

DIGITALISATION OF PROSECUTORIAL SUPERVISION OVER FORCED LABOUR: A RISK-BASED APPROACH, INTEGRATION AND EFFECTIVENESS INDICATORS

Akhmedov Abdulatif Mashrapovich

Associate Professor, Department of Prosecutorial Practice and Prosecutorial Supervision,
Law Enforcement Academy of the Republic of Uzbekistan

E-mail: ahmedovabdulatif85@gmail.com

Abstract. The article examines the legal aspects of digitalising prosecutorial supervision over the enforcement of legislation on combating forced labour. Drawing on international indices and 2021–2025 prosecution statistics, it identifies a gap between digital capacity and legal outcome, and proposes a two-stage supervision model, an integration mechanism for the “E-nazorat” system, and effectiveness indicators.

Keywords: prosecutorial supervision, forced labour, digitalisation, risk-based approach, risk indicators, integration of information systems, “E-nazorat”, legal assessment.

The digitalisation of prosecutorial supervision has become an independent area of state legal policy. Under the “Digital Uzbekistan — 2030” strategy, digitalisation is defined not as an end in itself but as a means of ensuring the transparency and responsiveness of the activities of state bodies¹, while the strategy on artificial intelligence has shaped the technological layer of this policy².

The “Digital Prosecution Service — 2030” strategy established the digitalisation of the activities of the prosecution service as an independent strategic objective and set specific deadlines. A “digital supervision” function is to be introduced into the information systems of state bodies by 1 October 2026, and by 1 December 2026 the systems of the prosecution service are to be integrated with those of the Ministry of Poverty Reduction and Employment³. Digitalisation in this field is therefore not an optional improvement but a normative obligation with a fixed deadline. The instruments do not, however, specify the composition of the data required to exercise digital supervision, the procedure for submitting it, or the mechanisms of risk assessment. The aim of this study is to develop an organisational and legal model that fills this gap, to substantiate the legal limits of digitalisation and to define the criteria for assessing its effectiveness.

¹ Decree of the President of the Republic of Uzbekistan No. PF-6079 of 5 October 2020 “On approval of the Digital Uzbekistan — 2030 strategy and measures for its effective implementation” // National Database of Legislation, 06.10.2020, No. 06/20/6079/1349.

² Resolution of the President of the Republic of Uzbekistan No. PQ-358 of 14 October 2024 “On approval of the Strategy for the Development of Artificial Intelligence Technologies until 2030” // National Database of Legislation, 15.10.2024, No. 06/26/141/0776.

³ Decree of the President of the Republic of Uzbekistan No. PF-204 of 3 November 2025 “On approval of the Digital Prosecution Service — 2030 strategy and measures for its effective implementation” // National Database of Legislation, 19.12.2025, No. 06/25/252/1176.



In the E-Government Development Index (EGDI), Uzbekistan scored 0.7999 in 2024 and ranked 63rd among 193 states, entering the “very high” group for the first time (69th in 2022 and 87th in 2020)⁴; in the Global Innovation Index it ranked 79th among 139 economies in 2025⁵, and in the Rule of Law Index 81st among 143 jurisdictions⁶. The analysis shows that the country’s position on digital infrastructure is higher than its position on the rule of law. It does not follow from this that digitalisation in itself improves the quality of legal protection: the EGDI measures online services and infrastructure, not the actual restoration of an individual’s rights. Digital capacity is an opportunity, whereas a legal outcome is a separate task. In the field of forced labour this gap is particularly acute, because coercion is exercised through verbal instructions, pressure or informal dependence and leaves no digital trace. Accordingly, the value of digitalisation lies not in the volume of data but in the availability of indicators capable of detecting the indirect traces of such conduct.

The most reliable justification for digitalisation is empirical rather than declarative. According to official reports, in 2021–2025 the prosecution bodies carried out 1,097 inspections (240, 208, 200, 236 and 213 respectively) of compliance with the legislation on labour and labour protection, in the course of which 18,858 violations were identified (1,636, 2,197, 4,525, 4,840 and 5,660 respectively). Analysis of the reports shows that, although the number of inspections did not increase over this period but fell by 11.3 per cent (from 240 to 213), the number of violations detected rose 3.5-fold, that is by 246 per cent (from 1,636 to 5,660). As a result, the number of violations per inspection increased from 6.8 to 26.6, that is almost fourfold⁷.

