**GOVERNMENT OF THE REPUBLIC OF MOLDOVA**

**DECISION nr. 656 from 05.09.2012**

**On Approving the Interoperability Framework Program**

Based on Article 2 of Law No. 173 of 28 July 2011 On Ratification of Funding Agreement between the Republic of Moldova and the International Development Association for implementation of Governance e- Transformation Project (Official Gazette of the Republic of Moldova, 2011, No. 131-133, art. 425), as well as for the purpose of implementing actions provided for in Government Resolution No. 710 of 20 September 2011 „On Approval of the Strategic Program for Technological Modernization of Governance (e-Transformation) (Official Gazette of the Republic of Moldova No. 156-159, art. 780 of 23 September 2011) and for accomplishing Action 5 of the Action Plan for 2012, which is implementing the Strategic Program for Technological Modernization of Governance (e-Transformation), approved through Government Resolution No.44 of 26 January 2012, the Government hereby DECIDES:

1. To approve the Interoperability Framework Program (hereinafter referred to as Program") (see attached).
2. To charge the State Chancellery with the following tasks which are to be carried out with the support of the E-Government Center and E-Transformation Coordinating Council:
   a) managing the preparation stage of the Interoperability Framework implementation;
   b) coordinating the regulatory and institutional framework adjustment process;
   c) providing methodological support to insure on-going development of the interoperability platform.

3. To charge the ministries and other central administrative authorities, including through the E-Transformation sub-units with the following tasks:
   a) using the interoperability platform to exchange data among information systems in the public sector from the moment of its launching;
   b) coordinating with the E-Government Center the interconnection of information systems throughout the period before launching the interoperability platform;
   c) developing and approving the regulatory framework which is within the limit of their competences for the purpose of bringing it in line with the Interoperability Framework;

d) complying, upon creation of new electronic public services and other information systems, with the technical requirements of the interoperability platform;

e) re-engineering the work processes in order to optimize the latter by taking into account the Interoperability Framework implementation;

f) approving action plans for connection of existing information systems to the interoperability platform, and coordinating the latter with E-Government Center;

g) perform their monitoring and reporting duties in compliance with the provisions of Chapter 7 of the Program;

h) forwarding solutions to improve their area of activity rather than approving alternative interoperability platforms to improve the efficiency of public expenditures.

4.      The State Chancellery, in collaboration with the Ministry of Finance and the Ministry of Information Technologies and Communications shall propose a sustainable interoperability platform funding mechanism.

5.      The State Chancellery shall control the execution of this Resolution, as well as insure the progress and evaluation of the implementation of actions provided for in this Resolution.


**PRIME MINISTER**                                             **Vladimir FILAT**

**INTEROPERABILITY FRAMEWORK PROGRAM**

## 1. Introduction

1. The Interoperability Framework Program (hereinafter referred to as Program) is a planning document developed by taking into consideration the best practices and recommendations in the given area.
2. Interoperability represents a capacity of systems and organizations to collaborate and to exchange and reuse data. The interoperability platform is a technical solution facilitating data exchange. The Interoperability Framework covers the interoperability platform and all related aspects, such as legal and institutional frameworks, financial aspects, etc.
3. This Program describes the current situation in the given area, and defines the goal, objectives, required actions and measures, establishing the implementation phases and responsibilities of all the stakeholders involved in the efficient data exchange, including tools required at organizational, semantic, and technical level.

## 2. Problem description

4. In September 2011, with the approval of the Strategic Program for Technological Modernization of Governance (e-Transformation)[1], the Government committed to provide all the public services in electronic format in addition to traditional methods.
5. To respond to the needs of final beneficiaries of public services (citizens and businesses) and insure a productive cooperation between public administration authorities and an efficient public sector functioning, respectively, there is a need for a complex approach based on fundamental principles of good administration that would establish the context of actions with regard to public services and cooperation between public administration authorities.
6. Public services are designed to respond to the needs of citizens and businesses. The current approach resulting from relevant national regulations is less oriented towards final users. The reforms in this area should ensure to citizens and businesses: (a) access to user-friendly public services; (b) access to public services through several channels, in any moment, location, and situation; (c) the possibility for applying to one-stop shop, including in situations when the public sector entities should cooperate with each other to provide a public service; (d) the possibility to provide information that is strictly necessary for benefiting from a public service, without requiring the provision of information already collected by another entity from public sector; (e) the respect of privacy.
7. The possibility to reuse the information resources and systems is essential for providing electronic public services. For the time being, the information collected and managed by

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[1] http://lex.justice.md/index.php?action=view&view=doc&id=340301

public sector for providing public services is oftentimes redundant, not archived in formats that would insure information security, privacy, and accessibility. Information security and privacy is not sufficiently considered in archiving the information collected and managed by the public sector for purposes related to provision of electronic public services. The access to information is not properly logged either, and, as result, the goal and legal basis of the latter are oftentimes unknown, while the regulations on privacy protection of the information provided by businesses and the physical persons' right to protection of personal data is often infringed.

