

REQUIREMENTS FOR TRANSFER AND IMPLEMENTATION

ROLEPL-AI

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Deliverable 5.4 – Version 1

Type of Activity		
IO	Intellectual Output	X
A	Project Management and Implementation	
M	Transnational Project Meeting	
E	Multiplier Event	

Nature of the deliverable		
	Feedback from participants	
	Direct effect on participants and project partners	
	Practical & reusable resources for the practitioners	
	Research material bringing forward the reflection in the sector	
	Community building tools	
	Partnerships and Cooperation	
	Dissemination material	X
	Organizational and working documents	

Dissemination Level		
PU	Public	X
CO	Confidential, only for members of the consortium (including the Commission Services)	

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This project aims at training soft skills remotely, by pushing the practice through the implementation of AI-based simulation.

The project runs from September 1st, 2023, to August 31st, 2025 (24 months), it involves 5 partners (Manzalab and Inceptive, France; VUC Storstrøm, Denmark; Fachhochschule Dresden, Germany) and is coordinated by Manzalab.

List of participants

Participant No.	Participant organisation name	Acronym	Country
1 (coord)	Manzalab	MZL	France
2	Inceptive	ICV	France
3	VUC Storstrøm	VUC	Denmark
4	Fachhochschule Dresden	FHD	Germany

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Abbreviations

[AI] Artificial Intelligence

1 INTRODUCTION

1.1 OVERVIEW

The task 5.4 is the validation of the frame of reference and the evaluation of the digital asynchronous AI learning scenarios (digital environment with AI-based simulation). The output deliverable will report on usage, learning outcomes, and user feedback, as well as provide a description of the final framework. The overall objective is to validate this framework and to derive clear recommendations for implementation in diverse educational settings, the healthcare system and industry settings.

The transfer concept was developed through the analyses of usage statistics, learning success, and participant feedback at different stages of the piloting. The learning outcomes between the different cohorts were examined to draw conclusions about the specific learning situations in the participating institutions. The comparison of the collected data provides valuable insights for potential adaptations of the digital AI learning environment to the specific needs of institutions and contributes to the further development of the didactic framework.

Deliverable 5.4 constitutes the report on the project's **transfer concept**, which aims at ensuring that ROLEPL-AI results can be effectively integrated into vocational schools, universities, adult education, and professional training. The transfer perspective emphasizes both the didactic purpose (competence-based learning, scenario-based simulations, feedback) and the technical feasibility (integration into existing infrastructures). By validating the framework and aligning it with practical transfer pathways, this deliverable demonstrates how the innovative AI-based simulation environment can be implemented and scaled across diverse educational landscapes.

1.2 DELIVERABLE POSITIONING

D5.4 is based on the results of the project's piloting activities, the evaluation of the asynchronous AI learning scenarios, and the iterative development of the didactic framework. It draws upon feedback from educators, learners, and associated partners, as well as data collected during the testing phases.

This deliverable is directly connected to Task 5.4 (Validation of the frame of reference and evaluation of AI scenarios) within Work Package 5. It is also interlinked with earlier tasks in WP3 (scenario design, feedback collection) and WP4 (technical implementation and piloting), ensuring that the evaluation and transfer concept are grounded in both pedagogical and technological development.

The main contribution of D5.4 is to consolidate the findings from piloting and evaluation into a coherent transfer concept. It validates the usability and didactic effectiveness of the ROLEPL-AI simulation platform, provides recommendations

for adaptation to institutional contexts, and ensures that the outcomes are transferable and scalable across European educational systems. This deliverable thus bridges the gap between experimental piloting and long-term implementation.

1.3 PRESENTATION

Classical introduction

Deliverable 5.4 presents the validation and transfer concept of the ROLEPL-AI project in a structured and practice-oriented way. The reportthe project background, objectives, methodology, and main outcomes. It combines both a didactic and a technical perspective, linking evaluation results with practical recommendations for implementation.

Deliverable structure

The report is organised into seven main parts:

1. **Introduction & Overview** – contextualising the project, the role of Deliverable 5.4, and the objectives of the validation and transfer concept.
2. **Project Objectives** – outlining the goals of ROLEPL-AI and their relation to soft skills training with AI-based simulations.
3. **Didactic Purpose** – presenting the competence-based pedagogical framework and its relevance for VET, higher education, and adult learning.
4. **Technical Implementation** – describing the platform, AI components, and infrastructure requirements.
5. **Possible Use Cases** – illustrating sector-specific applications with tables and examples.
6. **Benefits and Recommendations** – identifying added value for providers and formulating guidance for implementation.
7. **Conclusion** – summarising the contribution of Deliverable 5.4 to the overall project and the European education landscape.

2 PROJECT OBJECTIVES AND IMPORTANCE OF THE TRANSFER CONCEPT

2.1 IMPORTANCE OF THE TRANSFER CONCEPT

The ROLEPL-AI project (2023–2025) is co-funded by the Erasmus+ Programme of the European Union. It brings together four partners from three countries to design, implement, and test an AI-driven simulation platform (Teemew) that enables learners to practice social interactions and conflict management skills in a safe, immersive environment.

