

# Measuring competences in VET - ASCOT+ project

POLICY DEVELOPMENT

PRACTICAL MEASURE/INITIATIVE

 GERMANY

## Timeline

2019 **Pilot** 2020 **Implementation** 2021 **Implementation** 2022 **Implementation**  
2023 **Implementation** 2024 **Completed**

ID number 28115

## Background

The initiative is a follow-up of the research project ASCOT (2011-15) and aims to transfer into VET practice its computer-based procedures for measuring vocational skills.

## Objectives

The aim of the ASCOT + initiative is to support professional learning and to develop further the examination system.

## Description

The ASCOT+ initiative (2019-22) focussed on measuring the achievements of apprentices more objectively and further developing competence-oriented examinations. This includes digital teaching-learning media, virtual simulations in exams, computer-controlled test formats and workflows to increase the objectivity of exams. The initiative also supported regulatory work in reviewing training regulations. With its IT-supported and competence-oriented measuring system it complemented the VET 4.0 project. The budget amounted to EUR 7.2 million.

### 2019 Pilot

The first meeting with the six project consortia took place in November 2019.

### 2020 Implementation

In 2020 the following ASCOT + project actions took place:

- (a) BMBF published information in English on the six funded collaborative ASCOT + projects in three occupational fields;
- (b) BIBB developed a new transfer concept in May 2020 with a strong basis in academic research to act as a framework model for project evaluation in ASCOT+. This concept contains five transfer dimensions with a total of 23 requirements;

- (c) at the second project meeting on 28 October 2020 (online), the six projects presented their current work status. The meeting offered all participants opportunities to exchange ideas and suggestions and to discuss experiences. An interim conference is planned in the second half of 2021. There, the projects will have the opportunity to present their interim results and products to the (specialist) public;
- (d) in 2020, three interviews were conducted with project coordinators (German only);
- (e) an article in BWP 2/2020 on ASCOT+ project in the healthcare sector was published in May 2020 (Modelling coping and cooperation competences for nursing training – The approach of the EKGe research project; in German only).

### 2021 Implementation

In 2021, the six projects of the Ascot+ initiative continued:

- (a) the ASPE project is developing an online tool with which examination staff can create competence-oriented examination tasks and final examinations for commercial professions;
- (b) DigiDIn-Kfz is developing digital support tools for diagnostic competences in the occupation of motor vehicle mechatronics technician and is adapting existing tests to the needs of examination practice;
- (c) EKGe is developing a measurement tool for cooperation skills and a digital support tool for coping skills for nursing professions;
- (d) PSA-Sim is developing a test and training software for promoting the problem-solving competence of commercial trainees with real-time analytics for optimal promotion and (partially) automated evaluation procedures;
- (e) TechKom is developing support tools for analytical and constructive problem-solving skills as well as improved examination tasks for technical training occupations;
- (f) TeKoP is developing training that enables examiners, trainers and teachers in the occupation of industrial clerk to develop competence-oriented examination tasks and implement them based on technology.

In September 2021, all six ASCOT+ project teams met virtually and presented their results. The first prototypes were also able to be presented.

A new overview study on competence assessment in vocational education and training in Europe was published in Academic Discussion Paper (WDP) 222, BIBB 2021 (German only).

The first issue of the ASCOT+ newsletter was published in April 2021 (German only) – to be issued two to four times a year.

### 2022 Implementation

At the beginning of June 2022 interested parties met in Bonn to examine and discuss digital prototypes for competence measurement and promotion at an interim meeting. The focus was on the questions: What opportunities do the computer-based instruments offer and what are their limitations?

A study was published that provides a systematic overview of the methods of competence assessment in German VET.

### 2023 Implementation

In 2023, all six Ascot+ projects from the vocational fields of industrial-technical, commercial and healthcare professions came to an end. Nevertheless, the projects are still active in providing their digital products with lasting prospects. The teaching and learning platforms, materials, manuals, videos and simulations developed are still available online, free of charge and can be used by anyone. The digital tools will continue to be used in cooperation with practice partners, whether in lessons,

examinations or when creating tasks.

On your marks, get set, practice... that was the motto of the ASCOT+ final conference at the end of April 2023. 150 interested people met simultaneously over two days in the virtual rooms, the marketplace and in the foyer of the 'ASCOT+ World' created for the conference to experience and discuss the work results of the six projects.

ASCOT+ contributions in BIBB journal BWP 03/2023 on the topic of 'Examinations': Based on the findings of ASCOT+ projects, the authors explore the question of which requirements the examination system must fulfil to be modern, of high quality, legally compliant and practicable.

### **2024 Completed**

At the end of January 2024, the ASCOT+ initiative support group met for the seventh and last time. The focus was on the results and findings from four years of research and transfer and the question of which factors play an important role in the success of a programme.

A practical brochure was published in April 2024 to secure digital tools and transfer of the funded projects. The brochure is aimed at examination and training staff as well as other VET stakeholders.

## **Bodies responsible**

- Federal Ministry of Education and Research (BMBF) (until 2025)
- Federal Institute for Vocational Education and Training (BIBB)

## **Target group**

### **Learners**

Learners in upper secondary, including apprentices

### **Education professionals**

Teachers  
Trainers

### **Entities providing VET**

VET providers (all kinds)

### **Other**

Examination  
staff

## **Thematic categories**

### **Governance of VET and lifelong learning**

Further developing national quality assurance systems

### **Modernising VET offer and delivery**

Developing and updating learning resources and materials  
Reinforcing work-based learning, including apprenticeships

## **Subsystem**

## Further reading

[ASCOT+ website](#)

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[Information in English on the six ASCOT+ collaborative projects](#)

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[Information in English on transfer concept \(May 2020\)](#)

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[Lohmeyer, N. & Velten, S. \(2019\). Forschungs- und Transferinitiative ASCOT+ startet mit sechs Projekten. \[Research and transfer initiative ASCOT+ started with six projects\]. \*Berufsbildung in Wissenschaft und Praxis\*, BWP 6/2019, 16-18.](#)

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[Ruschoff, B. \(2019\). Methods of competence assessment in IVET in Germany. \[Methoden der Kompetenzerfassung in der beruflichen Erstausbildung in Deutschland \]. \*Wissenschaftliche Diskussionspapiere des BIBB\*, WDP Heft 206.](#)

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[Newsletter: information about ASCOT +](#)

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[Wittmann, Weyland, Warwas: Modelling coping and cooperation competences for nursing training - The approach of the EKGe research project \(in German only\)](#)

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[Schratz, R. & Velten, S. \(2021\). ?Instruments for competence assessment in vocational education and training in other European countries? \[Instrumente zur Kompetenzerfassung in der beruflichen Bildung im europäischen Ausland\] \(in German only\).](#)

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[Study on methods of competence assessment \(2022\)](#)

## Related policy developments

**2022 Completed**

### VET 4.0 project: effects of digital innovation on vocational training

The Federal Ministry of Education and Research (BMBF), in cooperation with the Federal Institute for VET (BIBB), started the initiative VET 4.0 for the period from February 2016 to April 2018. The initiative is based on three pillars.

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#### Type of development

Practical  
measure/Initiative

#### Subsystem

IVET CVET

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#### “ ... ” Cite as

Cedefop, & ReferNet. (2026). Measuring competences in VET - ASCOT+ project: Germany. In Cedefop, & ReferNet. (2026). *Timeline of VET policies*

*in Europe* (2025 update) [Online tool].

<https://www.cedefop.europa.eu/en/tools/timeline-vet-policies-europe/search/28115>