Braving the Epidemic
敢創抗疫

Medical & Healthcare
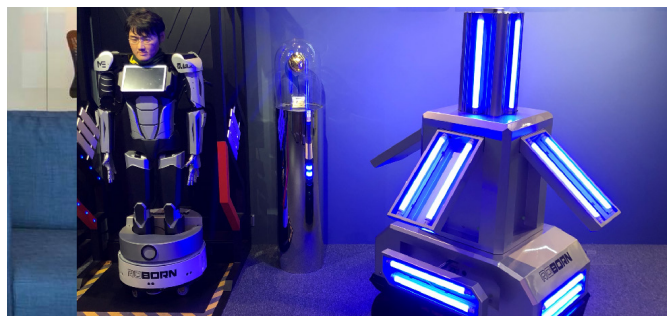
Disinfection robots on a different wavelength

Dr Peter Chan wears two hats in his organisation. He is an experienced medical consultant and is in charge of the daily operations of a leading healthcare group in Hong Kong. In July, when the city braced for the third wave of coronavirus infections, Peter was quick to put in place preventive measures across the group's clinics. Among the measures were limitations on the number of visitors in each clinic at any one time, and requirements for full protective gear to be worn by the clinic's personnel.

A virologist colleague of Peter, however, sounded an alarm. The coronavirus is a tricky enemy, Peter was told, and it can stay alive on a range of public surface areas for days. There is always a possibility that the formidable virus can break a clinic's front-line resistance. An offensive strategy could be the best form of defence, recommended Peter's virologist colleague.

Peter then contacted Cyberport Community Member Roborn to deploy its latest robot Unicorn which utilises short-wavelength ultraviolet (ultraviolet C or UV-C) to disinfect surfaces. In a matter of days, Peter's firm got the disinfection robot installed at the frontline in its clinics, raising the facilities' disinfection levels.

Unicorn, a robot equipped with disinfection capabilities, is called into action after a clinic's office hours while it is empty. Within a few minutes, Unicorn will complete its route and disinfect the area, and as it operates outside normal working hours, the process causes no inconvenience whatsoever to the business's daily operations.

Mark Mak, Co-founder of Roborn explained the significance of the robot, saying: "As a robot, Unicorn can enter a high-risk area for all-weather disinfection work, which means safety assurance for the citizens and front-line cleaning professionals. We take pride in that Unicorn plays a role in the fight against this virus." Mak is responsible for the company's tech and strategy.

Unicorn was developed with some of the most advanced technologies — such as 5G, Artificial Intelligence, machine learning, IoT and cloud computing. For its disinfection capabilities, it comes equipped with ultraviolet-C (UVC)-emitting light, itself a widely used sterilisation technology, commonly found in hospital operating rooms to quickly inactivate a range of pathogens.

Thanks to its sophisticated drive system, the highly mobile nature of Unicorn allows it to deal with both flat surfaces, and gentle slopes, with ease. The Unicorn can be used in a range of areas including ordinary and observation hospital wards, as well as other high-touch and high-risk space including cargo lifts, lavatories and refuse chambers. When called into

action, the robot will move autonomously to a designated area to carry out disinfection with the UVC light system extended to reach a larger space. It is also equipped with a surround-view camera system, which supplies real-time images to the controller, so that he or she can decide for the robot exactly where to go and if any high-touch areas require extra - attention.

Quick facts

ROBORN

- Unicorn roams freely on a range of floor surfaces and plays a highly effective role in disinfecting high-risk areas including hospital wards and public quarantine facilities.
- On average, Unicorn is able to get a space of 100 square foot disinfected per minute.
- Adopted by public listed companies, offices of international brands, schools and the Cyberport.

Company Profile

Roborn uses motion control system as its core technology, together with 5G, Artificial Intelligence, IoT, and cloud computing to drive and develop comprehensive robotic products and solutions. The 5G Motion Control Humanoid Robot project developed by Roborn received the 2018 Hong Kong Awards for Industries (HKAI) in equipment and machinery design; Roborn also won the ICT Startup Award Grand Award, and the ICT Startup (Hardware & Devices) Award Gold Award in 2019.

