TERMS OF REFERENCE

aimed to develop and implement
the State Register of Mobilization Resources

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Introduction

According to the Military Doctrine of the Republic of Moldova, the National Army is the basis of the country military potential. It consists of regular troops and militarily trained reserve contingent. The combined deployment of these two categories enables rapid mobilization and effective use of human and economic resources for containing and rebuffing any eventual military intervention, for localizing and liquidating, in conjunction with the Carabineer Troops, any armed conflicts and for eliminating other military threats.

The situation in the military sphere requires a prompt reaction to any occurring events. The time loss may result in severe consequences for the security of citizens. Therefore, nowadays, the development and implementation of the *State Register of Mobilization Resources (SRMR)* has become imperative, keeping its whole content up-to-date.

To implement *Government Decision No. 885 of 22.08.2005 on the approval of the Concept on the State Register of Mobilization Resources*, State Enterprise (SE) "CRIS Registru" developed and implemented the first version of the State Register of Mobilization Resources in 2009. This IT System was stemming from the standards and strategies applied to develop the state IT resources appropriate for the corresponding type. However, that SRMR version failed to prove its viability, while the deficiencies detected by the Moldovan Ministry of Defence Officers have not been rebutted until now.

It is worth mentioning that by addressing the shortcomings and errors identified in the SRMR current version it would not be possible to meet all the functional needs of the Moldovan *Ministry of Defence* as the architecture of the application concerned did not take into account the provisions of *Government Decision No. 710 of 20.09.2011 on approving the Strategic Program for Technological Modernization of Governance (e-Transformation)* and of *Government Decision No. 656 of 05.09.2012 on approving the Interoperability Framework Program*. Under such circumstances the current IT solution does not take into consideration the architectural and technological requirements of IT applications used by the Central Public Authorities (CPAs) and cannot benefit from the technological and informational advantages, which the applications developed on the basis of *Government Decisions* No. 710 of 20.09.2011 and No. 656 of 05.09.2012 have (being an isolated application that does not meet the current requirements of the *Ministry of Defence and* cannot be developed further).

In 2015 through the UNDP Moldova program within Development of the CEC capabilities program it was initiated the procedure of reengineering of the SRMR. As a result MoD has the following documents:

Terms of Reference for reengineering of the SRMR and;
Technical project (an analysis with interfaces, roles, functions, group of data etc.) which will be presented to the developer after acquisition procedure conducted by UNDP Moldova.

On the basis of the aforementioned findings, the need of re-engineering, development and implementation of a new IT solution becomes evident. It is intended to manage and keep records on mobilization resources and will automate all processes related to these activities, meeting all constraints imposed by the legal and regulatory acts in force, and being approximated with the Strategic Program for Technological Modernization of Governance (e-Transformation).

The re-engineering and implementation *of the State Register of Mobilization Resources* will enable the enhancement of activity efficiency carried out by the actors assigned with the role of mobilization resources management and registration and deliv*e*r a series of benefits/advantages mentioned below.

I. Benefits for citizens and economic operators:

- eliminate the need to submit copies of documents, which data are contained in the Official Registers of the Republic of Moldova, to Military Centers or Military Units;

- ensure rapid response of state institutions when natural disasters, technogenic accidents, military conflicts occur to ensure safety of citizens and of theirs assets.

II. Benefits for the Ministry of Defence of the Republic of Moldova:

- automate the management and registration processes of mobilization resources;

- increase the accuracy and reliability of data on mobilization resources of the Republic of Moldova held by *the Ministry of Defence*;

- optimize the work processes and reduce the operational costs;

- trace quickly the data and documents relevant for the management and registration processes of mobilization resources;

- consolidate the digital archive of Moldovan mobilization resources electronic files/dossiers/records;

- implement joint work mechanisms for all the actors involved in the management and registration process of mobilization resources;

- implement the infrastructure for digital signature and mobile identity within the *Ministry of Defence of the Republic of Moldova;*

- mitigate corruption factors and enhance transparency of Ministry of Defence activities.

III. Benefits for the Central Election Commission:

- provide a mechanism supporting automatic synchronization with *SAISE* of data on conscripted soldiers or professional soldiers who shall vote within the *Military Unit radius.*

- ensure the right to vote on main lists for the citizens enlisted in the Army.

IV. Benefits for the Republic of Moldova:

- provide informational resources capable to quickly deliver data on mobilization resources when extraordinary situations or war occurred;

- enhance the country defense capacity when extraordinary situations or war occurred.

This document, intended for the development of a new version of the State Register of Mobilization Resources, defines the IT solution goals, tasks and functions, the organizational structure and regulatory and legal constraints, the functional and non-functional requirements needed to develop and operate the IT System.

The prepared Scope of Work is stemming from the information technologies and national policy in the area of IT solution development to be used by Moldovan public authorities in their activity.

General Information

The State Register of Mobilization Resources represents an IT solution identified to have immediate benefits and impact on the *Ministry of Defence* activity. It is focused on covering the IT and information needs of all actors involved in the SRMR management and registration processes. *SRMR* is a key component of the Ministry of Defence integrated IT system. It will display data access interfaces for all relevant IT subsystems of the Ministry of Defence, as well as for certain specific IT systems of the Moldovan CPAs with the aim to receive or deliver data in compliance with the legislation in force.

1.1. Terminology

The totality of Acronyms and Abbreviations used in this document are defined in Table 1.1.

Table 1.1. Acronyms and Abbreviations used in the Document.

No.	Abbreviation/Acronym	Description
1.	NA	National Army
2.	DB	Database
3.	CEC	Central Election Commission
4.	MC	Military Center
5.	KPI	Key performance indicators
6.	MoD	Ministry of Defence of the Republic of Moldova
7.	OLAP	Online Analytical Processing
8.	RCCI	Register of Criminalist and Criminological Information
9.	SDR	State Driver Register
10.	SRP	State Register of Population
11.	SRMR	State Register of Mobilization Resources
12.	SRV	State Register of Vehicles
13.	SRLE	State Register of Legal Entities
14.	SDD	Software design document – IT System guidance document comprising detailed description of the following visions: data structures and their constraints, IT System architecture covering all concepts of the IT System, IT System interface comprising the design of all components of the IT System user interface, IT System functionalities covering a detailed description of all IT System implementation scenarios.
15.	DBMS	Database Management System
16.	ITS	IT system
17.	SAISE	State Automated Information System "Elections"
18.	IS SBCE	Information System "State Border Crossing Events"
19.	SIS	Security and Intelligence Service
20.	SRS	Software Requirements Specification – a document that contains detailed descriptions of all scenarios of users' interaction with the IT application.

No.	Abbreviation/Acronym	Description
21.	IT	Information technology
22.	ITC	Information technology and communications
23.	TLS/SSL	TLS Protocol or its predecessor, SSL Protocol, are cryptographic protocols that ensure reliable communication between two hubs of the computer network.
24.	MU	Military Unit

All terms frequently used in this document are displayed and explained in Table 1.2.

Table 0.2. Definitions of notions used in the Document.

No.	Abbreviation/Acronym	Description
1.	Database	A collection of data organized as per the design structure describing the basic characteristics and relation among entities.
2.	Credentials	A set of symbols that establish the users' and systems identity and authentication within information systems.
3.	Data	Elementary information units about people, subjects, facts, events, phenomena, processes, objects, situations, etc. presented in a way that enables their notification, commenting and processing.
4.	Personal data	Any information referring to an identified or identifiable natural person (subject of personal data). To this end, an identifiable person is the one who can be identified, directly or indirectly, in particular, through referring to an identification number or to one or more specific elements describing the person physical, physiological, psychical, economic, cultural or social identity.
5.	Military records	A collection of measures related to records and defining the data on a person, the degree of military and professional training, place of work, position held and domicile of citizens subject to military service. Military records on citizens (recruits and reservists) and on vehicles are part of the single state system of records and analysis of human and material resources necessary to supplement the Armed Forces in peacetime and wartime, to participate in the liquidation of consequences of natural calamities, technogenic accidents and disasters.
6.	Data integrity	Data status when they maintain their content and are interpreted unambiguously in cases of random actions. It is deemed that the data maintained their integrity if they have not been altered or deteriorated (deleted).
7.	Active Military Men	Citizens currently enlisted in military service.
8.	Military Duty	Constitutional duty of Moldovan citizens that stipulates: entering into military records, carrying out military service and participation in other forms of training to defend the Homeland.
9.	Recruits	Citizens entered into military records prior to their incorporation into active military service and civil service or prior to being assigned to reservists.

No.	Abbreviation/Acronym	Description
10.	Reservists	Citizens assigned to military reserve force.
11.	Logging	A function of recording the information on events. The records about events entered into the information systems include details about the date and time, user, and action carried out.
12.	Metadata	The way of assigning semantic value to the data stored in the database (data about data).
13.	Information object	Virtual representation of existing tangible and intangible entities.
14.	Information resource	Set of documentary information in the IT system, maintained as per the requirements and legislation in force.
15.	State Register of Mobilization Resources	IT system intended to keep records on the mobilization resources of the Republic of Moldova (the subject of this document).
16.	Mobilization Resource	The totality of human resource (recruits, active militaries, conscripts and reservists) and material (transport means and other material goods) which are designated for mobilization
17.	IT system	The totality of software and hardware that ensures data automatic processing (the automated component of the information system).
18.	Information system	A system for information processing along with the associated organizational resources such as human and technical resources, which deliver and disseminate the information.
19.	Information and Communications Technology	Common term that includes all technologies used for information exchange and processing.
20.	Reliability of data	Level of correspondence of data stored in computer memory or documents to the actual condition of system objects mirrored by these data.

1.2. References and Legal Aspects for the IT Subsystem Development

The processes concerning the creation, implementation and operation of *SRMR* shall not contravene the field-related regulatory acts in effect regarding the *Ministry of Defence* activity *and* the development of IT solutions intended for the Moldovan public authorities.

This category comprises the following legal and regulatory acts:

1. *Law No. 1192 of 04.07.2002 on preparing for mobilization and mobilization*, Official Gazette No. 124-125 of 05.09.2002.

2. *Law No. 1244 of 18.07.2002 on the Armed Forces Reserve*, Official Gazette No. 124-125 Published: 05.09.2002.

3. *Law No. 1245 of 18.07.2002 on citizens' training to defend their Homeland*, Official Gazette No. 137-138 of 10.10.2002.

4. *Law No.* 1384 of *11.10.2002 on Procurements and Public Service Provision*, Official Gazette No. 178-181 of 27.12.2002.

5. *Law No. 345 of 25.07.2003 on National Defence*, Official Gazette No. 200-203 of 19.09.2003.

6. *Law No. 467-XV of 21.11.2003 on Informatization and state information resources*, Official Gazette No. 6-12/44 of 01.01.2004.

7. *Law No. 212 of 24.06.2004 on the State of Emergency, Siege and War*, Official Gazette No. 132-137 of 06.08.2004.

8. *Law No. 162 of 22.07.2005 on Military Status*, Official Gazette No. 129-130 of 30.09.2005.

9. *Law No. 245 of 27.11.2008 on the State Secret*, Official Gazette No. 45-46 of 27.02.2009.

10. *Law No. 133 of 08.07.2011 on Protection of Personal Data*, Official Gazette No. 171-175 of 14.10.2011.

11. Law No. 133 from 19.07.2018 on data exchange and interoperability.

12. *Government Decision No. 77 of 31.01.2001 on approving the Regulation on military administrative activity and the staff of military administrative structures*, Official Gazette No. 14-15 of 08.02.2001.

13. *Government Decision No. 735 of 11.06.2002 on Special Telecommunications Systems of the Republic of Moldova*, Official Gazette No. 79-81 of 20.06.2002.

14. *Government Decision No. 631 of 23.05.2003 on approving the Regulation on military records*, Official Gazette No. 99-103 of 06.06.2003.

15. *Government Decision No. 751 of 24.06.2003 on approving the Regulation on mobilization at the place of work*, Official Gazette No. 138 of 08.07.2003.

16. *Government Decision No. 283 of 14.03.2005 on approving the Regulation on Procurements and Public Service Provision*, Official Gazette No. 51-54 of 01.04.2005.

17. *Government Decision No. 864 of 17.08.2005 on approving the Regulation on the conscription of citizens into periodic or short-term military service,* Official Gazette No. 113-116 of 26.08.2005.

18. *Government Decision No. 885 of 22.08.2005 on approving the Conception on the State Register of Mobilization Resources*, Official Gazette No. 119-122 of 09.09.2005.

19. *Government Decision No. 945 of 05.09.2005 on Centers for Certification of Public Keys*, Official Gazette No. 123-125 of 16.09.2005.

20. *Government Decision No. 1278 of 06.12.2005 on setting the Central Commission for Requisition*, Official Gazette No. 168 of 16.12.2005.

21. *Government Decision No. 320 of 28.03.2006 on approving the Regulation on applying digital signatures in public authority electronic documents*, Official Gazette No. 51-54 of 31.03.2006.

22. *Government Decision No. 941 of 17.08.2006 on approving the Regulation on exercising military service in the Armed Forces*, Official Gazette No. 138-141 of 01.09.2006.

23. *Government Decision No. 1123 of 14.12.2010 on approving the Requirements for the assurance of personal data security during their processing within the information systems of personal data*, Official Gazette No. 254-256 of 24.12.2010.

24. *Government Decision No. 1176 of 22.12.2010 on approving the Regulation on the provision of the secrecy regime within public authorities and other legal entities*, Official Gazette No. 139-145 of 26.08.2011.

25. *Government Decision No. 710 of 20.09.2011 on approving the Strategic Program for Technological Modernization of Governance (e-Transformation)*, Official Gazette No. 156-159 of 23.09.2011.

26. *Government Decision No. 656 of 05.09.2012 on approving the Interoperability Framework Program*, Official Gazette No. 186-189 of 07.09.2012.

27. *Government Decision No. 656 of 03.04.2019* on approving interoperability platform (MConnect)

28. *Standard of the Republic of Moldova SMV ISO CEI 15288:2009, "Systems and Software Engineering. Processes of the system life cycle"*.

29. *Technical Regulation "Processes of software life cycle" RT 38370656-002:2006*; Official Gazette No. 95-97/335 of 23/06/2006.

30. Other laws, regulatory acts and standards in force in the ITC area.

The international guidelines and recommendations listed below should be implemented in order to define *SRMR* concept and ensure its further development:

■ Michael O. Leavitt, Ben Shneiderman, *Research-Based Web Design & Usability Guidelines*, U.S. Government Printing Office, http://www.usability.gov/guidelines/guidelines_book.pdf

■ *Recommendations of the World Wide Web Consortium (W3C)* (http://www.w3c.org) on the quality of websites, the possibilities to have proper information visualization, using widely used Internet WEB browsers, and compatibility with different IT platforms;

■ *Recommendation of the W3C* (http://validator.w3.org) on website testing. All pages generated by *SRMR* shall be tested as per these recommendations.

1.3. Specific requirements for informational system developer

■ The developer of the informational system must be registered in Republic of Moldova and do not be a company with foreign capital or a filial of one abroad company and do not be/wasn't involved in fraudulent actions.
■ The approach of the project management should be Agile.
■ SIS approval/certification will be an advantage. In case of lack of such certification developer and its personnel involved in the project will follow SIS verification and certification procedure.
■ The developer will have Security certification (F19 Form (According to point 150 from Regulation on the Secure Statement in Public Authorities and Other Legal Entities, Approved by Government Decision nr. 1176 from 22.12.2010)) (with certified IT infrastructure in accordance with national law).
■ The developer should present confirmation on development of informational systems for different organizations / institutions. Presented confirmation of the developed informational systems for institutions from defence and security sector will be an advantage.
■ The developer should present recommendations from its beneficiaries.

1.4. Basic Principles of the IT System

In order to ensure the attainment of the objectives set for the IT solution, the following general principles shall be taken into account while designing, developing and implementing *SRMR*:

■ **Principle of Legality**: implies the establishment and operation of Information Systems in compliance with the national legislation in effect and with the international rules and standards recognized in this area;

- **Principle of split-level architecture**: involves independent design of *SRMR* components in compliance with interface standards between levels;

- **Principle of service-oriented architecture (SOA)**: involves dividing the application operation into smaller and distinct units – called services – that can be assigned into a network and can be used together to create applications designed to the implementation of IT System business functions.

- **Principle of reliable data**: stipulates that data shall be entered into the system through authorized and authenticated channels only;

- **Principle of information security**: implies ensuring an adequate level of integrity, selectivity, accessibility and efficiency to protect the data against losses, alteration, deterioration and unauthorized access.

- **Principle of transparency**: implies designing and implementing as per the modular principle, having used transparent standards in the area of IT and telecommunications;

- **Principle of expansibility**: stipulates the possibility to expand and supplement the Information System with new functions or improve the existing ones;

- **Principle of first person/single centre priority**: implies the appointment of a high-rank responsible person who has sufficient rights to take decisions and coordinate the activities aimed at Information System establishment and operation;

- **Principle of scalability**: implies ensuring constant IT performance when increased volume of data and stress for the Information System;

- **Principle of usage simplicity and complacency**: implies the design and implementation of all applications, hardware and software resources available to the System users, based exclusively on visual, ergonomic and logical principles of design;

- **Principle of data integrity, fullness and reliability**: implies the implementation of mechanisms that enable preserving the data content and their clear interpretation under cases of accidental influence, and elimination of data distortion or accidental liquidation, delivery of data volume sufficient to perform the IT System business functions and ensure advanced matching of data with the real status of objects they represent and belong to a specific sector of the IT System.

In particular, the following essential principles shall be complied with by the Information System Architecture:

- implementing a WEB based client-server solution with authorized access to interface and data;

- ensuring adequate security for the Information System to protect the information and subsystem components against their illegal use or disclosure of personal data or of information with limited access;

- recognizing information as an asset and ensuring its proper management;

- developing and implementing Information Systems that enable their use for other processes or ensure opportunities for developing new functionalities;

- minimizing the number of various technologies and products that offer the same or similar functionalities as per their purpose (reuse of technologies already implemented within the MoD);

- ensuring high-speed processing of service requests/inquiries addressed to the MoD or of other CPAs requiring services;

- ensuring recovery capacities following disasters (ensuring physical and logical security) as a component of the implementation plan.

1.5. Purpose, Objectives and Tasks of the IT System

The *SRMR* main purpose is to provide high-performance IT solutions for *MoD* intended to collect, store, preserve, update and process the data on mobilization resources.

The *SRMR* establishment and implementation shall enable the MoD to attain the following objectives:

- consolidate an exhaustive collection of data to ensure quick records on and efficient management of recruits and mobilization resources (reservists and vehicles);

- ensure the MoD decision-makers and those of relevant public authorities with reliable and quick information on mobilization resources for the purpose of planning, decision making and job duty performance;

- ensure fullness and quality of the Armed Forces supplementing process in peacetime and when mobilization is announced – based on the supplementing plan;

- ensure registration on the reservists mobilized at the place of work during the mobilization period and in wartime;

- provide assistance to CPAs and LPAs to increase the efficiency of their activity related to implementation of public policy on mobilization resources records.

- create an interoperability framework among the MoD IT applications, external IT Systems that provide and use *SRMR* data;

- deliver relevant *SAISE* data to automate the process of allocating the conscripted soldiers to polling stations;

- reduce the required time and the industriousness of the process of collecting and managing the data on mobilization resources available in the Republic of Moldova;

- reduce the time related to the implementation of conscription or mobilization decisions;

- implement an efficient collaboration mechanism among all actors involved in registration and management procedures of mobilization resources;

- ensure data access control and maximum security and confidentiality to data collections and users;

- provide informational support to filed-related analysis, forecast and research activities.

2. IT System Architecture

SRMR shall provide a WEB interface that is accessible through a widely-used Internet browser (*Microsoft Internet Explorer*, *Mozila FireFox*, *Opera*, *Google Chrome* or *Safari*). From the functional standpoint, it is envisaged to develop a reliable and scalable solution both for the increased number of competitor users and for the increased volume of information managed by it based on MVC-type architecture.

It would be opportune to build the *SRMR* using open, non-proprietary (and portable) solutions specific for WEB applications (XML, XSL, XHTML, WSDL, SOAP, LDAP, J2EE, etc.), which would allow easy development of components for portal-type systems.

As *SRMR* is not an isolated IT solution and it would interact with external IT Systems (*SAISE, IS SBCE, M-Connect, etc.*), the developed application shall offer support for its integration with other IT subsystems (SOA architecture).

In order to ensure an adequate information security level, the delivered application shall enable the implementation of secured connections amongst client stations and application server to grant safe information transfer (via VPN channels and TLS/SSL sessions).

The IT solution shall be developed on the basis of advanced Internet/Intranet technologies. The interaction of all IT Subsystem actors and hubs is displayed in Figure 2.1.
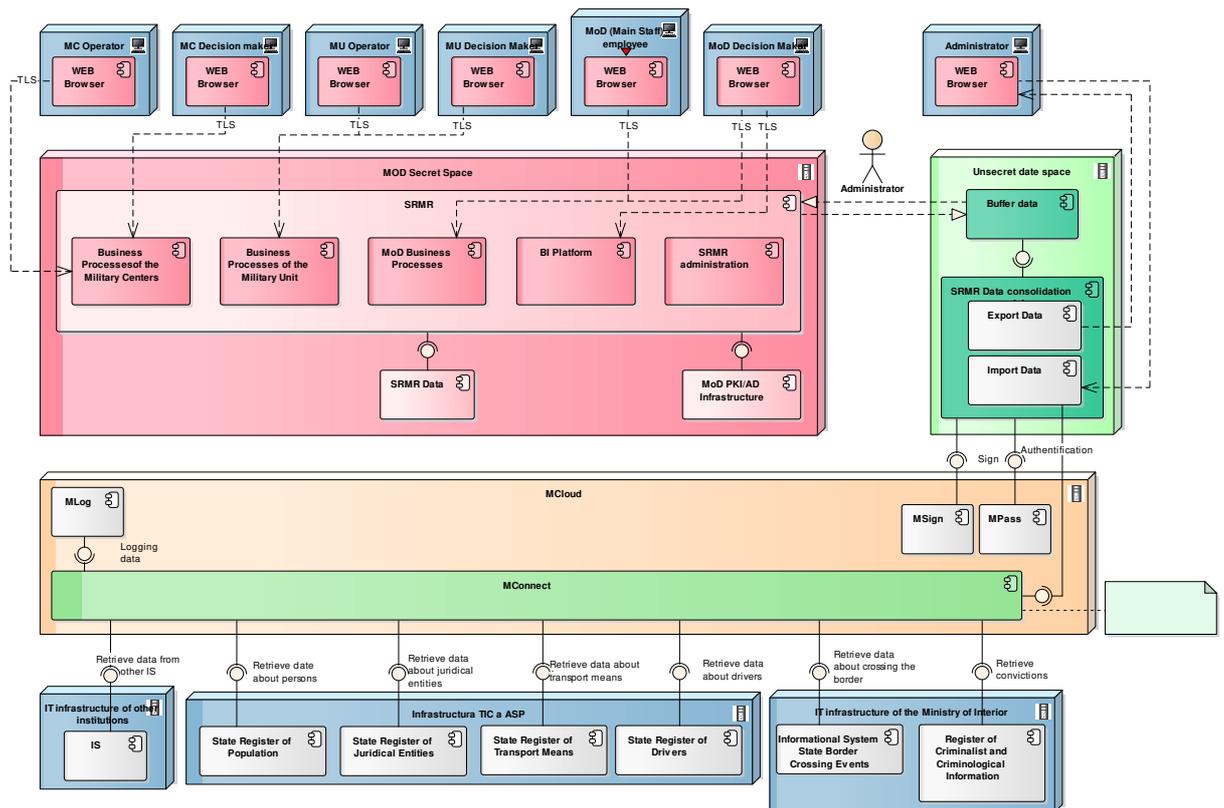

Figure 2.1. SRMR Architecture.

According to Figure 2.1, the solution of pooling the resources aiming to ensure *SRMR* functionalities comprises six categories of distinct hubs:

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- **MoD Data Center** – the *Ministry of Defence* ITC infrastructure that would host the *SRMR and* where a series of IT systems are installed to interact with the *SRMR* (*example: official WEB page of the Ministry of Defence).*

- **Buffer zone (Tampon Zone)** - zone designated for interactions with informational systems which are not referred to state secret (SRP, SRLE, SDR, RCCI, etc.) from which are taken data. This zone will serve as a intermediate zone for data transfer taken from other informational systems through the external data storage transport (USB flash drive, external HDD, or other external data storages provided by MoD).

- **M-Cloud** – ITC infrastructure of the joint governmental technological platform that builds up the governmental cloud (*M-Cloud*), hosting a series of IT Systems with which *SRMR* should interact or which services would be used by *SRMR* (*M-Pass and M-Sign*). The inclusion of *M-Connect* service bus in the architecture would enable integration with the services of other IT systems hosted outside the *M-Cloud* (*SRP, SRLE, SRV, SDR, RCCI, etc.*).

- **CEC Data Center** – the CEC ICT infrastructure that hosts SAISE *Admin* with which *SRMR* should interact with the aim to exchange electoral data.

- **Data Center of the Public Services Agency** – ICT infrastructure that hosts the main IT systems supplying primary information on mobilization resources: *SRP, SRLE, SRV, SDR. SRMR* will not directly interact with these IT systems. The interaction will be ensured through the Government interoperability framework *M-Connect.*

- **MIA Data Center** – the MIA ICT infrastructure that hosts the *IS SBCE and RCCI* with which *SRMR* should interact to retrieve the border crossing events by mobilization resources and all past criminal records of human mobilization resources.

- **Client Computers** – computers from where the users (depending on their rights and roles) shall be granted access to *SRMR* functionalities*.*

In order to have access and use *SRMR,* client computers shall use as client applications at least two of the most popular Internet web browsers (compatibility with *Microsoft Internet Explorer* is binding). The interface and functionalities assigned to each individual user will depend on the user's level, rights and roles.

From the functional standpoint, there are six categories of system users, namely *Administrators, MC Decision Makers, MU Decision Makers, MC Operators and MU Operators* (functionalities accessible to *MC Consultant and Filing Clerk* are attached to the roles of *MC Operator and MU Operator* as the *MC Operator* may fulfill the functions of *MC Consultant and Filing Clerk,* while *the MU Operator* may fulfill the *Filing Clerk's* functions). Regardless of the users' access level, all connections of users to *SRMR* (except for *Internet users*) shall be carried out via safe means.

SRMR will be an IT System assigned to the State Secret as per the provisions of pertinent legislation and represent a software that would not publish access interfaces to other IT systems (except for those assigned to the State Secret), by using interfaces to retrieve data from external sources or to place personal data into a buffer as it is envisaged for the *State Register of Voters.*

In order to ensure optimal functionality, *SRMR* will use the following categories of interfaces delivered by *M-Cloud and M-Connect* platform services (this interaction will be used only when the IT systems - data donor would be able to secure the confidentiality regime of *SRMR* functioning):

1. **Authenticate Service**, which interacts with the governmental platform service *M-Pass* applied to implement users' authentication procedures via the digital certificate;

2. **Sign Service**, which interacts with the governmental platform service *M-Sign* designed to apply and validate the digital signature, including mobile signature.

