Technical assessment of registers supervised by the MoJ (Administrator – NAIS)

October 2019

INTRODUCTORY NOTE

This study was carried out on the initiative of the Ministry of Digital Transformation of Ukraine and the Ministry of Justice of Ukraine and was implemented under the support of EU Project Pravo-Justice.

The main aim of the study was to assess the status of the registries in National Agency of Information Systems (NAIS) under the Ministry of Justice - requirements for the creation, exchange, storage, correction and structuring of registers data, to identify key data in registers, user groups and data providers, and requirements for access to information in the registers. Important issues in the study are also issues of technical registry management: IT infrastructure, policies, operations, and information interaction of public registers. Particular attention in the report focuses on the issues of managing business processes in registers.

During the study, experts from EU Project Pravo-Justice developed a questionnaire that covered all relevant aspects of the registries under purview. This questionnaire was shared with the e Governance Agency of Ukraine, responsible for overall registry assessment and subsequently, at first stage, self-administered by the staff of NAIS and then followed by a number of consultations with relevant representatives of the NAIS regarding the entered data and current state of functioning of these registers as well as elaboration of future plans.

In conducting the analysis, Pravo-Justice experts identified a number of deficiencies in the functioning of the registers and developed specific recommendations implementation of which will help to improve public policy on the effective management of state registers and the development of an interoperable system of public registers.

Summary recommendations are brought out in the Executive Summary of the Report, followed by detailed analysis of each registry, first on questions of business processes and then on technological, policy and cyber security levels.

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CONTENT

ABBREVIATIONS

NAIS	National Agency of Information Systems under the Ministry of Justice
TREMBITA	the data exchange layer for information systems, is a technological and organizational environment enabling a secure Internet-based data exchange between information systems
UREN	Unique Register entry number
ZNAP (CNAP)	ЦНАП - Центр надання адміністративних послуг - Administrative Services Center
OSCE/ODIHR	Office for Democratic Institutions and Human Rights
CMU	Cabinet of Ministers of Ukraine
MoJ	Ministry of Justice
MISP	Mini-information system portal, is a standard X-Road/Trembita ready-made component that allows the user to create and deploy user interfaces to use X-Road/Trembita services with relative ease
BTI	Bureau of Technical Inventory
PKI	Public key infrastructure
eID	Electronic personal identification
ZAGS	Civil Registry Office
ASEP	Automated enforcement system

EXECUTIVE SUMMARY

There is a huge number of different government registers in Ukraine. As there are no commonly applied rules, a dataset or a list or an information system may exist as a register with its own regulation and technical solution. The following paper is about registers (administrator – NAIS) at the Ministry of Justice.

NAIS maintains 22 of registers created in different time and based on different approaches from both technically and business wise. It seems that each register lives a life of its own and this kind of fragmentation makes it impossible to see the full picture. There is no strategy within MoJ regarding how the registers and services should be developed in order to get the full potential of the data set they contain. Development of registers is often done within a hurry and without seeing the big picture.

Data exchange and maximum reuse of already collected data may be stated on the paper, but it is not so in real life. Notaries and other legal professionals experience that in their everyday work. They have access to different government systems and can use the data, so everything seems to be in order, but it is not. The fact that people have to keep different identification keys and log into each system, make printouts, type enquired information into another system etc. is far from optimized business processes. It shows clearly that a systematic approach to registries and registration is missing.

All registries need updating through introducing digital identity numbers as primary carriers of a person's identity. All registries could also provide significantly better user experience with relatively modest effort. Five registries (of Inheritance, of Power of Attorney, of Notary, of Apostilles and of special forms of notary documents could and should be re-written in the process of creation of Digital Notary platform. Register of public associations could be merged with the new Business register. Clearly the most important task is to get the registries to exchange data between themselves and not only in NAIS but throughout the registry system. That would both improve data quality and produce real added value to everybody.

While six registries have passed technical upgrade and still two are in process, 14 cannot be upgradable when the need either arises because of the changes in legislation or needs in software. There seem not to be a good documentation of registries real status, so this assessment has attempted to provide at least most relevant information about each existing register in NAIS. Currently none of the registries is providing Trembita services but this situation could change quickly, at least for the registries in new platform.

It became painstakingly obvious throughout all this assessment exercise that problems with registries are first and foremost questions of organisation, cooperation and business process re-engineering and not of technology or cyber security, although the latter ones could use some obvious upgrading as well. General guidance for registries in form of registries law is still missing, though it has passed first reading in Rada and we wish it a speedy adoption.

GENERAL PROVISIONS

I. General principles of the registration[1]

This chapter highlights the key principles for registries that need to be adopted and implemented in order to reach the level of effective and optimized e-services and business processes.

1.1 Mandatory nature and full coverage

This principle is important to ensure the continuous and effective operation of a registration system. For example, this principle is determined by the necessity to pass a procedure of state registration for all organizations that intend to acquire the status of legal entity, as well as legal entities that have the intention to change their legal status because of reorganization and liquidation of the legal entity must enter the changes in the state register. This principle is legitimate and ensures that all status changes for each legal entity are recorded in the state register.

1.2 Continuous and permanent nature

Populations are constantly changing by virtue of births, deaths and changes of place of residence; so if a registration system is to function properly it needs to operate on a permanent basis. This means that the entity responsible for the registration system should have sufficient administrative stability and operate within a sound legislative framework.

1.3 Relevancy of data

One of the key elements to keep in mind when determining what information to maintain is the ease with which that information can be updated. In order to maximize efficiency, a register should maintain the minimum information necessary to perform its function within the society it serves (because the more information that is collected, the greater is the task of keeping such information up-to-date). Every institution responsible for the registration of specific information has to ensure that data are updated regularly and in a timely manner, and that the registered data are correct and complete. Once entered in the national register, the newly updated information is immediately available to all those users of the system who are authorized to view the data.

If data are incorrect or incomplete, the relevant authorities should be required to correct and complete the data upon receiving an application for them to do so from the data subject. If data are stored that are no longer necessary for the purpose for which they were originally collected or the date was unlawfully obtained, they should be deleted. A register can be efficient only if it stores no more than the data necessary to fulfil the register's legal purpose.

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[1]Guiding principles of the registration have been prepared based on the OSCE/ODIHR "Guidelines on Population Registration" (2009) which was debated and re-written during the registries assessment exercise.

1.4 Confidentiality

Data subjects should be confident that their personal information - either wholly or in part - will be used only for the purposes envisaged in the law and without revealing their identities. Data should only be used in accordance with the purpose for which they were originally collected. This fundamental principle should also be applied when personal data is transferred or shared among public authorities. Thus, the transfer of data should be regulated in line with sectorial competencies and with the principle of the division of responsibilities. Every transfer of data from the one register to another sector (e.g., to health or tax services) should be regulated concerning the purpose of the transfer, the recipient and the data categories to be transferred.

Basic measures of data protection include the control of both physical and virtual access, authentication and authorization, the regulation of login protocols, oversight of any outsourced tasks, and control of information disclosure with technologies such as data encryption. In short, consideration should be given that:
- Data-protection measures are in place;
- Data processing is legitimate;
- Data security is ensured.

1.5 Sound administrative procedures regulating the process

In order to run a registration system in an efficient manner, it is necessary to develop detailed procedures and regulations governing the registration process that is service-oriented. If the information gathered is stored in an electronic format and then shared between different systems and registers, attention should be paid not only to the administrative procedures involved but also to data standards and means of electronic transmission.

1.6 Once only object

States should be guided by the principle of "Once only object". This means that each piece of information about an individual should be collected only once and subsequently when the information is necessary, it should be retrieved from the information system.

1.7 Information sharing, Interoperability and Accessibility

The management of the registration system requires the establishment of efficient data-sharing mechanisms, as well as precise co-ordination between the institutions responsible for registration. When a State introduces interoperability among different authorities, it should address how public authorities may share protected data relating to individuals and businesses so that there is no infringement of the rights of data owners. States should thus ensure that all information sharing among public authorities occurs in accordance with the applicable law, which should establish the conditions under which such sharing is permitted.[2]

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[2]UNCITRAL's Legislative Guide on Key Principles of a Business Registry

1.8 Primacy of fact over data

In the event of disagreement, the legal facts that can be verified have primacy over the data that contains in the registry. If a person is alive but registry shows s/he is dead, the registry data is wrong.

1.9 Primacy of data over a paper

In the event of disagreement, the data that can be verified in the register have primacy over paper documents. The premise is that truth value of the data in the registry is guaranteed by the state.

1.10 Uniformity of registration

Infrastructure of the state registers must be established based on the uniform methodology of creation, maintaining, management, registration, interoperability and liquidation of the registers.

II. Electronic identity. Unique Register entry number (UREN)

Electronic identity is a way for people to prove in the digital world that they are who they say they are and thus gain access to a panel of services. Dealing with this content-rich electronic identity will require adequate legal provisions in terms of data protection and personal control over personal data by the individual.[3]

According to the guiding principles of the registration that have been prepared based on the OSCE/ODIHR "Guidelines on Population Registration, the most convenient solution is to develop an unambiguous identification system using personal codes provided by the national population registration system. Along with providing for the accurate identification of a person in the register, it also facilitates the processing of data.

In accordance with item 9 of the Resolution No. 784 of the Cabinet of Ministers of Ukraine on 18 October 2017 "On Approval of the procedure for maintenance of Single State Demographic Register and information acquisition, interaction between authorized persons, as well as identification and verification" "If information about the person is entered into the Register for the first time, UREN is automatically created, storing the time, date and information about the person who prepared the application questionnaire (digitally)".

Currently, the complication of the spread of UREN concludes in limited sources of State Migration Service of Ukraine concerning issuing ID cards and biometric passports. UREN is assigned to a person in case of issuing ID cards and biometric passports.

About 16 million Ukrainian citizens have received UREN currently.

Ministry of Justice of Ukraine is planning to initiate changes to the current legislation and the administrator of the State Register of Civil Status Acts of Citizens will receive UREN from the Single State Demographic Register immediately after the birth.

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[3] Electronic Identities - a brief introduction. Available at:
https://ec.europa.eu/information_society/activities/ict_psp/documents/eid_introduction.pdf

Birth registration is the first step towards establishing an individual's legal identity. Such establishment of individual's legal capacity is not synonymous with citizenship, and for operational purposes it can be defined as the "legal civil status obtained through civil registration at birth and civil identification of unique attributes such as a personal identification number and biometrics that recognizes the individual as a subject of law and protection of the state.[4]

UREN should be the key element of electronic identification in interactions between information systems of state bodies and local governments through the exchange of electronic messages via the internet, electronic information resources (registers) development; electronic interaction of registries, development of interoperability.

III. Trembita

Trembita is a fundamental piece of IT infrastructure for secure data exchange between government agencies.[5]

Trembita can and should provide the following:
- support the easy and unified development of interactions between information systems because Trembita uses a single set of rules and formats;
- guarantee a high level of security through the use of electronic signatures, data encryption, event logging, access control to e-services and "denial of service" protection mechanisms;
- protect against data manipulation and ensures resistance to failures because the data exchange between different organizations occurs without passing through intermediate nodes;
- provide access to data from state registers to various institutions;
- implement the "once only" principle in Ukraine, which allows authorities to reuse data previously supplied by citizens or businesses.

Besides fostering e-services, Trembita also forms the basis for the provision of public services in administrative service centres. Trembita allows administrative service centers to provide public services promptly and to a high degree of quality through providing access to information in national registers.

During the preparation of this assessment, NAIS has taken only the first steps connecting its registries to Trembita. As far as we know, no Trembita service has been deployed but our assessment shows that they are needed in every step of the way of functioning registries under NAIS purview.

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[4] Dictionary for Civil Registration and Identification (Washington: Inter-American Development Bank, 2013), Available at: https://publications.iadb.org/handle/11319/3679

[5] EU project EGOV4Ukraine, the State Agency for E-Governance and the National Civil Service Agency of Ukraine "Recommendations for Ukrainian government IT systems development". Available at: https://eeas.europa.eu/delegations/ukraine_me/56502/EU%20project%20provides%20recommendations%20for%20Ukrainian%20government%20IT%20systems%20development

GENERAL FINDINGS REGARDING REGISTERS OPERATED BY NAIS

During analysis, it became obvious that there are a lot of findings and recommendations, which apply to most of the registers if not to all of them. These findings are as follows:

1. Paper prevails digital data

Even if registers are kept digitally, either processes are duplicated on paper or paper certificates are issued after digital registration procedures. This applies even if the law states otherwise. One of the examples is register of proprietary rights to real estate which electronic data has legal effect and should be trusted, but owners still turn to ZNAP (CNAP) offices or notaries to get paper certificates. Service for issuing of different paper certificates is one of the most popular. Granted, it is difficult to change the mind set of people whether owners or bank or government officials, but there are ways to change the culture.

Our general recommendation: try to speed the general acceptance of digital data as a primary source of data. Though this mostly needs legal change, one can sort changing paper based culture by adding **notation of correctness of digital data to the register extracts** referring that there is no need to issue information on paper and digital data can be trusted. To fully establish digital as the primary source truth-value entails a great deal of work, but it has to be done only once and time saved by everybody is immeasurable.

2. Unsystematic approach to registers and no reuse of data

There is a large number of registers each including valuable information which would help to provide smart and proactive services, but instead it remains as unused resource. For example, there is a register of civil status acts of citizens, but since it is documented event based database, other registers cannot use its information to make automated or semi-automated updates related to persons´ data.

It is inevitable to **start to use Trembita services in all government registers**. The first focus should be on creating services enabling to retrieve information about persons, both natural and legal. Without the possibility to check personal information from the source register, it remains impossible to link person to the property and other data and get the maximum benefit of best practices.

3. No unique identifier of natural person

In order to cross use data, a unique identifier of a person must be used. Currently there are several identifiers such as tax number, but still no certainty to link the person to the data. Notaries use passport numbers, copies of passports, and places of residence etc. as additional possibilities to authenticate persons.

Ukrainian government has decided to use UREN as a single and unique fourteen-figure identifier of the person assigned by the births from which he or she cannot refuse. If

UREN isn't assigned at birth, it should be assigned while issuing a driving licence, biometric passport or ID-card. Next logical step is to **make it mandatory to always register UREN** together with other personal data except in the case of foreigners. This enables to identify a person and his property in much simpler and more reliable way.

