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FORMS OF REGULATING DIGITAL ASSETS IN THE CONTEXT OF ENSURING THE SECURITY OF THE DIGITAL ENVIRONMENT OF THE REPUBLIC OF MOLDOVA[1]

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Abstract

The regulation of digital assets in the Republic of Moldova constitutes a strategic pillar for national security, grounded in the harmonization of domestic legislation with international requirements. The current legal framework transforms intangible assets into legally protected entities, a process guided by Directive (UE) 2022/2555 (NIS 2) and the Budapest Convention, which establish global standards for combating cybercrime. This security architecture is consolidated through Law No.48/2023 on Cybersecurity that imposes rigorous control and resilience mechanisms over critical infrastructures and digital services.

The integration of digital assets into the civil circuit is supported by the provisions of the Civil Code of the Republic of Moldova regarding incorporeal assets, while information integrity is guaranteed by Law No.133/2011 on the Protection of Personal Data. Through the Digital Transformation Strategy 2023-2030, the state establishes a supervisory regime aimed at preventing hybrid attacks and protecting informational sovereignty. Thus, the forms of regulation are not merely administrative norms, but genuine defensive shields that ensure a resilient digital environment, capable of supporting innovation without compromising user safety or state stability in the face of contemporary cyber challenges.

*Keywords: **digital asset, digital content, proprietary right, intellectual property, digital resale.***

FORMELE DE REGLEMENTARE A BUNURILOR DIGITALE ÎN CONTEXTUL ASIGURĂRII SECURITĂȚI MEDIULUI DIGITAL AL REPUBLICII MOLDOVA

Abstract

Reglementarea bunurilor digitale în Republica Moldova constituie un pilon strategic pentru securitatea națională, fiind fundamentată pe armonizarea legislației interne cu rigorile internaționale. Cadrul juridic actual transformă activele intangibile în entități protejate legal, proces ghidat de Directiva (UE) 2022/2555 (NIS 2) și Convenția de la Budapesta, care stabilesc standarde globale pentru combaterea criminalității informatice. Această arhitectură de securitate este consolidată prin Legea nr. 48/2023 privind securitatea cibernetică, ce impune mecanisme riguroase de control și reziliență asupra infrastructurilor critice și a serviciilor digitale.

Integrarea bunurilor digitale în circuitul civil este susținută de prevederile Codului Civil al Republicii Moldova privind bunurile incorporale, în timp ce integritatea informațiilor este garantată prin Legea nr. 133/2011 privind protecția datelor cu caracter personal. Prin Strategia de Transformare Digitală 2023-2030, statul instituie un regim de supraveghere ce vizează prevenirea atacurilor hibride și protejarea suveranității informaționale. Astfel, formele de reglementare nu sunt simple norme administrative, ci veritabile scuturi de apărare care asigură un mediu digital rezilient, capabil să susțină inovația fără a compromite siguranța utilizatorilor sau stabilitatea statului în fața provocărilor cibernetice contemporane.

*Cuvinte-cheie: **bun digital, conținut digital, drept patrimonial, proprietate intelectuală, revânzare digitală.***

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Introduction. In an era of global interconnectivity and reliance on data flows, the Republic of Moldova has embarked on an ambitious path of digital transformation, a process that has required a profound re-evaluation of traditional legal concepts in light of emerging cyber risks. The Reform of the Civil Code of March 1, 2019, marked a turning point by introducing the notions of "digital content" and "digital asset" through Articles 477 and 478. This legislative evolution represents more than a mere administrative necessity; it has become a fundamental condition for guaranteeing national sovereignty and security within a virtual ecosystem increasingly vulnerable to hybrid attacks.

The central issue lies in the transformation of intangible assets into legally protected entities, turning the "digital asset" from a simple line of code into an object of law that requires active security mechanisms. In the context of digital environment security, the regulation of these assets acts as a shield protecting data integrity and critical infrastructure. A secure digital environment cannot be limited to technical solutions alone; it requires a legal foundation that clearly defines responsibilities regarding digital possession and access control, thereby preventing cyber espionage and digital identity theft.

