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**“FOSTERING SOCIALLY DISTANCED AND INCLUSIVE ON
CAMPUS EDUCATION IN ARMENIAN HEIS”**

UNIVERSITA DEGLI STUDI DI GENOVA (UNIGE)

**BEST PRACTICE COLLECTION & POLICY
PAPER ON TECHNOLOGY ENHANCED (TE)
TLA**

COUNTRY CASE - ITALY

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Contents

General Information	3
Section 1: Purpose & Context	3
Section 2: EU Partner HEI Profile	3
Section 3: E-Learning Multimedia Platforms	5
3.1 Learning Management System (LMS)	5
3.2 Multimedia and Video Tools.....	6
3.3 Collaboration and Communication Tools	7
Section 4: Instructional Technologies and Infrastructure	8
4.1 Hardware and Physical Infrastructure	8
4.2 Software and Licensing.....	10
4.3 Accessibility and Inclusive Technology	10
4.4 IT Support and Training for Staff	11
4.5 Pedagogical Approach	12
Section 5: Technology-Enhanced (TE) Ecosystems and Smart Classrooms	13
5.1 Smart Classroom Models.....	13
5.2 Hybrid and Blended Teaching Spaces	15
5.3 Specialist TE Learning Spaces.....	16
5.4 TE Ecosystem Governance and Standards	17
Section 6: Maturity Assessment and Benchmarking	18
6.1 Overall Benchmarking Summary	18
Section 7: Recommendations for Armenian HEIs	20
7.1 Priority Recommendations.....	20
7.2 Quick Wins vs Long-Term Investments	21
Section 8: Best Practice Examples	21
8.1 Best Practice.....	21
8.2 Impact & Recommendations	23

BEST PRACTICE COLLECTION & POLICY PAPER ON TECHNOLOGY ENHANCED (TE) TLA

This template is used to systematically collect and document best practices and infrastructure benchmarks. The information will directly feed into the eCAMPUS benchmark standards for e-learning multimedia platforms and smart classroom models in EU partner institutions.

General Information

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Section 1: Purpose & Context

This template covers:	Key output:
• E-learning multimedia platforms in use • Instructional technologies and tools • Digital infrastructure and connectivity • Technology-Enhanced (TE) classroom models • TE ecosystems and governance • Policies, standards and sustainability	Benchmark standards for e-learning multimedia platforms and smart classroom models for Armenian HEIs - WP4 public deliverable

Section 2: EU Partner HEI Profile

<i>What is the institution's overall approach to digital transformation and e-learning?</i>
The University of Genoa (UNIGE) adopts a systemic and integrated approach to digital transformation and e-learning, combining technological infrastructure, pedagogical innovation, and institutional governance. Rather than being driven solely by technology adoption, digital transformation is framed as a process aimed at enhancing the quality, accessibility, and sustainability of teaching, learning, and assessment (TLA). This approach builds on a long-standing institutional experience in e-learning, which dates back to the early 2000s with participation in national initiatives such as the CampusOne project promoted by CRUI, aimed at developing the first structured e-

learning environments in Italian universities (EIFFE-L: Environment for Freedom in E-Learning - <https://life.unige.it/20-anni-elearning>) Over time, this experience has evolved into a more integrated ecosystem.

Today, the approach is supported by a set of coordinated institutional actions, including the development of centralized ICT services, the adoption of an institutional Learning Management System (AulaWeb), and the establishment of dedicated structures such as the Teaching and Learning Centre (UTLC). While not always formalized in a single unified strategy document, digital transformation has been progressively developed over the past decade, with significant acceleration during and after the COVID-19 pandemic.

The main goals of UNIGE's digital transformation strategy include:

- enhancing the quality and effectiveness of teaching through technology-enhanced learning (TE TLA);
- supporting inclusive and flexible learning environments, including hybrid and blended models;
- strengthening faculty digital and pedagogical competences through structured training and certification;
- ensuring robust digital infrastructure and services;
- integrating emerging technologies, including artificial intelligence, in a responsible and pedagogically meaningful way.

Overall, UNIGE's approach emphasizes the alignment between technological solutions and pedagogical objectives, supported by continuous development and quality assurance processes.