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Learn more about
Roborn (Unicorn)

數碼港
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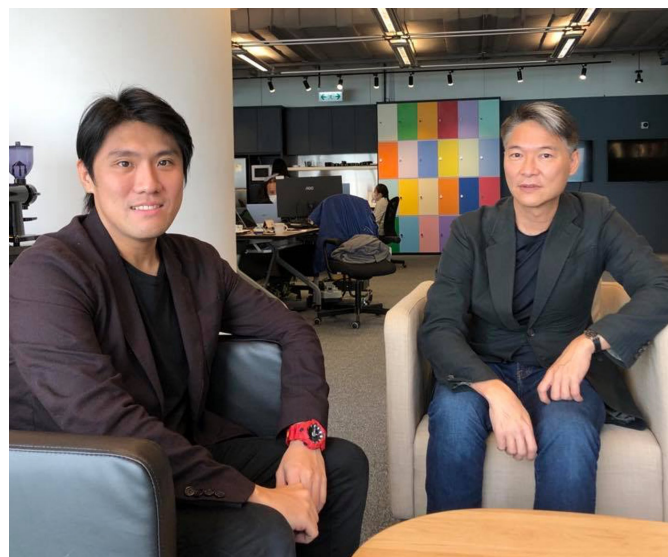
醫療及保健
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UV-C極速殺菌傳奇

Peter是專科醫療中心顧問醫生,並同時兼顧中心的日常營運。7月初香港爆發第三波新冠病毒疫情,Peter立即著同事們再次收緊防疫措施,包括限制人流、全天候穿上防護衣等。當他以為萬無一失,傳染病醫生同事提醒:「新冠病毒能依附公共設施表面數日之久,有機會突破衛生防線,只守不攻可能未必是萬全之策。」Peter於是聯絡數碼港社群成員路邦科技,在醫務所部署名為Unicorn的紫外線消毒機械人,主動「進攻」加強殺菌措施,以提高醫療中心的消毒殺菌效率。

Peter在醫療中心設置Unicorn紫外線消毒機械人,於每天醫療中心營業前後、沒有病人和職員時,開啟機械人走勻醫療中心徹底以紫外線消毒,每次只花數分鐘,過程全自動又不影響醫療中心日常營運。

路邦聯合創辦人兼首席技術官麥騫譽表示:「Unicorn代替清潔人員進入高風險區域,有效地執行全天候消毒,透過Unicorn我們可以好好地保護市民和清潔人員,一同對抗疫情。」

路邦團隊結合5G、人工智能、機器學習、物聯網及雲端計算科技開發出機械人Unicorn,全身安裝多個紫外線燈,發出與醫院手術室常見、屬短波的紫外線UV-C用以殺菌消毒。Unicorn更動用了路邦目前最強勁的移動系統設計,其特製輪子移動性強,可在任何室內外平面甚至斜坡上行走,因此可輕鬆高效地消毒醫療場所例如病房、重症監護室;物業管理場所如貨梯、廁所和垃圾房等高危地方。當Unicorn接收到遙距指示移動到指定地點,機械人側翼更可靈活展開,全面覆蓋消毒範圍;同時配備360°鏡頭,讓遙距操作者視乎需要以UV-C照射個別地點多點時間,令消毒更徹底。

速覽

- Unicorn可靈活游走室內外不同平面,有效消毒醫院或隔離營等高危地方。
- Unicorn一分鐘便可消毒一百平方呎的空間。
- Unicorn自推出後旋即獲上市公司、國際品牌辦公室、學校及數碼港等多個大型機構採用。

公司簡介

數碼港社群成員路邦以動感控制系統為核心技術,配合5G、AI、IoT、Cloud推動及發展全面化的機械人產品及方案。路邦5G動感機械人項目於2018年榮獲香港工商業獎:設備及機器設計大獎,及2019年香港資訊及通訊科技獎硬件與設備金獎及資訊科技初創企業大獎。

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