EPiC Series in Computing

Volume 105, 2025, Pages 265–275

Proceedings of EUNIS 2024 annual congress in Athens

2024 and Beyond: Navigating the Digital Shift - Leadership Strategies for the Future of HEIs in Europe

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Abstract

This study sheds light on HEIs in Europe, focusing on visionary leadership amid the ever-changing digital transformation. The research first sheds light on the trends, challenges, and opportunities in the digital environment and then delves into the strategic stages for digital innovation while addressing barriers such as the digital divide, cyber security, and regulatory complexities. It emphasizes effective data governance and management, supporting clean, timely, and accurate data alongside accurate execution of processes. This integrated approach combines data integrity with procedural consistency, enhancing decision-making and operational efficiency. Finally, it is worth emphasizing that this research's results, approaches, and proposed actions are entirely consistent with the European Union's strategy for digital education, which aims to create inclusive and innovative learning environments that are prepared for the Future.

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R. Vogl, L. Desnos, J.-F. Desnos, S. Bolis, L. Merakos, G. Ferrell, E. Tsili and M. Roumeliotis (eds.), EUNIS 2024 (EPiC Series in Computing, vol. 105), pp. 265–275

1 Introduction

Several research studies argue that the higher education industry is changing significantly due to technological developments (Biancardi et al., 2023). Every day, the higher education industry faces unprecedented challenges that vary in their ease of management. In this exploratory paper, we analyze the critical role of leadership in driving digital change, focusing on digital transformation leadership, data-driven decision-making, artificial intelligence and automation, cyber security, equality, and access to digital education (Kähkipuro, 2018); (Taylor et al., 2008). Based on the above, the emergence of digital ecosystems provides unprecedented opportunities to improve learning experiences, operational efficiency, and research capabilities. However, some critical issues are raised, such as the ethical use of technology, data security, and fair access to digital resources (Kähkipuro, 2022).

Leadership in this setting necessitates an in-depth understanding of these technologies and the vision to leverage them for the institution's strategic benefit while managing inherent hazards. This paper explores the tactics that higher education leaders may use to build a culture of creativity and inclusion, ensuring that digital transformation benefits everyone (Kähkipuro, 2020). Examining current trends in HEIs provides insights into successful leadership techniques that can help institutions navigate the difficulties of the digital era.

2 Overview of the Digital Landscape in European Higher Education

Based on existing published literature, this section explores the rapid shift towards digitization of services and processes in European HEIs, reminding us of the past but not forgotten challenges of the COVID-19 pandemic (Ku Ishak & Mustafa Kamil, 2016); (Esteve-Mon et al., 2023).

It highlights the rapid adoption of digital platforms and tools that underscore a shift toward more accessible and resilient educational models. The European Commission's focus on enhancing digital skills reflects a strategic push to prepare students for a digital economy, emphasizing the creation and consumption of digital content (Gkrimpizi et al., 2023).

2.1 Recent Trends

By reviewing digital transformation in higher education (Kähkipuro, 2017), we can detect the complexities and opportunities digital technologies present for institutions in this sector. The comprehensive analysis synthesizes information on various dimensions of digital transformation, including IT capabilities, pedagogical innovation, data analytics, and cyber security, offering a holistic view of the challenges and strategies for navigating the digital age in higher education (Black & others, 2015); (Biancardi et al., 2023); (Gkrimpizi et al., 2023).

For example, many authors highlight the imperative need for higher education institutions to adapt and thrive in a rapidly evolving digital landscape, with this transformation not just about adopting new technologies but including something more like fundamental changes in the educational paradigm, which includes teaching methods, learning environments, institutional strategies, and IT infrastructures (Ferrell, 2007); (AlDhaen & Mahmood, 2020); (Hassan et al., 2018); (Kähkipuro, 2019); (Ku Ishak & Mustafa Kamil, 2016); (Gkrimpizi et al., 2023). The main themes that come to the surface are:

- Strategic IT capabilities: It is safe to say that a fundamental theme in all the work is the critical role of IT capabilities in enabling digital transformation. Institutions must develop a robust IT framework that supports operational efficiency, facilitates innovative teaching and learning practices, and supports strategic initiatives to enhance competitiveness and

differentiation. This point includes core IT infrastructure for digital operations, standard capabilities to maintain competitive parity, and advanced capabilities that drive innovation.

