



➞ CASE STUDY: Document Control

➞ We're giving an aeronautical manufacturer the ability to really spread its wings.

A ProcessFlows' Solution at a world-leading manufacturer of aircraft components has transformed the high risk manual process of distributing and updating Technical Publications, into a fully automated and compliant process, which is efficient, low risk and no longer a burden to the organisation.

The Customer:

A global manufacturer of aircraft components and systems, operating under strict safety and compliance regulations set out by the Civil Aviation Authority (CAA) and the Federal Aviation Authority (FAA)

Every three months, the company has to update their component technical publications and operational guidelines and distribute the information to commercial and military aircraft operators and aerospace support organisations. Checking and double-checking for accuracy is essential.

There could be up to 300 parts in an aircraft component and each type of aircraft has different components. The result is a library of tens of thousands of technical publications – component maintenance manuals, standard practice manuals, illustrated tool and equipment manuals, service bulletins, in service experience, folio documents, spares documents and vendor documents – and they all require regular updating.

A manual authoring and publishing process is unnecessarily laborious and takes up a huge amount of staff time

The document updating processes was paper driven. Hand written edits would be added to multiple printed documents and then sent to designated departments and staff for further comment and verification, before finally being

approved and signed-off for distribution.

An email was then sent manually to notify relevant customers that an update, requiring them to revise their documentation in line with compliance changes, has been published.

This process was extremely difficult to track and audit and took up a lot of staff resource.

A more efficient and assured way of updating and distributing safety-critical technical information

A globally accessible, electronic process, with workflows, ensures that document updates can be authored and approved quicker and that a full audit trail of the entire process is retained.

Other contributing factors:

■ Enhanced security

The company was using a bespoke web publishing method to allow customers to locate and download the technical publications, but it was showing signs of fatigue. Customers could only search for 3 document types, so locating the document they wanted was a difficult process. The incumbent solution was at risk of failing more stringent audit and security checks. It is essential that customers are only able to access documentation relating to the systems they had purchased. Some documents are only available in draft

format. The status of these documents needed to be clearly identified as draft or duplicate documents if they were printed. Files were often emailed, which is insecure and hard to audit.

■ Easy to maintain

Integration with an ageing document management system was becoming difficult to maintain.

■ Making all documents quick and easy to find throughout the entire organisation

Looking at the bigger picture - the company was unable to effectively archive, securely share and quickly locate paper copies of documents (of any type – invoices, consignment notes etc) on demand. Due to the industry sector, the company is also subject to mandatory audits and accreditations, requiring regular access to documentation. Operating over disparate international sites exacerbated the problem.

■ Programming language

The solution had to be developed using the company's specified programming language.

■ Storage space

The amount of physical storage space for archived documents was a growing problem. The company operates a number of legacy document repositories that store their data in a proprietary format.

ProcessFlows' automated electronic document management met the criteria

After an evaluation and tender process, ProcessFlows was chosen to implement an automated document capture and management solution for the entire organisation, using OnBase technology.

OnBase is a totally modular software solution platform. Any initial implementation provides a firm foundation for any future enterprise scale ECM system. There will never be a need to 'rip and replace', so this is a sound investment for an organisation with bigger plans.

OnBase stores all electronic information in a dedicated document repository. It is integrated with the organisation's global SAP system to enable access and the updating of documents (subject to user access rights) via the SAP user interface, from any location, worldwide.

Two OnBase elements which synchronise in real time

Two elements were deployed – an internal system and an external system, which customers can access via the web.

Both elements utilise OnBase's user group and document level security settings and are configured with extremely granular levels of user rights (e.g. a single user could have access to just a single document).

Internal

The internal element stores and enables the management of all mainstream documents for the entire global operation. This element is isolated in a separated, secure part of the company's network and is connected seamlessly to the external element using a single and secure firewall port.

External

The external element is designed to handle the storage of all technical publications/updates and ensure the secure distribution of documents electronically to customers.

ProcessFlows developed a highly secure, customised web client application within OnBase

The bespoke facility, which enables OnBase to track and monitor all user activity on the web and constantly check the system for new documents, was written in Java, running on a 'Tomcat' Server inside a Linux Server.

