

SmarTone is blazing the trail for 5G development in Hong Kong

SmarTone 引領香港 5G 發展



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SmarTone is committed to bringing the best 5G experiences to consumers and enterprises with the ultimate goal of forging a path to smart city development in Hong Kong. SmarTone offers the widest 5G network coverage, both indoor and outdoor, with the unique feature of Ericsson's dynamic spectrum sharing technology.

SmarTone Chief Technology Officer Stephen Chau notes that making 5G a reality has been a goal for Hong Kong's telecom industry for many years in terms of applications, consumer benefits, and enterprise collaboration. It is natural for 4G to transition to 5G as Hong Kong transforms into a smart city.

Every past generation of mobile technology has brought huge improvements since 1G. Nevertheless, the leap from 4G to 5G goes beyond achieving higher speed, lower latency and massive connectivity, enabling integration with other advanced technologies such as Artificial Intelligence (AI), Augmented Reality (AR), Mobile Edge Computing and Virtual Reality (VR) and the development of many innovative new applications. 5G is primed to change and enrich daily life and as well as bring new opportunities to business markets.

Entering the 5G era, enterprises from different sectors have been asking how they can apply 5G in their respective fields. In the past, this question was rarely asked because 4G was primarily oriented towards consumers. The collective interest in 5G has sparked many applications across various industries. Currently, SmarTone already has several 5G enterprise solutions underway.

SmarTone 一直致力為客戶及企業帶來最佳的 5G 網絡體驗，並藉以推動香港智慧城市發展。SmarTone 配合愛立信 (Ericsson) 頻譜共享技術 (Dynamic Spectrum Sharing, DSS) 的獨有特性，帶來全港室內室外覆蓋至廣的 5G 網絡。

SmarTone 科技總裁鄧金根先生指出，就科技應用、消費者利益及企業協作而言，推行 5G 一直是香港電訊業多年來的目標。當香港要逐步轉型為智慧城市，很自然便需要從 4G 過渡到 5G。

自 1G 時代起，過往每一代的流動通訊技術都為我們帶來巨大的轉變及進步。由 4G 跨越到 5G，不單實現更高速、更低時延和更廣泛的连接，更可融合其他嶄新先進的科技，如人工智能 (AI)、擴增實境 (AR)、行動邊緣運算、虛擬實境 (VR) 及其他創新應用等。5G 所賦予的各種轉變，不但為日常生活帶來豐富的體驗，更為商業市場創造出新機遇。

踏入 5G 時代，各行各業一直探討如何能把 5G 應用在各自的領域。這個情況在過往 4G 時代較少出現，因為 4G 主要是面向消費者；5G 極具潛力，可以激發出各種跨行業及多元化的應用。目前，SmarTone 亦正在積極開發多個 5G 企業方案以迎接這新趨勢。

SmarTone's 5G Applications for Consumers

SmarTone brings a rich array of innovative applications with an enhanced experience for video conferencing, AR/VR, gaming and entertainment.

The “SmarTone AR” app allows users to customize and interact with virtual AR pets at any location. SmarTone 5G also features Hong Kong's first ever multi-location AR robot shooting game at designated SmarTone stores. For a 5G VR experience, SmarTone offers an exclusive all-in-one VR headset allowing customers to enjoy over 1,000 VR games and videos.

In terms of gaming, SmarTone is partnering with the highly popular online game “Arena of Valor”, offering an exclusive “AOV Gamergizer Quest” to give gamers a taste of faster and stabler gaming. Players can complete missions to win SmarTone x “Arena of Valor” limited edition skins and virtual items, as well as interact with the first 3D AR characters in Hong Kong. With the unique “Gamergizer”, gamers can even enjoy higher network priority for a superior gaming experience.

