

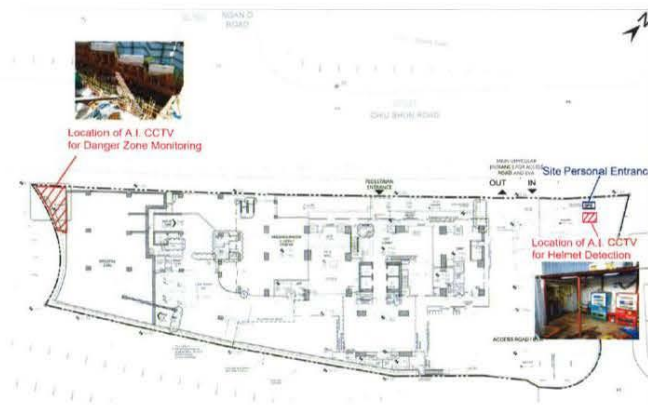
安全創意

# Safety Innovation & Trials by contractors

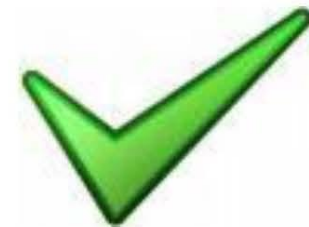
Recommended in HASAS & observed inSSIP  
(2021Q1 – 2022Q2)

# Safety Innovation 創新工地安全措施

## A.I. CCTV For Helmet Detection and Danger Zone Monitoring

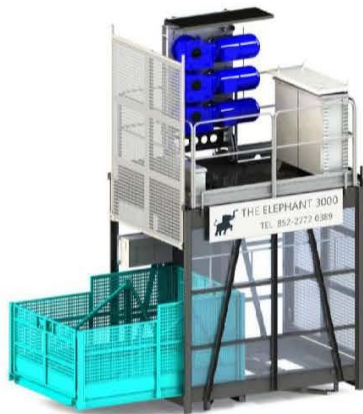


- The advanced A.I. video analysis technology is used for the detection of wearing safety helmet at the site entrance and danger zone monitoring. Once a non-compliance has been detected, it will instantly trigger the playing of audio warning message on-site. An in-app notification and alert email will be sent to notify the safety management team and a snapshot of the violator will be taken automatically for record and further data analysis.
- 人工智能分析技術用於地盤入口處偵測工人配戴安全帽的情況以及進行危險區域監控。一旦偵測到違規行為，系統會於現場播放警告聲響，並發送訊息和電子郵件通知安全管理團隊，以及拍攝違規者的相片以進行記錄和進一步的數據分析。



# Safety Innovation 創新工地安全措施

Cargo Hoist  
(THE ELEPHANT 3000)



- A working platform installed on the top of the cargo hoist for workers to work safely when conducting the installation, height alteration and disassembly works of cargo hoist. Furthermore, a movable sliding platform substitutes the tailor made landing platform of traditional material hoist. This technology can reduce the risk of workers falling from height for the installation, height alteration and disassembly works of cargo hoist.
- 安裝在物料開士機頂部的工作平台能令工人安全地安裝和拆卸開士機。此外，可移動的滑動平台取代了傳統開士機的卸物平台，減少了卸物平台的安裝需要，可降低工人於安裝、加高和拆卸開士機時從高處墜落的風險。





# Safety Innovation 創新工地安全措施

Mobile Welding Robot



- Mobile welding robot can maneuver on construction site to handle different welding operations according to the programmed trajectory. With the help of welding robot, workers can keep away from welding works and to reduce workers' exposure to the hazards of welding operations.
- 移動焊接機器人可以按照輸入的程序在施工現場進行不同的焊接工作。在焊接機器人的幫助下，可以避免工人進行焊接工作的需要，以減少工人曝露於相關工序下所產生的危害。



# Safety Innovation 創新工地安全措施

## AI Monitoring System for mobile crane operation



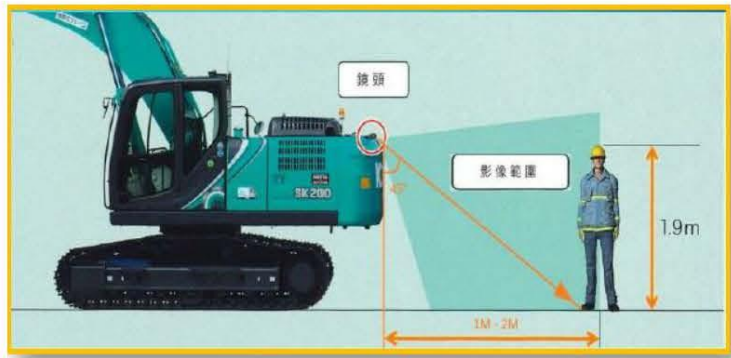
- AI monitoring system for mobile crane can automatically generate alert to surrounding workers and frontline supervisors once it detects unsafe lifting operations. Furthermore, the system can also automatically record the unsafe lifting operations to the database for analysis, education and other promotional activities.
- AI流動式起重機操作監察系統能偵測不安全吊運操作以及發出警號提醒附近工人以及管理人員。另外，系統會自動記錄不安全吊運操作於資料庫以作分析及培訓推廣之用。





