

Get with the programme

As the Middle East continues to expand its power utilities, software systems firms are keeping up with developments and helping drive gains in efficiency and safety

When you're talking about plant safety and efficiency – whether it's a gas-fired power plant, a nuclear facility, a refinery or a cement works – software systems are at the heart of operations. As rising demand for power in the Middle East puts pressure on infrastructure, it pays to stay ahead of the game.

"There is willingness, especially in the Middle East, to have new technology," says Patrick Gex, VP of eSoms project management at

Ventyx. "There are many advantages to using advanced plant software; you cannot run a power plant these days without the help of computers, which come with software packages. So together, the two give you a very strong tool to be able to improve your efficiency, productivity, safety and compliance."

It's a sentiment that Kevin Gribbin, executive consultant, global power industry at Intergraph, agrees with wholly. "I think in most industries – and power may arguably be slightly behind most other

industries – there is a general acceptance now that the design, construction and management of power plants can be performed quite adequately and efficiently in a more software-driven digital world."

Probably the most significant change in the last ten years or so has been the move from analog to digital control systems, which in the nuclear industry, for example, has meant a rapid learning curve.

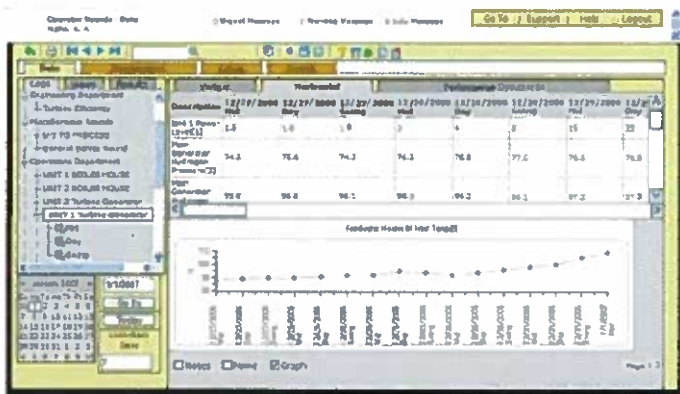
"The nuclear world is an interesting one, in as much as there are not



Keith Denton, Intergraph.



Plant software can bring efficiency and safety gains, but can be hard to justify financially.



An example of the software user interface from one of Ventyx eSoms suites.

“The nuclear industry is having to adopt, adapt and understand what other industries have had 20 years to do”

Kevin Gribbin, Intergraph

many countries that have continued with a nuclear programme in the last 30 years,” says Gribbin. “One thing that nuclear as an industry is having to deal with, is that the adoption and utilisation of these technologies over the last 20 years has grown, and in businesses like refining and chemicals, they have, over that period, adopted these things in incremental steps.

“They’ve had 20 years of incremental learning, and all of a sudden the nuclear industry – utilities

in particular – is having to adopt and adapt and understand today, what other industries have had 20 years to do.”

“From our perspective then, it’s important that we evaluate the needs of that industry quite closely and ensure the technologies we make available are able to do the required tasks. A few years ago we were actually very involved in canvassing our customers to find out where there may be gaps in our offerings for the nuclear industry.

We identified those, and we put a programme in place to make sure that what we needed was put into that technology. We try to be ahead of the curve.”

However, with the integration of new technology comes the inevitable question of cost. “You have to have a strong case; you have to make sure your return on investment is favourable,” says Gex. “You need to be competitive now when you build a power plant or refinery, and in order to be competitive you need to keep your costs down. To do that, you need to be very efficient and very productive, and there’s a willingness to use new technology and new software applications in those areas.”

THE PRICE OF RETROFIT

Cost is even more of a consideration in the event of a retrofit, as Gribbin explains. “From a financial perspective, retrofitting is three or four times more expensive than implementation on a greenfield project. A lot of the information needed to operate the plant and maintain it effectively is in formats that are not necessarily comfortable in the digital age, so there are lots of conversion programmes and processes to put in place.

“It’s not finding the products that’s hard; it’s validating their value that’s tough.”

“More and more in the last few years, companies have been expressing an interest in retrofit on existing plants,” says Gribbin. “Ten years ago it was a case of run it, and run it fast and hard – when it breaks we’ll fix it, and then run it as hard as we can again; that was the philosophy.”

Of course, cost-savings are just one aspect of the integration of software systems into plants, especially in a retrofit situation, but safety has to be a consideration, too.

“What’s beginning to change is that there is fallout from a safety perspective – the tragedy at Fukushima is not going to

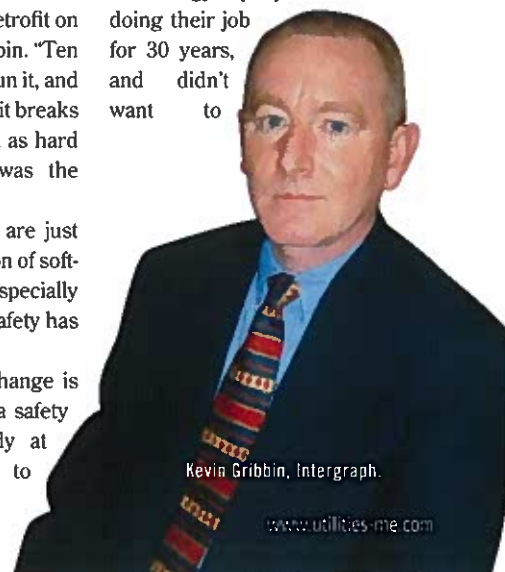
manifest itself in a thermal plant in the same way, but the reputation of the utility there - TEPCO - has taken quite a beating and I think the other utilities would rather not be put in that spotlight.”

