



Portable **Desal** and **Water** Treatment

Dimitris Drakopoulos, business development manager at EMRA, tells UME why his company's small scale water solutions could be a perfect fit for the region.

Brackish system - An array of mobile solar powered desalination systems



Tell us about Emra's work in desalination

EMRA is a renewable energy solution systems integrator serving the local market and surrounding countries with portable desalination and water treatment systems powered by clean technologies.

Based on the latest design philosophy and automated technologies, EMRA's systems ensure an uninterrupted supply of treated quality water. Whether for emergency, short term or long term use, our range of products can solve critical water issues such as water scarcity, industrial plant startup or continuous water provision.

Our expertise and knowledge place us at the forefront of the small and medium-scale desalination systems. Our reputation for the rapid response service and our ongoing commitment to minimise our customer's environmental footprint are being recognised and allow us to turn to new markets quickly.

Tell us about your latest technological innovations and what makes them unique

EMRA delivers one-stop-shop water solutions using the latest developments in technological innovation and sustainability. We have partnered with Trunz Water Systems (small-scale systems) and Axion Water Technologies (medium-scale systems), world leaders in water treatment and energy supply systems for communities, industries and remote areas.

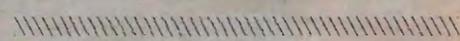
Our product development process focuses on energy efficiency and integration of high quality components. Desalination systems are equipped with a specially developed energy recovery pump which significantly reduces energy consumption and costs.

In terms of energy efficiency, Trunz desalination systems are unique thanks to their complete independent operation. All of our units are designed to run on solar and/or wind power and are made to work under very harsh

climate conditions.

Additionally, we complement our product portfolio with small units for mobile application. Using the same technology as mid-size and large scale water treatment plants, these units provide a unique solution for mobile water treatment/desalination achieving the same water quality as with larger systems/plants.

Communities that live in remote areas without water or power recognise the technological innovation of our products as they contribute to improving their quality of



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DIMITRIS DRAKOPOULOS, EMRA



**Applica-
tion of mobile
equipment in
remote Abu
Dhabi**

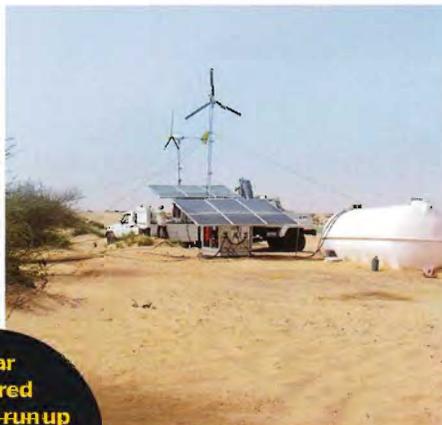
“Within the industrial sector, EMRA is positioned to meet specific water requirements through state of the art reverse osmosis portable equipment.”

life. Recently, Trunz Water Systems launched a new system, a wall mounted water treatment (or desalination) unit for indoor application in houses, apartment buildings, hospitals, schools etc.

The unit improves the water quality up to potable level from existing water resources such as (roof) water collection tank or the communal water network.

Within the industrial sector, EMRA is positioned to meet specific water requirements through the state-of-the-art reverse osmosis portable equipment. Axeon energy recovery systems reduce energy requirements by up to 40%, resulting in more effective and affordable water treatment solutions.

The reverse osmosis system stands out for its robust construction and is designed to conservative standards for versatility in the event of feed water quality and temperature variations. All of Axeon system designs



Solar powered units can run up to 24 hours without ongoing fuel and transportation costs

incorporate a 5% allowable fouling or flux decline for the membranes without loss of system product water capacity. The RO units are skid mounted, pre-assembled, pre-wired and have been fully operationally tested at the factory prior to customer shipment.

In addition, Axeon's reverse osmosis systems include microprocessor based controls to allow for an automatic operation with minimal operator intervention. Safety devices are provided to protect the desalination system and its components from common fault conditions.

Our containerised units can be used to address any water requirements within the oil



and gas industry and construction industries. For example, water is considered to be a key quality factor in concrete production. The water needs to be pure in order to prevent side reactions from occurring which may weaken the production process. EMRA's advanced portable water systems provide efficient solutions by treating sea water or brackish water to ensure the purest water supply.

What projects have you undertaken in this region?

A few years ago, Trunz implemented a project with 30 mobile desalination systems in UAE as well as containerised solutions. The systems

PROFILE: EMRA

were installed in different desert areas where only brackish ground water was available and no water infrastructure / network existed.

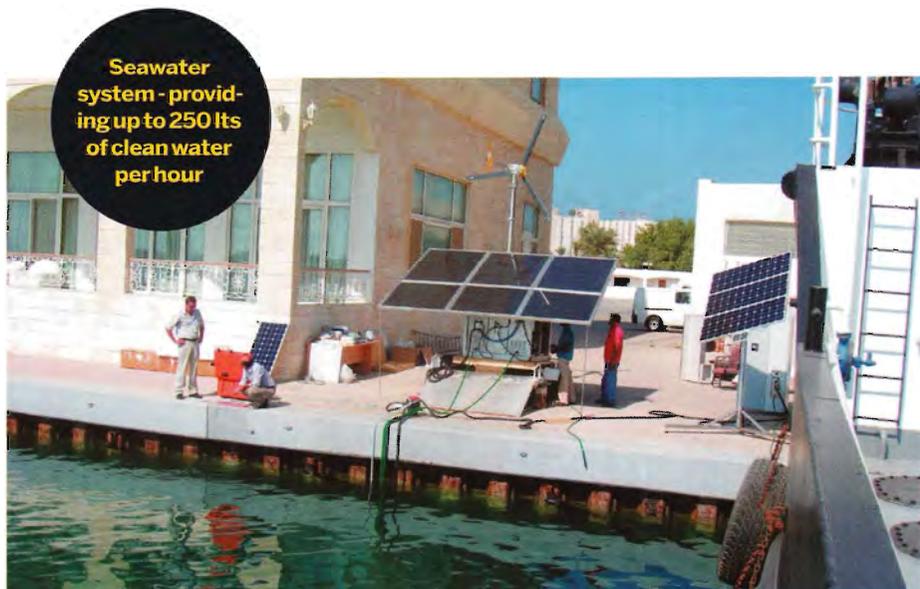
Additionally, they have provided the systems in the harbour of Abu Dhabi to conduct performance testing where salt content reached up to 43,000 parts per million (ppm).

What were the challenges and outcomes?

The main challenges were dust, heat and access to remote areas. Based on the customer's feedback, it was decided to install, in selected remote places, containerized systems equipped with air conditioning in order to protect the unit from the challenging environmental conditions. That method has proven successful and eliminated customer's concerns related to the safe operation and maintenance of the installed systems.

What does the future hold for EMRA in this region?

Energy efficiency and desalination are the most important challenges that GCC countries should address over the next decade. EMRA will



continue to integrate solar and water innovative solutions, setting new standards in customer satisfaction and sustainability.

Currently, we are developing an intelligent system for efficient agricultural irrigation that incorporates a portable desalination unit carrying a photo voltaic (PV) solar system.

wireless communication technology along with soil moisture sensors.

Due to its powerful software, this robust system manages and remotely controls the irrigation process over an unlimited number of field valves achieving great savings in water consumption and minimising energy costs. [Utilities](#)

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