4. The data is often outdated and the rules for correcting it are unclear or missing

Since there is no data exchange between government registers, registered information becomes easily outdated. For example, in the case of the name change respective document is registered in the State register of civil status acts of citizens, but business register or register of proprietary rights to real estate still contain previous information about the owner. Owner has to turn to notary or ZNAP and submit an application to update his data. This takes both time and money.

One of the recommendations already mentioned is to start information sharing between government registers. The first step can be just being for verifying submitted applications. The second step should be implementation of proactive services releasing people from the burden to apply for the update of information government already knows about them.

There should be **clear rules about who and when can correct registered information**. All valid entries can be corrected and this principle must be implemented in all registers and information systems giving registrars the possibility to keep registered information up to date.

5. Fragmentation of registrars and lack of double checking

Notaries and different government or private registrars are entitled to make registrations without anyone verifying their work. The best practice suggests to **implement double checking system in registration matters of important government registers such as property register**. Currently notaries are verifying the deeds and making registrations but no one is checking if the entered data is correct or if the registration is justified at all. In addition to typos such system makes it possible for raiders to hire corrupt registrars.

First recommendation here is to notify an owner about each change in registry data related to him. The second would be to implement double-checking at least in proceedings of the registering the property rights. (See more in section 1.4.2.) Such recommendation can most probably extend the time of registration but it helps to secure the integrity of registered information and avoid fraud.

As a parallel option, technological solution could be introduced to create additional level of security for the protection from change of registers' data with confirmation from previous owner(s). For instance, two factor authentication (2FA) or registry objects' private key verification by means of agreed type of transaction. In case 2FA or private key is lost process to restore/remove additional protection should take considerate amount of time with owner notification and owner written confirmation.

6. Back office systems can be accessed by third parties

In some cases government officials who need to access registered information but do not act as registrars, have access to the back-office management systems. This policy must change and any third party who is entitled to access registered information (user of the information) must do it through the enquiry system. **Management system for registrars and enquiry systems must be kept apart.**

7. Process of payment of fees is not automated

There are no services where payment of the state fee can be done in real time and applicants must submit receipts on paper. Online payment of fees must be integrated into the e-services and implemented as quickly as possible.

8. Notification of changes in data

A problem with raiders was mentioned during the interviews in several times and by different persons. The main problem is that owner does not get information about unlawful change in the register or gets it too late and there has already been acquisition in good faith. It means that **previous owners should be informed about the changes**.

9. No use of timestamps and/or cryptographic chains.

Next to the use of the second pair of eyes data in the most important government registers such as property should be **stored in cryptographic chains**. Automated and continuous validation of such chains makes it easy to check for and to discover unlawful changes.

10. No online access to "my data"

One of the key principles of digital government states that citizen is the owner of his/her data. Currently there is no possibility in Ukraine to get online access to one's registered information.

Experts recommend to add services to the state platform of e-services where a person can **see all the information related to him/her** (e.g. last wills, power of attorneys, property etc.) together with information who has seen it regardless of the channel (ZNAP/CNAP, Trembita, online search etc.). Exception should be made to the law enforcement agencies for the period of ongoing investigation and notaries (in case of succession and wills).

11. Lack of sense of ownership

There seems to be a great gap between managers of the IT systems in NAIS and service owners at the MoJ. Electronic services are developed in a hurry and there is no clear understanding or strategy for their institutional development at MOJ for next 3 to 5 years.

MoJ should issue its own **IT strategy stating clear vision and plans regarding e-services and management of registers**. In parallel there should be a legislative working

group constantly analysing and preparing necessary amendments from the business process re-engineering point of view.

12. Existence of multiple identification keys

Registrars have to use separate authentication key for each register. The concept itself includes high security risks since users have to remember several passwords and usernames and in real life situations, they tend to write them down.

The central government policy should support the **use of one identification key** and state that user rights management should be solved within each system or using the services provided by the centralised register (e.g. register for all occupations in the field of justice).

13. Lack of unified address system

Each system has its own address management system and there are several formats of addresses in use. In practice it is possible to register the same plot twice situated on the corner of the street using each name of the street separately.

Estonia and Lithuania among others have implemented a **unified system for addresses** and it has proved to be very efficient. Each government system is obliged to retrieve address information from the centralised system. This guarantees the unification and compatibility of registers.

FIGHT WITH RAIDERS

One can often read about activities of co called "black registrars" who make illegal registrations and therefore enable criminals to legitimize their raider activities. According to the schema, a "black registrar" makes a registration knowing that the seller isn´t entitled to the property and with several registrations in a row to legitimize the deed or just disappears and previous owner has no idea that his home belongs to someone else. The same applies to companies and other legal entities. In case there is a registrar with criminal mind, it is possible to change the representatives of the company within a minutes without informing the company or its previous representatives.

There is also one more option. The registrar's or notary´s computer may be hacked and user session taken over. In this case, the registrar may even not know that there has been a change in the register.

Fortunately, there are measures and good practices, which may help to avoid such malicious activities. There measures are as follows:

1. Make a campaign for owners and other entitled persons to update their contact information in the register;

2. Design registration process in a way that previous and new owner always get notification about changes in the register and lock the register for next 3 to 5 working days enabling previous owner to take actions in case of malicious activities.

3. Change policy in a way that before the first registration it would be mandatory to publish announcement of intention of registration so anyone can appeal if data is not correct. After waiting period, if no one has appealed, allow the first registration. This is vital since privatization of agricultural land may increase the fraud cases and all possible disputes should be discussed before registration in the registry of property rights.

4. Implement double checking principle so government registrar must verify each registration made by the notary. This principle may apply only in case of property rights transactions. Based on the Estonian experience this principle has proved its benefits during more than 10 years. State registrar verifies and approves each registration application and entry draft prepared by the notary. The verification means validating the content of deed and registration application, previous entries and already submitted documents. In the future it is also possible to add approval of previous owners or representatives into the process so the registration does not become valid before it has been approved by those previously mentioned.

1. REGISTER OF PROPRIETARY RIGHTS TO REAL ESTATE

Register of proprietary rights to real estate is one of the most if not the most important registry under NAIS auspices. Respectively, it has received most attention by the reviewers. To sum up the assessment: the technical side of the registry is better than the business processes running there. The primary problem with the register as well as the proposed way to improve its performance is to link the data in the register to the data in other relevant registries. The first thing to do, however, is to take care of the digitized data itself. Property data of Kyiv until 2004 is digitized albeit separately held, in other regions, it is often not digitized. The full potential of the register enabling to create better services for citizens and support decision-making by the government is lost somewhere between paper certificates and duplicated procedures.

1.1 Aim and general description
Electronic register containing information about immovable property and real rights related to it. Specifically:
1. registered real rights such as property rights, the right of use, right to build on a plot (superficies), mortgage, right of trust ownership, right of permanent use, right to lease etc.
2. unfinished constructions and their ownership.
3. encumbrances such as prohibitions etc.
4. submitted documents.

1.2 Legislation
- Law of Ukraine On state registration of proprietary rights to real estate and their encumbrances https://zakon4.rada.gov.ua/laws/show/1952-15;
- Resolution of CMU On approval of the Procedure for keeping the State Register of proprietary rights to real estate https://zakon4.rada.gov.ua/laws/show/1141-2011-%D0%BF
- Resolution of CMU On state registration of proprietary rights to real estate and their encumbrances https://zakon2.rada.gov.ua/laws/show/1127-2015-%D0%BF
- Decree of MOJ On approval of the Procedure for use of data of the Register of property rights on real estate , the Unified register of prohibitions on the alienation of property right, the State register of mortgages and the State register of Encumbrances for movable property https://zakon4.rada.gov.ua/laws/show/z2102-12
- Decree of MOJ and Ministry of agriculture policy On some issues of ensuring information cooperation of the State land cadastre authority and the State registration authority https://zakon2.rada.gov.ua/laws/show/z2056-12

1.3 Website
- https://online.minjust.gov.ua/information/
- special software (thick client) for authorized users (registrars and some government officials).

1.4 Findings and recommendations

1.4.1 General principles

No	Findings	Recommendations
1	There is no active link between register of proprietary rights to real estate , cadastre data, addresses and buildings.	Link property rights information with active cadastre, buildings and addresses information.
2	Back office management system can be accessed not only by registrars but also by lawyers.	Make clear distinction between management system (back office) users (registrars) and users of property right information. This recommendation enables to decrease number session hacking and helps not to depend on settings on users computer.
3	There is no register for addresses and agreed format mandatory to use.	• Agree format for addresses (e.g. INSPIRE directive[6]) and make it mandatory for everyone to use. • Create an address register and provide Trembita services to retrieve address information from it (source register).
4	There is no active data exchange between register of proprietary rights to real estate and land cadastre.	Establish automated data exchange between cadastre and register of proprietary rights to real estate: • to verify submitted cadastre information; • to enable automated data exchange.
5	Registered personal information do not contain UREN.	Make it mandatory to register UREN is case of all registrations.
6	Everything is duplicated on paper and only paper certificate proves ownership of a real right.	State clearly that electronic data have legal effect. Create a process enabling registrars to make a mark in the register that all information is checked and can be trusted. State that registration file is used only in electronic format.
7	Owner's information is stored in several places. Both land cadastre and register of proprietary rights to real estate contain information about owners.	There should be only one register containing information about ownership of the real rights.
8	Only part of property information is in the register, a great deal of it remains in BTI.	Digitalize BTI paper archives and correct data entered in the immovable property register. It is time consuming, but it reveals possible mistakes and helps to avoid further mistakes. State registrars and officials working in BTI should be responsible for digitalization.

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[6] https://inspire.ec.europa.eu/

No	Findings	Recommendations
9	The rules concerning correcting data are complicated and not all registrars can correct data.	Create a service for owners and other entitled persons to apply for data corrections online. Use as much Trembita services of other register to verify the rightfulness of application. Enable notaries and other registrars to correct valid data at any time and ex officio (without application).

1.4.2 Registration procedure

No	Findings	Recommendations
1	Notaries have to duplicate their activities during registration. For example, notaries have to register verification of ownership transfer in their paper journal, then log into register of special forms of notarial documents and register the form number, and finally yet importantly log into register of immovable property and make registration.	Notary registers ownership transfer in e-Notary, information is automatically registered in the register of notarial acts (preferably the same system as e-Notary) and in register immovable property. In case of double verification, the registrar must approve registration intention.
2	Actual registration time depends of the amount of fees paid.	Get rid of differentiation based on paid fees and make registration as soon as possible considering proposals in points 8 and 11.
3	Priority reservation is a very good idea, but registration of application in application database is time consuming and unnecessary.	Redesign priority reservation so there is no need to sign application and contract verified by notary is registered right away. There is no need to enter manually data for application, print it out, sign it and store in paper archive. The deed itself can contain registration application as it is in Estonia and Germany.
4	Owner's (or any other person´s) data is not verified or retrieved from source register.	Design the system and business processes in a way that it enables to check the correctness of submitted personal information from demographic or business register and in case of mistakes, refuse registration.
5	Previous registrations do not contain UREN of the registered person.	Add UREN to all subjects related to valid entries.
6	Personal data is not corrected when it changes in the source register.	Establish data exchange with demographic or business register in order to get updates about changes in personal data
7	It is mandatory to verify all transactions by the notary.	Allow simple procedures online with digital signing and no involvement of the notary (e.g. division of the land).
8	Owners do not find out about unlawful	• Make a campaign for owners and other

	transactions quickly enough which enables criminals and/or notaries to build a schema of acquisition in good faith.	entitled persons to update their data in the register (register UREN and update contact information). • Design registration process in a way that previous and new owner are always notified about changes in the register and lock the register for next 3 to 5 working days enabling previous owner to take actions in case of malicious activities.
9	Successors need a help of registrar to register themselves as new owners	Design registration process in a way that after entering successors into the succession register they have an online service to update information in register on property rights.
10	Information from BTI isn´t automatically retrieved	Design Trembita service to retrieve BTI information without burdening the owner in case data is missing from the register.
11	There is no time between first registration of property in the register and change of ownership. This creates better soil for fraud.	Change policy that before first registration in new register publish announcement of intention of registration so everyone can appeal if data is not correct. After waiting period first registration can be done. This it vital since privatization of agricultural land may increase the fraud cases and all possible disputes should be discussed before registration in the registry of property rights.
12	All data is entered manually in the system.	Start using Trembita services of: • demographic register to retrieve person´s information and/or update already registered one ex officio without application (proactive service) • land cadastre to retrieve information about cadastre units • Automated System of Enforcement Proceedings (or register of creditors) • register of court decisions • register of power of attorneys • paid state fees, encumbrances etc.
13	Court orders may replace registered priority of applications.	Legal certainty is one of the key elements in registration of property rights. Situations when intervention of priority is justified need to be analysed.
14	Owner doesn't always get information about updates in the register.	Notify owner about each changes in register. Implement double checking principle so each registration made by the notary must be verified by government registrar.

1.4.3 Access

No	Findings	Recommendations
1	Access to register of proprietary rights to real estate is limited and fragmented. There is an e-service (portal) for citizens and most of the officials; lawyers, National Bank of Ukraine etc. have access through management system meant for registrars; there is also a possibility to use API.	Allow everyone to access registered data by providing relevant e-service and make a clear distinction between registrars and other parties. Access should be free of charge for notaries, bailiffs, owners, and government officials. Due to data protection and to avoid unhealthy interest authentication may remain.
2	Information about previous registrations is not accessible to everyone.	Allow everyone to see previous registrations, including archived data.
3	Access to digital documents submitted during registration is limited.	Allow everyone who has a legitimate interest to access documents submitted during registration.
4	Owner cannot see all information about himself/herself.	Add a service to state e-service portal where a person can see what kind of information there is about him/her (and his/her children) together with information who has seen that information (via online service, Trembita, ZNAP).
5	There are no Trembita services to access information.	Create Trembita services enabling to retrieve information from the register (e.g. notaries through e-Notary or MISP, bailiffs through their system etc.).
6	Information about every person receiving extract from the register is entered into the system.	Log all enquiries and reduce amount on paper enquiries to a minimum (additional or higher fee, direct all clients to notaries).
7	In order to get information about all owners of apartment building one has to go to the registrar.	Amend search criteria so everyone can retrieve information about multiple objects at once using e-service (for a fee if decided).
8	Response to initial search from the registry does not contain enough data to make a decision about purchase of data.	Change search criteria so user can see information about addresses and basic cadastral information right away.
9	Information about extract from register is saved as PDF copy.	All queries needs to be logged with sufficient data to verify integrity of query made for future references and **not being** saved as extracts from register as PDFs(valid at the time of generation of the extract) in register database.