From this perspective, digital security is not merely a technical attribute, but an obligatory premise for the validity of any digital asset. Without a regulatory framework ensuring the resilience of these "quasi-things," users and state institutions remain exposed to risks that can paralyze the functioning of electronic government services and erode citizens' trust in the virtual space. Thus, the present article analyzes how current forms of regulation manage to balance the need for the free circulation of goods with the imperative of maintaining a secure and sovereign digital environment for the Republic of Moldova.

Methods and materials applied. The methodology applied in this research is based on a multidisciplinary approach, combining doctrinal legal analysis with the comparative method to highlight the convergence between national legislation and international security standards. The core of the analysis is the regulatory framework of the Republic of Moldova, specifically examining the amendments introduced by the 2019 Civil Code Reform, particularly Articles 455, 477, and 478, which define the legal regime of "digital assets" and "digital content". To understand the protective dimension of these assets, the study integrates the provisions of Law No.48/2023 on Cybersecurity and Law No.133/2011 on the Protection of Personal Data, as these are essential for ensuring the resilience of the digital environment.

At a comparative level, the materials applied include external sources of inspiration, such as the American RUFADA model (Revised Uniform Fiduciary Access to Digital Assets Act), which served as a benchmark for regulating access to digital assets in cases of incapacity or death. Furthermore, European strategic documents are analyzed, such as Directive (EU) 2022/2555 (NIS 2) and the Budapest Convention on Cybercrime, which outline the coordinates for digital asset security at a regional level. The practical dimension of the research is supported by the analysis of European case law, with a central focus on the French case regarding the Steam platform, which provides a perspective on the recognition of digital assets as objects of property subject to free circulation.

Discussions and results obtained. The alignment of the regulatory framework regarding digital assets with the rigors of Law No.48/2023 on Cybersecurity [1] represents a fundamental shift from a static view based on property rights to a dynamic one focused on the resilience of the Republic of Moldova's information infrastructure. While the Civil Code provides, through Articles 477 and 478, the patrimonial foundation of digital assets, Law No.48/2023 establishes the defense mechanisms that transform these assets into secure and audited entities.

This alignment is primarily visible through Art. 3 of Law No.48/2023, which extends the understanding of a digital asset beyond mere content, integrating it into the concept of "network and information system security". Consequently, the integrity and availability of digital assets are no longer just the private interests of the holder but have become national security objectives. In this regard, Art. 7 imposes rigorous cyber risk management obligations on entities managing such assets, requiring technical and organizational measures proportionate to the identified risk. This means that the regulation of digital assets is no longer limited to defining possession but imposes an active protection regime intended to prevent data compromise.

A vital pillar of this alignment is Art. 12, which introduces the cybersecurity audit. For the Republic of Moldova, this implies that digital assets with major social or economic impact can no longer exist in a verification vacuum; they must undergo periodic evaluations to confirm that the "legal garment" provided by civil legislation is reinforced by a resistant "technical armor". Furthermore, according to Art. 13, the use of European and international certification standards becomes an indirect form of regulating the quality and safety of digital assets, ensuring that their circulation in the virtual environment does not create systemic vulnerabilities.

The reporting and cooperation dimension provided for in Art. 15 completes this picture by establishing an obligation to notify significant incidents. This provision correlates directly with the need to protect digital assets against destruction or unauthorized access, transforming security from a technological option into a shared legal responsibility. Through this legislative synergy, the digital asset in the Republic of Moldova ceases to be a mere legal abstraction and becomes a secured asset, capable of supporting the country's digital transformation in a sovereign and resilient manner against hybrid challenges.

The modernization of the regulatory framework of the Republic of Moldova, materialized by the entry into force of the Civil Code Reform on March 1, 2019 [2], marked a turning point in aligning national legislation with the demands of contemporary technological reality. The central pillar of this transformation is the introduction of Article 477, through which the legislator formally recognizes the categories of "digital content" and "digital asset". This legislative innovation is not merely a terminological update but requires a profound re-evaluation of the legal ontology of the notion of "asset". Although Article 455 remains the fundamental reference, preserving the classic definition of an asset as an entity comprising things and proprietary rights, the insertion of the digital dimension forces an inquiry into the nature of these assets: are we witnessing an extension of traditional categories, a special rule with a derogatory character, or the birth of an autonomous legal institution that borrows civilist language to regulate unprecedented immaterial phenomena?

