

case study



Fiona Stanley Hospital

Honeywell's highly integrated technology promotes operational efficiency, reduced operating costs and lower energy consumption for Western Australia's first smart digital hospital.

Honeywell



Campus Snap Shot

Fiona Stanley Hospital has drawn international acclaim due to sophisticated technologies and level of integration making it one of the first smart digital hospitals in the Indian Ocean region:

- 9 buildings covering more than 200,00 sqm on a 32 hectare campus
- 643 beds in the main hospital building
- 140 beds State rehabilitation service
- 6,300 rooms in main hospital building
- Acute medical and surgical services
- The State burns service
- State-of-the-art emergency care
- Comprehensive cancer services including radiotherapy treatment facilities, medical oncology and hematology
- Renal transplantation and dialysis services
- Mental health unit containing a secure wing and a mother baby unit
- Obstetrics and neonatology services
- Child and adolescent services
- Facilities for pathology, bio-medical engineering and cell tissue manufacturing
- Modern medical imaging centre providing fast and accurate information to clinicians
- On-campus world-class medical research facility built in conjunction with Western Australia universities and the Harry Perkins Institute of Medical Research

Background

Located in Murdoch, a suburb of Perth, Fiona Stanley Hospital will soon be Western Australia's flagship tertiary healthcare facility. Opened in 2014, the AUD 2 billion, 783-bed hospital is the major emergency centre servicing Perth's southern suburbs and regional Western Australia, offering advanced medical technology and a full range of medical and surgical services.

Business Drivers

Fiona Stanley Hospital is positioned to be one of Australia's leading healthcare facilities, using the latest scientific, technological and medical developments. Fiona Stanley Hospital will play a critical role in empowering the Western Australian government to deliver a safe and secure environment for patients, visitors and staff alike while improving quality of care.

- Technology was perceived as an essential part to promoting consistent quality of care within a secure environment designed to maximise comfort for patients, staff and guests alike
- Business continuity, visibility and control of the 24/7 operations was an important consideration demanding sophisticated technologies and broad integration across the campus environment
- 2000+ visitors and 3,000+ staff are expected to visit and work in the hospital on a daily basis, requiring enhanced security and incident management
- Ease of facility management was a priority given the size of the campus environment and the number of systems required to operate the complex facility
- Due to the large capital investment, flexibility and scalability of the technology roadmap was critical to maximise long-term return on investment
- Western Australian Government's focus on energy efficiency and sustainability had to be reflected in the hospital operations



Integrated Solutions delivered by Honeywell



Information Communications Technology (ICT) & Enterprise Extra Low Voltage Integration:

Honeywell was engaged as the Master Systems Integrator responsible for the integration of ELV Systems utilising Honeywell Enterprise Buildings Integrator (EBI) as the integration platform:

- Seamless integration of over 65 ELV systems campus-wide
- Single common user interface for graphics, reporting, and alarm management
- Incident Management and Enterprise Services Bus Integration

Honeywell also delivered the campus-wide building ICT infrastructure including servers, storage, virtual environment and active IP Network to integrate all ELV systems and services onto a common platform to reduce duplication and complexity



Security Management:

Promoting a safe and secure environment for patients, public and staff alike, a campus-wide safety and incident management system was implemented comprising Intrusion Detection, CCTV, Access Control System and Intercom System. Honeywell Digital Video Manager R500 (DVM R500) was deployed with the DVM R500 Console in the main control room to enable efficient facility monitoring.

Sophisticated integrations include:

- Chemical Biological, Radioactive and Nuclear (CBRN) lockdown of all buildings
- Smartcard technologies enable an integrated identity management solution bridging logical and physical identities
- Automated Incident Management System allow full control of critical Standard Operating Procedures (SOP) for any user, both casual and untrained, to initiate and safely manage incidents as they occur across the campus



Energy and Building Management:

Focusing on sustainable solutions, Honeywell Energy Manager (HEM) monitors and manages over 1,100 metered energy loads across the site.

