DAAC digital

Effective Partner in Digitalization of Business, Governance and Society

Reference projects

List of Projects

eFile
Unemployment eFile subsystem for Unemployment Benefit Recipients Recipients for NSIH of Republic of Moldova (CNAS eFile)

eDosar
Information system for recording misdemeanors, misdemeanor cases and perpetrators for Information Technology Service of the Ministry of Internal Affairs

Climate Change
Climate Change Information and Knowledge Management Portal (CCIKMP) of the Republic of Moldova within the NAP-2 UNDP project

e-Cazier
Automated information system. Development and maintenance of the information system.

Register of Criminalistics (RICC)
Automated Information System Register of Criminalistics and Criminological Information

RCAP
Automated Information System Recording the causes of administrative penalties, the person who committed them and the penalty points

E-Reporting
Governmental portal for electronic reporting

E-Procurement
The Register of Government procurement

e-CNAM
Development and implementation of the Integrated Information System ”e-CNAM Registration online”

E-Epidemiology
The State system of control of infectious diseases

Taxpayer Current Account
Automated Information System (AIS)

AARER
The system of the rapid access to the Real Estate Registry

Management of the Insurance Company
Development and supply of the Information System “Management of the Insurance Company, subsystem on-line Sales of Insurance Services”

List of Projects

SAIS
Corrective and adaptive maintenance services for the CIS ”State Register of Civil Status Documents”

Standards Repository
Corrective maintenance and adjustment services of the AIS ”Standards Repository”

SITA
The State Register of Animals

NSIH
The integrated information system of the National Office of Social Insurance

Information System for Ministry of Health
Development and implementation

IMFS
Development of the Integrated Municipal Financial Software for Public Authorities

State Register of Kyrgyzstan Population
Development and implementation

State Register of Ethyl Alcohol and Alcohol Production Circulation
Development and implementation

State Register of natural mineral water and non-alcoholic bottled beverage
Implementation and maintenance

eFile

Development and implementation of Unemployment eFile subsystem for Unemployment Benefit Recipients for NSIH of Republic of Moldova (CNAS eFile).

Oct. 2020 – Apr. 2021

PROJECT PARTICIPANTS

Beneficiary — The National Social Insurance House (NSIH)

Origin of funding — World Bank

Other participants:

- National Agency for Employment (NAE) manages services provided to unemployed citizens (including unemployment benefits) and provides data to NSIH to perform calculations and payment of unemployment benefits.
- eGovernance Agency (EGA) is financing the project and it is an important stakeholder during the information system implementation and launch, including ensuring overall project management and validation of project outputs. EGA operates a number of reusable platforms with which the system «eFile» is integrated, such as MConnect (the GoM data exchange and interoperability platform) and MSign (the GoM digital signature service).
- IT and Cyber Security Service is the MCloud (the GoM private cloud) operator and provides all necessary cloud infrastructure for hosting the new information system.

DESTINATION

The eFile subsystem provides support to the life cycle of documents of insured persons, recording the automated decisions made by the NSIH officials and providing the interested parties with information about the availability, authenticity, status of these documents, as well as the actions performed on them. Storage and processing of documents is carried out based on electronic Files generated.

The eFile subsystem creates electronic File for each insured person in various sections of the Social Insurance process (types of payments). Electronic Files store information on electronic documents (files) included in them.

The business processes of the NSIH determine the list of eFile types. For example, “Unemployment Benefits”, “Maternity Benefits”, “Pensions”, “Hospital”, “Payments to Chernobyl”, “Social Assistance”, etc.

The eFile subsystem provides the NSIH employees with the opportunity to search for electronic files and documents, to view electronic documents, to manage data, to make decisions on them, to sign with digital signature package of documents (eFile), to verify the authenticity of documents, etc.

Information on decisions made on electronic Files can be transferred to the relevant elements of information systems for verification or evaluation by officials (authorized users).

eFile

During the operation the subsystem will ensure the management with user rights, access and user activity and all user actions will be logged with a view to their subsequent analysis and decision-making.

The eFile subsystem is integrated with the following Governmental services assured by e-Governance Agency, as follows: mCloud, mPass, mSign, mConnect, mCabinet etc.

- MSign – to sign and verify electronic signatures
- Connect – to exchange data with external information systems.

The eFile subsystem provides asynchronous operation of services and information processing in 24/7 mode.

The eFile subsystem supports real-time multi-user work.

OBJECTIVES

The system will ensure achievement of the following objectives:

- providing automation of processing, decision making and signing of documents,
- storage of decisions,
- verification of DS authenticity;
- providing information to interested parties about the stored documents;
- management of users and their rights,
- monitoring of user actions and events in the system;
- providing interoperability with the State services provided by e-Governance Agency.

INDICATORS

100%

of all users from 41 offices of the National Cash Register of Moldova distributed in 3 regions of Moldova (North, Central and South) use the system daily.

Unique

the only one system in the Republic of Moldova that performs a full cycle of processing of 4 types of state benefits, such as:

- temporary incapacity for work benefits
- unemployment benefits
- child benefits
- maternity benefits

1 000 000

decisions have been processed in the system since its beginning.

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The subsystem provides the following functions

For the Head of the territorial office

- view a list of decisions (documents) with the possibility to filter by person, date, status (only own office)
- viewing of the selected decisions and, together with

For the Inspector and Employee of the central office of the NSIH

- viewing a list of decisions, charges and other documents with the possibility to filter by person, date, status, type of eFile;

the decisions, of the personal extract(PE)
- viewing of documents (files) attached to the decision
- printing of documents
- selection of decisions for signature
- signing of selected decisions (approval)
- DS authentication of the selected decisions
- loading scanned documents into the eFile
- receiving statistical reports on signed decisions by types of allowances (with the possibility to select), for the selected period by TNSIH (the form of reports will be presented at the development stage)

For the specialist of the territorial office of the NSIH

- viewing a list of decisions, charges and other documents with the possibility to filter by person, date, status, type of eFile;
- viewing of the selected decisions and, together with the decisions, of the personal extract
- attaching files to the selected solution
- viewing of documents (files) attached to the decision
- printing of documents
- receiving report on the lists of signed decisions for the selected period by TNSIH
- viewing of the selected decisions and, together with the decisions, of the personal extract
- viewing of documents (files) attached to the decision
- printing of documents
- DS authentication of the selected decisions;
- receiving statistical reports on signed decisions by types of allowances (with the possibility to select), for the selected period by TNSIH (the form of reports will be presented at the development stage)

For system administrators

- management of user rights
- management of user roles
- management of user activity
- monitoring of user activities
- monitoring of system events
- management of directories and classifiers
- receiving statistical reports (at the system administration level)

System

- obtaining data and documents from the information systems of the NSIH (SPAS, FMS, archive of copies of documents)
- loading the received data into the database according to the case number and decision number
- calling the mSign service to sign the generated Cases
- calling the mSign service to verify the authenticity of the signed Cases
- bookmarking the results of signing in the eFile system database
- sending the results of signing to AIS SPAS by calling WEB-services
- notification of the Head of the territorial office about the necessity to sign the documents
- saving information about decisions and DS in the database

ROLES AND THEIR PURPOSE

Head of territorial office — an employee of the NSIH territorial subdivision who signs decisions with DS. He/she is able to view the list of decisions of his/her territorial subdivision and data of each decision (+ extract from PE and attached files) taken, as well as to check the authenticity of DS.

Specialist of the territorial office — an employee of the NSIH territorial division, who has the possibility to view the list of decisions of his/her territorial division and data of each decision (+ extract from the PE and attached files), to attach files to the selected decision

eFile

Central office employee — an employee of NSIH central office, who has the ability to view the list of all decisions and data of each solution (including LS extract and attached files) and to check the authenticity of DS.

Audit — an employee of any control body, who is authorized to view the list of all decisions and data of each decision (including extract from the PE and attached files) and to check the authenticity of DS.

Administrator — an employee of the NSIH who is granted special rights to edit data, to administer the system, to manage rights and to access of users.

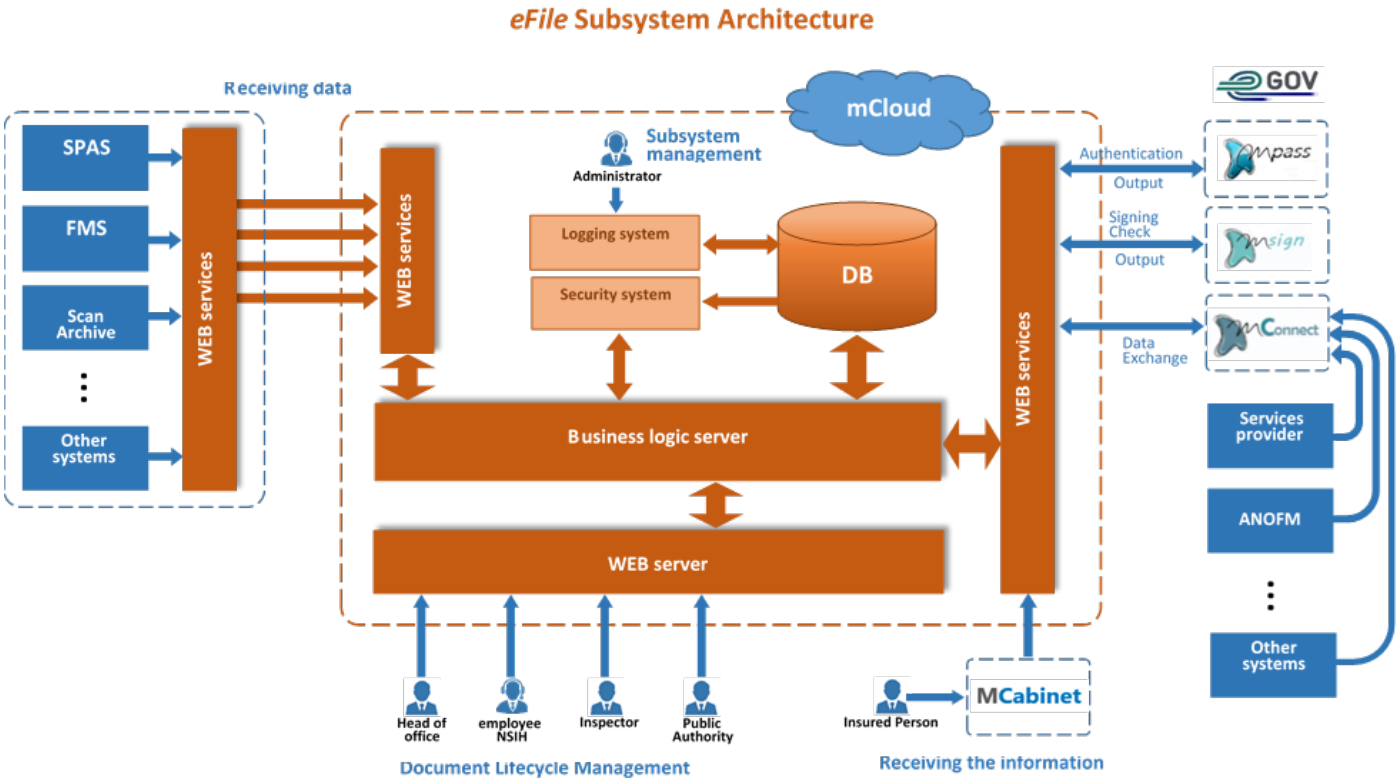
ACHIEVED RESULT

The eFile system fulfills the following objectives:

- to manage the electronic version of the File regarding establishing of benefit amount and information related to unemployment benefit.
- to support the decision approval using the electronic signature by the person authorized for final decision-making according to the rights delegated within the NSIH system.
- to provide subsequent file-related decisions and data to be accumulated by authorized users, subject to use digital signature.
- to insure only authorized users to approve decisions issued within the NSIH system.
- to provide with a sample of the total number of decisions issued / files processed to be selected, based on configurable criteria, for further verification by the Head of the Territorial Social Insurance House (TSIH). For the decisions and files selected for further verification, the validation goes through two hierarchical levels (Head of TSIH and Head of TSIH Calculation Directorate). For the decisions and files that have not been selected for additional verification, only one approval level by the Head of the TSIH Calculation Directorate is required.

The system provides the storage, updating and provision of documented information about these processes through the use of information and communication technologies, ensuring the timeliness, authenticity and veracity of the information.

ARCHITECTURE



eFile

The architecture of the subsystem and the procedure for organizing information objects allows, if necessary, to expand unlimitedly the list of types of eFiles, and to modify the procedure for supporting the life cycle of documents.

INTEROPERABILITY WITH EXTERNAL SYSTEMS

The system interoperates with the following external information systems:

1. MSign (eGov) services - for signing documents with DS, as well as authentication of existing DS.
2. MPass (eGov) services - for authentication of users.
3. SPAS system (NSIH) - for obtaining data on decisions and other documents, as well as bookmarking information on the results of DS signing.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

.NET Framework, SQL Server, PostgreSQL Server, Microsoft Visual Studio 2017, Entity Framework ORM Kendo UI, Devart for SQL

eDosar

information system for recording misdemeanors, misdemeanor cases and perpetrators for Information Technology Service of the Ministry of Internal Affairs.

Apr. 2021– Dec. 2021 / Sep. 2022 - Dec.2022

PROJECT PARTICIPANTS

Beneficiary — Information Technology Service (ITS) of the MIA

Origin of funding — Ministry of Internal Affairs

DESTINATION

The „e-Dosar" is designed to ensure the processes of registration, maintenance and management of materials in the criminal process in the structures of the MIA (authorized bodies and their territorial subdivisions).

It provides support for the life cycle of electronic files: file formation, entry and storage of data and accompanying documents, checking of interconnected information resources, transmission of documents/information to other authorized bodies/information systems, as well as providing interested parties with information on the status of the criminal process and actions taken on it.

OBJECTIVES

The main objective of the „e-Dosar": to create an informational space for management of criminal cases in electronic format, based on document lifecycle automation and decision making. The system ensures the collection, creation, registration, storage, keeping, updating, processing, retrieval, transmission and use of documents and/or information in the criminal process.

The objectives of the e-Dosar SIA:

1. to create a single information resource for the Ministry of Internal Affairs for the management of criminal cases;
2. to modernize the criminal case management process;
3. to facilitate the work of the prosecution bodies in the course of criminal proceedings, by excluding or significantly reducing the flow of paper documents in criminal proceedings;
4. to ensure efficient and secure information provision for the work of prosecution bodies in the course of criminal proceedings;
5. to increase the transparency of trials;
6. to manage criminal proceedings/cases at the prosecution stage;
7. to ensure interconnection with other state information systems of other authorities and public institutions of the Republic of Moldova, including the Ministry of Internal Affairs, the National Anti-Corruption Centre, the Customs Service, the Ministry of Justice, the Public Services Agency, etc.;
8. to ensure the use of an electronic remote access system for the organization of interdepartmental interaction, verification and obtaining of infor-

mation required in the criminal process, using the methodology of distributed information resources (State Resources: State Register of Population, legal units, transport, drivers, as well as departmental information systems of the Ministry of Interior, Ministry of Justice, Prosecutor's Offices, Border Control, etc.);

9. to provide statistical data on criminal proceedings under the management of prosecution authorities, with the possibility to create reports of the necessary configuration, including detailed analytical reports at national level by various criteria and timeframes;
10. to ensure an adequate level of protection of personal data;
11. to establish the hierarchy, level of access, responsibilities and processing of the limited-access information stored in the information resource;
12. to evaluate the work of prosecution bodies, facilitating the development of standards of work of prosecution officers through automated assessment of their performance and establishing monitoring mechanisms.

INDICATORS

80%
of the criminal case registration process is automated in the eDosar system

20%
of proceedings/ procedural documents are digitalized

14
modules in the system

1000+
hours of development

5+
integrations with third-party information systems

3+
years of collaboration

7+
people in the team

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

SIA "eDosar" offers a solution to the following functional tasks:

1. Creation of an electronic criminal case

- viewing the list of initiation documents for the creation of a criminal case (user selection of the requested document);
- viewing the template of the selected document (which initiates the creation of an electronic case);
- entering data into the document;
- automatic creation of a file based on the primary document;
- automatic generation of a unique number (using a special algorithm) and its assignment to the case;
- loading scanned documents or other necessary material to the case
- receiving and saving the respective information by registration number;
- transmission of statistical information about the created case and the information entered
- notifying the manager of the electronic case created

eDosar

2. Name the group of investigating officers

- the list of new cases created is viewed by the leader;
- search (filtering) files by various parameters;
- viewing of the case file (with the possibility to view attached documents);
- viewing the list of employees for appointment to the group of investigating officers;
- selecting employees and appointing them to the group of investigating officers;
- notification of the employee about his/her appointment to the group of investigating officers;
- automatic granting of access rights to the employee assigned to the current case

3. Management of the electronic case

- viewing the list of cases (restricted according to access rights)
- search cases by various parameters;
- viewing the file of the selected case;
- viewing the list of criminal trials/cases
- for the selected case viewing the list of documents, available for this case;
- selecting the required document template and filling it in;
- attach additional materials (scans) to the document
- for certain types of documents, it is also necessary to complete special statistical forms;
- after completing the selected statistical form, the statistical data are transmitted to the external system;
- approval or coordination of documents according to their life cycle
- viewing the list of documents, those that are in the case with indication of their status;
- taking decisions on the creation of a criminal case;
- giving the courts and the public prosecutor's office access to an electronic case;
- giving courts and prosecutors the possibility to attach documents to the electronic case;
- if employees of the courts and public prosecutors' offices are unable to work in the system, then a member of the prosecution officers' group may independently attach scanned copies of documents received from them;
- if necessary, several criminal cases are merged into one (with the main case being named). In this case the subsequent work is carried out with the main case only;
- transfer of statistical data to the system "RICC" for each of the linked cases separately;
- if the decision on the joining of criminal cases is annulled, the main criminal case will be divided into primary criminal cases

4. Management of documents

- Provides assistance to users on how to complete document templates;
- automating the document lifecycle depending on the type of document;
- providing users with document templates for completion;
- search documents by process, name, creation date, author and view search results;
- providing the possibility to additionally attach scanned copies to the document;
- differentiating users' access to documents according to their role in the system and their attitude towards the case;

5. Monitoring of users

- user registration according to their affiliation to departments (MIA, courts, prosecutor's office) and territorial subdivisions;
- creating the employee profile;
- keeping track of personal data;
- recording of contact details;
- assignment of user roles and special rights;
- recording the cases, the employee is handling;
- searching for users by main parameters and viewing search results
- updating employee data;
- tracking users by status;

eDosar

6. Functions of the system

- providing users with document templates;
- providing the life cycle of documents with the view of their statuses and the possibility to make a decision;
- tracking documents and electronic cases by their status;
- ensuring the transmission of information to the RICC
- receiving information from the "RICC"
- informing about the expiry of procedural deadlines;

7. Monitoring of system operation and users

- saving and viewing the case execution history
- automatic saving of document processing information (who, when, status) and viewing of history;
- monitoring user activity in the system;
- automatic tracking of control data by the system and notification of those responsible;

8. System administration

- updating of classifiers/guides;
- registration of users in the system;
- managing users, assigning roles according to functional needs;
- monitoring the system;
- system configuration.

