



二零二二年九月 SEPT 2022 / 第十三期 ISSUE 13 融匯科技 創建香港 WE INNOVATE, WE BUILD

每項科技高達⁵200 <mark>計</mark>資助 Max. \$2M Funding Support per Technology

> 起過60項 預先批核安全相關產品 Over 60 Pre-approved Safety-related Products

Construction safety is of vital importance. The Development Bureau and Construction Industry Council (CIC) have attached great importance to supporting the industry to enhance construction safety. One measure is to encourage the industry's adoption of safety-related technologies through the Construction Innovation and Technology Fund (the CITF). Since 1 January 2022, the CITF has significantly increased the per-technology funding ceiling from HK\$800,000 to **HK\$2 Million** to subsidise the procurement of safety-related products on a 70% matching basis to further support the industry in the pursuit of construction safety.

The **60ish safety-related technology products** listed on the Pre-approved List (see below table), which are broadly divided into four categories namely Advanced Tools and Equipment, Automation and Robotics, Digitalisation and Sensors and IoT, comprise a wide diversity of products including lifting cranes, breakers, collision warning systems, smart safety monitoring systems, demolition robots and etc. to accommodate the needs of different trades. It takes no more than 30 calendar days to process funding applications on pre-approved products.

The Development Bureau and CIC will continue making enhancements to the CITF to further promote wider adoption of safety-related technologies. Further updates will be announced through the CITF safety dedicated webpage at https://bit.ly/3dMh01E 建造安全至為首要。發展局和建造業議會以支持業界加強建造安全為首要任務。其中一項措施是透過建造業創新及科技基金(基金)鼓勵業界使用與安全相關的科技。基金自2022年1月1日起將採購安全相關科技產品的資助上限由每項科技港幣80萬元大幅調高至港幣200萬元,以70%配對形式資助業界購置相關產品,務求進一步支援業界提升建造安全。

基金的預先批核名單中現有**60多項安全相關科技產品**(見下表),大致分 為(1)先進工具及設備、(2)自動化及機械人技術、(3)數碼化和傳感器及 (4)物聯網等四個範疇,產品類型多元化,包括吊機、電鑿、防撞警報 系統、智能安全監測系統、拆卸機械人等,可以迎合不同工種的需要, 申請審批時間只需30個曆日。

發展局和建造業議會會繼續優化基金以支持業界更廣泛使用與安全相關的科技,並會於基金的建造安全專用網頁<u>https://bit.ly/3dMhOIF</u>提供相關 最新消息。

想獲取更多安全相關科技產品資訊?歡迎登入 <u>https://bit.ly/3dMhO1F</u> 或掃描二維碼,以瀏覽完整的「購物指南」,選擇適合你的產品! Want more information on the latest safety-related technologies? Browse our full 'Shopping Guide' at <u>https://bit.ly/3dMhO1F</u> or scan the QR code and pick one at your wish!

https://www.citf.cic.hk





發展局 Development Bureau

O citf.cic.hk



CONSTRUCTION INDUSTRY COUNCIL 建造業議會

安全相關科技資助框架 The Funding Framework for Safety-related Technology

申請類別 Type of Application	創新建築科技 Advanced Construction Technology
合資格申請者 Eligible Applicants	承建商、顧問及註冊專門行業承造商或註冊分包商 Contractors, Consultants, Registered Specialist Trade Contractors and Sub-contractors
安全相關科技定義 Definition on Safety-related technology	安全相關科技應具有顯著優點,而直接改善涉及人員操作 的施工過程,包括工人的自身安全和工地安全,例如: (i) 消除工人面臨的安全風險 (ii) 顯著降低安全風險或危害 (ii) 保護工人免受安全風險的影響 (iv) 提供定時或持續的監察和安全警報 以便對意外或事故作出快速反應 (v) 實現動態風險評估 The safety-related technologies shall have significant merits in directly improving of site safety in the construction process involving human operation including workers' personal safety and general site safety, for example :
	 (ii) Considerably reducing safety risks or hazards (iii) Protecting workers from safety risk exposure (iv) Provision of periodic or continuous monitoring and safety alert for quick responses to accidents or incidents (v) Enabling dynamic risk assessment

資助範圍及模式 Funding Scope and Mode

每項科技資助上限 (每項科技) Funding Ceiling (per technology)

購置: 70%配對資助

Procurement: 70% matching fund

(本地開發的創新技術或產品, 可獲80%配對資助) (80% matching fund for locally developed innovations or products)

相賃: 50%配對資助 Rental: 50% matching fund

HK\$2,000,000

(包括每項科技HK\$300,000租賃資助,最長租賃期限為6個月)* (including HK\$300,000 per technology for rental, maximum rental period is 6 months)*

