



TECHNOLOGY & SOCIETY
PROGRAM

PROGRAM WHITE PAPER 2025

**A Digital Future for All:
Strengthening Romania's Competitiveness and
Social Cohesion Through Technology**

**Insights from the
Aspen Technology & Society Program 2025**

A Digital Future for All: Strengthening Romania’s Competitiveness and Social Cohesion Through Technology

Aspen Technology & Society Program 2025 Program White Paper

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1. About the Aspen Institute Romania Technology & Society Program

The **Public Policy Programs** of the **Aspen Institute Romania** seek to improve the formation of policy through transparent, non-partisan, evidence based, multiple stakeholders' dialogue. The **Aspen Technology & Society Program** has created a platform for debate and a dedicated community comprising multiple stakeholders from the public, private, academic and non-governmental sectors, interested in subjects covering technological developments and their impact on society. The Program aims to contribute to public sector policies, frameworks and strategies about key domains that will be significantly impacted by the fast evolution of technology, and to the development of strategic sectors in Romania.

This paper is based on the Aspen Technology & Society Program's main deliverables in 2025:

- **Thematic Workshop on Innovation, Economic Competitiveness and the Role of AI**, in partnership with the Committee on Information and Communications Technology, Parliament of Romania, on April 3;
- **Thematic Workshop on Technology, Competitiveness and Security: How Romania Can Leverage its Cyber Advantage**, in partnership with the National Cyber Security Directorate, on October 7;
- **Working Lunch on Competitiveness in Romania and the CEE Region**, a side event of the Aspen–GMF Bucharest Forum engaging senior government, regulatory and NATO stakeholders, on October 23;
- **Two dedicated panel sessions at the Aspen–GMF Bucharest Forum on October 23:**
 - *Building a Secure and Open Digital Future: Trade, Connectivity and Innovation;*
 - *Competitiveness in the Digital Era;*
- **2025 Transatlantic Socrates Seminar in Brussels**, on June 10-12.

Program Partners 2025: Vodafone, Google, Enevo, eMAG

Institutional Partner 2025: National University of Science and Technology Politehnica Bucharest

2. Executive Summary

Europe is entering a decisive decade. The twin pressures of accelerated technological change and renewed global geo-economic competition are reshaping the foundations of economic resilience, societal cohesion, and democratic governance. For Romania, these shifts present both an historic opportunity and an urgent responsibility: to position itself as a regional engine for innovation while ensuring that technology becomes a force for inclusion rather than fragmentation.

In 2024–2025, the Aspen Technology & Society Program has convened a series of high-level roundtables, workshops and expert dialogues dedicated to understanding how Romania can:

- (1) strengthen its competitiveness in a rapidly evolving region, and
- (2) reduce social and regional divides through technology-driven inclusion.

This Policy Paper consolidates the insights emerging from these discussions — including the two high-level, roundtable events organised in April and October 2025, the Transatlantic Socrates Seminar, organized annually in Brussels, the dedicated panel and the working lunch organised at the Aspen-GMF Bucharest

Forum 2025, and the 2025 Program Directions — and provides a coherent set of strategic recommendations for decision-makers in government, business, academia and civil society. Two overarching conclusions guide the document:

1. **Competitiveness** requires investments in digital infrastructure, AI readiness, public–private partnerships, research and skills.
2. **Cohesion** requires ensuring equal access to digital tools, education and opportunities—so that technology unites Romania rather than deepening divides.

Aspen Institute Romania remains committed to serving as a trusted, multi-stakeholder platform where these priorities can be shaped, debated and translated into actionable policy.

3. Introduction & Strategic Rationale

The European Union has entered a new policy cycle centred on competitiveness, technological sovereignty and economic security. The EU Competitiveness Compass¹ underlines that **digital transformation is no longer optional—it is the backbone of productivity, sustainable growth and innovation.**

Meanwhile, the implementation of the AI Act², the development of the AI Code of Practice³, and the accelerating deployment of generative AI across sectors **create an urgent need for coherent national governance frameworks and strategic investments.**

For Romania, this moment is particularly consequential. **The country combines strong digital talent, a growing IT sector (around 200,000 professionals)⁴, competitive costs, and strategic geographic positioning.** However, structural gaps persist: fragmented governance, inconsistent digital public services, uneven infrastructure, limited R&D investment, and a widening urban–rural digital divide.

