

User name: Water Supplies Department

Project name: Digital twin of the Ex-Sham Shui Po Service Reservoir

Location: Kowloon, Hong Kong SAR, China

Background:

- Built in 1904, the Ex-Sham Shui Po Service Reservoir formed part of the Kowloon Waterworks Gravitation Scheme until it was decommissioned in 1970.
- Given its historical background as a crucial water supply building, coupled with its iconic design and architecture, Land Surveying Section (LSS) constructed a digital twin to preserve the historic nature of the structure that attracts numerous tourists.

Challenges:

- Presented data capture, integration, and exchange challenges.
- Had a tight project timeline.
- Needed a unified platform to model and share multi-sourced data with multiple stakeholders.

Solution:

- LSS utilized Bentley's iTwin applications to process drone-captured and scanned images into a digital twin, streamlining sharing voluminous data with multidiscipline stakeholders.
- The successful project serves as a pilot for using digital twins to preserve other historic Hong Kong sites.

Outcomes:

- The open digital twin helped the team collaborate and bring together data in a geospatial context and at scale, improving infrastructure delivery and performance.
- Improved data exchange efficiency by 30%, reduced data processing time by 20%, and increased the model accuracy by 50%.

Quote: "Innovation is always at the core of what we do for enhanced water resources and water quality management, more efficient and sustainable asset management, and thoughtful and value-added customer services, in which the digital twin of water infrastructure is one of the essential components of building a water-wise city in Hong Kong." – *Calvin Tse, Land Surveyor, Water Supplies Department*

Image caption/courtesy 1: Built in 1904, the Ex-Sham Shui Po Service Reservoir formed part of the Kowloon Waterworks Gravitation Scheme until it was decommissioned in 1970. *Image courtesy of Water Supplies Department.*

Image caption/courtesy 2: Land Surveying Section (LSS) constructed a digital twin to preserve the historic nature of the structure that attracts numerous tourists. *Image courtesy of Water Supplies Department.*

Image caption/courtesy 3: The automated and robust features of iTwin reduced data processing time by 20% and increased the model accuracy by 50%. *Image courtesy of Water Supplies Department.*

For more information, please contact Bentley PR at PR@news.bentley.com.