

E-GOVERNANCE DEVELOPMENT STRATEGY - 2014 – 2020
IN THE REPUBLIC OF BULGARIA

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Introduction

In contemporary information society, information and communication technologies are a kernel around which the most successful organizations and administrations build their businesses and management systems. e-Governance, e-Government and e-services are inherent to the most highly developed economic and political countries. A natural objective of Bulgaria as a member of the European Union is to further develop e-Governance at a level that meets at least the average indicators in the European Union.

Electronic Governance (**e-Governance**) is a governance in electronic environment comprised of regulatory relations, administrative processes and service, as well as interaction with users by means of information, strategic and mathematic models and methods to process data, information and knowledge which ensure much higher level of governance efficiency. e-Governance is a tool for comprehensive increase of process efficiency in administration, as well as alleviation of interaction processes among institutions, officials, citizens, businesses, using e-services.

e-Governance covers four main dimensions for communication and services:

- 'Administration – Citizens' – it encompasses contemporary Internet and WEB-based Internet solutions, combined with traditional means to provide widespread access which would result in qualitative change in the conditions to communicate and provide services to citizens.

- 'Administration – Businesses – it encompasses contemporary solutions that optimize processes and business relations among administrations and various economic entities.

- 'Administration – Administration' – it encompasses the development of information technologies in a national and international aspect with view to effective interaction among various administrative structures.

- 'inter-institutional effectiveness and efficiency' – it includes organizing and optimizing business processes, the relations 'administration – officials' and the communication in separate administrative structures.

The strategic document in the field of e-Governance also encompasses the development of the four dimensions. The user is in the centre of attention as a main factor in these processes. The development of e-Governance is determined primarily by users and not so much by the technologies for its implementation.

The current document is bound **by the following** strategic documents:

- National Development Programme: Bulgaria 2020;
- National Reform Programme - 2012 - 2020;
- Public Administration Development Strategy - 2014-2020;
- basic model of full-range administrative services;
- 'Digital Bulgaria - 2015 National Programme';
- National Strategy on Cyber-security;
- declaration of ministers, responses regarding the European Union Policies on e-Government, adopted in 2009 in Malmyo;
- 'Europe - 2020' Strategy;
- Digital Agenda for Europe.

1. Current State Analysis

The first steps in the establishment of e-Government started 13 years ago and though the development of e-Governance is invariably among all governments' priorities, its actual implementation has a variable success.

• Institutional Framework

Since 2001 the Republic of Bulgaria has been working on the establishment of e-Governance. Initially the implementation of this policy was coordinated by the Minister of public administration, supported by the Coordination Centre of Information, Communications and Management Technologies.

In 2005 the functions were divided between the Ministry of Public Administration and Administrative Reform and the State Agency of Information Technologies and Communications.

Over the last 5 years the activities on e-Governance development are concentrated in the Ministry of Transport, Information Technologies and Communications, while the policy in the field of providing administrative services - in the Council of Administrative Reform and the administration of the Council of Ministers. The lack of sufficient coordination between the general policy on providing administrative services and the services by electronic means had a negative influence on e-Governance development. A problem where the lack of good coordination hinders the development in providing services by electronic means, are the fees for internal administrative services. The lack of clear resolution of the issue towards the establishment of free internal services and the foreseen high revenues from state fees do not stimulate administrations to work for the provision of cross-register connectivity and official information exchange.

Another problem is insufficient coordination regarding electronic identity issue which lacks enough synchronization and management decision between the Ministry of Transport, Information Technologies and Communications and the Ministry of Foreign Affairs.

• Economic Framework

Due to the partial introduction of e-Governance in the Republic of Bulgaria, the benefits for administrations, businesses, citizens and the society as a whole are limited. Even though some administrations, such as the National Revenue Agency, the National Institute of Statistics and the Ministry of Finance have achieved a significant progress in the implementation of electronic administrative services. The analysis conducted by the Ministry of Economy, Energy and Tourism, indicates that administrative burden laid over businesses in 2011 came up to more than 2 (two) billion BGN annually. Coordination, standardization and practical development of e-Governance

will free up valuable resources (time, people and finance) which are currently used inefficiently for administrative service.

