



TEASER

Teacher as Avatar

Strategy guide for decision-makers



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Contents

I. Introduction and Strategic Context	3
1.1 Mission of the TEASER project.....	3
1.2 Strategic relevance and European orientation.....	3
1.3 The Sense of Urgency	3
1.4 Classification in the technology life cycle	3
1.5 Objective of the Strategy Guide	4
II. Status Quo and Needs Analysis (Status Ante)	4
2.1 Methodology of needs assessment	4
2.2 Key findings of the as-is analysis (status ante)	4
2.3 The "Educational Questions" as a result of the synthesis.....	5
2.4 Ethical and legal requirements.....	5
III. Basics and Technology Check	5
3.1 Definition of Focus Technologies.....	5
3.2 Systematics of Avatars: Strategic Choices	6
3.3 Infrastructure and tool check.....	6
3.4 Strategic Classification: The Gartner Hype Cycle	6
IV. Implementation of the Strategy Dialogue.....	7
4.1 Objectives and actors of the dialogue.....	7
4.2 Structure of the dialogue process (phases of the management roadmap)	7
4.3 Key questions for the strategy dialogue.....	7
V. Implementation Framework and Resources	8
5.1 Phase model and time frame	8
5.2 Human Resources and Roles	8
5.3 Budgeting and Cost Efficiency.....	9
5.4 Technological Infrastructure	9
VI. Ethical and legal guardrails	9
6.1 Data protection and GDPR compliance	9
6.2 Transparency and labelling obligation	10
6.3 Dealing with AI hallucinations and biases	10
6.4 Codes of Conduct	10
6.5 Preservation of Human Agency	10
VII. The Management Roadmap (Implementation Path).....	11
7.1 Phase 1: Preparation and needs analysis.....	11
7.2 Phase 2: Development and planning	11
7.3 Phase 3: Piloting, Training, and Optimization	11
7.4 Phase 4: Full Implementation and Review	11

I. Introduction and Strategic Context

Artificial intelligence (AI) and avatars are penetrating the world of work and various industries at a rapid pace. It is therefore a strategic necessity for vocational education and training institutions (VET) to proactively adapt to these technological developments in order to adequately prepare trainees for the requirements of the future labour market. This guide serves as a navigation aid for **management staff (managing directors, department heads)** in order to strategically accompany the digital transformation process in their organizations and to anchor it sustainably.

1.1 Mission of the TEASER project

The Erasmus+ project TEASER ("The teacher as an avatar in vocational education and training") aims to support vocational education and training staff – especially in the **chemical, biology, IT and mechatronics** sectors – in acquiring and developing digital skills. The focus is on the **learning-oriented, safe and effective use** of AI chatbots and avatars in practical training.

1.2 Strategic relevance and European orientation

The introduction of these technologies is not an isolated process, but closely linked to the political objectives at the European level:

- **EU Digital Education Action Plan (2021-2027):** TEASER directly supports **Actions 5, 6 and 8**, which call for the digital transformation of educational institutions, the ethical use of AI and the updating of digital competency frameworks.
- **Avoiding the "Turing trap":** A core principle of the strategy is a **human-centered approach**. Technology is not seen as a replacement for teachers, but as a tool that enhances human expertise, reduces administrative tasks and thus creates more space for social interaction and individual development.

1.3 The Sense of Urgency

Needs assessments have shown that without targeted intervention, VET institutions risk falling behind the industry technologically, which would reduce their attractiveness for learners and companies. While many trainers recognize the potential of AI (e.g. to increase productivity by up to 35%), there is often a lack of **structural conditions, time resources and qualified specialist staff**.

1.4 Classification in the technology life cycle

Strategically, AI and avatars in education are currently in the **Gartner Hype Cycle** between the "peak of inflated expectations" and the "valley of disappointment".

- **The goal of the strategy dialogue:** The transition to the "Slope of Enlightenment" by focusing on achievable, realistic applications such as adaptive learning, automated feedback and efficient lesson planning.
- **Productivity plateau:** In the long term, these technologies are to be seamlessly integrated into hybrid learning environments.

1.5 Objective of the Strategy Guide

This guide helps decision-makers to:

1. To reflect on the influence of AI and avatars strategically and organizationally.
2. To realistically estimate the personnel and time required for implementation.
3. Integrate ethical guardrails and data protection requirements (GDPR) into the institutional strategy.
4. Facilitate a continuous strategy dialogue between management and users.

II. Status Quo and Needs Analysis (Status Ante)

In order to develop a well-founded strategy for the introduction of artificial intelligence and avatars, the TEASER – a comprehensive analysis of the current situation (**Status Ante**) in the partner institutions. This investigation served to identify the specific organizational, technical, and pedagogical needs and to ensure that technological adoption is based on real-world requirements.