3. **Retrieve Persons Service**, which interacts with the *State Register of Population* managed by *SE "CRIS Registru"* to retrieve identification data, documentary and location data on physical persons.

4. **Retrieve Legal Entities Service**, which interacts with the *State Register of Legal Entities* managed by *SE "CRIS Registru"* to retrieve identification data, documentary and location data on legal entities.

5. **Retrieve Vehicles Service**, which interacts with the *State Register of Vehicles* managed by *SE "CRIS Registru"* to retrieve identification data, documentary and location data on vehicles.

6. **Retrieve Driving Skills Service**, which interacts with the *State Driver Register* managed by *SE "CRIS Registru"* to retrieve data on the entitlements and skills of physical person to drive vehicles.

SRMR will use direct interaction interfaces provided by those IT systems which are not integrated with *M-Connect.* However, in the future, the interaction of *SRMR* with such systems will be supported exclusively *through M-Connect.* Direct communication will be ensured via the listed below services, which are provided by IT systems*:*

1. **Synchronize electoral data Service**, which interacts with the *SAISE* managed by the *Central Election Commission* to retrieve the metadata necessary to prepare electoral data of human mobilization resources and deliver data on conscripted soldiers with the right to vote.

2. **Retrieve Border Crossing Events Service**, which interacts with the *IT System "State Border Crossing Events"* managed by *the Ministry of Internal Affairs (MIA)* to retrieve data on border crossing by mobilization resources.

3. **Retrieve Convictions Service**, which interacts with the *Register of Criminalistic and Criminological Information* managed by *the Ministry of Internal Affairs* to retrieve data on final convictions of human mobilization resources.

3. Parties Involved and Roles of the IT System

3.1. IT System Business Roles

The following entities are interested or shall be involved in the process of *SRMR* development and operation:

- **Ministry of Defence of the RM** – as public authority that has the mission to develop the defence policy, to lead and coordinate the building and development of the National Army, to identify the military risks and threats and the needs for the national defence system preparedness with the aim to ensure the state military security. The Ministry of Defence will be the *SRMR* Owner and Possessor, using it to keep records and manage all mobilization resources of the Republic of Moldova.

- **UNDP Project "Support to the Security Sector Reform in the Republic of Moldova"** – as an institution that would finance and monitor *SRMR* development and implementation activities.

- **Public Institution Public Services Agency** – as an entity to serve as a supplier of information related to the human and material mobilization resources *through* connection services of *SRP, SRLE, SRV and SDR.* Access to services of these systems will be provided *via* the governmental interoperability platform *M-Connect.*

- **Central Election Commission** – as a permanent public authority established to implement the electoral policy and ensure sound organization and conduct of elections. The CEC key IT resource – *SAISE* – will interact with *SRMR* to automatically receive the data on conscripted soldiers to assign them to polling stations.

- **Ministry of Internal Affairs** – as an entity to serve as a supplier of information on border crossing events by human and material mobilization resources *through* services delivered by *IS ETFS and* of data on convictions of human mobilization resources through *RCCI.*

- **Public Authorities and Institutions** – as suppliers and users of data (CPAs, LPAs, institutions and other organizations, regardless of their ownership type and legal form of organization) owners of IT systems containing relevant data regarding the registration and management processes of mobilization resources.

- **Public Institution Informational Technology and Cyber Security Service** – as an entity that administers the *M-Cloud* solution that hosts IT systems with which *SRMR* would interact *or* platform services implemented under *SRMR.*

- **Public Institution Electronical Government Center** – as a body empowered to develop and implement the polices for modernizing governmental electronical services and *e-Transformation within the central administration and for specialty authorities*, developer of the governmental technological platform (*M-Cloud), the possessor and owner of the interoperability platform (MConnect) and competent authority for ensuring data exchange and interoperability.*

- **Ministry of Economic and Infrastructure** – as the main body of policy and rules regarding the development and implementation of state information resources.

3.2. IT System Possessor

The MoD shall be the IT Subsystem Possessor. The role of system Possessor mirrors the administrative aspect related to the MoD full competences, which are required to ensure the IT System continuous administration and development.

As a *SRMR Possessor, the MoD* would be able to assign roles and rights of access to user's interface and data to its employees, depending on their job duties.

3.3. IT Subsystem Owner

The MoD shall be the IT solution Owner that would provide the technical infrastructure to host *SRMR.*

3.4. IT Subsystem Purchaser

The State Register of Mobilization Resources will be purchased by the UNDP "Support to the Security Sector Reform in the Republic of Moldova" Project, for the Ministry of Defence of the Republic of Moldova.

Although the *Ministry of Defence* is the direct Beneficiary of the IT solution, consultants of *UNDP Project "Support to the Security Sector Reform in the Republic of Moldova"* will participate during the IT solution development stages.

3.5. IT System Registrar

The capacity of Registrar of the State Register of Mobilization Resources will be assigned to all users holding the role of MC Operator, MC Consultant and MU Operator designated by relevant subdivisions of the Ministry of Defence of the Republic of Moldova.

3.6. Users and their roles within the IT System

Human roles or IT systems that interact with *SRMR* are displayed in Figure 3.1. As can be seen in this Figure, eight categories of human actors and three categories of IT Systems would be interacting under this application.

1. **MC Operator** – human actor, *Military Center* employee who will use *SRMR* to exercise his job duties. This category of users will prepare all forms and data in *SRMR* related to the *Military Center* activity. *SRMR* will automate all workflows existent in the *Military Centers*. *Military Centers* will employ users with such roles, as well as divisions of military records in those districts which do not have a Military Center. The actors concerned shall have the following distinct roles:

    ■ have access to all functionalities available to *Internet users* ;

    ■ initiate electronic files of mobilization resources;

    ■ require manual synchronization of mobilization resource identification data with external IT Systems;

    ■ import data from standard files sent by public authorities and institutions – data providers (*example: list of enlisted/expelled students*);

    ■ manage business events received in the personal Dashboard;

    ■ formulate compound queries aimed at retrieving relevant information necessary to exercise job duties;

- retrieve predefined reports relevant for the *Military Center* activity;

- print out relevant documents to be attached to the mobilization resource files;

- prepare electronic forms for business events related to the *Military Center* activity;

- prepare mobilization resource deployment plans;

- receive notifications on business events related to it.
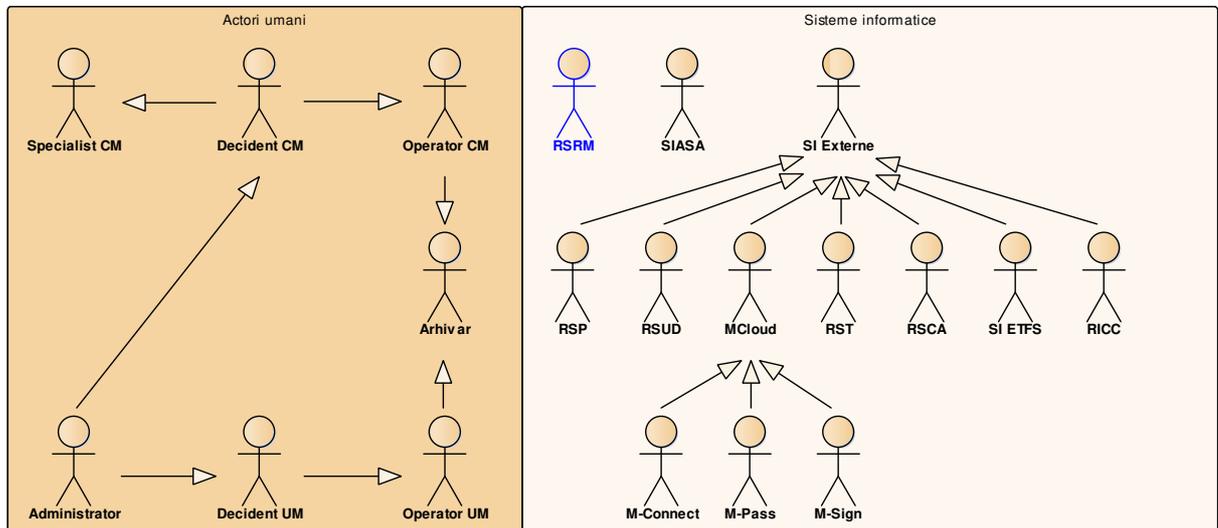
Figure 3.1. IT System actors.

2. **MC Consultant** – human actor, *Military Center* employee *or* external actor involved in *the Military Center activity (example: Medical Consultant, member of the Examination Commission for Recruits)* who shall access and prepare a limited set of data and electronic forms of business events related to his competences within the *Military Center.* These actors shall have the following distinct roles:

- have access to all functionalities available to *Internet users*;

- manage business events received in the personal Dashboard;

- print out relevant documents related to their area of competence to be attached to the mobilization resource file;

- prepare electronic forms for the business events related to their area of competence within the Military *Center*;

- receive notifications on business events related to it.

3. **MC Decision Maker** – human actor, assigned with decision-making roles within the Military *Center* who will use the *SRMR* to exercise his job duties. This category of users will have access to all functionalities available to users assigned with the role of *MC Operator.* However, the primary role of this category shall be the approval/rejection of forms prepared by the authorized users *of the Military Center and* of external actors involved in the Military Center activity. The actors concerned shall have the following distinct roles:

- have access to all functionalities available to *MC Operators*;

- approve/reject electronic forms related to business events of the *Military Center.*

4. **MU Operator** – human actor, Military Unit employee who will use *SRMR to exercise his job duties*. This category of users will prepare all forms and data within the *SRMR* related to the Military Unit activity. *SRMR* will automate all workflows existing within the *Military Units and* related to the *SRMR* objectives. The actors concerned shall have the following roles:

   - have access to all functionalities available to *Internet users*;

   - require manual synchronization of mobilization resources identification data with external IT Systems;

   - manage business events received in the personal Dashboard;

   - formulate compound queries to retrieve relevant information necessary for the job duties;

   - retrieve predefined reports relevant for the Military Unit activity;

   - print out relevant documents to be attached to the mobilization resource file;

   - prepare electronic forms on business events related to the Military Unit activity;

   - prepare application forms submitted to those *Military Centers* which staff shall be supplemented during mobilization;

   - prepare all electoral data based on which the conscripted soldiers would be automatically assigned to polling stations;

   - receive notifications on business events related to it.

5. **MU Decision Maker** – human actor, assigned with decision-making roles within the *Military Unit* who will use the *SRMR* to exercise his job duties. This category of users will have access to all functionalities available to users assigned with the role of *MU Operators.* However, the primary role of this category of actors shall be the approval/rejection of the totalities of forms prepared by the Military Unit authorized users*.* The actors concerned shall have the following distinct roles:

   - have access to all functionalities available to *MU Operators*;

   - approve/reject electronic forms related to business events of the Military Unit.

6. **Filing Clerk** – human actor, employee of the *Military Center, Military Unit* or of the relevant subdivision of the *Ministry of Defence* who will use the SRMR to retrieve and print out relevant documents to be attached to mobilization resources archived files. The *Filing Clerk* role will be assigned to users who have the role of *MC Operator and MU Operator*. This role has been explicitly introduced when a central Archive at the *MoD* level has to be established. These actors shall have the following roles:

   - have access to all functionalities available to *Internet users*;

   - manage business events received in the personal Dashboard;

   - print out relevant documents to be attached to the mobilization resource file;

   - receive notifications on business events related to it.

7. **Administrator** – human actor, assigned to manage the system users, monitor the system operation, configure the *SRMR,* start/stop/restart the IT System components. If the technological environment has sufficient capacity to perform administration works, then

their implementation into the system is optional. This category of actors shall have the following distinct roles:

- use unconditionally all functionalities of the IT System, except for amending the logging files;

- generate reports, statistics and performance indicators designed to monitor the system, support the analysis, forecast and decision-making processes;

- manage and configure roles, rights of access and profiles of the IT System authorized users;

- carry out system configurations, including workflows, electronic forms and document templates based on which the information stored in the database is exported;

- manage the *SRMR* metadata (configurations, ways of access, credentials for accessing external services, Nomenclatures, Classifiers, Variables, etc.);

- administer the application server;

- administer the database in production;

- make database back-ups.

The *SRMR* implementation implies the interaction of six categories of information systems as follows:

1. **SRMR** – IT System intended to keep records on the mobilization resources of the Republic of Moldova which is the subject of development and implementation of this document*.

2. **SAISE** – State Automated Information System "Elections" (*SAISE*) developed on the basis of *Law No. 101 of 15.05.2008* that automates a large part of CEC electoral processes. *SRMR* will automatically deliver all electoral data on conscripted soldiers necessary for their assignment to polling stations.

3. **External IT Systems** – represent all external IT systems that belong to public authorities and state institutions of the Republic of Moldova delivered by primary data *SRMR*. This category comprises the following IT Systems:

A. **M-Cloud** - a joint governmental information infrastructure, which is operated based on "*Cloud Computing*" technology that makes available the interoperability framework *for SRMR* to integrate the following services and IT Systems hosted in *M-Cloud*:

- *M-Connect* – the interoperability governmental framework supporting the interaction with other applications – data providers or receivers, which are consolidated and managed in *SRMR*.

- *M-Pass* – governmental platform service used to exercise control on the access to information systems hosted in *M-Cloud* and ensure the authentication procedures via a digital certificate or mobile identity.

- *M-Sign* – governmental platform service used when applying and validating the digital signature, including mobile signature.

- **SRP (*State Register of Population*)** – IT System for single automated registration of Moldovan citizens, foreign citizens, stateless people, foreign citizens permanently and temporarily domiciled on the country territory, as well as of Moldovan citizens

established either permanently or temporarily abroad (for a period exceeding three months). *SRP* is intended to collect, store, update and analyze the data on physical persons, who represent subjects of registration, having submitted the information to the governing bodies and public administration bodies of the Republic of Moldova, to other physical persons and legal persons in the manner stipulated by law. *SRMR* will retrieve from *SRP* all human mobilization resources identification data (including biometric data, photography and signature), family relationships of first level, as well as all issued identity documents.

B. **SRLE (*State Register of Legal Entities*)** – an IT System designed to registration of all structures that have the status of legal entities (as per the *Eurostat* recommendations): public administration bodies, enterprises, public associations, political parties and other socio-political organizations, professional associations, confession associations and religious denominations, associations of co-owners in condominium, special categories of people who render specific types of services (Notaries, Lawyers), which are named "legal entities". *SRLE* is designed to collect, store, update, and analyze data on legal entities having presented such information to public administration bodies of the Republic of Moldova aiming to make the administration processes more efficient. *SRMR* will retrieve from the *SRP* all identification data on legal entities – possessors of vehicles or where human mobilization resources work.

C. **SRV (*State Register of Vehicles*)** – IT System that stores and administers technical, economic and legal information on road vehicles, motorcycles, tractors, specialized machinery and mechanisms for road building, for improvements, agricultural machinery and mechanisms, trailers for them, fleets of low capacity, stationary and mobile aggregates, having internal combustion engines and some numbered aggregates, as well as data on their Possessors (according to *Government Decision No. 1047 of 08.11.1999*). *SRMR* will retrieve from *SRP* all identification data on vehicles subject to mobilization (including data on their technical characteristics, owners and vehicle geographical location).

D. **SDR (*State Driver Register*)** – IT System designed to keep records on vehicle drivers, persons, who obtained driver's license, economic operators, which educate and train drivers, issue their documents, as well as other factors, which favor the security of road circulation and sanction for the failure to observe the circulation rules). *SRMR* will retrieve from *SDR* all data on driving skills/competences of human mobilization resources.

E. **IS SBCE (*Information System "State Border Crossing Events"*)** – IT System managed by *the Ministry of Internal Affairs of the Republic of Moldova* that records all state border crossing events. *SRMR* will retrieve from *IS SBCE* all data on state border crossing events by human and material mobilization resources aiming to state their availability.

F. ***RCCI (*Register of Criminalistic and Criminological Information*)*** – a specialized IT System of the MIA applied to collect and manage data on all recorded referrals, committed offences, criminal record files and administrative case files, as well as on the persons who committed them. According to the interaction scheme, *RCCI will deliver* to *SRMR* data on human mobilization resource convictions.

Functional Model of the IT System

4.1. Informational Objects of SRMR

Having analyzed the modeled domain (automation of the management and registration processes of mobilization resources) it is possible to present all informational objects to be taken into account in the process of *SRMR* development. Figure 4.1. presents the informational objects which serve as foundation for designing and developing the *SRMR*.
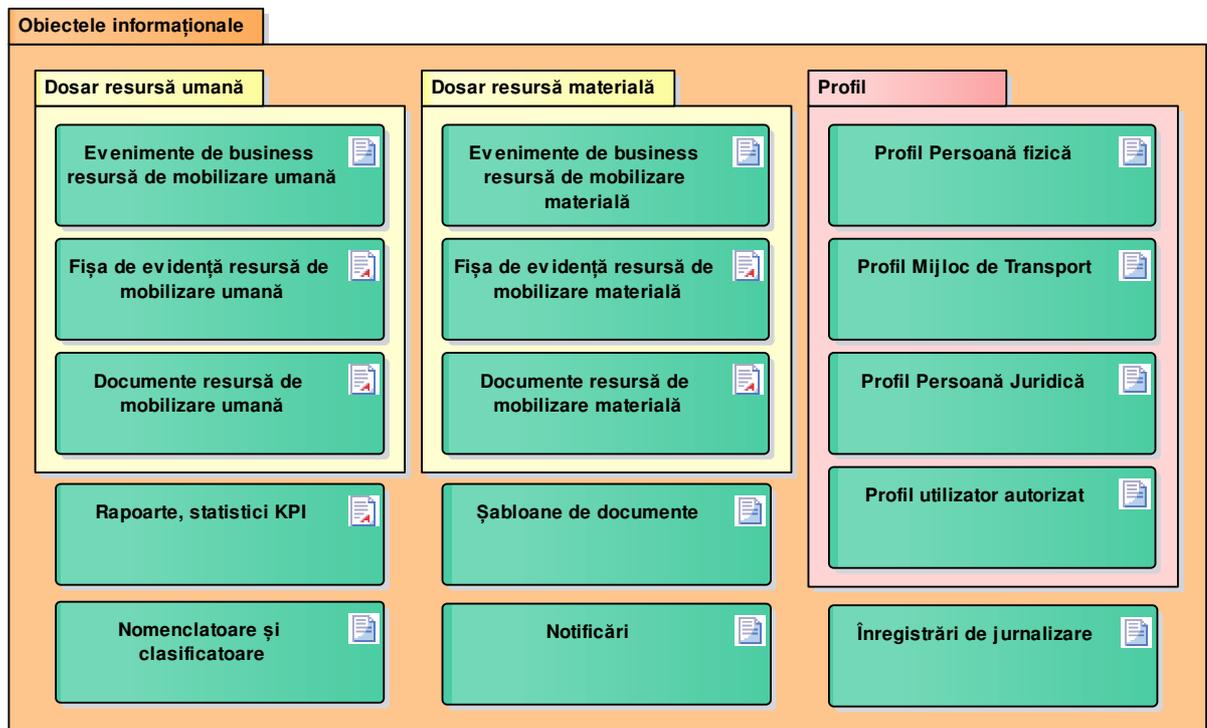
Figure 4.1. SRMR Informational Objects.

According to Figure 4.1, the IT solution comprises eight categories of informational objects, of various complexities, to be taken into account in the process of *SRMR* design and implementation:

1. Human resource file.

2. Material resource file.

3. Profile.

4. Reports, statistics, KPI.

5. Document templates.

6. Classifiers, Nomenclatures, Metadata.

7. Notifications.

8. Logged events.

Objects shall be identified within the *IT System* by using, for each of them, a single identification number.

1. Electronic file of human mobilization resources.

This is a central compound informational object, which contains all information related to the human mobilization resource management and registration. This informational object is a method to group the data and business events of management and registration processes of human mobilization resources. The informational object *Human mobilization resource electronic file* contains the following attributes:

- File identifier. This is a single compound code with the following structure:

- Date of file registration;

- Reference to the profile of the person it belongs to;

- File status (human mobilization resource status).

The object *Human mobilization resource electronic file* can have several function statuses depending on the human mobilization resource life-cycle:

- *Recruits* – all persons who did not complete the military service until reaching the age of 27;

- *Active Military (contract or conscript)* – all persons incorporated into the Armed Forces;

- *Category 1* Reserves – persons who completed the conscripted military service or contract-based military service and have been assigned to reserve due to the expiration of the service term, work tenure, expiration of the contract term or due to the age limit;

- *Category 2* Reserves – persons who were subject to mandatory military training or who were dismissed from regular troops due to other reasons, but who, as per their physical condition and age, are capable for military service in wartime. Female persons subject to military service, regardless of their awarded military ranks, shall be incorporated in *Category 2* Reserves;

- *Resources not subject to mobilization* – all persons who reached the age limit of being in *Category 2* Reserves and whose data are withdrawn from military records.

Statute of the human resources

1. Recruit in tracking

2. Recruit in military tracking

3. 55 days recruit

4. Recruit at the military department (Universities)

5. Recruit at the training centers

6. Recruit at the alternative service

7. Excluded from military tracking

8. Conscript

9. Conscript with reduce term

10. Active reserve

11. Passive reserve

12. Military on contract basis

The human mobilization resource electronic file comprises three categories of informational objects: Human mobilization resource business events, Human mobilization resource record card and Human mobilization resource documents.

1.1. Human mobilization resource business events

This is an informational object that corresponds to the totalities of electronic forms prepared *through* Use Case UC11 under the processes of human mobilization resource management and registration. The information content of these forms is different, depending on the prepared business event. However, in most cases they are supplemented to update the *Human mobilization resource profile the* data being mirrored in the profile. Nonetheless, all forms shall be preserved to implement a traceability mechanism for all amendments operated to the human mobilization resource.

1.2. Human mobilization resource record card

This is an informational object that represents an up-to-date photography of the human mobilization resource. In the event of human mobilization resource profile significant update, the Human mobilization resource register card will be automatically generated and attached to the file. In this way, the file will contain a number of human mobilization resource registration cards equal to the number of significant updates operated in the human mobilization resource registration data.

1.3. Human mobilization resource documents

This is an informational object that covers all documents attached to the Human mobilization resource electronic file or prepared *through* facilities delivered by UC11 under the management and registration processes of human mobilization resources.

Any informational object of *Human mobilization resource document* type contains a minimal set of data designed for its identification and registration:

- document identifier (compound key with the following structure: document code + number+ series);
- document type as per the Nomenclature;
- name of the issuing authority/person;
- document registration number;
- document registration date;
- execution/validity term;
- document subject;
- document status;
- document content (scanned text/image).

1. Human mobilization resource electronic file.

This is a central compound informational object that contains all information related to material mobilization resource management and registration (vehicles and special equipment/machinery). This informational object is a method of grouping all data and business events of management and registration processes for material mobilization resources. The informational object *Material mobilization resource electronic file* contains the following attributes:

- File identifier. This is a single compound code with the following structure:
- Date of file registration;
- Reference to the profile of the vehicle/special equipment that belongs to it;
- File status (material mobilization resource status).

The material mobilization resource electronic file comprises three categories of informational objects: Material mobilization resource business events, Material mobilization resource record card and Material mobilization resource documents.

1.1. Material mobilization resource business events

This is an informational object that corresponds to the totalities of electronic forms prepared *through* Use Case UC11 under the processes of material mobilization resource management and registration. The information content of these forms is different, depending on the prepared business event. However, in most cases they are supplemented to update the *Material mobilization resource profile, the* data being mirrored in the profile. Nonetheless, all forms shall be preserved for the implementation of a mechanism to trace any amendments operated to the material mobilization resource.

1.2. Material mobilization resource record card

This is an informational object that represents an up-to-date photography of the material mobilization resource. Is the material mobilization resource profile is subject to significant change the Material mobilization resource register card will be automatically generated and attached to the file. In this way, the file will contain a number of material mobilization resource registration cards equal to the number of significant updates operated to the material mobilization resource registration data.

1.3. Material mobilization resource documents

This is an informational object that covers all documents attached to the material mobilization resource electronic file or prepared *through* facilities delivered by UC11 under the management and registration processes of material mobilization resources.

Any informational object of *Mobilization resource document* type contains a minimal set of data intended for its identification and registration:

document identifier (compound key with the following structure: document code + number+ series;
document type as per the Nomenclature;
name of the issuing authority/person;
document registration number;
document registration date;
execution/validity term;
document subject;
document status;
document content (scanned text/image).

3 Profiles.

This is a compound informational object comprising all data related to subjects and entities, which interact with *SRMR* or are the object of management and registration processes through the *SRMR.* Three categories of profiles can be identified:

3.1. Physical person profile.

It represents a compound informational object that contains all data about the CPAs that initiate drafting legal or regulatory acts subject to anticorruption expertise. This informational object shall contain the following categories of information:

Single identification number of person (IDNP);
Person's last name;

Person's first name;

Person's patronymic;

Person's birth date;

Person's gender;

Person's photography;

Person's signature sample;

Person's biometric data;

Person's data on relatives of first degree (parents, siblings);

Person's data on children;

Birth place data;

Data on identity acts held;

Data on residence and domicile;

Person's contact data (Contact phone, GSM, Email);

Person's residence data;

Person's domicile data;

Person's place of work data;

Data on person's skills and entitlements to drive vehicles;

Person's data on education;

Person's data on final convictions;

Person's data on classification from the standpoint of mobilization resource;

Person's data on military degree and military specialty;

Person's data on awards/decorations;

Person's data on medical fitness examinations;

Data on participation in warfare actions;

Person's data on military service and his activity as a reservist;

Data on military concentration and mobilization trainings;

Other relevant data.

3.2. Vehicle profile.

This is a compound informational object of the *SRMR* that delivers all data on the vehicle (category of material mobilization resources managed via the *SRMR*). The vehicle profile shall contain up-to-date identification and registration data (the history of changes is available from the vehicle electronic file).

The informational object *Vehicle profile* is described by the following categories of information:

- vehicle identification data (VEN code, engine number, coachwork number, frame number and registration number);
- vehicle trademark and model;
- vehicle descriptive data;
- data on vehicle technical parameters;
- data on vehicle holders of rights and uzufructuaries (reference to the profile of physical person or legal person);
- data on vehicle documents;
- data on vehicle location;
- vehicle value;
- other relevant data.

3.3. Legal person profile.

It represents a compound informational object that contains all data on legal entities – owners of vehicles. The data on legal entities are retrieved from the *State Register of Legal Entities* but could be entered manually as well.

This informational object shall contain the following categories of information:

- identifier of legal person (IDNO);
- tax code;
- full name;
- short name;
- organizational-legal type (according to CFOJ);
- ownership type (according to CFP);
- activity domains (according to CAEM v2);
- legal address;
- data and addresses of representatives/branches;
- e-mail;
- contact phone;
- notes.

3.4. Profile of SRMR authorized users.

It represents an informational object that contains all data related to the authorized users of the IT System who have the right of access to user interface within the limit of their roles and rights assigned under the *SRMR*.

To this end, the informational object shall contain the following categories of information:

- user IDNP code;
- user last name;
- user first name;
- user's address;
- E-mail;
- contact phone;
- login;
- password;
- authentication strategy (user + Password, Digital Certificate, Mobile Identity);
- subdivision/entity where he works;
- status of account (active/inactive);
- access validity period;
- user's roles;
- other relevant data.

