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THE EVOLUTION OF REGISTRATION SYSTEMS IN UKRAINE: INTERNAL AND EXTERNAL PERSPECTIVES¹

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Abstract. The article explores the impact of technological advancements on the development of the legislative framework regulating registration systems in Ukraine. In the context of the transition from traditional to digital approaches, combining existing management practices with innovative solutions became particularly important. Also, the success of digitalization depends on the effectiveness of cyber security measures.

Adaptation to technological change has been proven to be key to achieving strategic goals from a legal perspective. Phased implementation of changes is an important stage of sustainable and effective development of registration systems in Ukraine which will allow all participants in the process to adapt to new stages of digital development, and the use of pilot projects helps to inform strategic decisions in a rapidly changing technological environment.

The article summarizes that the development of technologies and digital transformation requires not only technical solutions but also new legal strategies to ensure the effective and safe functioning of registration systems in the modern world.

Key words: registration systems, administrative procedures, administrative service, digital technologies, interaction systems, pilot project.

1. Introduction. Every legal system, including Ukraine, actively uses technological advancements to create appropriate registration systems. For example, using database interoperability software allows multiple users to use modern registration systems. This process is based on interaction between the legal system and existing information management systems.

In the modern period, Ukraine faces significant challenges arising from the ongoing military conflict initiated by the Russian invasion on February 24, 2022. At the same time, obtaining the status of a candidate for joining the European Union in June 2022 turned out to be a strategically important moment for the country. These events are a catalyst for the development of ideas and the approval of innovative solutions for the optimal functioning of registration systems in conditions of geopolitical changes and internal transformations.

Commission Staff Working Document "Ukraine 2023 Report" accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions dated November 8, 2023, is an orientate for further development of Ukraine, in particular in the field of digital transformation.

According to the report, digital technologies have reached a high level, with the approval of the Administrative Procedure Law in May 2022 (Law № 2073-IX) being a significant step in the right direction. The law harmonized disparate administrative procedures in different sectors of public administration. Due to the war, special access features to unify state registers were established, and restrictions on access to public information were imposed for security reasons.

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The report also emphasizes the success of offline administrative service centers, despite war damage, thanks to their offices, remote workplaces, and mobile centers. The transformation of digital service delivery, followed by the creation of the Ministry of Digital Transformation, continues to produce positive effects. The Diia portal and mobile application provide mature digital services based on a remote qualified electronic signature and the full validity of digital documents and credentials. The Diia portal enables access to the most popular electronic public services, and these services are also available in the Diia mobile application and on other web resources of public authorities (Commission Staff Working Document, Ukraine 2023 Report).

Incidentally, the success in digitization emphasizes the effectiveness of cyber security measures defined by the Cyber Security Strategy of Ukraine (Decree of the President of Ukraine N 447/2021). In particular, this is manifested in maintaining the functionality of registration systems and ensuring their reliability in peacetime and during martial law.

Therefore, in the conditions of geopolitical and internal changes, the combination of existing information management systems and innovative solutions is optimal for the functioning and development of registration systems. Strategic perspectives emphasize the importance of changes and their gradual implementation.

At the same time, the effectiveness of cyber security measures is critical to ensure the functionality and reliability of registration systems during digital transformation. Observations on the capacity of digital technologies and pilot projects provide objective information for informed decisions about the development of registration systems. Moreover, digital transformation requires deep understanding and effective implementation to ensure reliability and effective management.

Taking into account the potential of digital technologies, it is necessary to consider the possibilities of developing new legal approaches and reforming existing ones to adapt to modern challenges and standards. In general, the development of technologies and digital transformation require not only technical solutions, but also new legal strategies to ensure the effective and safe functioning of registration systems in the modern world.

Considering that digital technologies shape the choice for modernization of domestic legal systems, observing the capabilities of digital technologies and the effectiveness of their implementation allows us to draw reasonable conclusions about the further development and modernization of registration systems, taking into account possible risks and benefits.

The article's objective is to study the impact of technological development on the legal systems, particularly on regulation of registration systems. There are new challenges and opportunities arising from the transition from traditional to digital approaches. The analysis considers the capabilities of digital technologies, providing information for informed decisions on further development and modernization of the system and determining the feasibility of supporting existing practices as a long-term method of managing registration systems.

2. Literature Review. The evolution of technologies is changing the traditional world, giving rise to new legal challenges and becoming the subject of extensive discussion among scholars and practitioners.