預先批核的安全相關科技 **Pre-approved Safety-related Technologies**

* 預先批核名單編號 Pre-approved List Code

產品特點 Product Features

銷售渠道 Vendor Contact

先進工具及設備 Advanced Tools and Equipment

* PA18-006 | 機械衣 Powered Wear MODEL-Y

- # 機械衣為可配戴機械裝置, 可以在 穿戴者提舉重物時舒緩腰部負擔。
 - 當穿戴者提舉重物時,移動感應器能 協助穿戴者減輕負重力,改善安全。
- A wearable device which alleviates burden to
- wearer's waist when lifting heavy objects. - Controlled by motion sensors
- Helps reduce strain and improves wearer's safety

* PA19-029 | 牆鋸 Wall Saw DST 20-CA

- # 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。
 - 遙控器的屏幕即時顯示切割深度,
 - 從而改善安全。 - 用家只需輸入簡單參數。
 - 牆鋸可提升切割的效能及精準度。
- away from the work area.

- Automates the cutting process.

- Cutting depth displayed on remote controller screen helps improve safety.

- Supports remote-controlled operation at distances

- Requires simple setting of job parameters.
- Improves cutting efficiency and accuracy in the cutting process.

* PA19-039 電動鉸剪升降台 Electric Scissor Lift Model: ALMAC BIBI 1090-BL ELC

- # 可以在斜坡或崎嶇地形行走及工作, 可大量減少使用傳統棚架工作台因 移動位置而需要搭拆的時間。
 - 可在15度的斜坡或崎嶇地形為工人 提供安全的工作環境。
- Can be driven and working on slope or uneven and rough terrain, saving much time for erection and dismantling of traditional scaffold work platform on inclined surface zone-by-zone.
- Provides a safe condition for workers even in slopes up to 15 degrees or uneven terrain.

* PA19-040 | 柴油鉸剪升降台 Diesel Scissor Lift Model: ALMAC BIBI 1090-BL EVO

- # 可以在斜坡或崎嶇地形行走及工作, 可大量減少使用傳統棚架工作台因 移動位置而需要搭拆的時間。
 - 可在15度的斜坡或崎嶇地形為工人 提供安全的工作環境。
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- Provides a safe condition for workers even in slopes up to 15 degrees or uneven terrain.



- # 提供更大的覆蓋範圍,協助工人到達 一般難以靠垂直升降抵達的工作地點。 - 可以在斜坡或崎嶇地形行走及工作,
 - 可大量減少使用傳統棚架工作台因移動 位置而需要搭拆的時間。
 - 可在15度的斜坡或崎嶇地形為工人提 供安全的工作環境。
- Provides a wider coverage than scissor platforms to enable workers to reach working areas with access difficulties.
- Can be driven and working on slope or uneven and rough terrain, saving much time for erection and dismantling of traditional scaffold work platform on inclined surface zone by zone.
- Provides a safe condition for worker even in slopes up to 15 degrees or uneven terrain.

* PA20-006 | FASSI 随車吊機 Hydraulic Truck Crane Model: F820RA.2.28 xhe-dynamic, F1150RA.2.28 xhe-dynamic

- # 符合現時歐盟國家標準EN1299的隨 車貨車吊機,內置全自動運作模式的 力距安全限制器 (Safe Load Indicator)。
 - 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。
 - 當遇到超載或不安全的操作狀態時, 吊機能夠提出安全警示,並會停止操 作直至縮減跨度或返回安全操作狀態。
- Load at different outrigger extensions or load lifting conditions on a real-time basis. - Gives safety alert and stops the crane when overload

with a built-in full-time enabled safe load indicator.

- Continuously monitors and indicates Safe Working

- Complies with EN 12999 standard and equipped

occurs until it returns to the safe position.



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資料僅供參考,詳情請聯絡個別供應商。 For reference only. Please contact respective vendors for details.



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喜利得(香港) 有限公司 Hilti (Hong Kong) Limited © 8228 8118

<u>先進工具及設備 Advanced Tools and Equipment</u>

* PA20-026 | BIAVE 仿生物抗振外骨架裝置 Bio-Inspired Anti-Vibration Exoskeleton

- # 為工人使用手提電炮而設,以防患上 手臂職業病的裝置。
 - 一個被動式、非線性剛度和減震的 系統,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 工具對工人手臂引致的震動。
- Designed for workers using handheld breakers to prevent hand-arm occupational diseases.
- 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.

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

- # 一款混凝土拆卸電鑿。
- 配備減少震盪技術,拆卸大型混凝土 時可節省工人體力勞動及提升生產力。
- A breaker for concrete demolition.
 - Equipped with Active Vibration Reduction technology which reduces worker's effort and increase
 - productivity in heavy demolition.

* PA20-052 | 納米塗層隔熱反光衣

Heat Shielding Reflective Vest with Nano Coating Technology

- # 由納米金屬塗層聚脂網紗製成。 - 透過反射陽光,反光衣可減低工人在 陽光直接照射下的體溫上升。
 - 網紗設計便利通風。
- Helps reduce wearer's body temperature rise under direct sunlight exposure by reflecting the sunlight.
- Netting design allows for proper ventilation.

