

Healthcare Engineering Design


With every community, we redefine what's possible






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 **On the cover:**
**Victorian Comprehensive
Cancer Centre**, Melbourne, VIC
*Architect: Silver Thomas
Hanley, Design Inc and McBride
Charles Ryan*

 With your reading experience in mind, we have built in easy ways for you to navigate this document.

Use the bottom menu, arrows, and the table of contents to flip to different sections. Watch for information icons, arrows, buttons, and underlined hyperlinks throughout the document. They will lead you to more information.



01

Capability

📍 **New Footscray Hospital**, Footscray, Victoria
Architect: Silver Thomas Hanley, Design Inc and McBride Charles Ryan

Key Pillars of Innovative Healthcare Design

Improving health worldwide through the power of design—connecting millions to health and wellness close to home.



Patient & Career Experience

Designing with the patient’s heart and healing in mind



Sustainability & Decarbonisation

Eco-smart designs for health today and tomorrow



Clinical Function Understanding

Expert-driven designs for peak clinical performance



Minimising Downtime

Seamless transformations, uninterrupted care

Our Approach

At Stantec, we understand that a healing environment is about more than just engineering—it’s about creating spaces that promote wellness and comfort for patients.

Our approach to healthcare goes beyond design; by merging strategic medical planning with a profound understanding of clinical functions, we craft facilities that are not only environmentally conscious but also adhere to the highest healthcare standards. This approach shapes environments that are not just functional, but also nurturing, enhancing the lives of individuals and the broader community.

📍 **Arthur J.E. Child Comprehensive Cancer Centre**, Calgary, AB
Architect: Stantec + DIALOG



Our Healthcare Innovation Spectrum

High Performance Buildings Services

Environmental Health

Buildings Engineering

Project Management

BIM Management

Master Planning

Sustainability and Decarbonisation

Digital Enabler

Comprehensive Healthcare Engineering Solutions



*Click to learn more
about our services*



02

Project Experience

📍 Childrens Hospital Westmead, Sydney, AU

New Footscray Hospital

Providing comprehensive building services engineering for the development of a new healthcare facility

The New Footscray Hospital Project will provide access to quality care and support future operation, technology, and service changes to western Melbourne. The project will deliver more accessible healthcare to the community with more beds.



Redcliffe Hospital Expansion Project

Providing comprehensive engineering design services to support the Queensland Health Capacity Expansion Program

The Redcliffe Hospital expansion, one of the largest projects in Queensland Health’s Capacity Expansion Program, aims to address the growing demand for healthcare. This major redevelopment includes constructing a nine-story clinical services building and the delivery of 204 new beds. The project will also expand existing services such as theaters, emergency, birthing, endoscopy, outpatient consult rooms, diagnostic rooms, medical imaging, and pharmacy.



Fiona Stanley Hospital

Major tertiary hospital serving south metropolitan Perth

The Fiona Stanley Hospital (FSH) is the largest building project ever undertaken by the Western Australia State Government. It provides 150,000 square metres of floor space across five main buildings with state-of-the-art technology built into every level, and our engineers implemented many of the initiatives that contributed to FSH being one of Australia’s most technologically advanced hospitals.



Victorian Comprehensive Cancer Centre

The cutting-edge new home for cancer research and clinical services

The Victorian Comprehensive Cancer Centre (VCCC) is a purpose-built centre-of-excellence for cancer research, treatment, care, and education. The \$1 billion, 130,000-square-metre facility is the new home of Peter MacCallum Cancer Centre, new cancer research, and clinical services for Melbourne Health and the University of Melbourne. Located in Melbourne's prestigious Parkville Biomedical Precinct the VCCC aims to become one of the top 10 facilities of its kind in the world.



The Children’s Hospital at Westmead: Stage 2 Redevelopment

New Paediatric Services Building, parking, and upgrades enables children in the region to live their healthiest lives

Designing for construction in a live hospital environment is always a challenge, and the Westmead Health Precinct in Sydney is one of the largest and busiest campuses in Australia. Our buildings engineering team provided sustainable design solutions for a new Paediatric Services Building that aligns with the latest clinical standards, while offering robust options for future expansion.



Liverpool Health and Academic Precinct: Peer Review

Elevating healthcare services, fuelling the local economy, and positioning Liverpool Hospital as a hub for innovation and research

The Liverpool Health and Academic Precinct is a \$830 million redevelopment of Liverpool Hospital delivered in partnership between Health Infrastructure and South Western Sydney Local Health District. Commissioned by the NSW Government, the project will significantly enhance healthcare services for the population of southwestern Sydney and position Liverpool Hospital as a global centre for innovation and medical research.