Highlighting current challenges, Logvinov V.G. and Medved A.V. emphasize, "Digital transformation changes the way of management... creates an entirely new administrative process... there is a need for the public authorities to review everything they do, rethink and revise both internal and external processes, starting from the interaction between departments... to external interactions with users and organizations... digital transformation, on the one hand, prompts the reengineering of existing processes, and on the other hand, indicates that its greatest efficiency can be achieved only through the reengineering of processes, not just their simple digitization, which can only cause harm" (Logvinov, Medved, 2020).

Continuing the authors' thought, it is noteworthy that digital products are transforming actually every sphere of human activity and are being integrated into more aspects of life, business, and soci-

ety. Investments in advanced technologies are a trend in modern social relations, considering their potential and opportunities. Under these conditions, digitization is not only an enhancement of capabilities but also an increased risk of cyber security. Moreover, the global chain initiated by digitization processes provides the necessity of understanding that any digital products and their implementation in the future may be associated with or cause gaps in the legal system. In confirmation, we refer to the considerations of Konashevych Oleksii (2020), who mentions, "Blockchain fits both legal traditions of property registries, i.e. keeping title records (Torrens system and civil law) and keeping chains of deeds (common law system)... Blockchain is a registry itself... It indicates both: records of property rights (titles) and records of transactions (deeds)... It is clear that it is not possible to transfer the whole system to the blockchain in one night for various reasons (technological, political, organizational, legal). Instead, the traditional public registry and blockchain systems can work in parallel, and therefore, citizens will have the right to choose where they want to manage their property rights" (Konashevych, 2020)

Therefore, it is crucial today to observe the capabilities of digital technologies, and launching of pilot projects is considered positive under such conditions. This provides objective information for making thoughtful decisions regarding further development and modernization of the system, and it is advisable to support the preservation of existing practices as a long-term method of managing registration systems. M. Prado, M. Trebilcock emphasize, "in other words, experimentation creates demonstration effects. Those who are afraid of change can observe concrete results before deciding whether or not to support full-scale reforms. This is often touted as one of the advantages of pilot projects" (M. Prado, M. Trebilcock, 2018).

Expressing interest in recent technological advancements, M. Tridimas, T. Bloomsbury draw attention to the fact that the European Union has initiated "in the process of developing an EU-wide block-chain infrastructure. Blockchain law, like the law of the interaction between lex cryptographia and the mainstream legal system" (M. Tridimas, T. Bloomsbury, 2021), as "Blockchain gives greater control over personal data than the techniques of centralized data storage" (M. Tridimas, T. Bloomsbury, 2021). The authors (M. Tridimas, T. Bloomsbury) believe that the emergence of the collaborative economy, coupled with artificial intelligence, big data, and 3D printing, sets the stage for something akin to the fourth industrial revolution. Simultaneously, they point out significant challenges faced by domestic jurisdictions in addressing issues related to cryptocurrencies and identify problems arising for blockchain technology due to data protection laws, notably the GDPR in the EU. The GDPR was designed for the centralized collection, storage, and processing of personal data, making it challenging to transpose its logic to decentralized digital ledgers.

The above overview points to global trends in digital transformation and challenges related to legal aspects and opens the floor to a wide range of discussions.

The development of technology in today's world causes new legal challenges and emphasizes the importance of reviewing existing processes. The interaction between traditional and digital approaches requires a deep understanding of existing systems management methods, which is an integral guarantee of validity and efficiency in the future. The further development of registration systems is integral to this context.

In the period of the current technological revolution, the evolution of registration systems is taking place against the background of the transition from traditional approaches to digital innovations. The movement from the past to the future defines new opportunities and challenges that require a deep understanding and development of ways of adaptation for effective management in the conditions of a rapidly changing world.

3. Initial steps in the establishment of registration systems. The introduction of electronic registers in Ukraine was carried out based on the distribution of powers between authorities according to their competence.

