

# CITFDIGEST



## CITF 建造業 創科基金

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融匯科技 創建香港 WE INNOVATE, WE BUILD

## 無限可能：創新智能基礎設施如何締造美好城市



基礎設施是城市有效運作發展的關鍵。香港人煙稠密，加上地形限制及可發展的土地不足，若要成為世界首屈一指的宜居和可持續發展城市，將會是一項艱巨挑戰。香港特別行政區(香港特區)政府在今年十二月公布《香港智慧城市藍圖2.0》，在這個框架下的六個智慧範疇中提出多項措施。為了讓香港邁向智慧城市2.0的目標，我們必須集思廣益，鼓勵從業員、政府人員與學術界人士多作交流，為本港的城市發展定下方向。

二零二一年五月十三日及十四日，香港科技大學(科大)土木及環境工程學系、科大土木及環境工程系校友會、科大極智慧城市中心、智慧城市聯盟及香港工程師學會合辦「智能基礎設施研討會」，以實地及線上雙模式在科大校園舉行。我們有幸邀請到香港特區發展局常任秘書長(工務)林世雄工程師擔任主禮嘉賓，以及立法會工程界功能界別議員盧偉國博士工程師擔任大會的籌備委員會顧問。

研討會內容十分豐富，先由政府資訊科技總監林偉喬先生、中國城市和小城鎮改革發展中心智慧低碳部主任及智慧城市發展聯盟秘書長鄭明媚女士，以及土木工程拓展署署長劉俊傑工程師揭開序幕，與大家分享內地及本港所採用的智慧城市策略。接着再由路政署署長陳派明工程師、水務署署長盧國華工程師、渠務署署長彭雅妮工程師、環境保護署副署長徐浩光博士，以及機場管理局工程及科技執行總監梁永基工程師，講解不同範疇的「智慧環境」。此外，研討會亦集中探討「智慧生活」議題，由機電工程署署長彭耀雄工程師、中華電力有限公司總裁蔣東強先生，以及香港鐵路有限公司商務總監及執行總監會成員楊美珍女士，在「智慧出行」及資源管理的挑戰和機遇方面，提出獨到見解。

最後，地政總署署長黎志華先生、建築署署長何永賢女士、發展局起動九龍東專員張綺薇女士、發展局空間數據辦事處總監蕭慧儀測量師，以及科大計算機科學及工程學系教授及大數據研究所主任陳雷教授，重點討論地理空間數據及設施管理，為研討會畫上圓滿句號。

研討會有多位知名講者發表專題演說，帶領討論，啟發思考，而且也邀得業界不同領域的專業人士，就數碼分身、大數據分析、物聯網與自動化，以及在大灣區應用科技等議題交換意見和分享先進的作業方式。

在建造業創新及科技基金的支持下，「智能基礎設施研討會」圓滿成功，合共超過700名人士親身到場或在網上參與，成績斐然。「智慧城市論壇會」系列第二次研討會結束後，籌備委員會將繼續提供跨界別平台，促進政府、學界及業界攜手合作，一同努力實現締造香港智慧城市2.0的願景。



<https://www.citf.cic.hk>

CITF 建造業創新及科技基金

[citf.cic.hk](https://www.instagram.com/citf.cic.hk)



發展局  
Development Bureau



CONSTRUCTION INDUSTRY COUNCIL  
建造業議會



# Boundless possibilities: how smart and innovative infrastructure shape a better city

Infrastructure is the key to the effective functioning and development of a city. Densely-populated territory coupled with physical constraints of and the limited land available for development present Hong Kong with an enormous challenge to be ranked atop the world's livable and sustainable city. Under the framework of Hong Kong Smart City Blueprint 2.0 published in December 2020, the Hong Kong SAR (HKSAR) Government set out multiple initiatives under six smart areas. To move Hong Kong towards Smart City 2.0, it is imperative to brainstorm ideas and foster exchanges among practitioners, government officials, and academics to set out the direction for the city's urban development.

Co-organised by the Civil and Environment Engineering Department of the Hong Kong University of Science and Technology (HKUST), the HKUST Civil and Environmental Engineering Alumni Association, HKUST GREAT Smart Cities Institute, Smart City Consortium and the Hong Kong Institution of Engineers, the Smart Infrastructure Conference was held at the campus via dual-mode on 13 and 14 May 2021. We had the honour and privilege of having Ir LAM Sai-hung, Permanent Secretary for Development (Works), Development Bureau of HKSAR to be the Guest of Honour, and Ir Dr Hon LO Wai-ki, Legislative Council Member of Functional Constituency – Engineering, Legislative Council of Hong Kong as Conference Advisor.

The Conference featured an intensive program, with Mr Victor LAM, Government Chief Information Officer, Ms Mingmei ZHENG, Director of Department of Smart and Low Carbon Development of China Centre for Urban Development and Secretary General of Smart City Development Alliance, and Ir Ricky LAU, Director of Civil Engineering and Development unveiling the plaque to share on smart city strategies adopted by the Mainland and Hong Kong, followed by Ir Jimmy CHAN, Director of Highways, Ir Kelvin LO, Director of Water Supplies, Ir Alice PANG, Director of Drainage Services, Dr Samuel CHUI, Deputy Director of Environmental Protection, and Ir Ricky LEUNG, Executive Director (Engineering & Technology) of Airport Authority



shedding lights on "Smart Environment" in different sectors. The Conference also focused on "Smart Living", where Ir Eric PANG, Director of Electrical & Mechanical Services, Mr T.K. CHIANG, Managing Director of CLP Power Hong Kong Ltd., and Ms Jeny YEUNG, Commercial Director & Member of the Executive Directorate, MTR Corporation Limited gave inspiring insights on the challenges and opportunities in respect of "Smart Mobility" and resource management.

