UNIVERSITY OF TECHNOLOGY
IN THE EUROPEAN CAPITAL OF CULTURE
CHEMNITZ

Faculty of Mechanical Engineering
Institute of Lightweight Structures
Chair of Textile Technologies

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From an Award-Winning Blended Learning Platform to a Transferable Learning Ecosystem: The Evolution of the *textil trainer*

The rapid transformation of industrial sectors requires higher education institutions to provide flexible, competence-oriented learning opportunities that support lifelong learning and interdisciplinary qualification pathways. In textile engineering education, this challenge is amplified by the increasing complexity of materials, processes, and sustainability requirements, while learners often enter programmes with heterogeneous disciplinary backgrounds. This contribution presents the *textil trainer* as a blended learning platform for higher education in the textile sector. The platform was recently honoured with the Comenius-EduMedia Medal in the Blended Learning Programmes category, recognising exemplary quality in digital educational media and innovative blended learning concepts.

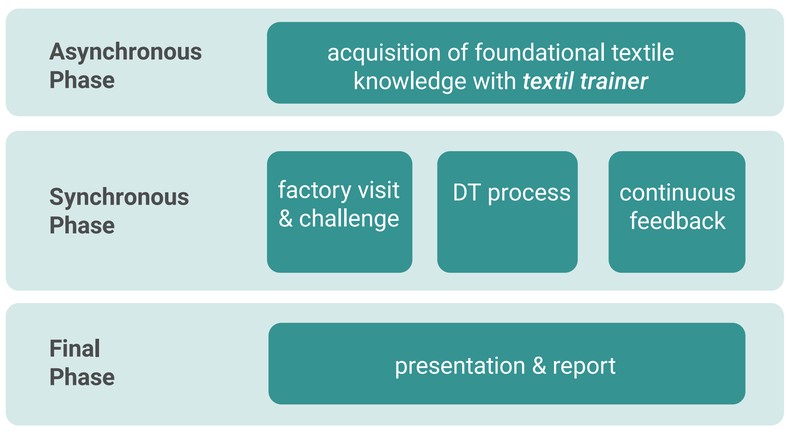
Addressing the Skills Gap

The German textile industry faces an immense shortage of skilled personnel and depends increasingly on the training of career changers. At the same time industry registers a decrease in willingness to perform combined with a crucial reduction of attention span and/or an increase of German as a second language in young trainees and adults. In order to support textile companies and institutions of textile education in this challenge, Chemnitz University of Technology (TUC) - in cooperation with e-learning expert chemmedia AG - has developed the digital learning platform *textil trainer,* that was first launched in 2019 and has been funded by ESF ever since.

What *textil trainer* Offers

- 44 bilingual courses clustered along the textile supply chain
- Professionally designed courses & engaging learning experience
- Academically grounded and practice-oriented content
- Easy-to-understand language
- Self-directed learning independent of place & time

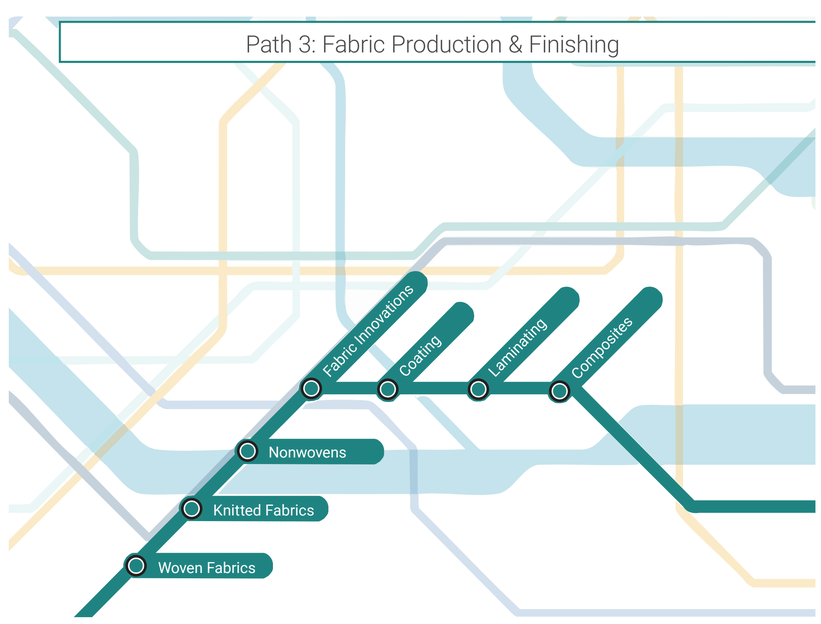
textil trainer Case Study: Learning Modules for Challenge-Based Learning



During winter semester 2025/26 a curated curriculum of *textil trainer* learning modules was integrated into a micro-credential offered within the TUCacademy framework at Chemnitz University of Technology. The modular curriculum served as an asynchronous preparation phase, enabling participants from various disciplines, including engineering, natural sciences, economics, design, and others to establish a shared foundation in textile technologies. Building on this common knowledge base, participants addressed an authentic industrial challenge in the field of protective textiles using a Design Thinking (DT) approach.

Curriculum & Learning Modules

The provided curriculum contained 21 learning modules organised in four learning paths. Path 1 introduced the learners to the textile supply chain and PPE in general, Path 2 focused on fibers, Path 3 emphasized fabric production and finishing, and Path 4 closed the curriculum with modules on recycling & circular economy. To complete the provided *textil trainer* curriculum, learners were given four weeks at the beginning of the micro-credential. This way, all learners acquired a common textile understanding and terminology before being exposed to the industrial challenge and subsequent project activities. Learners with little or no prior textile knowledge found this especially helpful.



Cumulative Registrations
2021-2026



Registered Users by Section

Results & Conclusion

The presented concept demonstrates that established blended learning platforms can support competence-oriented teaching by combining self-directed online learning, collaborative project work, and close cooperation with industry. Rather than serving solely as a repository of learning resources, the *textil trainer* increasingly connects

- modular online learning,
- competence-oriented teaching,
- interdisciplinary collaboration,
- authentic industrial challenges,
- and lifelong learning opportunities

within a coherent educational framework. Such learning ecosystems represent a promising pathway for flexible, scalable, and industry-relevant higher education, enabling universities to bridge formal education, continuing professional development, and collaboration with industry.

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