



Teaching Handbook

Tourism Resilience Education in Digital Security



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1 INTRODUCTION

The motivation behind the TREADS project is rooted in the transformative dynamics of the EU's tourism sector, with a particular focus on micro-SMEs and SMEs, which serve as the backbone of the industry.

The digital transformation that the tourism industry is experiencing comes with inherent risks, particularly in how data is collected, stored, shared, and consumed. Digital and cybersecurity concerns and the proliferation of disinformation pose significant threats to the sector's stability, compromising computer systems and data but also cognitive abilities of the stakeholders in the value chain. According to the Trustwave 2020 Global Security Report, the travel and tourism sector is actually ranking 3rd in cyberattacks, making education and training imperative for helping travel professionals identify risks, build ethical data practices, cybersecurity strategies, contingency plans and robust mitigation procedures that go beyond post-attack investigations or compliance obligations.

However, the EU's 'Pact for Skills for Tourism' declares that the tourism workforce is not as qualified as the rest of the EU's working population (up to 25% possessing low-level qualifications), leading to major labor market needs. There is, in fact, a noticeable skill gap, especially among micro-SMEs and SMEs, necessitating training programs to enhance awareness and to facilitate a smooth and safe transition into the digital era. Small-scale travel professionals lack informed procedures and training to navigate the complexities of the digital landscape.

The TREADS project aims to empower this travel segment by enhancing their digital competencies and upskilling them for being more resilient in the face of digital crisis. These efforts will not only benefit individuals but also lead to better products and improve the sustainability of the European tourism industry, acknowledging the role of SMEs in shaping its future amidst the challenges of the digital era.

The ECVET profile developed in the present Work Package, Digitally upskilled & Resilient Tourism Expert: Conscious of Digital Risks, is specifically designed to achieve this objective. The specialized training content that will be elaborated in the Work Package 4 will focus on the two main topics that characterize the two training units:

resilience in tourism: the twin transition (green and digital) and resilience planning

digital security in tourism: digital tourism processes and digital crisis management

This ensures that VETs are specifically adapted to the labor market needs emerging from the digital transformation of the sector.

The project strategically aligns with two significant trends in the European tourism sector: the escalating demand for combating cyber threats and relevant societal challenges (i.e. disinformation) which impact the tourism offering, and the increasing reliance on digital technologies for enhancing the overall competitiveness and evolution of the sector in the digital era.

This initiative is in line with EU mandates (i.e. Cybersecurity Act, Data Governance Act, global code of conduct of ethics in tourism from UNWTO, Europe's Digital Decade, and Transition Pathways for Tourism) and contributes to the Pact for Skills in the EU for the tourism sector, a significant initiative targeting the skills gap.

Moreover, the activities concerning the definition of the ECVET Profile, its Training Plan and the present Handbook, will serve as an analytical guidance that will be applied by trainers¹ during the courses' implementation. These WP3 activities take also into consideration the deliverables of WP2, which analyzed the existing Good Practices at national level on:

events and awareness-raising initiatives ensuring that trainers and trainees remain informed about emerging trends

the integration of digital tools and practices in VET professional development

existing cybersecurity VET and upskilling programs

This analysis helps to strengthen the connection between education and industry, ensuring that the workforce is not only skilled in tourism but also equipped to contribute to a resilient and secure digital environment.

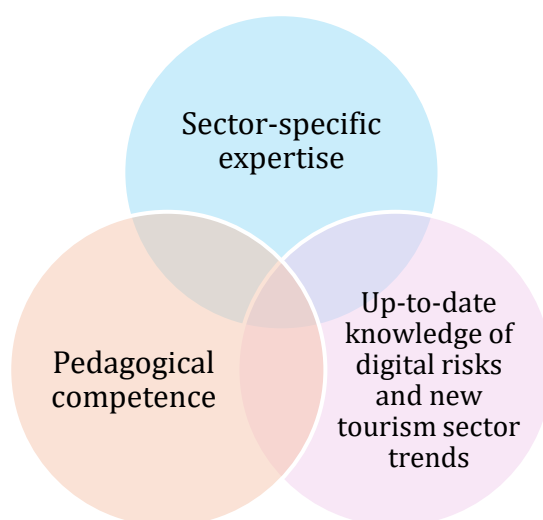
¹ Please be aware that the term “trainer” is used throughout the document also as a synonym for “teacher”, assuming that the training provided is both theoretical and practical, with a strongly sector-oriented approach.

