aligned perfectly with the hospital's unique needs and architectural plans.

Following the design phase, SSG embarked on a four-year installation period during which time SSG installed the various critical systems and oversaw their meticulous integration and commissioning.

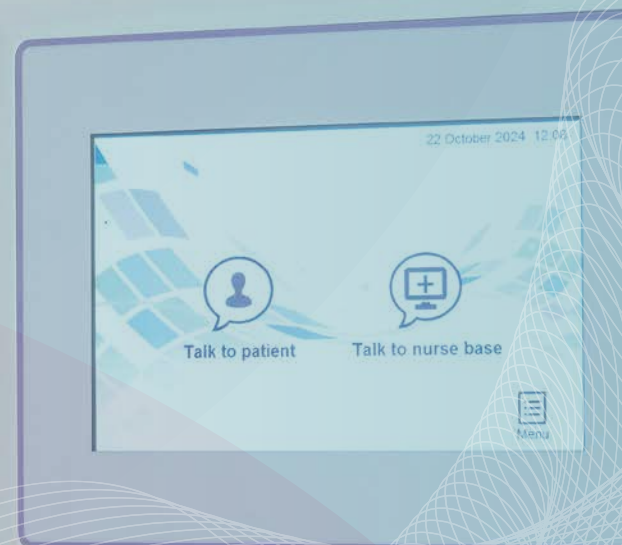
Innovative solutions

SSG's expertise in nurse call systems and communications played a vital role in delivering a superior patient experience at the MMUH.

This included the installation of 69 Ultima™ nurse call systems with two-way speech functionality which are mounted on SSG's custom-designed vertical bedhead services trunking. **SSG also installed a substantial 91 kilometres of nurse call data cabling**, ensuring seamless integration with the Trust's data network.

Ultima's two-way speech functionality allows staff to communicate directly with patients, **enabling them to assess a situation remotely and respond appropriately**. It also provides independence for patients and creates a calmer working environment for staff.

Demonstrating its commitment to innovation, SSG worked with the Trust to develop **a revolutionary hands-free intercom system specifically for the MMUH's isolation rooms**. A screen on the outside of the isolation room and a speech panel on the patient's bedhead facilitate full two-way voice conversation, enabling staff to qualify the nature of the call prior to entering the room. This dynamic solution not only improves workflow and limits the risk of infection transmission, but it also reassures patients that help is on its way and saves time and resources as it eliminates the need for staff to don and doff PPE just to enter the room to speak to the patient.



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SSG integrated wearable and wall-mounted panic alarms into the hospital's communication system to safeguard staff and patients in emergency situations. When an alert is triggered, it is sent to both the nursing staff and the hospital's security team.

To further enhance decision-making capabilities, SSG implemented its Fusion Analytics software solution, which captures and analyses crucial alarm event data across the hospital, providing valuable insight to inform decision making.

To ensure fire safety, SSG designed and constructed a state-of-the-art fire alarm system comprising 32 fire alarm panels, 4,000 ancillary devices, and a sophisticated integrated smoke control system made up of 2,800 individually monitored motorised fire/smoke dampers, enabling activation and recording of their open, closed or fault status. 96 kilometres of specialised fire alarm cabling was installed across the hospital, along with specialist linear heat detection in staff and public car parks.

SSG also leveraged its expertise and collaborated with key stakeholders over three years to design the hospital's unique 'cause-and-effect' software which was programmed into the fire alarm system. This ensures the system's proper functionality and compliance with relevant fire safety regulations in the event of a fire.



A partnership approach

SSG collaborated with the Trust's estates and IT teams, as well as local specialist trades, to ensure the project's success. For example, when installing a Wagner aspiration system in the hospital's winter garden main entrance, SSG had to appoint a team of rope access specialists due to the height of the building (10 storeys high).

At the peak of the project, a team of 30 installation and commissioning engineers and project managers were on-site to oversee the work. Additionally, SSG engaged its inhouse LPS 1014 inspector to review and verify the design and physical installation of the systems, ensuring the highest level of system compliance.

SSG provided 24/7 on-site support during the initial patient move-in and will continue to offer this support for future move-in phases.



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Overcoming challenges

One of the biggest challenges faced in this project was understanding the clinical requirements of a hospital that hadn't yet opened its doors. To overcome this, SSG worked closely with clinical leads to anticipate how the systems would be used in a real-world setting, allowing the equipment to be programmed accordingly.

Another challenge was the evolving nature of the project. As the design and technical demands of the hospital changed over time, SSG worked closely with Balfour Beatty and the Trust to integrate additional systems and complex cause-and-effect relationships into both the nurse call and fire systems. This ensured the hospital was equipped with the latest technology and operational principles when it opened.

Looking to the future

By adopting a phased approach and closely collaborating with various stakeholders, SSG successfully delivered and integrated a comprehensive suite of critical systems within the MMUH. This commitment to excellence extends to the ongoing service and maintenance, with a service care plan established with Equans, the hospital's new facilities management provider.

Conversations with the Trust's Digital Transformation team have begun. Together we are exploring how we can leverage our digital technology to provide additional benefits to staff efficiency and patient care.

Commenting on the project, Harry Ashenden, Operations Manager (Projects) at SSG, said:

“ SSG has played a crucial role in the design and construction of the hospital ”

And I'm very proud of the commitment all our teams have demonstrated to ensuring a smooth handover for our customer Balfour Beatty, the NHS and the people of Birmingham. As a West Midlands-based company, we are delighted to have provided our state-of-the-art solutions to such a vital new healthcare facility in the region. Many of our workforce will utilise the medical care at MMUH in the future, making our involvement even more meaningful. Our focus now shifts to delivering quality support, service and maintenance of our systems as the hospital begins its operational life.”



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