9. Generation of parameterized reports

- limited list

ROLES AND THEIR PURPOSE

Registrator — The employee of the MIA who received the information for the creation of a new criminal case

UP officer (OUP - member of the working group) - Investigation officer assigned to a working group for conducting a specific prosecution case and performing the actions of managing the case documents (creating documents/processes, entering data)

OUP Leader — The Investigation Officer, who is the leader of the OUP, who appoints a working group to conduct a prosecution case and leads this process.

System Administrator — An employee of the MIA who has special rights and performs administrative and supervisory functions in the system.

Prosecutor — The employee of the prosecutor's office empowered to conduct the prosecution who attaches documents to a specific electronic case or approves documents received.

Senior prosecutor — The employee of the prosecution service who is empowered to exercise superior hierarchical control over the work of the lower prosecutor who adopts decisions, drafts applications and attaches documents to the electronic case.

Court operator — Employee of the court who attaches documents to a specific electronic case.

Working Group Leader (WG) appointed from the structure of the Ministry of Internal Affairs - the employee of the Criminal Prosecution Agency (MAI), who is assigned to a working group for conducting a specific case. Has the right to appoint other participants to the working group, including those from other structures (prosecutor's office, courts) and those who carry out file document management actions (creating processes/documents, entering/modifying data)

eDosar

ACHIEVED RESULT

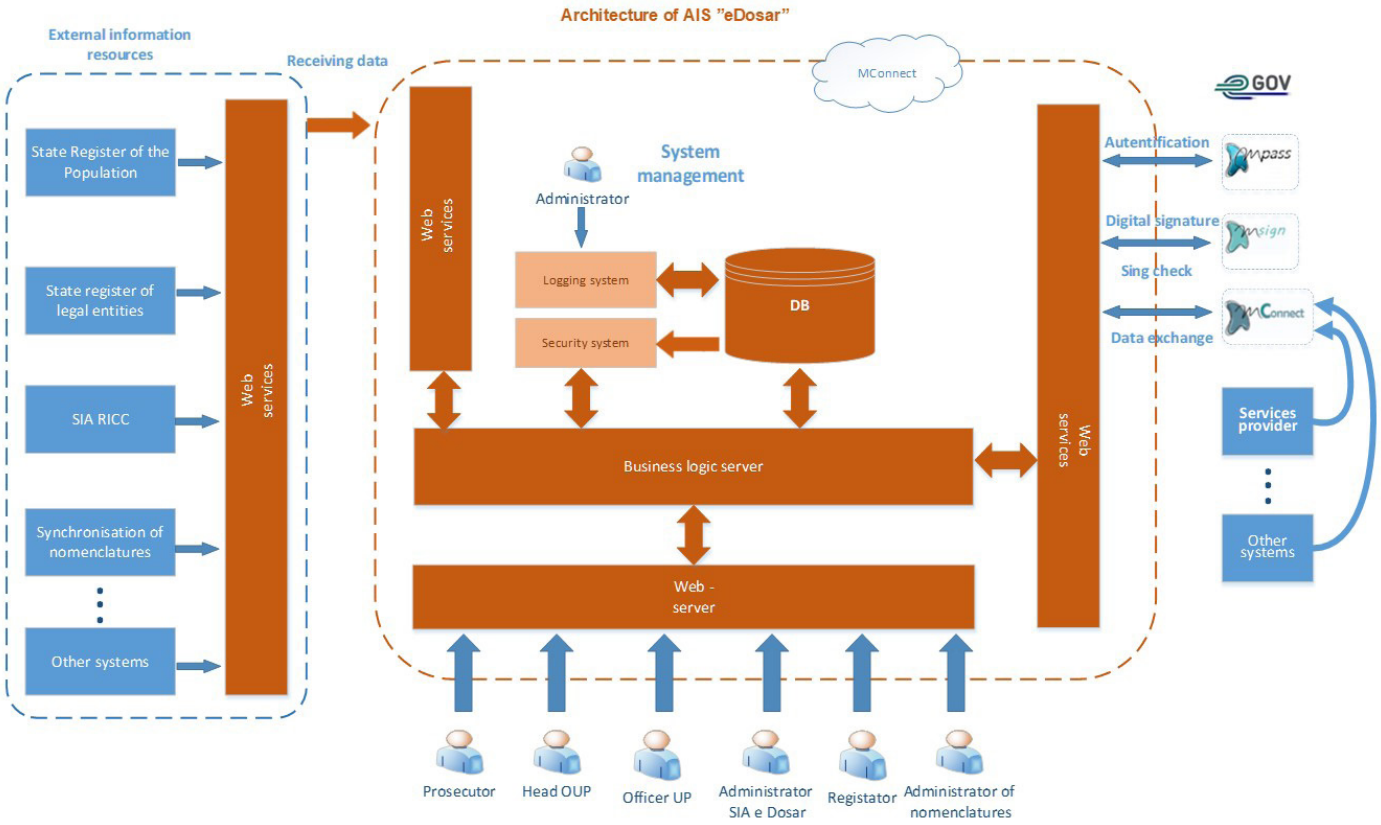
The development of the system has made it possible to achieve:

- The automation of the process of creating a procedural case, which, in turn, allows for automatic record keeping of created cases;
- The automation of the assignment of the person responsible for maintaining the criminal case;
- Keeping records of all proceeding documents received and prepared by the prosecutor's office in the course of criminal prosecution.
- Keeping records of all actions and prosecutorial response measures taken by the prosecution authorities in the course of criminal prosecution.
- Registration of the subjects of criminal proceedings: persons, facts, property and relevant circumstances related to the criminal case (time, place, etc.)

The automation of the business process has made it possible to monitor the progress of the prosecution case, from its initiation by referral or self-referral to the prosecution body until its completion.

The system ensures storage, updating and accessibility of information, guaranteeing its timeliness, accuracy and authenticity.

ARCHITECTURE



eDosar

INTEROPERABILITY WITH EXTERNAL SYSTEMS

The system interoperates with the following external information systems:

1. MSign (eGov) services - for signing documents with DS, as well as authentication of existing DS.
2. MPass (eGov) services - to authenticate users.
    - State Register of the Population
    - State register of legal entities;
    - Mlog

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

All external interfaces are implemented in the system based on open standards.

Climate Change Portal

Development of the Climate Change Information and Knowledge Management Portal (CCIKMP) of the Republic of Moldova within the NAP-2 UNDP project.

Oct. 2022– Jul. 2023

PROJECT PARTICIPANTS

Beneficiary — State Hydrometeorological Service

Origin of funding — UNDP

OBJECTIVES

CCIKMP will be the main source of information for all target groups that have interest in CCA domain. It is expected that this resource will be a key resource that will provide data for the Republic of Moldova on historical, future climate; existing and projected vulnerabilities and possible impacts on the level of various sectors (e.g. water, health) and regions (North, South and Center). CCIKMP is seen as a "one stop shop" for climate adaptation related information, tools, data that do exist on the national level, integrate the existing open data from available regionally and globally on climate, trends and vulnerabilities.

INDICATORS

170

services for information on hydrometeorological data in the primary sector

60

services - for information on hydrometeorological specialization

100%

of registered users receive Hydrometeorological information from the entire territory of the Republic of Moldova

12+

sectors of activity are presented in the portal, displaying combined information from all regions of Moldova

100%

of the territory of the Republic of Moldova is displayed in interactive maps

Climate Change Portal

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

- The main challenges include:
- variety of thematic areas including climate change and climate projections, assessment of the risks and impacts, developing practical responses, implementation and management, monitoring and evaluation of the effectiveness of the results and others;
- variety of information sources and domains, including scientific knowledge on climate scenarios, local knowledge about impacts and effectiveness of the measures, planning and management of climate adaptation and others;
- different backgrounds of data users and providers which requires adapting the content, level and type of information to different user groups;
- attribution of different types of information to different administrative levels (e.g. the information about climate change and forecasts are usually produced at the international and national level, while information about impacts is mostly available at the local and sectoral levels)
- high level of uncertainty related to climate change and impacts and the need to communicate it to different stakeholder groups, providers and users of information;
- different time horizons for data, knowledge and information.

Information and knowledge management for climate change adaptation is a multi-level, dynamic and complex process involving different groups of information providers and users and different types of information. Effective CCA information management requires mechanisms and tools for knowledge integration, collection and sharing.

DESCRIPTION OF SYSTEM COMPONENTS

1. Public zone of the portal

Designed for Internet users to access to the portal and to view.

It is placed in the DMZ.

2. Closed zone of the portal

Designed for authorized users to make ordering, payments and to use other services, such as management of portal users.

It is located in the DMZ.

3. CMS module

Designed for use by authorized users for the purposes of content management via CMS, as well as management of CMS module users.

Placement options (determined by the Customer):

- Placed in the DMZ;
- It is placed in a protected zone of the hosting provider's infrastructure, the content manager and CMS administrator have separate access to the module.

Climate Change Portal

4. Logging module

Designed for access to the system logs. It has its own database.

It is placed in a protected zone of the hosting provider's infrastructure

5. Service for placing images

It is intended for placing gif, jpeg, png, webp, jpg files that will be used in CMS for displaying (including maps as images) with zoom-in/zoom-out function. Allows to generate a link for the content manager to place the image on the portal page. OpenLayers library is used.

Placed in DMZ.

5.2 Content management

CMS Strapi mechanism is used to design pages of the public area of the portal, including news pages, as well as to build menus.

The content of the pages is created and edited by the user Content Manager or Content Editor.

CMS provides the possibility to edit content even for pages with a preset content structure.

6. Database

Designed for data storage of two types of information:

- Content for the CMS module.

- Data for managing portal mechanisms, users, orders, etc.

It is placed in a protected zone of the hosting provider's infrastructure.

7. Database for the logging module

It is intended for storing logs.

It is placed in a protected zone of the hosting provider's infrastructure.

8. Integration service with MPay

It is intended for interaction with the state service MPay

9. Deployment of GIS Components

9.1 Installing and configuring Apache Tomcat

- Conducting a site survey to determine the requirements for installing and configuring Apache Tomcat
- Installing Apache Tomcat on the Beneficiary's infrastructure
- Configuring Apache Tomcat to ensure compatibility with other GIS components
- Creating user accounts and security protocols to ensure the security of Apache Tomcat
- Testing Apache Tomcat to ensure that it is installed and configured correctly

9.2 Installing and configuring the Geoserver component

- Acquiring the latest version of the Geoserver component from the official website
- Installing the Geoserver component on the Beneficiary's infrastructure
- Configuring the Geoserver component to ensure compatibility with other GIS components
- Configuring data storage options to ensure efficient use of resources
- Integrating the Geoserver component with Apache Tomcat to ensure seamless functionality
- Testing the Geoserver component to ensure that it is installed and configured correctly

9.3 Installing and configuring the PostGIS/ PostgreSQL component (Database)

- Acquiring the latest version of the PostGIS/ PostgreSQL component from the official website
- Installing the PostGIS/PostgreSQL component on the Beneficiary's infrastructure
- Configuring the PostGIS/PostgreSQL component to ensure compatibility with other GIS components
- Configuring the database to ensure efficient storage and retrieval of data
- Creating user accounts and security protocols to ensure the security of the database
- Integrating the PostGIS/PostgreSQL component with the Geoserver component to ensure seamless functionality
- Testing the PostGIS/PostgreSQL component to ensure that it is installed and configured correctly

9.4 Installation and configuration of the GIS frontend component (MapStore)

- Acquiring the latest version of the GIS frontend component (MapStore) from the official website
- Installing the GIS frontend component on the Beneficiary's infrastructure
- Configuring the GIS frontend component to ensure compatibility with other GIS components
- Creating user accounts and security protocols to ensure the security of the frontend component
- Integrating the GIS frontend component with the Geoserver component to ensure seamless functionality
- Testing the GIS frontend component to ensure that it is installed and configured correctly

9.5 Installation and configuration of the QGIS client component

- Acquiring the latest version of the QGIS client component from the official website
- Installing the QGIS client component on the designated workstations
- Configuring the QGIS client component to ensure compatibility with other GIS components
- Creating user accounts and security protocols to ensure the security of the QGIS client component
- Integrating the QGIS client component with the Geoserver component to ensure seamless functionality
- Testing the QGIS client component to ensure that it is installed and configured correctly

10 Creating of datasets provided by SHS in local GIS infrastructure

Creating datasets provided by SHS in local GIS infrastructure for 6 webmaps in Mapstore

Webmap 1: Creating Relief Map (local GeoTiff)

- Extracting elevation data from the dataset provided by SHS
- Deriving slope data from the elevation data using GIS processing tools
- Deriving orientation data from the slope data using GIS processing tools
- Creating a local GeoTiff of the relief map using

GIS processing tools

- Configuring the relief map for display in the GIS frontend component

Webmap 2: Creating Climatic and Bioclimatic Maps (local GeoTiff)

- Extracting the required climate and bioclimatic data from the datasets provided by SHS
- Deriving additional bioclimatic data using GIS processing tools
- Creating a local GeoTiff for each climatic and bioclimatic map using GIS processing tools, including:
  - BIO1 = Annual Mean Temperature
  - BIO2 = Mean Diurnal Range (Mean of monthly (max temp - min temp))
  - BIO3 = Isothermality (BIO2/BIO7) (×100)
  - BIO4 = Temperature Seasonality (standard deviation ×100)
  - BIO5 = Max Temperature of Warmest Month
  - BIO6 = Min Temperature of Coldest Month
  - BIO7 = Temperature Annual Range (BIO5-BIO6)
  - BIO8 = Mean Temperature of Wettest Quarter
  - BIO9 = Mean Temperature of Driest Quarter
  - BIO10 = Mean Temperature of Warmest Quarter
  - BIO11 = Mean Temperature of Coldest Quarter
  - BIO12 = Annual Precipitation
  - BIO13 = Precipitation of Wettest Month
  - BIO14 = Precipitation of Driest Month
  - BIO15 = Precipitation Seasonality (Coefficient of Variation)
  - BIO16 = Precipitation of Wettest Quarter
  - BIO17 = Precipitation of Driest Quarter
  - BIO18 = Precipitation of Warmest Quarter
  - BIO19 = Precipitation of Coldest Quarter
- Configuring the maps for display in the GIS frontend component

Webmap 2: Creating Climatic and Bioclimatic Maps (local GeoTiff)

- Extracting the required meteorological observation data from the dataset provided by SHS
- Creating a local vector layer for the observation points
- Assigning the monthly average values for each reference period to the corresponding observation points
- Configuring the observation points layer for display in the GIS frontend component

Webmap 3: Creating Meteorological Observation Points

- Extracting the required meteorological observation data from the dataset provided by SHS
- Creating a local vector layer for the observation points
- Assigning the monthly average values for each reference period to the corresponding observation points
- Configuring the observation points layer for display in the GIS frontend component

Webmap 4: Creating Agrometeorological Observation Points

- Extracting the required agrometeorological observation data from the dataset provided by SHS
- Creating a local vector layer for the observation points
- Assigning the monthly average values for each reference period to the corresponding observation points
- Configuring the observation points layer for display in the GIS frontend component

Webmap 5: Creating Hydrological Observation Points

- Extracting the required hydrological observation data from the dataset provided by SHS
- Creating a local vector layer for the observation points
- Assigning the monthly average values for each reference period to the corresponding observation points
- Configuring the observation points layer for display in the GIS frontend component

Climate Change Portal

Webmap 6: Creating Agro-climatic Regionalization

- Analyzing the climatic and bioclimatic data to derive agro-climatic regions
- Creating a local vector layer or a local GeoTiff for the agro-climatic regionalization map
- Configuring the map for display in the GIS frontend component

11. Filling with data

Completing the datasets created with the data provided by SHS.

- Receiving the data provided by SHS in the required format
- Preparing the data for import into the datasets
- Importing the data into the appropriate datasets
- Verifying the data for accuracy and consistency with other datasets
- Resolving any issues with the imported data
- Updating the GIS frontend component to display the updated data

12. Integration with external geospatial data providers

12.1 Integrating with General and Background Maps

- Acquiring the necessary geospatial data services from the Cadastre Agency and Open Data providers
- Preparing the data for integration into the webmaps
- Integrating cadastral and administrative units data as a local vector or WFS
- Integrating topographic map 1:50,000 (1982 and 2013) as a WMS
- Integrating Moldova Orthophoto 2007 and 2016 as a WMS
- Integrating OpenStreetMap as a WMS
- Configuring the webmaps to display the integrated data layers
- Creating a local GeoTiff of the relief map using

12.2 Integrating with Soils

- Acquiring the necessary soil data from the Cadastre Agency
- Preparing the data for integration into the webmaps
- Integrating soil types, soil subtypes, eroded soils, soil texture, and soil erosion data as a WMS
- Configuring the webmaps to display the integrated data layer

12.3 Integrating with Land Cover/Use

- Acquiring the necessary land cover/use data from the Cadastre Agency and Open Data providers
- Preparing the data for integration into the webmaps
- Integrating CORINE 1990, CORINE 2000, and FAO 2004 land cover/use data as a WMS
- Configuring the webmaps to display the integrated data layer

12.4 Integrating with European/American Climate Data

- Acquiring the necessary climate data from Copernicus and NASA Earth Observations
- Preparing the data for integration into the webmaps
- Integrating the climate data as a WMS
- Configuring the webmaps to display the integrated data layer

Climate Change Portal

13. Training and maintenance

13.1 Training

- Assessing the training needs of the Beneficiary's collaborators
- Developing training materials and resources
- Delivering training sessions on the deployment, creating web-maps, filling with data, and external geospatial data integration activities
- Providing hands-on training and support to Beneficiary's collaborators
- Conducting training evaluations to assess the effectiveness of the training

13.2 Maintenance

- Monitoring the GIS infrastructure for any issues or errors
- Conducting regular maintenance activities, such as software updates and backups
- Addressing any issues or errors in a timely manner
- Conducting regular system checks to ensure optimal performance and security

ROLES AND THEIR PURPOSE

Internet user - a user who accesses the public web interface of the system to explore public information (public area) related to the portal.