2.1 Methodology of needs assessment

The analysis relied on a two-pillar process to capture both the perspective of the users and the decision-makers:

- **Quantitative survey:** An online questionnaire based on the European **SELFIE tool** was answered by a total of **69 teachers and trainers** from Germany, the Netherlands, Cyprus and Slovenia. The focus was on the digital strategy, the available infrastructure and the personal willingness to use AI.
- **Qualitative interviews:** Structured in-depth interviews **were conducted with the management staff of the participating institutions** in order to define strategic goals, expected hurdles and ethical guidelines (codes of conduct).

2.2 Key findings of the as-is analysis (status ante)

The results paint a clear picture of the current situation in vocational education and training:

- **Strategic inconsistency:** While about **60% of trainers** said that a digital strategy exists in their institution, the practical implementation was often perceived as inconsistent or incomplete. There is an urgent need for concrete guidelines for the use of AI.
- **Existing infrastructure vs. lack of software:** Basic hardware such as tablets and PCs is sufficiently available in most facilities. However, there is often a lack of specific **AI licenses** and an integrated digital learning environment that goes beyond simple standard applications.
- **Significant barriers:** The respondents identified the massive **lack of time (53% of mentions)** and the lack of tailor-made training courses as the biggest obstacles to implementation. Many teachers still feel insecure about dealing with generative AI.

- **Pedagogical potential:** Despite the hurdles, the stakeholders see great opportunities in the **individualization of learning** and the increase of motivation through interactive avatars, especially for teaching occupational health and safety instructions or for support with complex IT tasks.

2.3 The "Educational Questions" as a result of the synthesis

From the analysis, the guiding principle was derived that technology must always be an educational response to an existing challenge. Important strategic questions of the decision-makers were:

- How can avatars make **new teacher onboarding** more efficient?
- In what ways can AI relieve **teachers of repetitive tasks** (e.g. safety instructions on machines)?
- How can the **media competence** of trainees be strengthened in dealing with AI-generated information (plausibility checks)?

2.4 Ethical and legal requirements

The needs analysis made it clear that for a successful adoption, compliance with the **GDPR** and the avoidance of AI hallucinations (misinformation) are top priorities for decision-makers. Transparency in the use of the tools was defined as a basic prerequisite for acceptance by students and staff.

III. Basics and Technology Check

For decision-makers, it is crucial to understand the technological basis of artificial intelligence (AI) and avatars not only as isolated tools, but as **strategic infrastructure competence**. This section explains the core concepts and examines the necessary prerequisites for successful implementation in vocational education and training.

3.1 Definition of Focus Technologies

The TEASER project combines two complementary technologies:

- **Artificial intelligence (AI):** It allows systems to use human-like skills such as learning, logical reasoning, and problem-solving. In everyday education, this primarily means the use of **generative AI** (e.g. **ChatGPT**) for the automated creation of teaching content, to support lesson planning or as an interactive source of knowledge for learners.
- **Avatars:** An avatar is an **interactive, digital 3D representation** of a real or artificial person. It serves as the visual face of AI and can act as the teacher's "digital twin" to deliver guidance consistently and regardless of location.

3.2 Systematics of Avatars: Strategic Choices

Decision-makers have to choose between different levels of complexity, each requiring different resources:

1. **Text-based avatars:** Technically easy-to-implement simulations (e.g., WhatsApp chats with AI clients) that are particularly effective in social work.
2. **Linear avatars:** These act as voice actors in pre-produced videos. They ensure a **high level of consistency of information** (e.g. in safety briefings), but do not provide real-time interaction.
3. **Dynamic/interactive avatars:** These are directly connected to an AI knowledge base and can respond to learners' questions instantly. They offer the highest didactic added value for personalized learning, but require a more stable technical connection.

3.3 Infrastructure and tool check

The introduction does not require a massive investment backlog, provided that the "**low-threshold approach**" **pursued in the project** is used.

- **Hardware:** Standard devices such as tablets or PCs are required. For immersive 3D experiences, AR/XR glasses (e.g., Microsoft HoloLens 2) are beneficial, but not mandatory for basic use.
- **Software solutions:** TEASER relies on "**software hopping**" – the combination of existing, often cost-effective tools (e.g. ChatGPT for texts, Midjourney for images, HeyGen or Synthesia for animation) instead of commissioning expensive individual programming.
- **Learning platform (LMS):** Moodle **serves as a central anchor point**, into which the AI content and avatars can be seamlessly integrated.

