

歡迎參閱第二十期東涌新市鎮擴展工程通訊，本通訊將介紹智能安全裝置應用，並提供工程進度及相關資訊。
Welcome to our twenty issue of the newsletter of Tung Chung New Town Extension.
This issue will introduce application of Intelligent Safety Devices, the progress of works and relevant information.

智能安全裝置 Intelligent Safety Devices

東涌新市鎮擴展工程項目成立創科控制中心運用了不少創新科技來提升工地管理效率，並搭配一系列創新安全設施。透過數碼管理平台，團隊能夠實時收集數據，讓工程團隊掌握整個工地的狀況，作出工地安全管理決策，實現安全至上，達到地盤零意外的目標。今期主要介紹東涌新市鎮擴展各工程合約如何運用智能安全裝置監察高風險的工序。當有危險時，系統會即時提醒安全管理人員和工友。

Tung Chung New Town Extension Project has established InnoTCE which applies numerous innovative technologies as well as a range of innovative safety devices to enhance construction site management efficiency. Through an intelligent management platform, real-time data can be collected to allow the project team to have a comprehensive understanding of the site conditions and to formulate construction site safety management decisions for achieving safety commitment first and a goal of zero accidents on-site. This issue introduces the application of intelligent smart devices to monitor the high-risk activities under each works contract of Tung Chung New Town Extension Project. When there is a danger, the system will immediately alert the safety management staff and workers on site.



東涌新市鎮擴展工程項目的創科控制中心
InnoTCE of Tung Chung New Town Extension Project

360度智能防撞監察系統 360-degree Intelligent Monitoring System

為了避免工友進入危險吊運範圍與起重機械發生碰撞，工程團隊為移動式起重機安裝了360度智能防撞監察系統。攝錄影像會實時傳送到駕駛室，操作員可以看到現場情況。如果有工友進入危險範圍，警報系統會立即響起以通知操作員停止有關起重工作及附近的工友離開吊運範圍，以防止吊運工作時發生意外。



操作員在駕駛室裡接收實時影像
Operator receives real-time video in the control cabin

智能工程車清潔管理系統 Smart Wheel Washing Basin

為加強工地環境管理，工程團隊進一步利用人工智能攝影技術監察工程車輛離開工地時的潔淨狀況。當系統監測車輪尚有泥濘，車閘並不會開啟，直至系統識別車輪已經被妥善清洗，車閘才會開啟讓車輛離開工地，避免工程車輛將泥濘帶到附近街道。



To prevent workers from entering the lifting zone and getting collided by the mobile crane, the project team has installed a 360-degree intelligent monitoring system for mobile crane. Real-time video will be transferred to the control cabin so that the operator can monitor the on-site conditions. If any worker enters the fatal zone, the alarm system will alert the operator to stop the related works and alert the workers to leave the lifting zone to prevent accidents from happening during lifting operation.

超寬頻防撞系統 Ultra Wide Band (UWB) Anti-collision System

工程團隊亦於挖泥機加裝超寬頻防撞系統，當工人走近挖泥機，駕駛室內警報器會發出聲響及閃燈通知操作員留意機械移動區域內的狀況。同時，工人的智能安全帽亦會發出聲響及震動，提醒工友避免接近挖泥機，並盡快離開機械移動區域。上述的創新安全技術，能夠進一步保障工友安全，減少意外發生。

The project team installed Ultra wide band (UWB) anti-collision system. If any worker approaches an excavator, the alarm inside the control cabin will emit sound and flash to notify the operator, while the workers' smart helmet emit sound and vibration to alert them to stay away from excavator. These innovative safety measures aim to protect the workers and prevent accidents.



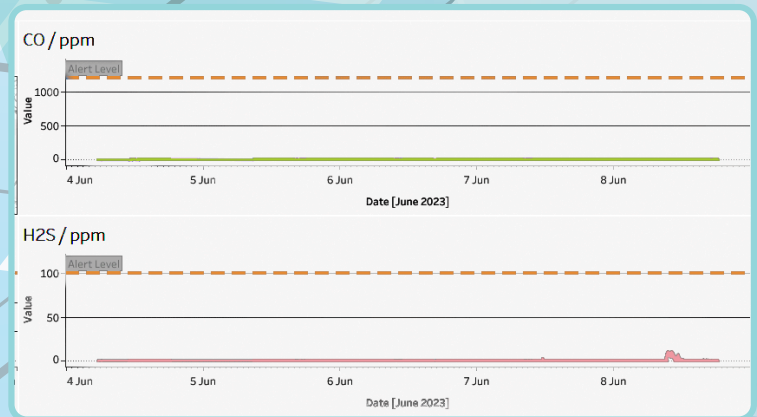
當工友進入機械操作範圍，智能安全帽便會發出聲響及震動
When worker enters to the range of machinery operations, smart helmet will emit sound and vibration