The main project objectives include:

- Development of an AI-supported role-play system for soft skills training and conflict solving.
- Use of immersive digital environments (Teemew) as training spaces.
- Ensuring ethical and responsible use of large language models (LLMs) in education.
- Facilitation of lifelong learning and digital readiness in VET and higher education
- Providing educators with practical tools for scaffolding and feedback in AI-supported role-play.

The transfer concept was developed through analyses of usage statistics, learning success, and participant feedback during piloting. These results provided insights into institutional learning situations, highlighted possible adaptations of the AI environment, and contributed to the further development of the didactic framework.

The transfer concept is crucial because it ensures that project results move beyond pilot testing and are embedded in educational practice. It enables scalability, supports didactic innovation, and ensures adaptability to institutional needs.

This report (Deliverable 5.4) therefore validates the framework and presents a structured transfer concept, providing recommendations for sustainable implementation across European education systems.

3 DIDACTIC PURPOSE

3.1 DIDACTIC APPROACH

The ROLEPL-AI transfer concept builds on a **competence-based didactic approach**. It seeks to align the training environment with future skill requirements, particularly in areas such as communication, teamwork, and conflict resolution. The platform supports educators by providing realistic scenarios that allow learners to actively engage, reflect, and receive feedback. The didactic purpose is therefore to combine experiential learning with adaptive AI-driven interactions.

Key elements of the didactic approach include:

- **Competence-based approach:** targeting future skills such as conflict management and communication.
- **Simulation of realistic action situations** within educational contexts.

- **Feedback option** to strengthen reflective learning and support educators.
- **Scaffolding** through tailored scenario design and progressive learning pathways.

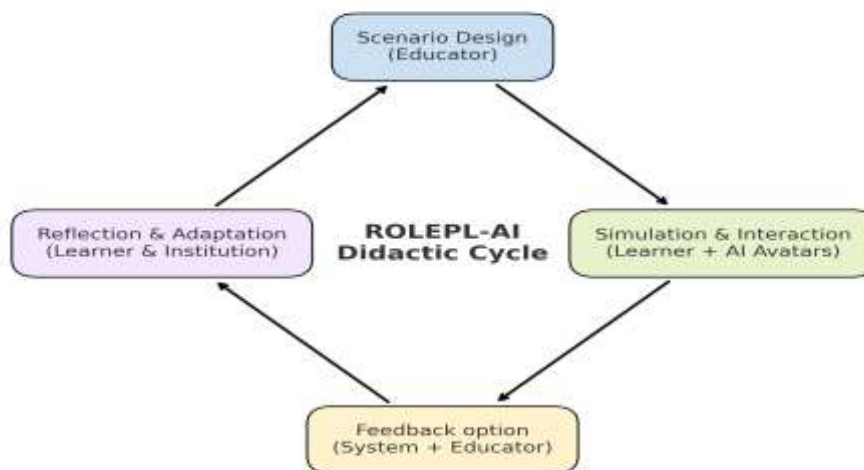


Figure 1 ROLEPL-AI didactic learning cycle

Figure 1 visualises the **ROLEPL-AI didactic learning cycle**. It illustrates how learning is structured as an iterative process that combines scenario design, immersive interaction, feedback, and reflection.

- The cycle **starts with Scenario Design**, where educators define realistic situations aligned with competence goals (e.g., conflict management, communication).
- In the **Simulation & Interaction** phase, learners engage with AI-driven avatars in the immersive environment, practicing their soft skills in a safe space.
- This is followed by the **Feedback option**, where learners receive guidance from both the AI system and educators, helping them to identify strengths and areas for improvement.
- Finally, the **Reflection & Adaptation** phase enables learners to consolidate their experience and institutions to adapt the framework to their specific needs.

4 TECHNICAL IMPLEMENTATION

4.1 TECHNICAL NEEDS FOR INTEGRATION

The technical implementation of ROLEPL-AI is realised through the **Teemew platform**, which provides an immersive digital environment specifically adapted for educational purposes. Within this platform, **large language models (LLMs)** are integrated to generate dynamic, context-sensitive responses from AI-driven avatars. This allows learners to engage in realistic dialogue and role-play situations that adapt flexibly to their input.

Learners interact with the avatars via different modes of communication – **voice input, text chat, or direct control** – ensuring accessibility for diverse user groups. The system is designed to run on **standard laptops**, requiring only a stable internet connection. **Headsets** can be added to increase immersion and to improve audio quality, particularly in group settings or classroom scenarios.

Finally, the modular architecture of the system ensures **flexibility and scalability**. Institutions can integrate ROLEPL-AI into different infrastructures, whether in **classroom-based, blended, or remote learning contexts**. The platform can also be updated and extended with new scenarios, ensuring long-term adaptability and alignment with evolving competence frameworks.

5 USE CASES

5.1 POSSIBLE USE CASES

The ROLEPL-AI platform has been designed to allow **broad transferability** across educational and professional sectors. The table below provides a structured overview of potential fields of application. Rather than prescribing one uniform model, it illustrates the diversity of contexts in which AI-based simulations can add value.