A wide range of relevant materials was also collected and curated. The Resource Pool that derives from this work includes: educational materials (e.g., lesson plans, manuals, e-learning modules), research papers (e.g., peer-reviewed articles or policy papers), case studies (e.g., applied examples highlighting best practices), VET curricula (e.g., modules relevant to cybersecurity, digital skills, etc.), EU-funded projects (e.g., outputs, reports, or summaries of relevant initiatives), and regulatory frameworks (e.g., legal texts, policy documents, or compliance guidelines).

All WP2 deliverables are available on the website <https://treadsproject.eu/> and represent a valuable resource for trainers, educators, trainees and professionals who wish to face the challenges of the digital era equipped with the appropriate tools and skills.

1.1. Trainers' Professional Background

The trainer's background must combine:



Therefore, trainers involved in this training should be able to combine an in-depth analysis of the theoretical and contextual aspects with practical, hands-on activities, thanks to a deep knowledge of the sector and its evolution, and, where possible, supported by their own professional experience in this field.

Because the Training Plan spans resilience, sustainability, digital transformation and digital security, the trainer must be able to bridge these domains and translate them into practical, VET-friendly learning experiences. To achieve this, the trainer is

facilitated and supported by the numerous practical activities included in the Training Plan, which is available on the project website².

Trainers should have solid experience in tourism, hospitality, travel operations, or destination management, they should understand tourism workflows (reservations, PMS/CRM systems, customer journey, digital payments, etc.) and should be familiar with tourism legislation, customer data flows, and operational vulnerabilities. This ensures they can contextualize digital risks and resilience strategies in real tourism environments. Moreover, they should demonstrate a solid understanding of digitalisation trends in tourism, such as smart destinations, the Internet of Things (IoT), Artificial Intelligence (including the ethical use of AI³), digital marketing, and online platforms. They should be able to explain how digital tools support operations, sustainability, and resilience and be aware of the human factor in digital transformation.

They do not need to be digital security experts, but they should be familiar with basic concepts such as threats, vulnerabilities, and cyber hygiene. For the more technical components of the training, the involvement of trainers with a stronger and more specialized background in digital security may be considered. The role of the lead trainer is to act as a bridge between more specifically technical expertise and the tourism sector.

As far as pedagogical competencies are concerned, the trainer should be able to apply learner-centred, practical methodologies such as case studies, simulations, role-play and workshops, as indicated and suggested in the Training Plan, and to adapt the contents to different learner profiles.

Because the course focuses on digital risks and resilience, trainers must commit to continuous professional development and remain updated on emerging digital threats targeting hotels and travel agencies, relevant national and EU regulations, and key trends in the tourism sector. These include smart tourism technologies and digital innovation, sustainability and green transition policies, crisis impacting tourism such as climate change, geopolitical instability and digital disruption, as well as new digital tools and platforms used in the sector, Artificial Intelligence and its ethical use.

² Training Plan available here: <https://treadsproject.eu/outputs/perfil-ecvet-y-diseno-del-plan-de-formacion/>

³ On the topic of the ethical implications of AI use, please refer to the Erasmus+ project *EthAI Tour*: <https://ethaitour.eu/>

This Handbook is designed as a practical reference tool to support trainers in planning and delivering teaching activities. It is intended to be used flexibly and can be adapted to different contexts in order to make the training experience engaging, inclusive and relevant for learners.

It provides clear, step-by-step guidelines for trainers delivering the course, providing the tools and guidance necessary for an effective and high-quality educational process.

2.1 Target groups

The project's direct target groups are two:

- **VET trainers and educators:** thanks to the TREADS project, they will be able to guide the workforce, both VET students and working professionals involved in C-VET courses, in acquiring the skills needed to effectively address changes in the sector, from the green transition to the digital one.
- **VET students:** they will become familiar with the terminology related to digital security risks and disinformation in the tourism sector, enabling them to enter the labour market well prepared.