Integrated with the campus-wide HVAC control and monitoring solution, utilising the Honeywell ComfortPoint™ Open platform, complex integrated strategies have been implemented to control the facilities, including the following mission critical systems:

- Redundant control of Central Tri Generation Energy plant system
- Operating Theatre High Availability Condition Controls
- Pressurised Clean and Infection control room management

Technology Snap Shot

Third-party and Honeywell technology seamlessly integrated on Honeywell EBI

- Seven distributed and redundant EBI servers connect over 150,000 points from 65+ ELV systems and publish over 40,000 graphic pages
- Campus-wide Energy Management System with over 1,100 Meters monitoring gas, water and electricity for the campus, supported by an enterprise meter bus solution
- ELV systems supported by a redundant converged IP Network and Virtualised ICT Infrastructure and Servers
- Incident Management System to support workflow execution
- 300+ ELV System and Energy Reports
- 80+ concurrent users accessing the system through a mix of operator consoles, video walls, touch screen kiosks, workstations and mobile devices, including mobile device support for Android/iOS/Surface
- Enterprise Security System comprising 1,600 card readers, 1400 monitored doors and 460 HD IP CCTV cameras. Breadth of integration spans Honeywell and third-party systems such as 370 intercoms points including 76 nurse stations and reception video intercom stations, security integration to 49 lifts, and Chemical Biological, Radioactive and Nuclear (CBRN) lockdown of all buildings
- HVAC Building Management System including 500+ ComfortPoint controllers and 15,000 BMS hardware points. The system interfaces with multiple third-party mechanical services plant including chillers, boilers, generators PLCs, fuel systems, VSDs, touch screen controllers, ACUs, electrical switchboard PLCs, and load management PLCs
- Central energy plant integration including BMS controller redundancy and plant controller distribution for easier energy management





Business Outcomes

The Honeywell solution provides Fiona Stanley Hospital with a scalable campus technology roadmap thanks to the flexibility of Honeywell EBI and open system technologies.

- Seamlessly integrating 65+ ELV systems—80% of which are non-Honeywell subsystems—onto Honeywell EBI delivers multiple benefits:
 - Ability to monitor and manage the facility from an enterprise view
 - Simplified central event and alarm management with real-time facility-wide view promoting faster and more informed decision-making
 - Single Web-based user interface and consistent graphics enhances the user experience, promoting productivity, workflow improvements and reduces the need for training
- Reduced capital, ongoing maintenance and lifecycle costs were achieved through a single and converged, campus-wide building services IP network, improving flexibility, redundancy and future scalability
- Flexibility in facility management is achieved through mobile connectivity and support, aiding productivity across the campus environment
- Incident Management solution ensures precision and reduced risk of human error in times of crisis. Standard Operating Procedures (SOP) are integrated into facility workflows and facility operators are guided through the required response in real-time. Responses are recorded enabling transparency, compliance and verification of response actions
- Integrated security with Honeywell DVM R500 and Console provides enhanced situational awareness. Intelligent functionality such as synchronised playback, motion searching and forensic analysis empowers security operators to respond faster
- The integrated building management approach promotes optimisation of HVAC and energy resources, promoting lower energy consumption and reduced operation cost
- IP networking and open building protocols utilised for all ELV integrations promotes interoperability and long-term flexibility

Fast Facts

783 

Bed Tertiary Hospital in Western Australia

5 YEARS
Construct project
(2009 – 2013)

over **65** disparate building services systems on one integrated ELV platform (EBI R410.2 – DSA)



ELV packages under Honeywell: Security, CCTV (DVM R500), HVAC and Energy Management

Honeywell was the Master Systems Integrator and provided ICT / Network Infrastructure to cater to all building services.

Special Integration



Honeywell has been engaged into a **7** YEAR maintenance contract by Hospital FM providers (SERCO Australia)

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