



strong partners

S O F T W A R E H A R D W A R E S E R V I C E

**Service from SCHATZ –
because service is part
of the product.**

SCHATZ[®]
ADVANCED QUALITY



professional

Service: competent, cost-effective and customer-specific. Training courses based on practical experience, for practical applications.

Our services provide the ideal complement to our software and hardware products. After you have integrated our systems into your corporate structures, it's important to ensure the continuous availability of all products in order to guarantee quality assurance. We recommend that you use our comprehensive service capabilities and take out a maintenance contract right from the start. One of the important components of our hardware and software maintenance

Training courses based on practical experience: your key to success.

contracts is our hotline, which is constantly available. In addition, we provide you with our online data service, which allows us to remotely maintain and analyze your data networks from our own facilities. With this combination of services, you can be assured of achieving the highest level of effectiveness in your process activities. Our services include installation, commissioning, upgrading, repair, equipment maintenance, calibration, software maintenance, training, and 24-hour telephone support. One of the decisive factors in achieving and guaranteeing the highest level of quality requirements is competent employee training. We offer a comprehensive program of training courses, ranging from single-day seminars on metrology in assembly activities to multi-day user training courses for our products. Our competent staff members, who can draw on a wealth of experience, convey all relevant knowledge regarding standards and directives – practically oriented and immediately usable.



SCHATZ



timing

Never change a winning team: the successful combination of maintenance and calibration.

Maintenance is a significant factor for value retention and availability of the products you use. In the spirit of the motto 'what's well maintained lasts longer', we offer you a maintenance service that keeps your measurement equipment in good working order. In combination with software maintenance, it ensures that your equipment is always current with the latest state of technology and knowledge. Our services include replacing wear parts, verifying the

Our calibration services extend far beyond our mobile calibration systems: throughout the world, we offer direct traceability to national standards.

operation of electronic components, and performing software upgrades, as well as cosmetic repairs and cleaning equipment interiors. We can do this in our facilities or on site – the choice is up to you. The best solution is to take out a maintenance contract or umbrella contract, which ensures that maintenance activities will be performed automatically and on time. We are internationally unique in having calibration laboratories that can provide direct traceability of torque and angle measurements to national standards. Our DKD calibration laboratory in Germany offers torque calibration over a range of 0.01 N·m to 20,000 N·m, and rotation angle calibration over a range of 0.05° to 7,200°. And we can provide traceability throughout the world. For instance, the SCHATZ calibration facility in the USA is traceable to the National Institute for Standards and Technology (NIST), our calibration laboratory in Mexico is traceable to the Centro Nacional de Metrology (CENAM), and in Taiwan our laboratory is accredited by the Chinese National Laboratory Accreditation Council (CNLA). Of course, all of our process sequences are DIN EN ISO 9001:2000 certified.





on-site

Calibration on site or in our DKD calibration laboratory – unique services for unique quality.

Much of the instrumentation used in process metrology requires on-site calibration. But outside a climate-controlled laboratory, accurate calibration requires an even higher level of metrological expertise. If optimum measurement conditions are not present, the results are strongly affected by perturbation factors. Our calibration services can trace their calibration fixtures for torque wrenches directly to national standards via DKD calibration, and they can

The Schatz DKD calibration laboratory (DKD-K-09301) provides measurement accuracy at the highest international level.

perform full in-plant calibrations of stationary and mobile test stands for threaded-fastener tools. In addition, we offer you on-site calibration of our measurement systems for torque, rotation angle and clamping force, in the form of in-plant calibration of measurement chains. With such calibration, we guarantee a measurement accuracy of 2%, together with indirect traceability of your instrumentation.

On-site calibration offers numerous advantages. Your company obtains independent proof from a certified and accredited service provider, there is guaranteed continual availability of the instrumentation, there is no transportation risk, process outages are avoided, and your company incurs minimal administrative expenses. In addition, the price is the same as for calibration in the laboratory (except for travel costs).

Our on-site calibration service operates in the spirit of the Schatz motto, 'quality assurance and cost reduction'.



Competent calibration



DKD calibration laboratory (DKD-K-09301)



