

The potential of locked-in files

Effective document management can do more than just save time and money on a new project. **Sword CTSpace's** Tim Fleet and **Amec's** Jeff Harrison explain how constantly evolving software is helping to unleash creativity in the oil and gas industry.

A typical new construction project can involve the creation of up to 100,000 documents and each one will be used many times, meaning thousands of hours are spent – and potentially wasted – managing them electronically. Keeping on top of all the information contained in those plans, drawings and specifications is vital to a job's success, and sophisticated software solutions are required to deal with the high volumes of traffic.

With 20 years' experience working in the oil and gas sector, Sword CTSpace (a Sword Group Business Unit) is well placed to understand the needs of its clients. Such is the pace of change that when global product director Tim Fleet talks about 'the old days', he means five years ago: the 1980s, when he first worked on document management for North Sea facilities, must seem like ancient history.

Sword's aim is to combine this wealth of knowledge with innovative technology to meet the changing demands of the industry.

Back then, engineering documents were filed locally on a rig or at a refinery and would be printed for use. Not only was this inefficient, there were also safety implications if machinery changed and documents were out of date. Now, using services like Sword's, onshore and offshore systems are linked and engineers can send files more quickly to operational teams.

Oil and gas system

Sword's core product for oil and gas customers is Fusion, a document management system tailored to engineering uses and integrated into electronic content management (ECM) software, including the company's own Cimagine platform. The system is available as FusionEnterprise, installed on the end user's hardware, or on a software as a service (SaaS) basis as FusionLive. The latter enables shorter projects to be set up quickly and, because it is hosted by Sword online, allows multiple partners and subcontractors access to the same documents via a common interface.

Fusion can be set up within a week to manage files for hundreds of users across different organisations, and if the project will

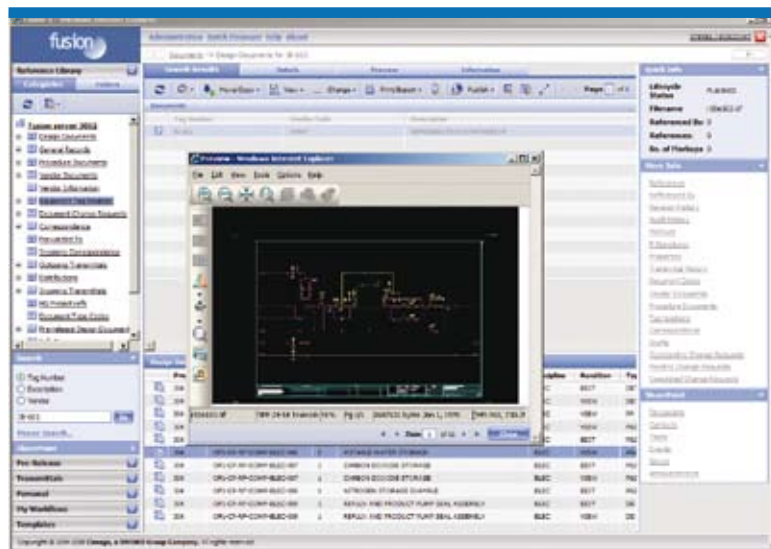
only run for a year, the client need only buy use of it for that time.

The implications of the Enterprise software for safety and efficiency should not be overlooked, but Fleet believes the potential of SaaS is particularly exciting for new construction projects that are increasingly being undertaken by teams scattered across the globe.

"It's easy to bring together a bunch of companies and automate business processes that would once have been very paper-intensive," he says. "There might be an owner-operator like Shell working with a major contractor such as Bechtel, in turn subcontracting to a company in Korea, plus two or three other major partners. They can all connect to one system that we provide. All those people can take part in the process of reviewing, approving and creating the documents that are part of getting a new facility online."

Such software has played a critical role in the expansion of the industry into increasingly diverse markets. By enabling engineering teams to work together virtually, constructors can be more flexible in the design and build phases of a facility's life.

"A lot of our customers talk about distributed engineering teams," explains Fleet. "If they're working in Angola, they don't need a large team there and can have people in Houston, London, Aberdeen, Dubai or Perth all actively working on



The Fusion document management system is tailored to engineering uses.

a new facility remotely, whereas, before they had this sort of technology, they would need a dedicated team for each individual project. As a result, it is now possible to do a lot more with the same set of assets."

In the long term, Fleet imagines that features of mainstream social networks will feed into Sword's products. The ability to contribute to discussions about documents in real time could have great benefits for complex projects, creating a more responsive online environment and facilitating more fluid collaboration.