* PA20-063 | 高龍牌裝車起重機 Cormach Truck Mounted Crane 240000AX E series

- # 備有Control system level 6 (2016) 的隨車式起重機。
 - 系統可顯示負載重量的計算值及 所有工作的參數。
 - 起重機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。
- A truck mounted crane equipped with Control system level 6 (2016).
- Capable of showing on display calculated value of lifted load and all key working parameters.
- Crane's permitted lifting capacity is continuously
 - determined according to the rotation angle, the outriggers positions and the action of the counterweight.

* PA20-107 | Elebia Evo 自動吊鉤 Automatic Hook Model: Evo2, Evo5, Evo10, Evo10 Compact, Evo20, Evo25

- # 吊鉤可遙控關閉,或通過傳感器 自動關閉。
 - 配備負載傳感器,顯示吊鉤的荷重、 位置及負載水平對齊狀況。
 - 可通過 eMax遙控器收集吊鉤的數據 進行數據分析或建築信息模擬。
- The hook can be closed by remote control, or self-closed as assessed by the sensor. - Equipped with a load sensor indicating the lifting
- load, its position and the load horizontal alignment.
- The "eMax" remote control gathering the information
- of the hook for data analysis or BIM modelling.

* PA20-109 | 利勃海爾移動式起重機 Liebherr Mobile Crane Model: LTM1060-3.1, LTM1230-5.1, LTF1060-4.1, LTM 1120 4.1

- # 配備了"Vario Base"專利AI技術的移 動式起重機。
 - 起重機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 工作自荷。
 - 起重機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。
- A mobile crane equipped with a patented AI technology "Vario Base".
- Continuously monitor and indicate the Safe Working Load at variable supporting or load lifting conditions on a real-time basis.
- Further to warning alert, the cane will automatically stop when overload occurs until it returns to safe position.

* PA20-113 | Palfinger 隨車吊機 Hydraulic Truck Mounted Crane Model PK 37,002 TEC 7, PK 92002 SH, PK 110002 SH, PK 65002 SH

資料僅供參考,詳情請聯絡個別供應商。 For reference only. Please contact respective vendors for details.

- # 此液壓隨車式起重機,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. Major merits of HPSC system enable real-time Safe Working Load detection at different stabilizer extensions and lifting boom outreached conditions.
- 中陞工程有限公司 China Ascent Engineering Limited

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利勃海爾(香港)

有限公司 Liebherr (HKG)



理大科技及顧問 有限公司 PolyU Technology & Consultancy **Company Limited** © 3400 2711



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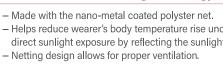
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mental Materials

Limited

喜利得(香港) 有限公司

Hilti (Hong Kong)







先進工具及設備 Advanced Tools and Equipment

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

- 吊運用的微型起重機

- 具有五個主要功能:
 - 1) 可擴展的履帶
 - 2) 數碼無線電控制
 - 3) 自動穩定性控制系統
 - 4) 不同的配件即插即用控制系統
 - 5) J Connect遠程和實時起重機
 - 監控軟件(選擇性功能)。
- 五個功能使起重機的移動更加精確, 吊裝操作更安全。
- A mini crane for lifting operation - Equipped with 5 key features:
 - 1) extendable crawler tracks
 - 2) digital-multi-proportional remote radio control
 - 3) automatic stability control
 - 4) plug and play system control to attach
 - different accessories, and
 - 5) remote and real time crane monitoring using an optional software J-Connect.
- 5 features enable more precise movement and safer lifting operation of the crane.

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

- # 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。
- Equipped with Stability Control System (Progress 2.0), which continuously monitor and indicate the Safe Working Load at different outrigger extensions or load lifting conditions on a real-time basis.

* PA20-129 F.III FERRARI 隨車吊機 Hvdraulic Truck Mounted Crane Model: 990

- # 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。 - 內置的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)。
- Complies with EN 12999 standard and equipped with a full-time enabled safe load indicator.
- Built-in Stability Control System enables real-time sensing and indication of the Safe Working Load
- (SWL) for different outrigger extension conditions.



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HK I td

Mak Kee International

* PA20-132 | 麥士索 Slingmax

- # 最大工作負荷可達227噸的合成纜吊索。 A synthetic lifting sling with a maximum
 - 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。
- 1) 'Check Fast' Inspection System, 2) Fiber Optic Inspection, and
- 3) Rifled Cover Technology.

working load up to 227 tonnes.