The Aspen Technology & Society Program responded to this dual challenge—competitiveness and cohesion—by creating a neutral, inclusive framework for informed dialogue and evidence-based policy.

4. Europe’s New Competitiveness Paradigm

Europe’s current paradigm rests on three pillars:

1. **Innovation and technology** as engines of productivity and growth.
2. **Economic security and diversification** through resilient supply chains and trusted infrastructure.
3. **Regulatory leadership** balanced with innovation and market dynamism.

The economic impact of **AI is projected to reach €1.4 trillion for the EU by 2034⁵**, if adoption is accelerated and bottlenecks removed. Yet turning this potential into tangible outcomes requires more than compliance. It requires strategic coordination, bold investments and deep collaboration between government, academia and the private sector.

¹ https://commission.europa.eu/topics/competitiveness/competitiveness-compass_en

² <https://artificialintelligenceact.eu/ai-act-explorer/>

³ <https://artificialintelligenceact.eu/introduction-to-code-of-practice/>

⁴ https://anis.ro/wp-content/uploads/ANIS_Industry-Study-2024-Preview.pdf

⁵ <https://cms.implementconsultinggroup.com/media/uploads/articles/2024/The-economic-opportunity-of-generative-AI-in-the-EU/The-economic-opportunity-of-AI-in-the-EU.pdf>

5. Romania's Position: Challenges and Structural Opportunities

Romania stands at a crossroads. The strengths are clear:

- strong digital workforce;
- competitive IT sector contributing ~9% to GDP;
- fast-growing digital infrastructure (5G, fibre);
- significant potential for AI adoption;
- successful academic–industry partnerships emerging (e.g., Vodafone–UPB AI Excellence Centre⁶);

Yet structural barriers persist:

- fragmented governance of digital transformation;⁷
- limited AI-ready infrastructure;⁸
- insufficient R&D and low private investment in innovation⁹;
- uneven access to digital education and connectivity¹⁰;
- slow adoption of advanced technologies in SMEs¹¹;
- lack of a coordinated national AI implementation architecture¹².

This paper proposes a roadmap to convert potential into performance.

6. Key Insights from Aspen Technology & Society Program Roundtables (2025)

Three core insights emerged across discussions:

1. Regulation must enable—not slow down—innovation.

Stakeholders highlighted the need for a balanced approach to AI governance, where the AI Act and the Code of Practice work together to create trust while supporting innovation.

2. Competitiveness depends on ecosystems, not isolated policies.

Clusters, centres of excellence, digital infrastructure, data spaces and PPPs must be coordinated to avoid fragmentation.

3. Technology can unite the country if access is equal and skills are nurtured.

⁶ <https://upb.ro/upb-a-inaugurat-impreama-cu-vodafone-romania-innovation-hub-primul-centru-de-excelenta-pentru-cercetare-si-dezvoltare-digitala/>

⁷ <https://www.oecd.org/gov/digital-government-review-romania.htm>

⁸ <https://oecd.ai/en/countries/Romania>

⁹ https://ec.europa.eu/info/research-and-innovation/statistics/performance-indicators/european-innovation-scoreboard_en

¹⁰ <https://www.worldbank.org/ro/country/romania/brief/consultations-romania-systematic-country-diagnostic-update-2023>

¹¹ https://www.oecd.org/en/publications/oecd-economic-surveys-romania-2022_e2174606-en.html

¹² <https://oecd.ai/en/countries/Romania>

Participants emphasized the need to reduce rural–urban divides, empower vulnerable groups, and connect the diaspora to economic opportunities.

These insights form the backbone of the two policy pillars below.

7. PILLAR I — A COMPETITIVE ROMANIA IN A COMPETITIVE REGION THROUGH TECHNOLOGY

Aspen’s 2025 Program proposed this topic as a core priority. To become a regional innovation hub, **Romania must strengthen the fundamental components of a competitive digital economy.**

7.1 Strengthening the Digital Ecosystem

A competitive digital ecosystem requires:

- modern, secure digital infrastructure (5G SA, data centres, cloud, edge computing)
- national AI-ready infrastructure for research, training and adoption
- interoperable public data systems enabling innovation
- clear governance and accountability mechanisms
- national coordination that reduces fragmentation between ministries

Investment priorities include:

- expanding national compute capacity
- supporting high-performance computing and sovereign cloud solutions
- aligning with European Digital Infrastructure Consortia (EDICs)

7.2 Accelerating Adoption of Emerging Technologies

To maintain regional relevance, Romania should advance adoption of:

- **AI and automation** in industry, public services and SMEs
- **blockchain** for secure registries, supply chain resilience and trust infrastructure
- **cybersecurity technologies** aligned with NIS2¹³ and ECCC¹⁴ frameworks
- **IoT and edge systems** for industry, energy and logistics hubs

AI adoption in particular is identified as a top opportunity, with potential economic gains and productivity boosts across sectors. However, adoption must be paired with reskilling, governance and incentives.