The indirect target group include:

- **Tourism hospitality sector representatives:** through the project and its outcomes they will benefit from a digitally competent, resilient workforce, aware of digital risks

Taking into consideration the diversity of these target groups, it is clear that different categories of learners will benefit from TREADS. Consequently, trainers using the training contents developed within the project will need to tailor their training activities to the specific level of their target group and to their prior experience in the sector. When assessing this aspect, it is recommended, to use a questionnaire such as the one presented below:

UNIT 1: RESILIENCE IN TOURISM

How familiar are you with the concepts of organizational, community, and destination resilience in the tourism sector? *

1 2 3 4 5

No knowledge ☐ ☐ ☐ ☐ ☐ Excellent knowledge

Are you able to identify the main risk and vulnerability factors that can affect a tourism business or destination (e.g., pandemics, natural disasters, geopolitical instability, digital threats)? *

☐ Yes

☐ No

Figure 1: Self-assessment questionnaire

UNIT 2: DIGITAL SECURITY IN TOURISM

How familiar are you with basic digital security concepts and the main cyber threats in tourism (phishing, ransomware, reservation fraud)? *

1 2 3 4 5

Not familiar at all ☐ ☐ ☐ ☐ ☐ Very familiar

Do you know how to apply good cyber hygiene practices (secure passwords, MFA, updates, backups)? *

☐ Yes

☐ No

How familiar are you with basic GDPR requirements and the concept of Zero Trust Security? *

1 2 3 4 5

Not familiar at all ☐ ☐ ☐ ☐ ☐ Very familiar

Figure 2: Self-assessment questionnaire

The questionnaire is available here: <https://forms.gle/KB7C7z5KZvp66CoH6>. Trainers can easily recreate this questionnaire in order to administer it to trainees and assess their level based on the responses collected. This questionnaire is intended as a reference tool and a starting point, which can be adapted and/or modified according to specific training needs.

2.2 Training delivery methods

Taking into account the needs of the different target groups and considering that it could be suitable for different contexts of use, the Training Plan is designed for face-to-face in presence teaching and learning, distance teaching and learning, and self-study and learning.

Moreover, the Training Plan offers a high degree of flexibility, allowing both trainers and trainees to either complete the entire learning program or design a customized learning path by selecting only the units most relevant to their professional development. In addition, the content can be tailored to the trainee's background and goals, the specific training context, and the needs of different target groups.

2.3 Different training formats

Particular emphasis is placed on creating a collaborative learning environment in which learners work in teams to solve real-world problems, share experiences, and gain insights from peers through group projects and discussions, supported by continuous feedback and reflection from the trainer.

Access to supplementary materials, online resources and self-assessment tools is also guaranteed to support independent learning, and hands-on learning, case studies, and real-world examples demonstrate the practical impact of resilience and digital skills while fostering interpersonal and tourism-specific competences and a culture of continuous growth.

On this basis, a variety of teaching and learning approaches ensure that the training course remains effective and compelling for all target groups and situations. They include:

- **Multi-channel learning:** content is delivered through different channels, using both written documents and videos to enhance trainees' engagement, facilitate understanding and focus.
- **Workshops:** learners work in groups on common tasks, exchanging ideas and developing solutions to common problems and situations related to the main topics of the training units. This activity will contribute to fostering collaboration, communication and creative thinking.
- **Case studies:** learners work with real-world examples and scenarios that allow them to apply and put into practice the theoretical content they have acquired. Case studies also allow for the localization of the training content as each partner can readjust the training material to the local needs and challenges.
- **Role-playing activities:** this kind of exercise allows learners to gain hands-on experience and simulate real-life situations in a protected environment, thus strengthening critical thinking skills.
- **Self-learning opportunities:** these opportunities allow learners to approach the training content at their own pace, prioritizing topics of interest and according to their individual learning goals.

2.4 Evaluation methods

The training program adopts a variety of assessment methods to ensure a comprehensive evaluation of participants' learning and performance.

These include quizzes designed to assess the acquisition of theoretical knowledge, as well as the evaluation of practical activities and workshops. Learning is also assessed through group work and group presentations, which encourage collaboration and the development of teamwork skills and allow trainees to apply what they have learned in a more structured and in-depth way. Peer review is used to promote reflection and mutual feedback, while both individual and group performance are taken into account. Finally, continuous observation during the training sessions contributes to an overall assessment of engagement, participation, and progress.

