DIGITAL EQUITY AND CULTURAL INTEGRITY: INTERNATIONALISING HIGHER EDUCATION IN RURAL AND MOUNTAINOUS REGIONS

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Abstract

This article explores how Artificial Intelligence (AI), when guided by ethical principles, can support inclusive and context-sensitive strategies for the internationalisation of higher education. Rural and mountainous areas, even in advanced countries, often remain excluded from academic networks due to isolation and limited infrastructure. Drawing on the values of the Council of Europe's ETINED platform—ethics, transparency, and integrity—the article examines how AI can enhance trust, autonomy, and cultural diversity in academic cooperation. It highlights AI applications such as multilingual access, virtual mobility, and adaptive learning tools for small and remote HEIs. Risks like algorithmic bias and identity erosion are also addressed.

Keywords: Rural higher education, AI ethics, ETINED, Internationalisation, territorial equity, Bologna Process

Introduction

The current context of higher education, both on national level and globally, is undergoing significant changes shaped by digital transformation, geopolitical realignments, and the increasing emphasis on cross-border cooperation.

As HEIs expand their international reach through joint programs, digital mobility, and global partnerships, a growing concern has emerged about who

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benefits from these developments and who remains excluded[1]. While inequalities between the Global North and South are well documented, a more subtle but equally significant divide exists within countries themselves, particularly between urban and rural/mountainous areas.

The research in this article focuses only on the European Higher Education Area (EHEA) countries, while such phenomenon is seen on a global scale. Rural and mountainous areas, such as the Carpathian highlands in Romania, the Apennines in Italy, the Albanian Alps, and the Shar Mountains in North Macedonia and Kosovo, often struggle to participate fully in the internationalisation of higher education. These areas face structural challenges including limited internet connectivity, declining youth populations, reduced public investment, and shrinking or under-resourced academic centers[2]. In Albania, for example, universities located in cities like Kukës and Peshkopi face considerable disadvantages compared to those in Tirana or Durrës. Similarly, lack the international exposure and resources available in Podgorica in Montenegro. These disparities limit opportunities for student mobility, academic visibility, and institutional cooperation.

These dynamics pose a significant challenge to broader European policy goals. Within the framework of the EHEA, ministers have committed to ensuring that at least 20% of higher education graduates have experienced a study or training period abroad by 2030 (EHEA Ministers Rome Communique 2020). However, achieving this target requires that all students, not just those in urban centers or elite institutions, have access to mobility opportunities. Without targeted support for students and institutions in rural and mountainous areas, the 20% mobility benchmark risks becoming yet another indicator that reinforces inequalities rather than reduces them.

Moreover, the absence of strong local HEIs in these areas contributes to patterns of forced academic migration. Students from rural and

[1] J. Knight, *Concepts, rationales, and interpretive frameworks in the internationalisation of higher education*, in D. Deardorff, H. de Wit, J. Heyl, & T. Adams (Eds.), *The SAGE Handbook of International Higher Education*, 2012, (pp. 27–42); Cfr. H. De Wit, F. Hunter, L. Howard & E. Egron-Polak, *Internationalisation of higher education* in J. C. Shin & P. Teixeira (Eds.), Encyclopedia of international higher education systems and institutions, Springer, 2020.

[2] Cfr. European Commission, *The European Research Area and rural transformation. Directorate-General for Research and Innovation*, 2021; R. Rey, *Mountain economy and higher education: A challenge for territorial equity*, Montology Journal, 2019, 2(1), 15–22.

mountainous areas often move to bigger cities or abroad to access quality education. While such mobility can offer exposure and advancement, it often leads to cultural displacement, a weakening of ties to local identity, and a diminished likelihood of return after graduation. This process contributes to the long-term depopulation and socioeconomic decline of rural territories (OECD, 2020). At the institutional level, smaller HEIs in these areas struggle to retain staff, access funding, and maintain meaningful participation in international academic networks.

In this context, AI presents a double-edged possibility. On one side, AI-powered solutions such as automated translation, adaptive learning platforms, virtual exchange environments, and data-driven strategy tools can enable HEIs in rural and mountainous areas to connect globally without requiring physical relocation[3].These innovations can democratise access to international learning and research opportunities. On the other side, without ethical guidance, the use of AI may reproduce structural inequalities, disempower local actors, and erode the very cultural and social fabrics that define rural and mountainous communities[4].

To respond to these risks, the ETINED framework of the Council of Europe provides an ethical basis. Grounded in the principles of ethics, transparency, and integrity in education, ETINED emphasises the importance of culturally respectful and rights-based approaches to educational policy and innovation[5]. It offers a valuable lens through which to assess the ethical use of AI in the context of internationalisation, especially in underrepresented or marginalised areas.

This article intends to explore how ethically guided AI, informed by ETINED principles, can support the internationalisation of higher education in rural and mountainous areas of Europe, with a particular focus on the Western Balkans, Romania, and Italy. It suggests

It suggests that digital transformation alone is not sufficient. Without a parallel commitment to territorial equity, cultural sensitivity, and ethical governance, technological progress may further entrench areal disparities.