The highlights on geospatial data and facilities management jointly given by Mr Andrew LAI, Director of Lands, Ms Winnie HO, Director of Architectural Services, Ms Amy CHEUNG, Head of Energizing Kowloon East Office of the Development Bureau, Sr Winnie SHIU, Head of Spatial Data Office of the Development Bureau, and Prof Lei CHEN, Chair Professor of the Department of Computer Science and Engineering of HKUST and Director of HKUST Big Data Institute had concluded the Conference with a perfect end note.

In addition to the stimulating discussions led by distinguished keynote speakers, the Conference gathered interdisciplinary professionals of the industry to exchange ideas and share advanced practices on topics such as digital twin, big data analytics, IoT and automation, applications of technologies in the Greater Bay Area, etc.

With the funding support of the Construction Innovation and Technology Fund, the Smart Infrastructure Conference had wrapped up in massive success, gathering 700+ participants face-to-face and online. Subsequent to the second Conference under the Smart City Conference series, the organizing committee will continue to provide cross-sectoral platforms to collaborate efforts from the government, academia and the industry to help realize the vision of creating Hong Kong Smart City 2.0.

## 常見問題FAQs

### 申請建造業創新科技

#### Application for Advanced Construction Technologies

我是否可以同時  
申請機械衣(圖1)及  
外骨骼裝置(圖2)?

Can I apply for exoskeleton-  
powered wear (Picture 1) and  
anti-vibration exoskeleton  
(Picture 2) at the same time?



(圖 Picture 1) (圖 Picture 2)

答：可以。不過，該兩項科技  
屬於同一類科技，兩者合共  
資助上限為港幣800,000元。

Ans: Yes. However, they are  
subject to the same funding  
ceiling of HK\$800,000 as they  
belong to the same product type.

應當如何辨識該安全科技/  
產品是屬於那一類科技?  
How to identify which type of  
product the safety technology/  
product belongs to?

答：只需要瀏覽建造業創新及  
科技基金網站內的預先批核名單，  
參考列表中「產品類型」一欄，  
便可以得知該科技/產品是屬於  
那一類科技。

Ans: Just browse the Pre-approved  
List on the Construction Industry  
Innovation and Technology Fund  
website (www.citf.cic.hk) and refer to  
the "Product Type" column of  
the List.



基金預先批核名單  
Pre-approved List

若希望知道該安全科技/  
產品是否屬於本地研發，  
應如何辨識?

How to identify whether the  
safety technology/  
product is  
locally developed?

答：只需要瀏覽建造業創新及  
科技基金網站內的預先批核名單，  
參考列表中「產品名稱及描述」  
一欄，若見到該欄目有  
「Legend: 14」，即代表該產品  
為本地研發產品。

Ans: Just browse the Pre-approved  
List on the Construction Industry  
Innovation and Technology Fund  
website (www.citf.cic.hk) and  
refer to the "Product Description"  
column. For those technologies/  
products remarked with a  
"Legend: 14", they are  
locally developed.



我們的公司已經成功獲得  
基金審批，如希望有更多的  
建造項目能夠採用獲批的  
安全科技/產品，應當如何?

Our company's application was  
approved by the CITF. What we  
have to do if we want to adopt  
the funded safety technology/  
product in other construction  
projects?

答：可以透過基金網上系統新增  
建造項目，這樣就能夠採用獲批  
科技/產品於其他新的建造項目。

Ans: New construction project can be  
added via the CITF Application Portal,  
so that adoption of the funded safety  
technology/ product can be extended  
to other construction projects.





# 與 CITF 對話 CHATS

建造業創新及科技基金(基金)資助業界利用創新科技,例如安全監測系統、拆卸機械人、外骨骼、吊臂升降台等,以減少工業意外及因工受傷的機會。有利建築(有利)向基金申請資助,購入兩台運輸機械人。現在就讓我們一同了解運輸機械人如何締造安全健康的工作環境。

## 1. 有利何時向基金申請資助?

我們於2019年7月申請資助,購買兩台運輸機械人(預先批核名單產品編號 PA19-011),並於同年8月獲批超過港幣200,000元資助。

## 2. 有利如何得知運輸機械人的產品資訊?在工地引入新科技時又有何考慮?

我們從基金網頁得知運輸機械人的相關資訊。在採用新科技時,我們必會考慮下列因素:

1. 加強工地管理
2. 改善工地安全和減少受傷風險
3. 提高運送重物的效率

## 3. 機械人有何主要功能?在應用上有何好處或可預改善的地方?有利會否向業界推介運輸機械人?

運輸機械人是無線控制的運輸車輛,以電池操作,可以在不同地形上的工地運送建築物料/工具。運輸機械人可代替人手運送和卸下重物,從而減少工人的安全風險和提升工作效率。運輸機械人操作簡單,工人只需使用特定無線遙控器,便能控制機械人前進、後退和轉向,並設有五段速度調節。此外,運輸機械人配備紅外線障礙物探測裝置,如在1至1.5米感應範圍內探測到障礙物,便會自動關機,防止與工人或物件相撞,免生意外。

運輸機械人如能再提高靈活度,例如加入上落樓梯功能,增加載重量、裝設機械臂等,便可更易於操作,廣為業界採用。

## 4. 運輸機械人是否適合任何工地使用?地理上有否限制?

運輸機械人的防護級別為IP54,可防止粉塵及水濺到機器而造成損毀或故障。除了上述防護裝置外,運輸機械人亦能輕易通過表面不平的泥地、水坑、小斜坡及狹窄通道。此外,運輸機械人機身輕巧,可直接裝設於物料吊重機中,把物料運送到各樓層。

