University of Melbourne – Faculty of Economics & Commerce
5 Star Green Star Building

The opening of the Faculty of Economics and Commerce building is a milestone for the University of Melbourne on its path to be a world leader in sustainable practice within the education sector. Designed to accommodate up to 400 staff and 1,800 students, this state-of-the-art building has been awarded a 5 star Green Star – Education PILOT rating by the Green Building Council of Australia.

The University of Melbourne plans to be carbon neutral by 2030. To support this goal the design of the Faculty of Economics and Commerce building focused primarily on Indoor Environment Quality whilst reducing the CO2 emissions, water and energy usage. After one year in operation the post occupancy study has demonstrated a 46% reduction in the use of electricity when compared with other typical tertiary education facilities. These savings equate to around $260,000 per year.

Critical to the design of a green building is a well designed façade and the Faculty of Economics and Commerce building is no exception. Its façade marries high performance with its distinctive look. At the heart of this masterpiece is a fully automated solar shading system controlled by Somfy’s animeo IB+ Premium Façade Management System. The animeo solution maximises the availability of natural daylight in the building whilst controlling glare and solar heat gains.

The Somfy animeo IB+ package is an independent, off-the-shelf, control solution that requires the precise light levels to ensure that the blinds are always in the correct position. Additionally it features a built-in sun-tracking algorithm and timers that can easily be configured during commissioning to manage the reaction of the façade at different times during the day and on different days of the week to reflect occupancy levels within the building. The animeo IB+ system can also receive inputs from the building’s management and HVAC systems as well as giving users overriding control of the blinds in their local area. The building reset function of the animeo system gives architects a powerful tool to ensure a uniform look of the building, something that is highlighted with all blinds retracted on the translucent night-time façade.

Project Details
Location
Melbourne, Australia
Type of Building
Educational
Investor
University of Melbourne
Architect
Metier3
Builder
Probuild Construction
End-products
500 Lidi Internal Roller Blinds powered by Somfy

Somfy Solution
animeo IB+ Premium Façade Management System

Case study:
University of Melbourne Faculty of Economics & Commerce
Case study: University of Melbourne

In our modern environment, designing a building is becoming increasingly more complex. With the increasing monetary and societal value of energy from non-renewable sources the research is clear that building designers, developers and builders to reduce its use. Moreover, it has been shown that when buildings are made to support human sustainability, the indoor climate conditions such as daylight and elements such as fresh air, will only reduce the energy consumption of buildings if it also has a positive impact on the occupants.

Natural Light – A natural contributor to increased productivity

A typical green building is 30 to 40% more efficient than buildings designed without green attributes. After the first year of operation the green occupancy study of the 15,500 Faculty of Business and Commerce building has already shown savings of around $260,000 on the electricity costs. Whilst this is a large figure it is overshadowed by the benefits for human beings. Some are simple to translate into pure financial gains. For example, studies have shown that daylight and circadian rhythms are having a direct impact on mental and physical health. The use of artificial light that goes too high and high temperatures can include excessive glare, lighting levels. However, the use of a manual solution the controls on these zones and can be automated so that it is determined by which zone or the amount of daylight available.

Seamless operation is ensured by the use of wireless Somfy RTS cards. This allows control of the blinds in their immediate area. The use of the Somfy RTS system controls them. The automated control system to mirror the control settings of an AMX system can be programmed to operate using a pre-determined position. At a specified time each day the blinds in line with their position within the building.

The university’s objective was to design a building which would perform better than comparable buildings. The Faculty of Business & Commerce building is already looking at this from the perspective of the new criteria. The clear vision of this is to be achieved by the use of automated control of the blinds and awnings to ensure that the system for future changes or updates.

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daylight improve student scores in maths and reading tests. On average students progress 30% faster in arithmetic and 20% faster in reading tests, on average students progress 26% faster. Some other studies have linked daylight and circadian rhythms as having a strong impact on the health of the occupants.

We have seen that the provision of natural light is one of the key factors in the design of a building in order to maximise productivity. This has been shown to be the case in numerous studies, the minimum expected. Based on average savings within the higher education sector this gain could be over $2 million per year.

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New designed passive internal and external solar protection solutions such as blinds and awnings give one of the simplest methods of managing daylight. They allow the building’s users to tailor the amount of daylight to deliver the required thermal and optical comfort levels. However, the use of a manual solution the controls on these zones and can be automated so that it is determined by which zone or the amount of daylight available.

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