



SMART SITE SAFETY SYSTEM THROUGH INTEGRATED ASSET MANAGEMENT

Ivan Sou
Head of Tool Services Marketing,
Hilti (Hong Kong) Limited



LIFTING GEARS AND LIFTING APPLICANTS ARE ONE OF THE COMMONLY USED ASSET IN JOBSITE, REGULAR INSPECTION BY QUALIFIED PARTY IS CRUCIAL TO AVOID ACCIDENT

Typical Lifting Gear in jobsite



Form 7 for Lifting Gear cert.

Name of owner 名 有 人 的 名		Form 7 表格七	
Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulation CHAINS, ROPES AND LIFTING GEAR CERTIFICATE OF EXAMINATION EXAMINATION IN THE PRECEDING SIX MONTHS		[Eng] (R.O. 80) [中] (中英对照)	
Form approved by the Commissioner for Labour for the purpose of inspection under the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulation 工廠及工業場所起吊裝置及起重機械規例 關於鏈條、繩索及起重裝置 在第六個月內由承造工廠或承建商的職能檢驗員或其委託人簽署 (1)(1)(a) 項的監督證明			
Description of chains, ropes or gear, e.g. type, length, weight, etc. 鏈條、繩索或裝置的說明，例如：類型、長度、重量等	Date of examination 檢驗日期	Safe working load 安全工作荷重	Enter details of repairs required or defects 發現的缺陷或修理細節 註明：如發現缺陷，請將修理後的荷重標示於此欄 註明：如發現缺陷，請將修理後的荷重標示於此欄
(1)	(1)	(1)	(1)
I hereby certify that the gear described in this certificate was thoroughly examined by me on _____ and that the above particulars are correct. 我在此聲明，我已仔細檢查了此證明書上所列的裝置，並確認上述資料正確無誤。			
Signature of Professional Engineer 工程師簽名			
Date of certificate 證明書日期			
Any criminal conviction or complaint process which delivers an order or verdict or makes a finding in a criminal proceeding shall result in a general pardon and no imprisonment for 12 months. 任何刑事定罪或申訴過程，如果判決或判決或在刑事審理中作出的判決，將導致普遍赦免，並不得處以12個月的監禁。			
LAWYER 律師			

Biannually inspection for lifting gear is essential to ensure up-to-standard quality of lifting gear to avoid failure when loading

CHALLENGES IN MANAGING THE LIFTING GEARS WITH TRADITIONAL METHOD

Managing thousands of physically LG

Challenges: Multiple excels to manage the data base of LALG information, including purchasing, location assignment and certificate management

Impact: misaligned information from different excel, causing missed certificates for existing LALGs

No.	Description	Category	Brand	Model	Serial No.	Comments	Unit Price	Unit Cost
1	Crane - Cylinders	Accessories	WILKINSON	WILCRANE 1	WILCRANE 1	WILCRANE 1	£100.00	£100.00
2	Crane - Hoist	Accessories	WILKINSON	WILCRANE 2	WILCRANE 2	WILCRANE 2	£100.00	£100.00
3	Crane - Hoist	Accessories	WILKINSON	WILCRANE 3	WILCRANE 3	WILCRANE 3	£100.00	£100.00
4	Crane - Hoist	Accessories	WILKINSON	WILCRANE 4	WILCRANE 4	WILCRANE 4	£100.00	£100.00
5	Crane - Hoist	Accessories	WILKINSON	WILCRANE 5	WILCRANE 5	WILCRANE 5	£100.00	£100.00
6	Crane - Hoist	Accessories	WILKINSON	WILCRANE 6	WILCRANE 6	WILCRANE 6	£100.00	£100.00
7	Crane - Hoist	Accessories	WILKINSON	WILCRANE 7	WILCRANE 7	WILCRANE 7	£100.00	£100.00
8	Crane - Hoist	Accessories	WILKINSON	WILCRANE 8	WILCRANE 8	WILCRANE 8	£100.00	£100.00
9	Crane - Hoist	Accessories	WILKINSON	WILCRANE 9	WILCRANE 9	WILCRANE 9	£100.00	£100.00
10	Crane - Hoist	Accessories	WILKINSON	WILCRANE 10	WILCRANE 10	WILCRANE 10	£100.00	£100.00

Excel 1



And many other excels....