## 5. 運輸機械人如何改善工地安全?有沒有例子可以分享?

工人以手推車運送物料,容易扭傷手腕和弄傷背部(如右圖所示)與傳統方法比較,工人可遙控運輸機械人,把物品運送到指定地方。

## 6. 工人使用運輸機械人前需要接受培訓嗎?

運輸機械人會由已修畢指定培訓課程的人員操作。此外,機械人亦貼上「提防夾手」等清晰標誌,提醒使用者留意潛在危險。

## 7. 對基金申請程序及審批過程有何意見及建議?

基申請程序簡單方便,基金秘書處全程提供足夠指引及清晰指示,且審批過程快速,我們只需3星期便收到獲批通知。所需申請文件包括填妥的申請表、商業登記證、報價單等。

### 運輸機械人簡介資料 Transbot Factsheet

最大載重量 / Maximum loading	200公斤 / 200 kg
最高速度 / Maximum speed	每小時2.5公里 / 2.5km/h
操作模式 Mode of operation	運輸機械人以電力推動,通過特定無線遙控器操作。機械人每次充電約需4小時,充滿電後可連續運作8小時。 The electricity-driven Transbot is operated by a designated wireless remote control. It takes around 4 hours to recharge the battery each time. Fully charged Transbot can continuously operate up to 8 hours.
無線控制有效距離 Effective range of wireless control	100米 100m
運作成本 Operating cost	以每天工作8小時計算,約每天港幣60元。 Around HK\$60 per day (on the basis of 8-hour working day)

有利建築

The Construction Innovation and Technology Fund (CITF) subsidises the industry to tap on innovative technologies like safety monitoring systems, demolition robots, exoskeleton and boom lifts, to reduce the likelihood of industrial accidents and work injuries. Yau Lee Construction Company (Yau Lee) applied to the CITF to procure two transportation machines. Let's see how Yau Lee creates a safe and healthy working environment with the help of machines.

## 1. When did Yau Lee apply to the CITF?

The funding application on the purchase of two sets of Transbot (pre-approved list code PA19-011) was submitted to the CITF in July 2019. We were granted more than \$200,000 in August of the same year.

## 2. How did Yau Lee retrieve product information of Transbot? What are the considerations when introducing new technologies in construction site?

We learnt about Transbot through the CITF website. We always take the following factors into account when adopting new technologies:

- (a) Enhance site management
- (b) Improve site safety and minimize the risks of injury
- (c) Increase efficiency of moving heavy items

## 3. What are the main functions of Transbot? Any advantages or room for improvement in application? Will Yau Lee recommend Transbot to the industry?

Transbot is a wireless control battery-operated vehicle capable of carrying construction materials/tools around construction sites with different terrain conditions. Transbot can replace manual handling operation in delivery and unloading of heavy items, thereby reducing safety hazards to the labours and increasing work efficiency. It is easy to operate Transbot. Tapping on its designated wireless remote control, workers can control the robot to move forward and backward and rotate in five-speed mode. The installed infrared obstacle detection with 1 to 1.5 metre sensing range will have the device automatically shut down before hitting workers or objects, preventing accidents from happening.

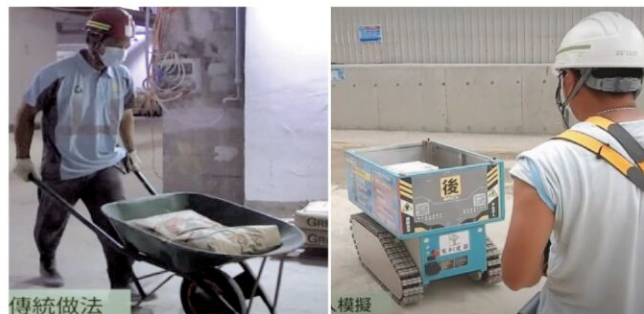
Enhancement to its flexibility like adding stair-climbing functions, lifting loading capacity and installing robotic arms can improve convenience and boost wider adoption of Transbot.

## 4. Is Transbot suitable for any construction site? Are there any geographical restrictions?

Transbot, with protection level IP54, is guarded against damages or malfunction caused by dust and water splashing on the machine. Further to the protection rating, Transbot encounters no difficulties in passing through uneven muddy surface, puddles, small slopes and narrow passages. Its compact size enables it to fit with the material hoist to transport materials to each floor.

## 5. How can Transbot improve site safety? Any examples to share?

Manual moving of materials on trolley may render workers vulnerable to wrists sprains and back injuries (as shown in the below photos):



Compared with the conventional way, workers can remotely control Transbot to move items to designated places.

## 6. Do workers need to attend training before using Transbot?

Transbot will be operated by personnel who have received designated training courses. Transbot is also labelled with clear signs to warn users of potential dangers e.g. pinch point alert.

## 7. Any comment on the application procedures and approval process? Any suggestions?

The application procedures are user friendly. The CITF Secretariat had provided sufficient guidance and clear instructions throughout the application process. The processing was swift and it only took us 3 weeks to be notified of the approval. Documents required for the application include completed application form, Business Registration Certificate and quotation documents etc.

Yau Lee Construction Company

## 「建造業創新及科技基金」申請數字節節上升 CITF application figure is rising

由2018年10月至今已收到逾二千五百份申請,當中一千八百多份申請已經成功獲批,總資助額逾港幣四億三千萬元。Counting from October 2018, the application number has reached more than 2 500, of which over 1 800 applications have been approved. The funding grant amount is more than HK\$430 million.





