## Case Study

**Electronic parts catalogue for the aircraft industry**

Diamond Aircraft Industries in Austria is an aircraft manufacturer that combines innovative and forward-looking aircraft technology with professional and praxis-oriented service documentation. Located in Wiener Neustadt, the worldwide operating composite aircraft manufacturer produces aircrafts for flight schools and private operators. According to approvals by EASA (European Aviation Safety Agency) Diamond Aircraft Austria is authorized to largely independently develop internationally accepted aircraft design and modification, to produce and inspect new aircrafts and to deliver these with an Aircraft Statement of Conformity within the entire EASA area.

### Initial Situation

Until Diamond Aircraft Industries decided to also work innovatively in the sector of service documentation the company provided their spare part information – parts lists out of a MS Access database and Corel Draw illustrations – as PDF documents online. This was replaced 2006 by an electronic spare parts catalogue system based on Docware’s spare parts catalogue software PARTS-PUBLISHER.

### Requirements

The target was to publish high-quality parts and service documentation on CD, Internet and paper from a single source. With this new multi media publishing solution the quality and presentation of the provided service and spare part information was to be improved. The essential aspects for upgrading the quality of the spare part documentation were usability, being up-to-date, clearness, linking of related information, traceability of the machine structure, consideration of different variants and an integrated ordering function.

### Diamond Aircraft Industries

- Manufacturer of composite aircrafts for private operators and flight schools
- Head office, research and development operations: Wiener Neustadt (Austria)
- Production facilities: Wiener Neustadt, Ontario (Canada)
- Offices in Europe, North America, Asia and Australia
- Employees: 1200
- Production of over 3500 aircrafts
- Largest manufacturer of single engine aircraft in Canada
- Third largest manufacturer of single engine aircrafts in North America

**www.diamond-aircraft.at**
Spare Part Catalogue Software

The spare parts catalogue software that met the requirements of Diamond Aircraft and was finally selected is PARTS-PUBLISHER of Docware. The catalogue application consisting of a database, the Workbench and the Viewer/Browser software was more or less implemented out of the box. Only a plug-in for the catalogue entry via serial number was adjusted.

With PARTS-PUBLISHER Diamond Aircraft Industries produces catalogues for print, CD and Internet with the single source method. The taking-over of the parts lists into the catalogue system is effected as hierarchic parts lists in Excel format. Drawings created with Corel Draw are imported as TIFF group 4. Spare parts data are stored media-neutral in the catalogue database.

With the Workbench the catalogues are configured – this means the layout, the structure, the languages and the appearance of the catalogues are defined. The processing of the data for the catalogue output, especially the linking of the part numbers in the parts lists to the position numbers in the drawings, is largely effected automatically. Pre-condition for the linking of the position numbers to the related parts list data are Hotspots – sensitive areas with stored hyperlinks to the position numbers. The placing of Hotspots is effected in batch mode with the Hotspot Tool – a tool of the PARTS-PUBLISHER Workbench.

With the free PARTS-PUBLISHER Viewer software the catalogues created in the Workbench can be viewed and used interactively on every PC or notebook running with Windows. The CD Viewer is a Windows program that is automatically started when inserting the catalogue CD. The Internet Viewer supports all browsers running with Java. The Internet catalogue is based on J2EE. This is about a 3-Tier architecture that is easily scalable and also suitable for very large amounts of data. A browser running with Java or is .NET compatible is sufficient for the display. The user does not have to install the catalogue software or potentially risky Active-X components.

Intelligent Catalogues

Using PARTS-PUBLISHER Diamond Aircraft Industries produces catalogues that outplay the previous PDF solution. The new electronic catalogues on CD and Internet combine information necessary for inspection, maintenance and ordering of spare parts. Each of the catalogues documents different variants of an aircraft type and contains about 8500 parts. Only a few mouse-clicks are needed to receive variant-specific spare parts data, related graphic views and additional information at a glance. One click on a spare part in the parts list displays this spare part simultaneously in the drawing and vice versa. Additional information can be opened via corresponding icons in the parts list point-and-click. The catalogues can be handled easily and intuitively. Basic knowledge of Windows is sufficient.

The access to the catalogue is effected via the serial number. A tree view directory reflects the structure and the content of the catalogue. All assemblies of an aircraft can be opened directly from the tree view point-and-click. A full text search on all data in the catalogue simplifies the search for information. The entry of any search key – combinations are possible – results in a hit list from where matching catalogue sectors can be called up.

Integrated Ordering Function

Not only the identification but also the ordering of spare parts became easier than ever with the new catalogue system. Every catalogue CD has an integrated ordering function for releasing orders directly from the catalogue and transfer them by e-mail. Additionally to the CDs a freely accessible online catalogue and ordering system is available.

Fast and Efficient

With its “ILLUSTRATED PARTS CATALOG” Diamond Aircraft Industries created an information and ordering system for spare parts that offers an outstanding basis for a prompt and professional processing of maintenance tasks. Intuitive and clear spare part information that can be called up by a few mouse-clicks allow for precision landings with the spare part identification and ordering.

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