1.4.4 Data cleansing

No	Findings	Recommendations
1	There is no trust in digital data.	Create a process enabling registrars to make a mark in the registry that all information is checked and can be trusted.
2	The rules concerning correcting data are complicated and not all registrars can correct data.	Create a service for owners and other entitled persons to apply for data corrections online. Use as much Trembita services of other register to verify the rightfulness of application.
3	Registrars do not have to correct person´s contact information.	State that it is mandatory for registrars to update subject´s contact information (email, phone number).

1.5 Roadmap

1.5.1 Short term steps

- Start digitalization of BTI archive. Digitalization means scanning paper archive, linking documents to metadata and entering/updating information in the register of proprietary rights to real estate.
- Change rules and make it mandatory to have UREN in case of registrations.
- Enable registrars to correct valid entries *ex officio*.
- Notify owners and other entitled persons of the need to update their contact information in the registry (another possibility is to update contact information in demographic registry and retrieve data from there) so they can be informed about any change made in the registry.
- State that digital data has legal effect and it is forbidden to ask paper documents in case there is a notation in the register about the fact that digital data has been checked.
- Create the following Trembita services:
  - Get general data. Service enables to get basic information about property helping to make quick decisions if additional search is necessary or search criteria should be changed. Search criteria may be the same as in public portal.
  - Get detailed data. Service gives information about valid and historical information about everything related to the property. Unique identifier of a property is used as search criteria.
  - Get list of documents. Search can be made by using unique identifier of property and response contains a list of all documents related to the property (type, date etc.).
  - Get document file. Based on the information received from the previous service, unique number of documents enables to retrieve specific file necessary for inspection.

- Register intention (if necessary). Service provides an opportunity to make an initial registration and to "book" a right to make the first registration.
- Make registration. Service forwards all necessary information for making a registration (first registration, update, correction, amendment etc.).
- Present API available on NAIS webpage (https://nais.gov.ua/pages/api) should be reviewed and taken into account while developing Trembita services. New services should extend capabilities of register (adapter server based checking mechanisms should be implemented in order to acquire sufficient data quality).

1.5.2 Long term steps
- add the following functionalities to the e-service:
    - apply for data correction;
    - apply for contacts update.

1.6 Used sources
1. Answers to questionnaire.
2. Presentation prepared by NAIS.
3. Legislation mentioned in section 1.2.
4. Different interviews with NAIS, notaries, ZNAP etc.

2. REGISTER OF NORMATIVE LEGAL ACTS

Register of normative legal acts provides information about laws and regulations and enables to search and access consolidated texts, but it is not possible to access all local governments´ legislation from one source. The basic functionality is in place, but private sector provides user-friendly e-services that could and should be the core of this government register/service.

2.1 Aim and general description
Electronic register containing information about regulatory legal acts like laws, decrees, regulations etc.

2.2 Legislation
- Decree of the President of Ukraine On the Unified state register of normative legal acts https://zakon2.rada.gov.ua/laws/show/468/96
- Resolution of CMU On approval of the procedure for maintaining and using the Unified state register of normative legal acts https://zakon3.rada.gov.ua/laws/show/376-2001-%D0%BF
- Decree of MOJ On approval of the Instruction on the procedure and conditions for obtaining information from the information fund of the Unified state register of normative legal acts https://zakon4.rada.gov.ua/laws/show/z0546-02

2.3 Website
http://reestrnpa.gov.ua

2.4 Findings and recommendations

No	Findings	Recommendations
1	There are several different e-services (both private and governmental) providing access to legislation and register of normative legal acts is not defined as a key source.	Define register of normative legal acts as a key source of legal acts and provide all functionalities users like lawyers, citizens etc. need. Availability, easy and user friendly access to legislation is the cornerstone of democratic country and taxpayers shouldn't be forced to pay to private sector to get easy access to legislation.
2	Current e-service is not very user friendly and doesn't provide all possible services its users need.	Create the following functionalities: • all referrals to amendments are links directing the user to the right legal act • it is possible to compare historical versions with the current one so changes are visually highlighted. • make it possible for a user to adjust settings in a way that notifications about changes in the legal acts or new court decisions are sent via email (MyLaw).
3	Consolidated texts of different periods are not accessible.	Make it possible to access consolidated texts at any time.

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4	Register does not contain information about court rulings, incl. rulings of international courts.	Give administration of courts access to the system for entering information about court decisions and make it accessible to everyone (after taking names etc. out).
5	Register does not contain information about local government decisions.	Enable and oblige local governments to publish all their legal acts in the register after being approval of the editor.
6	Translations into English are not available.	Engage sworn translators and provide access to translations (laws at first).
7	No links between court decisions and articles.	Link court decisions and different articles in the law so decisions about implementation of the laws is easily accessible.

2.5 Roadmap

1. Make it possible for local governments to add their legislation into the system by giving them access to the system. In the future, they can use Trembita service.
2. Make it possible for court administration to add court decisions information or their summaries into the system and plan data exchange through Trembita in the future.
3. Start creating new platform no services mentioned in recommendation 2 of this chapter. One possible example of good practice: www.riigiteataja.ee.

2.6 Used sources

1. Answers to questionnaire.
2. Website.

3. REGISTER OF ENCUMBRANCES OF MOVABLE PROPERTY

Information about movable property (so called property profile) is not accessible from one place. For example, in order to get information about a vehicle and its encumbrance's one has to make enquiries to the relevant vehicle register and register of encumbrances. There is no link between these two registers and due to that; it is not possible to identify property and its encumbrances at all times. Registration of the fact that all property belonging to a person is under encumbrance, does not help anyone since the existence of the property is unclear.
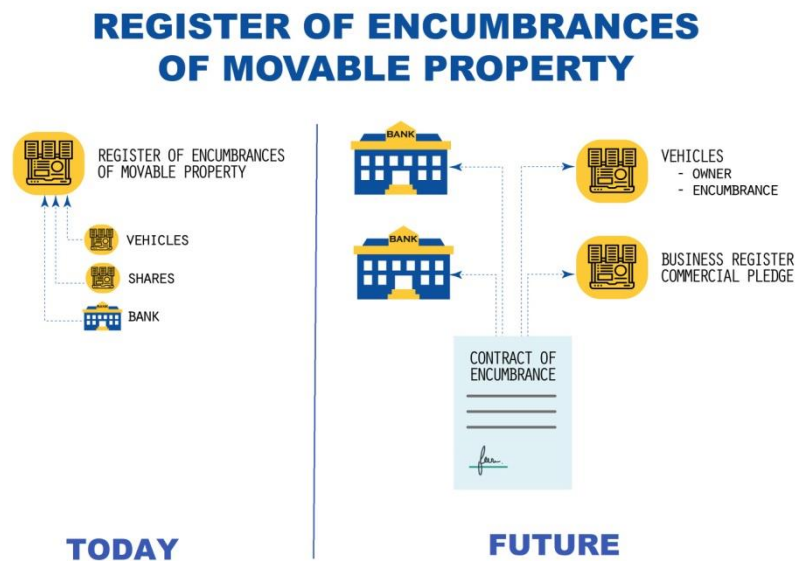
Schema 1 AS-IS and TO-BE of register of encumbrances of movable property

3.1 Aim and general description
Government register containing information of encumbrances and pledges of movable property.

3.2 Legislation
- Law of Ukraine On securing creditors' claims and registering encumbrances https://zakon4.rada.gov.ua/laws/show/1255-15
- Resolution of CMU On approval of the Procedure for keeping the Register of encumbrances for movable property https://zakon4.rada.gov.ua/laws/show/830-2004-п
- Decree of MOJ On approval of the Instruction on the procedure of keeping the Register of encumbrances of movable property and filling in applications https://zakon4.rada.gov.ua/laws/show/z0942-04

3.3 Website
https://orm.minjust.gov.ua/#/

3.4 Findings and recommendations

No	Findings	Recommendations
1	There is a separate register for encumbrances of movable property instead of registering encumbrances in the respective register of movable property.	All encumbrances should be registered in the same register as the property. Separate register for encumbrances means that notary or anyone else searching information must make two searches instead of one. If information of a property and all related burdens were in the same register, it would be better to link the person and the burden. Due to the poor data quality the register of encumbrances to movable property isn't very effective and it's not always possible to link the person and property. Registrations declaring that all the person's property is pledged do not give enough information about the property and aren't very effective. Make it mandatory to register encumbrances on movable property in the same register where property is registered.
2	There is no connection to the business register to check existence of shares and other company information.	Register commercial pledges, pledges of shares etc. in commercial register or in the register of shares. In case of political decision not to register each encumbrance in the respective register, create a link between business register and register of encumbrances of movable property using Trembita services.
3	There is no possibility to check the existence of property from other registers while registering or updating encumbrance information.	Create a link between register of respective movable property and register of encumbrances on movable property whenever it is possible.
4	No services to retrieve information from the register.	Create Trembita services to make enquiries from the register - is there an encumbrance or are there any updates.

3.5 Roadmap
1. Create an opportunity to exchange information with all other registers in which movable property is registered.
2. Provide property owners with free (free of charge) access to property encumbrance information.

3.6 Used sources
1. Answers to questionnaire.
2. e-service demi.
3. Presentation given by NAIS.

4. REGISTER OF WILLS

The key principles of this register are in place, but there is no link between demographic register so the fact of person´s death can be missing and without its manual registration the full potential of the register has not achieved. It was also mentioned that some government agencies have access to the information of last wills before person has died. This violates the privacy of the person and contradicts all best practices.

Schema 2 Proposed future approach of register of wills

4.1 Aim and general description

Electronic register containing information about wills, succession contracts, opening of a succession, succession certificates.

4.2 Legislation

- Civil code of Ukraine https://zakon.rada.gov.ua/laws/show/435-15/stru#Stru
- Resolution of CMU On approval of the Regulations on the register of wills https://zakon4.rada.gov.ua/laws/show/z0831-11
- Resolution of CMU On approval of the Procedure for state registration of wills and inheritance agreements in the register of wills https://zakon1.rada.gov.ua/laws/show/491-2011-%D0%BF
- Resolution of CMU On the order of certification of wills and orders, equivalent to notarized certificates https://zakon.rada.gov.ua/laws/show/419-94-%D0%BF

4.3 Website

There is no free access of individuals to the Register with regard to information about themselves. Only authorized users have access.

4.4 Findings and recommendations

No	Findings	Recommendations
1	Not all registrars use the system (e.g. consuls, doctors, captains of ships etc.)	Give consuls access to the register in order to register last wills etc. Because doctors etc. verify last wills quite rarely, business process

			for them remains the same as today.
2	Notaries and other registrars have to duplicate their activities during registration. For example, notaries have to register verification of last will in their paper journal, then log into register of special forms of notarial documents and register the form number, and finally yet importantly log into register of wills and make registration.		Notary registers verification of the last will in e-Notary, information is automatically registered in the register of special forms of notarial documents (preferably the same system as e-Notary) and in register of wills .
3	Testator and/or successor do not have online access to register of wills information.		Add a-service to state platform of e-services where person can see what kind of information there is about him/her (last wills and succession contracts) together with information who has seen that information (via online service, Trembita, ZNAP).
4	Third parties (successors) do not have an online access to succession register information and they always have to prove that the person is dead by submitting a death certificate on paper to the registrar (e.g. notary).		Establish automated data exchange between register civil status acts and succession register (Trembita service) to register automatically the fact that the subject has deceased. After registration of the fact of death, enable authenticated third party (successor) to make enquiries about registered wills or ongoing succession proceedings etc. of the deceased person.
5	All data necessary for making a registration is entered manually.		Design e-Notary business processes in a way that personal information is retrieved via demographic register and/or civil status acts register to avoid typos. If Consuls do registration, apply the same principle and in case of opening of a succession, check the fact of death.
6	Some agencies have access to registered information (incl. last wills) before person has died		Deny any access to the last wills information before a person's death except the person himself and notary making the entry.
7	Notaries need to log into the system and make enquiries about the existence of the will, etc.		Create Trembita services enabling enquiries from register (existence of last will, initiation of succession proceeding etc.)

4.5 Roadmap

Initial steps should be as follows:

1. Enter the fact of death of the subject into succession register (either Trembita service or manual data update).
2. Create Trembita services enabling notaries to register last wills and succession proceeding information (initiation, issue of certificate etc-) through e-Notary or MISP.