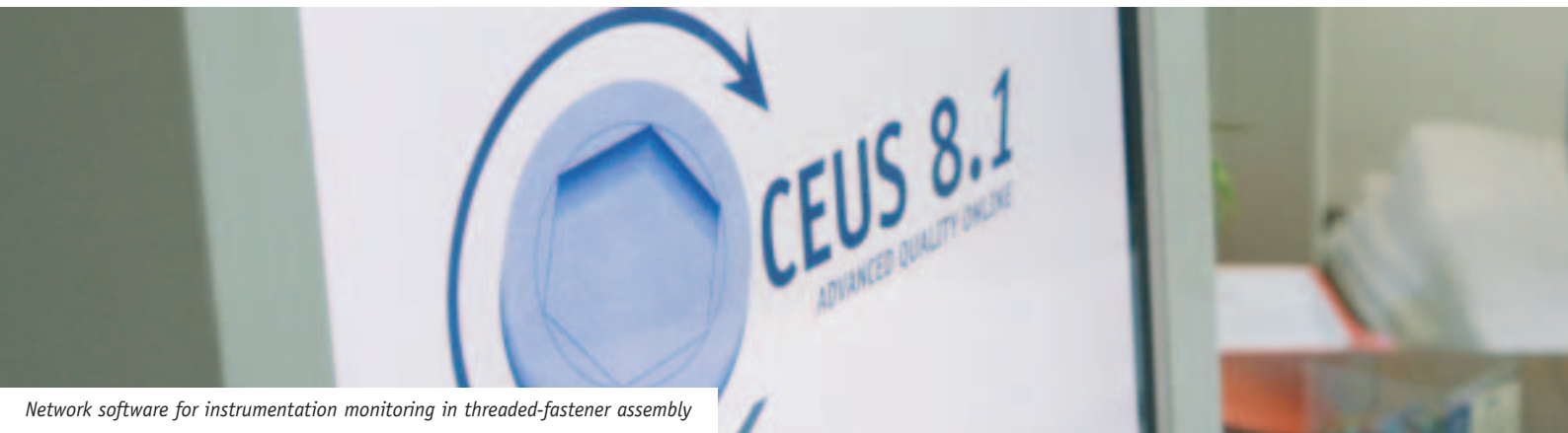
updates

Software maintenance provides continual process security for all of your risk management activities.

Software networks for quality assurance owe their existence to the speed with which data can be conveyed to the location where it is currently needed. Testing strategies are extremely varied, and along with the necessary documentation, they are subject to change. Your competitive advantage comes from effective planning and visual presentation of the execution of your plans. Our **CEUS®8.1** software network system supports all existing organizatio-

Previously, the slogan was 'Quality made in Germany', now it's 'Quality made by Schatz'. Locations are being replaced by trademarks.

nal structures and allows the user interface to be individually configured to match your own corporate structure. Assembly, maintenance, and instrumentation management activities are linked together in a manner that allows users to continue working with familiar organizational structures. Users can also personally determine the form, evaluation method and layout of the documentation, and they can work in a language that is different from that used for the documentation. Convenient, reliable operation and a multitude of control and evaluation functions are only a few of the many advantages of our **testXpert®** software product. We have also extended the basic software to include specific control processes and evaluations for determining the friction coefficients of coated threaded-fasteners. With a software maintenance contract, you regularly receive functional enhancements arising from market demands for **CEUS®** and **testXpert®**, the quality assurance software for threaded-fastener technology.



Network software for instrumentation monitoring in threaded-fastener assembly



SCHATZ online service provides continual maintenance

practically oriented

We make our standards competence available to you.

Analysis of threaded-fastener joints

Standards	Subjects
ISO 16047 (DIN 946)	Fasteners – Determination of torque and clamping force Replaces DIN 946 (Determination of friction coefficients of bolts, screws and nuts under specified conditions)
ISO 2320 (DIN 267 T15)	Steel hexagonal nuts with locking elements Mechanical and functional properties (nearly identical to DIN 267 T15)
DIN 267 T27	Mechanical fasteners Steel screws and bolts with pre-coatings
DIN 267 T28	Mechanical fasteners Steel screws and bolts with locking coatings
DIN 65497	Determining the friction coefficient of threaded-fasteners Test methods (aeronautics and astronautics)
CEN TC 185 WG 9 (not yet an official standard)	Fasteners – Assembly specification – Torque and rotation angle Simplified test method

Testing threaded-fastener joints

Standards	Subjects
VDI 2230	Systematic calculation for highly stressed bolted joints Cylindrical threaded joints (especially Item 5.4.3, 'Assembly pretension and tightening torque')
VDI 2862	Use of threaded-fastener systems in the automobile industry (especially: Minimum requirements for monitoring of the threaded-fastener system; Minimum requirements for detecting NOK bolted joints assessed as OK)
DKD-R 3-8 Annex D	Measurement of impulse fastener tools using static traceable calibrated measurement fixtures
DIN 1319 T3	Basic metrology terminology Terms related to measurement uncertainty and evaluating measurement devices and measurement fixtures
DIN 55350 T31	Terms related to quality assurance and statistics Terms related to random sample acceptance testing

Testing torque tools

Standards	Subjects
ISO 6789	Assembly tools for screws, bolts and nuts – Hand torque tools – Requirements and test methods for ensuring structural properties, quality verification and recalibration
ISO 5393	Rotary tools for threaded-fasteners – Test methods





international presence

Subsidiaries offering repair and calibration services:

France, USA

Representatives offering repair and calibration services:

Great Britain, Korea, Taiwan, Mexico

Representatives:

Benelux, China, Greece, Italy, Austria, Poland, Portugal, Switzerland, Sweden, Slovakia, Spain, Turkey, Czech Republic, Argentina, Brazil, India, Japan, South Africa

Additional information about our hardware, software and services can be requested by mail, telephone, or the Internet, using the contact options listed below.

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