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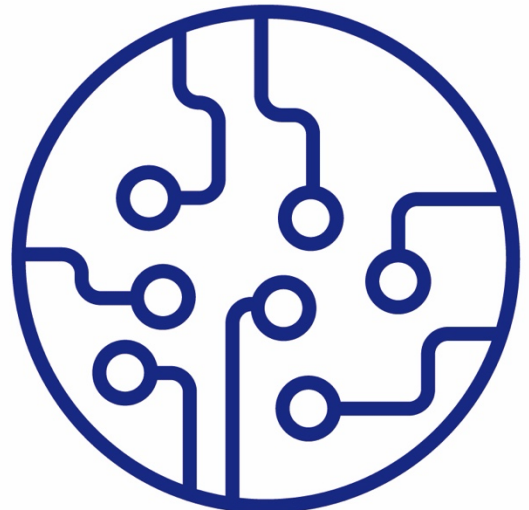
POLICY REPORT ON THE DIGITAL TRANSFORMATION IN THE WESTERN BALKANS (Edition 2024)

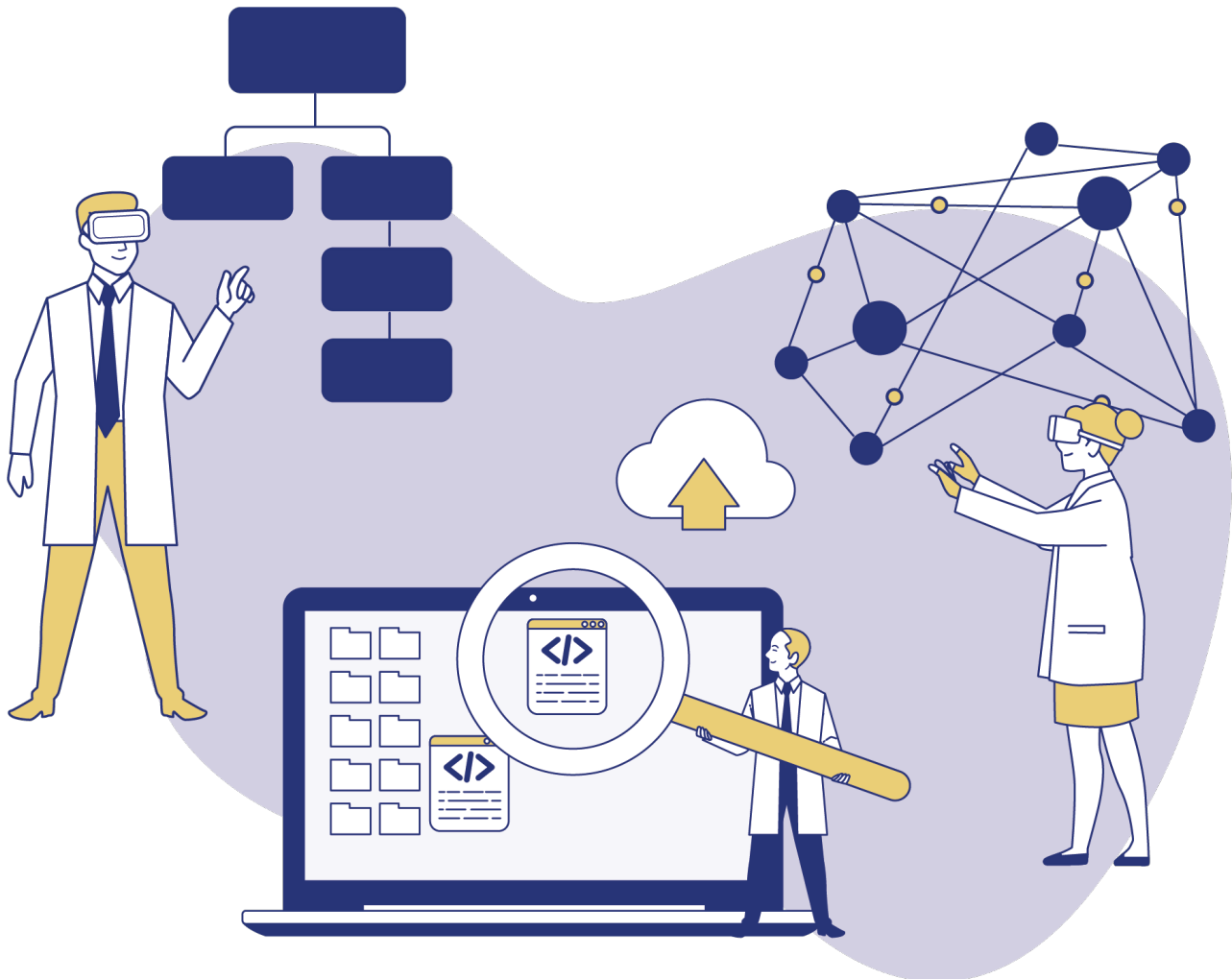
Main authors:
Bojana Bajic, Sanja Damjanovic and Goran Pastrovic



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POLICY REPORT ON THE DIGITAL TRANSFORMATION IN THE WESTERN BALKANS

This Policy Report presents a comprehensive analysis of the digitalisation landscape in the Western Balkans (WB), addressing various dimensions including ICT infrastructure, skills, governance models, legal frameworks, eGovernment initiatives, and user experience.

Main authors: Bojana Bajic, Sanja Damjanovic and Goran Pastrovic

An Executive Summary of this Policy Report is available in the form of a Policy Brief at this link: [POLICY ANSWER Policy Report and Brief: Digital Transformation in the western Balkans](#)

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^{*} This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

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1 Introduction

This Policy Report provides an overview of the level of digitalisation in the Western Balkans (WB), encompassing Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. It presents a snapshot of various aspects of digitalisation, including Information and Communication Technology (ICT) infrastructure, ICT skills, governance models, strategic, legal and regulatory frameworks, eGovernment initiatives, eServices and user experience.

The WB are undergoing a significant transition towards digitalisation, driven by various factors such as globalisation, technological advancements, and the EU integration process. Understanding the current state of digitalisation in the WB, the focus point of this Policy Report, is crucial for policymakers, stakeholders, and businesses to identify strengths, weaknesses, and areas requiring improvement.

The Policy Report is based on individual interviews and research conducted for each WB economy. Additionally, it incorporates the outcome from the World Café discussions held during the Policy Dialogue Conference organised in Sarajevo in 2023¹. Particular emphasis is on legislation compliance with the EU Acquis and the fulfilment of obligations for its Chapter 10, Digital Transformation and Media², across all WB economies involved in the negotiation process.

The key findings underscore numerous similarities among WB economies, particularly in their acknowledgment of the interconnected nature of digitising public service deliveries. The WB economies also demonstrate a shared commitment to aligning with EU requirements and standards. However, persistent challenges remain despite progress in developing essential technical and supportive infrastructure and fostering a functional ecosystem. These challenges include the need to adopt missing legislative components and further expand technical infrastructure and the ecosystem to facilitate a more robust implementation of digitalisation initiatives.

While the state of digital transformation varies among WB economies, one commonality persists: the importance of improvement in managing the digital transformation process and the need for clear leadership, both of which are instrumental in accelerating the digitalisation process. Introducing a new mechanism in the WB region, such as a specific institution for digitalisation (e.g., the National Agency for Information Society in Albania, the Office for Information Technologies and Electronic Government in Serbia), could address this need by attracting top experts, facilitating better strategic planning for digitalisation and enhancing cooperation between policymakers, businesses and citizens. Notably, WB economies that have already established such mechanisms, like Albania and Serbia, have demonstrated significant progress and evident impact. Establishing new mechanisms represents a strategic investment in the future of the WB economies, enabling them to effectively navigate the complexities of the digital age and unlock their full potential for growth and innovation. Involving domestic ICT companies and startups in this process could further bolster the region's digital transformation efforts.

A central focus of this Policy Report is the alignment of the WB with the objectives outlined in the Digital Compass for 2030³ across four key areas: skills and education, infrastructure, digital transformation of businesses, and digital public services. Understanding the WB's alignment with these objectives is important for addressing challenges and seeing the full potential of digitalisation in the WB region.

¹ <https://eu-wb-policy-dialogue-stakeholder.b2match.io/page-4531>

² https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/conditions-membership/chapters-acquis_en

³ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en

2 Alignment with Digital Compass for 2030 and assessment of the WB progress

Assessing the WB's progress towards implementing the Digital Agenda requires alignment with the Digital Decade policy programme, which sets clear targets and objectives for 2030. This programme not only guides Europe's digital transformation but also serves as a benchmark for digital progress in the WB.

SKILLS

ICT Specialist: 20 millions + Gender convergence
Basic Digital Skills: min 80% of population

GOVERNMENT

Key Public Services: 100% online
e-Health: 100% availability
medical records
Digital Identity: 80% citizens
using digital ID



INFRASTRUCTURES

Connectivity: Gigabit for everyone,
5G in all populated areas
Cutting edge Semiconductors:
double EU share in global production
Data – Edge & Cloud: 10,000 climate
neutral highly secure edge nodes
Computing: first computer with quantum
acceleration

BUSINESS

Tech up-take: 75% of EU companies
using Cloud/AI/Big Data
Innovators: grow scale up & finance
to double EU Unicorns
Late adopters: more than 90% of European
SMEs reach at least a basic level of digital
intensity

Figure 1: Overview of the 2030 Digital Compass, highlighting four pivotal areas. Adapted from Europe's Digital Decade: digital targets for 2030³

The 2030 Digital Compass, representing the European approach to the Digital Decade Pathway, outlines four pivotal segments: skills, infrastructure, business, and government (as shown in Figure 1). These segments serve as guiding pillars, outlining the trajectory for digital development and transformation across the region.

Where do the WB stand on this pathway to implementing the Digital Agenda?

In assessing the WB's progress toward implementing the Digital Agenda, it's essential to consider key indices such as the Digital Economy and Society Index (DESI)⁴, the United Nations E-Government Survey⁵, and the World Bank GovTech Maturity Index⁶.

