

## 聰明船 Smart Gondola

### 團隊背景 Background of the Team



小組名稱 Team name	聰明船 Smart Gondola
成立日期 Date of formation	2013年1月13日 13 January 2013
所屬部門 Composition	客戶維修服務部 Customer Maintenance Services Department
促進員 Team facilitator	陳志成 CHAN Chi Shing
隊長 Team leader	鄧志浩 David TANG
小組成員 Team members	楊培正、郭子卓、黃永忠、鄭建松、陳紹基 Kenny YEUNG, KWOK Tsz Cheuk, WONG Wing Chung, CHENG Kin Chung, CHAN Siu Kei

### 背景

煤氣立管是安裝於大廈外牆的喉管，用以供應煤氣給每一位客戶。於2013年，正在使用吊船進行大廈維修的公營房屋中，我們未能利用已有的吊船進行立管維修，並且需搭建竹棚架進行。

### Background

Gas service risers are gas pipes installed outside the facade of building which supply gas to our customers. In 2013, there were some public housing estates under comprehensive renovation by means of gondola. We could not make use of the existing gondola to replace the defective risers and finally bamboo scaffoldings were erected.

### ? 問題原因 / 主要分析及驗證

- 吊船在空中搖擺不定，令工程未能進行。
- 當吊船遇到陣風，令吊船更為搖晃，風險增加。
- 吊船與外牆之間空隙，產生高空墮物風險。

### Causes / Root Causes Analysis and Validation

- Gondola swings due to pendulum effect.
- Gust wind causes serious sway and increases safety risk.
- Falling of object may occur at gap between the gondola and the facade.



### 解決方案

- 設計一對真空吸盆，接駁一台真空電泵，使吊船穩固地連接外牆。
- 設計跳板於吊船與外牆之間空隙，防止高空墮物。

### Solutions

- Design a pair of suction discs connected to an electric vacuum pump to stabilise the gondola on the facade.
- Design a gangway to cover the gap between the gondola and the facade in order to prevent falling of object.

### 成果及效益

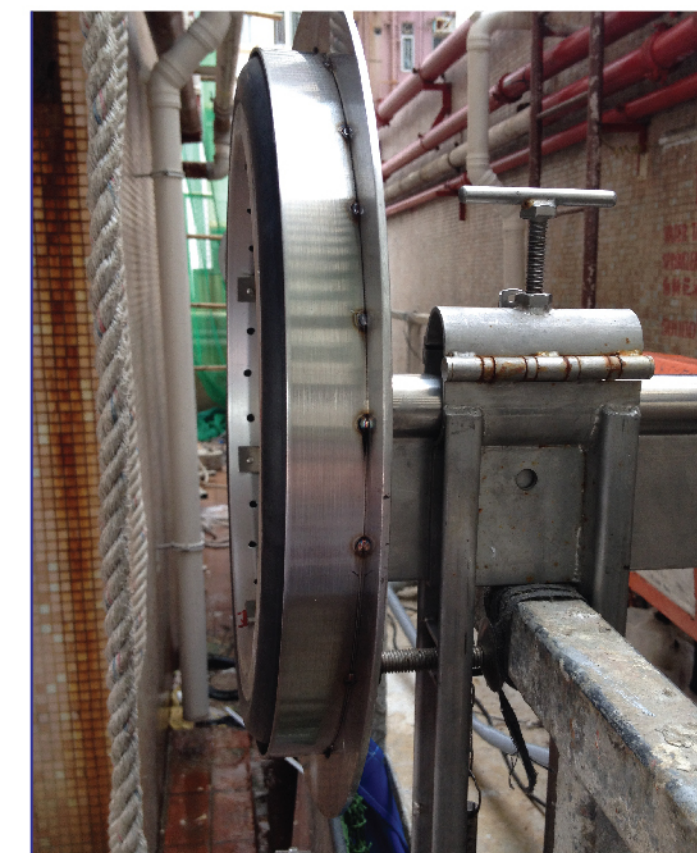
- 正在使用吊船進行大廈維修的公營房屋中，我們可以利用已有的吊船進行立管維修，無須再搭建竹棚架進行。
- 每年節省約130萬元棚架費用。
- 提升職業安全，減少搭建或拆卸竹棚架。
- 加強環境保護，每年節省約4,000棵竹樹。

### Achievements & Benefits

- It is no longer necessary to erect scaffoldings to replace the corroded risers at the public housing estates where under comprehensive renovation by means of gondola.
- Savings from scaffolding cost is up to HK\$1.3M each year.
- Occupational safety is enhanced by eliminating the risk of scaffolding erection and dismantles.
- Reduction on use of 4,000 bamboo each year enhances environmental friendliness.



聰明船  
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吸盆及夾架設計  
Design of suction disc and clamp