8. In a majority of cases, the data held by some authorities are accessed by other authorities only for the purpose of reading or validating respective data, without having a possibility to automatically insert corrections. Thus, the data is overlapping in several state owned information systems, with the risk of being incoherent and obsolete.

9. Some public institutions create information redundancy by requesting from the citizens information that the latter have already provided to other public institutions. This generates inconveniences for citizens and inefficiency in the activity of respective institutions.

10. Public institutions from various sectors do not share with each other the information or information systems under their management. The inefficiency or lack of data exchange generates inefficiency in the activity of authorities: certain data collection related activities are overlapped, incurring additional costs related to the need for printing documents, using mail and courier services, delegations, expeditions, recordings, and secretarial costs, increasing the risk of human errors, as well as the time required for performing duties by the given authorities.

11. Central public administration authorities hold over 70 departmental computerized information systems using sector databases, classifiers, registers, and standards developed over the years. The lack of a common set of standards and classifiers does not allow establishing unique policies, organizing the cooperation of authorities at procedural and information levels. As a consequence, the classifiers are overlapping and there are divergences in the terms used.

12. Although not all the public services are based on ICT, they depend on their interconnectivity. Many of the systems procured by public sector institutions cannot be easily interconnected, in order to ensure efficient data reuse. This creates barriers to both public service provision and efficient operation of the public sector, in general. In order to overcome these barriers, the public sector should avoid imposing technological solutions that won't be possible to adjust to a fast change.

13. Data exchange currently carried out between public institutions are based on ad-hock relations, bilateral arrangements signed for a certain purpose or project, using technologies available at that moment, while their implementation does not always comply with the relevant standards. The definitions used at semantic level are not re-used, while the vocabularies applied are usually based on and cover only the internal needs of the organizations providing data.

14. Current data exchanges are not based on Service Level Agreements (SLA). This oftentimes results in inefficient data exchanges, with improper levels of availability and coherence.

15. To date, the digitization of Moldovan public sector is a chaotic process, with each institution creating various systems of different sizes without sufficient coordination with other institutions, and in some cases, even with its own subunits. Such variety, as well as the lack of common standards and/or conventions makes it more difficult for a subsequent connection of systems.

16. For the purpose of promoting a common approach in this regard, the Government undertook to approve the Interoperability Framework Program to facilitate the efficient provision of public services both traditionally, and electronically.
17. In order to confer adequate legal significance to the Interoperability Framework, it is necessary to adjust the regulatory and institutional framework.

## 3. Overall and specific objectives

18. The Strategic Program for Technological Modernization of Governance (e-Transformation) approved through Government Resolution No.710 of 20.09.2011, sets forth (through action 4.8) the drafting and implementation of an Interoperability Framework in the public sector for increasing internal operations efficiency by insuring interoperability and coherence of IT systems and data exchange.
19. **Overall objective**: Implement the Interoperability Framework with the aim to increase the Government performance due to an efficient data exchange within the public sector, as well as between the public and private sector.
20. The specific objectives are as follows:
    I. **insuring IT systems interoperability in the public sector** through implementation and efficient operation of a common interoperability platform;
    II. **insuring efficient and secure data exchange and reuse** by connecting the state-owned information resources and services to the common interoperability platform;
    III. **insuring a favorable framework for public services optimization** through reusing information resources and services;
    IV. **insuring a favorable framework for an open government** through automatic mechanisms for collection and publishing of open government data.
21. The Interoperability Framework implementation shall be based on the following key principles:
    a. **data reuse** for reducing the administrative burden and minimize data compilation by reorganizing the public services and re-engineering the operational processes in order to reduce information redundancy;
    b. **openness** for facilitating knowledge sharing and stimulating debate within and communication between central public administration authorities, as well as between the authorities and citizens;
    c. **security and privacy** of the interaction of citizens and businesses with the public institutions in an environment of trust and in full compliance with the relevant regulations, e.g. on privacy and data protection; the citizens and businesses will have the possibility to check the information collected by public administration authorities about them and to decide whether this information may be used for purposes other than those for which it was originally supplied;
    d. **technological neutrality and adaptability**: when establishing public services, the authorities should focus on functional needs and defer decisions on technology as long as possible; access to public services shall not be dependent on any specific technology or product, adapting more easily to their evolution;
    e. **composability of public services** means that public services will be designed as recombinant components that can be selected and assembled in various combinations to satisfy specific citizens' needs; aggregate services, based on