With the level of investment required, a case that’s not focused chiefly on efficiency and tangible uptime gains may need a higher level of persuasion. “Traditionally, you put together a plan and say, right, it’s going to cost you \$35m to \$40m to capture all this information in a retrofit; you go to the plant manager with a case and he asks how many extra kilowatts he’s going to get as a result.”

“The two big drivers are definitely reliability and safety,” says Keith Denton, VP of Intergraph’s global power industry division. “There are two sides to the coin – the plant operator is sometimes not as well versed in the technologies and what the benefits are, because their everyday activity is to keep the plant online. But the EPC contractors tend to be well versed in the benefits and risks.”

Ventyx currently puts between 18 and 20 per cent of its revenue back into research and development projects, and the implementation of technology to new and existing projects is something the company has been doing for 25 years.

“When I started in this business, it was a challenge trying to bring technology to people who had been doing their job for 30 years, and didn’t want to



Kevin Gribbin, Intergraph.

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"Software helps to improve efficiency, productivity, safety and compliance"

Patrick Gex, Ventyx

change," explain Gex. "You have to go with the technology; you can't stay behind. If you came to me and said that your software is going to significantly improve my safety, efficiency and compliancy, then it would be a no-brainer."

According to Gribbin, a more welcoming attitude to new technology is developing. "A lot of the people – and we see this particularly in the nuclear industry – with the real experience have retired, or are now retiring. That puts pressure on their management strategy, and of course you have a lot of the younger

generation coming out of universities around the world, and they demand technology because that's what they live and breathe."

With a strong presence in the Middle East for the last 30 years, the company is looking at the region's burgeoning utilities infrastructure, with definite plans for involvement in its development.

"We've visited ENEC in Abu Dhabi, and a lot of the consultation that's taking place there is coming from companies that are long-term customers of ours," says Denton. "Our participation and presence in



Patrick Gex, Ventyx.

the nuclear industry is extensive, and so our intention is to be present in every step of the expansion in the Middle East. We have technology and expertise used by the rest of the world, and it's certainly applicable in the region."

Ventyx too is eyeing the Middle



The acceptance of new tech is growing.

East with interest, keen to make its mark on the region.

"Opportunities continue to be very strong in the Middle East," says Gex. "We have lots going on, and we're excited about the Middle East's nuclear industry; we're following that very closely too." **Utilities**

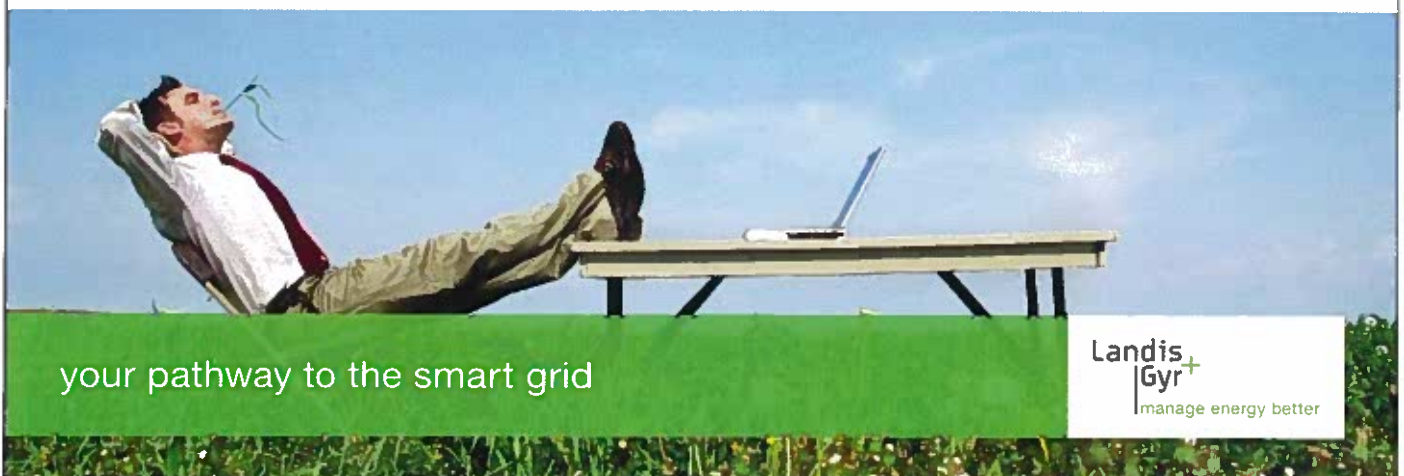
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