Year digital strategy was adopted	Responsible unit/office for digital education
No single formal adoption year. The institutional digital transformation has been progressively developed since the early 2000s, starting from initial e-learning initiatives (e.g. CampusOne project), and has evolved into a structured ecosystem over time, with significant acceleration during and after the COVID-19 pandemic (2020-2022).	• ICT Area (Information and Communication Technology Services), responsible for infrastructure, platforms and digital services; • Teaching and Learning Centre (UTLC), responsible for pedagogical innovation, faculty development and teaching support; • E-learning, Multimedia and Web Technologies Services, supporting content production and instructional technologies; • Academic departments, which implement technology-enhanced

	teaching practices within their disciplinary contexts. e.g. Centre for Learning Technology, IT Services, etc
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Section 3: E-Learning Multimedia Platforms

3.1 Learning Management System (LMS)

<i>What LMS does the institution use?</i>
UNIGE uses AulaWeb, a Moodle-based Learning Management System (open-source), as its official institutional LMS. AulaWeb is centrally managed and continuously updated by the University ICT services.

<i>How long has the LMS been in use?</i>	<i>What percentage of courses actively use the LMS?</i>
The LMS has been in use for more than 15 years, evolving from earlier e-learning platform (EIFFE-L) developed in the early 2000s.	Most courses actively use the LMS for content delivery, communication, and assessment activities. AulaWeb hosts thousands of courses, teaching materials, and assessment activities across all levels of study, including bachelor's degrees, master's degrees, postgraduate programmes and PhDs. Its widespread adoption is supported by institutional data and student usage patterns. As early as 2013, AulaWeb hosted over 2,000 courses involving approximately 1,000 instructors and 33,000 students, indicating large-scale institutional uptake. More recent student surveys confirm its central role in teaching and learning practices: a 2019 survey showed that 73% of students accessed the platform at least once per week, while an additional 20% used it multiple times per day. AulaWeb functions as a core support environment for teaching, with the vast majority of students (96%) using it primarily

	to access and download course materials, alongside increasing use for interactive and assessment-related activities. This confirms the LMS as a fully embedded component of the institutional teaching ecosystem.
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Which LMS features are most actively used by staff and students?

The most actively used LMS features include:

- Content delivery (lecture materials, slides, documents)
- Assignment submission and grading
- Online quizzes and tests
- Discussion forums and communication tools
- Integration with video lectures and recorded content
- Gradebook and feedback tools

Increasingly, interactive elements such as H5P content and embedded multimedia are being adopted, along with tools supporting formative assessment and student engagement.

The LMS is used not only as a repository, but as a core environment for managing teaching and learning activities.

How is the LMS integrated with other institutional systems?

AulaWeb is integrated with several institutional systems, including:

- Authentication systems (Single Sign-On)
- Student Information Systems (for enrolment and course management)
- Video platforms (e.g. Camtasia) for lecture capture and streaming
- Collaboration tools (e.g. Microsoft Teams)
- This integration supports a coherent digital ecosystem, enabling seamless access for students and staff and ensuring data consistency across platforms.

3.2 Multimedia and Video Tools

What tools are used to create, host, and deliver multimedia content (video, audio, interactive media)?

UNIGE uses a combination of institutional and integrated tools to create, manage, and deliver multimedia content in support of teaching and learning.

The core video platform is Camtasia + PeerTube, which supports lecture capture, video hosting, streaming, and integration with the LMS (AulaWeb).

For interactive and enriched content, tools such as H5P are used within the LMS to create quizzes, interactive videos, and learning activities.

Additional tools include screen recording and video editing software made available to teaching staff through institutional services, as well as web conferencing tools (e.g. Microsoft Teams) for synchronous teaching and recording. Dedicated multimedia services support the production of high-quality educational videos, including recording studios and technical assistance.

<i>Are lecture capture or screen recording tools in use?</i>	<i>Are interactive video or H5P-type tools used?</i>
Yes. Lecture capture and screen recording tools are widely used. Camtasia is the primary system for recording and managing lectures, allowing both in-class capture and individual content production by instructors.	Yes. Interactive tools such as H5P are increasingly used to create engaging learning content, including interactive videos, quizzes, and formative assessment activities embedded within the LMS.

<i>What is the policy on multimedia content ownership, storage, and accessibility?</i>
Multimedia content is managed within an institutional framework that ensures secure storage, controlled access, and compliance with data protection regulations. Recorded lectures and educational materials are typically stored on institutional platforms (e.g. PeerTube and AulaWeb), with access restricted to enrolled students and authorized users. Content ownership generally remains with the instructor, while the university provides the infrastructure and services for hosting and delivery. Increasing attention is given to accessibility, including captioning, structured content, and compatibility with assistive technologies, although the level of implementation may vary across courses and departments. The overall approach aims to balance pedagogical flexibility, intellectual property considerations, and long-term sustainability of digital content.

