

## About 3W Networks

3W Networks is a technology-based communications contractor and systems integrator that provides integrated communication solutions to the oil & gas, power utilities and private telecom sectors. 3W Networks offers a comprehensive range of advanced technologies to suit any application involving telecommunication backbone networks, voice & data networks, and safety & security solutions.

As Nokia Siemens Networks' technology partner, 3W Networks has been successfully operating in the Middle East and Africa region for more than 11 years. The company is certified to ISO9001:2008 and holds a team of young, energetic and dedicated people with a broad base of experience, focusing in providing cost effective, innovative and reliable solutions.

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# DEWA matches Dubai power demand with higher capacity communications network



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Power and water utility DEWA is contributing to the economic development of Dubai through its reliable, mission-critical telecommunication infrastructure. To meet accelerating demand for electricity in Dubai, DEWA is improving its control and communications network.



Utilities

One of the largest of the seven United Arab Emirates, Dubai has seen spectacular growth as its economy diversifies away from reliance on oil and gas production into manufacturing, while also reinventing itself as one of the world's most attractive tourist attractions.

Remote management and operational control through the communications network are vital elements in the control of a modern power grid. The huge amount of data in power distribution stations requires an advanced control and management system, particularly in areas that are widely separated.

"3W Networks provides an excellent service and is carrying out projects extremely well. They have very well trained and qualified engineers that we can trust. They respond quickly to our needs and co-ordinate activities well with us."

**Seena Abdul Ghafoor Zarie, Deputy Manager of Access Networks, DEWA**



Electricity demand in the UAE is forecast to grow ten percent per annum to 2013, according to a report from research firm RNCOS. The report says that "rapid industrialization and surging residential sector consumers will trigger electricity demand in UAE to grow at a compound annual growth rate (CAGR) of ten percent during 2010 to 2013."

Furthermore, 'Emirates Business' reported recently that for Dubai alone, the daily water consumption is about 600 liter/capita, compared to 120 liter/capita for the international average.

Keeping up with such surging demand is the responsibility of the Dubai Electricity and Water Authority, or DEWA, which supplies electricity and water to nearly half a million customers in Dubai as well as exporting electricity to other emirates. With an installed capacity of nearly 7,000 MW in 2009, DEWA operates more than 22,000 transmission and distribution substations and is currently adding up to 12 new ones every year.

In fact, renewal of communications networks is vital for the future of energy utilities.

To support and control its transmission and distribution network and continue to maintain its high standards of service, DEWA employs a SCADA-based communication and control system. The telecommunications infrastructure forms the backbone of DEWA's network, connecting all the necessary multi-services applications between all DEWA substations and the main control centers, one each for the transmission and distribution networks. The control centers run advanced applications such as substation control systems, remote terminal access, protection relay monitoring and digital fault monitoring.

### Building more bandwidth

To cater for its rapidly growing supply network, DEWA is building another control center for both its transmission and distribution networks. To support these and ensure it can get data to and from its



"Another benefit of working with 3W Networks is that they are very proactive and often bring new ideas to the table to help us plan for future developments and improve our communications network and the way we operate it," says Seena.

### Maintaining water supplies

As well as the communications network supporting the electricity distribution system, DEWA also has plans to upgrade its water network communications.

"The water network has a control center for water SCADA applications and to transfer data from pumping stations to the control center," says Seena. "We are expanding the SCADA system to bring greater communications capabilities. Our aim is to provide one network for both sides of the business, electricity and water."

3W Networks and Nokia Siemens Networks will continue to have a major role to play for DEWA as it seeks to expand to meet the growing needs of this dynamic country.

substations, it is increasing its bandwidth with the help of Nokia Siemens Networks channel partner 3W Networks, which specializes in supplying communication solutions to the oil and gas and power utilities. 3W Networks provided DEWA's multiplexer links with a high backbone capacity, which can achieve rates of 2.048 Mbps and allow more traffic from remote substations to be sent to the main control centers.

3W Networks is using the Nokia Siemens Networks Dynanet family for this multiplexer upgrade. They will interface with the SDH multiplexers as well as providing lower bandwidth applications such as V.24, G703, and tele-protection.

Mr. Seena Abdul Ghafoor Zarie, Deputy Manager of Access Networks for DEWA says: "We are using more and more applications and other divisions of the company are also requesting applications to support their work. We should be ready to adopt new applications as they become available and so we need to greatly increase our bandwidth."

### Long term partnership

3W Networks' contract involves the provision of a complete end-to-end solution, encompassing design, system integration, factory acceptance testing, installation, commissioning, testing and warranty support.

The contract with 3W Networks also provides DEWA with a number of other benefits, not least a long term relationship as both parties work to develop DEWA's network over the coming years. 3W Networks' relationship with Nokia Siemens Networks was also attractive to DEWA. Nokia Siemens Networks products offer high availability, coupled with replacement equipment that can be sourced rapidly, minimizing the effects of any failures.

### Challenges:

- Coping with surging electricity demand in the UAE, which is forecast to grow ten percent per annum to 2013
- DEWA undertakes advanced planning, preparing the groundwork and execution of its projects at the highest quality, safety and environmental standards
- Modernizing is a top priority for DEWA, which is among the first local authorities to become completely e-Enabled

### Solution:

- Upgrade multiplexers using Nokia Siemens Networks Dynanet
- High availability products from Nokia Siemens Networks
- Supplied through end-to-end contract with Nokia Siemens Networks channel partner 3W Networks
- Solution design, implementation and commissioning

### Benefits:

- Specialist knowledge from channel partner dedicated to utilities industry ensures optimum communications performance
- High bandwidth multiplexers achieve 2.048 Mbps data rate to allow expansion of data traffic between substations and control centers