



In future, technological developments, increasing demand and dwindling resources will dramatically transform the oil and gas industry. As a result, industry technicians, regardless of experience, will need regular training to keep pace with developments.

When it comes to training, oil companies vary greatly. Each new trend - whether it's the skills shortage, the Big Crew Change, Generation Y competence systems or knowledge transfer - results in countless ad hoc training responses. A significant gap has consequently developed between what staff need and what is actually delivered.

#### Challenges Affect Learning

In order to bridge this gap, the industry must focus on the challenges it faces. Firstly, since the demand for oil and gas will not change significantly in coming years, skilled personnel will be critical to maintaining supply. Secondly, extraction of oil and gas will grow increasingly difficult, thus inspiring ever more complex systems. Technicians therefore need ongoing training to use new equipment.

Finally, indigenous staff will increasingly be hired. Chinese, Russian and Indian graduates are entering the industry in growing numbers. Though well educated, they often lack hands-on experience, and have few mentors to guide them. Training is complicated because English is seldom their first language.

#### Worrying Lack of Training

While developments in exploration and production have been profound, staff training has not kept pace. An engineer is trained during study for a degree, but the average process technician or pump operator receives little more than rudimentary health and safety instruction. The following critical areas are often neglected:

- equipment maintenance;
- corrosion prevention, especially offshore;
- understanding pressure;
- chemical processes;
- system functions and operation.

This neglect cannot be allowed to continue. Leaving aside the safety issues, deficiencies in training have a direct impact upon profit. According to economists, every time an upturn occurs in the industry, a shortage of readily available skilled staff



## Upload Experience, Download Knowledge:

THE FUTURE FOR TRAINING IN THE OIL AND GAS INDUSTRY.

By Kevin Keable, Managing Director of Oilexium Ltd.

reduces drilling efficiency. Opportunities are then squandered. This is partly because training inevitably suffers in a downturn—it is frequently the first thing cut in any drive to economise. This means that, when the industry recovers, some companies respond too slowly because they lack trained crews to operate equipment and have fallen behind in the introduction of new equipment.

#### The Solution: A Coordinated Approach to Learning

The industry must recruit, train, protect,

• Every legitimate learning programme must include a meaningful competence system to measure progression. Instead of simply an exercise of ticking boxes, this means a vigorous, detailed assessment of developing capabilities. This enhances the training regimen and reinforces safety.

• Technical staff need uniform training so that companies can mobilise quickly, and operate equipment properly.

The challenge lies in devising a strategy to address these issues. It sounds like a tall

need not be sacrificed during a downturn and can be rapidly increased when recovery begins.

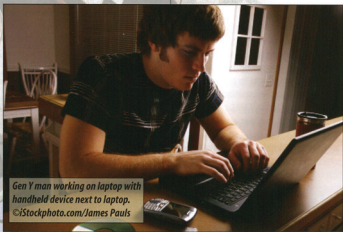
Unlike classroom-based courses, eLearning modules can be repeated until retention reaches desired levels. To achieve this, content must be appropriately targeted and presentation quality must be outstanding. The most effective delivery method is real photographs and videos - realistic situations presented in accessible fashion. Opportunities for questioning and feedback maximise retention rates. Modules produced in English can be translated to any language at a minimal cost, thus widening access.

To complement eLearning, realistic, affordable simulators offer effective hands-on training. These enhance, or even replace, practical experience. Technicians can learn how to check, start, operate and maintain equipment online without the risk of causing damage.

Blended learning, combining CBT with classroom instruction, is ideal, but is limited by scarcity of textbooks, qualified instructors and courses. By implementing eLearning, companies can avoid the huge expense of transporting staff to training courses or importing highly expensive trainers. Interestingly, retention rates of those who utilise eLearning are consistently higher than those trained by traditional means.

#### Be Prepared

Though eLearning is not a panacea, it does deliver practical, cost-effective training. Companies find it more than just a training tool, but a means of ensuring a skilled, ready-to-mobilise workforce. Training equals preparation, which is often the difference between winning or losing a tender, between a safe or unsafe operation and between profit or loss.



Gen Y man working on laptop with handheld device next to laptop.  
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and retain good personnel. This means a coordinated approach to learning. To design such a programme, companies must capitalise upon existing staff experience and maximise employees' opportunities to learn. Factors to consider include:

• The Big Crew Change. As seasoned veterans retire, their knowledge disappears with them. To retain that knowledge for future generations, all that's required is for experts to upload their experience. It can then be 'downloaded' for thousands of less experienced personnel. By having employees

transfer knowledge during the exit phase, immense benefit can be imparted to the next generation.

• Generation Y. Those born in the late 80s/early 90s take learning for granted, and are comfortable with everything high tech. They actively seek ways to develop their careers. Offering Gen Y training delivered in a high tech fashion will enhance job satisfaction.

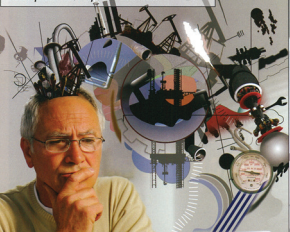
order, but it needn't be one.

#### Technology Offers Comprehensive Benefits

Modern technology - eLearning, computer-based training (CBT), simulators and online competence monitoring - offers the most cost-effective way to uniformly train a diverse workforce. Experience can be uploaded and knowledge downloaded via the internet. Modules can be accessed anywhere, whether onshore Russia or offshore India, at home in Mexico or onsite in Nigeria. Training of this sort

**"All that's required is for one knowledgeable person to 'upload' their experience, one time."**

A senior worker with graphic image of knowledge he is 'downloading' into his computer prior to retirement.  
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Junior worker talking to senior worker.  
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