3.3 Collaboration and Communication Tools

<i>What digital tools are used for online assessment, quizzes, and automated feedback?</i>
UNIGE uses a combination of LMS-integrated and external tools to support online assessment, quizzes, and feedback.

The primary assessment environment is the AulaWeb LMS (Moodle), which provides built-in functionalities such as quizzes, assignments, gradebook, and feedback tools. These are widely used for both formative and summative assessment.

Additional tools include:

- Integrated plagiarism detection systems (e.g. Compilatio Magister)
- Interactive response systems (e.g. polling tools) to support in-class and online engagement
- Video-based assignments and oral assessments using conferencing tools such as Microsoft Teams

Automated feedback is increasingly supported through LMS features and interactive content (e.g. H5P), allowing immediate responses to student inputs and supporting self-regulated learning.

How does the institution ensure academic integrity in digital assessments?

Academic integrity in digital assessment is addressed through a combination of technological tools, institutional policies, and pedagogical strategies.

At the technological level, plagiarism detection systems are used to verify originality in written assignments. Online assessment activities are often designed within the LMS environment, which allows traceability of student interactions and submission processes.

From a policy perspective, academic integrity is supported by institutional regulations and guidelines that define acceptable practices and responsibilities for both students and staff.

Increasingly, attention is also given to assessment design, promoting formats that reduce the risk of misconduct, such as open-ended tasks, project-based assessment, oral examinations, and continuous assessment strategies.

In the context of emerging AI tools, there is growing awareness of the need to adapt assessment methods, focusing less on detection and more on transparency, critical use, and alignment between learning objectives and assessment practices.

Overall, the approach combines prevention, monitoring, and pedagogical redesign rather than relying solely on control mechanisms.

Section 4: Instructional Technologies and Infrastructure

4.1 Hardware and Physical Infrastructure

What hardware infrastructure supports digital teaching across the institution?

UNIGE supports digital teaching through a combination of centralized infrastructure and distributed equipment available across departments and teaching spaces.

Staff-facing equipment typically includes:

- Institutional laptops or desktop workstations
- Audio systems (microphones, headsets)
- Video recording tools (webcams, document cameras)
- Access to classroom-installed equipment (projectors, interactive displays, lecture capture systems)

Student-facing infrastructure includes:

- Computer labs across departments
- WiFi-enabled learning spaces
- Access to digital platforms via personal devices

Teaching rooms are progressively equipped with technology to support digital and hybrid teaching, including projection systems, audio equipment, and connectivity for synchronous and asynchronous learning.

<i>Is there a device loan programme for students?</i>	<i>Is there a BYOD (Bring Your Own Device) policy?</i>
No centralized device loan programme is currently in place at institutional level. Instead, access to digital resources is supported through widely available on-campus facilities, including computer labs and equipped learning spaces across different campuses (Genova, Savona, La Spezia, Imperia), allowing students to access digital platforms and software when needed.	Yes. A Bring Your Own Device (BYOD) approach is implicitly adopted, with students and staff using personal devices to access institutional platforms and services.

Describe the institution's network and connectivity infrastructure.

UNIGE provides a campus-wide network infrastructure designed to support digital teaching and learning activities.

Wireless connectivity (WiFi) is widely available across university buildings, including classrooms, study areas, and common spaces, enabling access to LMS platforms, video streaming, and online collaboration tools.

The university participates in the eduroam (education roaming) network, allowing secure and seamless internet access for students and staff across participating institutions worldwide. This supports mobility, international collaboration, and continuity of access to digital services.

UNIGE is also connected to the GARR network, the Italian national research and education network, which provides high-performance connectivity and supports advanced digital services, including high-bandwidth applications such as video conferencing, lecture capture, and multimedia content delivery.

Access to digital services is secured through institutional authentication systems, ensuring controlled and reliable use of resources.

Overall, the network infrastructure is designed to support both on-site and hybrid learning scenarios, providing a robust and scalable backbone for technology-enhanced teaching and learning.

4.2 Software and Licensing

What software licences does the institution provide to staff and students for digital teaching?

UNIGE provides a range of centrally managed software licences to support digital teaching, learning, and research activities.

