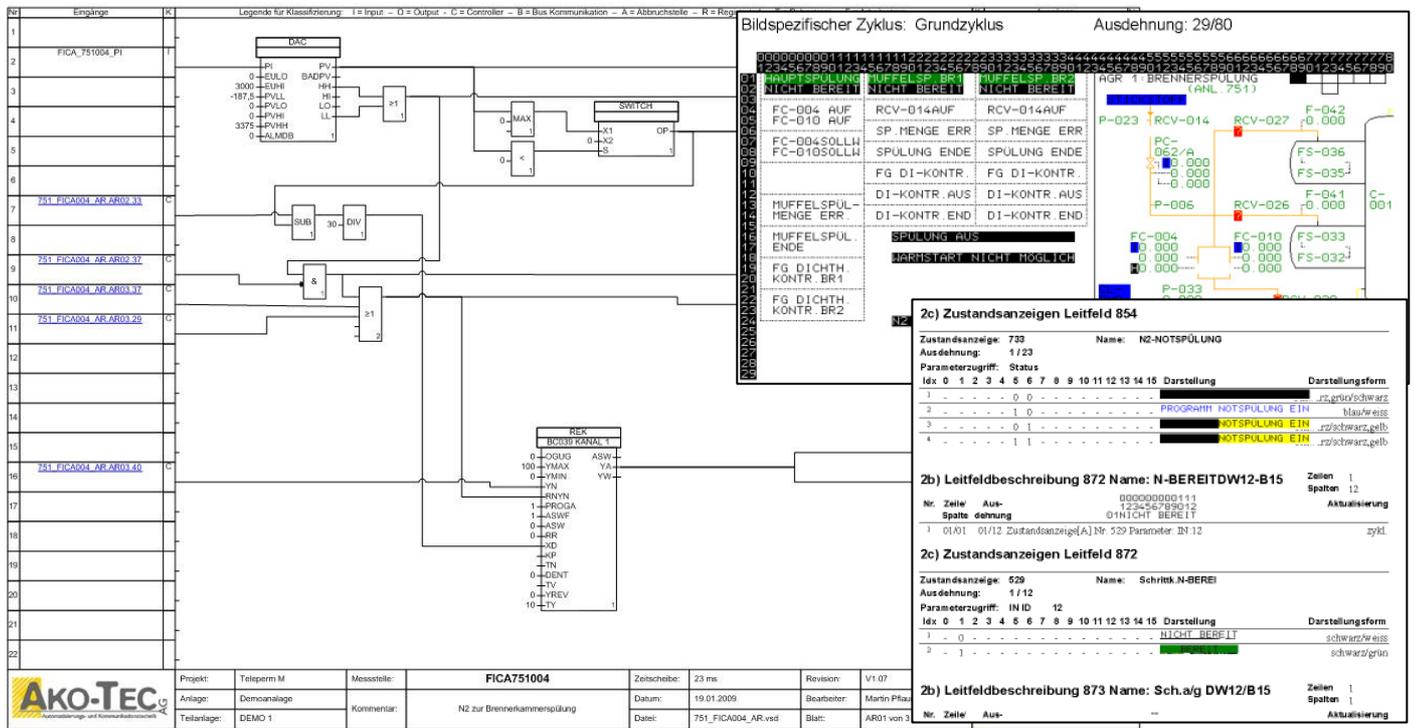


Time and Cost Optimisation for System Modernisations Automatic Redocumentation of Teleperm OS and AS



Keeping the documentation of the process control system and instrumentation up-to-date is extremely important for the maintenance of the system availability and execution of modernisation and expansion measures. Over the years many changes and provisional solutions are implemented, in order to be able to put the systems back into operation as quickly as possible after downtimes or faults.

- After all time is money.

A comprehensive system documentation comprises of several individual documentations such as circuit diagrams, P&I diagrams as well as the documentation of the functionalities of the control and automation level.

Based on experience the available system documentation (OS/AS) of a system that has already been in operation for years does not correspond to the current status.

This leads to delays in the daily business, when searching for and correcting faults and when carrying out modernisation projects and thus ultimately to additional costs.

Ako-Tec has developed RDTB, a database-supported solution, which is able to read in source codes from the OS/AS systems and use these to automatically represent the current system status "as built" CFC = (Continuous Function Chart).

Furthermore, customer-specific documents such as circuit diagrams, P&I diagrams, CFC and other documents can be referenced and linked.

The RDTB offers numerous advantages:

-During the daily work (fault analysis, smaller optimisations, planning work), all of the relevant information is available in one system. No engineering licenses or paper documentation is necessary. An unlimited number of employees can be allowed access to the RDTB database.

-As a basis for tenders

for the system migration. The more accurately the current status of the system is documented, the more precisely the provider can make his calculations. In this way subsequent follow-up negotiations due to incorrect details, i.e. modified technical data sets, etc. and thus unplanned additional costs are avoided.

In addition, the RDTB enables the documentation to be generated in a system-neutral representation, i.e. user-specific modules are replaced by typicals, function-independent modules such as driver modules are reduced. The value provision of the visualisation is clearly represented.

The software that is incorporated into structured assemblies is also depicted as a CFC and integrated into the overall documentation. Because the OS documentation, the circuit diagrams and the P&I diagrams are integrated, the exact number of technical data sets for the connected inputs and outputs etc. is additionally indicated.

In this way it is guaranteed that the documentation depicts the current status of the system and the readout parameterization corresponds to the "as built" status.

Due to the neutral representation no system-specific knowledge is needed for the interpretation. Providers placing a bid for a tender can calculate their offers more precisely, thus the risk and the offer price are easier to calculate.

Conclusion: RDTB documentation provides the customer with a comprehensive, valid overall documentation, which excels as a result of its top quality and currentness.

-As a basis for the migration. During a system migration two factors are predominantly decisive for a successful project.

On the one hand the time needed to carry out the migration has to be kept down to a minimum, on the other hand it has to be guaranteed that all functions of the existing "old" systems are correctly interpreted and converted.

Using RDTB the functionalities can be transferred quickly and safely from the old system into the new system and this applies for both the AS and OS.

Moreover, if the whole test procedure can be accelerated due to a lower rate of errors, the testing process and thus the entire commissioning are considerably reduced.

- FAT/SAT support by creating documents, which allow FAT/SAT to be carried out and documented with the help of check lists. Thanks to the advantages of a database-supported solution it is possible to generate individual or customer-specific documents and work results. With the aid of RDTB, tests and controls can be planned, carried out and documented within the scope of a commissioning.

The representation comes in the form of a CFC and is among others implemented acc. to VGB R170C.

The CFC representation also contains function programs, which are incorporated in structured assemblies as well as subordinate control systems (i.e. Simatic S5). The CFC is output via RDTB in either Microsoft Visio or PDF format.

OS documentation functions:

- Automatic reading of the source data (parse) (i.e. Prograf-OS)
- Automatic tracing of the existing process images
- Automatic creation of PDF reports for projected images and image contents
- Graphic resolution of all dynamic information (value provision of the bits)
- Database-supported, which makes individual reports possible.

AS documentation functions:

- Automatic reading of the source data (parse) from the automation systems and the structured assemblies
- Automatic drawing in MS Visio or PDF format power plant (VGB R170C) or PCS-related CFC representation
- System-neutral representation
- Integration of circuit diagrams, P&I, OS, etc.
- Links to OS documentation
- Documentation of the parameterisation
- Optimisation of engineering and commissioning times
- Creation of check lists for FAT/SAT
- Generation of technical data sets for the cost assessment
- Replacement of several individual documentations