- Pedagogical Innovation: Another key issue of concern to the scientific and higher education community is the shift toward student-centered learning. This point is undoubtedly a central focus, highlighting the adoption of blended and online learning modes that leverage digital tools to create more engaging, flexible, and personalized learning experiences that ultimately pay off. Indeed, this development requires rethinking traditional teaching roles and integrating digital literacy into curricula.
- Data-driven decision-making: One of the critical issues that also exists is the use of big data and analytics. Doing so is emerging as a powerful tool for personalizing education, improving student outcomes, and informing strategic decision-making. On the one hand, it is worth noting that exploiting and interpreting data allows institutions to adapt educational content, predict student performance, and effectively optimize resources. On the other hand, however, this also introduces privacy, ethics, and data security challenges, especially in the context of AI and other automated processes.
- Cyber Security and Privacy: As digital technologies come one after the other and, so to speak, mature rapidly and become more entrenched in higher education operations, the importance of cyber security measures cannot be overstated. In other words, protecting sensitive information and ensuring high data privacy is paramount to maintaining trust among students, faculty, and stakeholders. It is worth noting that this requires a series of actions e.g., a comprehensive approach to cyber security, including policy development, awareness training, and the implementation of advanced security technologies.

Many HEIs and education experts worldwide unofficially accept that the COVID-19 pandemic has affected unprecedented technological development and adaptation in the education sector. This experience has sparked a provocative thought: that another pandemic may be necessary as an incentive to propel HEIs into the next phase of technological evolution and accelerate the adoption of innovative digital teaching and learning methods (Biancardi et al., 2023); (Tsai et al., 2019); (Cheng & Wang, 2022); (Fia et al., 2023).

Despite this, a positive aspect of the view is that, especially after the pandemic, Higher education institutions (HEIs) across Europe have responded - or learned to respond significantly and quickly to these challenges with remarkable agility by integrating digital technologies into educational processes. This kind of development reflects a broader understanding of the role of technology in facilitating accessible, flexible, and resilient educational models that can withstand future crises (Kähkipuro, 2022); (Gkrimpizi et al., 2023); (Leal Filho et al., 2023).

2.2 Challenges

By going deeper into this study, the paper critically examines five significant challenges confronting HEIs in Europe's evolving digital landscape: the digital divide, cybersecurity risks, the complexities of regulatory compliance, the integration of AI and automation, and the implementation of next-generation technology (Carvalho et al., 2022).

The digital divide poses a formidable barrier, limiting equitable access to digital education across Europe, with stark disparities evident between urban and rural locales and various socio-economic groups. This issue is pressing, as educational inequalities are poised to expand without focused interventions and policy-driven efforts to enhance digital literacy and access (Ramísio et al., 2019).

In the cybersecurity domain, the growing reliance of HEIs on digital platforms significantly heightens the risk of data breaches and cyber-attacks. Addressing this challenge demands a comprehensive strategy that includes advanced security protocols, continuous data protection training for staff, and robust incident response mechanisms to protect the data integrity of students and institutions alike (Gkrimpizi et al., 2023); (Fia et al., 2023).

Furthermore, the adherence to regulatory frameworks, notably the GDPR, introduces a complex layer of compliance challenges. This regulation necessitates reassessing data management practices within HEIs, underscoring the need for meticulous handling of student and staff information to foster a secure digital educational environment. Expanding the discussion, integrating AI and automation emerges as a double-edged sword. While these technologies promise to revolutionize educational delivery and administration through personalized learning and enhanced efficiency, they raise significant ethical concerns, require a solid regulatory framework, necessitate large-scale infrastructure investments, and threaten to displace traditional educational roles. The careful incorporation of AI requires a balanced approach to harmonize technological advancements with the intrinsic values of education (Leal Filho et al., 2023); (Cheng & Wang, 2022); (Gkrimpizi et al., 2023).