Legal Framework

The currently functioning legislation in the field of e-Governance covers a number of legislative acts, most essential of which are the Law on e-Governance, the Law on e-Documentation and e-Signature, the Law on Commercial Register, the law on e-Commerce, the Law on Personal Data Protection and some others, as well as separate provisions in special laws. There are a great number of secondary legislative acts, detailing the regulation of e-Governance and arranging the provision of various administrative services by electronic means.

The existing regulatory framework obliges, but it does not stimulate e-government development in administration, due to the fact that the existing legislative framework establishes the requirements to computerize currently available 'paper processes' without addressing the methodology for optimization of processes and resources in administration.

A part of the functioning laws and regulations, such as the Civil Registration Act and Ordinance № RD-02-20-9 of 21 May 2012 on the functioning of the unified civil registration system, which give the legal possibility to file and receive documents by electronic means), the BULSTAT Registry Act which does not allow electronic exchange of documents regarding entries in the BULSTAT register, are contradictory and inapplicable.

There are legal problems regarding the use of e-documents and e-signatures in judicial system, for providing administrative e-services (certification statements) by judicial authorities, for electronic exchange of documents between the judicial and the executive authority, as well as for exercising procedural rights by electronic means;

A number of special laws encompass regulations regarding the provision of separate administrative services, in order to make them comply with the Law on e-Governance and ensure the opportunity to provide the corresponding services by electronic means;

The Law on Electronic Document and Electronic Signature is not synchronized with the requirements of the 1999/93/EC Directive, in order to guarantee accessibility of administrative e-services to citizens of the other EU member-states;

There is a lack of secondary legislation framework to regulate archiving e-documents in administration, in accordance with the Law of the National Archives;

- **Technological Framework**

Information and communication technologies constitute the foundation of efficient business processes. In Bulgaria under the implementation of information technologies administrations still often understand purchasing computer equipment but active use of specialized software systems. Although until this moment for the establishment of e-Governance considerable resources have been spent, the results fail to meet the expectations. Very often projects are being implemented independently and upon project completion, funding and resources are not provided to maintain the system created during the project – it lacks sustainability. There hasn't been given the opportunity for the central and local e-Governance infrastructure (such as hardware, system and applications software) to be supported by a specialized organization which would guarantee the complete functionality of project developments.

The lack of a unified, common for this purpose, administrative information system for organizing and governing the processes to provide services results in high costs to implement services by electronic means. This leads to shifting attention away from the activities related to simplifying the working processes of administrative services, which even if provided by electronic means, preserve their bureaucratic nature.

The processes regarding e-identity and e-signature are not developed and improved, which makes it extremely hard for people to use them. With electronic identity, various identification codes to use the services of different institutions are provided and the lack of universal electronic identity is essential. Electronic signature is used by a very small portion of e-services users – the process to acquire and support it is complicated.

- **Interoperability**

There is an essential problem with achieving interoperability in the field of administration in the Republic of Bulgaria within digital environment and it is often impossible to reach integrity of achieved project results and to achieve high efficiency. To a great extent this is due to the lack of a systematic approach to conduct the process of e-Governance development, which would enable centralized imposition of interoperability standards, as well as to coordinate the activity of operationally responsible e-Governance authorities. The inadequate operational state of e-Governance in the Republic of Bulgaria is not only an internal problem for the country, but also for our assumed commitments of interoperability with electronic systems in the EU and the ones outside. Among the main obstacles is the existing lack of interoperability between the available systems in independent administrative structures, which has to be overcome. It is a frequent practice to require users to provide documents, issued by other institutions. Independent institutions have no access to the available information datasets of other administrations. It is

necessary to develop and introduce an effective solution to implement the 'official start' principle, consisting of single collection and multiple use of information by state and public administrations.