# 預先批核名單上安全相關科技產品 Safety-related Technologies on Pre-approved List

\* 預先批核名單編號

\* Pre-approved List Code

# 產品類型

# Product Type

銷售渠道

Vendor Contact

## 先進設備 Advanced Equipment

### \* PA20-006 | FASSI 隨車吊機 FASSI Hydraulic Truck Crane

型號 Model: F820RA.2.28 xhe-dynamic, F1150RA.2.28 xhe-dynamic

# 吊機 Lifting Crane

此吊機符合現時歐盟國家使用隨車貨車吊機之標準EN12999。它包含一套只有全自動運作模式的力距安全限制器(Safe Load Indicator)而不設關閉掣，使操作員不能關閉限制器操作，可減少人為錯誤。當遇到超載或不安全的操作狀態時，吊機能夠發出安全警示，並會停止操作直至縮減跨度或返回安全操作狀態。

The truck mounted lifting crane which consists of full-time enabled safe load indicator complies with EN 12999 standard. It can continuously monitor and indicate the Safe Working Load at different outrigger extensions or load lifting conditions of the crane on a real-time basis. It could give safety alert and stop the crane when overload occurs unless it returns to the safe position.



百聯有限公司  
Plant & Company  
Limited  
☎ 2736 0223

### \* PA20-051 | 喜利得電鑿 Hilti Breaker TE 3000-AVR

# 手提電砲 Hand-held Breaker

喜利得TE 3000-AVR是一台混凝土拆卸電鑿。它的主動式減少震盪技術在進行大型混凝土拆卸時可減少工人勞動及提升生產力。Hilti TE 3000-AVR is a breaker for concrete demolition. It equips with Active Vibration Reduction technology which reduces worker's effort and increase productivity in heavy demolition.



喜利得(香港)  
有限公司  
Hilti (Hong Kong)  
Limited  
☎ 9012 7109

### \* PA20-063 | 高龍牌裝車起重機 Cormach Truck Mounted Crane 24000AX E series

# 吊機 Lifting Crane

Cormach隨車式起重機備有Control system level 6 (2016)，此系統能顯示負載重量的計算值及所有工作的參數。其可承受能力會因應旋轉角度、延伸臂的位置及平衡等因素持續更新。

Cormach Truck Mounted Crane, equipped with Control system level 6 (2016), is capable of showing on the display the calculated value of the lifted load and all key working parameters. The permitted lifting capacity is continuously determined according to the rotation angle, the outriggers positions and the action of the counterweight.



天祥工業設備  
有限公司  
Sky Well Industrial  
Equipment  
Company Limited  
☎ 3990 6999

### \* PA20-109 | 利勃海爾移動式起重機 Liebherr Mobile Crane

型號 Model: LTM1060-3.1, LTM1230-5.1, LTF1060-4.1, LTM 1120-4.1

# 吊機 Lifting Crane

此產品是配備了稱為“Vario Base”的專利AI技術的移動式起重機。它可以實時監測並顯示起重機在不同支撐腿伸展或起重條件下的安全工作負荷。產品會在超載時發出警告並自動停止吊運，直至它返回安全操作狀態。

This product is a mobile crane equipped with a patented AI technology called "Vario Base". It can continuously monitor and indicate the Safe Working Load at variable supporting or load lifting conditions of the crane on a real-time basis. Further to warning alert, the crane will automatically stop when overload occurs until it returns to safe position.



利勃海爾(香港)  
有限公司  
Liebherr (HKG)  
Limited  
☎ 3142 3142

### \* PA20-113 | Palfinger 隨車吊機 Palfinger Hydraulic Truck Mounted Crane

型號 Model PK 37.002 TEC 7, PK 92002 SH, PK 110002 SH

# 吊機 Lifting Crane

此產品為液壓隨車式起重機，具有P型材，高性能穩定控制裝置 (HPSC)，HPSC-Plus LOAD功能和P-FOLD等功能。HPSC系統的主要優點在於它可以在不同的支撐腿伸展和起重臂伸展條件下實時地感測安全工作負荷。

This hydraulic truck-mounted crane has features such as P-Profile, High Performance Stability Control (HPSC), HPSC-Plus LOAD function and P-FOLD. The major merits brought by the HPSC system enable real-time Safe Working Load detection at different stabilizer extensions and lifting boom outreachng conditions.



中陞工程有  
限公司  
China Ascent  
Engineering  
Limited  
☎ 3173 2722

### \* PA20-115 | Jekko 迷你吊機 Jekko Mini Crane 型號 Model: SPX424 CDH, SPX424 C+

# 吊機 Lifting Crane

此產品是一款吊運用的微型起重機。此產品具有五個主要功能：(i) 可擴展的履帶，(ii) 數碼無線電控制，(iii) 自動穩定性控制系統，(iv) 不同的配件即插即用控制系統。(v) Connect遠程和實時起重機監控軟件(選擇性功能)。這五個功能使起重機的移動更加精確，吊裝操作更安全。

Jekko SPX424 is a mini crane for lifting operation equipped with five key features: (a) extendable crawler tracks, (b) digital-multi-proportional remote radio control, (c) automatic stability control, (d) plug and play system control to attach different accessories, and (e) remote and real time crane monitoring using an optional software J-Connect. These five features enable more precise movement and safer lifting operation of the crane.



善樂國際(香港)  
有限公司  
Sanroc  
International  
(Hong Kong)  
Limited  
☎ 2881 1110

### \* PA20-121 | Effer 隨車吊機 Effer Truck Mounted Crane

型號 Model: 525/4S, 525/6S, 525/8S, 685/6S, 685/8S, 685/9S, 955/6S, 955/8S, 955/9S, 1255/6S, 1255/8S, 1255/9S

# 吊機 Lifting Crane

此產品配備了穩定控制系統 (Progress 2.0)，可以實時監測並顯示起重機在不同支撐腿延伸狀態或起重條件下的安全工作負荷。This product is equipped with Stability Control System (Progress 2.0) which can continuously monitor and indicate the Safe Working Load at different outrigger extensions or load lifting conditions of the crane on a real-time basis.



