



The public can experience the latest 5G applications in the SmarTone 5G LAB
SmarTone [5G LAB] 設有多個展區，公眾可親身體驗最新 5G 科技應用



The digital signages at Metroplaza's restroom entrances leverage the 5G network and sensors to show the restroom's real-time occupancy, reducing queuing time
新都會廣場洗手間外設有電子顯示屏，運用5G網絡及感應器，提供洗手間的即時使用情況，有助縮短等候時間



The Tai Lam Tunnel utilises the 5G SmarTransport Safety Monitoring System, which enhances traffic safety and operational efficiency
大欖隧道採用5G智慧交通安全管理系統，提升交通安全及營運效率

5G Smart Construction

For construction, Group subsidiaries Yee Fai Construction and SmarTone jointly developed SmartWorks to enhance occupational safety and worker health, leveraging the 5G network to further optimize operational workflow. The Group's How Ming Street development in Kwun Tong was the first construction site to apply SmartWorks.

SmartWorks is an end-to-end solution, supported by the ultra-high speed, low latency 5G network for better construction safety and operational efficiency. It uses cloud and IoT technology to create a smart site management that helps safeguard workers and facilitate effective operations by employing image analysis, AI and machine learning.

Smart applications in SmartWorks included Smart Helmet, SmartHealth Station, Environment Station, Dump Truck Management, Danger Alert & Access Control, and Safety Alert System for Temporary Lift Shaft Gate. SmartWorks utilises various IoT sensors to automatically monitor temperature, humidity, water leakage, air quality, motion detection, etc. In abnormal situation, alerts are issued for operations staff to follow up immediately, thus enhancing site safety, worker health and operational efficiency. The system was awarded First Prize in the Construction Safety category in the CIC Construction Innovation Award 2019.

5G Smart Transport

In November 2020, the Tai Lam Tunnel, which is operated by Group subsidiary Route 3 (CPS) Company Limited, implemented the first 5G SmarTransport Safety Monitoring System for vehicular tunnels and highways in Hong Kong. The system ensures that passengers, hikers, cyclists or animals are prevented from entering the tunnel area and related facilities.

Taking advantage of the fast uplink of the 5G network, combined with AI analytics, the system provides instant detection and identification of jaywalkers, such as hikers and cyclists, trespassing the tunnel area, triggering real-time alerts in the control room for an appropriate response. This removes reliance on physical monitoring and provides added safety to road-users while significantly enhancing traffic safety and tunnel operational efficiency.

SmarTone 5G LAB

SmarTone 5G LAB on the ICC's Sky100 Hong Kong Observation Deck features Hong Kong's latest 5G applications and emerging applications on a global scale. The 5G LAB aspires to inform the public of the latest trends on 5G's development in Hong Kong and shows how 5G infrastructure supports Hong Kong's development as a smart city and digital hub.

The interactive showcases in the 5G LAB present innovative 5G applications to the public, including SmarTransport Safety Monitoring System, Smart Construction, Smart Mall, Smart Health, Smart Home and more. In addition, visitors can experience the daily life applications, such as real-time 5G tele-operated driving, 5G VR cycling, VR experience, 5G robots, etc. to appreciate and learn about the wide adoption of 5G innovation.



Even for restrooms without attendants, the mall operations team can remotely monitor the use of restroom supplies through the 5G cloud management platform and refill them as needed
洗手間即使沒有駐廁員工，商場管理團隊仍可透過5G雲端管理平台，遙控監察洗手間用品的使用情況，適時安排補充

Leveraging 5G technology in the Group's businesses, taking Hong Kong a step closer to becoming a 5G smart city

'Continuous Improvement' is one of the Group's key corporate values, and to put it into practice, the Group has introduced innovative technologies and ideas to keep up with the market trends, and to enhance work efficiency and service quality. Since Group subsidiary SmarTone's 5G service launch in mid-2020, some of the Group's business units have integrated SmarTone 5G and other advanced technologies such as artificial intelligence (AI) analytics and Internet of Things (IoT) in various enterprise solutions, including 5G Smart Malls, 5G Smart Construction System SmartWorks and 5G SmarTransport Safety Monitoring System for the Tai Lam Tunnel, to enhance customer experience and operational efficiency for the management companies. The SmarTone 5G network provides nearly full coverage of Hong Kong, covering all MTR stations, key commercial buildings and shopping malls, and popular country parks, campsites and hiking trails, providing an ultra-high speed 5G network experience for users. Meanwhile, SmarTone has leveraged the high-speed, low latency, mass connectivity characteristics of 5G to implement a series of innovative 5G services and applications for different industries, driving Hong Kong towards becoming a smart city and further integrating it into the Greater Bay Area.