Comparative Evaluation of e-Governance in the Republic of Bulgaria

In the latest edition of the United Nations Organization report regarding the state of e-Government around the world 'E-Government Survey 2012', entitled 'e-Government for the people', the results from the work of 190 countries have been analyzed. The main trend, also standing out in the year 2012 is the opinion that the transition to e-Governance, actively pass those countries with high level of economic development. According to the index of e-Governance development stated in the UN report, Bulgaria occupies the 60th place, as only for the last 2 years it has fallen behind with 16 places. This is due to the greater dynamics in the development of the other countries. The estimates for Bulgaria in all indicators (online services, telecommunications infrastructure and human capital) are lower than the average for the region.

During the last 2 years all top 20 countries listed in the index actively invest in their national e-Governance systems, practically following one and the same model. Thus, as a result in the role of major development criterion of e-Government's online services appears to be the so-called one-stop-shop portal, or the portal of the 'one-counter' type.

In Bulgaria, the progress of e-Governance development is mainly associated with developing and upgrading the infrastructure elements and the main systems, as well as equipping the central, judicial and local administrations with Information and Communication Technology (ICT) facilities, existence of Internet pages and the information and e-services offered through them, as well as the large-scale trainings of state officials in IT skills.

• Provision of Electronic Administrative Services

The fact that in spite of the existing e-Governance legislative framework the implementation of its infrastructure is not always developed in accordance with that framework, constitutes a problem.

According to the Report on the state of administration in 2012, only 80 out of 562 administrations offered electronic administrative services, by 15 more than the previous year, distributed respectively among 19% of central and 13% of regional administrations. 482 administrations do not provide administrative e-services yet.

The same report makes it clear that Bulgarian administrations have offered a total of 1 231 e-services, by 192 more than 2011, 1 171 of which are primary and only 60 are complex services.

Complex services are offered by 14 administrations, including: the National Revenue Agency, the National Agency for Vocational Education and Training, the Railway Administration Executive Agency, as well as some regional and municipal administrations.

The services provided by 82% of the entire administration were accessible by means of a portal that was specially developed for the corresponding administration, 8% of all administrations have presented their services through the single e-Government portal, 10% by a portal that has been developed for a group of administrations.

Full data integration has not been achieved in administration, as well as complete interoperability between the existing and the developed systems. Connectivity to a small portion of registers has been provided in state administration.

It is extremely important to develop all systems that ensure data safety. This includes: identification and authentication, data protection, cyber-crime protection, users' protection etc.

Complete provision of electronic administrative services has not been ensured yet, including delivery and payment, as the idea of e-Government is. The fact that with a part of these services the procedure of their implementation requires personal presence and/or original documents, is among the main reasons due to which Bulgarian consumers do not actively use electronic administrative services offered through the Internet.

Another reason is the lack of appropriate promotion of the services offered and the low consequent awareness by citizens and businesses.

2. Vision of the e-Governance in the Republic of Bulgaria

The e-Governance vision until 2020 plans:

- introduced effective business models in the work of administration – from routine activities to services for citizens and businesses;
- established digital administration – administration structured in accordance with contemporary management technologies and achievements of information and communications technologies. achieved interoperability at a national level – from fragmentary and closed to integrated and technologically independent solutions;
- established mechanism for coordinated planning and implementation of all e-Governance development initiatives;
- ensured provision of administrative services through the single e-Governance portal at any time, from any location by means of various devices;

3. Strategic Objectives

Strategic Objective 1: Providing qualitative, efficient and easily accessible e-services to citizens and businesses.

Strategic Objective 2: Transforming the institutions into a digital administration by means of integrating information processes.

Strategic Objective 3: Promotion, access and participation.