[3]Cfr. R. Luckin, W. Holmes, M. Griffiths & L.B. Forcier, *Intelligence unleashed: An argument for AI* in *education*, Pearson Education, 2016.
[4]Cfr. N. Selwyn, *Should robots replace teachers? AI and the future of education*, Polity Press, 2019.
[5]Council of Europe, *Ethics, transparency and integrity* in *education: ETINED policy framework*, Strasbourg 2018, Council of Europe Publishing.

Through a critical examination of the challenges, opportunities, and policy options, the authro in this article proposes a roadmap for ensuring that rural and mountainous communities are not passive recipients but co-creators of a truly inclusive global academic space.

Literature Review

The literature on internationalisation, digital transformation, and rural higher education has expanded considerably in recent years, but the intersection between these domains, particularly in the context of artificial intelligence and ethics, remains underexplored. This section reviews the main academic contribution that inform the present analysis: internationalisation of higher education, the role of AI in education, territorial disparities in academic access, and the relevance of ethical frameworks such as ETINED.

Internationalisation of Higher Education: Aspirations and Gaps

Internationalisation has become a central policy and strategic goal for higher education systems worldwide. Defined broadly as the integration of an international and intercultural dimension into the purpose, functions, and delivery of postsecondary education, it includes mobility programs, international curricula, research collaboration, and institutional partnerships. The Bologna Process and the development of the EHEA have provided a coordinated framework for this effort in Europe, with a focus on transparency, comparability, and mobility.

However, internationalisation has also been critiqued for benefiting mostly elite HEIs and urban centers. De Wit and Hunter[6] point to the growing divide between internationally "visible" and "invisible" HEIs, in which smaller HEIs, particularly those in peripheral areas, struggle to access international networks. This gap is particularly evident in countries of the

[6]Cfr. H. De Wit, F. Hunter, L. Howard & E. Egron-Polak, *Internationalisation of higher education* in J. C. Shin & P. Teixeira (Eds.), Encyclopedia of international higher education systems and institutions, Springer, 2015.

Western Balkans, in which structural inequalities limit mobility opportunities, despite formal alignment with EHEA goals[7] .

The EHEA Ministers Rome Communiqué 2020 reaffirmed the commitment of EHEA countries to ensure that at least 20% of graduates experience international mobility by 2030. Yet, the uneven distribution of resources and infrastructure calls into question whether this target is achievable without deliberate territorial and digital inclusion strategies.

Digital Transformation and the Rise of AI in Higher Education

The integration of digital tools into higher education has accelerated since the COVID-19 pandemic, and AI has emerged as one of the most promising yet contentious technologies in this space. AI applications in education range from intelligent tutoring systems and predictive analytics to automated translation, plagiarism detection, and admissions management[8].

Scholars argue that AI can address long-standing inequalities in access to education by offering flexible, personalised, and scalable learning environments. For rural HEIs, this could mean access to high-quality materials, participation in virtual exchanges, and real-time translation of content. However, others warn that AI systems often reproduce or amplify existing inequalities, especially when designed without cultural sensitivity or ethical safeguards. The opaque nature of algorithms, the risk of bias, and the dependence on commercial platforms raise fundamental concerns about transparency, data sovereignty, and academic autonomy.

Rural and Mountainous Areas: The Forgotten Periphery

Rural and mountainous areas are often excluded from both policy attention and research focus in higher education literature. These territories tend to experience cumulative disadvantages: declining populations, weaker

[7] Cfr. P. Zgaga, U. Teichler & J. Brennan, (Eds.), *The Globalisation Challenge for European Higher Education: Convergence and Diversity*, Centres and Peripheries, Sense Publishers, 2013.

[8] Cfr. R. Luckin, W. Holmes, M. Griffiths & L.B. Forcier, *Intelligence unleashed: An argument for AI* in *education,* Pearson Education, 2016; N. Selwyn, *Should robots replace teachers? AI and the future of education*, Polity Press, 2019.

economic bases, limited infrastructure, and fragmented public services[9] . As a result, HEIs in such areas frequently face challenges related to recruitment, retention, and quality assurance (QA).

Empirical studies from Romania, Albania, and North Macedonia show that branch campuses and smaller public HEIs in rural and mountainous areas often operate under financial pressure, with fewer opportunities for international collaboration, lower levels of staff mobility, and a dependence on centralised state funding[10]. In the Western Balkans, Europeanisation processes have improved policy frameworks, but implementation remains uneven, especially outside capital cities and university hubs.

Ethics, Equity, and the Role of the ETINED Framework

The normative dimension of education, particularly ethics, transparency, and integrity, has gained renewed attention with the rise of digital and AI tools. The ETINED Platform of the Council of Europe provides a comprehensive framework that places values at the core of educational design and governance. It encourages policies that respect human dignity, academic freedom, and institutional diversity, particularly in contexts vulnerable to corruption, exclusion, or marginalisation (Council of Europe, 2018).

