

# APQP and Core Tools Fully Integrated on the Shop Floor



## ISOQualitas.ACT

ISOQualitas.ACT® is a MES application (Manufacturing Execution Support), complementary to ISOQualitas.PLM® for companies that want to automate and integrate the shop floor with engineering, allowing operators, inspectors, metrologists and auditors working on the shop floor to receive product specifications and process instructions directly at their workstations to be able to record the product inspection and process control directly through the ISOQualitas.ACT®.

The application has tools for statistical process control in real time at the time the records are included, in addition to several tools for the registration and management of non-conformities, the problem-solving process and immediate feedback to engineers during the production process. Information on events in production, quality control results generated on the shop floor are entered into the application through user-friendly interfaces that establish ideal conditions of traceability on product quality during production.

All documents and production process information that are created in ISOQualitas.PLM® by APQP's multidisciplinary team are automatically available on the shop floor, ensuring full consistency with planned activities.

### Advantages and benefits

#### Interface developed for the shop floor

The privileges of each user ensure that operators only have access to the information they need to perform their activities. In addition, only the modules applicable to production or material receipt control are available, avoiding distractions and providing a simpler and more suitable interface for the production workshop.

#### Integration of actions into the shop floor

Production inspection reports with the SPC charts automatically displayed when entering the results. When non-conformities are evidenced, the Non-Conformity Report is automatically initiated for action.

#### A comprehensive and affordable solution

ISOQualitas.PLM®'s independent licensing is highly cost-effective and promotes a great ease of managing the licenses of each software to ensure that users always have access to the application.

#### Integration between engineering and the shop floor

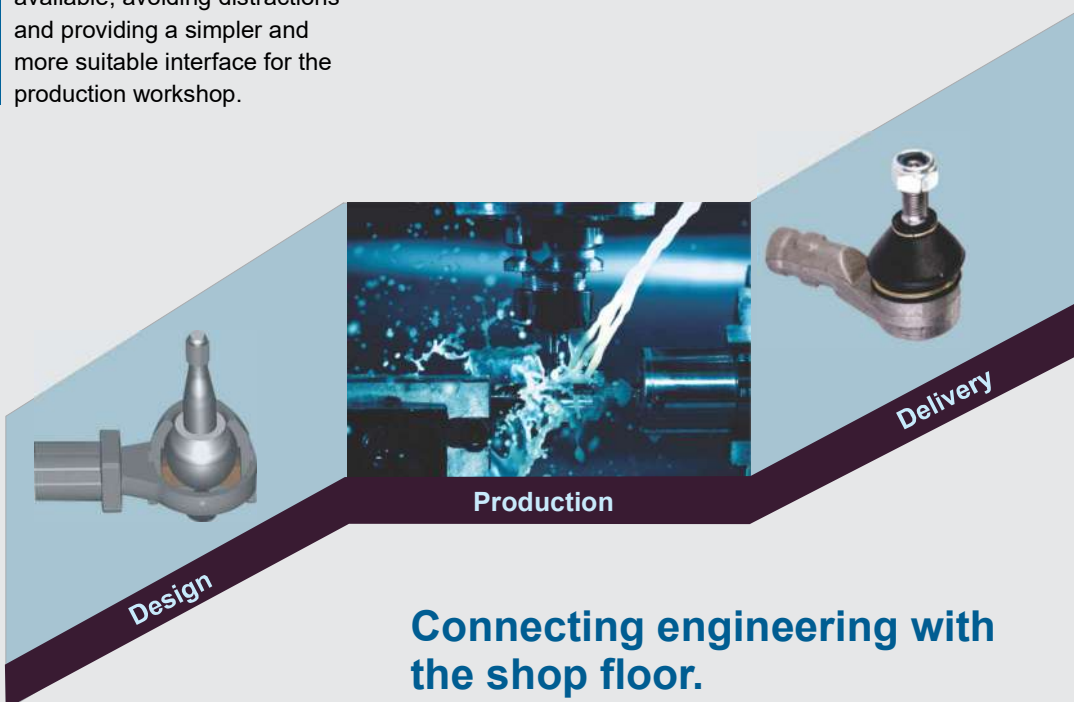
All data recorded by operators and inspectors on the shop floor is instantly available to engineers through ISOQualitas.PLM®.

#### No registration errors on the shop floor

Quick-fill tool makes measurements and records on the shop floor simple, fast and effective.

The privileges of each user ensure that operators only have access to the information they need to perform their activities.

In addition, only the modules applicable to production or material receipt control are available, avoiding distractions and providing a simpler and more suitable interface for the shop floor.