3.4 Strategic Classification: The Gartner Hype Cycle

Decision-makers should be aware that AI and avatars are currently in the phase between the "peak of inflated expectations" and the "valley of disappointment". The goal of the institutional strategy must be to transition to the "**path to enlightenment**" by focusing on **realistic, value-adding applications** (such as adaptive learning paths or automated safety instructions via QR code) instead of following short-term trends.

IV. Implementation of the Strategy Dialogue

The strategy dialogue forms the core for the institutional anchoring of AI and avatars. The aim is to **close the gap between strategic management decisions (top-down) and practical application by educational staff (bottom-up)** in order to develop a binding digitalization roadmap.

4.1 Objectives and actors of the dialogue

The dialogue serves the active and continuous involvement of **decision-makers (managing directors, department heads)** and **users (trainers, teachers)** in the partner countries Germany, the Netherlands, Cyprus and Slovenia.

- **Reflection:** Strategic-organizational evaluation of the influence of AI and avatars.
- **Resource planning:** Realistic estimation of the personnel and time required for implementation.
- **Transparency:** Creation of a common understanding of ethical guidelines and data protection requirements.

4.2 Structure of the dialogue process (phases of the management roadmap)

The strategy dialogue follows a structured schedule that ensures that technological innovations are integrated into the organizational structure in a pedagogically meaningful way:

1. **Preparation and needs analysis:** Conducting stakeholder workshops to identify key needs and technological possibilities. Comparison of the results from the needs assessment with the goals of the institution.
2. **Development and planning:** Creation of a comprehensive implementation plan. The IT infrastructure is checked and the selection of the necessary "no-code" software is finalized.
3. **Pilot phase and qualification:** Conduct internal workshops with trainers and management staff to incorporate feedback from the initial testing of teaching and learning scenarios into the strategy.
4. **Full implementation and review:** Establishment of continuous evaluation. A **semi-annual review** of the roadmap ensures that the strategy keeps pace with the rapid technological developments in the AI sector.

4.3 Key questions for the strategy dialogue

In order to moderate the exchange between management and trainers in a targeted manner, the following **core questions** are recommended:

- **The core pedagogical question:** "If AI and avatars are the answer, what was the pedagogical problem we want to solve?"

- **The vision question:** "What would you do to make AI and avatars fly in your organization if someone gave you €5 million?" (Identification of ideal states such as virtual AI trainers in the event of staff absence).
- **Hurdle analysis:** "Where do we see barriers (e.g. lack of time, lack of licenses, AI hallucinations) and how can we overcome them through structural freedom?".
- **Code of Conduct:** "How do we evaluate existing Codes of Conduct for staff and students when dealing with AI?".

V. Implementation Framework and Resources

For decision-makers, the successful introduction of AI and avatars is inextricably linked to realistic planning of time, personnel and financial resources. The TEASER project pursues a **low-threshold approach** that aims to integrate innovations into the existing organizational structure without exploding costs or extreme personnel costs.

5.1 Phase model and time frame

Strategic implementation is divided into four core phases:

1. **Preparation and needs analysis:** Implementation of organization-specific surveys and strategy discussions to identify the "Educational Questions".
2. **Development and planning:** Creation of management roadmaps and selection of subject-specific tools.
3. **Piloting and training:** Conducting test rounds of the scenarios with trainees and qualifying the staff through the blended learning course.
4. **Full implementation and review:** Transfer of the scenarios into regular operation and semi-annual review of the technology trends.

5.2 Human Resources and Roles

The human-centered approach requires a clear definition of responsibilities to ensure acceptance within the team:

- **Management/decision-makers:** Initiation of the strategy dialogue, provision of time freedom (one of the main barriers in the analysis) and ensuring GDPR compliance.
- **Subject Matter Experts:** They act as didactic experts who create the content for avatars and moderate the AI-supported knowledge transfer.
- **IT support/media officer:** Support with "software hopping" and the administration of the learning management system (Moodle).
- **Multipliers/ambassadors:** Experienced trainers pass on their knowledge internally to enable scaling to other specialist areas.

5.3 Budgeting and Cost Efficiency

Decision-makers can minimize costs through the following strategies:

- **No-code solutions:** Use tools like HeyGen, Synthesia, or ChatGPT that don't require expensive coding.
- **Software hopping:** Combination of existing, often low-cost licenses (e.g. Midjourney for images, ElevenLabs for voices) instead of expensive complete systems.
- **Hardware usage:** recourse to existing tablets and PCs; AR/XR glasses are used specifically for immersive scenarios, but are not a mandatory requirement for basic qualification.