Powering 5G Digital Transformation for Enterprises

5G unleashes enterprise possibilities with its fast speed, low latency and massive connectivity. SmarTone specialises in tailoring end-to-end solutions to address the pain points and needs of enterprises from different sectors. Increasing number of Hong Kong enterprises are proactively adopting different digital solutions not only to improve their business efficiency, but also to fulfill specific purposes, such as improving staff safety and well-being. This demand is coming from multiple sectors, including construction, hospitality, transportation, property management, and healthcare. Chau notes that SmarTone expects dozens of enhancements in digitalized solutions, especially in the areas of IoT sensors, AI-based analytics, and mobile edge computing, to be launched in the market in the next few years. It will be a critical time for Hong Kong to ride on the new wave of innovations to live up to its Smart City vision.

SmarTone's award-winning solution - SmartWorks - was created as an end-to-end solution to protect workers' health and safety at construction sites, while enabling significant improvement in operational efficiency. Smart Helmets with IoT sensors and GPS trackers can trigger alerts when a worker wears his/her helmet improperly, in case of sudden falls, or when the SOS button is pressed. With the integration of 5G and SmartWorks on construction sites, site managers and architects will be able to use Building Information Modeling (BIM) to view three-dimensional models with rich digital content, Virtual Desktop Infrastructure (VDI) to access data-intensive edge and cloud applications, and Computer Aided Design (CAD) to monitor and manage real-time site operations. 5G-based solutions like these are more scalable as massive connections among devices are possible.

SmarTone's SmarTransport Surveillance Solution, a 5G intelligent transportation management system for tunnel and highway, monitors unauthorized access and prevents

SmarTone 5G 的消費者應用

SmarTone 帶來一系列創新應用，讓客戶使用到更高質的視像會議，更豐富的 AR / VR、遊戲和娛樂體驗。

SmarTone AR 應用程式透過 AR 技術，讓用戶隨時隨地自行設計 3D 虛擬寵物並進行互動。SmarTone 5G 推出全港首個多地點實時 AR 機械人射擊遊戲，讓用戶於指定門市進行對戰。而 5G VR 體驗方面，SmarTone 提供獨家一體式 VR 眼鏡，讓用戶享受超過 1,000 款 VR 遊戲及影片。

在遊戲方面，SmarTone 與大熱手遊《Garena 傳說對決》聯乘推出獨家「爆機傳說任務」，讓一眾機迷盡享更快更穩的打機體驗。玩家只需完成指定任務，便可贏取 SmarTone x《Garena 傳說對決》限定造型和虛擬寶物，更可與多個《Garena 傳說對決》3D 動態 AR 英雄互動。SmarTone 亦推出「爆機王牌」服務，讓玩家升級至較優先網絡次序，盡享優越打機體驗。



5G 推動企業數碼轉型

5G 擁有超高速、低時延及泛連接的特性，為各行各業的企業帶來了無限可能。為此，SmarTone 針對不同行業的需要，度身制定出端對端企業方案。同時，香港愈來愈多企業正積極採用不同方案以提升業務效率，並改善員工安全和福祉，無論建築、酒店、運輸、物業管理或醫療等行業都有此需求。鄒先生指出 SmarTone 預計在未來幾年內，市場上將會推出更多數碼化的企業方案，尤其是物聯網 (IoT) 感應器、基於 AI 的分析和行動邊緣運算等領域。對香港來說，現在是借助創科發展新浪潮來實現智慧城市願景的一個關鍵時刻。

SmarTone 屢獲殊榮的「SmartWorks 智安建」方案是一個端對端，提升建築安全及營運效率的方案。只要工人戴上具 IoT 感應器及 GPS 追蹤器的智能頭盔，當頭盔未有被正確佩戴、工人意外跌倒或按下緊急按鈕時將發出警報。透過結合 5G 網絡及「智安建」方案，工地管理人員及建築師就能夠採用建築資訊模型 (Building Information Modeling, BIM)，以視像形式檢視豐富 3D 建築模型；

unnecessary accidents. With various types of IoT motion detection cameras installed at defined areas, a cloud-based advanced video analytic engine can utilize 5G network to accurately detect and identify any human intruder entering the tunnel, while preventing false alarms from motorcyclists or birds. The Artificial Intelligence (AI) platform continuously receives video footages, running rich sets of machine learning algorithms to analyze images and send out alerts in real-time. The low latency and high bandwidth of 5G enables real-time footage-transmission previously impossible without 5G.

