



SMART SITE SAFETY SYSTEM THROUGH INTEGRATED ASSET MANAGEMENT

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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 業主/人士姓名		Form 7 表格 7		[Reg 18(1)(a)] [規例第 18(1)(a)條]	
Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations 工廠及工業操作(起重機及起重裝置)規例					
CHAINS, ROPES AND LIFTING GEAR CERTIFICATE OF RESULTS OF THOROUGH EXAMINATION IN THE PRECEDING SIX MONTHS 吊索、繩索及起重裝置 檢驗結果、國家及起重裝置 在過去六個月內進行的徹底檢驗結果證明書					
Form approved by the Commissioner of Labour for the purposes of regulation 18(1)(a) of the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations 本表格為由勞工處處長根據及批准第 18(1)(a)條的規例所認可					
Description of chain, rope or gear, e.g. type, size and identification mark 鏈索、繩索或起重裝置的資料 例如：種類、尺寸、識別號碼		Date of examination 檢驗日期		Result of examination 檢驗結果 Enter details of repairs required on delivery, if any under "Notes" and enter reference to safe working rules 在交付時，如有需要，請在「備註」欄內填明所需修理的細節，並填明安全作業規則的參考編號	
I hereby certify that the gear described in this certificate was thoroughly examined by me and that the above particulars are correct. 我在此證明，本表格所述的起重裝置已由我徹底檢驗，且上述資料均屬真實。					
Signature of Registered Professional Engineer 註冊專業工程師簽署		Qualification 資格			
Date of certificate 發證日期		Duration 有效期間			
Any competent person or competent person who delivers to an owner a certificate or makes a report which is to his knowledge false or in a material particular that be guilty of an offence under Part II of the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations.					
任何合資格人士或合資格人士向業主交付一份證明書或作出報告，而該證明書或報告在該人知悉的情況下，或在重要細節方面屬虛假，則屬違法。					
LIFT-07					

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



ID	Name	Brand	Model	Serial No.	Purchase Date	Status
1	Hyundai	Hyundai	HY1000-10T	10000001	2018-01-01	Active
2	Hyundai	Hyundai	HY1000-10T	10000002	2018-01-01	Active
3	Hyundai	Hyundai	HY1000-10T	10000003	2018-01-01	Active
4	Hyundai	Hyundai	HY1000-10T	10000004	2018-01-01	Active
5	Hyundai	Hyundai	HY1000-10T	10000005	2018-01-01	Active
6	Hyundai	Hyundai	HY1000-10T	10000006	2018-01-01	Active
7	Hyundai	Hyundai	HY1000-10T	10000007	2018-01-01	Active
8	Hyundai	Hyundai	HY1000-10T	10000008	2018-01-01	Active
9	Hyundai	Hyundai	HY1000-10T	10000009	2018-01-01	Active
10	Hyundai	Hyundai	HY1000-10T	10000010	2018-01-01	Active

Excel 1

And many other excels.....

Excel 2

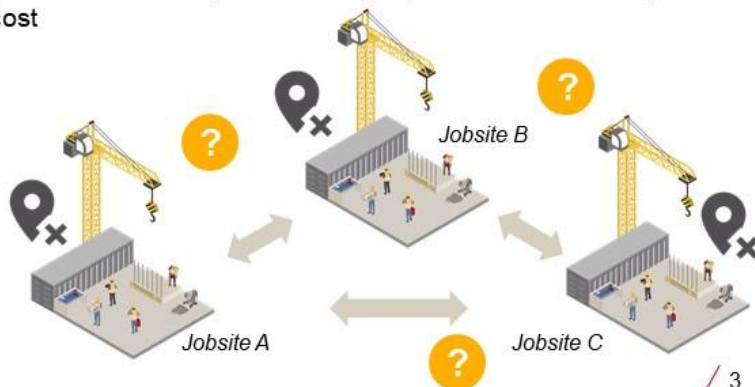


Type	Model	Serial No.	Location	Status
LG001	LG001	10000001	Jobsite A	Active
LG002	LG002	10000002	Jobsite B	Active
LG003	LG003	10000003	Jobsite C	Active
LG004	LG004	10000004	Jobsite A	Active
LG005	LG005	10000005	Jobsite B	Active
LG006	LG006	10000006	Jobsite C	Active
LG007	LG007	10000007	Jobsite A	Active
LG008	LG008	10000008	Jobsite B	Active
LG009	LG009	10000009	Jobsite C	Active
LG010	LG010	10000010	Jobsite A	Active

Identifying the real time location of expired LG

Challenges: Unable to locate the exact location of expired LG, as LG can moved 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 tagged LALG asset



