RUAG TEST CENTER

Software Testing (SWT)

↗ Nowadays, modern information and communication technology (ICT) systems are very complex and can often only be operated together with other systems (system of systems).

Quality assurance for trouble-free operation requires traceable and accurate test procedures. RUAG's Test Center for Software Testing (SWT) has many years of expertise, particularly in the field of complex, IT-security-critical infrastructures, ranging from consulting and design to the actual testing of civil and military systems.

↗ Our Services

The specialists at the SWT Test Center perform well in all aspects of testing with their expertise, experience and tailor-made services. This is how we meet the high demands of our customers in terms of quality, reliability and accuracy. We are already involved in the start-up phase of projects so that quality assurance issues are taken into account right from the start.

Our services include:

– Estimation of test effort during projects
– Creation of test strategies and test concepts
– Review of system requirements
– Support with WTO tenders and/or evaluations
– Testing across all test stages, from prototyping to components, integration and system tests through to actual system acceptance
– Conception, construction and operation of test and system centers
– Increased efficiency through test automation
– IT security testing

↗ Your Benefits

The introduction of a faulty or incompletely tested system can quickly damage your image and lead to enormous financial burdens. Therefore, the following applies to every project: In addition to looking at the benefits of the changes, one must also keep in mind the potential risks.

The SWT Test Center is your partner for active quality assurance in the form of tests during all phases of the product life cycle. With structured test processes, we reduce risks, ensure the right measures at the right time and guarantee a transparent overview of your current quality level at all times.

As an independent test center, we guarantee an objective assessment of the system quality. In the event of resource bottlenecks, we support or take over the corresponding test activities with our specialists – be it during evaluations, development or system acceptance.

We are your trustworthy partner for quality assurance – for cooperation that leads to success.

↗ LIFE CYCLE OF A SYSTEM

The life cycle of an ICT system can be divided into different phases (see phase model according to EN 50126). It begins with conception and ends with decommissioning or management. Quality assurance measures should be constant companions in the life cycle of a system in order to permanently meet qualitative requirements. The RUAG SWT Test Center advises and supports you during the various project phases.

Quality assurance in the field of SWT takes place during different phases of the system cycle. We support you all the way:

↗ CONCEPTION AND SPECIFICATION

– Support in estimating the costs of the tests with respect to manpower and infrastructure.
– Support in developing requirements.
– Checking requirements for completeness according to ISO 25010.
– Review of testability requirements.
– Review of requirements with respect to IT security.
– Development of the first test concepts and test strategies.

↗ DEVELOPMENT AND PRODUCTION

For complex ICT systems during development, we support or take over the entire range of test activities from the first prototype to the end of development.

– Creation or refinement of the test strategy and test concepts.
– Definition of test design and test cases.
– Definition, construction and operation of test infrastructures and test automation.
– Carrying out of tests and test evaluation.
– Reporting of error messages.
– Preparation of test reports.