大眾機械設備  
有限公司  
Folks Machinery  
and Equipment  
Limited  
☎ 2649 9282

### \* PA20-129 | F.lli Ferrari 隨車吊機

F.lli Ferrari Hydraulic Truck Mounted Crane Model 990

# 吊機 Lifting Crane

此產品是一款符合EN12999標準的貨車起重機，包括全時啟用的安全負載指示器。其穩定控制系統可針對不同的支撐腿延伸狀態，實時檢測和顯示安全操作負荷 (SWL)。

This truck-mounted lifting crane which consists of full-time enabled safe load indicator complies with EN 12999 standard. The Stability Control System enables real-time sensing and indication of the Safe Working Load (SWL) for different outrigger extension conditions.



大眾吊機工程  
有限公司  
Tai Chung  
Hydraulic Eng.  
Co. Ltd.  
☎ 2443 5592

### \* PA20-134 | 日本制加藤越野吊機 Kato Rough Terrain Crane 型號 Model: SL700R

# 吊機 Lifting Crane

KATO (SL-700R) 越野起重機適合在特殊的工作條件下使用，例如狹窄的工作場地或進出道路和工地條件需要更高的提升高度。具有語音警報 (ACS) 的自動起重機系統是一種計算機監視系統，可以控制主吊臂，副臂或懸臂支架，以防止人為輸入錯誤。ACS系統可自動實時檢測和顯示不同的支撐腿延伸狀況及起重條件下的安全操作負荷 (SWL)，以策安全。

KATO (SL-700R) Rough Terrain Crane is suitable for use in special working conditions, such as narrow work site and access road requiring lifting condition to greater height. The Automatic Crane System with voice alarm (ACS), a computer monitoring system, can control the main boom, fly jib or outrigger to prevent human input errors. The ACS can automatically calculate and display the Safe Working Load (SWL) at different strokes of outriggers, and the main boom, fly jib at different angles on a real-time basis to enhance safety.



好時機械(中國)  
有限公司  
Houston  
Machinery (China)  
Co. Ltd  
☎ 2241 9627



## 先進設備 Advanced Equipment

### \* PA21-004 | 意大利全方位 PM150SP 隨車安全吊機 Italy Comprehensive Loader Crane PM150SP

# 吊機 Lifting Crane

此產品配備穩定控制系統的隨車式起重機，該系統是由全天候安全負重指示器組成。它可持續監測及在不同支撐腿伸展或起重情況下實時指示安全工作負荷。

This truck mounted crane, equipped with Stability Control System, consists of a full-time enabled safe load indicator. It can continuously monitor and indicate the Safe Working Load at different outrigger extensions or load lifting conditions of the crane on a real-time basis.



蘇豪機械及  
車身工程  
有限公司  
SOHO  
Mechanical  
Engineering  
Company Limited  
☎ 6565 0686

### \* PA21-007 | 高馬吊機 Copma hydraulic truck-mounted crane 型號 Model : 1150.8J6, 1150.10, 2000.9, 820.8, 950.9

# 吊機 Lifting Crane

此液壓隨車式起重機配備穩定控制系統，可持續監測及在不同支撐腿伸展或起重情況下實時指示安全工作負荷。This hydraulic truck-mounted crane, equipped with Stability Control System, can continuously monitor and indicate the Safe Working Load at different outrigger extensions or load lifting conditions of the crane on a real-time basis.



三洋車行  
Sanyo Motors  
☎ 2390 0433

## 先進科技方案 Advanced Technological Solutions

### \* PA18-006 | 機械衣 Model-Y Powered Wear MODEL-Y

# 外骨骼裝置 Exoskeleton

產品是一個可配戴機械裝置，可以在提舉重物時舒緩腰部負擔。當工人提舉重物時，移動感應器能協助工人減輕負重力，改善安全。

The product is a wearable robot that alleviates burden to the waist when lifting heavy objects. When a worker is about to pick up a heavy object, the product, controlled by motion sensors, provides assistance to the worker, helps reduce strain and improves safety.



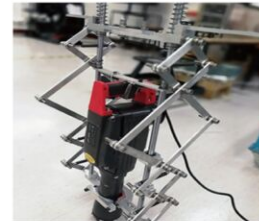
信興系統  
有限公司  
Shun Hing  
Systems  
Integration  
Co. Ltd.  
☎ 2439 8393

### \* PA20-026 | BIAVE — 仿生物抗振外骨骼裝置 Bio-Inspired Anti-Vibration Exoskeleton

# Exoskeleton 外骨骼裝置

仿生物抗震外骨骼裝置(BIAVE)是為工人使用手提電炮而設，以防患上手臂職業病的裝置。此裝置是一個被動式、非線性剛度和減震的系統。它可以在不影響效率或增加操作複雜性的情況下，大幅減低由手提工具傳送到工人手臂的震動。

Bio-Inspired Anti-Vibration Exoskeleton (BIAVE) is designed for workers using handheld breakers to prevent hand-arm occupational diseases. It is a passive, non-linear stiffness and damping system which can significantly suppress the vibration transmissibility from vibrating tools to operators without affecting efficiency nor increasing handling complexity.



理大科技及  
顧問有限公司  
PolyU  
Technology &  
Consultancy  
Company Limited  
☎ 3400 2711

### \* PA20-052 | 納米塗層隔熱反光衣 Heat Shielding Reflective Vest with Nano Coating Technology

# 隔熱反光衣 Heat Resisting Reflective Vest

此反光衣是由納米金屬塗層聚脂網紗製成。透過反射陽光，可減低工人在陽光直接照射下的體溫上升，而網紗設計亦便利通風。

The reflective vest is made with the nano-metal coated polyester net to reduce the body temperature rise of the wearer under direct sunlight exposure by reflecting the sunlight. The netting design also allows for proper ventilation.