4. Reports, statistics, KPI.

This represents a compound informational object comprising all predefined Reports (physically incorporated) or generated instantly by *SRMR,* designed for all types of authorized users with the aim to publish, manage and monitor the activity of all people who use and manage the IT system.

It is possible to present the following categories of reports implemented under *e-Expertise*:

- Quick reports:
    - Report on the circulation of reserve warrant officers, sergeants and soldiers;

- o Report on mobilization resources registered by local authorities and supplementing the position of officer for the recruiting, incorporating and supplementing point;
- o Report on officers registered in military records;
- o Report on reserve/resigned officers with supreme degrees living on the territory of districts (municipality) under the Military Center radius of activity;
- o Report on mobilization resources registered at the Military Center;
- o Report on deployment of mobilization resources (warrant officers, sergeants and soldiers);
- o Report on military records on reserve warrant officers, sergeants and soldiers by military specialties and year of birth;
- o Report on availability and use of vehicles and on transportable metallic package in the national economy;
- o Report on qualitative characteristics of reserve officers deployed by teams;
- o Report on qualitative characteristics of reserve warrant officers, sergeants and soldiers deployed by teams;
- o Report on qualitative characteristics of seizable means/assets;
- o Report on military statistic records and circulation of reserve officer corps;
- o Report on registration and circulation of technical and material resources;
- o Report on registration of movement of recruits registered;
- o Report on registration of young people in military records;
- o Report on the activity results of the medical-military and recruiting-incorporation commission, incorporation of citizens in conscripted military service, in short-term/reduced service and civil service;
- o Report on the number of war and armed conflict veterans and of participants in the liquidation of consequences of Chernobyl disaster registered in the Military Center records;
- o Report on reserve officers subject to attestation for the subsequent military ordinary degrees;
- o Report on the composition of the leadership of LPAs of first and second tier;
- o Report on the status of staffing the officer positions in military units and institutions;
- o Report on turnover of National Army officers;
- o Supplementing the officer positions according to military specialties;
- o Other relevant reports, but no more than 80.
- ■ Documents generated on the basis of predefined templates:
  - o Recruit registration card;
  - o Transcript of records;
  - o Conscripted soldier's registration card;
  - o Equipment registration card;
  - o Acts related to business events prepared *through* UC11;
  - o Other relevant documents, but no more than 80.

- Statistics and KPIs of *SRMR* (aggregated values retrieved from the information content of the *SRMR* database);
- System reports:
  - list of IT System users according to their roles;
  - statistics on the *SRMR* utilization by *Internet users*;
  - statistics on the *SRMR* utilization by *authorized users*.

Taking into account their type, the reports will be accessible from interfaces with restricted access for the authenticated and authorized users, while public reports – via the official WEB page of the *Ministry of Defence for the Internet users*.

This informational object is described by the following categories of attributes:

- identifier;
- report title, KPI;
- reference period;
- report content, KPI.

5. Document templates.

This is a compound informational object designed to store a standard structure, predefined for the documents applied in the management and registration processes of mobilization resources. Based on the predefined templates it would be possible to generate and print out all documents prepared *through* UC11.

The informational object *Document template* is described by the following categories of attributes:

- template identifier;
- template name;
- version;
- status;
- parameters of document lay-out.
- parameters for inserting the document content.

6. Classifiers, Nomenclatures, Metadata.

This represents a category of complex informational objects comprising all Classifiers, Nomenclatures and Metadata used under *SRMR*.

It shall comprise the following categories of data:

- External Classifiers/Nomenclatures:
  - *Classifier of Moldova administrative and territorial units;*
  - *Classifier of Moldova organizational and legal forms;*
  - *Classifier of Moldova forms of ownership;*
  - *Classifier of Moldova economic activities;*
  - *Nomenclature of addresses;*
  - *Nomenclature of ethnic groups;*

- o *Nomenclature of blood types;*
- o *Nomenclature of civil statuses;*
- o *Nomenclature of religions;*
- o *Nomenclature of countries;*
- o *Nomenclature of types of studies;*
- o *Nomenclature of types of family relationships/relatives;*
- o *Nomenclature of languages;*
- o *Classifier of types of vehicles;*
- o *Classifier of vehicle trademarks and models;*
- o *Classifier of types of vehicle coachworks;*
- o *Classifier of types of frames/chasses;*
- o *Nomenclature of types of document statuses;*
- o *Classifier of types of engines;*
- o *Nomenclature of offices related to mobilization;*
- o *Classifier of categories of entitlements to drive vehicles;*
- o *Nomenclature of types of documents;*
- o *Classifier of types of civil professions;*
- o *Classifier of types of residence registration;*
- o *Other relevant classifiers and nomenclatures.*
- ■ SRMR internal classifiers/nomenclatures:
  - o *Classifier of military degrees;*
  - o *Nomenclature of armed forces personnel;*
  - o *Nomenclature of funding sources for training courses related to entitlements to drive vehicles;*
  - o *Nomenclature of categories of mobilization resources records;*
  - o *Classifier of the capacity to exercise military service;*
  - o *Nomenclature of vehicles technical conditions;*
  - o *Nomenclature of categories of places for documents storage;*
  - o *Nomenclature of categories of mobilization resources;*
  - o *Nomenclature of categories of accompanying/supporting documents;*
  - o *Nomenclature of categories of mobilization events;*
  - o *Classifier of military specialties;*
  - o *Classifier of military functions;*
  - o *Classifier of MoD territorial infrastructure;*
  - o *Nomenclature of absence reasons;*
  - o *Classifier of awards/decorations;*
  - o *Nomenclature of categories of decisions taken by the Incorporation Commission;*

- o *Nomenclature of documents statuses prepared through electronic forms delivered by SRMR;*
- o *Nomenclature of language knowledge levels;*
- o *Classifier of military arms and equipment;*
- o *Nomenclature of MoD types of acts;*
- o *Nomenclature of types of notification of the mobilization resource;*
- o *Nomenclature of access levels;*
- o *Classifier of shoes sizes;*
- o *Classifier of apparel sizes;*
- o *Nomenclature of sizes of ABC protective masks;*
- o *Classifier of categories of military events and extraordinary situations;*
- o *Classifier of categories of special equipment;*
- o *Nomenclature of categories of postponements for exercising military service;*
- o *Nomenclature of categories of social statuses;*
- o *Nomenclature of domains for alternative service;*
- o *Nomenclature of military institutions preparedness levels;*
- o *Nomenclature of reasons for assigning/withdrawing the status of mobilization resource;*
- o *Nomenclature of mobilization resources;*
- o *Nomenclature of mobilization resources statuses;*
- o *Other relevant nomenclatures and classifiers.*

- ■ Variables for *SRMR* configuration (ways of access, global variables, etc.);
- ■ Configurations of access to external WEB services;
- ■ Other categories of metadata.

    7. Notifications.

This represents a category of complex informational objects used for notification with or without confirmation of *SRMR* authorized users. A notification shall comprise the following specific information:

- ■ identifier of notification (order number assigned automatically by the *SRMR*).
- ■ business event related to the notification;
- ■ reference of access to the business event (file, form or document) that sent the notification (where appropriate);
- ■ timestamp of the notification delivery;
- ■ notification delivery strategy (E-mail or internal messenger, *SRMR* application);
- ■ subject of the notification;
- ■ content of the notification;
- ■ sender of the notification;
- ■ recipient of the notification;
- ■ other relevant data.

8. Logged events.

This is a compound informational object designed to conduct the ICT audit and implement the information security policy. Any accessing or change of data: creation, updating, deletion, changing the status, etc. shall be logged in a special log file, with the recorded timestamp, the application, the event and the user who carried out the action. When the change does not involve physical removal of data for each registration, it would be possible to see the name of the user who made the last change.

Logging events shall have the following data:

■ identifier of the logged event;

■ identifier of the user who generated the event;

■ category of the logged business event;

■ time of event logging;

■ component of IT application (module) that generated the business event;

■ record affected by the business event;

■ action carried out by the user.

4.2. Basic Functionalities of the IT System

The functionalities provided by SRMR and the actors who can benefit from them are displayed in Figure 4.2. According to Figure 4.2, *SRMR* actors have access to 26 Use Cases that provide the following functionalities:

UC01: Initiate a mobilization resource file

This represents a compound Use case that will deliver all functionalities to generate and manage mobilization resource electronic files. In most cases, identification data and some properties of mobilization resources will be automatically retrieved *via the interaction* with relevant external IT Systems (SRP, SRLE, SRV, SDR, RCCI, SI ETFT, other relevant IT systems).

However, the IT system will deliver functionalities for manual editing of data retrieved automatically *through* the synchronization procedure with external IT systems (to ensure *SRMR* autonomy in extraordinary situations, having reduced the total dependence on connections with external data sources).

The Use Case functionalities will be called up not only when a new file is initiated, but also when there is a need to view or update certain sections of the existing files on mobilization resources.

UC02: Initiate a human mobilization resource file

This is a compound Use Case that expands Use Case UC01 to manage electronic files of human mobilization resources. In most cases, identification data and some properties of human mobilization resources will be retrieved automatically *through* the interaction with relevant external IT Systems (*SRP*, *SDR*, *RCCI* and *SI ETFT*).
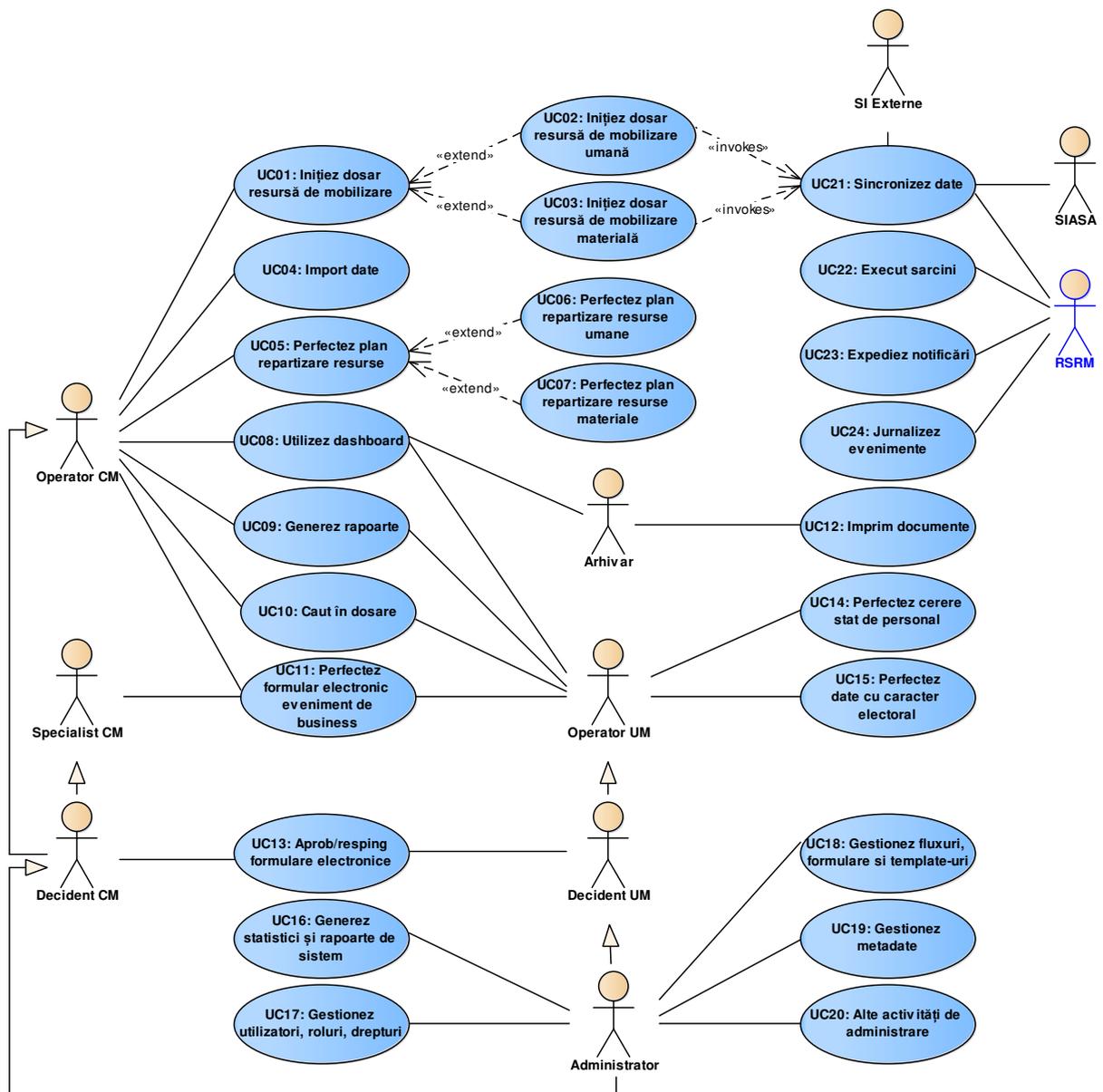
Figure 4.2. Basic functionalities of the IT System.

In addition, *SRMR* will deliver functionalities for manual editing of data when no external IT systems are available. The Use Case functionalities will be called up not only when a new human mobilization resource file has been initiated, but also when there is a need to view or update certain sections of the existing files on human mobilization resources.

According to Figure 4.3., Use Case *UC02: Initiate a human mobilization file* shall be implemented through the following Use Cases:

■ UC02.1: Introduce basic content in the file. This represents a functionality *through* which *MC Operators* will have access to all forms designed to manage the content of sections within the human mobilization resource electronic file (add, update, delete and view data). This Use Case will ensure manual functionalities to manage the information content of human mobilization resource electronic file (for those data that cannot be retrieved from external information sources or when there is no connection with external IT systems – data providers).
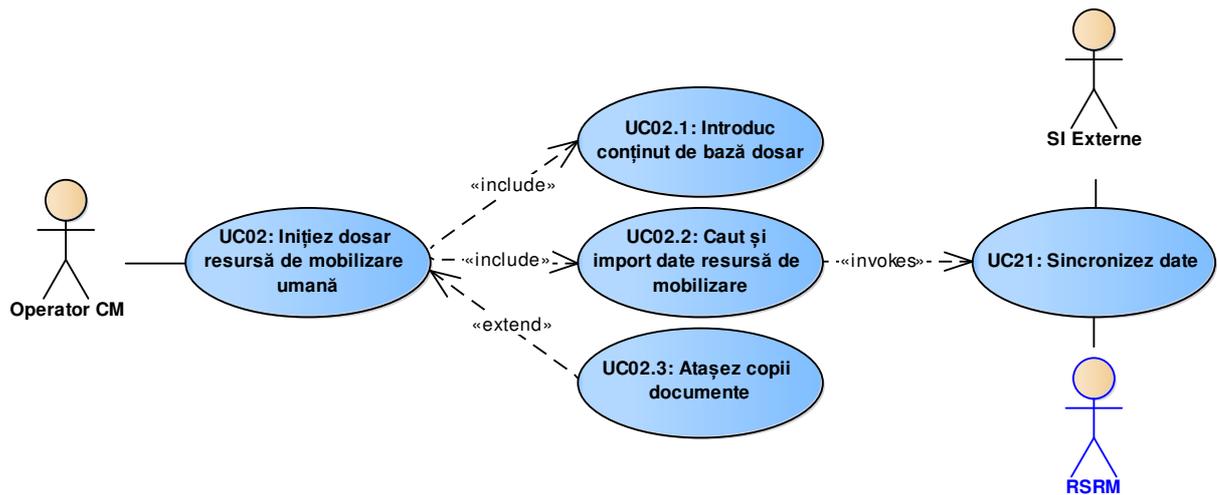
Figure 4.3. Implementation of Use Case UC02.

■ **UC02.2: Search and import mobilization resource data**. It contains all functionalities to search through databases of external IT systems and insert automatically the data related to human mobilization resources. The search component of data to be inserted in electronic forms of human mobilization resource electronic file sections will enable automatic definition of queries for searching person's relevant data (human mobilization resource) in all external IT Systems and consolidating the outcomes into the human mobilization resource personal card.

■ **UC02.3: Attach copies of documents**. This represents a functionality *through* which *MC Operators* will manage (add, change, delete and view) all files with copies of documents and acts relevant for the mobilization resource.

As per the sequence described in Figure 4.4., *MC Operator* shall be authenticated and authorized in *SRMR* to launch the process of creating a human mobilization resource electronic file. *SRMR* verifies the credentials applied to authenticate the user *through* authentication and authorization procedures. *SRMR* shall record all *MC Operator* authentication and authorization events in the system logs.

Once authorized, the *MC Operator shall* access the option of creating the human mobilization resource electronic file. Subsequently, *SRMR shall* display an electronic file to the user, which was designed to launch the file creation process. *MC Operator* shall introduce the person's identification data and launch the file initiation procedure.
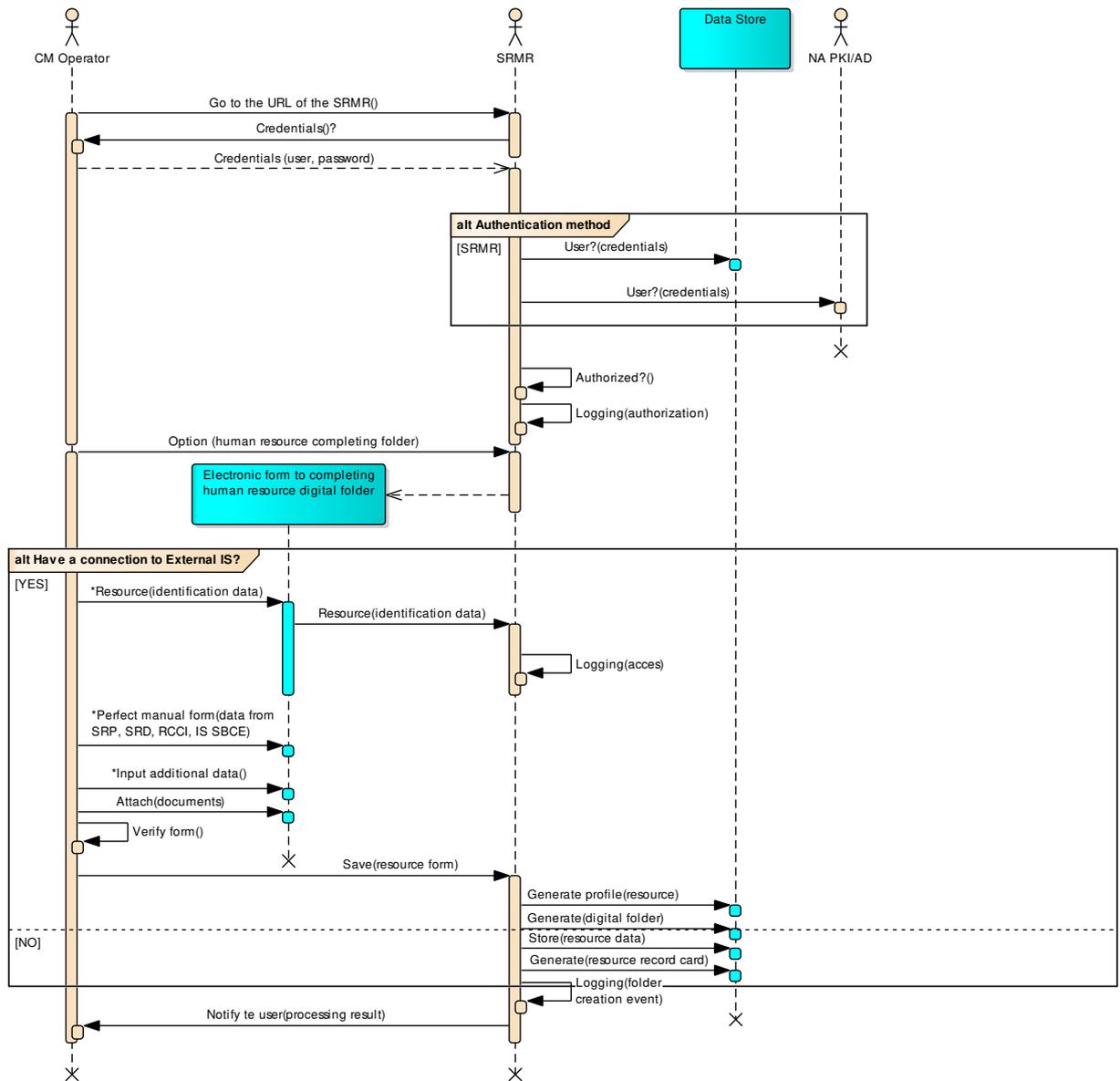
Figure 4.4. Sequence "Initiate a human mobilization resource file".

When *SRMR* is connected to external IT Systems – data providers, it will subject them to queries with the aim to retrieve the following categories of data:

■ **State Register of Population**: to retrieve the person's biometrical and identification data, identification data on persons with family relationships of level 1, data on identity documents of human mobilization resources.

■ **State Driver Register**: to retrieve data on the entitlements and skills to drive motor vehicles, as well as the corresponding acts held.

■ **Register of Criminalistic and Criminological Information**: to retrieve data on human mobilization resource convictions.

■ **IT System "State Border Crossing Event:** to retrieve data on state border crossing by a human mobilization resource (data on person's availability in the country).

After having accessed each external IT System, *SRMR* will ensure logging of synchronization events with external data sources. All the data retrieved from external sources will be inserted

automatically in the corresponding sections of the electronic file with the purpose to initiate a human mobilization resource file.

When *SRMR* has no connection to external IT Systems - data providers, all sections of the form for the initiation of a human mobilization resource electronic file will be prepared manually by the *MC Operator.*

Regardless of the way of preparing the sections of the form for initiating the human mobilization resource electronic file, after their filling, the *MC Operator* will insert additional information that is not available in the databases of external IT systems, and scan and attach all electronic copies of relevant human mobilization resource documents.

Once all sections of the form for initiating the human mobilization resource electronic file are prepared, the *MC Operator* will verify its accuracy and completeness (*SRMR will deliver* validation functionality per client of form main constraints) after which he will activate the form *Save* option.

Subsequently, *SRMR* will copy the files attached to the form on the server, while on the basis of form data it shall:

- create physical person's profile;

- create the records related to the human mobilization resource electronic file;

- store all data and files related to the person into the file;

- generate a personal card of the human mobilization resource.

- ensure logging the event of file creation.

Once the file has been created, the IT system will notify the *MC Operator* on the result of creating the human mobilization resource electronic file.

The scenario based on which the sequence described in Figure 4.4 is carried out is displayed below.

0. Initiate a human mobilization resource file.

1: *MC Operator* is authenticated and authorized within *SRMR*.

2: *SRMR* verifies credentials for authentication and enters the event in logs.

3: *MC Operator* accesses the functionality of initiating a human mobilization resource electronic file.

4: *MC Operator* prepares the electronic form designed to initiate a human mobilization resource electronic file.

5: *MC Operator* verifies and saves the electronic form designed to initiate a human mobilization resource electronic file.

6: *SRMR* processes the electronic form designed to initiate a human mobilization resource electronic file, having generated and populating the file with data, as well as the personal card of the human mobilization resource, the person's profile.

7: *SRMR* notifies the *MC Operator* on the completion of processing the electronic form designed to initiate a human mobilization resource electronic file.

2a: User's credentials are incorrect.

1: [this Scenario cannot be continued].

4.a: SRMR can access external IT Systems to import data.

1: *SRMR shall query SRP* and import person's biometrical and identification data.

2: *SRMR shall ensure* logging of the event of person's biometrical and identification data retrieval.

3: *SRMR shall query SRP* and import data on persons with family relationship of level 1.

4: *SRMR shall ensure* logging of the event of retrieving data on persons with family relationship of level 1.

5: *SRMR shall query SRP* and import data on person's identity acts.

6: *SRMR shall ensure* logging of the event of retrieving data on person's identity acts.

7: *SRMR shall query SDR* and import data on person's entitlements and skills to drive vehicles.

8: *SRMR shall ensure* logging of the event of retrieving data on person's entitlements and skills to drive vehicles.

9: *SRMR shall query RCCI* and import data on person's convictions.

10: *SRMR shall ensure* logging of the event of retrieving data on person's convictions.

11: *SRMR shall query IS SBCE* and import data on person's state border crossing.

12: *SRMR shall ensure* logging of the event of retrieving data on person's state border crossing.

12: *MC Operator* shall insert additional data from the electronic form designed to initiate a human mobilization resource electronic file.

13: *MC Operator* shall attach electronic copies of relevant human mobilization resource acts.

14: [continue with Step 5].

5.a: SRMR is not able to access external IT Systems to import data.

1: *MC Operator* shall prepare manually the data populated sections from the *SRP, SDR, RCCI and SI ETFT*.

2: *MC Operator* shall insert additional data from the electronic form designed to initiate a human mobilization resource electronic file.

3: *MC Operator* shall attach electronic copies of relevant acts of the human mobilization resource.

4: [continue with Step 5].

UC03: Initiate a material mobilization resource file

This is a compound Use Case that expands Use Case UC01 to manage electronic files of material mobilization resources (transportation units/vehicles). In most cases, the identification data and some properties of the material mobilization resources will be retrieved automatically *via the interaction*s with relevant external IT Systems (*SRP*, *SRV*, *SRLE*, and *SI ETFT*).

In addition, *SRMR* will deliver functionalities for manual editing of data when external IT Systems are not available. The Use Case functionalities will be called up not only when a new file for

material mobilization resource has been initiated, but also when there is a need to view or update certain sections of the existing files on human mobilization resources.
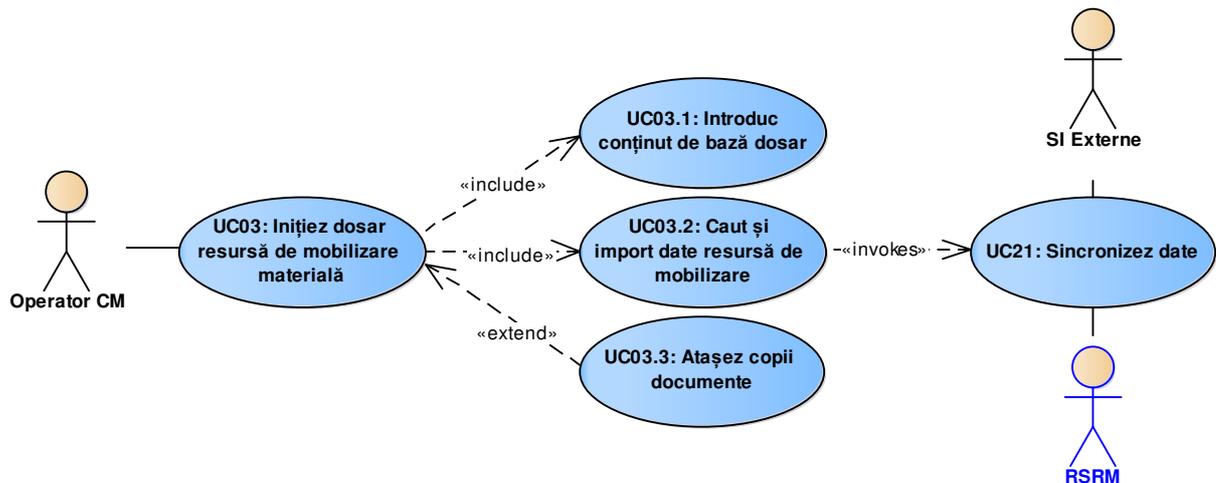
Figure 4.5. Implementation of Use Case UC03.

