

# HASAS(NW) – 2014Q4 & 2015Q1

## Summary on Audit Findings

### 安全稽核結果

Occupational Safety and Health Council  
職業安全健康局

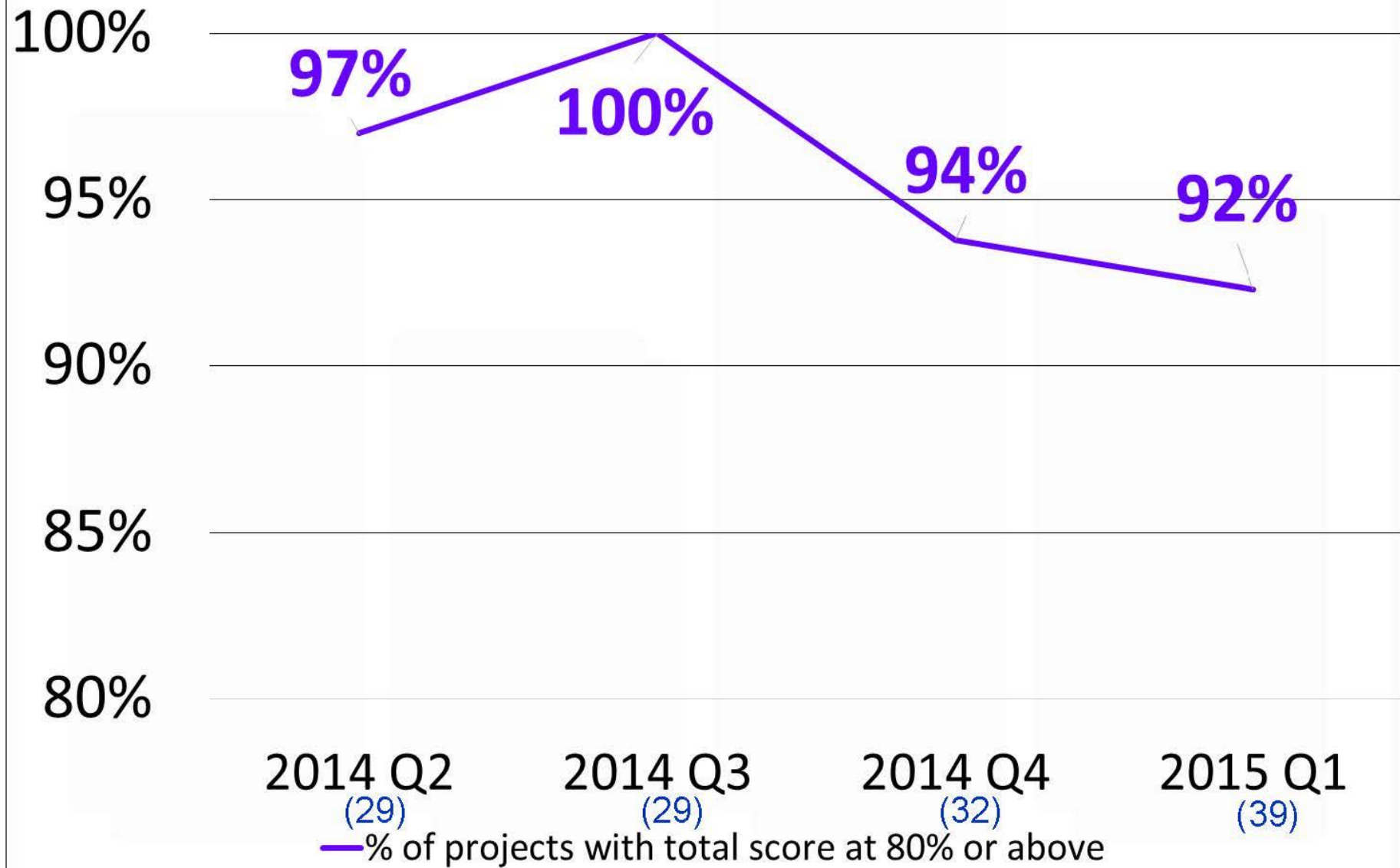


# Content

1. Overview on HASAS Performance
2. Summary on Audit Findings (HASAS(NW) – 2014Q4 & 2015Q1 )
3. Safety Innovation
4. Summary on Audit Findings (HALENSAS –2014Q4 & 2015Q1)