The implementation of the Strategy's objectives will be performed in accordance with contemporary tendencies in the field of e-Governance, by applying the newest technological solutions and meeting the following principles:

- political leadership and continuity in the implementation of long-term policy;
- centralized policy definition and implementation of management, control and decentralization in its implementation;
- single data collection for citizens and companies and their multiple use;
- strict adherence to all interoperability and information security requirements;
- developing e-Governance in accordance with the application of the administrative reform and improving administrative business processes;
- imposing a single systematic approach to achieve high effectiveness of investments in order to create and maintain e-Governance tools;
- transparency in decision-making and incessant control and evaluation of performance in implementing priority services and projects, with a clear effect to society, based on publicly available methodology;
- equal equitable use of 'classical', 'virtualized', 'cloud' 'mobile' and other types of technologies, when choosing among these, based on technological and economic feasibility;
- active provision/publication of free access data by institutions at all levels, upon meeting certain confidentiality and security requirements;
- ensuring the rights of citizens in the electronic world, by applying incessant supervision of legislative conformity and security in processing personal data

4. e-Governance Sector Policy

The current Strategy on e-Governance constitutes the basis to create sector policies – strategies, objectives and actions at the level of Ministries, agencies and municipal administrations.

Level 1 – national at this level a description of the e-Governance framework is being made and the strategic objectives, anticipated benefits of environment and technologies for e-Governance developments are being set out, which constitutes the basis of all initiatives and projects at the level of Ministries and agencies. The support and upgrade of this framework is carried out at the level of the Council of Ministers. At this level an analysis of common aspects and inter-relationships of sector strategies is being conducted, in order to define organizational, process, system and technological activities that can be used by several sectors simultaneously. In this way investment effectiveness in organizational engineering and ICT will increase many times.

Level 2 – Sector Level. This level sets out direct objectives and final results which must be achieved by primary and secondary authorities with project credits (Primary Contracting Authority with Budget Resources and Secondary Contracting Authority with Budget Resources). This occurs after decomposing the current Strategy objectives at the level of Ministries, agencies and municipalities and binding them with the corresponding programmes and budget, according to the logic of program budgeting. In implementing these sector strategies each authority can use a number of assets and components, related to e-Governance that have been developed at level 1 (such as the integrated media for provision of electronic services, the e-Government portal etc.).

Sector policies should aim at creating conditions to change the quality of work in administration, which should contribute to higher efficiency of administrative services, better awareness of citizens and businesses and it would ensure fast and easy access to administrative services in the corresponding sectors.

In developing the model of sector strategies, the main elements of the current Strategy will be used, including three strategic objectives, organizational, information and technological model. This aims to ensure better continuity and more clear outlines of the relation of sector strategies with the National Strategy.

Examples of sector policies in the field of e-Governance for which sector strategies should be developed can refer to: e-health, e-education, e-learning, e-agriculture, e-culture, e-police, e-Customs, e-municipalities, e-democracy, e-justice etc.

Level 3 – Design Level. This level defines the management of certain projects for the implementation of sector policies with the relevant budgets, guaranteed by the general budget to implement the strategy, deadlines and responsibilities.

The specific actions to achieve the National Strategy objectives are defined in the Roadmap to the e-Governance strategy - 2014-2020. It covers both further development and building upon the achieved results from the implementation of the general e-Governance Strategy - 2011 – 2015 in

the Republic of Bulgaria. The roadmap will also indicate the available budget in years and sources of funding, necessary to carry out the activity.

The development of individual but meeting the objectives of separate administrations roadmaps based on the Roadmap to the 2014-2020 e-Governance strategy, will ensure the relation with common objectives, facilitates the understanding and perception of indicators and allows detailization and /or generalization of data. In this way, each administration specifies its objectives on a common basis to guarantee flexibility and unity in evaluating results – based on clear criteria and indicators. This logic is illustrated in figure 1:

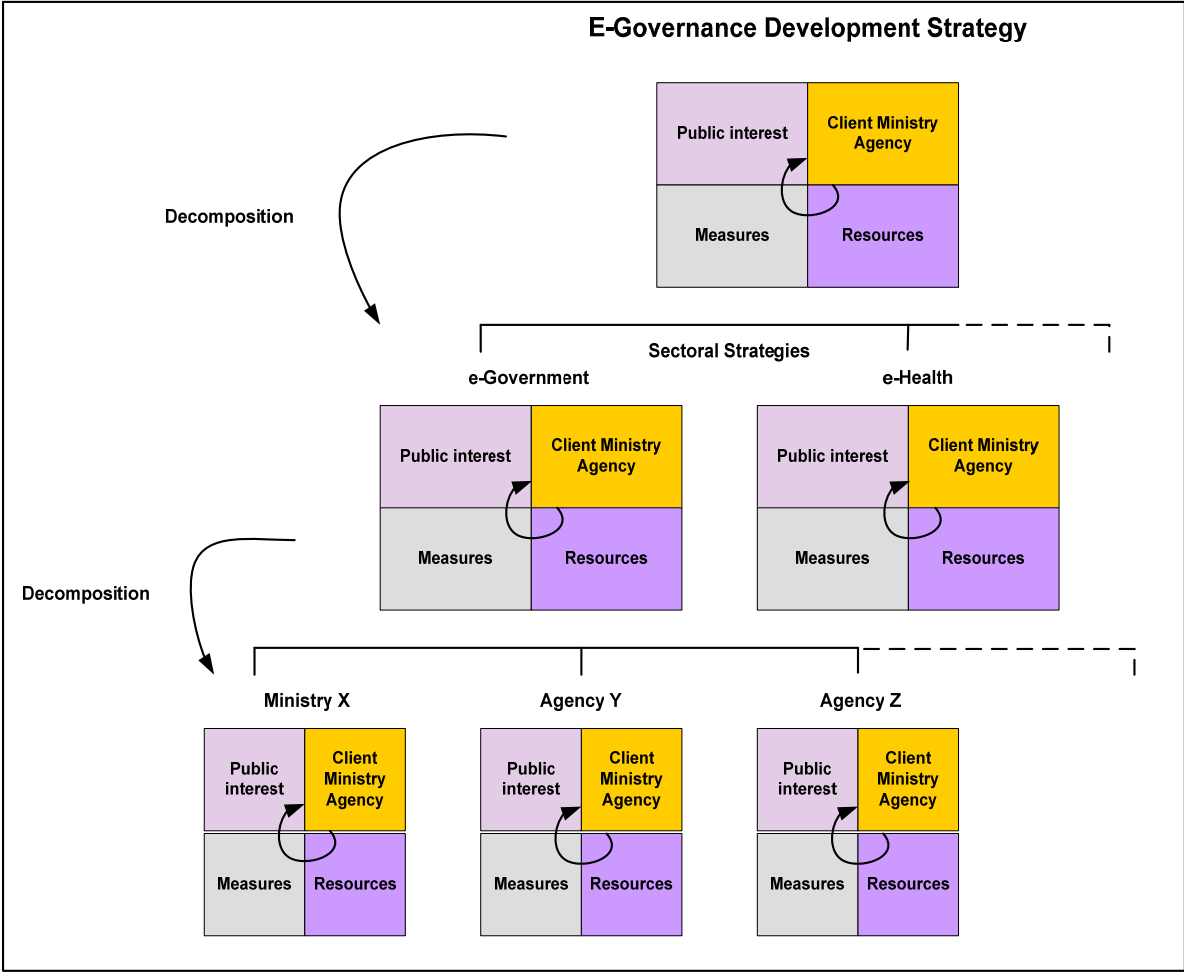


Figure 1: Decomposition of the 2014-2020 e-Governance Strategy

The achievement of e-Governance strategic objectives will also be guaranteed by the relevant institutions’ performance by the central and local authority, whose responsibilities and commitments will be detailed in the Roadmap.

5. Activities to Achieve the Objectives

In creating and developing e-Governance, the Government will strive to meet the actual users' needs. Preferable services, the way of their provision and the opportunity to ensure feedback and influence will be defined on the basis of conducted surveys.

The imposition of a single approach will stop the process to overspend funds for overlapping, inappropriate and incomplete projects, thus it will ensure more value to the users, investment efficiency, fast and real results.