Authenticated user - a user, not an employee of SHS, who is granted access to the private WEB interface of the portal, subscribes to the news feed, and can submit applications, view their status, pay for them and download the final documents.

Content manager - user who represents a portal content management: creation and placement of content on the portal, including content created by publishers, exclusion of content from the portal, receiving notifications.

Content editor - User who prepares content for portal pages, has no right to publish, receive notifications.

Accounting specialist - User who views orders in a closed area of the portal, setting the sign of order payment through the bank, receiving notifications.

Examination specialist - SHS user who examines requests received, places an order, confirms receipt of payment from the bank and transfers the final documents, receives notifications.

Portal administrator - SHS staff member who has been granted special rights to manage roles on the portal and administer the system.

CMS administrator - SHS staff member who has been granted special rights to manage users with the "Content Manager" role.

ACHIEVED RESULT

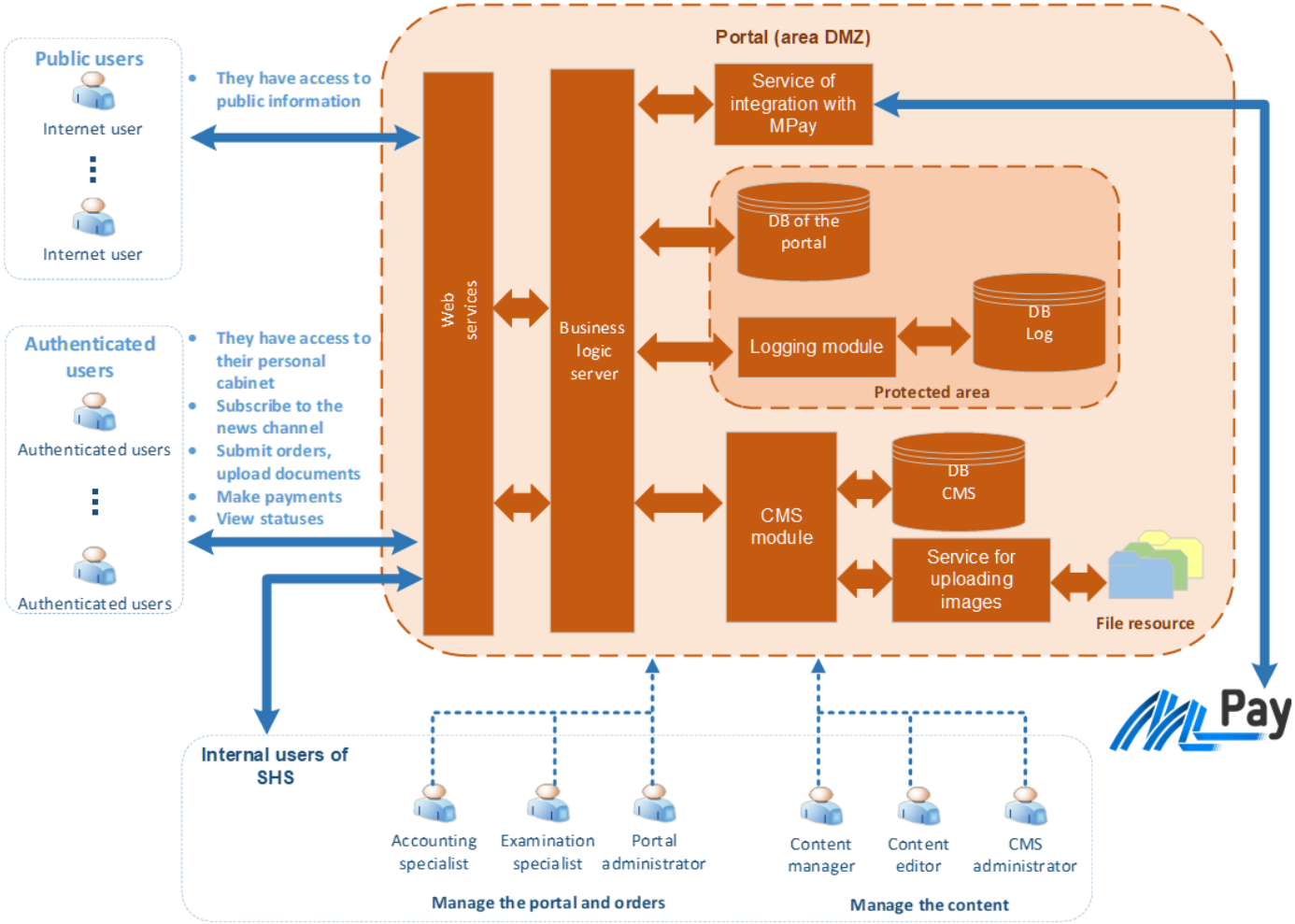
- Climate change information and knowledge management portal launched to support the NAP process and mainstreaming of climate change adaptation;
- On the Climate change information and knowledge management portal has developed technology Roadmap for each key sector (transport, energy, water, forestry and health);
- The project finalized market research for introducing new climate services and increasing awareness of the importance of hydrometeorological and climate services.
- The project supported the assessment of the meteorological and hydrological network which enabled the State

Climate Change Portal

Hydro-meteorological Service of Moldova (SHS) in terms of data digitalization and improving meteorological and hydrological monitoring;

- Deployment of GIS components on the Beneficiary's infrastructure;
- Creating of datasets provided by SHS in local GIS infrastructure;
- Integration with external geospatial data providers.

ARCHITECTURE



INTEROPERABILITY WITH EXTERNAL SYSTEMS

The portal is integrated with the following social networks and external resources:

- mPay.
- Facebook, Twitter, Linkedin

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

1. CCIKMP is hosted on M-Cloud
2. Web/Database Server - CentOS, Apache Tomcat, Strapi, Postgresql + PostGIS
3. GIS Server - CentOS, Geoserver, MapStore

e-Cazier

Automated information system". Development and maintenance of the information system

Jan. 2021– Dec. 2021

PROJECT PARTICIPANTS

Beneficiary / Origin of funding — Information Technology Service (ITS) of the MIA

DESTINATION

The "e-Cazier" public service offers citizens the possibility to request criminal records certificates through electronic means (Internet, banks and payment terminals), while ensuring the protection of personal data.

The service offers the possibility to submit and complete the application online on the basis of identity documents (IDNP code).

INDICATORS

10 hours

The most requested service by citizens, the emission of criminal records, we save about 10 hours of each person's life, who asks for these documents.

> 100,000

More than 100,000 requests for the issue of criminal records certificates have been registered

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The system (in the extension part of the functionality) provides the following functions:

for the DGIEO specialist:

- Preparation of the Application for persons missing IDNP
- Preparation of the Application, where applicable
- viewing the list of Requests with the possibility of filtering by person, date, status, etc.
- generation of the list of PDF documents - applications or certificates

for the administrator:

- management of user roles
- monitoring user actions
- monitoring events in the system

e-Cazier

ACHIEVED RESULT.

Benefits for the Information Technology Service

- Providing a better public service.
- Optimization of work processes and reduction of operational costs.
- Collection of criminal record applications in electronic format.

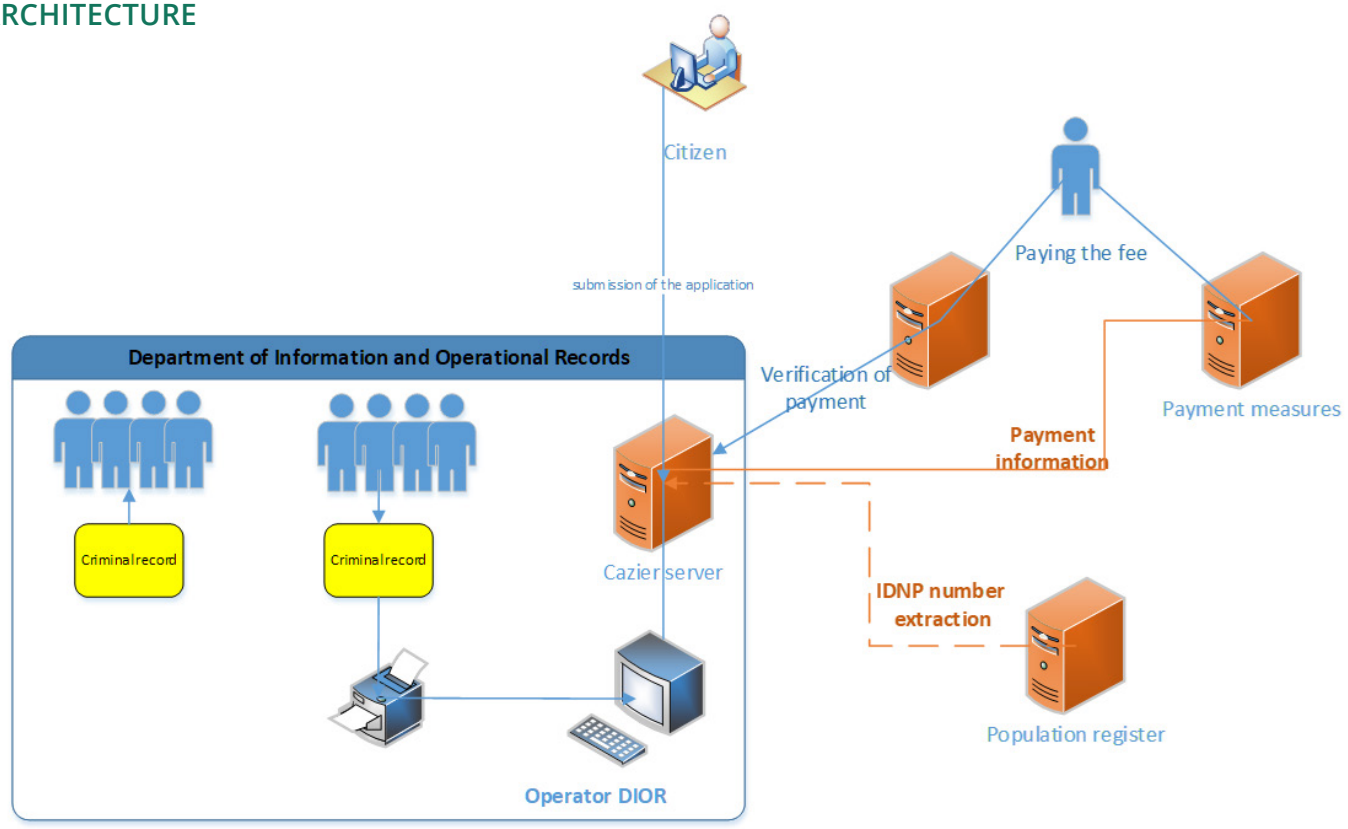
Benefits for the Republic of Moldova

- Improved image of the Republic of Moldova internally and externally.
- Better positioning in international rankings.

Benefits for citizens

- Reduced queues and related inconvenience.
- Reduction of costs related to obtaining a criminal record.

ARCHITECTURE



INTEROPERABILITY WITH EXTERNAL SYSTEMS

- MPay services - to pay for services;
- SI “Public Services Portal” - for the preparation of the application for the providing of services;
- State Population Register - for identifying service applicants.

Register of Criminalistics (RICC)

AIS "Register of Criminalistics and Criminological Information".

In 2008 - 2009 we participated in the implementation of the complex of programs of the central database of the integrated information system under the account of crimes.

Jan. 2021 – 2022

PROJECT PARTICIPANTS

Beneficiary / Origin of funding — Ministry of Internal Affairs (MIA)

DESTINATION

The RICC is the state information resource, which is the totality of systematized information on offences, criminal cases, as well as on persons who have committed offences and other objects subject to recording.

The RICC is part of the integrated information resource of law enforcement agencies, which in turn is part of the State Information Resources of the Republic of Moldova.

The RICC also provides information support for the work of law enforcement bodies and other central administrative authorities responsible for ensuring public order and combating crime.

INDICATORS

Monitoring

monthly monitoring of process infrastructure

Modernization

more than 5 requests for resolving incidents and modernizing old modules were processed monthly

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

"IIS of the Ministry of Internal Affairs of the RM" realizes the following capabilities and tasks:

- provides operational access to users (according to the established access rights to the relevant information) to the information contained in the IIS;
- enables a remote user to receive, within his/her competence, a case on a person or an offence in a single application;
- provides operational access of users and other applications to the system through the use of Web-technologies, e-mail technologies and Web-services;

Register of Criminalistics (RICC)

- uses unification of information interaction between the IIS and various external IS on the basis of the developed data exchange format;
- provides uniform technologies of input of information on various primary documents and from various sources (by means of Web-technologies);

The system by means of Web-based user interfaces (using obsolete browsers), provides the following groups of functions:

1. Data entry by means of screen forms of primary documents of the following accounts:
   - Accounting "Criminal Statistics":
   - Accounting and control of weapons and ammunition:
   - Record and control of stolen vehicles:
   - Record and control of administrative offences:
   - Accounting and Control of Antiques:
   - Accounting and control of items marked as stolen or found:
   - Record and control of wanted persons:
   - Records of OSC:
   - Record and control of persons on operational records:
   - Record and control of lost documents:
2. Obtaining background information (cases) on the main objects
3. Comprehensive search by any set of details of the main IIS accounting objects;
4. Building a tree of links between the IIS accounting objects;
5. Adjustment of the information related to the accounting objects through the screen forms of primary documents;
6. Receipt of signals about changes in the state of accounting objects and other events of the system, availability of the signaling mode with issuance of proactive recommendations in case of fixing facts of criminal orientation;
7. Receipt of statistical reporting forms with the help of statistical data generator, which provides information in the form of lists and statistical tables.

During entering or editing data, the system performs:

1. format and logical control of the entered information:

- mandatory fields;
- type and size of input fields;
- logical conditions of fulfilment of business rules of input correctness;
- use of codifiers for entering information into fields providing for a limited set of input data.

2. checking the completeness, integrity and consistency of the centralized storage data:

- logical deletion;
- exclusion of duplication;
- verification of data from external sources;
- administration of system credentials;

3. control and signaling of the occurrence of events in the system:

- control of coincidence of conditions in the course of data modification;
- control of accesses to accounting objects;
- control of time conditions.

Register of Criminalistics (RICC)

The system is organized to ensure information security in the following areas:

- identification and authorization of users;
- management of users and role access to information and system functionality,
- separation of user access to information at several levels, information protection;
- management of IIS functioning and operation modes;
- password change policy management;
- registration of user actions in the operation log.

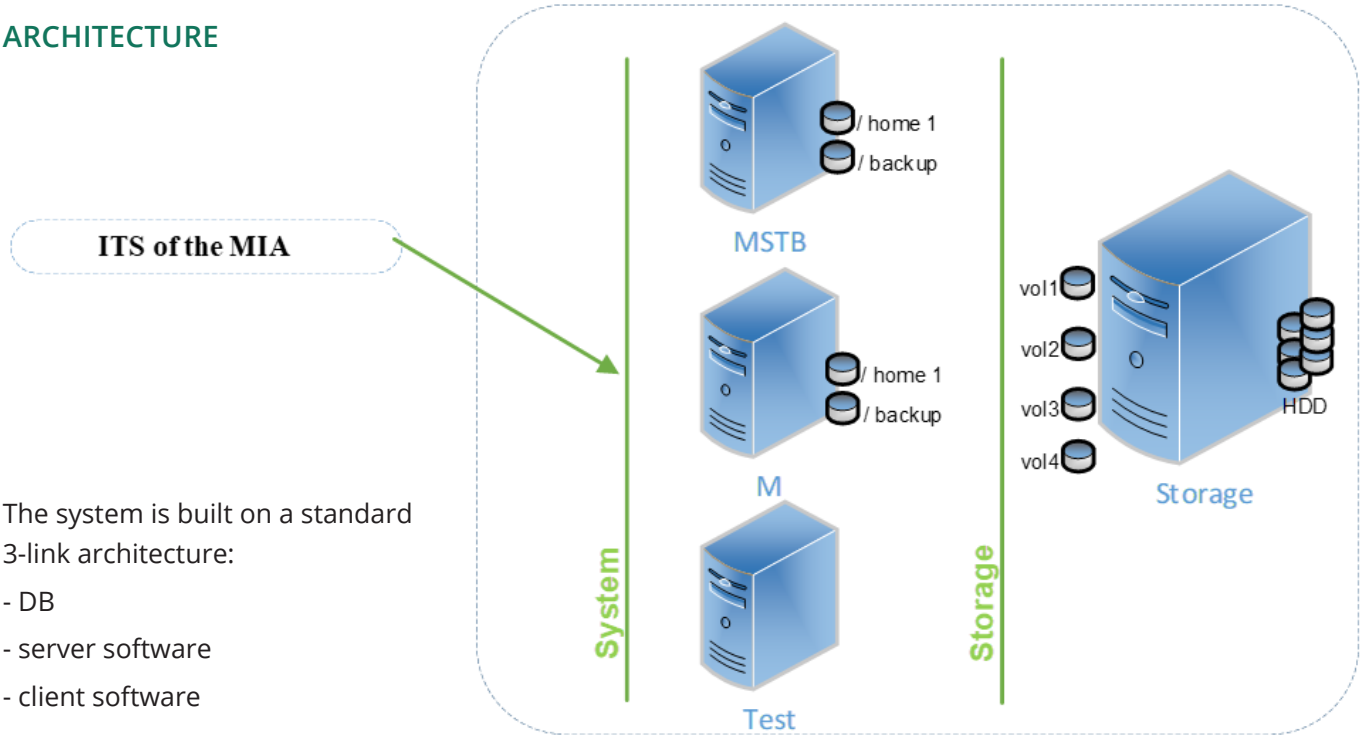
The system supports information exchange with external sources and consumers of information: Interpol, MIB (GIAC of the Ministry of Internal Affairs of Russia), MDI, MREO, Traffic Police of RM. In this case the following is carried out:

- management of information upload/download formats;
- management of loading/unloading processes;
- processing of loading/unloading results;
- preparation of records for uploading.