The fifth challenge this paper explores involves the sustainability of digital initiatives within higher education institutions. As HEIs increasingly adopt digital technologies to enhance educational delivery and administration, the question of how to sustain these initiatives over the long term becomes critical. This challenge encompasses the financial aspects of maintaining and upgrading technology infrastructure and the environmental impact of digitalization. HEIs must consider balancing the benefits of digital advances with the need for responsible, green computing practices and the minimization of electronic waste. Furthermore, the sustainability challenge includes ensuring that digital initiatives remain adaptable and responsive to the evolving technological landscape and educational needs, preventing obsolescence, and fostering continuous innovation. Addressing this multifaceted issue is essential for HEIs to fully realize the importance of digital transformation in an economically and environmentally responsible manner.

2.3 Opportunities

In terms of opportunities, this section highlights that digital platforms are vital to enhancing educational access and flexibility, providing the proper framework for unprecedented opportunities for educational development.

These platforms enable flexible learning pathways that meet student needs and schedules, supporting lifelong learning initiatives. We would say that this democratization of education is instrumental in removing traditional barriers to learning, making education more accessible to a broader audience. In addition, another consideration worth noting is that the adoption of digital tools in education paves the way for implementing innovative teaching and learning models, which is particularly obvious with a simple search on the internet for someone who wants to study through distance learning. In any case, personalized learning, gamified experiences, and the integration of artificial intelligence into educational practices are revolutionizing the delivery of instruction. These approaches engage students more effectively and cater to their individual learning preferences, enhancing the educational experience (Gkrimpizi et al., 2023); (Fia et al., 2023); (Tsai et al., 2019).

In addition, speaking of opportunities, we would also say that digital technologies catalyze cross-border cooperation between HEIs across Europe, such as the Erasmus program[†] or the European University Alliances initiative managed and funded by the European Union. In other words, when institutions leverage these technologies, they can participate in international educational and research programs, fostering a spirit of collaboration and exchange. Such initiatives and this kind of outreach approach, supported by frameworks such as the European Higher Education Area (EHEA), highlight the potential of digital platforms to transcend geographical boundaries, promoting a more interconnected and collaborative educational landscape. This synergy enriches the academic experience for students and faculty and helps advance global knowledge and understanding. Finally, from another approach, we would say that integrating digital platforms in the educational sector certainly facilitates

[†] Erasmus program places a strong focus on social inclusion, the green and digital transitions, and promoting young people's participation in democratic life. It supports priorities and activities set out in the European Education Area, Digital Education Action Plan and the European Skills Agenda

and paves the way for a transformative shift towards more accessible, engaging, and collaborative learning environments. This trend highlights the critical importance of adopting digital innovations and the need to see them as opportunities to accelerate digital transformation to meet the diverse needs of students and educators in the digital age (Gkrimpizi et al., 2023); (Fia et al., 2023); (Tsai et al., 2019).

3 Facing the New Digital Landscape in HEIs

Given the current trends, challenges, and opportunities already presented, it is worth mentioning how to face the new digital landscape in HEIs and how the EU perspective creates a common ground for all HEIs to address these challenges.

3.1 Need for Adopting Data-driven Culture

In this section, we examine the key elements underpinning the establishment of data-driven cultures within Higher Education Institutions (HEIs), a critical subject area. Many studies argue that an organization's unique resources and capabilities are the primary drivers of business value competitive advantage and organizational and leadership power (Taylor et al., 2008); (Stolze & Sailer, 2022); (Ramísio et al., 2019). This perspective is crucial to understanding how a data-driven culture, incorporating tangible and intangible assets, becomes a valuable organizational resource. In other words, we would say that this perspective enhances the operational, financial, and market dimensions of business value (Lu et al., 2017); (Gkrimpizi et al., 2023).