Core productivity tools include:

- Microsoft 365 suite (Word, Excel, PowerPoint, Teams, OneDrive), widely used for collaboration, content creation, and communication

For teaching and learning, the institution provides access to:

- AulaWeb (Moodle LMS) and integrated tools for course management and assessment
- Camtasia for video recording, and lecture capture
- H5P for interactive learning content

Additional software is available depending on disciplinary needs, including:

- Specialist academic and simulation software (e.g. engineering, scientific computing, data analysis tools)
- Design and multimedia tools for content creation

In terms of emerging technologies, access to AI tools and services is progressively being explored and supported, both through institutional initiatives and controlled use of external platforms, with increasing attention to ethical, pedagogical, and data protection aspects.

Software provisioning is typically managed centrally by the ICT Area, ensuring consistency, security, and compliance with licensing agreements, while allowing departments flexibility in adopting discipline-specific tools.

Access to software is often available both on campus and remotely, supporting flexible and hybrid learning scenarios.

4.3 Accessibility and Inclusive Technology

What accessibility technologies and provisions are in place?

UNIGE addresses accessibility and inclusive digital learning through a combination of institutional services, technological solutions, and pedagogical practices.

Accessibility provisions include:

- Availability of digital learning materials through the LMS (AulaWeb), allowing flexible access and alternative formats
- Use of multimedia platforms (e.g. PeerTube) that support features such as captioning and structured video content
- Compatibility of digital platforms with assistive technologies, including screen readers and adaptive interfaces

The university also provides support services for students with disabilities and specific learning needs, including assistance in accessing digital learning environments and adapting teaching materials where required.

Increasing attention is given to inclusive design in digital teaching, encouraging instructors to adopt accessible formats, clear content structures, and diversified learning materials.

While implementation may vary across departments and courses, accessibility is progressively integrated into the broader framework of digital teaching and learning.

<i>Are digital accessibility standards formally applied (e.g. WCAG)?</i>	<i>Is there dedicated support for students with disabilities in digital learning?</i>
Partial - digital accessibility principles aligned with international standards (e.g. WCAG) are increasingly considered, although not always uniformly formalized across all systems and courses.	Yes - dedicated institutional services provide support for students with disabilities and specific learning needs, including assistance in accessing digital learning environments and adapting educational materials.

4.4 IT Support and Training for Staff

<i>What IT support and training is available to teaching staff for instructional technology?</i>
UNIGE provides a structured combination of technical support and pedagogical training to teaching staff, aimed at supporting the effective use of instructional technologies. Technical support is primarily delivered by the ICT Area, which ensures the operation and maintenance of digital platforms (e.g. LMS, video systems, collaboration tools), provides user assistance, and supports the integration of new technologies.

Pedagogical and instructional support is provided by the Teaching and Learning Centre (UTLC), which offers training activities, workshops, and guidance on technology-enhanced teaching, course design, digital assessment, and innovative methodologies.

Additional support is provided by specialized services, such as the E-learning, Multimedia and Web Technologies Services, which assist staff in the creation of digital content, video production, and the use of interactive tools.

Training initiatives include both technical and pedagogical aspects, increasingly addressing topics such as hybrid teaching, student engagement, and the integration of emerging technologies, including artificial intelligence.

Overall, support is designed as a continuous process, combining infrastructure assistance, instructional design guidance, and capacity building.

<i>Is there a dedicated Learning Technology team or centre?</i>	<i>Is staff training in instructional technology mandatory?</i>
Yes - UTLC plays a central role in supporting instructional innovation and faculty development, in coordination with ICT services and specialized e-learning units.	No - participation in training activities is generally voluntary, although strongly encouraged and increasingly integrated into institutional development initiatives.

4.5 Pedagogical Approach

<i>Methods used</i>	<i>How technology enhances learning</i>
UNIGE adopts a pedagogical approach that integrates traditional teaching with technology-enhanced learning (TE TLA), promoting active, student-centred methodologies. Common approaches include: • Blended learning models combining in-person and online activities • Use of digital platforms to support continuous interaction between teachers and students • Project-based and problem-based learning • Formative assessment practices supported by digital tools	Technology enhances learning at UNIGE by enabling flexibility, interactivity, and improved access to educational resources. Digital platforms such as the LMS and video systems allow students to access materials asynchronously, supporting personalized learning paths and facilitating review and consolidation of knowledge. Interactive tools and online activities support engagement and participation, both in classroom settings and in hybrid or fully online environments.