3. Create online portal/services enabling to access personal data or make enquiries about enquiries.

4.6 Used sources
1. Answers to questionnaire
2. Presentation prepared by NAIS

4.7 Concept of e-notary
The full potential of services provided by notaries has not been used until now. The idea of new e-notary information system linked via Trembita to different registries and enabling notaries to provide fast and trusted services is currently in focus. Since new concept and new e-notary information system is used in this chapter and in some of the following chapters, the general idea is as follows:
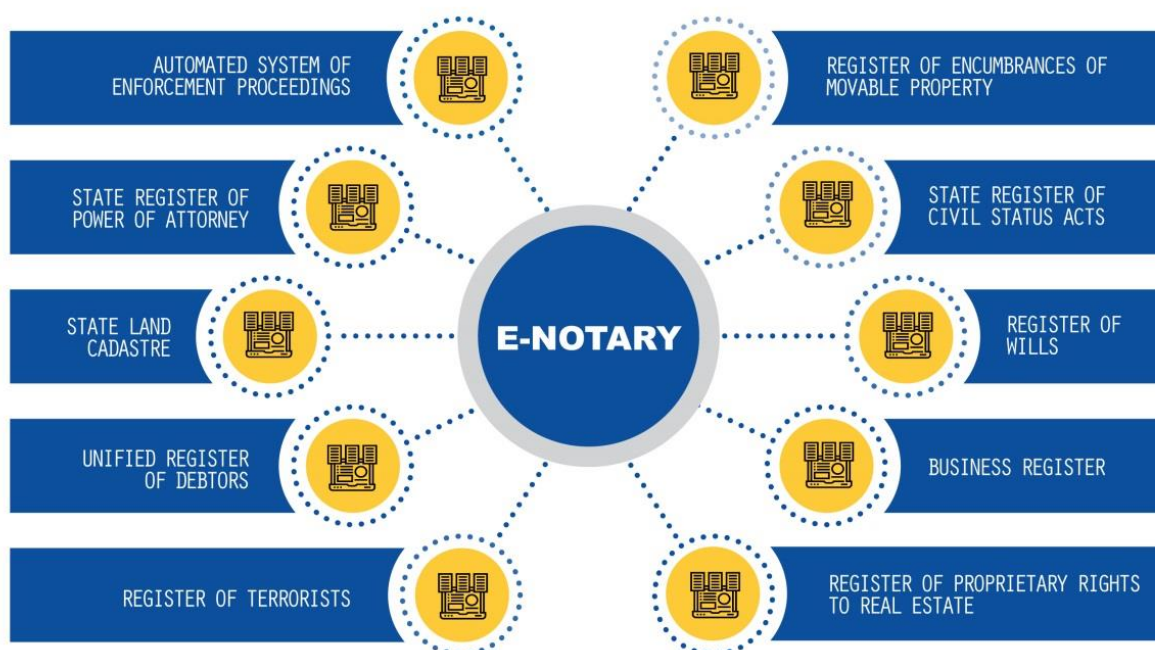
Schema 3 New concept of e-Notary

5. STATE REGISTER OF POWER OF ATTORNEY

This is one of the registers with great potential and many countries are thinking about its implementation, incl. Estonia. On the other hand, the full potential of the register is still unused. Instead of triple registration of authentication of the power of attorney by the notary (in notary´s registration book, register of special forms of notary documents and register of power of attorney), all could be done at once thanks to the Trembita services. In addition, there are other types of power of attorneys as well and these should be registered as well.
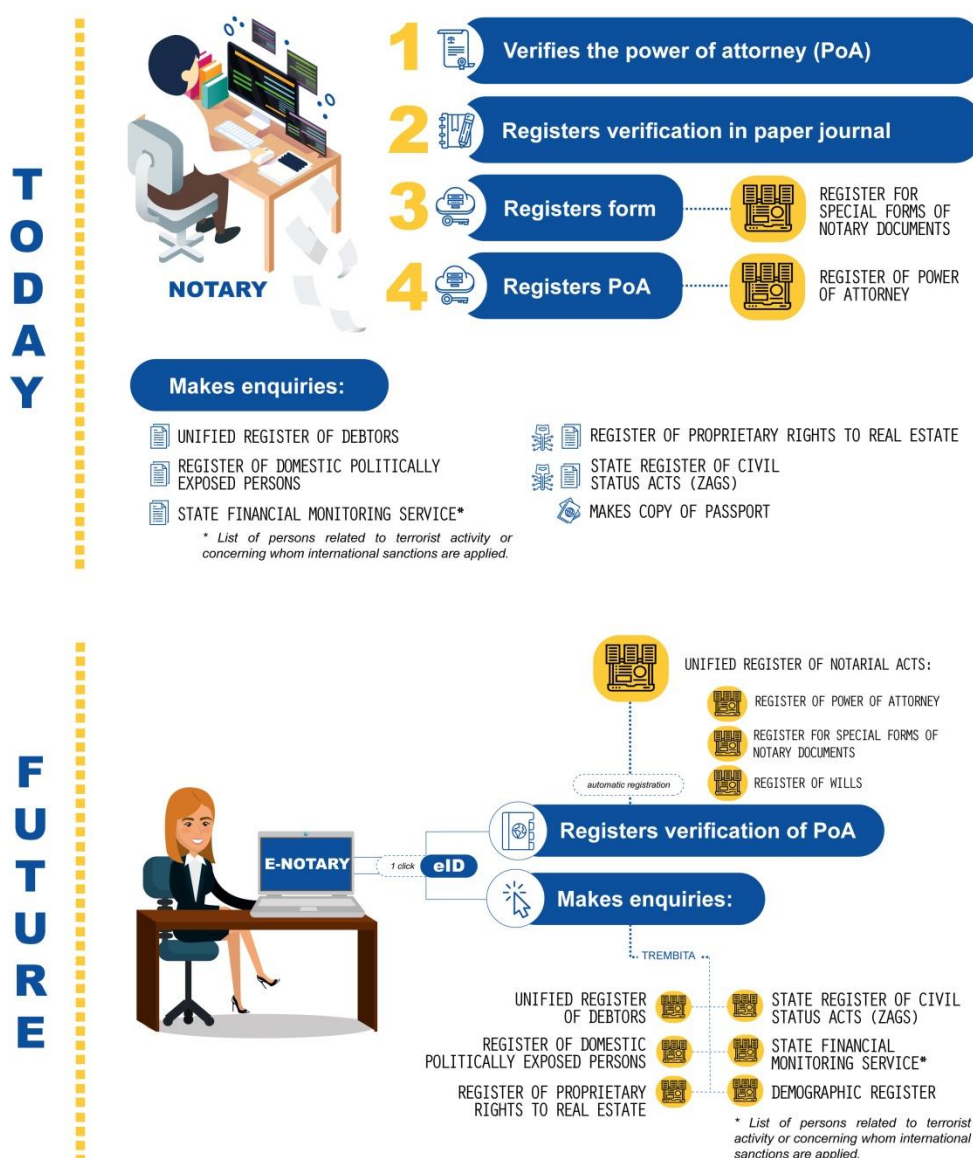
Schema 4 Proposal for register of power of attorneys

5.1 Aim and general description

Electronic register containing information about notarised power of attorneys, their duplicates and termination.

5.2 Legislation

- Law of Ukraine On notary https://zakon.rada.gov.ua/laws/show/3425-12
- Decree of MOJ On the introduction of the Unified register of powers of attorney and the introduction of amendments and supplements to some regulatory acts of the Ministry of Justice of Ukraine https://zakon4.rada.gov.ua/laws/show/z1378-06

5.3 Website

There is no free service for checking information. Everyone can check through the number on notary documents whether there is existing power of attorney on https://rnb.nais.gov.ua/index.php/rnb/result

5.4 Findings and recommendations

No	Findings	Recommendations
1	Not all registrars use the system (e.g. consuls, doctors, captains of ships etc.).	Give consuls access to the register in order to register power of attorney. Because business process for them remains the same as today.
2	Notaries and other registrars have to duplicate their activities during registration. For example, notaries have to register verification of power attorney in their paper journal, then log into register of special forms of notarial documents and register the form number, and finally yet importantly log into register of power of attorneys and make registration.	Notary registers verification of the power of attorney in e-Notary, information is automatically registered in the register of notarial acts (preferably the same system as e-Notary) and in register of power of attorneys. The business process should be same with Register of wills also.
3	Registration only covers notarised documents.	Change the purpose of the register and enable to register all kinds of powers of attorney to represent one in public agencies etc.
4	Authoriser does not have online access to registered information.	Create a portal or use already existing one where a person can see what kind of information there is about him/her (principal and authorised) together with information who has seen that information (via online service, Trembita, ZNAP).
5	Third parties do not have an online access to registered information and they always have to submit a paper application to get limited extracts from the register (to NAIS, to notary).	Enable any authenticated third party to make enquiries about registrations and digitally signed documents. Allow digitally signed power of attorneys.
6	All data necessary for making a	Design e-Notary business processes in a way

	registration is entered manually.	that personal information is retrieved via demographic register and/or civil status acts register to avoid typos. If consuls do registration, apply the same principle and in case of registration of initiation of succession proceeding, check the fact of death.
7	Notaries need to log into the system and make enquiries about powers of attorney.	Create Trembita services enabling enquiries (existence of power of attorney, content, copy of signed document, termination).
8	Registrations do not contain UREN.	Make it compulsory to enter UREN of both parties.
9	Data correction is time-consuming and related with submitting of paper application.	Enable automated data correction procedures based on the updates of civil status register, demographic register of business register.

5.5 Roadmap

Initial steps should be as follows:
1. Create Trembita services enabling notaries to register power of attorney through e-Notary or MISP.
2. Create online portal/services enabling to access personal data or make enquiries about enquiries.

5.6 Used sources
1. Answers to questionnaire.

6. REGISTER OF PRINTED MASS-MEDIA AND INFORMATION AGENCIES

Based on its content one can say that this is a register created for registering a single type of licence. One of the best practices is that all licences are registered in one place or the fact of issuance of a licence can be registered and seen from the business register. Since business processes related to licencing weren´t part of the analysis, expert didn´t study relevant legislation and practices. The concept of registration of a licence may remain the same, but licencing should be evaluated separately in the future since it is one of the criteria influencing ranking in Doing Business and other similar reports.

6.1 Aim and general description
Register containing information about approvals to be active in the field of mass-media and information. It is a register of licences issued to companies active in the respective area.

6.2 Legislation

- Law of Ukraine On the print media in Ukraine https://zakon2.rada.gov.ua/laws/show/2782-12
- Law of Ukraine On news agencies https://zakon1.rada.gov.ua/laws/show/74/95-вр
- Resolution of CMU On state registration of print media, news agencies and the amount of registration fees https://zakon4.rada.gov.ua/laws/show/1287-97-п
- Decree of MOJ On approval of the Regulations on the Register of printed-media and Information agencies as subjects of information activity https://zakon4.rada.gov.ua/laws/show/z0689-07

6.3 Website

https://dzmi.minjust.gov.ua/

6.4 Findings and recommendations

No	Findings	Recommendations
1	Company can start activity only after registration.	Redesign business process in a way that company can register its activity instead of pre-approval and respective government organ performs supervision afterwards.
2	Application and additional documents are in paper form.	Create an e-service enabling representatives of company to submit registration documents online together with registration of a company or afterwards together with update of company data.
3	Approval process needs optimization.	Start using Trembita services to: • prefill necessary data for registration, avoid duplication and link company information directly to business register. • check ongoing court proceedings. • analyse fulfilment of monopoly rules.

6.5 Roadmap

1. Start using Trembita services to exchange information with other registers.
2. Redesign register according to the new legislation.

6.6. Used sources

1. Answers to questionnaire.

7. REGISTER OF CIVIL STATUS ACTS OF CITIZENS

This is a key register which should be the one used by almost all other government registers together with demographic information. Instead, it is managed as a list of civil status records linked to the same person. It is not possible to link a person directly to his/her civil status and effort to gain full information about the person is enormous.

7.1 Aim and general description

Electronic information system containing information about the following civil status acts: birth, name change, marriage, divorce, death, changes introduced to them, their update and revocation, and information about issue of certificate and extract from register. Register focuses on the act (document), not on the person related to the document.

7.2 Legislation

- Law of Ukraine on state registration of civil status acts https://zakon4.rada.gov.ua/laws/show/2398-17
- Resolution of CMU On approval of the procedure for keeping the State register of civil status acts of citizens https://zakon4.rada.gov.ua/laws/show/1064-2007-%D0%BF
- Decree of MOJ On approval of the rules of state registration of civil status acts in Ukraine https://zakon3.rada.gov.ua/laws/show/z0719-00
- Decree of MOJ On approval of the Instruction on keeping the state register of civil status acts of citizens https://zakon1.rada.gov.ua/laws/show/z0691-08
- Decree of MOJ On approval of the samples of civil status records, descriptions and samples of forms of certificates of state registration of civil status acts https://zakon.rada.gov.ua/laws/show/1025-2010-%D0%BF
- Decree of MOJ On approval of rules on making changes in civil status records, their update and revocation https://zakon.rada.gov.ua/laws/show/z0055-11.

7.3 Website

There is no free access to the Register. Authorized users have access only.

7.4 Findings and recommendations

No	Findings	Recommendations
1	Register is document-based and search criteria are registration number or certificate number.	Use UREN as a unique identifier of a person and link civil status acts to a person.
2	Civil status acts do not contain UREN.	Add UREN to all issued civil status acts.
3	There are no links between different family events of a person, except divorce.	Link all family events of a person (move from document focused register to person focused register).
4	Civil status act contains unnecessary /repetitive information such as place of	Add to civil status document only necessary information such as surname,

		residence, passport number and date of issue.	last name, patronymic, UREN, gender, date and place of birth, citizenship
5		Archived data of ZAGS starting from 1945 was entered info register, but there are no scanned documents inked to the metadata, which makes it impossible to check correctness of entered data without comparing it to the paper document in case of doubt.	Scan all civil status acts and link them to digitized data/registrations together with necessary data cleansing (compare paper and digital entry).
6		Register does not contain information about changes in civil status happened outside Ukraine and due to that vital statistics may be missing and the state does not have an overview of the family events of its residents.	Create a procedure for residents to register their family events happened abroad like marriage etc. in civil status register.
7		Person has to go to ZAGS to register family event and present acts on paper.	Link register civil status acts to a person and but proactive services. Proactive service like e-birth or e-baby and e-death may be the first ones.
8		Consuls registering births, marriages and deaths cannot access the register, so they have to send paper documents to MoJ for registration.	Give consuls direct access to the register for making registrations.
9		The state has no data on marital status of the person since link between a person and civil status act(s) is missing. This means that a lot of state register gather marital status information and there is no original source for that information.	Link person to civil status acts, declare civil status register as a key register for marital status together with births, deaths, divorces, and name changes.
10		Data correction may be very time consuming and take several months.	Create a procedure for data correction – online service next to service provided by ZAGS. Make it mandatory and possible for notaries to make corrections in the register or at least to apply for data correction through Trembita services.
11		Paper certificates have legal validity and two identical paper certificates are printed out during each registration.	Give legal validity to electronic data and stop issuing paper certificates (e.g. optional service for extra charge)
12		Registration procedure is manual (everything is typed in), there is no data exchange with other registers.	Reuse already entered data, if necessary, exchange data with demographic register via Trembita.
13		Access to civil status register demands separate identification key.	Use one single authentication key in all government registers.
14		Access to civil status acts register is very	Provide Trembita services to retrieve

	limited, only notaries, some state institutions and ZNAP officials.	information about civil status acts. Proposal for initial list: • Retrieve information about marital status • Retrieve information about all civil status acts • Retrieve information about any updates in the register UREN should be one of the possible input next to certificate number of registration numbers.
15	Person has no online service to check registered information related to him/her or who has asked that information.	Create a portal or use already existing one where a person can see what kind of information there is about him/her (and his/her children) together with information who has seen that information (via online service, Trembita, ZNAP).
16	Demographic register doesn´t have updated information about deaths so their passports remain valid in the register even after death. Once a year civil status register issues, a paper lists to correct data in demographic register.	*See point 14.*
17	Demographic register doesn´t have updated information about births.	*See point 14.*

7.5 Roadmap
Initial steps should be as follows:
1. Declare UREN as single unique identifier and create it to every person
2. Add UREN to all new passports, ID cards and driving licences
3. Add UREN to civil status register by changing it from document-based register to person-based register.
4. Create Trembita services enabling notaries, demographic register etc. to retrieve information.
5. Make it possible for people to see registered information related to them.