Moreover, it is noteworthy that the effectiveness of such a culture depends on its integration with human, technical, and organizational resources, something that, in the age of AI, we tend to exclude. In essence, the data-driven culture is characterized by its ability to make informed decisions based on data analysis by relying on human resources in collaboration with technology. It underpins both contributing principles and fostering an environment of continuous improvement and learning that is dynamically developing. What does it include? In essence, we would say that this capability involves systematic and careful data collection and analysis that includes appropriate mechanisms to identify trends, patterns, and insights that support strategic initiatives and encourage innovation (Kähkipuro, 2020); (Gkrimpizi et al., 2023). Additionally, cultivating a culture that requires a comprehensive approach that includes leadership engagement, developing data literacy among stakeholders, and establishing effective data governance and management practices is also critical (Kähkipuro, 2018). By extension, fostering a culture of data democracy and adopting a top-down decision-making approach is crucial for ensuring responsiveness to new trends and compliance with EU regulations. These efforts collectively contribute to an organizational ethos where data-driven decision-making is embedded in the institution's ecosystem, enabling HEIs to navigate the complexities of the digital landscape more effectively and maintain their competitive edge (Fleacă et al., 2018); (Ku Ishak & Mustafa Kamil, 2016); (Stolze & Sailer, 2022); (Gkrimpizi et al., 2023); (Kähkipuro, 2020).

3.2 Strategies for Effective Governance and Management of the HEIs in Europe

In synthesizing the strategic framework for effective data governance and management in HEIs, particularly within the EU context, it is clear that a holistic approach is essential. This approach should integrate comprehensive data policies, data quality management, data literacy enhancement, and developing of secure, scalable data infrastructures (Kähkipuro, 2022); (Gkrimpizi et al., 2023).

By aligning business value with human, technical, and organizational resources, HEIs can leverage data to enhance decision-making operational efficiency and maintain competitiveness in the digital age.

The above table (Table 1) presents our approach for Higher Education Institutions (HEIs) to leverage data governance and management, emphasizing compliance and efficiency and enhancing educational outcomes (Pauli & Ferrell, 2020); (Cheng & Wang, 2022); (Leal Filho et al., 2023).

	Strategy - Approach	Outcome
1	Regulatory Compliance and Centralized Digital Strategy	Ensures institutional adherence to standards and regulations, while aligning departmental actions with centralized digital goals.
2	Leadership Commitment	Drives the institution's digital agenda forward with dedicated support from the highest levels. Builds a digital literacy and innovation culture, enhancing the institution's capacity to adapt and thrive in a digital environment.
3	Establish Clear Policies and Standards	Provides a framework for governance, ensuring compliance, quality, and consistency in digital initiatives.
4	Enhance User Support and Training Programs	Empowers the academic community with the necessary digital skills, improving engagement, and learning outcomes. Builds digital proficiency across the institution, enhancing user engagement and educational outcomes.
5	Continuous Monitoring and Evaluation with Leadership Oversight	Facilitates sustained digital transformation through regular assessment and adaptation, guided by committed leadership.

Table 1 – Strategy / Approach and Outcome

Regulatory centralization, user awareness, and leadership engagement in educational institutions are vast and impactful. The centralization of decision-making processes ensures a unified strategy toward digital transformation, aligning all departments with the primary goals and policies of the institution. This approach facilitates efficient resource allocation, standardized practices, and a cohesive user experience across an institution's digital landscape. In addition, it highlights the importance of the commitment of the leadership and the chancellor to guide the institution towards innovative educational practices and infrastructure improvements (Leal Filho et al., 2020); (Kähkipuro, 2018).

User awareness, digital skills training, and solid support mechanisms are essential elements because they are critical to maximizing the benefits of digital transformation. The key to achieving this is empowering and supporting people. Students, teachers, and staff must be equipped with the necessary digital skills in the ever-changing digital era. By ensuring these competencies, educational institutions can enhance learning outcomes, increase operational efficiency, and strengthen their cyber security posture (Carvalho et al., 2022); (Gkrimpizi et al., 2023); (Fia et al., 2023).

Focusing on all the contributions of this study till now, we argue that leadership plays a central role in this effort, with a commitment from the top to ensure that digital strategies are prioritized and adequately resourced (Osseo-Asare et al., 2005). The policies and standards provide a framework for governance, quality assurance, and continuous improvement in the digital sector.

