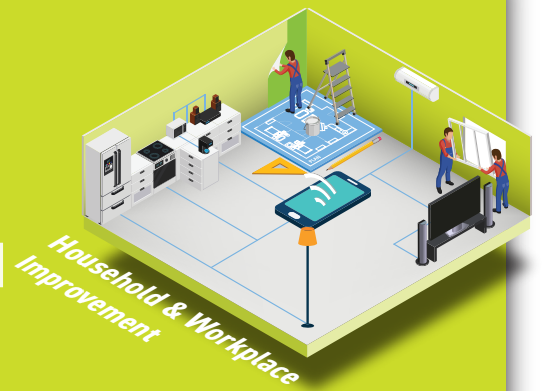


Braving the Epidemic

敢創抗疫

Invisible virus threat stopped and destroyed with intelligent building operating system



A cluster of COVID-19 cases was reported and linked to a popular shopping complex in Kowloon. The shopping complex was temporarily closed for disinfection, with some of the city's best possible disinfection services engaged. Days later, when the complex was about to welcome back tenants and visitors again, a new threat emerged. Rumours pointing at the possibility of virus spreading through the property's centralised air-conditioning system had emerged. In these difficult times, it was only natural that people began speculating out of paranoia.

Fortunately, property maintenance manager John knew the facts. The shopping complex had previously organised the installation of a cutting-edge Building Operating System (BOS), developed by local start-up Negawatt. This system constantly monitors a range of parameters on the property: everything from air pressure and airflow patterns, to the concentration of pollutants. After John had held a meeting discussing the matter with the company's public relations colleagues, the company decided to release to the public part of the data to ease the concern of the tenants and the staff as well as the mall's many loyal patrons. In addition, John's team also introduced disinfectants into the shopping complex through its air-conditioning system, further neutralising the growth and halting the spread of disease-carrying agents.

The BOS developed by Cyberport Community Member Negawatt Utility Limited is a centralised, cloud-based tool employing the technologies of IoT, big data computing and Artificial Intelligence to constantly monitor and analyse different readings such as air pressure, air flow, and concentration of pollutants, etc., within an indoor space.

Thanks to the system's proper integration into the building's electromechanical installations, any essential adjustment can be automated. From something as simple as adjusting airflow through higher fan power, or alarming users when PM2.5 concentration readings exceed standard levels and control the air quality through automated interactions with the electromechanical system of the building (e.g. spraying disinfectants throughout the air conditioning system to avoid spread of disease through the central air duct), these can all be immediately deployed without needing the property maintenance team to deploy any extra manpower.



In light of the current threat of the coronavirus, Negawatt initiated the concept of Sustainable Immunised Building (SIB). "Traditionally, property management relies on the front-line management team for a range of tasks," explained Arthur Lam, Chief Executive Officer and director of Negawatt. "However, the coronavirus outbreak has now forced a significant number of employees to work remotely, while frontline workers are also advised to observe relevant social distancing protocols. This new 'normal' in the industry's workplace serves as a catalyst for the industry's digital transformation, giving birth to remote property management. The [SIB] concept plays a role to ensure enhanced efficiency of a property's resources management."



Starting with their in-depth consultancy services, including expert reviewing of a building's electromechanical, ventilation and drainage systems for possible loopholes, Negawatt's BOS can be incorporated into a building's existing operating system. Furthermore, it can be applied to virtually all types of buildings and facilities, immediately contributing to the comfort, efficiency and, most importantly, in these times of pandemic, the resilience against deadly diseases.

Quick facts



- A previous winner at the coveted International Exhibition of Inventions of Geneva, Negawatt's BOS is adopted by 70 buildings in Hong Kong. That accounts for a floor space of over 30 million square feet. This unique system collects and processes 10 million bits of data per week.
- Negawatt's Q2 revenues were two times that of last year's annual revenues thanks to the newly developed Indoor Environmental Quality (IEQ), and HR intelligent remote management solutions.

Company Profile

Property technology company Negawatt Utility Limited is specialised in developing intelligent building solutions using technologies that encompass AI, big data analysis and IoT. Its proprietary BOS is a centralised platform, capable of turning an ordinary building into an intelligent building with proper upgrades. The system is recognised by the International Facility Management Association, the EMSD of the Hong Kong Government, and was bestowed Deloitte's Rising Star award in 2019.



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Learn more about
Negawatt Utility

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大型商場變疫廈， 管理團隊怎麼辦？



九龍某大型商場因爆發新冠病毒確診群組，整個商場需關閉消毒。商場聘請了專業團隊徹底清潔所有公共地方，準備重開之際，有網上留言憂慮病毒會透過商場的中央空調系統繼續傳播，使人心惶惶。幸而主管John早前為商場部署了由本地初創Negawatt研發的樓宇操作系統，一直無間斷監察室內各個空間的氣壓、氣流變化及污染物濃度等讀數；為釋除公眾疑慮，John與公司企業傳訊部同事商量後，決定整理並公開部分數據，更在商場重開後以系統控制冷氣系統噴灑藥水殺菌，減低病毒透過中央冷氣傳播機會，令租戶市民都倍感安心。

數碼港社群成員Negawatt(庫瓦)研發的樓宇操作系統是一個中央雲端系統，利用物聯網、大數據、人工智能等技術監察及分析室內空間的不同讀數，如氣壓、氣流變化及污染物濃度等，在疫情期間尤其重要。

由於系統早已妥善結合到樓宇的電機裝置，因此任何調整，簡單如透過增加風力改善空氣流動，或是當微細懸浮粒子平均濃度超出標準時，立刻對用戶發出警告，並自動控制在電機系統上作出相應配合，例如在冷氣系統噴灑藥水殺菌，減低病毒透過中央冷氣傳播機會等，大大減省樓宇管理團隊人手操控的需要，並能作出迅速應變。



疫情期間庫瓦提出「永續性防疫大廈」概念，庫瓦行政總裁兼董事Arthur Lam表示：「傳統上，建築物管理主要依靠前綫管理團隊來執行。新冠病毒疫情驅使大量員工留家工作，前綫員工亦要減少社交接觸，這種營運新常態迫使企業變陣，加速數碼轉型及遠程管理。庫瓦致力為香港地產發展商的能源管理進行數碼化和集中化管理，以確保高能源和營運效率。」



庫瓦的樓宇操作系統可以結合建築物內原有的大量操作，庫瓦更會為每棟大廈進行深入「診症」，委託專家檢查樓宇的電機、通風及排水系統，找出大廈設計在防疫上的漏洞，對症下藥。樓宇操作系統可以用於任何類型的建築物，令業主及物業管理透過科技，提升建築物的舒適度、環保度及最重要的防疫能力。

速覽

negawatt
utility 庫瓦有限公司

- 庫瓦樓宇操作系統勇奪日內瓦國際發明獎。
- 三年間，全港有70座商業建築和購物中心採用了庫瓦的建築物操作系統 (BOS)，共覆蓋超過3千萬平方英尺，每星期收集及處理1千萬項資料。
- 疫情下庫瓦開發IEQ和HR管理的智能建築遠程控制系統，刺激公司第二季業績比去年全年銷售額翻了一倍。

公司簡介

房地產工程技術公司庫瓦 (Negawatt) 專門研發具有AI / 大數據分析和IoT技術的智能建築解決方案。庫瓦的AI建築物操作系統 (BOS) 是集中心化的平台，將物業搖身一變成為智能建築。庫瓦建築物操作系統榮獲IFMA(國際設施管理協會)、EMSD以及德勤的認可。



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