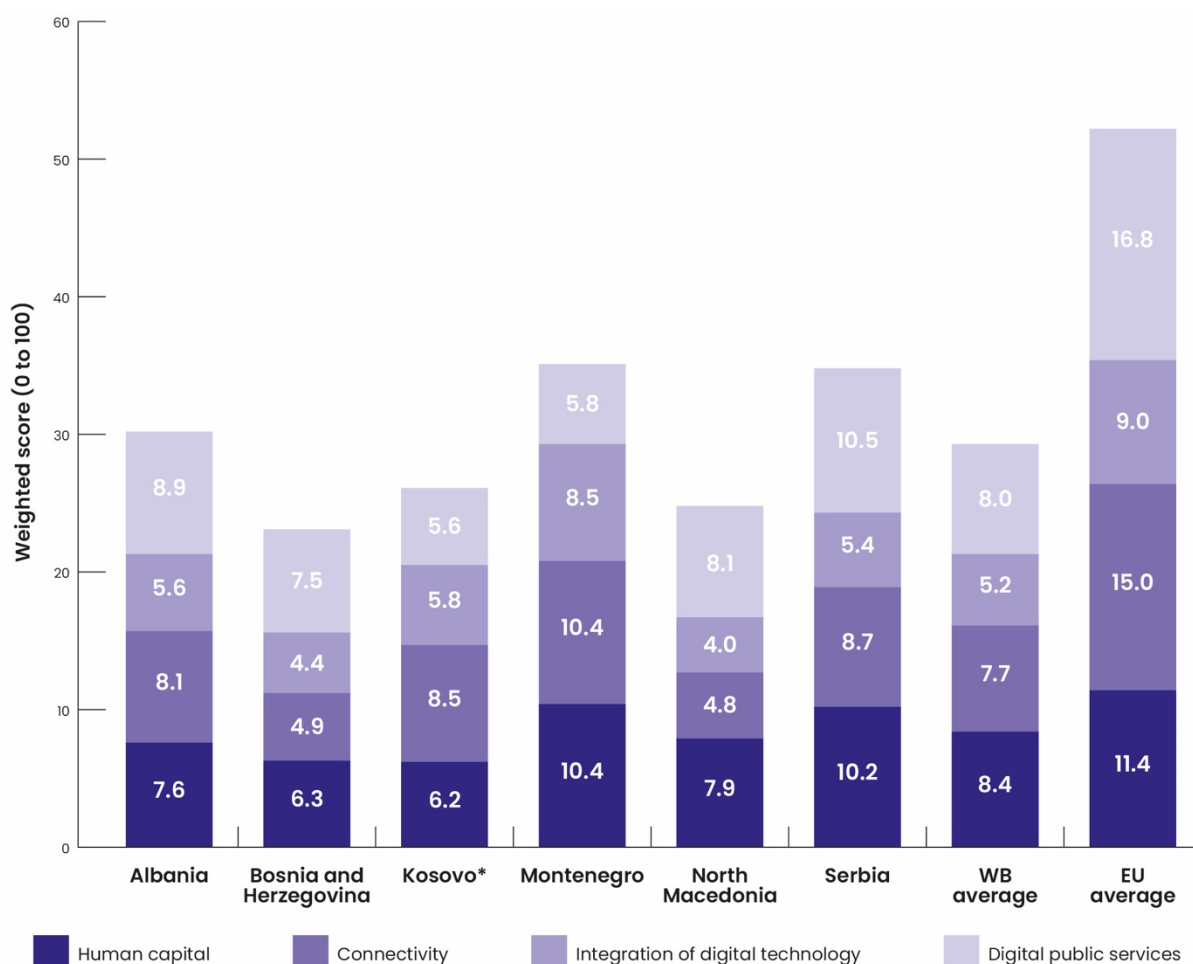


Figure 2: DESI indicators to monitor the progress in the WB relative to the EU towards the 2030 targets. Adapted from WB DESI Calculation, EU DESI 2022 (EU average)⁴

As indicated in Figure 2, DESI assesses the following key areas: Human capital, Connectivity, Integration of digital technology and Digital public services. As candidates or potential candidates for EU membership, the WB economies are expected to utilise DESI indicators to measure their progress.

⁴ <https://www.rcc.int/pubs/159/western-balkans-digital-economy-society-index-wb-desi-2022-report>

⁵ <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2022>

⁶ <https://www.worldbank.org/en/programs/govtech/2022-gtmi>

According to DESI, despite uneven progress in the region, the WB have shown significant advancements, particularly in service delivery and digital services. For instance, Albania has achieved impressive progress, hosting 95% online digital services⁷. However, despite these achievements, the WB region still falls below the EU average in all DESI areas, indicating the need for further improvement (Figure 2). Notably, Montenegro, Serbia and Albania have scored above the WB's average.

Additionally, the position of the WB in the United Nations E-Government Survey and in the World Bank GovTech Maturity Index, presented in Table 1 and Table 2, provides valuable insights into e-government readiness and capacity.

Table 1: Position in the United Nations E-Government Survey 2022

	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia	Serbia
EGDI rank	63	96	/	71	80	40
EGDI value	0.7413	0.6256	/	0.7260	0.7000	0.8237
OSI value	0.8182	0.4898	/	0.5528	0.7020	0.8514
HCI value	0.8022	0.7489	/	0.8383	0.7562	0.8332
TII value	0.6037	0.6382	/	0.7868	0.6417	0.7865

The abbreviations stand for: EGovernment Development Index (EGDI), Online Services Index (OSI), Human Capital Index (HCI), and Telecommunications Infrastructure Index (TII). A comprehensive list of abbreviations can be found at the end of the document for reference.

Table 2: Position in the World Bank GovTech Maturity Index

	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia	Serbia
EGDI Rank	Very High	Medium	Medium	High	High	Very High
GTMI value	0.752	0.271	0.633	0.564	0.570	0.895
CGSI value	0.707	0.464	0.647	0.652	0.583	0.802
PSDI value	0.857	0.285	0.852	0.705	0.795	0.890
DCEI value	0.735	0.160	0.577	0.418	0.535	0.979
GTEI value	0.709	0.176	0.456	0.481	0.367	0.910

The abbreviations stand for: EGovernment Development Index (EGDI), GovTech Maturity Index (GTMI), Core Government Systems Index (CGSI), Public Service Delivery Index (PSDI), Digital Citizen Engagement Index (DCEI), GovTech Enablers Index (GTEI).

Notable observations from these results include:

Human Capital: Despite numerous policy initiatives aimed at enhancing overall digital skills, the WB region falls significantly below the EU average (11.4) in Human Capital, primarily due to lower proficiency in internet user skills. However, the WB region demonstrates favourable performance in the percentage of ICT graduates and female ICT specialists, with Montenegro and Serbia leading in the Human Capital dimension.

⁷ https://ec.europa.eu/commission/presscorner/detail/en/COUNTRY_22_6091

Online services: Noteworthy progress has been made in Albania, with 95% of online digital services, and Serbia improved its e-government ranking in 2022, elevating it from the high to the very high EGDI group in Europe (EGDI Index, UN DESA⁸).

Public Services: Visible efforts have been made in the WB to improve the availability of digital public services for citizens and businesses. These efforts include the establishment of domestic portals dedicated to digital services, significantly improving the ease of access to essential services. Additionally, the WB have strengthened the legal framework for providing digital services and e-signatures. Furthermore, positive developments have been observed in the increasing availability of open data, further contributing to the WB's digital progress. However, despite these advancements and increased policy focus, the WB region (with an average score of 8.0) have performed notably below the EU (with an average score of 16.8) in digital public services.

In the WB, two-thirds of online forms requiring personal information are pre-filled, slightly below the EU average of 64.5%. Serbia (79.2%), Bosnia and Herzegovina (75.4%), North Macedonia (75.4%), and Albania (70.7%) recorded scores above the EU average for pre-filled forms.

The supply of digital public services for citizens (with a score of 43 points versus the EU average of 75 points) must improve considerably. The same applies to the availability of digital public services to businesses, with a score of 59 points, which corresponds to 23 points below the EU average. Additionally, the WB are performing significantly below the EU average in open data maturity (42% compared to 81%)⁹.

In addition to these points, it is worth noting that programmes and strategies that support the digitalisation of business, including initiatives aimed at promoting e-commerce are rapidly being implemented in the WB. However, the adoption of digital technologies by SMEs in the WB remains notably below the EU average (35% in the WB region compared to the EU average of 55%). For instance, on average only 7% of WB enterprises have used big data, 16% cloud services and 3% artificial intelligence in 2021, compared to the EU average of 14%, 34% and 8%, respectively.

While successive pandemic lockdowns have accelerated the integration of online sales channels in the WB, there is still room for improvement in the integration of the overall digital technology dimension.

⁸ <https://desapublications.un.org/sites/default/files/publications/2022-09/Chapter%201.pdf>

⁹ <https://data.europa.eu/en/publications/open-data-maturity/2022>

3 Challenges and opportunities

The challenges faced by the WB reflect the complex and multifaceted nature of the issues they contend with. These challenges include:

SKILLS:

- 1) No prioritisation of digitalisation of the digital literacy programmes in the WB economies.
- 2) Insufficient proficiency and understanding of digital technologies among specific segments of the population, leading to barriers in accessing and utilising digital services.
- 3) Lack of trust among citizens towards technologically advanced and digital services, stemming from concerns about data privacy, security and reliability.

INFRASTRUCTURE:

- 4) Inadequate technical infrastructure to support digital transformation efforts, limiting the scope and effectiveness of digital initiatives.
- 5) Need for enhancement of technical infrastructure to promote the once-only principle and improve data interoperability and sharing, essential for seamless digital operations.
- 6) Persisting susceptibility to cyber threats and vulnerabilities due to insufficient cyber security measures.

BUSINESS:

- 7) Low adoption of advanced digital technologies such as cloud computing, big data analysis, and artificial intelligence by businesses.
- 8) Limited integration of emerging technologies, such as artificial intelligence (AI), blockchain, internet of things (IoT), and smart and sustainable cities and communities, in business processes.
- 9) Lack of e-payment; adopting regulations for e-payment and building trust in e-payment systems through enhanced security measures and consumer protection frameworks is essential for widespread acceptance, especially government acceptance.

GOVERNMENT:

- 10) Challenges in improving the accessibility and usability of online services for citizens and businesses.
- 11) Need for enhancement of current eID, eSignature, and Public Key Infrastructure (PKI) solutions to ensure accessibility and security of online services.
- 12) Improvement in the benefits realisation of EU investments in digital transformation through effective monitoring and evaluation mechanisms.
- 13) Lack of alignment with Digitalisation-Ready Legislation Principles, hindering the adoption of legislation that facilitates digital transformation and adaptation to new technologies.
- 14) Challenges in improving data security, privacy concerns, and aspects of data protection measures.
- 15) Inadequate coordination and cooperation mechanisms between institutions responsible for digital transformation and innovation in the WB, hindering collaborative efforts and knowledge sharing.
- 16) Gaps in the legal and regulatory framework to support digital transformation, including missing pieces of legislation related to Public Sector Information reuse and alignment with EU acquis, impacting the legal environment for digital innovation and investment.
- 17) Inefficiencies in the WB's data collection process, particularly in enterprises' digital technology usage, leading to gaps in evidence-based policymaking and hindering the region's ability to effectively leverage digital data for decision-making.

