

A Swiss success

The latest in digital wireless paging technology is supporting a new production field in the Gulf.



Swissphone offers proven technologies and best-in-class devices for hazardous areas

DEVELOPED ON BEHALF of the Abu Dhabi Marine Operating Company (ADMA-OPCO), the installation will exploit an oilfield which lies beneath the waters of the Arabian Gulf, some 120 km from Abu Dhabi City. It is expected to become operational in the early months of 2018.

Centred on two newly constructed artificial islands, the Satah al Razboot (SARB) project provides for the drilling of 86 wells together with a comprehensive range of supporting installations.

A key part of the safety system

“In our project, let’s say that there are 20 different systems. We have to make sure that those different systems are integrated and working together so as to make sure that the larger project, the US\$1.5bn, is actually handed over to the customer without any problems.

“If they were to select the wrong manufacturer, it may hold up all of the plans. So that’s why a company like Swissphone is well regarded and can be accepted in an oil and gas environment.

“We are one of the smallest contractors, because our portion was US\$15mn – it’s really just one per cent! So whilst it’s a penny to drop in the ocean, in terms of the larger project all of those pennies must come together in order to deliver the production facility. And if one of those pennies is not right, then the customer will not take over the platform.”

Walid Gamali, chief executive of 3W Networks

The wireless alerting system is being supplied by a specialist subcontractor, 3W Networks – a Dubai-based systems integrator which is active in the Middle East and Africa. “The sectors we focus on are the energy sectors, and that is oil and gas and power and water utilities,” explains Walid Gamali, chief executive of 3W Networks. “But, being based in the Middle East, our biggest sector is oil and gas.”

Because of the offshore industry’s heavy reliance on telecommunications, the ADMA contract is a significant one for 3W Networks. “From the size point of view, for us it is a US\$15mn project,” comments Gamali. “The oil and gas project has many telecommunications and security systems. We are building that telecoms infrastructure using different technologies and systems.

“Normally when we have any specific telecoms and security project, there are certain products which the customer would qualify as approved products. Being a partner for many OEM suppliers where we are the telecoms system integrator, we select the product where 3W Networks has partnerships and trained resources. For this project, Swissphone was the partner of choice for a key part of the safety system.”

Alerting, announcing

Paging equipment from Swissphone is one strand in the web of radio and telecommunications installations that will be needed to operate the oilfield as it opens up; yet it is an essential one for several reasons, not least the safety of personnel. “In most of the oilfields which we deal with, usually they require a paging system as an alarming solution,” says

Gamali. "Paging is only for one-way communication – it's for alerting and announcing on-air, mainly."

For a large part of its everyday mobile communication needs across the site, the oilfield operator will be able to use a local TETRA-based digital two-way mobile radio system. TETRA systems are rich in features and very capable – but a paging network based on the POCSAG messaging standard, which has been proven around the world through many years of operation, can deliver the message dependably in even the most difficult radio conditions. However, this reliability was just one of the factors in 3W Networks' choice of Swissphone messaging equipment for this project.

"Two-way radio is very easy to use, but paging is required for two reasons", Mr Gamali continues. "First, it is required as a fallback option if the two-way radio system fails. And another point: in this project, the TETRA system is totally provided by Abu Dhabi police – and so ADMA will not have the full features like interfacing third-party systems or having their own dispatching systems. ADMA will just have portables running on this network. So our client needs a system owned by him for fully integrated alarming options and also as a standby for the TETRA two-way radio. In oil and gas, redundancy is required especially for the outdoor transmitters because if there is any power failure in the main transmitter or any issues, a standby system should take over immediately.

"And the third thing is to interface it to other systems like fire and gas systems through an alarm server also provided by Swissphone, if there are any alarms, and also to interface it with our internal systems in the project. All these interfaces and all these possibilities will not be available in TETRA."

Seeking and finding

3W's engineers have installed Swissphone paging systems on each of the three islands, each one providing indoor coverage within buildings as well as outdoor coverage. Management and message dispatching terminals are provided at each site, and the sites are interconnected over a shared business LAN.

The installation is based on Swissphone's modular I.SEARCH concept, an alarm server platform which maintains a database of pagers, messages and settings, and supports a comprehensive range of messaging and alerting services, with automatic logging of calls and transmitter state. Messages can be directed to individuals or groups by telephone, web input or email, together with a callback number or other options. Predefined messages can be triggered automatically in specified circumstances, with instructions on how to respond.