厚信環保建材  
有限公司  
Houston  
Environmental  
Materials Co.  
Limited  
☎ 2554 1005

### \* PA20-132 | 麥士索 Slingmax

# 吊運吊索 Lifting Sling

此產品是一種合成纜吊索，最大的工作負荷可達227噸。它具有3個安全功能，1) 'Check Fast' 檢查系統，2) 光纖檢查和 3) Rifled 索芯捲扎技術

This product is a synthetic lifting sling with a maximum working load up to 227 tonnes. It has 3 safety features namely 1) 'Check Fast' Inspection System, 2) Fiber Optic Inspection, and 3) Rifled Cover Technology



麥記國際香港  
有限公司  
Mak Kee  
International  
HK Ltd.  
☎ 2396 4107

## 自動化設備 Automated Equipment

### \* PA19-011 | 運輸機器人 Transbot

# 運輸機器 Transportation Machine

這是一款無線控制的電動運輸車輛，可以在不同路況的建築工地運送建築物料或工具。此運輸車輛可替人手處理及搬運重型物件，從而減低工傷機會及提升工作效率。

A wireless control battery-operated Universal Service Vehicle capable of carrying construction materials/tools moving around construction sites with different terrain conditions. Transbot can replace manual handling operation in delivery and unloading of heavy items. It can reduce safety hazards to labours and increase work efficiency.



奧馬迪機器人  
有限公司  
O-matic  
Intelligent Robot  
Limited  
☎ 3705 2998

### \* PA19-029 | DST 20-CA 牆鋸 Wall Saw

# 牆鋸機器 Wall Saw Machine

此牆鋸可自動進行切割工序。用家可透過無線遙控在遠離施工位置操作牆鋸，並在遙控器的屏幕即時顯示切割深度，從而改善安全。此外，用家只需輸入簡單參數便可提升切割的效能及精準度。

This wall saw automates the cutting process. It could be remote-controlled at distances away from the work area by wireless control. Information on the cutting depth displayed on the remote controller screen helps improve safety. With simple setting of job parameters, it can also improve cutting efficiency and accuracy in the cutting process.



喜利得(香港)  
有限公司  
Hilti (Hong Kong)  
Limited  
☎ 9012 7109

### \* PA20-004 | 山特維克迷你山自動鑽機 SANDVIK Top Hammer Drill Rig Model: DC130Ri, DC410R

# 鑽機 Drill Rig

這是一台全遙控、液壓及自動推進的鑽機，一般應用於地基鑽孔、開路、挖溝及地盤開鑿硬石之用。此產品可透過TIMi aligning system監測開鑿的垂直度及量度鑽孔傾斜度。

It is a fully remote-controlled, hydraulic and self-propelled drilling unit. It usually applies to foundation drilling, road cutting, trenching, and line drilling in dimensional stone quarries. This product can monitor the drilling straightness and measure the incline angle of the drill hole through TIMi aligning system.



山特維克香港  
有限公司  
Sandvik  
Hongkong  
Limited  
☎ 2963 4231



**\* PA20-009 | FlexiROC T20R (只有英文名稱)**

**# 鑽機 Drill Rig**

此產品是無線遙控鑽機，應用於地面和地下工程如地鑽孔、開鑿及隧道開挖。此產品的主要特點是液壓滾動、加長鑽臂的範圍、輕巧尺寸、三種不同長度的推進和無線控制。令此機器可全方位鑽孔，涵蓋大範圍、簡單設定便可轉化為多個鑽洞和善用細小空間。

This product is a radio-remote-controlled drill rig for surface and underground construction operations such as foundation drilling, trenching and tunnelling. The main features of this product lie on its hydraulic rollover, extensive boom reach, compact size, three different feed lengths and wireless control. With these features, this machine can perform 360° drilling in all directions with extended coverage. Only simple set-ups are required to convert the product into multiple holes, optimising the use in small area.



安百拓香港  
有限公司  
Epiroc Hong  
Kong Limited  
☎ 2488 0103

**\* PA20-018 | K. Schulten 玻璃吸盤機械人 K. Schulten Glass Robot**

**型號 Model : KS180, KS280, KS350, KS400, KS600, KS800, KS1000, KS1400, KS Robotlift 250/7**

**# 玻璃移動設備 Glass Manoeuvring Equipment**

K.Schulten玻璃吸盤機械人可於幕牆、店面玻璃及特別形狀門面安裝玻璃。傳統單軌安裝方法需要在大廈外進行，或以手提工具用人手提起、使用鏈式吊索及貨車起重機，此等影響戶外運作及建造流程。玻璃吸盤機械人的多角度玻璃機械操作、吸盤及遙控功能減少玻璃安裝時間、人力及可在室內和多角度提起與安裝玻璃。

K. Schulten Glass Robot is applicable to curtain wall, shop-front glass panel and special shape façade installation. The traditional mono-rail method requires working from outside of the buildings or manual-lifting with hand tools, chain block and lorry crane which affects the outdoor operation and building sequence. With multi-angle glass manipulator, suction cups and remote-control function, glass robot can shorten the pane installation time, involve less manpower and enable indoor and multi-angle pane lifting and installation.



隆豐機械工程  
有限公司  
Robinson  
Equipment  
Limited  
☎ 2543 7008

**\* PA20-019 | Wienold-LIFTE物料提舉設備 Wienold-LIFTE Material Lift**

**型號 Model : GML-C/600, GML-C/800, MFC750**

**# 物料提舉設備 Material Lifting Machine**

物料提舉設備是平衡重物及以電動遙控操作提起玻璃及物料等重量安裝。相比傳統物料提重方法，此產品輕巧及備有不同安全運作負載量及起重高度。它亦避免使用吊環螺絲及鏈式吊索，從而改善提重物料的生產力及安全性。

Wienold-LIFTE Material Lifts are counterbalanced and electrically driven with remote control for raising loads for glass and material installation. Compared with traditional material lifting method, this product is compact and equipped with different Safe Working Loads and lifting heights. It also eliminates the need for using eye bolts and chain blocks, thus improving productivity and safety in material lifting.