Applying ETINED principles to AI-supported internationalisation points to a shift from a purely performance-based model toward a value-driven model. It suggests that the effectiveness of internationalisation should not be measured only in terms of numbers, such as mobility rates or co-publications, but also by the fairness of access, the protection of cultural identity, and the enhancement of trust within and between HEIs.

The literature reveals that while internationalisation and digitalisation are increasingly central to higher education policy, they are rarely examined through an ethical lens when applied to rural contexts. This article addresses

[9] Cfr. OECD, *Supporting entrepreneurship and innovation in higher education in areaal and local ecosystems.* OECD Publishing, 2020; Montemurro, F., & Leone, M., *Small universities and territorial development: The case of Italy's Apennine areas,* Journal of Rural and Community Development, 2020,15(4), 118–135.

[10]Cfr. European Commission. *The European Research Area and rural transformation*. *Directorate-General for Research and Innovation*, 2021; R. Rey, *Mountain economy and higher education: A challenge for territorial equity,* Montology Journal, 2019, 2(1), 15–22.

that gap by proposing an integrated approach that aligns AI, equity, and internationalisation with ETINED values.

The Social Dimension in EHEA Policy: Progress and Blind Spots

The Bologna Process has increasingly recognised the importance of the social dimension of higher education as a core commitment within EHEA. This was reinforced in the Rome Ministerial Communiqué 2020, where EHEA countries adopted the Principles and Guidelines to Strengthen the Social Dimension of Higher Education (Council of Europe, 2020). These principles call for higher education systems to reflect the diversity of their populations and commit to reducing structural barriers to participation and completion for underrepresented groups.

The work of the Bologan Follow Up (BFUG) Working Group on the Social Dimension (WG-SD) for the BFUG work period 2021 - 2024 led to the development of indicators and descriptors designed to support countries and institutions in monitoring their progress. These tools cover areas such as financial support, flexible learning paths, inclusive mobility, counselling services, and institutional autonomy. Of particular relevance is the commitment to ensuring that at least 20% of higher education graduates have experienced international mobility by 2030, a goal set out in the Rome Communiqué 2020.

While these developments mark significant progress, there is still the critical blind spot in the implementation of the social dimension agenda and territorial equity. The working group's outputs do not explicitly address the situation of students and HEIs in rural or mountainous areas, nor do they provide tailored indicators for monitoring or supporting inclusion in geographically remote areas. As a result, students in areas such as the Albanian Alps, the Shar Mountains in Kosovo and North Macedonia, or the Carpathians in Romania remain largely invisible within the social dimension frameworks, despite facing unique structural disadvantages.

This omission is particularly problematic when considering the EHEA's mobility target. Without specific support for students in isolated areas, through hybrid or digital mobility options, AI-assisted access to resources, or incentives for areal cooperation, this target risks being met primarily by those in large urban HEIs. Such an outcome would inadvertently widen rather than close the participation gap between areas.

Therefore, while the WG-SD's framework offers valuable general tools for promoting equity, it lacks the territorial sensitivity required to make the social dimension fully inclusive. Bridging this gap requires a more granular approach that integrates ethically guided AI tools, grounded in the ETINED framework, and focused specifically on rural and mountainous educational environments. Only through this expanded lens can the full diversity of Europe's academic geography be recognised and supported in internationalisation policies.

Territorial Blind Spots in the Bologna Process Implementation Report (BPIR 2024)

While the social dimension has been elevated to a core commitment within the EHEA, its operationalisation in the Bologna Process Implementation Report (BPIR) 2024 reveals persistent blind spots, particularly in relation to territorial inclusion. The BPIR, developed by Eurydice in collaboration with national authorities, provides a comprehensive overview of how member states are progressing on key Bologna Commitments, including student participation, access, and success.

The report requires member states to collect and report data based on the Principles and Guidelines to Strengthen the Social Dimension of Higher Education, adopted in the Rome Communiqué (2020). Among these, Principle 4 encourages data collection disaggregated by age, gender, socio-economic background, disability, and migrant status, and Principle 8 addresses inclusive access to mobility opportunities[11]. However, there is no requirement to report data by territorial classification, such as rural, remote, or mountainous areas. The statistical tools used, mainly Eurostat and Eurostudent surveys, do not include areal typologies or geospatial markers for student data.

This omission limits the capacity of EHEA stakeholders to assess whether internationalisation and social inclusion efforts are reaching students in geographically marginalised areas. Given that access to higher education in such areas is often affected by a combination of economic, infrastructural, and cultural factors, the absence of territorial data risks reinforcing centralised models of policy intervention that overlook local realities. Students in areas such as the Albanian Alps, the Shar Mountains, or Romania's Carpathian

[11] Cfr. European Commission/EACEA/Eurydice. (2023). The European Higher Education Area in 2023: Bologna Process Implementation Report. Luxembourg: Publications Office of the European Union.

zones may face barriers that are qualitatively different from those affecting other disadvantaged groups, but these remain largely invisible in current EHEA reporting mechanisms.