Karratha Health Campus

Filling service needs

The Government of Western Australia is working on an initiative and series of projects to expand Karratha from 18,000 permanent residents to 50,000. As part of that work, they wanted to develop a new, state-of-the-art medical centre—the Karratha Health Campus (KHC). Constructed to provide care for the new numbers of West Pilbara residents, the KHC represents the largest hospital infrastructure investment undertaken in regional Western Australia



Intensive Care Unit (ICU) of the Future: Prince Charles Hospital

Supporting the design of a revolutionary ICU that aims to improve well-being of patients and their families

Australian intensive care units (ICUs) do life-saving work. Yet, despite their efforts, up to 75 percent of ICU patients will experience cognitive problems, including delirium during or after their admission, and 50 percent of family members will have post-traumatic stress disorder (PTSD) symptoms. The ICU of the Future at The Prince Charles Hospital has been designed to promote a peaceful, connected, and patient-focused environment to reduce the harmful effects of the intensive care experience on patients and their families.



Arthur J.E. Child Comprehensive Cancer Centre

Where patient first design, leading-edge care and research converge

From diagnosis to treatment and beyond, each cancer patient’s experience is unique. Guided by the intricacies of what this means, the Arthur J.E. Child Comprehensive Cancer Centre is designed to alleviate the fear and stress often associated with diagnosis and treatment. Following engagement of hundreds of patients, family advisors, physicians, design and contracting partners, the design is a state-of-the-art facility that fosters community and connection among patients, their support groups, and services.



Hamdan Bin Rashid Cancer Hospital

This first-of-its-kind comprehensive cancer hospital elevates accessibility and offers specialised, multidisciplinary treatment

Hamdan Bin Rashid Cancer Hospital will be Dubai’s first integrated comprehensive cancer hospital, combining primary care, diagnosis, and treatment to offer detection and intervention at earlier stages of the patient’s journey.





03

Design Expertise

📍 **New Footscray Hospital**, Footscray, Victoria
Architect: Silver Thomas Hanley, Design Inc and McBride Charles Ryan

Our ideas

Explore our curated selection of thought leadership articles that delve into the innovative approaches and cutting-edge solutions shaping the future of healthcare design. Gain insights from our experts on creating healing environments that enhance patient care and promote well-being.



Why decarbonising hospitals smartly is better than electrification for healthcare design



Quieting the chaos: the importance of building acoustics in hospitals



AI meets analogue: Harmonizing mock-ups with generative AI



Reshaping ICU bedspace into a calm, comfortable environment where patients thrive



A modular construction solution to the mental healthcare crisis



Planning healthcare facilities with Playmobil figures and 3D printers




04

About Us

📷 Hamdan Bin Rashid Cancer Hospital, Dubai, United Arab Emirates

Why Stantec?

Stantec is recognised as the #2 Top Healthcare firm in Modern Healthcare 2024 Design & Construction Survey, and #5 Healthcare firm in the world by ENR’s Top 500 Design Firms for 2024, demonstrating Stantec’s reputation for setting standards in quality, value, and innovation.

 **Lismore Base Hospital**, Lismore, New South Wales
Architect: Woods Bagot

**One consultancy. All services.
Healthcare specialists.**

The full list of Engineering and Services Consultants, plus a number of value-adds

**Recent experience of cutting-edge
healthcare delivery**

Seasoned in managing brownfield environments and complex staged refurbishments that focus on sustainability and emissions reduction

**Carbon emissions reduction
via electrification**

We can draw on knowledge from recent projects including Footscray to identify best options