密閉空間智能監控系統 Smart Monitoring System for Confined Space

為了確保工友安全，工程團隊在密閉空間內設立了多功能監察儀。透過智能人面識別鏡頭，識別進入密閉空間的工友。當系統偵測到進入密閉空間的工友沒有登記有關證書及參加有關密閉空間工作的認可安全訓練課程，該工友將不獲批准進入密閉空間。人面識別系統除了讓授權人仕進入密閉空間，相關儀器更會實時量度密閉空間內的環境讀數，例如：一氧化碳，硫化氫等。當讀數數值到達預設限值，系統會發出警報訊號，讓監督人員立即通知工友離開密閉空間。



To ensure worker safety, the project team has installed a multifunctional monitoring device in confined spaces. The AI camera in the system can identify the labour entering the confined spaces. When the system recognizes that a worker entering a confined space do not hold a relevant certificate or attend an approved safety training course in connection with confined space work, the worker will not be allowed to enter the confined space. In addition to using facial recognition system to authorize access to confined space, the device also measures environmental readings in real-time, including carbon monoxide, hydrogen sulphide, etc. When the reading reaches the preset limit, an alarm will sound, the supervisor can immediately notify the workers to leave the confined space.



密閉空間智能監控系統
Smart Monitoring System for Confined Space

人工智能安全監察和危險區域控制 AI Safety Monitoring & Hazard Areas Access Control

工程團隊在工地範圍裝設「人工智能監察系統」，透過智能鏡頭，全方位監測工地各個高風險位置。當系統偵測到工友未有佩戴安全帽或誤闖危險管制區等違規行為，系統會發出警報通知監督人員跟進，從而達到實時監察工地狀況，有效減低意外發生的機會。

The project team has installed an "AI Monitoring System" in the construction site, which uses AI cameras to monitor all high-risk areas of the site comprehensively. The system issues an alert to notify supervisors when it detects any safety violation such as a worker without wearing a safety helmet or entering a restricted area. The System can monitor site conditions in real time, reducing the chances of an accident effectively.



社區聯繫

Community Engagement

「東涌西義工隊」於2023年4月與東涌社區組織合作，舉辦了兩場「復活節樹枝再生畫工作坊」。小朋友透過樹枝物料發揮創意，一起拼砌東涌29A區休憩處及東涌河畔公園內的生態環境，共同讓樹枝再生，從而鼓勵廢物利用，推動環保理念。

The "Tung Chung West Volunteers" collaborated with Tung Chung community organizations and held two workshops named "Easter Regenerated Tree Branches Artwork" in April 2023. The Children arouse creativity to create artworks using tree branches to present the ecological environment of Tung Chung Area 29A Open space and Tung Chung River Park. The tree branches were recycled to encourage and promote the concept of reuse and environmental protection.



義工隊教導小朋友製作樹枝畫
The volunteers taught the children on make an artwork by tree branches



復活節樹枝再生畫工作坊
Easter regenerated tree branches artwork workshop



樹枝畫成品
Finished tree branches artworks



單車及跑步籌款活動 HKIE Fundraising Cycling & Run

義工隊「友建地」參加了慈善跑，藉此鼓勵大家多做運動，保持強健體魄。

The volunteer team "Builder" participated in the fundraising run to encourage everyone to exercise more and build up a strong body.



資訊與聯絡

Information and Enquiries

如對東涌新市鎮擴展項目有任何意見及建議，歡迎提出。
Your views and comments on Tung Chung New Town Extension project are welcome.

