



- **Safety, reliability & long-term serviceability concerns:** Without intervention, the BMU posed escalating operational risks and likely downtime.
- **Complex rooftop arrangements:** The building's multiple rooftop levels (15, 16, 18 and 21) required a flexible solution that could move and adapt between levels, not simply a "one-size-fits-all" fix.

#### The Vertimax Solution: Bespoke Levelling, Modernisation & Adaptability

- A bespoke hydraulic cylinder was engineered to adjust one side of the cage's wire ropes, shortening or lengthening them to re-level the platform precisely during slewing or luffing of the cradle.
- This allowed for a modern, multi-layering winch to be installed and replace the obsolete Tirak units, restoring safe and predictable hoist operations.
- The entire BMU was rewired and fitted with a new PLC, giving better reliability, diagnostic capability and control.
- Vertimax overhauled the telescopic jib hydraulic cylinder by completely removing it on site then overhauling it off site.
- Vertimax assisted the client with early budget forecasting prior to the works actually being undertaken. This ensured the upgrade was financially viable when the time came.

#### The Result: A Modern, Safe & Sustainable Facade Access Solution

The upgrade delivered a range of tangible benefits. Safety and compliance were restored through the bespoke hydraulic levelling mechanism, which removed a critical hazard and ensured the cage remained level during slewing. Reliability improved and downtime reduced thanks to modern winch and electrical systems, offering dependable performance with less risk of failure.

The BMU's service life was extended, with maintainable, supportable components that future-proof the system for years to come.

Through decades of prior association and a bespoke technical solution, Vertimax delivered on complexity and client expectations, reinforcing the client's trust.

## Major upgrade & modernisation of existing Building Maintenance Unit system

For nearly 30 years, the BMU at 452 Flinders Street had operated with original components from Boral Cranes and utilizing the Tirak winches. Over time, the system became obsolete, unreliable, and mis-levelled under slewing. Vertimax worked with the client to develop a scope for the major upgrade works which was then put out to tender. After being awarded the works, Vertimax undertook a major upgrade to transform the ageing building maintenance into a safer, dependable, long-term facade access system.

Several issues required resolution:

- **Manufacturer exit & parts obsolescence:** Boral Cranes had ceased trading, and the Tirak winches remained unsupported, leaving the client without replacement parts should a major failure occur.
- **Cage levelling failure upon slewing:** The cross arm configuration caused the cage to fall out of level when slewing. Historically, the original winches compensated for this, but no direct modern man-riding analogue existed to replicate that functionality.