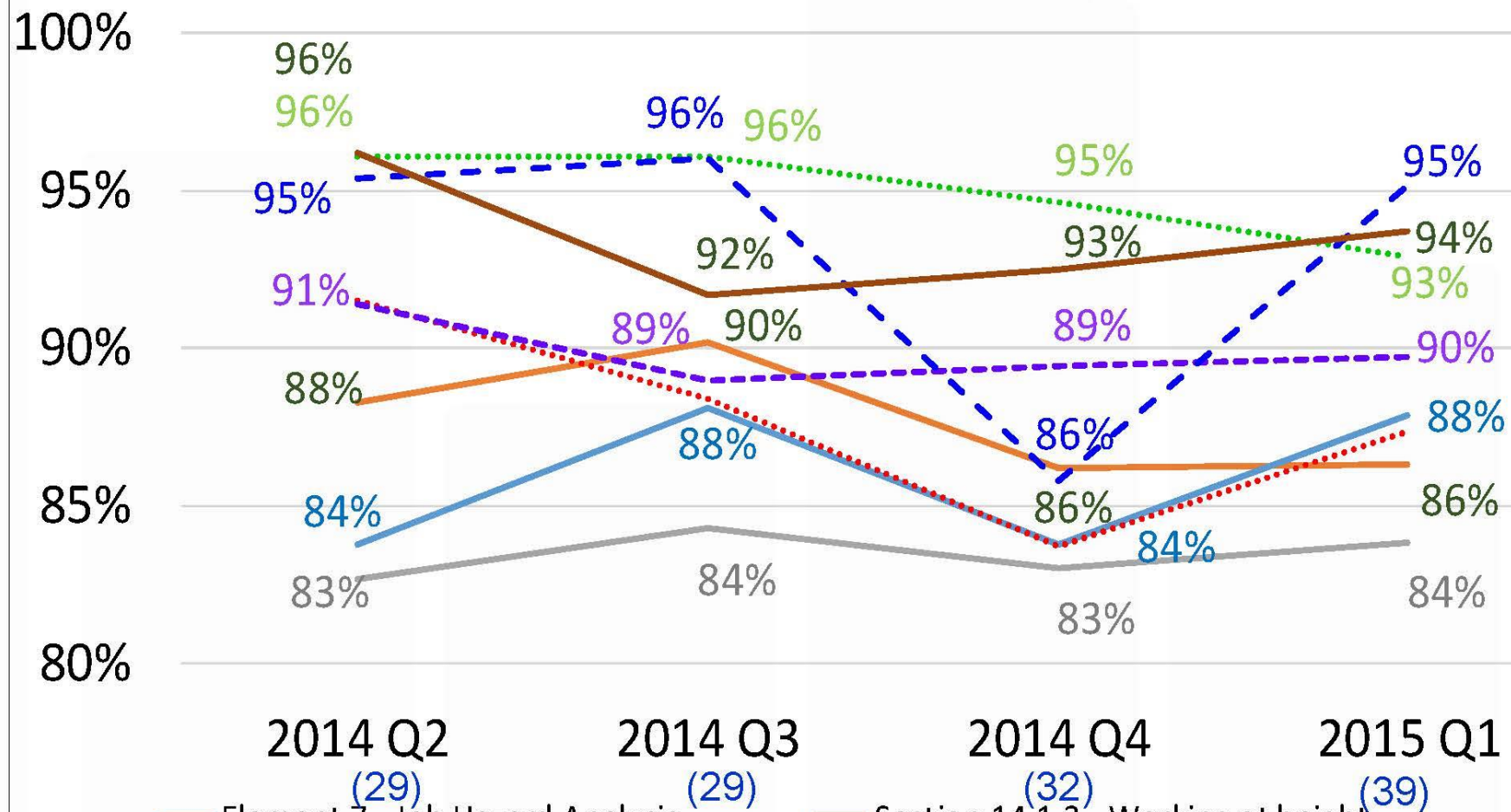
## Overview on HASAS Performance 安全審核表現總覽

