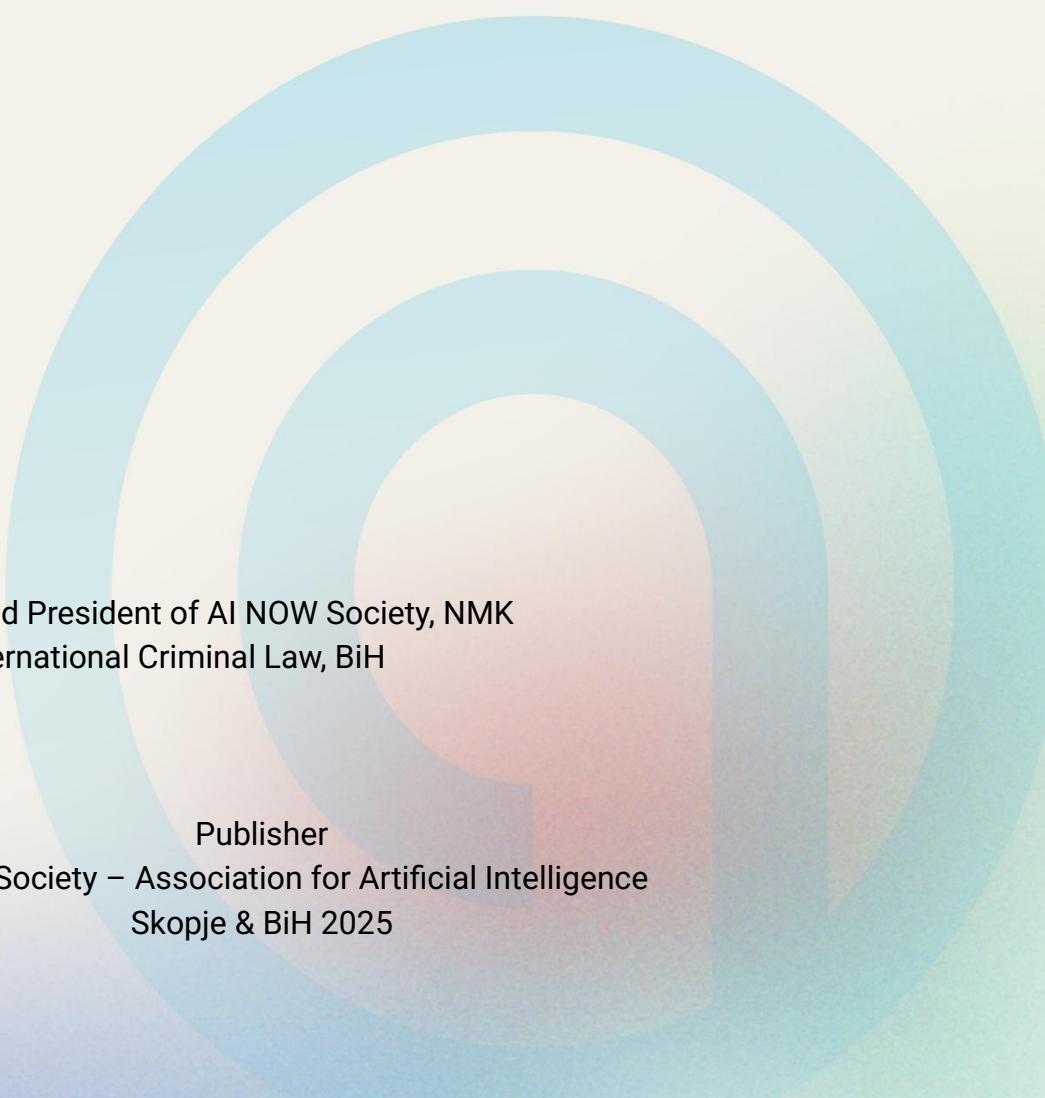


Artificial Intelligence Governance and Ethics in Bosnia and Herzegovina



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Introduction

With the adoption of the European Union Artificial Intelligence Act (hereinafter: the EU AI Act), the European Union (hereinafter: the EU) has established the first comprehensive legal framework for the regulation of AI on global level. The Act is based on a risk-management approach, categorizing AI systems into unacceptable and high risk, thus setting a global standard for protecting fundamental rights, safety, and transparency in AI use.

For Bosnia and Herzegovina (hereinafter BiH), a country that obtained EU candidate status in December 2022, harmonization with the EU AI Act is not only a legal obligation but also a strategic requirement for economic development, citizen protection, and progress on the country's path towards the EU.