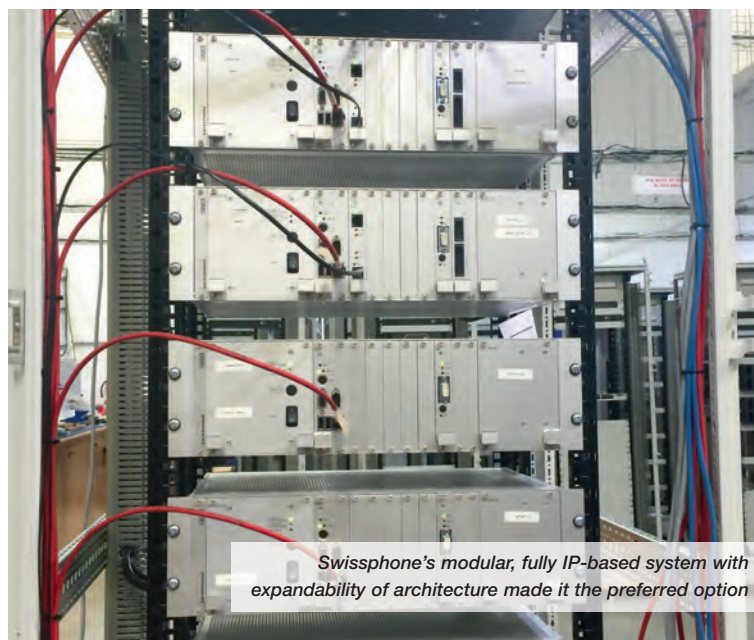
The alarm terminal equipments (pagers) selected by 3W Networks are from a range of personal alphanumeric devices supplied by Swissphone. The robust DE920 Ex pager has a three-line text display and a straightforward three-button user interface and is rated for usage in potentially explosive atmosphere or where air and flammable gases mix (formally, ATEX Protection Class II 2G EEx ib IIC T4).

Absent employees can have their calls forwarded by the system to someone else. An escalation management function enables unanswered alerts to be handled according a prepared plan. And there is an absence feature for the pagers themselves: Swissphone's multi-slot recharging stations can be monitored remotely by the administrator over the LAN, to find whether an individual pager is available for use or is out on duty.

"One most important thing," adds Gamali, "we can operate the system via a web browser, so there is no need for special software or a special licence to run the system."

High availability

Another element of importance in this messaging application is Swissphone's High Availability Cluster module, which combines two I.SEARCH racks into a cluster. "Our client likes the clustering mode," comments Gamali. "Instead of having an auto changeover unit for the



Swissphone's modular, fully IP-based system with expandability of architecture made it the preferred option

main and standby, clustering mode makes the main and standby understand each other and they are monitoring each other without any additional box for auto-changeover."

The whole cluster can be addressed via a single virtual IP address.

One further benefit in a multi-site paging network such as the SARB installation is that the Swissphone system is fully asynchronous. "We had experience before with another vendor supplying the paging system, and there was a requirement to have a GPS clock with every transmitter", Gamali recalls. "If there was any timing issue, this would cause a transmission error. So having an asynchronous system helps us to have outdoor coverage and indoor coverage without having a GPS clock attached to every transmitter."

One final task for Gamali's team before the system can be handed over to the client will be to fine-tune this sequence of operations in the field for optimum performance.

"Every project we do is a bespoke project," comments Gamali. "Every time the client has a requirement, it is different to other clients, so we do a lot of detailed engineering in order to provide the exact solution. One of the key reasons for success in the Middle East is high-quality after-sales service. Being a close partner of Swissphone creates a win-win-win situation; for Swissphone, we are close to the customer, for the customer, we have direct access to Swissphone's expertise." ■

Meeting the users' needs

Why was Swissphone equipment chosen for the SARB project? The engineering team manager for 3W Networks, lists several reasons. "At the start of the project I did a presentation for ADMA for possible vendors to supply their paging system. For high-level points, first the Swissphone system was a modular system – so you have one rack, one chassis and you have different options for cards for input/output and also for transmitters. Second point, their system was fully IP-based. This clearly stands out, compared to other vendors."

New s.QUAD ATEX

Swissphone's newest pager, the s.QUAD ATEX can be used in the most sensitive zones without risk thanks to its protective measures and because it is passive to radiation (approved according to (Ex) II 2G Ex Ib IIC T4). The s.QUAD ATEX is available for digital POCSAG networks or analogue radio networks. It has an outstanding reception performance, a multi-coloured alarm LED and a very high alerting volume.