



遙距吊運管理系統

Automated Wireless Load Controlling System

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摘要

Roborigger 介紹
Introduction

實際應用 – 香港
Practical
Application in HK

吊運安全隱憂
Lifting Safety
Hazard

如何改善吊運安全
Improve the Lifting
Safety

吊運安全隱患 - 傳統吊運方法

Safety Hazard - Typical Lifting Method



太接近負載物
Worker under or near the loads



吊運難度增加
Increased Lifting difficulties



不穩定性
Wind causing loads to spin



吊運安全的新思路

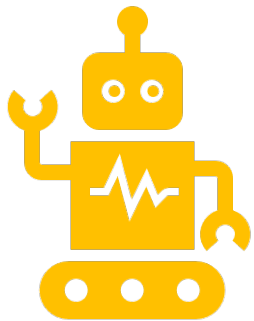
A new way of thinking for lifting Safety



遙距吊運裝置: Automated wireless lifting device:

自動化
Automation
機械人技術
Robotics

tensa
EQUIPMENT



取代
Replace



遙距吊運裝置: Automated wireless lifting device:

- 控制負載物的轉動(抗風)
Rotates and holds loads (against wind)
- 監察及紀錄吊運數據 (物聯網)
Records full logistics information and productivity patterns (IoT)



運作原理: How it works:

大飛輪 Flywheel

- 慣性和陀螺力
Inertial and gyroscopic forces
- 旋轉和控制負載物
Rotate and control the load



主要特點: Main features



抗風:
25-30公里/小時
Resistance to winds
up to 25-30 km/h



電池充電
(12小時用量)
Battery operated
(last at least 12 hrs)



秤重傳感器
Integrated load cell



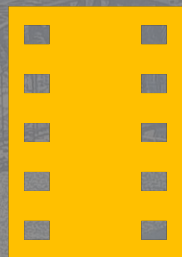
超重警示
Overload Alarm

主要特點:

