

CONTROL SYSTEM UPGRADE RESULTS IN IMPRESSIVE 85.5% ENERGY SAVINGS



SAVING VALUABLE ENERGY

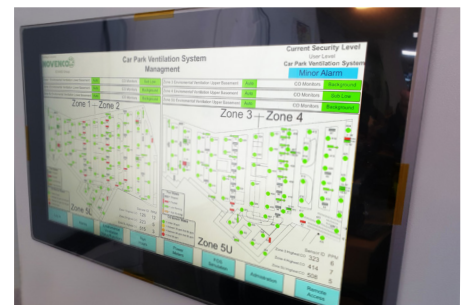
In 2001, NOVENCO Building & Industry installed one of the first jet fan systems in the United Kingdom for an enclosed underground car park of a shopping mall set on the beautiful waterfront of one of the coastal cities in South East England. At that time, the system was designed without a CO detection system. The car park with 1,350 parking spaces is open 24 hours a day, seven days a week. Even after 20 years of constant operation, the NOVENCO fans still run perfectly. In the absence of a CO monitoring system, many fans are switched on manually and run 24/7, leading to unnecessary energy consumption. This is far from an optimal solution in today's energy-saving world. To improve the efficiency of the system as a whole, the recommended solution was to refurbish the car park with new control

panels and a fully automatic CO monitoring system to reduce electricity consumption.

FAST AND EASY UPGRADE RESULTS IN INCREDIBLE ENERGY REDUCTION

Based on the simplicity and robustness of the proposed system, NOVENCO was rewarded the contract again, but this time as the supplier of the control system with an autonomous CO monitoring system. The CO detection system continuously monitors CO concentrations throughout the car park using strategically positioned sensors. If a threshold value is exceeded, the system triggers a signal to the control panels, which activate the jet fan system only for the area where the increased concentration was measured. Prior to replacing the control panels, the main contractor entrusted an independent consulting company, Royal HaskoningDHV,

with carrying out measurements of the CO levels in the car park. CO measurements were also taken after the upgrade, which were similar to those before the upgrade. The significant difference with the new CO detection system was that the fans were only switched on when CO concentrations were elevated, whereas they used to be in operation 24/7. Although a reduction in energy consumption was expected, the measurement results showed a staggering 85.5% energy saving.



NOVENCO CO monitoring display

ENORMOUS ENERGY REDUCTION OF 85.5% WITH NOVENCO CONTROL SYSTEM

INCREDIBLE ENERGY REDUCTION

The NOVENCO car park ventilation control system is highly intelligent and monitors the CO levels constantly. Upon detection of an increased CO concentration, the intelligent control system only activates jet fans in the affected area and slightly increases the extract capacity in the nearest extract shaft to draw in fresh air and dilute harmful gases. The car park jet fans induce the surrounding air, making sure that the contaminated air is perfectly mixed with the fresh air within the affected zone. Variable speed-controlled extract fans remove the unhealthy gases in the affected zones.

The newly installed control panels for this car park ventilation system are dedicated to keeping CO concentrations at very safe levels while minimising power consumption.

FACTS

- ENERGY SAVINGS OF 85.5%
- HIGHLY INTELLIGENT SYSTEM
- 24/7 MONITORING OF CO LEVELS



One of the main control panel rooms with the new 75kW extract fan variable speed drives



Jet fan control panel



One of the CO detection heads within the car park