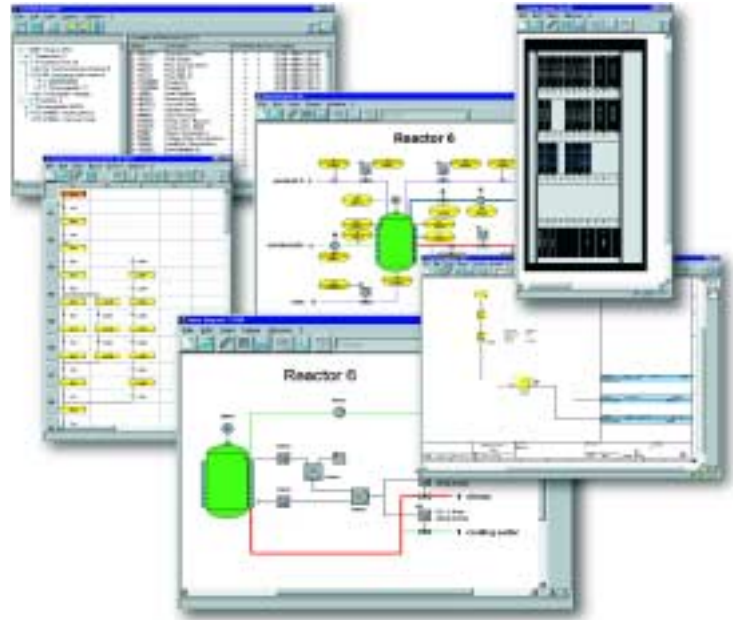


## Features and Benefits

- Support of concurrent engineering for Control Systems
- Operation on Windows NT® and Windows 2000®
- Multiple client/server architecture
- Off-Line and On-Line operation to the control system
- Process loop-related design, commissioning and maintenance
- Comprehensive and consistent database with import and export interfaces
- Different views of Control System Data
- Support of different coding systems
- Consistent forward documentation
- Project-specific libraries and macro technique
- Integration of Third Party Documents and applications
- Object navigation and intuitive user guidance



Composer is the comprehensive Engineering System of the Melody Control System. The engineering environment provided by Composer simplifies the configuration, documentation, commissioning and maintenance of Melody systems, based on Melody Control Stations.

Composer is designed for the Microsoft Windows NT® and Windows 2000® operating system. An extendable client/server architecture supports multiple users operating in a network environment.

An integrated database management ensures that the plant data and its concurrent documentation are always consistent and “up-to-date”.

Information can be imported and exported using many popular or customized formats. By integrating third party applications, their relevant documents can be called up directly from the Composer applications.

## System Architecture

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The system architecture of Composer Engineering System can range from a single station to complex client/server architecture with planning and diagnostic centers. Individual adaptation to the control system size is possible. One Composer server can be used for several plants or separated parts of plant.

The Composer server communicates with Composer clients via the Engineering Network. In the design phase the Composer Engineering System can operate without connection to the control system. Commissioning and maintenance require an Ethernet connection to the Onet (Operation bus) of Melody System.

## Authorization Management

With authorization management the system administrator can assign access rights to individual sections to individual users by means of assigning them to one or more specific user groups for administration, editing, measuring, setting parameters, simulation, releasing, loading, maintenance and viewing only. This makes it possible that a user can only edit but cannot place anything in operation. Another user can set parameters and simulate but cannot make any changes to function diagrams.

## Composer Applications

The Composer Engineering System contains all applications necessary for a concurrent engineering of the process control system. Starting with the applications for definition of process points and loops, for function design, system and cabinet layout along with the application for service and diagnostics up to library processing, all functions are available which allow an effective system configuration, documentation, commissioning and maintenance.

