

GCPH

GOLD COAST PRIVATE HOSPITAL

dwp

Future Proofing

Gold Coast Private Hospital is a \$230 million Healthscope facility, which opened March 2016. At the commencement of the project dwp's health design specialists completed a full review of all health planning to meet Healthscope's objectives for flexibility and delivery of a superior patient experience.

Equipped with the latest technology, Gold Coast Private Hospital is now one of Australia's largest private hospitals boasting 284 beds and 13 operating theatres, designed with flexibility for expansion to accommodate future demand. dwp worked closely with Healthscope on a fasttrack program to deliver this major facility.





Context

A key consideration when determining building orientation was to optimise access to soothing views of the leafy Gold Coast hinterland hills and good exposure to daylight. Taking advantage of the topography of the site, the key address point locates the main entry and the emergency department entrance to the east. The three storey, 500 space carpark and a loading dock are located under the hospital, with street level access from Innovation Drive to the west.

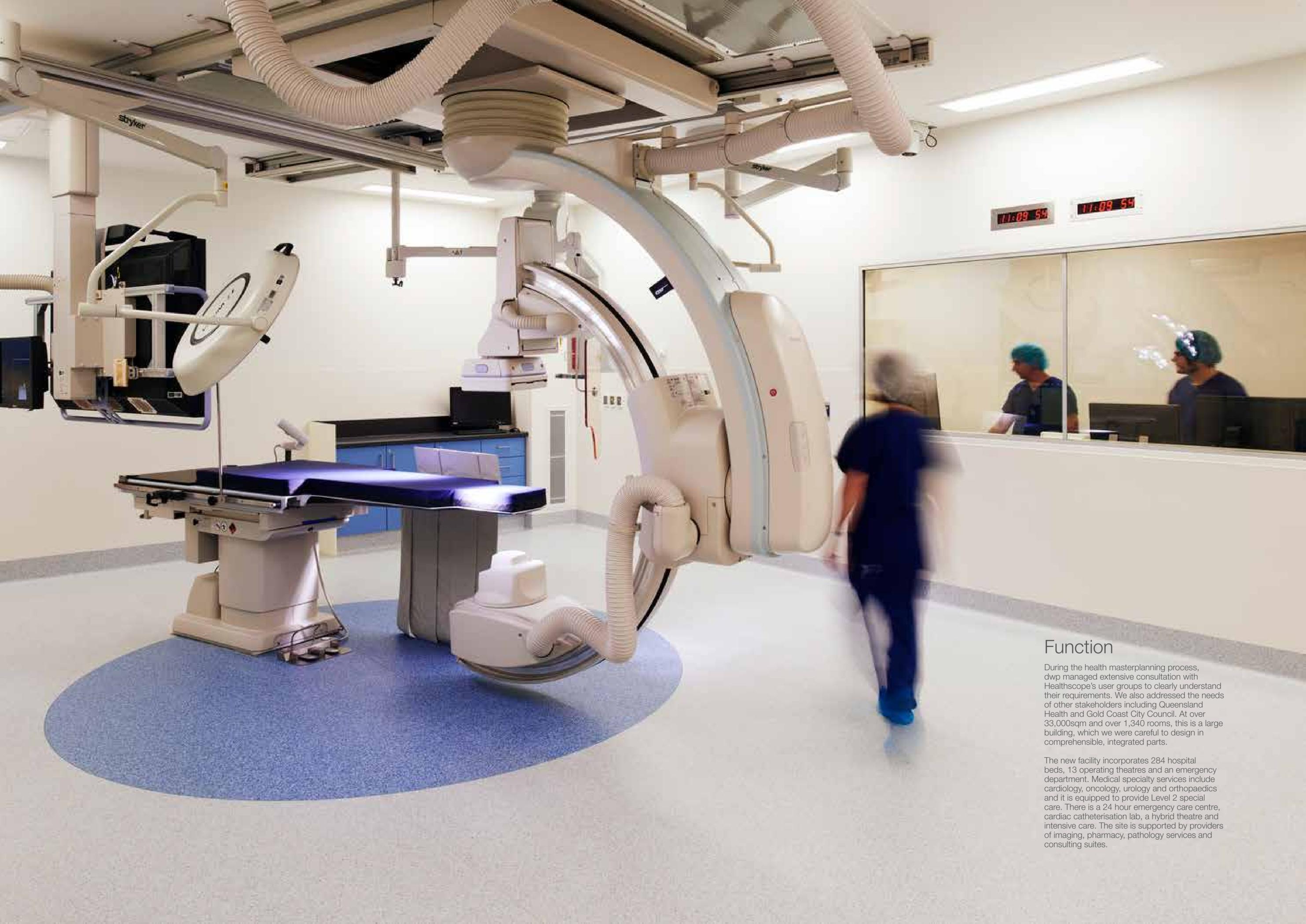
Located within the Gold Coast Health and Knowledge Precinct alongside Griffith University, Gold Coast University Hospital and the 2018 Commonwealth Games Village, the hospital is well connected to a dynamic urban region. Healthscope was selected to join the precinct following an extensive four year process by Queensland Health. As the latest addition to this rapidly evolving precinct, the hospital incorporates impressive levels of flexibility for future expansion to respond to anticipated Gold Coast population growth.