The first electronic registers, implemented in the 2000s, facilitated the management of interconnected data with the ability to search, store, and update information in the relevant regulatory area. The peculiarity was in reproducing information on electronic media and paper, with a priority given to preserving information on paper documents. Registers were distinguished by property rights to real estate (buildings, structures, etc.) and land plots, and registration actions were carried out within the administrative-territorial unit, with no electronic exchange of information between registers. The introduction of electronic registers was preceded by registers formed on paper. For example, in the 1960s–1990s, the procedure for registering rights to real estate (other than land plots) in Ukraine was defined by the Instruction on the Procedure for Registering Houses and Homeownership in cities and villages of the Ukrainian SSR, the Instructions approved by the Ministry of Communal Economy of the Ukrainian SSR on January 31, 1966, and coordinated with the Supreme Court of the Ukrainian SSR on January 15, 1966 (Order of the Ministry of Communal Services of the Ukrainian SSR, 1966) were in action. According to the requirements of the Instructions, Registration Books of the households of local Councils of deputies of workers, state, cooperative, and public institutions, enterprises, and organizations, the Journal of house (household) owners alphabetically by surnames or names of institutions, enterprises, and organizations, and the Journal of houses (households) belonging to enterprises and organizations alphabetically by street names, were maintained on paper. The list of legal documents serving as the basis for the registration of buildings and households included 18 titles, including the Register of municipalized buildings, compiled in the process of distributing nationalized and municipalized buildings, and so on. The 1966 Instructions were replaced by the Instructions on the procedure for state registration of ownership rights in 1998 (Order of the State Committee for Construction, Architecture and Housing Policy of Ukraine № 121/10).

Thus, the maintenance of separate Books of registration of objects of residential and non-residential property owned by legal entities and individuals on paper media was started, and a list of legal documents that are the basis for registration of ownership, such as sales contracts, decisions of the arbitration court on distribution of property of the former collective farm, certificates of ownership, and so on.

The beginning of 2002 marked the initiation of electronic registries – databases with a corresponding set of data, organized according to their characteristics, and with relevant interconnections between elements in a defined subject area. At the same time, the priority of saving information on paper media is maintained.

For example, by the order of the Ministry of Justice of Ukraine dated 07.02.2002 № 7/5, the Temporary Regulations on the procedure for registering ownership rights to real estate were approved. According to this regulation, the Registry of Rights was initiated, which included an electronic database, registration cases, journals of registration of rights, and registration of requests for information from the Registry of Rights.

The Registry holder is determined to be the Ministry of Justice of Ukraine, and the administrator is the State Enterprise "The Information Centre". State registration was permitted exclusively within the limits of one administrative-territorial unit by one registrar of the Bureau of Technical Inventory. The objects of registration were documents certifying ownership and usage (servitude) rights to real estate located on land plots; rights to use (lease, rent) a building, etc. Importantly, the Temporary Regulations on the procedure for registering ownership rights to real estate did not regulate the registration of rights to land plots. Another registry, the State Land Registry, dealt with this issue.

The temporary procedure for maintaining the state land registry, introduced in 2003 (The order of the State Committee on Land Resources № 174/12) (expired in 2012), initiated the creation of a unified system of state registration of land plots, real estate, and rights to them as part of the state land cadastre. The term "State Land Registry" entered into legal use as a component of the state land cadastre, including books of records of state acts on ownership rights to land and the right to per-

manent land use, lease agreements with indication of cadastral numbers of land plots, and the Land Register Book, containing information about land plots, was arranged by using the automated system of the State Land Cadastre. The registration of a land plot and state registration of documents certifying the right to it were carried out within the administrative-territorial unit and performed by the structural units of the State Land Cadastre Center at the State GeoCadastre of Ukraine.

The absence of electronic information exchange between registries made the mutual coordination and data exchange more difficult, hindering the effective functioning of the registration system overall. The next stage was the introduction of unified state registries aimed at creating a unified integrated data management system, which became a national database and is successfully used today. This initiative contributed to simplifying data exchange and enhancing the efficiency of the registration system overall.

In summary, the initial stages of the establishment of registration systems in Ukraine predicted the introduction of electronic registries in the 2000s, based on the distribution of responsibilities among authorities and ensuring data management according to their competence. Preference was given to preserving information on paper. Over time, there arose a need to refine and agree on registration procedures, leading to the introduction of unified state registries that facilitated information exchange and enhanced the efficiency of the registration system. This development signifies a gradual transition from traditional paper-based systems to modern electronic registries, optimizing management and improving the quality of registration services.

4. The Creation of a Unified Registration System and Their Interaction. It is noteworthy that the corresponding steps in implementing standards in registry management are primarily associated with the adopted Program of Ukraine's Integration into the European Union, approved by the Decree of the President of Ukraine on September 14, 2000 (Decree of the President of Ukraine № 1072).

