

多功能智慧燈柱的功能總覽 (數據字典)

Summary of Functions on Smart Lampposts (Data Dictionary)

Version 1.5

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Version	Details of Change	Effective Date
1.0	Initial Release	25 July, 2019
1.1	Updates on item names for traffic, meteorological, and air quality data	16 October, 2020
1.2	Updates to add a new column for sensors inside the compartments of smart lampposts	13 June, 2023
1.3	Removal of OGCIO seal and name at front page due to the change of office name; Updates to add a new item for CCTV	31 May 2024
1.4	Updates to add a new item for GWIN Gateway	28 Jan 2025
1.5	Updates to add a new item for Illegal Dumping Monitoring Camera	31 Mar 2025

此資料集提供多功能智慧燈柱功能總覽 This dataset provides summary of functions on smart lampposts

項目 Item	說明 Description	細節 Note	容許空白內容 Allow null value
位置 / 路段 Location / Road Segment	燈柱的所在位置 / 路段 Location / Road segment that the smart lamppost located	例如 e.g.: Sheung Yuet Road	不容許 No
燈柱編號 Lamppost Number	路政署的燈柱編號 Lamppost number assigned by Highways Department	例如 e.g.: DF3633	不容許 No
位置坐標 Location coordinates	燈柱位置的經度數值 單位數值：小數位數值（DDD.DDDDDDD） Latitude value that the smart lamppost located Unit: decimal degree (DDD.DDDDDDD)	例如 e.g.: 22.321646	不容許 No
	燈柱位置的緯度數值 單位數值：小數位數值（DDD.DDDDDDD） Longitude value that the smart lamppost located Unit: decimal degree (DDD.DDDDDDD)	例如 e.g.: 114.207771	不容許 No
功能和應用 Functions and Applications	收集交通數據的裝置 Devices for collection of traffic data 收集實時交通數據 To collect real-time traffic data	例如 e.g.: Y	容許 Yes

	項目 Item	說明 Description	細節 Note	容許空白內容 Allow null value
功能和應用 Functions and Applications	氣象感應器以收集地區層面的試驗性數據 Meteorological Sensors for collection of experimental data at district level	收集地區層面的氣象和相關數據，包括氣溫和相對濕度、風速和風向、降雨量、環境伽馬輻射等 To collect meteorological data at district level including temperature, humidity, wind speed and direction, rainfall, gamma radiation, etc.	例如 e.g.: Y	容許 Yes
	收集地區層面空氣質素數據的裝置 Devices for collection of air quality data at district level	收集地區性的空氣質素數據，包括一氧化氮、二氧化氮和微細懸浮粒子 (PM2.5)的濃度 To collect air quality data at district level, including concentration of nitrogen oxide, nitrogen dioxide and concentration of PM2.5	例如 e.g.: Y	容許 Yes
	定位服務 - 藍牙傳送器 Positioning services - Bluetooth Beacon	提供 2.4 GHz 藍牙低功耗訊號，智能手機用戶可用作實時定位應用。每枝多功能智慧燈柱安裝了 4 個藍牙傳送器，其中 2 個安裝在距離地面約 4 米，另外 2 個安裝在距離地面約 2 米的高度。 To transmit 2.4 GHz Bluetooth Low Energy (BLE) signals for use in real-time positioning applications by general smartphone users. Four Bluetooth beacons were installed on each multi-functional smart lamppost, two were installed at about 4m above ground and two others were installed at about 2m above ground	例如 e.g.: Y	容許 Yes

	項目 Item	說明 Description	細節 Note	容許空白內容 Allow null value
功能和應用 Functions and Applications	定位服務 - 無線射頻識別標籤 Positioning services - RFID tag	<p>透過無線射頻識別標籤提供定位服務。無線射頻識別標籤儲存相應的燈柱編號和相關位置資料。這些資料可通過一般的無線射頻識別標籤閱讀器進行檢索，範圍可達 10 米，適用於各種定位工作，尤其適用於視障人士的導航應用。每一組無線射頻識別(RFID)標籤 由三個超高頻（UHF）射頻識別標籤組成。它們沿著每枝燈柱的圓周平均安裝，離地面約 0.1 米。</p> <p>To provide positioning service via RFID tag. The RFID tag stores the corresponding lamppost number and relevant location information. The information can be retrieved by common commercial RFID readers remotely at range up to 10 m for various location-based applications, especially for navigation application for visually impaired persons. The RFID tag pack consists of 3 passive Ultra-High Frequency (UHF) RFID Tags. They are installed evenly along circumference of each lamppost base and at height of 0.1m above ground.</p>	例如 e.g.: Y	容許 Yes
	定位服務 - 地理二維碼標籤 Positioning services - Geo-QR Code Tag	<p>提供準確的定位訊息及連結一個能搜尋附近地理資訊的網頁及為用戶提供高安全規格的定位數據和燈柱資料給不同的定位應用。地理二維碼標籤包括近場通訊（NFC）標籤及地理二維碼。它安裝在面向人行道及離地面約 1.3 米高的燈柱位置上。</p>	例如 e.g.: Y	容許 Yes

	項目 Item	說明 Description	細節 Note	容許空白內容 Allow null value
		To provide accurate positioning information and a webpage to access nearby geographical information and to provide users with high security positioning data and lamppost information for various location-based applications. The Geo-QR code tag consists of a passive Near Field Communication (NFC) tag readable by smartphones and one Quick Response Code (Geo-QR Code) printed on the cover panel of the pack. It is installed at about 1.3m above ground, facing towards pedestrian walkway.		
功能和應用 Functions and Applications	定位服務 - 地理標記 Positioning services - Geo marker	提供準確的位置訊息給各類定位服務使用。地理位置標記是一塊 150 毫米 x 300 毫米的鋁板，由一個地理二維碼和一個目標標記組成，安裝在面向行車道及離地面約 3 米的位置上。 To provide accurate positioning information for various location-based applications. The Geo-marker is a 150mm x 300mm aluminum plate consists of one Geo-QR code and one Target Marker mounted at about 3m above ground facing carriageway.	例如 e.g.: Y	容許 Yes
	免費 Wi-Fi 服務 Free Wi-Fi service	提供免費 Wi-Fi 服務 To provide free Wi-Fi service	例如 e.g.: Y	容許 Yes

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功能和應用 Functions and Applications	智慧燈柱裝置倉數據感應器 Sensors inside the Compartments of Smart Lampposts	收集智慧燈柱裝置倉內的數據，包括氣溫和相對濕度 To collect data including temperature and relative humidity inside the compartments of smart lampposts	例如 e.g.: Y	容許 Yes
	閉路電視 CCTV	防止及偵查罪案；保障公共秩序及公共安全 To prevent and detect crimes; to preserve public order and public safety	例如 e.g.: Y	容許 Yes
	政府物聯通基站 GWIN Gateway	透過 LoRaWAN 技術連接政府機電設備至政府物聯通網路 (GWIN) To connect Government E&M equipment to the Government-Wide IoT Network (GWIN) through LoRaWAN technology	例如 e.g.: Y	容許 Yes
	非法棄置廢物監察攝影機 Illegal Dumping Monitoring Camera	透過安裝監察攝錄系統，以協助打擊非法處置廢物的活動 To explore the use of surveillance camera systems in combating illegal waste disposal activities	例如 e.g.: Y	容許 Yes