


Functional Safety

Process Consulting, Safety Analyses and Tool Qualification



ISO 26262

- » Consulting services for project coordination, requirements engineering and documentation
- » Identification and implementation of improvement opportunities for processes and tool chains
- » Qualification of tools and tool chains in accordance with ISO 26262

Functional Safety

MicroNova supports organizations in establishing and implementing functional safety processes. Our consultants guide companies from conceptual planning through to final approval – or provide assistance when projects take an unexpected course.

This is because MicroNova's consulting services cover both the **implementation of functional safety methods** from the start of a project as well as their subsequent incorporation into projects that are already underway. The first step in this process is to identify the necessary requirements and create a corrective action plan. Our consultants then perform a hazard and risk analysis to identify the measures required and provide support for their practical implementation. This includes creating safety requirements and ensuring the traceability of test results based on these requirements. The relevant documentation is generated automatically as far as possible and serves as the groundwork for assessments and audits in accordance with the ISO 26262, ISO 21448 (SOTIF) and IEC 61508 standards.

Another area of focus of MicroNova Consulting is the **qualification of tools and tool chains in accordance with ISO 26262**, which has already been successfully completed in numerous customer projects. It initially involves identifying potential errors in the tool chain and defining suitable measures. In addition to the execution and assessment of tests, qualification also entails the preparation of classification and qualification reports as well as support during assessments.



Conducting Workshops

- » Identification of requirements
- » Introduction to ISO 26262, ISO 21448, IEC 61508 or ASPICE
- » Support for critical projects

Gap Analyses

- » Scope definition
- » Analysis of processes, documents and tool chains with regard to conformity with standards
- » Definition of measures in order to achieve the required compliance

Carrying out Safety Analyses

- » Creation of safety concepts
- » Creation of safety goals
- » FMEA
- » FMEDA
- » FTA

Creation of Safety Tests

- » Review and expansion of Safety Requirements
- » Specification, implementation and execution of tests
- » Automated integration of test results into safety documentation
- » Ensuring traceability from the requirement to the test result

Services at a Glance

Support for assessments

- » Creation and preparation of documents
- » Coaching in assessment
- » Planning an approach to continuous improvement

Tool qualification according to ISO 26262 or IEC 61508

- » Determination of tool confidence level
- » Preparation of classification report
- » Definition and implementation of qualification measures
- » Preparation of qualification report
- » Support for assessments

Project Process

01 Kick-off

- ✓ Identify the problem
- ✓ Build design team from stakeholders
- ✓ Define the test focus

03 Implementation

- ✓ Involve MicroNova's technical experts
- ✓ Create model policies
- ✓ Roll out test automation
- ✓ Develop a dashboard

05 Further development

- ✓ Library adaptations to new test requirements
- ✓ Integrate new tools into test automation
- ✓ Expand the dashboard



02 Planning

- ✓ Determine current status
- ✓ Coordinate requirements with stakeholders
- ✓ Define targets and prioritize tasks
- ✓ Define test management KPIs

04 Validation

- ✓ Analyze test results

Plug-in for Test Automation: EXAM ISO 26262 QKit

In addition to its extensive consulting services, MicroNova also offers products for qualification and certification in accordance with ISO 26262. Since maintaining documents manually, which consumes a great deal of time and resources, is not only expensive but also more error-prone, highly automated software solutions provide relief here - including in the area of functional safety.

The EXAM test automation solution has been extended accordingly: the "EXAM ISO 26262 QKit" plug-in uses a semi-automated approach to checking for compliance of the EXAM tooling with "ISO 26262 Part 8: Supporting processes, Chapter 11: Confidence in the use of software tools". MicroNova collaborated with Validas AG on its development. The two companies both offer the EXAM functional safety plug-in jointly.

The EXAM ISO 26262 QKit can be used to integrate products or solutions relevant to ISO 26262 into the documentation of automotive OEMs or their suppliers. A report, plan, safety manual and a verification or validation report can be prepared for the classification – all in accordance with ISO 26262.

This collaboration with Validas AG ensures that the tool qualification process is TÜV certified. Automotive OEMs and suppliers using the EXAM ISO 26262 QKit can therefore be sure that their EXAM project is appropriately qualified and can be explicitly certified if required.

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