7.3 Supporting Startups and SMEs

Startups and SMEs represent Romania’s highest growth potential. Policies should focus on:

- simplifying access to funding and state aid schemes
- creating a national “Innovation Fast Track” for AI and frontier-tech startups
- incentivizing corporate–startup partnerships
- strengthening technology transfer offices (TTOs) in universities
- providing shared testing environments (regulatory sandboxes)

7.4 Regional and Transatlantic Cooperation

Competitiveness is also geopolitical. Romania can amplify its impact by:

- actively and consistently engaging in EU-level policymaking, particularly on AI and digital files
- deepening cooperation with regional innovation hubs (Poland, Czechia, Estonia)

¹³ <https://www.isaca.org/resources/news-and-trends/isaca-now-blog/2024/nis2-directive-strengthening-public-cybersecurity-and-infrastructure-across-europe>

¹⁴ <https://cybersecurity-centre.europa.eu/system/files/2023-03/20230224%20-%20ECCC%20Strategic%20Agenda%20with%20cover.pdf>

- strengthening transatlantic dialogue through the Aspen Transatlantic Seminar in Brussels
- aligning with NATO's Science & Technology priorities (especially in dual-use emerging tech)
- expanding participation in regional value chains for semiconductors, defence tech and cloud infrastructure

Policy Recommendations — Pillar I

1. Establish a National AI Infrastructure Plan (compute, data, cloud, HPC).
2. Create an Interministerial Digital Council with a mandated Government CIO.
3. Launch an AI & Emerging Tech Sandbox for startups and SMEs.
4. Create regional innovation clusters aligned with European programs.
5. Invest in technology transfer and university-based research consortia.
6. Provide fiscal incentives for companies adopting AI and automation.
7. Expand transatlantic cooperation through structured annual dialogues.

If Romania implements the full set of competitiveness-oriented recommendations, the country can reposition itself as one of the most dynamic digital economies in Central and Eastern Europe. A coordinated governance model — with a strong Government CIO, interoperable public data systems, and an integrated strategy for AI-ready infrastructure — would reduce fragmentation and allow reforms to scale across ministries, industries, and regions.

Companies would be able to innovate faster, supported by predictable regulatory frameworks, modern digital services, and access to robust national compute capacity. Startups and SMEs would grow in a healthier ecosystem where funding, research, testing environments, and public–private partnerships converge to shorten innovation cycles and turn prototypes into real products.

In this future, Romania becomes a regional magnet for AI research, digital talent, and frontier-technology investment. Industrial zones and university cities evolve into innovation clusters connected with EU and transatlantic partners. Romanian institutions participate actively in European technology alliances and help shape EU digital governance rather than simply applying it.

With mature digital infrastructure, strengthened cybersecurity, and growing adoption of automation and AI, productivity accelerates across the economy. The result is a Romania that no longer competes on cost, but on capability — a country perceived as a reliable technological partner, a regional hub for innovation, and a contributor to Europe’s long-term competitiveness.

8. PILLAR II — ROMANIA (RE)UNITED BY TECHNOLOGY

This second priority topic of Aspen Technology & Society Program 2025 addresses the question:
How can technology contribute to a more united, cohesive and equitable Romania?

8.1 Universal Access to Digital Education

Digital inclusion begins with education. Romania needs:

- a national digital curriculum accessible to all schools
- investment in teacher training and digital competencies
- local digital learning hubs in underserved regions
- partnerships with tech companies for skills programs
- early exposure to AI literacy for students

8.2 Connectivity & Infrastructure for Equity

Bridging the digital divide requires:

- expanding high-speed broadband to underserved rural areas
- supporting municipalities in developing smart community solutions
- national programs for affordable devices and digital access
- leveraging EU funding for last-mile connectivity projects

8.3 Social Inclusion Through Digital Tools

Digital services can empower vulnerable groups, including:

- elderly citizens
- people with disabilities
- rural communities
- NEET youth
- low-income households

Solutions include: AI-assisted public services, remote health monitoring, digital IDs, digital welfare services, and platforms for civic participation.