According to Figure 4.5., Use Case *UC03: Initiate a file for material mobilization s*hall be implemented through the following Use Cases:

- ■ UC03.1: Introduce basic content in the file. This represents a functionality *through* which the *MC Operators* will have access to all forms designed to manage the content of electronic file sections of material mobilization resources (add, update, delete and view data). This Use Case will ensure manual functionalities for managing the information content of the material mobilization resource electronic file (for the data that cannot be retrieved from external information sources or when there is no connection with external IT systems - data providers).

- ■ UC03.2: Search and import mobilization resource data. It contains all functionalities for searching in the databases of external IT systems and inserting automatically data related to material mobilization resources. The data search component to be inserted in the electronic forms from the sections of the material mobilization resource electronic file will enable automatic definition of queries for searching the vehicle relevant data (material mobilization resource) in all external IT Systems and consolidating the outcomes in the material mobilization resource personal card.

- ■ UC03.3: Attach copies of documents. This represents a functionality *through* which *MC Operators* will manage (add, change, delete and view) all files with copies of relevant documents and acts relevant for the mobilization resource.

As per the sequence described in Figure 4.6., the *MC Operator* shall be authenticated and authorized in the *SRMR* to launch the process of creating an electronic file for the material mobilization resource. *SRMR* shall verify the credentials by which the user shall be authenticated *through* the authentication and authorization procedure. *SRMR* shall record in the system logs all events aimed to authenticate and authorize the *MC Operator*.

Once authorized, the *MC Operator* shall access the option of creating an electronic file for the material mobilization resource. Subsequently, the *SRMR* shall display for the user an electronic form

designed to start the process of file creation. The *MC Operator shall* introduce the vehicle identification data and launch the procedure for file initiation.

When the *SRMR* is connected to external IT Systems - data providers, it shall subject them to queries aimed to retrieve the following categories of data:

- **State Register of Vehicles**: to retrieve vehicle technical and registration data, as well as data on its owner.

- **State Register of Population**: to retrieve identification data of physical persons – owners of vehicles.

- **State Register of Legal Entities**: to retrieve identification data of legal persons – owners of vehicles.

- **IT System "State Border Crossing Events"**: to retrieve data on state border crossing by the vehicle (data on vehicle availability in the country).

After having accessed each external IT System *SRMR* shall ensure logging of synchronization events with external data sources. All data retrieved from external sources will be inserted automatically in the corresponding sections of the electronic form for initiating the material mobilization resource file.

When *SRMR* has no connection to external IT Systems - data providers, all sections of the form for initiating the material mobilization resource electronic file will be prepared manually by the *MC Operator.*

Regardless of the way of preparing the sections of the form for initiating the material mobilization resource electronic file, after their filling the *MC Operator* will insert additional information that is not available in the databases of external IT systems, and scan and attach all electronic copies of relevant material mobilization resource documents.

Once all sections of the form for initiating the vehicle electronic file are prepared, the *MC Operator* will verify its accuracy and completeness (*SRMR will deliver* validation functionality per client of form main constraints) after which he will activate the file *Save* option.
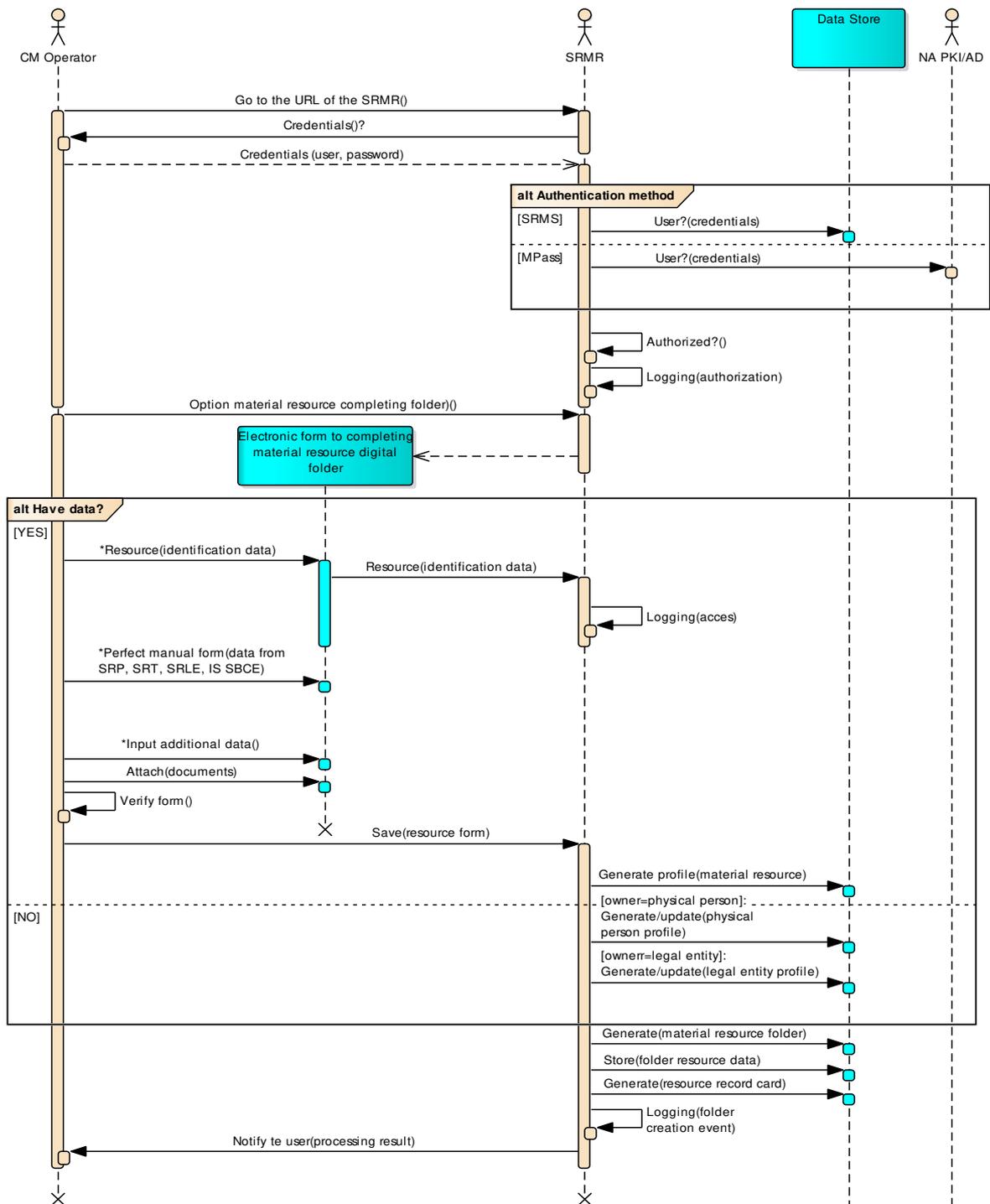
Figure 4.6. Sequence "Initiate a material mobilization resource file".

Subsequently, *SRMR* will copy the files attached to the form on the server, while on the basis of form data it shall:

■ create the vehicle profile;

■ create the profile of the physical person – owner of the vehicle;

■ create the profile of the legal person – owner of the vehicle;

■ create entries related to electronic file of the material mobilization resource;

■ store all data and files related to the person in the file;

- generate the material mobilization resource personal card.

- ensure logging of the file creation event.

Once the file has been created, the IT system shall notify the *MC Operator* on the outcome of creating the material mobilization resource electronic file.

The scenario based on which the sequence described in Figure 4.6 is carried out is displayed below.

0. Initiate a material mobilization resource file.

1: *MC Operator* is authenticated and authorized in *SRMR*.

2: *SRMR* shall verify credentials for authentication and shall record the event in logs.

3: *MC Operator* shall access the functionality for initiating an electronic file for the material mobilization resource.

4: *MC Operator* shall prepare the electronic form designed to initiate an electronic file of the material mobilization resource.

5: *MC Operator* shall verify and save the electronic form designed to initiate an electronic file for the material mobilization resource.

6: *SRMR* shall process the electronic form designed to initiate an electronic file of the material mobilization resource, generating and populating the file with data, the personal card of human mobilization resource, the physical person's profile, the profile of the legal person, the vehicle profile.

7: *SRMR* shall notify the *MC Operator* on the completion of processing the electronic form designed to initiate an electronic file for the material mobilization resource.

2a: user's credentials are incorrect.

1: [this Scenario cannot be continued].

4.a: SRMR can access external IT Systems to import data.

1: *SRMR shall query SRV and* import vehicle technical and registration data.

2: *SRMR shall* ensure logging of the event of retrieving vehicle technical and registration data*.*

3: *SRMR shall query SRV and* import data related to vehicle acts.

4: *SRMR shall ensure* logging of the event of retrieving data related to vehicle acts*.*

5: *SRMR shall query SRV and* import data related to vehicle owner.

6: *SRMR shall ensure* logging of the event of retrieving data related to vehicle owner.

7: *SRMR shall query* external IT Systems to retrieve data on the owner of the material mobilization resource.

8: *SRMR shall query IS SBCE* and import data on person's state border crossing.

9: *SRMR shall ensure* logging of the event of retrieving data on person's state border crossing*.*

9: *MC Operator* shall insert additional data from the electronic form designed to initiate an electronic file of the material mobilization resource.

13: *MC Operator* shall attach electronic copies of relevant acts of the human mobilization resource.

14: [continue with Step 5].

4.a.7.a: The vehicle owner is a physical person.

1: *SRMR shall query SRP and* import identity data of the physical person - vehicle owner.

2: *SRMR shall ensure* logging of the event of retrieving identity data of the physical person - vehicle owner.

14: [continue with Step 4.a.8].

4.a.7.b: The vehicle owner is a legal person.

1: *SRMR shall query SRLE and* import identity data of the legal person - vehicle owner.

2: *SRMR shall ensure* logging of the event of retrieving identity data of the legal person - vehicle owner.

14:[continue with Step 4.a.8].

5.a: SRMR is not able to access external IT Systems to import data.

1: *MC Operator shall* prepare manually the sections populated with data from *SRV, SRP, SRLE and SI ETFT*.

2: *MC Operator* shall insert additional data from the electronic form designed to initiate an electronic file of the material mobilization resource.

3: *MC Operator* shall attach electronic copies of relevant acts of the material mobilization resource.

4: [continue with Step 5].

UC04: Import data

This is a Use Case that provides all manual functionalities designed to update the *SRMR* (import of data to *SRMR*) *through* a standard file in XML, CSV or Excel format. For big data subject to update, including the initial population of data collection, online synchronization of external IT systems is not rational. In such conditions, it is more appropriate to export the big data from external IT Systems into a standard format to be imported subsequently into the *SRMR.*

This Use Case shall be applied also for data providers that have no IT Systems for online synchronization (example*: receiving data on enlisted/expelled students*).

UC05: Prepare resource deployment plan

This is a compound Use Case that provides all functionalities designed to deploy the mobilization resources *to Military Units.* The IT System will enable the preparation of two categories of forms for the deployment of mobilization resources:

- form for the deployment of human mobilization resources;
- form for the deployment of human mobilization resources*.*

The deployment of human mobilization resources would be possible only when the applications of MU personnel are inserted in and approved by the system for the current mobilization campaign.

UC06: Prepare human resources deployment plan

This is a compound Use Case *through* which the users with the role of *MC Operator* within the Military *Centers* will deploy the recruits to *Military Units.* The IT System shall take account of *Military Units* requirements (the form for deploying human mobilization resources shall be linked with the forms of MU personnel applications)*.*

The deployment of human mobilization resources would be possible only when the applications of MU personnel are inserted in and approved by the system for the current mobilization campaign and be based exclusively on visual mechanisms.

UC07: Prepare material resources deployment plan

This is a compound Use Case through which the users with the role of *MC Operator* within the Military *Centers* shall deploy vehicles to *Military Units.* The IT System shall take account of *Military Units* specialization*.* The deployment of material mobilization resources shall be based exclusively on visual mechanisms*.*

UC08: Use dashboard

This represents a functionality *through* which the authorized user of the SRMR will be warn and be able to view and access rapidly all business events related to his interactions with the IT system *and* job duties (system notifications, workflow events, etc.)*.*

Likewise, he will have direct access to functionalities related to the notified business events (accessing directly the mobilization resource electronic file, printing out the documents generated as a result of received changes, etc.). The user interface of the SRMR main page would serve as a Dashboard where user-related elements and notifications would be displayed.

UC09: Generate reports

This is a functionality accessible to users of *MC Operator, MU Operator, MC Decision Maker, MU Decision Maker and Administrator* levels that enables generating predefined reports and ad-hoc reports on the IT System content. Such reports are useful for the analysis of unrolled processes, system information base and of MoD institutions involved in the registration and management processes of mobilization resources, enabling to carry out efficient review of mobilization processes and providing data for forecasting and decision-making processes.

UC10. Search through files

This Use Case is delivered to authorized users and covers all functionalities designed to define the information search criteria through the content of electronic files of mobilization resources, to display the search results and define additional criteria for search fine-tuning in the list of displayed search results.

UC11: Prepare business event electronic form

This is a compound Use Case that will deliver all electronic forms necessary to document all business events related to the management and registration processes of mobilization resources. *SRMR* will not allow any direct replacement of data in the database. Any change shall be carried out through a specialized electronic form. Depending on their entitlements and roles, the IT System users will have access to the relevant set of electronic forms.

As per the sequence described in Figure 4.7., *the Operator* (all operator roles, as appropriate: *MC Operator, MC Consultant or MU Operator*) shall be authenticated and authorized in *SRMR* to launch the documentation process of a business event related to the management and registration processes of mobilization resources. *SRMR* shall verify the user' credentials *via* authentication and authorization procedures. *SRMR* shall record all events aimed to authenticate and authorize the *Operator* in the system logs*.

Once authorized, the *MC Operator* shall access the search option for those mobilization resources for which an electronic form shall be prepared to document a business event intended to ensure mobilization resource registration or management.

Once the search has been completed, *the Operator* shall mark all mobilization resources to be entered into the form and launch the functionality to create a relevant form. Subsequently, the *SRMR* will open the electronic form pre-filled with relevant data and mobilization resources.

In the displayed electronic form *the Operator* shall fill all relevant fields and save the form after its full preparation. To this end, the *SRMR* shall launch the procedure for primary validation of the form (verification of value constraints, constraints for non-null values, control sums, etc.).

If following the validation some deficiencies are detected, the form is not saved, being returned to *the Operator* to make the relevant corrections. This process is repeated until the *SRMR* validates the form content*.

When *SRMR* validates the electronic form content, the form is saved in the data stock. After saving the form, *the Operator* shall apply the digital signature on the form, while the generated and signed document is saved in the *SRMR* data stock*.
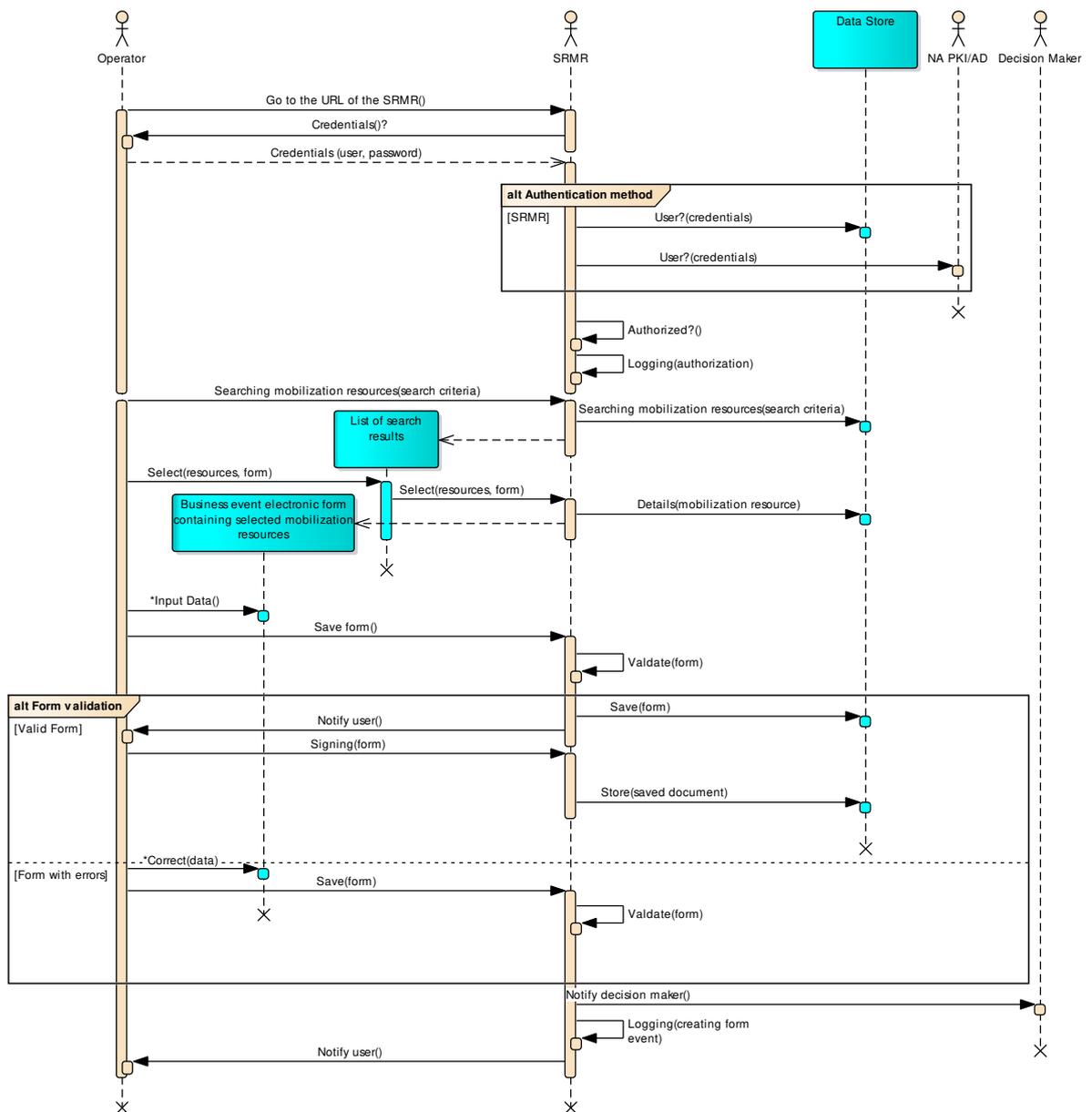
Figure 4.7. Sequence "Prepare a business event electronic form".

SRMR shall ensure logging the event of form saving and signing and notify the decision-maker responsible for approval on the need to approve the form, and the form author – about sending the form for approval.

The scenario based on which the sequence described in Figure 4.7 is carried out is displayed below.

0. Prepare business event electronic form.

1:      *Operator* is authenticated and authorized in *SRMR*.

2:      *SRMR* shall verify credentials for authentication and shall record the event in logs.

3:      *Operator* shall access functionality for searching and selecting the necessary mobilization resources.

4:      *Operator* requires the form for preparing the relevant business event.

5:      *Operator* prepares data of the electronic form to document the business event (pre-filled with the data of mobilization resources selected apriori).

6:      *SRMR* validates the content of the form.

7:      *Operator* shall save the form.

8:      *Operator* shall apply digital signature on the form.

9:      *SRMR shall save the* document generated from the form content and signed in the data stock*.*

10:     *SRMR* shall notify *the Decision Maker* on the need to approve the form, and *the Operator – on sending the form for* approval.

2a: User's credentials are incorrect.

1:      [this Scenario cannot be continued].

6.a: SRMR does not validate the form.

1:      *SRMR* returns the form to *the Operator* for correction.

2:      *Operator* carries out all relevant corrections*.*

3:      *Operator* shall save the form.

4:      [continue with Step 5].

UC12: Print out documents

This functionality is available to users with the role of *Registrar, MC Operator or MU Operator through* which all documents shall be printed and attached to the mobilization resource file. These documents will be generated on the basis of predefined templates with data populated from the *SRMR DB content*. As a rule, such documents will be generate from the current content of the mobilization resource electronic file (mobilization resource cards) or will result from all electronic forms of *SRMR* business events prepared and approved by authorized users.

UC13: Approve/reject electronic forms

This is a Use Case available to users with the role of decision-maker under *the State Register of Mobilization Resources* (*MC Decision Maker and MU Decision Maker*) *through* which they would be able to approve or to reject the draft electronic forms prepared by the users with the role of *MC Operator, MU Operator, MC Consultant and* sent to users with decision-making role (*MC Decision Maker or MU Decision Maker*) for approval.
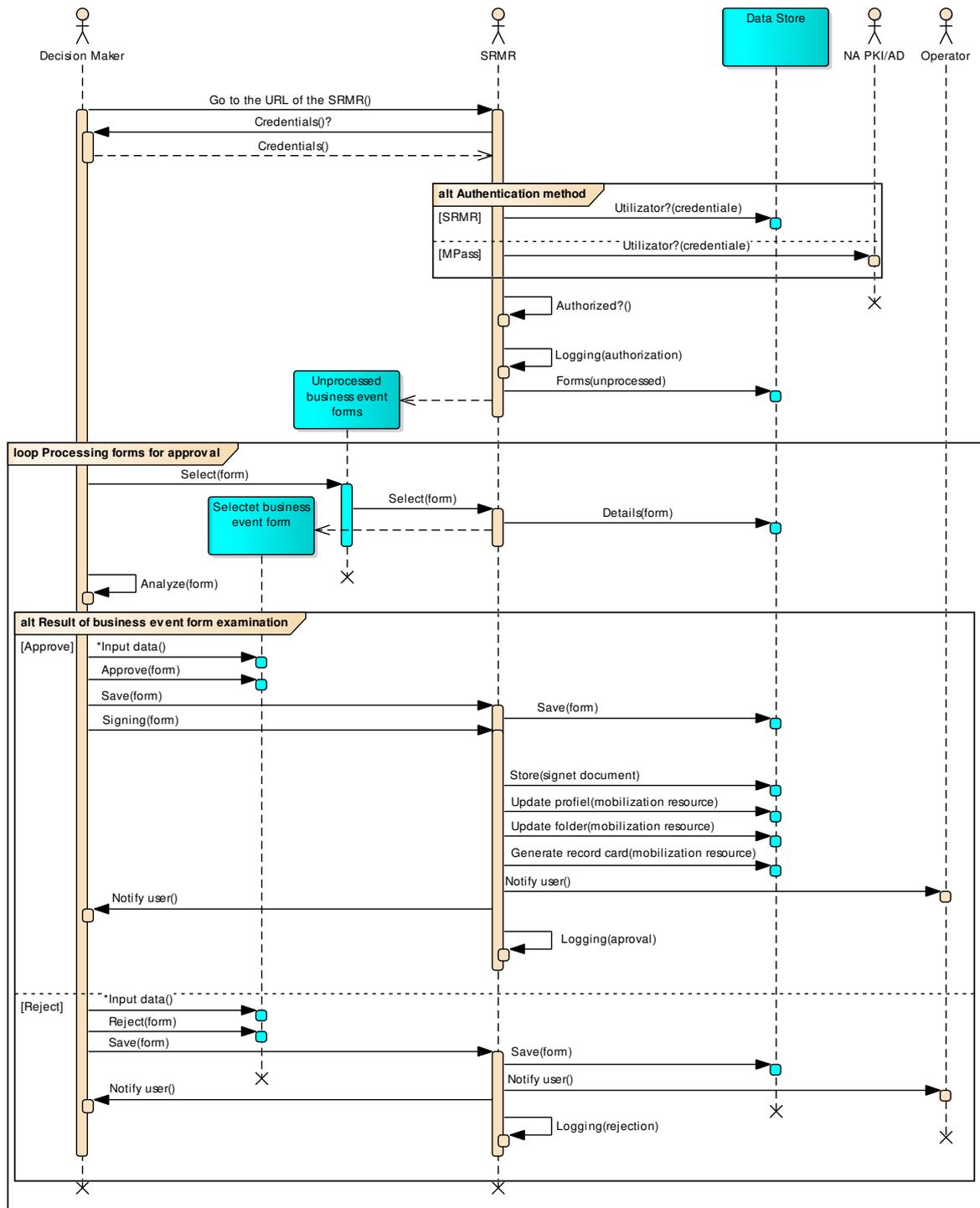
Figure 4.8. Sequence „Approve/reject electronic forms".

As per the sequence described in Figure 4.8., *the Decision Maker* (covering all decision-making roles, as appropriate: *MC Decision Maker or MU Decision Maker*) shall be authenticated and authorized in *SRMR* to launch the process of reviewing and approval/rejection of electronic forms sent by *Operators*. *SRMR* shall verify the *Decision Maker* credentials *through* the authentication and authorization procedure. *SRMR* shall record all events for Decision Maker authentication and authorization in the system logs.

Once authorized, *the Decision Maker* shall access the option of viewing the list of all forms subject to review and, depending on each specific case, shall approve or reject the forms. This is a repeating review and processing action for each individual form.

The Decision Maker opens the relevant form, looks through its content, inserts the content relevant for his role and, where appropriate, makes corrections in the form content.

When the form is approved, *the Decision Maker* activates the approval option, saves the form with the operated changes and applies the digital signature. After the form approval, *SRMR* will process its content, making, where appropriate, the following changes:

■ update the mobilization resource (physical person, legal person, vehicle) profile;

■ update the mobilization resource electronic file;

■ generate the mobilization resource record card.

After carrying out all updates, the IT system shall notify *the Operator* about the approval of its form, and *the Decision Maker* – about the electronic form processing, and ensure logging the approval process.

If the form is not approved, *the Decision Maker* shall activate the rejection option, save the form with the operated changes. Following the rejection, *SRMR* shall notify *the Operator* about the rejection of its form, and ensure logging the rejection event.

The scenario based on which the sequence described in Figure 4.8 is carried out is displayed below.

0. Approve/reject electronic forms.

1: *Decision Maker* is authenticated and authorized in *SRMR*.

2: *SRMR* shall verify credentials for authentication and shall record the event in logs.

3: *Decision Maker* shall access the view functionality for the list of forms subject to approval.

4: *Decision Maker* accesses the form for review.

5: *Decision Maker* reviews the form.

2a: user's credentials are incorrect.

1: [this Scenario cannot be continued].

5.a: The form is accepted.

1: *Decision Maker* shall fill the form with relevant data.

2: *Decision Maker* shall apply the form approval option.

3: *Decision Maker* shall save the form.

4: *Decision Maker* shall sign the form.

5: *SRMR* generates the document and applies digital signature.

6: *SRMR* stores the signed document in the data stock.

7: *SRMR updates* the mobilization resource profile;

8: *SRMR updates* the mobilization resource electronic file.

9: *SRMR* generate and stores the mobilization resource record card.

10: *SRMR* shall notify *the Operator* on approving the form, and *the Decision Maker* – about the processing.

10: *SRMR shall ensure* logging the form approval event.

5.b: The form is rejected.

1: *Decision Maker* shall fill the form with relevant data.

2: *Decision Maker* shall apply the option of form rejection.

3: *Decision Maker* shall save the form.