- Equipped with 3 safety features :

* PA20-134 | 日本制加滕越野吊機 Kato Rough Terrain Crane Model: SL700R

* PA21-004 意大利全方位隨車安全吊機 Italy Comprehensive Loader Crane

Model: PM150SP, PM58526SP, PM58529SP, PM65029SP, PM100029SP

Model: 1150.8J6, 1150.10, 2000.9, 820.8, 950.9, 510.8, 650.8, 510.6, 650.6

- # 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 的支撑腿延伸狀況及起重條件下的安 全操作負荷(SWL),以策安全。

- 配備穩定控制系統的隨車式起重機,

組成。

該系統是由全天候安全負重指示器

- 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。

- 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.
- 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.

- Equipped with Stability Control System, which

or load lifting conditions on a real-time basis.

consists of a full-time enabled safe load indicator.

- System can monitor continuously and indicate the

Safe Working Load at different outrigger extensions

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蘇豪機械及車身 工程有限公司 SOHO Mechanical Engineering Company Limited © 6565 0686

三洋車行 Sanvo Motors © 2390 0433

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

資料僅供參考,詳情請聯絡個別供應商。 For reference only. Please contact respective vendors for details.

* PA21-007 | 高馬吊機 Copma hydraulic truck-mounted crane



先進工具及設備 Advanced Tools and Equipment

* PA21-020 | BATCAM2.0 超聲波成像儀 Ultrasonic Sound Camera

- # 為超聲波及聲學相機, 用以確定氣體 洩漏、電氣故障及機械狀況。
 - 聲音的實時視像化有助於識別不同的 工業情況。
 - 用戶可憑聲音圖像準確找到噪音和難 以察覺的超聲波噪音。
- An ultrasonic and acoustic sound camera for locating gas leakage, electric faults and mechanical issues.
- Real-time visualisation of sound help identify various industrial conditions.

產品特點 Product Features

- Sound imagery allows users to pinpoint both audible and ultrasonic noises that are hard to detect.
- * PA21-022 人體外骨骼裝置EXO-01
- # 非電池供電,可穿著的上半身外骨酪 裝置。 - 穿上後,裝置為手臂增添力量,支撑
 - 提舉過頭的工作。
- A wearable non-battery powered upper body exoskeleton focused on overhead applications. - Applies a force to the wearer's arms to support
- overhead work.

* PA21-038 | Focusiite Ear-Defender (只有英文名稱)

- # 頭戴式聽覺保護設備, 通過監測入耳 及環境音量至合適水平來保護用家。
- 設有自動化環境噪音監察, 收集所得 的聽感及環境噪音水平資料可以在 網上平台查看。
- An over-ear hearing protection device with hear-through technology and noise reduction capability through monitoring of both exposed
- and enviromental noises.
- Collected individual and environmental noise level data can be viewed on the online platform.

* PA22-024 | 利勃海爾全方位液壓開鑿挖掘機

Liebherr Holistic Hydraulic Digging Excavator Model: A922 Rail, R924 Tunnel, R950 Tunnel, R950 Demolition, R920, R924, R930, R944C, R945, R966,

- # 配備 LIKUFIX 液壓快速接頭系統, 令在駕駛室更換機械和液壓工作工具 更為安全。
 - 透過搭配不同的挖掘機液壓機具, 產品適用於隧道開鑿、挖掘、破碎 拆卸 等工程。
 - 配合高性能靜液壓傳動系統, 可有效 地降低油耗。
 - 挖掘機後方設有3D立體攝像機,可以 區分人與物,系統會向操作員發出在 顯示幕上發出警示和聲音警報。
- Equipped with the LIKUFIX Hydraulic Quick Coupling System, which allows safer replacement of mechanical and hydraulic work tools inside the control cabinet.
- By combining with different excavator hydraulic tools, the product is applicable for tunnel excavation, excavation, crushing and dismantling and other projects.
- Effectively reduce fuel consumption with highperformance hydrostatic transmission system.
- 3D camera installed at the back of excavator can
- distinguish between people and objects. Warnings and audible alarms will be issued to operator on display screen.

* PA22-029 | Tadano Aerial Work Platform CG-Series (Articulating Type) (只有英文名稱) Model: AT-300CG-2 / AT-255CG-1 / AT-157CG-1

- # 配備安全裝置車載高空作業平台, 適用於一些難以抵達的地方。
 - 配備自動力矩限制器 (AMC) 安全 功能和動臂狀況監測系統。
 - 內置的自動歸位裝置和垂直/水平 移動裝置使操作員只需簡單操作 即可完成所需的移動,從而降低 人為錯誤的風險。
- A truck-mounted aerial platform equipped with safety devices to provide temporary access for people to reach areas difficult to access.
- Equipped with automatics moment limiter (AMC) safety feature and boom profile monitor system.
- Built-in automatic home device and vertical/horizontal movement device allows operator to complete the required movement with just ONE button/lever, thus reducing the risk of human error.

