

Remote tanker loading control and automation systems for service areas of PAEW, Muscat, Sultanate of Oman

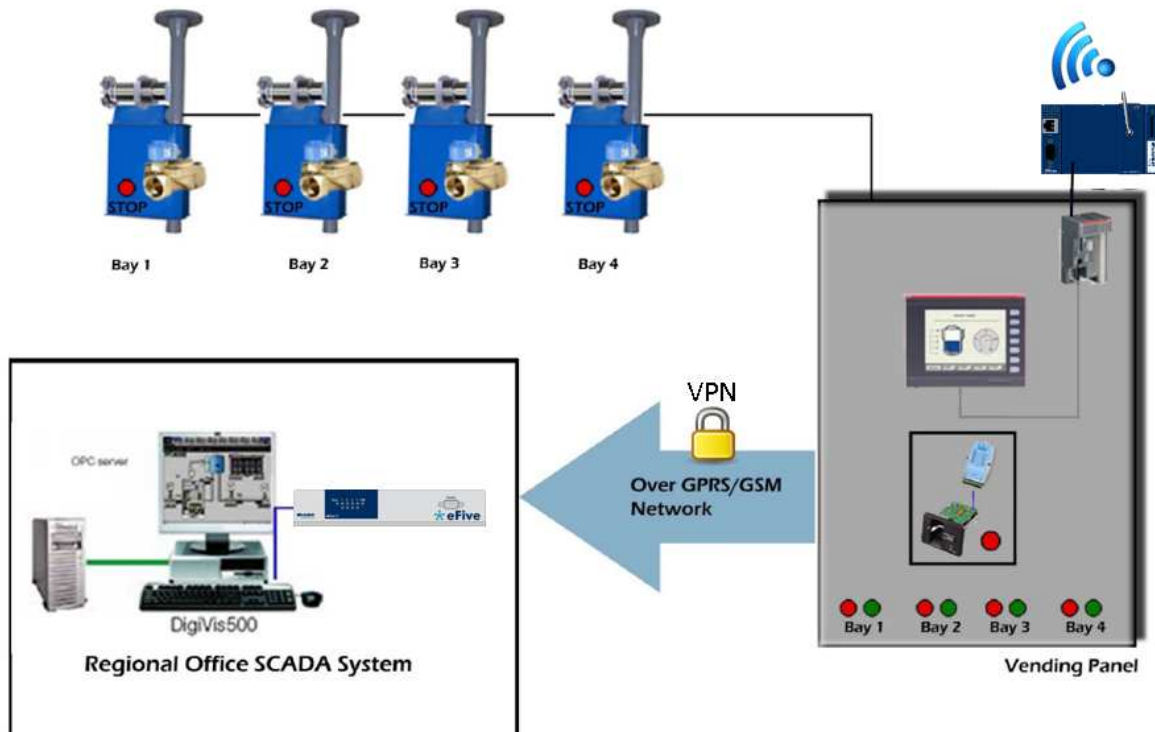
Drinking water and electricity services are critical to the development of Oman. The Public Authority for Electricity and Water (PAEW) provides high quality sustainable and reliable potable water and power services to all people in the Sultanate. PAEW is responsible for supplying potable water to all homes and businesses, serving a population of more than 1,5 million people, transporting on average more than 650,000 cubic meters of water per day.

More than any other parts of the world, water is a critical resource for life in Middle East. In Oman, water demand is increasing every year. This puts high pressure on the water resource and the water production capacity of their assets. PAEW is pursuing large efforts to make sure water is not lost and is used with efficiency.

Due to the topology of the country, transportation of water by pipes from wells to cities is not economically possible everywhere: truck transportation of high volumes of water through dedicated trucks is the solution adopted by PAEW. More than 420 fully automated tank filling stations (TFS) are spread all over the Sultanate to provide water access for those trucks.

Each TFS consists of several bays (2 to 6), a control panel with card reader, ABB PLC, an eWON VPN router and several buttons for operations. All necessary pumping material and valves complete the setup. Once a truck driver arrives and identify himself via his card, he needs to enter the amount of cubic meters of water he requires in order to start the filling process steps into his truck. The control cabinet being in on-line communication with the Regional Scada platform, the machine is able to check the balance and card's permission of the owner to allow or deny refill.

The control cabinet is equipped with an eWON FLEXY 3G+ which provides a secure online communication in VPN to an eFIVE appliance at regional Scada level. eWON acts as a gateway to the local area network of the TFS with the ABB AC500 equipment.