Evolving the Typology

The interior design concept is to create a warm, welcoming, non-clinical setting, more like a boutique hotel than a hospital, for patients, visitors and staff to enjoy. The aim is to relax patients and visitors and allow staff to focus on patient needs in a pleasant, comforting environment that provides optimum care.





Function

During the health masterplanning process, dwp managed extensive consultation with Healthscope's user groups to clearly understand their requirements. We also addressed the needs of other stakeholders including Queensland Health and Gold Coast City Council. At over 33,000sqm and over 1,340 rooms, this is a large building, which we were careful to design in comprehensible, integrated parts.

The new facility incorporates 284 hospital beds, 13 operating theatres and an emergency department. Medical specialty services include cardiology, oncology, urology and orthopaedics and it is equipped to provide Level 2 special care. There is a 24 hour emergency care centre, cardiac catheterisation lab, a hybrid theatre and intensive care. The site is supported by providers of imaging, pharmacy, pathology services and consulting suites.



Gold Standard Intensive Care

Large windows are set into the adjoining walls of individual ICU rooms to aid nurses' observation of adjacent rooms. Patient privacy is assured by the use of I-Glass (switchable privacy glass), eliminating the need for curtains. I-Glass in its normal form is clear and transparent but when an electric current is passed through it, becomes opaque. In this way we maintain an open and light environment yet still provide privacy to patients when required.

With a number of studies showing the benefits of access to leafy views, the outdoors and daylight, dwp incorporates these elements into the intensive care unit as well as the general wards. Stress-relieving respite spaces which connect with nature include an extensive external plaza that overlooks the Commonwealth Games precinct. Available for the use of staff and families of critical patients, its purpose is to revitalise and refresh anyone who needs a break.



Emergency Care

The Emergency Care Centre is a dedicated facility offering comprehensive, streamlined emergency medicine. It has facilities for rapid assessment and 24 hour medical care with onsite x-ray and pathology. Cardiac conditions are a speciality with a 24 hour cardiac chest pain referral centre, supported by the onsite 24 hour catheterisation laboratory, attended by an experienced team of interventional cardiologists. The centre has excellent access to medical imaging and to the level 1 'Hot Floor'.

