Germanedge

AUTOMOTIVE INDUSTRY 4.0

HOLISTIC QUALITY MANAGEMENT FOR AUTOMOTIVE PRODUCTION

The automotive industry is subject to constant change and tremendous pressure to innovate. E-mobility, new technologies, increased competition, stricter regulations and more demanding customers. As a result, the bar for quality is being raised ever higher. If you fail to deliver, you pay the price – with your image and in hard cash. Delivering top quality that meets the customer's requirements and the standard is essential.

A holistic quality management system provides the automotive industry with the support it needs to increase customer satisfaction while complying with business rules, standards and requirements. Consistent application of a quality management solution helps to avoid cost-intensive recall actions and supports you in collecting and processing even very large amounts of data.

Our QDA solution for your quality management supports you:

- → in achieving the high quality standards of the automotive industry
- → in complying with various industry standards (such as: DIN EN ISO 9001:2015, IATF 16949:2016 or the AIAG)
- → in creating transparency

Our fully integrated quality management system provides you with tangible added value in the following areas:

- → Integrated advanced product quality planning
- → PPAP, APQP, FMEA
- → Supplier management
- → Shell construction
- → Data acquisition (SPC)
- → Laboratory
- → Evaluations
- → Complaint management

Germanedge

Our software solution for your Quality Management 4.0 at a glance:

- → Modular construction
- → One single infrastructure, regardless of the number of modules used
- → Rapid integration with other systems thanks to integrated software architecture such as PLM, CMM, ERP, MES systems or REST API
- → Support for multiple languages, thanks to Unicode
- → Database-driven, compatible with MSSQL, Oracle or PostgreSQL, and ready for CITRIX and AMAZON WORKSPACE

Through the use of a variety of modules, we provide you with a scalable digital quality management system that is tailored to your needs:

Integrated advanced product quality planning

By identifying defects early and converting them into product improvements, you shift the course of business from a significant cost factor and ongoing problems to your next competitive advantage.

The integrated quality planning solution from QDA:

- → facilitates the use of quality synergies in APQP, Process Flow Diagram, Failure Mode and Effects Analysis (FMEA), Process Control Plan and Production Parts Approval Process (PPAP)
- → ensures a logical and consistent approach to your product development activities
- → enables you to reuse common product and process information
- → eliminates the need to manually create new copies from scratch
- → automatically updates all related documents for the part family

Your advantage:

- → Reduction of redundant data entry
- → Support for processing projects in parallel
- → Compliance with internal, industry and customer-specific standards ensured
- → Linking of products, processes and quality documents
- → Integration of project planning and documentation

Germanedge

Supplier management

Secure the quality of your end product by integrating, evaluating and refining your suppliers. The quality of the supplier parts is decisive in determining the quality of the end product.

Supplier management from QDA:

- → supports supplier integration by means of electronic data exchange
- → enables the creation of target agreements with your suppliers
- → reduces the number of incoming goods inspections
- → documents information such as the punctuality of deliveries and the number of defective parts in the supplier evaluation
- → produces a variety of reports, for example on flexibility or the response time to enquiries
- → manages supplier certificates

Your advantage:

- → Integration of suppliers into the quality process through web portals
- → Automated 8D and PPM reporting and analysis
- → Dynamic sampling plans and skip lot procedures
- → Standardised inspections between suppliers and OEM

Shell database system

In response to individual customer requirements, the number of variants of the same model series has grown steadily in recent years. This results in higher demand for master data maintenance.

QDA supports the handling and maintenance of the dramatically increased volume of data – as well as graphical support to facilitate the increasingly difficult discussions on ever more complex parts in an international environment.

Your advantage:

- → Consolidation of master and measurement data in order to find joint connections more easily
- → Significant reductions in inspection costs thanks to dynamic inspection planning (AI)
- → Interaction with different joining technologies such as welding robots
- → Reduction of labour costs due to new technical possibilities

Ultrasonic testing (USonic)

QDA USonic combines the various assembly and inspection technologies that allow you to visualise and analyse process data associated with quality data on the shop floor. This enables a precise root cause analysis in a single central system, independent of any of the decentralised sources.

