安全智慧工地系統
Smart Site Safety System

超過50種預先批核的SSSS產品可供選擇
More than 50 pre-approved SSSS products for selection

APPLY NOW 立即申請

CITF 資助業界使用
安全智慧工地系統
每位申請者最高 $750萬！
CITF supports the industry to adopt
"Smart Site Safety System"
Max. $7.5M funding per applicant!

為提升工地安全，「建造業創新及科技基金」(基金)將資助業界採用「安全智慧工地」系統。**由4月1日起**，每位申請者就建築訊息模擬及創新建築科技方面的**總資助上限**，會由現時600萬元**增加至750萬元**。為鼓勵業界採用「安全智慧工地」系統，當中150萬元必須在新措施生效後用於購買或租賃相關產品。換句話說，在實施新措施後，每位申請者最多可獲得750萬元資助採用該系統，提升工地安全水平。

The "Construction Innovation and Technology Fund" (CITF) will subsidise the industry to adopt "Smart Safety Construction System (SSSS)" to enhance construction safety. With **effect from 1 April**, the **total funding ceiling** for Building Information Modeling (BIM) and Advanced Construction Technologies of each applicant will be raised from the current HK$6 million to **HK$7.5 million**, of which HK$1.5 million shall be exclusively used for the procurement or rental of SSSS products after the effective date of the new initiative, so as to encourage SSSS adoption by the industry. In other words, each applicant can receive up to $7.5 million for adoption of SSSS products to enhance construction safety when the new initiative comes into effect.

預先批核名單
Pre-approved List

常見問題 FAQs

申請框架 (安全智慧工地系統)

- 適用於**2023年4月1日**或之後遞交的基金申請
- 每位申請者的總資助上限 (創新建築科技和建築信息模擬) 增加至**港幣750萬元** (**新增的港幣150萬元只限於**2023年4月1日後**購買/租賃**的**安全智慧工地系統**)
- 資助模式：**70%**配對資助 (本地開發的創新技術或產品可獲80%配對資助)；租賃可獲50%配對資助
- 合資格工程項目：**私營工程項目***
- 備註：當申請者用盡新增的150萬元資助購買安全智慧工地系統，可繼續使用每位申請者原有600萬總資助上限 (創新建築科技和建築信息模擬) 的餘額購買安全智慧工地系統相關產品。

* 公營項目由政府全數承擔。 Public projects will be fully subsidised by the Government.

Application Framework (SSSS)

- Applicable to new funding applications submitted on or after **1 April 2023**
- Overall ceiling (ACT+BIM) : Increased to **HK$7.5M** (**additional funding of $1.5M** for **SSSS products procured / rented** on or after 1 April 2023)
- Funding Mode: **70%** for project adoption (80% for locally developed innovations or products); 50% for rental
- Eligible Projects: **Private Works Projects***
- Remarks: When the additional HK$1.5M funding for SSSS is depleted, applicants could continue to apply for CITF for procuring SSSS products, using their remaining funding balance within the original overall ceiling (ACT+BIM) of HK$6M.

示例 1 Case Example

Q 若我之前已獲批$100萬元購買屬「安全智慧工地系統」的智能安全帽，我還符合資格申請這新增的150萬購買相關產品嗎？

If I have been granted $1 million to procure smart helmets which falls within the scope of "Smart Site Safety System", am I still eligible to apply for the additional $1.5 million to purchase related products?

A **合資格**。所有於2023年4月1日或之前遞交的申請均不會計入新增的「安全智慧工地系統」$150萬元資助額。惟申請者必須將該新增資助額用於購買或租賃「安全智慧工地系統」產品。

Eligible. All applications submitted on or before 1 April 2023 will not be counted towards the new $1.5 million subsidy for the "Smart Site Safety System (SSSS)". However, applicants must use the additional subsidy for the procurement or rental of SSSS products.

只適用於**2023年4月1日或之後就購買/租賃**「安全智慧工地系統」產品遞交的申請。
Only applicable for applications on the purchase/ rental of "SSSS" products submitted **on or after 1 April 2023**.

$1.5M
新增資助上限
Additional Fund Ceiling

$6M
原有資助上限
Original Fund Ceiling

示例 2 Case Example

Q 若我打算用$280萬元購置屬「安全智慧工地系統」並由本地研發的智能監察系統，我可獲批多少資助？

How much subsidy can I get for spending $2.8 million on the procurement of a locally-developed safety surveillance system which falls within the funding scope of SSSS?
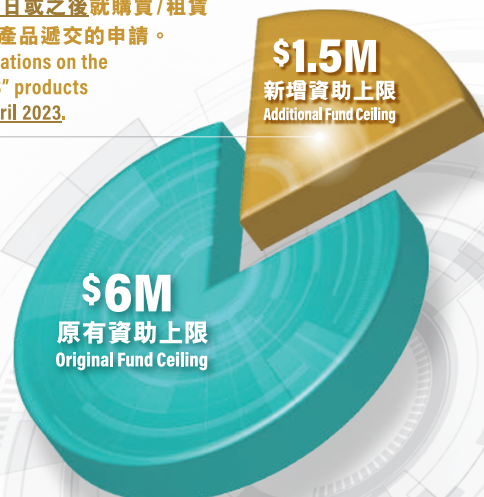
A **閣下最多可獲$200萬元資助**。雖然本地研發產品的配對資助比例為產品價格的80%，但基金資助每項安全科技上限一般為$200萬元。

You can receive funding up to $2 million. Although the matching funding ratio for locally-developed products is fixed at 80% of the product price, the grant for each technology is generally capped at $2 million.

示例 3 Case Example

Q 若我打算將全數資助用於購買「安全智慧工地系統」產品，資助總額為多少？

How much CITF subsidy can I get if I intend to use the grant entirely for procuring SSSS products?

A **閣下最多可獲$750萬資助**，分別為「創新建築科技」和「建築信息模擬」$600萬元原有資助額和特別為「安全智慧工地系統」增設的150萬元資助額兩者總和。然而，為鼓勵申請者使用不同類型安全相關科技產品，閣下最多只可就單一項安全科技獲批$200萬元。

You can receive funding up to $7.5 million, which consists of $6 million combined-ceiling for ACT and BIM as well as the additional $1.5 million specifically designed for SSSS. To encourage applicants to adopt different types of safety-related technologies, you will also be subject to the per-technology cap of $2 million.

安全智慧工地系統10個主要類別　10 Main Categories of SSSS Products :

1 中央管理平台
Centralised Management Platform

2 數碼化追蹤系統 (工地機械,電動工具及梯架)
Digitised tracking system for site plants, powered tools and ladders

3 數碼化工作許可系統 (高風險工作)
Digitalised permit-to-work system for high risk activities

4 危險區域進出管制 (電子鎖系統)
Hazardous areas access control by electronic lock and key system

5 移動設備操作區域的不安全行為/危險情況警報
Unsafe acts / dangerous situation alert for mobile plant operation danger zone

6 天秤吊運區域的不安全行為/危險情況警報
Unsafe acts / dangerous situation alert for tower crane lifting zone

7 前線工人智能監控設備
Smart monitoring devices for workers and frontline site personnel

8 人工智能安全監察系統
Safety Monitoring System using Artificial Intelligence

9 密閉空間監控系統
Confined Space Monitoring System

10 虛擬實境安全培訓
Safety Training with Virtual Reality Technology

PA18-007 ｜ 興建中的隧道人流管理系統
Construction Stage Tunnel Access Control System (TACS)

此系統使用了無線射頻識別技術和第三代行動通訊技術的專門軟件，用於實時安全監察人力資源及意外管理的系統。

The system, incorporated RFID Technology, 3G telecommunication, custom-designed software is used for real-time safety monitoring of on-site human resources and incident management.