Priority services and projects will be implemented, with clear effect for society on the basis of publicly accessible methodology. Incessant control and performance assessment will be carried out. Results will be measured through a system of key indicators, most important of which is long-term public benefit. This process will apply good practices, such as the requirement for contractors' certification, objective professional assessment based on peer-review, self-control on the part of industry.

5.1 Activities under Strategic Objective 1

Providing qualitative, effective and easily accessible administrative services by electronic means to citizens and businesses.

- **Developing basic infrastructure to implement e-services.**

A basic prerequisite for the use of e-services by citizens and businesses is the implementation of measures to encourage the development of broadband infrastructure in remote and sparsely populated regions, as transmission infrastructure is brought much closer to the users. In recent years the development of ultra high-speed communications connectivity for next generation (NGA) access already started, which will provide connectivity to the town-hall of each municipal administration, as well as to the buildings of public institutions within them (judicial authority, prosecutor's office, police, school, hospitals).

In 2013 the main technical e-Governance center was further developed, as the major components were upgraded – a single access portal to electronic administrative services and a single media for e-documents exchange. In order to meet the need to provide quality services, ensuring data safety, connections' reliability in one entirely secure environment, it is extremely important to further develop the primary and spare technical centers into a primary and spare data centers, thereby initiating the development of a Government 'cloud'.

There will be developed and introduced a single common for the entire administration information system to organize and govern processes related to provision of services.

There should be established conditions for the normal functioning of the primary electronic registers and the access to them.

- **Development and widespread provision of e-services with high public effect.**

In order to implement those services that provide higher added value to the customer and meet the 'hot spots' of the vital life cycle episodes and business events, as well as to discover significant benefits of the integration with other administrative services, it is necessary to set a priority portfolio of electronic services at a national level, as well as at the ministry/aagency and municipal administrations level.

The introduction of electronic invoicing will help to reduce taxation frauds, it will allow better control over budget revenues and reduce administrative costs.

Increasing the usability of e-services by introducing electronic payments as a preferable way to pay for state and municipal fees and services. Assisting citizens and businesses to pay for their liabilities and creating administration tool to estimate in advance the value of a certain complex service before placing the order by electronic means.

In 2013 the development of a national spatial data portal to provide services with spatial data to national and European users and a link with the European geo-portal. The Portal provides public access to share interoperable spatial data, in accordance with the European standards and the INSPIRE Directive on the Establishment of Spatial Data Infrastructure and a European Community.

Anticipated Results:

- established ultra high-speed next generation access (NGA) communications connectivity to 264 municipal centers;
- 100% consolidation of the main general e-Government resources in central administration;
- 100% integration of e-Governance key components;
- defining/setting up a body of electronic identity register;
- developed infrastructure of the public key;
- developed security infrastructure;
- established register of e-Governance resources;
- providing a single point to exchange correspondence between institutions, citizens and businesses through the Single Access Portal for Administrative –e-Services (SAPAS);
- providing entirely electronic communication to and including the stage of placing an e-tender offer (e-Submission), as part of the transition to completely electronic public procurement – 50% of state and municipal administration procedures – electronically (2017) and 100% of state and municipal administration procedures – electronically (2020)

100% for central administration and 80% for business organizations introduced e-invoicing by 2020;

- 60% payments from/to state and municipal institutions by electronic means:
- provided access through the National Spatial Data Portal and 3 implemented services under the law on Spatial Data Access;

5.2 Activities under Strategic Objective 2

Transforming the institutions into a digital administration by integration of information processes.