隆豐機械工程  
有限公司  
Robinson  
Equipment  
Limited  
☎ 2543 7008

**\* PA20-035 | Apollo 高高車 Go Go Trolley**

**# 運輸機械人 Transportation Machine**

Apollo 高高車是一輛於工地運載物料的遙控電動車。它可減輕工人搬運重物的工作，於建造過程中提升生產力及改善安全。

Apollo Go Go Trolley is a remote-controlled and electric-powered trolley for delivery of materials in construction sites. It could reduce manual handling of heavy loads to enhance productivity and safety during construction process.



嘉模國際  
有限公司  
Karmo  
International  
Company Limited  
☎ 2362 4843

**\* PA20-107 | Elebia Evo 自動吊鉤 Automatic Hook**

**型號 Model: Evo2, Evo5, Evo10, Evo10 Compact, Evo20, Evo25**

**# 安全吊鉤 Safety Hook**

該產品是一種自動吊鉤，其下部配有磁鐵和傳感器，可吸引並正確放置鉤環。操作員可以通過遠程按鈕來關閉掛鉤，或當傳感器感覺到鉤環放置正確時，掛鉤可以自行關閉。另外，吊鉤還可以配備負載傳感器，以指示吊鉤要舉起多少重量，其位置和負載水平對齊狀況。所有這些信息都記錄在其“eMax”遙控器中。該遙控器充當收集信息並記錄鉤子活動的接收器，可以處理此等信息以進行數據分析或BIM建模。

This automatic hook for lifting is equipped with a magnet and sensor in its lower section that attracts and correctly positions the shackle. The operator can either close the hook by pushing the button remotely, or the hook can close itself when the shackle is correctly placed as assessed by the sensor. Additionally, the hook can also be equipped with a load sensor indicating how much weight it is lifting, its position and the load horizontal alignment. All this information is recorded in its "eMax" remote control that acts as a hub gathering the information and recording the activity of the hook. This information can be processed for data analysis or BIM modelling.



Elebia Autohooks  
S.L.U.  
🌐 <https://elebia.com/>

**\* PA20-135 | 全地形貨運機器人 Haulerbot**

**# 運輸機器 Transportation Machine**

這款產品是一種遙控電動車輛，可幫助建築工人在包括樓梯在內的不同地形運輸物件。

This product is a remote-controlled and electrically-powered vehicle that facilitates construction workers to transport objects in all-terrain including staircase.



必飛科技  
有限公司  
B-free Technology  
Limited  
☎ 3704 7069

物聯網 Internet of Things (IoT)

**\* PA18-007 | 興建中的隧道人流管理系統**

**Construction Stage Tunnel Access Control System (TACS)**

**# 安全監測系統 Safety Monitoring System**

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.



安樂科技工程  
有限公司  
ATAL Technologies  
Limited  
☎ 9488 0410

**\* PA18-032 | 視覺智能安全符合監測系統**

**Visual Intelligence Safety Compliance Monitor (VISCMon) system**

**# 安全監測系統 Safety Monitoring System**

此系統由感應器及感應技術組成，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 of 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. Specialized 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.



緯衡科技  
有限公司  
VHSoft  
Technologies  
Co. Ltd  
☎ 2619 8034

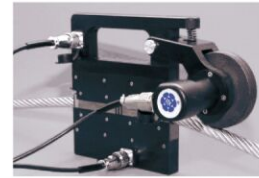


**\* PA19-026 | 鋼絲繩無損檢測儀 Non-Destructive Testing Device for Steel Wire Rope**

**# 非破壞性鋼絲繩檢測儀器 Non-destructive Testing Device for Steel Wires**

這是一部便於攜帶且智能化的鋼絲繩檢測儀器。不論是明顯或肉眼難以察覺的缺陷，它也能透過監察磁場內的漏磁狀況來診斷鋼絲繩的損耗，而且適用於所有鋼絲繩相關的應用。

Non-Destructive Testing is a portable device for steel wire rope inspection. It uses magnetic flux leakage examination method to detect and diagnose the deterioration of steel wire rope, including both obvious defects and imperceptible changes. It is suitable for all kinds of wire rope applications.



麥記國際香港  
有限公司  
Mak Kee  
International  
HK Ltd.  
☎ 2396 4107

**\* PA19-031 | 物聯網智能安全帽連雲端平台**

**Dasloop IoT Smart Helmet with Cloud Based Management Platform**

**# 安全監測系統 Safety Monitoring System**

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 environment. 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 fall and motionless conditions so that quick actions could be taken. Users could also press the panic button to call for help in emergency. Collision warning could also be given to workers to minimise injuries.



點子建  
有限公司  
Beeinventor  
Limited  
☎ 9757 2952

**\* PA19-045 | 建築工地人工智能計算機視覺雲 viAct**

**Artificial Intelligence Computer Vision Cloud viAct**

**# 安全監測系統 Safety Monitoring System**

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.



佳智能  
有限公司  
Customindz  
Limited  
☎ 9125 3390

**\* PA20-020 | BLAXTAIR Pedestrian / Machinery Anti-collision Camera (只有英文名稱)**

**# 安全監測系統 Safety Monitoring System**

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 nearby the work site.