# HASAS





## HASAS Critical Pass Items (Average Score)



— Element 7 - Job Hazard Analysis

— Section 14.1.4 – Housekeeping

--- Section 14.2.3 - Lifting Operations

- - - Section 14.4.1 - Tower Crane

— Section 14.1.3 - Working at height

..... Section 14.1.5 - Falling Objects

..... Section 14.3.2 - Electrical Supply System

— Section 14.4.2 - Mobile Crane

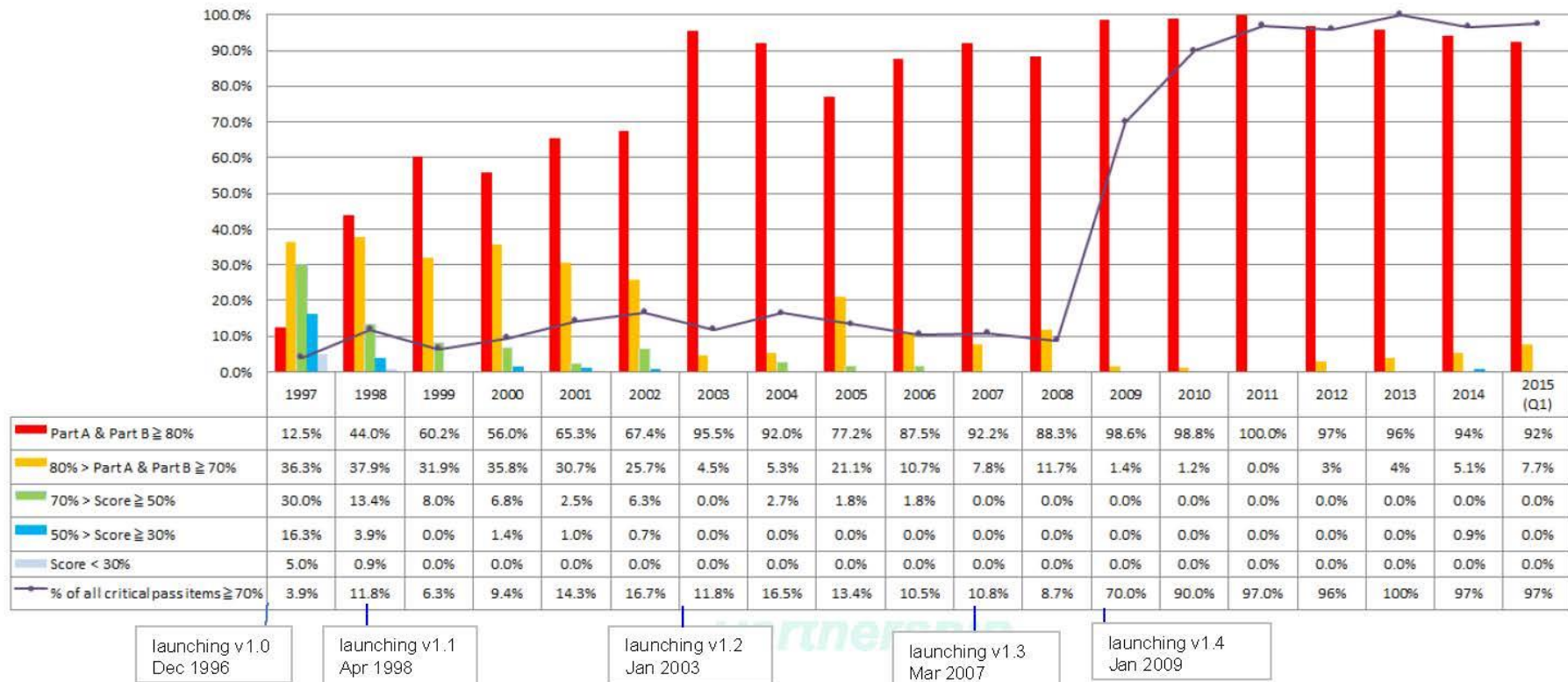
## 3.0 Implementation & Enforcement of Safe Working Practices

Enhance Contract Requirements

### HA Safety Auditing System (HASAS) score trend

Marked improvements evinced in Critical Pass and general score trend

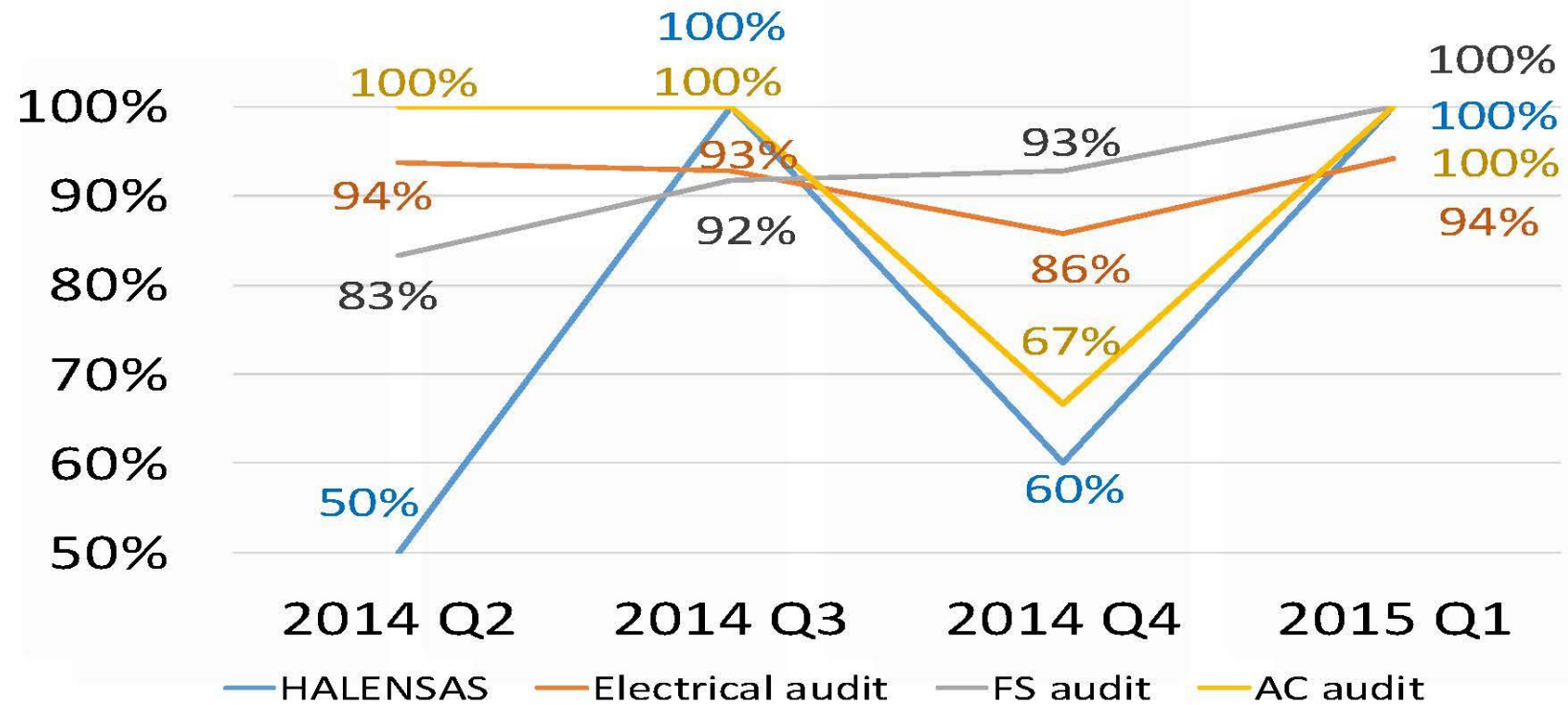
HASAS score trends of building contracts (from 1997 to 2015 Q1)



