ETELM Case Study: Sonatrach TETRA Network

The Client:

Sonatrach is one of the leading oil and gas companies in Africa. It is the largest Algerian and African company and the 11th largest oil consortium in the world. Companies in the oil and gas industry have always faced a number of complex safety and security challenges, and Sonatrach were looking for a partner to help them address some of their own particular challenges by implementing a TETRA network at one of its major oil extraction centers.

Challenge:

Sonatrach were looking for a technology partner who could help them implement a secure and reliable communications network. They needed a network that would ensure the security of the employees in the field by giving them voice and data communications across PMR features such as push to talk, group calls, priorities, emergency calls and geolocation services. This included the security teams, who oversee the pipe areas and required radio devices able to communicate securely over long distances.

Sonatrach also needed to monitor over 200 oil and gas extractors, using several SCADA systems.

The network had to link sub areas located dozens of kilometers away to one single global communications network. This would connect all users and sites, including people, vehicles and the extractors with the existing pager network, the existing PaBX and other communication technologies already in operation.

Solution:

Sonatrach chose Etelm to supply its communications network as result of previous expertise in the Oil and Gas sector. Etelm has deployed its technology on many on-shore and off-shore sites around the world, working with the major companies within the industry.

Etelm's TETRA infrastructure, of which there are several hundreds operational systems across the world, was installed to handle both voice communications and SCADA data across the site.

During the installation and configuration of the network, Etelm helped to overcome a number of challenges.

Sites powered by solar power were regularly the target of thieves trespassing at night and climbing over pipes to steal the expensive panels. To mitigate this, Etelm and Sonatrach invested in large quantities of grease that are regularly spread over pipes to prevent trespassers climbing.

To protect from strong winds and sand storms, freestanding masts were built, specially designed base stations were installed, authorisation was obtained for specific frequencies in the desert.

Result:

Etelm's TETRA network has fulfilled all the key requirements. It is running efficiently, and further evolutions are being discussed to enhance the current capabilities. This will include incorporating the latest network applications to improve efficiency and overall communication capabilities.

The deployment serves as a good example of a TETRA network being connected to several SCADA systems simultaneously to help increase both safety and production in a challenging environment.