We propose a two-stage model for the digitalisation of prosecutorial supervision. The first stage is informational and analytical: collecting and cross-checking data, identifying inconsistencies, calculating the level of risk and generating an alert; these processes may be automated. The second stage is legal assessment: assessing an alert as an indication of a violation, taking a decision on an inspection, qualifying the conduct in law and choosing a measure of response remain within the competence of the prosecutor and cannot be transferred to an algorithm.

This boundary is the principal legal safeguard of digital supervision. An alert generated by the system does not mean that a violation has been established — it is an assumption that has to be verified, and for that reason no measure of legal response may be applied on the basis of the alert alone. The model is to be regarded as having failed in two situations: if every alert is automatically converted into a supervisory measure without the prosecutor’s assessment, legal assessment passes to the algorithm; and if no legal decision is taken on the alerts, digital supervision turns into an additional reporting burden.

⁴ United Nations E-Government Survey 2024: Accelerating Digital Transformation for Sustainable Development. – New York: UN DESA, 2024. – <https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/186-Uzbekistan>

⁵ Global Innovation Index 2025. – Geneva: World Intellectual Property Organization, 2025. – <https://www.wipo.int/gii-ranking/en/uzbekistan>

⁶ WJP Rule of Law Index 2025. – Washington, D.C.: World Justice Project, 2025. – <https://worldjusticeproject.org/rule-of-law-index/global/2025/Uzbekistan/>

⁷ Data of the “Form-P” statistical reports of the Prosecutor General’s Office of the Republic of Uzbekistan for 2021–2025.



The basis of digitalisation is the integration of the “E-nazorat” system with the information systems of the Ministry of Poverty Reduction and Employment. On the part of the prosecution service this should involve “E-integratsiya”, “E-nazorat” and “E-tergov”; on the part of the Ministry — the Unified National Labour System, the dmi.mehnat.uz service, the “Risk Analysis” system and its case-management systems.

It is proposed that the integration, and the supervision carried out within its framework, be implemented in the following sequence: *first*, establishing the legal basis by a joint interdepartmental instrument and limiting the data obtained to the subject matter of supervision; *second*, defining the subject matter of integration not as a general “exchange of information” but as specific categories of data, and approving an interdepartmental list that establishes their composition and the corresponding access rights; *third*, forming risk indicators on the basis of the correspondence between the indicators of the International Labour Organization⁸ and the measurable parameters available in national systems; *fourth*, generating an automatic alert when a threshold value is exceeded and ranking alerts by severity, the number of victims and recurrence; *fifth*, intervention by the prosecutor; *sixth*, digital support for the supervisory measure; *seventh*, receiving materials containing indications of a crime through the system; *eighth*, automatic monitoring of compliance with the prosecutor’s act; *ninth*, recording the result of the restoration of rights; *tenth*, a unified register and periodic reconciliation; *eleventh*, review of the indicators; *twelfth*, interdepartmental analysis and prevention.

Two of these stages are of decisive importance. At the fifth stage an alert does not impose an obligation to conduct an inspection: the prosecutor assesses it and decides whether to conduct an inspection, to refer the material to the competent department or to record the alert as unfounded (the latter decision is likewise substantiated by a prosecutor’s act). The ninth stage expresses the legal condition of integration: a case is completed not when the prosecutor’s act has been complied with, but when the violated right of the individual has been restored.

Digitalisation does not reduce the prosecutor’s workload; on the contrary, the flow of alerts increases it. A threshold value must therefore be set for each indicator, and only a situation exceeding that value should be recorded as an alert. Measuring effectiveness by the number of systems introduced is likewise incorrect; the following indicators should be applied: (1) the time elapsed between the generation of an alert and the prosecutor’s assessment; (2) the proportion of confirmed and unconfirmed alerts; (3) the proportion of inspections initiated on the basis of an analytical alert; (4) the number of persons released from forced labour whose rights have been restored; (5) the amount of wages recovered and damage compensated; (6) timely compliance with the requirements of the prosecutor’s acts; and (7) the number of alerts that have produced legal consequences without human involvement — this figure must be equal to zero.