1. Current Regulatory Framework in BiH

BiH currently does not have a dedicated law regulating the area of AI. However, several existing laws indirectly address AI-related issues:

- Law on Personal Data Protection of BiH, adopted at the beginning of 2025, which is mostly aligned with the General Data Protection Regulation (hereinafter: the GDPR) and regulates automated data processing and decision-making, essential in the context of AI. The said Law shall be applied as of October 2025;
- Criminal Codes of BiH, Federation of Bosnia and Herzegovina (hereinafter: the F BiH), the Republic of Srpska (hereinafter: the RS), and the Brčko District of BiH (hereinafter: the BD BiH) criminalize unauthorized use of personal data, illegal access to databases, and dissemination of personal information.
- Sectoral strategies – such as the F BiH Development Strategy for the period 2021 – 2027, which recognizes the development and application of AI as one of top priorities within the framework of increased economic growth, and the now expired Digital Public Administration Development Strategy for the period of 2019 – 2022 which aimed at creating a stable framework for further development of E-governance. These strategies indirectly support digitalization and potential AI implementation;
- Regional and international initiatives – BiH is participating in a number of regional and international initiatives concerning AI, such as Common Regional Market⁹ and Horizon Europe.

Nonetheless, BiH lacks a national AI strategy and a coherent digital transformation framework, leaving it behind compared to neighboring countries.

2. The Need to Harmonize BiH Legislation with the AI Act and Upcoming Challenges

By signing the Stabilisation and Association Agreement (hereinafter: SAA), BiH committed to aligning its domestic legislation with the EU acquis. On 14 February 2016, BiH, in accordance with Article 49 of the Treaty on EU, formally submitted its application for membership, and on 15 December 2022, the European Council granted BiH candidate status, marking an important step forward in the EU accession process. This process requires comprehensive alignment of policies and legislation with European standards, and the regulation of AI is no exception.

In its 2019 Commission Opinion on BiH's application for membership in the EU, the European Commission assessed the country's capacity to assume the obligations of EU membership on the basis of the SAA and the progress made in adopting, implementing, and applying the EU acquis. It was noted that special efforts are needed in areas where BiH is at an early stage of preparedness, some of which are indirectly linked to AI, such as the information society and media, economic and monetary policy, regional policy, and the coordination of structural instruments. Areas with a certain level of preparedness and potential for AI application include company law, judiciary and fundamental rights, justice, freedom and security, and science and research. In the field of intellectual property rights, where preparedness was rated as moderate, AI is expected to have a particularly strong impact on copyright protection. Finally, as some of the key priorities on BiH's EU path with strong AI potential, the Opinion identified the establishment of a functional coordination mechanism for EU matters, the adoption of a national program for adopting the EU acquis, and the continuation of public administration reform to ensure a professional and depoliticized civil service.

An additional challenge for regulating AI in BiH is the complex and fragmented administrative-legal framework, which stems from the General Framework Agreement for Peace in BiH. According to Article III (1) of the BiH Constitution, matters such as

foreign, foreign trade, customs and monetary policy, as well as the establishment and functioning of common and international communication facilities, fall under the exclusive competence of state-level institutions. In contrast, issues such as education, science, technology, and digitalization fall under the jurisdiction of the entities and/or cantons. In practice, this creates an obstacle to developing a unified legislative framework for AI and carries the risk of fragmented implementation, where entities and cantons might adopt partial solutions without state-level coordination, further slowing alignment with the AI Act and European standards.

For BiH, harmonization with the AI Act has multiple dimensions. First and foremost, it is inextricably linked with the EU integration process and the alignment of domestic legislation with the EU acquis. At the same time, domestic companies wishing to access the EU market will be required to comply with the provisions of the AI Act, making harmonization not only a legal but also an economic issue of competitiveness. In the public administration sphere, alignment with European rules ensures the protection of citizens from AI misuse in administrative processes and strengthens trust in digital services. Conversely, failure to align could lead to the isolation of BiH's economy, hindered access to the EU's single digital market, and decreased public trust in the use of new technologies.

3. Ethics and Bias Dimension from the Education and Awareness Standpoint

As it can be concluded from previous paragraphs, BiH lacks a comprehensive AI regulatory framework, which raises many concerns as AI systems carry the risk of perpetuating bias and unfair outcomes if deployed without safeguards. In the BiH context, potential vulnerabilities exist in areas such as automated recruitment, educational assessment, and judicial-decision making.

Awareness of AI ethics in BiH is still at early stage. For example, the CoE's 2022 publication emphasized the importance of holistic and critical media and information literacy tools that would enable individuals to comprehend the scale and complexities of

the harms that AI technologies can pose and thus promote the ability to wisely engage with the services large technology companies supply.

Universities have only begun to introduce courses related to digital transformation, while customized AI ethics modules are still not a part of university curricula, professional training or civil service education. In 2023, a year that was marked by the explosion of generative AI tools such as ChatGPT, UNESCO organized a webinar and a workshop for teachers and faculty staff on the uses and impacts of AI in classrooms and how to adopt a human-centered approach. Also, in September 2024, the Social Sciences Research Center at International Burch University organized, on the behalf of the EU in BiH, the conference „Artificial Intelligence in Media in BiH“. The highlight of this conference was the presentation of study related to AI usage in the Media in BiH, which revealed that 85% of journalists reported never having received any structured training on AI tools.