The dilemma is amplified by the accelerated pace of information innovations, which places classic legal qualifications—historically built on tangible objects—in direct conflict with fluid and dematerialized realities. A striking example is the legal status of cryptocurrencies, assets that fluctuate between divergent interpretations depending on the adopted reference system, generating uncertainties not only in legal qualification but also in accounting and tax records, both nationally and internationally. In this context, national legislation seems to propose a hybrid regime, attempting to anchor digital content within a framework of legal certainty by establishing strict criteria for existence.

According to the requirements of Article 477, a "digital asset" is the result of an asymmetric symbiosis between two cumulative elements: the existence of digital content or an electronic account and, obligatorily, the person's subjective right over them. This legal construction moves away from the disjunctive definition in Article 435 (which distinguishes between a thing or a right), imposing the condition that digital content must always be supported by a subjective right to be qualified as an asset. However, the text of the law leaves room for interpretation regarding the nature of this right—whether it must be strictly proprietary, such as a claim right, or can be non-proprietary, such as access to personal data. This distinction is essential, as using the term "asset" for non-proprietary rights contravenes the civilist tradition that associates an asset with an evaluable economic value.

Furthermore, a careful analysis reveals the need for a clear demarcation between digital assets and intellectual property objects. While copyright manifests over the creation itself, the holder of a digital asset exercises a specific form of control called "digital possession". This does not involve physical appropriation but rather technical control over the digital object.

The pragmatic purpose of these regulations is closely linked to Article 478, inspired by the American RUFADA model (Revised Uniform Fiduciary Access to Digital Assets Act) [3]. RUFADA represents a benchmark American legislative model that served as a source of inspiration for modernizing the Civil Code of the Republic of Moldova. The essence of RUFADA lies in resolving a modern legal conflict between the protection of electronic data privacy and the need for heirs or legal representatives to manage the digital estate of a deceased or incapacitated person.

The analysis of this regulatory framework reveals a strict hierarchical structure regarding consent and access to digital assets. RUFADA establishes that user instructions expressed through online tools provided by platforms (such as "legacy contact" settings) take absolute priority over any other document. In their absence, the will expressed in a testament or other legal acts becomes decisive, and only as a last resort do the service provider's standard terms and conditions apply. This hierarchy was designed to provide fiduciaries—whether executors, administrators, or guardians—the legal authority to manage digital assets, such as online bank accounts, cryptocurrencies, or documents stored in the cloud, without violating federal computer fraud laws.

In the context of our discussion, RUFADA brings an essential clarification to the distinction between the "catalogue of electronic communications" (metadata, such as sender and date) and the "content of communications" (the text of the messages). While access to the catalogue is more easily permitted to the fiduciary to identify assets, access to the actual content requires explicit user consent, thus protecting post-mortem privacy. This approach demonstrates that, in the vision of RUFADA, a digital asset is not treated as a simple material object that can be physically taken, but as an extension of the right to privacy that requires a specialized access regime.

Although the American model has a limited scope, focused on third-party access to digital assets in case of death or incapacity, Moldovan legislation uses this foundation to propose a "non-competitive" approach to traditional classifications. Thus, a clear distinction is made: if digital content is provided on a material medium (such as a CD), it remains subject to the rules of corporeal assets according to Article 455 para. (2). In contrast, pure digital assets tend to naturally fall into the category of incorporeal assets.

Looking ahead, an express classification of assets into corporeal and incorporeal, with the explicit integration of digital assets into the latter category, could eliminate current ambiguities. By recognizing the proprietary or sentimental value of digital content, civil law can provide a coherent legal regime where the existence of the content itself justifies the status of an incorporeal asset, thereby facilitating the secure integration of these assets into modern civil relations.

This perspective suggests that the legislator's primary intention through the amendments to the Civil Code was to extract digital objects from a normative vacuum and provide them with a formal "legal garment", placing them under the protective umbrella of assets and patrimony. Their official recognition is not just a stage of nomenclature but a deliberate attempt to grant them legal guarantees through fundamental institutions, including property rights. However, this legislative ambition faces an insurmountable dogmatic barrier: the immaterial nature of these assets makes it impossible to manifest the attribute of possession in its classic, material sense, which legally excludes their qualification as objects of traditional property.