Increasing attention is given to the design of learning activities that encourage participation, collaboration, and critical thinking. Recent developments also include the exploration of AI-supported teaching approaches, such as prompt-based learning and the use of conversational AI tools to support problem-solving and reflective learning processes.	Technology also supports new forms of assessment, including continuous and formative evaluation, with timely feedback and increased transparency. In hybrid learning contexts, technology enables the integration of on-site and remote students, promoting inclusive participation. Emerging technologies, particularly artificial intelligence, are increasingly explored as tools to support learning processes, fostering critical use, metacognition, and co-construction of knowledge rather than passive consumption. Overall, technology is used not as an end in itself, but as a means to enhance the quality and effectiveness of teaching and learning.
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Section 5: Technology-Enhanced (TE) Ecosystems and Smart Classrooms

5.1 Smart Classroom Models

<i>Describe the main smart classroom model(s) used at this institution.</i>
UNIGE adopts a progressive and context-dependent approach to smart classroom development, with different configurations implemented across campuses and teaching spaces depending on pedagogical needs and available resources. The most common models include: Basic Digital Classroom • Projector or display system • Network connectivity • In some cases, a teacher workstation (PC/laptop) • In some cases, basic audio equipment This model is widely available across the institution and represents the baseline for technology-enhanced teaching. Hybrid Classroom • Fixed or movable camera(s)

- Microphone systems for teacher and audience
- Video conferencing integration (e.g. Microsoft Teams)
- Screen sharing and recording capabilities

These classrooms support synchronous participation of both in-person and remote students and are progressively being introduced in selected teaching spaces.

A relevant precursor of this model is the “didattica digitale integrata” approach adopted in the Master’s Degree in Digital Humanities (since 2019-2020), which anticipated structured hybrid teaching practices.

Advanced Technology-Enhanced Classroom

- Multi-camera systems
- Interactive displays or smart boards
- Integrated lecture capture systems (e.g. PeerTube)
- Support for interactive and collaborative activities

These environments are currently limited in number and typically used for specific courses, pilot initiatives, or specialized teaching scenarios.

The overall infrastructure reflects the distributed nature of the university, with multiple campuses across the Ligurian territory. As a result, the level of technological equipment varies, and smart classroom development follows a gradual and scalable approach. Current developments are also influenced by participation in European initiatives such as the EDUNEXT project, which promotes scalable and interoperable models for digital and hybrid higher education.

Across all models, classroom design is increasingly aligned with pedagogical use cases rather than purely technological specifications.

<i>How many smart classrooms exist across the institution?</i>	<i>What percentage of all teaching rooms are smart?</i>
Not centrally quantified	Few - with gradual and ongoing expansion across campuses (Savona and La Spezia)

<i>Are there different tiers or types of smart classroom (e.g. basic, standard, advanced)?</i>
Yes. Smart classrooms at UNIGE can be described through a tiered model, reflecting different levels of technological equipment and pedagogical use, as well as the distributed nature of the institution across multiple campuses. Basic Digital Classrooms represent the most widespread configuration. They typically include projection systems and network connectivity, while additional equipment such as a teacher workstation (PC/laptop) and audio systems may be available depending on the specific classroom and location. These classrooms support standard digital teaching activities, including access to LMS resources and multimedia content.

Hybrid Classrooms include additional audio-visual equipment, such as cameras and microphones, and are integrated with video conferencing tools (e.g. Microsoft Teams). These environments enable synchronous participation of both in-person and remote students and are used for blended or hybrid teaching scenarios. Their availability is currently limited to selected teaching spaces.

Advanced Technology-Enhanced Classrooms provide more sophisticated setups, including multi-camera systems, interactive displays, and integrated lecture capture solutions. These spaces are typically used for specific courses, pilot initiatives, or innovative teaching activities requiring higher levels of interaction and multimedia integration.

The distinction between tiers is based not only on the level of technology, but also on the intended pedagogical use. Overall, the institution is progressively moving towards a more structured and scalable smart classroom model aligned with teaching and learning needs.

5.2 Hybrid and Blended Teaching Spaces

Are there classrooms specifically designed for hybrid teaching (simultaneous in-person and online students)?

Yes, UNIGE has developed hybrid teaching solutions that allow the simultaneous participation of in-person and remote students, although these solutions are currently limited to specific programmes and selected teaching spaces rather than being widely implemented across the institution.

The typical technical setup includes:

- One or more cameras capturing the lecturer and/or the classroom
- Microphone systems to ensure audio quality
- Video conferencing tools (e.g. Microsoft Teams)
- Screen sharing and presentation systems
- In some cases, integration with lecture capture platforms (e.g. PeerTube)

A significant experience is the “didattica digitale integrata” model adopted in the Master's Degree in Digital Humanities, which provided an early structured framework for hybrid teaching, later extended during the COVID-19 emergency.