What becomes clear from the overview is that ROLEPL-AI can support both **formal education** (e.g. schools, universities) and **non-formal or professional learning** (e.g. adult education, healthcare, industry). This flexibility ensures that the platform is not restricted to a specific curriculum but can be embedded into different pedagogical settings.

Table 1 Use Case – Sector – Map

Sector	Use Case
Vocational Schools	Customer dialogues, complaint management, teamwork training.
Higher Education	Seminars on digital communication, research-based role-play
Lifelong Learning	Career changer training in the service sector.

Adult Education	Digital readiness, communication skills, professional retraining.
Youth Education (secondary level)	Conflict training, digital safety, communication skills.
Language courses	Dialogue practice, intercultural communication scenarios.
Healthcare system	Mental therapy simulations, behavioural research training
Industry and Government	Social profession training, policy implementation exercises.

The table also shows that use cases differ significantly in their **pedagogical objectives**: while some focus on communication and service interaction, others emphasise conflict resolution, digital readiness, or research applications. This underlines the **scalability** of the concept and its capacity to respond to sector-specific needs.

Overall, the use case analysis demonstrates that ROLEPL-AI can act as a **versatile instrument for competence development**, adaptable to the institutional requirements of very different learning environments.

6 BENEFITS FOR EDUCATIONAL PROVIDERS

6.1 BENEFITS WHILE INTEGRATION OF THE PLATFORM

ROLEPL-AI offers a range of benefits that make it particularly attractive for educational providers seeking to modernise their training approaches. By combining **practical, flexible, and scalable learning opportunities**, the platform directly addresses the needs of diverse institutions and learner groups.

A key advantage lies in its **scalability**: ROLEPL-AI is transferable across different sectors and educational contexts, from vocational schools to higher education and adult learning. At the same time, the system ensures a high degree of **customizability**, as scenarios can be adapted to specific target groups, competence levels, or institutional requirements.

The immersive digital environment also contributes to enhanced **learner motivation**. Gamification elements and interactive role-play encourage active engagement, while the **practical relevance** of authentic scenarios ensures that the acquired skills can be directly applied in real-life situations.

In terms of delivery, ROLEPL-AI provides **flexibility**: it can be used in classroom settings, blended learning arrangements, or fully remote environments, making it suitable for a wide range of teaching formats. Finally, the platform promotes **inclusion** by offering a safe and controlled space in which learners of diverse

backgrounds and abilities can participate equally and receive personalised feedback.

Taken together, these benefits highlight the potential of ROLEPL-AI to serve as a **sustainable and innovative tool for competence development** in education and training.

7 RECOMMENDATIONS FOR IMPLEMENTATION

7.1 RECOMMENDATIONS FOR USERS

For ROLEPL-AI to be effectively transferred into educational practice, certain conditions need to be met at the institutional level. A central prerequisite is the **training and professional development of educators**. Teachers and trainers should be familiar with the use of AI avatars and the didactic principles of scenario-based learning in order to guide learners through the process effectively.

Another important step is the **integration of ROLEPL-AI into curricula**. This may take the form of elective modules, project-based learning, or supplementary activities in vocational education and higher education. By embedding the platform into existing structures, institutions can ensure sustainable use and added value.

Successful implementation also requires adequate **technical infrastructure**. Institutions should ensure that learners and educators have access to laptops, reliable internet connectivity, and, where possible, headsets to maximise immersion and interaction quality.

In addition, it is recommended to **utilise the reports and results generated by ROLEPL-AI** as supporting material for didactic planning. These can provide valuable insights into learner progress and scenario effectiveness.

Finally, institutions should establish clear **quality assurance mechanisms and ethical guidelines** for the use of AI in education. This includes data protection, responsible handling of AI outputs, and ensuring that the technology is used in ways that are pedagogically meaningful and inclusive.

Together, these recommendations provide a framework that enables ROLEPL-AI to be not only piloted successfully but also sustainably integrated into diverse educational contexts.

8 CONCLUSION

Deliverable 5.4 provides clear evidence of how AI-based simulation technologies can be integrated into education in a meaningful and sustainable way. By presenting and validating the transfer concept, the report demonstrates that the ROLEPL-AI framework is not only innovative but also practically applicable across different educational settings.

The simulations of social interactions in immersive environments enable learners to acquire and strengthen key soft skills such as communication, teamwork, and conflict management, which are increasingly essential in the future world of work. The evaluation results underline that the concept is adaptable to diverse institutional contexts, supporting both vocational training and higher education as well as adult and lifelong learning.

The transfer concept confirms that implementation is technically feasible, didactically sound, and ethically responsible. It also shows pathways for scalability and curricular integration, ensuring that ROLEPL-AI can contribute to long-term innovation in teaching and learning. By combining digitalization with competence-oriented pedagogy, the project strengthens both digital and social competencies and provides a model for how AI-supported learning environments can be sustainably anchored in European education systems.