These challenges reflect the areas where the WB may face obstacles in achieving the objectives outlined in the 2030 Digital Compass and highlight areas for improvement to fully harness the potential of digital technologies in the region. Addressing these challenges requires comprehensive strategies and collaborative efforts across various sectors to foster inclusive and sustainable digital development in the WB.

4 Outcome of the World Café sessions - challenges and possible solutions

The outcome of the World Café sessions, held during the Policy Dialogue Conference in Sarajevo in 2023, reflects the collaborative exchange among experts from both the WB and the EU regarding the digital future of the WB. The sessions were designed to collectively address key challenges hindering effective digital transformation in the WB and to propose potential solutions and recommendations. Each session, dedicated to one of the four pivotal segments of the 2030 Digital Compass (skills, infrastructure, business, and government), was moderated by WB experts. The conclusions of each of the four sessions with suggested solutions are summarised here.



Figure 3: Policy Dialogue Conference held in Sarajevo on 13 September 2023. Sections from the opening ceremony and the World Café session dedicated to the topic ‘Digital’

4.1 Conclusions from the session “Digitalisation of Public Services”

Several critical topics were addressed, focusing on the fundamental principles of data trust, data security and data protection, which are crucial for developing a strong and functional digital environment. The participants of this session also highlighted the following:

Challenges

Exploring the difficulties faced on this transformative journey reveals a complex environment. Leadership plays a crucial role since inefficient leadership can hinder progress. The lack of political support and financial constraints pose significant challenges, compounded by the absence of budgetary provisions. Participants underscored the importance of optimisation, re-engineering, and adherence to the once-only principle (OOP) as essential prerequisites. It was emphasised that digitalisation should occur after comprehensive optimisation of processes and services, along with re-engineering initiatives. Additionally, a commitment to user involvement and promotion is essential for the successful implementation of digital plans.

Solutions

- To address these issues, a series of strategic options emerges as crucial. It is recommended to promote partnerships with EU institutions/organisations, as this could establish a collaborative structure that effectively combines efforts and resources. Ensuring that the legal framework aligns with the evolving digital landscape is crucial and can be achieved by revising and improving laws and regulations. The emphasis should be placed on creating a comprehensive digital roadmap that offers a strategic outlook for incorporating digital technologies into governmental services. Inclusivity can be fostered through informal education, ensuring that all individuals involved possess the requisite knowledge and abilities.
- Implementing continuous monitoring and evaluation (M&E) processes is crucial to ensure that digitisation activities are launched, maintained, and improved over time. The term “last mile connectivity” is used to highlight the importance of extending digital services to the most remote areas of the population.
- The proposal recommends establishing EU mentorship programmes to cultivate proficient leadership in the digital era. These programmes aim at facilitating growth of leaders with the skills to navigate the complex challenges of digital transformation successfully. Additionally, the development of adaptable frameworks for attracting professionals in the field of ICT is seen as crucial, addressing the demand for specialised skills in the digital domain. Enhancing digital infrastructure is essential for establishing a favourable atmosphere for smooth digital service provision.

In conclusion, the insights from the World Café session on digitalising public services strongly support a comprehensive strategy. This involves addressing challenges, establishing partnerships, revising legal and regulatory frameworks, promoting inclusivity through education, implementing strong monitoring and evaluation (M&E) and the once-only principle (OOP), providing connectivity in remote areas, cultivating leadership, attracting specialised expertise, and improving digital infrastructure. These components are vital in guiding public services towards a future empowered by digital technology.

4.2 Conclusions from the session “Digital Skills and Digital Education”

The discussion on digital skills and digital education underscored a range of challenges demanding a proactive and comprehensive response.

Challenges

- Identified challenges encompass a variety of issues, including an outdated curriculum that does not keep up with the rapidly changing digital environment. The use of obsolete equipment in

schools and educational institutions increases the disparity between academic content and technological progress.

- An essential obstacle lies in educating managers and teachers, ensuring that they possess the necessary skills for effectively transferring digital knowledge. This situation is exacerbated by the lack of improvement in the legal and regulatory framework, which inhibits the integration of modern digital educational methods. Time limitations, especially for adults, emphasise the necessity for efficient promotional mechanisms adaptable to various target audiences.
- A primary issue revolves around the lack of understanding regarding how digital education can foster good governance. This weakness is accompanied by a lack of proficiency in digital skills, highlighting the need to start ICT education at an earlier age. The absence of coordinating efforts among government agencies, educational institutions and the private sector is one of the significant challenges that limits the necessary synergy for comprehensive digital education projects.
- Insufficient learning opportunities, particularly for older adults, contribute to the difficulties. The lack of financial resources increases the obstacles to decreasing the digital education gap.

Solutions

- The proposed solutions underscore the importance of adopting a forward-thinking, proactive approach. Participants in the designated World Café session recommended the development of a carefully designed strategic framework developed for the long-term perspective. This involves formulating protocols aligned with the overarching plan, coupled with meticulous implementation and robust oversight measures to ensure efficiency and effectiveness,
- It was considered of utmost importance to underline the necessity of increasing awareness and obtaining a wide range of perspectives on challenges, which includes contributions from the general public, business sector and non-governmental organisations (NGOs). Developing extensive, persistent curricula was emphasised as a crucial element in addressing outdated educational material, ensuring that digital education is in line with the demands of the modern world.
- When considering digital skills, adopting a global perspective is crucial. This underscores the necessity of fully understanding the digital world on a global scale. It was considered equally important to foster critical thinking and promoting creativity and innovation, particularly among students. Emphasising the importance of incremental changes reveals how technology is constantly changed.

In conclusion, the insights derived from the World Café session on Digital Skills and Digital Education strongly support the need for an innovative strategic approach. This entails understanding the digital educational environment, formulating a comprehensive plan, executing steps, promoting collaboration, and consistently adjusting to the rapidly evolving digital landscape. The goal is to ensure individuals obtain the necessary skills and knowledge for the digital age.

4.3 Conclusions from the session “Secure and Performant Sustainable Digital Infrastructures”

The discussions on Secure and Performant Sustainable Digital Infrastructures highlighted four essential elements forming the digital world’s foundation. While the identified aspects of digital infrastructure and the related challenges aren’t exhaustive, they encompass crucial components driving the advancement of digital infrastructure. These are:

- **Improved infrastructure - High-speed broadband (Fiber):** The foundation of sustained digital connectivity relies on reliable infrastructure, particularly broadband, focusing on fiber optics. This functions as the core, providing faster access to digital services.

- **Mobile phones/smartphones:** Capable of connecting to the internet and performing various advanced functions, the latest generation of mobile technology, 5G, offers faster and more reliable connectivity. The use of fiber-optic cables enhances the speed and efficiency of data transmission. Mobile phones, particularly smartphones, serve as flexible alternatives to established infrastructure. The integration of 5G technology and fiber optics creates a potent alliance, expanding the scope of digital connection.
- **Data centres:** These central hubs play a crucial role in the region, handling and storing large quantities of digital data, thus constituting an essential part of the digital infrastructure.
- **Implementing a strong digital ID** is the final step in safely digitalising systems. Identification is crucial, guaranteeing both secure access and transactions in the digital domain.

Challenges in achieving sustainability

- **Energy intensity of data centres:** The sustainability of digital infrastructures faces a significant challenge, especially in the energy-intensive realm of data centres. The substantial energy consumption of data centres raises the important question of how these centres and cloud computing can be made more sustainable and ecologically sound.
- **Green priorities in digital data centres:** The strong demand for sustainability underscored the necessity of prioritising environmentally friendly operations in digital data centres. The focus should be on reducing the environmental impact while maximising performance.
- **Administrative burden:** This issue became evident during the discussions, highlighting the difficulties it presents. Each suggested option emphasises the crucial role of government engagement.

Solutions

- **Security considerations:** Acknowledging the paramount importance of security, the discussions also addressed the crucial requirement to protect digital infrastructures from emerging threats and vulnerabilities,
- **Public-Private Partnerships (PPPs) for the digital infrastructure:** It was suggested that regional governments increasingly emphasise the need for public policies that promote establishment and development of digital infrastructure through Public-Private Partnerships (PPPs). This strategic approach, if specifically implemented, holds the potential to effectively address numerous challenges, particularly in providing digital services to rural areas that may not attract commercial companies.

The findings from the World Café session “Secure and Performant Sustainable Digital Infrastructures” underscore both the fundamental components and the crucial aspects of security and sustainability. It highlights that government engagement and strategic partnerships are crucial in addressing the complex challenges within the evolving digital infrastructure ecosystem.

4.4 Conclusions from the session “Digitalisation of Businesses”

The digitalisation of businesses refers to the process of integrating digital technology into various aspects of a company's operations, processes, and strategies. It aims at enhancing efficiency, improve decision-making, and create new opportunities for growth and innovation. The challenges, possible solutions and proposals for next steps for the three key topics central to the digitalisation of businesses are summarised here:

Challenges

Agile and innovative cultures - constitutive elements of digital transformation of business:

- Establishing a culture of experimentation and innovation is essential for digital transformation in the WB administrations.

- Challenges include capacity building, collecting innovative practices, addressing existing practices and navigating the legal and regulatory framework.
- Potential solutions involve capacity building, mechanism establishment, leadership support, advocacy and leveraging ICT technology.

Collaboration and partnerships in the digital age:

- Collaboration and partnerships play a crucial role in driving digital transformation within the WB.
- Challenges include finding suitable partners, building trust, technology integration and scaling digital initiatives (multiplier effect/sustainability).
- Potential solutions include strategic alignment, mentorship and addressing legal and regulatory barriers.

Twisting digitalisation and circular economy in Micro, Small and Medium Enterprises (MSMEs):

- MSMEs can significantly contribute to the circular economy through digitalisation in the WB.
- Challenges include awareness, resource constraints, legal and regulatory barriers and competitive disadvantages.
- Potential solutions involve education, resource facilitation, regulatory guidance and promoting ICT adoption.

Solutions

Agile and innovative cultures - constitutive elements of digital transformation of business:

- Organise workshops and training programmes to foster a culture of experimentation/organise rapid innovation lab seasonal schools (in collaboration with the Regional School of Public Administration (ReSPA)).
- Establish partnerships with educational institutions to bridge skill gaps.
- Advocate for legal and regulatory updates to support digital transformation, Research and Development and innovative practices.
- Encourage collaboration with external experts and industry networks.

Collaboration and partnerships in the digital age:

- Create a platform for matchmaking between potential partners.
- Develop standardised legal and regulatory frameworks for collaboration agreements.
- Promote the use of digital collaboration tools and establish collaboration with OPSI OECD (Observatory for public sector innovation of the OECD),
- Establish incubators, accelerators and/or Digital transformation services to support collaboration and innovation.