基金配對資助* **80%**
Co-fund by CITF
類別 Cat. **7** **9**
ATAL Technologies Limited

PA18-032 ｜ 視覺智能安全符合監測系統
Visual Intelligence Safety Compliance Monitor (VISCMon) system

此系統由感測器及感應技術組成，再配合人工智能技術及最新的電訊科技，提供解決方案以符合安全的需要。系統利用特製鏡頭如閉路電視般監測工地。鏡頭可監測工人是否符合安全準則，而該系統亦會檢查所需的安全設備是否齊全，同時透過電訊網絡傳送訊息予地盤安全主任。

The VISCMon system comprises the sensor and sensing technologies. In collaboration with artificial intelligence technologies and the latest telecommunication technologies, it provides a solution to meet the needs on safety. Specialised cameras operate like the CCTV system when monitoring work area. The cameras monitor workers and check if the required safety standards are met. Once the required safety gear is not detected, a message will be sent to site safety officer via telecommunication network.

基金配對資助* **70%**
Co-fund by CITF
類別 Cat. **8**
VHSoft Technologies Co. Ltd

PA18-033 ｜ VHSmart

VHSmart 雲端建築管理系統，配合人工智能雲端平台及先進流動技術，提供一站式管理平台，能更有效進行進出入管制記錄，施工安全管理，建築品質管理，工地資產管理，物料及倉庫管理等日常工作。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

VHSmart is a cloud base field management platform. With the engagement of Cloud Platform and Advance Mobile Technology, VHSmartTH provides an integrated construction life cycle solution which facilitate end-user from access control, field safety management, progress monitoring, quality control, asset management, material tracking & inventory in every stage.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* **70%**
Co-fund by CITF
類別 Cat. **2** **3**
VHSoft Technologies Co. Ltd

PA18-034 ｜ Digital Record of Work (dROW)

dROW是一個建築工程信息記錄系統。dROW具有簡單易用的介面和平坦的學習曲線，是建築項目的理想系統，兼容各種現場記錄。當中包括文件、合同、圖紙、設計管理系統、安全、質量、測試記錄註冊表等。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

Digital Record of Work (dRoW) is a site record information system. Featuring a user-friendly, versatile interface and a flat learning curve, dRoW is the system for construction projects with its compatibility with a wide variety of site records, which includes Document, NEC Contract, Drawing, Design Management Systems, Safety, QMS, tests registry etc.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* **70%**
Co-fund by CITF
類別 Cat. **1** **3**
Build I.T. Ltd.

PA18-035 ｜ Novade

此產品能提供一站式工程管理服務，以電腦、平板、手機等裝置管理質量安全、物流維修、人力資源等。主要功能包括：表格及清單標註圖紙、數碼簽署、地圖、QR CODES/NFC 標籤、圖表標示等。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

Novade is a full range of solutions for your project – Manage Quality, Safety, Logistics, Maintenance, Workforce & Activity. The Mobileready Platform Includes Key Functionalitie: Forms & Checklists / Drawing Mark-ups / Digital Signatures / Map Locations / QR Codes & NFC Tags - Picture Annotations

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)
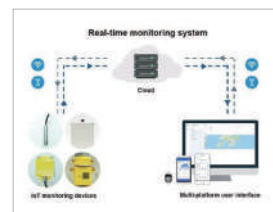
基金配對資助* **70%**
Co-fund by CITF
類別 Cat. **3**
Spatial Technology Ltd

PA19-004 ｜ 自動化物聯網建造工程監測設備及監測系統
Automated Internet of Things (IoT) Construction Monitoring Devices and Monitoring System

物聯網監測感測器能即時監測支架支撐力及傾角度、地下水位、 空氣污染物及一些環境因素如溫度、濕度及氣壓等。在任何天氣狀況下，系統都可提供間隔最短為一分鐘的資料，並自動上傳至雲端，而使用者可即時透過系統所提供的多平臺介面獲得資料。另一方面，當資料數值超出使用者預設的安全界限值，監測系統會自動發出警告。

IoT monitoring devices measure force, underground water level, inclination, and also environmental quantities such as temperature, humidity, barometric pressure, and air pollutant concentrations. Readings can be automatically measured at 1-minute intervals round the-clock regardless of weather conditions, and are stored on the cloud. The monitoring system's multi-platform user interface allows users to view readings in real time. Instantaneous risk analysis can also be carried out and warnings can be instantly issued according to userconfigured safety thresholds.

基金配對資助* **70%**
Co-fund by CITF
類別 Cat. **9**
LR Construction Technologies Ltd

PA19-024 | SnagR

此產品是一套以監測複雜的項目進展為中心的系統，能有效記錄工地資料、自動化報告、將工程進度形象化及進行數據分析。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

SnagR is a cloud-based quality management system, designed to monitor the progress of complex projects. The system can capture onsite data, automate reporting, visualise the process and analyse data.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**
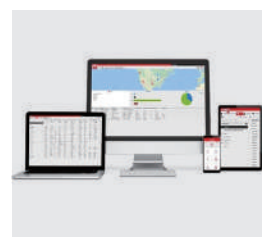
類別 Cat. **3**

SnagR Ltd.

PA19-025 | ON!Track

此產品是一個專為建造業而設的數碼化資產管理解決方案，有關資產資料透過網站和手機應用程式存取在雲端上。

用戶可以在資產上附加耐用的二維條碼/二維碼作識別用途，並通過掃描來查閱資料，資料包括圖片、文件、位置、採購資訊、保養到期日及預定服務。

ON!Track is a digitalised asset management solution designed for construction industry. It uses cloud-based server for information storage and can be retrieved or updated with two interfaces which are web portal and mobile app.

User can attach a robust 2-D barcode/QR code on the asset for unique identification purpose and the information can be retrieved by scanning. Asset information includes pictures, documents, locations, purchase information, warranty expiration dates and scheduled services.

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **2**

Hilti (Hong Kong) Limited

PA19-031 | 物聯網智能安全帽連雲端平台
Dasloop IoT Smart Helmet with Cloud Based Management Platform

此系統能追蹤及確定工人在戶外及室內的位置，亦能在雲端管理平台上以三維建築信息模擬形象化工人位置。實時監測可有效改善工地監督及管理。心率傳感器及體溫傳感器遇到異常讀數時，會即時透過短訊發出警報。加速度計可偵測意外下墮及靜止情況以便作出適時跟進。用戶亦可按下呼救按鈕在緊急情況下求救。此系統亦能提供碰撞警報予工人以免受傷。

This system could track and locate workers in both outdoor and indoor enviroment. Information can be visualised in 3D BIM model in the cloud based management platform. Real-time monitoring could improve the efficiency in site supervision and management. The heartbeat rate and body temperature sensors could provide instant alert through SMS if abnormal readings are detected. The accelerometer sensor could detect accidental falls and motionless conditions so that quick actions could be taken. Users could also press the panic button to call for help in emergency. Collison warning could also be given to workers to minimise injuries.