4: *SRMR* shall notify *the Operator* about the form rejection.

5: *SRMR shall ensure* logging the form rejection event.

UC14: Prepare personnel application

This represents a functionality available to users with the role of *MU Operator* to deliver all mechanisms necessary to prepare the MU personnel application for the conscript soldiers incorporation campaign.

The electronic form for the personnel application will be generated on the basis of a predefined template, while its content will be prepared dynamically (there would be no limits imposed on the number of entries in the form sections). The IT System will enable preparing a single *Military Unit* form per incorporation campaign.

The System will compute the form generalized values (totals and subtotals) and generate all reports and documents related to National Army incorporation plans.

UC15: Prepare electoral data

It delivers a set of functionalities designed to fill the mobilization resource electronic file (in this case the military men) with electoral data based on which *the State Register of Voters* shall set the place of voting for the military men.

SRMR will retrieve all relevant metadata of *SAISE* to ensure compatibility of delivered data with the requirements of the *State Register of Voters.* To this end, along with the automatic synchronization mechanism delivered by Use Case UC23, the IT system will enable the export of relevant data into a standard format agreed jointly with the *CEC,* so that the file is delivered to be imported into the *SRE.*

UC16: Generate system statistics and reports

This is a Use Case that delivers all functionalities accessible to users of *Administrator level* that allow generating predefined administrative and ad-hoc reports on the *SRMR* operation events. These reports are useful for analyzing the processes carried out, the system information base, activity performance of authorized users, enabling to address the information security issues well in advance.

UC17: Manage users, roles and rights/entitlements.

It describes the functionalities intended for *System Administrators through* which they administer profiles and roles of IT System authorized actors, including the managerial level, of external actors who review and insert data for which the authentication is done on the basis of user name+password+IP address, digital certificate or mobile identity, of external IT systems etc.

Likewise, this Use Case will deliver all functionalities necessary to define the users' rights of access to user interface components and specify the component peculiarities of user interface components in their interaction with the authorized users.

UC18: Manage flows, forms and templates.

This represents a Use Case intended for IT System Administrators, which describes all functionalities available to them to update workflows, electronic forms and standard document models usable for each type of input or output document (configure the heading zone, footnotes, static and dynamic contents, formatting, graphical aspects, etc.).

A document template shall comprise an inserted beacon *through* which it could be populated with content information extracted from the database.

UC19. Manage metadata.

This is a Use Case that provides all functionalities intended for the *Administrator through* which he administers all Nomenclatures, Classifiers and configurations that form the SRMR Metadata System (including the Metadata that define the *SRMR* user interface configuration).

UC20. Other administration activities

This represents a Use Case intended for Administrators, which describes all functionalities accessible to them designed to administer and audit the *SRMR*: maintaining the list and integrity of users' credentials who have access to the administration space, retrieval of reports from the system registers to be subject to review and tracking potential logical and physical security issues of the *SRMR,* etc.

The SRMR administration Use Case will implement all functionalities aimed at ensuring the IT System viability and integrity.

UC21: Synchronize data

This is a Use Case *through* which *SRMR* shall launch, upon request or automatically, at certain time intervals, the procedures to synchronize the data comprised by the mobilization resources electronic files with the information relevant to them stored in external IT Systems. Likewise, this category of procedures covers also the procedures for updating the mobilization resources statuses depending on time factors or launching some processes to generate records following the receipt of new categories of data (example*: new people who reached the age of 16, new registered vehicles, etc.*) from external IT Systems.

The State Register of Mobilization Resources shall use the external interfaces to provide data (export of specific data, such as electoral data sent to *SAISE*).
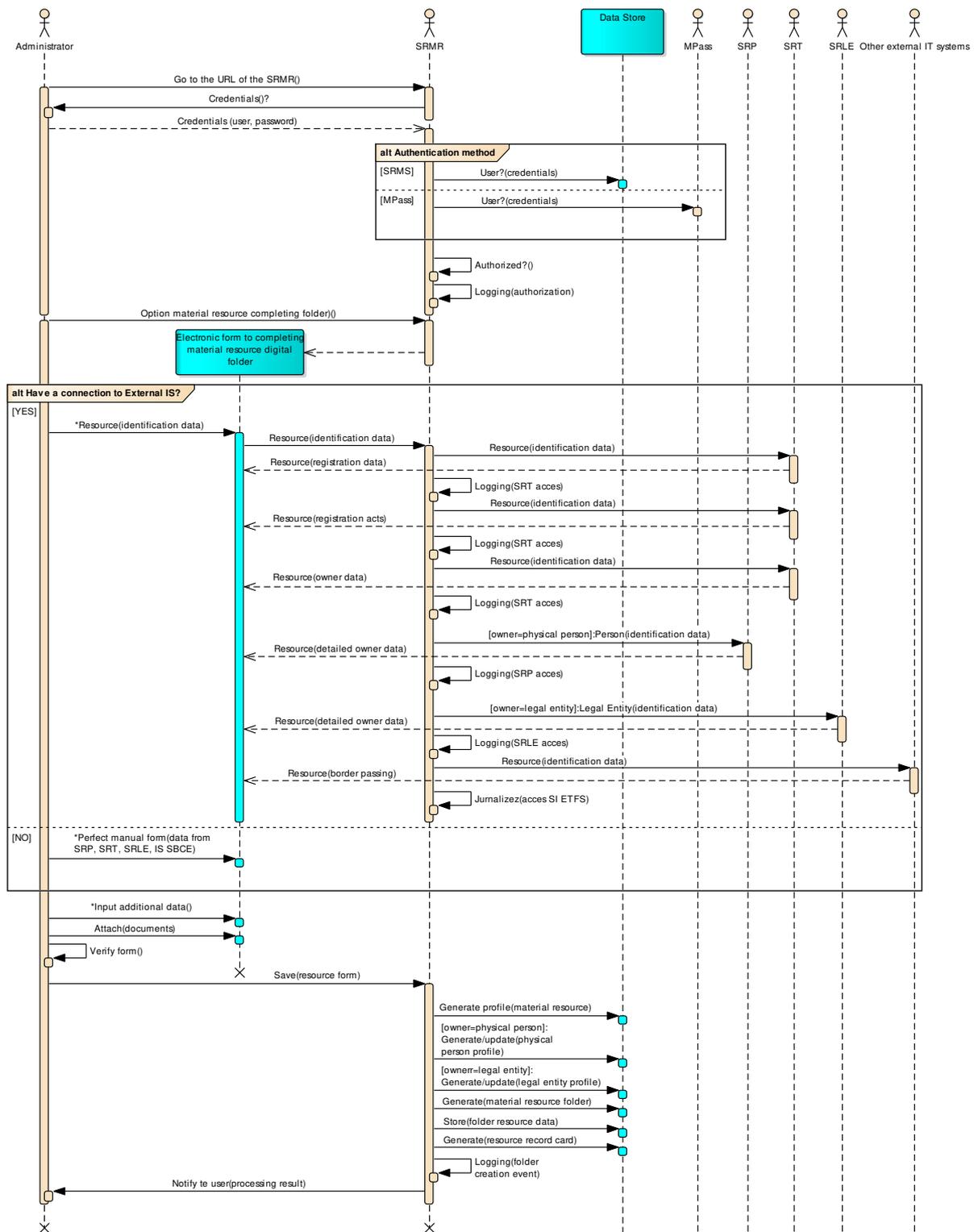
Figure 4.9. Sequence „Retrieving data from external informational systems".

UC22: Perform tasks

This is a Use Case *through* which *SRMR* shall automatically perform, at certain time intervals, the launch of procedures to synchronize the data comprised by the mobilization resources electronic files with the information relevant to them stored in external IT Systems.

Likewise, this category of procedures covers also the procedures for updating the mobilization resources statuses depending on time factors or launching some processes to generate records following the receipt of new categories of data (example: *new people who reached the age of 16, new registered vehicles, etc.*) from external IT Systems.

The IT System will deliver functionalities to configure the schedule for automatic or manual launch of procedures.

UC23: Send notifications

This is a Use Case *through* which the *SRMR* authorized users will be notified (internal messenger or E-mail) on the occurred business events that might affect them. The users shall receive notifications *through* their personal dashboard and E-mail messenger. *The State Register of Mobilization Resources* will ensure functionalities of direct access to business event details (electronic file, electronic form or document to be printed out) directly from the notification.

UC24: Logging Events

This is a Use Case *through* which the business events generated by the SRMR functional components will be logged. Any event generated under business processes implemented in *SRMR* will be logged and saved in the corresponding tables of the database. The logging mechanism shall be developed on the basis of standards and best practices implemented in the industry. The IT System *will deliver* functionalities to configure the strategy for logging of business events, including: business events subject to logging, logging calendar (determined or undetermined).

4.3. SRMR electoral workflows

The workflows designed to process electoral data will be implemented under Use Case UC15 and must comply with the functional requirements established for it. Depending on the type of managed electoral data, there are two categories of flows to be administered by the:

■ *Administrator* when it is required to configure data necessary for automatic interaction of *SRMR* and *SAISE*;

■ *MU Operator* when it is required to manage electoral data at the level of *Military Unit soldier.*

4.3.1. Administration of SRMR for the interaction with SAISE

According to the diagram displayed in Figure 4.9, to configure the parameters of *SRMR* interaction with *SAISE* the *SRMR Administrator* shall be authenticated in the system and select the relevant option for configuring the parameters of *SRMR* interaction with *SAISE.*

Administrator	RSRM	SIASA

Start

Administratorul se autentifică şi autorizează în RSRM

NU — **Metadate SIASA?** — DA

Administratorul aceseazǎ opţiunea de sincronizare a metadatelor SIASA

RSRM Expediazǎ solicitarea de actualizare a metadatelor SIASA

SIASA identificǎ setul de metadate ce trebuie actualizat

RSRM recepţioneazǎ şi actualizezaǎ metadatele SIASA

SIASA expediazǎ setul de metadate pentru actualizare

NU — **Actualizare profil UM?** — DA

Administratorul gǎseşte şi selecteazǎ unitatea militarǎ relevantǎ

Administratorul redacteazǎ şi expediazǎ datele cu caracter electoral al UM conform metadatelor SIASA

RSRM recepţioneazǎ şi actualizeazǎ datele cu caracter electoral al UM

NU — **Export Date?** — DA

Administratorul formuleazǎ criteriul de export

RSRM lanseazǎ interogarea şi extrage datele conform criteriului Administratorului

Datele exportate sunt salvate pe calculatorul Administratorului în format tipizat

Sfârşit

Figure 4.9. Interaction of the Administrator with the SRMR to prepare electoral data.

If synchronization of *SRMR* and *SAISE* is required to retrieve the set of *SAISE* metadata related to elections to take place, *the Administrator* shall access the option of *SAISE* metadata synchronization. *Subsequently,* he shall launch the metadata synchronization procedure (*through* a service exposed by *SAISE*).

Following the mutual exchange of data *SAISE* shall analyze the discrepancies and identify the relevant changes to be operated in the SRMR electoral metadata to ensure compatibility of these two IT systems. Once the discrepancies are identified, the latter shall be sent, in a predefined format, to *SRMR*.

After receiving the relevant metadata, *SRMR* shall operate all relevant updates in the system of electoral metadata.

When the metadata for the interaction with *SAISE* are up-to-date, *the Administrator* shall access the option of assigning electoral data to *Military Units* (assigning the relevant electoral district, relevant polling stations, etc.) so that the electoral data could be automatically assigned to military men performing their military service within the *Military Unit.*

To this end, *the Administrator* locates the relevant MU and requires the option of editing the Military Unit electoral data. Following the preparation of electoral data, *the Administrator* shall save the changes, while the *SRMR shall update* the *Military Unit* electoral data.

When all electoral metadata are up-to-date, but there is no possibility to automatically synchronize *SRMR* with *SAISE through* the special service exposed by *SAISE* for sending the data on the *Military Unit soldiers who shall vote within the Military Unit* radius, the IT system shall deliver functionalities to export data into a standard format file.

This file is prepared in accordance with the *State Register of Voters* import module, comprising transactions of assigning a polling station to voters that is different from the one assigned as per their residency.

If appropriate, *the Administrator* shall configure the search option and export in the *State Register of Voters* format the data on the relevant soldiers whose polling station has been changed. Subsequently, *SRMR shall identify* the target military men and generate a file comprising transactions on assigning a polling station to soldiers in the format accepted by the import module *of the State Register of Voters. The Administrator* shall save this file and send it to *CEC.*

4.3.2. Preparation of electoral data under SRMR

According to the diagram displayed in Figure 4.10, *the MU Operator* is authenticated and authorized in *SRMR to prepare* all electoral data related to the MU soldiers. To this end, he shall formulate the criteria for searching the relevant soldiers and shall process the list of soldiers' files, which is returned into the IT system.

In the obtained list, *the MU Operator* shall select the relevant files and activate the option to prepare the electronic form with soldiers' electoral data (data common for all selected military men). This shall be done when the soldiers were not assigned to a polling station related to the *Military Unit* or when the *Military Unit* has several polling stations, and it is required to assign the soldiers to different stations.

Once the option to prepare the form intended to show the electoral data of selected soldiers has been launched, the displayed form shall be pre-filled with the MU data *and* the list of selected military men.

The MU Operator shall save the prepared form and apply digital signature. Following the validation and application of digital signature *SRMR* shall spread all form electoral data in the electronic files of all military men included in the form.

Following the processing of all data of military men covered by the list (in groups or individually), *the MU Operator* shall launch other search criteria until all the electoral data of the *Military Unit* soldiers are prepared.
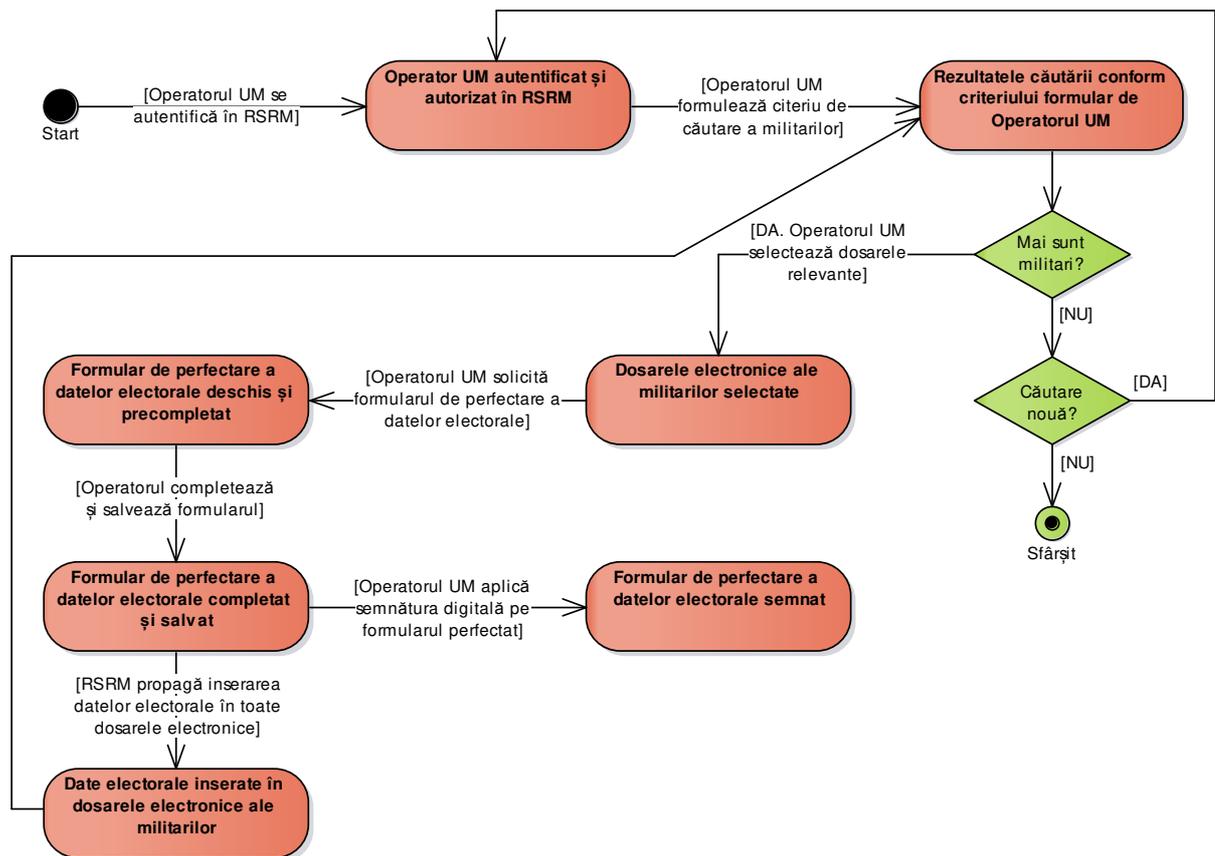
Figure 4.10. Interaction of MU Operator with SRMR to prepare electoral data.

4.4. User Interface of IT System

SRMR shall offer an ergonomic interface, intuitive and accessible to all types of users via a web browser optimized for the resolution of 1360x768. The System shall have an agreeable, balanced and distinct graphical design, responsive to all devices used (desktop PC, notebook, tablet, Smartphone).

For users' simplicity, the IT solution shall have a system of online contextual help at the level of each WEB interface.

Depending on the user category (their rights and roles) the IT system will deliver a personalized interface to each category of users.

Users of the IT system shall have at least eight basic levels of access to user interface (sets of rights and roles assigned to them, and the IT System Administrator would be able to configure the optimal number of access groups *through* system mechanisms delivered by the application):

- **Access Level for the Military Center Operator** – a level of access common for authorized users of Military Centers to be authenticated via user name+password or *through* digital certificate/mobile identity to have authorized access to electronic files of all mobilization resources located in the geographical area under the MC competence to prepare the totalities of electronic forms and print out the reports and documents necessary for exercising their job duties.

- **Access Level for the Military Center Officer** – a level of access common for authorized users of Military Centers (including actors of entities outside the *Military Center*) to be authenticated via user name+password or *through* digital certificate/mobile identity to have authorized access to electronic files and to the set of electronic forms specific for their area

of specialty (example*: the set of forms accessible to medical consultant and files of persons subject to medical fitness examination*).

- **Access Level for the Military Center Decision Maker** – a level of access common for authorized users of Military Centers to be authenticated via user name+password or *through* digital certificate/mobile identity to have access to functionalities and data accessible to *Military Center Operators and* exercise attributions of approval or rejection of all electronic forms prepared by *MC Operators and by MC Consultants*.

- **Access Level for the Military Unit Operator** – a level of access common for authorized users of Military Units to be authenticated via user name+password or *through* digital certificate/mobile identity to have authorized access to electronic files of all mobilization resources incorporated in military service under the MU to prepare all electronic forms and print out the reports and documents necessary for exercising their job duties.

- **Access Level for the Military Unit Decision Maker** – a level of access common for authorized users of Military Units to be authenticated via user name+password or *through* digital certificate/mobile identity to have access to functionalities and data accessible to Military Unit Operators *and* exercise attributions of approval or rejection of all electronic forms prepared by the MU Operators.

- **Access Level for the Filing Clerk** – a level of access common for authorized users of *Military Centers, Military Units* or *Ministry of Defence* to be authenticated via user name+password or *through* digital certificate/mobile identity to have authorized access to all documents to be printed out and attached to mobilization resources files stored in the archive. At the local level, this role can be assigned to the *MC Operator and MU Operator*.

- **Access Level for the Administrator** – a level of access common for the user with the highest level of access to the IT System resources. This level, due to its role to administer the IT solution smooth operation, will ensure access to all functionalities of user interfaces and to the database content delivered by the user interface.

SRMR shall deliver a user interface in Romanian language. The procedures of information and records retrieval shall be performed via simple search (specification of search series) or via more complex search forms allowing filtering the information (QBE forms). Regardless of the type of searched information, the user shall utilize the same method of queries and retrieval of information for any section of *the IT system*.

In addition to the searching module implemented based on QBE principle, which would offer the possibility to define visually sophisticated queries, the interface shall offer the possibility to refine the search results by ensuring the possibility to filter the data in the list containing the search results.

The *IT system* user interface shall ensure filtering the records that match the search criterion presented by users depending on their rights of access.

Indexed values (values from Classifiers, Nomenclatures) shall have the option to be filtered by picking up the value from predefined lists. For numerical types of fields or calendar data there should be the possibility to filter as per the exact value of the searched characteristic (example*: 03.09.1992 – all records with the specified date*) or by logical criteria (example*: <31.12.2014 – all records with the date older than 31.12.2014, >27.08.2010 – all records with the date more recent than 27.08.2010*).

Also, it should be granted the possibility to filter the result according to the mask (*for example, filtering by IDNP*) as per the sample: 098151224* – all the records that begin with the series of characters

"098151224", *ESCU – all the records that end with the series of characters "ESCU" or *MAN* – all the records that comprise the series of characters "MAN" in their contents.

The content of any table with results or electronic format, depending on the type of information comprised, shall have the possibility to be exported in any of the following format: CSV, RTF and PDF.

4.5. Reporting, Audit and Statistics Mechanism of the IT System

The IT System should have implemented functionalities designed to auditing/logging widely used in this area. This is configurable for logging technical and business events. The IT System shall deliver a mechanism to generate predefined and ad hoc reports capable to ensure a pertinent review or assessment of the management and registration processes of mobilization resources.

SRMR shall deliver an OLAP mechanism intended for dynamic generation of various and ad hoc reports where to configure the cubes for data analysis, including the configuration of the data aggregation method (average, median, maximum, minimum, element quantification, etc.).

The *SRMR* reporting system shall define four categories of reports:

■ **Documents generated on the basis of a predefined template** – a template is created for each type of documents to be populated with information relevant for the document (example*: human mobilization resource registration card, material mobilization resource registration card, the act generated on the basis of a prepared electronic form, etc.*);

■ **Performance Indicators** – a set of KPIs based on which the performance of mobilization resources management and registration could be assessed (assessment indicator of the country level of provision with human and material mobilization resources);

■ **Monitoring reports** – a category of reports designed for users with decision-making roles to assess the interaction methods of authorized users with the *SRMR*. This category of reports will organize and display the content of log files based on which the IT system vulnerabilities could be reviewed and prevented;

■ **Performance reports** – a category of static reports (as a rule, implemented physically in the IT System content) aimed to audit and analyze the *SRMR* information content. The Developer shall integrate at least 25 categories of such reports, which lay-outs would be granted at the time of performing the business analysis.

The reporting mechanism peculiarities are described in a series of sections of this Document, such as:

■ Section 4.1. (informational object Reports);

■ Section 5.1.11. (functional requirements set for Use Case *UC09: Generate reports*);

■ Section 5.1.18. (functional requirements set for Use Case *UC16: Generate statistics and system reports*);

■ Other Sections of this Document.

5. Requirements for the IT System

5.1. Functional Requirements for the IT System

5.1.1. UC01: Initiate a mobilization resource file

The functional requirements related to the component of generation and management of mobilization resource electronic files are defined in Table 5.1.

Table 5.1. Functional requirements set for Use Case UC01

Identifier	Binding Requirements	Functional Requirement Description
FR 01.01	M Lot 1	*SRMR* will deliver a mechanism to create and manage mobilization resource electronic files.
FR 01.02	M Lot 1	The mobilization resource electronic file represents a way of logical organization of all data, documents and events related to a mobilization resource.
FR 01.03	M Lot 1	The IT System will deliver functionalities for automatic generation of an electronic file of the mobilization resource when launching a business event according to FR 22.04 - FR 22.05.
FR 01.04	M Lot 1	The IT System will deliver functionalities for semi-automatic generation of electronic file for the mobilization resource (*MC Operator* shall state the resource identification code based on which the *SRMR* shall query external IT Systems generating the file and automatically populating it with data). In case the person is not found in the system the operator will introduce their data manually or through the importing persons data in SRMR buffer zone action which will be done by Administrator.
FR 01.05	M Lot 1	The IT System will deliver functionalities for manual generation of an electronic file for the mobilization resource (*MC Operator* shall fill manually all forms comprised by the mobilization resource electronic file).
FR 01.06	M Lot 1	*SRMR* will deliver functionalities to view the list of mobilization resource electronic files, search and filter them, taking into account the rights of access to data and user interface.
FR 01.07	M Lot 1	*SRMR* will deliver functionalities to view the content of the mobilization resource electronic file and update manually or automatically its relevant sections.
FR 01.08	M Lot 1	*SRMR* will deliver functionalities to secure traceability of all updates operated to mobilization resource electronic files, including the case of automatic retrieval of data from external IT Systems (it does not allow to replace the data, maintaining the whole history of changes).
FR 01.09	M Lot 1	Sections of the mobilization resource electronic file will be updated mainly *through* specific electronic forms to avoid direct change of data and ensure preserving all changes operated to the mobilization resource data (example*: all changes of the person's name shall be known as well as all previous addresses of his residency, etc.*).

Identifier	Binding Requirements	Functional Requirement Description
FR 01.10	M Lot 1	The mobilization resource electronic file shall contain a dynamically generated document: MOBILIZATION RESOURCE CARD covering the latest data related to the mobilization resource (once a form for updating or synchronizing with external IT systems is prepared, the content of the mobilization resource card shall be updated according to the operated changes).
FR 01.11	M Lot 1	*SRMR* will ensure logging of all processes for generating and updating the mobilization resource electronic files, having recorded the time, event and actor who launched the update (external actors inclusive: *SRP, SRLE, SRV, SDR, IS SBCE, RCCI*).

5.1.2. UC02: Initiate a human mobilization resource file

The functional requirements related to the mechanism of initiating and managing the contents of the human mobilization resource electronic file are defined in Table 5.2.