These evaluation methods are intended as general guidelines. They will be incorporated into the training course materials and presented in detail there. They may be adapted and tailored to the specific needs of the different target groups.

2.5 An additional tool

The e-learning interactive platform selected for the delivery of the TREADS Training course can be used by trainers as an additional tool⁴. Online learning initially emerged as a necessity during the COVID-19 pandemic and has since become a widely adopted and valuable tool for educational institutions, including VET providers, and for companies.

Accessing and using the platform is easy and intuitive; therefore, no technical background is required for either trainers or trainees. For further information on how the platform works, please refer to the relevant document, that will be available on the TREADS website⁵.

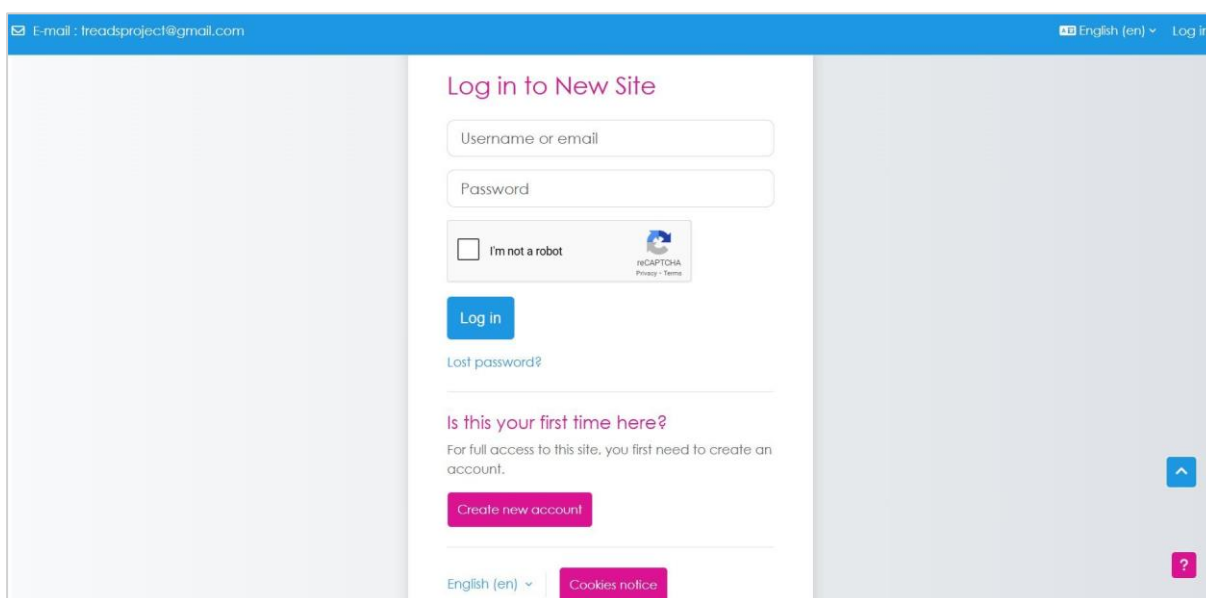


Figure 3: E-learning platform login

Training course materials are accessible either through the e-learning platform, which offers greater engagement and interactivity, or as downloadable PDF versions.

⁴ <https://treads-platform.eu/?redirect=0>

⁵ <https://treadsproject.eu/>

The PDFs can be useful to guide trainers' work in the classroom and support them in coordinating and supervising workshops, case studies, and group activities.

When managing their lessons, trainers can use the platform in various ways: accessing it during class, downloading PDFs, or assigning activities that trainees can complete independently at home by accessing the platform at a later stage. In this case, the platform serves to complement classroom work and reinforce the concepts explored. It also allows learners to test their knowledge through quizzes available at the end of each unit.

Adopting the platform as a complementary tool will guarantee an efficient exploitation of the contents and allow the adoption of a multi-channel and dynamic learning methodology. Moreover, it enhances the inclusivity of the Training Plan, making the training more accessible and facilitating the participation and completion of the program by people with special needs.

2.6 Course structure and additional resources

The whole training, consisting of 2 units divided into 3 subunits each, has an estimated duration of 96 hours, 48 hours per unit.