7.6 Used sources
1. Answers to questionnaire
2. Observations made by international experts Enel Pungas and Mairis Kungla.

8. REGISTER OF BANKRUPTCY

Again, one of the registers which could help to get quick and sufficient information about natural or legal person, but can only provide information about the fact of bankruptcy. The best practice would be to register the fact of bankruptcy in business register in case of legal entities, and in case of natural persons there can be a separate register or information can be published in Public Announcements. It means that there is a system which trustees in bankruptcy use too do their everyday work, but the results itself is registered in different register.

8.1 Aim and general description
Collection of information about the persons in bankruptcy proceedings, status of such procedures.

8.2 Legislation
- Law of Ukraine On the resumption of the debtor's solvency or bankruptcy https://zakon.rada.gov.ua/laws/show/2343-12
- Bankruptcy Code of Ukraine (entering into force from 21.10.2019) https://zakon.rada.gov.ua/laws/show/2597-19

8.3 Website
https://kap.minjust.gov.ua/services?product_id=3&is_registry=1&keywords=&usertype=all

8.4 Findings and recommendations

No	Findings	Recommendations
1	Much of the information in this register is created by the courts (the register of claims of creditors, the stage of bankruptcy proceedings, the state of implementation etc.). There is no automatic exchange with the registry of court decisions.	Ensure maximal exchange of information with court records through Trembita.
2	The vast majority of bankruptcies in this registry are persons already in the debtors' register. There is no information exchange with this registry.	Ensure that information is automatically obtained from the debtor's register if the person is subject to bankruptcy proceedings.
3	The bankruptcy procedure involves finding the debtor's assets. This would be facilitated by the opportunity to see the existing real estate of the debtor, as well as encumbrance in the register of encumbrances of movable property.	Ensure communication with the register of real rights and the register of encumbrances on movable property. The other possibility would be to register the fact of bankruptcy in the register of real rights.
4	Legislative changes now introduce a bankruptcy procedure for an individual.	Provide bankruptcy data for individuals. Share with the demographic registry.

8.5 Roadmap
1. Start using Trembita services of business register to validate company information.
2. Redesign current e-service together with all licencing procedure and provide optimized service for companies and verifiers (link to business register remarks).

8.6 Used sources
Answers to questionnaire.

9. REGISTER OF THE METHODS OF COURT EXPERTISES

Informal register only for limited target groups. Since the number of users and frequency of use is low, this register doesn´t need urgent focus from business process optimising wise.

9.1 Aim and general description
Collect and provide information about forensic techniques that have passed the attestation and suitable for practical use.

9.2 Legislation
- Law of Ukraine On forensic examination
  https://zakon3.rada.gov.ua/laws/show/4038-12
- Resolution of CMU On approval of the procedure for attestation and state registration of methods of court expertise
  https://zakon4.rada.gov.ua/laws/show/595-2008-%D0%BF
- Decree of MOJ On approval of the Procedure for maintaining the Register of methods of court expertise https://zakon4.rada.gov.ua/laws/show/z0924-08

9.3 Website
http://rmpse.minjust.gov.ua/

9.4 Findings and recommendations

No	Findings	Recommendations
1	Materials about methods are not available in the system.	Enable everyone to access description of methods if not classified.

9.5 Roadmap
Follow recommendation.

9.6 Used sources
Answers to questionnaire.

10. REGISTER OF NOTARIES

Register is managed by MoJ, but could also be managed by the Chamber of notaries as an additional functionality of e-Notary. The creation of separate register for everything seems to be a general approach, but it may not be sustainable and cost effective.

10.1 Aim and general description
Maintain information about notaries, both active and who terminate their activities.

10.2 Legislation:
- Law of Ukraine On notary https://zakon.rada.gov.ua/laws/show/3425-12
- Decree of MOJ On approval of the Procedure for maintaining the Register of notaries https://zakon2.rada.gov.ua/laws/show/z0926-10

10.3 Website
https://ern.minjust.gov.ua/pages/default.aspx

10.4 Findings and recommendations

No	Findings	Recommendations
1	See point 11.4	See point 11.4
2	Ministry of Justice enters information about notaries into the register.	Based on the best practice in Estonia Chamber of Notaries is managing list of notaries.

10.5 Used sources
Answers to questionnaire

11. REGISTER OF CERTIFIED COURT EXPERTS

There is a tendency to call each data set a register. Therefore, the number of registers managed by the government is quite vast and may cause some misunderstandings. There are four register each containing information about experts in the field of justice:

1. Register of trustees in bankruptcy;
2. Register of certified court experts;
3. Register of private bailiffs;
4. Register of notaries.

11.1 Aim and general description

The aim of each registry is to provide up to date information about experts together with date of the qualification commission decision, names of assistants etc. In order to reduce the management costs and optimize processes, there can be two solutions. First would be to merge all so-called registers together, keep all the data in one database and provide relevant information through one website/service. Second option would be to merge these registers or lists into the management systems. This means that list of notaries contains within e-Notary information system and everyone has access to that list based on the user rights/roles.

11.2 Legislation

- Law of Ukraine On forensic examination
  https://zakon3.rada.gov.ua/laws/show/4038-12
- Decree of MOJ On approval of the procedure for keeping the Register of certified court experts https://zakon4.rada.gov.ua/laws/show/z0484-12

11.3 Website

http://rase.minjust.gov.ua/

11.4 Findings and recommendations

No	Findings	Recommendations
1	There is a separate list for each licensed occupation which all need administration, small developments etc.	Since the aim of each such register is to provide information about specific service providers, it should be analysed if it is possible to merge technically all these registers into one information system containing all the information. In all cases registers contains information about name, date of birth, date of appointment, date of resigning etc.. Since business process for registration, update and cancellation is the same, it is not wise to keep separate systems running. One unified back office enables to cut maintenance and development costs. If it is not possible or wise to merge all the registers into one system, registers of specific professionals should be merged into the management system where the user rights/roles are managed anyway.

		E.g., Register of private bailiffs contains in the Automated System of Enforcement Proceedings .
2	Information in all websites is not consistent, e.g. in the register on notaries link to the website, opening hours and notary´s email address is missing.	Provide unified information about all licenced experts together with specific information in each field of activity.
3	To get information, one must always make a search by knowing the search criteria.	Publish full list of active experts next to the search option.
4	All information and websites are only available in Ukrainian.	Provide unified website service also in English since there are quite a lot of foreigners who need service of above-mentioned experts.
5	To make an enquiry one always has to use the websites.	Create Trembita services enabling to make automated searches about expert rights. This enables to reengineer authentication processes so user rights do not depend on NAIS´s will, but actual data entered into register (e.g. the fact that a person has the right to act as notary is retrieved from the register in real time).
7	To register for an exam one has to submit paper documents and pay state fees in the bank.	Make a new portal a self-service desk for qualification commissions to announce new exams, applicants to submit documents and see relevant information related to them.

11.5 Roadmap

Initial steps should be as follows:

1. Replace four different websites with one providing the same services as the separate ones.
2. Create Trembita services enabling interested parties to retrieve information about experts:
   a. Existence of licence/approval.
   b. Updates in the experts´ lists.

11.6 Used sources

Answers to questionnaire.

REGISTER OF CERTIFIED COURT EXPERTS
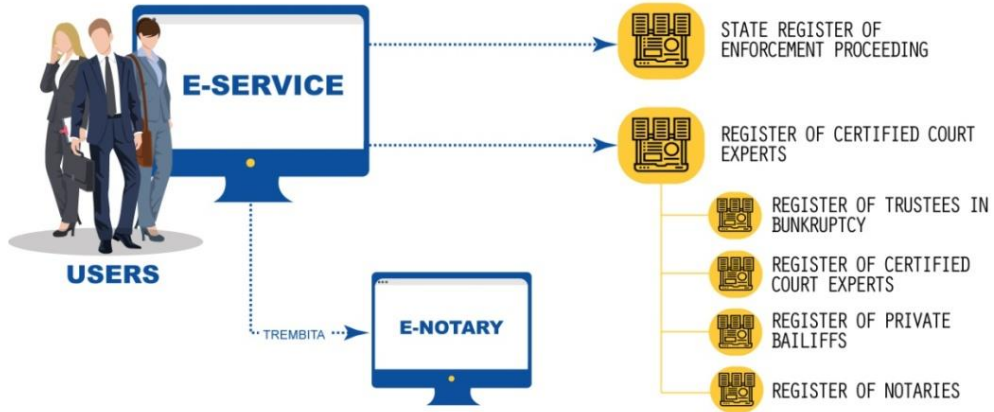
Schema 5 Possible new approach for managing licenced experts
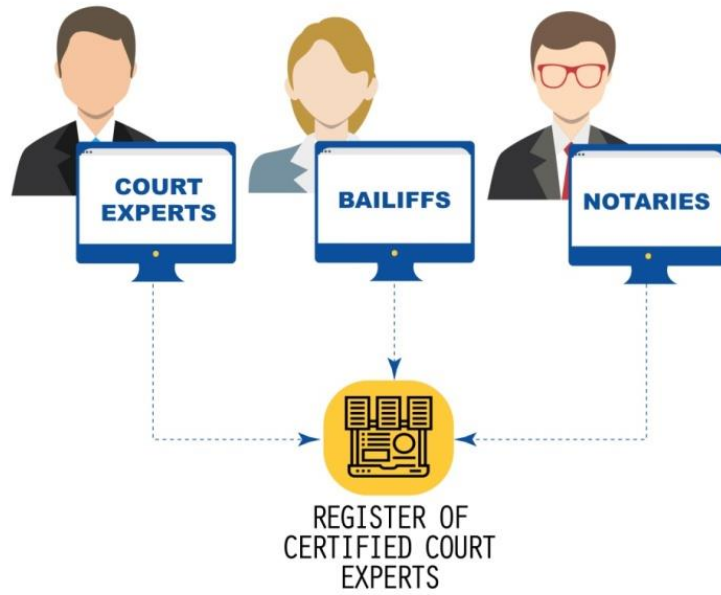
Schema 6 Possible way for optimizing small registers of experts

12. REGISTER OF PERSONS ON LUSTRATION

This register is quite a unique one, but if it is necessary, data must be up to date. Currently there are no procedures for updating the information and due to that this register may quickly lose its value for the users.

12.1 Aim and general description
Register information about persons under lustration.

12.2 Legislation
- Law of Ukraine On the purification of power
  https://zakon4.rada.gov.ua/laws/show/1682-18
- Decree of MOJ On approving the regulation on the Register of persons to whom the Law of Ukraine "On Purification of Power" is applied
  https://zakon5.rada.gov.ua/laws/show/z1280-14

12.3 Website
https://lustration.minjust.gov.ua/register

13.4 Findings and recommendations

| No	Findings	Recommendations
1	Publicly available personal data is not enough to identify the person.	Add UREN to the registration and enable searches based on it.
2	Information about inspection entities is not available and reference to an article based on what inspection was carried out isn't linked to the respective article.	Publish information about the entity who made the decision and link reference to an article of the law with the respective legal act.
3	Subjects who have died remain in the register.	Establish data exchange with civil status register in order to register death and delete people from the register automatically. If it is necessary to keep information about deceased people available to everyone, start using relevant statuses and make a clear distinction between whose who are alive.
4	Registered information about the person remains the same even if person has changed the name.	Establish data exchange with civil status register to register any update of person´s information and make automated updates in the register.

12.5 Roadmap
1. Add UREN to all registered persons.
2. Validate the list and remove those who have died.
3. Update registered persons names.

12.6 Used sources
Answers to questionnaire.

13. REGISTER OF APOSTILLES

The procedures and principles of this register arise from international convention. It means that most of its rules originate from a contract between countries. Despite that, there is a room for improvement. In Estonia, this register Chamber of Notaries is the owner of this register and manages all the developments etc. This makes it easier for the citizen so there is only one institution to turn to. On the other hand it helps notaries to earn profit and cover their potential losses related to optimization of business register processes.

13.1 Aim and general description
Public register that enables one to check the issued apostilles and manage signature and seal samples.

13.2 Legislation
- Resolution of CMU On some questions are about providing an apostille e-service https://zakon0.rada.gov.ua/laws/show/890-2015-%D0%BF
- Decree of MOJ On the ordering of relations on affixing the apostille and preparation of documents for their consular legalization https://zakon3.rada.gov.ua/laws/show/z1419-15/page
- Decree of MOJ On the ordering of relations on affixing the apostille and preparation of documents for their consular legalization https://zakon1.rada.gov.ua/laws/show/z1419-15/paran8#n20

13.3 Website
https://apostille.minjust.gov.ua

13.4 Findings and recommendations

No	Findings	Recommendations
1	Not all signature and seal samples are registered in the register online.	Update information wither signed notaries.
2	Information about judges is missing	Enter information about active and resigned judges into the system (data exchange with register of judges)
3	There are several registrars: MoJ, MFA, Ministry of Education and Science	Notaries issue apostilles in Estonia so person doesn't have to think where to turn to. Since one of the recommendations is to decrease the number of applications verified by notary, this would give them the possibility to have new services.