ACHIEVED RESULT

Regular technical support enabled the information system to operate without interruption and prevented failures in the system infrastructure.Conducting regular system checks to ensure optimal performance and security

ARCHITECTURE



The system is built on a standard 3-link architecture:

- DB
- server software
- client software

INTEROPERABILITY WITH EXTERNAL SYSTEMS

- State Population Register (SPR)
- State Register of Legal Entities (SRLE)
- Classification of Territorial Administrative Units (CUATM)
- -Ministry of Justice
- Interpol

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

The IIS application software is developed on the Oracle technology platform, which includes:

- DBMS Oracle Database 11g,
- specialized Web-server (Forms Server),
- application server (Application server)

RCAP

Automated Information System" Recording the causes of administrative penalties, the person who committed them and the penalty points

May 2022– Dec. 2022

PROJECT PARTICIPANTS

Beneficiary / Origin of funding — Ministry of Internal Affairs (MIA)

DESTINATION

The ECCPSPP IS includes all the information resources and technologies, the technical means of programming, the interconnected methodologies intended for the storage, processing and use of information of a contravention nature within the System, as well as the single record of contraventions.

The ECCPSPP SI is the state information resource, which represents the totality of systematized information on contraventions, the causes of contraventions and the persons who committed them. The system also has two additional integrated modules ,,Traffic Control" - which ensures the interconnection of road traffic monitoring systems and the "e-Data" module - which allows police inspectors to check information about the means of transport and its driver.

OBJECTIVES

The system aims to:

- to provide efficient, stable and secure information for the operational work of law enforcement and control bodies in the process of service activity;
- to ensure the training of state information resources in the field of law enforcement and traffic safety;
- adjusting the monitoring system of the evolution of the accident phenomenon to the European standards and creating the possibility of its multi-aspectual analysis, highlighting the causes of traffic accidents and the conditions in which they occurred, in order to base preventive-prophylactic activities;
- provide the country's leadership with operational and reliable information;
- assisting the central specialized bodies of the public administration and the local public administration authorities in increasing the efficiency of the activity of implementing the state policy in the field of protecting the rights and freedoms of citizens and ensuring the safety of road traffic;
- ensuring information interaction and collaboration in the course of interstate information exchange;
- modernization of the work of law enforcement bodies by transferring administrative processes in the field of efficient technology;
- creating conditions for optimizing the structure and functions of law enforcement bodies.

RCAP

INDICATORS

Monitoring

monthly monitoring of process infrastructure

> 10

more than 10 requests to eliminate incidents and modernize old modules were processed monthly

100%

of incidents closed during the contract implementation period

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

Services offered by the system:

For System

Systematisation of information on road accidents occurring in the country.

Public service for any user.

For Operators

Registers road accidents,

Extracts data according to criteria,

Validates data,

Draws up documents.

For External actors (systems to use the data in the system)

Sending stored data to other requesting systems.

For System administrator

Manages system users,

Manages system roles,

Manages access rights,

Manages system configurations.

Extracts data according to criteria,

Validates data,

Draws up documents.

REGISTRARS OF THE REGISTRY ARE:

the Ministry of Internal Affairs (police stations), as regards records:

- the occurrence of road accidents;
- means of transport involved in the accident;
- persons involved in the accident;
- witnesses of road accidents;
- administrative reports drawn up on the accident;
- criminal cases initiated as a result of the accident;
- topological data on the scene of the accident;
- conclusions based on forensic, autotechnical and trace investigations;

the Ministry of Health (medical institutions, forensic medicine center) regarding the records:

- persons who died as a result of the accident;
- persons seriously traumatized as a result of the accident;
- persons slightly traumatized as a result of the accident;
- conclusions based on forensic investigations;

the Ministry of Justice (National Centre for Forensic Expertise) on records:

- conclusions on the basis of forensic, autotechnical and tracing investigations.

RCAP

ROLES AND THEIR PURPOSE

- **MIA worker —** employee of the MIA in charge of processing and validating violations.
- **Administrator** — is the technical person responsible for the proper functioning of the system and the management of the internal users of the system.

ROLES AND THEIR PURPOSE

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- **Administrator** — is the technical person responsible for the proper functioning of the system and the management of the internal users of the system.

ACHIEVED RESULT

- Registration of documents related to driver contraventions.
- Providing information on the basis of record documents.
- Keeping track of driver penalty points.
- Interconnection of banking systems with the database of traffic fines.
- Interconnection with other systems (Interpol, Border Service, DIEO, etc.).

INTEROPERABILITY WITH EXTERNAL SYSTEMS

- State Population Register ;
- State transport register;
- State register of drivers;
- State register of legal acts;
- State Register of Law Units;
- Register of territorial-administrative division and address plans of localities;
- Integrated medical information system of the Ministry of Health;
- Register of forensic and criminological information;
- Register of judicial files.

E-Reporting

Governmental portal for electronic reporting

2012 – 2013, 2015 – 2017

PROJECT PARTICIPANTS

Beneficiary — - National Social Insurance House (NSIH), National Health Insurance Company (NHIC), National Bureau of Statistics (NBS)

Origin of funding — USAID / BIZTAR / BRITE

OBJECTIVE

Creation of a universal information platform for the preparation, transmission and processing of economic agents' reports to the central administrative state bodies.

DESTINATION

The automated information system „e-Reporting" is a component of NSIH and consists of subsystems:

- Subsystem Portal
- Subsystem E-CNAS (Casa Națională de Asigurări Sociale)
- Subsystem NBS

The AIS "e-Reporting" is an integrated information system based on interaction with the State Portal and serves as a single point of communication for users with NSIH services.

The subsystem "Portal" ensures the use of a single security system for accessing the NSIH automated function, delimitation of rights and degree of access to data according to roles or data status (from forms). The portal offers public users the possibility to automatically register in the system, to use the "personal cabimet" with personal options, including viewing the list of forms, their types, existence, status and list of errors.

The subsystem E-CNAS ensures the creation and verification of insured persons' declarations and declarations about the calculation and use of compulsory social security contributions 4BASS, the automatic recieving or generation of electronic packets, their processing, as well as their dispatch for further processing and storage in the SPASS system. The system provides registered users with additional services for delivery, inspection and processing of incoming information, viewing its status at any given time, as well as a list with descriptions of errors found.

Subsystem NBS provides the basis for a single information space for the processes of obtaining and processing statistical data from public users, providing a single entry point for delivering data.

E-Reporting

The integrated e-Reporting solution is a software product with tools for completing, transmitting and processing report flows submitted by economic agents to Public Authorities.

The system is an integrated technological complex made up of the following basic components:

- The single portal www.raportare.md which provides registered and authorised users with the possibility to manage and submit reports to the Central Public Authorities on behalf of several organisations they represent.
- Specialised applications of the project Beneficiaries (CNAS, NBS, CNAM and others) providing possibilities to design and publish reporting forms on the portal, receive and process reports submitted by authorised users.
- Electronic services of the Government of the Republic of Moldova: M-Pass (users' authentication), M-Sign (electronic signature service).

The high level of stability and security of the performance of the system as a whole is ensured through the independence of the technological components and the business processes for processing the electronic reports of the Central Public Authorities connected to the system.

THE SYSTEM PROVIDES THE FOLLOWING FUNCTIONAL TASKS:

at the Central level:

- receiving automatically the client's statistical reports;
- implementing the storage of statistical reports in protected form (not accessible for data modification);
- providing customised mechanisms for data transmission of reporting forms to automated information processing systems (present and future);
- sending to customers the status of documents received in case of positive test results or list and description of identified errors;
- providing administrators with the possibility to manage users and their access rights to system information and functions;
- providing internal users of the system with statistical and analytical reports on data, system work and users;
- implementing system and data administration.

at the client level of the system:

- view and filter the "personal" list of statistical reports;
- tracking the status of statistical reports;
- receiving the list of templates and selecting the template needed to create a report;
- creating new statistical reports automatically;
- automatically checking the data entered and, if necessary, correcting or editing them;
- automatically sending of statistical reports to Central level for further processing and storage.

INDICATORS

23 000
authorized users

40 000
registered enterprises

95%
of monthly reports to the NOSI are submitted electronically

E-Reporting

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The system provides the following functions:

- Previewing the list of packets
- Filtering the list of packages
- Creating a new package
- Viewing the list of REV5 in a package
- Deleting and canceling packages
- Adding REV5
- Viewing, editing REV5
- Deleting (canceling) REV5s
- Deleting a bundle
- Renaming a package
- Printing REV2
- Printing REV5
- Adding a package from the archive
- Accepting a package for correction
- Creating a copy of a packet
- Completing the package for the month
- Sending a package to NKSS
- Viewing packet history
- Viewing 4BASS list
- Creating and editing 4BASS quarterly
- Creating and editing annual 4BASSes
- Printing 4BASS
- Receiving 4BASS for correction
- Sending 4BASS declaration to NCSS
- Matching REV5 and 4BASS
- Additional functions of NSIH subsystem and external AIS

ROLES AND THEIR PURPOSE

Authorized user (virtual role) – A user who has successfully completed the registration procedure and has been assigned defined rights in the system.

Client – Employer's representative, who enters a prepared data package or generates forms and data packages using portal resources.

Opetator – The NSIH employee who controls the flow of information through the portal and takes a decision about the packages uploaded to SPASS.

Portal Administrator – The NSIH employee with special rights to manage and update system directories, manage users and ensure data security

SOLUTION ARCHITECTURE

Creation of a universal information platform for the preparation, transmission and processing of economic agents' reports to the central administrative state bodies.

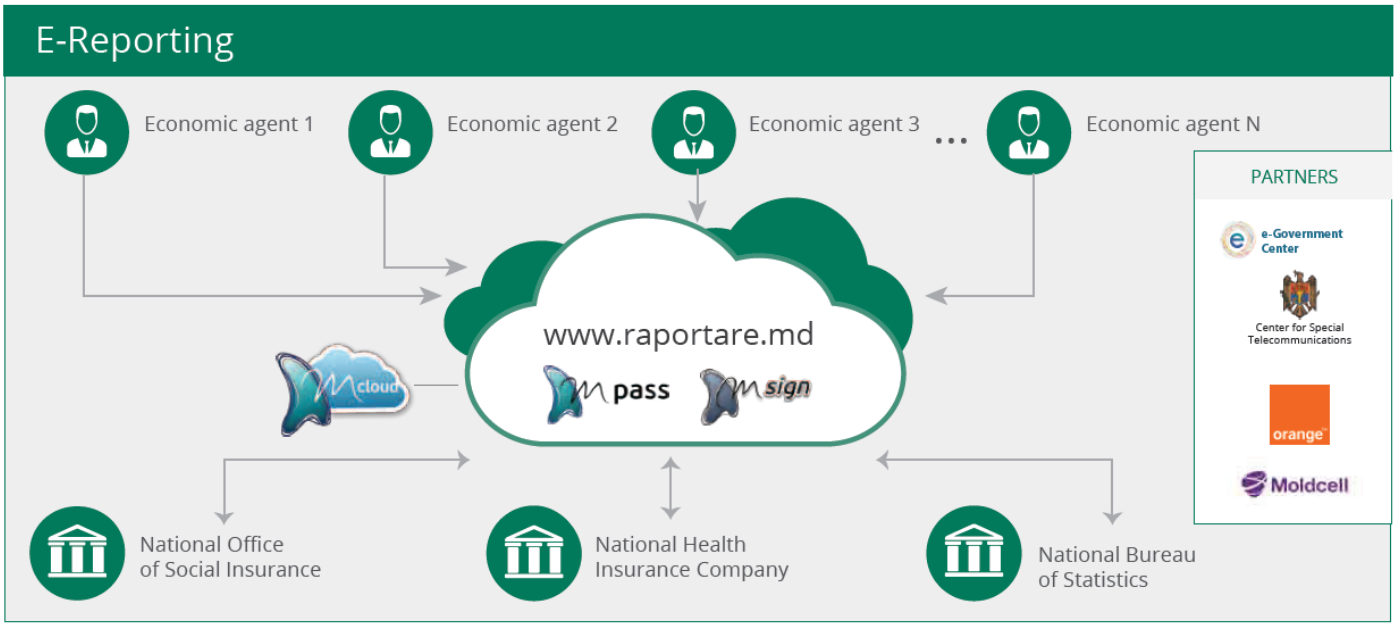
The system represents an integrated software and hardware complex, which consists of the following main components:

- **Single portal** www.raportare.md that enables authorized users to submit reports to the central administrative state bodies on behalf of the organizations that they represent.
- **Specialized applications** of the central administrative state bodies (NOSI, NHIC, NBS) that enable designing and publishing templates of electronic reports, receiving and processing the reports submitted by the authorized users.
- **Electronic services** of the Government of the Republic of Moldova: M-Pass (users' authentication), M-Sign (electronic signature service).

The software solution of the subsystem is organized on the technologies provided by Microsoft Corporation:

DBMS - MS SQL 2008 / Application server - Internet information server 7.0 / Client applications - ASP .NET MVC

E-Reporting



INTEROPERABILITY WITH EXTERNAL SYSTEMS

The central component of the system - www.raportare.md portal is placed on M-Cloud platform (the single technological platform for placing governmental services) and is integrated with the main state electronic services: M-Pass, M-Sign and the State Register of Population.

Specialized applications of the central administrative state bodies (NSIH, NHIC, NBS and other) are integrated with Information Systems of the corresponding organizations.

Technology stack used in project implementation: Microsoft Windows 2008, Microsoft SQL Server 2008, Oracle DB Server, Oracle Unbreakable Linux.

ACHIEVED RESULT

FOR THE GOVERNMENT

- Significant increase in efficiency of the data reception and processing
- Assurance of information transparency and minimization of bureaucracy
- Elimination of expenses related to manual data processing and error correction

FOR CITIZENS

- The Single Window system for submission of reports to the different state administrative bodies
- Non-stop online submission of the reports
- Time-saving related to the procedures of data delivery and verification
- Elimination of redundant data submission

SERVICES WHICH WERE IMPLEMENTED WITHIN THE PROJECT

The following services were implemented within the project: delivery, installation, operational acceptance and technical support for the implemented information complex, which includes:

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components);
- Development of Users Guide;
- Training of users and administrators;
- Project monitoring and reporting.

E-Procurement

Development and implementation of the State Procurement Register

2012, 2014, 2019

PROJECT PARTICIPANTS

Beneficiary — Public Procurement Agency (PPA)

Origin of funding — State budget / World Bank

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

AIS "State Procurement Register" is an information system designed to support the processes of implementation and management of public procurement in RM.

Functionally, the system is divided into two main areas:

- public (available for all Internet users)
- private (available only for registered users).

The public zone is intended to provide publicly available information on tenders, intentions, complaints, etc., published in official publications and additional information defined by ARMAPAU, in order to ensure the transparency of the tendering process.

The private area is intended directly for the public procurement procedure.

ADVANTAGES OF THE SOLUTION

- Organization and control of the procurement process conducted by the government agencies of the Republic of Moldova Purchasing Authorities (PA).
- Transparency in the process of organizing and conducting auctions
- Significant reduction in costs related to the organization of procurement by Purchasing Authorities
- Reduction of the risks of corruption E-Procurement

45%

of the public procurement budget for 2015 was executed through the system

750

authorized users

>30

Purchasing Authorities of different levels

5000

completed bids

E-Procurement

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The system has the following business functions:

Business function «The bidding process» - the main bidding scenario that shall be carried out as per the following approved actions:

Activity No. 01 "Bidding Initiation"

Activity No. 02 "Approval of bidding data"

Activity No. 03 "Submission of the application for bidding"

Activity No. 05 "Examination of bidding documents"

Activity No. 06 "Submission of Questions"

Activity No. 07 "Publication of Private Response"

Activity No. 08 "Clarification of documentation"

Activity No. 09 "Approval of clarifications"

Activity No. 10 "Bidding Adjustment"

Activity #11 "Approval of bidding changes"

Activity No. 12 "Submission of an offer"

Activity No. 13 "Registration of the offer"

Activity No. 23 "Withdrawal of the offer"

Activity #14 "Opening of offers".

Activity No. 15 "Selection of Offerors"

Activity #16 "Award of Contract"

Activity No. 17 "Registration of Commission Decision"

Activity no. 21 "Control of contract award"

Activity No. 22 "Cancellation of the contract award procedure"

Activity No. 18 "Contract awarding"

Activity No. 19 "Registration of the contract"

Activity No. 20 "Generation of the report on the procurement procedure"

Business function "Pre-selection of offerors":

Activity No. 23 "Submission of a preliminary offer"

Business function "Complaints handling":

Activity No. 28 "Registering a complaint"

Activity No. 30 "Sending a proposal to resolve the grievance"

Activity No. 29 "Suspension of procurement"

Activity No. 32 "Making a decision on the complaint"

Activity No. 34 "Withdrawal of complaint"

Activity No. 33 "Registration of complaint decisions"

Activity No. 35 "Taking action"

Activity No. 36 "Reinstatement of the procurement process"

ROLES AND THEIR PURPOSE

System administrator — an employee of the ASG who has special rights and performs administrative functions in the system

Bidding Officer — a staff member appointed by the management of the ASG who performs supervisory and management functions for a particular auction

Head of Bidding Department — a senior staff member of the ASG who appoints or performs the functions of a bidding officer

Grievance Officer — a staff member appointed by the management of the ASG to handle specific grievances.

Chief Complaints Officer — the AGH management staff member who appoints or performs the functions of the Complaints Officer.

Statistician — an employee of the MSA who generates reports and collects statistical data.