The course is fully customisable, allowing trainers and trainees to choose the unit, subunit or even topic to focus on, and to adapt the materials, the workshops and case studies to the target group.

It should also be noted that every unit focuses mainly on technical and professional aspects but can be expanded to include interdisciplinary topics such as communication, history, culture, data analysis and IT. They can thus be transformed into interdisciplinary learning units, with the technical trainer serving as the main point of reference.

The detailed course structure is outlined below:

Unit 1: Resilience in Tourism



- ☐ Introduction to resilience
- ☐ Resilience and Twin Transitions (Green & Digital)
- ☐ Resilience Planning in Tourism

Unit 2: Digital Security in Tourism



- ☐ Fundamentals of Digital Security
- ☐ Security in Digital Tourism Processes
- ☐ Simulations and Digital Crisis Management

To support teaching and learning, the consultation of the following resources is recommended as well:

- ECVET Profile
- Training Plan

All project's deliverables are freely available in English and all partners' languages, namely Italian, Spanish, Greek and Slovenian, and can be accessed through the official TREADS website, <https://treadsproject.eu/>.

2.7 Practical suggestions for trainers

In this section of the Handbook, guidelines on how to navigate the different phases of the learning process can be found, including class planning and design, the selection of the appropriate methodology, training delivery, and feedback and assessment.

CLASS PLANNING AND DESIGN

The trainer should firstly conduct a comprehensive needs analysis of both the target group and the training context, taking into account:

- the needs of the organization offering the training and the objectives communicated at the time of the trainer's assignment

- the group dynamics and any needs for customization to accommodate learners with special needs, ensuring an inclusive learning path
- the available physical spaces and the classroom setup considered most appropriate based on the previous analysis
- the availability of the tools needed for teaching: digital display tools (for example a digital screen, a projector with a screen, or an interactive whiteboard), audio-video equipment (for example speakers), software and digital platforms (for example collaboration and quiz platforms)

After the needs analysis, the trainer can take advantage of the flexibility of the Training Plan by following the units in sequence or selecting them individually according to the specific objectives of the class. Trainers should also be aware that the level of the course can be adjusted, when necessary, to meet the learners' needs.

CHOOSING THE APPROPRIATE METHODOLOGY

Blended learning approaches are strongly recommended, as they allow the integration of face-to-face teaching with self-study, providing opportunities to reinforce skills and competencies. Classroom activities should include hands-on exercises, such as analyzing the security features of a booking system.

Role plays, case studies, and group projects, that are outlined in the Training Plan and will be detailed in the training course materials, will promote active learning.

TRAINING DELIVERY

At the beginning of each training session, it is important to clearly outline the learning objectives that trainees are expected to achieve by the end of the class and to clarify for them the lesson planning and the assessment and feedback mechanisms.

Trainers can make full use of all materials available on the project website and the e-learning platform, and are advised to:

- combine the e-learning platform with classroom time: assign readings or videos online, then use in person sessions for debate and application
- make use of the downloadable PDFs as handouts or pre-class preparation
- use traditional teaching tools such as power point presentations

- use collaboration and communication tools such as Microsoft Teams, Trello, Kahoot! and Mentimeter

With regard to content, trainers should always highlight the sector specific relevance of the topics, using tourism case studies from airlines, hotels, and travel agencies, to make the concepts more concrete and relatable. It is important to show how digital transformation tools, such as AI-based recommendations, online booking systems, and digital payment platforms, are reshaping the sector. Additionally, discussions should address resilience strategies, including data backups, staff training, and recovery plans, to prepare learners for potential digital disruptions.

Finally, trainers should be aware that, at times, it may be necessary to adapt the training materials to the learners' needs while keeping the overall learning objectives in mind. They should also tailor examples and activities to the local tourism context, ensuring that learners can immediately see their relevance and practical value.

ASSESSMENT AND FEEDBACK MECHANISMS

It is important to clarify from the very beginning how the effectiveness of the training in achieving the learning objectives will be assessed. It should also be noted that evaluation should not be limited to the end of the training but rather conducted as an ongoing process throughout the course.

Assessment methods can include, but are not limited to:

- Quizzes assessing the acquisition of theoretical content
- Evaluation of practical activities and workshops
- Group work and group presentations
- Peer review
- Individual performance
- Group performance
- Constant observation during training

Although assessment methods can be adapted to the specific characteristics of the target groups, particular emphasis should be placed on teamwork and

presentations. Cooperative learning, in fact, is an exceptionally effective teaching approach.