Twisting digitalisation and circular economy in MSMEs:

- Launch awareness campaigns and educational initiatives,
- Facilitate access to funding and technology resources for MSMEs,
- Promote the adoption of ICT tools and innovative approaches like gamification.

The findings from the World Café session on Digitalisation of Businesses underscore the importance of fostering agile and innovative cultures, promoting collaboration and partnerships, and seamlessly integrating digitalisation with the circular economy, especially for MSMEs in the WB.

5 Digitalisation progress across the individual WB economies

This section provides a brief overview of the digitalisation efforts of each WB economy, their compliance with the Chapter 10 on Digital Transformation and Media, offering a comparative analysis and identification of best practices.

5.1 ALBANIA: EU Integration and Digitalisation Efforts

5.1.1 Chapter 10: Digital Transformation and Media

According to the European Commission's 2023¹⁰ report, Albania has demonstrated moderate preparedness in digital transformation, coupled with significant advancements in aligning its legislation framework with EU standards. Here are key highlights:

- Progress in Digital Agenda implementation: Albania has shown commendable progress in implementing the Digital Agenda for Albania 2022-2026. It has expanded e-government services, with 95% of public services now available online.
- Digital Europe Programme: In 2023, Albania signed an association agreement, joined some Specific Objectives of the Digital Europe Programme and introduced coding as a subject for students in the first grade, emphasising the commitment to digital literacy.
- Legislative priorities: Despite these achievements, the adoption of the Law on Electronic Identification and Trust Services remains pending. Efforts are underway to align Albania's strategic documents with the EU Digital Decade Programme and adopt a new legislation to further comply with EU directives.
- Upcoming priorities; looking ahead Albania should in particular:
 - Adopt relevant legislation to implement the new European Electronic Communications Code and enacting cybersecurity laws. These efforts are crucial for ensuring closer alignment with EU directives, particularly the EU Directive on Measures for a High Common Level of Cybersecurity across the Union (NIS II).
 - Improve the collection of statistical data on digital performance and digital competitiveness.
 - Address infrastructure gaps: Albania faces challenges in bridging the gap between urban and rural areas in fixed internet broadband access. While fixed internet broadband subscriptions increased by 5%, reaching 585,285 entities, there is still work to be done to ensure equal access across all regions.
 - Ensure equal access and alignment with EU regulations: efforts are needed to ensure equal access to digital skills education and online public services, in alignment with EU regulations. Additionally, enhancing data collection on digital performance and competitiveness will strengthen Albania's cybersecurity architecture and overall digital infrastructure.

¹⁰ https://neighbourhood-enlargement.ec.europa.eu/document/download/ea0a4b05-683f-4b9c-b7ff-4615a5fffd0b_en?filename=SWD_2023_690%20Albania%20report.pdf

5.1.2 Albania's Progress Along the Digital Compass 2030

Digital skills and digital education

Albania has prioritised the development of digital skills, as reflected in strategic documents like the Digital Agenda for Albania 2022-2026 and the National Plan for Sustainable Development of Digital Infrastructure and Broadband. Key initiatives include:

- 1) Techspace: Fosters digital skills among the youth, providing hands-on experience in emerging technologies.
- 2) Pyramid Multifunctional Centre: Offers diverse educational programmes to enhance digital proficiency across age groups.
- 3) Pilot training programmes: Aim to equip the younger generation and women with digital skills, enabling their active participation in the digital economy.

Efforts to enhance digital skills include introducing a coding curriculum in 100 schools, starting from the first grade for the academic year 2022-2023, and setting up 100 smart labs throughout Albania.

Secure and performant sustainable digital infrastructures

Albania made significant progress in enhancing its digital infrastructure and cybersecurity resilience, surpassing key milestones, and outperforming the WB averages.

Broadband access and coverage: Albania has witnessed a 5% increase in fixed internet broadband in 2022, covering 80% of households. However, a gap persists between urban and rural areas, with only 20% of rural areas having fixed broadband, despite constituting 40% of the total populace. Mobile penetration rate rose to 77%, with 2.14 million active users of mobile broadband.

Addressing digital disparities: While fixed broadband adoption in households stand strong at 77%, there remains a gap in the uptake of fixed broadband with speeds exceeding 100 Mbps compared to the regional average. To address these disparities, Albania initiated the National Plan for Sustainable Development of Digital Infrastructure and Broadband 2020-2025 focusing on infrastructure development, affordability, and access to e-services. Regional broadband development financially supports these initiatives that aim at ensuring equal access to high-speed internet across urban and rural areas.

Cybersecurity resilience: Albania fortified its cybersecurity infrastructure post-cyber-attacks in 2022, appointing a National Coordinator, establishing a Cybersecurity Operations Centre, and drafting new legislation aligning with EU directives, specifically the NIS2 Directive. Moreover, Albania expanded its list of critical information infrastructures, implemented a national cybersecurity strategy, and intensified collaboration with international partners.

Cybersecurity strategy: Albania has formulated a comprehensive Cybersecurity strategy with key objectives including the protection of information infrastructure, promotion of education and awareness, ensuring child safety in cyberspace, etc. The National Authority on Certification and Cyber Security (AKCESK), acting as CERT (Computer Emergency Response Team), plays a pivotal role in drafting a new law on electronic identification and trusted services aligned with EU directives, finalising a new cybersecurity law and the National Strategy of Cybersecurity. Key focus areas of these initiatives include technical and human capacity building, information security standards, and enhanced collaboration with international agencies and the business sector.

These efforts underscore Albania's commitment to ensuring a secure and resilient digital infrastructure conducive to sustainable development and innovation.

Digital transformation of business

Albania's Business Development and Investment Strategy (2021-2027) aims at improving the business environment, attracting investments, and bolstering the competitiveness of SMEs through IT development.

Additionally, the enactment of the Law on Electronic Document, Electronic Identification, and Trust Services in Electronic Business in 2021 was a significant milestone for digital transformation. This law establishes a legal framework for e-signatures in alignment with the EU's eIDAS Regulation. Albania also offers an e-payment option through the e-Albania portal, enabling users to make online payments using credit or debit cards from both domestic and international banks.

Digitalisation of public services

Albania aims for complete digitisation of administrative services through the e-Albania portal, ensuring interoperability of registers. The Agency for Delivery of Integrated Services (ADISA) and the National Agency for Information Society (NAIS) lead the economy's digital transformation efforts, achieving milestones such as digitising base registers, implementing the once-only principle, establishing a Governmental Interoperability Platform, and adopting digital signatures. While the e-Albania portal serves as the primary gateway for digital services, efforts are ongoing to address challenges like limited open data availability. Plans for AI and blockchain implementation are outlined in the Digital Agenda 2022-2026, signalling Albania's commitment to modernise its public administration and enhance e-government capabilities.



A best practice example for the Western Balkans: Albania's advancements in the digitalisation of public services and improved management of digital transformation serve as noteworthy examples for other Western Balkans economies.

Other WB economies can draw valuable lessons from Albania's progress by improving the management of the digital transformation: introducing a new mechanism similar to Albania's National Agency for Information Society, prioritising the digitalisation of public services and establishing similar platforms to streamline administrative processes. Additionally, Albania's proactive approach to digital skills development and cybersecurity strategy could serve as a commendable example.

5.2 BOSNIA AND HERZEGOVINA: EU Integration and Digitalisation Efforts

5.2.1 Chapter 10: Digital Transformation and Media

As per the European Commission 2023¹¹ report, Bosnia and Herzegovina (BiH) is in an early stage of preparations for the digital transformation and media development. Significant gaps persist in aligning legislation and the strategic framework with EU standards. The regional roaming agreement was successfully implemented, enabling 'roam like at home' (RLAH).

The European Commission's report outlines crucial areas for improvement, including:

- **Broadband network access:** Adopting a framework strategy to enhance access to the broadband network is vital for fostering digital inclusion and economic growth.
- **Electronic identity and trust services:** Developing and adopting a law on electronic identity and trust services for electronic transactions, overseen by a single supervisory body and aligned with the EU Acquis.
- **Legislative framework on cybersecurity:** Developing a legislative framework on cybersecurity that aligns with the EU Acquis.
- **Electronic communications and media legislation:** Developing and adopting a law on electronic communications and electronic media aligned with the EU Acquis.

Despite ongoing efforts challenges persist, including the absence of a developed broadband strategy, a lack of financial independence within regulatory agencies, and the stagnant procedure in appointing management roles. These factors hinder progress towards achieving full political autonomy.

Additionally, BiH has yet to advance in aligning its legislation with the EU regulatory framework for electronic communications and implement directives such as the EU Broadband Cost Reduction Directive. Despite high internet penetration rates, BiH faces challenges in adopting a cohesive strategy for information society development and ensuring interoperability of electronic signature systems, which impedes efficient electronic communication and digital transactions across various sectors.

Moreover, the absence of a comprehensive legislative framework for cybersecurity poses a significant challenge, affecting effective coordination and cooperation in addressing cyber threats.

Addressing these challenges requires concerted efforts from government authorities, regulatory bodies, and other stakeholders to enact appropriate policies, invest in digital infrastructure, and enhance cybersecurity measures.

5.2.2 Bosnia and Herzegovina's Progress Along the Digital Compass 2030

Digital skills and digital education

BiH demonstrates strength in specific digital skills indicators within digital education, particularly in basic digital skills and digital content creation skills, with 15% of enterprises offering ICT training. However, challenges persist, notably in the proportion of ICT specialists and female ICT specialists in total employment, which falls below the WB average. This shortage poses a challenge for the ICT sector, with 69% of the enterprises struggling to fill ICT specialist positions. Enhancing relevant digital skills is thus deemed a strategic imperative, necessitating prioritisation in BiH's agenda.

Secure and performant sustainable digital infrastructures

¹¹ https://neighbourhood-enlargement.ec.europa.eu/document/download/e3045ec9-f2fc-45c8-a97f-58a2d9b9945a_en?filename=SWD_2023_691%20Bosnia%20and%20Herzegovina%20report.pdf

BiH faces challenges in achieving comprehensive broadband connectivity, with gaps evident in very high-capacity networks (VHCN) and fiber-to-the-premises (FTTP) coverage due to slow fiber network rollout. While Next Generation Access (NGA) coverage reaches 61% of households primarily through xDSL technologies, broadband penetration stands at 69%, with modest adoption rates of at least 100Mbps (15%), and 1Gbps (low). The mobile broadband take-up rate is 63%, ranking the economy as the second most expensive in the WB. Despite good 4G coverage, the absence of a specific timeline for 5G spectrum allocation raises concerns, although preparations are outlined in the draft Action Plan for the Strategic Framework for Broadband Development in 2021-2025.