Design thinking

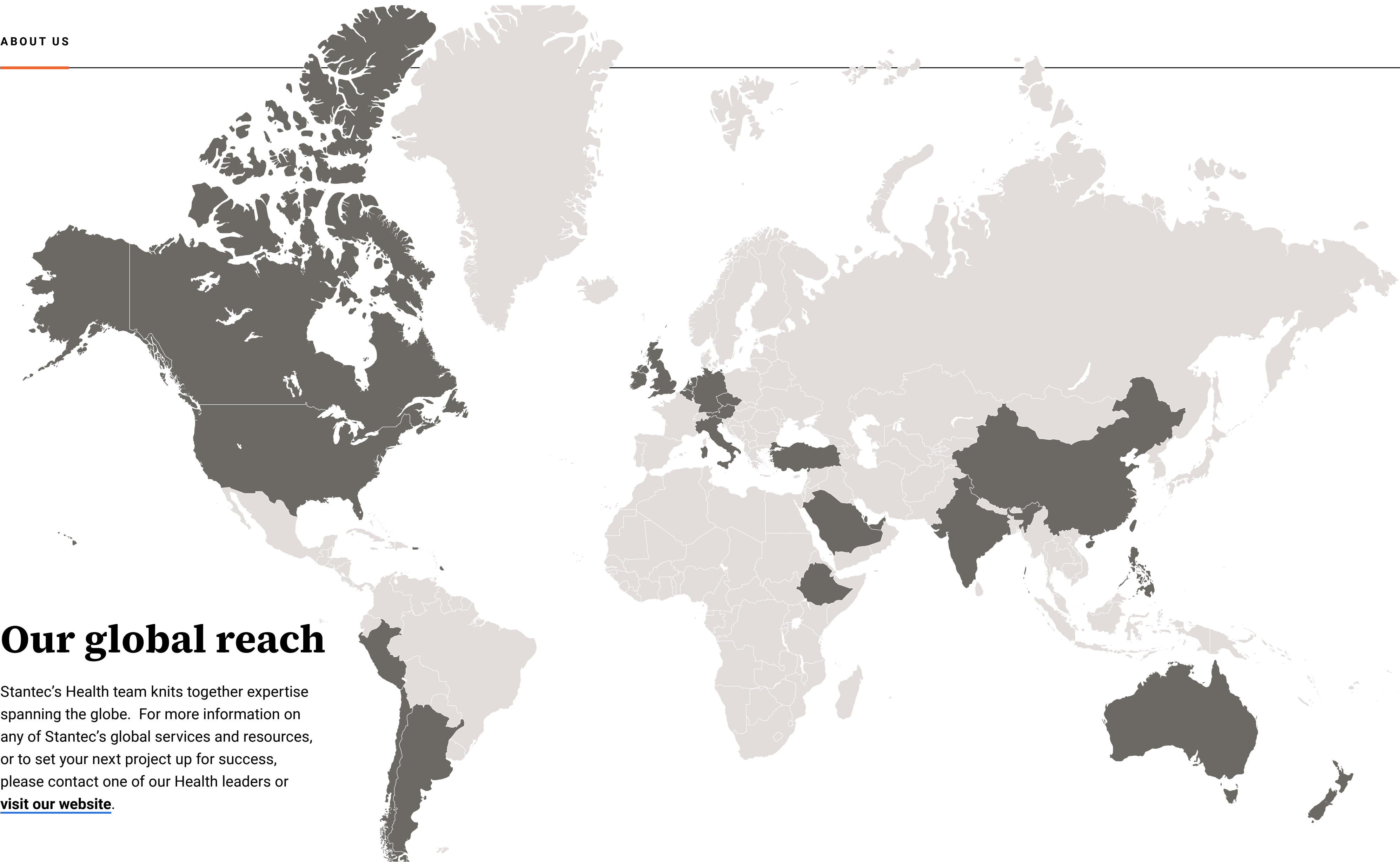
Approach from the patient/staff/visitor perspective

Digital design

Application of digital to assist in design, stakeholder management and articulation of design



Courtesy of Woods Bagot



Our global reach

Stantec’s Health team knits together expertise spanning the globe. For more information on any of Stantec’s global services and resources, or to set your next project up for success, please contact one of our Health leaders or [visit our website](#).

450

Locations Worldwide

34,000

Employees Globally

2,000+


Employees in Australia

- | | |
|----------------|----------------------|
| Argentina | Italy |
| Australia | Netherlands |
| Bahrain | New Zealand |
| Barbados | Peru |
| Belgium | Philippines |
| Canada | Qatar |
| Chile | Saudi Arabia |
| China | Taiwan |
| Czech Republic | Turkey |
| Ethiopia | United Arab Emirates |
| Germany | United Kingdom |
| India | United States |
| Ireland | |



Acknowledgement of Country

We acknowledge the Traditional Custodians of Country throughout Australia and their connections to the land, waters, and communities where we work. We pay our respect to their Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples.

 **Stantec's Reconciliation Journey**
by Chern'ee Sutton



Meeting your needs

- **Virtual Delivery and Collaboration:** Our global offices work closely together with joint project ownership; a unified approach ensures consistent results across regions.
- **Tools and Knowledge:** Shared repositories to capture and distribute tools, knowledge and expertise, fostering innovation and excellence.
- **Strong Engagement:** Responsiveness and proactive communication enables strong relationships within teams and with clients.

[STANTEC.COM/AU](https://www.stantec.com/au)