Economic Operator — any natural or legal person wishing to participate in the bidding process

Bidder — an EO Bidder who has submitted an application to participate in the bidding process

Offeror Bidder — a bidder whose offer is registered by the EO in the system

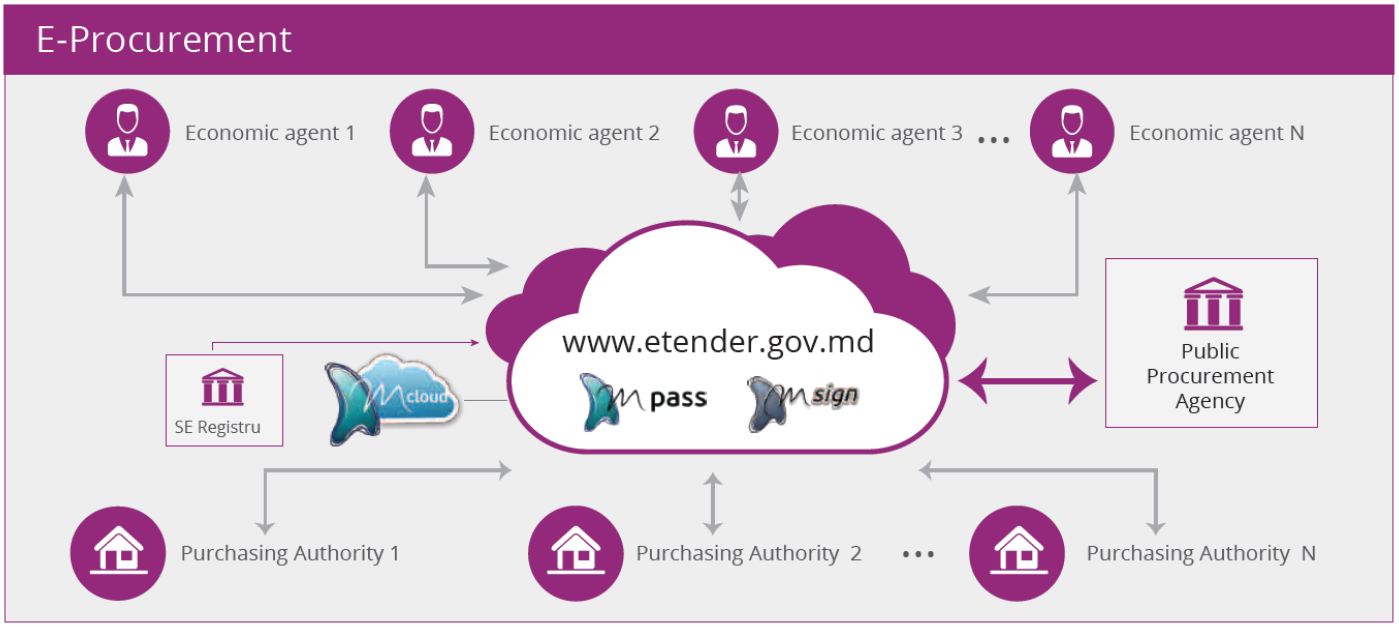
Procuring Authority — a public authority intending or conducting public procurement.

E-Procurement

SOLUTION ARCHITECTURE

The system represents an integrated software and hardware complex, which consists of the following main components:

- Public area of the portal www.etender.gov.md that enables search and selection of procurement procedures and preview of the general information on the selected procurement procedures.
- Specialized area of the portal enables authorized users:
  * PPA and PA – automated process of procurement procedure starting from harmonization of procurement documentation to the approval of results and contracts' registration.
  * Participants of the auction - registration of participants, downloading tender documents, communication with PA, view the results.
- Electronic services of the Government of the Republic of Moldova: M-Pass (users' authentication), M-Sign (electronic signature service).



INTEGRATION WITH EXTERNAL SYSTEMS

The Register of government procurement is placed on M-Cloud platform (the single technological platform for placing governmental services) and is integrated with the main state electronic services: M-Pass, M-Sign and the State Register of the Legal Entities.

e-CNAM

Development and implementation of the Integrated Information System "e-CNAM Registration online"

2012 – 2013

PROJECT PARTICIPANTS

Beneficiary — e-Government Agency

Origin of funding — Public

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The automated information system "e-CNAM" consists in two subsystems:

- Portal subsystem;
- CNAM subsystem.

The AIS "e-CNAM" is an integrated information system which is based on integration with the State Portal and serves as a single point of communication for users with the National Health Insurance Company (CNAM) services.

The "Portal" subsystem ensures the use of a single security system for accessing the CNAM automated function, the delimitation of rights and the degree of access to data according to roles or data status (from forms). The portal offers public users the possibility to automatically register in the system, to use the "personal cabinet" with personal options, including viewing the list of forms, their types, existence, status and list of errors.

The subsystem "CNAM" ensures the creation and validation of forms for insured persons, as well as their dispatch for further processing and storage in the "AOAM" system of CNAM. The system is also able to provide registered users with additional services for sending, validating and processing the information, viewing its status at any time, and listing and describing errors detected.

Technology stack used in project implementation: Microsoft

The system is integrated with: M-Cloud; M-Notify; M-Log; M-Pass; M-Sign; etc.time, and listing and describing errors detected.

SERVICES WHICH WERE IMPLEMENTED WITHIN THE PROJECT

The following services were implemented within the project: delivery, installation, operational acceptance and technical support for the implemented information complex, which includes:

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components);
- Development of Users Guide;
- Training of users and administrators;
- Project monitoring and reporting.

E-Epidemiology

The state system of control of infectious diseases

2009 – 2011

PROJECT PARTICIPANTS

Beneficiary — National Center for Preventive Medicine

Origin of funding — World Bank / UCIMP

DESTINATION

The state system of control of infectious diseases is placed on the platform provided by National Center for Preventive Medicine and is integrated with the State Register of Population, the State Register of Animals and with specialized medical systems.

The system is intended for epidemiological surveillance of infectious diseases in the Republic of Moldova.

OBJECTIVE

Ensuring control of infectious diseases and the epidemiological situation in the Republic of Moldova

ADVANTAGES OF THE SOLUTION

- Ability to identify centers of infection diseases and to undertake corrective measures
- High level of efficiency of information processing and exchange between all the parties involved
- Online monitoring of epidemiological situation in the country

INDICATORS

2000

authorized users

100%

of reporting on epidemiological situation in the country

E-Epidemiology

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The AIS "E-Epidemiology" have the following:

- Single database for storing and managing data on nominal notifications of human origin, cluster events of human origin, cases of infection of animal origin and referrals for laboratory investigations and investigation results;
- Alert triggering system;
- Reporting system, allowing the creation of analytical, statistical and graphical reports;
- System for visualizing the epidemiological situation on the map of Moldova.

Business processes automated in the system:

1. Registration of the individual case of infectious disease of human origin, which includes registration:

- IM and the person notifying the case;
- Patient;
- Primary patient record IM;
- Primary diagnosis;
- epidemiological number
- symptoms;
- epidemiological investigation results;
- final diagnosis;
- case classification in the system;
- form of assessment and end of illness.

2. Recording of laboratory investigations, which includes recording:

- referrals for laboratory investigations;
- tests indicated;
- receipt of samples;
- results of laboratory investigations.

3. Registration of cases of infectious disease in the group of human origin, which includes recording:

- MI and the person who notified the event;
- outbreak information;
- general information about the outbreak;
- epidemiological number;
- symptoms;
- event assessment information;
- final diagnosis;
- event classification.

4. Interaction with other information systems:

- transmission of information related to the individual case of infectious disease of human origin in the SITA system;
- receipt of animal infectious disease case information from the ATIS;
- receipt of information related to the case of infectious disease of human origin from other automated information systems managed by other medical institutions of the Ministry of Health.

5. Case management

- transfer of the individual case of infectious disease of human origin to another MI;
- case cancellation (individual or group).

In addition to the basic processes SIA has automated of the following business processes:

- administration of SIA SPS (management of classifiers, user actions, etc.);
- creation of reports.

The system provides solutions for the following business functions:

- Registration of the IM and the person notified of the case
- Patient registration
- Recording the primary diagnosis
- Registration of epidemiological number
- Symptom registration
- Recording the results of the epidemiological investigation
- Attachment of individual case to group case
- Recording the final diagnosis
- Registration of change in individual case status
- Registration of the form of assessment and end of illness
- Registration of case

E-Epidemiology

classification in the system
- Case transfer to another MI
- Registration of referrals for laboratory investigations
- Registration of indicated tests
- Registration of receipt of samples
- Registration of laboratory investigation results
- Registration of event information
- Registration of patient data
- Registration of the epidemiological event number
- Syndrome registration
- Registration of event assessment information
- Event status change recording
- Registration of final event classification
- Individual case registration from external system
- Reception of animal and poultry disease case information from SITA
- Creation of F2 report
- Print input documents
- Creation of list reports
- Creation of statistical reports
- Creation of quantitative reports
- Alert management
- Displaying and accepting alerts
- User management
- Transmitting nominal case information to SITA
- Logging information exchange
- Management of single structure classifiers
- Creation of full epidemiological reports
- Creation of graphical reports
- Registration of the primary patient record medical institution
- Receipt of EPP MI information
- Case cancellation
- Display of the objects of evidence on the map of Moldova
- Display the list of individual cases
- Display list of referrals for laboratory investigations
- Attachment of referral for laboratory investigations to nominal case
- Display list of indicated tests and results of laboratory investigations
- Display list of group cases
- Management of District/ Municipality and Locality classifiers
- Management of Medical Institutions classifier
- Management of the diagnostics classifier
- Management of classifiers Category of Investigations and Type of Investigations
- Create report related to user actions
- Printing classifiers
- Setting default values for data exchange
- Registration of user actions

ROLES AND THEIR PURPOSE

The following authorized groups of users:

- Family doctors
- Epidemiologists
- Specialized laboratories

and users:

Medic

- The person (health worker) in an MI, registered in the system, responsible for:
- recording in the system the information related to nominal cases of infectious diseases notified by the IM of the user's affiliation
- recording in the system the information related to cluster events notified by the user's IM.
- recording in the system of referrals for laboratory investigations and laboratory investigation results

Operator

- The person within the CSP, registered in the system, responsible for:
- recording in the system the information related to nominal cases of infectious diseases reported by telephone or paper by the health worker not registered in the SPS AIS
- recording in the system the information related to notified group events reported by telephone or on paper by the health worker not registered in the SPS AIS.

E-Epidemiology

Laborator

- The person (laboratory worker), registered in the system, responsible for recording laboratory investigation referrals and laboratory investigation results in the system.

Epidemiologist CNSP

- The person employed by the CNSP, registered in the system, responsible for case management and monitoring at national (country) level.

Portal Administrator

- The person employed by the CNSP responsible for managing the information related to the system portal.

Epidemiologist CSP

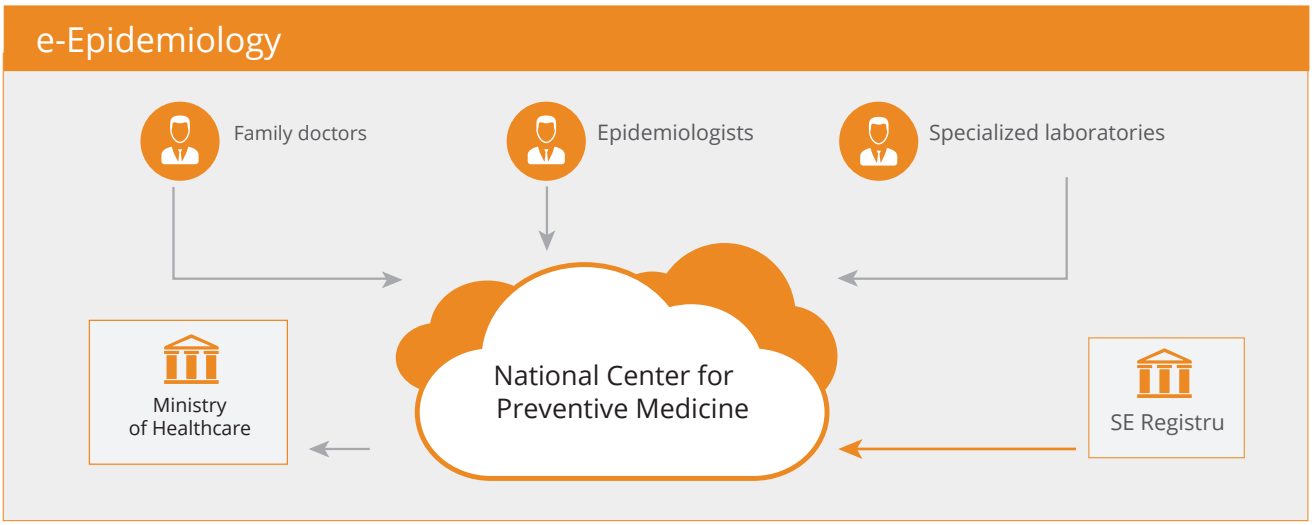
- Person employed by the CSP, registered in the system, responsible for recording in the system the information related to nominal and cluster cases of infectious diseases (epidemiological investigation, classification of cases) and for monitoring cases according to territorial-administrative or departmental responsibilities.

System Administrator

- The person employed by the CNSP, responsible for managing the system functionalities through which the system's operating parameters are defined: administration of nomenclatures and users, setting default values, monitoring user activity, etc.

SOLUTION ARCHITECTURE

The system represents an integrated software and hardware complex, which consists of the following component: Internal single portal of the National Center for Preventive Medicine that enables collaborative work during the processing of cases of infectious diseases.



INTEROPERABILITY WITH EXTERNAL SYSTEMS

The state system of control of infectious diseases is placed on the platform provided by National Center for Preventive Medicine and is integrated with the State Register of Population, the State Register of Animals and with specialized medical systems.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Database Server:

- Operating system: SUSE 10 Enterprise;
- BD: Oracle Database 10g Enterprise Edition Release 10.2.0.4.0 – Production With the Partitioning, OLAP, Data Mining and Real Application Testing options;

Application Server:

- Sistemul de operare: SUSE 10 Enterprise;
- Apache Tomcat Version 6.0.14;

Taxpayer Current Account

Automated Information System (AIS)

2010 – 2013, 2016 – 2017

PROJECT PARTICIPANTS

Beneficiary — The Chief State Tax Inspection (CSTI)

Origin of funding — USAID / BIZTAR / BRITE

OBJECTIVE

The AIS "Taxpayer's Current Account" is developed for the following purposes:

- To provide access to information on Taxpayers' tax obligations;
- To unify the existing IFPS registrations into a single centralized base;
- To ensure the possibilities of effective analysis and management of the processed data;
- To ensure information interaction with other state information resources;
- To ensure access to the centralized database directly from the workplaces of IFPS employees, as well as employees of other organizations, who have been granted access to the information in the established manner.
- To assure management of Taxpayer's Account conducted by Tax Inspection and monitoring taxpayers' liabilities to the state budget.

DESTINATION

The AIS "Taxpayer's Current Account" provides the Main State Tax Inspectorate, Territorial State Tax Inspectorates, taxpayers concurrent client-server access to the taxpayer's current account. The IT solution also simplifies taxpayer certification procedures by providing the possibility for other institutions to access online the taxpayer's certificate issued by the state tax authority.

The AIS "Taxpayer's Current Account" is a component of the State Tax Service Information System, managed by FiscServInform, which is also part of the State Information System of the Republic of Moldova.

The AIS "Taxpayer's Current Account" is an IT solution that allows online access to information about the taxpayer's tax obligations, as well as checking the current status of all arrears or overpayments to the National Public Budget. The tax situation can be viewed by different budget classifications, by different subdivisions of the company, historical balances and deciphering the calculation of the late payment surcharge.

Taxpayer Current Account

The main emphasis of the development of the AIS "Taxpayer's Current Account" is placed on integration with external information resources and provision of electronic services, which would allow to raise the level of interaction with IFPS customers and optimize the process of requesting and obtaining information on the fulfillment of obligations to the budget.

Information system offers the Principal State Tax Inspectorate, Territorial State Tax Inspectorates, taxpayers concurrent client-server access to the taxpayer's current account. The IT solution also simplifies taxpayer certification procedures by allowing other institutions to access online the taxpayer's certificate issued by the state tax authority.

INDICATORS

44 000
authorized users

42 000
registered enterprises

100%
of tax inspectors working in the system

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The Information system is designed in accordance with the specifications of a modern tax system described in the International Monetary Fund Report, which provides:

- administration and registration of each taxpayer's account;
- posting all debit and credit accounts for all tax types for aggregate and detailed view of data on each taxpayer;
- the possibility of posting all types of taxes to accounts of the same format;
- the possibility of separating tax liabilities from other revenues administered by the State Tax Service;
- the possibility of proper identification of all information provided by payment and revenue processing systems;
- calculation of due dates for incoming transactions;
- the possibility of making changes through revaluations, account adjustments, transfers, etc.;
- the possibility to request all taxpayer account data online;
- the possibility for taxpayers to access and view their account online, ensuring the security of data transfer and the protection of personal data;
- calculation and display of penalties for non-payment or late payment of taxes;
- structuring the taxpayer's account to ensure a clear demarcation between information on taxes and penalties and/or other sanctions, so that it is possible to show all the taxpayer's balances on any type of tax;
- establishing the periodicity (history) of occurrence of debts (arrears);
- generate the statement of account in paper or electronic format, by type of tax or consolidated for all taxes.
- debit and credit transfers within a tax type and across all tax types;
- a variety of accounting transactions, e.g. debits, credits, transfers, refunds, penalties, payments, adjustments, write-offs, etc.;
- generation of management data on account status, generation of reports related to IFPS and Ministry of Finance (tax system audit) and generation of reports related to SIECC operation (IT system audit);
- support for extracting information and reports on tax liabilities, including arrears to the National Public Budget;
- support for extracting information and reports on arrears corresponding to tax periods in relation to the limitation period.

Taxpayer Current Account

ROLES AND THEIR PURPOSE

Authorised user

- The person who has authorized access to the system and logs into the system using the username and password.

System Administrator

- The person within the IFST responsible for managing the functionalities through which the operating parameters of the Information System are defined (administration of nomenclatures, setting default values, monitoring user activity, etc.).

Time

- Time is the actor, which launches internal System procedures according to the schedule set by the system administrator.

Procedure Launcher

- Actor, who launches the internal procedures of the System (can be the System administrator - in case of manual launching of procedures or the time - in case of automatic launching of procedures according to the schedule set by the system administrator).

SFS User Administrator

- The person within "Î.S. Fiscservinform" responsible for managing SFS users.

Administrator of users Authority

- The person within "Î.S. Fiscservinform" responsible for the management of authorities and users with the role of Employee.

Taxpayer

- The person authorized to extract the Current Account and the Taxpayer's Tax Certificate.

IFST Inspector

- The person with the role "CC Viewer" within the IFST and empowered to extract the Current Account and Taxpayer Tax Certificate, statistical reports within the IFST boundaries of the user's affiliation.

IFPS Inspector

- The person with the role of "CC Viewer" within IFPS and empowered to extract Current Account and Taxpayer Tax Certificate, statistical reports.

Employee

- The person with the role of "CC Viewer" from other governmental institutions and empowered to extract Current Account and Taxpayer Tax Certificate, statistical reports within the access rights assigned by the administrator.