Currently, hybrid teaching solutions are adopted mainly within specific degree programmes or pilot initiatives, rather than as a fully institutionalized model.

Key challenges include ensuring effective interaction between on-site and remote students, maintaining engagement, and managing the additional cognitive and organizational load for instructors.

These challenges have been addressed through a combination of technical improvements (audio/video quality), pedagogical adaptations (active learning strategies), and targeted support services for teaching staff.

Overall, hybrid teaching is evolving from an emergency solution into a more structured and pedagogically informed approach, although its implementation remains selective and progressive.

<i>Are hybrid classrooms a strategic priority?</i>	<i>What is the main driver for hybrid classroom investment?</i>
Pilot stage / emerging priority (currently implemented in selected programmes)	Post-COVID resilience, flexibility in learning delivery, and increasing demand for blended and hybrid learning models

5.3 Specialist TE Learning Spaces

Are there specialist technology-enhanced spaces beyond standard classrooms?

UNIGE provides a range of specialist technology-enhanced learning spaces and services, designed to support innovative teaching practices, multimedia content production, and pedagogical development.

A key role is played by the Teaching and Learning Centre (UTLC), which offers dedicated support for instructional design, digital pedagogy, and faculty development. While not limited to physical spaces, UTLC activities are closely connected to environments where experimentation with teaching methodologies and technologies takes place.

In addition, the university supports the production of digital educational content through multimedia services and facilities, including video recording and editing support, lecture capture systems, and tools for the creation of interactive learning materials.

An example of a specialized environment is UniGe Radio, which provides facilities for podcasting and audio content production. This space is used both for communication and educational purposes, supporting new forms of digital storytelling and student engagement.

These specialist spaces are typically used for:

- Content creation and media production
- Innovative and experimental teaching activities
- Training and faculty development initiatives

Rather than being uniformly distributed, such environments are often centralized or associated with specific initiatives, allowing efficient use of resources while supporting high-quality outputs.

Overall, these spaces complement standard classrooms by enabling advanced and innovative uses of technology in teaching and learning.

How are these specialist spaces managed, booked, and made accessible to students and staff?

Partial - access is generally available but often mediated through specific services, projects, or support units, rather than being freely accessible without coordination.

5.4 TE Ecosystem Governance and Standards

How does the institution define, maintain, and update its smart classroom and TE standards?

At UNIGE, the definition and evolution of technology-enhanced (TE) teaching environments, including smart classrooms, follow a distributed governance model, involving both central services and academic structures.

The ICT Area is primarily responsible for the definition, implementation, and maintenance of technological infrastructure, including classroom equipment, platforms, and network services. Standards for hardware and software are generally defined at this level, ensuring interoperability, security, and reliability.

The Teaching and Learning Centre (UTLC) contributes to the pedagogical dimension, providing guidance on the effective use of technology in teaching and learning, and supporting the alignment between infrastructure and instructional practices.

Rather than being defined through a single formal specification document, TE standards are typically embedded in technical guidelines, service frameworks, and institutional practices.

The evolution of smart classroom configurations is driven by a combination of technological developments, pedagogical needs, and feedback from teaching staff and students. Updates are therefore continuous and iterative, rather than based on fixed review cycles.

Overall, the governance model emphasizes flexibility and adaptation, allowing the institution to progressively refine its TE ecosystem in response to emerging needs and opportunities.

What procurement and lifecycle management process is followed for TE infrastructure?

Procurement and lifecycle management of TE infrastructure at UNIGE are managed through established institutional procedures, coordinated primarily by the ICT Area in collaboration with administrative and financial offices.

Investment decisions are typically based on:

- Institutional priorities and strategic initiatives
- Identified needs from departments and teaching activities
- Availability of funding (including project-based resources)
- Technological evolution and obsolescence of existing equipment

The distributed nature of the university implies that procurement may occur both centrally and at the departmental level, depending on the scale and purpose of the investment.

Maintenance and support are ensured through centralized ICT services, which monitor system performance and provide technical assistance.

Equipment renewal follows a progressive and need-based approach, rather than fixed replacement cycles, with priority given to critical infrastructure and high-impact teaching environments.

This approach allows for flexibility, while ensuring continuity of service and gradual upgrading of the technological ecosystem.

<i>Is there a formal TE classroom specification document?</i>	<i>Is there a sustainability or carbon reduction strategy for TE infrastructure?</i>
No - there is no single formal institutional document defining standard smart classroom specifications. However, technical configurations and requirements are defined through ICT guidelines and implementation practices.	Partial - sustainability considerations are increasingly taken into account in infrastructure planning and procurement, although there is no specific, fully formalized strategy exclusively dedicated to TE infrastructure.

