



American Chamber of Commerce
North Macedonia

Digitalization Position Paper: Policy Actions

Recommendation

Advance education and digital skills

Digital skills and education are crucial for the development of society. They enable individuals to participate in the digital age, enhance workforce productivity, and stimulate innovation. As almost every aspect of our lives becomes digital, the demand for digital literacy and digital skills on all levels is growing. Data from relevant international research show that in North Macedonia there is significant room for improvements in this matter. For instance, Eurostat 2021 data shows that 34,62% of the population had basic or above basic overall digital skills, compared to 53,92% in the EU (Eurostat, "Individuals who have basic or above basic overall digital skills Indicator", 2021). The Digital innovation profile of North Macedonia for 2023 highlights that there is a ready supply of entry-level engineers, but more advanced skills, for example in artificial intelligence (AI) and robotics, are in short supply (ITU, Digital innovation profile: North Macedonia, 2023). The same research shows that while the education policy supports ICT innovation and entrepreneurship, it has not yet produced the knowledge and skills needed by the digital economy. Ultimately, according to this research, capacity is an issue in North Macedonia as there is insufficient technical talent to meet market needs.

Actions:

- Perform a knowledge gap assessment, aimed to identify the digital skills and competencies in demand in the labor market, and to develop an action plan for surpassing the gap accordingly.
- Develop educational and vocational training programs that align with the digital knowledge and skills required by the labor market, including greater promotion of STEM education.
- Regularly update curriculum content to ensure it reflects current and emerging job market demands and skill requirements related to digitalization.
- Implement specific activities aimed at digital and cybersecurity skills development targeted at various groups: students, employed individuals who need requalification or additional qualifications, people who are not in education, employment, or training (NEET), public servants, teachers etc.
- Implement digital and information literacy programs in educational institutions.
- Develop initiatives to facilitate partnerships between educational institutions and the private sector to offer

training programs that keep pace with technological advancements.

- Equip the educational institutions with digital resources, adequate to the needs of the digital education, and continuously develop the capacities of the teaching personnel in terms of greater utilization of digital tools and methodologies.
- Provide scholarships for students from primary, secondary and higher education with demonstrated success in the ICT area.
- Implement awareness-raising campaigns that will support the citizens in recognizing the benefits of digital transformation and the importance of cybersecurity.

Improve public e-services and increase accessibility to public sector data

Improving public e-services and increasing accessibility to public sector data enhances economic efficiency and competitiveness by streamlining business operations, reducing costs, and fostering innovation and transparency through better access to information. Assessment published by the UNDP reveals a low level of awareness and usage of the national e-uslugi platform (UNDP, "Digital Gap Assessment for North Macedonia", 2024). More than half (55%) of respondents have never used the platform, and 29% are unaware of its existence. Furthermore, Eurostat data indicates that only 32.73% of the citizens used the Internet to interact with public authorities, which is significantly lower than the EU average of 65.10% (Eurostat, "E-government activities of individuals via websites Indicator", 2021). On the other hand, according to the latest EU Country report for North Macedonia, the competitiveness of domestic businesses could be improved through a broader range of public e-services (European Commission, "North Macedonia 2023 Report", 2023).

Actions:

- Enhance the efficiency, accessibility, comprehensiveness and quality of public services offered through the national e-services portal and expand access to additional services, provided by the institutions on national and local level.
- Establish an electronic identification (eID).
- Establish e-invoicing and real-time fiscalization.
- Significantly upgrade the Government Open Data Portal to encompass enhancements in data availability, platform functionality, user engagement, governance, and promotion to fully realize its potential and ensure that public institutions regularly publish relevant data on the portal.
- Foster and promote the use of digital documents, ensuring their valid long-term archiving and data

integrity, thus, facilitating the efficient and legally valid exchange of documents across different institutions.

