

Systems. Processes. People.
We certify digital security.



**Functional
Safety
Cyber Security**
Control No. 0000|2021
CERTIFIED 

DLG-AgriSafety

Functional Safety and
Cyber Security



DLG – your partner for process and product certifications

The DLG Test Center Technology and Farm Inputs is an internationally leading testing organisation for tractors, machines & utility vehicles. Drawing on an international network of experts, we offer tests to DLG standards as well as extensive testing and certification services. Our network of test labs operate in accordance with the requirements of ISO 17025 and is designated as Technical Service designated by the Federal Motor Transport Authority for homologation of vehicles and vehicle parts.

We support you in the development of machine control systems that meet the ISO 25119 standards on Functional Safety to fulfill the compliance with Machine Directive 2006/42/EC.



Safety assessments, safety analysis

In the fields of Functional Safety and Cyber Security, we apply common analytical methods for analysing the safety and security of components, systems and processes. We are able to provide an unbiased assessment and support in all safety and security issues.

■ Security analytics

- FMEA (Failure Modes and Effects Analysis)
FMECA (Failure Mode Effects and Criticality Analysis)
FMEDA (Failure Mode, Effects and Criticality Analysis)
- FTA (Fault Tree Analysis)
- Markov Analysis (present state analysis)
- HAZOP (HAZard and OPerability analysis)
- ETA (Event Tree Analysis)
- RBD (Reliability Block Diagram)

Functional Safety

The testing of functional safety involves the probabilistic evaluation of probabilities of hazardous failures in various scenarios. The evaluation of the potential impact of such failures is based on the severity of the potential damage and the probability of the occurrence of an operator error or damage. Risk analyses relating to functional safety help determine the SIL values or safety integrity level values of the respective safety functions and safety targets which have to be adhered to and complied with.

Cyber Security

In the field of Cyber Security we check the risks involved in operating machine or robotic networks and whether these are protected against hardware and software attacks. All data shared and communicated between the individual machines must be secure and protected against unauthorized access, must not be tampered and machine functions must not be impaired or manipulated.



Audits and certifications of organisations and processes

Based on the standards and regulations for Functional Safety of agricultural machinery ISO 25119, we consult manufacturers, conduct safety assessments and audits and certify organisations and processes.

For this purpose, we analyse and evaluate hardware and software R&D, manufacturing, operations and maintenance. In this way, we support OEMs and their suppliers. We also audit suppliers to the standards specified by original equipment manufacturers.



We assess and certify assemblies, components, software and systems

We evaluate structural components, hardware and software solutions in accordance with the applicable standards and regulations on functional safety and cyber security.

■ Evaluation of components and parts

- Risk analyses (ASIL / SIL / PL / AgPL)
- Review of specifications and requirements
- Concept and design analyses
- Verification and validation

■ Evaluation of software and tools

- Testing development tools, tools and communication protocols
- Architecture and design analyses

■ Hardware assessment

- Probabilistic analyses
- Error effect analyses
- Certification

■ Certification of components and systems

- Certification of safety processes
- Quality mark awards for systems, semiconductors, development tools and processes



Trainings and certifications for people

In addition to our testing and certification services, we offer trainings and in-house seminars on functional safety and cyber security to your requirements:

■ Subjects

- Normative and technical expertise
- Statutory requirements for minimising residual risks
- Increasing the safety level of products and processes

■ Target group

- Project managers, product managers, R&D heads, hardware and software developers, safety managers, engineers

■ Certificates (awarded after passing an exam)

- “DLG Certified Professional for Functional Safety of Agricultural Machinery”
- “DLG Certified Professional for Cyber Security of Agricultural Machinery”

DLG CERTIFIED – the quality mark on Functional Safety and Cyber Security

The DLG CERTIFIED quality mark is extended to a product on the following conditions:

- The product passed a conformity test and received a positive assessment in line with the national or international standards or statutory provisions that are specified in the quality mark.

On awarding the DLG CERTIFIED quality mark, we publish the certificate on our website in confirmation of the successful test.



DLG-AgriSafety

More tasks. More networking. More safety.

The safe use of machines, vehicles and equipment is of vital importance for users and operators. Therefore, the reduction and elimination of potential safety risks form must be an integral part of any development process.

The potential risks include the following:

- Foreseeable operator errors
- Malfunctions or failures of mechanical parts and electronic components
- External manipulation especially of digital network systems

We integrate functional safety and the requirements of data security into a holistic safety approach for modern agricultural machinery and technology, thereby assisting you in controlling the risks as you take your products to market.

Our offer:



Safety assessments
Security analytics



Audits and certifications
of organisations and
processes



Evaluation and certification
of components, parts,
software and systems



Trainings and
certifications for
people

We provide expertise in auditing, testing and certification

The DLG has been testing and certifying equipment and machinery, farm inputs and consumables for more than 130 years. Apart from applying DLG-specified standards in its tests, the DLG Test Center also offers extensive testing services to quality control standards and to customer-specific R&D requirements.

As a technical service designated by the Federal Motor Transport Authority (Kraftfahrt-Bundesamt – KBA), the DLG tests whole vehicles, systems, components and separate technical units for agricultural or forestry tractors, trailers and towed interchangeable equipment implements, but also motorcycles and light-weight three- and four-wheeled vehicles, passenger cars, buses, trucks and their trailers, making it one of the leading international testing service providers.

All test services are carried out by the DLG TestService which is based in Groß-Umstadt near Frankfurt and also by further agencies on behalf of the DLG Test Center Technology and Farm Inputs.

The DLG network of experts in homologation

Our international network of experts draws on a shared experience that makes us your ideal partner in all aspects of homologation. Our network of testing labs complies with ISO 17025.

As we “know the ropes” of homologation, we can offer you a full service package that takes your vehicles and vehicle parts through the entire process.

Our four locations:

■ Bochum lab:

Mechanical connections

Brunel Car Synergies GmbH
Fränkischer Friedhof 1
44319 Dortmund

■ Eppertshausen lab:

Light systems

PHOTOMETRIK GmbH
Einsteinstraße 24
64859 Eppertshausen

■ The Groß-Umstadt testing site:

Vehicles and vehicle parts

DLG-Testservice GmbH
Max-Eyth-Weg 1
64823 Groß-Umstadt

■ Trier lab:

Passive safety

Ingenieurbüro Walter & Weißgerber
Prüflabor an der Hochschule Trier
Schneidershof, 54293 Trier

Information: www.DLG.org/en/agrisafety

Contact: Tech@DLG.org



DLG TestService GmbH

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