* PA22-030 | Tadano Work Platform TG-Series (Telescopic Type) (只有英文名稱) Model: AT-270TG / AT-220TG / AT-170TG

- # 配備安全裝置車載伸縮式高空作業 平台,適用於一些難以抵達的地方。
- 配備自動力矩限制器 (AMC) 安全 功能和動臂狀況監測系統。
- 內置的自動歸位裝置和垂直/水平 移動裝置使操作員只需簡單操作 即可完成所需的移動,從而降低 人為錯誤的風險。
- A truck-mounted telescopic aerial platform equipped with safety devices to provide temporary access for people to reach areas difficult to access. - Equipped with automatics moment limiter (AMC)
- safety feature and boom profile monitor system. - Built-in automatic home device and vertical/
- horizontal movement device allows operator to complete the required movement with just ONE button/lever, thus reducing the risk of human error.



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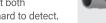
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自動化與機械人技術 Automation and Robotics

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

- # 比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。
 - 拆卸機械可以遙距控制並以電力推動。 Remote controlled and electric driven.
 - 最小型號B60可取代3-5人的人手
 - 打鑿效率。
 - 避免工人曝露於廢氣和高強度振動, 並遠離危險區域。

* PA19-011 | 運輸機器人Transbot

- # _ 以無線控制和電池驅動。
 - 可在不同路況的建築工地運送建築 物料或工具。
 - 可取替人手處理及搬運重型物件, 減低工傷風險及提升工作效率。

- Outperforms existing excavators five times as its size.
- Compact size facilitates accessibility in confined locations like narrow spaces and stairs.
- Smallest model B60 can replace manual method of 3 to 5 workers with jackhammers
- Workers are protected against high vibrations, exhausted fumes and hidden site dangers.
- Wireless controlled and battery-operated.
- Capable of carrying construction materials/tools around construction sites with different terrain conditions.
- Capable of replacing manual handling operation in delivery and unloading of heavy items, thereby reducing safety hazards to labours and increase work efficiency.

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

- # 以柴油推動和支援遙控操作。
 - 適用於拆除混凝土。
 - 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。
 - 可節省人手和減少工人受傷的機會。

* PA19-030 | 自動批盪機TUPO

- # 以遙控操作,將水泥漿放到機器上 便會自動完成由地面3米 (220V 1型號) 至6米(380V3型號)高的批盪工序。 - 可減少高空工作的需要。

 - 自動批盪機可進行較闊範圍的批盪, 從而提高生產力。
- * PA19-038 | 噴塗機械人 Paintbot
- # 配備了噴塗器和六軸協作式的機械臂 的噴塗機械人,可在建築工地進行 各種不同的噴塗工作。
 - 無線遙控的無人駕駛車輛可將機械人帶 到需要噴塗的附近位置,機械人便可按 照預設軌跡移動噴塗工具進行工作。
 - 噴塗機械人有助減低工人吸入塗料的有 害物質。

* PA20-019 Wienold-LIFTE 物料提舉設備 Material Lift Model: GML-C/600, GML-C/800, MFC750

- # 一款平衡重物及以電動遙控操作的 設備,用以提起玻璃及物料等重物 進行安裝。
 - 設備輕巧及備有不同安全運作負載 量及起重高度。
 - 避免使用吊環螺栓及鏈式吊索,從而 改善提重物料的生產力及安全性。

* PA20-022 | PICTOBOT

- # _ 一款智能流動機械人, 可自行掃描、 計劃及噴塗樓宇內部。
 - 減低工人因從事高空工作及吸入 塗料有害物質的風險。

- Equipped with a spraying tool and a 6-axis mechanic arm. It can maneuver at construction sites to handle different painting jobs.
- The unmanned ground vehicle with wireless remote control can move Paintbot into close proximity to painting areas, enabling it to spray paint following the programmed trajectory.
- Helps keep workers away from potentially harmful inhalants.
- A counterbalanced and electrically driven device with remote control for raising loads for glass and material installation.
 - Compact and equipped with different Safe Working Loads and lifting heights.
 - Eliminates the need for using eye bolts and chain blocks, thus improving productivity and safety in material lifting.
 - An intelligent mobile robot that autonomously
 - scans, plans and paints interior of buildings.
 - Reduces risk of work injuries arising from working at height and exposure to potentially harmful inhalants.



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





銷售渠道 Vendor Contact

- Diesel-driven and wireless controlled.
- Applicable for concrete demolition.
- 可準確移除混凝土而不破壞加固鋼筋、 Accurately removes concrete with steel reinforcement undamaged and it provides excellent bond for repair
 - materials in rough and irregular surface. - Reduces vibrations created to the surrounding structures
 - during operation and significantly reduce transmitted sound through the structures.
 - Helps save manpower and minimise work injuries.
 - **Automatic Wall Plastering Machine TUPO 8 E-Control Plus 1000** - Operates on remote-controlled basis and applies cement sand plaster automatically to wall up to 6m high (380V 3 Phase model) or up to 3m high
- (220V 1 Phase model). - 標準自動化的批盪工序可改善批盪質素。- Eliminates the need for working at height
 - Improves quality by standardizing the plastering process automatically,
 - Allows wider surface of application and increases productivity.

