

## Harnessing the Internet to control spares inventory

A typical refinery holds between \$15mn and \$20mn of spares inventory while a CCGT (combined cycle gas turbine) plant has an inventory of \$6mn of spares. These inventories are expensive to hold and to manage. But sparesFinder.com is using the Internet to revolutionise the way in which these spares inventories are managed, explains company Director, Jan Hutchings.

While the Internet has been around for over 10 years, its benefit as a practical business tool is still in its infancy. However, it is a massive global library of information, some of which can be used for the benefit of business. It is also a valuable communications tool that is used to send electronic information, text, images and sound around the world quickly and cost effectively.

Being in its infancy, the real benefits of the Internet to business are only just beginning to take shape. At present, while there is a lot of 'hype' over how it will change our lives, there is little evidence of it doing so. The sceptics among us wait patiently for the revolution yet to come. But in the oil, gas and power industries at least, the wait appears to be over, first with the arrival of Internet energy trading, and now spares inventory management.

sparesFinder.com is a spares inventory service that harnesses the Internet to bring to oil and gas companies, power operators, generators and all those in the supply chain a real business benefit. The service is one of the first examples of how the Internet can facilitate a real business-to-business use. It delivers companies tangible results in terms of greater efficiency and lower operating costs. It's really what people in industry have been waiting for – it's just that until very recently, no one's really offered anything up.

Some idea of the potential savings from spares inventory management can be gained from a simple calculation. Take a multinational company with 100 sites which keeps \$15mn in spares at each site. Suppose 20% of the spares are surplus to requirements – it's not uncommon – and the costs of storage are about 20% of the spares. Now, reduce the surplus spares by 1% each year and improve the optimal level of spares held by 2% per year. I reckon the company saves

about \$250mn over five years.

Not surprisingly, many of the world's leading oil companies have started to participate in the service, with sites uploading spares data from Shell, BP Amoco, Mobil and Texaco among others. The secret is e-visibility. If you can locate spare parts in a few minutes using the Internet, and call not just on the reserves of your own company's sites but also those of other operating companies who use much the same equipment, you can afford to hold fewer spares.

### Pooling information

The original idea was first developed in New Zealand in 1997. The thinking throughout the development of this service was based on a simple fact: companies in large industrial and heavy engineering sectors such as power, and oil and gas, hold large spares inventories, much of which is surplus to needs and requires on-going servicing and storage at mounting cost.

The idea was straightforward. If inventories could be reduced by pooling inventory information internally across a multi-site company, and if surplus inventory data could be pooled externally on a regional or global basis, then there would be big savings to be made. Provided that the components required were available speedily and cost effectively from other contributors to the pool, participating companies could substantially reduce their inventory levels with all the associated cost benefits.

The problem was in deciding what form the service would take. It had to be readily available and easy to access by companies, good value, simple to use and update with details of an ever-changing inventory. Progressive technology and the Internet with its increasing accessibility and reach to every distant corner of the globe offered an excellent solution.

The sparesFinder.com service began piloting in the Southern Hemisphere in 1998. Its success within the power, oil, gas and other heavy industrial sectors where spares inventories ran into the millions, was almost instant. And this despite the fact that, even with the savings on offer, certain companies were slow to appreciate the real benefits the service offered.

However, within six months, it was in use by multi-nationals and both small- and medium-sized enterprises (SMEs) in industries in diverse areas such as mining, petrochemicals and manufacturing throughout the Australasian region. Twelve months down the line, Transalta Power, the first company to subscribe, has not only renewed its annual license, but has also recommended that the service be adopted across their 12-site New Zealand operation.

The service has been available throughout Europe since April this year and now several million parts sit on the sparesFinder.com database. The company has been introducing it across the UK oil and gas, chemicals and power industries since March 1999 and has solicited a lot of interest. In power, both CCGT units at Seabank Power, Avonmouth, and Fellside Heat and Power, Seascale, are already pooling data.

### Selling surplus

The savings based on the use of the service where inventories run at high levels can be huge. Even with an average power operation, substantial capital can be released and operating savings made.

As an example, a typical CCGT power station has an inventory of approximately \$6mn. If the plant is carrying 15% surplus (typical figures based on sparesFinder.com research, though many run at higher levels), this equates to a real figure of \$900 000 tied-up in inventory which could be sold immediately without increasing risk to operational capability.

Additionally there is the cost of storage to consider. This normally runs at approximately 20%/y of the original purchase price, representing an annual cost of \$180 000 – an extremely large negatively performing asset.

Generally, if operated correctly, the sparesFinder.com service should reduce a given plant's surplus by between 5% and 10%. However, for the

purposes of this illustration, if the plant's surplus is reduced by only 1%/y of total inventory, and minimum stock levels are reduced by 2%/y, a company with 10 such operating sites could save over £2mn/y (\$3.2mn/y). In fact, in the real world, sparesFinder.com is already seeing examples where savings are potentially much higher and this does not include the cost of downtime, which in the power and energy industries can be massive. If nothing else, the sparesFinder.com service serves as an extremely cost effective insurance policy.