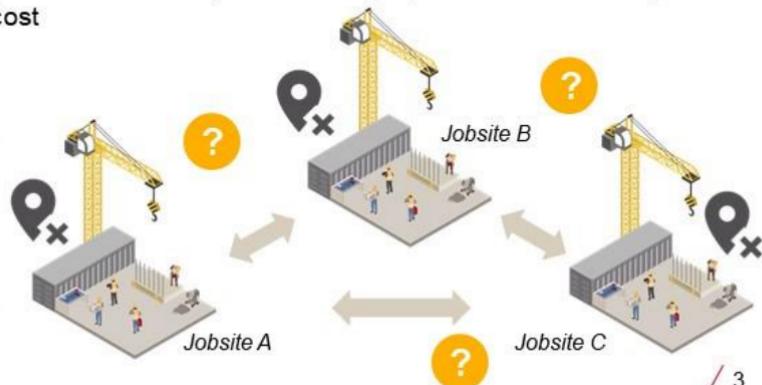
Excel 2

Project and LG Summary										
Type	Class Number	Part / Serial No.	Comments	First arrival & Depart Date	Model	Serial No.	Comments / Model	First In / Last Out		
BIGXL	C00001	RS001	■ 28-Feb-21	Liebherr HDS1004D	180202	—	N/A	■ 28-Feb-21	N/A	■ 28-Feb-21
BIGXL	C00002	RS002	■ 28-Mar-21	Liebherr HDS1004.1	180302	—	N/A	■ 28-Mar-21	N/A	■ 28-Mar-21
BIGXL	C00003	RS003	■ 28-Mar-21	Liebherr HDS1004D	180402	—	N/A	■ 28-Mar-21	N/A	■ 28-Mar-21
BIGXL	C00004	RS004	■ 28-Mar-21	Kobelco 720005	J005-00005	—	N/A	■ 28-Mar-21	N/A	■ 28-Mar-21
BIGXL	C00005	RS005	■ 22-Mar-21	Liebherr HDS1004D	180102	—	N/A	■ 22-Mar-21	N/A	■ 22-Mar-21

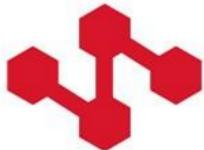
Identifying the real time location of expired LG

Challenges: Unable to locate the exact location of expired LG, as LG can move around different jobsite and LG of same model looks identical. Workers fail to transfer asset in the system to report last updated jobsite of the LALG

Impact: The location of LALG can be wrong in report. Contractors might have to inspect all LG of the same model at the same time even just a few LG are expired. Causing high labour cost and inspection cost



UTILISE SSSS SOLUTION (ON!TRACK SOLUTION) TO MANAGE LALG DIGITALLY TO OVERCOME CHALLENGES



ON!Track



Proactive Tracking with Smart Tag Solution



Smart Site Safety System through integrated asset management

Smart tagged LALG asset



Install gateway in LA



Training to key stakeholders



UTILISE SSSS SOLUTION (ON!TRACK SOLUTION) TO MANAGE LALG DIGITALLY TO OVERCOME CHALLENGES



ON!Track

One stop platform



Real time location tracking



Service alert and management



- ✓ Cloud based server to manage all LALG in one platform.
- ✓ Real time update and aligned information
- ✓ Real time tracking of geolocation of LALG
- ✓ No manual management of LALG location required, minimize human error from data input
- ✓ Use mobile to track the exact location of LALG to search expired asset in jobsite

- ✓ Service alert will be sent to user in apps / by email when certificate is going to expire / already expired
- ✓ Stored all historic certificates in apps / webpage for future reference and inspection

HILTI ON!TRACK IS IN CITF PRE-APPROVED LIST UNDER SSSS IN CATEGORY 2

The image shows the front cover of the CITFDIGEST magazine. At the top left is the CITFDIGEST logo with a green geometric pattern. To the right is the CITF logo with the text "CITF 建造業 制造基金". Below the logos is the text "二零二三年三月 MAR 2023 / 第十五期 ISSUE 15" and "聯匯科技 制造香港 WE INNOVATE, WE BUILD". The main headline on the cover is "安全智慧工地系統 Smart Site Safety System". Below it, it says "超過 50 種預先批核的 SSSS 產品可供選擇 More than 50 pre-approved SSSS products for selection". A large circular graphic on the left features the text "CITF 資助業界使用 安全智慧工地系統 每位申請者最高 \$750 萬!" and "CITF supports the industry to adopt 'Smart Site Safety System' Max. \$7.5M funding per applicant!". On the right, there's a "APPLY NOW 立即申請" button. The background of the cover is a blurred image of a construction site with various industrial elements.

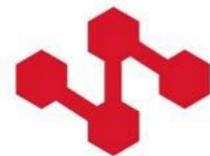
PA19-025 | ON!Track

此產品是一個專為建造業而設的數碼化資產
管理解決方案，有關資產資料透過網站和手
機應用程式存取在雲端上。

用戶可以在資產上附加耐用的二維條碼/二
維碼作識別用途，並通過掃描來查閱資料，
資料包括圖片、文件、位置、採購資訊、保
養到期日及預定服務。

ON!track is a digitalised asset management solution designed for construction industry. It uses cloud-based server for information storage and can be retrieved or updated with two interfaces which are web portal and mobile app.