multilateral organizational agreements, result in faster responses and replaceable technologies;

f. **loose coupling principle**, being one of the key principles in the Service Oriented Architecture (SOA[2]), advocates the creation of a specific type of relationship within and outside of system boundaries, with a constant emphasis on reducing dependencies between system exposed interfaces, its internal implementation details, and its consumers; following this principle contributes to diminishing the following couplings: protocol, syntax, formats, semantic, temporal, behavioral and organizational couplings;

g. **technical solution simplicity**: opting for a simple, intelligible, accessible solution easy to adopt by relevant entities, based on open standards and a uniform interfaces.

## 4. Actions for accomplishing the set objectives

22. The actions undertaken for implementing the Interoperability Framework are divided into 3 levels:

a. organizational interoperability – all institutional, regulatory, financial and process alignment implications to ensure effective and efficient data exchange;

b. semantic interoperability – an agreed approach to exchanged formats, syntax and meaning of messages;

c. technical interoperability – the technical means of interoperability, such as adaptors, middleware and communication channels ensuring data exchange.

### 4.1 Implementation of organizational interoperability

23. In addition to systems connection and information flows managed by authorities, interoperability involves a common approach to the data exchange organization and operations model, within which each central public administration authority, including subordinated structures of the latter and state enterprises monitored by the CPA (hereinafter referred to as "organizations"), have a well-defined role to play according to their duties.

24. The Interoperability Framework shall be implemented in stages. Organizations possessing the required capacity and preparation level shall be involved in the first stage, with the subsequent connection of all other state organizations.

25. A complex analysis shall be carried out upon linking a new organization to the interoperability platform, which shall include:

a. current business processes within the organization, with the aim to improve the latter;

b. information flows and data sources required by business processes, as well as those that are or can be carried forth to other organizations;

c. classifiers and taxonomies used or held by the organization;

d. types of data protected by law;

e. public data, with the aim to publish the latter electronically;

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[2] http://www.soaprinciples.com

    f.  identification of the needs for adjusting the institutional and regulatory dimensions.

26. To insure an efficient interoperability at organizational level in the public sector, there is a need for aligning the legal framework to the principles underlying interoperability.
27. Interoperability implementation envisions the use of agreements involving several organizations. To this end, template agreements shall be developed and approved to standardize and improve the efficiency of organizations interconnection process.
28. Data collection, transmission, conservation and restoration rules shall be defined to insure data exchange continuity. These rules shall include measures and procedures, such as: unique identification of records, mandatory use of metadata, application of digital signature, procedures for data restoration, collection, extraction, guaranteed transportation, conservation, and destruction assuring its evidential value and trustworthiness.
29. Data exchange between public authorities, including between the subordinated structures, shall be free of charge. In the context of data exchange between the government and citizens, as well as between the government and businesses, there shall be proposed, considered and approved specific interaction mechanisms for each separate case.
30. To insure an efficient operation of the interoperability platform, the platform technical and technological Operator shall consult the organizations in the connection process and insure the on-going platform operation and monitoring.

## 4.2    Implementation of semantic interoperability

31. In the process of data exchange between information systems, and upon publication of open data, it is necessary for the data to be unambiguously interpreted by the participants. Unambiguous data interpretation is the essence of semantic interoperability.
32. The definitions and structures of data used shall be described in the **semantic catalogue**, which represents a totality of technical and organizational means and shall be created as part of the interoperability platform. The definitions of the semantic catalogue shall be based on international standards[3] (particularly on European ones[4]) and on national standards in the given area.
33. The semantic catalogue shall provide the possibility to explore (in order to understand the structure and terminology of an area), to search (using the defined attributes and relations), to identify (i.e. confirm that a certain description corresponds to the searched one), to select (in order to choose the description that meets the requirements) and to obtain (in other words, to freely access the desired description) the definitions contained in it.
34. The semantic catalogue shall contain the unified definitions of classifiers.
35. The classifiers shall be published and made accessible free of charge.
36. The classifiers can be available in several languages (English, Russian), and mandatorily in the state language.

