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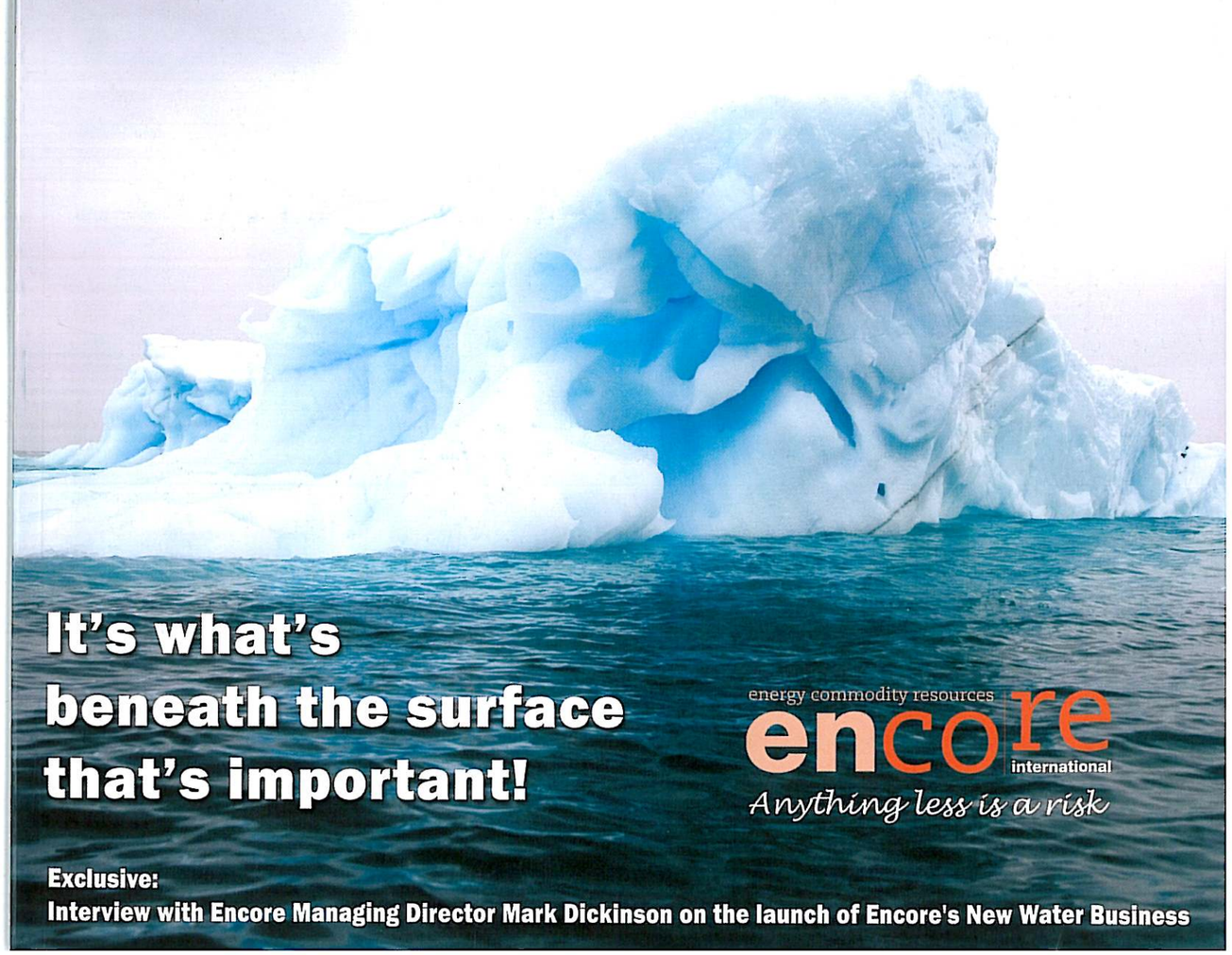
water energy & environment

Efficient control of utilities and facilities

If you're checking your water bills...