Your benefits:

- → Automated reporting based on automatic data collection and processing
- → Automatic distribution of inspection plans directly from the inspection device in the event of changes, including images and parameter data
- → Optimised change management and change process for inspection plans

Data acquisition (SPC)

Statistical process control (SPC) is an effective method for process evaluation. SPC includes the tools machine capability analysis, process capability analysis and online process monitoring via quality control charts. This enables production to be carried out with controlled and capable processes and supports compliance with quality standards – even across factories and country borders. QDA SPC, used in conjunction with other QDA modules, guides the user through the optimal process of defect detection and prevention in a closed loop.

Your advantage:

- → Automated notifications
- → Ensures conformity to industrial standards
- → Provision of interfaces to all measuring systems from calipers to coordinate measuring machines and machine controls
- → Ensures full traceability through process and production data
- → Paperless documentation and better traceability

Colour management

Not all colours are the same. The same colour can look different on different materials, components and from different suppliers. In order to prevent this, it is important to measure and evaluate colour metrics.

QDA helps you to provide the measurement data and to evaluate it in relation to the component, the supplier and the process. This means that you can be sure that the targets are met over the entire process.

Your advantage:

- → Storage of all paint quality data in a central database for saving resources
- → Linking of measurement and process data for a better overview of the process behaviour
- → Easy management of tolerance models to increase clarity
- → Analysis tools for all control loops available
- → Integration of management of measures for the purpose of deriving direct actions and tracking them further

Germanedge

Laboratory Information Management System (LIMS)

LIMS assists laboratory operations with administrative and coordinative tasks of sample processing as well as with regard to the collection and evaluation of determined analytical data.

With QDA LIMS you can:

- → integrate all types of analytical laboratories, both chemical and physical.
- → map your destructive and non-destructive tests as accompanying monitoring of production.
- → plan the quality to be measured as well as resources within the laboratory thanks to integrated resource management and sample management.
- → transfer information back to your ERP or warehouse management system thanks to the integration with your ERP or PLM system.
- → draw up sampling plans, and document sample receipt and sample registration.
- → determine the sample distribution and sample processing.
- → record result data, calculate results and limit tests, and release test results.

There are also a variety of other functions available as extensions.

Your advantage:

- → Management of system, cost and human resources
- → Integration of various measuring and testing equipment, legacy systems and the latest equipment
- → Support for metallurgical, chemical and mechanical laboratories
- → Detailed evaluations and the best possible transparency of all laboratory-relevant processes
- → Reduction of administrative activities and system breaks for the prevention of data loss and redundant data maintenance

BI evaluations

It is no longer sufficient to look only at quality data in order to achieve an even more comprehensive and holistic ongoing improvement process in production. Only when taken in combination with the process data can the true optimisation focal points be analysed and visually displayed.

QDA BI evaluations offer:

- → standardised and centralised evaluations across all QDA domains
- → increased transparency and the depiction of interrelationships
- → faster reactivity and hence a reduction in waste

Your benefits:

- → High flexibility in creating BI reports from various sources
- → The ability to drill down for deeper data insights
- → Regular, scheduled sending of reports by e-mail
- → Retrievability from anywhere and at any time with WebBI

Germanedge

Non-conformance management

The standards relevant to the automotive industry (DIN EN ISO 9001:2015, IATF 16949:2016 or the AIAG) stipulate that complaints must, among other things, be processed according to the 8D procedure.

QDA's non-conformance management:

- → offers support in the creation and processing of 8D reports
- → makes it possible to carry out an even better root cause analysis by including additional data from the ERP to the complaints created in QDA
- → immediately generates the corresponding measures in the system, including tracking
- → can identify preventive measures for error prevention, including a corresponding monitoring function

Your advantage:

- → Integration of different workflows for complaints
- → Improvements in communication and escalation
- → Flexible evaluations and PPM analyses
- → Availability of a complex multi-level complaint management system

Do you have specific questions about how you can optimise your quality management?

Get in touch →