

# ANALYSIS OF THE IMPLEMENTATION OF E-AUDIT (SAF-T) AND «E-EXCISE» AS TOOLS FOR THE DIGITAL TRANSFORMATION OF TAX ADMINISTRATION WITHIN THE FRAMEWORK OF UKRAINE'S NATIONAL REVENUE STRATEGY

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**Annotation.** The article provides a comprehensive analysis of the key tools for the digital transformation of tax administration in Ukraine, as defined by the National Revenue Strategy (NRS). It has been proven that two priority reforms - the introduction of electronic auditing (E-Audit) based on the SAF-T standard and the launch of the «E-Excise» electronic traceability system - are not just technical updates, but a fundamental change in the philosophy of tax control. This change is dictated by the need to ensure fiscal stability in the context of martial law and European integration. The mechanism of the SAF-T standard is analysed, which, through a standardised XML file, provides tax authorities with full access to taxpayer records, ensuring a transition from repressive audits to automated risk management. The architecture of the «E-Excise» system, which replaces paper stamps with Track&Trace technology using DataMatrix codes, combining state control with public monitoring through the Diia app, is examined in detail. It is concluded that the introduction of these tools is aimed at minimising the human factor and de-shadowing the economy. At the same time, attention is drawn to the challenges of implementation, in particular the high technical complexity for businesses and the expected resistance from beneficiaries of shadow schemes.

**Key words:** National Revenue Strategy (NRS), electronic audit, SAF-T, «E-Excise», tax administration, digitalization.

## 1. Introduction.

In the context of full-scale war and the urgent need for European integration, ensuring the fiscal stability of the state is becoming a key issue of national security. On the one hand, Ukraine has faced an extreme increase in defence spending, and on the other, it has had to adapt its legislation to EU standards and meet the strict requirements of international partners, in particular the IMF. In this context, the high level of the shadow economy and the inefficiency of existing tax control mechanisms have become an unacceptable luxury. The relevance of the research topic is determined by the adoption at the end of 2023 of the National Revenue Strategy for 2024-2030 (NRS), which proclaimed a fundamental change in the philosophy of administration.

## 2. Analysis of scientific publications.

The topic of digital transformation of tax administration in Ukraine is new, so its coverage in academic literature is still developing. This is largely due to the fact that key regulatory acts (regarding SAF-T and «E-Excise») are in the final stages of adoption and approval, and the full practical implementation of the system has not yet begun. Scientific works on this topic are still rare. Accordingly, the source base for this work consists primarily of primary sources: the text of the National Revenue Strategy [1, 2], the provisions of the Tax Code of Ukraine [3], relevant resolutions of the Cabinet of Ministers [13,



15], and orders of the Ministry of Finance [7, 8], as well as current press releases from the State Tax Service of Ukraine [10, 14] and analytical materials from professional publications.

### **3. The aim of the work.**

Comprehensive analysis of key digital transformation tools for tax administration (SAF-T electronic audit and «E-Excise» system) identified in the National Revenue Strategy, and assessment of their potential impact on reducing the shadow economy and increasing the state's fiscal capacity.

### **4. Review and discussion.**

At the end of 2023, the Cabinet of Ministers of Ukraine approved the National Revenue Strategy for 2024-2030 (hereinafter referred to as the NRS), which became a framework document for fundamental reform of the country's tax and customs systems [1, 2]. The NIS proclaims a change in the philosophy of tax control, moving from a «repressive» approach based on the «human factor» and corruption risks to an analytical one based on risk-oriented systems and digitalisation. To achieve these goals, the Strategy identifies two priority digital areas that are the subject of this study: tax audit reform through the introduction of electronic auditing (SAF-T) and excise administration reform, which involves the creation of the «E-Excise» system.

Let us consider the first direction of this transformation in more detail: the introduction of E-Audit. It is important to distinguish it from the current desk audit. According to Article 76 of the Tax Code of Ukraine [3], a desk audit is primarily a check on the timeliness of reporting and tax payments, as well as an arithmetic and logical check of the data in declarations, which are compared only with individual registers (such as the Unified Register of Taxpayers and the Unified Register of Taxpayers). E-Audit based on SAF-T is fundamentally different, a much deeper level of control. In the future, with the introduction of the new CRM system of the State Tax Service of Ukraine (hereinafter referred to as the STS), the basic functions of the current desk audit (arithmetic, timeliness) are expected to be performed automatically at the time of reporting. Instead, SAF-T will become a tool for in-depth analysis of the legality of economic activities and identification of risks, which is the basis for the functioning of an automated tax risk management system.

