

SUBSEA BOOSTER: UK EYES EMERGING MARKETS FOR 'HIDDEN' TECHNOLOGY

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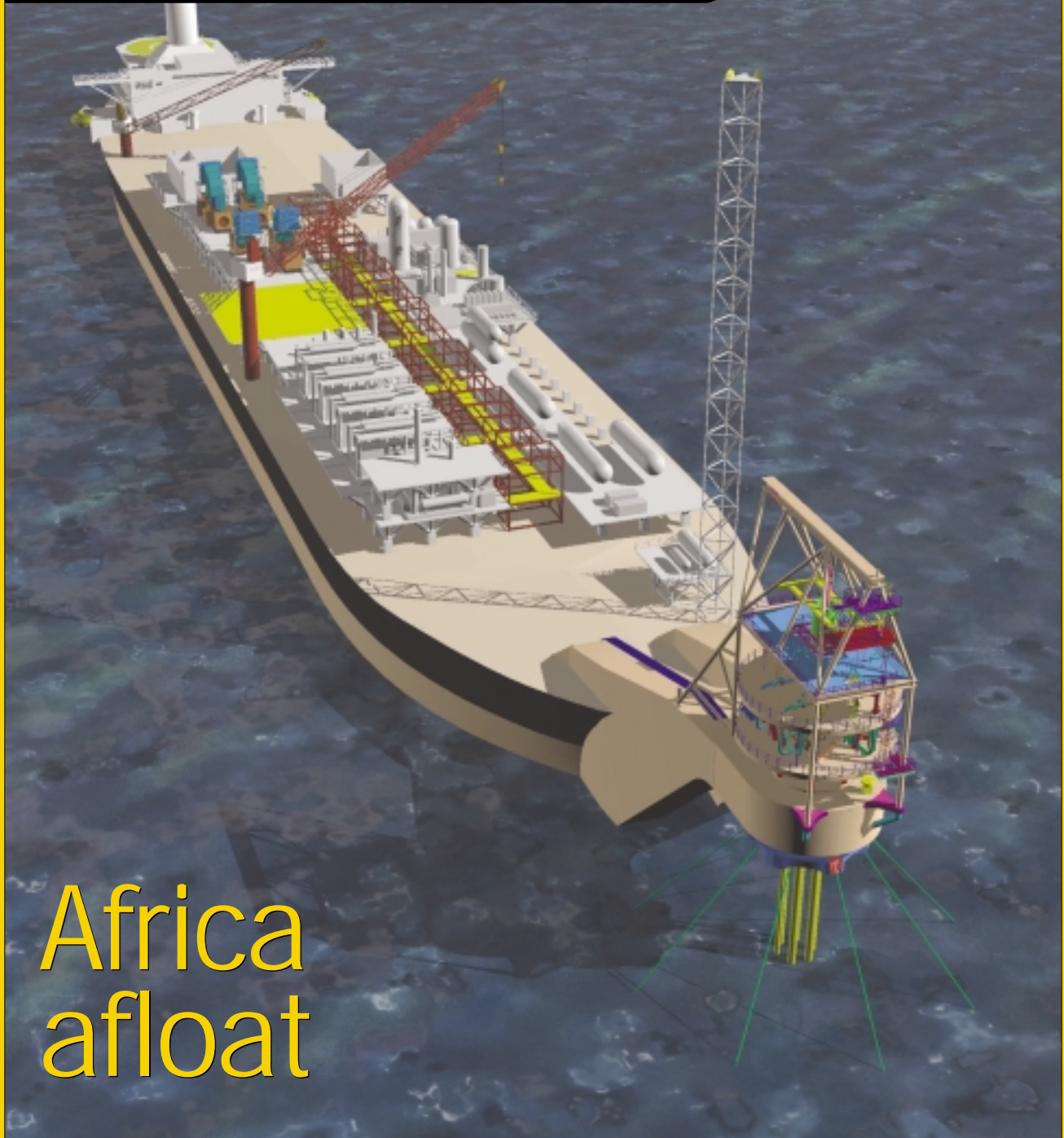
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Africa afloat

PLUS: A MODEL HOUSTON COMPANY PUTS CUTAWAYS IN THE FPSO CLASSROOM

Trust the process

The key to training, say many, is not just sitting in a classroom listening to an instructor and reading out of a manual, it is getting hands-on experience with real equipment. Marshall DeLuca opens *OE's* roundup with a report on one training company providing just that for operator ExxonMobil.

An unassuming building on the side of a highway in Houston's refinery and petrochemical fairway provides the unlikely setting for ExxonMobil's Equatorial Guinea FPSO training regiment. It is here that the Bayport Training & Technical Center (BTTC) set up shop in February with the aim of taking offshore industry training to new levels of sophistication.