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[3] https://www.oasis-open.org/standards
[4] http://joinup.ec.europa.eu/asset/adms/release/100

37. For each classifier, there shall be a responsible organization appointed for its maintenance, and procedures shall be defined for its management, including polices for versioning, operating, and propagating changes.
38. In addition to classifiers, the semantic catalogue shall contain a description of data structures, the unambiguous interpretation of which is necessary in the data exchange process, such as definitions for messages, entities, etc.
39. The semantic catalogue shall contain other information used in the organization of data exchange, syntactic aspects, including conventions on the representation of units of measure, the format for values specifying the date, time, and time spans, the format of geospatial data, and aspects related to currency exchange.
40. Respective public authorities shall make the necessary adjustments in the internal regulatory framework in order to efficiently use the semantic interoperability instruments.

### 4.3    Implementation of technical interoperability

41. At technical level, the Interoperability Framework shall be carried out through the implementation of interoperability platform, which is part of the common government technology platform.
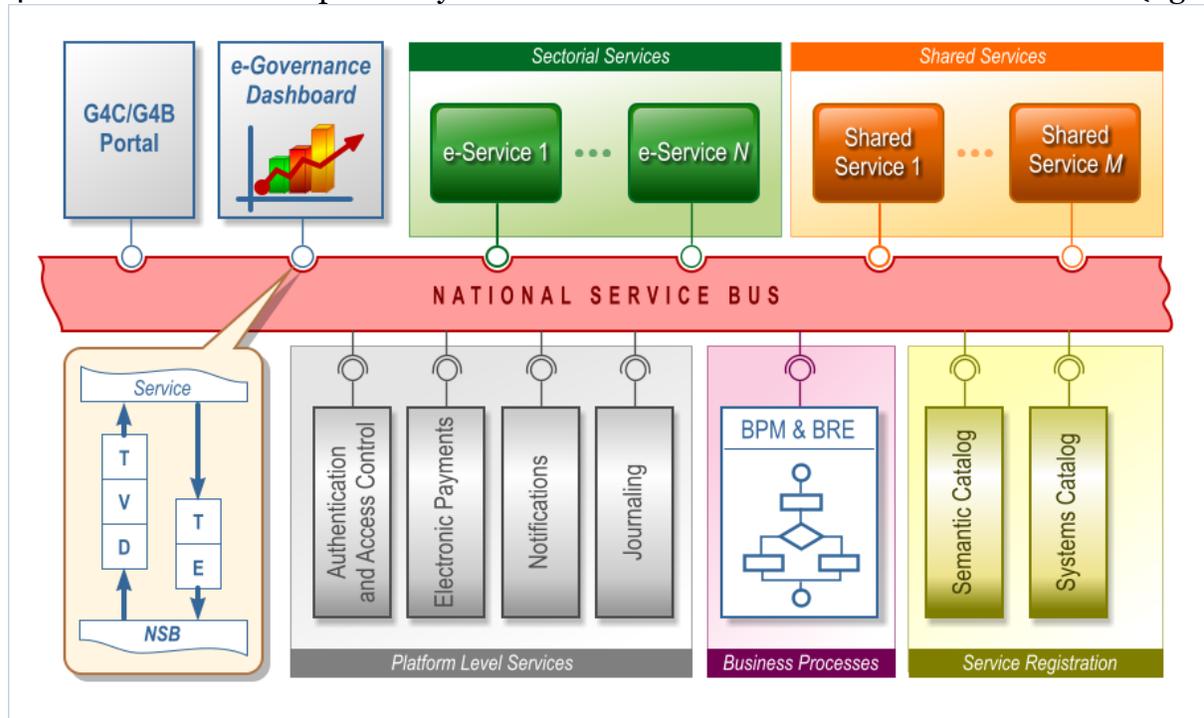42. The basis of Interoperability Platform at technical level shall be a service bus (fig. 1).