At the state level, the Ministry of Security operates as the CERT since 2017, while at the Republika Srpska level, it is the Ministry of Scientific and Technological Development, Higher Education, and Information Society. In the eGA National Cyber Security Index, BiH ranks at 112, with a score of 28, the lowest in the WB.

Digital transformation of business

The digital transformation of business in BiH faces a limitation as the current Law on Administrative Fees does not include provisions for electronic payment of administrative fees.

The digital presence of small businesses in BiH remains limited. Only around 60% of small businesses have a webpage, indicating a significant portion of enterprises lacking an online presence. Furthermore, the engagement in e-commerce activities is notably low, with only 18% of small businesses participating. This limited digital presence hampers businesses' ability to reach wider markets, attract customers, and compete effectively in the digital economy.

Digitalisation of public services

The widespread shift to digital services across the economy is hindered by a lack of political ownership and coordination among government levels, resulting in insufficient budgetary allocations. The OECD emphasises that the absence of interoperable information and support systems across entities and government levels constitutes a substantial barrier to the digitalisation of public services. Additionally, the persistent lack of countrywide harmonisation of e-signatures underscores the ongoing necessity for enhanced coordination, cooperation, and data exchange among various administrations.

Digitalisation efforts are currently overseen by various institutions across regions, with certain aspects of digital services economy performing well. However, there is a notable lagging in e-government user adoption and the utilisation of open data. There is a pressing need for increased ICT use in public administration to address this issue, aligning with the objectives outlined in the Public Administration Reform Strategic Framework 2018-2022¹². The absence of a comprehensive policy on transparency and open data presents challenges, and ongoing efforts, such as the "Open Data Portal" pilot project, lack clear competencies and legal protection.

Furthermore, BiH have not incorporated considerations for AI into their policy documents, indicating a gap in their approach to this emerging technology.

¹² <https://parco.gov.ba/en/rju/o-rju-2/strateski-okviri-za-rju/>



A best practice example for the Western Balkans: Bosnia and Herzegovina is performing well in digital skills and digital education with a level above the Western Balkans average.

Other WB economies can gain valuable insights from BiH's proactive approach to prioritising investments in digital skills development and enhancing coordination and interoperability. Adopting similar strategies can improve their digital readiness and foster economic growth through digitalisation.

5.3 KOSOVO: EU Integration and Digitalisation Efforts

5.3.1 Chapter 10: Digital Transformation and Media

According to the European Commission's 2023¹³ report, Kosovo has demonstrated some level of readiness in digital transformation and media. While progress has been limited, Kosovo has taken steps to align its legislative framework with the EU Acquis, notably through the adoption of a cybersecurity law. Additionally, Kosovo has actively engaged in high-level regional dialogues focusing on digital transformation and the implementation of agreements such as the Regional Roaming Agreement.

A notable development is the adoption of the Digital Agenda 2030. However, challenges persist, particularly in budgetary allocations for cybersecurity, which remain insufficient.

Upcoming priorities: Looking ahead, the report suggests that Kosovo should prioritise concluding the alignment of its legislation with key EU directives and framework, such as the EU Network and Information Security Directive (NIS 2) and the EU's Toolbox for 5G cybersecurity. Addressing these areas will enhance Kosovo's digital readiness and better integrate it with European standards and practices. While Kosovo's economy is making gradual progress in digital transformation, the digitalisation of public services remains in its early stages.

Notable development in broadband network access: Access to fixed broadband infrastructure has widely reached 100% of households, with fixed access internet penetration estimated at 125% surpassing the EU average of 89%. Mobile telephony penetration is also high, standing at approximately 95% of the population. Kosovo's ICT sector, although small, is experiencing rapid growth, particularly in software development, smartphone application development, and web design. However, there is a pressing need for increased training of skilled workforce in this sector to meet demand.

Challenges in SMEs and E-Commerce Adoption: Despite constructive engagement in regional digital transformation dialogue and the implementation of the Regional Roaming Agreement, there has been little progress in SMEs adopting e-commerce practice. The forthcoming Digital Agenda strategy, covering the period up to 2030, is anticipated to offer a comprehensive framework for digital transformation, including 5G technologies and the digitisation of businesses and public services, aiming at further propelling Kosovo's digital evolution.

5.3.2 Kosovo's Progress Along the Digital Compass 2030

Digital skills and digital education

Despite the importance of ICT skills, only 1% of enterprises in Kosovo provided ICT training to their employees in 2020, which is significantly lower than the 14% in the WB region (or 20% in the EU). To address this challenge, the ALLED2 project, in partnership with the Kosovo Chamber of Commerce, launched the Skills Barometer report in 2021, focusing on current and future skills needs. However, the Skills Barometer primarily addresses the demand side of skills, highlighting a data availability challenge.

To support young people in ICT and soft skills training, the Ministry of Economy is implementing two projects: The IPA 2017 Project "EU Support for the Competitiveness of Kosovo's ICT Sector" offers specialised ICT training, aiming at training at least 1,600 people by its expected completion in 2023. Additionally, the "KODE - Youth Online and Upward Programme", supported by the World Bank, aims at training at least 2,000 unemployed or under-employed young people in the most in-

¹³ https://neighbourhood-enlargement.ec.europa.eu/document/download/760aacca-4e88-4667-8792-3ed08cdd65c3_en?filename=SWD_2023_692%20Kosovo%20report_0.pdf

demand digital and soft skills through physical training sessions delivered in 7 regions of Kosovo. By 2022, more than 300 young people were certified by the programme, and it is expected to reach a total of 2,000 beneficiaries by May 2024. These initiatives are vital in bridging the skills gap and equipping young people with the relevant skills needed for the digital economy.

Secure and performant sustainable digital infrastructures

Kosovo demonstrates high fixed broadband adoption, with widespread subscriptions and notable usage of high-speed connections. However, challenges persist in deploying advanced fiber networks. In mobile connectivity, there is substantial uptake, with plans for 5G initiation in 2023. The Kosovo Digital Economy (KODE) Project focuses on expanding broadband infrastructure into rural areas and deploying 5G networks. The forthcoming Digital Agenda 2030 outlines strategic goals for secure and sustainable digital infrastructure, emphasising connectivity for smart businesses and communities.

A Cyber Security Strategy is under preparation, with the Cybersecurity Agency (established in 2023) responsible for cybersecurity supervision. The Regulatory Authority for Electronic and Postal Communications operates as the CERT. Kosovo is not yet part of the eGA National Cyber Security Index.

Digitalisation of public services

In Kosovo, the strategic framework for digitalisation is complex involving multiple entities, including the Ministry of Internal Affairs, the Agency for Information Society, with support from the Government Chief Technology Officer (CTO) and the digital transformation unit. To enhance coordination in this area, the Government CTO position has been established as an adviser to the Prime Minister, overseeing the Commission for Digital Transformation and the Technical Committee of Government for Digital Transformation.

Kosovo has made notable progress with the establishment of the Government Gateway for interoperability since 2017. However, digital public services still lag below the WB average. The e-Kosova portal, though offering 150 fully digitalised services, is still in early stages and provides limited functionality. Additionally, there are challenges with implementing digital signatures despite legislation aligning with EU eIDAS regulation.

While an Open Data Portal exists, information on its management system is limited, and Kosovo has yet to join the Open Government Partnership. AI is not addressed in policy documents, and no reported cases of AI use in public administration indicate a gap in leveraging this technology for digital transformation initiatives.

Digital transformation of business

Enterprises in Kosovo have demonstrated limited adoption of digital technologies, with low usage of Enterprise Resources Planning (ERP) software, e-invoices, cloud computing, and big data analytics. However, there is relatively higher usage of AI technology. SMEs exhibit a digital intensity below the WB average but extensively utilise social media platforms. Regarding environmental sustainability, more than half of enterprises use ICT, and e-commerce performs well with a notable percentage of SMEs engaged in online selling. However, cross-border sales and turnover in e-commerce are slightly below the WB average. National strategic documents prioritise digitalisation as a key driver for economic competitiveness, indicating recognition of the importance of digital transformation in enhancing the overall business landscape in Kosovo.



A best practice example for the Western Balkans: Kosovo’s advancements in investing in digital infrastructures, particularly achieving 100% broadband access in all urban and rural areas, serves as a noteworthy example for other Western Balkan economies.

Other WB economies can draw valuable lessons from Kosovo’s proactive approach to prioritising investment in digital infrastructure. By improving broadband access in urban and rural areas, enhancing connectivity, and facilitating the interoperability of digital services across government agencies, such as Kosovo’s case with Government Gateway, they can enhance their digital capacities and spur economic development.

5.4 MONTENEGRO: EU Integration and Digitalisation Efforts

5.4.1 Chapter 10: Digital Transformation and Media

According to the European Commission's 2023¹⁴ report, Montenegro remains moderately prepared in Digital Transformation and Media. Efforts have been made to mitigate the impact of the August 2022 cyberattack by re-operationalising the government IT infrastructure. Notably, Montenegro's association to some Specific Objectives of the Digital Europe Programme in June 2023 marks a significant step forward.

Key highlights and priorities:

- **Alignment of legislation:** Montenegro should prioritise aligning its national legislation with the EU Acquis on electronic communications and information technologies.
- **Enforcement of the EU Acquis:** Achieving a track record on the enforcement of the EU Acquis on electronic communications and information society services is crucial.
- **Addressing challenges:** Efforts are required to address challenges related to aligning legislation with directives such as NIS 2 and the Open Data directives, as well as enhancing alignment with the Digital Services Act and Digital Markets.

Challenges: Montenegro faces challenges in aligning its national legislation with the EU Acquis on electronic communications and information technologies. Pending alignment concerns include the European Electronics Communication Code, the Toolbox for 5G Cybersecurity, the e-Privacy Directive, and the eIDAS Regulation. Furthermore, efforts are needed in digital transformation to foster business predictability through alignment with the Digital Services Act and the Digital Markets Act.

Institutional progress: Despite some challenges, Montenegro has made notable progress with the establishment of the Digital Academy and the signing of the Association Agreement to the Digital Europe Programme. These initiatives signify steps towards enhancing digital skills and cooperation. However, challenges persist following the significant cyberattack in August 2022, leading to the establishment of a government Computer Incident Response Team (CIRT). Despite setbacks, the number of e-government services remains robust, with continued efforts to expand services despite internal reorganisation and cybersecurity measures.

5.4.2 Montenegro's Progress Along the Digital Compass 2030

Digital skills and digital education

Montenegro demonstrates strength in overall digital skills across its population, surpassing WB averages. A high percentage of individuals possess both basic and advanced digital skills, with the share of individuals possessing above basic digital skills matching the WB average. Additionally, many Montenegrin enterprises demonstrate a commendable commitment to ICT training, surpassing the WB average by 12 percentage points.