如欲了解更多資料，請瀏覽東涌新市鎮擴展項目網頁：
For further information, please visit the website of Tung Chung New Town Extension project:

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可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

Build King SAMSUNG CAT
BUILD KING - SCT JOINT VENTURE

CAC 中国地质工程集团有限公司
CHINA GEO-ENGINEERING CORPORATION

Build King

Build King RC 顯豐土木
Build King - Richwell Civil Joint Venture

中國中鐵

AECOM

ARUP

香港工程師週嘉年華 The Hong Kong Engineers Week Carnival

義工隊「友建地」與迎東邨小朋友參加了「香港工程師週嘉年華」，讓小朋友透過不同的遊戲方式，了解日常生活各類型的有趣工程知識。場內設有不同的遊戲區，例如以積木建造理想宜居城市，更有工程師分享職業路徑等環節，家長亦樂在其中！

The volunteer team "Builder" and children from Ying Tung Estate participated in the "Hong Kong Engineers Week Carnival", allowing children to learn interesting engineering knowledge in daily life through different games. The venue featured different game zones, including building ideal livable city with building blocks. There were also sections where engineers shared career paths, which parents also enjoyed!



用積木建造自己的理想宜居城市
Building ideal livable city with building blocks



與工程師一起製作飲管橋
Making a straw bridge with engineers



學習分類不同垃圾
Learning to classify different types of garbage



「共建東涌」家庭同樂日 Tung Chung New Town Extension Family Fun Day

義工隊「友建地」邀請了在前線工作的工友和家人，參觀東涌社區聯絡中心。小朋友除了參觀大嶼山保育專題展覽、VR立體視覺俯瞰大嶼山的美景和預覽發展項目的社區面貌等等，他們更了解到父母的日常工作，正在建造東涌的未來！除此之外，參加者透過STEM工作坊，親子一同製作裝載機，分享科學知識。大家都一起享受了輕鬆的周末！

The volunteer team "Builder" invited front line workers and their family members to visit the Tung Chung Community Liaison Centre. In addition to visiting the Lantau conservation exhibition, experiencing the VR panoramic view of Lantau Island, and previewing the development projects of the community, children also understood about their parents' daily work in building the future of Tung Chung! Moreover, participants enjoyed a relaxing weekend by participating in STEM workshops, making model loaders with their children, and sharing scientific knowledge.



工程進度 Works Progress

海水供應系統 (合約編號：NL/2020/02)

Salt Water Supply System
(Contract No.: NL/2020/02)

現正於裕東路敷設水管，並進行橫向鑽掘工程，而海水抽水站及海水配水庫亦在建造中。

The watermains laying works at Yu Tung Road, Horizontal Directional Drilling works and construction of Salt Water Pumping Station and Salt Water Service Reservoir are in progress.



海水配水庫正在建造中
Construction of Salt Water Reservoir in progress

馬灣涌工地平整及基礎設施工程 (合約編號：NL/2020/05)

Site Formation and Infrastructure Works at Ma Wan Chung
(Contract No.: NL/2020/05)

現正於松仁路的中央分隔帶進行板樁工程，以配合渠務工程。

Sheet piling works for drainage works at central median of Chung Yan Road are in progress.



於松仁路的中央分隔帶進行板樁工程
Sheet piling works at central median of Chung Yan Road are in progress

東涌谷工地平整及基礎設施工程第一期 (合約編號：NL/2020/06)

Site Formation and Infrastructure Works at Tung Chung Valley, Phase 1
(Contract No.: NL/2020/06)

現正於東涌46區進行工地平整工程，以開拓土地供房屋署興建公營房屋。

Site formation works at Tung Chung Area 46 are in progress for providing land for the construction of public housing by the Housing Department.



於東涌46區進行工地平整工程
Site formation works at Tung Chung Area 46 are in progress

大鵬交匯處

(合約編號：NL/2020/07)

Tai Ho Interchange
(Contract No.: NL/2020/07)



現正於鄰近港鐵小蠔灣車廠的北大嶼山公路旁進行擋土牆建造工程。其他進行中的工程包括：翔東路及深水角徑的食水及污水壓力管道敷設工程、白芒行人隧道修改工程、白芒橋地基工程，以及擋土牆前期鑽探工程。

Retaining wall construction near MTR Siu Ho Wan Depot along North Lantau Highways are in progress. Other ongoing construction activities include laying of fresh watermains and sewage rising mains along Cheung Tung Road and Sham Shui Kok Drive, modification of Pak Mong Subway, foundation works for Pak Mong Channel Bridge and ground investigation works for retaining wall construction.

北大嶼山公路旁的擋土牆工程
Retaining wall construction along North Lantau Highway