SWAN Digital Twin H2O Work Group

Goal:
To develop a common strategy for developing Digital Twin technology for global water utilities that will provide a means for managing operations and assets in real-time for greater operational efficiency, enhanced lifecycle asset management, and reduced costs. "Active Members" of the Work Group will help identify and develop a common understanding of the role of: the hydraulic model, asset management, diverse data sets (GIS, IoT, SCADA, CMMS, etc.) in both real-time and historical data, machine learning algorithms, and application integration for the calibration and use of the Digital Twin.

Objectives:

- ✓ Identify key challenges for utilities utilizing the hydraulic model in operational mode
- ✓ Identify key challenges with data accuracy and data normalization across multiple systems
- ✓ Develop a holistic view of a water system via the culmination of digital technologies: IoT, VR/AR, mobility, machine learning, cloud computing, drones, etc.
- ✓ Identify and develop best practices for hydraulic model calibration including the utilization of real-time data from consumption meters, GIS, SCADA, CMMS, and other IoT sensors
- ✓ Identify and develop best practices for aggregating digital twin subsystems (i.e. a pump digital twin)
- ✓ Identify and develop best practices for utilizing machine learning to help accurately model the water system
- ✓ Develop best practices for accessing data from the various silos of systems, applications, and IoT
- ✓ Develop best practices for application integration and application mobility
- ✓ Develop best practices for the collaboration of IT and OT in utilities

On May 14th, 2019, the Work Group held its first half-day Workshop in Miami in conjunction with the SWAN 9th Annual featuring speakers from utilities, technology companies, academia, engineering organizations, and government.

View the Workshop presentations and photos **HERE**.