基金配對資助* Co-fund by CITF **80%**

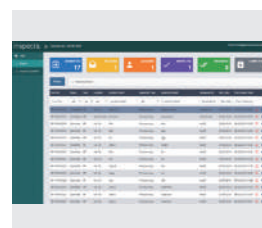類別 Cat. **7** **9**

Beeinventor Limited

PA19-034 | Inspecto

此產品是承建商，顧問公司及客戶用作工地檢測的電子解決方案。它是一個流動電話應用程式，能夠進行檢查及測量申請表格內所有工序，包括檢查及測量申請狀態監測，現場檢測，結果認可等。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

Inspecto is a digital solution for site inspection process among contractors, consultants and clients. It is a mobile App which enables the performing of all Request for Inspection and Survey Checklist process tasks including RISC status monitoring, on-spot inspection, result endorsement etc.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**
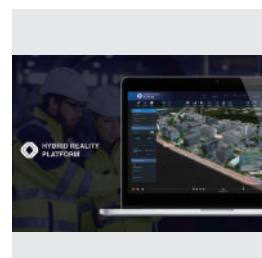
類別 Cat. **3**

Digital G Limited

PA19-042 | CHAIN Hybrid Reality Platform

HRP是一個統一在雲端管理三維模型的平台，結合建築信息模擬、實境網絡、點雲及其它三維格式等。平台除了提供三維形象予用戶外，亦提供控制三維模型及優化空間資訊功能，如將二維檔案管理融入三維模型、四維進度管理及模擬、資產管理、設施管理等。

(註：此產品是通用數據環境相關平台，詳情請向供應商查詢。)

Hybrid Reality Platform (HRP) is a unified cloud management platform for managing 3D models such as BIM, Reality Meshes, Point Clouds and other 3D formats altogether in a single web platform. Apart from providing 3D visualisation to users, the platform also provides functions for manipulating 3D model and optimising the spatial information such as integrating 2D file management with 3D models, 4D progress management and simulation, asset management, facility management.

(Note: This product is CDE-related platform which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **1**

Chain Technology Development Co., Ltd.

PA19-045 | 建築工地人工智能計算機視覺雲viAct
Artificial Intelligence Computer Vision Cloud viAct

此產品是結合人工智能及視頻監測的一站式平台，用以檢測設備、安全及質量。此產品使用API及圖象化用戶界面，可進行自訂或預設檢測。預設檢測包括：(i) 人體及面部及身體屬性，(ii)物件及(iii)動作。

This product is a one-stop artificial intelligence and video surveillance platform for equipment, safety and quality detection. This product uses API and graphical user interface, and can perform custom detection and predefined detection. Predefined detection includes detecting: (i) people and facial and body attributes, (ii) objects and (iii) actions.

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **8**

Customindz Limited

PA19-047 | 智高 · 智正工地工人動態系統
InfoSMART™ Attend – Real Time Manpower Attendance in-site Record System

智高 • 智正工地工人動態系統是一套實時追蹤地盤工人活動及管理的系統。此產品不但能透過讀卡器及生物識別系統在入閘機記錄工人進出地盤，亦能實時檢察及追蹤工人在地盤內的活動，提供可靠的出勤記錄，因而減少因工資或受傷引起的糾紛，並可產生工人工作或工種報告以供工作團體管理。

InfoSMART™ Attend is a real-time construction worker activity tracking and management system. This product not only provides workers' gate-in/gate-out records via worker-card reader and biometric device at turnstiles, but also enables real-time visibility and tracking of workers in sites, provide reliable attendance record to reduce disputes over wages and injuries, and generate workers' work/trade report for fleet management.

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **7** **9**

Infotronic Technology Ltd.

PA20-020 | BLAXTAIR Pedestrian / Machinery Anti-collision Camera

BLAXTAIR®系統讓用戶設定檢測範圍，如有行人或物件進入預設範圍時，系統會在駕駛艙的屏幕上發出聲音警報及閃爍信號。駕駛艙內的屏幕亦可透過感應器持續監測，從而保障工地附近行人的安全。

The BLAXTAIR® System allows users to set detection zone and provides audible alarm and flashing signals on the driver's screen if there are pedestrians or objects within the set zone. A monitor installed in the cabin provides continuous footage captured by the sensor head. It can ensure the safety of the pedestrians near the work site.

基金配對資助* **70%**
Co-fund by CITF
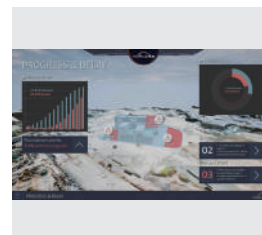
類別 Cat. **5**

EBSL

PA20-021 | Varadise Twin

Varadise Twin 是一個數位孿生平台的數碼工程管理中心。所有施工進度及數據會連接建築信息模擬以便監測和協作。透過內置建築信息模擬分析引擎，當有施工或生產進度延誤時，工程師便會收到通知。

(註：此產品是通用數據環境相關平台，詳情請向供應商查詢。)

Varadise Twin is a Digital Twin platform that serves as Digital Construction Management Hub. All construction progress and data will link with BIM for monitoring and collaboration. With built-in BIM analytic engine, engineers will receive notifications if progress is delayed or manufacturing progress is behind.

(Note: This product is CDE-related platform which the vendor shall be inquired for details.)

基金配對資助* **80%**
Co-fund by CITF

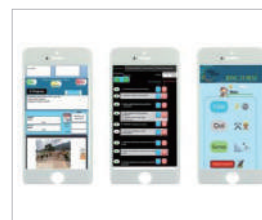類別 Cat. **1**

Varadise Limited

PA20-024 | SIMple

SIMple是一個簡單、可持續的創新工地管理程式。它將三類工地的管理工作數碼化，包括工地日常工作記錄、工地檢查記錄(檢查及測量申請表格)及工地安全管理記錄。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

SIMple is an innovative app making site management simple and sustainable. It digitalises three major aspects of site management including site diary, site inspection checklist (Request for Inspection / Survey Check Form) and site safety management records.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* **70%**
Co-fund by CITF

類別 Cat. **3**

Cerebro Strategy Limited

PA20-025 | 智安健 SmartWorks

智安健是一個提升建築工人健康、安全及營運效率的綜合平台。此平台包含五個組件以提升工地安全，包括智能頭盔能實時檢測工人的健康狀況、健康監察站可讓工人了解個人身體狀況、環境監察站監測工地環境、安全預警系統在工人靠近機械時發出警報及泥頭車管理。

SmartWorks is an integrated platform to enhance construction workers' health, safety and operational efficiency. The platform incorporates five modules to promote and manage worksite safety, namely Smart Helmet for worker's real-time condition sensoring, SmartHealth Station for workers' health surveillance checking, Environmental Station for environmental monitoring, Danger Rader concerning of Safety Triggering System and Dump Truck Management.
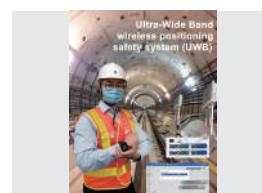
基金配對資助* **70%**
Co-fund by CITF

類別 Cat. **5** **7**

SmarTone Mobile Communications Limited

PA20-032 | 超寬頻無線定位安全系統
Ultra-wide Band Wireless Positioning Safety System

此產品是包含智能手錶及中央監測平台的工人即時定位系統。透過超寬頻定位技術，即使在密閉空間仍可追蹤工人位置及健康參數。

The product is a "Worker Real-Time Positioning System" which incorporates smart watches and a central monitoring platform. By applying ultra-wide band positioning technology, it can track workers' locations and health parameters even in sealed off space.

