ETHEKWINI TAPS INTO DATA TO KEEP WATER RUNNING

Municipality Launches SHANA to Improve Data Driven Decision Making

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Today, the eThekwini Municipality launched a new data exchange to improve water resilience called SHANA, short for ukushintshana – which means ‘exchange’ in Zulu. eThekwini struggles with extreme water scarcity and the ability to meet the long-term water needs of residents. SHANA provides one central place for government leaders and staff to access and share the data they need to make decisions about water supply and use. SHANA supports essential functions for water operations like reporting, modeling, benchmarking and providing alerts. SHANA’s impact on the water and sanitation use case in eThekwini is the first step in exploring how a municipal data exchange can be expanded to support city services with data.

eThekwini Municipality is a large coastal city with 3.9 million residents in South Africa’s KwaZulu-Natal province that lives with water scarcity, growing populations, aging infrastructure and an increasing service area. This requires water staff at all levels of government to make smarter decisions about how much water to use and where to make capital investments to increase supply and reduce waste. Before SHANA, staff in different jurisdictions struggled to collaborate and understand what data was available and lacked clarity regarding the data's accuracy and timeliness. As a result, staff often duplicated efforts, collected and stored redundant data and came up with different data points and analysis. This impacted the Municipality's ability to operate the water department effectively leading to rationing, frequent outages and resident unrest.

What Municipality staff needed was a three part solution - a common place to upload, store and share standardized data, a suite of analytics tools and common metrics to get everyone on the same page and a customizable dashboard to allow staff in different roles to quickly and accurately access the data and insights needed for their roles. Such a solution would allow staff to meet residents' water needs.

“Every drop of water and every rand we spend on water infrastructure here in eThekwini is precious. If I must know where we can use our resources to have the greatest impact for all of our residents - with SHANA I have more knowledge and more confidence in that knowledge than I have ever had before,” said Mayor Cllr Mxolisi Kaunda. “With SHANA we have better information to ensure we are using the right amount of water to meet customer demand. SHANA helps us meet the water needs of all our residents and businesses and ensure the long-term resilience of our limited water resources.”

Government leaders and water staff at different levels - ward, municipality, province and national - all collaborate on water supply and demand and data sharing is a large part of the effort. With SHANA, users log into the website or mobile application on a computer, tablet or phone and access data, analytics tools and reporting all through a customizable dashboard. Depending on the staff role and information needed, SHANA can be configured to provide the information and tools needed for specific positions. Example use cases include monitoring water levels, detecting leaks and monitoring revenues.
Authorized users are provided access to certain levels of data using an Identity and Access Management process. SHANA shows the complete inventory of data available and allows users to upload new data sets as needed. Users have more confidence in the data integrity because of the built in data standardization tools. The dashboard feature allows users to see up to date information on different performance metrics impacting water supply and use allowing everyone to work off the same set of information.

“Water is the single most important resource for the people of eThekwini. Quite simply, without it we die. All of us who work to provide water and sanitation feel a tremendous responsibility and SHANA is already making a difference in our ability to collaborate and succeed in making the most of our scarce water resources,” said Ednick Msweli, Head of Water and Sanitation. “With SHANA, our collective ability to understand exactly how much water we have and how much we are using has increased, as has our confidence in the data we are using to make decisions.”

eThekwini Municipality in South Africa is collaborating with the ASU CIC to develop SHANA as a regional solution to meet the needs of water leaders working to ensure a sustainable supply of water. To learn more about how eThekwini is using data to improve water supply, please visit Durban.gov.za.

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