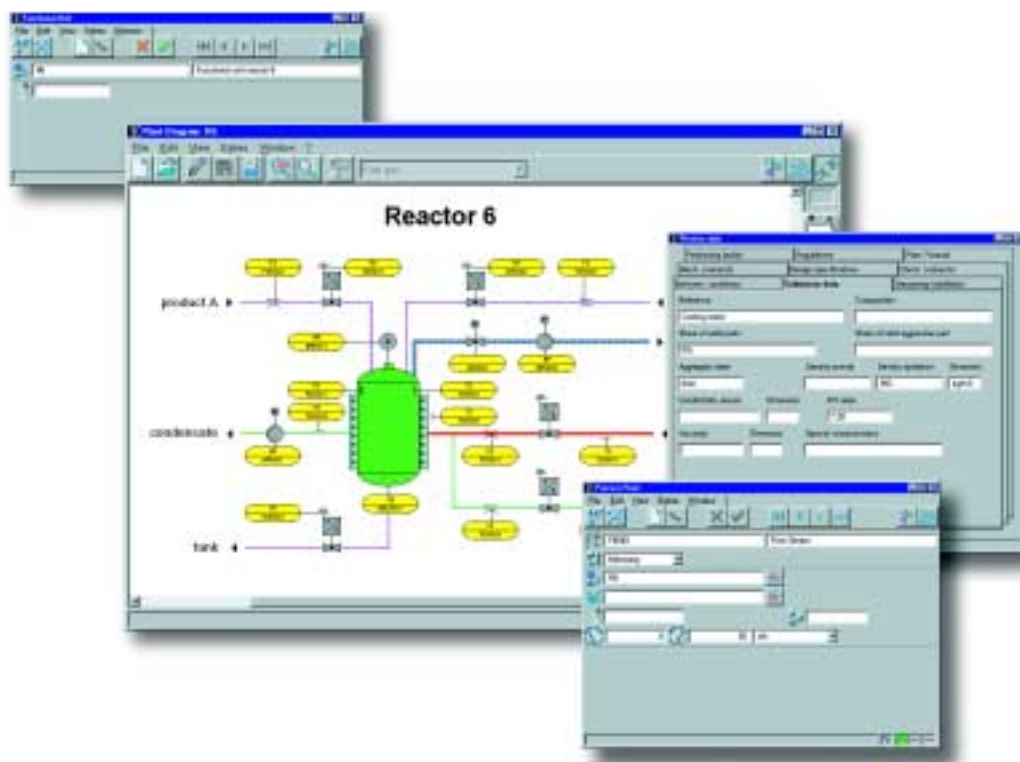
A further application within the Composer Engineering System is the Documentation and Information Management which simplifies the view on designed data including integrated third-party documents. For an easy handling the Composer applications are arranged in several views. These views are based on the standardized control system structure according to ISO/IEC 1346-1 and support the organizing, navigating and locating of control system data and documents.

The Composer applications can be called up by multiple users simultaneously. At any time, all data and documents are consistently available for processing to each user by means of the database management. Composer provides the same applications for the design and commissioning phase, only masks, menus and diagrams must be matched.

Graphical man-machine interfaces, object-related context menus, navigator and many help functions make intuitive user guidance possible. In particular, the possibility of automatic data coupling between the various Composer applications makes the system easy to handle.

### Process Loops, Process Points

The access to the functions of the process control is usually effected via the process loops of plant. In the Composer Engineering System process loops can be specified with one or several process points and attributes, such as long text, short text, measuring ranges and dimensions.