基金配對資助* **70%**
Co-fund by CITF

類別 Cat. **5** **7** **9**

Transcendence Company Limited

PA20-033 | SmartWorks – 臨時升降機閘門警報裝置
SmartWorks – Safety Alert System for Temporary Lift Shaft Gate

「SmartWorks — 安全警報裝置」能夠為未經許可下進入受限制的設備及禁區如升降機閘門提供警報，減低工人在工地受傷及發生意外的機會。

"SmartWorks – Safety Alert System" can provide alerts for unauthorised access to the restricted equipment and areas like lift shaft, which reduces the chance of injuries to workers and accidents at construction site.

基金配對資助* **70%**
Co-fund by CITF

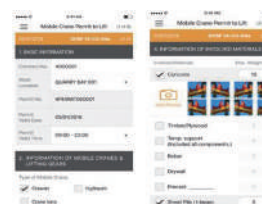類別 Cat. **4**

SmarTone Mobile Communications Limited

PA20-049 | 審批工作申請流程管理系統 Jobs Approve Application Flow Management System

此系統支援三層認證，用戶可使用流動應用程式提交申請表格及拍照，由主管或管理層審批。所有申請表格均有詳細資料，包括時間、用戶、狀態、審批情況、結果備註、負責用戶及審批流程。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

The system supports three levels of authentication. User may use the mobile app to submit application form with photos for the supervisor or management grade's approval. All application forms contain the detailed information such as time stamp, user, status, result remarks, user in charge and approval progress.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* **70%**
Co-fund by CITF

類別 Cat. **3**

Epic Comm Company Limited

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* 一般項目應用可獲70%配對資助，而本地開發的創新科技或產品可獲80%配對資助。每項科技資助最多200萬。
In general, the subsidy is provided on a 70% matching ratio for project adoption and a higher matching ratio of 80% is allowed for locally-developed innovations or products. The funding ceiling per technology is HK$2M.

產品基本資訊可參考基金網頁的預先批核名單。以上分類僅供參考。詳細的產品資訊及功能請諮詢相關產品供應商。
Product features are available at the Pre-Approved List online. The above categorisation is for reference only. Relevant product vendors shall be consulted for the detailed product information and functions.

5

PA20-055 | 超寬頻防碰撞警報系統 UWB Collision Warning System

透過超寬頻技術，防碰撞警報系統能提供即時安全警報予工人及機器操作員。很多工地意外與工人被操作中的機器撞倒有關。一套準確的防碰撞警報系統能有效地防止這些意外。此系統採用最新的超寬頻技術，機器安裝了超寬頻探測器後可設置虛擬工作範圍，當身上戴有超寬頻標籤的工人進入有關範圍便會觸發警報，警告工人及操作員停止機器運作，避免碰撞意外。而有關精準度可達致全方位和公分程度。

Collision warning system could provide real-time safety alert for workers and plant operator by using UWB technology. Many accidents happening on site involve workers being hit by moving plant and machines. An accurate collision warning system can prevent this kind of accidents in a cost effective way. The system adopts the latest UWB - Ultra Wide Band technology. The plant with a UWB detector sets a virtual working perimeter and any worker with an UWB tag entering the perimeter will trigger the alarm to warn workers and the operator to stop the plant so as to prevent collision accidents. The accuracy is up to centimeter level and in all directions.

基金配對資助* Co-fund by CITF **80%**
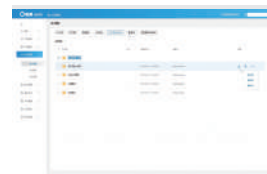類別 Cat. **5**
Beeinventor Limited

PA20-072 | AlphaBIM 項目管控平台 AlphaBIM Project Management and Control Platform

AlphaBIM是一個工程項目管控平台。它提供一站式平台，用以記錄、追踪、統計、分析、形象化和共享與施工進度、工作流程管理、成本管理，以及工地安全和質量相關的問題。

(註: 此產品是通用數據環境相關平台，詳情請向供應商查詢。)

AlphaBIM is a project management and control platform which provides a centralised platform for recording, tracking, statistical anlaysis, visualisation, sharing and documentation of issues relating to construction progress and workflow management, cost management, and safety and quality problems found on site.

(Note: This product is CDE-related platform which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **1** **2**
isBIM Limited

PA20-073 | 鷹網智能監測系統 I-Vision Smart Monitoring System

此產品是一套用於重型建築機械的安全監測系統。它能提供360°全景鳥瞰合成影像，讓操作員可在駕駛艙內透過屏幕，全景檢測1米範圍內的障礙物，和實時獲取周圍環境之影像。如有障礙物進入預設範圍時，系統會發出聲音警報和信號燈，從而保障機械附近工人的安全。

This product is a safety monitoring system installed on heavy construction plant for obstacles detection and real-time acquisition of surrounding environment. It provides synthesised image with 360° bird's-eye view, panoramic detection of obstacles within 1 metre, and siren and signal light when there are obstacles in the detection range, thus improving workers' safety when plant is in operation.

基金配對資助* Co-fund by CITF **80%**
類別 Cat. **5**
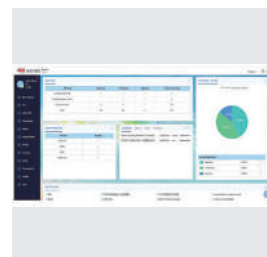Kong Chun Construction Machinery Services Centre Limited

PA20-078 | 建築資源計劃管理軟件 Construction Resource Planning

此產品是一個工程項目管理平台。它的主要功能包括：表格數碼化、實時呈交審批表格、審批流程管理、項目進度追踪、數據形象化等，從而縮短審批的處理時間，達致有效的協作，及降低項目風險。系統內包括安全管理、事故管理、工程指令、環保管理、工程檢查、材料管理、設備管理等模組，以及資料索取申請流程。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

This product is a project management platform with major functions of form digitisation, instant issuance and approval of forms, approval flow management, task tracking and data visualisation to facilitate effective collaboration. It includes various modules such as safety, environmental, site and asset management and RFI.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **3**
Yonyou (Hong Kong) Co. Ltd

PA20-085 | BLE Material & Attendance Tracker

該產品是一種名為"meTrack"的位置和出勤系統。此產品包括"NearBy"，"realTime"及"safetyMeter"模組。這個藍牙技術為本的產品有助跟踪工人的確切位置，從而確保工人的安全。

This product is a location and attendance tracker called "meTrack" which consists of "NearBy", "realTime" and "safetyMeter" modules. This bluetooth based product will help keep track of the exact locations of workers, thereby maximising safety.

