CROWN JEWELS BELONG IN THE SAFE

GE POWER PROTECTS INTELLECTUAL PROPERTY AND SAVES MONEY

Using JiVS, GE Power saves an average of 80 percent of its operating costs compared to the previous system. In addition, the faster retrieval times with the added value they bring – cumulated across 50,000 employees in the global fossil fuels division – add up to several million euros per year, because staff who can find construction plans faster can also handle more maintenance contracts.

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Peter Thomas,
Technical Product Manager, GE Power

Challenge

General Electric has made industrial history – not only due to its countless inventions and their influence on economic organization and entire societies. It is hard to imagine modern life without GE aircraft engines, medical devices, and production plants for the generation of traditional, renewable and nuclear energy. But beyond all the inventions, the group's history and success has been influenced by the innumerable acquisitions, mergers, divestments and spinoffs of group companies and divisions.

"Things were like that in 2014 when GE acquired Alstom," remembers Peter Thomas, the Technical Product Manager at GE Power who is responsible for the protection and management of development-related data and documents in GE's fossil fuel division as well as the implementation of IT innovations. "Due to competition regulations, a part of Alstom had to be spun off and was sold to an Italian company. However, that also meant that a lot of business documents, containing technical information that Alstom had collected over decades, needed to be separated off from the rest to prevent a knowledge drain and loss – a Herculean task."

Not all of the technical data and documents from the development department, as well as from service areas like maintenance and repair, have been digitized – in contrast to business data stored in the ERP system. But even the digitized information is spread across several offices and countries and is stored on jointly-used drives and in application databases and document management systems. This heterogeneous group of storage media, databases and applications is typical of large enterprises and their IT environments that have gradually grown over the years. And GE is no exception. In fact, it has about 270,000 employees working with more than 10,000 different applications.

In addition, energy production and supply equipment around the world is subject to strict regulations that sometimes differ from one country to the next. As this equipment has a very long lifespan, all of the relevant information – like construction plans and details of the components and materials used as well as approval, maintenance and repair documentation – has to be kept for several decades in a tamper-proof store. The retention period is usually at least thirty years, although for nuclear plants it can reach fifty or more years. Another point is that several components in the energy sector are subject to export controls, so the accompanying construction plans and similar documentation is not accessible in every country. Some must not be removed from their location, while for others staff need to apply for official permits from the authorities in order to access them.

Solution

The watchwords that help companies master their heterogeneous infrastructures are centralization and standardization. This applies to the processes as well as the system environment. But with every effort at harmonization and migration to a unified central system, the question is always what should

be done with the old applications and their databases and information. "It's not only applications that have a certain lifecycle, but also the data and documents that were created and developed within them," says Peter Thomas. "So, if companies want to turn off one of their legacy systems, they need to ensure they have an information management solution that's independent from the applications."

This separation between the application and information layers constitutes a fundamental difference between information management and the usual approach to archiving. First, the extracted data and documents must still be available for use in the new application environment. Second, the business context of the information needs to be kept along with the information itself. This is very important for regulatory reasons.

As Peter Thomas comments: "Against this backdrop, we had a particularly strict catalog of requirements for a legally-compliant information platform. Luckily, our company had previously made similar plans for system standardization in the ERP environment." The evaluation showed that JiVS was the only solution that met all the requirements for the legally watertight and context-sensitive management of the entire information lifecycle, comprising both structured and unstructured data.

The division's first product lifecycle management (PLM) project took place from 2014 to 2016 and involved extracting over 10 million PDF documents about steam boilers. The information was stored across six different locations and on different systems, including a PLM application in Ashby in Britain and a document management solution in Stuttgart. The idea was to migrate all of the documents to the central JiVS platform located at the GE Power facility in Baden, Germany.

The documents have all been fully migrated to JiVS since September 2017, completely replacing the system in Stuttgart and the solution in Ashby. Access to the information was severely restricted as it included company management documents and even human resources files. The company needed to comply with the new European General Data Protection Regulation concerning personal information.

Benefits

The benefits of a centralized, enterprise-wide platform for information management are clear. The data and documents are protected from loss with the right security strategy. Unauthorized access – whether intentional or accidental – is prevented by a system of permissions and controls. During reorganization processes resulting from acquisitions or divestments, the information repositories are much easier to add or separate than those in paper format or in a heterogeneous IT environment, as there is now an inventory of them all. Regulatory requirements and other obligations for the provision of information or proof can also be fulfilled at the touch of a button. Staff can now find information in seconds, read through it and use the relevant parts in their current business cases.

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But Peter Thomas has even more ambitious plans. "When you think that the lion's share of our development-related information is still in paper format, it's pretty clear that our centralized information management system still has a lot more potential."

The financial argument plays a decisive role here, too. The cost of maintaining the paper archive in Baden alone adds up to a significant sum for archivists and storage space rental. "I have calculated the financial return on the digitization of our engineering department's paper files in three archives and the result was an almost six-figure dollar sum per year," notes Peter Thomas.