3.3 Framework for Streamlining Solutions in Complex Challenges

Although many questions arise, we focus on the basics: a) How can HEIs effectively incorporate these strategies to remain competitive in this quickly changing educational environment? Furthermore, b) what measures can ensure these strategies improve teaching, research, and operational effectiveness?

By following at least these four steps:

1. Define Strategic Intent:
    - Clarify key strategies and set priorities to give HEIs a competitive edge and clear direction for differentiation in the educational landscape.
2. Build Critical Enablers:
    - Adopt agile practices for flexibility and responsiveness.
    - Forge strategic partnerships to expand capabilities and resources.
    - Empower faculty and staff through professional development opportunities.
    - Make data-driven decisions to guide actions and measure outcomes.

3. Establish Built-in Quality:
    - Define Key Performance Indicators (KPIs) to track and measure progress towards strategic goals.
    - Implement continuous improvement processes, allowing for real-time feedback to refine strategies.
    - Integrate security and privacy considerations from the start to build trust and compliance.
4. Promote New Culture:
    - Develop an investment model for digital tools, ensuring the institution is equipped with the latest technologies.
    - Emphasize user-centricity to align institutional objectives with the needs and experiences of students and staff.
    - Encourage interdisciplinary work to break silos and foster collaboration.
    - Boost innovation by creating an environment that supports creative thinking and novel solutions.

The above form a comprehensive four-step framework HEIs can follow to navigate the complexities of effectively integrating advanced technologies and practices into their operations (Kähkipuro, 2019); (Kähkipuro, 2022); (Kähkipuro, 2020) (Ferrell, 2007) (Hassan et al., 2018); (Gkrimpizi et al., 2023).

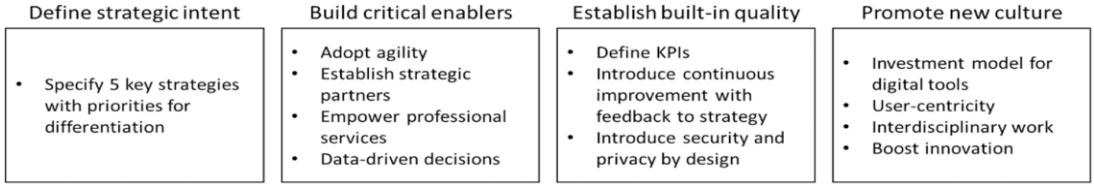

Figure 1 - Four-Step Strategic Framework for Advancing Higher Education Institutions

Considering all the above, it is noteworthy that European Higher Education Institutions (HEIs) strive to meet the highest standards in data quality and process efficiency, consistently aiming for timely, accurate, complete, and relevant data. At the same time, these institutions make considerable efforts to ensure that they quickly adapt strategies for next-generation HEIs, but significant room remains for improvement (Sanchez-Carrillo et al., 2021).

By adopting and refining strategies focused on data integrity and procedural consistency, European HEIs can further enhance their capacity to utilize data-driven insights, elevating their academic and operational performance (Kähkipuro, 2022).

3.4 The European Perspective according to Web 4.0

The recent European Commission's Communication[‡] on the long-term competitiveness of the EU identified Web 4.0 as a ground-breaking technological transition towards a world where everything is seamlessly interconnected (Corporate-body. EAC:Directorate-General for Education and Youth and Sport and Culture, 2021).

The European Council has called for the European Union to stay at the forefront of Web 4.0 development, and as it appears after careful study, the key action points concerning the education sector, particularly Higher Education Institutions (HEIs) regard the following action points:

- **Enhancing Learning and Training:** Virtual worlds enhance HEI curricula with immersive learning, simplifying complex subjects.