*Figure 1 National service bus*

43. This bus shall transport structured messages preliminarily defined in the semantic catalogue.
44. The platform shall insure security of transported messages.
45. All the systems connected to the platform shall be recorded into a systems catalogue that is part of the platform. To insure consistency with the State Register of Information

Resources and Systems[5] (SRIRS) of the Ministry of Information Technologies and Communications, the registration in the interoperability platform shall be carried out on basis of a system identifier from the SRIRS.

46. The systems catalogue shall contain technical details about the connected systems, definitions of messages that the systems can send and receive, as well as information resources available for distributed queries.

47. The systems shall be connected to the platform through adaptors that will transform, validate, and encrypt/decrypt the messages from/into the format specific to the connected system, in a unified format operated by the platform.

48. The process of connecting a system to the platform shall be regulated at technical level, and include rules for the use of standards and semantic catalogue, versioning policies, as well as technical details about connection to physical networks, system testing/piloting and acceptance.

49. The platform shall include a separate testing environment to improve the efficiency of the connection process. The testing environment shall include the possibility of test data generation.

50. All of the platform-level services of the common government platform shall be available for reuse through the interoperability platform: authentication and access control service, e-payment government service, government notification service, and government logging service.

51. The key state registers shall be connected to the interoperability platform as a priority.

52. Complex interactions involving several connected services shall be orchestrated by business process or workflow engines.

53. Data security and privacy within the interoperability platform shall be insured by applying centralized security mechanisms in compliance with the fundamental principles set for the processing of such data categories.

54. The interoperability platform shall insure access to personal data according to the main conditions for respective data processing, storage, and use, provided for in Law No.133 of 08.07.2011 On Protection of Personal Data[6] and relevant normative acts, including Requirements for Insuring Personal Data Security upon Processing the Latter within Personal Data Information Systems[7].

55. The platform shall provide mechanisms for monitoring the access to personal data, as well as the possibility to review data and data access history.

56. The interoperability platform shall provide mechanisms for insuring a high level of availability, reliability, and performance.

57. The platform shall contain collaboration tools aimed at insuring on-going improvement of the interoperability framework.

## 5. Impact assessment and cost appraisal

58. Given the fact that the efficient implementation of this Program is one of the fundamental milestones and prerequisite for the implementation of the Strategic Program for Technological Modernization of Governance (e-Transformation) and for insuring the accomplishment of specific goals and general objectives of the latter, the

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[5] http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=317285
[6] http://lex.justice.md/viewdoc.php?action=view&view=doc&id=340495
[7] http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=337094

Interoperability Program shall contribute to producing the estimated impact within the Strategic Program for Technological Governance (e-Transformation). As a justification of the above mentioned contribution shall be the fact that by reaching a high level of interoperability between the information systems of public authorities, adequate conditions shall be created for:

    a. a faster, more productive and effective interaction between public authorities from within the public sector and between the authorities and the citizens and businesses;
    b. diminishing costs and time for public service provision and development;
    c. opening, using, and reusing efficiently the information;
    d. reusing the information systems;
    e. re-engineering business processes with the aim to improve the activity of public sector;
    f. reducing administrative burden both inside the public sector, and in its interaction with the citizens and businesses.

59. Thus, the public sector shall become more efficient, transparent and receptive to the needs of the citizens and businesses.

60. Along with the diversification, simplification and optimization of communication between institutions, the Interoperability Framework will lay the foundation for improving the efficiency of public authorities, insuring a more productive collaboration between the latter and increasing the capacity of authorities for using/reorienting its financial and non-financial resources for developing, improving, and implementing reforms with a sound transformation impact on the social categories of the population covered by each authority through its activity.

    Thus, the indirect impact of the efficient operation of an Interoperability Framework will involve the generation of some significant economic, environmental, cultural, and social benefits.

61. The implementation of technical solution – interoperability platform, as well as the Framework development will require planning, allocation, management, and disbursement of proper financial resources. The financial sources for insuring the Interoperability Platform implementation shall include the following:

    a. Under the credit provided by the International Development Association for the implementation of E-Governance Transformation Project, a separate budget line has been envisioned in the Procurement Plan for purchasing the technical solution and maintaining the interoperability platform throughout the warranty period;
    b. The CPA authorities shall provide for allocation of funds from own budget to insure the gradual connection of information systems managed by the latter to the platform, as well as to cover other related costs;
    c. Permanent discussions and eventual negotiations will be held with international development partners who will be involved as foreign partners to provide financial and technical assistance to insure an efficient integration of relevant public authorities in the Interoperability Framework.