The program included several integration directions, among which was the establishment of the Unified State Register of Legal Entities and Individual Entrepreneurs (USRLEIE). Regarding the USRLEIE, it was stipulated that the identification of founders (owners) would be mandatory at the registration stage, and the introduction of new terms such as subsidiary and branch into the legislative field was necessary in accordance with EU directives. The use of advanced technologies and databases and the creation of a unified information database were anticipated to maximize institutional capacity.

As a result, with the approval of the Law of Ukraine "On State Registration of Legal Entities, Individual Entrepreneurs, and Public Associations" in 2003 (Law № 755-IV/14), the first Unified Register was introduced in Ukraine. Its legal focus involved regulating relations arising in the field of state registration of legal entities, their symbols (in cases provided by law), non-legal entities, and individual entrepreneurs. The Unified State Register of Legal Entities, Individual Entrepreneurs, and Public Associations is a technological implementation of the provisions of Article 91 of the Civil Code of Ukraine (Civil Code of Ukraine № 435-IV), according to which the legal capacity of a legal entity arises from the moment of its creation and ceases from the date of entry of the termination record into the Unified State Register, and Part 1 of Article 89 of the Code (Civil Code of Ukraine № 435-IV), according to which a legal entity is subject to mandatory state registration in the manner established by law.

Starting from January 1, 2013, after the approval of the laws of Ukraine "On State Registration of Property Rights to Real Estate and Their Encumbrances" (Law № 1952-IV/16) and "On the State Land Cadastre" (Law № 3613-VI/17), a Unified System of State Registration of Property Rights to Real Estate, including land plots, and a Unified State Geo-Information System of Land Information – the State Land Cadastre were created.

In 2021, with the Law of Ukraine "On Public Electronic Registries" (Law № 1907-IX/18), existing numerous registries were organized, categorizing them into basic registries, other registries, and registries of self-regulatory organizations, as defined by law.

Among the basic registers are the Unified State Demographic Register; Unified State Register of Legal Entities, Individual Entrepreneurs, and Public Associations; State Land Cadastre; Unified State Register of Vehicles; Register of Buildings and Structures; Unified State Address Register; State Register of Property Rights to Real Estate. The objects of these registers include information about individuals, legal entities, and associations of physical and/or legal entities; lands and land plots with real estate objects located on them; specific legal statuses of individuals and their associations, legal entities, public associations, events, certificates, licenses, declarations, notifications, permits, other documents of a permitting nature; natural resources; legal regimes of land use and development of territories and specific objects; movable property subject to state accounting under the law, property and non-property rights, their restrictions and encumbrances, regulatory legal acts, normative acts, and technical documents, court decisions, enforcement documents, other documents and their details, powers of attorney; construction objects and completed construction objects.

Therefore, the implementation of public electronic registers is diversified, including information about individuals and legal entities, movable property, property rights, and other aspects. This reflects the rapid development of state registration tools aimed at facilitating interaction between citizens and authorities, as well as ensuring transparency and accessibility of information.

Let's delve more into a few registration systems to understand their purpose and functioning.

4.1. Unified State Register of Legal Entities, Individual Entrepreneurs, and Public Associations. The register is filled with the information about these entities, including their owners, structure, status (termination, reorganization, or liquidation), as well as statutory data, information about the ultimate beneficial owner, and more. The information included in the register takes into account the peculiarities of legal entities based on specific legislative acts. For example, additional provisions of the Law of Ukraine "On Limited and Additional Liability Companies" (Law № 2275-VIII) are applied to enter information regarding a limited liability company, and the requirements of the Law of Ukraine "On Joint Stock Companies" (Law № 2465-IX) are applied for a joint-stock company.

This demonstrates the presence of a systematic approach in creating a state registration system and the existing correlation in the system's functioning through the development of relevant software based on various legal acts, with the expansion of the system's capabilities being evident.

The custodian of the Unified State Register of Legal Entities, Individual Entrepreneurs, and Public Associations is the Ministry of Justice of Ukraine.

The recent legislative changes to the Law of Ukraine "On State Registration of Legal Entities, Individual Entrepreneurs, and Public Associations" (scheduled to come into effect in 2024) (Law № 755-IV) address the issue of state registration of branches and representative offices of a legal entity established under the legislation of a foreign state. In reviewing these changes, the legislator focused on the complexity of the document verification procedure for the state registration of branches and representative offices of foreign legal entities in Ukraine, explaining this by the absence of electronic data exchange with the relevant electronic registers of EU member states.