Function Unit, Plant Diagram, Process Point Definition and Process Data

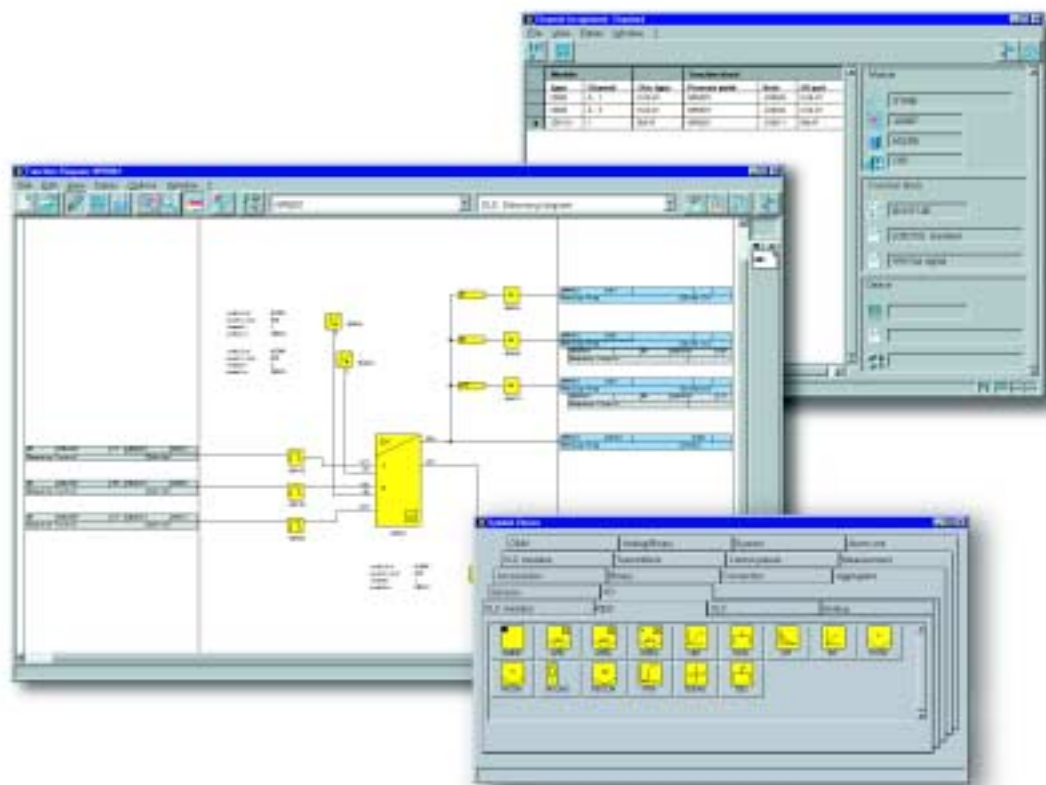
Composer supports different coding systems, for example according to ISO 3511-1 or KKS (coding system for power plants) standards. Process data sheets are available for the detailed description of the process points.

Function units and plant areas are useful for a hierarchical function and plant structure. The generation of large data sets is typically made via data import application. The processing of all loop-related data and the generation of process point and actuator lists is possible by means of the Composer Engineering System.

Process and control correlations between the individual loops can be displayed in control engineering P&I diagrams, overview and area function diagrams. A navigation by means of the definite tags between several diagrams and data displays up to the function diagrams is supported optimally in the Composer.

## Function Planning

The function diagrams present the individual function blocks of a process loop. This graphical design contains modules for operating, processing or I/O and includes, if required, also field devices. Function diagrams can cover multiple tags on multiple pages. Signal connections, specifications of messages, archiving, alarms and signal comments are supported by a powerful signal management. The signal tracking throughout the function documentation is assured by a perfect cross-reference technology. For this purpose the user gets an optimum assistance directly from the system.



Function Diagram, Channel Assignment and Symbol Choice

Open libraries, which can be supplemented by the user, allow the quick processing and implementation of individual requirements. Function diagram symbols for function blocks and predesigned function diagrams serve as templates for a quick drafting.

Several function diagrams can be processed simultaneously. Automatic plausibility checks, filter possibilities, sorting and data coupling facilitate the engineering process.

The structuring and processing of sequence controls is effected via the integrated Sequential Function Chart Editor (SFC) in conformity with the IEC 1131 standard. The respective individual function diagrams showing the transitions and actions are automatically generated in the Composer Engineering System.