# Safety Innovation 創新工地安全措施

## I-Vision Smart 360° AI Monitoring System

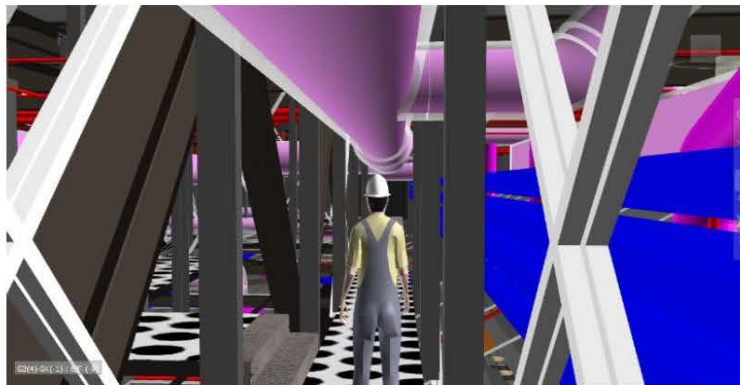


- I-Vision Smart 360° AI Monitoring System was developed to reduce blinding spot surrounding the excavator. The monitoring system can minimize accident occurrence as the system can provide a prompt warning to operations and workers approaching the excavator within 2-meter.
- 應用360°人工智能偵測系統於挖掘機可有效避免操作時出現盲點。偵測系統可偵測到2米內的人像，警報器會發出警號及閃燈亦會不斷運作，以作提示接近挖掘機的人士以及操作員，可減少意外的發生。



# Safety Innovation 創新工地安全措施

## BIM for Safe Construction of Arena Roof



- BIM ensured the feasibility and accuracy of the “All-In-One Lifting” Method for the installation of Roof Steel Truss of GIC-Multi-Purpose Arena. It reduced enormous works at high level and aided rehearsal for workers to get familiarized with the working procedures.
- 透過使用建造資訊模型(BIM)，確保使用創新方法於多用途體育館安裝天花鋼結構的可行性和準確性，大大減低高空工作的需要，而透過使用BIM進行安全訓練，能令工人更熟悉相關工作程序及安全措施。



# Safety Innovation 創新工地安全措施

Material hoist gate – Infra-red anti-interfering device



- The new infra-red interlock requires both gates to be closed properly to activate hoist movement. The hoist movement will be deactivated when the new infra-red interlock was being interfered.
- 當開士機門未有妥善關上或紅外線互鎖裝置被干擾，開士機便會停止運作，這能減低工人干擾開士機互鎖裝置的誘因。





# Safety Innovation 創新工地安全措施

HSE Kiosk – E-permit system

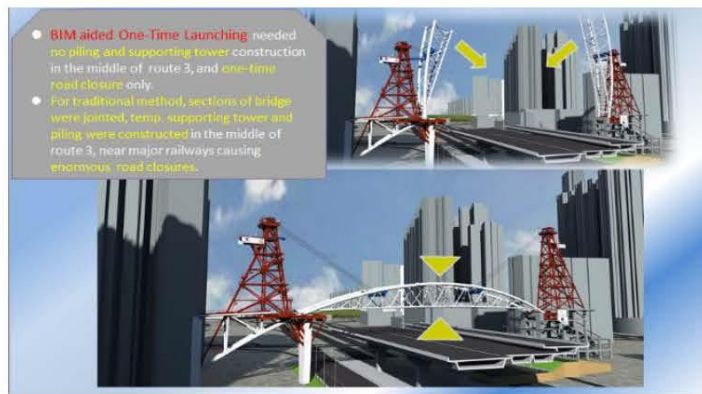


- “HSE Kiosk” for E-Permit system had been developed to manage the permit to work system for high risk activities. It is an easier and convenience way for user to apply and authorized persons to approve and manage the permit to work system.
- 申請者可透過使用「安健環智能站」完成整個高危工序許可證申請的程序，而管理人員亦能有效地管理地盤內不同的高危工序。



# Safety Innovation 創新工地安全措施

BIM aided “One-Time Launching Method” of Footbridge One (FB1)



- BIM ensured the feasibility and accuracy of the “One-Time Launching Method” for the installation of Footbridge One (FB1). It greatly reduced the nuisance to the traffic, provided a safe environment to public and aided rehearsal for workers to get familiarized with the working procedures.
- 透過使用建造資訊模型(BIM)，這確保了使用創新方法安裝行人天橋一號的可行性和準確性，大大減低對交通及公眾安全的影響，而透過使用BIM進行安全訓練，能令工人更熟悉相關工作程序及安全措施。