This underscores that interaction and information exchange using modern forms represent a contemporary approach to effective communication and collaboration. The use of advanced technological developments creates conditions for rapid and secure data exchange between different platforms and participants, making them crucial tools for management and intergovernmental activities.

Let's note that the relevant steps in implementing the mentioned direction have been taken. Indeed, according to the data from the EU Report (2023) "the Ukrainian parliament adopted the Law amending certain legislative acts on ensuring the conclusion of an agreement between Ukraine and the European Union on mutual recognition of qualified electronic trust services and implementation of the European Union legislation in the field of electronic identification. It provides for the obligatory conformity assessment of qualified trust service providers by the independent bodies according to a

certification model, similar to that of the EU" (Commission Staff Working Document, Ukraine 2023 Report).

4.2. State Register of Real Rights to Immovable Property. This is the only state information system that processes, stores, and provides information about registered real rights to immovable property and their encumbrances. It contains information about real rights to immovable property, including unfinished construction and ownerless real estate, encumbrances on such rights, and ensures accurate data for all parties involved in these legal relationships. The registry information is officially recognized by the state as evidence of the acquisition, modification, or termination of real rights to immovable property and encumbrances on such rights. Rights arising from legal transactions regarding real estate or unfinished construction, such as buying and selling, gifting, leasing, permanent use, servitude, and others, are subject to mandatory registration in the State Register of Real Rights to Immovable Property to ensure their official registration and legal clarity.

Since 2016, after the adoption of legislative changes by the Verkhovna Rada of Ukraine in the decentralization and transfer of a significant portion of duties from executive authorities to local self-government, the subjective composition of entities providing services in the Registration systems has changed. As a result, executive bodies of village, settlement, and city councils are included in the system of authorities performing duties in the field of state registration of rights, in addition to the Ministry of Justice of Ukraine and its territorial bodies. At the same time, the Ministry of Justice remains the custodian of the State Register of Rights, ensuring its creation and functioning, while the technical administrator is a state enterprise designated by the Ministry of Justice of Ukraine and included in its management scope.

4.3. State Land Cadastre. This is the only state geoinformation system of data about lands located within the state borders of Ukraine, their intended use, restrictions on their use, as well as data on the quantitative and qualitative characteristics of lands, their estimation, the distribution of lands among owners and users, and information on land improvement networks and components of land improvement networks. The State Land Cadastre includes geospatial data, metadata, and services, disclosure, and other activities, access to which is provided on the Internet in accordance with the Law of Ukraine "On the National Infrastructure of Geospatial Data" (Law № 554-IX). The registration system is held by the State GeoCadastre, and the administrator is a state enterprise or a state institution belonging to the scope of this authority.

The system data operate on a centralized principle and provide network access to information through means of identification, with the use of XML files remaining a priority in filling the Registration systems. For example, according to the Cabinet of Ministers of Ukraine Resolution of October 17, 2012 (Resolution of the Cabinet of Ministers of Ukraine № 1051), when filling in the State Land Cadastre system, an electronic document is created in the form of an XML file in Unicode (UTF-8) encoding and contains text elements and attributes that include identification and version of the electronic document format and software.

It should be noted that in terms of information preservation priority, record-keeping is carried out on both paper and electronic media, where, in case of inconsistency, information on paper media takes precedence.

4.4. Interaction of Registration Systems. The regulatory framework managing the operation of basic Registries in Ukraine provides for the possibility of interaction between information systems, such as the State Land Cadastre and the State Register of Property Rights to Real Estate, the State Land Cadastre and the Urban Planning Cadastre, and cadastres of other natural resources. The practical implementation of such exchange involves the software and technical support of the legal norm by ensuring the functioning of the relevant Registries in correlation with the applied software, allowing for real-time information interaction between the Registries.

It is important to note that currently, the Registries in Ukraine operate with certain limitations due to the imposition of martial law under the Law of Ukraine "On the Legal Regime of Martial Law in

Ukraine" (Law № 389-VIII) in connection with the military aggression of Russia. Existing threats and risks serve as an incentive to establish an appropriate level of legal and technological security of information systems, find optimal ways of their operation, and ensure reliability in application.

Regarding the structure and format of information files transmitted and received in the process of information interaction, as defined by the Procedure for maintaining the State Register of Rights № 1141 (Resolution of the Cabinet of Ministers of Ukraine № 1141), procedures for the interaction of information systems and their changes are determined by the Ministry of Justice together with the state body that is the holder (manager, owner, administrator) of the particular information system. This is done through decisions that are documented by separate protocols /agreements in the established way.