– Creation of adequate IT security test concepts in cooperation with our IT security specialists, including the implementation to check the system vulnerability.
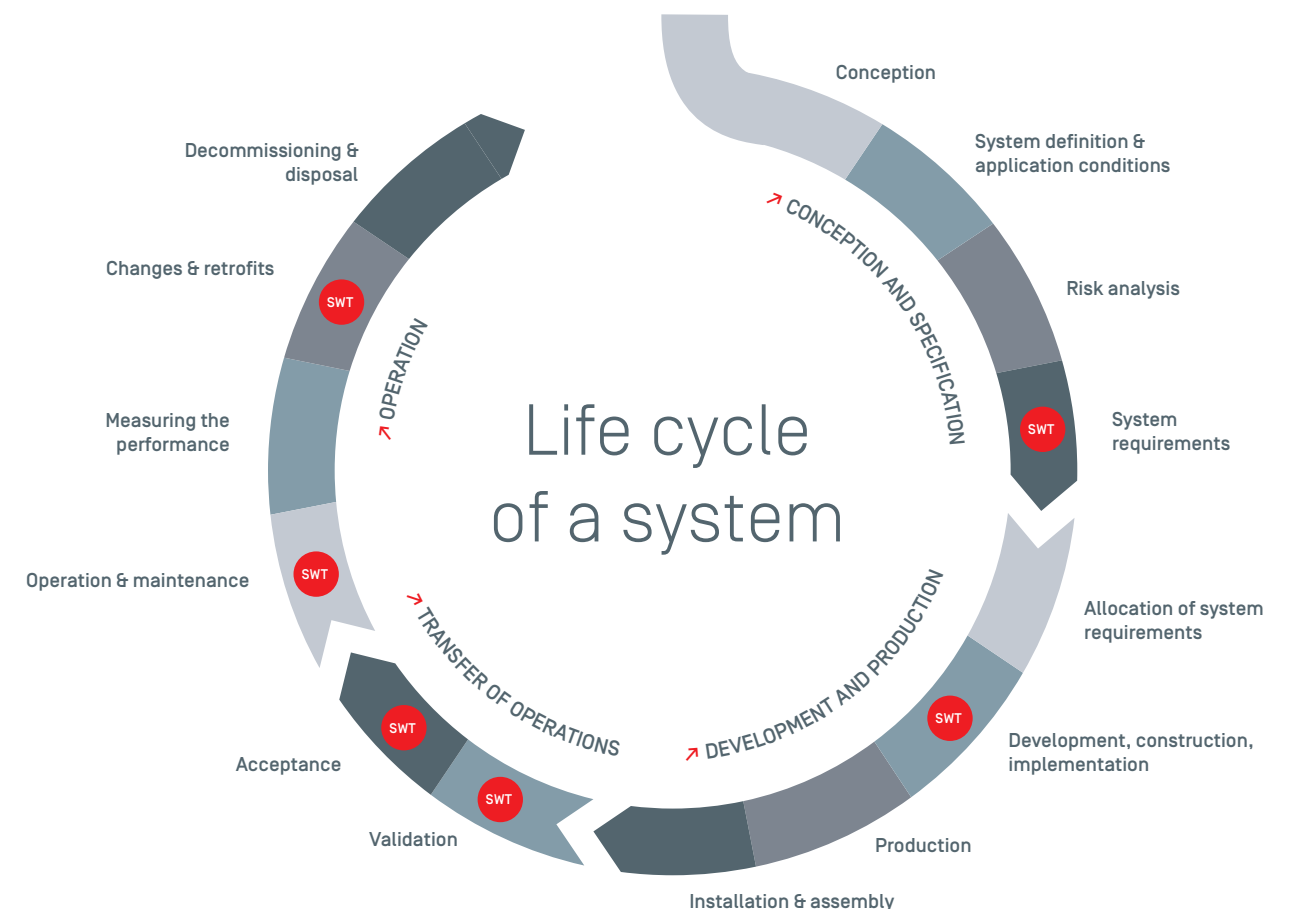– With our methodical approach, we also support installation and assembly, if required.

↗ OPERATIONS TRANSFER

For complex ICT systems after the end of development or in the case of purchased systems or system components, we support or take over test activities for validation and system acceptance.

– Creation of validation and acceptance concepts.
– Creation of test specifications (test cases usually at scenario level).
– Structure of the validation and acceptance environment.
– Implementation of validation and system acceptance, error detection and managing the open item list.
– Creation of the validation and acceptance report.

↗ OPERATION

As part of the IT operating processes and system upgrades, the SWT knowledge is available for second or third level support. We also support you with respect to questions relating to obsolescence and implementation of the tests.