Section 6: Maturity Assessment and Benchmarking

6.1 Overall Benchmarking Summary

<i>What is the single most impressive or distinctive practice you observed at this institution?</i>
The most distinctive practice observed at UNIGE is its ability to align infrastructure, pedagogy, and faculty development within a coherent technology-enhanced learning ecosystem. This integration is reflected in the coordinated role of different institutional actors: ICT services provide the technological backbone, while the Teaching and Learning

Centre (UTLC) supports pedagogical innovation and faculty development. This is complemented by practical teaching models, such as hybrid and blended approaches, which are grounded in real educational needs rather than purely technological possibilities.

At the same time, this approach is not yet uniformly implemented across the entire institution. As a comprehensive and multidisciplinary university, UNIGE includes diverse schools and disciplinary areas, each with its own traditions, needs, and levels of digital maturity. This results in a differentiated adoption of technology-enhanced teaching practices.

Despite this variability, the overall model stands out because it emphasizes the alignment between tools, teaching practices, and learning objectives, rather than a purely technology-driven perspective.

For Armenian HEIs, this approach is valuable as it demonstrates that effective digital transformation can be developed progressively, even in complex and heterogeneous institutional contexts.

What is the most distinctive feature you can describe for your institution?

The most distinctive feature of UNIGE is its distributed and progressive model of digital transformation, shaped by its nature as a comprehensive university with multiple campuses and diverse disciplinary areas.

Rather than relying on a fully centralized and standardized system, the university develops its TE ecosystem through a combination of central coordination and local implementation. This leads to a heterogeneous environment, where different levels of technological and pedagogical maturity coexist.

This diversity reflects the different needs, histories, and practices of the various schools and departments, making uniform implementation more complex but also enabling context-sensitive innovation.

As a result, digital transformation at UNIGE is characterized by gradual development, adaptability, and continuous alignment between institutional strategy and local practices.

While this model may be less uniform, it represents a realistic and sustainable approach for complex higher education systems.

Is this model potentially transferable to Armenian HEIs?

With adaptation

What would be the main barriers to transfer?

Main barriers may include:

- Limited technical infrastructure in some institutions
- Need for structured faculty development and training

	• Organizational and governance constraints • Cultural and pedagogical adaptation to technology-enhanced teaching In particular, the transition towards digitally supported teaching models may require a progressive shift in teaching practices and mindsets, as not all faculty members initially have the same level of familiarity or confidence with digital tools. However, this should be understood as a natural phase in the evolution of higher education systems, which can be effectively addressed through training, support structures, and gradual implementation strategies. Overall, successful transfer requires not only technological investment, but also sustained institutional support for pedagogical innovation and capacity building.
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Section 7: Recommendations for Armenian HEIs

7.1 Priority Recommendations

<i>What are your top 3 recommendations for Armenian HEIs based on this visit?</i>
1. Adopt an integrated approach to digital education (technology + pedagogy + faculty development) What: Develop digital education not only through infrastructure, but by coordinating platforms, teaching practices, and staff training. Why: Sustainable digital transformation depends on the alignment between tools, pedagogy, and institutional support, rather than on technology alone. How: Establish coordination between ICT units and teaching support structures; introduce targeted training programmes for faculty; pilot integrated teaching models (e.g. blended or hybrid courses). 2. Develop a formal regulatory framework for digital and blended learning What: Introduce institutional regulations defining models, quality standards, and responsibilities for digital teaching and assessment.

Why: Clear rules ensure quality, consistency, and scalability across programmes and institutions.

How: Start from existing practices and pilot experiences; progressively formalize them into institutional guidelines or regulations aligned with European frameworks.

3. Implement a progressive and scalable smart classroom model
What: Develop different tiers of classroom infrastructure (basic, hybrid, advanced) rather than aiming for uniform high-level solutions.

Why: This allows gradual development, cost control, and adaptation to different institutional contexts.

How: Prioritize basic digital classrooms as a baseline; introduce hybrid solutions in selected programmes; scale up advanced environments through pilot projects and external funding.