The lack of territorial indicators in the BPIR also undermines the feasibility of monitoring progress toward the 20% student mobility target by 2030, as students in rural areas are statistically underrepresented in international mobility schemes. Without area-specific data, there is no way to verify whether this target is being achieved equitably or merely concentrated among urban institutions.

This data gap reinforces the argument for adopting ethically guided, territorially sensitive frameworks, such as those informed by the ETINED Platform. A more inclusive approach to internationalisation must begin with the recognition of uneven geographies within countries themselves. Integrating territorial indicators into future EHEA monitoring cycles would support the development of policies that not only address student characteristics but also respond to place-based educational disadvantages.

Methodological Approach

This article intends to adopt a policy-analytical and normative approach, combining elements of desk-based research, critical policy review, and interpretive analysis. Rather than relying on primary empirical data collection, it intends to base its analysis on a systematic examination of existing European higher education policy documents, scholarly literature, and case-based insights from rural and mountainous areas in selected EHEA member states. The aim is to connect these sources in a way that uncovers structural gaps, ethical risks, and policy blind spots related to the internationalisation of higher education, particularly where AI is involved.

Analytical Framework

The analysis presented in this article is designed to address the complex interplay between technological innovation, educational equity, and policy frameworks. To do so, it is structured around three intersecting domains that together offer a comprehensive lens for understanding how ethical principles and territorial inclusion can be meaningfully integrated into internationalisation efforts.

1. Internationalisation of higher education as defined within the Bologna Process and the EHEA, with particular attention to the 20% mobility target set for 2030.
2. Digital transformation and AI integration in higher education, focusing on how emerging technologies shape access, participation, and international collaboration.
3. The ethical and territorial dimensions of these developments, as interpreted through the lens of the ETINED Platform of the Council of Europe and the broader social dimension agenda of the Bologna Process.

This integration of approaches allows for a multi-scalar interpretation of the issues at stake, spanning institutional practices, national policy, and European frameworks. It also provides a foundation for formulating policy recommendations that are both technically viable and normatively grounded, with a view toward advancing territorial justice within a rapidly changing higher education landscape.

Data Sources and Material Selection

The article draws on a range of sources, including official Bologna Process documents such as Ministerial Communiqués, the 2024 Bologna Process Implementation Report, and the Principles and Guidelines on the BFUG Working Group on Social Dimension. It also references publications by the Council of Europe, with particular attention to the ETINED policy framework. Additional data is drawn from reports and surveys conducted by Eurostat, Eurydice, and Eurostudent. The analysis is further supported by peer-reviewed literature on internationalisation, rural higher education, educational ethics, and the application of AI in learning environments. Illustrative examples are taken from Romania, Albania, Italy, North Macedonia, and Kosovo, highlighting mountain and rural contexts within the EHEA. These sources were selected for their policy relevance, territorial diversity, and normative grounding, enabling a nuanced understanding of how inclusion and ethics intersect with internationalisation policies.

Limitations

As explained above, due to lack of data and literature on the topic, the study conducted as part of the research for this article does not include primary data

from rural students or HEIs, which would require in-depth qualitative fieldwork beyond the scope of this article. Instead, it relies on secondary data and policy analysis to frame a set of strategic reflections and policy-oriented recommendations. While this approach may limit the granularity of insights from specific local contexts, it allows for a cross-national and systemic view of the issues, offering a solid foundation for further empirical research and pilot interventions.

Ethical and Positional Considerations

As the paper addresses issues of marginalisation, ethics, and institutional visibility, it adopts a value-based position grounded in educational justice, equity, and transparency. The use of the ETINED framework is not merely descriptive but normative, reflecting a deliberate stance that education policy and AI development should be guided by public interest values rather than solely by market or efficiency logics.

Challenges Facing Rural and Mountainous HEIs

While internationalisation has become a strategic priority across the EHEA, the structural realities of rural and mountainous HEIs often prevent them from participating equally in this agenda. These challenges are multi-dimensional and interlinked, ranging from infrastructural barriers and human resource limitations to institutional underrepresentation and policy blind spots.

Geographic Isolation and Infrastructure Gaps

Rural and mountainous areas often suffer from underdeveloped infrastructure, including poor internet connectivity, limited transportation links, and unreliable access to digital technologies (European Commission, 2021). These deficiencies directly constrain the ability of local HEIs to offer online or hybrid international programs, participate in digital exchange initiatives, or host international students and staff. For example, in parts of Northern Albania, Kosovo's Gjakova area, or rural Romania's Suceava County, institutional connectivity issues continue to limit access to even basic e-learning platforms, let alone advanced AI-based tools for international collaboration.