產品特點 Product Features



自動化與機械人技術 Automation and Robotics

* PA20-035 Apollo 高高車 Go Go Trolley

- # _ 一輛於工地運載物料的遙控電動車。 - 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。
 - A remote-controlled and electric-powered trolley for delivery of materials in construction sites. - Reduces manual handling of heavy loads to enhance productivity and safety during construction process.

* PA20-135 | 全地形貨運機器人 Haulerbot

- 可幫助建築工人在包括樓梯在內的 - A remote-controlled and electrically- powered 不同地形運輸物件的遙控電動車輛。 vehicle that facilitates construction workers to transport objects in all-terrain including staircase.

* PA21-035 通用服務機器人3.0 Universal Service Vehicle 3.0

- 以電力驅動的無線遙控無人駕駛車輛。 - A wireless remote-controlled battery- operated Universal Service Vehicle (USV). - 可用於工地運送材料或工具。 - Supports onsite transportation of materials/ tools.

* PA21-036 Diamec Smart 8

- # 經驗較淺的操作員也可操作自動 岩心鑽探機以進行深孔鑽探。 - 設有安全控制板及全自動鑽桿裝卸 系統,可遠距離操作鑽探機和裝卸
 - 'Rod Handling System', the driller can operate the machine and handle the rods from a distance which 鑽桿,改善安全情況。 improves safety.

* PA21-040 Klemm hydraulic handling attachment type (只有英文名稱) Model: HBR120-E2V-350

- # _ 可安裝在5公噸重以上的挖土機上 的配置,用作搬運鑽桿及鑽通用途。
- A hydraulic/ mechanic handling system for casings and drill rods as an attachment kit for excavators of over 5 tonne in weight.

- A programmable battery-operated demolition

- Equipped with automatic stop function to enhance safety

and chiseling robot with remote control

- 4-hours charging can support continuous

operation up to 8 hours.

- A core drilling rig for automatic deep-hole exploration

- With the safety control panel and the automatic.

drilling which can be operated by less experienced drillers

* PA21-043 | 打鑿機器人 Jackbot

#	– 可編程序、	以遙控器操作的電動
	打鑿機械人	0

- 具備自動停止功能,提升運作安全。
- 充電4小時後可連續運作8小時。
- * PA22-004 | Paintbot (adjustable) (只有英文名稱)
- # 可遙控及編程控制的噴塗機械人, 由噴塗器、十二軸機械臂及移動車架 所組成。
 - 機械人可按照預設軌跡移動噴塗工具 谁行牆壁戓天花ा途。
 - 當機械人偵測到1米半徑內的非透明 物件,便會停止運作,確保工人安全。

數碼化 Digitalisation

* PA21-024 | 火衛者應用程序 FireWatcher Fire Alarm Web Application

- # _ 以雲端為本的火警監控平台。 - 出現火警及/ 或煙霧時, 流動應用 程式會通知用戶。
- A cloud-based fire alarm system monitoring platform.
- Alerts users of occurrences of fire and/or smoke through mobile application.
- * PA21-039 | RACE 風險評估應用程式 **Risk Assessment Conduct Everywhere (RACE) Mobile App**
- # 用以進行風險評估的流動應用程式。
 - 支援項目團隊在電子平台上分享 相關資訊。
- A mobile app to carry our risk assessment. - Support project team to share relevant information
 - on the electronic platform.

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思科創意有限公司 Ideas & Technology Company Limited

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 A remote-controlled and programmable paint spraying robot equipped with 12-axis robotic arm mounted on universal service vehicle (USV). - Suitable for wall or ceiling painting.

- Automatically stop moving on detection of non-transparent objects within 1m radius to enhance safety.



1月月日 平安之) 高田県

電気の加速式多中・用品段 成功型が引入活法用・副集 気用運用









roved List Code	#	產品特點	Product Features

傳感器及物網聯 Sensors and IoT

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

- # 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
 - 有助於實時安全監察人力資源及
 - 意外管理的系統
- Incorporates RFID Technology, 3G telecommunication, custom-designed software
- Used for real-time safety monitoring of on-site human resources and incident management.

* PA18-032 | 視覺智能安全符合監測系統

Visual Intelligence Safety Compliance Monitor (VISCMon) system

- # _ 系統由感應器及感應技術組成。
 - 系統可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,可偵測工人是否符合安全準則。
 - 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。

- Comprises with sensor and sensing technologies. - 配合人工智能技術及最新的電訊科技, - Provides a solution to meet the needs on safety in collaboration with artificial intelligence technologies

- and the latest telecommunication technologies.
- Specialized cameras operate like the CCTV system-monitor workers and check compliance with safety standards.
- Alert message will be sent to site safety officer via telecommunication network when required safety gear is not detected.