"4C" Approach in Promoting Site Safety of "4D" Industry  
 "A Client's Perseverance" – The Housing Authority's  
 Experience in Driving Site Safety

● Caring ● Customer-focused ● Committed ● Creative

### % of projects with total score at 70% or above



	2014Q2	2014Q3	2014Q4	2015Q1
HALENSAS	2 (4)	4 (4)	3 (5)	9 (9)
Electrical	15 (16)	13 (14)	12 (14)	16 (17)
FS	10 (12)	11 (12)	13 (14)	16 (16)
AC	2 (2)	3 (3)	2 (3)	3 (3)

# HASAS(NW) – 2014Q4 & 2015Q1

## Summary on Audit Findings

### 安全稽核結果

## Working at Height 高空工作



## GOOD PRACTICE 良好作業方式

- Provision and good maintenance of bamboo working platform
- 提供及妥善保養工作平台



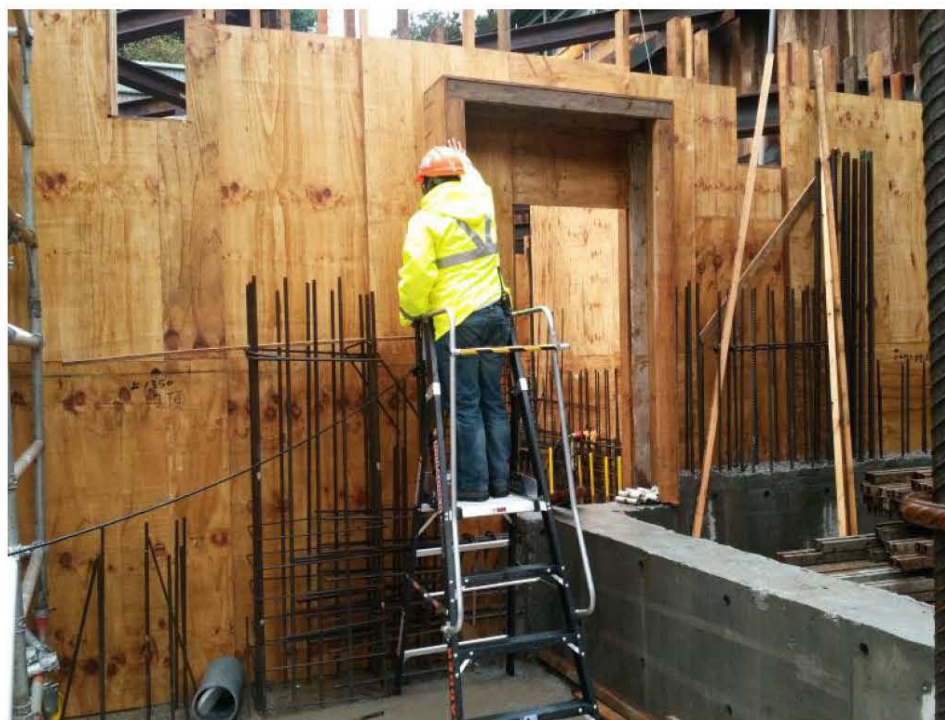
## GOOD PRACTICE 良好作業方式

- Provision of working platform with guard-rails and toe-boards
- 提供設有圍欄及底護板的工作平台