On a broader level, SmarTone perceives 5G as one of the key technology enablers to enterprise solutions as it is a new mobile technology architected as a smart communication infrastructure. 5G network allows the incorporation of other technology enablers, such as AI, computer vision, natural language processing, big data analytics, and more in a harmonized and cost-effective manner.

SmarTone launched its 5G service in May 2020. As the technology is new to many industries, Chau believes that a close-to Smart City environment is a key factor in nurturing an ecosystem capable of delivering innovative 5G/IoT applications for enterprises. As such, SmarTone is partnering with different infrastructure partners to build the 5G private campus network, which could be leveraged to provide innovative applications to enterprise customers to generate a new revenue stream.

5G private campus network will provide local enterprises and organizations with the most comprehensive enterprise-grade 5G solutions and services, assisting them to transform their businesses and reap the tremendous benefits and opportunities in the 5G era. Built upon an extensive optical-fiber network, this new venture offers a one-stop solution for enterprises with high bandwidth, ultra-fast speed and ultra-low latency mobile infrastructure, enabling them to monitor and control real-time Internet of Things (IoT) applications. It is flexible, scalable, highly secure and can be configured according to specific business needs. By integrating 5G with mobile edge computing in a private campus network, enterprises can also deploy IoT applications and enable data sharing through 5G connectivity.

With the 5G private campus network framework as a guiding principle, the ecosystem shall not only involve SmarTone as a 5G network provider, but also the provider and developer for computing platform, backhaul transport, AI technology, IoT device and solution, application, and more. Ultimately, a crucial stakeholder is the enterprise itself because the purpose of any 5G enterprise solution is to resolve the pain point of an enterprise or new applications in some specific industries. But how is SmarTone addressing this?



或以虛擬桌面基礎架構 (Virtual Desktop Infrastructure, VDI) 使用數據密集的電腦系統和雲端應用程序, 及利用電腦輔助設計 (Computer Aided Design, CAD) 實時監察工地現場情況。由此可見, 類似的 5G 應用方案將因應裝置之間的泛連接, 可支援更大規模的應用場景。

SmarTone 智慧交通方案是用於行車隧道和公路的 5G 智能交通管理系統, 可監察未經授權的進入和預防不必要的意外事故。只需在特定區域安裝多個 IoT 動態偵測相機, 連接 5G 網

路的雲端上的視頻分析系統, 將可識別任何誤闖的非道路使用者, 亦能避免因電單車司機或飛鳥的進入而發出錯誤警報。AI 系統平台會不斷載入實時影像, 透過機器學習演算法去分析影像, 並即時發出警報。配合 5G 低時延和高頻寬的特性, 有助實時傳送影像, 這亦是在 5G 前未曾實現的技術。

從較廣義層面來說, SmarTone 視 5G 為推動企業方案的關鍵技術之一, 因為 5G 是建構智能通訊基礎設施的嶄新流動技術。5G 網絡允許以互相協調並可以更具成本效益的方式整合其他技術, 如 AI、電腦視覺、自然語言處理和大數據分析等。

SmarTone 於 2020 年 5 月正式推出 5G 服務。由於 5G 對許多行業而言是一種新技術, 鄒先生認為要推進智慧城市發展, 能否為企業建構一個創新 5G/IoT 應用的生態圈是極其重要。有見及此, SmarTone 一直與不同的企業夥伴緊密合作, 建設 5G 聯網, 藉此為企業客戶提供創新應用, 締造新的收入來源。

5G 聯網為企業及機構提供最全面的企業級 5G 解決方案和服務, 協助企業進行數碼轉型, 把握 5G 時代的龐大優勢及機遇。5G 結合覆蓋廣泛的光纖網絡上, 將為企業提供一站式的高頻寬, 超高速及超低時延流動基建解決方案, 並可支援 IoT 應用程式實時監控。這是一個具備靈活性、可延伸性、高安全度和能夠滿足指定商業需要所配置的專有網絡。透過整合 5G 及行動邊緣運算技術, 5G 聯網將有助企業以 5G 網絡連接物聯網應用程式及實現數據共享。