Table 5.2. Functional requirements set for Use Case UC02

Identifier	Binding Requirements	Functional Requirement Description
FR 02.01	M Lot 1	*SRMR* will deliver a mechanism for initiating and managing the contents of the human mobilization resource electronic file.
FR 02.02	M Lot 1	The person's IDNP will be used as a single code for the identification of the human mobilization resource electronic file.
FR 02.03	M Lot 1	The mechanism for initiating the human mobilization resource electronic file will be launched in three regimes: ■ automatic: *SRMR* shall automatically launch and complete the process for initiating an electronic file for the mobilization resource following an event of retrieving the data on a new person subject to mobilization as per FR 22.05; ■ semi-automatic: *MC Operator* shall launch manually the process for initiating an electronic file for the mobilization resource with automatic filling of data from external sources (*SRP, SDR, RCCI and IS SBCE*), fill manually additional data and attach the relevant files; ■ manual: *MC Operator* shall initiate and fill manually all sections of the electronic file for the mobilization resource.
FR 02.04	M Lot 1	*SRMR* will deliver a mechanism for automatic update of human mobilization resource electronic file content when launching events described in FR 21.02, FR 21.04, FR 21.06, FR 21.07.
FR 02.05	M Lot 1	*SRMR* will deliver a mechanism to view and edit manually the human mobilization resource electronic file content.
FR 02.06	M Lot 1	*SRMR* will deliver a mechanism to trace all changes operated in the content of the human mobilization resource electronic file (all the

Identifier	Binding Requirements	Functional Requirement Description
		operated changes shall be saved).
FR 02.07	M Lot 1	Depending on the updates operated in the content of the human mobilization resource electronic file, *SRMR* will operate automatically the corresponding changes in: ■ the physical person's profile; ■ the human mobilization resource registration card.
FR 02.08	M Lot 1	Profiles will be created for the collected data of all people (mobilization resource or a first-degree relative) comprising their identification and biometric data (where appropriate, the file shall make reference to the person's profile, when it is needed).
FR 02.09	M Lot 1	*SRMR* will not allow deleting a human mobilization resource electronic file if the database contains references to its identifier (is applied by other SRMR modules).
FR 02.1.01	M Lot 1	*SRMR* will deliver all electronic forms necessary to prepare data for the main sections of the human mobilization resource electronic file.
FR 02.1.02	M Lot 1	*SRMR* will deliver all electronic forms necessary to prepare the sections of the human mobilization resource electronic file with data retrieved from external sources: *SRP, SDR, RCCI and IS SBCE.*
FR 02.1.03	M Lot 1	It will be possible to develop the form aimed to prepare the section for the human mobilization resource electronic file for an undefined number of times (depending on the received updates). All changes will be stored in the History, while the latest change will be considered valid and mirrored in the physical person's profile and human mobilization resource registration card. Access to historical data shall be granted to users with specific roles and rights only.
FR 02.1.04	M Lot 1	It would not be possible to delete any data from a filled form; the data will be corrected through a relevant form.
FR 02.2.01	M Lot 1	*SRMR* shall have connections with *SRP, SDR and other Informational systems* to automatically retrieve the relevant data for the human mobilization resource electronic file.
FR 02.2.02	M Lot 2	*SRMR* shall have connections with *RCCI and IS SBCE* to automatically retrieve the relevant data for the human mobilization resource electronic file.
FR 02.2.03	M Lot 1	In case of preparing the person's biometrical and identity data the corresponding form shall have a mechanism designed to launch synchronization procedures with *SRP* (the person's IDNP will be used as query parameter). Data retrieved from *SRP* will populate automatically the prepared electronic form.
FR 02.2.04	M Lot 1	In case of preparing data on person's identity acts, the corresponding form shall have a mechanism designed to launch synchronization procedures with *SRP* (the person's IDNP will be used as query parameter). Data retrieved from *SRP* will populate automatically the prepared electronic form.
FR 02.2.05	M Lot 1	In case of preparing data on the person's first degree relatives, the

Identifier	Binding Requirements	Functional Requirement Description
		corresponding form shall have a mechanism designed to launch synchronization procedures with *SRP* (the person's IDNP will be used as query parameter). Data retrieved from *SRP* will populate automatically the prepared electronic form.
FR 02.2.06	M Lot 1	In case of preparing data on the person's competences/skills and entitlements to drive, the corresponding form shall have a mechanism designed to launch synchronization procedures with *SDR* (the person's IDNP will be used as query parameter). Data retrieved from *SDR* will populate automatically the prepared electronic form.
FR 02.2.07	M Lot 2	In case of preparing data on the person's convictions, the corresponding form shall have a mechanism designed to launch synchronization procedures with *RCCI* (the person's IDNP will be used as query parameter). Data retrieved from *RCCI* will populate automatically the prepared electronic form.
FR 02.2.08	M Lot 2	In case of preparing data on person's state border crossing, the corresponding form shall have a mechanism designed to launch synchronization procedures with *IS SBCE* (the person's IDNP will be used as query parameter). Data retrieved from *IS SBCE* will populate automatically the prepared electronic form.
FR 02.2.09	M Lot 1	*SRMR* will ensure logging of all data synchronization attempts with external IT Systems.
FR 02.3.01	M Lot 1	*SRMR* will provide a mechanism for file enclosure in the content of the human mobilization resource electronic file.
FR 02.3.02	M Lot 1	*SRMR* will have some reserved space under the human mobilization resource electronic file to store all files relevant for the person.
FR 02.3.03	M Lot 1	*SRMR* will enable document attachment to the electronic file of the human mobilization resource in PDF format only.
FR 02.3.04	M Lot 1	The attachment of documents to the human mobilization resource electronic file involves filling a set of metadata to provide sufficient semantic information for their identification, processing and analysis, namely: ■ identifier; ■ date of issuance; ■ category of document; ■ issuing entity; ■ document generic title.
FR 02.3.05	M Lot 1	*SRMR* will ensure rights to view or change the documents attached to the electronic file of the human mobilization resource depending on the users' rights and roles.
FR 02.3.06	M Lot 1	The IT System will deliver a mechanism to apply the digital signature on the documents attached to the human mobilization resource electronic file.

5.1.3. UC03: Initiate a material mobilization resource file

The functional requirements related to the mechanism of initiating and managing the content of the material mobilization resource electronic file are defined in Table 5.3.

Table 5.3. Functional requirements set for Use Case UC03

Identifier	Binding Requirements	Functional Requirement Description
FR 03.01	M Lot 2	*SRMR* will deliver a mechanism for initiating and managing the content of the material mobilization resource electronic file (vehicles).
FR 03.02	M Lot 2	The vehicle VIN code will be used as a single code for the identification of the material mobilization resource electronic file.
FR 03.03	M Lot 2	The mechanism for initiating the material mobilization resource electronic file will be launched in three regimes: ■ automatic: *SRMR* shall automatically launch and complete the process for initiating an electronic file for the mobilization resource following an event of retrieving the data on a new vehicle subject to mobilization as per FR 22.08; ■ semi-automatic: *MC Operator* shall launch manually the process to initiate an electronic file for the mobilization resource with automatic filling of data from external sources (*SRV, SRP, SRLE and IS SBCE*), fill manually additional data and attach the relevant files; ■ manual: *MC Operator* shall initiate and fill manually all sections of the material mobilization resource electronic file.
FR 03.04	M Lot 2	*SRMR* will deliver a mechanism for automatic update of the electronic file content for the material mobilization resource when launching events described in FR 21.05, FR 21.02, FR 21.03, FR 21.06.
FR 03.05	M Lot 2	*SRMR* will deliver a mechanism to view and edit manually the content of the material mobilization resource electronic file.
FR 03.06	M Lot 2	*SRMR* will deliver a mechanism to trace all changes operated in the content of the material mobilization resource electronic file (all the operated changes shall be saved).
FR 03.07	M Lot 2	Depending on the updates operated in the content of the material mobilization resource electronic file, *SRMR* will operate automatically the corresponding changes in: ■ the physical person's profile; ■ the legal person's profile; ■ the vehicle profile; ■ the material mobilization resource registration card.
FR 03.08	M Lot 2	Profiles will be created for the collected data of all people (vehicle owners), comprising their identification and biometric data (where appropriate, the file shall make reference to the person's profile).
FR 03.09	M Lot 2	*SRMR* will not allow to delete a material mobilization resource electronic file if the database contains references to its identifier (is

Identifier	Binding Requirements	Functional Requirement Description
		applied by other SRMR modules).
FR 03.1.01	M Lot 2	*SRMR* will deliver all electronic forms necessary to prepare basic data for the material mobilization resource electronic file.
FR 03.1.02	M Lot 2	*SRMR* will deliver all electronic forms necessary to prepare the sections of the human mobilization resource electronic file with data retrieved from external sources: *SRV, SRP, SRLE, and IS SBCE.*
FR 03.1.03	M Lot 2	It will be possible to prepare the form aimed to prepare the section for the material mobilization resource electronic file for an undefined number of times (depending on the received updates). All changes will be stored in the History, while the latest change will be considered valid and mirrored in the vehicle profile and material mobilization resource registration card. Access to historical data shall be granted to users with specific roles and rights only.
FR 03.1.04	M Lot 2	It would not be possible to delete any data of a filled form; the data will be corrected through a relevant form.
FR 03.2.01	M Lot 2	*SRMR* shall have connections with *SRV, SRP, SRLE and IS SBCE* to automatically retrieve the relevant data for the material mobilization resource electronic file.
FR 03.2.02	M Lot 2	In case of preparing the vehicle identity data and acts the corresponding form shall have a mechanism designed to launch synchronization procedures with *SRV.* Data retrieved from *SRV* will populate automatically the prepared electronic form.
FR 03.2.03	M Lot 2	In case of preparing data of the physical person – vehicle owner, the corresponding form shall have a mechanism designed to launch synchronization procedures with *SRP* (the person's IDNP will be used as query parameter)*.* Data retrieved from *SRP* will populate automatically the prepared electronic form.
FR 03.2.04	M Lot 2	In case of preparing identity data of the legal person – vehicle owner, the corresponding form shall have a mechanism designed to launch synchronization procedures with *SRLE* (the legal person's IDNP will be used as query parameter). Data retrieved from *SRLE* will populate automatically the prepared electronic form.
FR 03.2.05	M Lot 2	In case of preparing data on state border crossing events by the vehicle, the corresponding form shall have a mechanism designed to launch synchronization procedures with *IS SBCE.* Data retrieved from *IS SBCE* will populate automatically the prepared electronic form.
FR 03.2.06	M Lot 2	*SRMR* will ensure logging of all data synchronization attempts with external IT Systems.
FR 03.3.01	M Lot 2	*SRMR* will provide a mechanism for file attachment to the content of the material mobilization resource electronic file.
FR 03.3.02	M Lot 2	*SRMR* will have some reserved space under the material mobilization resource electronic file to store all electronic copies of documents relevant for the vehicle.
FR 03.3.03	M Lot 2	*SRMR* will enable document attachment to the electronic file for the

Identifier	Binding Requirements	Functional Requirement Description
		material mobilization resource in PDF format only.
FR 03.3.04	M Lot 2	The attachment of documents to the material mobilization resource electronic file involves filling a set of metadata to provide sufficient semantic information for their identification, processing and analysis, namely: ■ identifier; ■ date of issuance; ■ category of document; ■ issuing entity; ■ document generic title.
FR 03.3.05	M Lot 2	*SRMR* will ensure rights to view or change the documents attached to the material mobilization resource electronic file depending on the users' rights and roles.
FR 03.3.06	M Lot 2	The IT System will deliver a mechanism to apply the digital signature on the documents attached to the material mobilization resource electronic file*.

5.1.4. UC04: Import date

The functional requirements related to the component of importing the data from standard files are defined in Table 5.4.

Table 5.4. Functional requirements set for Use Case UC04

Identifier	Binding Requirements	Functional Requirement Description
FR 04.01	M Lot 1	*SRMR* will deliver a mechanism for massive import of data from standard files in XML, CSV or Excel format.
FR 04.02	M Lot 1	The IT System will enable importing the following categories of files XML, CSV or Excel: ■ standard file with data on the physical person's identity; ■ standard file with data on the physical person's identity acts; ■ standard file with data on the physical person's relatives; ■ standard file with data on the physical person's criminal records; ■ standard file with data on the physical person's state border crossing events; ■ standard file with data on enlisted/expelled students to/from education institutions; ■ standard file with relevant electoral metadata of *SAISE.*
FR 04.03	M Lot 2	The IT System will enable importing the following categories of files XML, CSV or Excel
FR 04.04	M Lot 1	When importing new data *SRMR* will be able to perform the following

Identifier	Binding Requirements	Functional Requirement Description
		actions: ■ create a new profile for the physical person; ■ update the physical person's profile; ■ generate a new electronic file for the human mobilization resource; ■ update the content of the electronic file for the human mobilization resource. create a new profile for the legal person; ■ create a new profile for the vehicle; ■ update the legal person's profile; ■ update the vehicle profile; ■ generate a new electronic file for the material mobilization resource; ■ update the content of the material mobilization resource electronic file.
FR 04.05	M Lot 1	*SRMR* will deliver a mechanism for parameterizing the data import where to configure the permissible actions mentioned in FR 04.03
FR 04.06	M Lot 1	SRMR will enable indicating several files at the same time for importing data when the latter have 1:M relations among them (example: file containing info on persons for whom file shall be generated, files with their relatives, files with persons' acts).
FR 04.07	M Lot 1	*SRMR* will display and save in an external file all errors recorded in the process of data importing from CSV or Excel files (especially, errors on data constraints and dependencies among them).
FR 04.08	M Lot 1	Each action for data importing and update will be logged.

5.1.5. UC05: Prepare resource deployment plan

The functional requirements related to the component of mobilization resources deployment are defined in Table 5.5.

Table 5.5. Functional requirements set for Use Case UC05

Identifier	Binding Requirements	Functional Requirement Description
FR 05.01.	M Lot 1	Users having the role of *MC Operator* will have functionalities to deploy *Military Unit* mobilization resources.
FR 05.02.	M Lot 1	The deployment of mobilization resources shall be performed *through* a specialized electronic form.
FR 05.03.	M Lot 1	The IT System will enable preparation of electronic 2 categories of forms for deploying human mobilization resources: Distribution of the human mobilisation resources; Distribution of the material mobilisation resources.

Identifier	Binding Requirements	Functional Requirement Description
FR 05.04.	M Lot 1	Upon the deployment of human mobilization resources, the electronic form developed for resource deployment shall take account of the requirements exposed by military units *through* UC14.
FR 05.05.	M Lot 1	The IT System will not allow the preparation of forms for the deployment of human mobilization resources if forms with the MU personnel applications have not been prepared and approved.
FR 05.06.	M Lot 1	Electronic forms for the deployment of *Military Unit* mobilization resources will be mandatorily subject to approval by the MC Decision Maker.

5.1.6. UC06: Prepare human resources deployment plan

The functional requirements related to the mechanism for preparing the form for deploying the human mobilization resources within *Military Units* are defined in Table 5.6.

Table 5.6. Functional requirements set for Use Case UC06

Identifier	Binding Requirements	Functional Requirement Description
FR 06.01.	M Lot 1	*SRMR will deliver* a functionality designed to deploy human mobilization resources to *Military Units*.
FR 06.02.	M Lot 1	The deployment of human mobilization resources *to Military Units* will be carried out at each incorporation of conscripted soldiers or upon the *Military Unit request* (there should be forms for personnel request in place prepared by *Military Units*).
FR 06.03.	M Lot 1	The deployment of human mobilization resources *to Military Units* is prepared based on an electronic form (this should be a *particular case of* UC11), which shall take account of all personnel applications prepared by *Military Units through* UC14.
FR 06.04.	D Lot 1	The statuses and transitions through which an electronic form for the deployment of human mobilization resources to *Military Unit* could go through are configured *via* Use Case UC18.
FR 06.05.	M Lot 1	The content of the document generated on the basis of the electronic form for the deployment of human mobilization resources to *Military Units* is generated depending on the active template configured for it (Use Case UC18).
FR 06.06.	M Lot 1	Preparation of the electronic form designed for the deployment of human mobilization resources to Military Units is carried out only *through* exclusively visual mechanisms (by selecting resources and *Military Units* from predefined lists).
FR 06.07.	M Lot 1	The IT System will enable displaying and deployment of recruit electronic files only, which have the corresponding incorporation status.
FR 06.08.	M Lot 1	The IT System will enable multiple selections of recruits and their assignation to the selected group of the *Military Unit.*

Identifier	Binding Requirements	Functional Requirement Description
FR 06.09.	M Lot 1	In the process of deploying the human mobilization resources *to Military Units,* the system will display only the list *of those Military Units,* which personnel was not completed.
FR 06.10.	M Lot 1	Once a recruit has been deployed to a *Military Unit* he will not appear anymore in the list of recruits subject to deployment.
FR 06.11.	M Lot 1	When all the MU personnel requests have been fulfilled *and* not all of the available recruits were deployed, the IT system will display the list of all *Military Units* for extra plan deployment.
FR 06.12.	M Lot 1	*SRMR* will display suggestions on the place of recruit deployment depending on his abilities and specializations, and on the MU specific requirements*.*
FR 06.13.	M Lot 1	*SRMR* will enable generation on the basis of content information of forms for the deployment of human mobilization resources to Military Units of a hard copy version on recruit deployment (standard document of recruit deployment).
FR 06.14.	M Lot 1	The electronic form on deploying human mobilization resources *to Military Units* will contain a sufficient number of data enabling the generation of all reports on incorporation into the National Army.
FR 06.15.	M Lot 1	The IT System will deliver a mechanism for checking the accuracy of preparing the form on deployment of human mobilization resources *to Military Units* (obligation of data content, accuracy of inserted type of data, integrity of entered data, etc.).
FR 06.16.	M Lot 1	Only an electronic form for the deployment of human mobilization resources to Military Units that passed successfully the procedure for checking the accuracy of its preparation can be sent to the MC *Decision-Maker* for approval.
FR 06.17.	M Lot 1	The IT System will deliver functionalities for applying the MC Operator digital signature on electronic forms for the deployment of human mobilization resources to MU prepared by him.
FR 06.18.	M Lot 1	*M-Sign* service of the joint governmental platform *M-Cloud and/or National Army PKI/AD infrastructure* will be used as a mechanism for applying the digital signature*.*
FR 06.19.	M Lot 1	*SRMR* will deliver functionalities for sending the electronic form for the deployment of human mobilization resources to MU *to the MC Decision-Maker* for approval.
FR 06.20.	M Lot 1	*SRMR* shall notify automatically *the MC Decision-Maker* on receiving an electronic form for the deployment of human mobilization resources to MU for consideration and approval (the form shall be approved *through* UC13).
FR 06.21	M Lot 1	An electronic form for the deployment of human mobilization resources to MU can be edited repeatedly when it was rejected by the *MC Decision-Maker.*
FR 06.22	M Lot 1	The IT System will ensure logging of all business events on editing and processing the electronic form for the deployment of human

Identifier	Binding Requirements	Functional Requirement Description
		mobilization resources to MU.

5.1.7. UC07: Prepare material resources deployment plans

The functional requirements related to the mechanism for preparing a form for the deployment of material mobilization resources *to MU* are defined in Table 5.7.

Table 5.7. Functional requirements set for Use Case UC07

Identifier	Binding Requirements	Functional Requirement Description
FR 07.01.	M Lot 2	*SRMR will deliver* a functionality designed to deploy the material mobilization resources to MU.
FR 07.02.	M Lot 2	The deployment of human mobilization resources to MU is prepared on the basis of an electronic form (*particular case of* UC11).
FR 07.03.	M Lot 2	The statuses and transitions through which an electronic form for the deployment of material mobilization resources to MU could go through are configured via Use Case UC18.
FR 07.04.	M Lot 2	The content of the document generated on the basis of the electronic form for the deployment of material mobilization resources to MU is generated depending on the active template configured for it (Use Case UC18).
FR 07.05.	M Lot 2	Preparation of the electronic form designed for the deployment of material mobilization resources to MU is carry out only *through* exclusively visual mechanisms (by selecting material mobilization resources and *Military Units* from predefined lists).
FR 07.06.	M Lot 2	The IT System will enable multiple selections of vehicles and their assignation to the selected group of the *Military Unit.*
FR 07.07.	M Lot 2	*SRMR* will display suggestions on the place of military equipment deployment depending on MU specializations.
FR 07.08.	M Lot 2	Once a vehicle has been deployed to a *Military Unit* it will not appear anymore in the list of material mobilization resources subject to deployment.
FR 07.09.	M Lot 2	*SRMR* will enable generation on the basis of content information of forms for the deployment of material mobilization resources to MU of a hard copy version on vehicle deployment.
FR 07.10.	M Lot 2	The electronic form on deploying material mobilization resources *to Military Units* will contain a sufficient number of data enabling the generation of all reports on their deployment to the National Army.
FR 07.11.	M Lot 2	The IT System will deliver a mechanism for checking the accuracy of preparing the form on deployment of material mobilization resources *to Military Units* (obligation of data content, accuracy of inserted type of data, integrity of entered data, etc.).
FR 07.12.	M Lot 2	Only an electronic form for the deployment of material mobilization

Identifier	Binding Requirements	Functional Requirement Description
		resources to Military Units that passed successfully the procedure for checking the accuracy of its preparation can be sent to the MC *Decision-Maker* for approval.
FR 07.13.	M Lot 2	The IT System will deliver functionalities for applying the MC Operator digital signature on the prepared electronic form for the deployment of material mobilization resources to MU.
FR 07.14.	M Lot 2	*M-Sign* service of the joint governmental platform *M-Cloud and/or National Army PKI/AD infrastructure* will be used as a mechanism for applying the digital signature.
FR 07.15.	M Lot 2	*SRMR* will deliver functionalities for sending the electronic form for the deployment of material mobilization resources *to MU to the MC Decision-Maker* for approval.
FR 07.16.	M Lot 2	*SRMR* shall notify automatically *the MC Decision-Maker* on receiving an electronic form for the deployment of material mobilization resources to MU for consideration and approval (the form shall be approved *through* UC13).
FR 07.17.	M Lot 2	An electronic form for the deployment of material mobilization resources to MU can be edited repeatedly when it was rejected by the *MC Decision-Maker.*
FR 07.18.	M Lot 2	The IT System will ensure logging of all business events on editing and processing the electronic form for the deployment of material mobilization resources to MU.

5.1.8. UC08: Use Dashboard

The functional requirements related to the Dashboard intended for the users authenticated and authorized to use *SRMR* are defined in Table 5.8.

Table 5.8. Functional requirements set for Use Case UC08

Identifier	Binding Requirements	Functional Requirement Description
FR 08.01.	M Lot 1	The IT System *will deliver* to authorized users a Dashboard *through* which they will be notified on important business events and have rapid access to event details.
FR 08.02.	M Lot 1	It is possible to list the following categories of business events displayed on the Dashboard: ■ system notifications; ■ notifications on the need to print out the documents; ■ notifications on the need to involve the user in SRMR workflow activities; ■ notifications on the forms or documents waiting to be approved by decision-making roles. ■ other relevant events.

Identifier	Binding Requirements	Functional Requirement Description
FR 08.03.	M Lot 1	The Dashboard of the SRMR user will display only business events related to the roles and data available to the user.
FR 08.04.	M Lot 1	The Dashboard of the user with the role of *Administrator* will display all business events related to SRMR functionalities (all notifications displayed on the Dashboard of all *SRMR* users *and* notifications dedicates exclusively to the user with the role of *Administrator*).
FR 08.05.	M Lot 1	The Dashboard will group the business events, having displayed them as indicators with aggregated values (example*: Unread system notifications – 20; Documents for printing – 5; Forms in progress – 4; etc.*), which will comprise hypertext reference for accessing the details.
FR 08.06	M Lot 1	*SRMR* will display detailed records of the Dashboard in specialized windows or zones on the main page of user interface, which will comprise hypertext reference for accessing the details.
FR 08.07.	M Lot 1	When accessing hypertext reference related to aggregated values or detailed records of the Dashboard, *SRMR* will ensure access to detailed information related to them or to the requested functionality (example*: mobilization resource electronic file, direct approval/rejection of forms sent for consideration and approval, etc.*).
FR 08.08.	M Lot 1	The Dashboard of the *SRMR* will comprise a specialized zone (favorite) where the user shall display references to content information he is working with. Such content information can be of two types: ■ files for mobilization resources; ■ prepared electronic forms.
FR 08.09.	M Lot 1	*SRMR* shall offer functionalities to each user for individual configuration of the Dashboard aspect and content.

5.1.9. UC09: Generate reports

The functional requirements related to the mechanism of reports retrieval specific for mobilization resource management and registration are defined in Table 5.9.

Table 5.9. Functional requirements set for Use Case UC09

Identifier	Binding Requirements	Functional Requirement Description
FR 09.01.	M Lot 1	The IT System must be able to offer a number of management, statistic and ad hoc reports, so that the relevant roles could manage and keep records on mobilization resources.
FR 09.02.	D Lot 1	The reporting mechanism will contain an OLAP solution designed to configure the dynamic generation of ad hoc reports.
FR 09.03.	M Lot 1	The System shall put at the disposal of administrative roles a standard number of configurable reports and it must be easy to authorize the production of ad hoc reports when needed.

Identifier	Binding Requirements	Functional Requirement Description
FR 09.04.	M Lot 1	The System will offer a set of static reports (as a rule, implemented physically in the SRMR content) designed to keep records on human mobilization resources and activities carried out by the institutions involved in *SRMR* as follows: ■ Report on circulation of reserve warrant officers, sergeants and soldiers; ■ Report on mobilization resources registered at local authorities and filling the function of consultant of recruiting point, incorporation and completion; ■ Report on Officers registered in military records; ■ Report on reserve/resigned officers with supreme degrees living on the territory of districts (municipality) under the Military Center radius of activity; ■ Report on mobilization resources registered at the Military Center; ■ Report on deployment of mobilization resources (warrant officers, sergeants and soldiers); ■ Report on military records on reserve warrant officers, sergeants and soldiers by military specialties and year of birth; ■ Report on qualitative characteristics of reserve officers deployed by teams; ■ Report on qualitative characteristics of reserve warrant officers, sergeants and soldiers deployed by teams; ■ Report on military statistic records and circulation of reserve officer corps; ■ Report on registration of movement of recruits registered in military records; ■ Report on registration of young people in military records; ■ Report on the activity results of the medical-military and recruiting-incorporation commission, incorporation of citizens in conscripted military service, in short-term/reduced service and civil service; ■ Report on the number of war and armed conflict veterans and of participants in the liquidation of consequences of Chernobyl disaster registered in the Military Center records; ■ Report on reserve officers subject to attestation for the subsequent military ordinary degrees; ■ Report on the composition of the leadership of LPAs of first and second tier; ■ Report on the status of staffing the officer positions in military units and institutions; ■ Report on turnover of National Army officers; ■ Supplementing the officer positions according to military specialties. Report on availability and use of vehicles and on transportable metallic package in the national economy;

Identifier	Binding Requirements	Functional Requirement Description
		■ Report on qualitative characteristics of sizable means; ■ Report on registration and circulation of technical and material resources.
FR 09.05.	M Lot 1	The System shall have a mechanism to define the set of reports and data available to each category of users.
FR 09.06.	M Lot 1	The user who can view a report in the system, shall be able to export it in an editable format.
FR 09.07.	M Lot 1	Overall the Developer will implement up to 40 categories of predefined reports requested by the Beneficiary (including those mentioned in FR 09.04).

5.1.10 UC10: Search in files

Functional requirements necessary for the procedures to define queries for searching information in the content of the electronic file collection for the mobilization resources and management of obtained results are defined in Table 5.10.

Table 5.10. Functional requirements set for Use Case UC10

Identifier	Binding Requirements	Functional Requirement Description
FR 10.01.	M Lot 1	*SRMR* will deliver a search mechanism in the content of electronic files for the mobilization resources.
FR 10.02.	D Lot 1	The System will deliver an indexed search mechanism in the collection of data of mobilization resource electronic files. The search mechanism will use morphological means.
FR 10.03.	M Lot 1	The System will enable defining the following search targets on the basis of human mobilization resources (the search result will display the list of): ■ folders; ■ documents contained by the files; ■ profiles of human mobilization resource; ■ electronic forms prepared and comprised in files.
FR 10.04.	M Lot 2	The IT System will deliver a flexible and efficient mechanism to define the search criteria.
FR 10.05.	M Lot 1	The search results will be sorted depending on the relevance of search query result, in alphabetical order or by the date of creation/last update.
FR 10.06	M Lot 1	The user will be able to define the ordering and grouping criteria for the list content, comprising the search results.
FR 10.07.	M Lot 1	The System will offer a mechanism for the pagination of search results designed to avoid overloading the WEB Explorer and the data transportation channels.
FR 10.08.	M Lot 1	Records of search results will be marked (specific color or icon)

Identifier	Binding Requirements	Functional Requirement Description
		depending on the type or status of the found information object.
FR 10.09.	M Lot 1	The System will deliver functionalities for fine-tuning the search in the found results.
FR 10.10.	M Lot 1	The IT System will enable launching certain processes on the found results or on a group of found results and marked, such as: ■ launching the creation of business event form with the inclusion of results in the form (example*: inclusion of a group of military men found in a written order*); ■ multiple deletion; ■ multiple signature; ■ multiple update; ■ other actions.
FR 10.11.	M Lot 1	The System will display in results only the data that match the user area of competence (by geographic criteria, status or military unit);
FR 10.12.	M Lot 1	The System will enable exporting the Table with the search results in CSV, RTF or PDF format.
FR 10.13.	M Lot 1	The System will limit the access to the details of found results if the user who launched the search process does not have access to the informational objects requested to be accessed.