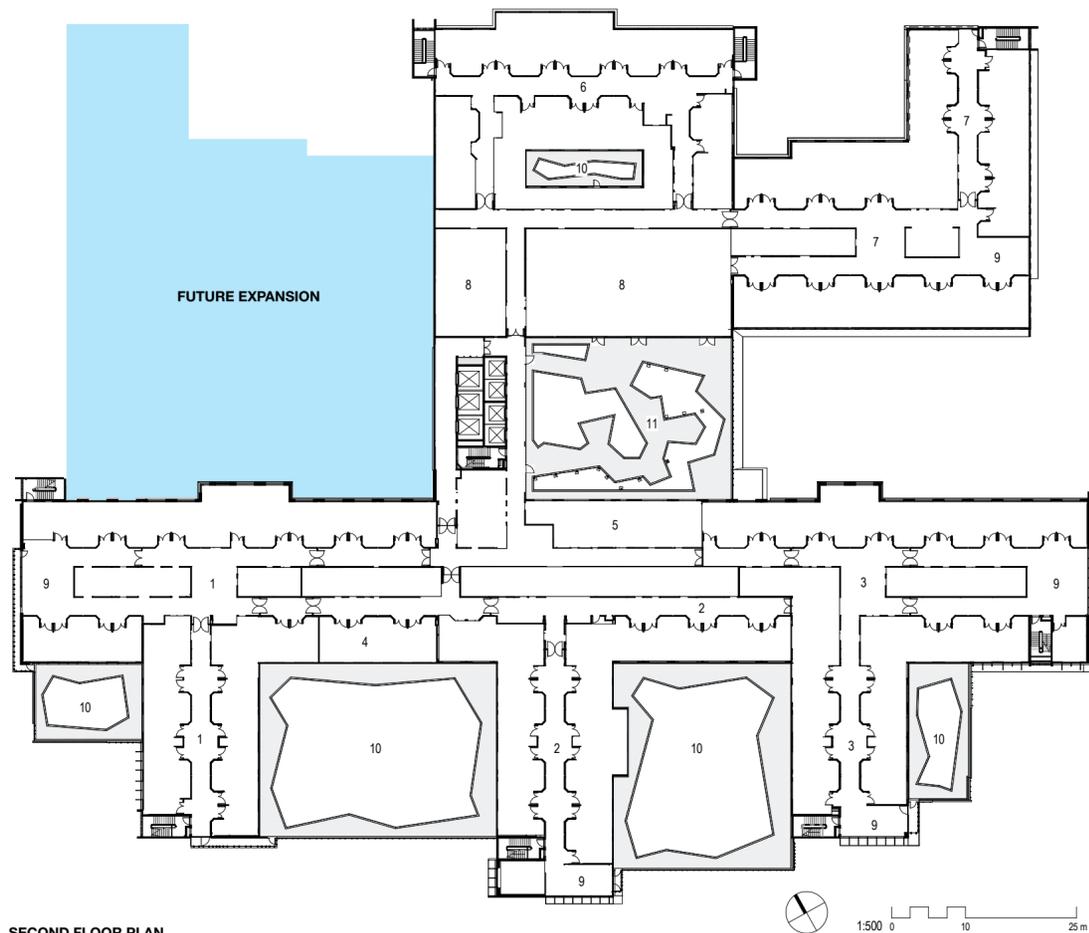
On March 12 2016, the hospital opened its doors at 6am and at 9am Mr Greg Kennedy was driven to the hospital by his wife. The 43 year old Gold Coast resident found himself the centre of attention as the very first patient to come through the new emergency department.



Stepping Into Rehab

The Gold Coast Private Rehabilitation Care Centre provides specialist private rehabilitation services by a multidisciplinary team. Inpatient and day therapy programs are offered in spaces designed to help patients unlock their maximum potential. Services that are provided include orthopaedic, neurological and reconditioning programs following surgical and medical events. Outpatient cardiac rehabilitation is also available.

Located adjacent to one of the courtyards, rehabilitation patients are able to work on their mobility skills in a leafy garden setting. Designed for patient and visitor access, the courtyard works like a break-out area from the hospital surroundings, providing areas to stroll or sit under cover, in a green environment.



SECOND FLOOR PLAN

Innovation and Ideas

Future flexibility and adaptability: from the initial concept design it was essential to consider how the building can be designed to easily accommodate future expansion. dwp's masterplan was refined from many options to provide the most effective balance of initial service provision and operational efficiency and allow for future expansion. Stages 2 and 3 have been 'pre-loaded' into the building construction. The concrete structures are designed to accommodate increased loads and the main services trunks are already constructed, ready for further stages to be simply 'plugged in'.

As future requirements are always changing, we designed the concrete framed building with lightweight internal walls that can be adapted to future layouts to suit changing technology innovations and medical treatments. We located the main mechanical plant on the roof to allow for maximum flexibility on each floor level.

Collaboration: the quality of the Building Information Model (BIM), together with the collaboration between the architect, contractor and subcontractors, delivered a very fast construction schedule. Early works commenced in November 2013 and the structure reached lock up stage by end 2014. Fitout and commissioning was completed by early 2015. The first patient was treated on 12 March 2016.