CC Viewer

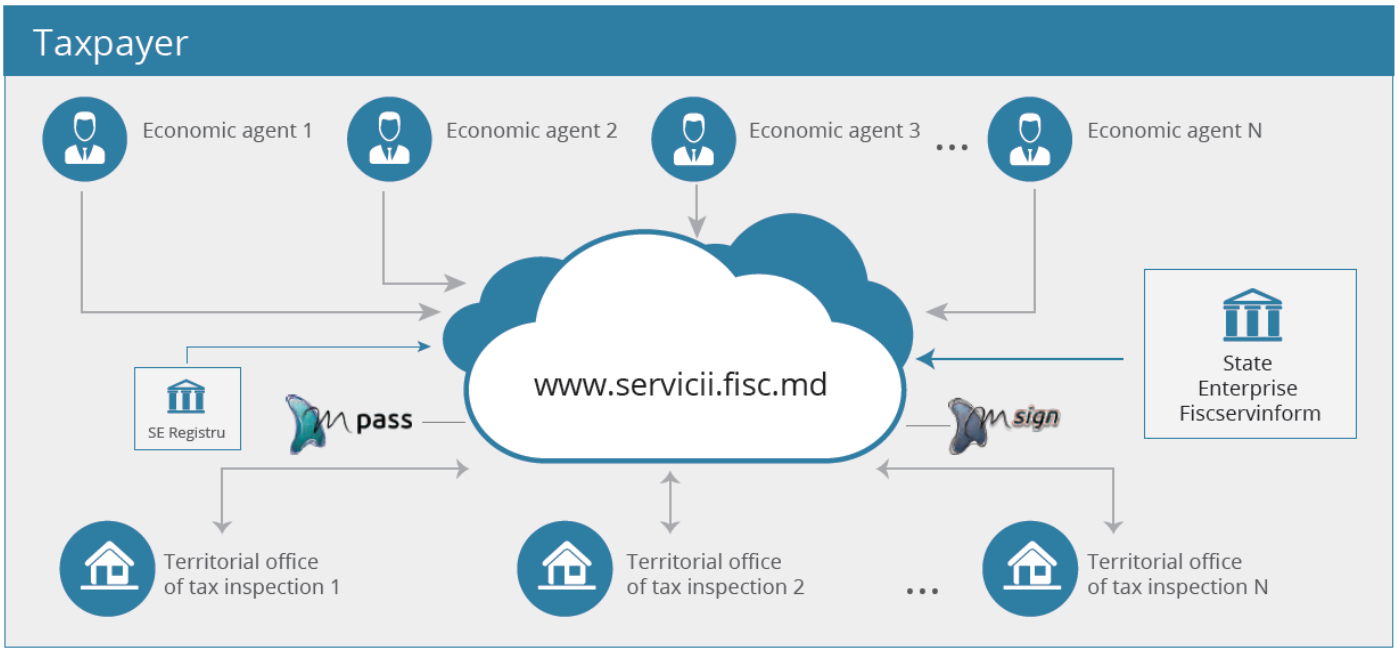
- Actor authorized to extract the Current Account and Taxpayer's Tax Certificate.

SOLUTION ARCHITECTURE

The system represents an integrated software and hardware complex, which consists of the following main components:

- **Single portal** www.servicii.fisc.md that enables authorization of users to access the system.
- **Internal portal** AIS Taxpayer Current Account enables:
  - For tax inspectors - extensive possibilities for the analysis of the data processed by the system.
  - For tax payers - access to data on their transactions in different breakdowns and generation of certificates that confirm the absence of liabilities to the state budget.
  - For the administrator of the system of State Enterprise Fiscservinform - upload to the system and processing of the external data.
- **Electronic services** of the Government of the Republic of Moldova: M-Pass (users' authentication), M-Sign (electronic signature service).

Taxpayer Current Account



ACHIEVED RESULT

- Significant increase in efficiency of the data reception and processing
- Extensive analytical capabilities
- Assurance of information transparency and minimization of bureaucracy
- The ability to control liabilities to the state budget

INTEROPERABILITY WITH EXTERNAL SYSTEMS

AIS Taxpayer Current Account is placed on the platform provided by State Enterprise Fiscservinform and is integrated with the main state electronic services: M-Pass and M-Sign.

Technology stack used in project implementation: Microsoft

SERVICES WHICH WERE IMPLEMENTED WITHIN THE PROJECT

The following services were implemented within the project: delivery, installation, operational acceptance and technical support for the implemented IT complex, which includes:

- Development of the Terms of Reference;
- IS development;
- IS adaptation (Customization and development of applications, integration of components);
- Training of users and administrators;
- Maintenance via Call Center;
- Information support and technical service;
- Project monitoring and reporting.

Specification of adaptive maintenance services:

1. Completion with the functionality of choice of detailing:
   - detailing Budgetary ven. classification -> Fiscal body (locality, subdivision) done at the moment;
   - detailing Fiscal body (locality, subdivision)->Budgetary ven. classification -new one

2. Reinstate the old form report CC04AE and create a new report based on it in the group of Operational reports with code CC02PS and name Abbreviated generalised current account (summary). Set according to the same criteria as 02. Exclude: Coat of arms, No, Valid until and Authenticated compartment, Replace Recipient compartment with Issuing data (CC02 report).
3. In the search mode when displaying the information add two more fields: Office code (when matching the name of some taxpayers it should be possible to identify the OF)
4. Possibility to switch from the generalised to the detailed record by reference depending on the tax chosen
5. To be inserted an additional field Last processed date of income
6. Check breakdowns for completeness of localities

Specification of the development services:

1. Optimization of the MS SQL Server 2008 R2 production database:
   - Analysis of the possibility of migration to new versions of MS SQL Server;
   - Parsing, indexing and other optimization possibilities for the processing of the processed data;
   - Architecture redesign: sharing of massive data on different physical disks to increase processing speed related to read/write data;
   - Other adjustments at database level.
2. Technology platform optimisation:
   - elaboration of new requirements towards the technology platform based on the volume of accumulated data and the volume of simultaneously processed addresses, etc.
3. Development of the administration module
   - Visualisation of performance parameters at different levels (DB server, application server, number of active users, etc.);
   - Service to notify the administrator of critical parameters being exceeded.
4. Monitoring of performance logs to detect processes that can be optimised.

AARER

Development and Software support of the Information System “Active Access to the Real Estate Registry”

2013 - 2014, 2019 - 2020, 2023

PROJECT PARTICIPANTS

Beneficiary — eGovernment Agency and Public Services Agency, Department of Cadastre

Origin of funding — World Bank / e-Government Center

DESTINATION

The IS “AARER” is intended for the creation of a unique information space for processes related to active access to the Real Estate Register. The system provides the storage, updating and provision of documented information about these processes through the use of information and communication technologies, ensuring the timeliness, authenticity and veracity of the information.

OBJECTIVE

The purpose of AARER is to provide the ”Cadastre” S.I. with an IT solution able to receive online and to integrate automatically into the LegalCad S.I. the requests for placing/removing the arrest on the real estate property perfected by the bailliffs.

The IS “AARER” validates the content of the transaction forms for the registration of judicial officers’ notaries with the information contained in LegalCad and automatically records all actions performed by users with detailed data recording, information parameters and requested forms, as well as filtering possibilities for different types of requests, including access to user profile details. Each judicial officer can, through a public WEB interface, make real-time entries in the Real Estate Register (append/remove execution of arrest on real estate) and receive notifications of confirmation or rejection of transactions forms dispatched.

The Information System ”Active Access to the Real Estate Registry” is designed to create a single information space for processes related to active access to the Property Register. The system provides for the storage, updating and delivery of documented information about these processes through the use of information and communication technologies, ensuring the timeliness, authenticity and veracity of the information.

25

services for employeers

44+

bailiffs have actively used AIS “AARER”

80%

of the actions were carried out, on the basis of paper documents issued by bailiffs, by the registrars of the Cadastre Departmentthe Real Estate Register out of the total number of operations were registered in system

20%

of application and cancellation actions in the Real Estate Register out of the total number of operations were registered in system

AARER

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The system represents an integrated software and hardware complex, which consists of the following main components:

- The contour of the central office of the State Enterprise Cadastru that enables system administration.
- The contour of the territorial offices of the State Enterprise Cadastru that enables automation of the business processes of the territorial offices.
- The contour of the Bureau of legal executives that enables automation of the business processes of legal executives associated with real estate.

The AIS "AARER" validates the content of transaction forms for recording bailiffs' notes with the information contained in LegalCad and automatically records all actions performed by users with detailed registration of data, parameters of information and forms requested, as well as possibilities to filter different types of requests, including accessing user profile details.

Each judicial executors can, through a public WEB interface, make real-time notations in the Real Estate Register (bending/seizing real estate) and receive notifications of approval or rejection of the sent transaction forms. Integration with Moldlis system.

The AIS "AARER" has the following functional tasks:

1. Management of the form:
   - creating the form;
   - creating lists of form entries;
   - creating the list of documents of the form;
   - offering users document templates (including basic documents);
   - providing the form management process with the view of their statuses and the possibility to make a decision;
   - registration of certificates;
2. Registration of users:
   - creation of the user card;
   - registration of identification data;
   - registration of contact details;
   - assignment of user roles according to functional responsibilities;
3. Monitoring the work of the system and users:
   - automatic saving of information about form processing (who, when, status);
   - monitoring the work of the system;
   - monitoring users' work in the system;
   - notification of users;
4. Creating reports:
   - statistics;
   - list;
5. System administration:
   - updating the clasificators;
   - user administration;
   - configuring forms and document templates, certificate templates.

ROLES AND THEIR PURPOSE

Roles for the execution of the AIS "AARER" business processes.

Operator of the Court Enforcement Officer – Any physical person who has the functionality and the right to manage the configuration of forms intended for judicial executors (only management of forms in the status of „Project").

Judicial Executor – Any physical person with the functionality and the right to maintain the configuration of forms intended for judicial executors.

NCCI Supervisor – Any physical person with the functionality and the right to manage operators related to the configuration of forms intended for judicial executors.

AARER

Registrator of Cadastre – Any physical person with the functionality and the right to maintain the configuration of the forms (in particular for executors).

AIS Administrator – Any physical person authorized with functionality in accordance with „Access Rights Management".

Business roles executed by external services and web services.

Obtaining data from Information Portal – Is a business role executed by the relevant web service on the side of the Cadastru State Institution, which ensures that real estate data from the Information Portal is received into AIS "AARER".

Obtaining data from LegalCad – It is a business role executed by the corresponding web-service on the side of Cadastru State Institution, which ensures the recieving of real estate data from LegalCad in AIS "AARER".

Receive certificate from RBI – Is a business role executed by the corresponding web service on the side of the Cadastru State Institution, which ensures that the certificate from RBI is received in AIS "AARER".

Transfer of records to RNI and receipt of certificates – This is a business role executed by the relevant web service on the side of the Cadastru State Institution, which ensures transfer of records data to LegalCad from AIS "AARER" and receipt of a response from LegalCad to AIS "AARER" about the result of their entry.

Data transfer for upload to eArchive – Is a business role executed by the relevant web service on the side of the Cadastru SE, which ensures data transfer from AIS "AARER" for upload to AIS "eArchive".

Transmitting logs to M-Log – This is a business role performed by the M-Log service on the M-Cloud side, which ensures the transmission of data to M-Log about user actions in AIS "AARER".

Notification Sender – Is a business role performed by the M-Notify service on the M-Cloud side, which provides data transfer to M-Cloud for sending notifications to AIS "AARER" users.

Applying digital signatures to form data – This is a business role performed by M-Sign on the M-Cloud side, which ensures that digital signatures are applied to the form data (xml file) and to the foundation document (pdf format).

Public Information Sender – Is a business role performed by the Open Data Portal service of the M-Cloud side, which ensures the sending of public information from AIS "AARER" to M-Cloud.

Obtain data about the service area – This is a business role, executed by the corresponding web service on the side of the Cadastru State Institution, which ensures that the data about the service area of the cadastral office is received in AIS "AARER".

SOLUTION ARCHITECTURE

The database, servers realizing business logic and providing the user interface of the system are located in the M-Cloud environment.

Information exchange between users' workplaces and AIS servers is carried out in real time via the Internet.

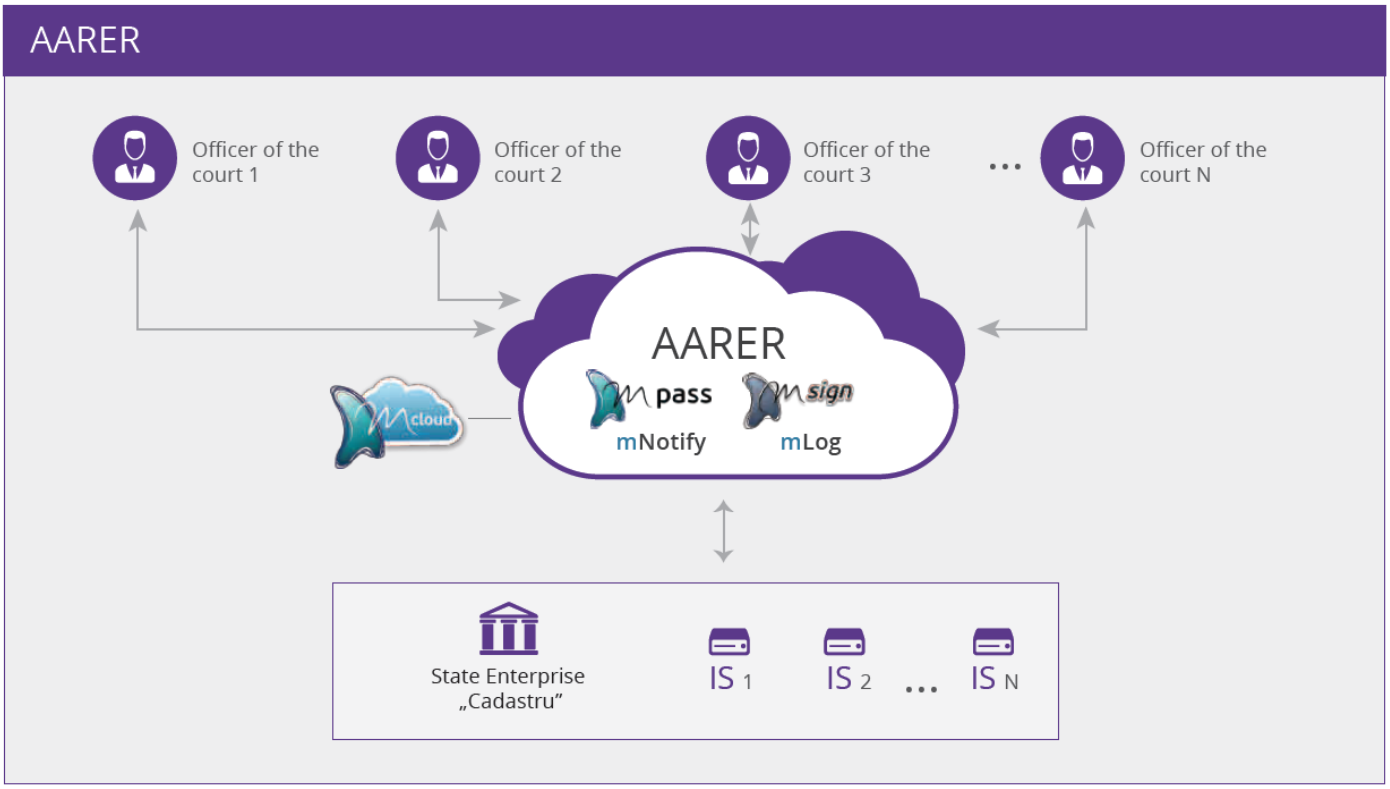
User interaction with the system is carried out using WEB-interface (website pages).

Interoperability with external systems

The system is integrated with: M-Cloud, M-Notify, M-Log, M-Pass, M-Sign, Open Data Portal (ODP), etc.

Technology stack used in project implementation: Microsoft

AARER



ACHIEVED RESULT

Benefits for the citizens of the Republic of Moldova:

- public access to statistical information related to the activity of the "AARER" Information System

Benefits for the S.I. Cadastre:

- optimisation of work processes and reduction of operational costs;
- automated processing of notaries requested by the Court Executioners;

Benefits for the Judicial Executors:

- ensuring the possibility of involving and monitoring the work of trainee Judicial Executors;
- optimising work processes and reducing operational costs;
- validation and operational insertion of seizure notes on real estate;
- ensuring independence from the geographical area from which the seizure of immovable property is applied

The development of the system has made it possible to achieve:

- providing the possibility of networking of bailiffs for efficient exploitation of common resources by implementing a multi-tier client-server architecture;
- reducing the processing time for seizure requests.
- achieving an efficient collaboration mechanism between the actors involved in the process of entering seizure requests.
- controlling access to data and ensuring maximum security and confidentiality of data collections and users.
- ability of online application or cancellation of sequester / restrictions on real estate
- reduction of risks related to real estate fraud

Management of the Insurance Company

Development and supply of the Information System “Management of the Insurance Company, subsystem on-line Sales of Insurance Services”

2017 - 2018

Beneficiary — Galas Insurance Joint-Stock Company

DESTINATION

The Automated Information System ”On-line sales of insurance services” offers registered users the possibility to enter data for the provision of insurance services, automatic calculation of the cost of services, registration, processing and updating contracts.

The system also offers the possibility to keep records of customers and insurers, to update the nomenclatures and classifiers involved in automating the insurance process and calculating the cost of services.

All information is stored in the data warehouse of the automated system, which makes it possible at any time to provide statistical reports to authorized users on the services provided and the contracts concluded. The information in the system can be obtained by registered users according to its roles and rights.

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

THE SYSTEM PROVIDES SOLUTIONS FOR THE FOLLOWING FUNCTIONAL TASKS

For the local level (operator)

- viewing and filtering the list of “personal” contracts;
- monitoring contract statutes;
- creating new contracts (basic or additional), according to the rights offered;
- inputting data and registering contracts, editing data;
- automatically calculating the cost of the contract;
- correcting the cost of the contract depending on additional conditions;
- printing of output documents (application, policy, contract);
- automatically sending data to central level;

For the regional level (regional level manager)

- viewing and filtering the list of contracts for its region;
- monitoring of contract statutes;
- obtaining statistical data on contracts concluded for its region;

For the central level (central level manager)

- viewing and filtering the total list of contracts;
- monitoring the status of contracts;
- creating new contract and correcting it (functions as in operator);
- recording payment (insurance premium), termination or cancellation of the contract;
- obtaining statistical data on concluded contracts;

Management of the Insurance Company

For the central level (system administrator)

- managing the register of insurers and keeping track of sales outlets;
- assigning user rights according to functional responsibilities;
- updating the system nomenclatures and classifiers;
- setting up the pricing mechanism;
- controlling the dispatch of contract data in the 1C Accounting system;
- system administration.

