

AUTOMATION

Aurecon develops building health tool to mitigate Covid-19 risks

By **Martin Smith** (CEng, BEng Mechanical), Technical Director - Buildings, Aurecon (rebranding as Zutari).

With over 75 Green Star certified projects, and delivering the first WELL-rated building in Africa, the Aurecon team understands the dynamics of buildings and their impact on occupant health. To assist property developers and facility managers to respond to Covid-19 risks and prepare buildings for resumed operations, Aurecon has used its extensive multi-disciplinary experience to develop a customised building health assessment tool.

The tool assists property owners to demonstrate to their shareholders, management, employees and clients that a systematic, balanced approach has been taken to find an optimal solution to minimise the health risk.

The Covid-19 global pandemic has triggered unprecedented disruption, impacting organisations across the world. Aurecon is highly experienced in building design and operations with technical experts who understand how the virus can be distributed through multiple infection routes within a building and amongst people. Technical elements such as air conditioning and wet services, along with usage patterns, all contribute to the transmission risks within buildings.

By analysing the work environment and operational practices, while understanding the business needs, companies have the power to mitigate risks

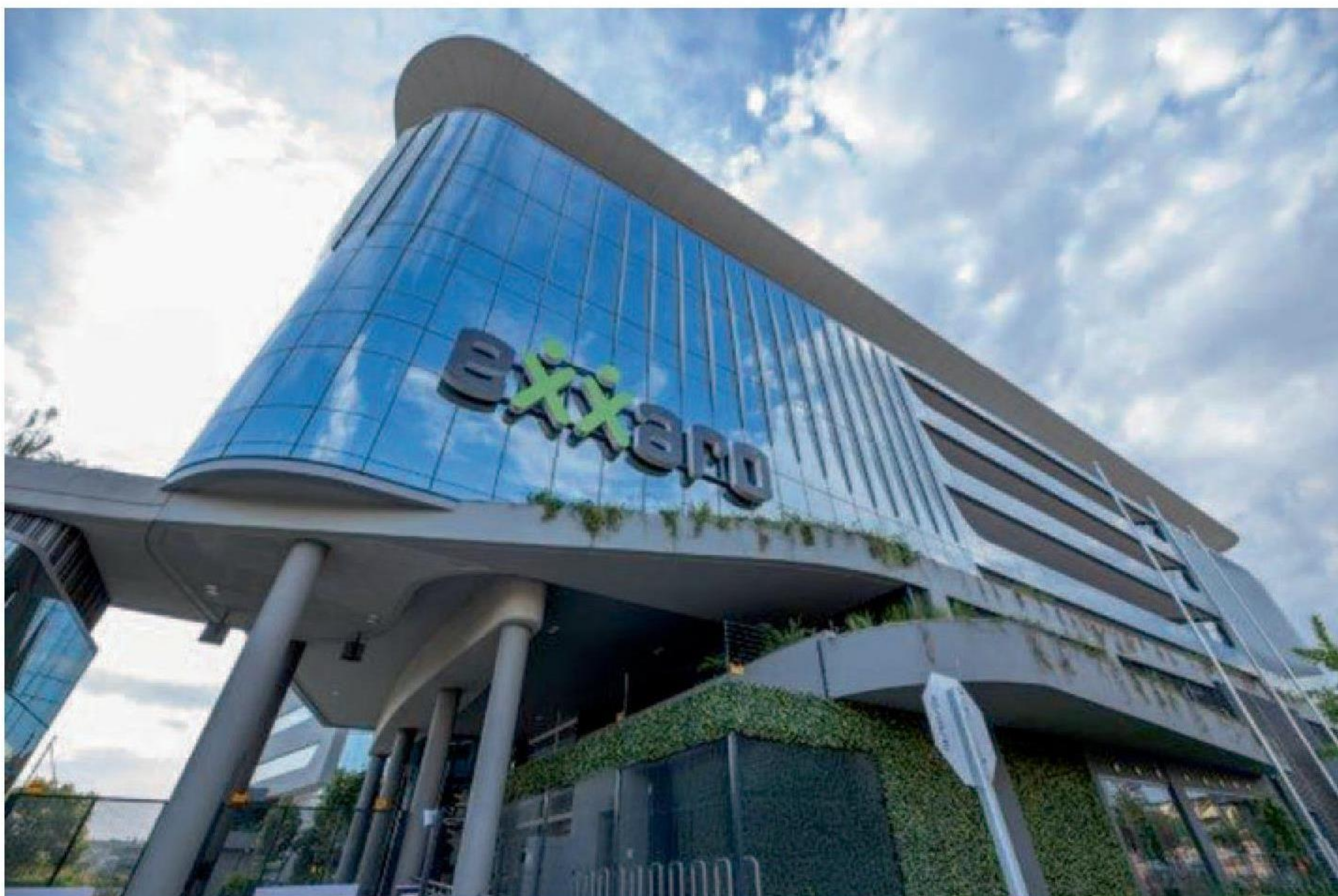


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and create safe and productive spaces that will assist with resuming business and increasing productivity.

Aurecon's Building Health Assessment Tool is a comprehensive diagnostic of the key operational and physical factors that helps property owners put in place plans to mitigate workplace risks, and assists them with resuming business and increasing health and productivity. A gap analysis is used to prepare a short-, medium- and long-term plan that meets the client's business needs.

The aim is to try and find practical solutions that close the gap between these business needs and the risk of infection. These include operational processes and controls and building physical and technological improvements, along with emergency procedures and awareness. The challenge here is not to have a knee-jerk response with short-term actions, but to systematically reduce risk in a manner that is affordable and makes sense in the short and long term.



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Exxaro's head office consists of a five-storey, 2,5 basement structure adjacent to Centurion Lake. The building achieved a 5 Star Green Star design rating and is targeting an As-Built and an Interiors rating. Aurecon was appointed to design the HVAC services, provide environmentally sustainable design (ESD) or 'green' building design services, and review the foundation designs for the project. The HVAC design consists of roof air-cooled chillers and in-ceiling mounted fan coil units.

Another example is One Discovery Place, developed by Growthpoint Properties in a joint venture with Zenprop Property Holdings. It is the largest commercial office building in South Africa, achieving a 6-Star Green Star As-Built rating. It extends the boundaries of an energy-efficient, environment- and occupant-friendly building, with Aurecon providing mechanical and ESD services for the project.

Green initiatives include optimally designed energy-efficient lighting, grey and rainwater harvesting systems, water-efficient sanitary fittings, and carbon monoxide monitoring in the basement. Aurecon also carried out an in-depth analysis on the striking, swirling façade that draws light into the building, and which is also critical for thermal heat control.

Some of the strongest design principles at One Discovery Place are the ideas of occupant well-being and movement, with features such as a

rooftop running track, an indigenous landscaped roof garden and visually attractive staircases that encourage staff to use stairs instead of elevators. The building features an abundance of natural light, with most of the building wrapped around a series of sunlit atria that plug into a central concourse; the largest atrium is big enough to house a Boeing 737.

Aurecon offers integrated multi-disciplinary solutions which includes mechanical, electrical, water, civil and structural advisory and ESD services. ■