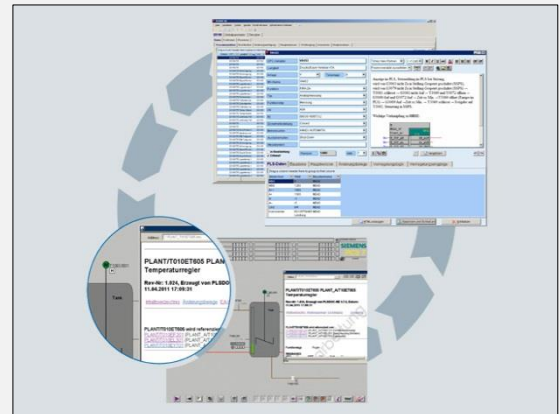


**PLSDOC®** is a system for documentation and supervision applied in industrial plants in chemistry, pharmacy, electrical generation, wastewater treatment, petrochemistry and manufacturing industry. **PLSDOC®** provides the documentation and change revision for SIMATIC PCS 7 and all OPC supporting PCS/PLC systems over the whole plant life cycle. Plant operators benefit from the high availability of plant-knowledge and are supported in plant maintenance and quality management.

**PLSDOC®** compares the plant documentation in real time to current parameters such as threshold values, control parameters, lock information and step chains of the PCS system. Changes are automatically recorded and revised in change logs.

**PLSDOC®** provides relevant information by standardized project documents, e.g.:

- ▶ Description of the point of measurement functionality
- ▶ Threshold value reports
- ▶ Change logs
- ▶ Step chain documentation (SFC)
  - ▶ SFC-back engineering (PCS 7 / Freelance etc.)
  - ▶ SFC designer with SFC version comparison
- ▶ Project documentation: IB / FAT / LoopCheck reports
- ▶ Process instructions as support for alarm management



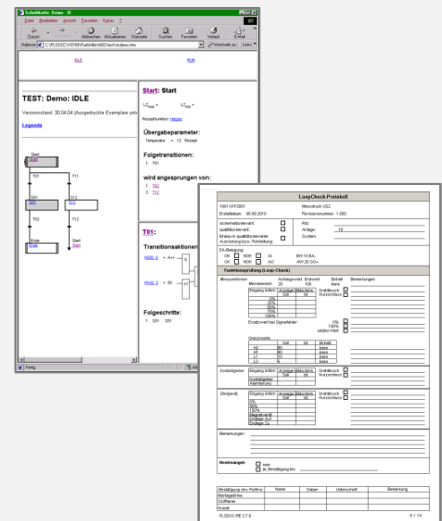
## Benefits:

- ▶ Protection of plant knowhow
- ▶ Automated comparison between PCS data and requirement specification
- ▶ Increased plant security:
  - ▶ Direct availability of plant documentation
  - ▶ Integration of system specifications into operator systems
  - ▶ Fast failure detection
- ▶ Support for operation, production and maintenance:
  - ▶ In case of failures and for training procedures
  - ▶ Increase in effectiveness of the plant staff
  - ▶ Paperless work and fast discovery of information
  - ▶ Support for PCS documentation and back engineering
- ▶ Standardized documentation of CFCs and SFCs
- ▶ Transparent and complete for change retracing: revision history, availability of actual documents
- ▶ Reduction of error sources / prevention of multi-processing

The plant documentation with **PLSDOC®** is up to date and available any time. The plant-knowledge is protected and the time needed for data maintenance is reduced.

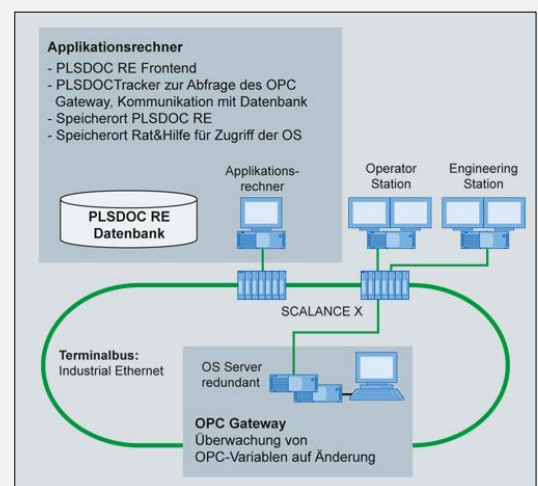
### Functions:

- ▶ Online update of plant documentation from the PCS system in real time
- ▶ Availability of plant documentation in IT-World and in SCADA-systems (including the possibility of direct integration into operating and monitoring stations – generated html documents can be selected from the process screen)
- ▶ Documentation of plant lifecycle
- ▶ SFC-Editor: step chain retracing function with graphic input mask and HTML output
- ▶ Data interface: import into/ export from CAE-systems with change preview and import history
- ▶ Functional and technical specification functions, allocation of relevant documents
- ▶ Configuration and actualization of long term archive management systems, e. g. Aspentch IP21, OSI-Soft, Plant Historian PDA
- ▶ Back engineering / retracing of existing systems
- ▶ Administration of information concerning plant peripherals (computer, printer, software licences etc.)