7.2 Quick Wins vs Long-Term Investments

<i>Quick wins (achievable within 1 year)</i>	<i>Longer-term investments (2-4 years)</i>
• Strengthen the use of LMS platforms as central learning environments • Provide short, targeted training for teaching staff on digital tools and methodologies • Introduce simple hybrid teaching solutions using existing tools (e.g. video conferencing) • Promote sharing of good practices among instructors • Start collecting and using student feedback and platform data for improving courses	• Develop a structured governance model integrating ICT, pedagogy, and quality assurance • Introduce formal regulations for digital and blended learning • Invest in scalable smart classroom infrastructure (tiered model) • Establish dedicated teaching and learning support centres or units • Develop national or institutional frameworks for digital competences and AI literacy • Promote participation in international and European initiatives for digital education

Section 8: Best Practice Examples

8.1 Best Practice

Guidance: Describe a key TE-TLA best practice

Title:

Integrated Digital Teaching Model (Didattica Digitale Integrata) in the Master's Degree in Digital Humanities

Problem addressed

Higher education institutions increasingly face the challenge of ensuring **flexible access to learning** while maintaining high levels of engagement and quality.

Traditional face-to-face teaching models can limit participation for students who are working, geographically distant, or unable to attend regularly. At the same time, fully online models may reduce interaction, engagement, and the effectiveness of practical or laboratory-based activities.

The challenge is therefore to design a teaching model that:

- ensures accessibility and flexibility
- preserves interaction and engagement
- supports different types of learning activities, including practical work

In particular, there was a need to move beyond emergency remote teaching solutions and develop a **structured and sustainable hybrid model**, capable of integrating digital and in-person components in a coherent way.

Description

The Didattica Digitale Integrata (DDI) model was introduced in the Master's Degree in Digital Humanities starting from the academic year 2019-2020.

The model is based on a structured combination of:

- Synchronous hybrid lectures, where the instructor teaches in the classroom while students can attend either in person or remotely
- Asynchronous access to learning materials and recorded content through the LMS
- In-person laboratory activities, ensuring hands-on learning and interaction for practical components

This approach allows students to participate according to their needs, while preserving the pedagogical value of in-person activities.

The model was initially developed as an innovative teaching solution and later proved particularly effective during the COVID-19 period, providing continuity without compromising quality.

Over time, it has evolved into a structured hybrid teaching approach, integrating technology, pedagogy, and course design.

Technologies used

The DDI model relies on an integrated set of technologies supporting both synchronous and asynchronous learning:

- AulaWeb (Moodle LMS) for course management, materials, and assessment
- Video conferencing tools (e.g. Microsoft Teams) for synchronous hybrid lectures
- Camtasia+PeerTube for recording and accessing lectures
- Multimedia tools for content creation and sharing

These technologies are combined to create a flexible learning environment, where students can:

- attend live sessions (in presence or remotely)
- access recorded content
- interact with materials and activities online

The effectiveness of the model depends not only on the tools themselves, but on their integration within a coherent pedagogical framework.

8.2 Impact & Recommendations

Key Results

The DDI model has demonstrated that hybrid teaching can be implemented in a structured and pedagogically meaningful way, rather than as an emergency solution. It has enabled:

- Increased accessibility to courses
- Continuity of teaching in different conditions
- Integration of synchronous and asynchronous learning

The model has also contributed to the development of new teaching practices and greater awareness of digital pedagogy among instructors.

This best practice exemplifies how hybrid teaching can evolve from an emergency response into a structured, sustainable, and pedagogically grounded model for digital higher education.

Student engagement

Student engagement is supported through a combination of:

- Real-time interaction during synchronous sessions
- Access to recorded content for review and consolidation
- Structured learning activities and materials

The coexistence of in-person and remote participation requires careful design, but when properly implemented, it allows for flexible yet meaningful engagement.

In particular, maintaining in-person laboratory activities has proven essential for preserving active learning and student interaction.

Top 3 recommendations

- “Design hybrid teaching as a pedagogical model, not just a technical solution”.
- “Maintain a balance between online flexibility and in-person interaction, especially for practical activities”.
- “Support instructors through training and structured guidance on hybrid teaching practices”.

Transferability

The model is transferable with adaptation, as it does not require advanced infrastructure but rather a coordinated use of existing tools and pedagogical design.

It is particularly suitable for institutions facing:

- limited resources
- geographically distributed students
- need for flexible access to education

Its progressive implementation makes it adaptable to different institutional contexts.

Barrier

Potential barriers include:

- Limited technical infrastructure (audio/video quality)
- Need for faculty training in hybrid teaching methods
- Increased organizational complexity for instructors
- Need for cultural adaptation to new teaching models

However, these challenges can be addressed through gradual implementation, targeted support, and continuous improvement.