While the company and management team is new, BTTC is effectively filling a vacancy and inheriting the history of industry training specialist TR International. TR was conceived in 1990 by a husband and wife team who initially operated out of the couple's garage with the goal of establishing training aides for the refining, chemical processing and educational markets. Through the years the company expanded into the present BTTC facility and became a leading supplier of industrial training models.

When the company decided to close its doors earlier this year, Tim Brown, BTTC president, who had been closely associated with TR since its inception and



The Process Trainer for ExxonMobil's Zafiro FPSO under construction at BTTC.

was a family friend, decided to step in with an eye towards revitalizing its legacy and expanding its business.

'In the world of companies we are a brand new company, but we are a brand new company with a lot of history,' is how Brown puts it today. 'We established BTTC to carry on the tradition of TR

International but we wanted to separate ourselves and go to the next level.' While it is under new management, he says, all the models are staying, as are the resources in terms of people, relationships and technology, but the company plans to offer more than just models.

'TR International is not very descriptive of what it does,' he says. 'Bayport Training and Technical Center makes, we believe, a very strong statement that we are truly a training and technical center.'

BTTC describes itself as a turnkey training and technical center supporting the industries that it serves in all aspects of operations, maintenance, training and capital projects. The company is 100% client-driven and custom develops products including training manuals and training programs to meet its clients' needs.

The company has just eight full-time employees, including electrical and mechanical engineers, but boasts a list of as many as 100 people who can be brought in as needed to act as consultants and trainers. 'These people have come out of working for owner-operators so they know where the issues are,' says Brown. 'They are not people that just graduated from school and do not recognize the real issues that exist out there in the real world.'

The 13,500ft² BTTC facility includes offices, three classrooms with seating for 300 trainees and a manufacturing facility in the back.

'Greenhand' training scheme extended

A 'greenhand' training programme set up by specialist personnel provider United Technical Solutions Energy with one of its major clients has proven so successful in the Netherlands that it is now being implemented in the UK through UTS Energy subsidiary company Inter Services.

'We select the best CVs of these inexperienced candidates and after interviews submit these for our client's perusal,' explains UTS Energy group MD Jan Smit. 'Once the candidates are selected we share the costs of training and we issue a special rate to our clients.'

Heather Ritchie, offshore recruitment co-ordinator for Inter Services, comments: 'As a result of the limited opportunities available on the rigs, this year we have placed only a few employees. They are still working for us, with one gaining promotion after a very short period of time. 'All have been very successful and continue to show promise. We are hoping to encourage other clients to increase the number of "greenhands" onboard and we are willing to assist with this.'

'Training is the most important factor,' says Inter-Services director Hendrik Goos. 'We get a lot of CVs from

people who would like to work offshore but we find that if they are really keen they will put themselves through their own survival training. What additional training they require is then dependent only on the country in which they are working.

'UTS Energy is now in the process of arranging training for various drilling contractors in the Netherlands and this is a service we could be providing in the UK,' adds Goos. 'We have been arranging WA1 (Dutch safety training) for various clients for a couple of years now, for example, and this has raised our profile in this area.'

E&P population posers

The average age of the UK E&P population has risen from 36 in 1994 to 41 in 2003 according to the latest of SMCL's twice-yearly E&P salary surveys.

Over the same period, the overall proportion of employees under the age of 30 declined from 27% to 14% and professional level staff under the age of 30 fell from 20% to 10%. And whereas in the 1994 the survey population was made up thus: managers 12%, professionals 55%, support 33%, today it is: managers 7%, professionals 74%, support 18%.

According to SMCL managing director John Sears, the likely consequences of these population changes are:

- a skills shortage as fewer young people enter the sector to replace older employees;
- a shrinking workforce that will lead to a premium being paid by companies for experienced employees;
- that future careers within the sector are more likely to be as experienced 'doers' and less likely to be in managerial positions.

Diving for jobs

A job fair for commercial divers and ROV pilots and technicians will be staged during next February's Underwater Intervention International conference in New Orleans. Lou Cranek of the Institute of Robotics and Remotely Operated Vehicles will chair the new event which aims to put students and personnel in touch with potential employers while giving employers the opportunity to share their knowledge and tap into the talent pool in the underwater market.

According to Cranek, the fair will be designed to encourage the next generation of underwater operations professionals, giving participants the chance to identify training and employment opportunities and enabling everyone involved to learn more about the industry, employer expectations and the available workforce.

Schools, training establishments and industry employers will be available to meet with potential students or personnel, who will be expected to bring along with them resumes, transcripts, certificates of completion, or other documents necessary for further education and employment.

Job fair sessions will run through all four days of the exhibition, scheduled for 17-19 February 2004. Admission to both the job fair and exhibit floor will be \$25 during advance registration and \$40 onsite.