Install gateway in LA



Training to key stakeholders



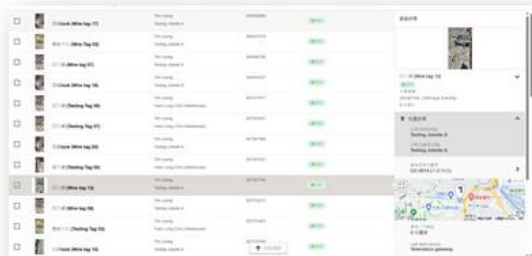
Smart Site Safety System through integrated asset management

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



ON!Track

✔ One stop platform



- ✔ Cloud based server to manage all LALG in one platform.
- ✔ Real time update and aligned information

✔ Real time location tracking



- ✔ 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 and management



- ✔ Service alert will be sent to user in apps / by email when certificate is going to expired / 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



CITF 建造業
創科基金

二零二三年三月 MAR 2023 / 第十五期 ISSUE 15

融匯科技 創建香港 WE INNOVATE, WE BUILD

安全智慧工地系統 Smart Site Safety System

超過 50 種預先批准的 SSSS 產品可供選擇
More than 50 pre-approved SSSS products for selection

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"Smart Site Safety System"
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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，並透過掃描來查閱資料，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 中央管理平臺
Centralised Management Platform

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

3 數碼化工作許可系統 (高風險工作)
Digitalised permit-to-work system for high risk activities

4 危險區域進出管制 (電子鎖系統)
Hazardous areas access control by electronic lock and key 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

6 天祥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

7 前線工人智能監控設備
Smart monitoring devices for workers and frontline site personnel

8 人工智能安全監察系統
Safety Monitoring System using Artificial Intelligence

9 密閉空間監控系統
Confined Space Monitoring System

10 虛擬實境安全培訓
Safety Training with Virtual Reality Technology



基金配對資助*
Co-fund by CITF

70%

類別
Cat. 2

Hilti (Hong Kong)
Limited



Smart Site Safety System through integrated asset management



This is a clip from the 31 July 2024 recording of the
Hong Kong Housing Authority
"Safety Forum 2024 for Works and Property Management Services"
The speaker on stage is Mr Ivan Sou
Head of Tool Services Marketing, Hilti (Hong Kong) Limited
His topic is
"Smart Site Safety System Through Integrated Asset Management"

(00:27)

Hello everyone, I am Ivan Sou from Hilti
Today I will share
how software technology can help improve site safety
I believe everyone's first impression of Hilti
is electric tools or anchor bolts
However, we have also done a lot in software development
Let me start by sharing some background about the company
We have developed software for asset management
On many common construction sites
there are often numerous identical lifting gears
sometimes over a thousand of lifting gears
For example, chain slings that all look the same

As mentioned earlier
Some accidents are caused by falling objects from heights
often due to worn chains
When they become damaged, it can lead to failures
Therefore, filling out Form 7 regularly
ensure they still meet the safety standards for use

However, using traditional methods on-site

presents significant challenges

I have also discussed with peers in the industry

and they usually manage these lifting gears

through spreadsheets for tracking and record-keeping

However, different sites use various spreadsheet formats

often resulting in one site having ten different spreadsheets

If one spreadsheet is updated

the others may not be linked

leading to a lack of synchronisation across the board

I believe the biggest challenge is the second point

which is the lifting gears look identical

and are often used across different sites

or in various locations on-site

After six months, when it is time for inspection

it becomes nearly impossible to locate a specific gear

It is because their positions are unknown

as all the lifting gears look exactly the same

I have discussed this with others in the industry

and they also struggle to locate specific lifting gears

To proceed the checking

they have to inspect every lifting gear on site

to ensure that all certificates are up to date

which is very time consuming

Hilti's solution

is to implement a tracking system

that uses smart labels on the lifting gears and installs network connectors on heavy machinery

This enables the system to report the lifting gears' locations

We also install network connectors on heavy machinery

to cover the entire site

and we train the key stakeholders

especially the safety officers

because we hope most of the work can be handled from the office

The fewer frontline workers involved, the better

Full automation is ideal

The result is that

we can manage everything within a single platform

allowing for real-time monitoring of these lifting gears

The system provides

the exact global positioning of each gear

When maintenance is required

it sends an alert to the system

Through the central platform

the client will be informed about which lifting gears need maintenance service

With a quick check, you will know which site it is on

and roughly which crane it is near

Then you can take appropriate action

Lastly, this "ON!Track" system

is a software approved under the Construction Innovation and Technology Fund

So if anyone wants

to apply this software to private projects

They can apply for funding through the Construction Innovation and Technology Fund platform

That is all for my sharing today

If you want to learn more

please visit our booth in the exhibition hall

Thank you

Thank you for watching

(03:58)