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United World College's new office to use new energy efficient concept

SINGAPORE — An office that saves both space and energy with the use of cutting-edge technology will be the first of its kind here in Singapore and a key feature of the United World College South East Asia's (UWCSEA) new campus, once the building is completed next year.

BY PAUL LIM BAO LUO - AUGUST 20

SINGAPORE — An office that saves both space and energy with the use of cutting-edge technology will be the first of its kind here in Singapore and a key feature of the United World College South East Asia's (UWCSEA), once a new building is completed on its campus next year.

The new office will use a method to cool room temperatures that is more efficient, which could potentially reduce its energy consumption by nearly 40 per cent. A new construction technique will also allow developers to construct three floors of office space on just two.

Named 3for2, the project is a collaborative effort between UWCSEA and research centre Singapore-ETH Centre Future Cities Laboratory (SEC FCL), aimed at integrating sustainable living with modern technology in Singapore.

"We were very amazed at the global phenomenon currently happening in Asia — urbanisation. With a big percentage of the world's population now living in the cities, it means that there is a scarcity of space and resources, resulting in high-density living," said Professor Arno Schluter, leader of the project and chairperson of Architecture and Building Systems at ETH Zurich.

"The demand for office space in Singapore is also rising. If a new set of solutions for air-conditioning and lighting could halve both space and energy requirements, we could achieve significant savings to building material costs and energy bills," he added.

Noting that nearly a quarter of the average office space is taken up by ductworks, the researchers decided to maximise space by hiding such bulky equipment along the exterior of the facade. And with more than half of electricity consumption used for air-conditioning, the researchers decided to use water, instead of air, to cool down room temperatures, saving a huge amount of energy.

The concept has already been applied in Switzerland and was brought to Singapore for further research and development two years ago. The team is now seeing how this can be made commercially viable in the Asian market.

"We are no longer so concerned about whether it (the concept) will work. Our focus from here is understanding the thoughts of our office occupants, contractors and investors regarding this new concept," said Dr Adam Rysanek, SEC FCL Project Manager.

"Before we can really consider applying our concept throughout a 50-storey skyscraper, we need to make sure we get the basics right," added Dr Rysanek.

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