

# The Ghana Water Company Transformation Journey

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**Key words:** Engineering survey; Geoinformation/GI; GNSS/GPS; Hydrography; Urban Water Supply; Spatial Decision Support System; Geoinformation Technology

## **SUMMARY**

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## **Abstract**

Operations in the water utility in Ghana have been enhanced over the past years due to, amongst other reasons the impact of geospatial technology. A robust spatial decision support system has been built to enhance operational efficiency.

A total of 11,340 out of an estimated 13,500km of pipe network has been mapped. This includes water distribution network appurtenances and fittings. 9,819 valves and 1,349 fire hydrants have also been mapped, with fieldsmen providing updates on operational status of same. Proprietary software is employed in creating dashboards which form the basis upon which live water demand maps are generated for Engineers and Operators. Reported bursts and leakages which affect physical loss of treated water are also consistently mapped. A total of 790,989 customer locations in 3,526 administrative revenue zones have been mapped together with many other commercial assets.

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Orlando, Florida, USA, 28 May–1 June 2023

Integrated network modelling, supervisory control and data acquisition (SCADA) systems, drone deployment and smart metering technology represent various technological applications developed based on data obtained from the GIS already highlighted. All the above has resulted in increased efficiency and positive customer feedback. Apart from an 8% decrease in non-revenue water, which is a key performance indicator for water utilities worldwide, a corresponding 34.8% increase in revenue (although tariff adjustments occurred), within the last five years is also reported (GWCL, 2022). Supply to an urban population who have raised expectations of the water utility has been enhanced amidst global challenges of urbanization, climate change and pollution which contributes to depleting water resources required for potable water production.

Hydrographic and bathymetric surveys have also become relevant amidst recent challenges of heavy siltation currently being experienced in virtually all 91 abstraction points.

Keywords: Urban Water Supply, Geo-information technology, Spatial Decision Support System.

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