5G Smart Malls

The Group has introduced 5G technology in its malls, delivering a brand new shopping experience to customers. Early this year, Metroplaza rolled out 5G Smart Restrooms to shorten queuing time. This relaxing, fluid shopping and leisure experience helps stimulate foot traffic in the mall. In addition, other SHKP Malls, such as MOKO, will also introduce 5G smart applications to enhance operational efficiency.

5G Smart Restrooms also expediate operations for the management offices. The restrooms include indoor air quality sensors that measure five major air quality parameters: temperature, humidity, PM2.5 (fine suspended particulates), H2S (hydrogen sulphide) and NH3 (ammonia). Through the 5G network, the collected data is sent to the 5G cloud management platform for analysis, monitoring the overall cleanliness and air quality of the restrooms. In addition, the mall operations team can monitor the restroom supplies through the 5G cloud management platform, which sends out alerts when the stock of paper towels, toilet paper, antiseptic soap, etc. drops to a certain level. The mall operations team can then refill the supplies immediately, which is particularly useful for accessible restrooms and nursery rooms where attendants are absent. Through the 5G cloud management platform, operations staff can access information like restroom traffic and air quality to effectively enhance restroom cleanliness, operational efficiency and service quality, and formulate operation solutions that best fit customers' needs.

5G Smart Restrooms are equipped with a high-speed 5G network and multiple sensors installed inside the restrooms, whose data is sent to cloud servers in real time. The digital signages at restroom entrances indicate the real-time occupancy of restrooms, which effectively diverts customers to less busy restrooms for a shorter queuing time.

集團業務運用5G技術 齊建香港5G智慧城市

「與時並進」是集團的主要企業理念之一，旨在按市場需要引入創新科技新意念，以提升工作效率及服務質素。集團旗下SmarTone自2020年中推出5G服務後，集團旗下部分業務已率先引入SmarTone 5G，配合其他先進技術，如人工智能分析及物聯網技術等，推出不少企業應用方案，包括5G智慧商場、5G智慧建築「智安建」及大欖隧道的5G智慧交通安全管理系統，為顧客提供更佳體驗，亦為管理公司提升營運效率。現時SmarTone 5G網絡接近覆蓋全港，包括全線港鐵線、主要商業大廈及商場以及熱門郊野公園、露營營地及行山徑等，為用戶帶來極速5G網絡體驗。與此同時，SmarTone亦運用5G的超高速、低時延及泛連接特性，為不同行業推出一系列創新5G服務及應用，協助推動香港成為智慧城市，與大灣區進一步融合。

5G智慧商場

集團將5G技術引入旗下商場，為顧客提供嶄新的購物體驗。今年初新都會廣場引進5G智慧洗手間，縮短輪候時間，締造一個安心、靈活的消閒購物體驗，同時可帶動商場人流。此外，其他新地商場（如新世紀廣場）亦將陸續引入5G智能應用，提升營運效率。

5G智慧洗手間透過高速5G網絡及連接多個裝置於商場樓層洗手間內的感應器，將數據即時傳送至雲端分析，配合於洗手間走廊入口的電子顯示屏，為顧客提供即時使用情況，有效分流顧客到使用率較低的洗手間，縮短輪候時間。

