



ABOUT FG WILSON

FG Wilson was formed in 1966 as a general engineering company based in Belfast, Northern Ireland. Since 1975, the Company has produced generator sets and is the largest generator set manufacturer in the United Kingdom and one of the largest in the world. FG Wilson designs and builds standard and customized generator sets. FG Wilson has been a wholly owned subsidiary of Caterpillar since 1999, an integral part of the Caterpillar family of companies with subsidiaries, sales offices and dealerships in over 170 countries worldwide.

The Challenge

Faced with continuous year-on-year growth in business, FG Wilson, had to find a way to enhance product design quality while increasing the speed and integrity of design change. Their goals were ambitious: reduce in-field changes through better in-plant processes, empower decision-making and increase accountability, establish strong external communications and support multiple manufacturing sites and international users. With more than 30,000 generators shipped annually and a driving need to provide the level of service its customers deserve, reaching these goals was critical. FG Wilson chose Empresa eChange Solutions.

Maintaining a Quality Organization: 50% Reduction in Change Approvals

Make no mistake about it: world-class manufacturing is alive and well in the United Kingdom. Caterpillar Company, FG Wilson, the largest diesel generating set manufacturer in Europe and the third largest in the world, has successfully implemented eChange, the robust collaborative design change management solution. With annual sales of more than £250 million, FG Wilson lies comfortably within the UK's Top 100 Exporters, and has won the prestigious Queen's Award for Export Achievement three times in the last decade.

Process Changes Manage Growth & Time-to-Market

To build on its already highly competitive position, FG Wilson was determined to get its generators into the market faster, with even higher quality and ever better reliability. The company determined that if it could empower decision-making and accountability throughout the business, it could enhance the quality of its designs and dramatically improve the speed and integrity of design changes. It could see that this would bring clear cost and reliability benefits, and would meet the faster-to-market goal. But this was not just a matter of running the existing system faster. Within the company, there had to be responsibility and accountability for design and engineering changes. And for that there had to be a system that supported that process change.

There were capacity issues, too. The company has a very wide product range for all applications, static and mobile, and all conditions, arctic and tropical, and a very large customer base. Equipment manufactured by the company in the 1970's is still in active use today. The company has scores of different products designs, with in excess of 90,000 different drawings, each with several levels of revisions. If the company was to continue to provide the level of service that its customers deserve, the only way forward was to implement a new system that could meet all the company's requirements.

Design Change Management Spans the Enterprise

To meet its goal, FG Wilson required that engineering designs and changes are created, validated, approved, issued and implemented promptly and correctly at the point where those changes were generated. If the cost of those changes at the manufacturing and assembly phase could be reduced, both the customer and the company would benefit. And if the company could reduce in-field changes through a better in-plant change process, there would be further cost benefits.

FG Wilson's challenge was to replace the existing specially written DOS-based approval and issuing system with a system that would offer enterprise-wide electronic sign-off and issue of engineering documents. The new system had to accommodate significant growth and development, too. The load on the existing system had grown significantly, and because all changes were routed back to the Engineering Department, a costly bottleneck existed. Because the system locked changes at a file level, an NC programmer, seeking to generate and verify a tool path, could not do so while the design engineer had the file checked out. This created pressure to work around such delays, with potential for loss of control. With the new system, responsibility and accountability for design and engineering decisions needed to be taken at the right place within the company, rather than being left to Engineering to drive through the system. And since the company wanted the benefits to be available to everyone in their extended enterprise who needed access to design, manufacturing, assembly and service data, the new system had to have a strong external communication capability; not just supporting change, but supporting eChange.

eChange Meets the Challenge

Although a number of standard view-and-redline products available, none of them could support the method-of-working, responsibility and accountability for design changes that FG Wilson knew they needed to implement. The company needed a systematic and proven solution—one that could really control the data, not just inside the company, but across the extended enterprise. From the solutions evaluated, FG Wilson chose one from Empresa. eChange solutions, implemented by Cadcoevolution of Belfast, enabled FG Wilson to meet their challenge. After a 4 month fact-finding process during which EDM/PDM suppliers and consultants were evaluated, FG Wilson's own IT and engineering staff created the specification for their chosen system. This specification stage was vital – it's where the foundations for success were laid. The more time and effort spent analyzing the current situation, determining the customer needs and wants and specifying the solution, the better the implementation would be.

FG Wilson wanted to be sure that eChange would deliver results vital to their business, so they checked references, and made visits and telephone calls to eChange users in the UK and the US. Cadcoevolution, a long-standing supplier to FG Wilson, already an Empresa partner, had the eChange implementation and support skills that the company wanted. eChange fit exceptionally well into FG Wilson's IT environment. eChange's strong integration with Autodesk products meant that the system would work exceptionally well with the company's 140-seat Autodesk design system. Because all IT development at FG Wilson is web-based, eChange's powerful web capability cemented the decision.

Immediate 50% EC Cycle Time Reduction

There are real and tangible productivity benefits resulting from the electronic release of data. Indeed, this is already very measurable for the production planning and NC programming departments. In fact, the company has already achieved savings of 50% in the time it takes to authorize an engineering change, and with 60 changes per month on average, this is highly significant. And there is growth capacity too, since eChange is scalable.

With eChange, the word "release" at last has a defined meaning for FG Wilson; one that goes beyond just the process. There is a real responsibility on the released item. Proposed changes for example, are now checked for feasibility and accuracy before they are entered into the system. This empowerment of authority has improved quality already, and there is more to come.

Multi-Site Deployment

The decision to implement eChange was made in November 1998, and implementation began in March 1999. Phase 1 of the Engineering Systems Migration project signed-off in December 1999. More users continue to request access every day.

Currently, 140 headquarters staff uses eChange with more requests everyday. At the Monkstown manufacturing site, there are 40 users and plans for more. The Springvale manufacturing site has 20 users, expanding to 40 and the number of international users will grow to 50.

The new system has measurable performance, while the previous paper-based change management system was not and couldn't handle the continuous 10% year-on-year growth in FG Wilson's business. The new system allows access to non-CAD documents, putting specifications, requirements and process instructions under system control. The new system has powerful search facilities, increasing use of existing and proven design data, with a consequent reduction of errors. Because the new system is easier and simpler to administer, there are fewer errors and saved time.

Internet Capability Benefits Customers & Suppliers

FG Wilson's plan is to extend controlled access across the enterprise and out to the extended enterprise—to key partners. The company is successfully using eChange at the Newberry facility in South Carolina, USA. At this site, staff has real-time access to data held at the Larne site. The benefits that the company is getting in the UK are now worldwide. FG Wilson will go further—providing field sales people, customers and sub-contractors with the same worthwhile benefits that are enjoyed by the factory-based staff. As one of the key criteria for FG Wilson, eChange's Internet capability makes this possible.

Communications with customers and suppliers are improved. They now have access to accurate, timely and reliable information, using eChange's Internet capability. Plus, FG Wilson retains full control so the integrity of their data is maintained.

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-FG Wilson Team

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