[‡]Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions. Title: An Eu Initiative On Web 4.0 And Virtual Worlds: A Head Start In The Next Technological Transition - Strasbourg, 11.7.2023 COM(2023) 442/final | {Swd(2023) 250}

- **Skills Development for the Digital Age:** The EU targets closing the digital skill gap by nurturing talent and fostering innovation in HEIs.
- **Regulatory and Strategic Framework:** EU regulations like GDPR and the AI Act create a secure, fair educational environment in virtual worlds.
- **Interoperability and Standardization:** Seamless network interoperability and open standards are crucial for collaborative education across platforms. Open standards ensure that a select few will not dominate the future Web 4.0 ecosystem, setting de facto standards.
- **Future-Oriented Actions:** Emphasis on skills development and research on virtual worlds prepares HEIs for future educational challenges.

So, as we move into an era defined by Web 4.0 and beyond, the map (Figure 2) we present in this study details a structured path from raising awareness to spearheading future-driven actions.

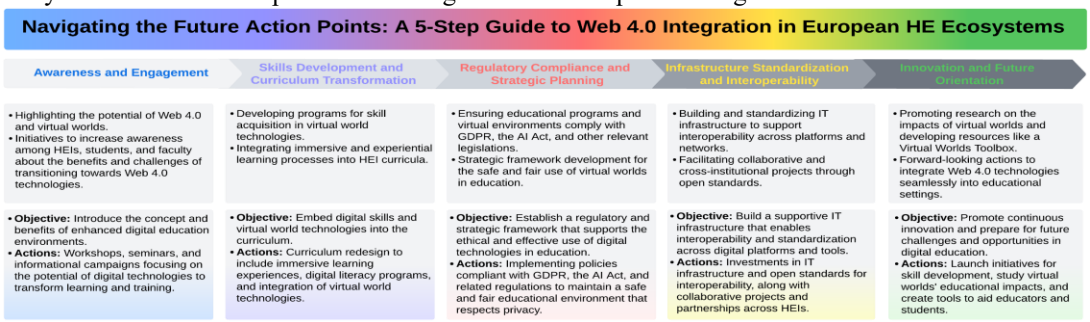

Figure 2 - A 5-Step Guide to Web 4.0 Integration in European HE Ecosystems

A closer look shows that this roadmap charts how to improve learning through immersive technologies, bridge the digital skills gap, and strengthen a regulatory framework supporting EU values (Corporate-body. EAC:Directorate-General for Education and Youth and Sport and Culture, 2021). Inside the roadmap, an integral part is an emphasis on interoperability and standardization, vital to ensuring fluid communication and resource sharing across platforms. The above paves the way for a progressive and inclusive educational environment.

4 The Future of Higher Education in Europe

When talking about the Future of higher education in Europe, it can be said that it is closely aligned with digital transformation, focusing on the integration of innovative technologies and data-driven strategies to improve academic and operational performance (Kähkipuro, 2019);.

On top of this, the need to adopt a data-driven culture is highlighted (Kähkipuro, 2020). Also important is leadership, as it plays a central role in navigating this change, emphasizing flexibility, innovation, and participation to meet the challenges and seize the opportunities presented by digital adoption. The strategic frameworks discussed advocate a top-down approach aligned with the objectives of the European Union, emphasizing the importance of regulatory compliance, quality assurance, user-centered education, and sustainability (Leal Filho et al., 2020); (Mazon et al., 2020).

Considering this study's details, we acknowledge that the strategic frameworks for Higher Education Institutions (HEIs) in Europe, emphasizing strategic intent and regulatory compliance, set a vital stage for progress. On the other hand, it appears that the role of leadership is central to advancing the digital agenda, ensuring that educational strategies are implemented and part of the institution's ethos. It is worth noting that quality assurance is a common thread throughout, with clear policies and KPIs serving as benchmarks for success. By extension, support systems promote the EU's vision of inclusive and

innovative education through training or cultural shifts towards user-centredness. Finally and most importantly, the commitment to sustainability and continuous improvement reflects the shared understanding with the EU of the need for HEIs to adapt and evolve, ensuring that Europe's educational institutions remain competitive and proactive in the global landscape (Gkrimpizi et al., 2023); (Fia et al., 2023). This collaborative approach aligns with the EU's goals, fostering an environment ready to embrace the interconnectedness and capabilities of the Web 4.0 era.

