



## XML /SGML Publishing in Practice

### Publish Structured Data with the Rohde & Schwarz Toolbox

#### Structure and Flexibility

Standardized Meta languages such as SGML (Standard Generalized Markup Language) and XML (Extensible Markup Language) are gaining increasing acceptance for the creation and transmission of structured data. The advantages of SGML and XML are not only recognized in the automobile and airline industry. Data created with SGML or XML will be required in the future even from such public institutions as the German Army. Data processing according to AECMA Spec 1000D and AECMA Spec 2000M is becoming increasingly important in these areas.

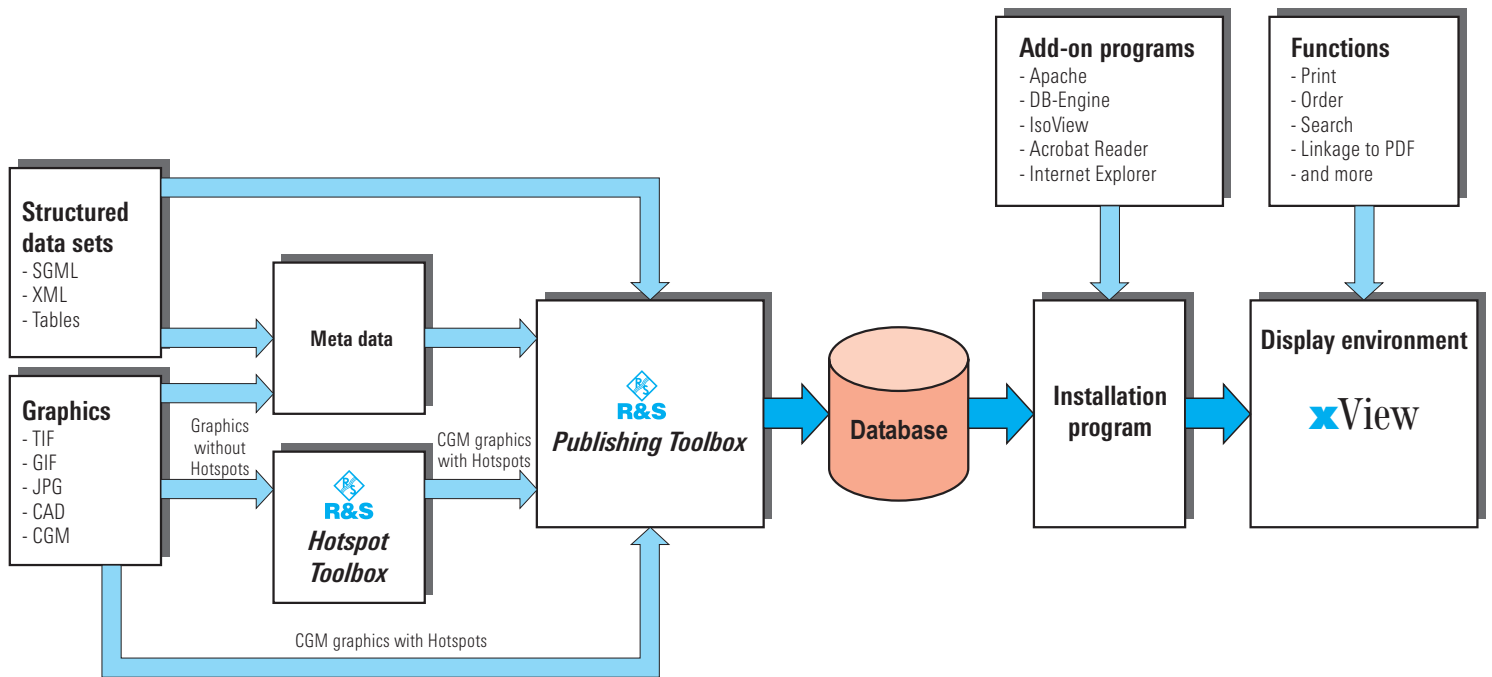
This standardized data is used for Interactive Electronic Technical Documentation (IETD). To be able to display this data online and offline, a display environment is needed which can be implemented as universally as possible. Functionality and layout must be able to be adapted to specified customer requirements.