The National Revenue Strategy aims to replace this limited approach with a comprehensive electronic audit based on the OECD's SAF-T (Standard Audit File for Tax) standard. SAF-T is an international standard for the electronic exchange of accounting data between companies and tax authorities. It is a standardised XML file containing complete information about all business transactions from the taxpayer's accounting system (ledger, counterparty data, accounts, payments, inventories) [4]. The mechanism of its operation is that companies are required to generate this file at the request of the tax authority (or, in the future, periodically). The tax authority, in turn, downloads it into its own software and conducts an automated risk analysis, essentially a «virtual audit» of the entire accounting system, without leaving the office. The implementation of SAF-T in Ukraine has already begun, facilitated by the established regulatory framework. It is based on the Tax Code of Ukraine (in particular, paragraph 85.2 of Article 85) [3], the Law «On Electronic Documents and Electronic Document Management» [5], and a number of subordinate acts. The Ministry of Finance of Ukraine has already provided explanations regarding the structure, technical description, and features of SAF-UA [6]. The key milestones in its implementation were Order No. 1393 of the Ministry of Finance of Ukraine «On Approval of the Procedure for Submitting Documents of Large Taxpayers in Electronic Form» [7] and amendments thereto (Order No.561 of the Ministry of Finance of Ukraine) [8]. Although the NSD and regulatory acts established initial stages (in particular, 1 January 2025 for large taxpayers), in practice, the State Tax Service of Ukraine is lagging behind these deadlines. The expected date for the actual use of SAF-UA during documentary audits is 1 January 2026, with the obligation subsequently extending to all VAT payers from 1 January 2027 [9].

The SAF-T UA file is not just a report, but a complete «mirror» of accounting, including detailed blocks of information. It covers data on counterparties (a complete list of buyers and suppliers with details), a detailed nomenclature of goods and services, information on sales and purchases (volumes, dates, amounts, links to primary documents), as well as cash flow: cash and non-cash payments, bank statements. In addition, the file contains data on fixed asset accounting (depreciation, receipts,



write-offs), a complete general ledger, data on tax differences, and details of each transaction linked to accounts [9].

It is important to understand that SAF-T is not so much a verification system as a standardised mandatory reporting file and a key source of data for a new, significantly more complex tax control architecture. As stated in the NSD, the fundamental change in administration will be the introduction of an integrated CRM system. Based on this CRM system, a unified Automatic Tax Risk Management System will be developed in the future. This system will accumulate and analysis data from all available sources (including BigData, cash register data, customs data), and SAF-T will become a tool for the most in-depth analysis of economic activity. The logic of control will change: for all taxpayers who are required to submit SAF-T, the system will automatically generate risk levels (high, medium, low). High-risk taxpayers will be selected for documentary checks, while others will be provided with advice on how to correct errors independently. Thus, the inspector will not select the taxpayer manually, but will respond to signals from the automated system. This is a transition from «post-audit» to data analysis in near real time, which will require absolute transparency and accuracy of accounting «at the entrance» from businesses.

Despite the actual delay in implementation schedules, the State Tax Service of Ukraine is already conducting an active information campaign to promote the reform. In particular, a press release dated 4 September 2025 [10] announced the potential benefits of the SAF-T UA file that are expected from its future use. These include significant efficiency gains (replacement of paper documents with digital analysis), complete tracking of the chain of operations, and a stronger analytical focus in the work of inspectors. At present, this demonstrates the expectations of the reform rather than its actual practical status.

The second key area of digital reform of the State Tax Service, alongside auditing, is bringing the market for excise goods under control. According to analytical studies, budget losses from illegal trade in tobacco products alone amount to tens of billions of hryvnia per year [11]. Accordingly, the National Revenue Strategy itself identifies the de-shadowing of excisable goods as one of the priorities for filling the budget, pointing to the inefficiency of the current paper excise stamp system. The outdated paper stamp, which is easy to counterfeit, is being replaced by a comprehensive electronic traceability system called Track&Trace, known as «E-Excise». It is not just a «digital stamp», but an entire infrastructure that combines several components. The basis is an electronic excise stamp - a unique QR code that is applied to each unit of goods (a pack of cigarettes, a bottle of alcohol). This stamp is registered in a special Track&Trace database, where the manufacturer or importer enters data about it. This allows the system to provide full traceability, enabling the tracking of all movements of goods from the production line or border to the cash register in the store. Public control also plays a key role: every consumer can use the Diya app to scan the QR code and instantly check the legality of the goods [12].