Budget Constraints and Institutional Downsizing

Many HEIs in rural or peripheral areas operate under significant budgetary pressure. Central governments often prioritise funding for flagship universities located in major cities, resulting in reduced investment in areal HEIs[12]. In countries such as Italy, Romania, and North Macedonia, this has led to the closure or merging of local university departments, the reduction of faculty positions, and the centralisation of administrative functions. These trends not only undermine the academic offering of local HEIs but also weaken their capacity to form or sustain international partnerships.

Limited Access to Mobility and Exchange Opportunities

Although the Bologna Process promotes the idea of international mobility for all, students and staff in rural HEIs are significantly less likely to access mobility schemes such as Erasmus+ or short-term international exchanges[13]. Factors such as lack of language support, financial constraints, and limited institutional partnerships create a mobility bottleneck that disadvantages entire student populations. The 20% EHEA mobility target by 2030 (Bologna Process, 2020) remains difficult to achieve in these areas without targeted interventions.

Academic Visibility and Research Capacity

Rural HEIs frequently struggle with limited research output, low publication visibility, and marginal engagement in international academic discourse. These deficits are not due to lack of talent but rather to systemic barriers, including the absence of research infrastructure, inadequate funding for international conferences or journals, and lack of access to global knowledge networks (OECD, 2020). As a result, faculty and researchers in remote HEIs often remain invisible in the internationalisation strategies of their national systems.

[12]Cfr. Montemurro, F., & Leone, M., *Small universities and territorial development: The case of Italy's Apennine areas,* Journal of Rural and Community Development, 2020,15(4), 118–135.

[13] Cfr. P. Zgaga, U. Teichler & J. Brennan, (Eds.), *The Globalisation Challenge for European Higher Education: Convergence and Diversity*, Centres and Peripheries, Sense Publishers, 2013.

Socio-Cultural and Linguistic Barriers

Students in rural or mountainous areas may face additional challenges linked to language proficiency, cultural dislocation, and lower familiarity with international academic environments. Many come from first-generation academic families or communities with strong local traditions that may not align with dominant academic cultures. This can result in feelings of exclusion, loss of identity, or reluctance to engage in internationalisation processes perceived as culturally alienating[14].

Policy Neglect and Absence from Monitoring Tools

As discussed in Section 2, a significant obstacle is the lack of territorial differentiation in data collection and reporting frameworks. The Bologna Process Implementation Report (2024) and national education statistics rarely disaggregate data by area type, making rural and mountainous HEIs largely invisible in official performance indicators. This lack of visibility means that their challenges are often not reflected in national or European strategies, further limiting access to targeted support or innovation funding.

In sum, the challenges facing rural and mountainous HEIs are systemic, not incidental. They reflect deep-rooted inequalities in resource allocation, policy design, and institutional recognition. The next section of this paper will argue that overcoming these obstacles requires more than infrastructure investment. It demands a rethinking of internationalisation strategies, integrating AI-supported tools, ethical governance frameworks like ETINED, and territorially sensitive policies that give voice and visibility to institutions on the margins.

The Role of Artificial Intelligence in Supporting Internationalisation

AI offers a transformative potential for higher education, particularly in addressing structural disadvantages that have historically limited the international engagement of rural and mountainous institutions. From real-time language translation to adaptive learning environments and predictive data models, AI-driven tools may serve as critical enablers of inclusion,

[14]Cfr. R. Rey, *Mountain economy and higher education: A challenge for territorial equity*, Montology Journal, 2019, 2(1), 15–22.

provided they are deployed with awareness of the ethical and territorial contexts in which they operate.

Virtual Mobility and Multilingual Access

One of the most immediate applications of AI in supporting internationalisation is in the domain of virtual mobility. AI-powered platforms can enable students in geographically isolated areas to participate in cross-border learning experiences without relocating. Language barriers, long recognised as a deterrent to student exchange, are increasingly being mitigated by AI-driven translation tools that facilitate multilingual engagement in real-time, both in live sessions and through automated subtitles or learning material adaptation[15].

For institutions located in areas like Shkodër (Albania) or Borșa (Romania), where physical mobility programs may be constrained by infrastructure or funding, virtual AI-supported programs provide a realistic pathway for meeting EHEA mobility goals while respecting local constraints.

Adaptive Learning and Personalised International Curricula

AI also enhances the potential for personalised and culturally relevant learning pathways, particularly in blended and online international education. Adaptive learning environments use algorithms to tailor content to students' pace, background, and needs. When applied across borders, these tools can offer students from rural and underserved areas access to globally curated content while maintaining links to their local linguistic, disciplinary, or professional context.

This is particularly valuable for first-generation students or those with limited exposure to international academic environments, helping them build confidence and competence in a way that generic mobility programs may not.

[15] Cfr. R. Luckin, W. Holmes, M. Griffiths & L.B. Forcier, *Intelligence unleashed: An argument for AI* in *education,* Pearson Education, 2016; N. Selwyn, *Should robots replace teachers? AI and the future of education*, Polity Press, 2019.