### Technologies:

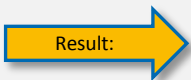
- ▶ Central database plant documentation
  - ▶ Generation of HTML documents for each process variable
  - ▶ References to other process variables are directly accessible via hyperlinks
- ▶ PCS connection for Siemens Simatic PCS7 / S7, WinCC as well as for any other control system via OPC
  - ▶ e.g. Emerson Delta V, Freelance 2000, ABB800xA
  - ▶ Special solutions for older systems like Contronic P, Teleperm M, Advant Master etc.
- ▶ Monitoring of redundant server pairs in terms of retracing and switching to the redundant server in case of failure of the actual one
- ▶ No data loss in cases of disconnection between OS server and PLSDOC® due to buffering of changed information
- ▶ Company-wide solution
- ▶ Menu-driven installation by users possible



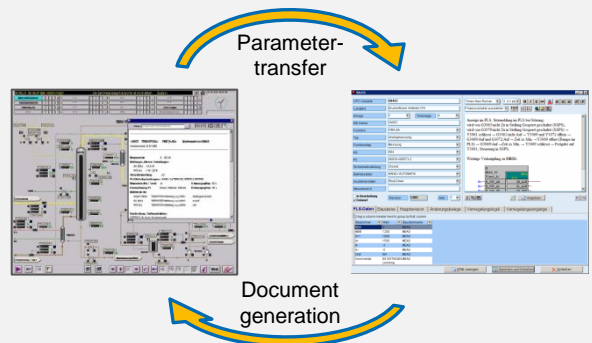
### PLSDOC® Modules:

The **PLSDOC® RE** module provides retracing (reverse engineering) for SIMATIC PCS7 as well as for any OPC supporting PCS/PLC systems over the whole plant life cycle.

- ▶ Changes are automatically noticed, registered and recorded in a revision history
- ▶ Central change documentation: Changes are immediately recorded and made available.

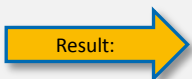


- ▶ **Transparency and completeness in change documentation**
- ▶ **Documentation is up-to-date**
- ▶ **Redundance-free documentation**

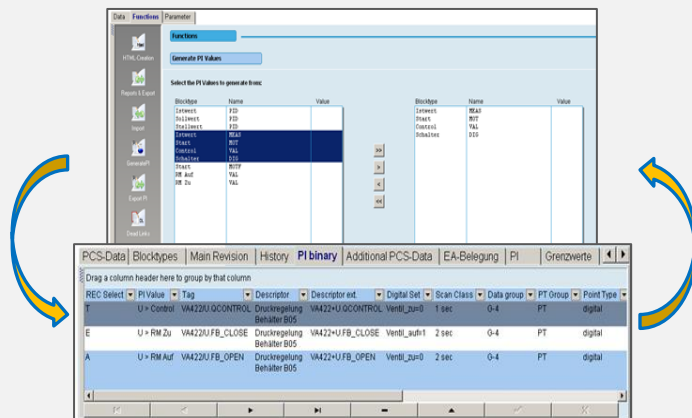


The **PLSDOC® PI** module is a configuration and actualization tool for long-term storage systems such as PI-OSIsoft, Plant Historian, Aspentech IP21

- ▶ Missing PI tags can be generated automatically or PI tags containing default values can be changed later when needed
- ▶ All tags to be exported can be displayed, printed and checked in a report preview
- ▶ The export function uses a free configurable CSV file for the transfer of PI tags into the long-term storage system.



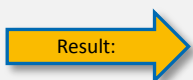
- ▶ **Automatic generation of configuration files**
- ▶ **No multiple processing**
- ▶ **Minimization of error sources**



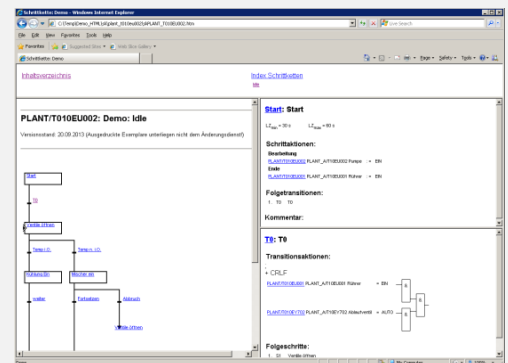
### PLSDOC® Modules

The **PLSDOC® SFC** module provides documentation, back engineering and design of step chains.