However, despite these positive trends, addressing the shortage of ICT specialists, particularly among women, remains a crucial challenge for sustaining digital transformation efforts. To tackle this issue, Montenegro is actively integrating digital skills into vocational education. Initiatives such as the Digital Transformation Strategy and the Digital Academy project play pivotal roles in fostering education and networking opportunities focused on enhancing digital and leadership skills across various sectors of the economy.

¹⁴ https://neighbourhood-enlargement.ec.europa.eu/document/download/e09b27af-427a-440b-a47a-ed5254aec169_en?filename=SWD_2023_694%20Montenegro%20report.pdf

These efforts are essential for equipping Montenegrin citizens with the necessary skills to thrive in an increasingly digital world and drive continued progress in digitalisation and innovation progress.

Secure and performant sustainable digital infrastructures

Montenegro leads WB economies in connectivity, achieving high Fixed Very High-Capacity Network (VHCN) and Fiber-to-the-Premises (FTTP) coverage. It excels in high-speed broadband adoption, with a significant number of households enjoying connections of at least a 100 Mbps. Overall fixed broadband penetration surpassed both EU and WB averages, showcasing Montenegro's commitment to digital advancement.

In terms of mobile connectivity, Montenegro demonstrates high uptake of mobile broadband services and successfully launched 5G services in March 2022, further solidifying its position as a regional leader in connectivity. However, despite its connectivity success, broadband prices in Montenegro remain higher than the WB average, indicating a potential area for improvement.

Montenegro has taken significant steps to enhance cybersecurity, including the implementation of the Law on Electronic Identification and Electronic Signature, which has facilitated digital signature functions across various entities since 2017. However, Montenegro ranks relatively low at 95th position in the eGA National Cyber Security Index, with the score of 35, highlighting the need for further efforts to strengthen cybersecurity measures and improve its overall cyber resilience.

Digital transformation of business

Montenegro stands out in digital integration, surpassing the WB average in most indicators. Almost half of the Montenegrin SMEs demonstrate basic digital intensity, well exceeding the regional average. Adopting advanced digital technologies is widespread among Montenegrin enterprises, particularly in cloud solutions (20%) and big data (15%), surpassing the WB average.

Electronic information sharing is another area of strength for Montenegro, with 38% of enterprises matching the EU average and significantly outperforming the WB average of 24%. Montenegrin enterprises actively utilise social media (33%), surpassing the regional average of 23%.

A notable achievement is the high adoption rate of E-invoices at 44%, the highest in the WB and notably above both the regional (17%) and EU (32%) averages. Additionally, 61% of enterprises employ ICT for environmental actions, showcasing Montenegro's commitment to sustainability.

Montenegrin SMEs perform exceptionally well in all e-commerce indicators, reflecting a strong digital presence in the business sector. However, there is room for improvement in the integration of digital payment options into government services. While payment kiosks have been installed in service centres, they are not fully integrated into the service process, suggesting an area for further development and enhancement of digital payment infrastructure.

Digitalisation of public services

In Montenegro, the Ministry of Public Administration oversees digital transformation initiatives, guided by a strategic framework within the Public Administration Reform Strategy. While there is no designated Chief Information Officer or specialised agency, the economy has established an Interoperability Framework and adopted the once-only principle, aiming at streamlining administrative procedures.

The Digital Transformation Strategy (2022-2026) sets key goals to enhance digital transformation capabilities, while the Law on Electronic Identification and Electronic Signature aligns with EU eIDAS regulations, facilitating digitalisation efforts. The Council for Electronic Administration plays a coordinating role in digital governance development, although consistent application of

the once-only principle lacks central enforcement. Base registers have been digitised, and some are accessible through interoperability solutions.

Montenegro utilises an eDocument Management System since 2011, employs digital signatures, and mandates public bodies to publish e-service catalogues. The eUprava portal serves as the primary access point for digital services, although the proportion of active e-government users saw a slight decrease in 2021. While Montenegro performs well in open data maturity, there are areas for improvement, such as pre-filled forms and digital public services for businesses. The Digital Transformation Strategy 2022-2026 aims at addressing these gaps and guiding economic digital transformation. Montenegro has online portals, including e-Uprava and an Open Data Portal, yet there are no reported instances of AI technologies deployed in public services. This highlights the need for increased digitalisation efforts and the adoption of innovative technologies to further enhance service delivery and efficiency.



A best practice example for the Western Balkans: Montenegro's advancement in digital infrastructure development and establishment of high standard connectivity infrastructure, characterised by widespread adoption of high-speed broadband and 5G services, serve as noteworthy examples for other Western Balkan economies.

Other WB economies can draw valuable insights from Montenegro's strategic approach to digital infrastructure investment and prioritisation. Montenegro has set a high standard in connectivity infrastructure, boosting extensive coverage of Fixed VHCN and FTTP, as well as widespread adoption of high-speed broadband, and successful rollout of 5G services. Furthermore, Montenegro's initiatives promoting electronic information sharing and achieving high adoption rates of e-invoices could serve as models for other WB economies to emulate in their digital transformation efforts for businesses.

5.5 NORTH MACEDONIA: EU Integration and Digitalisation Efforts

5.5.1 Chapter 10: Digital Transformation and Media

According to the European Commission's 2023¹⁵ report, North Macedonia's readiness in the realm of digital transformation and media is deemed moderate. Efforts have been made to slightly increase the number of electronic services offered to citizens and businesses. Notably, North Macedonia's association to some Specific Objectives of the Digital Europe Programme in 2023 signifies progress in the realm.

Key recommendations:

- **Finalise the Long-term ICT Strategy:** The pending adoption of the long-term ICT strategy for 2021-2026 highlights the importance of prioritising digital skills and cybersecurity capacities.
- **Adopt the National Cybersecurity Strategy:** The need to finalise and adopt the national cybersecurity strategy (2023-2027) is emphasised to align with EU directives, particularly NIS 2 and 5G toolbox.
- **Legislative Alignment:** Aligning national legislation with the EU directives is crucial for ensuring compliance and facilitating digital transformation efforts.

Challenges and Focus Areas: Despite active engagement in the Digital Agenda for the WB, North Macedonia faces challenges in coordination and interinstitutional cooperation, particularly with the impending adoption of the national cybersecurity strategy. Regarding digital transformation, adopting the long-term ICT strategy for 2021-2026 is still pending. This strategy emphasises developing digital skills and strengthening cybersecurity capacities.

Furthermore, efforts to modernise the public sector through upgraded e-portals and enhanced connectivity require further cooperation among institutions. Additionally, improvements in data quality and verification processes are essential for successfully modernising the public sector.

Although there has been an increase in e-commerce activity, enhancing data collection methods is necessary to improve statistical performance and enhance digital competitiveness. Concerted efforts are required to address existing gaps, strengthen institutional capacities, and drive forward digitalisation initiatives in North Macedonia.

5.5.2 North Macedonia's Progress Along the Digital Compass 2030

Digital skills and digital education

North Macedonia demonstrates proficiency in several digital skills indicators, with a notable proportion of individuals possessing basic and above-basic digital skills. However, the economy faces a challenge in digital content creation skills and strategically emphasises enhancing digital literacy. This commitment is reflected in initiatives outlined in both the draft National ICT Strategy 2021-2025 and the Education Strategy 2018-2025, which underscore the importance of bolstering digital skills across society.

Furthermore, North Macedonia is actively addressing gender equality in the digital sphere through initiatives such as the Women in Tech Macedonia Chapter. The organisation offers support and coordinates programmes aimed at empowering women pursuing careers in STEM fields. Additionally, North Macedonia has launched a gender equality index to benchmark its performance against other EU Member States.

¹⁵ https://neighbourhood-enlargement.ec.europa.eu/system/files/2023-11/SWD_2023_693%20North%20Macedonia%20report.pdf

Secure and performant sustainable digital infrastructures

North Macedonia faces challenges in data collection, particularly concerning Very High-Capacity Networks (VHCN) and Fiber-to-the-Premises (FTTP) coverage indicators. To address this, amendments were adopted in September 2022 to streamline the data collection process. While North Macedonia surpasses the WB average in overall fixed broadband take-up (78% of households) and fast broadband NGA coverage (83%), there exists a notable lag in the adoption of fixed broadband with speed exceeding 100 Mbps (2%, compared to the regional average of 21%). Furthermore, the take-up of 1Gbps broadband remains considerable low.

In the realm of mobile connectivity, North Macedonia demonstrates commendable performance, with 76% of the population utilising mobile broadband, and 99.4% of populated areas covered by 4G in 2021. Despite these high take-up rates, North Macedonia holds the distinction of being the most expensive WB economy in the Broadband Price Index. A significant milestone was achieved in July 2022 when North Macedonia became the first WB economy to allocate spectrum for 5G use in the 700 MHz and 3.6 GHz frequency bands, aligning with the National Operational Broadband Plan for 2019-2029 and European strategic objectives.

In the domain of electronic communications and information technologies, access to fixed broadband internet reached 75.57% of households in 2022. Although there has been an increase in mobile broadband adoption and ongoing investments by telecom operators, the alignment of the legal framework with EU directives, such as the Broadband Cost Reduction Directive, remains stagnant.

The National Cybersecurity Strategy and Action Plan 2018-2022 outlines five objectives: cyber resilience; cyber capacities and cyber security culture; combating cybercrime; cyber defence; and cooperation and exchange of information. However, it is noteworthy that this strategy lacks comprehensive coverage of governance and legislative aspects and specific performance measures. The Agency for Electronic Communications functions as the CERT. North Macedonia holds the 58th position in the eGA National Cyber Security Index, scoring 58.

Digital transformation of business

North Macedonia's enterprises are increasingly adopting cutting-edge technologies such as big data, cloud computing, and AI. However, SMEs exhibit lower digital intensity compared to the regional average. While the majority of enterprises leverage ICT for environmental sustainability, the adoption of e-invoices, electronic information sharing, and social media remains limited. Moreover, online commerce participation is low, with only a small percentage of SMEs conducting online sales and engaging in cross-border sales.

To address these challenges, the economy has incorporated digital transformation into its Economic Reform Programme and the Strategic Plan 2021-2023 of the Ministry of Information Society and Administration. Efforts are underway to develop a long-term ICT strategy, a National Strategy for Artificial Intelligence and a National Strategy for SMEs 2018-2023, aimed at enhancing competitiveness and fostering innovation.

The e-payment system, first introduced in 2018, has undergone continuous upgrades and improvements to leverage emerging technologies. Initially focused on introducing card payments, the system has evolved to encompass electronic banking and mobile banking (m-banking). Notably, e-payment methods have streamlined processes for public service payments such as electricity bills, water bills, property taxes, customs duties, and other related charges, paving the way for widespread adoption of digital payment solutions.