Data-Driven Institutional Strategy and International Positioning

AI can assist rural HEIs in using internal data (enrolment patterns, course completion rates, graduate outcomes) to inform internationalisation strategies. Tools such as predictive analytics and institutional dashboards allow for better planning of mobility partnerships, targeted scholarship outreach, and risk assessment. These tools help smaller institutions overcome information asymmetries and identify potential collaborators with aligned academic missions or geographic interests.

For example, a small HEI in Tetovo, North Macedonia, may use AI-powered comparative dashboards to identify areal HEIs in Austria, Italy, or Spain with similar programs, student profiles, or socio-cultural mandates, thus enabling peer-to-peer cooperation rather than reliance on top-down partnerships with elite HEIs.

Staff Development and Translation of Internationalisation

AI technologies can also support the internationalisation of faculty and staff, who often lack access to training or international teaching networks. AI tools can facilitate automated curriculum alignment, international co-teaching modules, and even assist in automating grant application searches or collaborative publishing workflows.

This is especially relevant in HEIs where administrative burdens are high and resources are stretched thin, allowing staff to engage internationally without relocating or absorbing significant new workloads.

Risks of Uncritical AI Adoption

Despite its promise, AI is not a neutral or inherently equitable solution. AI tools risk reinforcing the very inequalities they aim to solve if applied without ethical oversight. Language models may reflect cultural biases, predictive systems may reproduce dominant academic hierarchies, and accessibility tools may overlook non-standard dialects or indigenous knowledge systems. Moreover, rural HEIs may lack the technical capacity, cybersecurity protocols, or procurement autonomy to adopt AI responsibly.

These risks point to the need for value-based frameworks, such as those provided by ETINED, to ensure that AI deployment in internationalisation

aligns with democratic values, transparency, and institutional autonomy. This ethical dimension will be explored in depth in section below.

Should Higher Education Stay Close to Home? Cultural and Socioeconomic Reflections

The conventional logic of internationalisation often presumes that mobility is inherently beneficial, and that exposure to global centres of learning is the most effective path to academic and personal growth. However, this assumption fails to account for the specific needs, identities, and aspirations of students in rural and mountainous areas, many of whom face structural and cultural barriers to relocating for study. This section questions whether higher education must always require students to "go away" to succeed, or whether a more grounded, place-sensitive model of internationalisation is both necessary and just.

The Value of Local Higher Education Access

Local access to higher education in remote areas serves as more than just a logistical convenience. It plays a strategic role in territorial development, ensuring that youth remain connected to their communities while gaining the skills needed to contribute to local economies and governance. Community-based HEIs in rural settings also offer tailored programs that reflect areal needs, such as forestry, sustainable tourism, biodiversity conservation, or artisanal food systems, sectors that are rarely prioritised in urban-based curricula.

Preserving access to higher education near home also contributes to social cohesion. It enables students to pursue academic goals without severing family, linguistic, or cultural ties, elements that are central to mental well-being and identity formation.

Urban Drift and the Cultural Disconnect

When students from rural or mountain areas are required to move to capital city, bigger cities or abroad for their education, the process often results in cultural dislocation. Urban environments introduce them to new norms, consumer cultures, and social hierarchies that may not align with their background. While cultural exposure can be enriching, it may also alienate

students from their communities of origin, making return migration less likely.

Research across Europe and the Western Balkans shows that students originated from rural and mountainous areas often do not return after graduation, contributing to depopulation and brain drain in their areas (OECD, 2020). These dynamic feeds a vicious cycle: declining populations lead to the closure of local HEIs, which in turn drives more outmigration.

Budget Cuts and the Centralisation of Public Higher Education

Public higher education systems, often under financial pressure, tend to rationalise resources by concentrating programs in a few flagships urban HEIs. This process has led to the merging or closure of local faculties in countries like Italy, Romania, and North Macedonia, despite their important territorial functions[16]. Once removed, these HEIs are rarely re-established, and their communities lose not only educational access but also sources of employment, civic engagement, and cultural life.

In some cases, satellite campuses of these HEIs continue to exist in name but operate with limited autonomy, minimal staff, and no meaningful international visibility, thus perpetuating territorial inequalities under the appearance of system efficiency.

Higher Education as a Tool Against Migration and Depopulation

Institutions rooted in rural and mountainous areas serve not only individual aspirations but also collective needs by reinforcing the social and economic resilience of their regions. Regional universities can act as development anchors, attracting both students and faculty with programmes that reflect local identity while contributing to global knowledge exchange. Investing in such institutions helps slow or reverse migration trends, making the choice to stay in one's home region valued and viable.

When combined with digital internationalisation and AI-powered engagement tools, these institutions offer the best of both worlds: strong local grounding alongside global exposure. A notable example is the University of

[16] Cfr. Montemurro, F., & Leone, M., *Small universities and territorial development: The case of Italy's Apennine areas,* Journal of Rural and Community Development, 2020,15(4), 118–135.