The software tools developed by Rohde & Schwarz for the electronic publishing of SGML and XML data allow just this flexibility when creating customer-specific Interactive Electronic Technical Documentation.

#### Putting practical experience into practice

Because Rohde & Schwarz has gained many years of experience from the creation of our own technical documentation and spare parts catalogues, we were able to take the particular requirements of daily work into consideration while developing the R&S Software-Tools for SGML and XML.

The *R&S Publishing Toolbox* and *xView* are developed through practical experience for practical use. They are fast, lean and dependable. Using these tools, your data can be refined into an Interactive Electronic Technical Documentation.



### Data processing

For display in an IETD, the data which exists or is to be created must be in a structured form, ideally in SGML or XML. However, even data in table format, e.g. from a database, can be used.

The illustrations which are to be displayed in the IETD can be in any format. However, when they are to be linked with parts lists etc., clickable areas in the graphics, so-called Hotspots, must be defined. These Hotspots are either created while drawing the graphics, (e.g. in CGM-4 format) or subsequently integrated into the graphics in a semi-automatic process, using a suitable program such as R&S Hotspot Toolbox.

The logical connections between the graphics and the associated structured data are described in Meta data, which are stored separately.

### The R&S Publishing Toolbox

The *R&S Publishing Toolbox* developed by Rohde & Schwarz uses the structured entry data, the graphics with Hotspots and the associated Meta data to create data modules which are stored in a database. These modules can then be displayed and manipulated in the *xView* display environment.

### The Installation Program

The display environment and all necessary auxiliary programs are automatically installed with a user dialogue on the customer's computer, either as a stand-alone or as a client-server installation.

### The xView display environment

For each customer, the functions needed for display and manipulation of the structured data and graphics are individually integrated in the *xView* display environment. Even though there are many standard functions to rely on, the integration of customer-specific special functions is also possible. Some of the possible functions are:

- Display and navigation in the management structure
- Linking of graphics to the text (e.g. part lists)
- Text string search

- Database search (search according to order numbers, descriptions, items, etc.)
- Navigation
- Backup of file versions
- Printing of the graphics
- Printing of the text portions (parts lists, data modules)
- Printing of referenced PDF documents
- Creation of shopping carts with online ordering
- Creation and management of bookmarks
- Insertion and management of notes
- Integration of the Adobe® Acrobat® Reader with full functionality for display of referenced PDF documents.

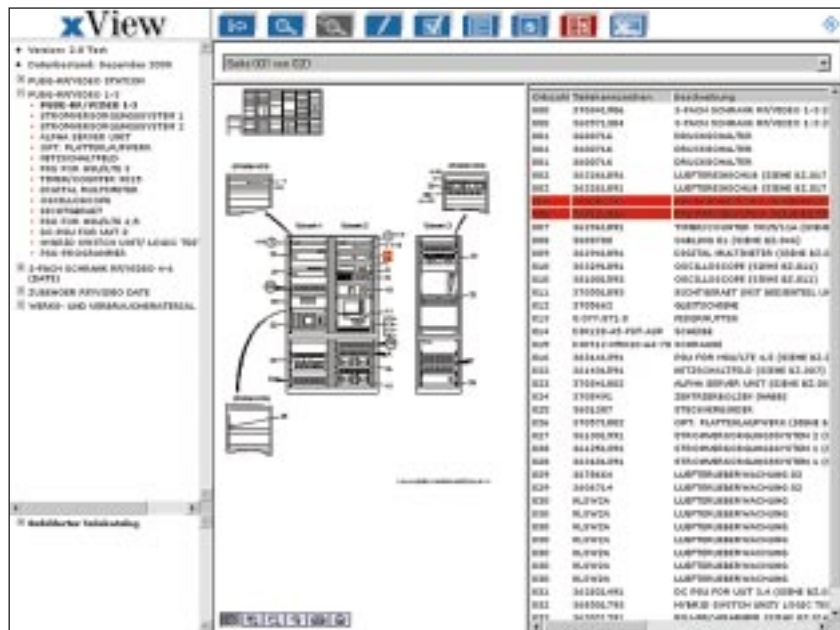
Rohde & Schwarz has consequently put *xView* on the Microsoft® Internet Explorer platform. With Internet technology and standard software employed throughout for data management and screen display during implementation of documentation projects, it can be used online over the Internet as well as offline as a CD version.