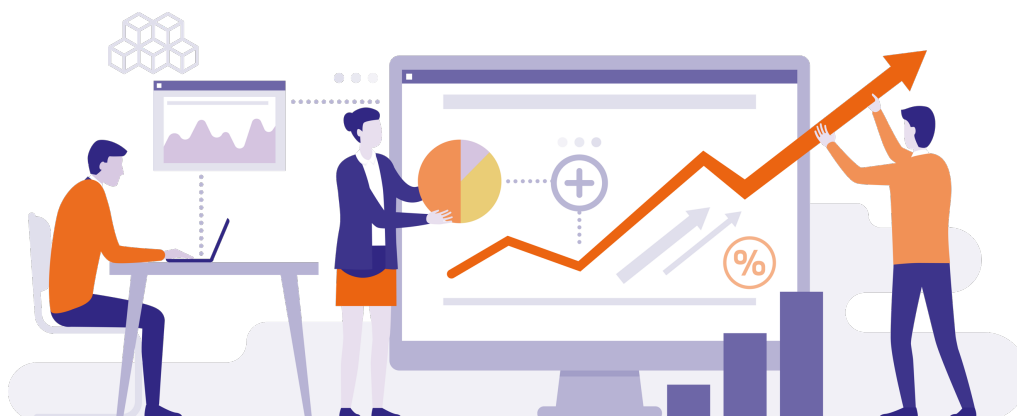
Digitalisation of public services

North Macedonia demonstrates strong performance in the realm of Digital public services, surpassing the WB average. However, there is room for improvement in integrating digital technologies across various dimensions.

North Macedonia has developed a comprehensive strategy for digitalisation, with a primary focus on improving e-services. Key initiatives include the establishment of a central register of the population and the implementation of legislation to facilitate electronic document exchange. The National Information and Communication Technology Council oversees the implementation of the National ICT Strategy 2021-2025, yet challenges persist in ensuring policies enforcement across Ministries. The delay in aligning national legislation with the eIDAS Regulation underscores the need for stepped-up alignment efforts with the Digital Services Act and the Digital Markets Act to foster business predictability.

North Macedonia provides of a range of e-services through its main portal, featuring pre-filled web forms for streamlined service applications. Furthermore, North Macedonia actively participates in the Open Government Partnership and maintains an open data portal, although detailed information regarding its open data management system is limited.

While North Macedonia has not explicitly addressed AI in its policy documents, instances of AI utilisation within public administration have been observed, indicating potential future considerations in this domain.



A best practice example for the Western Balkans: North Macedonia's advancements in the digital public services, surpassing the Western Balkans average, and the proactive adoption of cutting-edge technologies, such as big data, cloud computing, and AI, by enterprises, serve as noteworthy examples for other Western Balkan economies.

Other WB economies can derive valuable insights from North Macedonia's strategic approach to integrating emerging technologies into their economic sectors. By fostering an environment conducive to innovation and technological advancement, they can enhance competitiveness, drive economic growth, and position themselves as regional leaders in the digital age. These efforts can serve as models for other WB economies to emulate in their digital transformation efforts to achieve economic growth.

5.6 SERBIA: EU Integration and Digitalisation Efforts

5.6.1 Chapter 10: Digital Transformation and Media

Serbia is moderately prepared in the field of digital transformation and media, according to the European Commission's 2023¹⁶ report. Efforts to construct ultra-fast broadband infrastructure in rural areas and support digitalisation in schools are ongoing. Notably, Serbia's inclusion to some Specific Objectives of the Digital Europe Programme in June 2023 marked a significant step forward. Serbia adopted the e-Government Development Programme along with its 2023-2025 Action Plan in April 2023.

Key recommendation:

- Further alignment of Serbia's electronic communications legislation with the updated EU regulatory framework, including the Broadband Cost Reduction Directive, is essential for continued progress.

Digital Transformation Milestones: In the realm of digital transformation, Serbia has achieved notable milestones by adopting the e-Government Development Programme along with its 2023-2025 Action Plan in April 2023. Serbia witnessed an increase in the number of databases linked to the new government service information system, resulting in approximately 340 services now available on the upgraded national e-government portal, with around two million e-citizens registered. Although Serbia has made strides in enhancing open data accessibility, it is yet to fully align with the EU's Open Data Directive, despite having an established open data policy and accompanying action plan. Moreover, ongoing efforts are required to ensure compliance with the European Interoperability Framework to foster seamless integration across systems.

Regulation of Electronic Commerce: Regarding the broader digital economy landscape, Serbia made progress in regulating electronic commerce, implementing laws on e-fiscalisation and e-invoicing, accompanied by a notable increase in online transactions.

Challenges: Despite progress, challenges persist, particularly in addressing instances of electronic platform abuse. There is a pressing need to accelerate alignment with the Digital Services Act and Digital Markets Act to offer stability and predictability for businesses.

Furthermore, Serbia's ICT sector has demonstrated robust growth, with exports reaching EUR 2.7 billion in 2022, marking a significant year-on-year increase of 45%, underscoring the sector's vitality and potential for further development.

5.6.2 Serbia's Progress Along the Digital Compass 2030

Digital skills and digital education

Serbia leads the WB economies in cultivating robust digital skills among its populace, particularly the Human Capital dimension. It boasts the highest proportion of individuals proficient in primary and above-basic digital skills with 64% possessing fundamental digital content creation capabilities. Additionally, Serbia has witnessed a significant surge in the number of ICT graduates, surpassing the EU average with a notable 15% growth over the last two years.

Aligned with these achievements, Serbian's strategic initiatives underscore a dedicated focus on advancing digital knowledge and bolstering workforce capabilities. The Serbian Strategy for Development of Digital Skills, alongside the renewed Strategy for Development of Information Society, emphasises the need of enhancing citizens' digital competencies and addressing prevailing skills gaps.

¹⁶ https://neighbourhood-enlargement.ec.europa.eu/document/download/9198cd1a-c8c9-4973-90ac-b6ba6bd72b53_en?filename=SWD_2023_695_Serbia.pdf

Moreover, Serbia's Industrial Policy Strategy prioritises transitioning toward a skills-based advantage, acknowledging the pivotal role of core competencies and digital literacy in driving Serbia's economy forward.

In parallel, the New National Strategy on Gender Equality directs attention to fostering women's entrepreneurship, particularly in sectors such as digital and knowledge economies, to promote inclusivity and diversity within the workforce.

Secure and performant sustainable digital infrastructures

Serbia sets a high standard in the WB with its secure, high-performing, and sustainable digital infrastructure. Notably, it leads in the connectivity dimensions, boosting exceptional coverage in broadband networks like NGA, VHCN, and FTTP, surpassing regional averages.

Serbia's robust fixed broadband infrastructure, particularly in VHCN and FTTP coverage, stands out, although overall fixed broadband uptake lags behind the regional average. However, it shines in households with at least 100 Mbps broadband connections, leading the WB in mobile broadband adoption.

Aligned with technological advancements, Serbia's 2018 New Generation Networks Development Strategy emphasises cloud computing, the Internet of Things (IoT), and the development of 5G technology, demonstrating a forward-looking approach to digital infrastructure development.

Furthermore, Serbia's strong performance in the eGA National Cyber Security Index underscores its commitment to cybersecurity. Supervised by the Ministry of Trade, Tourism, and Telecommunications, Serbian's cybersecurity measures are robust. The economy's adherence to digital signature regulations, compliant with the eIDAS Regulation, ensures the non-discrimination of government services based on the certificate provider, enhancing digital security and trust.

Digital transformation of business

In Serbia, the adoption of digital technology among enterprises remains low, with indicators showing a decline in 2021 compared to 2020. However, despite these challenges, the government has introduced several key strategic documents aimed at driving digital transformation in the business sector.

The Industrial Policy Strategy 2021-2030 focuses on promoting industrial digital transformation. It encompasses various measures such as education programmes, advisory services for companies regarding digital solutions, and ensuring robust digital security measures.

Moreover, the Smart Specialisation Strategy 2020-2027 prioritises the ICT industry and aims at supporting innovative solutions leveraging technologies like big data, cloud computing, AI, and blockchain. The Strategy for Development of AI (2020-2025) is another pivotal initiative aimed at facilitating the use of AI for economic growth. This includes the establishment of the Institute for AI Research and AI master's programmes, signalling a concerted effort to cultivate expertise and talent in this critical field. To further facilitate digital transformation, Serbia implemented mandatory e-invoicing from January 1, 2023, as per the new Law on Electronic Invoicing. Additionally, initiatives like Speed2.0 assess companies' readiness for digital transformation, providing valuable insights and guidance.

Furthermore, Serbia has established a robust electronic payment system, ePayment+, since 2017. The platform enables administrative fee payments to be integrated with various electronic services, streamlining processes and enhancing efficiencies. The government launched the ePayment Portal in 2021, allowing citizens to conveniently pay fees for specific services using payment cards and iPay options through various portals.

Digitalisation of public services

In Serbia, the Office for Information Technologies and Electronic Government and the Public Policy Secretariat for Administrative Simplification spearheads the digital transformation of public services. Serbia stands out in numerous facets of digitalisation, surpassing WB averages in several key areas.

Despite these achievements, challenges persist, highlighting the need for enhanced coordination and interoperability. Additionally, specific issues such as cybersecurity and register integration require focused attention. While Serbia boasts a clear legislative framework and robust interoperability, there is a recognised need for a central institution to streamline coordination efforts.

Serbia's Digital Register of Administrative Procedure is a notable achievement, streamlining processes and enhancing efficiency. Furthermore, Serbia has made significant strides in AI development, positioning itself as a leader in this field.

The Open Data Portal in Serbia hosts a substantial dataset count, facilitating transparency and innovation. Moreover, Serbia is actively exploring blockchain applications in public administration, showcasing a commitment to leveraging emerging technologies for improved service delivery.

However, while cybersecurity is addressed in strategic documents, there is a need for a dedicated strategy to comprehensively address this critical aspect of digitalisation.



A best practice example for the Western Balkans: Serbia's comprehensive approach to digital transformation, characterised by proactive investment in digital skills, robust digital infrastructure, advancements in the digitalisation of public services, and improved digital transformation management, serve as noteworthy examples for other Western Balkan economies.

Other WB economies can draw valuable lessons from Serbia's comprehensive approach to digital transformation, focusing on proactive investment in digital skills with the ICT sector becoming a prominent branch of the economy, and investment in robust digital infrastructure and cybersecurity sets a best practice model for the entire WB region. Additionally, Serbia's exploration of emerging technologies like AI and blockchain to introduce innovation in public services offers valuable insights for other WB economies. Furthermore, introducing a new mechanism for improving digital transformation management, similar to Serbia's Office for Information Technologies and Electronic Government, could serve as a commendable example for other WB to efficiently navigate the complexities of the digital transformation.