Two opposing views have taken shape in the academic literature. Proponents of the first view regard digitalisation as a necessary condition for improving supervision: V. Isaenko

⁸ ILO Indicators of Forced Labour. – Geneva: International Labour Office, Special Action Programme to Combat Forced Labour, 2012. – 12 p. – https://webapps.ilo.org/public/libdoc/ilo/2013/113B09_11_engl.pdf



assesses it as a necessary and useful method⁹; N. Bobeyko and K. Tanasheva note that technology makes interdepartmental cooperation more effective¹⁰, and M. Boboev observes that automation reduces corruption-related factors¹¹. I. Djuraev supports the possibility of remote inspections¹², and Sh. Jumaev advocates the introduction of artificial intelligence¹³. Representatives of the second view object to the mechanical transfer of the risk-based approach: in A. Ershov's opinion there is no need for such an approach in the planning of inspections, since the prosecution service exercises its powers independently¹⁴; M. Mamasiddiqov regards artificial intelligence as an auxiliary instrument only¹⁵; and M. Das notes that algorithms are prone to error¹⁶. A. Addo and P. Senyo argue that, when a system is being introduced, structures interested in preserving the existing order may deliberately restrict its potential¹⁷; this observation is significant for the field of forced labour, since the entities that enter the data and those that exercise supervision often operate within the same departmental system.

A. Komilov counters A. Ershov by pointing to the breadth of the subject matter of supervision, the impossibility of covering all objects and the limited number of staff positions¹⁸. Yu. Rudenya and A. Bildeiko point to staff shortages, while O. Korshunova emphasises the need for a selective approach to inspections¹⁹. In our view, A. Ershov's objection cannot be

⁹ Исаенко В.Н. Использование информационных технологий в прокурорской деятельности // Тамбовские правовые чтения имени Ф.Н.Плевако: материалы III Междунар. науч.-практ. конф.: в 2 т. / отв. ред. В.Ю.Стромов. – Тамбов, 2019. – С. 331–334.

¹⁰ Бобейко Н.Р., Танашева К.В. Цифровизация органов прокуратуры Российской Федерации // Скиф. Вопросы студенческой науки. – 2022. – №12 (76). – С. 412. – <https://cyberleninka.ru/article/n/tsifrovizatsiya-organov-prokuratury-rossiyskoy-federatsii>

¹¹ Boboev M.M. Improving the organisational and legal foundations of the digital transformation of the activities of prosecution bodies: diss. for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: Law Enforcement Academy of the Republic of Uzbekistan, 2023. – P. 146–147.

¹² Djuraev I.B. Improving prosecutorial supervision over the enforcement of legislation in higher education institutions: abstract of diss. for the degree of Doctor of Science (DSc) in Law. – Tashkent: Tashkent State University of Law under the Ministry of Justice of the Republic of Uzbekistan, 2021. – P. 26.

¹³ Jumaev Sh.B. Prosecutorial inspections of the enforcement of laws: theory and practice: diss. for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: Law Enforcement Academy of the Republic of Uzbekistan, 2026. – P. 104.

¹⁴ Ершов А.А. Планирование прокурорских проверок и риск-ориентированный подход // Актуальные проблемы прокурорской деятельности: сб. материалов науч.-практ. конф. (Москва, 30 ноября 2018 г.) / под общ. ред. Е.А.Глебовой. – М.: Университет прокуратуры Российской Федерации, 2019. – С. 31–34.

¹⁵ Mamasiddiqov M.M. The possibilities of artificial intelligence in scholarly activity // “Huquq” interactive legal newspaper. – 2025. – 9 January. – No. 2. – P. 9.

¹⁶ Das M. Artificial Intelligence Can Never Be Truly Intelligent // Towards Data Science. – <https://towardsdatascience.com/artificial-intelligence-can-never-be-truly-intelligent-227fe9149b65>

¹⁷ Addo A., Senyo P.K. Digitalization and Government Corruption in Developing Countries: Towards a Framework and Research Agenda // Academy of Management Proceedings. – 2020. – Vol. 2020, № 1. – P. 19. – <https://eprints.soton.ac.uk/442611/>

¹⁸ Komilov A.B. Problems and issues of improving the application of legal instruments in the supervisory activity of prosecution bodies over the enforcement of laws: research study. – Tashkent: Law Enforcement Academy of the Republic of Uzbekistan, 2025. – P. 109.

¹⁹ Руденя Ю., Бильдейко А. Надзорно-правоохранительная деятельность прокуратуры в условиях глобальной трансформации систем обеспечения национального правопорядка: сб. материалов Межд.



rejected in full: it records a real feature of prosecutorial supervision — that it is not subject to the procedural restrictions established for supervision exercised by other bodies. The objection is nevertheless mistaken in its conclusion, since it treats risk analysis as an institution that limits powers. In our opinion, risk analysis neither limits nor extends powers: it determines the priority with which they are exercised. The prosecutor retains the right to inspect any object, while risk analysis substantiates which object should be inspected first.