## GOOD PRACTICE 良好作業方式

- Use ladder platform for working under 2m
- 使用梯枱進行兩米以下的工作





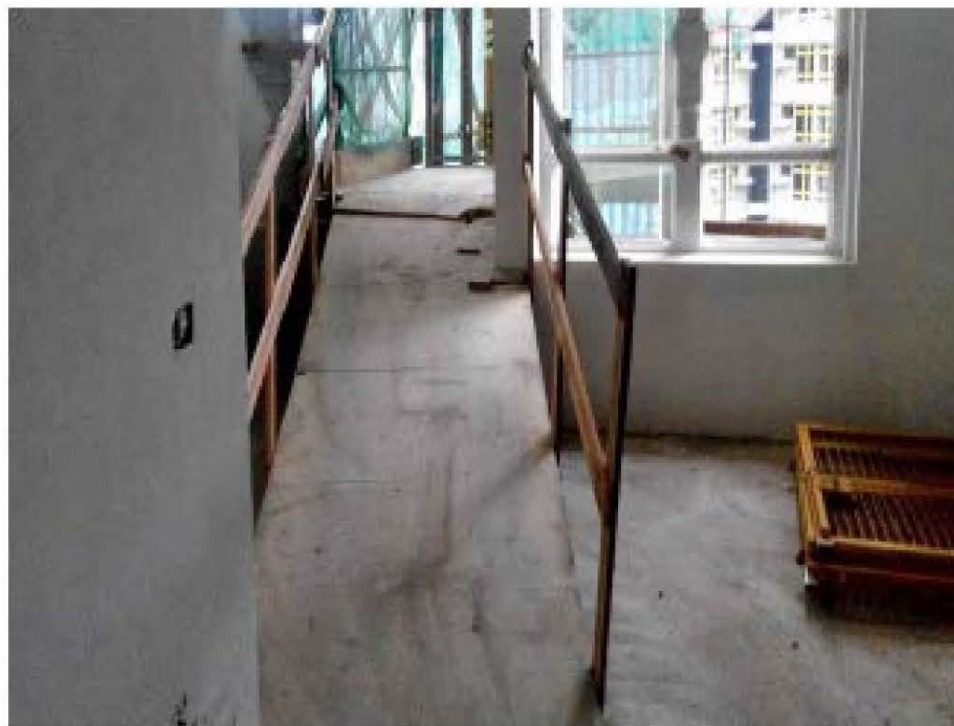
## GOOD PRACTICE 良好作業方式

- Provision of staircase with handrails for access
- 提供帶有扶手的上落樓梯



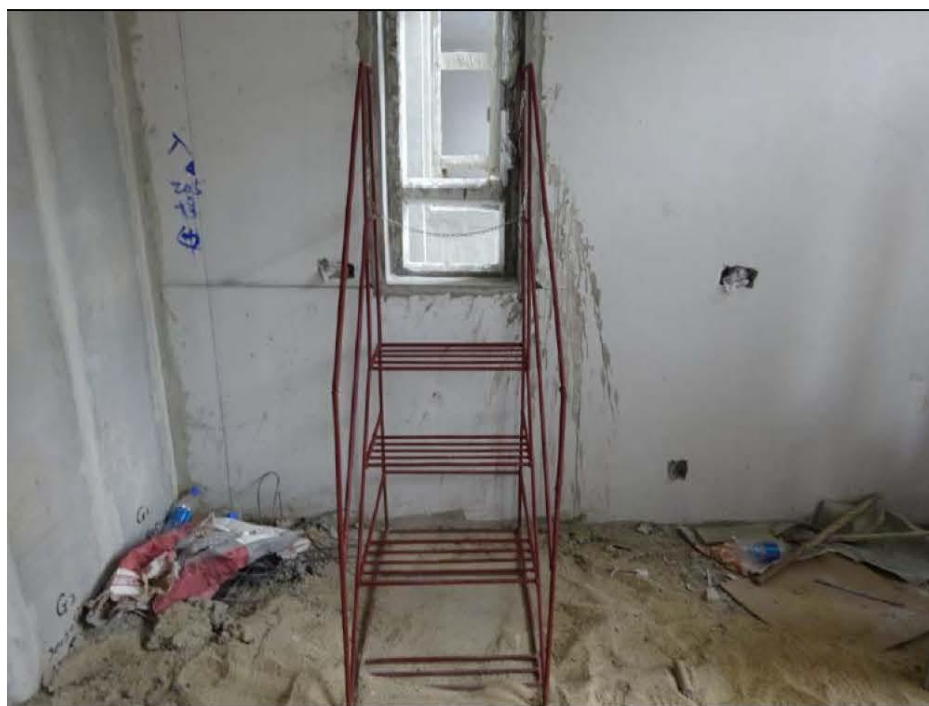
## GOOD PRACTICE良好作業方式

- Provision of Guard-rails for access to unloading platform
- 卸貨平台的進出通道提供了圍欄



## GOOD PRACTICE 良好作業方式

- Provision of proper access to gondola
- 提供吊船的良好進出通道



## GOOD PRACTICE 良好作業方式

- Sufficient width was provided for the access of bamboo scaffold by tightened a piece of wooden plank
- 以木板繫緊在梯級上，讓竹台的進出通道有足夠闊度