Life cycle of a system

Conception
System definition & application conditions
Risk analysis
System requirements
Allocation of system requirements
Development, construction, implementation
Production
Installation & assembly
Validation
Acceptance
Operation & maintenance
Measuring the performance
Changes & retrofits
Decommissioning & disposal

↗ CONCEPTION AND SPECIFICATION
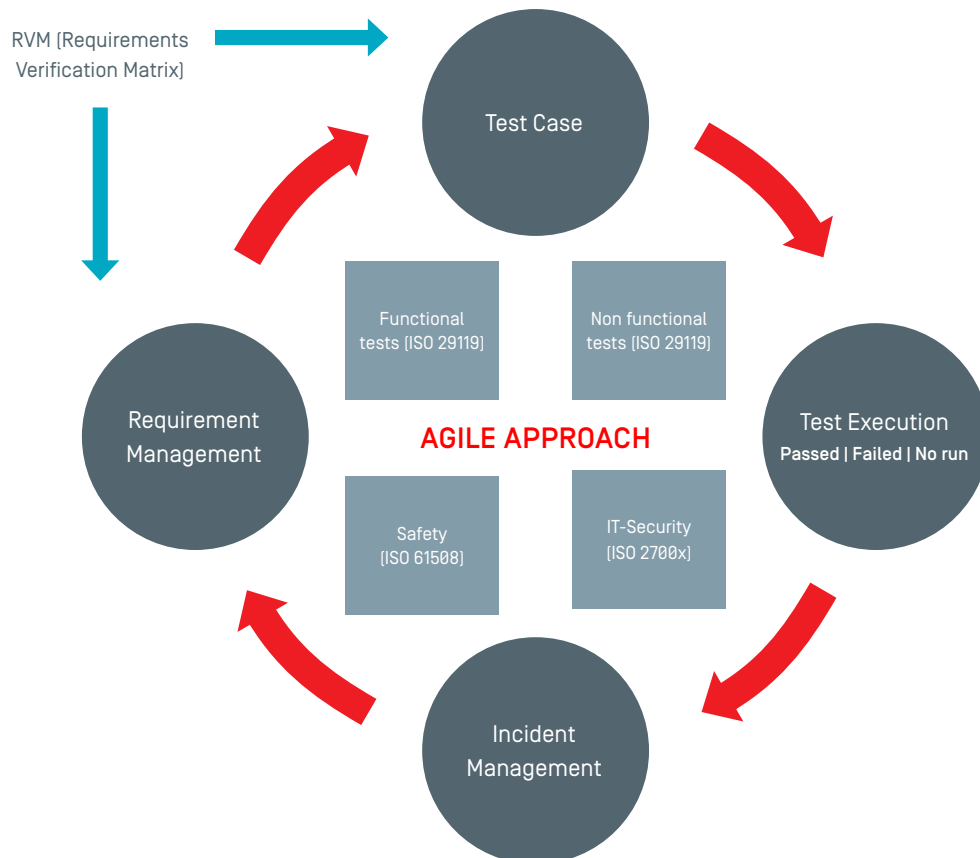↗ DEVELOPMENT AND PRODUCTION
↗ TRANSFER OF OPERATIONS
↗ OPERATION

↗ OUR SEAL OF APPROVAL FOR QUALITY ASSURANCE MEASURES

We work according to a clearly defined and traceable process, based on the ISTQB* standard, paired with the norms and standards of the area of the system application.

We refer to this established procedure as **FITTAR (Fully Integrated Traceable Test Approach by RUAG)**

RVM (Requirements Verification Matrix)

Test Case

Functional tests (ISO 29119)

Non functional tests (ISO 29119)

Requirement Management

AGILE APPROACH

Test Execution
Passed | Failed | No run

Safety (ISO 61508)

IT-Security (ISO 2700x)

Incident Management

Accreditations & certifications
- The SWT Test Center works according to established standards (e.g. ISO 29119, IEEE 15288, ISO 15289, etc.), but adapts to customer processes if necessary.
- Certified according to ISO 9001.
- The test engineers and test managers continue to train and are certified according to ISTQB, IREB, ITIL, HERMES, Scrum Master and Usability.
- The test personnel are audited in accordance with Federal regulations, with respect to access to classified information, materials and facilities.