Productive relationships

Sword's ongoing partnership with construction and asset management company Amec highlights how its experience and ability to adapt its services has allowed it to keep up with the

changes in the industry. Over the course of a ten-year relationship, Amec divisions in the UK and the US have used Fusion Enterprise for engineering document management. The company's engineers can directly link into the databases wherever they are working. A recent capital project for BP involved a team of 600 Amec employees using Fusion for tasks as diverse as handling design documents and processing invoices.

Jeff Harrison, Amec's director of project management and controls, appreciates working with an experienced provider.

"We see the relationship as a partnership in which Sword's understanding of our information management challenges plays a part in successfully executing large and complex projects," he says. "The framework agreement with Sword eliminates many of the time delays associated with procurement of software when new projects are sanctioned."

Amec Paragon, the Houston-based oil and gas operations arm of the company, is committed to using IBM's FileNet platform as its ECM. The difficulty the company faced was providing the specialised engineering functions it needed within this framework. One option was to customise FileNet with additional applications, but this would have involved extensive software programming and could have created maintenance challenges further down the line. Amec's IT team, like that of most companies, is optimised for system configuration rather than development and would have struggled to complete the task effectively.

By integrating Fusion and FileNet, Sword installed their engineering solutions alongside the existing ECM. Importantly, Fusion can be accessed from inside AutoCAD and MicroStation V8,

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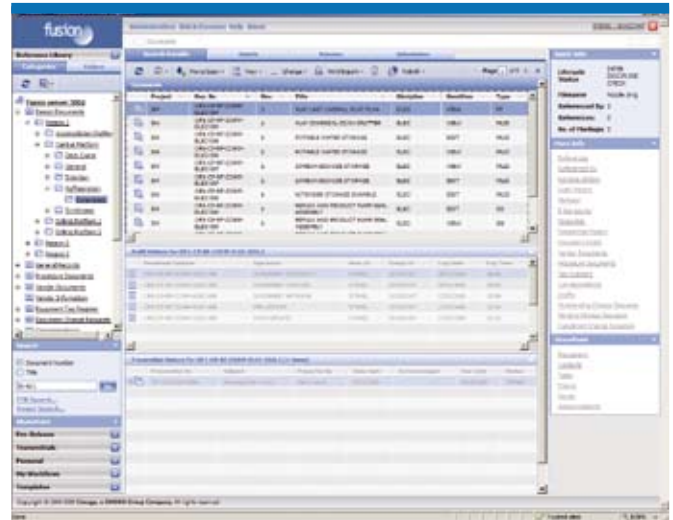
two leading CAD programmes. Users are able to further customise their workspace according to their specific role and search for information relevant to their task.

Amec's engineers were able to access the hybrid system in the same way they had used their previous platform and no additional training was required. Typically, induction for new Amec employees takes no longer than ten minutes, but Sword provides advanced training for the company's data managers.

Continuous information

One of the most important features of Fusion in new construction is the ability to share information with the eventual owner of the facility. The customer can access and review documents as they are created and gain a clear idea of how the work is progressing. This allows for greater transparency and better informed communication between the construction company and the owner-operator.

Furthermore, of the 100,000 documents involved in a project, as many as 80,000 will eventually be transferred to the customer. In an



Users of Fusion can customise their work according to specific tasks.

Keeping track

In a single construction project, there are:

- 100,000 documents
- each taking 10 minutes
- used 25 times
- totalling over 400,000
- in 2.5 million interactions
- hours

offline system, this can take up to three months after construction is complete and cost between £500,000 and £1 million, with frequent inaccuracies causing confusion. Using an online system, this costly and time-consuming process is all but eliminated as the transfer takes place on a continuous basis.

"The new approach is to gather information, and check its content and quality incrementally throughout the life of the project," Harrison explains. "This method adds value by enabling information-sharing though project phases and improves quality by ensuring controlled validation of information. Removing the need for end-of-project extension periods reduces costs and typically improves productivity in the first year of operation."

Sword's products are put to use in different configurations, but Fleet sums up the value of the technology neatly.

"For a new platform it reduces the risk of delay for first oil or gas," he says. "Within an existing facility it maximises the margins of the operating platform and addresses safety issues by ensuring that everyone accesses the correct documentation."

Sword's experience and the flexibility of its products make for a powerful combination. By adapting to the needs of its clients and their existing technology, effective document management allows engineering and design teams to realise their vision for a project. As the drive to open up new markets continues, Sword is making it possible to coordinate teams and leverage existing assets, an attractive prospect for owner-operators and contractors alike. ■

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