62. The Government e-Transformation subunits from the given public authorities shall manage the budgeting process (proposal, allocation, reallocation, submission for approval, etc. of funds from the budget of respective authority) to insure the unfolding of activities associated with the Interoperability Framework implementation.

## 6. Expected results and performance indicators

63. The benefits generated by the efficient implementation and operation of the government interoperability platform are multiple and cover both institutional beneficiaries (public authorities involved – public service providers), and final beneficiaries (citizens and businesses – public service users).

64. The Interoperability Framework implementation will make the activity of CPA authorities more efficient, and will improve the quality of public services provided by the latter, respectively, by improving collaboration between authorities, optimizing the data exchange among them, insuring an adequate framework for reusing the information, eliminating information redundancy in the public sector, and reducing the administrative burden on other authorities from the public sector as well as on private sector.

65. An efficient government that functions based on interoperable IT systems operating continuously and coherently will be capable to provide less costly, faster, and better quality services that can be more easily adapted to the needs of beneficiaries.

66. Inter-sector integration will allow providing more complex public services which will improve interaction with the citizens, business environment, and partner public authorities. This will contribute to improving the quality, efficiency, and transparency of the government act.

67. The efficient operation of a common interoperability platform in Government makes it possible to diminish the costs by eliminating a number of transactional costs, such as those related to human resources involved, delegation, printing, delivery, registration of documents out of the managed documents flow, and secretarial costs. This will require, as well as create prerequisites for improving the management of inter-sector flows of documents and registers.

68. Electronic data exchanges directly leads to increased information circulation speed, reducing the length of information processing cycle and response time, and providing the possibility for a prompt reaction in cases of emergency.

69. Reusing the existing information also diminishes significantly the risk of making human errors.

70. The analysis of information flows and data classification by types in compliance with the legal framework will allow securing the protected data and rationally using public data.

71. The semantic catalogue, being a unique place where the classifiers and data structures used for data exchange are defined, will allow reaching a common approach/understanding of data and a correct reuse of the latter.

72. Using the open standards will simplify and optimize the connection process, and ensure a sustainable development of the platform.

73. Given the need for a considerable effort to assess the outcomes of the Interoperability Framework implementation and the platform efficiency, several performance evaluation approaches in the given area shall be combined in order to insure the presence of all relevant types of data and information as a basis for formulating an opinion and rationale for assessing the extent to which the goals and objectives targeted by the present Framework are accomplished.

74. To cover the complex and multi-faced nature of interoperability, it shall be necessary to use a number of evaluation approaches and apply different evaluation tools at different interaction levels and implementation stages of the Framework. In this context, the

evaluation effort shall be focused on four (4) dimensions that will include specific sets of indicators defined and agreed for each of these dimensions, as follows:

    a. Measuring and evaluating the technical compliance of the system/systems with the technical standards and requirements;

    b. Measuring and evaluating the degree of interoperability between the information systems of authorities;

    c. Measuring the efficiency of interoperability platform operation;

    d. Measuring and evaluating the changes at organizational level (including the adjustment of internal normative framework in respective authorities, changes in organizational culture, in-house re-engineering of work processes, etc.)

75. A complex performance measuring and evaluation shall rely on the computerization of data collection procedure for a large part of the system performance indicators and on regular filling by the E-Government Center based on primary data provided by the e-Transformation Subdivisions from the public authorities in the evaluation scorecards on the dimensions related to the potentiality for interoperability and the compatibility between the information systems, procedures and processes managed by different institutions; adjustments of the internal regulatory framework, etc.

76. In this sense, the State Chancellery, through the E-Government Center, shall apply a number of approaches involving the use of specific methodologies and tools for interoperability evaluation.

77. The LISI Model/Levels of Information Systems Interoperability shall be the reference model used for defining, measuring, evaluating and validating the requested, expected or already accomplished degree of interoperability between different organizations and systems. The application of LISI Model in evaluating the maturity degree of interoperability involves the development of evaluation scorecards for assessing the degree of technical compliance, efficiency of system-to-system interactions, and operational mission effectiveness. This approach will combine specific matrices from the LISI model (maturity level matrix, capability matrix describing the computing environment in each institution), the reference model and basic attributes of information systems interoperability (the use of 4 evaluation pillars called PAID: Procedures, Applications, Infrastructure, and Data). The result of such symbiosis will be a general/complex evaluation scorecards, as follows:

| LEVEL (Computing environment ) | | Interoperability attributes | | | |
|---|---|---|---|---|---|
| | | P (Policies and procedures) | A (Applications) | I (Infrastructure) | D (Data) |
| Intersectorial integration (universal) | 4 | | | | |
| Sector integration (integrated) | 3 | | | | |
| Partial functional integration (distributed) | 2 | | | | |
| Connected (one to one) | 1 | | | | |
| Isolated (manual) | 0 | | | | |