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **7** **9**
Hornbird Technology Limited

PA20-088 | Innoshare - Digital Works Supervision System (DWSS)

Innoshare — DWSS 是一個可在網頁及手機上操作安全工地管理平台。它把三類工地的管理工作數碼化，包括工地檢查記錄(檢查及測量申請表格)、工地日常工作記錄，及工地安全管理記錄。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

Innoshare – DWSS provides a secured platform with mobile app and web portal that supports the entire process of site activities, including (i) Electronic Request for Inspection System (E-RISC), (ii) Electronic Site Diary & Labour Return Record System (E-Diary), and (iii) Electronic Safety & Environmental Checklist System.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **3**
Innovative Associate Technology Limited

PA20-090 | 危險區域警報傳感系統 Danger zone Alert Sensoring System

此產品是一套安裝於建築車輛上的感應系統。當途人路經或站在車輛附近時，顯示屏及揚聲器會發出警報予操作員，令操作員操作機器時亦能夠兼顧其他工人的安全。用戶可調整感應距離，它亦能區分感應區域內非工人物件(例如車輛)，以避免虛報。

This product is a sensoring system installed on construction vehicles to provide both visual alert on monitor and audio sound alert to the operator when there are pedestrians walking or standing nearby the vehicle, thus ensuring workers' safety during plant operation. This product allows users to adjust the zoning distance. It can also detect default objects (e.g. vehicles) to avoid false alarms.

基金配對資助* Co-fund by CITF **80%**
類別 Cat. **8**
Customindz Limited

PA20-116 | 恒高高精準定位及安全管理系統
EverHigh Precise Positioning & Safety Management System

此產品透過 Ultra-wide Band (UWB) 技術，可實現精準度達10厘米之定位，有效管理工人團隊，監測工人狀況及分佈，保障工人安全及提升管理質素。系統同時透過不同配置提供高精準度警報，減少工地中常見之意外，提高地盤安全系數。

This product uses Ultra-wide Band (UWB) technology to achieve positioning with an accuracy of 10 cm, effectively managing the labor force, monitoring the status and distribution of workers, ensuring worker safety and improving management quality. At the same time, the system provides high-precision alarms through different configurations to reduce common accidents in construction sites and improve site safety.

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **7** **9**

XenseTech Limited

PA20-119 | Karta-X_KACSA v2.0 AI Assisted Construction Safety Analytic (KACSA)

此產品是一款建築工地安全監控平台。它具有AI分析工具，可識別閉路電視拍攝所得的工人行為，其功能包括工人出勤和PPE識別，機器識別以及可疑人員檢測，以實現更好的工地管理。警報可以通過Web，電子郵件或APP傳遞。

This product is a construction site safety monitoring platform. It has an AI analytical tool for determining workers behavior captured by CCTVs with functions including workers' attendance and PPE identification, machine identification and suspicious personnel detection for better site management. Alert could be delivered by web, emails or APPs.
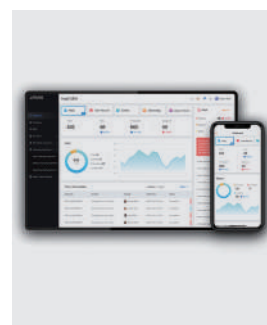
基金配對資助* Co-fund by CITF **70%**

類別 Cat. **5** **8**

Karta-X Technologies Limited

PA20-120 | Jarvis freeFORM

此產品是一個項目管理平台，其核心功能包括表單之數字化和批核，批核流程管理，數據展視和分析以及報告生成。它支持實時和多項目管理。用戶可以通過自定義的表格和批核工作流程中使用移動設備收集和更新數據記錄。該系統有50多種標準表格，包括檢查/驗收申請(RISC)表格，場地日誌，場地清潔紀錄，工友值勤記錄和工地安全記錄等。通過儀表板和報告，用戶可以密切跟踪和監視場地和項目狀態。
(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

This product is a project management platform with the core functions of form digitisation and approval, approval flow management, data visualisation and analysis, and report generation. It supports real-time and multi-project management. Users can collect and update site data record with mobile devices through customised forms and approval workflow. This system provides 50+ standard forms including Request for Inspection/Survey Check (RISC) forms, site diary, site cleanliness, labour return and site safety, etc. Through dashboard and reports, users can closely track and monitor the site and project status.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **3**

isBIM Limited

PA20-127 | Construction Information Anywhere (CIA)

此產品是一款用於建築工作流程的線上數據管理平台和手機應用程式。它包括信息請求 (RFI) 以及圖紙和文檔提交等流程。它標準化和集中了項目工作流程和文檔管理。此平台可以提供某些數碼化工作監督系統 (DWSS) 的功能，例如檢查表格。
(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

This product is a web-based online data management platform and mobile APP for construction workflow including Request for Information (RFI) and drawings and document submission etc.. It standardises and centralises project workflows and documentation management. This platform could provide certain functions as a Digital Work Supervision System (DWSS) such as inspection form.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **3**

Contech Point Company Limited

PA20-128 | Varadise DWSS

Varadise DWSS 是一款可在線上及手機網頁程式操作的建築項目雲端管理系統，旨在建設優化工作流程。五項核心模組能夠讓工地監察人員規範審批流程，自定文檔表格並自動執行報告。系統同時亦支援 4D 建築資訊模型集成，並作為可選應用程式與 Varadise Twin 物業及工程項目智慧管理雲平台同步使用。
(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

Varadise DWSS is a cloud-based project management platform with web portal and web app, designed to optimise workflows in construction. The 5 core modules allow site supervisory staff to standardise approval workflow, customise forms and automate reporting. The system also supports 4D BIM integration and synchronise with Varadise Twin platform as an optional add-on.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **3**

Varadise Limited

PA21-016 | Cerebro Inspection

此產品是一套數碼工地監督系統，在四類檢測中管理檢測及工程進度。雲端平台儲存所有相關數據及提供多項目管理功能。
(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

The product is a project management software for the management of inspections and work progress under four inspection catergories namely Site, Quality, Environmental and Safety. A cloud platform stores all relevant data and offers multi-project management capability.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **3**

Cerebro Strategy Limited

PA21-031 | 駕駛員狀態監測系統 Driver Status Monitor System

此產品透過紅外線鏡頭分析機械操作員的行為。利用人工智能及大數據分析獲取的圖像，系統可以辨識不安全及異常行為。當發現不當行為時，系統會即時向駕駛員及工地管理人員發出警報。

The product is designed to analyse machine operator's behaviour via an infra-red camera. The captured images are interpreted by artifical intelligence (A.I.) and big data to recognise unsafe and abnormal behaviours. An instant alert will be issued to both the driver and site management when unwanted operator behaviour is spotted.

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **5** **8**

Transcendence Company Limited

PA21-033 | 數碼工程監督系統版本1　DWSS Version 1

此產品是一套雲端的數碼工程監督系統，以中央處理各種電子化施工流程及收集工程數據。

(註：此產品是通用數據環境相關平台，詳情請向供應商查詢。)

The product is a Digital Works Supervision System (DWSS), which is a web-based centralised portal for the digitisation of various construction workflows and collection of construction works data.