- Track and locate workers in both outdoor and indoor

model in the cloud based management platform.

site supervision and management.

environment. Information can be visualised in 3D BIM

- Heartbeat rate and body temperature sensors can provide

- Accelerometer sensor can detect accidental fall and

instant alert through SMS if abnormal readings are detected.

motionless conditions so that guick actions could be taken.

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

- # 追蹤及確定工人在戶外及室內位置的 系統,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。 Real- time monitoring could improve the efficiency in - 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。- Users can also press panic button to call for help in emergency.
 - 此系統亦能提供碰撞警報予工人以免受傷。- Collison warning can also be given to workers to minimize injuries.

* PA19-045 | 建築工地人工智能計算機視覺雲viAct

Artificial Intelligence Computer Vision Cloud (viAct)

- # 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。
 - 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。

quality detection. - Uses API and graphical user interface, and can perform custom detection and predefined detection. - Predefined detection includes detecting:

surveillance platform for equipment, safety and

(i) people and facial and body attributes, (ii) objects, and

- A one-stop artificial intelligence and video

(iii) actions.

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

- # 用戶可設定檢測範圍, 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。
- alarm and flashing signals on the driver's screen if pedestrians or objects detected within the set zone. - A monitor installed in the cabin provides continuous footage captured by the sensor head, which helps ensure

- Allows users to set detection zone and provides audible

safety of pedestrians nearby.

- An integrated platform to enhance construction

workers' health, safety and operational efficiency.

worksite safety - 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

- Incorporates five modules to promote and manage

- * PA20-025 | 智安健 SmartWorks
- # _ 一個提升建築工人健康、安全及營運 效率的綜合平台。
 - 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。

Safety Triggering System and Dump Truck Management. * PA20-032 | 超寬頻無線定位安全系統 **Ultra-wide Band Wireless Positioning Safety System**

- # - 包含智能手錶和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。
- A "Worker Real-Time Positioning System incorporating smart watches and a central monitoring platform.
- Track workers' locations and health parameters even in sealed off space with ultra-wide band positioning technology



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傳感器及物網聯 Sensors and IoT

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

- # _ 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。
- Provides alerts for unauthorised access to the restricted equipment and areas like lift shaft. - Reduces the chance of injuries and accidents at construction site.

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

- # 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 **虚擬工作範圍**,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。
 - 有關精準度可達致全方位和公分程度。
- Adopts the latest UWB Ultra Wide Band technology.
- The plant with 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 operator to stop the plant so as to prevent collision accidents.
- Accuracy is up to centimeter level and in all directions.

construction plant for obstacles detection and

real-time acquisition of surrounding environment.

panoramic detection of obstacle within 1 metre.

obstacles in the detection range, thus improving

workers' safety when plant is in the operation.

- Activates siren and signal light when there are

- Provides synthesized image with 360° bird's-eye view,

* PA20-073 | 鷹網智能監測系統 I-Vision Smart Monitoring System 5.0

- # 鷹網智能監測系統用於重型建築機械。 This safety monitoring system is installed on heavy -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。

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

- # 有助跟踪工人的確切位置,從而確保 工人的安全。
 - 系統備用三個模組,包括NearBy" "realTime"及 "safetyMeter" 模組。
- 是以藍牙技術為本的位置和出勤系統, A Bluetooth-based location and attendance tracker and helps keep track of the exact locations of workers to maximise safety.
 - Tracker consists of 3 modules -NearBy,""realTime" and "safetyMeter"

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

- # 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,亦能透過系統 區分感應區域內非工人物件(例如車輛), 以避免虚報。
- A sensoring system installed on construction vehicles.
- Provides both visual alert on monitor and audio sound alert to operator when there are pedestrians walking or standing nearby the vehicle, thus ensuring workers' safety during plant operation.
 - Allows users to adjust the zoning distance and exclude default objects (e.g. vehicles) to avoid false alarms.



EverHigh Precise Positioning & Safety Management System

- # 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。
- 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.
- Provides high-precision alarms through different configurations to reduce common accidents in construction sites and improve site safety.

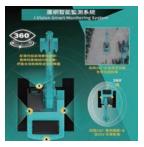
* PA20-119 | Karta-X KACSA v2.0 AI Assisted Construction Safety Analytic (KACSA) (只有英文名稱)

- # 具有AI分析工具的建築工地安全監控 平台,可識別閉路電視拍攝所得的 工人行為。
 - 功能包括紀錄工人出勤和檢查PPE 佩戴情況,識別機器以及檢測可疑 人員,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。
- A construction site safety monitoring platform equipped with AI analytical tool for determining workers behavior captured by CCTVs.
- Functions include keeping track of workers' attendance and checking PPE compliance, machine identification and suspicious personnel detection for better site management.
- Alerts can be delivered by web, emails or APPs.