## GOOD PRACTICE 良好作業方式

- Floor opening was covered with warning sign
- 孔洞已蓋好並貼上警告



# GOOD PRACTICE 良好作業方式

- Provision of safety net at the falsework for relieving falling from height
- 工作架上裝設安全網，減少人體下墜時所受的傷害



## GOOD PRACTICE良好作業方式

- TTAD was adopted for provision of secure anchorage point
- 使用臨時繫穩裝置提供牢固點





## GOOD PRACTICE 良好作業方式

- Hand tools were provided with strap
- 手工工具套上手繩





## Good Housekeeping 良好工地管理

# GOOD PRACTICE 良好作業方式

- 5S good housekeeping was implemented
- 實行良好的工作場所整理



# GOOD PRACTICE 良好作業方式

- The working area and dangerous zone were fenced off
- 工作區及危險區域以路障分隔



## GOOD PRACTICE 良好作業方式

- Protruded bars were protected
- 突出的鋼筋已作出保護





## GOOD PRACTICE 良好作業方式

- Proper maintenance of the refuse chute
- 垃圾運送槽有關上並維持良好狀況



# GOOD PRACTICE 良好作業方式

- Display of 5S examples
- 展示5S良好例子及標準



# Electrical Works 電業作業方式

# GOOD PRACTICE良好作業方式

- Proper suspension of electric cables
- 電線掛高





## GOOD PRACTICE 良好作業方式

- Registration system was implemented on electrical portable hand tools
- 實施登記制度，以管理流動式的手電工具



# Lifting Operations 吊運工作

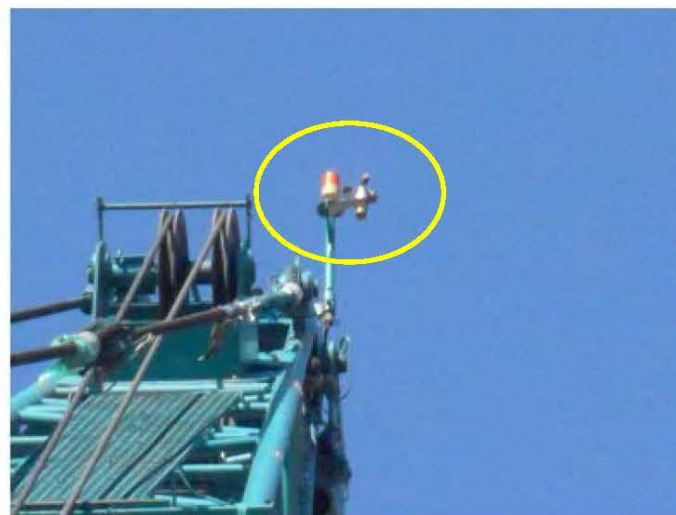
# GOOD PRACTICE 良好作業方式

- Provision of Quick Guide for de-rating chart of lorry crane
- 提供貨車式起重機「吊重量減值表」的簡便指南



## GOOD PRACTICE 良好作業方式

- Anemometer was installed in the highest point for the assessment of safe lifting operations
- 在最高點安裝風速計，以評估吊運安全