EBSL  
☎ 2345 1882

**\* PA20-025 | 智安健 SmartWorks**

**# 安全監測系統 Safety Monitoring System**

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。此平台包含五個元素提升工地安全，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 sensing, SmartHealth Station for workers' health surveillance checking, Environmental Station for environmental monitoring, danger rader concerning of Safety Triggering System and Dump Truck Management.



數碼通電訊  
有限公司  
SmarTone  
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**\* PA20-032 | 超寬頻無線定位安全系統 Ultra-wide Band Wireless Positioning Safety System**

**# 安全監測系統 Safety Monitoring 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.



海宏技術  
有限公司  
Transcendence  
Company Limited  
☎ 2862 1724

**\* PA20-033 | SmartWorks — 臨時升降機開門警報裝置  
Safety Alert System for Temporary Lift Shaft Gate**

**# 安全監測系統 Safety Monitoring System**

「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開門提供警報，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 reduce the chance of injuries and accidents at construction site.



數碼通電訊  
有限公司  
SmarTone  
Mobile  
Communications  
Limited  
☎ 9451 4017

**\* PA20-055 | 超寬頻防撞警報系統 UWB Collision Warning System**

**# 安全監測系統 Safety Monitoring System**

透過超寬頻技術，防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 a 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.



點子建  
有限公司  
Beeinventor  
Limited  
☎ 9757 2952

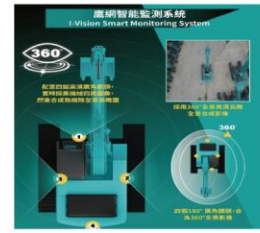


**\* PA20-073 | 鷹網智能監測系統 I-Vision Smart Monitoring System**

**# 安全監測系統 Safety 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 synthesized image with 360° bird's-eye view, panoramic detection of obstacle within 1 metre, and siren and signal light when there are obstacles in the detection range, thus improving workers' safety when plant is in the operation.



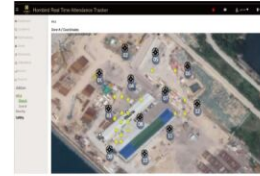
港進連機服務中心有限公司  
Kong Chun Construction Machinery Services Centre Limited  
☎ 2475 1083

**\* PA20-085 | BLE Material & Attendance Tracker (只有英文名稱)**

**# 安全監測系統 Safety Monitoring System**

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.



Hornbird Technology Limited  
☎ 6705 0848

**\* PA20-090 | 危險區域警報傳感系統 Danger Zone Alert Sensing System**

**# 安全監測系統 Safety Monitoring 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，令操作機器時能夠確保工人的安全。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 sensing 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.



佳智能有限公司  
Customindz Limited  
☎ 9125 3390

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

**# 安全監測系統 Safety Monitoring 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.



KenseTech Limited  
☎ 5616 6382

**\* PA20-119 | Karta-X AI Assisted Construction Safety Analytic (KACSA) (只有英文名稱)**

**# 安全監測系統 Safety Monitoring System**

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.



Karta-X Technologies Limited  
☎ 3619 0620

**機械人 Robotics**

**\* PA19-002 | 「布洛克」多功能破拆機器人 Brokk Demolition Robots  
型號 Model: B60, B70, B110, B170, B200, B300, B500, B800S**

**# 拆卸機械人 Demolition Robot**

此產品是一遙控拆卸機械，相較傳統挖土機輸出高達五倍。小巧機身能令機械輕鬆進入狹窄空間及上落梯級。透過遙控裝置，此機械之最小型號B60已經能取代3-5人的人手打鑿效率。同時，產品令工人遠離危險區域，工人安全得以提升；機械以電力推動，不會排放廢氣，提升工地環保水平。

Brokk is a remote controlled demolition robot which can outperform the existing excavators five times as its size. The weight and size of Brokk facilitate its accessibility in locations like narrow spaces and stairs. Through remote control, even the smallest model of Brokk machines B60 can replace manual method of 3 to 5 workers with jackhammers. Workers' safety can be enhanced as they are not exposed to harmful vibrations and other hidden dangers on site. Moreover, Brokk robots are electric driven with no fumes exhausted like conventional excavators, thereby promoting environmental protection.



高仕洋行有限公司  
C. Crossfield & Co., Ltd  
☎ 2753 8500

**\* PA19-012 | 超高壓水泵拆卸機械人 Aquajet Aqua Cutter 710H**

**# 高壓水泵拆卸機械人 Hydro-demolition Robot**

這是一款以柴油推動、無線控制超高壓水泵拆卸機械人，適用於拆除混凝土。此機械人可準確移除混凝土而不破壞加固鋼筋，並在粗糙不平的表面為維修物料提供黏合作用。操作期間亦可減低對周遭建築物的震動和顯著減少透過建築物傳送的聲音。除節省人手外，使用機械人較其他拆卸方法可減少工人受傷的機會。

This is a diesel driven, wireless controlled ultra-high pressure hydrodemolition robot for concrete demolition. It can accurately remove concrete with steel reinforcement undamaged and it provides excellent bond for repair materials in rough and irregular surface. Moreover, it can reduce the vibrations created to the surrounding structure during operation and significantly reduce transmitted sound through the structure. The robot helps minimise injuries.



中國路橋工程有限責任公司  
China Road and Bridge Corporation  
☎ 6483 6280

**\* PA19-036 | 鑽孔機械人 Drillbot**

**# 鑽孔機械人 Drilling Robot**

鑽孔機械人是一款配備油壓鑽和六軸協作式的機械人，可在建築工地進行各種不同高精度度及高效率的鑽孔工作。This is a 6-axis collaborative robot with a drilling tool. It will move the drilling tool to drill holes on desired spots with high accuracy and efficiency.



奧馬迪機器人有限公司  
O-matic Intelligent Robot Limited  
☎ 3705 2998