Exclusive:
Interview with Encore Managing Director Mark Dickinson on the launch of Encore's New Water Business

First past the post for efficiency

Pacific Controls is using Tridium's Niagara technology in Dubai's Meydan horse racing development. Green buildings have recently taken off in Dubai and the Meydan project aims to get it right now and save in the long run. Tim McManan-Smith reports

If you don't like construction sites, don't go to Dubai. The development there is taking place at an amazing pace. An estimated one-fifth of the world's cranes are here and projects currently in construction are estimated at over $100bn. One development alone, the Dubai Waterfront, is expected to become the largest waterfront and man-made development in the world, it will be 1.4 billion square feet, have an estimated population of 1.5 million people and will be twice the size of Hong Kong Island. But you may be forgiven for thinking that construction in the world's fastest growing city is going on unchecked but this is not so. As of January 2008 all buildings built within the Emirate must comply to US green building standards.

The changing skyline of Dubai – an artists impression of downtown Dubai when the world's tallest tower, the Burj Dubai, is completed

"We have to break those barriers to achieve our objective. If we spend more now we will get major savings in operational expenditure later"

The development of the Meydan complex is being overseen by Meydan LLC. It consists of four key elements: the Meydan Racing District, Meydan City, Meydan Business Park and Meydan Godolphin River City. The new stadium and racing district is the nearest to being completed and will be used for the Dubai World Cup, the richest horse race in the world, in March 2010. The racing district, is a £900M project and will include the new Meydan Grandstand, racecourse, five star hotel that will oversee the racecourse, galleries, iMAX theatres, a conference centre and many other sporting and entertainment facilities.

"The green building concept is big in Dubai," says Wassim Hamwi, Meydan LLC's chief information officer, "One element is that it is not enough thinking and doing it the traditional way. We have to break those barriers to achieve our objective. If we spend more now we will get major savings in operational expenditure later.

"The capital expenditure is more but we will guarantee, for the next 30 years, that there will be lower operational expenditure. The contractor won't look at operational costs because they just want to build it. But we will be able to reduce the service charge and have to convince the management that this is worth buying into now."

Working closely with Hamwi, Pacific Controls is using Tridium's Niagara Framework technology to create a converged information and integration infrastructure for building services at Meydan Racing City, with the ambition to extend this infrastructure city-wide as the project progresses.

'I'm learning how to build a new green, intelligent and energy aware city, where technology is used to reduce the impact of our projects on the environment, ease the usability of services, and enhance the lifestyle of the people who will live, work and entertain at Meydan,' says Hamwi.

The Buildings themselves are designed to be 'energy aware'. Different metering systems within the buildings will be able to register their consumption into the backend financial system to register utility consumption, for example, and then provide tenants with an insight into their usage pattern.

All smart building devices for

services including; HVAC, lighting and electrical services, fire, CCTV, access control, UPS, signage, elevators, energy and utilities will be linked together on the development on a converged IP backbone.

Tridium's Niagara Framework provides the middleware for these services with its capability to provide multi-protocol normalisation of all devices on the network and software as a service.

Information can be presented and served up for viewing, access and use over the internet. This allows a reduction in the number of operators and stations and the portal also enables the owner to segregate different views, as required.

It brings integration and interoperability benefits, enabling sophisticated rules to be developed and implemented to run the building which is all controlled on one system. For example, in the event of a fire, actions can be automatically triggered in HVAC, lighting, emergency signage, lift, CCTV and emergency signage systems.

Because it is a services-oriented infrastructure, data is accessible in real-time over the web to operate and run the building better, enabling the implementation of enterprise applications and adding value to the project.

Tridium's Niagara^{AX} software framework normalises the data and behaviour of diverse devices, regardless of manufacturer or communication protocol, to enable the implementation of seamless, Internet-connected, web-based systems.

Humans do not necessarily always do the most effective engineering solution. There is a need for system that can take control of a building's infrastructure efficiently. Terry Casey, managing director, EMEA, Tridium commented that, "FMs are not very good at running plant efficiently. They stop people's complaints not optimise efficiency." The Pacific Controls and Tridium solution automates system optimisation without the need for an expert engineer on hand.

Pacific Controls has created and operated its own Platinum rated building using Tridium's Niagara Framework. The headquarter building is the first Platinum rated green building accredited by the US Green Building Council 'Leadership in Energy and Environment Design' (LEED) programme in the Middle East and only the sixteenth in the world.