Single sign-on is enabled; Customers access the web client over a single encrypted port, supported by an SSL Certificate on a secure Windows IIS web server. They are only able to access documents to which they have rights.

The customers don't see any documents in search results if they have not subscribed to them.

At the backend, where the web client integrates with OnBase, .Net programming has enabled workflow to:

- Automatically pick up on updates and send a programmed email to those customers with corresponding subscription rights, that a new document is available.

- Allow managers to view detailed reports on which documents were accessed, when and by whom, so they can tailor services more effectively to support the customers' needs in the future.

Ease of use

ProcessFlows developed a graphical tool to enable easy identification of documents. On accessing the external system, users are presented with a visual 'family tree' of the documents they are authorised to access.

Improving the quality of their data

During the document migration stage into OnBase, it became apparent that not all of the data associated to the documents was accurate. All data was cleansed prior to import to ensure that the integrity of document data was good.

Synchronising internal and external elements

ProcessFlows were able to harness the durability of the 'Document Transfer Module' within OnBase to keep specific document types in sync from one element to another. This means that any changes made in the internal element are seamlessly and quickly replicated in the external element.

Because the two OnBase elements communicate seamlessly with each other, there is still only a single point of entry for anyone wishing to administer the system. Custom actions allow users to publish and unpublish documents with ease and require little user training.

"Aerospace companies need smart and secure business processes to help them efficiently manage compliant global operations and enable the easy sharing of information with staff, suppliers and customers. To date, we have supplied all this and more, ensuring operational effectiveness throughout the entire organisation."

ProcessFlows Project Manager

Fully automated 'Knowledge Transfer'

The ProcessFlows solution handles the entire document evolution process from creation, through many iterations, right through to Publication and Knowledge Transfer.

Bespoke, rigorous 'approval workflow' has been created to ensure:

1. That amendments, approvals, reviews and sign-off of every document is completed in line with company procedures and directives.
2. Electronic 'notes' can be added to documents.
3. Interested parties (both internal and external) are notified that a document requires approval/comment.
4. Customer notification of new updates is an automatic, bi-directional process with in-built verification that updates have been received.
5. Reduced risk.

How Approval Workflow 'works' on a day-to-day basis

- A document change/update is initiated.
- A 'Change Driver' document is created detailing the required changes. ProcessFlows developed the solution to enable OnBase to actually annotate the change onto the CMM using the internal OnBase clients. This makes it easy for the engineers to see the changes being 'drawn' electronically onto a document.
- The Change Driver is allocated to an RCP (Revision Cycle Pack). This is a 'collection' of documents that are earmarked to be released at a particular date (in this instance, quarterly). The RCP is designed to help company users to release updated documents in an organised and formalised approach for their customers, rather than simply updating individual documents here and there.
- The actual document (CMM) is amended off line and uploaded back into OnBase.
- OnBase is now responsible for the 'approval' of this document and directs the document through a number of stages.
- At each workflow stage, through internal engineers, external engineers, engineering managers etc, the document is cross-referenced with the change driver and the original annotated document to ensure that the appropriate change has been made to the document.
- Critically, each stage of the process is audited logically by OnBase – OnBase records who did what and when. This helps managers to identify 'stuck' documents or bottlenecks in the system.
- Once the document is ready for release an authorised manager clicks the 'publish button'. This releases the document to be visible by the customers on the newly created web client.
- Importantly, only customers that have access to this document can search for and view it.
- ProcessFlows have built a bespoke module that simultaneously notifies – with an automated email – all customers with document access rights, that a document revision is available.

Summary

The ProcessFlows solution fully delivered to brief – improving document storage, access, traceability and accountability. It ensures that all associated technical documents, ops manual updates etc are delivered securely and accurately to customers, in line with compliance standards and provides ease of audit throughout the entire organisation.

The web client element is generating more revenues from update subscriptions, which, combined with the removal of the costly manual processes previously deployed, is resulting in a substantial revenue increase for the organisation, something that was not originally considered.

The potential of the ProcessFlows solution to improve document handling and control data in other business areas is already being realised.