IN THE SYSTEM WERE DEVELOPED THE FOLLOWING MODULES:

- module “Registration of contracts (WEB)”;
- module “Automatic calculation of service cost”;
- module “Management of users and rights”;
- module “Management of directories and classifiers”;
- module “Interaction with 1C Accounting system”;
- module “Reporting”

TECHNICAL REQUIREMENTS:

1. For management of contracts

- View list
- Ability to search by various criteria
- Life Cycle (Status) Support
- Create / Modify / Cancel / View contracts
- Auto numbering of contracts and other accounting objects
- Automatic cost calculation
- Updating customer reference
- Confidentiality
- Statistical reporting

2. For system management

- User Registration
- Granting rights / access control
- Updating directories and classifiers
- Pricing setup

3. Integration of IS ”Management of the insurance company”, the subsystem ”On-line sales of insurance services” with the existing accounting system ”1C Accounting”.

ROLES AND THEIR PURPOSE

Client - The customer of the insurance service. In this subsystem does not have automated functions.

Operator - A full-time or freelance employee of an insurance company who performs actions to sell insurance services. The operator has access only to the contracts he/she has registered. Functions: Viewing a contract only your own, Creating the basic contract, Creating the supplementary contract, Modification of the contract (saving changes)

Manager of Regional Level (RL) - A full-time or part-time employee of an insurance company who performs supervisory functions over the registered documents of his/her region. The RL Manager has access to the contracts of his/her region. Functions: Viewing all the contracts, Creating the basic contract, Creating the supplementary contract, Modification of the contract (saving changes)

Manager at the central level (CM) - A full-time employee of the insurance company who supervises the activities of local and regional employees. As well as the Manager of the Central Office level performs in full the functions of the Operator. The CM Manager has access to all information of the insurance company. Functions: Viewing the contracts of its own subdivision only

Management of the Insurance Company

Conductor (functions: Viewing all the contracts)

Administrator - An employee of the insurance company with special rights to maintain and update system directories and data management.

ARCHITECTURE

Architecturally, the system has standard three levels:

- Thin Client (WEB interface);
- Application server (basic business logic);
- Database (data storage and processing)

At the local level (interaction with clients) there are operators who use the system to create, automatically calculate and register contracts, receive information about created contracts and detected errors. Created or edited contracts are automatically transferred to the central level. Interaction with the system is realized by means of WEB-browser.

The local level also includes operators (not full-time employees) located in banks or other organizations. They are granted the same rights as all operators of the local level.

At the regional level there are regional level managers, who control the contracts entered into by the operators of their region. They also have all the powers of the local level operators, i.e. they can issue insurance services. Managers of regional level have possibility to receive statistical information about contracts of their region. Interaction with the system is realized by means of WEB-browser.

At the central level are the following:

- the „Sales syste" software product deployed on technical means;
- business logic server providing all declared functionality;
- WEB-server providing user interface and user interaction with the system;
- DBMS on which the system data storage is organized
- file server and elements of interaction with external systems.

Interoperability with external systems

In the system is developed one-directional integration with the software product „1C Accounting" and WEB service of currency rate actualization.

Technology stack used in project implementation: Microsoft, DBMS MS SQL.

SERVICES WHICH WERE IMPLEMENTED WITHIN THE PROJECT

- Adaptation of "1C Accounting" software product for interaction with the developed subsystem.
- Testing of the software product for compliance with the technical specification jointly with the Customer.
- Installation and customization of the subsystem on the Customer's technical facilities.
- Development of user documents "User manual" and "Administrator's Manual".
- Training of the Customer's head office staff and the system administrator in the rules of software system operation and support.
- Transfer of the software and documents to the Customer.

SAIS

Corrective and adaptive maintenance services for the CIS "State Register of Civil Status Documents" (SAIS)

2018, 2019, 2023

PROJECT PARTICIPANTS

Beneficiary — Serviciul Stare Civilă

Origin of funding — Public

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

Nature of Information Systems and special features relevant to the contract for which the Bidding Documents are issued:

- Corrective maintenance services - all activities aimed at restoring the functionality of the information system in case of incident. The intervention is considered acceptable if the system operates at a minimum accepted level;
- Adaptive maintenance services - modification of the functionality of the information system in operation in order to ensure its efficiency and performance in conditions of changing environment.

Technology platform: DB Server PostgreSQL, AppServer Apache Tomcat, OpenJDK

Corrective maintenance services of the SIA "State Register of Civil Status Documents" (SAIS) on the balance of the Civil Status Service includes the following services:

- Continuous monitoring and permanent maintenance of the system
  - Receiving incidents by phone, e-mail or fax (help-desk);
  - Evaluation of incidents;
  - Solving incidents;
  - Updating the incident log.
- Updating the authentication and SSL certificates at the level of the Beneficiary's notification about the need to

extend them and installing the updated certificates on the production environment

- Ensuring the replacement of the digital signature applet (annually) used in the system with the one presented by the Beneficiary
- Ensuring with an efficient system for reporting the problems identified by the DGSC in the SIA "Civil Status Archive" through the Helpdesk of the Supplier
- Creating backups of the system on a regular basis
- Restoring the functioning of the system in emergency mode within the limits of its competencies and, as the case may be, the interaction with the administrator of the mCloud platform and of the mSign / mPass services on behalf of the Beneficiary of the system.
- Ensuring the security of information and its transmission in accordance with the access rights assigned to the user within the DGSC and the territorial subdivisions

Adaptive maintenance services include the following services:

Ensuring the completion of the system by repeatedly loading the scanned registers, which did not pass the validation of the applied electronic signature (about 8000 registers)

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

DB Server PostgreSQL, AppServer Apache Tomcat, OpenJDK

Standards Repository

Corrective maintenance and adjustment services of the Automated Information System "Standards Repository"

2012 - 2013, 2020 - 2022

PROJECT PARTICIPANTS

Beneficiary — PI "Institute of Standardization of Moldova"

Origin of funding — Public

DESTINATION

Information system "Standards' Repository Software" (hereinafter referred to as SRS IS or SRS) is intended for the effective management and update of the standards database (hereinafter referred to as DB) belonging to the National Institute for Standardization (hereinafter referred to as INSM).

SRS DB management include procedures of DB creation, DB update, DB copying, DB archiving, DB backup. Data will be protected from unauthorised access and copying. Access to SRS data can be limited by user access rights assigned by SRS IS administrator.

SRS DB contain texts of national and international standards (more than 70.000 of standards) in *.pdf file format. Special Parameterization Module will provide possibilities of the effective search and data export using defined or predefined criteria. Selected data can be exported in *.xls, *.xml, *.pdf, *.doc formats.

SRS DB updated using connections to external data sources (databases/servers of International Standardization Organization (hereinafter referred to as ISO), European Committee for Standardization (hereinafter referred to as CEN) and International Electrotechnical Commission (hereinafter referred to as IEC)) provided by the Customer. DB update can be performed in manual or automatic mode.

SRS IS is accessible for use in a 24/7 online regime.

OBJECTIVES

Creation of SRS will allows to reach the following purposes:

- Modernization and keeping actual state of standards database of INSM;
- Information quality improvement support for INSM activity;
- Security of INSM data involved in SRS IS processes;
- Information compatibility insurance for all the data flows in SRS IS;
- Users personal computers will require minimum resources for the work in SEP IS.

Standards Repository

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

Standards repository and database management software is an important tool for the National Standards Body, for customers, business society, governmental agencies, potential investors, other stakeholders etc.

Establishing of an integrated information system allowing:

- Maintaining and use of the standards database (DB) and database management software (DBMS);
- Searching the database using various criteria;
- Exporting the data according to search criteria, in various formats (e.g. *.xls, *.xml, *.pdf).

Connection of developed database to external databases/servers of International Standardization Organization (ISO), European Committee for Standardization (CEN) and International Electrotechnical Commission (IEC), in order to keep updated.

THE SYSTEM PROVIDES SOLUTIONS FOR THE FOLLOWING FUNCTIONS:

Component "Standards and Regulations/Directives"

Business process - 1. Registration of the Standards (Business functions):

- Management of the general information of the standard
- Management of standard classifications
- Management of links between standards
- Management of standard languages
- Attach the pdf file related to the standard
- Management of standard changes
- Printing the standard file
- Viewing the standard sheet in html format

Business process - 2. Record of Regulations/Directives (Business functions):

- Management of general regulatory/directive information
- Management of links between regulation/ guideline and standards
- Management of links between regulation and directives
- Printing the regulation/directive sheet
- Viewing the regulation/guideline sheet in html format

Component "Search and Reporting"

Business process - 3. Searching for Information (Business functions):

- Displaying and filtering the list of standards in tabular form
- Displaying and filtering the list of standards in tree form
- Advanced search for standards
- Displaying and filtering the list of regulations/guidelines in table form
- Advanced search for regulations/guidelines

Business process - 4. Reporting (Business functions):

- Generating list of reports
- Generating statistical reports
- Generating reports for IO (in XML format)
- Generating catalogues

Standards Repository

Component "AIS Administration"

Business process - 5. User Administration (Business functions):

- User profile management
- Access rights management
- Display and filter user list

Business process – 6. Guide Management (Business functions):

- Management of classifiers and nomenclatures
- Displaying and filtering values in the bill of materials
- Setting system parameters
- Accessing the switch from Indicator 2 to Indicator 1
- Logging user actions

Component "Authentication"

Business process – 7. Authentication (Business functions):

- Authentication
- Modification of password

Component "Public Area" (Business functions):

Business process – 7. Authentication (Business functions):

- Displaying and filtering the list of standards
- Displaying and filtering the list of regulations/guidelines

ROLES AND THEIR PURPOSE

Internet user – At this level of access it is not necessary for the individual to have authorised access to the system and access is provided to the public functionalities of the information system, including the display (viewing) of html-sheets of standards and regulations/guidelines.

Economic agent – At this level of access it is necessary that the person has authorised access to the system. This level provides access to search and display the standard and regulation record and display (view) the standard.

Registrator – At this level of access it is necessary that the person has authorised access to the system. At this level the basic functionalities of the system related to the record keeping of standards and regulations are accessible.

Administrator AIS – The access level requires authorization in the system, which provides access to all system functionalities (including, related to the administration of the AIS RSR).

Supervisor IO – The access level requires authorization in the system, which provides access to system functionality related to the creation of the XML file for the IO.

Standards Repository

ACHIEVED RESULT

The development of the system has made it possible to achieve:

- the registration of standards, legislation and directives;
- providing citizens with information on standards, regulations and directives;
- generation of analytical and statistical reports on standards, legislation and directives from the National Standards Fund;
- generation of reports for international bodies on harmonised standards.

Interoperability with external systems

Integrated services: M-Cloud; M-Pass; M-Sign

Technology stack used in project implementation

.NET Framework technological platform and technologies based on MS SQL Server.

SERVICES WHICH WERE IMPLEMENTED WITHIN THE PROJECT

During the project, the delivery, installation, operational acceptance and technical support services for the implemented information complex were performed, which include:

2012-2013

- Elaboration of the system architecture, including all programs, scripts modules and technical specification;
- Elaboration of the system filtering mechanism;
- Elaboration of the system logging & security mechanisms;
- Designing required instruments for the system maintenance, dynamic management of the contents, including efficient instruments for regular update of the databases;
- Testing the system functionality and installation of the system;
- Elaboration of the guide for administration, operation, maintaining and update ;
- Training of INSM technical staff on system administration, operation, maintenance and updating.

2020-2022

Corrective maintenance services, which include:

- Continuous monitoring and permanent maintenance of the SIA “Standards Repository”;
- Providing an efficient reporting system for the issues identified in the SIA “Standards Repository” through the Supplier Helpdesk;
- Creating system backups on a regular basis;
- Restoring the operation of the system as a matter of urgency within the limits of its competencies and, where appropriate, the interaction with the administrator of the technology platform and related services on behalf of the Beneficiary of the system;
- Ensuring the security of information and its transmission in accordance with the access rights assigned to users within the ISM and its subdivisions;
- Consulting users and administrators on how to avoid identified issues.

Adaptive maintenance services, which include:

- Ensuring functional adjustments in accordance with “Functional requirements for the development and improvement of the management application of the Moldovan standards base SIA „Repository of standards”

SITA

Animal Identification and Traceability System (2007 implementation. 2008-2010 mantenance).

2007 - 2010

PROJECT PARTICIPANTS

Beneficiary — Ministry of Agriculture, MAIA IS "Registrul Animalelor" (Animals Register)

Origin of funding — European Union

OBJECTIVE

The general purpose of the system is to monitor and trace the movement of all animals, to guarantee the quality of the meat, which is subject to constant veterinary control. Therefore, all important events in the life of an animal - birth, movement, veterinary activities, treatment, disease, death - must be recorded in the system.

The system is used to monitor and ensure the traceability of species: cattle, sheep, goats, pigs and equines.

SITA's objectives are:

- Improving the work of territorial subdivisions, increasing productivity, training on the judicious use of material and human resources;
- To ensure traceability as a principle of food safety "from fork to fork" in the implementation territory;
- Control the movement of animals in order to reduce the risk of serious infectious diseases and the possibility of traceability;
- Possibility of informed management of activities in the sector;
- Assessment of staffing needs to cover all the reference areas of the organisation;
- Prevention of outbreaks and transmission of infectious diseases from animals to animals and from animals to humans;
- Identify and substantiate the implementation of elements leading to the stimulation of the development of the livestock sector (subsidies, premiums)

DESTINATION

TThe system ensures animal identification and traceability within their entire lifetime. About 200 operators are involved in the system usage throughout the territory of the Republic of Moldova.

Animal Identification and Traceability System was implemented for IS "Registrul Animalelor" (Animals Register) and Minister of Internal Affair.

All animals in the Republic of Moldova shoud be individually identified, using one ear tag for sheep, goats and pigs, two ear tags (with the same identification code) for cattle and one microchip for horses, in accordance with the legislation in force.

SITA

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

- Registration (farms, slaughterhouses, livestock markets, collection points, seasonal pastures)
- Animal identification (animal code, ear tag, passport)
- Animal movement registration (birth, departure, arrival, BIP, death, slaughterhouse)
- Monitoring and inspections.
- Audit.

100%

of animals subject to the registration were registered in the system

Roles and their purpose

Internal single portal of the Information Center that enables collaborative work to the following authorized groups of users:

- Veterinarians
- SITA registrars
- Owners of animals
- Specialized laboratories
- Authorized central government bodies.

and users:

Veterinarian in the CSV (CSV is territorial subdivisions)

- Registration of data for holding registration.
- Registration of animals.
- Legalisation of animal movement (withdrawal, transit, arrival).
- Registration of the events.
- Registration of the notifications.
- Registration of the results of events.
- Obtaining animal data.
- Obtaining statistical information at CSV level.

Operator SITA at SSVR level

- Introduction of data into the SITA central database at SSVR (transit) level.

Audit of SITA

- Checking documents and data entered in the central database.
- Auditing the provisional regulation on event registration.
- Resolving data string conflicts.
- Reporting on the use of eartags and transponders.

Veterinarian at PIF

- Transit through the BIP (border inspection point).

Operator SITA at CSV level

- Introduction of data in the local SITA database at CSV level.
- Synchronisation of the local database with the central SITA database.
- Download data from the local database to an external carrier.
- Decision-making on the registration of holdings belonging to economic agents.
- Legalisation of animal movement (transit).
- Registration of notifications.
- Registration of the results of events.
- Obtaining animal data.
- Obtaining statistical information at SSVR level.

Administrator SITA

- Registration of disease outbreak reports.
- Registration of animal identification ear tags with the CSV.
- Registration of regulatory documents.
- Printing of holding identification sheets.

Operator SITA at PIF level

- Introduction of data into SITA at border point level.

Internet user

- Obtaining animal data.

SITA

SOLUTION ARCHITECTURE

The system represents an integrated software and hardware complex, which consists of the following main component which was divided into 3 components:

Database administration systems.

- Used SGBD Oracle 10g to create a central data repository and a central technology database
- Used MS SQL Server 2005 Express Edition to create an internal database web-portal used to store settings and dynamic contents.

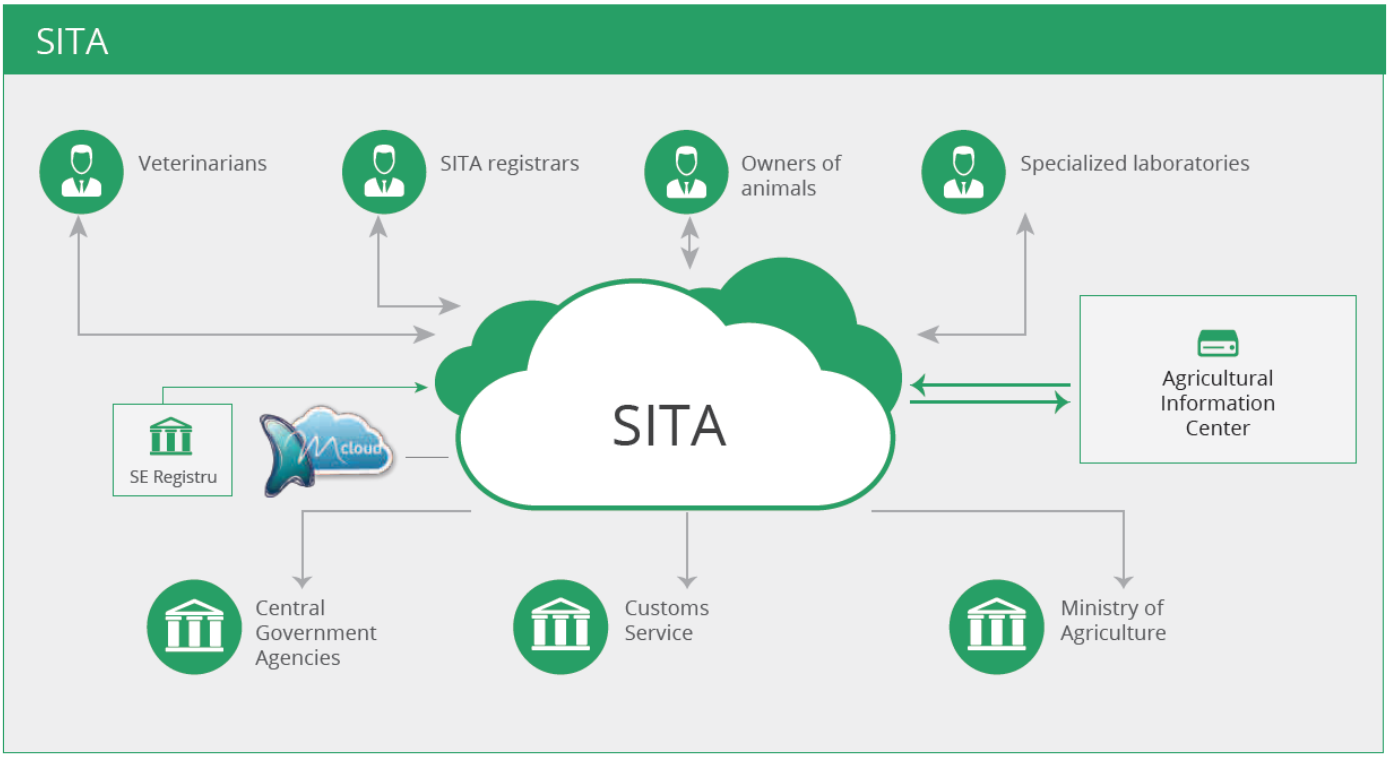
Application servers

- Used industrial application servers Oracle Application Express to create a single object interface and an application server of the information processing subsystem.
- Used the content administration server developed by DAAC System Integrator on Microsoft .NET platform to create a web – portal information contents administration subsystem for these Systems.