Gastronomic Sciences in Pollenzo, northern Italy. Founded in 2004 by the Slow Food movement and regional authorities of Piedmont and Emilia-Romagna, this university connects local food traditions and biodiversity with international sustainability goals. Its campus, located in a Neo-Gothic estate that is part of the UNESCO-listed Residences of the Royal House of Savoy since 1997, its campus provides place-based learning in agronomy, food ecology, and cultural heritage while hosting students from over sixty countries. This example demonstrates how a rural-embedded university can simultaneously foster local innovation, preserve cultural identity, and engage in international scholarship.

Aligning AI-Based Internationalisation with the ETINED Framework

AI is not an educational policy in itself. It is a tool, powerful but neutral, whose impact depends entirely on the values, rules, and practices that shape its use.

For higher education systems in the EHEA, those values are articulated in the ETINED Platform, which defines ethics, transparency, and integrity, not as abstract ideals but as concrete pillars of trustworthy, equitable education. If AI is to support internationalisation in higher education, especially in rural and mountainous areas, it must be aligned with the ethical framework proposed by the ETINED Platform of the Council of Europe, which provides concrete principles for ethics, transparency, and integrity in education.

Translating ETINED Values into AI Use in Higher Education

The ETINED Platform defines ethics, transparency, and integrity not as abstract ideals but as foundational values for building trust and fairness in education systems.

To ensure that the use of AI in internationalisation aligns with these principles, especially in rural and mountainous HEIs, it is essential to translate them into concrete guidelines for digital tools.

The table below illustrates how ETINED values can be operationalised in the design and deployment of AI systems in higher education:

ETINED Principle	Application in AI-Supported HE Internationalisation	Practical Example
Ethics in educational mission	AI must serve inclusive, learner-centred goals rather than reinforcing efficiency or prestige-only metrics	A virtual mobility platform that prioritises participation from underrepresented areas
Transparency	Systems must be explainable and understandable to students and staff	A course recommendation engine that shows why certain courses are suggested and allows manual adjustment
Integrity	AI tools must avoid reproducing cultural or institutional biases	Ensuring that mobility selection algorithms do not systematically favour urban or elite institutions
Responsibility	Institutions remain accountable for outcomes, even when AI tools are externally provided	Conducting audits of AI-supported admission tools or mobility allocation platforms
Respect for diversity	Systems must be sensitive to areaal, linguistic, and pedagogical differences	Including local cultural references in AI-translated content and curricula alignment tools

This translation framework helps HEIs and policymakers ensure that AI supports (not substitutes) human judgment, cultural sensitivity, and public trust in internationalisation efforts.

A Practical Example: AI-Supported Virtual Mobility Platform

Imagine a rural HEI in Suceava County, Romania, seeking to increase participation in international courses through a virtual mobility platform powered by artificial intelligence. The platform enables real-time translation of course materials and live sessions, generates personalised learning recommendations based on student profiles, and automates eligibility assessments for exchange programs. These features are designed to reduce logistical and linguistic barriers, making it easier for students in remote areas to engage in international learning.

However, without safeguards aligned with the ETINED framework, several risks emerge. The recommendation algorithm may introduce bias by favouring students who follow traditional academic paths, thereby disadvantaging local learners who pursue non-linear or vocational trajectories. The lack of transparency of the system may leave students unaware of how decisions about course access or scholarship opportunities are made. In addition, cultural mismatches can arise when translation tools standardise content in a way that overlooks or erases local idioms, histories, or pedagogical examples.

An ETINED-compliant redesign of the same platform addresses these concerns by integrating ethical principles directly into the system architecture. The algorithm becomes transparent, allowing students to view and adjust their learning profile. Local academic staff are trained to understand how the recommendation engine works and how to intervene if necessary. Course content is co-curated to incorporate areal cultural contexts alongside globally recognised material. Importantly, participation data is categorised by geographic area to ensure that students from underserved rural and mountainous areas are being adequately included and supported.

Ethical Use Requires Institutional Capacity and Voice

ETINED also reminds us that ethics are not simply a matter of principles; they depend on institutional capacity and autonomy. Rural and small HEIs must be supported not only with AI tools, but also with the skills and governance frameworks needed to deploy them responsibly. Otherwise, they risk becoming passive adopters of systems that were never designed with their needs in mind.

Embedding ETINED values into AI-supported internationalisation means more than ethical compliance; it means empowering HEIs and individuals at the margins of the system to actively shape their place within it.

Policy Recommendations

Building on the analysis of territorial disparities, digital transformation, and ethical governance, this section outlines strategic recommendations to ensure that the internationalisation of higher education, especially when supported by AI technologies, respects the principles of ethics, transparency, and territorial equity. These proposals are organised by actor and level of implementation.

For the European Higher Education Area (EHEA) and Bologna Follow-Up Group (BFUG)

Future Bologna Process Implementation Reports should require disaggregated data by area type, such as rural, remote, or mountainous areas, to monitor participation and mobility outcomes across diverse geographies. This will ensure that territorial inequalities are identified and addressed systematically within the social dimension agenda.