This discrepancy between the desire for protection and the technical reality of the assets can generate more practical difficulties than legal solutions. Although the legislator accepts the existence of these "quasi-things" through Articles 477 and 478, it fails to base them on detailed and specific regulation, as is the case with intellectual property, where special norms precisely define limits and defense mechanisms. In the absence of special legislation detailing the digital regime, the legal space remains vulnerable to dangerous precedents [4].

The major risk lies in the forced attempt by judicial practice to transfer statutes and rules specific to established institutions onto entities that cannot organically assimilate them. Such an approach risks damaging the purity of theoretical concepts and compromising the full applicability of the respective institutions. Essentially, digital assets remain "quasi-things"—entities that, while having value and utility, lack the constitutive elements of a "thing" in its physical sense, thus requiring a dedicated legal architecture that does not force counterproductive analogies with classic property rights.

The analysis of the legal regime of digital assets in the Republic of Moldova reveals an ambitious attempt by the legislator to provide these virtual entities with a "legal garment" under the cover of traditional asset and patrimony institutions. Through the formal recognition of these assets, the aim was to confer specific forms of protection, sometimes even attempting to relate them to property rights. However, this approach faces a major conceptual barrier, as digital assets cannot be objects of property rights in the classic sense due to the impossibility of manifesting physical possession. This situation risks generating more problems than solutions, as the acceptance of these "quasi-things" in the Civil Code is not mirrored by detailed regulation, as seen in intellectual property. While intellectual creations benefit from special laws defining their limits, digital assets remain in a zone of normative ambiguity that can create dangerous precedents. The main risk lies in the forced attempt to assign them incompatible legal statutes, which damages fundamental theoretical concepts and creates major difficulties in the full applicability of legal institutions for these entities that lack the necessary elements to be considered "things".

This fragility of the civil framework is partially remedied by the process of alignment with Law No.48/2023 on Cybersecurity and by harmonization with the European NIS 2 Directive, which transforms the digital asset from a simple patrimonial unit into an asset requiring active resilience. Thus, the protection of the digital asset migrates from the sphere of physical possession to that of risk management and security auditing, providing practical substance to the concept of technical control.

In conclusion, the regulation of digital assets in the Republic of Moldova is in a state of hybrid transition, where their recognition as autonomous incorporeal assets is the only way to avoid confusion with intellectual or classic property. It is imperative that legislation evolves toward a dedicated structure that recognizes the specificity of these "quasi-things" and ensures their integrity through a synergy between private law and strict cybersecurity standards, thereby guaranteeing real protection of the digital estate in an increasingly interconnected society. We are witnessing the shaping of a digital patrimony attributed to both natural and legal persons under private law, including those under public law.

The harmonization of Moldovan legislation with Directive (EU) 2022/2555 (NIS 2) [5] represents a qualitative leap from defensive security to a proactive resilience strategy, redefining digital assets not just as objects of private patrimony but as critical resources for state stability. By means of Law No.48/2023, the Republic of Moldova transposes the core pillars of NIS 2, imposing a supervisory and risk management regime that directly targets the integrity, availability, and confidentiality of digital assets. Directive (EU) 2022/2555 represents the new European standard of excellence in cybersecurity, designed to replace the old regulatory framework with a much more rigorous strategy adapted to modern hybrid threats. The transposition of NIS 2 through Law No.48/2023 marks the transition from symbolic legal protection to mandatory technical protection, imposing a common high level of security across the Union and, by extension, in partner states in the process of alignment.

The essence of this directive lies in the massive expansion of its scope, eliminating ambiguities by classifying entities into two critical categories: essential (such as those in energy, transport, health, or digital infrastructure) and important (such as postal services, waste management, or chemical manufacturing). This classification is crucial because digital assets managed by these entities cease to be simple elements of private patrimony and become components of critical infrastructure, whose integrity is vital for the functioning of society. The NIS 2 Directive imposes strict risk management measures on these organizations, including risk analysis policies, supply chain security, the use of cryptography, and business continuity plans in case of crisis.

Another fundamental pillar of the directive is the significant incident reporting mechanism, which obliges entities to notify competent authorities within a maximum of 24 hours of detecting a serious threat. This forced transparency ensures a rapid response at the national and European levels, preventing the propagation of cyberattacks. Additionally, NIS 2 introduces the personal responsibility of the entities' management bodies, meaning that an organization's management can be held liable for non-compliance with cybersecurity obligations.