In conclusion, the European Commission states the need for global governance in shaping Web 4.0 and virtual worlds to be open and secure and respect EU values. It also emphasizes the importance of designing these spaces for interoperability and integration to promote user empowerment and innovation. It also underscores the critical role of international cooperation; the EC states that addressing a wide range of issues - from technology standards to content management - is essential to address the challenges of disinformation, censorship, and privacy, ensuring these digital spaces align with EU principles.

5 Discussion

In this article, we examined the evolution of universities in Europe in the digital age, emphasizing leadership's pivotal role in navigating emerging trends, challenges, and opportunities. We discussed the significance of adopting visionary strategies, leveraging data-driven decisions, and ensuring efficient data management. We highlighted the necessity for universities to continually refine their approaches and strategies within a strategic framework to effectively address present and future challenges. Additionally, we studied, explored, and extended the European perspective, offering specific action points to guide institutions. By integrating these elements, we underscore how universities can thrive by embracing technological advancements, prioritizing quality data, and streamlining processes, securing a competitive edge in the evolving educational landscape so HEIs can better face the challenges and opportunities of today's digital world.

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Georgios Roussos is the Head of the Academic Technologies Support Office at the Digital Learning and Support Department, Information Technology Centre of Aristotle University of Thessaloniki (AUTh), Greece. Holding a Bachelor's degree in Informatics and Computer Technology and two Master's degrees in Communication Networks and Systems Security and Intelligent Computer Systems, he manages the university's Audio-Visual operations & e-learning operations and centralized projects that enhance educational experiences through emerging technologies. Currently a PhD candidate, his research focuses on the use of digital learning and cutting-edge technologies such as AI/AR/VR/MR/XR. He is also an Ambassador of the European University Information Systems (EUNIS) organization and actively participates in various European and international technology forums by supporting AUTh's technological initiatives.

Angeliki Agorogianni is the Vice Technical Manager for Services at the IT Center of Aristotle University of Thessaloniki and the IT Center's Quality Assurance Manager. She leads a team of more than 30 members to deliver end-user services and support effectively in a high-pressure IT environment for a wide range of IT services, acting mainly as a user representative. She has vast experience in synchronous and asynchronous distance learning, planning and implementing solutions for Aristotle University for over a decade. She graduated from the Department of Electrical Engineering (integrated Master) at Aristotle University of Thessaloniki, Greece. She holds a Master's Degree in Business Administration from the University of Macedonia, Greece. She is also involved in various European Organizations (EPICUR, EUNIS) in the field of eLearning and IT benchmarking.

Yiannis (Ioannis) Salmatzidis is the Executive Director of the Aristotle University of Thessaloniki (AUTH), where he oversees the organizational units and staff, coordinating and supervising their work to ensure the effective administrative and financial functioning of the institution. For the last 12 years, he served as the Technical Director at the IT Center of AUTH, leading a large team and managing digital transformation projects. He has had the honor of working closely with the Digital Governance Committee of AUTH, contributing to developing digital services and infrastructure.

Gill Ferrell supports two inter-related edtech communities in Europe, fostering knowledge exchange and developing communities of practice. EUNIS (European University Information Systems organisation) is a professional association for all stakeholders delivering the digital infrastructure for higher education. The 1EdTech community develops and maintains open standards (such as learning tools interoperability) to deliver a flexible learning ecosystem. She previously directed a support service providing advice, guidance and training to further and higher education providers across the UK. Dr Ferrell has led research and edtech projects in areas such as assessment and feedback, curriculum design, course management, learner records, learning spaces and learning analytics.

Pekka Kähkipuro is chief information officer at Tampere University. Prior to his current role, he was CIO at Brunel University London, director of IT at Aalto University in Finland (2010-15) and, before that, held various senior roles in the private sector including at Nokia and Nokia Siemens Networks (2005-10). Dr Kähkipuro obtained his PhD in computer science from the University of Helsinki in 2000. He has been a board member of the European University Information Systems (EUNIS) organisation on two occasions and was president of EUNIS in 2015. He has also been a board member and chairman of the board in several private sector companies.