78. The evaluation of interoperability operationality shall be based on a complex set of Platform's technical performance indicators grouped into 3 basic levels/categories (the

time , quality, and cost of interoperation).  Each of these 3 categories of indicators shall be disaggregated into specific sub-indicators, such as:

a. time of interoperation (the time of sending/launching the request, request processing duration , return time, the time to use the information, etc.)

b. quality of interoperation (the quality of information exchange, the quality of information use, and the quality of information conformity with relevant standards, etc.)

c. cost of interoperation (the cost of information exchange and the costs needed  to make the information exchanged usable, etc.)

79. While applying this evaluation model, it is planned to measure the following interoperability attributes, divided into several categories of indicators, being  provided the relevant sub-indicators and the corresponding calculation formula for each of these categories:
- Connectivity
- Capacity
- System underutilization
- Data latency
- Information interpretation and utilization

80. The State Chancellery shall sign separately (through the E-Government Center) with the Platform Operator a Service Level Agreement providing for periodical submission to the State Chancellery of data on a number of system's technical performance indicators, data automatically generated by the information system, which will indicate: emerging frequency and number of security incidents, number of messages sent, availability degree, duration of the functionality recovery works in case  of an incident, number of reused vocabularies and concepts, number of messages sent and received per participating unit, number of participating units, number of connections between units, etc.

## 7.  Reporting and monitoring procedures

81. The implementation of activities within the Program shall be monitored at several levels:

a. The State Chancellery shall monitor the Framework implementation at the administrative level and supervise the Framework implementation process, and namely: implementation of activities according to the general Action Plan (see Chapter 8 "Implementation Phases") and to the afferent  Action Plans of authorities; related activities for insuring the legal framework; periodical ad-interim assessments that will contribute to improving the efficiency of Framework implementation, and, respectively, to the generation of outputs, estimated outcomes and impact. The Annual Progress Report on Interoperability Framework Implementation shall be part of the Annual Progress Report on the Implementation of the Strategic Program for Technological Modernization of Governance (e-Transformation), submitted by the State Chancellery to the National Commission for E-Transformation.

b. At the level of each public authority involved, the Program implementation efficiency shall be monitored and evaluated by the Government E-Transformation Subdivision (the coordinator for e-transformation shall be the focal point in this context and coordinate the activities targeted at carrying out

ex-ante assessment of institutional and sector needs, as well as of the possibilities for insuring the efficient implementation of Interoperability Framework between the institutions in the sector, as well as between the authority represented and other public authorities (from other sectors)). The central public administration authorities involved in the Interoperability Framework piloting process, as well as the rest of the public authorities which will be further on connected gradually to the interoperability platform shall report on a quarterly basis about the progress, performance, and eventual challenges and barriers encountered in the implementation process. Primary quarterly reports shall be prepared according to a standard-format report template provided to the authorities by the E-Government Center, and shall be submitted to the State Chancellery (E-Government Center) within maximum 20 days after the end of the reporting quarter.

c. The Technical and Technological Operator of the Interoperability Platform shall monitor the information system functioning/operation at technical level, based on technical performance indicators agreed upon signing the Service Level Agreement with the State Chancellery, which shall specify the indicators to be reported to the State Chancellery by the Operator on a monthly basis. The monthly reports shall be submitted to the State Chancellery (E-Government Center) no later than within 10 days after the end of the reporting month.

d. In case donor international organizations are financing the implementation of a stage, component part or of a set of activities within the Program, the State Chancellery and other public entities involved shall comply with the specific reporting and monitoring requirements of the donor organization, and elaborate periodical progress reports, information notes, evaluation reports in the format agreed between the referenced donor financial institution and the Government.