A number of acts regulating the interaction of Registration Systems do not contain additional information on the technical regulation of interaction but only define the basic principles of interaction and information exchange between Registries. Among the adopted acts, the Procedure for the interaction of information systems of the State Register of Property Rights to Real Estate and the State Land Cadastre, approved by the order of the Ministry of Justice of Ukraine, the Ministry of Economic Development, Trade and Agriculture of Ukraine on November 23, 2020, № 4060/5/2416, the Procedure for information interaction between the State Register of Property Rights to Real Estate, the Unified State Register of Legal Entities, Individual Entrepreneurs, and Public Formations, and the Unified State Register of Judicial Decisions, approved by the order of the Ministry of Justice of Ukraine, the State Judicial Administration of Ukraine on January 29, 2019, № 270/5/94, the Procedure for information interaction between the State Land Cadastre, other cadastres, and information systems, approved by the resolution of the Cabinet of Ministers of Ukraine on June 3, 2013, № 483, the Procedure for the transfer, storage, operation, and access to state information resources (public electronic registers) and their backup copies hosted on cloud resources and/or data processing centers located outside Ukraine, approved by the resolution of the Cabinet of Ministers of Ukraine on December 30, 2022, № 1500.

Access to the use of unified registries is facilitated through electronic identification using an integrated electronic identification system. The access marker is an object with unique attributes, and authorization is applied through login to prevent unauthorized access to the registry.

The architecture of modern registration systems is centralized, where government authorities act as holders and guarantors of the reliability of the system's operation. Registration systems are specialized ones which use multi-purpose processes, allowing network connection, and providing access to numerous users.

For example, the electronic interaction system of state electronic information resources called "Trembita" is an information and communication system designed to automate and technologically support data exchange between subjects of electronic interaction from electronic information resources based on unified rules and protocols while providing public (electronic public) services and the fulfillment of other tasks assigned to them. The software package includes tools for accumulating, accounting, and displaying information about participants of the system, subjects of electronic interaction, operators, electronic information resources, program interfaces, services, and electronic information interactions. The system is managed by the Ministry of Digital Transformation.

It is worth noting that "Cybernetica has been the lead IT partner for the development of Trembita. According to Riho Kurg, head of data exchange technologies at Cybernetica, while X-Road and Trembita are 'practically the same' from a usage point of view, they have different internal mechanisms, in part because the Ukrainian government insisted on using Ukrainian cryptography, which gives Trembita another cryptographic layer over international standard algorithms. Trembita also has increased security around signature verification and more protection at the operating system level" (e-Estonia, Post date: April 22, 2021).

The system is one of the key elements of the infrastructure for the providing of electronic services to citizens and businesses, which provides convenient, unified access to the data of state registers.

The legal and regulatory framework for the functioning of the basic registries in Ukraine regulates the possibility of interaction between registration systems. At the same time, interaction requires software and technical support, as well as attention to restrictions related to martial law. At the same time, it is important to take into account the architecture of centralized registration systems that ensure the efficiency and security of functioning, as well as the use of integrated electronic identification systems to ensure safe access to registers. Such systems as "Trembita" are key elements of the infrastructure for the providing of electronic services, encouraging convenient access to the data of state registers for citizens and businesses.

5. A single window in the use of registration systems: The Centre for the providing of administrative services and application "Diya". The influence of technological products has contributed to the redesign of the public sector, becoming a crucial factor in the development of Registration systems. In 2012, the Law of Ukraine "On Administrative Services" (Law № 5203-VI) was approved, initiating the standardization of access forms to a diverse range of information, the custodian of which is the executive authorities. The legal framework introduced the terms "administrative" and "technology card", which defined the type of administrative service and the corresponding procedure and deadlines for its implementation. Among the list of services, administrative services include the registration of property rights to real estate, the right of trust ownership as a means of ensuring obligations on real estate, an object of unfinished construction, the registration of property rights derived from ownership, administrative services for providing information from the State Register of Property Rights to Real Estate, state registration of a land plot, and ordering an extract from the State Land Cadastre regarding a land plot and so on.

It is worth noting that the list of services is diverse and outlines a significant area of legal relations related to objects of civil rights defined in Article 177 of the Civil Code of Ukraine (movable and immovable property (land, buildings, etc.), securities, digital assets, property rights, works and services, results of intellectual, creative activity, information. The formation of a new service is primarily associated with the approval of legislatively defined legal norms and their practical application.