The Social Dimension indicators should also be updated to reflect both digital and territorial accessibility. The BFUG Working Group on the Social Dimension is encouraged to revise its framework to capture the particular challenges faced by students in geographically disadvantaged contexts, while also recognising the potential of digital tools to mitigate such barriers.

Furthermore, ethical guidelines for the use of AI in internationalisation processes should be developed in alignment with ETINED values. A joint effort between the BFUG and the CoE's Steering Committee for Education (CDEDU), the Ad Hoc Working Group on Artificial Intelligence and Recognition of Qualifications, as well as the ETINED Platform, could create a reference guide to outline ethical principles and implementation standards for AI-supported practices in internationalisation, such as virtual mobility or AI-assisted admissions, particularly targeting smaller and under-resourced institutions.

Erasmus+ and related funding programmes should prioritise consortia that include HEIs located in rural or non-central areas, especially when AI tools are used to overcome barriers to international participation. This would help ensure equitable access to global learning opportunities regardless of institutional location.

For National Governments and Higher Education Agencies

National governments should invest strategically in digital infrastructure and AI readiness for HEIs situated in rural and mountainous areas. This includes expanding broadband connectivity, supporting the deployment of AI tools, and ensuring staff receive appropriate training.

Incentives should also be established to encourage HEIs to adopt territorially inclusive international strategies. Performance-based funding or internationalisation metrics could be adapted to reward partnerships and programmes that specifically engage rural students or HEI campuses.

Additionally, a regulatory framework should mandate the ethical review of AI tools used in internationalisation functions such as admissions, mobility selection, or automated translation. National Quality Assurance bodies should require HEIs to demonstrate ethical oversight of these technologies to safeguard inclusion and fairness.

Governments can also play a role by fostering areaal internationalisation hubs. These collaborative structures would allow rural HEIs to pool resources, access shared AI-enabled international services, and remain embedded within their local cultural and linguistic contexts.

For Higher Education Institutions

HEIs should ensure that their use of AI in internationalisation efforts aligns with their institutional values and the specific cultural and social context in which they operate. Decisions to adopt AI tools should go beyond considerations of efficiency and standardisation, and instead reflect a commitment to inclusive learning, cultural integrity, and areal development.

To support this alignment, HEIs must build capacity to manage AI systems ethically. This includes training staff in digital ethics, data governance, and the principles of algorithmic transparency, so that they can

properly understand and monitor these systems and make adjustments when necessary.

Engaging both students and staff in the co-design of internationalisation platforms can further ensure that the use of AI reflects the lived realities and priorities of the communities being served. Participatory design processes foster trust, relevance, and better outcomes.

Finally, HEIs should commit to monitoring and reporting internationalisation outcomes by geographic territory. By collecting and analysing data on participation rates and international engagement by campus or area, HEIs can identify gaps and continuously improve their inclusion strategies.

Cross-Cutting Recommendation: A Rural Inclusion Pact for AI-Supported Internationalisation

Inspired by the principles of ETINED and the goals of the EHEA, stakeholders should explore the launch of a "Rural Inclusion Pact", a voluntary multilateral initiative involving ministries, HEIs, and civil society to pilot, monitor, and scale ethically governed AI-supported internationalisation projects in remote and mountainous areas. This would serve as a testbed for best practices and a model for broader territorial inclusion in European higher education.

Conclusion

The internationalisation of higher education is often portrayed as a neutral, inevitable process of global academic integration. Yet, as this paper has shown, who participates, who benefits, and on what terms remains profoundly unequal, especially for rural and mountainous HEIs. These HEIs face structural barriers that cannot be overcome by policy intentions alone. They require focused, ethical, and territorial strategies that address both technological and cultural divides.

AI presents a promising tool to help bridge these gaps. Through virtual mobility, multilingual access, personalised learning, and data-driven institutional planning, AI can support the inclusion of geographically peripheral HEIs in international academic life. However, technology alone is not enough. Without ethical safeguards, transparent design, and context-

sensitive deployment, AI risks deepening existing inequalities and marginalising the very communities it claims to support.

The ETINED Platform of the Council of Europe offers an essential ethical compass. When translated into practical guidelines for AI use, ETINED values, ethics, transparency, integrity, and diversity, can guide higher education systems toward internationalisation models that are not only effective but also just. This is especially important for rural and mountainous areas, where the risks of exclusion are high and the stakes of cultural and demographic decline are real.

What emerges from this analysis is a call to reframe internationalisation as a place-aware, ethically governed, and digitally enabled process. One that empowers rural HEIs to be not just receivers of global knowledge, but active shapers of it, on their own terms, with their own voices, and within a broader framework of public trust.

For the EHEA to fulfil its 2030 goals, particularly the target of 20% student mobility, it must look beyond city borders and elite HEIs. It must invest in inclusion not just as a demographic issue, but as a territorial and ethical commitment. In this context, AI becomes not a shortcut, but a responsibility, one that requires HEIs and policymakers to align technological tools with the values that define Europe's educational project.