## GOOD PRACTICE 良好作業方式

- Examined lifting gears were provided for visiting crane
- 為來訪者所使用的吊機提供已檢驗的吊運工具



## Other practices 其他作業方式

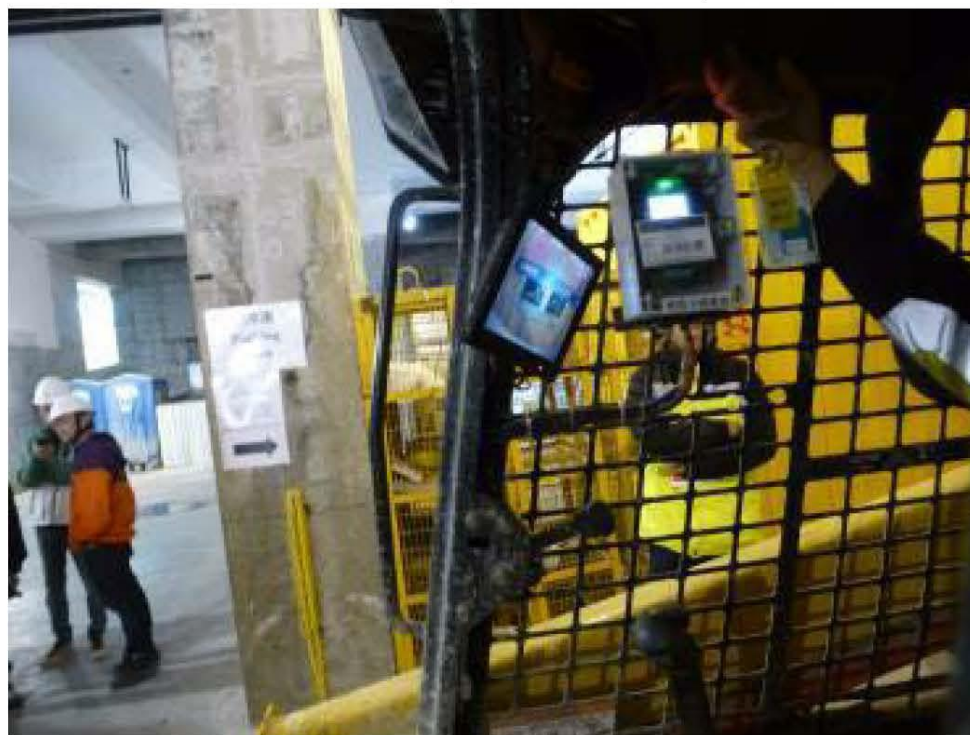
## GOOD PRACTICE 良好作業方式

- Lifting hook on excavator was blocked
- 挖泥機的吊勾已封好



## GOOD PRACTICE 良好作業方式

- Installed reverse camera for Mini / Skid Loader
- 為小型 / 裝載搬土機（貓仔機）安裝後置鏡頭





## GOOD PRACTICE良好作業方式

- Emergency stop button was installed on abrasive cutter
- 為界刀碟機安裝緊急停止掣



## GOOD PRACTICE良好作業方式

- Provision of mobile manual fire alarm call points for remote areas
- 為偏遠位置提供流動式手動火警鐘掣



## GOOD PRACTICE 良好作業方式

- Flush water toilets and washing facilities were provided in the building working site
- 大樓的工地範圍內，提供水廁及洗手設備



# GOOD PRACTICE 良好作業方式

- Provision of stretcher at workplace
- 在工作場所提供擔架





# Safety Innovation 創新工地安全措施

# Safety Innovation 創新工地安全措施

Sound Insulation and Dustproof Protection Guard for Abrasive Cutter

界口碟機隔音及防塵護罩

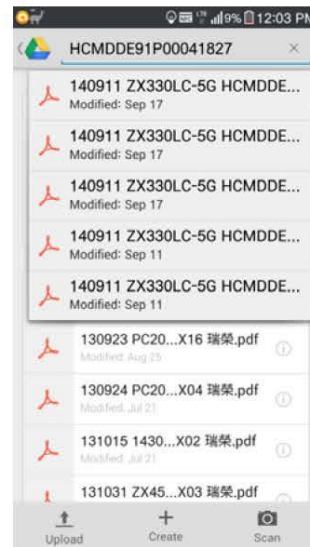
- Reduce the noise by 6 to 8dB(A) and dust by over 100ppm when using the protective device (claimed by the contractor)
- 減少6 – 8 分貝(A)的噪音及100 ppm 的粉塵濃度 (資料由承建商提供)



# Safety Innovation 創新工地安全措施

Instant Validation of All Plants and Equipment through Cloud Technology

應用雲端科技核實機械設備



- Be promptly assessable for records, certificates and operators' licenses for all equipment by mobile devices after uploaded in Google drive
- 能夠透過流動裝置及雲端，迅速地檢查所有機械設備的記錄、證書及操作證
- Facilitate the management control of all equipment and plants without extra cost
- 促進所有機械設備的管理而不需要額外開支



# Safety Innovation 創新工地安全措施

## Advanced Grouting System 新式灌漿系統



- Cement was direct pumped into the tank by pump truck. Cement grout could be mixed up by the grout mixer which controlled by the operator in the independent control room. Cement grout will be pumped out from the grouting station directly.
- 泵車直接泵水泥進罐，操作員在獨立控制室控制混合器攪拌英泥漿。完成後，英泥漿將直接泵出
- Eliminated the hazards from manual handling operations, dust and contact with moving parts of the mixer.
- 消除來自體力處理操作、塵埃及攪拌器危險部份的危害