However, like already stated above, the structured modules are still not a part of official training programs and university curricula. Public debate on the ethical implications of AI is minimal, often limited to discussions within the IT community or academic conferences. Raising awareness through targeted education, in schools, universities, professional associations, and public administration, will be essential to building a responsible AI ecosystem aligned with EU standards.

It is highly recommendable that BiH follows the example of Republic of Serbia, which adopted Ethical Guidelines for the Development, Application and the Use of AI in 2023. These guidelines emphasize respect for human rights, prevention of discrimination, and accountability mechanisms, and could serve as a regional benchmark for BiH in designing its own ethical framework, thus incorporating the principles of fairness, non-discrimination, transparency and accountability in the future AI-related policy framework in BiH.

4. Case Studies and Examples

Despite the lack of a national AI strategy, some initiatives and projects in BiH illustrate

emerging practical uses of AI:

- Bloomteq and Innovation Center Banja Luka launched an AI Forward Project to strengthen AI capabilities among small and medium enterprises in BiH, with an aim to enhance AI adoption among local businesses through educational programs, specialized trainings for IT professionals and tailored support for implementing AI tools in daily business operations;
- BiH is also making strides in integrating AI into its healthcare system; for example, the World Bank is working to enhance transparency and accountability in the country's sector, through pilot online platform that has been developed to facilitate citizen engagement, allowing users to connect with service providers and provide feedback, thereby improving healthcare services;
- As mentioned in Chapter 2., academic research institutions, such as, for example, the University of Sarajevo and Banja Luka, are engaging in Horizon Europe projects on digital innovation, indirectly tackling AI-related topics.

These examples show that, while fragmented, there is a growing interest in applying AI solutions in practice.

5. SWOT Analysis for BiH in Relation to AI Ethics and Regulation

Strengths

- EU candidate status provides a clear incentive and framework for alignment with EU AI Act;
- Existing alignment of the Law on Personal Data Protection with GDPR;
- Participation in regional and international initiatives (Horizon Europe, Common Regional Market).

Weaknesses

- Lack of a national AI strategy and state-level coordination body;
- Fragmented constitutional and legal structure, with divided competences;

- Low awareness and limited capacity-building on AI ethics among professionals and civil servants.

Opportunities

- EU integration process as leverage for harmonization;
- Access to EU funding mechanisms for digital innovation;
- Potential to position BiH as a regional hub for ethical AI by adopting standards early.

Threats

- Risk of deepening digital divide compared to neighboring countries;
- Possible adoption of inconsistent or partial solutions at entity/cantonal levels;
- Loss of competitiveness and citizen trust if AI misuse occurs without safeguards.

6. Recommendations and Perspectives

The harmonization of BiH's legal framework with the EU AI Act is of multifaceted importance: it represents both a key challenge and a strategic opportunity for the country on its EU integration path.

The complex and fragmented legal-administrative framework, marked by multilayered competences across various levels of government, complicates the adoption of unified solutions and risks obstructing the creation of a coherent framework. At the same time, adopting European standards in this field provides opportunities to strengthen institutional capacities, improve the protection of citizens' fundamental rights, and enhance the competitiveness of the domestic economy within the EU single digital market.

Harmonization goes beyond the formal obligation stemming from the SAA. It also represents an adaptation to the technological and ethical challenges of modern society. Besides the complex institutional structure with divided competences, additional problems include the absence of a state-level strategy for digital transformation and AI

development, as well as insufficient awareness of the importance of regulating AI in public administration, economic flows, and society as a whole.

On the other hand, effective implementation of the EU AI Act could position BiH as an equal participant in the digital sphere, strengthening citizens' trust in new technologies and enabling domestic companies unhindered access to the EU market. In this sense, the following steps are recommended:

- **Institutional coordination:** Establishment of a state-level body or inter- institutional working group to prevent legislative fragmentation across different levels of government;
- **Adoption of a dedicated AI law:** Closely aligned with the AI Act and accompanied by adaptations of existing laws in related fields (data protection, criminal law, cybersecurity);
- **Strategic documents:** Development and adoption of AI-related strategies at all levels of government, ensuring a coordinated and unified approach;
- **Capacity building:** Education and training of civil servants, regulators, and the judiciary to ensure proper application of European standards;
- **Support for innovation:** Through regulatory sandbox mechanisms and access to EU funds (e.g., Horizon Europe) to encourage the development of innovative solutions within a legal framework;
- **Human rights safeguards:** Strengthening mechanisms for transparency, oversight, and effective legal remedies in cases of AI misuse;
- **Regional and international cooperation:** Active participation in initiatives such as GPAI, the Council of Europe, and the Western Balkans Common Digital Market to exchange best practices and strengthen BiH's negotiation position.

The harmonization process with the EU AI Act has institutional, legal, economic, and social significance for BiH. Only through a strategic, coordinated, and inclusive approach can BiH ensure that its digital transformation serves the welfare of its citizens and the full realization of the country's European perspective