ELEMENT 8

KNOW YOUR LIMITLESS

CASE STUDY

Utilising Modern Telemetry to Transform Drought-stricken Town in the Karoo

PRODUCTS:	INDUSTRY:	INTEGRATOR:	END USER:
IGNITION & FLOW	WATER/WASTE-WATER	INTEG SYSTEM INTEGRATORS	MERWEVILLE - BEAUFORT WEST LOCAL MUNICIPALITY

01

Introduction

With a population of <2000 inhabitants, Merweville isn't exactly your typical tourist hotspot. Still, this charming little town in the Great Karoo has quite a bit to offer. You'll find galleries, bars, vineyards and cute gift shops all within a hours drive. Interesting landmarks also include the historical Dutch Reformed Church. This area is one of the most arid in the Karoo and annual rainfall seldom exceeds 150-millimetres.

02

Problem

South Africa has been facing a pretty serious drought in recent years, and Merweville had been particularly affected since they already scarcely get any rainfall. The inhabitants not only had to deal with frequent power outages like the rest of the country, but with interrupted water supply as well.

In December 2020 the main reservoir, containing the boreholes that the town is dependent on, started leaking resulting in most of the equipment being broken and neglected. Above and beyond the dire water situation, daily operations and reporting were still being done manually, and on-site.

03

Solution

Integ System Integrators collaborated with TG Elektries, a local contractor, to install the Ignition Platform.

With the help of this modern telemetry system, a new reservoir could be built, and monitored and controlled remotely. Ignition is a highly customisable platform, allowing users complete access to their sites, on any device.

Additionally, the Flow Information Platform lets them access historical information. Things like reports of the water usage are now available with the press of a button, allowing the end user to monitor water levels carefully and adapt.

They're also able to send information and reports via Flow straight to the Western Cape Provincial Government, GEOSS who manage the boreholes, and the engineer at Beaufort West Municipality who is responsible for the town's water supply.

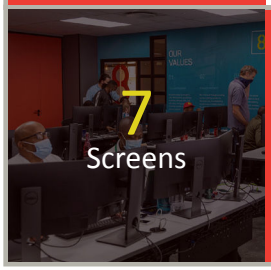
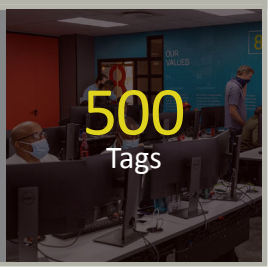
Tabateq, our partner, supplied the Elpro 415U-E-C4 as a communication solution to connect directly to the PLC via Modbus TCP/RTU. All the data from the various outstations was sent to the central site, from where it is

04

Results

Fast-forward a year, and the town's water supply was consistent and reservoir levels stable. The entire infrastructure is easily monitored and managed remotely. Any issues with the equipment or water supply are immediately evident with the help of alarms built into the system.

With the entire system being cloud-based, the end user no longer had to be on-site to operate the equipment, eliminating a ton of manual processes. In addition, many rural municipalities have theft problems and by removing the SCADA from site, this problem has also been eliminated.

IIoT, MQTT, Cloud-hosted on AWS/EC2, Ignition8, Per-spective, Ignition Edge	4 Reports and dashboards generated daily	05 35 Alarms		
 7 Screens	6 Mobile users/ Boreholes	EWON gate-ways serving MQTT and FTP	Microsoft SQL Database	 500 Tags