13.5 Roadmap
1. Update information about notaries.
2. Add information about judges.

13.6 Used sources
Answers to questionnaire

14. BUSINESS REGISTER

Although quite recently renewed, it lacks of optimized business processes and full potential of such register hasn´t been used to provide good and reliable services. Business register is one of the key government registers which data public authorities and private sector use.

As in case of most of the registers, the system is in place and information is accessible to some extent, but it is all very fragmented. Any official who needs business register information can apply for the access, but this doesn´t mean that they can reuse the data easy and fast.

Investors have to turn to notary or to registrar in case there is a need to update information although qualified digital signature and UREN enable to make registration process quicker (i.e. online) and implement automated procedures in some cases like changing contacts or field of activity.

14.1 Aim and general description

Business register - Unified State Register of legal entities and natural persons - entrepreneurs and public organizations. The aim is to collect, store and process, protect, register and provide information about legal persons, natural persons - entrepreneurs and community groups that do not have legal status. The main tasks of the register are registration, creation, data modification, termination of activities of legal entities and physical persons - entrepreneurs.

14.2 Legislation

- The Law of Ukraine On state registration of legal entities and natural persons - entrepreneurs and public organizations https://zakon4.rada.gov.ua/laws/show/755-15/page
- Resolution of the CMU On some issues of getting information from the Unified state register of legal entities and natural persons - entrepreneurs and community groups https://zakon5.rada.gov.ua/laws/show/593-2016-%D0%BF
- Decree of MOJ On Approval of the Procedure for State Registration of Legal Entities, Individual Entrepreneurs and Public Formations that Have No Legal Entity https://zakon5.rada.gov.ua/laws/show/z0200-16
- Decree of MOJ On procedure for providing information from the Unified State Register of legal entities and natural persons - entrepreneurs and community groups https://zakon5.rada.gov.ua/laws/show/z0839-16/page.

14.3 Website

- For officials:
  - https://usr.minjust.gov.ua/ua/freedocuments
  - https://online.minjust.gov.ua/managers/login

- For other users:
  - https://usr.minjust.gov.ua
  - https://online.minjust.gov.ua/

14.4 Findings and recommendations

As business register, register of public organizations and register of public associations are using very similar business processes and software, so all relevant findings and recommendations apply for all of them at once, as these three registers may be as one technical register. See also all general findings.

14.4.1 General principles:

No	Findings	Recommendations
1	e-services are provided to end-users but only valid data is available. There is no way for "ordinary" user to access/get historical data from the register.	Existing service should be improved by adding additional output variants of information (i.e. historical data).
2.1	There are not enough search criteria in order to get entity information.	Existing service should be improved by adding additional information search criteria by historical data.
	-	Users should be able to make advanced searches by using multiple search criteria (entity number, entity name, activity code, field of activity, address (main office address and place of activity), region, legal form, capital). Some search criteria could be accessible as paid service.
3	It is difficult to grasp the overall picture about relations between entities and persons.	Implement service for entity information visualization. The goal of implementing a visualization service is to offer a tool, which helps to visualize the relationships between entities and related persons based on entity information. Such tool would provide useful output for number of users: 1. Banks - for detecting money laundering schemes; 2. Entrepreneurs - for checking the background of their partners and debtors; 3. Investigators – for simplifying their work on finding relations between different legal entities. Based on Estonian experience, visualization service should be an interactive web application that draws out relationships between entities and persons as figurative drawing, which can be manipulated by the user and it should consist of following main functions: 1. Visualization of relations between entity and its subsidiaries/associates. 2. Visualization of relations between entity and its related parties (stockholders, auditors, board members). 3. Visualization of relations between natural person

		and entity related. Visualization of entity information is becoming more and more popular in the whole world and is used in many countries. Implementation of such service would yield following benefits: 1. Extra source of income for NAIS (as such service should be fee based for ordinary user and free for governmental users); 2. Better overview of relations between entities and persons that in turn improves transparency. 3. Help to identify possible ownership loops.
4	Submitted application information is not visible to the public.	Information about submitted application in process should be available to public (not specific information but just to notify community about possible change of information in register).
5	Information about registered trademarks is not electronically available within Business Register online system/Registrar system.	Information about registered trademarks and trademarks under process is needed if new entity is registered or business name is being changed. Business name entered into Business register must differ from other registered business names and trademarks. Since business register and trademark register do not change data, protected trademarks are sometime registered as business names with our rights being checked.
	-	Information about registered trademarks should be electronically available within registers' online system/registrars' system as a business name verifier option.
	-	Service to "Search trademark" should be established.
6	Status and information about entities being in register is not verified in respect of company being still active.	Process should be in place which helps to identify entity status in register in order to cleanse the data in register (ie deleting for register process).
7	verification of data being entered into the register is not being checked with data from other registries (ie civil register).	In order to improve the quality of data entered into business register it is essential to start checking basic data entered into register from other government registers such as civil register, trademarks register, address system and data exchange/validation depends on the readiness of other government authorities and their services.
8	There are no sufficient rules regarding data input and	Registry system should have specific rules of data input every time data is entered manually into the

	automated checks.	system in order to discard typing mistakes.
9	Announcements regarding changes in capital of entities are not published in electronic "state gazette".	Best practice is to provide information on capital change of every entity in order for potentially creditors to be notified on time.
	-	*Publish public announcement* and all announcements should be available for public and also via e-service (to extract/check for the information based on dedicated criteria).
10	New entity registration is difficult and not user-friendly process.	New entity registration process should be simple and clear for the end user (while using online registration portal) or registrar.
	-	Registration of a new company should be done without any additional processes and phases - all during single sign-on (in case of electronic registration online all required documents should be generated by the system (ie articles of association) and participants only selecting variants, going through the process (ie compiling documents, paying fees and capital) and signing digitally documents during the process).
11	Registered personal information on shareholders do not always contain UREN.	Make it mandatory to register UREN is case of registrations regarding physical persons (ie as shareholders).
12	There is no register for addresses and agreed format mandatory to use.	- Agree format for addresses (e.g. INSPIRE directive[7]) and make it mandatory for everyone to use. - Create an address register and provide Trembita services to retrieve address information from it (source register).
13	Information about extract from register is saved as PDF copy.	All queries needs to be logged with sufficient data to verify integrity of query made for future references and not being saved as extracts from register as PDFs (valid at the time of generation of the extract) in register database.

14.4.2. Entity information update:

14	Relevance of entity information is not updated frequently enough.	Entity information should be updated at least once a year.
	-	Stakeholders should have the possibility to update entity information (report about changes) via Internet

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[7] https://inspire.ec.europa.eu/

		or other electronic channels (ie with annual report or other source).
	-	Business register should provide easy online services for updating registered information.
	-	Other government registers should be used as a source of information instead of burdening entrepreneurs to submit the same information several times (ie persons data from civil register, address data via address registry and etc).
15	All changes made in business register need at least participation of registrar.	Some information should be changed automatically whenever possible. Information regarding means of communication, field of activity, place of activity, shareholders, beneficial owners, address or information about auditors should be changed automatically based on information entered by entity representative.
16	Entities report about their "activities" and economic indicators to different authorities.	Business register needs to have information about company activity. As a possible measure, the obligation of submitting annual report to business register could be initiated. In case information is already being collected by other governmental institution then information about submitted data should be verified via dedicated Trembita service and indicated under business register.
		any information should be submitted electronically via dedicated e-reporting environment. in case of reporting submission of information should be free of charge. In case of information change in commercial registry data - fees should be paid before application submission directly within the registry system.
		reports/information should be available to the public (some free, some as a service).
17	There are no active supervision procedures regarding information update.	Supervision procedures and rules regarding updating entity information and submission of reports/update information should be established in order to guarantee data quality within registry.
		There should be a procedure of compulsory dissolution and cancellation of the entity after it fails to submit data/reports two years in a row (NB! in case of debts bankruptcy proceedings could be initiated).

14.5 Roadmap

14.5.1 Short term steps

1. Create ONLINE payment processing service in order to use it within process of providing conveniently online services via Business Register.

2. Establishing company fully online by means of PKI and eID:

    2.1. Making changes in company data (which does not require notary participation, i.e. contact data, management board (in case decision is signed digitally))

    2.2. Change rules and make it mandatory to have UREN in case of registrations (for identification of physical persons as owners/board members/members of the supervisory board/audit and other roles.

    2.2.1. While having data on persons with UREN it is possible to provide more online services

    2.2.2. Notify owners and other entitled persons of the need to update their business entity contact information in the registry so they can be informed about any change made in the registry.

    2.2.3. Create the following Trembita services:

    2.2.3.1. Get simple business information. Service enables to get basic information about list of companies, helping to make quick decisions if additional search is necessary or search criteria should be changed. Provides users with registry codes of companies that can be used as a base in other queries.

    2.2.3.2. Get detailed data. Service gives information about valid and historical information about everything related to the company. Unique identifier of a company (registry code) is used as a search criteria.

    2.2.3.3. Get list of representation rights. Service gives list of persons who has rights to represent specific company. Search criteria could be based on UREN or registry code. Based on that query a lot of governmental services could be built while providing service to authenticated and verified personnel.

    2.2.3.4. Get list of company changes. Service to give information about changes to specific company (ie status change, auditor change, changes in management, changes in annual year, changes in owners/beneficial owner, and etc).

    2.2.3.5. Get company's props inquiry. Mass query to share basic information on whole list of the companies being registered in register. Basic information should be provided as OpenData (ie Business Name, Registry Code, Address, VAT number if any)

    2.2.3.6. Get list of company documents. Search can be made by using unique identifier of company and response contains a list of all documents related to the company (type, date, relevant reference to company changes etc.).

    2.2.3.7. Get company document file. Based on the information received from the previous service, unique number of documents enables to retrieve specific file necessary for inspection.

2.2.3.8. Present API available on NAIS webpage (https://nais.gov.ua/pages/api) should be reviewed and taken into account while developing Trembita services. New services should extend capabilities of register (adapter server based checking mechanisms should be implemented in order to acquire sufficient data quality).

14.5.2 Long term steps
1. add the following functionalities to the e-service:
    1.1. create user-friendly interface with optimized UX for process (users experience);
    1.2. create Trembita services for the notaries to use within e-Notary system:
        1.2.1. company registration.
        1.2.2. change of information.
        1.2.3. create more Trembita services to provide very specific registry services to other governmental institutions.

14.6 Used sources
Answers to questionnaire.
Several interviews.

15. REGISTER FOR SPECIAL FORMS OF DOCUMENTS OF INFORMATION SYSTEM OF THE MINISTRY OF JUSTICE OF UKRAINE

Another register supporting paper processes and duplication of digital ones. This is one of the registers will lose its purpose after electronic data gains its legal effect and paper certificates lose their value in the eyes of citizens and officials.

15.1 Aim and general description
Registration of special forms of documents issued by the MoJ. Such documents may be certificates of ownership of previous registers etc.

15.2 Legislation
- Decree of MOJ On requesting special forms of documents in the register of the information system of the Ministry of Justice of Ukraine https://zakon2.rada.gov.ua/laws/show/v94_7323-00
- Decree of MOJ On approval of the provision on delivery procedure, storage, accounting, and reporting of special spending forms of documents of the Ministry's information system https://zakon4.rada.gov.ua/laws/show/z0878-04

15.3 Website
There is no free access to the Register. Authorized users have access only.

15.4 Findings and recommendations

NAIS suggested closing the register since it is not possible to make new registrations. Unfortunately, it is not possible since there may be a practical reason to access the registered information (e.g. in case of privatization). Depending on the statistics, the service may be available only as paper process, there is no need for e-service.

15.6 Used sources

Answers to questionnaire.

16. AUTOMATED SYSTEM OF ENFORCEMENT PROCEEDINGS (INCLUDING UNIFIED REGISTER OF DEBTORS)

Once again fragmented system containing different registers, which to no link with each other and other government registers. Bailiffs have access to register of real rights, to business register etc., but they cannot reuse the information without typing it into the system several times. There is no systemic approach how all systems necessary for enforcement proceeding should be linked.

16.1 Aim and general description

An electronic system for creating, processing and storing information in the enforcement proceedings. It functions as a single software product for public and private bailiffs. For auditing state registers administered by the Ministry of Justice of Ukraine, three components (subsystems) that have the registers' features have been allocated in the Automated System of Enforcement Proceedings.

16.2 Legislation
- Law of Ukraine On Enforcement proceeding
  https://zakon2.rada.gov.ua/laws/show/1404-19/page
- Decree of CMU On approval of the regulation on the automated enforcement system (ASEP) https://zakon5.rada.gov.ua/laws/show/z1126-16

16.3 Website
1. Access for the creditors and debtors - https://asvpweb.minjust.gov.ua/#/search-debtors
2. Unified Register of the debtors - https://erb.minjust.gov.ua/#/search-debtors
3. Register of the private bailiffs - https://erpv.minjust.gov.ua/#/search-private-performer

16.4 Findings and recommendations

No	Findings	Recommendations
1	There is essentially no register of enforcement proceedings. Both the debtor and the debtor are able to review all their enforcement proceedings in the debtor's register.	The ASEP should have the function of a debtor and creditor «user cabinet», in which such users will primarily see all their enforcement proceedings. If they wish, they will be able to open each case and review the specific case file.
2	There is no single approach for authorizing a creditor or a debtor in the ASEP system. Each action of opening new enforcement proceeding creates a production number and an access ID. Anyone to whom the creditor or debtor has provided such an identifier may log on.	A single creditor and debtor authorization system should be established using electronic identification.
3	Courts do not have access to enforcement proceedings in the system, even if the court considers a dispute in a case of actions of the executor.	Enable access for courts to see information about enforcement proceedings, similar to that of the creditor or the debtor. Stat that the information received electronically by the court in this case has the same legal validity as proofs on paper.
4	The bailiff, on receiving the claim from the plaintiff on the opening of the enforcement proceedings, cannot verify the authenticity of the enforcement document.	The ASEP must allow the bailiff to access via Trembita the full texts of court decisions and issued bailiffs, which are in the register of court decisions (hereinafter - also in the register of bailiffs) to identify and verify the authenticity of the documents submitted.