5.1.11. UC11: Prepare business event electronic forms

The functional requirements related to the mechanism for preparing electronic forms related to business events of the registration and management processes of mobilization resources are defined in Table 5.11.

Table 0.11. Functional requirements set for Use Case UC11

Identifier	Binding Requirements	Functional Requirement Description
FR 11.01.	M Lot 1	*SRMR* will deliver electronic forms designed to record business events related to mobilization resources.
FR 11.02.	M Lot 1	As business events related to mobilization resources could serve acts, orders, dispositions, other categories of documents involving the change of registration data and records on mobilization resources.
FR 11.03.	M Lot 1	All updates operated to registration data and records on mobilization resources which have not been received via UC21 will be prepared exclusively *through* UC11.
FR 11.04.	D Lot 1	The statuses and transitions through which an electronic form for preparing a business event related to mobilization resources could go through are configured *via* Use Case UC18.
FR 11.05.	M Lot 1	Any electronic form designed to prepare a business event related to mobilization resources will have associated a document template to be configured *through* UC18 and populated on the basis of data

Identifier	Binding Requirements	Functional Requirement Description
		comprised by the form.
FR 11.06.	M Lot 1	The IT System will enable inserting in the form several mobilization resources at the same time.
FR 11.07.	M Lot 1	The electronic form designed to record a business event related to mobilization resources could be requested from the mobilization resource electronic file (with automatic pre-filling of its data) or from the list of results delivered by UC10 (with automatic pre-filling of data resources included from the list of results).
FR 11.08.	M Lot 1	*SRMR* will ensure access to authorized users to the list of electronic forms designed to record business events related to mobilization resources depending on the roles they hold.
FR 11.09.	M Lot 1	The electronic form designed to record business events related to mobilization resources shall be prepared *through* exclusively visual mechanisms.
FR 11.10.	M Lot 1	The form will include content-related constraints and restriction to limit mechanical errors.
FR 11.11.	M Lot 1	The electronic form sections designed to record business events related to mobilization resources can be filled with narrative text, numbers, files or values of *SRMR* Nomenclatures or Classifiers.
FR 11.12.	M Lot 1	On the basis of content information from the electronic form for recording the business event related to mobilization resources, *SRMR* will enable generating a file in editable format to print out a hard copy of the act related to the form.
FR 11.13.	M Lot 1	The IT System will deliver a mechanism for checking the accuracy of preparing the electronic form for recording the business event related to mobilization resources (obligation of data content, accuracy of inserted type of data, integrity of entered data, etc.).
FR 11.14.	M Lot 1	Only an electronic form for recording the business event related to mobilization resources that passed successfully the procedure for checking the accuracy of its preparation will be sent to the MC/MU *Decision-Maker* for approval.
FR 11.15.	M Lot 1	The IT System will deliver functionalities for applying the *MC Operator /MC Consultant /MU Operator* digital signature on the electronic form for recording the business event related to mobilization resources prepared by him.
FR 11.15.	M Lot 1	*M-Sign* service of the joint governmental platform *M-Cloud and/or National Army PKI/AD infrastructure* will be used as a mechanism for applying the digital signature.
FR 11.16.	M Lot 1	*SRMR* will deliver functionalities for sending the electronic form for recording the business event related to mobilization resources *to the MC/MU Decision-Maker* for approval.
FR 11.17.	M Lot 1	*SRMR* shall notify automatically *the MC/MU Decision-Maker* on receiving an electronic form for recording the business event related to mobilization resources for consideration and approval (the form

Identifier	Binding Requirements	Functional Requirement Description
		shall be approved *through* UC13).
FR 11.18.	M Lot 1	An electronic form for recording the business event related to mobilization resources can be edited repeatedly when it was rejected by the *MC/MU Decision-Maker.*
FR 11.19.	M Lot 1	Once the electronic form for recording the business event related to mobilization resources has been signed and approved, *SRMR* shall spread relevant changes to specific sections of the mobilization resource electronic file.
FR 11.20	M Lot 1	In case of a form that includes several mobilization resources, changes will be spread in each file of the included mobilization resources.
FR 11.21	M Lot 1	The System will ensure a mechanism for tracing (preserving the history) the spread of changes in the mobilization resource file.
FR 11.22	M Lot 1	The Developer will implement up to 15 electronic forms for business events related to human mobilization resources.
FR 11.23	M Lot 2	The Developer will implement up to 15 electronic forms for business events related to material mobilization resources.
FR 11.24	M Lot 1	The IT System will ensure logging of the totality business events on editing and processing the electronic form for recording the business events related to mobilization resources.

5.1.12. UC12: Print out documents

The functional requirements related to the component of generating standard documents on the basis of data comprised by the SRMR are defined in Table 5.12.

Table 5.12. Functional requirements set for Use Case UC12

Identifier	Binding Requirements	Functional Requirement Description
FR 12.01.	M Lot 1	*SRMR* will deliver to authorized actors (*MC Operator, MU Operator and Registrar*) a mechanism for generating standard documents populated with data from the SRMR database.
FR 12.02.	M Lot 1	The IT System will enable generating documents related to the human and material mobilization resource registration card on the basis of information content of the mobilization resource electronic file.
FR 12.03.	M Lot 1	The IT System will enable generating documents on the basis of the electronic form content of business events prepared *through* UC11.
FR 12.04.	M Lot 1	The documents to be printed out will be generated on the basis of templates configured *through* UC18.
FR 12.05	M Lot 1	*SRMR* will enable automatic generation of documents related to notifications received by relevant users (example*: notifications sent to the Filing Clerk to print out the documents and attach to files*).
FR 12.06	M Lot 1	*SRMR* will ensure logging of all events for document generation and

Identifier	Binding Requirements	Functional Requirement Description
		printing.

5.1.13. UC13: Approve/reject electronic forms

The functional requirements related to the component of approval or rejection of all electronic forms prepared *through SRMR* are defined in Table 5.13.

Table 0.13. Functional requirements set for Use Case UC13

Identifier	Binding Requirements	Functional Requirement Description
FR 13.01.	M Lot 1	*SRMR* will deliver to authorized actors (*MC Decision Maker and MU Decision Maker*) a mechanism for the approval or rejection of electronic forms subject to approval prepared by the SRMR authorized users.
FR 13.02.	M Lot 1	The approval or rejection implies preparing a Note, selecting the status (Approved or Rejected), its confirmation and applying the digital signature of the user with the role of form approval/rejection (*MC Decision Maker and MU Decision Maker*).
FR 13.03.	M Lot 1	*M-Sign* service of the joint governmental platform *M-Cloud and/or National Army PKI/AD infrastructure* will be used as a mechanism for applying the digital signature.
FR 13.04.	M Lot 1	In case of approving an electronic form, *SRMR* shall notify all relevant users and operate all relevant changes in the electronic file of the human/material mobilization resource.
FR 13.05.	M Lot 1	In case of rejecting the electronic form, the workflow will return automatically to the previous stage (return the form to the user who sent it for approval to be re-prepared) and shall notify all relevant users.
FR 13.06	M Lot 1	At the time when a form is sent for approval, it can be changed only by the decision-maker who shall approve it by applying repeatedly his digital signature.
FR 13.07	M Lot 1	*SRMR* will ensure logging of all events for the approval/rejection of electronic forms.

5.1.14. UC14: Prepare personnel application

The functional requirements related to the mechanism for preparing a personnel application form intended for a *Military Unit* are defined in Table 5.14.

Table 5.14. Functional requirements set for Use Case UC14

Identifier	Binding Requirements	Functional Requirement Description
FR 14.01.	M Lot 1	The System *will deliver* a functionality to prepare an application for

Identifier	Binding Requirements	Functional Requirement Description
		the incorporated personnel necessary for the *Military Unit*.
FR 14.02.	M Lot 1	The personnel application intended for a *Military Unit* will be prepared by the MU upon each incorporation of conscripted soldiers (the application shall be prepared and approved prior to the date envisaged for incorporation).
FR 14.03.	M Lot 1	Each MU will prepare a single personnel application per incorporation campaign.
FR 14.04.	M Lot 1	The personnel application is prepared on the basis of an electronic form (a particular case of UC11).
FR 14.05.	M Lot 1	The content of the electronic form for preparing the personnel application is generated depending on the active template configured for it (Use Case UC18).
FR 14.06.	M Lot 1	The electronic form designed for preparing the personnel application will enable to dynamically insert in its content: ■ narrative text; ■ values from the SRMR Nomenclatures/Classifiers; ■ values from predefined lists; ■ numerical values related to the number of requested consultants.
FR 14.07.	M Lot 1	SRMR will enable dynamic insertion of the requested number of personnel in the form sections (example: inserting several records of requested personnel under the same category of the form).
FR 14.08.	M Lot 1	For those users who have specific roles and rights, *SRMR* will deliver functionalities for direct editing of values from the IT System Nomenclatures, which are inserted in the form (example*: add a new category of the Nomenclature in case it is missing*).
FR 14.09.	M Lot 1	*SRMR* will have functionalities to automatically compute the subtotals and totals of personnel completed by categories of the personnel application form.
FR 14.10.	M Lot 1	Based on the content information of MU personnel application forms *SRMR* will enable generating a hard copy of the personnel application.
FR 14.11.	M Lot 1	The electronic form on preparing the personnel application will contain a sufficient number of data enabling the generation of all reports on planned incorporations into the National Army.
FR 14.12.	M Lot 1	The IT System will deliver a mechanism for checking the accuracy of preparing the form of personnel application (obligation of data content, accuracy of inserted type of data, integrity of entered data, etc.).
FR 14.13.	M Lot 1	Only an electronic form of personnel application that passed successfully the procedure for checking the accuracy of its preparation can be sent to the MU *Decision-Makers* for approval.
FR 14.14.	M Lot 1	The IT System will deliver functionalities for applying the MU Operator digital signature on electronic forms of personnel

Identifier	Binding Requirements	Functional Requirement Description
		application prepared by him.
FR 14.15.	M Lot 1	*M-Sign* service of the joint governmental platform *M-Cloud and/or National Army PKI/AD infrastructure* will be used as a mechanism for applying the digital signature.
FR 14.15.	M Lot 1	*SRMR* will deliver functionalities for sending the electronic form of personnel application *to the MU Decision-Maker* for approval.
FR 14.16.	M Lot 1	*SRMR* shall notify automatically *the MU Decision Maker* on receiving an electronic form of personnel application for consideration and approval (the form shall be approved *through* UC13).
FR 14.17.	M Lot 1	An electronic form of personnel application can be edited repeatedly when it was rejected by the *MU Decision Maker.*
FR 14.18.	M Lot 1	The IT System will ensure logging of all business events on editing and processing the electronic form of personnel application.

5.1.15. UC15: Prepare electoral data

The functional requirements related to the mechanism of introducing data to secure the interaction of *SRMR* with *SAISE* are defined in Table 5.15.

Table 5.15. Functional requirements set for Use Case UC15

Identifier	Binding Requirements	Functional Requirement Description
FR 15.01.	M Lot 1	The IT System will contain all *SAISE* metadata necessary to prepare electoral data to be sent to *SAISE through* a specialized service.
FR 15.02.	M Lot 1	The totality of electoral data is prepared only at the *Military Unit level* (as a rule, by a user with the role of *MU Operator*).
FR 15.03.	M Lot 1	The IT System *will deliver* functionalities to configure electoral data per *Military Unit*. At the level of Military Unit it shall be possible to define some features common for all military men of the MU (example*: electoral district, relevant polling station etc.*)
FR 15.04.	M Lot 1	*SRMR* will deliver a mechanism to assign each soldier of the MU to a polling station or his voting preferences on the day of elections (assigning to the polling station of the electoral district related to the MU or at the person's residency or domicile).
FR 15.05.	M Lot 1	The IT System will deliver functionalities to assign the person to a polling station. A specialized section shall be provided in the electronic file of the human mobilization resource (in this case of the conscripted soldier) where the electoral information shall be inserted.
FR 15.06.	M Lot 1	The IT System will enable simultaneous assigning of electoral data to a selected group of persons. *The MU Operator* will be able to identify and mark a relevant group of persons (*through* the functionality of searching/filtering) that would assign them to a polling station at the same time (the system will insert automatically the relevant data into

Identifier	Binding Requirements	Functional Requirement Description
		the electronic file of the human mobilization resource).
FR 15.07.	M Lot 1	Preparation of electoral data shall be done prior to elections (if two elections took place during a year, data will be prepared separately for each election). In the process of data preparation due account shall be given to CEC specific data related to elections (to identify concrete data to be delivered for each individual election).
FR 15.08.	M Lot 1	*SRMR* will enable preparing electoral data (the place of being and the place of voting on the day of elections) for the conscripted military men only.
FR 15.09.	M Lot 1	*SRMR* will enable exporting into a standard file in a format agreed jointly with the *CEC* to be subsequently imported in the *SRE* that contains all transactions to show the place of being and the place of voting on the day of elections in the *SRE*.

5.1.16. UC16: Generate statistics and system reports

The functional requirements related to the mechanism for retrieving reports for the SRMR audit are defined in Table 5.16.

Table 5.16. Functional requirements set for Use Case UC06

Identifier	Binding Requirements	Functional Requirement Description
FR 16.01.	M Lot 1	The System shall offer a number of management, statistic and ad hoc reports that the administrative roles could monitor the system operation and status.
FR 16.02.	M Lot 1	The reports managed *through* in UC16 are intended for the functions of IT audit and do not include reports related to the MoD business activities.
FR 16.03.	M Lot 1	This reporting is necessary for the entire system, including: ■ Nomenclatures and Classifiers; ■ entries; ■ user activity; ■ permissions of access and security.
FR 16.04.	M Lot 1	The reports will be generated on the basis of the following logged categories of events: ■ successful authentication of users; ■ unsuccessful authentication of users; ■ notifications sent; ■ actions on data (access, add, change, delete).
FR 16.05.	M Lot 1	The System will enable the aggregated retrieval of reports or their detailing per individual user, institution, subdivision or per certain groups of users.

Identifier	Binding Requirements	Functional Requirement Description
FR 16.06.	M Lot 1	The user who views a report in a system, shall be able to export it into an external editable file.
FR 16.07.	M Lot 1	The Developer will implement up to 10 predefined reports for the IT audit requested by the *MoD*. For the audit reports that can be generated through the system means, it is not required to be implemented into the SRMR user interface.

5.1.17. UC17: Manage users, roles and rights.

The functional requirements related to the component of user administration, configuration of access to user interface and content of *SRMR* database are defined in Table 5.17.

Table 5.17. Functional requirements set for Use Case UC17

Identifier	Binding Requirements	Functional Requirement Description
FR 17.01.	M Lot 1	The IT System will have a mechanism for dynamic definition and management of users, their roles and rights.
FR 17.02.	M Lot 1	The IT System will contain a default category of users created by the Developer and credentials for it are provided upon delivery for the category of **Super-administrator**.
FR 17.03.	M Lot 1	The IT System will enable blocking/de-blocking the user access.
FR 17.04.	M Lot 1	*SRMR* will deliver its own solution for authentication *through* the mechanism of user_name+password+IP address and will enable the alternative use of *M-Pass* service for the authentication with the digital certificate or mobile identity.
FR 17.05.	M Lot 1	The IT System will enable defining the way of connecting the user to the system (digital certificate, mobile identity, user name+password, IP address or their combinations).
FR 17.06.	M Lot 1	The following categories of data will be managed under the users' profiles: ■ user name; ■ pre-user name; ■ E-mail; ■ Contact phone; ■ Login; ■ Password; ■ authentication strategy (user+password, digital certificate); ■ active/inactive account; ■ access validity period; ■ user's roles; ■ other relevant data.
FR 17.07.	M Lot 1	*SRMR* will deliver a mechanism to define, for users, the rights of

Identifier	Binding Requirements	Functional Requirement Description
		access to data depending on the categories or types of electronic forms prepared and the geographical area or the set of accessible mobilization resources.
FR 17.08.	M Lot 1	A user account can be physically deleted only when there is no logged event produced by the deleted user or data introduced by him.
FR 17.09.	M Lot 1	The mechanism for administering the users' rights and roles will enable establishing the principles of access to user interface and to the information content of the IT System for each individual user or group of users.
FR 17.10.	M Lot 1	*SRMR* will display user interface and the information content only on the basis of rights and roles held by the users.
FR 17.11.	M Lot 1	The IT System will enable configuring an unlimited number of roles.
FR 17.12.	M Lot 1	A role is defined by a generic title, short description and active/inactive status. The inactive roles are not displayed when configuring the rights of access to the application or the users' rights.
FR 17.13.	M Lot 1	Once introduced and activated, the role will be available to be applied in users' management modules (attachment of roles to users) and management of *SRMR* components (attachment of roles with access to user interface components and configure the way of access for them).
FR 17.14.	M Lot 1	*SRMR* will not allow deleting a role if it is attached at least to one user or to a user interface component.
FR 17.15.	M Lot 1	*SRMR* will deliver a mechanism to record user interface components (resources) to deliver a mechanism for defining the users' rights of access to user interface. As component shall be considered any modular entity of the application (form, menu, menu option, field, etc.), which degree of details is sufficient for configuring the rights of access, transitions of workflows and actions accessible to users.
FR 17.16.	M Lot 1	*SRMR* will enable configuring the hierarchy of user interface components, at the root level being placed the application basic modules, while the subordinated levels shall not be limited in their depth, the hierarchy being determined by their architecture.
FR 17.17.	D Lot 1	Any component of the SRMR user interface will contain data on the statuses through which the data managed via components could pass, transitions through component statuses, (workflow configuration)).
FR 17.18.	M Lot 1	The IT System will be able to define permissions related to actions (business events) available to users with access to user interface components. *SRMR* will enable configuring the following categories of actions available to users: ■ view records; ■ add records; ■ change records; ■ delete records;

Identifier	Binding Requirements	Functional Requirement Description
		■ other relevant actions.
FR 17.19.	M Lot 1	The IT System will enable configuring the strategy for logging business events generated by each component of the user interface.

5.1.18. UC18: Manage flows, forms and templates

The functional requirements related to the component of configuring workflows, electronic forms designed to insert data and document templates to be populated with data and generated by *SRMR* are defined in Table 5.18.

Table 5.18. Functional requirements set for Use Case UC18

Identifier	Binding Requirements	Functional Requirement Description
FR 18.01.	D Lot 1	*SRMR* will deliver a mechanism to configure workflows for all scenarios related to the processes of preparing and processing the electronic forms related to mobilization resource management.
FR 18.02.	D Lot 1	The workflow management shall be carried out by using the system graphical interface where the user usually works.
FR 18.03.	D Lot 1	The workflows shall be defined through the specification of statuses through which the electronic form should go and the processing steps (workflow stages or transitions) realized by users with specific roles.
FR 18.04.	D Lot 1	A workflow shall be designed as a collection of activities to be unrolled in sequence.
FR 18.05.	D Lot 1	The number of steps to be included in a workflow shall not be limited. In this way the IT solution will be adjustable to changes of work methodology with the processed documents under the mobilization resource management procedures.
FR 18.06.	D Lot 1	A workflow shall have associated a coordinator (supervisor). The Coordinator shall be able to receive warning messages (notifications) generated by the unrolled flow. The user who launches a form for processing under a workflow shall be able to specify who the flow supervisor is.
FR 18.07.	D Lot 1	The System will offer a mechanism to configure the electronic forms necessary for preparing the documents related to the management of mobilization resources (their statuses and transitions).
FR 18.08.	M Lot 1	The System will offer mechanisms to configure document templates related to the acts generated on the basis of electronic forms prepared (templates will have a well-defined structure to allow changing the aspect of the retrieved document).
FR 18.09.	D Lot 1	The System will have an exclusively visual mechanism to configure statuses and transitions through which the electronic forms could go.
FR 18.10.	M Lot 1	The Developer will configure and implement templates to generate all documents specific for mobilization resource registration and

Identifier	Binding Requirements	Functional Requirement Description
		management: ■ personal card of mobilization resource; ■ acts related to activities carried out by Military Centers; ■ acts related to activities carried out by Military Units; ■ acts related to mobilization events; ■ other relevant documents.

5.1.19. UC19: Manage metadate

The functional requirements related to the mechanism for managing the SRMR Classifiers, Nomenclatures and Metadata are defined in Table 5.19.

Table 5.19. Functional requirements set for Use Case UC19

Identifier	Binding Requirements	Functional Requirement Description
FR 19.01.	M Lot 1	The System shall have a mechanism to manage the Nomenclatures, Classifiers comprised by all database metadata.
FR 19.02.	M Lot 1	When necessary, Classifiers managed by the NBS (*CAEM Rev.2, CUATM, CFOJ, CFP*, etc.) and other official Classifiers managed by *CPAs* and *LPAs* of the Republic of Moldova shall be retrieved in full. The IT System will enable administering the following categories of external Nomenclatures and Classifiers: ■ Classifier of Administrative-Territorial Units of Moldova; ■ Classifier of organizational-legal forms of Moldova; ■ Classifier of ownership forms of Moldova; ■ Classifier of economic activities of Moldova; ■ Nomenclature of addresses; ■ Nomenclature of ethnic groups; ■ Nomenclature of blood types; ■ Nomenclature *of civil statuses*; ■ Nomenclature *of religions*; ■ Nomenclature of countries; ■ Nomenclature of types of studies; ■ Nomenclature of types of family relationships; ■ Nomenclature *of languages*; ■ Nomenclature of types of document statuses; ■ Nomenclature of offices related to mobilization; ■ Classifier of categories of entitlements to drive vehicles; ■ Nomenclature of types of documents; ■ Classifier of types of documents; ■ Classifier of types of residence registration; ■ Other Classifiers and Nomenclatures relevant for human

Identifier	Binding Requirements	Functional Requirement Description
		mobilization resources. Classifier of types of vehicles; ■ Classifier of vehicle trademarks and models; ■ Classifier of types of vehicle coachworks; ■ Classifier of types of frames/chasses; ■ Classifier of types of engines; ■ Other Classifiers and Nomenclatures relevant for material mobilization resources.
FR 19.03.	M Lot 1	The rights of operating changes will be limited for official Classifiers. For this category of Classifiers, the changes will be operated only when they are done by the CPAs which administer them.
FR 19.04.	M Lot 1	For the system of Nomenclatures and internal metadata, the IT solution *will deliver* a mechanism for their dynamic definition and administration. The IT System will enable administering the following categories of in-house Nomenclatures and Classifiers related to human and material mobilization resources: ■ Classifier of military degrees; ■ Nomenclature of armed forces personnel; ■ Nomenclature of funding sources for training courses related to entitlements to drive vehicles; ■ Nomenclature of categories of Mobilization Resource records; ■ Classifier of the capacity degree to exercise military service; ■ Nomenclature of vehicles technical conditions; ■ Nomenclature of categories of places for documents storage; ■ Nomenclature of categories of mobilization resources; ■ Nomenclature of categories of accompanying/supporting documents; ■ Nomenclature of categories of mobilization events; ■ Classifier of military specialties; ■ Classifier of military functions; ■ Classifier of MoD territorial infrastructure; ■ Nomenclature of absence reasons; ■ Classifier of awards/decorations; ■ Nomenclature of categories of decisions taken by the Incorporation Commission; ■ Nomenclature of documents statuses prepared through electronic forms delivered by SRMR. ■ Nomenclature of language knowledge levels; ■ Classifier of military arms and equipment; ■ Nomenclature of MoD types of acts; ■ Nomenclature of types of notification of the mobilization

Identifier	Binding Requirements	Functional Requirement Description
		resource; ■ Nomenclature of access levels; ■ Classifier of shoes sizes; ■ Classifier of apparel sizes; ■ Nomenclature of sizes of ABC protective masks; ■ Classifier of categories of military events and extraordinary situations; ■ Nomenclature of categories of postponements for exercising military service; ■ Nomenclature of categories of social statuses; ■ Nomenclature of domains where to carry alternative service; ■ Nomenclature of the military institutions preparedness levels; ■ Nomenclature of reasons for assigning/withdrawing the status of mobilization resource; ■ Nomenclature of human mobilization resources; ■ Nomenclature of human mobilization resource statuses; ■ Other Nomenclatures and Classifiers relevant for human mobilization resources. Classifier of categories *of special equipment*; ■ Nomenclature of material mobilization resources; ■ Nomenclature of material mobilization resource statuses; ■ Other Nomenclatures and Classifiers relevant for material mobilization resources.
FR 19.05	M Lot 1	The System will not allow deleting any category of metadata if it is used at least by one database record.
FR 19.06	M Lot 1	The System of metadata will cover the *MoD* Organigram (subordinated institutions, subdivisions and functions) and authorized users' profiles.
FR 19.07	M Lot 1	The System of metadata will cover all system configurations, parameters and constant values necessary for the *SRMR operation.*

5.1.20. UC20: Other administration activities

The functional requirements related to *SRMR* administration activities are defined in Table 5.20.

Table 5.20. Functional requirements set for Use Case UC20

Identifier	Binding Requirements	Functional Requirement Description
FR 20.01.	M Lot 1	The System shall allow the administrative roles to retrieve, display and reconfigure the *SRMR* parameters and system settings.

Identifier	Binding Requirements	Functional Requirement Description
FR 20.02.	M Lot 1	The System shall allow the administrative roles to: ■ allocate functions to users and roles; ■ allocate one or more users to one role.
FR 20.03.	M Lot 1	*Administrator* shall access system logs.
FR 20.04.	M Lot 1	*Administrator* shall prepare back-ups and restore the system functionality on the basis of such back-ups;
FR 20.05.	M Lot 1	*Administrator* shall carry out all activities to secure the IT System proper functioning.
FR 20.06	M	Administrator must carry the interogations inside the buffer zone for importing/exporting data from/or to the other informational systems (SRP, SRLE, SDR, SRV, SBCE, etc.) and will record all data on a external device after that must import all data into the SRMR.

5.1.21. UC21: Synchronize date

Functional requirements of procedures for the synchronization of *SRMR* database with the databases of external IT systems are defined in Table 5.21.