6 Recommendations

Strategic Prioritisation and Governance

1. Recognise digitalisation as a critical priority and fully implement the digital-by-default principle to accelerate digital transformation for modern societies. These measures can enhance government efficiency, electronic services for citizens and legal entities, competitiveness, and digital readiness.
2. Ensure robust political support and put in place clear strategies, solid policies, and targeted investments to drive society's digital transformation.
3. Establish new mechanisms for managing digital transformation and attracting top experts to facilitate better strategic planning. This strategic investment will enable effective navigation of the digital age and unlock their full potential for growth in the WB. Additionally, these mechanisms will enhance cooperation between policymakers, businesses, and citizens, fostering collaboration and alignment of efforts towards shared digital goals.
4. Strengthen coordination and cooperation mechanisms among all institutions responsible for inclusive digital transformation and innovation in the WB.

Legal and Regulatory Framework

5. Enhance the Legal and Regulatory Framework to support digital transformation by ensuring that legislation fully aligns with the EU Acquis. Incorporate Digitisation-Ready Legislation Principles as comprehensive guidelines to facilitate digital transformation and the adaptation of new technologies. These principles should encompass key elements such as: recognition of technology neutrality; promotion of compatibility and interoperability; consideration of diverse user needs, including individuals with disabilities; protection of personal data and privacy; addressing cybersecurity risks and establishing measures to safeguard digital systems, networks, and infrastructure; prioritising the needs and rights of citizens to ensure that digital services and solutions are designed with their best interests in mind.

Inclusive Digital Infrastructure and Services

6. Explore the potential of emerging technologies, such as Artificial Intelligence (AI), Blockchain, Internet of Things (IoT).
7. Prioritise digital literacy programmes within the agendas of the WB economies by targeting diverse segments of society, including students, educators, professionals, and vulnerable groups. This strategic emphasis on skill-building aims at unlocking the full potential of digital technologies and foster a prosperous and inclusive digital future.
8. Improve current eID, eSignature and Public Key Infrastructure (PKI) solutions and implement the single sign-on (SSO) system. Complete transposition and implementation of the eIDAS Regulation to ensure accessibility to online services for cross-border users. Integrate all public sector websites and online services into the SSO framework. In combination with advanced mobile application solutions and biometric authentication, all WB economies can establish integrated and fully operational national eID, PKI and SSO systems.
9. Enhance technical infrastructure, promote the once-only principle, and improve data interoperability and sharing, to support more efficient, reliable, and citizen-centric digital services, thereby fostering the overall digital transformation of the public sector.

10. Enhance the accessibility and usability of online services, providing citizens and businesses with a convenient and efficient way to access government services through national one-stop portals. This initiative will bolster the readiness of the WB to meet the requirements of the Single Digital Gateway Regulation (SDGR) and offer better digital experiences to their populations.

Monitoring and EU Support

11. Strengthen the measurement and monitoring of strategic goals to track progress, identify areas for improvement, and make data-driven decisions to advance the digital transformation journey.
12. Enhance monitoring of the benefits realised from EU investments in digital transformation to maximise the potential of the investment and improve affordability. The EU provides significant support for research and innovation. All EU Member States and Associated countries can benefit from the EU's research programmes, especially where there is scientific excellence and fostering innovation.

Support for Businesses and IT industries

13. Support the digital transformation of businesses by facilitating their adoption of cutting-edge technologies such as cloud computing, big data analysis, and AI to accelerate their productivity growth.
14. Improve the data collection process to support effective, evidence-based policymaking, particularly regarding enterprises' digital technology usage. Address existing gaps in data availability, improve control over the data collection processes, and establish regular data collection processes.
15. Foster collaboration between businesses and governments to ensure enhancement of digital skills. Drawing inspiration from successful models like the UK Digital Skill Council, establish similar partnerships to address the evolving needs of the workforce and equip individuals with the necessary digital competencies to thrive in the digital age.
16. Develop better strategies for engaging domestic successful innovation and IT companies in digitalisation efforts to bolster the region's digitalisation and ensure its sustainability.
17. Finance digital growth by introducing venture capital investments, including early-stage venture capital funds to support the development of vibrant innovative start-up sectors.

European Collaboration and Learning from Best Practices

18. Engage in European Partnerships to foster collaboration and further advance digital transformation efforts.
19. Learn from Best Practices of individual WB economies to accelerate digitalisation initiatives. The examples of best practices demonstrated by individual WB economies provide valuable insights and lessons that can inform and effectively enhance digital transformation efforts across the WB region. By studying and adopting similar approaches, other WB economies can accelerate their own digitalisation initiatives and achieve greater success in navigating the challenges and opportunities of the digital age.

Specifically, the WB economies should draw valuable lessons from:

- Albania's advancements in digitalising public services and improving digital transformation management. Introducing a new mechanism similar to Albania's National Agency for Information Society, prioritising the digitalisation of public services, and establishing similar platforms to streamline administrative processes can further bolster digital transformation efforts.
- Bosnia and Herzegovina's promotion of digital skills and digital education. By prioritising investments in digital skills development and enhancing coordination and interoperability, other WB economies can improve their digital readiness and foster economic growth through digitalisation.
- Kosovo's advancements in investing in digital infrastructures, particularly achieving 100% broadband access in all urban and rural areas. By prioritising investment in digital infrastructure and focusing on improving broadband access and connectivity, other WB economies can enhance their digital capabilities and stimulate economic development.
- Montenegro's strategic approach to advancements in digital infrastructure development and connectivity establishment, including widespread adoption of high-speed broadband and 5G service. These achievements serve as a noteworthy example for other WB economies to emulate, emphasising the importance of prioritising investments in digital infrastructure and promoting electronic information sharing.
- North Macedonia's proactive adoption of cutting-edge technologies, such as big data, cloud computing, and AI by enterprises. By fostering an environment conducive to innovation and technologies advancement, WB economies can enhance competitiveness, drive economic growth, and position themselves as leaders in the digital age.
- Serbia's comprehensive approach to digital transformation, characterised by proactive investment in digital skills, robust digital infrastructure, advancements in digitalisation of public services, and improved digital transformation management. By emulating Serbia's strategic approach and exploring emerging technologies like AI and blockchain, other WB economies can introduce innovation in public services and efficiently navigate the complexities of digital transformation.

Digital Summits or joint projects within the Digital Europe Programme are excellent opportunities for the WB economies to capitalise regionally and globally on the individual progress made.

7 Conclusions

This Policy Report underscores the urgent need to prioritise digitalisation and implement comprehensive strategies across the WB. By fully embracing digital technologies and improving the legal and regulatory framework, WB governments can improve efficiency, competitiveness, and digital readiness.

Furthermore, fostering collaboration among institutions responsible for digital transformation and innovation is essential for successful implementation. Exploring emerging technologies and investing in digital literacy programmes are essential for building a prosperous and inclusive digital future.

Additionally, integrating advanced digital technologies and improving data collection processes will support evidence-based policymaking and drive the region's digital transformation journey forward. Collaborative prioritisation of digital transformation is essential for unlocking the WB's socio-economic potential and ensuring a prosperous future. This required effective cooperation among policymakers, citizens, and businesses to overcome challenges and seize opportunities for sustainable growth.

Adopting best practices and implementing mechanisms for learning lessons from successful digital transformation initiatives are crucial for accelerating progress in the WB. By studying successful examples within and beyond the region and actively incorporating lessons learned into future strategies, the WB can enhance their digital transformation efforts and achieve greater success in navigating the challenges and opportunities of the digital age.

8 List of abbreviations used in this document

5G	Fifth-generation technology
ADISA	The Agency for Delivery of Integrated Services
AI	Artificial Intelligence
AKCESK	The National Authority on Certification and Cyber Security
BiH	Bosnia and Herzegovina
CERT	Computer Emergency Response Team
CGSI	Core Government Systems Index
CIRT	Computer Incident Response Team
CTO	Chief Technology Officer
DCEI	Digital Citizen Engagement Index
DESI	Digital Economy and Society Index
EGDI	EGovernment Development Index
eID	Electronic identification
eIDAS	Electronic Identification and trust services
eSignature	Electronic Signature
ERP	Enterprise Resources Planning
EU	European Union
FTTP	Fiber-to-the-Premises
Gbps	Gigabits per Second
GTEI	GovTech Enablers Index
GTMI	GovTech Maturity Index
HCI	Human Capital Index
ICT	Information and Communication Technology
IoT	Internet of Things
IPA	Instrument for Pre-accession Assistance
Mbps	Megabits per second
M&E	Monitoring and Evaluation
MSME	Micro, Small and Medium Enterprises
NGA	Next Generation Access
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OOP	Once only principle
OPSI	Observation of Public Sector Innovation

OSI	Online Services Index
PKI	Public Key Infrastructure
PPPs	Public-private partnerships
PSDI	Public Service Delivery Index
R&D	Research and Development
ReSPA	Regional School of Public Administration
SDGR	Single Digital Gateway Regulation
SIGMA	Support for Improvement in Governance and Management
SME	Small & Medium Enterprises
STEM	Science, Technology, Engineering and Mathematics
SSO	Single sign-on
TII	Telecommunications Infrastructure Index
UN	United Nations
xDSL	Variations of Digital Subscriber Line
VHCN	Very High-Capacity Network
WB	Western Balkans



ABOUT POLICY ANSWERS

POLICY ANSWERS (R&I POLICY making, implementation ANd Support in the WEsteRn BalkanS) supports policy coordination in the Western Balkans and with the EC and the EU. 14 partner organisations, representing network nodes in the region and EU expert organisations, support policy dialogue through formal meetings (such as ministerial and steering platform and ad-hoc policy meetings), monitoring and agenda setting, capacity building and implementation of the EU's Western Balkan Agenda, as well as the alignment of thematic priorities. The project implements regional pilot activities and offers an information hub based on the westernbalkans-infohub.eu online information platform. The partners provide analytical evidence via monitoring and mapping activities of the stakeholder ecosystem, of the implementation of the Western Balkans Agenda and of the Western Balkans' integration into the European Research Area as well as via strategic foresight. POLICY ANSWERS also allows for tailored and targeted capacity building activities in the Western Balkans as well as regional alignment of priorities in relation to the digital transformation, the green agenda and towards healthy societies. Pilot activities provide learning opportunities on policy and programme level and reach out to final beneficiaries related to improved academia-industry cooperation, researcher mobility, inclusion of youth in policy processes, promotion of research infrastructures and increased innovation skills in all areas.