5.1. The Centre of Administrative Services. The implementation of the provisions of the Law of Ukraine "On Administrative Services" (Law № 5203-VI) defined the necessity to establish The Centres of Administrative Services (CAS) – a permanently operating working body or executive body (structural unit) of local self-government and state administrations. The activities of the CAS are based on providing service according to the principle of a single window, with the authority to manage registration systems not falling within the competence of the specified body. Interaction between service providers (system holders) and the CAS is carried out through the composing of cooperation agreements between the CAS and the service provider, who ensures the management and filling of the registration system.

The network branching of CAS has provided the opportunity for service provision in various parts of Ukraine. According to information published on the website of the Cabinet of Ministers of Ukraine, the Ministry of Digital Transformation of Ukraine noted that "as a result of monitoring in the II quarter of 2021, the CAS network grew to 2337 points of access to administrative services. Compared to the I quarter of 2020, the CAS network grew by 1286 points of access, which is twice as much as the indicator of the previous year. Only in the first half of 2021, the number of access points increased by 516, which is 28% more than in 2020" (How the Ministry of Digital Transformation of Ukraine expanded the geography of providing administrative services: statistics. Published on August 11, 2021).

Furthermore, in 2021, the Law of Ukraine "On the Features of Providing Public (Electronic Public) Services" (Law № 1689-IX) was approved, expanding the circle of subjects – service providers, pre-

dicting to give the services using information and telecommunication systems, including the Unified State Web Portal of Electronic Services, with the application of identification of the person – requester by applying an electronic signature created in accordance with the Law of Ukraine "On Electronic Trust Services" (Law No 2155-VIII).

5.2. Diia Portal. The functioning of the Diia portal is regulated by the resolution of the Cabinet of Ministers of Ukraine № 1137. The "Diia" portal is the only state web portal for electronic services. This system integrates various information and communication as well as just information systems to operate as a unified system and communicate with other information systems. It includes the mobile application "Diia", the Administrative Services Registry, the user's electronic cabinet, mobile applications, and other components, with the regulation of these requirements being clearly defined.

The electronic information interaction of the "Diia" Portal with state electronic resources and other systems is carried out through electronic interaction systems, applying requirements for personal identification in digital space and ensuring information security measures.

In summary, the application of digital technologies in administrative processes allows registration systems to become more transparent, efficient, and accessible to citizens. However, it is crucial to continue developing and improving these systems, particularly in the direction of enhancing cyber security and resistance to potential threats. The overall trend of improving administrative services and registration systems reflects a commitment to a high standard of quality in the interaction between citizens and government authorities. The transition to digital platforms and the use of modern technologies contribute to the creation of an efficient and transparent system that meets the requirements of a modern information society. The interaction of the web portal with state electronic resources and other systems is regulated by the application of relevant standards and ensures information protection. These steps not only enhance the accessibility of administrative services but also contribute to the modernization of registration and information exchange systems.

6. Pilot Projects as Tools for Testing New Solutions. Pilot projects can serve as a tool for testing new solutions, evaluating their suitability, and determining optimal paths for further development.

It is noteworthy that the practice of implementing pilot projects is well-known in Ukraine.

The pilot projects being implemented are a space for conducting experiments in a certain area of legal relations with the initial data known at the initial stage of the pilot project. This is a kind of testing of legal capacity, in particular, of the registration system using new software products and the search for a modified approach to the enforcement of existing legal relations.

At the same time, there is no definition of a pilot project in Ukrainian legislation. According to general practice, pilot projects are implemented temporarily for the development of current legal acts, and according to the direction of application, they are a separate form of legal regulation of management procedures.

For example, pilot projects are associated with the deregulation of land relations in Ukraine. Before this period (until 2016), each region of Ukraine (a region is part of the administrative-territorial structure of Ukraine and includes cities, districts in cities, districts, towns, villages) practically independently made solutions of issues related to the application of law in regulating land relations and resolving land disputes. The main reason for such autonomy was the storage of archival land management documentation only on paper according to the location of the land. The change in the approach to storing archival documentation and its transformation into electronic form enabled the implementation of several pilot projects. Cabinet of Ministers of Ukraine Resolutions № 580 of August 31, 2016 (no longer in force) and № 455 of June 3, 2020 (no longer in force) approved the implementation of projects introducing the principle of extraterritoriality in coordination of land management documentation with the territorial bodies of the State Service of Geodesy, Cartography, and Cadastre, as well as in the state registration of land plots. However, these experiments did not continue in implementation, in particular due to changes in land legislation regarding the cancellation of the procedure for approval of land acquisition projects.