User can attach a robust 2-D barcode/QR code on the asset for unique identification purpose and the information can be retrieved by scanning. Asset information includes pictures, documents, locations, purchase information, warranty expiration dates and scheduled services.



ON!Track

安全智慧工地系統 10 個主要類別 10 Main Categories of SSSS Products :

- | | |
|---|---|
| 1 中央管理平台
Centralised Management Platform | 6 天秤吊運區域的不安全行為/危險情況警報
Unsafe acts / dangerous situation alert for tower crane lifting zone |
| 2 數碼化追蹤系統 (工地機械, 電動工具及梯架)
Digitised tracking system for site plants, powered tools and ladders | 7 前線工人智能監控設備
Smart monitoring devices for workers and frontline site personnel |
| 3 數碼化工作許可系統 (高風險工作)
Digitalised permit-to-work system for high risk activities | 8 人工智能安全監督系統
Safety Monitoring System using Artificial Intelligence |
| 4 危險區域進出管制 (電子鎖系統)
Hazardous areas access control by electronic lock and key system | 9 封閉空間監控系統
Confined Space Monitoring System |
| 5 移動設備操作區域的不安全行為/危險情況警報
Unsafe acts / dangerous situation alert for mobile plant operation danger zone | 10 虛擬實境安全培訓
Safety Training with Virtual Reality Technology |



基金對資助*
Co-funded by CITF 70%

類別
Cat. 2

Hilti (Hong Kong)
Limited



Smart Site Safety System through integrated asset management

現在放映的是2024年7月31日

香港房屋委員會

「2024年工程和物業管理安全研討會」的片段

台上的講者是喜利得(香港)有限公司工具服務營銷主管

蘇浩麟先生

他的講題是

「打造安全智慧工地- 以雲端數據服務簡化設備管理」

(00:27)

大家好，我是喜利得的蘇浩麟

今日我會為大家分享一下

如何通過軟件技術幫助大家提升工程安全

我想大家對喜利得的第一印象

就是電動工具或者是螺絲錨栓

其實我們在軟件上也做了很多事情

我先說一下公司背景資料

其實我司有開發資產管理的軟件

在一些常見的工地

會有很多一模一樣的起重裝置

可能有一千多條的起重裝置

例如一些鐵鍊吊索，都是一模一樣的

但剛才也提及

有一些意外是來自於高空墮物

而原因有機會是因為鐵鍊有勞損

它們勞損了，然後破壞了

所以定期需要填寫表格七

去檢測一下它是否仍然附合使用標準

但去到現場操作

傳統的方法是有很大的挑戰

我也跟同業了解過

要管理這些起重裝置

是用試算表去記錄管理

但不同的工地有不同的試算表格

然後一個工地有十個試算表

可能更新了一個試算表

其他全部都沒有連結在一起

使其餘試算表沒有同步更新

我覺得最大的挑戰是第二點

第二點就是起重裝置的外表一模一樣

經常被放在不同的工地使用

或者放在工地的不同位置

半年之後要做檢測

其實是沒有可能找到這起重裝置

因為已經不知道它放在哪個位置

全部起重裝置一模一樣

我跟同業討論過

其實都是找不到這起重裝置

要進行檢測，要將整個工地的起重裝置

做一次檢測

才可以確保所有起重裝置證書是最新狀況

這樣就很浪費時間

喜利得的解決方案

就是運用一個追蹤系統

把智慧標籤貼在起重裝置、在重型機械安裝網絡連接器

這樣系統就會報告所有起重裝置的位置

同時我們在重型機械安裝網絡連接器

覆蓋整個工地

甚至是培訓主要持份者

主要是安全主任

因為我們希望大部分的操作都能在辦公室處理

在現場的工友就越少越好

將所有的東西自動化是最好的

那出來的效果就是

我們將所有東西放在平台內去管理

同時可以實時地去監察這些起重裝置

究竟在哪個位置

它的全球定位位置在哪裡

當它需要維護的時候

它就傳送一個提示到系統

可能透過中央管理平台

通知客戶哪些起重裝置需要維護

然後一查就知道它在哪個工地

大概是在哪部起重機附近

那就可以作出相關行動

最後我們這個「ON!Track」系統

都是建造業創新及科技基金所批核的一個軟件

所以大家如果在一些私人的項目上

想去應用這個軟件

都可以透過建造業創新及科技基金的平台申請資助

今天分享此

如果大家想了解更多資料

可以參觀我們的展覽攤位

謝謝

謝謝觀看

(03:58)