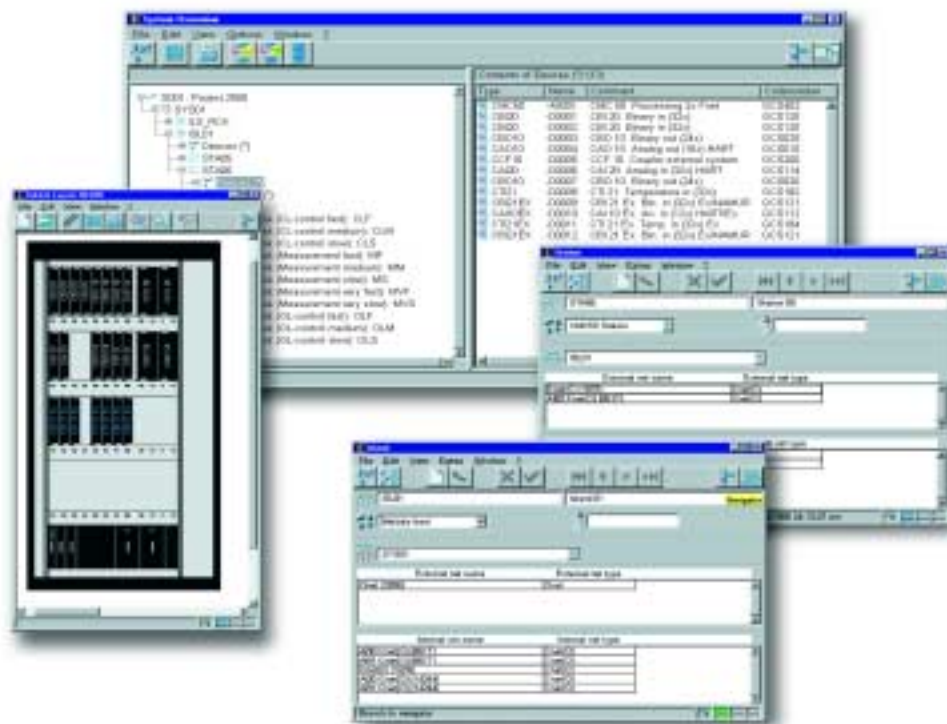
The essential benefit of this function documentation is the complete representation of the process loop. A direct loop-oriented loading of all function blocks is effected from the function diagram. Here, all respective Melody components, from the I/O up to the Operator stations, are fed with the data required for the operation of this loop and commissioned completely.

This procedure results in a consistent and complete forward documentation.

For efficient project engineering, further help functions are provided to the user at the compilation and editing stages. For example, not only is it possible to copy individual function diagrams, also complete data hierarchies such as function units and plant areas can also be duplicated.

## System Planning

The communication of the Melody components is effected via a flexible and reliable bus system. The planning of the Melody system structure, the assignment of station components and network is made in the Composer Engineering System. Due to the direct access to specific module parameters, the Composer supports a quick adaptation of the components to the respective intended application. The data defined in this way are used for the channel layout and task assignment. Extensive libraries with integrated plausibility checks assure a trouble-free and smooth operation.



Cabinet Layout, System Overview, Island and Station Definition

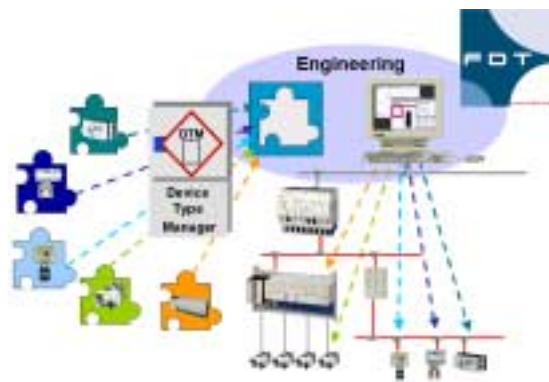
In the cabinet layout diagram editor, the cabinet slots are assigned to the modules defined before. Previously defined module redundancies are automatically taken into account, however, they can also be defined within the scope of the cabinet layout.