建基於 5G 聯網的架構, SmarTone 在整個生態圈中不單只擔任 5G 網絡供應商, 更應同時成為運算平台、傳輸網路、AI 技術、IoT 終端和解決方案等應用的供應商和開發商的角色。企業無疑是一切核心, 因為 5G 企業解決方案是為企業而生, 目的是服務企業的營運需要, 或將創新技術應用在某特定行業當中。

SmarTone 5G Innovation Hub and SmarTone Hackathon

SmarTone's 5G Innovation Hub established in early 2017 encourages cross-industry collaborations with start-ups and business partners to co-create 5G use cases and trial them on SmarTone's pre-commercial 5G network.

In January 2020, SmarTone showcased live demos of 5G high-speed and low-latency connectivity comprising 3.3 GHz and 28 GHz. The showcase included three highlights: 1) SmarT Health – A 5G-connected ambulance embracing healthcare innovations that allow doctors to provide remote assistance to treat patients in movable vehicles. Additional features include remote patient assessment and ultrasound procedures that can be conducted inside an ambulance using a special haptic glove remotely controlled by a doctor via a specially designed joystick. 2) SmarT 5G Café – A 5G-connected barista can take orders and serve customers with robot-made coffee. The robotic arm can also transfer the coffee to a printing machine with which a photo or graphic can be transferred on the foam of the coffee. 3) eMotorSports – Model cars connected to 5G can respond immediately to an obstacle to avoid collision, thanks to low latency and high speed of 5G.

The Innovation hub co-creates 5G applications; but where can we find talents to come up with the new technologies? As Hong Kong is now in the era of digital transformation, we should grasp the opportunities ushered in by 5G. Hong Kong as an international technology hub boasts its creative young talents. SmarTone envisions to nurture budding innovators to unleash their creativity through SmarTone Hackathon, garnering necessary resources and extensive scenarios for applications to leap forward in entrepreneurship.

With the theme of 5G and Smart City, the latest edition of SmarTone Hackathon has attracted tremendous responses from talents and entrepreneurs from around the world. With the rollout of 5G services in sight, innovative applications for the latest technologies are made possible with the marriage of technology and creativity. ●

SmarTone 5G Innovation Hub 及 SmarTone Hackathon 程式設計比賽

SmarTone 5G Innovation Hub 於 2017 年初成立，鼓勵與初創企業及商業夥伴的跨業界合作，共同開創 5G 應用及率先試用 SmarTone 的 5G 商用網絡。

在 2020 年 1 月，SmarTone 以高速及低時延的 5G 網絡，包括 3.3 GHz 及 28 GHz 頻段，作實時展示及現場直播。該次最新的 5G 技術展示包括：1) SmarT Health — 連接 5G 的救護車，以創新技術遙距支援救護車醫護人員，為傷者提供協助，透過 5G 網絡配合特別設計的醫療遙控設備，醫護人員亦可為傷者進行急救評估及檢查。2) SmarT 5G Café — 5G 調配咖啡機械臂可按照客人要求調配咖啡，配合咖啡打印機，更可將圖案或照片打印在咖啡泡沫上，整個過程全由機械臂操作。3) eMotorSports — 5G 網絡的低時延及高速特性讓連接 5G 網絡的模型車在遇上障礙物時，能即時作出反應，避免發生碰撞。

Innovation Hub 開創了 5G 應用，但我們擁有創新技術的人才從何而來？香港正處於數碼轉型的時代，我們應該捉緊 5G 所帶來的機遇。加上香港作為國際科技樞紐，以擁有富創造力的年輕人才為傲，為此，SmarTone 銳意藉著舉辦 SmarTone Hackathon 程式設計比賽，培育年輕一代的創科專才，提供所需的資源和廣泛的應用場景，成就企業家的創意精神。

SmarTone Hackathon 程式設計比賽以「5G 及智慧城市」為主題，吸引了來自世界各地的創科人才參加。隨著 5G 服務啟用，加以融滙科技與創造力，相信未來可實現更多創新技術及應用。 ●

