Project Goal 目標

To reverse the upward trend of per capital domestic water use by:

逆轉人均家居用水量的上升趨勢:

Formulating an effective, prioritised water conservation strategy
制定有效、有序的節水策略

Changing water consumption behaviour
改變用水習慣

Extension to other projects 項目伸延

2022-2023
5 secondary schools
5間中學

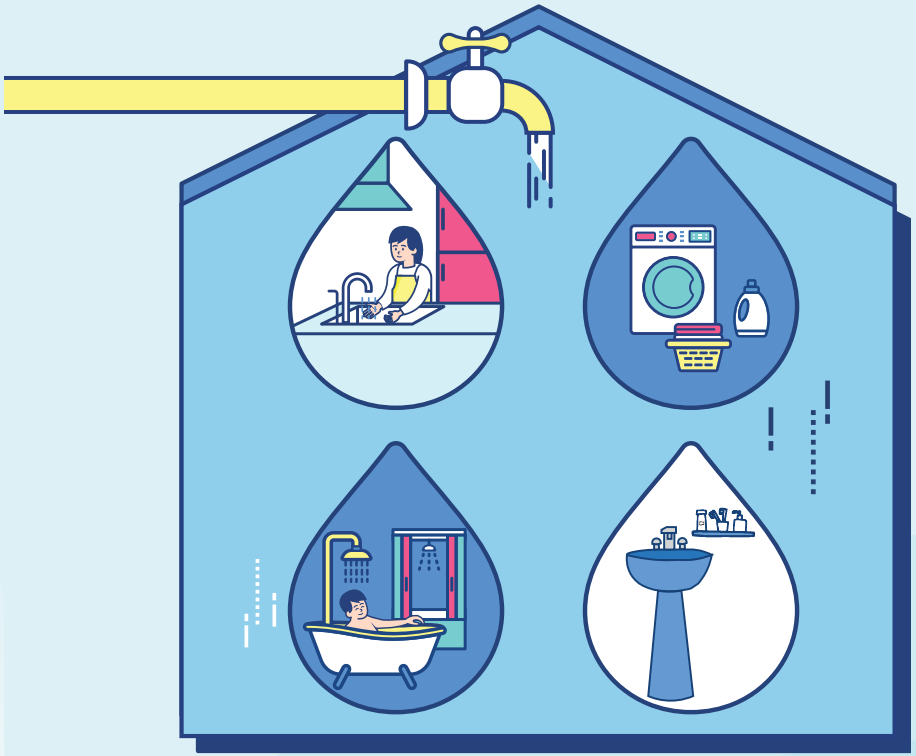
2023
Non-domestic sites
非住宅用途

Funded by 資助機構

Strategic Public Policy Research Funding Scheme
of the Government of the HKSAR.
香港特區政府創新辦策略性公共政策研究資助計劃

Smart Water Auditing for Sustainable Hong Kong

「智慳水」家居用水研究計劃



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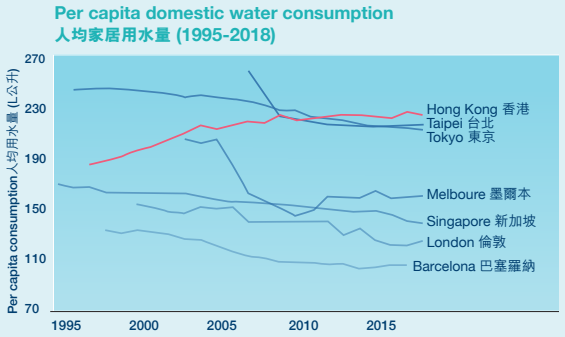
Background 背景

In the last two decades, many international cities have registered a steady decline in per capita domestic water consumption. Hong Kong, to the contrary, has recorded an upward trend.

在過去二十年，許多國際城市的人均家居用水量均持續下降。香港則錄得上升趨勢。



Research focus 研究重點

1. To study how much, and for what purposes, water is being used at home in Hong Kong.
   了解香港人的家居用水量及用水目的
2. To explore the extent to which the upwarp trend of per capita domestic water-use can be reversed.
   探討是否能逆轉家居用水量的上升趨勢

Milestone 里程碑

2019
Project start
項目開始

2020
Collect ground truth data for Machine-Learning
收集用於建構電腦運算模型的數據

2020-2021
Pilot study in 21 households
於21個家庭進行先導計劃

2022-2025
Main study in 400 households
於400個家庭進行正式研究

Research design 研究設計

400 households of various housing types and household sizes; with a 2-year data collection period.

數據收集期為 2 年，涵蓋400個來自不同住屋類型和人數的家庭。

Collect fine-grain data 收集高精確度的數據

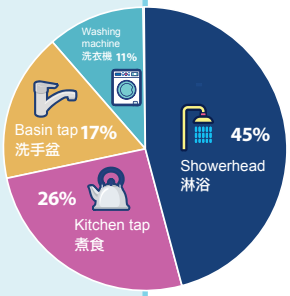
The Smart Water Auditing system is built around a self-invented, clip-on, wireless device, which is used to collect real-time water consumption data.

「智能讀錶系統」為一個團隊自行研發的儀器，採用夾鉗式、無線設計，可實時收集用水數據。

AI development 人工智能發展

AI is used to analyse water consumption data through:

用水數據通過人工智能進行以下分析：



Using ground truth data to facilitate Machine Learning
使用大數據建構電腦運算模型

Identify usage trends and patterns
辨別用水趨勢和規律

Determine how water is utilized in households
找出家庭的用水分佈

Identify the most effective avenue to conserve
確定最有效的節水途徑

Feedback 反饋

Easy-to-digest, actionable and personalized feedback is made available to users on the project website, where participating households can check their daily usage data.

項目網站亦會向用戶提供簡單易明、可實行和個人化的反饋，以供參加者家庭每天查看。