Table 5.21. Functional requirements set for Use Case UC21

Identifier	Binding Requirements	Functional Requirement Description
FR 21.01.	M Lot 1	*SRMR* shall use and expose services for the interaction with external systems of CPAs and of state institutions of the Republic of Moldova.
FR 21.02.	M Lot 1	*SRMR* will perform actions to synchronize with the *SRP* to retrieve persons' records and biometric data, family relationships, residence, domicile, acts issued to update the files of human mobilization resources.
FR 21.03.	M Lot 1	*SRMR* will perform actions to synchronize with the *SRLE* to retrieve records of legal entities to update their Nomenclature used for keeping records on material mobilization resources.
FR 21.04.	M Lot 1	*SRMR* will perform actions to synchronize with the *SDR to retrieve* data on skills and entitlements to drive vehicles, field-related acts held to update the human mobilization resource registration cards.
FR 21.05.	M Lot 2	*SRMR* will perform actions to synchronize with the *SRV to retrieve* data on vehicles registration, the acts issued to them, data on the vehicle owner and location to update the Nomenclature of vehicles used for keeping records on material mobilization resources.
FR 21.06.	M Lot 2	*SRMR* will perform actions to synchronize with the *IS SBCE to retrieve* data on persons and vehicles movement to update the files on human mobilization resources and material mobilization resources to manage the data on their availability.
FR 21.07.	M Lot 2	*SRMR* will perform actions to synchronize with the *RCCI to retrieve* data on persons' convictions to update the files on human

Identifier	Binding Requirements	Functional Requirement Description
		mobilization resources.
FR 21.08.	M Lot 1	*SRMR* will perform actions to synchronize with the *SAISE to retrieve* the minimum set of metadata necessary to deliver the electoral information necessary for the CEC activity.
FR 21.09.	M Lot 1	*SRMR* will use the *SAISE* specialized service to deliver the electoral information necessary for the CEC activity.
FR 21.10.	M Lot 1	Synchronization of the *SRMR* with external IT Systems will be done either by automated procedures (described in UC22) or during the manual preparation of electronic forms of *SRMR* (the users will have specific buttons for synchronization upon request; when activated, they will automatically synchronize and populate the form with data).
FR 21.11.	M Lot 1	All synchronization events and, in particular, accessing personal data *through* procedures described by the functional requirements FR 21.02 - FR 21.09 will be logged.

5.1.22. UC22: Perform tasks

Functional requirements of the automated task management mechanism to update the *SRMR* data are described in Table 5.22.

Table 5.22. Functional requirements set for Use Case UC22

Identifier	Binding Requirements	Functional Requirement Description
FR 22.01.	M Lot 1	The IT System *will deliver* functionalities to manage automatic tasks to update the *SRMR* data.
FR 22.02.	M Lot 1	The *SRMR* Administrator will have functionalities to configure the mechanism for launching the automatic tasks to update the *SRMR* data (defining the schedule and periodicity of launching the automatic tasks).
FR 22.03.	M Lot 1	*SRMR* will contain an automatic task to query *SRP to retrieve* changes operated to personal data of human mobilization resources stored in the *SRMR* database.
FR 22.04.	M Lot 1	SRMR will contain an automatic task to query SRP to retrieve new human mobilization resources (example: persons who reached the age of 16 or persons aged 16 and more who obtained the citizenship of the Republic of Moldova).
FR 22.05.	M Lot 1	*SRMR* will contain an automatic task to generate an electronic file and personal card of new human mobilization resources imported from *SRP* (automatic execution of UC02).
FR 22.06.	M Lot 2	*SRMR* will contain an automatic task to query *SRV to retrieve* changes in personal data of material mobilization resources stored in the SRMR database.
FR 22.07.	M Lot 2	*SRMR* will contain an automatic task to query *SRV to retrieve* new

Identifier	Binding Requirements	Functional Requirement Description
		material mobilization resources (example: *new registered vehicles*).
FR 22.08.	M Lot 2	*SRMR* will contain an automatic task to generate an electronic file and personal card of new material mobilization resources imported from *SRV* (automatic execution of UC03).
FR 22.09.	M Lot 1	*SRMR* will contain an automatic task to change the records on human mobilization resources from reserve category I to reserve category II when reaching the age of 45.
FR 22.10.	M Lot 1	*SRMR* will contain an automatic task to change the records of human mobilization resource from Officer of Category I to Officer of Category II when reaching the age of 55 if the Officer's degree corresponds to the category of "Superior Officer Corps" or "Inferior Officer Corps".
FR 22.11.	M Lot 1	*SRMR* will contain an automatic task to change the records of human mobilization resource from Officer of Category I to Officer of Category II when reaching the age of 60 if the Officer's degree corresponds to the category of "Corp of Generals".
FR 22.12.	M Lot 1	*SRMR* will contain an automatic task to change the status of human mobilization resource in "resource not subject to mobilization" with the entry "due to reaching the age limit for being in the reserve" for the Reservists reaching the age of 50.
FR 22.13.	M Lot 1	*SRMR* will contain an automatic task to change the status of human mobilization resource in "resource not subject to mobilization" with the entry " due to reaching the age limit for being in the reserve" for the Officers reaching the age of 60 if the Officer's degree corresponds to the category of "Superior Officer Corps" or "Inferior Officer Corps".
FR 22.14.	M Lot 1	*SRMR* will contain an automatic task to change the status of human mobilization resource in "resource not subject to mobilization" with the entry " due to reaching the age limit for being in the reserve" for the Officers reaching the age of 65 if the Officer's degree corresponds to the category of "Corp of Generals".
FR 22.15.	M Lot 1	*SRMR* will contain an automatic task to change the status of a human mobilization resource with the "Recruit" status in "Reservist" status when reaching the age of 27, having repealed the validity of the act "Recruit Certificate".
FR 22.16.	M Lot 1	*SRMR* will contain an automatic task to retrieve from *IS SBCE* the totalities of events of crossing the Moldovan state border by mobilization resources (persons and vehicles) to update the data in their cards regarding their actual availability (at the time of leaving the Republic of Moldova an unavailability entry is made following the border crossing; at the time of returning an availability entry is made).
FR 22.17.	M Lot 1	*SRMR* will contain an automatic task to change the status of human mobilization resource in "resource not subject to mobilization" upon the person's death.
FR 22.18.	M Lot 1	The IT System will deliver functionalities for manual launching of automatic tasks specified under functional requirements FR 22.03 - FR 22.17.

Identifier	Binding Requirements	Functional Requirement Description
FR 22.19.	M Lot 1	The IT System will deliver functionalities to repeal the changes operated by the automatic procedures specified under functional requirements FR 22.03 - FR 22.17 (returning to previous statuses of mobilization resources).
FR 22.20.	M Lot 1	All events of automatic update *through* procedures described under functional requirements FR 22.03 - FR 22.17 will be logged.

5.1.23. UC23: Send notifications

The functional requirements related to the mechanism for SRMR notification are defined in Table 5.23.

Table 0.23. Functional requirements set for Use Case UC23

Identifier	Binding Requirements	Functional Requirement Description
FR 23.01.	M Lot 1	The IT System will offer two strategies for notification: ■ notification via E-mail; ■ notification via the user's Dashboard. ■ notification via both categories mentioned above.
FR 23.02.	M Lot 1	The authenticated users (regardless of their roles) will have the opportunity to configure their preferred notification means.
FR 23.03.	M Lot 1	The authorized users will receive notifications on business events related to their job duties (need to approve a form, changes in the personal card, etc.).
FR 23.04.	M Lot 1	*The Filing Clerks* will receive notifications on recording some changes requiring printing out the relevant documents to be attached to recruit files.
FR 23.05.	M Lot 1	Notifications stored in the user's Dashboard will have reference of direct access to the file/ form/document related to notifications.
FR 23.06.	M Lot 1	*SRMR* shall notify *the System Administrator* on all issues affecting the performance and availability of the IT System.
FR 23.07.	M Lot 1	*Administrator will have* functionalities for preparing a form to draft and send notifications to a group of persons.
FR 23.08.	M Lot 1	Those physical or legal persons, whose information is stored in the *SRMR,* will be able to receive notifications at their Email in case of some business events prepared *through* UC11 (when are mentioned in the prepared form) or in case of customized notifications prepared by the *Administrator*.

5.1.24. UC24: Logging Events

The functional requirements related to the mechanism of logging the events into the *SRMR* are defined in Table 5.24.

Table 5.24. Functional requirements set for Use Case UC24

Identifier	Binding Requirements	Functional Requirement Description
FR 24.01.	M Lot 1	The IT System will contain a mechanism for logging all business events related to the use of the system.
FR 24.02.	M Lot 1	*The System Administrator* will be able to configure all logging strategies related to business events *through* Use Case UC17.
FR 24.03.	M Lot 1	Depending on the component accessed by the user (data to configure it), *SRMR will deliver* the rules for logging the business events generated by a specific component of the Application .
FR 24.04.	M Lot 1	The following categories of events shall be logged: ■ user authentication; ■ user disconnection; ■ add/change/delete/access a record; ■ business events specific for the *SRMR* (generate a file, update the mobilization resource card, prepare a form for approval, accessing specific data, etc.); ■ generate/access a report; ■ query the database; ■ other specific business events.
FR 24.05.	M Lot 1	The logged event will save the following categories of data (depending on the type of the logged event: ■ identifier of the user who generated the event; ■ category of the logged event; ■ time of event logging; ■ resource of the IT application that generated the business event; ■ record affected by the business event; ■ action performed by the user.
FR 24.06.	M Lot 1	The IT System will deliver a mechanism to generate reports related to logged events.

5.2. Non-functional requirements of the IT System

5.2.1. General requirements and performance requirements

General system requirements and performance requirements are defined by the policies and strategies developed and adopted in the Republic of Moldova. It is worth mentioning that these acts are stemming from the industry best practices and comprise both organizational and technical measures. General system requirements specific for *SRMR* are defined in Table 5.25.

Table 5.25. The totality of general system requirements specific for SRMR

Identifier	Binding Requirements	Description of requirements

Identifier	Binding Requirements	Description of requirements
TGEN 001	M	All user interfaces and database content will be prepared in Romanian using Romanian diacritics.
TGEN 002	M	The user's Interface elements shall comply with Level A of *Web Content Accessibility Guidelines (WCAG) 2.0.*
TGEN 003	M	*SRMR* will ensure functionalities necessary to use the digital signature and mobile signature for all categories of actors.
TGEN 004	M	The user's Interface shall be optimized to 1360x768 resolution.
TGEN 005	M	*SRMR* shall have the possibility to adjust the user's interface (shall deliver a responsive interface) depending on the device used (*notebook, netbook, desktop PC, tablet*).
TGEN 006	M	The IT System shall have integrated functions for searching and filtering after Metadata files/documents, profiles of mobilization resources or of authorized users (search records, documents, notifications, acts, etc.), search by the calendar, search by business events of mobilization processes, etc.). The procedures of information and records retrieval shall be performed via simple search (specification of search series) or via more complex search forms allowing filtering the information (QBE forms). Regardless of the type of searched information, the user shall utilize the same method of queries and retrieval of information for any section of *the software.*
TGEN 007	M	In addition to the searching module implemented based on QBE principle, which would offer the possibility to define visually sophisticated queries, the user interface shall offer the possibility to refine the search results by ensuring the possibility to filter the data in the list containing the search results.
TGEN 008	M	The *IT system* user interface shall ensure filtering the records that match the search criterion presented by users depending on their rights of access.
TGEN 009	M	The content of any table with search results shall have the possibility to be exported in any of the following format: XLS, CSV and PDF.
TGEN 010	M	*SRMR* shall offer API interfaces to interact with external IT systems.
TGEN 011	M	*SRMR* will ensure compatibility with *W3C XForms standard.*
TGEN 012	M	The IT system shall be optimized in the minimum data transfer between the client computer and server, having focused on avoiding the redundant requests as much as possible, implementing AJAX with JSON.
TGEN 013	M	*SRMR* shall have at its basis at least a three-level architecture (with a distinct level for data) based on SOA.
TGEN 014	M	*The SRMR* potentially variable information (*parameters, ways if data storage, ways of connection with external services, etc.*) shall be configurable and would not require solution recompilation or direct interventions into the DB.

Identifier	Binding Requirements	Description of requirements
TGEN 015	M	The IT System shall use open standards for formats and communication protocols.
TGEN 016	M	The services exposed to the public by *SRMR* shall be technologically neutral (Operation System, Internet Explorer, etc.).

Specific performance requirements of *SRMR* are defined in Table 5.26.

Table 5.26. Performance requirements set for the IT System

Identifier	Binding Requirements	Description of Performance Requirements
PERF 001	M	Average time for server response shall not exceed three seconds upon the system nominal load.
PERF 002	M	The System shall be capable to perform authentication/authorization actions of more than 100 competing users in a 10-minute time-limit.
PERF 003	M	The System shall enable the competing activity of at least 250 users and concurrent servicing of at least 100 queries.
PERF 004	M	The System shall create more than 50,000 of files per annum for the mobilization resources and operate more than 100,000 changes in the files of mobilization resources.
PERF 005	M	Prior to the delivery of IT solution, *SRMR* performance test shall occur.
PERF 006	M	Performance testing shall include at least two components: system *load testing* and system *stress testing*.

5.2.2. Security and Protection Requirements

The System shall comply with the technical requirements imposed on Information Systems by the Moldovan Standard SMV ISO/CEI 27002:2009 Information Technology. Security Techniques. Code of good practices for information security management.

The IT solution shall comply in full with the security requirement defined in Table 5.27.

Table 5.27. Requirements for SRMR security and protection

Identifier	Binding Requirements	Description of Security and Protection Requirement
SR 001	M	The IT System guarantees full storage and integrity of *SRMR* DB content.
SR 002	M	Public information is made available to anonymous users.
SR 003	M	Access to functions granted to unauthorized and non-authenticated users shall be monitored using protection means against overstressing the service by one or several network hubs.
SR 004	M	All fields of forms filled in by users must be validated by type of both

Identifier	Binding Requirements	Description of Security and Protection Requirement
		the client and server.
SR 005	M	When the system communicates with other systems digital certificates shall be used for identity.
SR 006	M	For time-sensitive transactions, immediately after their execution, the official service (*time stamping)* of the Republic of Moldova shall apply.
SR 007	M	The System shall be secured against *OWASP Top 10 vulnerabilities*.
SR 008	M	The System shall ensure confidentiality of data transmitted-received via communications channels.
SR 009	M	Access to the *SRMR* shall be monitored.
SR 010	M	Interaction with IT Systems shall be performed through an authentication procedure *using* the digital certificate.
SR 011	M	Access to functions for in-house users shall be granted by their authentication, using user + Password, LDAP or digital certificate.
SR 012	M	The System *will deliver* sound mechanisms to secure the procedure safety for users' authentication and authorization.
SR 013	M	All users' actions shall be entered into electronic logs.
SR 014	M	The System shall make a periodic sound signal that tells about its functional status.

5.2.3. Software, Hardware and Communication Channel Requirements

The Developer shall state the cost of licensing of the suggested software components (which the MoD does not have), as well as the sum of licensing costs for:

■   doubling the number of users;

■   doubling the number of processing units (CPU or CPU kernels);

■   doubling the number of similar hubs.

Table 5.28 contains the requirements for software, hardware and communications technology assurance of *SRMR*.

Table 5.28. Requirements for software, hardware and communications technology assurance of SRMR

Identifier	Binding Requirements	Description of requirements for software, hardware and communications technology solutions
SHC 001	M	The System shall have the possibility to be installed on both dedicated servers and on virtual solutions.
SHC 002	M	It is necessary to demonstrate the capacity of virtualization via the delivery of a system image to the Beneficiary that could be uploaded and become operational with minimum configurations on one of the virtualization solutions available on the market.
SHC 003	M	The System shall be accessed through communication channels of at least 128kbps.

Identifier	Binding Requirements	Description of requirements for software, hardware and communications technology solutions
SHC 004	D	For *SRMR* development it is envisaged to apply open source technologies such as LAMP/XAMP or other free and portable platforms for the development and operation of IT systems.
SHC 005	M	The Developer shall state explicitly in the offer the software platform based on which the *SRMR* has been built and the software platform required for the *SRMR functioning*.
SHC 006	M	If the software platform used to develop and operate the *SRMR* is based on commercial IT solutions, requiring licence procurement, the Developer will include in the price offer the delivery of all licences required for SRMR development and operation (the Developer shall purchase on behalf of the MoD all licences required for the development and operation of the IT System).
SHC 007	M	If the software platform used to develop and operate the *SRMR* is based on commercial IT solutions, requiring licence procurement, the Developer will include in the price offer the overall amount charged for licensing when: ■ doubling the number of users; ■ doubling the number of processing units (CPU or CPU kernels); ■ doubling the number of server application hubs/DB.
SHC 008	M	The System is capable to be virtualized at the level of software-hardware.
SHC 009	M	The System shall be tolerant to errors by offering support for clustering and fail over for the whole platform and own components.
SHC 010	M	It is advisable to ensure that the service parts exposed to the public are technologically neutral.
SHC 011	M	It is required that at the client level, the IT system is operated, having performance parameters acceptable by the reference configuration. (Reference configuration is a Notebook *HP Compaq 8510,* processor 2GHz, 2Gbyte RAM, *Windows 7*, *Firefox 40*).
SHC 012	M	Verification shall be done by using a set of (modern) platforms expecting that the performance parameters are similar or even better than those from the reference configuration.
SHC 013	M	It is advisable the IT solution to be built using open, non-proprietary solutions, specific for WEB applications (*XML, XSL, XHTML, WSDL, SOAP, LDAP, J2EE*, etc.) so that the Beneficiary could subsequently develop it.
SHC 014	M	The WEB Explorer is the recommended generic software for the operation and interaction with SIASA.
SHC 015	M	The System shall be compatible with at least two the most recent versions of the following WEB browsers: *Microsoft Internet Explorer, Mozilla Firefox, Google Chrome*, *Safari* and *Opera*.
SHC 016	M	Compatibility with *Microsoft Internet Explorer* is binding.

Identifier	Binding Requirements	Description of requirements for software, hardware and communications technology solutions
SHC 017	D	*SRMR* shall incorporate a Heart-beat service to periodically communicate the system normal work status.
SHC 018	M	The System shall include configurable means for technical logging.
SHC 019	M	The System shall be able to produce at least the following levels of technical logging: *info*; *warning*; *critic*; *error*.
SHC 020	M	The Developer shall list the means to be used for system troubleshooting.
SHC 021	D	The Developer shall prepare means that facilitate the system administration functions: starting the system components; ■ stopping the system components; ■ restarting the system components, ■ creating a DB back-up, ■ recovery of data using the indicated back-up, ■ refreshing the system operational memory.
SHC 022	M	The System shall operate in TCP/IP networks and, especially, in HTTPS.
SHC 023	M	The Developer shall suggest other network services and utilities necessary for system operation.

5.2.4. IT related aspects and field-related initiatives

The requirements set for IT related aspects and field-related initiatives currently in force on the territory of the Republic of Moldova are defined in Table 5.29.

Table 5.29. Requirements for IT related aspects and field-related initiatives

Identifier	Binding Requirements	Description of the accepted initiative
INI 001.	M	The IT System will use the *M-Pass* service as a mechanism for users' authentication and authorization.
INI 002.	M	*M-Sign* service of the joint governmental platform *M-Cloud and/or National Army PKI/AD infrastructure* will be used as a mechanism for applying the digital signature and validation.
INI 003.	M	The IT System will use the interoperability platform *M-Connect as* an interaction mechanism with IT systems of other Moldovan authorities.
INI 004.	M	*SRMR* will use PKI services offered by the single technological platform *M-Cloud and PKI/AD services of the National Army.*
INI 005.	M	*SRMR* will identify a set of at least 10 performance indicators to be published automatically for monitoring services of the *Ministry of Defence Data Center*.

5.2.5. Documentation requirements of the IT System

The IT solution shall be accompanied by a full package of documentation of *the IT system* comprising the sections included in Table 5.30.

Table 5.30. Documentation requirements of SRMR

Identifier	Binding Requirements	Description of documentation requirements of SRMR
DOC 001	M	The Developer shall prepare and publish interactive guidance materials included in the user's Interface of the *SRMR*.
DOC 002	M	The Developer shall prepare and deliver *the* IT System Technical Design (SRS + SDD).
DOC 003	M	The Developer shall prepare and deliver user's Manual in Romanian.
DOC 004	M	The Developer shall prepare and deliver Administrator's Manual in Romanian.
DOC 005	M	The Developer shall prepare and deliver the Guide on system installation and configuration (to include at least guidelines for code compilation, installation of application, hardware and software requirements, platform description and configuration, application configuring, and disaster recovery procedures).
DOC 006	M	The Developer shall prepare and deliver the System Architecture Documentation with the description of models in UML language, to include a sufficient level of details in terms of Architecture in several cross-sections (including the data logical and physical model).
DOC 007	M	The Developer shall prepare and deliver API documentation exposed to be integrated with other IT Systems.
DOC 008	M	The Developer shall deliver all electronic mediums necessary to describe and validate the interfaces in WSDL language.
DOC 009	M	The Developer shall deliver the source code for applications and components developed under the Project.
DOC 010	M	The Developer shall deliver *the Administrator' Manual* that describes administration functions, including the functions exposed directly from the system, as well as the manual procedures necessary to maintain and secure proper functioning of the IT application.
DOC 011	M	The Developer shall deliver *the user's Manual* that describes the IT solution parts exposed for different roles of human users.
DOC 012	M	The Developer shall deliver interfaces for automatic interoperation with external systems specified (technically) and documented (in human text).

5.2.6. Maintenance Requirements of the IT System

The Developer shall ensure post-delivery maintenance period and technical support comprising the sections included in Table 5.31.

Table 0.31. Maintenance period and technical support of SRMR

Identifier	Binding Requirements	Description of maintenance period and technical support
GMS 001	M	The Developer shall offer maintenance and technical support for 12 months following the acceptance of the IT System.
GSM 002	M	The Developer shall offer development support for 20 days / person.
GMS 003	M	The maintenance period and technical support shall meet the National Standard SM ISO/CEI 14764:2005 - Information Technology. Software Maintenance.
GMS 004	M	The Developer shall provide the Beneficiary with a Help Desk service available in all business days throughout the year.
GMS 005	M	The Beneficiary will be able to call the Help Desk service at a national phone number (matching the numbering of contact phones in the Republic of Moldova).
GMS 006	M	The communication language of Help Desk service is Romanian.
GMS 007	M	The Beneficiary shall report all technical issues that could occur through a ticketing mechanism, E-mail or instant message.
GMS 008	M	The Developer shall ensure support to document the technical issues and their traceability for the Beneficiary.
GMS 009	M	The deadline for reaction and remedy for the reported issues should be at most eight working hours following their reporting.
GMS 010	M	For major complexity issues the remediation period shall not exceed 72 hours.
GMS 011	M	The Developer shall prove its ability to provide post-delivery technical support in compliance with the requirements of GMS 001-GMS 009.

6. Final Product and Deliverables

The final product (*State Register of Mobilization Resources*) is composed of software artefacts and system documentation, as well as of knowledge transfer to the system Owner and Administrator.

Artefacts related to the *SRMR* deliverables are displayed in Table 6.1.

Table 6.1. Deliverables for SRMR

Identifier	Binding Requirements	Artefact Brief Description
DELIV 001	M	Complete source code of modules and components necessary to compile the delivered software.
DELIV 002	M	Final product packed for easy installation in the proposed technological environment.
DELIV 003	M	Technical design (SRS+SDD).
DELIV 004	M	Document on system configuration and deployment (guidelines for deployment) in Romanian language.
DELIV 005	M	User's Manual in Romanian language.
DELIV 006	M	Administrator's Manual (including a contingency plan) in Romanian language.
DELIV 007	M	Training documentation (designed to trainers who would train the Ministry of Defence staff in operating the IT solution) in Romanian language.
DELIV 008	M	Technical specifications for the published and used interfaces in Romanian language.
DELIV 009	M	Special libraries and tools necessary for the compilation of system components in Romanian language. (Developer will demonstrate the possibility of compiling the source code on the platform offered by *the Ministry of Defence of the Republic of Moldova*).
DELIV 010	M	Test plan and the results of internal (functional, performance, security) testing.
DELIV 011	M	Totality of artefacts copied on electronic medium (CD or DVD).

Besides the artifacts related to the *SRMR* deliverables, all the services needed for knowledge transfer indicated in Table 6.2. will be provided.

Table 6.2. Knowledge transfer services related to delivered artefacts

Identifier	Binding Requirements	Artefact Brief Description
DELIV 009	M	Training of users and Administrators.
DELIV 010	M	Assistance during the system pilot testing period.
DELIV 011	M	Assistance in testing the system acceptance.
DELIV 012	M	Assistance in system bringing in the production.

Identifier	Binding Requirements	Artefact Brief Description
DELIV 013	M	Solving the deficiencies identified during the pilot period and acceptance testing.
DELIV 014	M	Post-implementation technical support (after the system bringing into the production) for a 12-month period, including corrective, adaptive and preventive maintenance, in compliance with ISO/IEC 14764.

7. Implementation stages of the IT System

The designing, building, testing and implementation of *SIASA* must be done in accordance with the following schedule:

1. IT System development stage, which shall be subdivided into phases coordinated with the *Ministry of Defence (MoD) of the Republic of Moldova* as follows:

    a. The MoD will present technical project developed previously.

    b. The Developer proceeds with analyzing the Terms of Reference, domains of activity and with due approval of the direct Beneficiary (MoD) proposes its vision with regards to developing the information system bearing on a presented technical project, through the technical project composed of two documents SRS and SDD (20 days);

    c. The Developer proceeds with developing a program code and integration of modules developed into a prototype version of the information system (the first presentation to the involved parties shall follow meant to demonstrate existence of all functionalities described in the Scope of work), which subsequently will be improved until signing of the final acceptance of the information subsystem. This stage will not exceed five months;

    d. The Developer proceeds with testing the system in laboratory mode (in-house testing) and prepares a set of accompanying documentation (presented shall be the functionalities of the system complete with corrections and adjustments made during the previous sub-stage; also presented shall be a set of technical documentation, etc.). The duration of the stage in question shall be two weeks. The testing procedure shall mandatory comprise the following stages:

        o joint verification of all test scenarios to meet of the functional requirements of the IT System;

        o stress and load testing scenarios will be applied to the system by the third party with the purpose of checking the level of its compliance with the MoD expectations;

        o based on the test results, where appropriate, the required adjustments and changes will be operated, having prepared an improved version of the IT System.

    e. The Developer shall make the primary consolidation of data collection on the basis of standard files retrieved from *SRP, SRLE, SDR, SRV, RCC, and IS SBCE.* This stage shall last one weeks.

2. SRMR Implementation Stage will begin with the approval of the Minutes of acceptance by the owner of the IT system in the submitted variant and the signing of the statement of acceptance in experimental operation. Implementation of the IT solution shall last for maximum 1.5 months.

3. Training stage shall start concomitantly with the implementation of the IT solution and shall cover training of two system users assigned to act as *Administrators*, 12 system users assigned to act as *MC Operators,* 12 system users assigned to act as *MC Decision Makers,* 20 system users assigned to act as *MU Operators,* 20 system users assigned to act as *MU Decision Makers* and 2 users assigned to act as *Filing Clerks*.

4. Commissioning of the SRMR begins with the signing of the IT System Commissioning Statement and starting of its operation. During this phase the developer will present a full report regarding penetration testing.

5. SRMR maintenance stage is the period during which the system Developer is assuming the obligation relative to the Owner to grant assistance in maintaining the capacity of the information system to provide services as well as in upgrading the software, while maintaining its integrity. In case of SRMR we believe that the initial 12-month period shall be sufficient.