Main features



靜止圖像捕捉
Still image capture



影片錄制
Video Recording



影片串聯功能
Video streaming



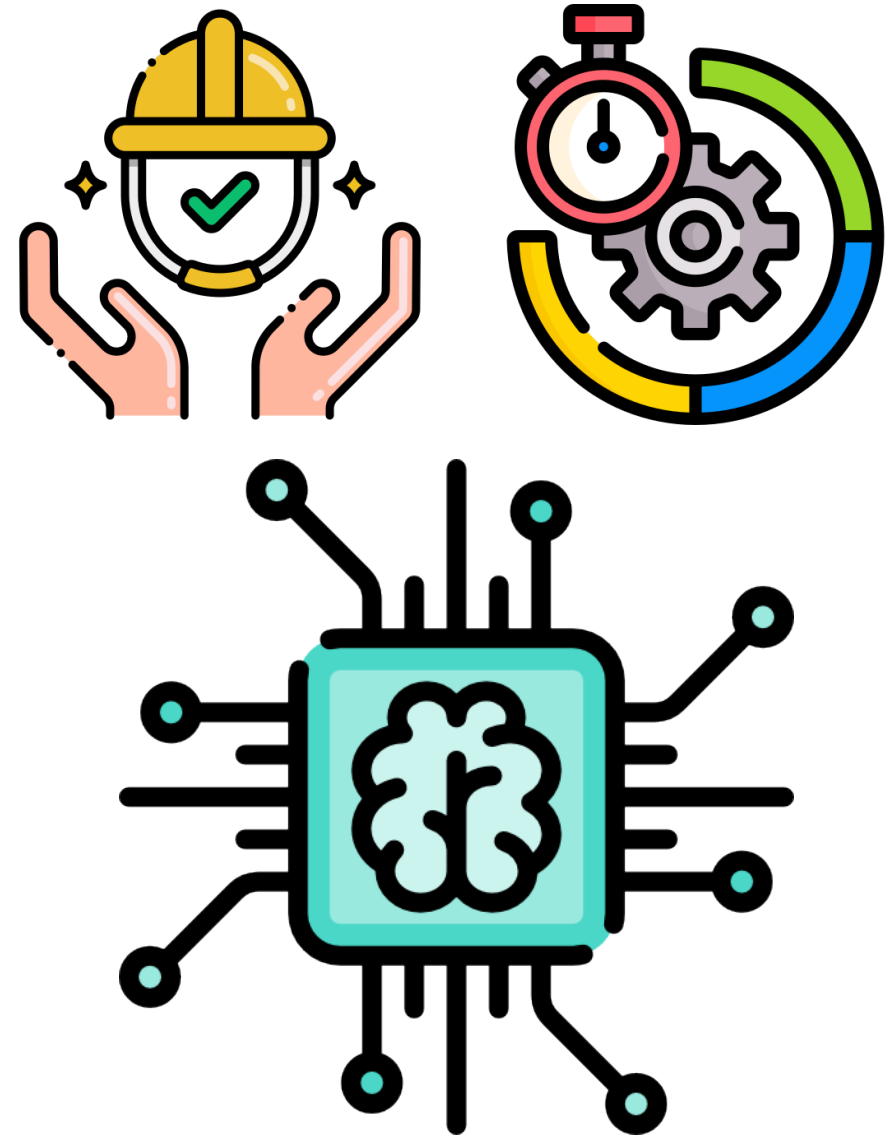
物聯網應用
IoT Application

為何使用Roborigger? Why use Roborigger?

安全性 Safety

智能 Intelligent

效率 Efficiency



增加安全性

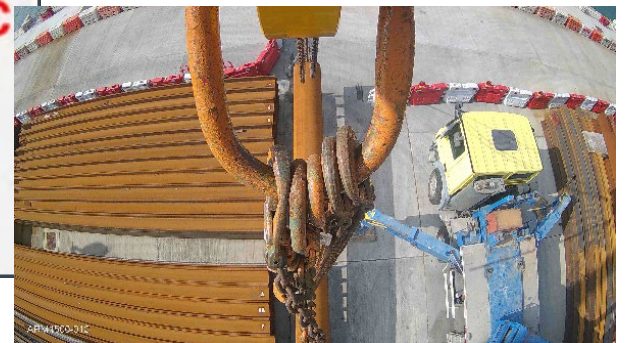
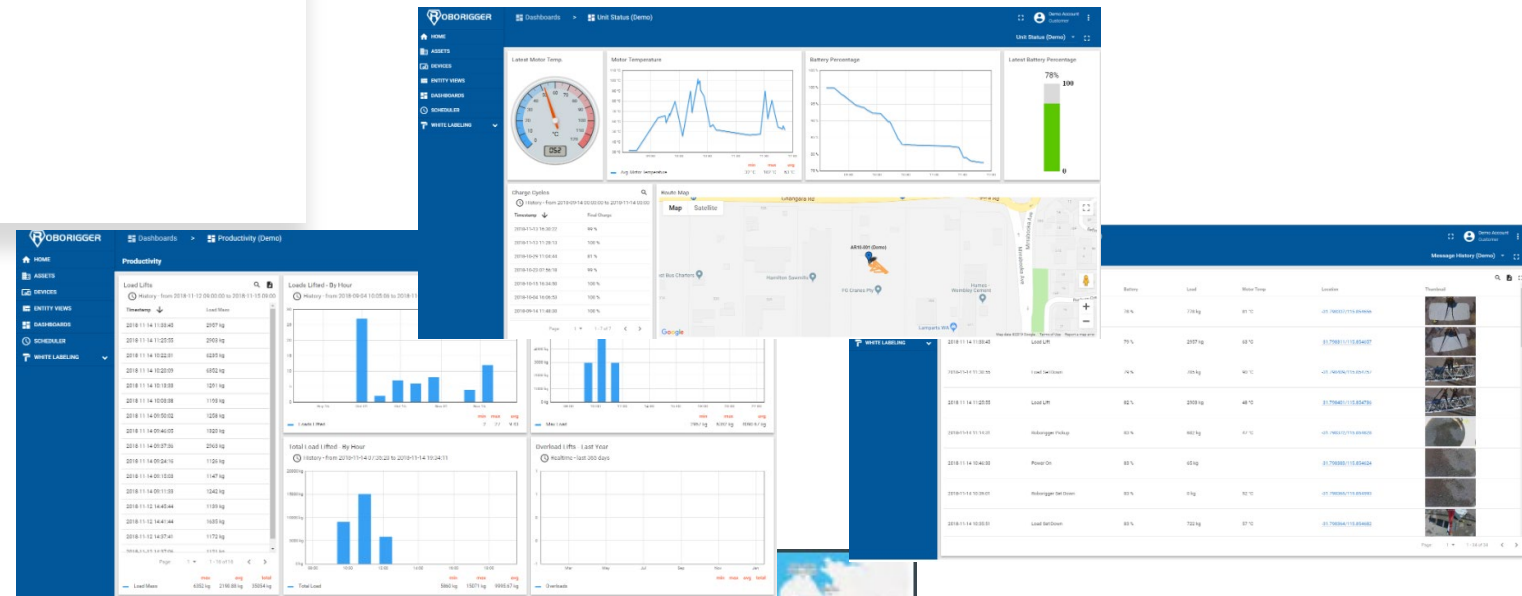
Improve the safety of lifting operations