5.4 Technological Infrastructure

The basis of the implementation is a stable digital learning environment:

- **Learning Management System (LMS):** Moodle serves as a possible anchor point for all AI content, quizzes, and certifications.
- **AI integration:** Integration of AI plugins (e.g. ChatGPT connections) directly into the LMS to enable interactive learning paths.
- **Connectivity:** Ensuring stable Wi-Fi in workshops and laboratories to ensure access to avatars via QR code directly at the workplace.

VI. Ethical and legal guardrails

For decision-makers in educational institutions, the establishment of ethical and legal guardrails is not a purely administrative act, but a fundamental prerequisite for the **trust and acceptance** of AI and avatars among teachers and trainees. The TEASER project takes a **human-centered approach** that ensures that technological innovations are always in line with European values and legal standards.

6.1 Data protection and GDPR compliance

The protection of personal data in accordance with the **General Data Protection Regulation (GDPR)** is a top priority when implementing AI tools.

- **Data minimization:** Trainers and employees must be instructed not to enter personal or business-sensitive information into AI applications such as ChatGPT.
- **Handling biometric data:** When using avatar tools such as HeyGen, there are particular concerns about the use of facial and voice data.
- **Pragmatic solutions:** In order to minimize legal risks, the model prefers to rely on **virtual persons in fictitious scenarios**, as there is no connection to real individuals.

6.2 Transparency and labelling obligation

An ethical use of AI requires full transparency about when and how this technology is used in the teaching process.

- **Disclosure:** Employees are required to disclose the use of AI tools and the prompts used to management and learners.
- **Quality assurance:** All content created in the project, especially certificates and badges, can receive labels such as "**AI approved by TEASER team**" to signal human testing of AI results.

6.3 Dealing with AI hallucinations and biases

Decision-makers must be aware that generative AI systems are prone to so-called **hallucinations**, i.e. to the generation of factually incorrect information.

- **Plausibility checks:** Teachers must act as experts who check AI-generated texts, specialist information and safety instructions for accuracy.
- **Scientific accuracy:** Especially in safety-critical instructions in chemistry or mechatronics, motivation through avatars must never be at the expense of **scientific precision**.

6.4 Codes of Conduct

The strategy model provides for the introduction of two specific codes of conduct, which will be coordinated with management in the strategy dialogue.

1. **Code of Conduct for Employees:** Focus on transparency, data protection and the obligation to review the content of all AI outputs.
2. **Code for trainees:** Focus on labelling AI tools and demonstrating one's own learning progress despite AI support.

6.5 Preservation of Human Agency

A core goal of the strategy is to avoid the so-called "**Turing trap**".

- **AI as an assistant:** Avatars and AI agents are consistently defined as **digital assistants** that can relieve teachers but never replace them.
- **Didactic sovereignty:** The pedagogical decision on the use of a tool always remains with the human being; technology is merely a means to an end.

VII. The Management Roadmap (Implementation Path)

The management roadmap serves as a **binding roadmap for the C-suite** to navigate the transition from the conceptual phase to the full institutional integration of AI and avatars. It closes the gap between strategic vision and day-to-day operations by dividing the transformation process into four clearly defined phases.

7.1 Phase 1: Preparation and needs analysis

In this phase, decision-makers lay the foundation for the acceptance of the new technologies.

- **Strategic meetings:** Conduct workshops with stakeholders to identify key needs and opportunities for their own institution.
- **Inventory:** Analysis of the technological prerequisites (hardware, broadband) and pedagogical needs.
- **Resource allocation:** Formation of an **AI task force** (e.g. of i-coaches or media officers) and initial review of licensing models.

7.2 Phase 2: Development and planning

This is where the course is set for the technical implementation.

- **Software selection:** Deciding on specific "no-code" tools based on the "**software hopping**" approach.
- **Scenario planning:** Definition of the first specialist areas in which the technologies are to be piloted.
- **IT infrastructure check:** Ensuring the readiness of internal IT systems and integration into the existing **learning management system**.

7.3 Phase 3: Piloting, Training, and Optimization

The focus shifts to practical testing and the qualification of personnel.

- **Personnel development:** Launch of the **AVATAR. AI Blended Learning course** for instructors.
- **Feedback cycles:** Conducting pilot rounds with trainers and trainees to evaluate the manageability of the scenarios.

7.4 Phase 4: Full Implementation and Review

In the final phase, the use of AI and avatars will become the standard in the organization.

- **Broad rollout:** Expansion of the successfully tested scenarios to other professions and departments within the facility.
- **Sustainability management:** Establishment of a continuous support unit (support team) for teachers.
- **Semi-annual strategy check:** Regular review of the roadmap in order to be able to react to the rapid technological progress in the AI sector (e.g. new GPT models or interactive 3D features).