## Field Planning

The data introduced via the function and system planning, such as process point definitions, device and channel layout data, have to be considered for the field planning. For this purpose, defined interfaces are provided by the Composer, which can be used for the information exchange with third-party systems for field planning e.g. Prodok or Iska.

## Fieldbus Planning

With the integration of PROFIBUS technology a fully integrated solution for coupling of field devices to Melody is achieved. The integration of the Field Device Tool (FDT) interface (option) in Composer allow the configuration, commissioning and maintenance of PROFIBUS devices via Device Type Manager (DTM) in a very simple manner. For the integration of field devices, which come with conventional device description files (GSD), there is a BasicPROFIBUS DTM (option) available, which allows a standardized off-line configuration. For the coupling of HART devices a special BasicHART DTM (option) is available with which HART devices can be integrated, configured and parametrized via standard HART protocol without the need of additional tools.



Efficient Fieldbus Planning with FDT/DTM

The FDT interface offers the necessary software environment for the installation of device specific DTM, the BasicPROFIBUS DTM and the BasicHART DTM. Therefore it is possible to call up the field device DTM out of the different view (Functional Diagram, Overview System and Location, etc.).

The PROFIBUS master configuration is integrated in Composer (option) with net calculation and loading of process items by using the device-specific channel configuration generated by DTM.

## Bulk Data Handling

The processing of a filtered quantity of data in Composer can be performed very effectively by using Microsoft Excel®. Microsoft Excel® will be started directly after filtering and exporting the necessary data. With a special menu entry to Microsoft Excel® the data can be sent back to Composer directly.