**Connecting engineering with the shop floor.**

## Support for product execution

Support for production execution follows the product and process development phases and benefits from full integration with ISOQualitas.PLM®, sharing the same engineering database with the people working on the shop floor. Production execution support modules include:

- Direct access to work instructions;
- Registration and quality management of production batches;
- Production Control during the Safe Launch phase (APQP Manual 3rd Edition);
- Inspection records with automatic analysis of SPC results;
- Quality Certificates by batch/date (Dimensional, Material and Performance);
- Layout Inspection (per IATF-16949);
- Continuous monitoring of process capacity - SPC (Cp and CpK), and
- Non-conformities Records.

## Conducting MSA Studies

Management and execution of measurement system studies, according to the MSA - Measurement Systems Analysis manual:

- Management of control systems including the calibrations management according to the ISO-17025 standard.
- Stability, Bias and Linearity Studies;
- R&R Study – Variables (X-R and ANOVA methods), and
- R&R Study – Attributes (Cohen Method, including the Gray Band analysis).

## Conducting process capability studies

The capability and process studies module meets the requirements of Statistical Process Control (SPC) Reference Manual - AIAG, which includes:

- Collecting data directly from the production area;
- Evaluation of process stability (X-R Chart, X- $\sigma$  Chart, and X-MR);
- Evaluation of the Sample Distribution: Normal, Lognormal, Exponential, Weibull and Real (Kernel), and
- Process capability indexes: Cp/Cpk, Pp/Ppk; Cm/Cmk, PPM, etc.

## Filling out PPAP and VDA2 approval process forms

The Product Approval Processes modules allow inspectors to perform all tests, trials and inspections directly on the shop floor in accordance with the PPAP and VDA 2 Manuals, including:

- Dimensional inspection Results;
- Material testing Results;
- Performance testing results, and
- Appearance approval results, and other tests required by PPAP and VDA2.

## Incoming goods and services inspection

The quality control modules for purchased materials, products and services allow the recording and exchange of data to guarantee the quality of outsourced goods and services provided by third parties. The modules of incoming goods and services include:

- Registration of organization's suppliers;
- Email notification to the inspector of lots pending inspection and dispatch;
- Application of configurable Skip Lot sampling plans as per organization's policies,
- Receiving inspection instructions;
- Interface for entering receiving inspection records;
- Module for archiving suppliers' PPAP/VDA2 approval documentation, and
- Issuance of Non-Conformity Report of materials received outside the required specifications.

## CAPA and Problem Solving Process - Global 8D

ISOQualitas.ACT® has an interface to input data to start non-conforming report and the Global 8D for problem solving actions directly from the shop floor as an integral part of the manufacturing support process.

This enables the management, implementation, and validation of the problem solving process (Global 8D) and the recording of non-conformances (NCRs) throughout the product lifecycle. The following modules are included:

### **NCRs Modules**

- Registration of non-conformities;
- Non-conformance and history search system with NCR management charts, and
- Management of corrective and preventive activities and actions (on-screen and e-mail alerts).

### **Problem Solving Modules - Global 8D**

- Registration and management of problem solving process – Global 8D;
- Management of corrective/preventive activities and actions (on-screen and e-mail alerts), and
- Non-conformance search system and history with graphs and lessons learned in the Global 8D process.

## System Requirements and Implementation Options

### **Hardware e Software - Server**

- Processor: 1x8Gb - 3.2 Ghz recommended
- RAM: 8Gb minimum, (16Gb recommended)
- HD set space: 5Gb minimum, (10Gb recommended)
- Operating System: Microsoft Windows Server 2008R2, 2012, 2016,2019 and 2022.

### **Hardware & Software - Workstation**

- Processor: Intel / AMD - minimum 3.20 Ghz - 32/64 bit (64 bit recommended)
- RAM: 4Gb minimum (8Gb recommended)
- Screen resolution: 1280 X 768px minimum
- Operating System: Microsoft Windows 7, 8, 8.1, 10 and 11 – 32/64 bit - Microsoft .NET Framework 4.8
- Lower than recommended settings may affect processing performance.

### **Server-side Deployment (On-Premise or Cloud)**

- Database Server: MS-SQL Server 2008 or higher, including MS-SQL Server Express, installed on the local or cloud server (Microsoft Azure recommended).
- ISOQualitas.ACT® installation application in the Server option and ISOQualitas.SQLAdmin, included in the installation package for the configuration of the MS-SQL Server database.

### **Workstation Installation**

- ISOQualitas.ACT® installation application in the Workstation option.

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