(Note: This product is CDE-related platform which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **3**

MES Services Limited

PA21-039 | RACE 風險評估應用程式
Risk Assessment Conduct Everywhere (RACE) Mobile App

工地安全人員可使用此軟件在手機或平板電腦上進行風險評估並在電子平台上與項目團隊分享相關資訊。

This is a mobile app for onsite safety-related staff to carry out risk assessment effectively and share relevant information with the project team via an electronic platform.

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **3**

Ideas & Technology Company Limited

PA21-044 | 方案一：高級駕駛輔助系統 + 睡意監測系統
　　　　　方案二：高級駕駛輔助系統　　方案三：睡意監測系統
Package A : Advanced Driving Assistance System (ADAS) + Drowsiness Monitoring System (DMS)
Package B : Advanced Driving Assistance System (ADAS)　　Package C : Drowsiness Monitoring System (DMS)

高級駕駛輔助系統是一個雙鏡頭設備，透過提醒駕駛者可能出現的危險駕駛情況以協助其駕駛。它採用錄像分析技術進行探測。

睡意監測系統是一套精密的人臉識別技術。當系統探測到駕駛者疲倦或不良駕駛行為時會發出聲音警示。

Advanced Driving Assistance System (ADAS) is a dual-camera device that provides real-time driving assistance by alerting the driver of possible dangerous driving situations. The detection is made possible with the use of video analytics technology.

Driver Monitoring System (DMS) uses sophisticated face recognition technology to provide audiable and vibrating alerts when fatigue or bad driving behavior is detected.

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **5** **8**

GreenSafety Technology Limited

PA22-005 | A.I. Surveillance System for Construction Site Safety

此產品是一款結合人工智能 (A.I) 和 5G 物聯網 (IoT) 技術的工地安全管理系統。有效監控工人或車輛進入危險區域及檢測未佩戴安全頭盔的工人。系統提供實時安全監察和警報提示予監管人員，以便及時處理。

A safety management system incorporating artificial intelligence (A.I) and 5G Internet of Things (IoT) technologies. It can provide real-time monitoring and issue instant warnings for unauthorised entry to dangerous zone and workers without safety helmets. Supervisory staff members can receive real-time alert notifications to timely respond.

基金配對資助* Co-fund by CITF **70%**
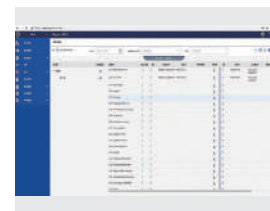
類別 Cat. **8**

iSafety Limited

PA22-008 | ESIA (數碼工地監督系統)　ESIA (DWSS)

此產品是一套雲端的數碼工程監督系統(DWSS)，用於工程監控和管理檢查及測量申請表格、工地日常工作記錄、安全及清潔記錄以及工友開工記錄。

(註：此產品設有若干數碼工程監督系統功能，詳情請向供應商查詢。)

A Digital Works Supervision System (DWSS) that digitises inspection and site monitoring processes likes RISC management, Site Diary, Safety and Cleansing Inspection and keeping of Labor Return record.

(Note: This product has certain DWSS functions which the vendor shall be inquired for details.)

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **3**

Bex Solutions Limited

PA22-011 | Raspect-ACE-Safety

此產品用於監察工地和可移動機械的位置。收集的影像和感應器數據經過電腦分析後於平台上查閱。並於出現安全問題時提供即時提示予安全人員以便及時處理。

This product is a platform aimed at monitoring onsite activities and moving equipment to improve safety. Sensors and cameras on site allows computer analysis on the collected data for the detection and alert of safety issues. The analysed data is shown on a web dashboard with alerts for timely response.
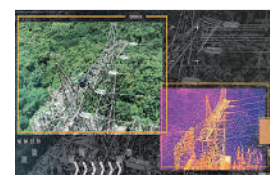

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **8**

RaSpect Intelligence Inspection Limited

PA22-033 | A.I. Unmanned Aerial System for Scaffolding Inspection

該系統是通過人工智能技術運作的圖像分析軟件，提供架空電力線和金屬棚架檢查，能記錄架空電力線和棚架的情況和識別異常情況，例如安全網損壞、雜物堆積、棚架變形、架空線塔架損耗等。

The system offers overhead power line and metal scaffolding inspections through image analysis powered by A.I. technology.

It records the conditions of the overhead power line and scaffold which is able to identify abnormal conditions, e.g. safety net damages, accumulated debris, deformation of scaffold, defects of overhead line tower & etc.
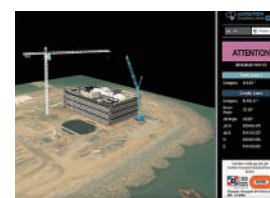

基金配對資助* Co-fund by CITF **80%**

類別 Cat. **8**

RaSpect Intelligence Inspection Limited

PA22-035 | Construction Machines Crash Detection System

本產品為一款碰撞檢測系統(CDS)，通過傳感器來測量機械的位置，並使用機械和結構的實時位置計算3D模型以判斷是否存在碰撞風險。危險情況下會發出警報通知操作員立即採取行動以防止事故發生。本產品可以安裝到多台機器上，並能夠於惡劣天氣情況下運作。

The Crash Detection System (CDS) uses sensors to measure positions of machineries and compute a 3D model with machineries and structures' real-time positions to determine if there is a potential risk of collision. Alert will be given to the operators to take immediate action to prevent accidents. The solution can be deployed to a site with multiple machineries and will function in adverse weather conditions.

基金配對資助* Co-fund by CITF **70%**

類別 Cat. **6** **8**

Hong Kong Telecommunications (HKT) Limited

PA22-037 | 5G Smart Site

此綜合平台根據安全相關傳感器和閉路電視的信息提供警報和授權功能，用於監察碰撞和進入未經授權或危險區域。收集到的訊息通過電訊網絡傳播到網上監察平台。它還提供面部身份驗證以啟用移動設備。

This product is an integrated alert and authorisation platform which collects signals from various types of safety-related sensors and cameras for monitoring of collision and entry to unauthorised or danger zones. The gathered information is relayed via mobile network to the online centralised monitoring platform. It also enables facial authentication for moving plant activation.

基金配對資助* Co-fund by CITF **80%**
類別 Cat. **1 5 7**
Synergos Systems Company Limited

PA22-043 | Mobile360 M500 雙項監測安全系統
Mobile360 M500 - Dual purpose safety monitoring system

擁有雙項監測功能，AI智能廣角雙攝像鏡頭偵測工作危險區域的行人動態，提供實時視覺警報及音訊提醒予操作員，解決突發狀況及為盲區提供防護。為確保操作員在操作時全神貫注，M500室內AI人臉職別攝影鏡頭可監控操作員是否有疲勞、吸煙和打電話的狀態出現，並提供實時視覺警報及音訊提醒，防止不良狀況造成意外發生。系統可搭配手機應用程式，保障行人及操作員安全。

With dual monitoring functions, the A.I. intelligent wide-angle dual camera lens detects the movement of pedestrians in the dangerous areas of work, as well as providing real-time visual alarm and audio reminder to the operator, solving emergencies and offering protection for blind spots. In order to ensure that the operator fully focuses on the operation, the M500 indoor AI face-specific camera lens can monitor whether the operator is fatigue, smoking, or speaking on phone. Real-time visual alarms and audio reminders can prevent unsafe conditions and associated accidents from happening. The system can be used with mobile phone applications to ensure the safety of pedestrians and operators.