In 2015, by the order of the Ministry of Justice of Ukraine № 1159/5 of July 7, 2015, a pilot project was introduced in the field of state registration of property rights to real estate and their encumbrances regarding the pre-submission of applications. It was envisaged to expand access to software compatible with the software of the State Register of Property Rights to Real Estate (no longer in force in 2015).

By the resolution of the Cabinet of Ministers of Ukraine dated October 26, 2016, № 789-r, the implementation of a pilot project on informing in the field of state registration of property rights to real estate and their encumbrances was introduced. This pilot project was implemented to protect property rights and economic interests of citizens, reduce the risks of illegal seizure of real estate, provide information about registration actions in the State Register of Property Rights to Real Estate, improve the functional capabilities of the property registration and monitoring system.

By the resolution of the Cabinet of Ministers of Ukraine dated May 22, 2019, № 374-r, a pilot project was introduced to implement electronic accounting of cultural heritage objects. This project aims to implement unified standards in the field of cultural heritage protection to provide access to information about cultural heritage objects and their effective accounting.

Pilot Project on Electronic Registration of Cultural Heritage Objects is a Step towards Implementing European Standards in the Protection and Accounting of Cultural Values, creating conditions for access to information about cultural heritage objects and their systematic maintenance, which is an important stage in the management and preservation of Ukraine's cultural heritage.

In 2021, a pilot project was introduced, approved by Resolution № 1438 dated December 29, 2021, which envisages the inclusion of information about land plots certified by land surveyors in the State Land Cadastre. This approach is considered an alternative for the development of the land legal relations system and deregulation. It is essential to note that the experiment can be successful with developed technical regulations for access to the system and its use, including the correct display of information, defined liability forms, ensuring the system's reliability, and protection against unauthorized access to the State Land Cadastre. At the same time, the specified pilot project has already been introduced with certain time limitations, namely its validity is restricted until the termination or cancellation of martial law in Ukraine and within one month from the day of its termination or cancellation.

By the resolution of the Cabinet of Ministers of Ukraine dated October 13, 2023, № 1078, the introduction of a pilot project on mass land valuation was approved. According to the established procedure for implementing the pilot project, mass land valuation is a form of land plot assessment carried out throughout the territory of Ukraine, and the assessment results will serve as data filling for the State Land Cadastre. The project's implementation is based on the use of information obtained through electronic information interaction between the State Register of Property Rights to Real Estate and the State Land Cadastre and will serve as a basis for land tax purposes. The geoinformation system of mass land valuation, which is part of the State Land Cadastre, is a step towards the possibility of introducing digital technologies into land resource assessment. This system will ensure automated processing and updating of data, thereby contributing to a more accurate and up-to-date estimation of land cost.

In summary, the process to continue creating the legal basis for the effective use of digital technologies in registration systems, and the adoption of new laws such as "On Electronic Communications" (Law N 1089-IX) and "On Virtual Assets" (Law N 2074-IX), indicate the rapid development in this direction. All of this indicate a gradual transition to modern technologies in the field of registration services and readiness for further evolution of registration systems in Ukraine.

7. Conclusions. Modern registration systems in Ukraine have a high level of development and functionality, based on specialized registration systems with a centralized structure. State authorities act as their holders and play a key role in ensuring reliability. These systems are an important tool for

effective registration, control and accounting of various legal relationships and information related to various aspects of public life.

The interaction of registration systems and forming innovative solutions in the field of access to the providing of services are effective. The implementation of digital technologies is carried out in stages, with the parallel possibility of network use and the providing of legal clarity to bridge the gaps between social relations and digital products. The effective implementation of the latest forms of interaction, such as web portals and identification tools, is a key element in this context.

Therefore, the development of technologies and digital transformation require not only technical solutions, but also new legal strategies to ensure the effective and safe functioning of registration systems in the modern world.

At the same time, maintaining the reliability of the system is determined by a critically important aspect, especially in the conditions of martial law.

The adaptability of the organizational abilities of the system to integration and the latest technological changes is the central element. Ensuring harmonious implementation contributes to the achievement of strategic goals in the development h the democratic model of law and modern challenges.

This approach will contribute to a qualitative transition to modern technologies in the field of registration services and indicates readiness for the further evolution of registration systems in Ukraine.

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