Specifically sparesFinder.com is being targeted to operators of, and suppliers to, gas and coal fired plants, nuclear power stations and any companies involved within the supply chain. Parts available for sourcing under the service include critical condensing, cooling and hydraulic components along with highly specialised equipment appropriate to individual sectors of the power industry.

The service is unique in that it allows individual end-users of spares to trade their excess inventory between each other – a horizontal supply chain. Also, because the service is delivered through the Internet, it provides all subscribers with a global choice of spares instantly and at the touch of a button.

Nick Phillips, the company's Business Development Manager for the power sector comments: 'Unlike the conventional method of sourcing spares through the vertical supply chain of spares manufacturers, distributors and a range of other middle organisations, sparesFinder.com works by releasing the potential of the horizontal supply chain – the surplus spares and equipment held by the users themselves.'

'Our subscribers pool information about their surplus spares inventory, helping industrial sellers to release capital otherwise tied-up in spares and providing an instant global supply of cost-effective, immediately available, inventory. In the case of all areas of the power industry, its use can be expected to dramatically reduce on-site inventory resulting in major cost savings across the board.'

### A 90-second search

Constantly changing stock levels are automatically uploaded to a live database directly from subscribers' inventory management systems. The business service, which is charged on an annual subscription basis, takes less than four hours to install, requires no further work once installed, and is simple to use and secure.

David Stroud, the company's Operations Director, explains: 'We provide software which gathers information on the spare parts inventory from

all customer sites, and those of all other companies subscribing, and make it available at a central Infomix database. Software installation is easy, a Friday afternoon job. And it is highly compatible, sitting as comfortably alongside Enterprise Resources Planning systems as with the homespun inventory database of a single site.'

*'The cost of spares storage normally runs at approximately 20% of the original purchase price per annum.'*

'Once installed, it takes no more than 90 seconds to find the part needed,' Stroud continues. 'You can choose to search just your company's own sites or all the sites on the database, which is a lot of potential sources not previously accessible. Then it's between you and whoever has the item required.'

Beyond that it's a case of negotiation between the supplying company and the purchasing one. Although, such companies are often in competition, it has not proved to be a problem. 'Companies are not competing at a spare parts level,' says Hutchings, 'and engineers have been slipping each other spare parts through the fence for years. We're simply extending their circle of friends.'

On a cost basis, the subscription charging of the service is proving to be a winner. 'We are differentiating ourselves from other Internet suppliers who are simply automating a vertical supply chain and taking a commission on all transactions,' says Hutchings. 'We

*'The service is totally unique in that it allows individual end-users of spares to trade their excess inventory between each other – a horizontal supply chain.'*

have a horizontal supply chain, and our annual, flat fee approach is distinctive. We are building on existing practices, forming clubs – re-engineering with the Internet, if you like.'

Yet the returns can be massive. 'Keeping spares is expensive, and

always a bone of contention between engineers and accountants,' he adds. 'There is continuous pressure from accountants to cut down. We bring liquidity to the spares stock. Indeed, an extra attraction of the system is that one company's out-of-date stock may be just what someone else is looking for. So instead of paying for a skip to take it away, you can sell it on.'

Additionally, multi-site companies can gain internal visibility (regardless of which inventory management system each site uses) to collectively reduce their stockholdings without increasing risk. This service is of particular interest to sectors with capital intensive spares and downtime criticality.

### A worldwide network

In operating the mechanics of the virtual trading floor, sparesFinder.com is aggressively pursuing developments that will establish it as the provider of choice in these sectors, hence the relevance to the oil and gas industry. Business units are now being established across Europe and the US prior to an eventual world wide network; ensuring both effective distribution and first-rate customer service are in place. In addition, user groups are being offered to manufacturers and suppliers whereby end users gain real-time spares visibility – the timely location of a critical spare increases the availability of plant and reflects well on all concerned, including the OEM.

With the dawn of e-commerce upon us, sparesFinder.com is providing a genuine reason for businesses to embrace the Internet. This leading edge approach is creating a bow-wave of enthusiasm as the previously nebulous benefits of the new era are being crystallised. sparesFinder.com offers integration with most, if not all, inventory management systems and expects this to continue as procurement mechanisms become increasingly automated. But, as Stroud points out: 'A marketplace like this is not just about automatic data transfer. These spares are sitting on shelves in countless warehouses and, although unused, may need certain "ticks-in-the-box" before being passed on.'

'While the parts and equipment listed for the heavy industry are unused and properly documented, the transaction process can be helped by third-party inspection and certification guarantees, and even a trusted clearing facility for funds as the deals are completed.' sparesFinder.com is now awaiting the call upon its services to help oil the wheels of the spares inventory market to bring efficiency gains not previously seen. ●