# Safety Innovation 創新工地安全措施

## Aluminum Working Platform for Bamboo Scaffold

### 竹棚架的鋁製工作平台

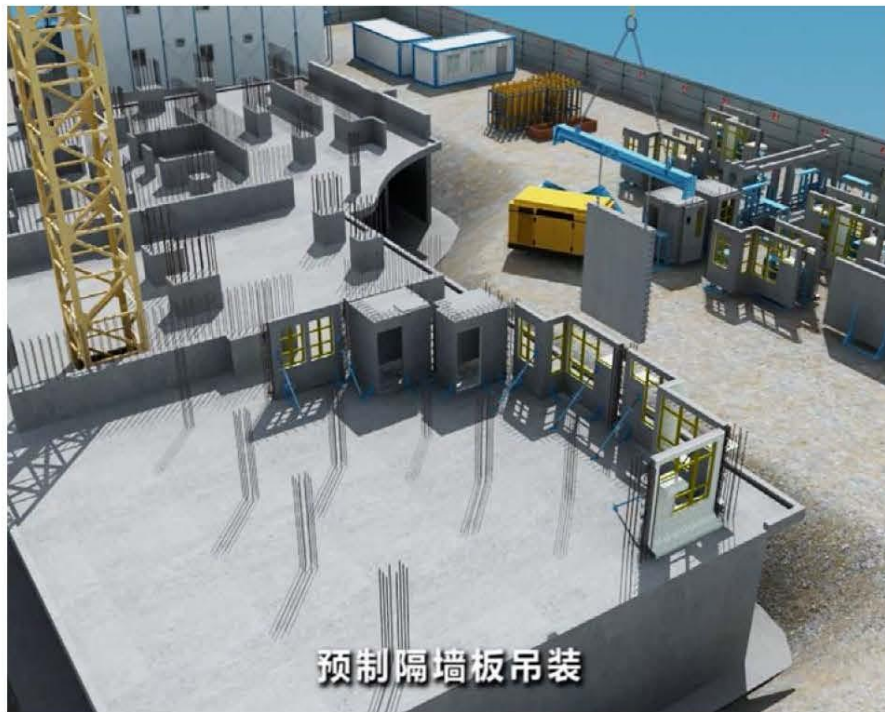


- Reduced the weight of working platform in bamboo scaffold
- 減少竹棚架上工作平台的重量
- Components could be installed and managed easily
- 部件設計易於管理及安裝
- Provision of safe and standardized working platform
- 提供安全及標準的工作平台

# Safety Innovation 創新工地安全措施 (BIM)

Demonstration of Precast Element Storage, Lifting and Installation Works

預製件的存放、吊運及安裝示範



- Outlined the storage and installation of various types of precast units.
- 描繪不同類型預製件的存放及安裝
- Facilitated the communication in relevant personnel by the visualized and dynamic presentation
- 促進各級相關人士的溝通



# Safety Innovation 創新工地安全措施 (RFID)

## Lifting Warning System of Tower Crane 天秤吊運警報系統



- RFID tag stuck on the hook. Antennas and processors were installed in the lifting zones.
- 吊鈎上安裝RFID標籤、天線及處理器安裝於吊運區
- Antennas emit signal to the coverage of 15 meters above ground. RFID tag enters the coverage of the signal, the alarm and buzzer will be triggered.
- 天線發射信號到地面以上15米的覆蓋範圍。RFID標籤進入信號的覆蓋範圍時，觸動警報器和蜂鳴器

# Safety Innovation 創新工地安全措施 (RFID)

## RFID Applied to Mobile Plants and Workers for Safety

### RFID安全應用 - 移動機械及工人



- Plant Permit (with RFID chip) provided the accessibility for all relevant information of mobile plants, authorized operators and workers
- 機械許可證(裝上RFID晶片)
  - 透過手機讀取流動式機械、機手及工人的資料
- Can widely apply on different plants. Check updated information easily.
- 可廣泛應用於不同的機械。  
很容易地檢查最新的資料



# Safety Innovation 創新工地安全措施 (RFID)

## Proximity Warning System for Excavator

### 挖土機的接近警報系統



- Installed RFID receiver on the excavator (2 sides and the back) and issued RFID tags for personnel who needed to enter danger zone
- 分別安裝RFID接收器在挖土機(兩面及機尾)及晶片於進入危險區域人士的安全帽上
- Alerted the operators when any personnel entered enter zone within 2 m
- 當有人進入危險區域兩米範圍，發出訊號提醒操作員

# Safety Innovation 創新工地安全措施 (RFID)

## Eye on Project: Mon-Plant 機械監察系統



- Setting up of RFID receivers at speed limited areas, one pair on both sides. Attach RFID tags to the plant/operators' helmet. Calculate the speed between 2 points.
- 一對RFID接收器設置在限速區的兩側，安裝RFID標籤於機械/操作員的頭盔。計算2點之間的速度。
- A push message for speeding would be prompted to the site management staff immediately. System provides record and data analysis.
- 超速的提示訊息能夠即時發送給工地管理人員，系統提供記錄和數據分析