Further details are available from the UI Office on +1 281-893-8539.

Besides the TR legacy of developing models of operating equipment and systems, Brown says the company has delved into extensive instrumentation, control and electrical training and consulting programs and developing actual working models and skid mounted equipment to be sold to others as training aides.

One such popular product is a cutaway of actual equipment. The company will take a piece of equipment, such as a valve, turbine, pump or electric motor, cut out sections to expose the internal workings, color code the various working parts then re-assemble so that it still operates. The cutaway enables students to see how the equipment actually functions, identify the different parts that make it do so, and work out the simplest way to assemble or disassemble it. Brown says the company tries to keep a cutaway of just about anything and everything somebody could ever want in his shop. 'It's virtually impossible,' he admits, 'but we really try hard.'

Another service the company provides is fabricating working models of real equipment. It makes to-scale working

plastic and glass models of all types of systems and equipment that simulate how the equipment works using colored water and safe materials rather than the oftentimes hazardous chemicals. These models are also much smaller than the real thing and can be passed around a classroom.

'Something that is really unique for us that is tough to provide for training people is having a piece of equipment that is transportable, that actually works,' believes Brown. 'That has real value in training.'

But what BTTC is fast making the staple of its business is a product it has developed under a contract with ExxonMobil in its largest job to date.

The company has developed what it calls the 'BTTC Process Trainer' and ExxonMobil intends to use it in a multi-year training program for process operators and maintenance technicians on its recently installed and producing FPSO located on the Zafiro field off Equatorial Guinea (see 'West Africa offshore', page 29).

The Process Trainer is built to resemble real-world operating equipment and consists of separate functions integrated into a compact equipment skid. The unit includes working pumps, tanks and piping, level control, pressure, flow and temperature control all controlled by a programmable logic controller used to simulate real-world situations such as what would be experienced on the FPSO.

Brown says ExxonMobil approached the company with a list of the type of equipment and training situations they wanted packed into a single training unit that had to be 4ft wide, 8ft long and 6ft high and capable of processing 35 gallons/minute. 'They gave us a basic flow diagram of what they wanted built and they told us the manufacturer of the equipment they want on it but beyond that it was up to us to figure out how to put it together and make sure it worked,' explains Brown.

BTTC began the pre-engineering of the Process Trainer in April and was awarded the contract in June. Under the contract, BTTC performed all the engineering, design, parts procurement, fabrication, programming and factory acceptance testing in-house and delivered the unit in just ten weeks from the order. The total price tag was \$75,000, with the PLC accounting for a big chunk of it says Brown.

While ExxonMobil will do its own training on the unit, BTTC will provide some support and has identified a long list of recommended courses that can be taught using the Process Trainer. The center is also providing the operator with a number of cutaways of equipment such as pressure gauges, thermal wells, resistive temperature devices, heat exchangers, pumps and valves as well as a

TPA spreads its wings

The Total Professeurs Associés (Total Associated Teachers) scheme, which celebrated its second anniversary last month, is looking to broaden its horizons. TPA's membership now boasts 150 current or retired Total employees, all of them volunteers, and between them to-date they have undertaken 1000 half-days of training in France and abroad.

Now, says Alain Quénelle, TPA's chairman and founder, the association is looking to 'expand our offering into countries in Africa, the Middle East and Latin America, and further raise our profile with institutes of higher education'.

'These managers all have one thing in common,' adds Quénelle. 'They are passionate about their jobs, and are eager to share their oil and energy expertise with students.' Offshore technology, geosciences, automotive and other fuels, and polymer production are among the wide range of courses relating to the group's core businesses embraced by the scheme.

Others cover cross-functional skills such as intercultural management, patent law and sustainable development.

A total of more than 250 courses in 90 areas of knowledge are available, and 150 are offered in English. To find out more, go to <http://www.totalprof.com>

working model of a three-phase separator with the separation process simulated in plastic. BTTC came up with its own liquid formula for a product that shows this separation.

Landing the ExxonMobil job has generated a lot of interest in the Process Trainer, to the extent that negotiations are currently under way for the



A BTTC technician programming the PLC for the Process Trainer.

manpower & training

Cutaway equipment to be used as training aides for ExxonMobil.



engineering, design and fabrication of five additional units, each with their own unique features driven by client requirements.

While the Process Trainer promises to be a valuable tool for training, Brown says the focus should remain on the training itself and teaching the students the right and wrong way to operate. 'The focus on training is not just teaching everybody the right thing, it is creating circumstances where they learn what happens if they do the wrong thing - and that can save lives,' he says. 'Then you can talk about lost production and equipment that is lost. For us it's a real dedication. We're actually making a contribution to saving lives and giving people jobs that will last for years to come. That's a good thing to do.' OE