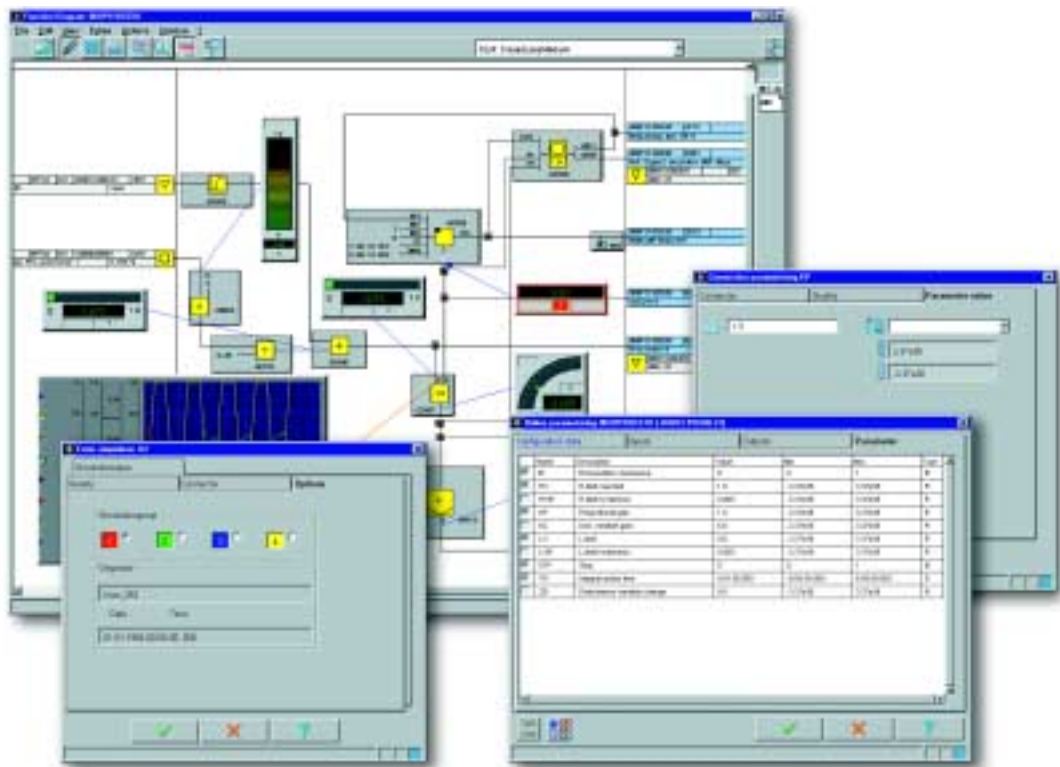


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Effective Bulk Data Handling

## Service and Diagnostics

During operation and especially during the integration and commissioning phases of process control systems, it is important to be able to use an engineering system which offers simple possibilities for a problem and error analysis. The same applications which are offered by the Composer Engineering System in the planning and design phase are also made available during the commissioning phase. The current state of components (initialized, loaded etc.) are shown in the system.



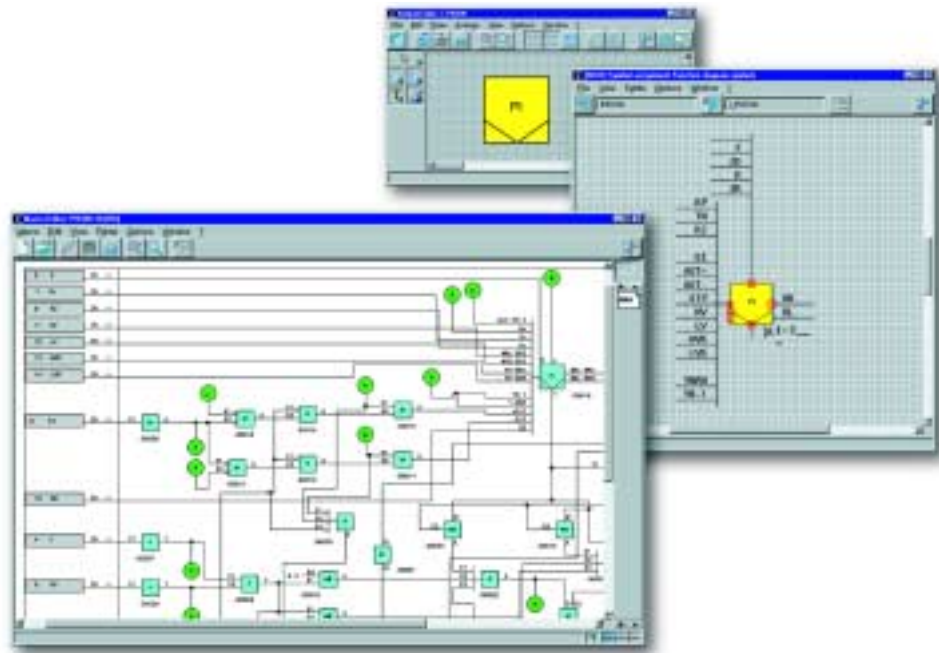
Parametrizing, Forcing and Displaying Live Values

The function diagram is not only provided for displaying measured values. Parameter definition and signal forcing can be effected directly from the function diagram. Parameter settings are stored in the database.

## Libraries

The libraries in the Composer are the basis for all applications. All components, devices, symbols for P&I diagrams, function blocks for operation and control processing, I/O configuration, coding or dimensions are included in these libraries. The necessary plausibility checks for the correct use of the library elements are also integrated.

The Composer system libraries can be supplemented and modified. Especially with respect to the function blocks, the macro editor, symbol and assignment editor are available as efficient tools for the definition and/or extension of project-specific solutions.