A primary dimension of this harmonization lies in the expansion of the scope and the rigorous classification of entities managing digital assets. In the spirit of NIS 2, national legislation distinguishes between essential and important entities, a classification that transforms the legal regime of digital assets according to their systemic impact. If a digital asset, regulated under civil law by Art. 477 Civil Code, is part of the infrastructure of an essential entity (e.g., energy, health, digital infrastructure), it is subject to much more severe security requirements. This approach eliminates legal fragmentation and ensures that critical digital assets are protected uniformly, regardless of their public or private nature.

In terms of risk management, harmonization with NIS 2 introduces the obligation to secure the entire supply chain. This means that the regulation of digital assets no longer stops at the final holder but extends to digital service providers. According to the European norms adopted nationally, entities are obliged to assess the vulnerabilities of every digital asset purchased or used. The result is the transformation of the digital asset from an isolated entity into an interconnected element, whose legal validity is conditioned by technical compliance and "security by design".

Furthermore, the incident reporting mechanism, a central pillar of the NIS 2 Directive, redefines the protection of digital assets in the event of security breaches. The obligation to notify significant incidents to the Cybersecurity Agency (ASC) within strict deadlines (24/72 hours) ensures that any attack on a digital asset is monitored at the state level. This forced transparency protects not only the individual asset but also prevents a domino effect across the entire digital ecosystem of the Republic of Moldova.

Conclusions. The evolution of the legal regime of digital assets in the Republic of Moldova represents a complex process of transition, marked by the effort to reconcile classic concepts of civil law with the technological realities of the 21st century. This normative architecture, initiated by the Civil Code Reform of March 1, 2019, attempted to provide a "legal garment" to immaterial entities that, until recently, existed in a legislative vacuum. Through Articles 477 and 478, the legislator extracted digital content and electronic accounts from the zone of uncertainty, placing them under the umbrella of patrimony and assets; however, this integration has generated a series of doctrinal and practical challenges that require a multidimensional analysis.

The core of this regulation lies in defining the digital asset as an obligatory symbiosis between immaterial content and an associated subjective right. This legal construction departs from the traditional vision of Article 455, imposing a cumulative condition that, while offering symbolic clarity, leaves unresolved ambiguities regarding the nature of the right—whether proprietary or non-proprietary. Furthermore, digital assets are identified as "quasi-things", entities that possess utility and value but lack the materiality necessary to be objects of property rights in the classic sense. The impossibility of manifesting the attribute of physical possession creates a conflict with the institution of property, risking the deterioration of fundamental theoretical concepts if one attempts to force analogies between technical control (codes, access keys) and the actual possession of a corporeal thing.

This civilist basis, although essential, has proven insufficient in the absence of detailed regulations similar to those in the field of intellectual property. The lack of special laws detailing the protection mechanisms for these "quasi-things" creates a risk of dangerous precedents in practice, where digital assets might be assigned statuses incompatible with their fluid nature. However, this protective void is partially compensated by the new dimension of digital security. Alignment with Law No.48/2023 on Cybersecurity and harmonization with the European NIS 2 Directive mark the transition from a static protection of property rights to an active resilience strategy. The digital asset ceases to be merely a unit of private patrimony and becomes a strategic asset whose existence is conditioned by information system security, risk management, and periodic auditing.

In conclusion, the legal regime of digital assets in the Republic of Moldova is currently in a hybrid paradigm, where civil law provides the foundation for patrimonial recognition, and cybersecurity legislation provides the practical defense mechanisms. To ensure full and coherent applicability, a doctrinal re-evaluation is imperative to definitively anchor these assets in the category of incorporeal assets, detaching them from the constraints of classic property. The future of this regulatory framework depends on the ability to develop a dedicated legal architecture that does not force the adaptation of digital assets to old institutions but creates new forms of protection based on secure technical control and shared responsibility. Only through a synergy between the rigor of the Civil Code and the dynamism of cybersecurity standards can the Republic of Moldova guarantee a sovereign digital environment capable of protecting the economic and sentimental value of its citizens' virtual assets in the face of global challenges.

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