

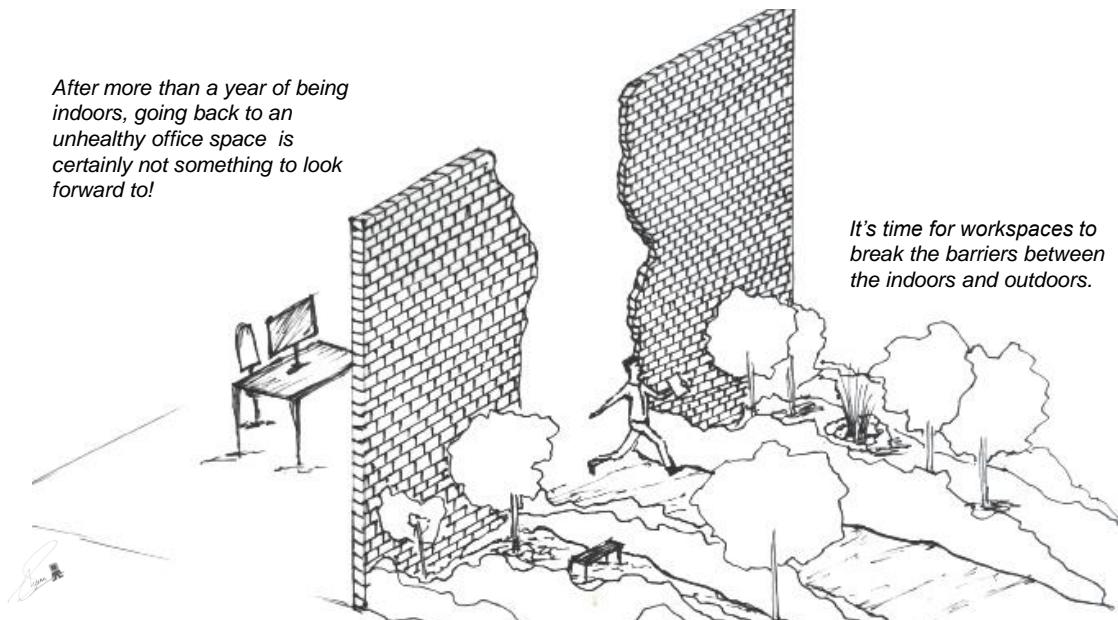
Post pandemic workspace - Bringing Nature into the Workplace

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After more than a year of being indoors, going back to an unhealthy office space is certainly not something to look forward to!



We see a positive emerging trend in the design of buildings and the priority placed by owners and tenants toward creating indoor and outdoor spaces that are in unison with each other. This is not surprising considering warnings from health officials that Covid-19 particles spread more readily indoors than outdoors, and the fact that the Covid-19 pandemic has certainly made people realize how much they appreciate being outdoors rather than being trapped indoors for lengthy hours.

So, what exactly is it about indoor spaces that makes virus spread so easily? High concentrations of virus particles in indoor spaces with inadequate ventilation strategies such as availability of quality fresh air and filtration as part of the HVAC design is a key factor. A lot of existing buildings suffer from this and will have to take action in remodelling their indoor workspaces to meet the demands of the post-pandemic workforce. This provides a great opportunity to look at other aspects of the space that contributes to the occupant's health and wellbeing.

In our January 2021 article on the Paramit Factory published in the GreenRE Magazine, Gregers Reimann highlighted the cardinal sustainable design principles for the project which were energy efficiency, water efficiency, daylighting and biophilia — the fundamental human need for a connection to Nature. He also pointed out that it was the contact with nature and design of the building that led to over 70% of occupants stating their preference for the new factory as opposed to the old factory which had no connection to nature whatsoever.

The importance of biophilic design in occupants' health and wellbeing is highlighted in the latest version 2 pilot of the WELL Building Standard issued in January 2021. A precondition to certification under the 'Mind' concept entitled "Access to Nature" states that "exposure to plants and other natural elements has been linked with decreased levels of diastolic blood pressure, depression and anxiety; increased attentional capacity; better recovery from job stress and illness; increased psychological well-being; and increased pain tolerance. Additionally, the incorporation of plants in the work environment is linked with improved employee morale, decreased absenteeism and increased worker efficiency and job satisfaction".

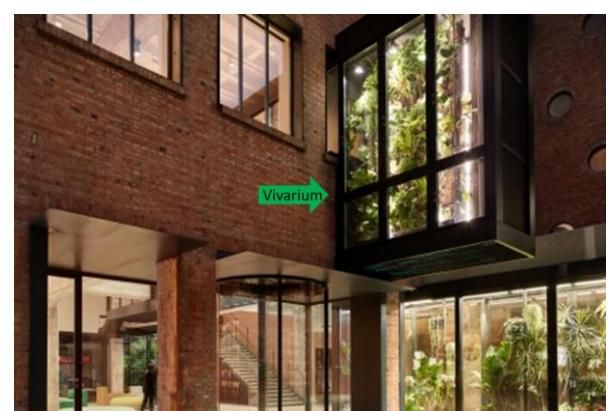
Introducing plants and elements of nature into a building design, be it a simple indoor breakout space with potted plants, a rooftop garden or a full-fledged green infrastructure is undoubtedly beneficial to occupant health, and in a lot of cases, also plays a key role in energy efficiency. Greenery can provide substantial shading, for example, by planting trees around the building perimeter to act as a natural solar heat barrier that lowers surface and air temperatures via evapotranspiration. To be effective as a shading element, the MyCrest Green Building certification by CIDB recommends trees with height of more than 15 meters when mature, to be planted within 5 meters of the building perimeter.



Paramit's Factory in the Forest

Working plants into a building design provides opportunities for a lot of innovation. Here are some fun examples of how greenery has been implemented in our projects:

1. Paramit Factory – with a theme "Factory in the Forest" – this building took biophilic design to the next level. The entire façade is practically enveloped in carefully selected native plant species, providing almost a resort like feel to an electronics manufacturing factory. The building boasts a measured 40% energy reduction compared to the old factory.
2. Hyundai Motor Studio – Clean Air and Energy Efficiency Studio, Beijing: Here the outdoor air entered the building through a Vivarium, which is a glass-covered botanical garden with an intermediate climate between outside and inside. The plants of the Vivarium partially cleaned the air.
3. ST Diamond Building – The impressive headquarters of Suruhanjaya Tenaga, running at an average BEI of 65kWh/m²/year (69% lower than a typical office building), uses elements of greenery by means of tall trees for shading along its lower levels and has a "sunken garden" located at the basement which serves as a void space which provides natural ventilation to the parking area at the basement level.



Hyundai Motor Studio