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **5 8**
T-Smart Logistics Limited

PA22-046 | Plant Activity Monitoring System

該產品是一款重型機械活動監控系統，可在在線平台上報告機械的實時位置。可以呈報有關機器活動的報告以供分析。

This product is a plant activity monitoring system that reports the real-time locations and utilisation data of construction plants on the online platform. Reports on the plants' activity can be generated for analysis.
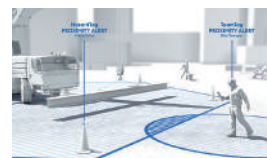
基金配對資助* Co-fund by CITF **80%**
類別 Cat. **2**
Hong Kong Telecommunications (HKT) Limited

PA22-048 | PLINX

PLINX是一種工人位置監察系統，旨在根據工人身份和目的限制進入潛在高風險區域，例如吊運和機械移動區域。即時警報將通過短訊和電子郵件發送給主管。

PLINX is a worker movement monitoring system with an online platform and helmet-mounted sensors designed to restrict access to zones based on workers' role and purpose to areas with a high potential of danger such as lifting and plant movement zones. Instant alert would be sent to supervisors via SMS and email.

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **7**
PLINX

PA23-001 | Safetymint

Safetymint是一個數位化的安全管理平台，有效列出和監控各安全流程。其模組包括事故和未遂事故管理、安全審核管理、工作許可系統以及危害識別和風險評估(HIRA)。

Safetymint is a digitised safety management platform designed for the listing and monitoring of an organisation's safety processes. Its modules include Incident and Near Miss Management, Safety Audit Management, Permit to Work System and Hazard Identification and Risk Assessment (HIRA).

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **1**
Alethea Global

PA23-003 | Blackline Safety G7c

本產品是一種便攜式氣體檢測儀和工人安全狀態監測設備。測量數據可上傳至在線管理平台進行安全信息分析。此產品還具有控制中心的手持收發器(HT/Walkie-Talkie)功能。

This product is a portable gas detector and worker's safety status monitoring device. Data of measurements can be uploaded to online management portal for safety information analytics. This product also functions as a Handheld Transceiver (HT) or Walkie-Talkie with the control center.

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **9**
Asia Pacific Industrial Safety Equipment

PA23-004 | 4G Industrial Smart Watch Model : HB09

4G智能手錶配備生物傳感器和GPS，可檢測佩戴者的體溫、心率、血壓和位置。管理層可透過移動和網絡應用程式獲取這些數據，用於監控工人的出勤率、安全和生產力。該設備提供語音和視頻通話功能，並在檢測到突然跌倒、延長靜止狀態或進入危險區域時向管理層發送警報。

The 4G smart watch is equipped with a biometric sensor and GPS to detect the wearer's body temperature, heart rate, blood pressure and location. This data is made available to management via a mobile and web application for the monitoring of workers' attendance, safety and productivity levels. The device offers voice and video calls capabilities and alerts are sent to management when sudden fall, extended stationary state or intrusion into a fatal zone are detected.

基金配對資助* Co-fund by CITF **80%**
類別 Cat. **7**
Hornbird Technology Limited

PA23-014 | Smart Safety System

Smart Safety System 的智能手錶配備了用於健康和位置監控的傳感器。放置在室內或致命和限制區域的藍牙發射器，能提供佩戴者的室內定位及接近危險區域警告。

The smart watch is equipped with sensors for the health and location monitoring. Bluetooth beacons are placed indoor and in fatal & restricted zones to track wearer's indoor position and offer proximity warning to danger areas.

基金配對資助* Co-fund by CITF **70%**
類別 Cat. **7**
WeWealth Electronic Innotech Ltd.

今期簡報，我們特別找來了水務署與大家分享一下工程團隊在其中一個試點項目─
將軍澳海水化淡廠使用「安全智慧工地系統」的體驗。
We invited Water Supplies Department (WSD) to share with us how their project team benefit from **the adoption of SSSS in one of the pilot rojects ─ the Tseung Kwan O Desalination Plant.**

Q1 水務署在將軍澳海水化淡廠項目採用了哪些「安全智慧工地」產品？

在將軍澳海水淡化廠（TKODP）項目中，我們採用了超過20款「安全智慧工地」產品來加強工地安全，其中包括：

海事工程 － 使用水下無人拍攝機、水位警報傳感器、全球衛星移動監測系統以及海底隧道內的人員管理系統；

陸上工程 － 樓洞臨時覆蓋物管理系統、起重機械和起重裝置電子管理系統、移動機械防撞警報系統、天秤和移動機械的防撞警報系統、石坡傾斜傳感器、人工智能攝錄機及廣播系統、空氣質素傳感器及電箱開關警報系統;

中央智能管理平台 － 採集「安全智慧工地」產品的實時數據，並將數據傳輸到一站式平台，讓項目團隊掌握整個施工現場的狀況；及

虛擬現實安全訓練及安全體驗訓練中心 － 為工友提供虛擬實景安全訓練及安全體驗訓練來加強工友安全意識。

Q1 What SSSS products have been adopted by the WSD in the Tseung Kwan O desalination plant project?

In Tseung Kwan O desalination plant (TKODP) project, we have adopted over 20 nos. of SSSS products in order to enhance site safety including:

Marine works – underwater inspection drone, water level alert sensor, GNSS movement monitoring system and people management system at submarine tunnels;

Land works – temporary cover management system for floor openings, Lifting Appliances (LA) and Lifting Gears (LG) electronic management system, moving plant proximity alert system, anti-collision system between tower crane and moving plant, rock slope tilting alert system, Artificial Intelligence (AI) CCTV camera and PA stands for Public Address System] system, air quality sensor and alert system for unauthorised opening of electric box;

Centralised Management Platform – to collect real-time data from SSSS products, and transfer the data to the Platform, so that the project team can grasp the situation of the entire construction site; and

VR & 4D Cave Safety Training and Mechanical Safety Experience Center – to provide virtual-reality (VR) safety training experiences for workers in a safe, risk-free environment.

Q2 使用「安全智慧工地」系統之前，水務署有甚麼前期工作需要準備？

首先，我們要為「安全智慧工地」產品和中央智能管理平台提供可靠的數據連接硬件。

水務署同事與工程項目團隊緊密合作，為將軍澳海水化淡廠項目的特定工序/高風險工序研究及開發「安全智慧工地」產品，包括所需的人力資源、成本估算和實施計劃等。

Q2 Any preparatory work WSD needs to undertake before implementing the SSSS?

First, we need to set up reliable data connection hardware for the safety smart device and centralised management platform.

WSD collaborates with the project team to explore the smart safety devices implemented for the site-specific construction activities/high-risk activities for TKODP site, which including the required human resources, cost estimation and implementation programme etc.