16.5 Roadmap
Initial steps should be as follows:
- creation of a single electronic user's office for the creditor and the debtor to find all proceedings;
- providing the ability to use all electronic authorization methods to access information about yourself, it should be provided for example through id.gov.ua;
- ensuring the exchange of electronic data and documents with the courts, both during the opening of the procedure and during the contestation of the actions of the bailiffs by the participants.

16.6 Used sources
1. Answers to questionnaire.
2. Presentation of NAIS.

17. REGISTER OF PRIVATE BAILIFFS

See chapter 11.

17.1 Aim and general description
Maintain information about persons who order the execution of judgments and judgments of other authorities, both active and resigned.

17.2 Legislation
- Law of Ukraine On bodies and persons who enforce court decisions and decisions of other bodies https://zakon3.rada.gov.ua/laws/show/1403-19
- Decree of MOJ On approval of the Procedure for the formation and maintenance of the Unified Register of Private Performers of Ukraine https://zakon3.rada.gov.ua/laws/show/z1125-16

17.3 Website
https://erpv.minjust.gov.ua/#/search-private-performer

17.4 Findings and recommendations

No	Findings	Recommendations
1	See point 11.4	See point 11.4
2	Ministry of Justice enters information about private bailiffs into the register.	Based on the best practice in Estonia Chamber of Bailiffs and trustees in bankruptcy is managing list of its members. In the process of the raise of self-regulation, professions can and should police their own and Ministry should step in only in case it has not occurred.

17.5 Used sources
Answers to questionnaire.

18. REGISTER FOR SPECIAL FORMS OF NOTARY DOCUMENTS

This is a register supporting paper processes even in digital world. Since digital signing is not very popular or integrated into the systems or trusted by the registrars, notaries or the society, it is still mandatory to carry on paper documents and due to that, there is a strong need to verify their correctness. This register is only necessary until digital form prevails paper. In the future citizen should be able to download a digital copy of notarial act to prove its authenticity instead of carrying a pile of paper.

18.1 Aim and general description

Register contains information about numbers, types and dates of documents issued by notaries. It is a paper process supporting system enabling anyone to check the authenticity of notarial act and avoid fraud.

18.2 Legislation

- Resolution of CMU On approval of the Procedure for spending, storage, circulation of special forms of notarial documents and reporting on their use and description and sample of such form https://zakon1.rada.gov.ua/laws/show/812-2009-п
- Decree of MOJ On organizational measures for delivery, storage, circulation, accounting of special forms of notarial documents and reporting on their use https://zakon4.rada.gov.ua/laws/show/z1043-09

18.3 Website

https://rnb.nais.gov.ua

18.4 Findings and recommendations

No	Findings	Recommendations
1	Due to the trust issues it is necessary to have the possibility to check the existence of notarial act.	• Keep the register in use until key government registers have fully digitized their processes and digital information is legally valid. After electronic registers gain trust, there is no need for such a register. • Make it possible for a citizen to access digitized copies of notarial acts related to him. There should be no need to retrieve paper copy of notarial act, digitally signed document should be accessible at any time through the state portal and reused as much as necessary.

18.6 Used sources

1. Answers to questionnaire.
2. Presentation of NAIS.

19. REGISTER OF PUBLIC ORGANIZATIONS

See chapter 14.

19.1 Aim and general description

Single register of public organizations, which purpose is to collect, store, process, protect, keep and provide information about community groups.

19.2 Legislation

- Law of Ukraine On political parties in Ukraine
  https://zakon.rada.gov.ua/laws/show/2365-14
- Law of Ukraine On uniting citizens https://zakon.rada.gov.ua/laws/show/2460-12
- Law of Ukraine On charity and charities
  ttps://zakon.rada.gov.ua/laws/show/531/97-%D0%B2%D1%80
- Law of Ukraine On charity and charities professional creative workers and
  creative unions https://zakon.rada.gov.ua/laws/show/554/97-%D0%B2%D1%80
- Decree of MOJ On approval of the Regulation on the Unified Register of Public
  Formations https://zakon3.rada.gov.ua/laws/show/z1220-08

19.3 Website

https://rgf.minjust.gov.ua

19.4 Findings and recommendations

No	Findings	Recommendations
1	Business processes and software being used are basically the same with Business register (see section 14).	All recommendations please find in section 14, as we propose to unify technically Register of public organizations with Business register - one common platform to control all similar registries at once.

19.4 Used sources

1. Answers to questionnaire.
2. Presentation provided by NAIS.

20. REGISTER OF PUBLIC ASSOCIATIONS

See chapter 14.

20.1 Aim and general description

Register of public associations - which collects, stores, and processes, protects, keeps and provides information about public associations.

20.2 Legislation

- Law of Ukraine On public associations
  https://zakon2.rada.gov.ua/laws/show/4572-17
- Resolution of CMU On approval of the Procedure of keeping the Register of public
  non-government organization https://zakon2.rada.gov.ua/laws/show/1212-2012-п

20.3 Website

https://rgo.minjust.gov.ua

20.4 Findings and recommendations

No	Findings	Recommendations
1	Business processes and software being used are basically the same with Business register (see section 14).	All recommendations please find in section 14, as we propose to unify technically Register of public associations with Business register - one common platform to control all similar registries at once.

20.5 Used sources
1. Answers to questionnaire.
2. Presentation provided by NAIS.

21. UNIFIED REGISTER OF DEBTORS

See section 16.

22. REGISTER OF TRUSTEES IN BANKRUPTCY

See chapter 11.

22.1 Aim and general description
Maintain information about trustees in bankruptcy, both active and resigned.

22.2 Legislation
- Law of Ukraine On the resumption of the debtor's solvency or bankruptcy
  https://zakon.rada.gov.ua/laws/show/2343-12
- Bankruptcy Code of Ukraine (entering into force from 21.10.2019)
  https://zakon.rada.gov.ua/laws/show/2597-19

22.3 Website
https://ak.minjust.gov.ua/

22.4 Findings and recommendations
See point 11.4.

22.5 Used sources
Answers to questionnaire

23. IT AUDIT OF THE REGISTERS

23.1. Introduction

Information technology (IT) is an essential part of every modern IT organisation. IT audit is usually divided into evaluation of organisation's IT infrastructure, policies and operations. During this audit information was collected mainly based on interviews with NAIS responsible personnel for IT. The objective of audit was to collect information on software, hardware, security, policies and other relevant IT-based component used in NAIS regarding governmental registries and usage of registries by dedicated users. Due to limitation on audit period and amount of information /supporting documents presented to experts, it is not possible to give exact conclusions but it is possible to provide recommendations. Audit did not include any work with data/database information quality.

23.2. Software

Conventionally, all 22 registries of NAIS, from the point of view of the platforms used, should be divided into 3 groups:
1) Registries already developed under new platform (UnityBase + Medirent).
2) Registries developed by third parties and technical administrator is not NAIS.
3) Registries developed by third parties and right now not yet fully developed under new platform – used as is without any support from development.

23.2.1 Registries already developed under new platform (UnityBase + Medirent)

The following registers belong to the mentioned group:

1	Register of proprietary rights to real estate
3	Register of encumbrance of movable property
7	Register of civil status acts of citizens
16	Automatic system of enforcement proceedings
17	Register of private bailiffs
21	Unified Register of debtors

The common findings for this group of registries are:
- The software is relevant for the current legislation, is regularly updated according to the signed maintenance contracts, the last upgrade takes place in 2019.
- Owner of the registry: the state through the Ministry of Justice of Ukraine represented by SE "NAIS".
- Intellectual property rights to a registry software belong to the state. Registry technical solution: online web access.
- Interface for users: online access via the Internet for individuals and authorized users (notaries, registrars, performers, lawyers, law enforcement agencies).
- Functional access via API, Trembita integration in development (ie. nr 7 Register of civil status acts of citizens).

- DB architecture is centralized. There are no regional databases.
- Any update procedure is clearly regulated. For each delivery there is a file with a list of resolved errors (registry maintenance) and a list of registry improvements (registry upgrade). The list contains specific unique task numbers: Task in Jira.
- Each delivery of the updated version has installation documentation, including a detailed technical description of OS requirements, an OS registry, etc. for self-installing updates by NAIS staff. The software update takes place in the designated technological windows: the main window is from Thursday 23:59 to 7:00 on Friday, the backup window is from Saturday 23:59 to 7:00 on Monday.
- The contractor sends a package with a list of completed tasks and installation instructions. The Contractor does not have access to the NAIS resources. Installation and testing is performed on the NAIS test environment by NAIS employees. Installation on PROD only after successful testing in the strictly allotted scheduled time. If necessary, NAIS attracts to discussion of specific implementations of end users (notaries, Ministry of Justice): it is carried out on a test environment, exclusively on the territory of NAIS without any connections to / from the external world.
- Correction of errors/small changes or etc. – direct expense covered from revenues, modernization / development - at the expense of profit (investments into capital limited by 50M (not possible to proclaim as expense), tax obligation boundary). The contract is signed at the rate of 1 working hour. At the beginning of the month, a list of works to be done and their priority are determined. The contractor estimates the cost of development. A clear approved list, deadlines, detailed terms of reference (for major improvements) are agreed. Detailed descriptions in progress (TASK in Jira).

For this group of registries, the common recommendations are:
- Provide services to other governmental institutions via Trembita.

23.2.2 Registries developed by third parties and technical administrator is not NAIS

The following registers belong to the mentioned group:

2	Register of normative legal acts

For this group of registries, the common findings are:
- According to Order of Min.Just nr. 57/5 of 06/26/2002 (as amended), the Information and Analytical Center "LIGA" was appointed the technical administrator of the Register "Unified State Register of Normative Legal Acts".
- According to registry web page (http://www.reestrnpa.gov.ua):

Holder of the Register	Ministry of Justice of Ukraine
The technical administrator of the Registry	Information and analytical center "LIGA"

User Account Administrator	SE "National Information Systems"

- Complies with applicable law.

For this group of registries, the common recommendations are:
- The question of the advisability of transferring the functions of register administration to the NAIS should be studied.

23.2.3 Registries developed by third parties and right now not yet fully developed under new platform – used AS IS without any support from development

The following registers belong to the mentioned group:

4	Register of wills
5	Register of power of attorney
6	Register of printed mass-media and information agencies
8	Register of bankruptcy
9	Register of the methods of court expert witnesses
10	Register of notaries
11	Register of certified court experts
12	Register of persons on lustration
13	Register of apostilles
14	Business register
15	Register for special forms of documents of the information system of the Ministry of Justice of Ukraine
18	Register for special forms of notary documents
19	Register of public organizations
20	Register of public associations
22	Register of trustees in bankruptcy

For this group of registries, the common findings are:
- Presently used software is not upgradeable.
- There are no any support agreements*.
- Owner of the registry: the state represented by SE NAIS.
- Intellectual property rights to a registry software belong to the state. Technical registry solution: online web access.

- Source codes and documentation are either missing or are not in an up-to-date state (NAIS received AS IS).
- Interface for users: online access via the Internet.
- API access is partially available as a separately built-on online read-only access software.
- DB architecture is centralized. There are no regional bases.
- Software is used AS IS by providing it via dedicated virtual machine suitable for every specific "old" software.
- There is a risk of no possibility for making any changes, improvements according to changes in legislation or for elimination of newly discovered vulnerabilities.
- The OS (operating systems) used for execution of registry software is unlikely being supported by it's provider (ie old versions of different operating systems).

* List of registries already in the list of planned for new developments:

5	Register of power of attorney
8	Register of bankruptcy
11	Register of certified court experts
18	Register for special forms of notary documents
22	Register of trustees in bankruptcy

* List of registries already being in development process (but yet not completed/started due to data migration issues like time required to complete the migration during dedicated time slot for changes):

14	Business register
19	Register of public organizations

For this group or registries, the common recommendations are:
- The research and development of every registry's software should be planned ASAP.
- While planning new developments, every registry needs to address at least:
  - Data migration / Data Integrity issues.
  - Trembita/API services.
  - Reuse of data from other registries (not only registries NAIS responsible for).
  - User friendliness (User Experience/User Interface).
  - Necessity of separation of business logic from database level.
- No legacy systems should be in place with accordance to dedicated policy.
- As with respect optimization of business processes several registries needs to be united under common software/platform, we propose to unite registries as follows (including registries already on new platforms):

- - 10, 11, 17 and 22
    - - Experts in the field of Justice topics, should be unified as the only registry with dedicated roles.
  - 5, 18
    - - Notary topics
  - 14, 19, 20
    - - Commercial registry topics
- There are registries (12, 13) which needs to be reviewed and decision made with respect to holder of register (MoJ).
- As discovered in later stage of interviews, register nr 9 is actually already remodelled under new platform but not yet working as MoJ needs to confirm the procedure for maintaining the register.

23.3.   Hardware/Infrastructure

23.3.1. Findings regarding Hardware/Infrastructure

23.3.1.1. Premises

- Rented commercial server premises in 2 locations:
  - - TIER 3 type rooms (EMP screened boxes in these server premises), empty rented, all other equipment belongs to NAIS;
  - the electricity comes from 2 different feeds for each premise;
  - the premises have electricity generator farms for blackout situation;
  - internet connection 1Gb/s comes from 2 different providers:
    - - one of incoming connections is cleaned from known attacks by service providers (ie anti DDoS protection);
  - these premises are connected by dark fiber, i.e. dedicated fiber (data saved in both data-centers, master-slave data syncronization);
  - both premises can work separately if needed;
  - access to premises and NAIS serverboxes is very limited and strictly controlled;
- Own dedicated server room located in NAIS HQ.
- Second site exists together with replicas. When switch for use of second site is needed it is decided by the general director or by the deputy general technical director .

