



Environmental and life-cycle simulation

Testing your product in advance
for what may occur



About us

Our services:

- › Electrical, mechanical and functional safety
- › EMC – Electromagnetic compatibility
- › Fitness for use
- › Energy efficiency and ecodesign
- › Environmental and life cycle simulation
- › Technical acoustics and noise
- › Chemical analytics
- › Radiation physics and radiation protection
- › Thermography
- › National and international certification
- › Inspections for quality assurance

Additionally:

- › Design and construction of test equipment
- › Calibration
- › Certification of QM/QA systems
- › Courses for expertise in radiation protection by SLG Akademie GmbH

Contact

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For more information about our services, please visit
www.slg.de.com.



*Our expertise in the field of
environmental testing is
monitored by the German national
accreditation body DAKKS.*





Environmental simulation – a significant cost advantage

During their life cycle, e.g. while being transported, stored and used, all products are exposed to environmental impacts such as temperature, climate, air pressure, water, dust and mechanical stresses.

Environmental simulation tests offer valuable information on whether a product can withstand such impacts and will function properly. By testing in the development stage

- › potential weak spots may be detected early and
- › expensive product failures, customer complaints, and recalls can be prevented.

Life-cycle tests simulate a product's life cycle speeded up in order to check the reliability of a product in practical use. In this way

- › causes of early and late failures can be analysed,
- › components susceptible to failure may be replaced by more suitable versions and
- › products further improved.

Environmental simulation tests

Mechanical tests:

- › Vibration
- › Shock
- › Free fall

Climatic tests:

- › Temperature (cold, heat, temperature change)
- › Climate (damp heat, climate change)

Combined tests:

- › Vibration and shock tests under defined climatic conditions (temperature and humidity)

Other tests:

- › Tests for degree of protection (IP code) (EN 60529, DIN 40050 part 9, ISO 20653)
- › Tightness
- › Low pressure
- › Resistance to chemical influences
- › Salt mist and polluting gas
- › UV radiation

Product groups:

Subassemblies, components and devices from the industry, shipping, automotive, railway, consumer, and outdoor sector.

Test facilities for environmental simulation

- › Climatic test cabinets and walk-in climatic test chambers (temperature range -75°C to $+180^{\circ}\text{C}$, temperature changes up to 15 K/min)
- › Vibration and shock test equipment with slip table including climatic test chamber for combined tests under defined temperature and humidity conditions
- › Low pressure test chamber up to $<10\text{ mbar}$
- › Test equipment for degree of protection for protection against water IPX1 to IPX8
- › Special test equipment IPX4K (splash water with increased pressure) and IPX9K (hot-water high-pressure cleaning)
- › Dust test chamber for degree of protection IP5X and IP6X

Accreditations and expertise

Our expertise in environmental testing is monitored by the national accreditation body of Germany (DAkkS). Furthermore, we are a long-time member of the German Society for Environmental Engineering (GUS).

Just present us your product. We gladly support you in drawing up a tailored test plan based on national and international standards as well as according to customer specifications.