Q3 可以與我們分享一下「安全智慧工地」系統如何改善工地安全的具體例子嗎？

「安全智慧工地」系統可以實時收集安全產品的數據及進行實時監察。當發現有危險時，系統會即時發出提醒警報，大大提升工地安全。以下有一些例子可供參考：

1. 加強工地安全文化與溝通

「安全智慧工地」系統可以改善工地安全文化以及加強工友與管工之間的溝通。以海底隧道內的人員管理系統為例，管理團隊可以透過提供的智能手錶實時監測工友在隧道內的位置，並確保他們在合適的區域內工作。智能手錶亦可以用作監測他們的心跳和體溫等健康狀況。如遇上緊急或異常情況，工友可透過智能手錶即時發出求救訊號。
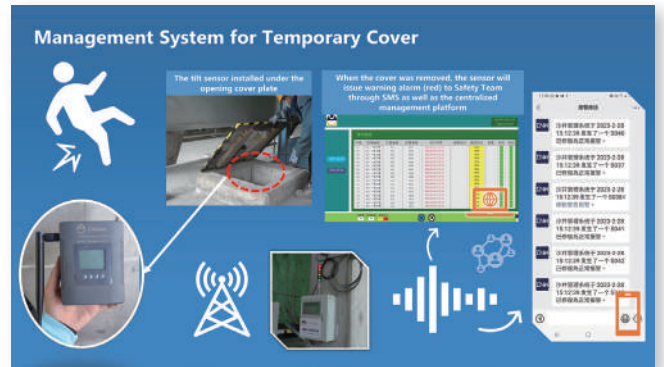
2. 實時監控

工地現場安裝具有人工智能功能的攝像機，實時監控工地情況。當檢測到工友有不安全行為，攝像機會即時紀錄畫面及傳送警報到安全和管理團隊，以便團隊快速應對及即時作出跟進，確保工地安全。

3. 預防措施

「安全智慧工地」系統可以用於監測工地環境情況及機械狀況，令團隊預早識別及處理有可能發生的危害，防止意外發生。我們在工地附近的斜坡安裝了傾斜傳感器檢測移動斜坡情況。傳感器會於斜坡異動時發出早期警報，令工程團隊有足夠時間作出緊急處理，將受傷和損壞的風險降至最低。

4. 提供數據收集和紀錄保存機制

「安全智慧工地」系統可以收集和存儲有關安全產品的電子數據。例如在海事工程中，團隊利用全球衛星移動監測系統來監測臨時結構的移動。數據可以自動實時地傳輸到中央平台，並可制作成監測報告及圖表，以便工程團隊分析趨勢及檢查數據是否符合合約要求。

Management System for Temporary Cover

Q3 Can you share with us some examples on how SSSS improve site safety?

SSSS can greatly improve site safety by providing real-time monitoring and alerts for potential hazards or dangerous situations. Here are some examples:

1. Enhanced Site Safety Culture and Communication
SSSS can also improve site safety culture and communication between workers and supervisors. For example, the people management system at the submarine tunnels can track workers' movements and ensure they are working at proper area. By providing the smart watch to the workers, the health condition of the workers such as heart rate and body temperature could be detected and warning alert could be sent to the supervisors immediately in case of fall, collision or manually triggered emergency.

2. Real-Time Monitoring
CCTV Cameras with Artificial Intelligence (AI) Functions are installed on site to provide real-time monitoring of worksite conditions and to detect site staff's safety behaviours. Real-time alert messages can be sent to the safety team and site management for immediate follow-up actions. This can help site supervisors respond quickly to potential hazards and ensure that workers are safe at all times.

3. Preventive Measures
SSSS can be used to monitor equipment and site condition and identify potential issues before they become a problem. For example, the tilt sensors were installed at various exposed locations along the rock slope in order to detect the movement and the sensors serve as the early warning before major movement of the slope, thus allowing timely preparation to be carried out on site to minimise severity of damage or chance of accident.

4. Better Data Collection and Record-Keeping
SSSS can collect and store data regarding worksite conditions, worker movements, and equipment usage. For example, the marine works cofferdam movement monitoring system with Global Navigation Satellite System (GNSS) receiver were installed at the intake and outfall shafts to measure their movement. The data could be able to transmit to the centralised management platform and could be able to create the monitoring report automatically. The dashboard can be used to identify trends and to track data regarding the compliance with contract's requirement.

5. 節省監督的人力資源

人工智能攝像機和全球衛星移動監測系統可以自動收集數據，無需投入額外的人手資源，並且不會受到惡劣天氣的影響。另外起重機械及裝置電子管理系統可以提供數碼化的監控管理，通過掃描在起重機械及裝置的二維碼可以即時獲取相關資料，這些記錄存儲在雲端平台中，可以令流程自動化，例如安排檢查、確定機械位置和管理庫存，從而節省時間並降低人為錯誤的風險。

6. 改善培訓

智能安全設備可以為工人提供更有效的培訓。例如，虛擬現實安全培訓模擬可以用於培訓工人在高空作業和吊裝操作中如何應對危險情況。

7. 增加工人參與度

智能安全設備可以幫助工人更關注自己工作相關的安全事項。團隊在移動機械中安裝360度防撞警報系統。監測系統在機械四側安裝高清寬角鏡頭進行分析，而操作員可以在駕駛室內的顯示器觀察到周圍的實時情況。當有工友進入移動機械的操作範圍內，系統便會觸發聲音警報，以提醒操作員停止任何進一步的移動，從而減少撞擊的風險。

5. Saving the supervision and monitoring resources on routine inspection

The CCTV AI cameras and GNSS can work continuously without human effort and it will not be affected by adverse weather. The implementation of Lifting Appliances/ Lifting Gears (LA/LG) electronic management system can provide a systematic way for the supervisor to monitor them. Real time records and status of the appliance and gear can be accessed by scanning QR code attached to the LA/LG. The records are stored in the web-based platform and can automate many of the processes involved in managing lifting equipment, such as scheduling inspections, tracking machinery location and managing inventory, which saving time and reducing risk of human error.

6. Improved Training

Smart safety devices can be used to provide workers with more effective training. For example, VR safety training simulations can be used to train workers on how to respond to hazardous situations during working at height and lifting operation.

7. Increased Worker Engagement

Smart safety devices can help workers feel more engaged with their work and more invested in their own safety. 360° moving plant proximity alert system have been installed at the moving plant. The monitoring system consists of high definition wide-angle camera installed at four sides of the moving plant. Through the viewing monitor installed in the control cabinet, the operator can observe real-time conditions around the plant and make sure there are no obstructing objects while manoeurving the plant and thus reduce the risk of striking surrounding objects. Meanwhile, audio alarms will also be triggered to draw the operator's attention in order to stop any further movement.

基金統計數字 Funding Statistics	獲批項目及總金額名單 (截至2023年2月28日) List of Approved Projects and Amount (as at 28 Feb 2023)	數量 Numbers	獲批總金額(港元) Amount(HK$)
	建築信息模擬軟件 Building Information Modelling (BIM) Training	703	3,100萬
	建築信息模擬硬件 BIM Software and Hardware	941	1.05億
	創新建築科技 Advanced Construction Technologies	1 145	4.33億
	「組裝合成」建築法 Modular Integrated Construction	59	1.53億
	預製鋼筋 Prefabricated Steel Rebar	163	1.36億
	人力發展 Manpower Development	35	1,300萬
	總數 Total :	**3 046**	**8.71億**