8.4 Diaspora Reconnection

Technology can re-engage Romania's diaspora—one of the largest in Europe—through:

- digital channels for investment and entrepreneurship
- participation platforms in policy and community development
- remote access to public services
- mentorship networks for youth in Romania

Policy Recommendations — Pillar II

1. Create a National Digital Education Mission for 2025–2030.
2. Accelerate broadband deployment in rural and underserved areas.
3. Develop digital public services accessible to all (including AI-driven assistants).
4. Create Digital Inclusion Hubs in every county.
5. Launch a Romanian Diaspora Digital Engagement Platform.
6. Ensure accessibility and usability standards across all gov-tech platforms.

If Romania invests strategically in digital inclusion, the country can become more cohesive, connected, and equitable than at any other moment in its modern history. Universal access to digital education would allow every child — whether in Bucharest or any other town — to develop the skills needed for a digital economy, supported by empowered teachers and modern learning platforms.

High-speed connectivity and digital community hubs in rural and disadvantaged regions would ensure that opportunity is no longer defined by geography. Vulnerable groups would gain access to user-friendly digital public services, AI-assisted support tools, remote healthcare, and employment pathways that were previously inaccessible.

A digitally united Romania is one where citizens trust that technology works for them, not against them. Administrative interactions become simpler and more humane; public services anticipate needs rather than merely respond to them.

The diaspora stays meaningfully engaged through digital participation channels, investment networks, and seamless access to state services. Communities — from small towns to major urban centers — use technology to attract talent, revive local economies, and strengthen democratic participation.

In this future, digital transformation becomes a tool of social justice and national cohesion, helping Romania close decades-old gaps and build a society where every citizen has the ability to contribute, innovate, and thrive.

9. CROSS-CUTTING ENABLERS

These enablers support both competitiveness and cohesion.

9.1 Governance & Institutional Architecture

- designate a Government CIO with authority across ministries
- create a national network of ministry-level CIOs
- establish a Digital Council (high-level coordination)
- align national strategies (AI, cloud, data, cybersecurity) into a single framework

9.2 Public–Private Partnerships

PPPs are critical for:

- AI adoption
- cybersecurity (aligned with ECCC and NIS2)
- cloud and data infrastructure
- digital skills programs
- research and innovation

PPPs should be transparent, long-term and outcomes-based.

9.3 Talent, Workforce & Research

Priority actions:

- create an “AI Talent Acceleration Program”
- modernize university curricula in partnership with industry
- incentivize Romanian researchers abroad to collaborate with local institutions
- support lifelong learning and reskilling programs

9.4 AI Infrastructure & Safe Deployment

- accelerate adoption of AI in public services
- ensure clear guidelines for procurement and deployment
- operationalize the AI Code of Practice locally ()
- develop testing and certification frameworks
- ensure data governance, privacy and cybersecurity safeguards

10. IMPLEMENTATION ROADMAP 2025–2030

Phase 1 — 2025–2026: Foundations

- Establish governance structures (GCIO, CIO network, Digital Council)
- Adopt AI Infrastructure and Digital Inclusion strategies
- Launch national skills missions and regional digital hubs
- Begin pilot programmes for AI in public services

Phase 2 — 2027–2028: Scaling

- Expand AI adoption across sectors
- Develop regional innovation clusters
- Strengthen compute and cloud infrastructure
- Integrate national data platforms and registries

Phase 3 — 2029–2030: Integration

- Full national deployment of inclusive digital services
- Participation in European value chains and tech alliances

- Long-term partnerships with industry and academia
- Systematic evaluation and continuous improvement

11. Conclusion & Call to Action

Romania's digital future is not predetermined—it must be built with intention, coordination, and shared responsibility. The coming decade offers a narrow but exceptional window to transform structural challenges into engines of growth and resilience.

Competitiveness and cohesion must advance together. Technology can elevate Romania's regional position and, at the same time, reconnect communities, empower citizens, and bridge longstanding divides.

Aspen Institute Romania remains committed to providing the platform, expertise and community needed to support this national effort.

We invite policymakers, innovators, academics and citizens to join this collective mission: **to ensure that technology strengthens Romania's economy, democracy and social fabric—leaving no one behind.**