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XenseTech Limited © 5616 6382

> Karta-X Technologies Limited © 3619 0620





傳感器及物網聯 Sensors and IoT

* PA21-028 | 建築能源監控決策輔助系統 **Buildings intelligent energy monitoring system**

- 非侵入式電錶,用於判斷用電是否 正常/異常。 - 提供手機報表功能,進一步做能耗

預測分析。

- A non-intrusive electricity meter for detection of irregularity in electricity power consumption. Provide visual reports for further energy

consumption analysis.

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

- # - 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,以辨識不安全及異常行為。
 - 當發現不當行為時,會即時向駕駛 員及工地管理人員發出警報。
- Designed to analyse machine operator's behaviour via infra-red camera.
- Captured images are interpreted by artificial intelligence (A.I.) and big data to recognise unsafe and abnormal behaviours.
- Alerts driver and site management instantly when unwanted operator behaviour is spotted.

* PA21-032 智慧用電管理系統 Intelligent Electrical System

- # 協助管理人員遙控監測工地的用電量。 Assists management staff in remote monitoring - 網站及流動應用程式可實時顯示用 電量數據及報告供電相關的數據, 有助技術人員識別電力系統中的故障。
 - of a construction site's power usage.
 - Both web portal and mobile app show real-time power consumption figures and reports electricalsupply-related data to help technicians identify faults in electrical system.

* 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, ADAS is a dual-camera device that provides real-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。
- time driving assistance by alerting driver of possible dangerous driving situations. Detection is made possible with the use of video analytics technology.
- DMS uses sophisticated face recognition technology to provide audible and vibrating alerts when fatigue or bad driving behavior is detected.

* PA22-005 A.I. Surveillance System for Construction Site Safety (只有英文名稱)

- # 結合人工智能 (A.I) 和5G物聯網 (loT) 技術的安全管理系統。
 - 監察工友和車輛進入危險區域,並偵測 未佩戴安全頭盔的工友。 - 實時監察, 並即時發出警報, 以便及時
- A safety management system incorporating artificial intelligence (A.I) and 5G Internet of Things (IoT) technologies.
 - Monitor workers or vehicles entering hazardous
 - areas and detect workers not wearing safety helmets. Provide real-time monitoring and issue instant warnings for timely response.

* PA22-011 | Raspect-ACE-Safety (只有英文名稱)

- 用於監察工地活動和可移動機械 的位置。

採取應對措施。

- 工地的感應器和攝影機分別收集 數據和影像,經電腦分析後,可在 平台查閱。
- 偵測到安全問題時, 可即時通知 安全主任。
- Monitor onsite activities and mobile plants location.
- Data collected through sensors and cameras on site
- can be inspected on platform after computer analysis. - Issue alerts to safety officers when detecting unsafe incidents

* PA22-035 | Construction Machines Crash Detection System (只有英文名稱)

- # 通過傳感器來測量機械位置的碰撞 檢測系統 (CDS)。
 - 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。
 - 檢測系統可安裝到多台機器上, 並能夠於惡劣天氣情況下運行。
- measure positions of machineries.
- structures' real-time positions to assess potential risks of collision.
- Alerts operators to take immediate actions to prevent accidents.
- Compatible with multiple machineries and operable in adverse weather conditions.



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海宏技術

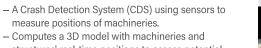
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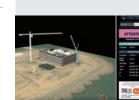
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銷售渠道 Vendor Contact







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基金資助安全相關科技產品概要(截至2022年8月31日) Fact Sheet on CITF's Support on Safety-related Technologies (as of 31 August 2022) 預先批核名單的安全相關科技產品數量 安全相關科技之獲批申請總數 Number of pre-approved safety-related technologies Approved applications on safety-related technologies 宗 Nos. 超過 超過 Over 27 6 項 Items \$ 130,000,000 安全相關科技之 獲批總金額 **Total approved sum** on safety-related technologies

預先批核名單中最受歡迎的三項安全相關科技產品 TOP 3 POPULAR safety-related technologies on Pre-Approved List



PA20-073 鷹網智能監測系統 5.0 I-Vision Smart Monitoring System 5.0



PA20-121 Effer隨車吊機 Effer Truck Mounted Crane



PA19-031 物聯網智能安全帽 連雲端管理平台 IoT Smart Helmet with Cloud Based Management Platform

	基金統計數字 Funding Statistics : 獲批項目及總金額名單 (截至2022年8月31日) List of Approved Projects and Amount (as at 31 August 2022)	數量 Numbers	獲批總金額(港元) Amount (HK\$)
6	建築信息模擬軟件 Building Information Modelling (BIM) Training	662	\$ 27,000,000
18 12	建築信息模擬硬件 BIM Software and Hardware	823	\$ 94,000,000
	創新建築科技 Advanced Construction Technologies	1005	\$370,000,000
	「組裝合成」建築法 Modular Integrated Construction	59	\$136,000,000
	預製鋼筋 Prefabricated Steel Rebar	141	\$106,000,000
	人力發展 Manpower Development	33	\$ 12,000,000
	總計 Total :	2 723	\$746,000,000









