

## Zheda Cao

consultant and trainer for bolt laboratory analysis as well as  
calibration of fastening tools and appropriate measuring devices

was approved by the Certification Council of VQWS e.V. as an

## INSTRUCTOR / TRAINER

in the professional competence  
**Q36 Tightening Process**

according to

**VDI/VDE-MT 2637 ff.**

for the technical focus (branch)

**Automotive Industry**

with a technical focus on

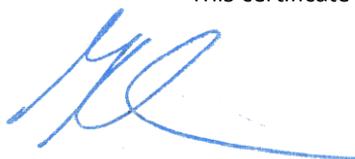
**handling of hand-held (manually actuated) fastening tools and continuously rotating,  
electrically driven fastening systems between 1 and 1000 N·m**

and successfully audited from a technical and didactic point of view.

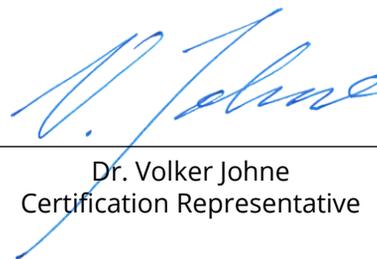
Via the assessment/audit record **no. 24-114** of **2024-11-11**  
the corresponding competences as an instructor/trainer (see page 2) are proven.

The Certification Council of the VQWS e.V. also confirms that the certified person (association member **no. 1020**) is aware of the organizational requirements according to VDI/VDE-MT 2637 Sheet 2. The instructor/trainer commits to either implement the organization of learning services properly and appropriately in his own person or to entrust this task to a certified learning service provider.

This certificate is valid from **2024-11-11** to **2025-11-10**.



H.-Martin Hanke  
First Chairman of the Board



Dr. Volker Johne  
Certification Representative

The **VQWS Verband für Qualifikation und Wissenstransfer in der Schraubtechnik e.V. (Association for Qualification and Knowledge Transfer in Tightening Technology)** certifies instructors/trainers in accordance with guideline **VDI/VDE-MT 2637 Sheet 2 Qualification in fastening technology - Evaluation guide for the evaluation of trainers** in exclusive cooperation with the **VDI Verein Deutscher Ingenieure e.V. (Association of German Engineers)**.

The predicate **VQWS Certified Trainer** is internationally unique and is awarded exclusively to instructors/trainers who meet the requirements of **VDI/VDE-MT 2637 ff. Qualification in fastening technology**.

The association member (see page 1) has undergone an **expert assessment** and has been certified as a trainer for the following qualification module by the **Certification Council of VQWS e.V.**

**SEAT OF THE ASSOCIATION**  
VQWS e.V. | VDI-Platz 1  
40468 Düsseldorf | Germany

**REGISTER OF ASSOCIATIONS**  
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Register sheet VR12181

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© Original excerpt from VDI/VDE-MT 2637 Sheet 1 (October 2018) Qualification in fastening technology - Appropriate qualification for employees and executives

**Qualification module:** Q36  
**Activity:** tightening process  
**Description of activity:** application of the installation tools for the proposed process steps in the assigned work area/workstation (fastening sequence, etc.)  
**Requirements:** qualification for using the installation tools employed in a safe, proper, and appropriate manner so as to deliver the necessary quality and also evaluation of the results and initiation of necessary measures  
**Relevant regulations:** Internal rules of behaviour and procedure and also work instructions must be available.

Required competences:

Competences	Knowledge	Ability	Mastery
Bolted joints and their properties	X		
Determination of the usability of the tightening tools		X	
Tightening procedures and their parameters such as torque, angle of rotation, rotation speed, and their effects on the bolted joint	X		
Cleanliness of connecting elements (protection of the coating, lubrication, influence of friction)		X	
Safe, correct, and appropriate use of installation tools		X	
Rules of behaviour and procedure and also work instructions for the installation process		X	
Initiation of measures in the case of not-OK results		X	
Performance of the tightening process			X