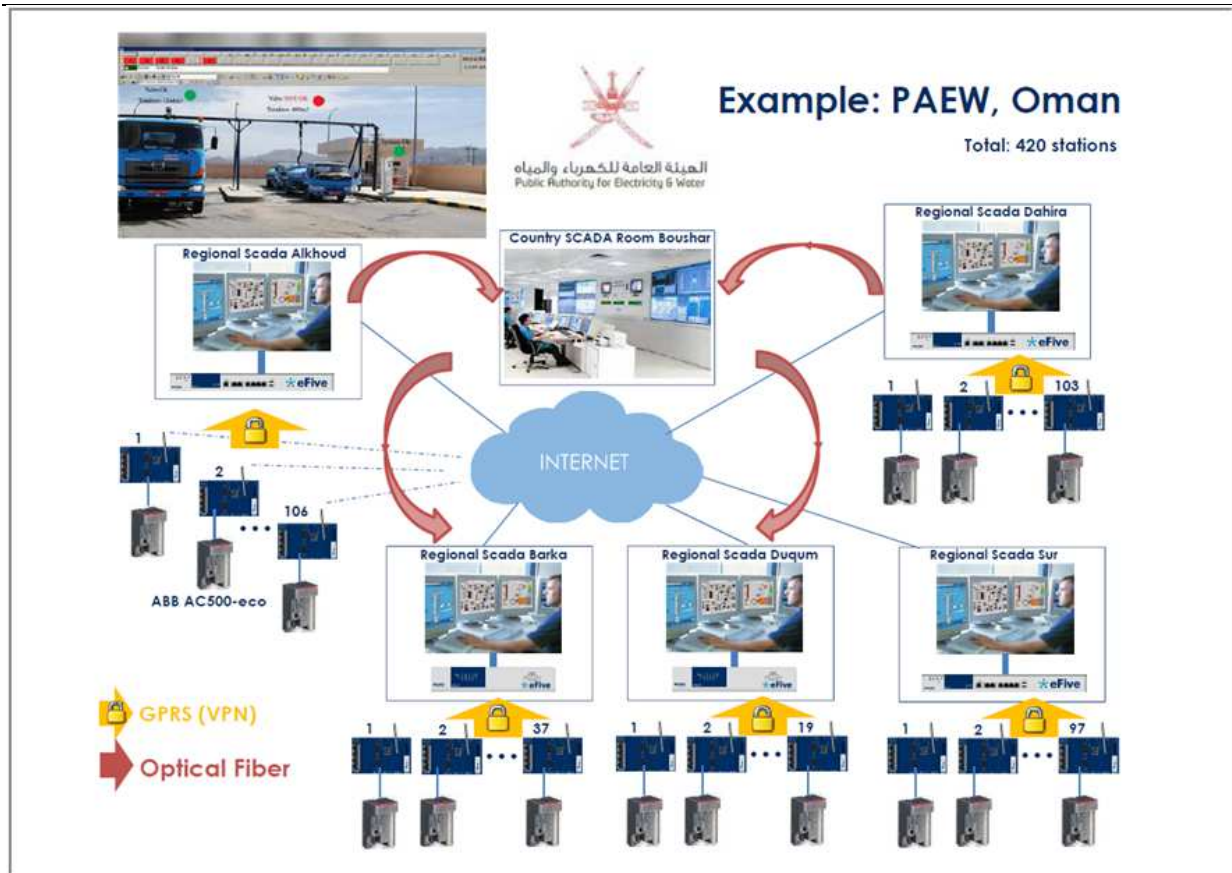


It is important that the Control Panel can still be in service even if the communication with the Regional Scada is disconnected for 15 days. eWON being able to perform data buffering and data collection, all operations being done at the remote site during the disconnected period are safely stored into the local eWON Database. Critical alarms sent by SMS from the site ensure extra security besides normal SCADA monitoring and control.

The entire integration of this project has been awarded to a high skilled System Integration Omani company called Mazoun Electro Mechanical Co (MEMCO). With years of experience in water pumping stations as well as in power substations.

“There are some places here where a barrel of water costs more than a barrel of oil ! At MEMCO, we precious this priceless gift and we tend to provide the best of all products and services in this field. We have chosen eWON for the advanced features offered by the technology compared to other M2M router solutions, as well as its flexibility and security.”

says Luay Khoury, Electrical division Manager at MEMCO



Main elements:

eWON Certified System Integrator : Mazoun Electromechanical Co. (MEMCO)

SCADA : ABB DigiVis 500

PLC : AC500-eCo

Operator Panel: ABB

eWON hardware: 420 x FLEXY-202 with 3G+ modem + 10 x eFIVE-50/100