23.3.1.2. Hardware

- enterprise level server farm, mostly HP:
  - - virtual host system is built on server farm for better and flexible allocation of resources available;
  - enterprise level network equipment CISCO;
  - CISCO firewall appliances with threat detection:
    - - With well-structured architecture CISCO -> NGINX -> APP -> DB / files (all replicated);
  - enterprise storage from HPE, NETAPP, DELL EMC;
  - layered architecture;
- physical databases and file shares available:
  - - Scanned copies are on file share, some are also in the database

- for back up old hardware is used (Commvault "Simpana"), new hardware will be delivered in October 2019. It is planned to integrate 3-level backup system.
- There is high demand for storage space as there is a lot of information which is stored in PDF format (registry extracts/scanned copies). In case new governmental ideas to save video / scanned materials much more additional storage space might be needed.

All databases run on Oracle. NAIS has mostly competence in Oracle.

23.3.2. Recommendations regarding Hardware/Infrastructure

Reasonable/good hardware/infrastructure in place. Additional storage space is always needed if nothing will be done with respect to business process optimization in the state.

23.4. Policies

23.4.1. Findings regarding Policies

- NAIS implemented IT security policy and security rules for staff, which includes:
  - Access policy to hardware, system software and their configurations:
    - two persons (for backup purposes) have access to systems, their software and its configurations;
    - all actions from distance are made on virtual host using only terminal functionality on personal workstation;
    - all actions are logged;
  - Access policy to databases configurations:
    - two persons (for backup purposes) have access to database systems and their configurations;
    - all actions from distance are made on virtual host using only terminal functionality on personal workstation;
    - all actions are logged;
  - Installation/upgrade policy:
    - before installation in production environment the software/patch/update/hot fix is compiled and tested in testing environment (applies to new/recent developments);
    - main installation/upgrade timeframe is from Thursday 23:59 to 7:00 on Friday, the backup timeframe is from Saturday 23:59 to 7:00 on Monday;
  - Restoration policy:
    - There are internal regulation/rules for restoring database and services.
- NAIS has own back-up policy (attachment: Pol_backupnew-NAIS.docx):
  - Backup copies for operational recovery in the context of the database of all registers are available: 1. performed by regular means of the database - Oracle RMAN; 2. Working copy is stored on a separate network server; 3. for operational recovery of REDUNDANCY 1; 4. Full backups are done - once a week, an increase of 1 - daily. Monthly (1,3,6) full back ups also stored;

- Back-ups which are prepared and given to MOJ are done only for 5 main databases (includes all main registries);
        - There is high demand for storage space as there is a lot of information which is stored in PDF format (registry extracts/scanned copies);
- NAIS has implemented monitoring systems (PRTG):
    - load is monitored for possible configuration changes requirements;
    - monitoring of availability of services/registers;
- There is no specific SLA (service level agreement) for registers but according to agreement with MoJ, NAIS pays fines for the times when at least one of registers is unavailable or has a significant problem of work.
- There is a workstation guidance policy (attachment: User Memo.docx) for every NAIS registry users which as we identified are not being followed by users, which possess highest risk possible, as potential number of users who has access to different registries with different roles is approximate 45k.

23.4.2. Recommendations regarding Policies

"No legacy systems" policy should be in place.

Every system which is at least 10 years old should be reviewed with respect to:

- Optimization of every business process with respect to legislation (possible future changes in legislation).
- Review of user Interface/user experience.
- Technical Architecture (OS, DB, other common software used, framework).
- Data / Data structure / Data integrity review.

23.5. Security

23.5.1. Findings regarding Security

- All ICT relevant aspects **inside NAIS** and concerning **NAIS staff** are organized reasonably. NAIS is the only institution in Ukraine who's ICT environment is certified with respect to KSZI (КСЗИ) requirements.
- There is no Oracle support agreement - no patches, including security updates.
- Security evoking software:
    - Absence of SIEM leaves NAIS without online detection of anomalies and possible attacks, with post factum investigation of incidents. This means that possible attacks may succeed unnoticed and they get noticed only when damage is already done and then investigated.
    - DB zone is without special defence because the lack of data leakage prevention software like database activity monitoring software – possible attacks and wrongdoings cannot be detected and/or prevented before damage is done.
- All external users and their workstations are at risk, because compliance with the workplace requirements is outside the competence and responsibilities due to not complying with guidance policy execution which are also not being monitored by NAIS.

23.5.2. Recommendations regarding Security

- The most important and gainful measure is to improve the security of external users workstations. The MoJ should find political will to demand that.
  - Minimal necessary configuration check for workstations used to work with NAIS registers must be in implemented (including checks while user authenticates/starts registry software if not possible to provide workstation configuration service):
    - o Active and updated antivirus software should be available;
    - o Firewall enabled;
    - o SIEM agents if needed;
    - o If user workstation do not comply with minimal rules – notification and prohibition of usage of service should be in place.
  - 2FA (two factor authentication) should be used to confirm registry entries (ie confirmation for signature key usage from other device – ie Mobile ID, Hardware key with confirmation on key itself).
  - NAIS/MOJ should consider to provide workstation service to registries' users (ie governmental registrar), during which all workstations should be registered in NAIS manageable equipment database and authenticate them on connection:
    - o make technically impossible for user to change workstation's configuration in any way:
      - forbid install any additional software;
      - forbid to add users or change user's rights;
      - forbid to remove any installed software;
      - forbid other configuration changes.
    - o All „verified" workstation upgrades and patches shall be done from certified and authorized source only.
  - Consider to decrease number of users via different means (optimize processes, create online services and etc, see registries' based recommendations).
- Deploy SIEM:
  - Security Information and Event Management (SIEM) solutions provide a holistic view of what is happening on a network in real-time and help IT teams to be more proactive in the fight against security threats.
  - What is unique about SIEM solutions is that they combine Security Event Management (SEM) - which carries out analysis of event and log data in real-time to provide event correlation, threat monitoring an incident response - with Security Information Management (SIM) which retrieves and analyzes log data and generates a report. To have complete visibility and control over what is happening on the network in real-time, SIEM solutions are critical.
- Deploy DAM (database activity monitor):
  - Database activity monitoring (DAM) observe, identify and report database's activities.
  - Database activity monitoring tools use real-time security technology to monitor and analyze configured activities independently and without relying on the DBMS auditing or logs. Acting in this way DAMs decrease performance burden of DBMS engines.

- These tools also help to detect unusual and unauthorized, internal or external activities while still gauging the effectiveness of security tools and policies in place. In doing so, system administrators are able to improve the prevention and protection of sensitive data from intruders.
   - Deploying DAM also means its connection to existing SIEM solution.
- Purchase support for Oracle databases.
   - Support agreement ensures software patches for Oracle DBMS software, including security concerning patches keeping this way DBMS software up-to-date.
   - Support agreement for the amount of Oracle DBMS installations in NAIS is expensive measure and in some extent using DAM helps to mask the problem.
- Conduct OWASP/Penetrating testing for possible vulnerabilities in most commonly used and most critical registries (in case of same/similar platform being used for different registries it is possible to mitigate testing costs). Such tests could be organized with help of dedicated governmental agencies responsible for IT security.

23.6.   Other

23.6.1. Other findings

- NAIS has a call center which has access to real-time information from monitoring system which helps during communication with users of services/registers to identify problems promptly (either this problem resides in the workplace of users or in the work of service/register).
- As MoJ created NAIS all previous hardware and registry software were to be used. At first no unified requirements for hardware existed and due to that there were a huge number of different solutions/versions/software. Different registers/systems on different "old" platforms have been given to NAIS for management and NAIS developed a "3 stage" plan how to unify and change/upgrade all of the services/registries in order to offer better IT service with respect to policies implemented. NAIS is currently running a third phase.
- Database structures or information stored within live databases were not presented to experts. According to interview some registries have over thousands of tables, which indicate for possible architecture issues.
- We tried to identify if significance of the data has been evaluated for possible archiving (in order to save operating/backup database/file storage space) – but could not find any evidence nor confirmation from interviews of any such work being done. Right now archiving is considered with backups only.
- Exchange of data between different services is available but different options used (API, direct access to get the data via user accounts, paper/mail). Trembita developments in place but yet not clear which registries will have Trembita services first.
- To date, there are 5 registers in the National Register of Electronic Information Resources, including: Business Register (14), Register of proprietary rights to

real estate (1), Register of encumbrance of movable property (3), Register of civil status acts of citizens (7), Register of power of attorney (5). Register of wills (4) is currently planned.

- The Trembita system (on a test environment) has registered a web service for exchange between the DRACS and the PFU (an exchange test is being conducted), and an application for registration of a web client for exchange between the DRRP and the SAS is submitted, as well as a web service of the API of the Business Register (14).

23.6.2. Other recommendations

- With database/data structure not being reviewed we suggest that future detailed and system analyses are needed to help identify possible problems with data (including possibilities of data migration).
- Significance of the data should be evaluated for possible long term archiving with moving files/data to long term archiving location outside of operating database. This could help mitigate "free space" requirements for possible future additional free space and operating requirements (save time on backup, restore from backup and etc).
- Step-by-step transfer of all information exchange from Barrier technology to a single Trembita technology;
- Expanding the total number of services (increasing the number of registers) of information exchange using a single Trembita technology to ensure openness of data and increase the efficiency of systems of other state, commercial and public projects.

Questionnaire

Date and time:	
Respondent(s):	
Name	
Position	
Agency	
Contacts	

Topic	Number	Question
General information	1	Title of register
	2	Aim and purpose of register
	3	Date of establishment
	4	Owner of register (party responsible for register in accordance with the law):
	5	Administration of register (party responsible for managing technical solution(s), appointed by the owner of register or by the law)
	6	Regulative act(s) If possible, please provide links
	7	Who are the main user groups based on their functions (e.g. citizens, notaries, judges etc.)? How many users there are based on the user groups?
	8	Who are the main data providers based on their functions (e.g. notaries, citizens, investors, officials etc.)?
	9	Developer(s) of information system (name and date)
	10	Owner of property rights of information system
Content of register	11	Key data items in register (e.g. mortgages, leases, non-profit associations, private limited companies, board members). In case some of these items originate from other register, please specify.
	11.1.	Is there any other register containing the same information? If yes, please provide register title and owner of register.
	12	In what format key data is stored (paper, scanned copies, digital or all/combination of them)? E.g if paper document data is entered into the register, what happens with the paper?
	13	In case register is in digital format, please provide information about technical solution (web based, client based, offline system)
	13.1.	Is there any user interface available (please provider relevant links)
	13.1.1.	- For officials
	13.1.2.	- For other users
	13.2.	Technical platform(s)
	13.3.	Backup: principles/rules, schedule, physical location (e.g. different servers), shares.
	13.4.	Is old hardware being used to store backups?
	13.5.	Are there regulation/rules for restoring database and services?
	13.6.	Possibility to use second site
	14	Where data is stored:
	14.1.	- Centralized database
	14.2.	- Regional databases. Please provide synchronization schedule if applicable.
	14.3.	- Local archives/storage rooms and etc
	15	If possible, please provide data structure diagram.
	16	Data retention period (e.g. one year, 25 years, unlimited). Has data been migrated from the previous database(s) and if yes, please provide the date(s)
	17	From what date digital data is entered into the register? Can the previous data be registered afterwards?
	18	Has the significance of the data (paper and/or digital) been evaluated? When and by whom?
	19	Is it possible to archive the data (paper and/or digital) and if yes, please describe the archiving rules.
	20	What kind of technical documentation is available (e.g. administration guides, installation guides, data model, initial tasks describing base of development of the registers, service level agreement, description of (web) services)? Please provide with date of creation and last update.
	21	How many enquiries are made within a month/year by different user groups (ie by governmental institutions, citizens, private entities like banks).
	22	Is digital information duplicated on paper? Does the digital information have a legal effect or is there a need for printouts or certified copies/certificates? Who has access to digital information?
Publicity and access	23	Is the data/information available to the public:
	23.1.	- If yes, which channels can be used and if online services are in place, please provide the link(s).
	23.2.	- If no, who has access and how it can be requested?
	23.3.	- if no, who grants the access? What kind of information is needed and/or what kind of prerequisites must be in place to receive access?
	24	What kind of information can be accessed? Is there any need to prove legitimate interest?
	25	Are there different levels of access (e.g. can deleted/invalid or outdated date be accessed by everyone or only by notaries or registrars).
	26	Are there any access fees and how the fees can be paid? Is there a possibility to pay the fees for instance on a monthly basis?
Technical management of register	27	How the helpdesk is managed and how many requests are made on a monthly basis to the helpdesk?
	28	How the version update process is managed and how many was performed last year?
	29	Please describe development process (initiation, financing, testing, implementation, support). Are the stakeholders involved in testing?
	30	Are there any components (software, database, architecture, adapter servers etc.) in use older than 7 years?
	31	Please describe status of support agreement(s) for software and database.
Register´s Business processes	32	What type of activities/functions does the register/user interface enables for back office users (e.g. registrars) and other users? Please describe each function/activity separately.
	32.1.	Function/activity 1:
	32.1.1.	Who can create data, make changes, mark data invalid etc.?
	32.1.2.	Through which channels data/documents can be submitted? If paper documents are allowed, is the any digitization process in place?
	32.1.2.1.	What type of documets must be submitted together with registration application and what is the format?
	32.1.3.	Please describe main stakeholders. Are there different levels of access for different stakeholders?
	32.1.4.	Please describe data correction process, if any. Please describe processes initiated by different stakeholders.
	32.1.5.	Is there any data exchange (digital or/and paper) with other registers? Please name the channel/format which is being used for each data exchange process.
	32.1.6.	Are there any automated procedures (no manual and/or personal intervention) and updates based on:
	32.1.6.1.	The data exchange with other register(s)? Please describe the main rules.
	32.1.6.2.	The initiation of the register itself (ie proactive notification services, reactive services)? Please describe if any.
	32.1.7.	Is there any process related to transition from paper to digital? Please describe.
	32.1.8.	Are there any fees related to business processes? If yes, how they are paid and payments checked? How the refund is managed, if required?
	32.1.9.	Are there any problems known to you related to:
	32.1.9.1.	Business process arising from daily activity of stakeholders or claims against owner of register or registrars.
	32.1.9.2.	Legal act(s) arising from daily activity of stakeholders or claims against owner of register or registrars.
	32.1.10	Please provide any other relevant information related to business processes.