- LEGEND
1. MEDICAL WARD
 2. CARDIAC WARD
 3. SURGICAL WARD
 4. CCU
 5. MULTIPURPOSE
 6. REHAB WARD 1
 7. REHAB WARD 2
 8. REHAB GYMS
 9. LOUNGE
 10. LANDSCAPED COURTYARD
 11. TERRACE



Back of House Smarts

The central sterile services department (CSSD) is a fully equipped facility to cater for the hospital's current sterilisation requirements with the ability to accommodate the proposed future surgical expansion. The design includes the latest ideas in relation to protection of the reverse osmosis water system by use of cyclic heating rather than chemical treatment.

A 5 star facility needs a 5 star kitchen and back of house organisation flows. The kitchen is designed to provide all meals required for the current facility with the ability to be upscaled to meet the demand for more meals in the future expansion.





Sustainability and Efficiency

Healthscope is committed to reducing waste, ensuring efficient use of natural resources and contributing towards a sustainable future, including through the design and operation of its facilities.

The hospital utilises passive solar design with large eave overhangs, sunshades, high performance glazing, solid concrete elements and orientation to reduce the heat load on the building and reduce its energy consumption. Landscaped gardens and courtyards are designed for drought resistant plants, watered from on-site rainwater tanks that are linked to the campus irrigation system. Green walls at the western and southern elevations will minimise heat gain and glare, while enhancing and cooling the surrounding urban environment. Low VOC paints and finishes have been specified for internal finishes to optimise interior air quality.

Within the Knowledge Precinct masterplan the health campus is designed with a focus on resilience and energy efficiency. A large Central Energy Plant (CEP) to the north of the precinct provides chilled water, natural gas and oxygen to both hospitals, with inbuilt capacity for future expansion. Adjacent to the CEP, an Energex substation is planned for staged expansion; ultimately it will service the entire precinct. dwp designed the hospital to leverage the benefits of the significant energy and cost savings on offer in the precinct, including reduced requirements for construction of chillers and the plant rooms to accommodate them.

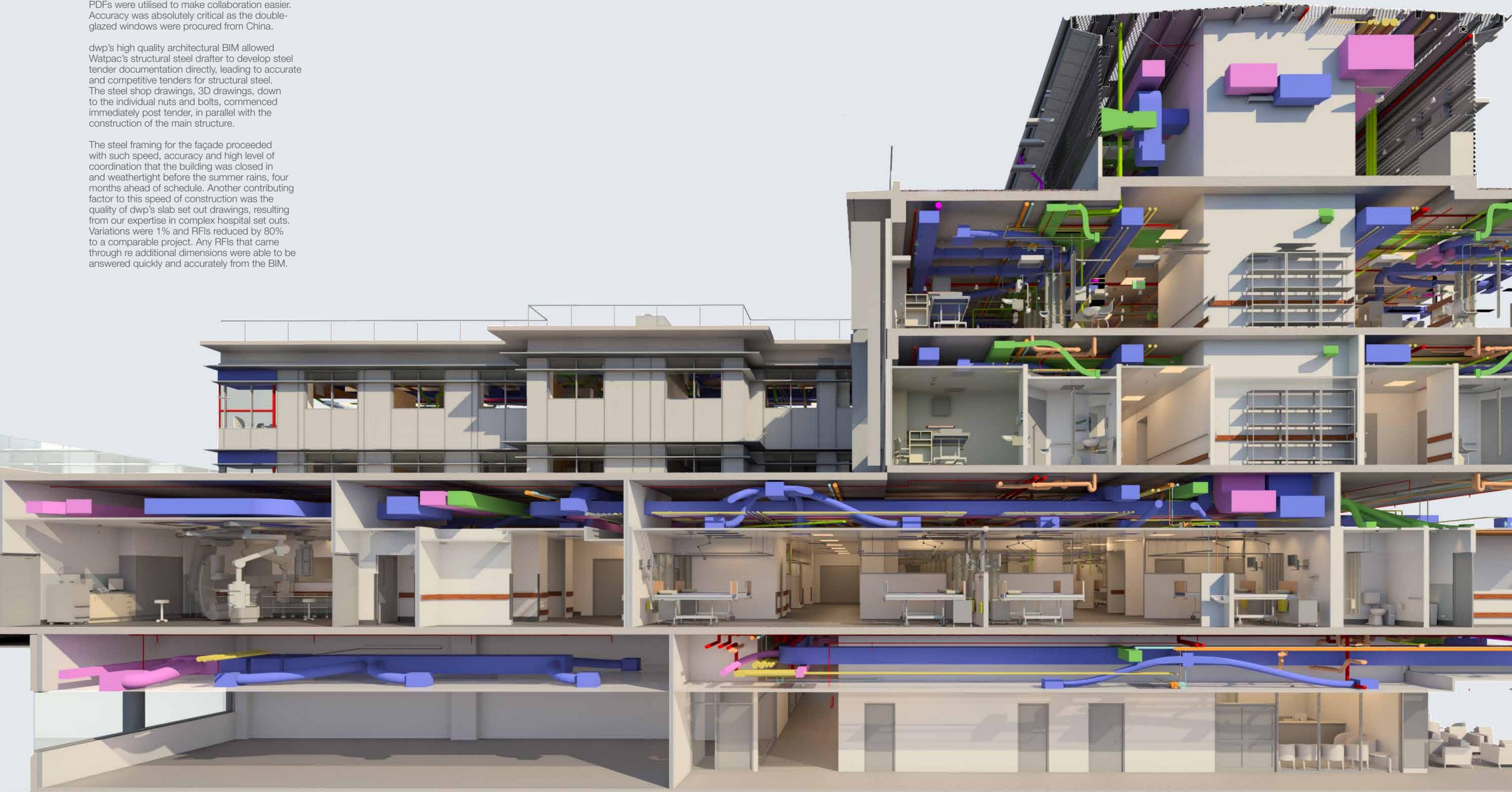
Building Information Model (BIM)

