合作項目－香港首個垃圾桶自動點算系統

四部門協力在13個月內完成設計、招標、測試及檢討

Collaboration of Four Departments to Complete Design, Tendering, Testing & Review of Hong Kong's First Automated Bin-counting System within 13 Months

作為客戶部門值得信賴的合作伙伴，機電署致力應用最新科技協助客戶解決技術問題。為協助環境保護署（環保署）籌備實施都市固體廢物收費，在2014年10月至2015年11月的13個月內，我們成功設計一套可安裝在政府垃圾收集車上的垃圾桶自動點算系統，並完成有關的招標、安裝、測試及檢討工作。

該點算系統是四個政府部門的合作項目。除了受環保署委託設計、招標及安裝系統外，機電署亦負責改裝食物環境衞生署（食環署）轄下三輛垃圾收集車，以及在房屋署（房署）轄下垃圾收集站試行該系統，以測試系統「以整幢樓宇按廢物容量」機制收費的可靠性。

經改裝的垃圾收集車配有特別設計的射頻識別系統，如配合附貼在垃圾收集桶上的射頻識別標籤，該點算系統便會自動點算和記錄有關資料，例如垃圾收集桶的所屬樓宇、傾倒的次數等。透過安裝在垃圾收集車內的儀器，收集所得的資料和數據會即時傳送到中央伺服器。環保署人員可利用桌上電腦或流動裝置查閱相關資料，並安排在日後向有關樓宇準確地收取費用。

我們本着「以客為先」的服務態度，對客戶部門的要求迅速作出回應。我們在十個月內完成點算系統的安裝工作，並在三個月內完成其後的測試工作。檢討結果令人滿意，該系統的數據精準度高達99.9%，而可靠度亦接近100%。測試期內並沒有任何故障記錄。

這個項目能順利完成，全賴環保署、食環署、房署和機電署的協作和努力。各部門在這個先導項目發揮的伙伴合作精神，創造了一個促進環保的成功個案。

Being a reliable partner, EMSD is committed to helping client departments solve technical problems by applying cutting-edge technologies. To help the Environmental Protection Department (EPD) prepare for the implementation of municipal solid waste charging, in just 13 months from October 2014 to November 2015, we successfully designed and completed the tendering, installation, testing and review of an Automated Bin-counting System that can be installed on government refuse collection vehicles (RCVs).

The counting system is a collaborative project among four government departments. In addition to system design, tendering and installation, EMSD was entrusted by EPD to retrofit three RCVs of the Food and Environmental Hygiene Department (FEHD) and conduct trial runs of the system at refuse collection points of the Housing Department (HD) to test the reliability of the system for charging on the basis of "by volume of waste disposed of by building".

The retrofitted RCVs are installed with specially-designed Radio Frequency Identification (RFID) system. Working together with the RFID tags attached to the refuse collection bins, the counting system will automatically count and record information such as buildings to which the bins belong, the number of bin tippings, etc. The information and data collected are transferred real-time by the on-board device installed on the RCV to the central server. EPD officers can access the related information with desktop computers or mobile devices, and arrange charging the buildings accurately in the future.

Putting "Customer First", we responded promptly to client department's requests. We completed the installation of the counting system in ten months and the subsequent pilot test in three months. Review result was satisfactory. We achieved a high data accuracy of 99.9% and nearly 100% reliability of the system. No fault was recorded during the trial period.

The smooth completion of this project is attributed to the concerted efforts of EPD, FEHD, HD and EMSD. Our partnership in this pilot project has created a successful case of promoting environmental protection.

機電署協助環保署在垃圾收集車安裝垃圾桶自動點算系統。
EMSD installed the Automated Bin-counting System on RCVs for EPD.