Macro Editor, Symbol and Symbol Assignment Editor

## Documentation and Information Management

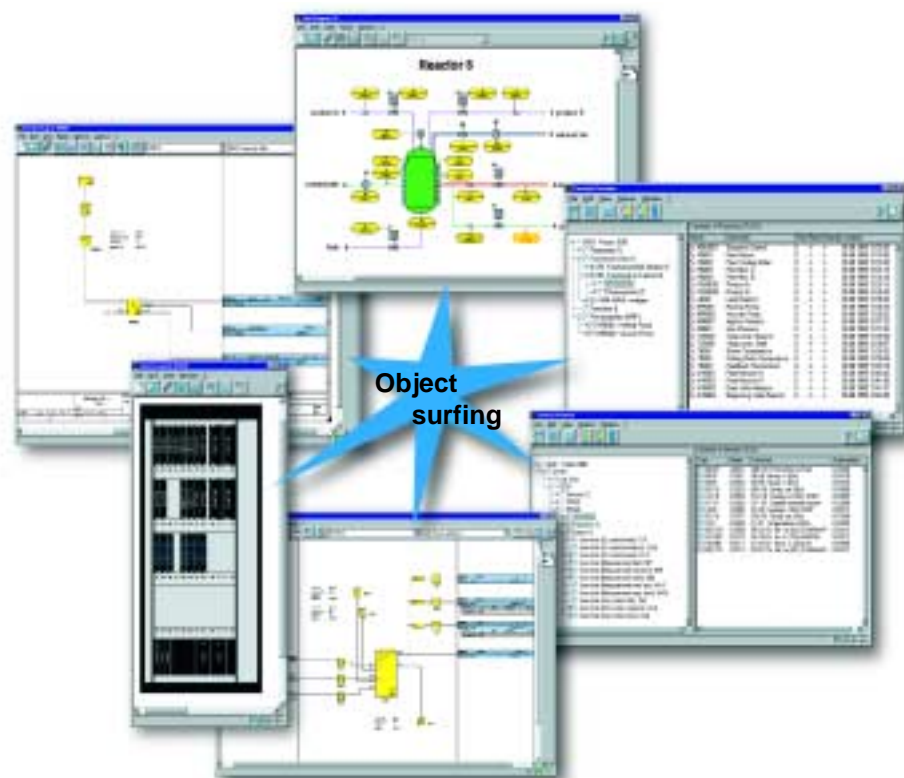
Due to a consistent forward documentation with modification and version management, the documentation is always up-to-date. The documentation and information management facilitate the call-up process and the navigation in the plant documentation. The technical product documentation of the control system is also accessible online.

CAD systems available to the user can be called up directly from the Composer. Document viewers can be linked. Third-party documentation is managed in the Engineering System. References to these documents can be introduced into the Composer and linked in the object navigation of Composer.

The Composer offers the possibility to combine documents in hierarchically organized folders. Such documentation units can be defined by the user. Reports can be issued directly from all applications within the Composer Engineering System. In order to offer also user-defined report types, the Composer allows an automatic data transfer with formatting and report issue by Microsoft Excel<sup>®</sup>. Here, Excel can operate in the background or it can be called up for data processing.

In special overviews all information is displayed in hierarchical order. Data couplings allow a quick call-up of the processing applications.

For further data selections in these overviews, all applications opened in this way are automatically linked to these data. In addition to information lines and Smart help, the system documentation can be called up at any time.



Object Search and Rapid Access

## Audit Trail

It is increasingly important having the overview, which changes were made at the system and which effect they have on the life cycle of the individual components of the system. At least the FDA specification require such a functionality.

With the audit trail the engineering system offers the possibility to archive system changes, e.g. all online-actions, actions with PROFIBUS, entering, changing or deleting simulations, loading function diagrams, link/unlink, initialization and replace of central units, etc.





**ABB Automation Products GmbH**

Dudenstraße 46

68167 Mannheim · GERMANY

Tel.: +49 (0)1805 266 776

Fax.: +49 (0)1805 776 329

<http://www.abb.com/controlsystems>

email: [marketing.control-products@de.abb.com](mailto:marketing.control-products@de.abb.com)