The hospital was a BIM project from the outset as dwp worked under direct engagement with Healthscope. Watpac was selected as contractor based on the tender of 65% complete construction documentation and worked with dwp through to 100%, integrating contractor led construction and procurement inputs.

Critical to the success of the project was the collaboration between dwp, Watpac and Watpac's subcontractors. Fortnightly workshops throughout the documentation finalisation process meant early gains in accuracy and time. Navigable 3D PDFs were utilised to make collaboration easier. Accuracy was absolutely critical as the double-glazed windows were procured from China.

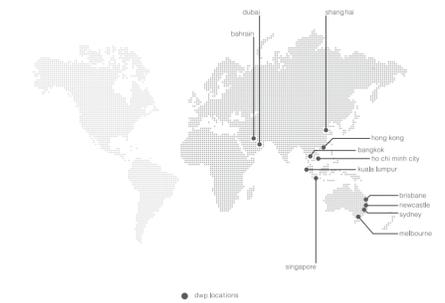
dwp's high quality architectural BIM allowed Watpac's structural steel drafter to develop steel tender documentation directly, leading to accurate and competitive tenders for structural steel. The steel shop drawings, 3D drawings, down to the individual nuts and bolts, commenced immediately post tender, in parallel with the construction of the main structure.

The steel framing for the façade proceeded with such speed, accuracy and high level of coordination that the building was closed in and weathertight before the summer rains, four months ahead of schedule. Another contributing factor to this speed of construction was the quality of dwp's slab set out drawings, resulting from our expertise in complex hospital set outs. Variations were 1% and RFIs reduced by 80% to a comparable project. Any RFIs that came through re additional dimensions were able to be answered quickly and accurately from the BIM.





We are 450 professionals who are defining a new world built on the insights of people who love the spaces we design. We are dwp - design worldwide partnership.



In Asia, Australia and the Middle East our clients are deeply engaged with their customers. We translate their aspirations into beautiful, culturally sensitive places. Practising architecture, interior design and masterplanning, we tailor global future thinking to locally specific needs.

Sustainability is our commitment to future generations. To protect our environment and our society we champion sustainable design, economic responsibility and social conscience. We use Building Information Modelling (BIM) to provide an immersive experience to our clients that facilitates decision making. Seamless coordination, community engagement and cost certainty are a few of the benefits.

Quality is defined by your relationship with us and your customers' relationship with you. We've succeeded when your customers want to be in the spaces we create. Partnership with our clients enables constructive innovation based on deep understanding. We lead a hand-picked team of specialists tailored for you. Diversity, flexibility and creativity through collaboration.

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‘ This facility
will be the jewel in
the Healthscope
crown and the
people of south
east Queensland
will be the
beneficiaries ’

David Harper
General Manager
Gold Coast Private Hospital