Design systems

At modelling business processes and developing data structure and class hierarchy the unified modeling language UML is used. At developing server software it is suggested to use Oracle HTML DB.

In order to create a web – portal for System data was used NET platform; in this case the interaction with servers of annexes on Oracle platform takes place via WEB – service.



SITA

ACHIEVED RESULT

Record and control of animals' health	Control of veterinary activities	Ability to identify centers of infection diseases and to undertake corrective measures

INTEROPERABILITY WITH EXTERNAL SYSTEMS.

SITA is placed on M-Cloud platform and is integrated with the State Register of the Legal Entities and with e-Epidemiology system.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Platforms:

Linux, Oracle 10g DB Server

for WEB – portal server – Microsoft Windows 2003 Web Edition; MS SQL Server 2005 Express Ed

Technologies: Oracle HTML DB

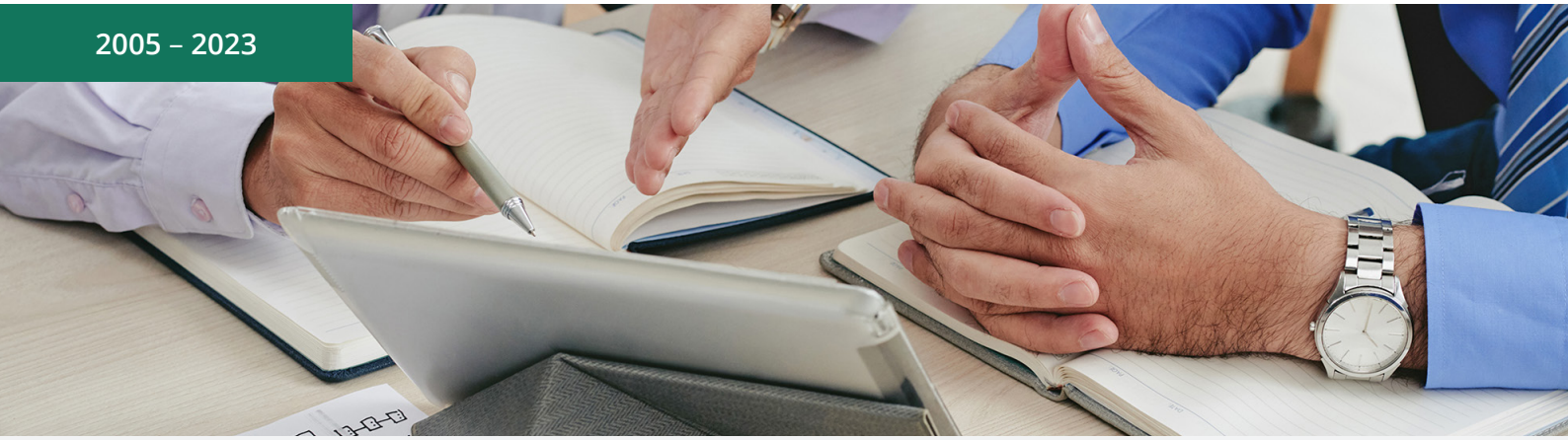
SERVICES WHICH WERE IMPLEMENTED WITHIN THE PROJECT

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components);
- Creation of the Central Data Center (delivery, installation and maintenance);
- Delivery and installation of hardware and network equipment in 196 territorial subdivisions;
- Training of users and administrators – over 250 persons;
- Maintenance through Call-Center;
- Information support and maintenance within three years after implementation (2008-2010);
- Project monitoring and reporting.

NSIH

Development and integration of the Information System of the National Social Insurance House (NSIH)

2005 – 2023



PROJECT PARTICIPANTS

Beneficiary — National Social Insurance House (NSIH) of the Republic of Moldova

Origin of funding — The World Bank

DESTINATION

NSIH IS covers all aspects of the public social insurance system. It is integrated with the NSIH IS of financial management. It includes the State Register of NSIH payers and the State Register of Individual Accounts in the public social insurance system.

Integrated Information System for NSIH Activity Management (project supported by the World Bank and implemented in partnership with Intracom Company (Greece).

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The National Social Insurance House is an autonomous public institution of national interest with the status of a legal entity, which administers and manages the public social insurance system.

Integrated Information System for Activity Management contains modules:

- State Registry of payers NSIH;
- Individual Evidence of State Registry

The following services were implemented within the project:

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components, migration of data from previous ISs);
- Creation of the Central Data Centre (delivery, installation and maintenance);
- Delivery and installation of hardware and network equipment in 43 territorial subdivisions;
- Training of NSIH IS users and administrators;
- Call-centre maintenance;
- Project monitoring and reporting.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Platforms: SUN Solaris, Oracle 10g DB Server, Oracle Internet Application Server

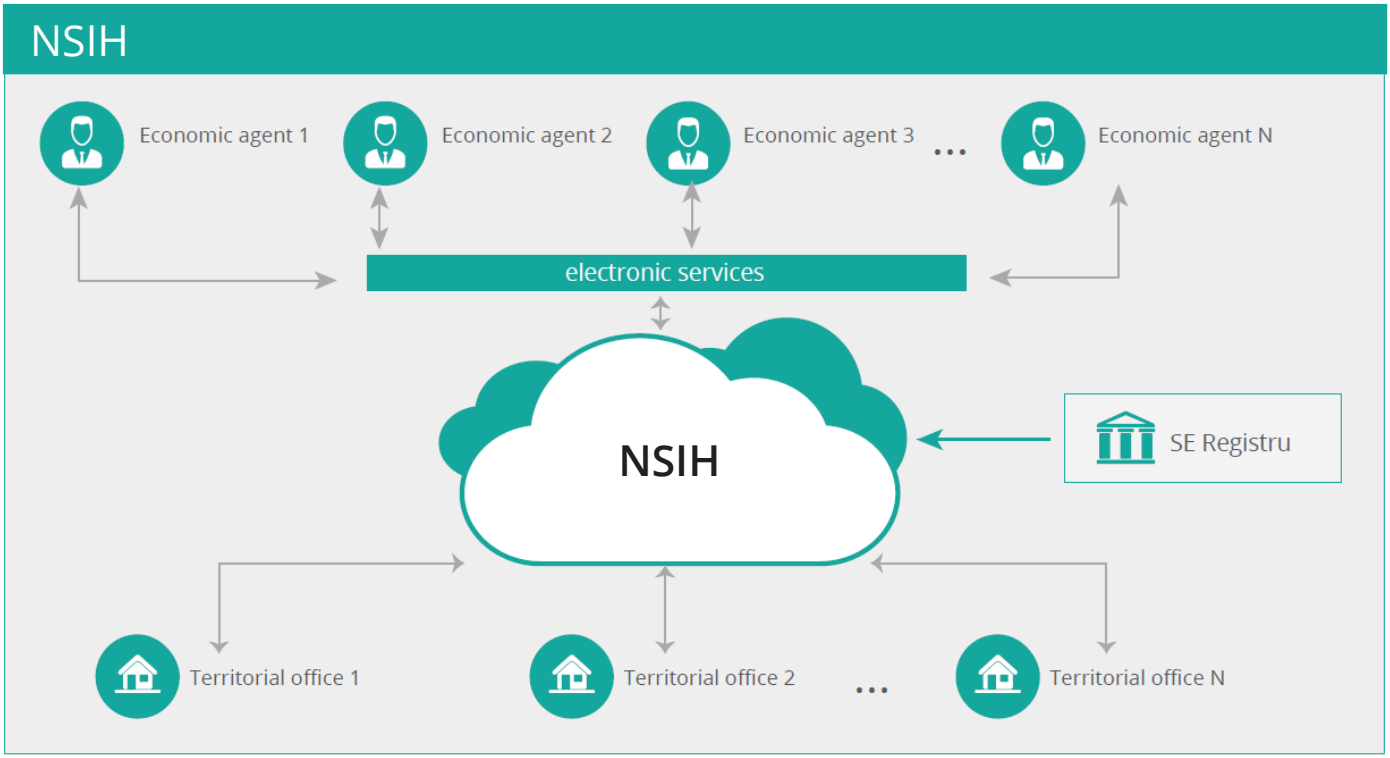
Technologies: Oracle Forms and Reports

NSIH

SOLUTION ARCHITECTURE

The system represents an integrated software and hardware complex, which consists of the following main components:

- The state register of taxpayers of NSIH
- The state register of individual registration
- Management Information System (MIS)
- Financial Management System **(FMS)**
- Social Insurance Applied System (SIAS)



INTEGRATION WITH EXTERNAL SYSTEMS

SITA is placed on M-Cloud platform and is integrated with the State Register of the Legal Entities and with e-Epidemiology system.

ADVANTAGES OF THE SOLUTION

- Single information space of the NSIH
- Relevant and timely information on the status of social insurance budget
- Electronic services for the taxpayers

100%

of NSIH users in a single information space.

NSIH

DESCRIPTION OF **FMS SYSTEM** FUNCTIONALITY AND USERS

The services provided under the project for the financial system software support and modification (FMS) include:

- Support services for the application software (FMS) related to the financial system;
- Financial System Application Software (FMS) modification services;
- User training;
- Technical support throughout the contract and warranty period, including post-warranty period.

Support services for financial system related application software (FMS) including:

- Analysis of data and identification of causes of software operating errors;
- Elimination of problems detected in application software by modifying software components or developing and applying automated data correction procedures;
- Consulting on specific questions of application software.

Modification services in the application software (FMS) related to the financial system including:

- Modification of functionalities, including reporting forms, due to changes in social security legislation;
- Addition of new functions, including reports, the need for which arose as a result of changes in social insurance legislation;
- Modification of functionalities related to essential improvements in the functioning of internal business processes;
- Documentation of changes made. Advice on the changes made.

Continuous monitoring and ongoing maintenance of the system:

- Reception of incidents by telephone, e-mail or fax (help-desk);
- Evaluation of incidents;
- Resolution of incidents;
- Updating the incident log.

Provide an efficient system for reporting problems identified by NSIH in the system via the Provider's helpdesk;

Restore emergency operation of the system within the limits of its powers.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

1C: Enterprise 8 - Profesional (Platform, Accounting, ERP, Salary); 1C: Enterprise 8 – Specialist; mCloud; Microsoft - Microsoft Certified Systems Engineer, Microsoft Certified Solutions Associate, Microsoft Certified Solutions Expert, virtualization platforms.

Information System for Ministry of Health

Development and implementation.

2003 – 2004

PROJECT PARTICIPANTS

Beneficiary — Ministry of Health

Origin of funding — Public

OBJECTIVE

The scope of the project financed by the Ministry of Health of the Republic of Moldova is to develop and to implement the system which will automate the work of medical workers. Was created typical decision for medical institutions of Republic Moldova. About 60 medical institutions in the republic were automated, and more than 300 users were trained by DAAC SYSTEM Integrator's specialist.

The developed configuration supports automation of accounting all national levels of administration managerial control. The program realizes all functions of book keeping, and financial operations of medical institutions.

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

The following modules are included:

- Cash and bank operations
- Personnel evidence
- Patient evidence
- Evidence of salary
- The account of movement under accounts
- Medical equipment evidence
- Materials and the basic means etc.

The following services were implemented within the project:

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components, migration of data from previous ISs);
- Development of Users Guide;
- Training of users and administrators;
- Project monitoring and reporting.

INTEROPERABILITY WITH EXTERNAL SYSTEMS

The system is integrated with other IS of Ministry of Health and other related institutions.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Micrrosoft SQL, MS Windows , 1C

IMFS

Development of the Integrated Municipal Financial Software for Public Authorities

2004 – 2005

PROJECT PARTICIPANTS

Beneficiary — United States Agency for International Development

Origin of funding — USAID

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

One of directions of activity of USAID Local Government Reform Project was developing of accessible and simple way of automation of accounting in local authorities.

DAAC System Integrator in collaboration with USAID developed - Integrated Municipal Financial Software (IMFS), based on the platform of 1C ver. 8.0. IMFS is public information system which is used for automation of accounting and financial operations in local administrative bodies.

In the program the module of the account of cadastral operations is integrated. The developed configuration supports automation of accounting all national levels of administration managerial control.

The program realizes all functions of book keeping, the following modules are included:

- Cash and bank operations
- The salary
- Parental payment
- The account of movement under accounts
- Automobiles and combustible
- Materials and the basic means etc.

The system is integrated with bank establishments, exchequers, the ministries. All book keeping of the Ministry of Finance and the Ministry of Public Management will be entered on the basis of the developed configuration

The following services were implemented within the project:

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components, migration of data from previous ISs);
- Development of Users Guide;
- Training of users and administrators;
- Call-centre maintenance;
- Project monitoring and reporting.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Microsoft SQL, MS Windows, 1C version 8.0

State Register of Kyrgyzstan Population

Development and implementation.

2005 – 2006

PROJECT PARTICIPANTS

Beneficiary — State Registry of Kyrgyzstan Population

Origin of funding — Public

Contract — I.S. Registru

Subcontract — DAAC SYSTEM Integrator

DESTINATION

The automated passport production system was implemented for the State Registry of Kyrgyzstan Population was created within the project.

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

Provided services:

- Evidence of informational resources for State Registry of Kyrgyzstan
- Collection, accumulation, storing, updating and analyzing data on economic entities that have obtained the corresponding excise certificates and licenses in the field;
- Ensuring objectivity of export verification results.

The following services were implemented within the project:

- Development of software applications for IS components;
- Creation of the Central Data Center (delivery, installation and configuration);
- Delivery and installation of hardware and network equipment for the Passport Production Center;
- Training of IS users and administrators;
- Maintenance;

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Platforms: MS Windows, MySQL, JBOSS, MS SQL Server

Technologies: JAVA, C++

State Register of Ethyl Alcohol and Alcohol Production Circulation

2006 – 2007

PROJECT PARTICIPANTS

Beneficiary — State Enterprise "Center for Ethyl Alcohol and Alcohol Production Circulation Registration"

Origin of funding — Public

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

AIS was implemented for State Enterprise "Center for Ethyl Alcohol and Alcohol Production Circulation Registration" with the following basic functions:

- to ensure development of state information resources in the field of ethyl alcohol and alcohol production circulation;
- to keep records on ethyl alcohol and alcohol production produced, exported and imported, both bottled and bulk;
- to collect, accumulate, store, update and analyze data on economic entities that have obtained the corresponding excise certificates and licenses in the field of producing, storing, selling, and importing ethyl alcohol and alcohol production;
- to implement and register individual state trademarks (registration and control sign), with a view to identifying producers of low-quality alcohol products bottled in consumer package;
- to ensure objectivity of export alcohol production verification results;
- to control the use of wine appellations, according to the place of origin;
- to provide complete and reliable information to law enforcement and control bodies in order to assist in ensuring legitimacy and order, in compliance with the basic principles of creating the automated information system "State Register of ethyl alcohol and alcohol production circulation".

The following services were implemented within the project:

- IS development;
- IS adaptation (Customization and development of applications, integration of components, integration with other IS's);
- Provision of the Central Data Center (software component)
- Training of users and administrators;

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Platforms: MS Windows, Oracle DB Server, Oracle Internet Application Server

Technologies: Oracle Forms and Reports

State Register of natural mineral water and non-alcoholic bottled beverage

2007 – 2008

PROJECT PARTICIPANTS

Beneficiary — National Center of Preventive Medicine, National Fiscal Authority

Origin of funding — Public

DESTINATION

AIS „RSAMPN" State Register of natural mineral water and non-alcoholic bottled beverage represents program sets and technical environment for automatization control function of quality natural mineral water and non-alcoholic bottled beverage.

AIS was implemented for automatization the activity of the National Center of Preventive Medicine and National Fiscal Authority, for circulation natural mineral water and non-alcoholic bottled beverage.

DESCRIPTION OF SYSTEM FUNCTIONALITY AND USERS

AIS implemented the following functions:

- to ensure development of state information resources in the field of ethyl natural mineral water and non-alcoholic beverage production circulation;
- to keep records on natural mineral water and non-alcoholic beverage production produced, exported and imported, both bottled and bulk;
- to collect, accumulate, store, update and analyze data on economic entities that have obtained the corresponding excise certificates and licenses in the field of producing, storing, and selling natural mineral water and non-alcoholic beverage production;
- to implement and register individual state trademarks (registration and control sign), with a view to identifying producers of low-quality natural mineral water and non-alcoholic beverage products bottled in consumer package;
- to provide complete and reliable information to law enforcement and control bodies in order to assist in ensuring legitimacy and order, in compliance with the basic principles of creating the automated information system "State Register of natural mineral water and non-alcoholic beverage".

The following services were implemented within the project:

- Development of technical specifications;
- IS development;
- IS adaptation (Customization and development of applications, integration of components, migration of data from previous ISs);
- Creation of the Central Data Center (delivery,

State Register of natural mineral water and non-alcoholic bottled beverage

installation and maintenance);

- Delivery and installation of hardware and network equipment in territorial subdivisions;
- Training o IS users and administrators;
- Call-center maintenance;
- Project monitoring and reporting.

TECHNOLOGY STACK USED IN PROJECT IMPLEMENTATION

Platforms:

Database Server: Windows 2003 Server Enterprise Edition, MS SQL Server 2005 Enterprise Edition, MS .NET

Web Server: Windows 2003 Server Web Edition, MS .NET Framework 2.0

Technologies:

MS SQL Server 2005 Enterprise Edition,

MS .NET Framework 2.0