- Create an environment to support the Digital ONLY principle in public services, ensuring all government interactions and services, in all phases, are accessible and available through digital platforms while addressing inclusivity, security, and data privacy considerations.
- Ensure reliable, safe, and comprehensive online delivery of public services across the Open Balkan Initiative, enabling citizens and companies to access e-services from participating countries.
- Foster and promote Cloud and Managed services, to benefit from lower capital expenses, pay-as-you-grow scalability, guaranteed security and quality ICT workforce utilization compared to on-premises solutions.
- Introduce a monitoring and evaluation system for the public e-services that will guide future digitalization efforts.
- Establish a centralized procurement system control for State institutions with the aim of improving quality and reducing procurement costs of ICT products and services.
- Restructure the public administration to ensure optimization and efficiency in service delivery.
- Foster and promote Smart City solutions for better ESG, optimized public spendings, protected environment and better services to citizens.

Support for the digitalization of the private sector

Digital transformation provides businesses opportunities to optimize processes, increase consumer satisfaction, and overcome physical barriers, facilitating their access to the global market. According to the latest EU Country Report for North Macedonia, the digitalization of the private sector is advancing but remains at a lower level compared to the EU average (European Commission, “North Macedonia 2023 Report”, 2023). The Digital Readiness Assessment conducted by the UNDP in 2023 highlights that while most businesses in North Macedonia have an online presence, there is significant room for growth, particularly in fully exploiting online opportunities (UNDP, “Digital Readiness Assessment: North Macedonia” 2023). Furthermore, Eurostat data shows that Macedonian companies significantly lag behind their EU and regional peers in using digital tools. In 2022, only 3% of Macedonian enterprises received online orders, compared to the EU average of 19.7%. This is less than one-sixth of the EU average and the lowest score among all countries included in the survey (Eurostat, “Enterprises having received orders online (at least 1%) - % of enterprises”, 2022).

Actions:

- Set up resource hubs to encourage the creation of networks and clusters, fostering collaboration and knowledge sharing among companies.
- Offer tax incentives, grants, subsidies or low-interest loan programs to help companies fund their digital transformation initiatives.
- Establish advisory services or consultancy programs to guide companies through the process of digital transformation, including mentorship programs.
- Facilitate access to affordable digital technologies, including promoting the use of scalable technologies such as cloud services.
- Encourage partnerships between government, academia and companies to create joint initiatives for digital transformation.
- Launch awareness campaigns to highlight the benefits of digital transformation and the available support programs for companies, including the promotion of case studies and success stories to demonstrate the positive impact of digitalization on business growth and competitiveness.

Enhance the legal and policy framework

ICT regulation and digital policies are also some of the key enablers of connectivity, driving the digital transformation of both businesses and society. An adequate, clear and comprehensive legal framework ensures a thriving and secure digital environment, protecting users' data and privacy while keeping pace with technological advancements and addressing challenges in cybersecurity and new technologies. The alignment of the national regulations with relevant EU and international standards will further foster international collaboration, facilitating cross-border trade and communication.

Actions:

- Transpose the NIS and NIS2 Directives into national legislation to enhance the security and resilience of network and information systems and strengthen the necessary institutional capacities to ensure adequate implementation.
- Adopt and ensure adequate implementation of the National ICT strategy.
- Adopt and ensure adequate implementation of the National Cybersecurity strategy.
- Align national regulations with the EU Digital Services Act and Digital Markets Act.
- Align national regulations with the EU Regulation on electronic identification and trust services for electronic transactions in the internal market (eIDAS).

- Simplify regulatory requirements and procedures related to digital transformation to make it easier for companies to adopt new technologies.

Strengthen cyber security and invest in digital infrastructure

Cybersecurity is crucial for safeguarding all categories of data from unauthorized access, data breach, theft and damage, thereby protecting countries, institutions, businesses and individuals. The EU country report for North Macedonia, published showcases that cyber-related incidents were reported in 145 entities such as state institutions, banking, health, energy, transport and communications organizations (European Commission, "North Macedonia 2023 Report", 2023). The report also emphasizes that state institutions need to further strengthen their cyber capacity and infrastructure.

Actions:

- Enhance current tools for Cyber (Digital) Resilience Assessment and provide new opportunities for their implementation within various organizations.
- Introduce mandatory Cybersecurity Standards for Public Procurement of ICT products and services and critical infrastructure
- Encourage the use of trusted vendor solutions and vendor supported open-source solutions
- Support and promote the Cloud and Managed services utilization.