The second debatable issue is the limit of digitalisation. In M. Boboev's opinion, it is important to free digitalisation from the human factor²⁰. This view is well founded in relation to document management, but it cannot be transferred to the stage of legal assessment: removing the human factor may reduce corruption risk, but the subject of legal responsibility then disappears, since an algorithm does not answer for an erroneous conclusion. It is therefore appropriate not to eliminate the human factor but to document it: if every decision is recorded in the system together with its author, the time at which it was taken and its legal basis, a superior prosecutor is able to verify whether it was well founded.

In Brazil, supervision rests on three systems: a public register ("lista suja") in which employers found to have used labour in conditions analogous to slavery are listed for two years²¹; the Digital Observatory of Forced Labour, which aggregates the number of persons released by region and by sector²²; and the "Radar SIT" portal, which openly publishes the results²³. In the European Union, Regulation 2024/3015 prohibits the placing on the market of products made with forced labour and provides that an investigation starts from the risk database maintained by the Commission²⁴; in the United Kingdom, under section 54 of the Modern Slavery Act 2015, company statements are collected in a single electronic register²⁵. The experience of all three shows that the effect of digitalisation stems not from converting

науч.-практ. конф. (Минск, 14 июня 2022 г.) / редкол.: В.В.Марчук (гл. ред.) [и др.]. – Минск: Изд. центр БГУ, 2022. – С. 49, 165. The position of O. Korshunova is cited from: Komilov A.B. Problems and issues of improving the application of legal instruments in the supervisory activity of prosecution bodies over the enforcement of laws: research study. – Tashkent: Law Enforcement Academy of the Republic of Uzbekistan, 2025. – P. 109.

²⁰ Boboev M.M. Improving the organisational and legal foundations of the digital transformation of the activities of prosecution bodies: diss. for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: Law Enforcement Academy of the Republic of Uzbekistan, 2023. – P. 147.

²¹ Portaria MTE/MDHC nº 15, de 29 de julho de 2024: Cadastro de Empregadores que tenham submetido trabalhadores a condições análogas à de escravo («lista suja») // Ministério do Trabalho e Emprego, Brasil. – <https://www.gov.br/trabalho-e-emprego>

²² Observatório Digital do Trabalho Escravo no Brasil: joint data platform of the Labour Prosecution Service of Brazil and the International Labour Organization (SmartLab). – <https://smartlabbr.org>

²³ Radar SIT: Portal da Inspeção do Trabalho. Open data portal of the labour inspectorate of the Federative Republic of Brazil. – <https://sit.trabalho.gov.br/radar>

²⁴ Regulation (EU) 2024/3015 of the European Parliament and of the Council of 27 November 2024 on prohibiting products made with forced labour on the Union market and amending Directive (EU) 2019/1937 // Official Journal of the European Union. – L, 2024/3015, 12.12.2024. – <https://eur-lex.europa.eu/eli/reg/2024/3015/oj>

²⁵ Modern Slavery Act 2015 (c. 30), section 54 // UK Public General Acts; Modern Slavery Statement Registry: the single electronic registry of the Home Office of the United Kingdom. – <https://modern-slavery-statement-registry.service.gov.uk>



information into electronic form, but from transforming dispersed data into a single analytical resource suitable for selecting the objects of supervision.

The digitalisation of prosecutorial supervision over the enforcement of legislation on combating forced labour is a normative obligation with defined deadlines and defined subjects; the composition of the data required and the mechanisms of risk assessment must be specified in a further departmental instrument. Digital capacity is an opportunity, whereas a legal outcome is a separate task; since an offence of this kind leaves no digital trace, the value of digitalisation lies in a system of indicators capable of detecting its indirect traces.

Digitalisation should be divided into two stages: the informational and analytical stage may be automated, while the stage of legal assessment must remain within the competence of the prosecutor; this boundary is the principal legal safeguard of digital supervision. It is proposed that the integration of the “E-nazorat” system with the resources of the Ministry be carried out in twelve stages and that, as the decisive legal condition, a case be completed only when the violated right of the individual has actually been restored. Effectiveness must be measured by outcome-based indicators.