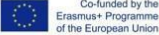
POWER POINT TEMPLATE

The following power point template can be used as a reference point to prepare the teaching materials for each unit and sub-unit included in the Training Plan. This framework can be customized according to the specific needs of the teaching session.




RESILIENCE IN TOURISM: Introduction to Resilience

TREADSPROJECT.EU











Resilience in tourism

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Resilience in tourism

Introduction to resilience

Rank in 2012	Country	1995	2000	2005	2010	2012	Trend, 1995-2012
1	France	60.0	77.2	75.0	77.6	83.0	
2	United States	43.5	51.2	49.2	59.8	67.0	
3	China	20.0	31.2	46.8	55.7	57.7	
4	Spain	34.9	46.4	55.9	52.7	57.7	
5	Italy	31.1	41.2	36.5	43.6	46.4	
6	Turkey	7.1	9.6	20.3	31.4	35.7	
7	Germany	14.8	19.0	21.5	26.9	30.4	
8	United Kingdom	21.7	23.2	28.0	28.3	29.3	
9	Russian Federation	10.3	21.2	22.2	22.3	28.2	
10	Malaysia	7.5	10.2	16.4	24.6	25.0	

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Overview

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Resilience in tourism

Another layout proposal

Subheading

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Thank you for viewing ;)

EXAMPLE OF TEACHING METHODOLOGY

The following example illustrates how trainers may design and organize sessions for **Unit 1 – Sub-unit 1: Introduction to Resilience.**

GENERAL OVERVIEW OF THE SUB-UNIT	Introduction Tourism operates in a world of constant change, where unexpected events from extreme weather to digital disruptions can quickly impact businesses and destinations. This first sub-unit introduces learners to the foundations of resilience, exploring how tourism organizations and communities can anticipate risks, adapt to challenges, and recover effectively. By understanding different types of resilience, the human factors that strengthen it, and the early warning signals of emerging crises, learners begin building the essential mindset and tools needed to support safer, more sustainable, and more responsive tourism systems. Learning Objectives At the end of this sub-unit, learners will be able to: - identify vulnerabilities in a tourism business or destination - assess risk probability and impact - recognize signals of potential crises - communicate risks to non-technical stakeholders.
SESSION 1	Topics Types of resilience and their relevance to the tourism sector: - organizational resilience - community resilience - destination resilience Practical activity Analysis of real cases of resilient destinations Assessment Report drafted after the practical activity
SESSION 2	Topics Human factor in resilience: - staff adaptability - leadership - teamwork

	- mental well-being
	Practical activity Simulation of a small operational crisis in tourism followed by a group discussion
	Assessment Quiz on human factors in resilience
SESSION 3	Topics Risk and vulnerability factors in tourism: - natural disasters - pandemics - geopolitical instability - digital threats
	Practical activity Risk mapping exercise for a small hotel or travel agency
	Assessment Evaluation of the risk map produced
SESSION 4	Topics Early warning systems: indicators and signals of crisis escalation
	Practical activity Role-play activity: simulating a hotel management committee's decision-making process during a crisis
	Assessment Debriefing report drafted after the role-play activity
FINAL ASSESSMENT	Design a comprehensive Tourism Resilience Plan

EXAMPLES OF CASE STUDY

Examples of case studies will be included once the training course materials have been finalized.

This Handbook serves as a practical guide for trainers and trainers who wish to employ the “Digitally upskilled & Resilient Tourism Expert: Conscious of Digital Risks” profile, along with the developed materials and contents, to equip VET students and tourism professionals with the skills needed to succeed in a digitally transformed tourism labor market.

This document presents the main objectives of the TREADS Project and introduces the first deliverables completed (WP2). It then focuses on Work Package 3, providing practical recommendations and essential information for planning and delivering the course, with practical examples and templates that can be used by trainers.

In conclusion, it is important to highlight that TREADS training is transferable for use to all EU countries, as the needs of the various target groups of the TREADS project have been taken into consideration in the development of the profile and, subsequently, in the creation of the training materials. This approach guarantees greater efficacy and broader adoption.



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