- ▶ HTML-based visualization with step chain structure, actions and transitions
- ▶ Visualization of step chains of any complexity
- ▶ References to EMR circuits by using hyperlinks

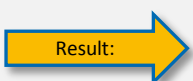


- ▶ **Automatic step chain retracing / back engineering**
- ▶ **Reduction of error sources**
- ▶ **Clearly presented and readable HTML output**
- ▶ **Automatic documentation of step chain references in the tag list**
- ▶ **Direct links on the SFCs in the tag list**

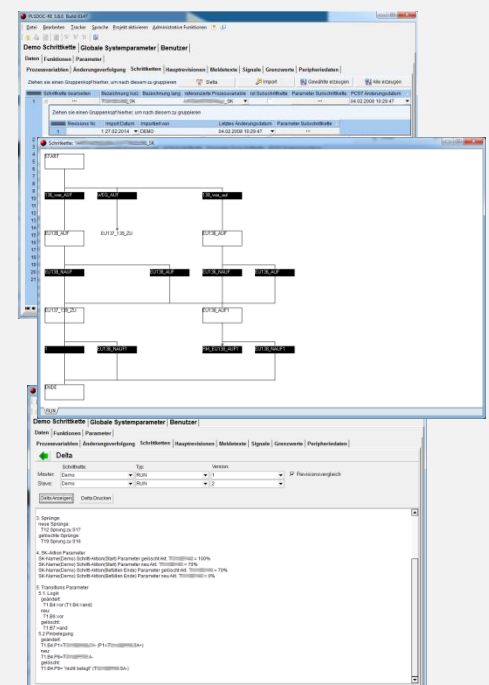


**PLSDOC® SFC-Delta** allows the comparison and listing of the differences of step chains.

- ▶ Identification and display of differences between two step chains or step chain versions
- ▶ Intuitive and simple designing of new step chains to create the PCS programming guideline
- ▶ Selection list of points of measurement for the description of step actions and transitions



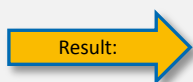
- ▶ **Comfortable design tool for step chains**
- ▶ **Comparison of step chains such as**
  - ▶ **designed step chains with PCS step chains**
  - ▶ **different versions of PCS step chains**
- ▶ **Identification of discrepancies, for example during the planning and implementation status of step chains**
- ▶ **Transparency and cost reduction:**
  - ▶ **Planning/FAT/IB/life cycle documentation**



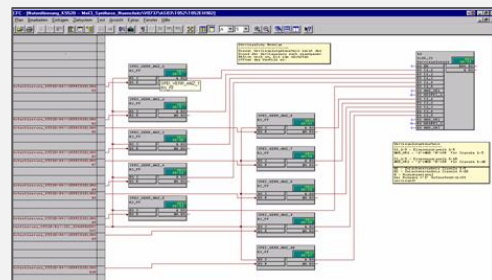
### PLSDOC® Modules

**PLSDOC® CFC-Mass Configuration Module** allows the generation and the (mass) configuration of CFCs. Typical-based function plan generation under consideration of the following parameters, e.g.:

- ▶ Signal interconnection
- ▶ Block comments
- ▶ Measuring points and units
- ▶ Threshold values and locks



- ▶ Shorter project planning phases
- ▶ Standardized and efficient project planning
- ▶ Reduction of error sources
- ▶ Prevention of multiple processing

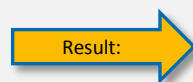
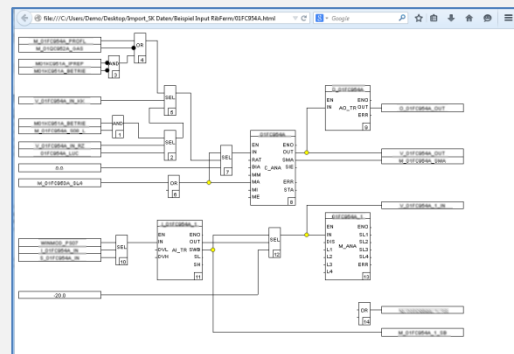


The MES software solution **PLSDOC® FUP** provides retracing /back engineering and processing of function charts. The module **PLSDOC® FUP** was developed as a forward-looking approach for the backup documentation of Freelance function charts.

Moreover, function charts can be edited and revised.

PCS backup documentation in FUP presentation

- ▶ Designing and editing of function charts by using the FUP editor according to EN 61131-3 or IEC 61131-3
- ▶ Editing and revising of function charts
- ▶ Comparing of different FUP versions



- ▶ Automatic backup documentation (retracing) of PCS software in FUP presentation
- ▶ Plant documentation without additional costs
- ▶ Transparency by revision control function
- ▶ Error prevention and time saving