## Examples

The following examples illustrate Interactive Electronic Technical Documentation which was created with software tools developed by Rohde & Schwarz.

### xView parts catalogue with AECMA Spec 1000D and 2000M modules

In this project, the SGML modules which are partially in AECMA Spec 1000D and partially in AECMA Spec 2000M, are displayed in *xView* as illustrated parts catalogues. *xView* allows a quick search under parts and component groups. The module structure is displayed in the left window. You can navigate freely within this display structure. The component groups which were selected in the module structure are graphically displayed in the right window with the corresponding parts lists. The graphics are linked through their position numbers with the corresponding positions in the parts lists.



The following functions were integrated in this project:

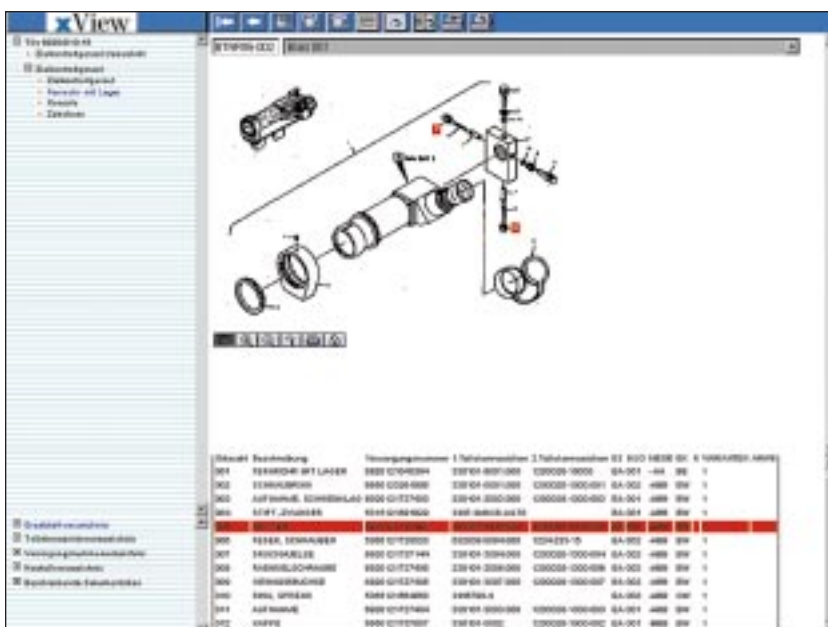
- Database search
- Attachment and management of notes
- Shopping cart with online ordering
- Various display options

### xView parts catalogue with integrated Acrobat PDF module

In this project, an illustrated parts catalogue based on SGML modules in AECMA Spec 2000M was displayed in the *xView* display environment. A special feature of this project is the integration of documentation which is not in an SGML structure. These sections are

called up from *xView* as linked PDF documents. For this purpose, the Adobe® Acrobat® Reader is included in the viewing interface. *xView* allows a quick search for parts and component groups and the corresponding passages from the descriptive documentation. The navigation corresponds in general to the type already described in the first example. The division of the screen is adjusted because of the other data structure. The graphics here also have been given Hotspots, so that the corresponding entry on the parts lists can be selected by clicking on it. The following functions are integrated into the project:

- Text search,
- Database search,
- Management and display of search results,
- Various display options,
- Links to PDF documents.





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