The practical mechanism for implementing this system was the «Procedure for labelling alcoholic beverages, tobacco products and liquids used in electronic cigarettes» approved by the relevant Resolution of the Cabinet of Ministers of Ukraine [13]. According to this document, Ukraine is introducing the labelling of excisable goods under new rules. The key provisions of the Resolution stipulate that instead of paper, a graphic element of an electronic mark will be introduced, consisting of a DataMatrix code and symbols that can be read by humans. This mark will be applied to each individual pack, bottle or container of liquid for electronic cigarettes, and economic operators (manufacturers in Ukraine or importers prior to import/at customs warehouses) will be responsible for applying it. The procedure sets out clear protection requirements: the mark must be applied in such a way that it cannot be replaced or reused without damage. Integration with the EU is also envisaged, where unique identifiers applied to products from EU countries must ensure their identification in the Ukrainian electronic circulation system. For the population, the mark may contain information on how to scan it, which will allow consumers to verify the legality of products (for example, through the «Diia» app). This resolution replaces the outdated Regulation (adopted by the CMU Resolution in 2010), which will expire on 1 January 2026 (with certain transitional provisions until 1 September 2026) [14, 15].

Thus, it becomes clear that the E-Excise system is one of the most priority and technically complex reforms laid down in the National Revenue Strategy. The NRS and the government are counting on this reform to achieve rapid and large-scale results. The main goal is, of course, to de-shadow the



market, as the automatic Track&Trace system, integrated with the cash register, makes the sale of counterfeit or «grey» products through legal networks almost impossible. This, in turn, should ensure full payment of excise duty on each unit of goods and bring tens of billions of hryvnias in additional revenue to the budget. In addition to the direct fiscal effect, the reform also has an important social function: public control through DataMatrix code scanning gives consumers a guarantee that they are buying a legal and safe product.

At the same time, the implementation of such a complex system poses significant challenges. First of all, there is technical complexity, as the reform requires every manufacturer and importer to install expensive marking equipment (DataMatrix applicators) on their production lines. In addition, it requires updating the software on all cash registers (PROs) in the country to correctly 'redeem' the marks. In addition to technical challenges, there is also political resistance: this reform directly affects the excessive profits of the «shadow» sector, so significant resistance is expected from illegal manufacturers and distributors, which may manifest itself in attempts to sabotage or delay the launch of the system. Finally, there remains the challenge of administering the transition period. Despite the initial launch date of 1 January 2026, the timeline has been revised. Given the exceptional technical complexity of the project and the need to establish cooperation between government agencies and businesses, the full launch is now expected to be postponed until 1 November 2026. This, in turn, will require coordinated work between the State Tax Service of Ukraine and businesses to avoid market collapse when the old paper stamps are still in circulation and the new electronic ones are already being introduced.

## 5. Conclusions.

The study proves that the National Revenue Strategy approved at the end of 2023 marks an irreversible transition from the outdated 'repressive' model of tax control to a transparent, analytical system that meets OECD standards. This transformation is based on two main technological pillars: the introduction of SAF-T electronic auditing and the launch of the «E-Excise» electronic traceability system for excise goods. An analysis of the SAF-T tool, which will become mandatory in 2025, has established that it is a tool for 'total transparency' in accounting. Its regulatory framework and the active information campaign conducted by the State Tax Service of Ukraine confirm that it shifts the focus of control from paper-based «post-audit» to big data analysis in near real time, which requires businesses to maintain absolutely accurate records. An analysis of the «E-Excise» system has shown that it is a direct technological tool for combating the shadow economy. By replacing archaic paper stamps with secure DataMatrix codes and the Track&Trace system, it creates a mechanism for full-cycle traceability of goods (from the manufacturer to the consumer's cash register), which makes illegal circulation impossible. Assessing the potential impact of both reforms, it can be argued that they have direct potential to combat the shadow economy and strengthen the fiscal capacity of the state. However, their success is not guaranteed and depends directly on overcoming significant challenges: the high technical complexity of implementation for businesses and the expected strong political resistance from beneficiaries of shadow schemes. Thus, the successful implementation of these two digital initiatives will be an indicator of the state's ability to carry out profound transformations and ensure fiscal stability in wartime.

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