

The Schüco Technology Center

Order, resources and information management

The Schüco Technology Center in Bielefeld offers virtually all relevant testing methods for windows, doors and facades, as well as solar technology, including project and customer specific assignments as well. Every year, the Technology Center performs around 1,200 tests. The range of test samples is extremely broad and extends from large scale facades to the entire spectrum of doors and windows, and all the way through to fittings, accessories and solar components. The orders come from the Schüco International company group as well as from external customers. Prototype construction for Schüco development departments rounds off the task scope.

Schüco International KG is a global leading provider of aluminum, solar, steel and plastics systems for innovative building envelopes and shells. With more than 5,000 members of staff and 12,000 partner companies in more than 75 countries across the globe, the corporation offers advanced window and facade technologies, efficient solar solutions as well as individual consulting services for architects, planning professionals, investors and builders alike. Schüco stands for quality, safety, security and long product service life. All these strengths are especially embodied by the Technology Center (Technologiezentrum, TZ), Europe's largest testing laboratory for windows and facades that is based in Bielefeld. Over the years, the center evolved out of a so-called "mechanical laboratory" that was established in 1967 with the aim of examining product optimization potentials and integrating the findings back into system developments.

The laboratory simulated mechanical conditions windows and doors could be subjected to, suitability of permanent use, the impact of violence as well as conducting functional testing. Parallel with these demands and the standardization specifications applying to windows, doors and facades, the scope and competence of testing technology, as well as the specialization of the test facilities increased over the years. Tests involving tightness, thermal transmittance (previously k-values) surface and materials specific testing, as well as corrosion testing or static testing were now called for. In addition, environmental simulations of cold, heat, moisture or UV radiation and construction acoustics were performed, as well as safety relevant testing involving burglar resistance and bullet-resistance as well as fire resistance testing. Over decades, the Technology Center has also been involved in building and testing prototypes according to in-house specifications, as well as performing tests on large-scale facades or special constructions testing. The 36 members of staff active at the center today impress with their outstanding testing technology and organizational competence.

"The software provides us with a consistent, transparent organization."

Karl-Heinz Welk, head of the Technology Center, Schüco International KG, Bielefeld

The initial situation

In order to ensure transparency, traceability as well as afford scope for corrections the sequences and results of testing must be documented. At the Schüco Technology Center (TZ) these demands has already been implemented as an essential factor at the beginning of the seventies.

This was also driven by the fact that the testing routines and reports for the various areas and products increased and became more and more complex. As a result, all of the orders and testing reports were managed in an Excel database up 1994/95. Subsequently, the limits of this -solution had been reached. The opportunity to migrate to a new solution arose two years after the ISO-9001 certification of the entire corporation.

Over the course of two years, Schüco developed and optimized a testing laboratory specific quality assurance system (Access database) with an input tool for technical developers. Some ten years later the demand arose for even greater flexibility, and the capability to map processes even closer to production operations. Ideally, these demands were to be merged in a combined order and information management tool, in order to implement new testing types and connect these flexibly with capacity and scheduling, testing facility monitoring, calibration and maintenance. The aim was to further improve the organization, service quality and sustained working methods at the Technology Center. After ascertaining that such a specific system could not be realized on the basis of SAP, Karl-Heinz Welk, the head of the Technology Center, more than ever convinced that "We need software that is tailored to laboratories." From that point in time it was only a small step to the decision to have the testing laboratory competence in terms of personnel, facilities and organization confirmed and documented by an independent instance. In 2004 the issue of accreditation was put on the table.

The solution

In an exchange of experience with an external testing laboratory the experts at Schüco discovered the dacore laboratory management systems. "Here, we found precisely those functionalities that we had been envisaging. Although we come from a completely different sector, we encountered a company that genuinely understood us as laboratory people, as Welk recalls. In 2005, the same year in which the technology center acquired the accreditation to DIN EN ISO/IEC 17025, the center embarked on implementing the dacore laboratory software, which goes by the name of TZ-AMIS in Bielefeld. "Naturally, there was quite a lot that had to be adjusted to our requirements, and there was a good deal of learning on both sides. In retrospect, it was a very rapid process nevertheless up to the point where we had exactly

the solution that met with strong acceptance in-house and enabled us to take very substantial steps forward." The functionalities include the online order management for in-house clients via TZ-AMIS Webbox, as well as schedule, resources and capacity planning.

In order to further professionalize the work flow for test samples, the system gained a warehouse management module in 2009.

Advantages and outlook

The software combines order management and the administration of resources. It ensures transparent capacity planning, and a smooth coordination of testing facilities and testing equipment. This is essential in view of the necessary flexibility in all sequences. Karl-Heinz Welk: "Without the system we would soon lose the overview of ongoing operations." The combination of order management and resource planning has positive effects on quality, efficiency and work safety, "especially thanks to the enhanced scheduling achieved." In this way, pressure on staff and on customers can be reduced. This is only possible in connection with the system and the interaction of all of the factors at work here." While the monitoring of the Technology Center's testing facilities initially got underway with the Group's system under SAP, the year 2005 saw the complete migration to the optimized, laboratory testing facility monitoring of the dacore order management system, also in view of the accreditation. This migration involved the entire range of devices, testing facilities and testing equipment. The interfaces to the corporate database under SAP operate via file transfer and the data are not played back. The SAP system only provides the personnel, customer and supplier data. The data to be transferred to SAP are fed in manually, once a month. All of the other functions and services are exclusively handled by the TZ-AMIS. The Technology Center, which also performs calibrations, makes high demands on itself and likewise on its software. The latter is being constantly updated according to the latest state of the art, while the Webbox will soon be up for a complete overhaul.

dacore services and technical base

- Analysis of requirements, drafting of specifications
- Development of the individual, customized TZ-AMIS software with "Webbox" for internal online order management
- Various SAP interfaces
- Client-Server solution with Oracle database
- Installation, introduction, technical support