5G智慧洗手間亦可為管理公司提升營運效率。洗手間內裝置室內空氣質素感應器，以收集溫度、濕度、PM2.5（微細懸浮粒子）、H2S（硫化氫）及NH3（氨）五大空氣質素指標。有關資料透過5G網絡，即時上傳至雲端管理平台作數據收集及分析之用，方便監察洗手間的整體衛生情況及空氣質素。另外，商場管理團隊可透過5G雲端管理平台監察洗手間用品，當洗手間內的抹手紙、廁紙及消毒皂液等用品的消耗量達至一定水平時，系統將作出提示。商場管理團隊即可適時安排補充，對沒有駐廁員工的傷健洗手間及育嬰室尤其方便。商場管理團隊更可透過5G雲端管理平台，掌握洗手間人流及空氣質素等資料，有效提升洗手間整潔度、營運效率及服務質素，制訂更貼合顧客需要的營運方案。

5G智慧建築

在建築工程方面，集團旗下怡輝建築與SmarTone合作研發「智安建」系統。系統採用5G網絡，優化建築流程，加強保障建築地盤工人的健康及安全。集團的觀塘巧明街發展項目為首個引入「智安建」系統的建築地盤。

「智安建」系統為端對端方案，運用5G網絡的超高速及低時延特點，來提升建築安全及營運效率。系統以雲端和物聯網技術為基礎，配合影像分析、人工智能及機器學習，推行地盤全面化智能管理，提升工人安全及營運效率。

「智安建」系統的智能應用包括智能頭盔、健康監察站、環境監察站、泥頭車管理、安全預警系統及進出管制以及臨時升降機閘門安全警報系統。「智安建」系統提供多個物聯網感應器，可自動監察特定範疇，包括溫度和濕度、漏水、空氣質素及動態偵測等。如發生不尋常的情況時，系統會發出警報通知操作人員即時跟進，提升職安健水平及營運效率。該系統亦在「2019建造業議會創新獎」中，榮獲建造安全組第一名。

SmartWorks' Smart Helmet is equipped with sensors to track the worker's real-time location and health. The Smart Helmet can trigger an emergency alert to safeguard workers

「智安建」的智能頭盔內置多個感應器，可監察工人實時位置及健康狀況；在緊急情況下發出警報，保障工人安全



SmartWorks offers the Safety Alert System for Temporary Lift Shaft Gate to mitigate the risk of workers falling from lift shafts. The alert system deploys mobile-IoT technology, together with sensors, a network platform and a mobile app
「智安建」提供臨時升降機閘門安全警報系統，運用流動物聯網技術連接感應器、網絡平台及手機應用程式，減低工人從升降機槽下墮的風險

5G智慧交通

集團旗下三號幹線（郊野公園段）有限公司營運的大欖隧道，於去年11月開始採用全港首個用於行車隧道和公路的5G智慧交通安全管理系統，以防止行人、行山人士、單車使用者或動物誤闖隧道範圍及相關設施。

系統運用5G網絡的高速上行連接，配合人工智能分析，實時偵測識別誤入隧道範圍的非道路使用者，如行山人士或單車使用者，即時發出警報到控制室以便採取相應行動，減少倚賴人手監察隧道情況，保障道路使用者的安全，同時大大提升交通安全及隧道的營運效率。

SmarTone 5G LAB

SmarTone現透過於環球貿易廣場的天際100香港觀景台內的「5G LAB」，展示香港最新的5G科技應用及世界新興的科技應用，讓公眾了解本港5G的最新發展趨勢，以及5G基建如何支持香港發展成智慧城市和創新科技中心。

「5G LAB」透過不同的互動展示，向公眾介紹5G創新應用，包括智慧交通安全管理系統、智慧建築、智慧商場、智慧醫療及智慧家居等。另外，亦設有不少日常生活應用，如實時遙距5G駕駛、5G虛擬實境單車、虛擬實境體驗及5G機械人等，讓大眾親身感受及認識5G網絡帶來的創新普及應用。



The 5G LAB offers a real-time 5G tele-driving, allowing visitors at the Sky100 Hong Kong Observation Deck to remotely control real cars in Cyberport to compete with opponents

「5G LAB」設有實時遙距5G駕駛，參加者可在天際100香港觀景台遙距控制遠在數碼港的實體車輛，與其他車手實時競技



The VR scaffolding freefall in the 5G LAB uses VR technology to create a thrilling experience comparable to that of standing on top of a teetering scaffolding
「5G LAB」的棚架體驗利用虛擬實境技術，讓參加者感受站在搖搖欲墜的棚架上的離心力