- **不需人手** 調整負載物角度
Eliminate the need for personnel near loads to hold them
- 在吊運區域外 **安全工作**
Work outside the lifting fatal zone
- 增加吊運過程的 **穩定性**
Improve the stability of the lifting process
- 增加工人 **自律性**
Enhance workers' self-discipline



物聯網應用 IoT Application

- 監測吊運工作
Monitor all lifting events
- 生產力統計
Productivity Statistics
- 設備診斷
Equipment diagnostic



改善工作效率

Improve the efficiency of lifting operations

1. 優化吊運程序

Optimize Lifting Procedures

2. 減少吊運時間 ~15%

Take about 15% less Lifting time



實際應用 - 香港

Practical Application in HK

➤ 正式投入試用
On Trail



873TH「東區走廊下之行人板道」
The Boardwalk underneath Island Eastern Corridor

產品規格： SPECIFICATIONS:



AR10 and AR15

WLL: 10t (AR10) 15t (AR15)
Size: 1.4m (D) x 1.8m (H)
Weight: 620 kg (AR10) 850 kg (AR15)

Features

- 12-24 hours min. battery life
- Onboard charger - 240Vx10A. 9 hrs for full charge
- Wireless range 100-150m
- Remote control - 433Mhz or 2.4GHz
- 2 remotes with handover capability
- Hook options - Trihook or wireless release
- Onboard load cell
- Internet camera – video and still
- 4g internet connectivity for online monitoring



ARM1500-20

WLL: 20t (lift frame capacity)
Module size: 1.5 (W) x 1.5 (W) x 1.0m (H)
with lift frame: 2.1 (W) x 1.5 (L) x 1.8 (H)
Weight: 1,080 kg without lift frame
1,730 kg including lift frame
1,860 kg including lift frame and hook

ARM1500-35

WLL: 35t (lift frame capacity)
Module size: 1.5 (W) x 1.5 (W) x 1.0m (H)
with lift frame: 2.1 (W) x 1.5 (L) x 2.3 (H)
Weight: 1,080 kg without lift frame
2,145 kg including lift frame
2,345 kg including lift frame and hook

ARM1500-50 (future)

WLL: 50t (top spreader capacity)
Module size: 1.5 (W) x 1.5 (W) x 1.0m (H)
with lift frame: 2.1 (W) x 1.5 (L) x 1.8 (H)
Weight: 1,080 kg without lift frame
1,930 kg including lift frame
2,060 kg including lift frame and hook



現在提供10-35噸的負載裝置



官方網站
Official Website



物聯網應用
IoT Application



產品資訊
Product information



A construction site is shown in the foreground, featuring a large yellow tower crane on the left. A red and white striped pulley is suspended from a cable, holding a cylindrical concrete component. The background is a dense urban skyline with various high-rise buildings under a clear blue sky. The text "Life first" is overlaid in a white, cursive font across the center of the image.

Life first