## 8. Implementation stages

| No. | Action | Specific objectives | Responsible authority | Deadline | Deliverable |
|---|---|---|---|---|---|
| **Phase 1: Preparation Phase** | | | | | |
| 1. | Needs assessment for regulatory framework adjustments | II, III, IV | MITC, SC, NCPDP | January 2013 | Final Evaluation Report with relevant recommendations developed |
| 2. | Drafting agreement templates on data exchange between authorities | II, III | SC | December 2012 | Template agreements and requests approved |
| 3. | Drafting a Regulation on the Procedure for Granting Access to Data | II, III | SC, NCPDP | December 2012 | The Regulation on the Procedure for Granting Access to Data |
| 4. | Drafting a Regulation on Data Collection, Transmission, Archiving, and Restoration | I, II | MITC, SC | March 2013 | The Regulation on Data Collection, Transmission, Archiving, and Restoration approved |
| 5. | Preliminary identification and collection of classifiers | II, IV | SC, MITC | January 2013 | Preliminary collection of classifiers finalized |
| 6. | Identification of organizations to be included in the piloting scheme | II, III, IV | SC, piloting organizations | December 2012 | List of organizations included in the piloting scheme approved |
| 7. | Analysis of work processes, information flows and resources for organizations included in the piloting scheme | I, II, III, IV | SC, NCPDP, piloting organizations | May 2013 | Ex-ante evaluation reports finalized |
| 8. | Identification of the technical solution for interoperability platform | I, II, III, IV | SC, MITC | May 2013 | Technical solution identified and procured |
| **Phase 2: Interoperability Platform Implementation** | | | | | |
| 9. | Drafting a Regulation on Interoperability Platform Operation | I | SC | July 2013 | The Regulation on Efficient and Secure Platform Operation approved |
| 10. | Implementation of the interoperability (platform) technical solution | I | SC, Operator | August 2013 | Interoperability technical solution in operational status |
| 11. | Drafting a Regulation on Semantic Catalogue Compilation and Use | II, IV | SC, MITC | September2 013 | The Regulation on Semantic Catalogue Compilation and Use approved |

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| 12. | Drafting the Regulation on Connecting to the Platform | I, II, III | SC, MITC, Operator | September 2013 | The Regulation on Connection to the Platform approved<br>The Regulation on Operational Testing and Acceptance developed and approved |
| 13. | Drafting the Regulation on Computerized Acquisition and Publishing of Open Data | IV | SC, MITC | September 2013 | The Regulation on Computerized Acquisition and Publishing of Open Data approved |
| 14. | Development of an Action Plan for connecting the organizations included in the piloting scheme to the interoperability platform | II, III, IV | SC, piloting organizations | September 2013 | Action Plan for connecting the organizations included in the interoperability platform piloting scheme approved |
| **Phase 3: Connection to Information Services and Resources** | | | | | |
| 15. | Connecting the platform services from the common Government Platform to the interoperability platform | I, II, III | SC, Operator | December 2013 | Platform services connected<br>Required changes made in the semantic catalogue |
| 16. | Connecting the key state registry to the interoperability platform | I, II, III | MITC, SC, NCPDP | December 2013 | Key state registers connected<br>Required changes made in the semantic catalogue |
| 17. | Connecting the organizations included in the piloting scheme to the interoperability platform according to the Action Plan | II, III, IV | SC, piloting organizations | March 2014 | Pilot organizations connected to the interoperability platform<br>Required adaptors developed<br>Required changes made in the semantic catalogue |
| **Phase 4: Piloting** | | | | | |
| 18. | Piloting the interoperability platform  operation | I, II, III, IV | SC, Operator | May 2013 | Interoperability platform operational in piloting mode |
| 19. | Adjusting the technical regulations, if needed, as a result of piloting | I, II, III, IV | SC | August 2014 | Technical regulations adjusted upon need as a result of piloting |
| **Phase 5: Interoperability Platform Launching and Gradual Connection of Organizations** | | | | | |
| 20. | Launching the interoperability platform in production mode | I, II, III, IV | SC | September 2014 | Interoperability Platform operated in production mode |
| 21. | Developing plans for gradual connection of organizations | II, III, IV | SC, organizations | December 2014 | The plans for gradual connection approved |
| 22. | Performing gradual connection of all the central public administration | II, III, IV | SC, Operator, organizations | 2020 | All the central public administration authorities connected and interoperable |

| | authorities | | | | |
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Abbreviations:
- SC – State Chancellery
- MITC – Ministry of Information Technology and Communications
- NCPDP – National Center for Personal Data Protection