- **Integration of Information Processes. Developing systems and services to implement effective electronic document exchange and archive.**

In recent years overcoming the irrational use of resources, duplication of data, multiple entries of similar information, the lack of automated data exchange between separate systems, even within one administration, was focused on the development of models and standards for digital administration and provision of technological opportunity to transition from paper document exchange and multiple collection of information from users to optimized processes, in which communication among administrations is conducted via the single media of e-documents exchange. An opportunity was provided for each e-service to be tracked as a process and stage of performance in the corresponding administration, in the case of complex services in every participating administration. There will also be an opportunity for this system to be used by administrations that do not have document exchange system, for the purposes of their bookkeeping. In the following years all these tools will be used by each administration, with provided connectivity, so to support the process of document coordination in administrations, a phased introduction and integration of central document exchange system starts. This will allow each e-service to be tracked down as a process and stage of performance in the corresponding administration, in case of complex services - in every participating administration. In order to provide 100 % electronic document exchange between administrations,

The re-engineering of processes in administration will continue at accelerated pace as a necessary and important step to provide integrated e-services, using the methodology to improve working processes description for provision of administrative services, which in turn will lead to the increase of citizens and businesses' satisfaction, achieving greater transparency, saving resources and alleviating the administrative process. Re-engineering of working processes at all levels in state and municipal administration and their introduction as unified services will make it possible to optimize business processes and increase the quality of administrative service, by means of

administrative e-services, as for the period the efforts are focused on the implementation of priority administrative e-services.

In order to guarantee a more reliable than e-mail delivery of results from a performed electronic administrative service, it is of key importance to ensure the possibility to verify the validity of a document, issued by a certain administration through a system for delivery of electronic documents and services to validate documents.

To unify and formalize the information that central administrations require from local administrations, the definition of a finite number of standardized reports, statements and other similar documents is planned. These must be developed in an electronic version and media, since their preparation should be created.

The aim is to allow the opportunity to alleviate the work of administration, to store descriptions and ensure access to publicly available business processes and web-services, provided by administrations in registers with various functionality (of business processes, web-services etc). Each administration will be able to develop services, according to certain compatibility criteria and respect a pre-defined process, to publish services in the register.

There will be developed a system to process events/a newsletter of actions and its integration with other main infrastructure components. A buss for events will be created that enables generating, processing, filtering events, their correlation and analysis. The newsletter of actions in the system will store the history of access to resources and the actions completed with them. It will assist the implementation of the control functionality on the part of citizens to access their personal information.

In order to ensure the implementation of the authorization process in e-Governance that follows the identification process, an electronic authorization system will be installed.

- **ensuring its own operational capacity**

To ensure its own operational capacity, related to e-Governance and integration of outcomes, as well as for management and distribution of common e-Governance resources, it is particularly important in accelerated deadline to complete and implement the concept of a single integrator (CSI) of e-Governance.

- **Development of central systems and e-Governance infrastructure by meeting the requirements for interoperability, network and information security.**

This will be achieved by ensuring full functionality of the established until the year 2013 main e-Governance resources and creating conditions to integrate various components in infrastructure. In 2012 and 2013 an electronic identification system and a validation authority were established and tested as a pilot project. Providing a convenient electronic identification mechanism to individuals in the electronic world that allows easy, convenient and in the case of maximum protection verification of the individuals' identity in electronic document exchange will guarantee the accession of the Republic of Bulgaria to the European initiative for mutual recognition of individuals' identity.

Taking into account the work with certificates (validation and optional issuance) in the following years it is necessary to enroll public key infrastructure, where the corresponding cryptographic artifacts will be managed.

Providing a single point of communication among administrations, citizens and businesses. Optimizing the costs to maintain and develop the web-sites of central administrations and municipalities through federated portals. Opportunities for easy access also by means of mobile devices in the implementation of an entirely mobile version of the single portal.

Enabling a fully transparent and objective conduct of public procurement and their subsequent management/performance, as information will be accessible to all parties in real time, it will significantly alleviate the participants in public procurement.

- **Building Capacity and Administrative Skills.**

During the period we will complete and implement a unified model of policies, processes and working methods (tools) to implement future e-services.

It is extremely important to provide the opportunity of mobility, to keep and involve the necessary experts and professionals. Supporting administrative capacity and work efficiency by means of knowledge management. Training civil servants in institutions throughout their entire career, in order to maintain their knowledge and skills in the context of the established e-Governance tools. This will ensure that information of various components within the e-Governance framework is managed and it is available for further analysis.

- **Introducing high degree of responsibility and accounting**

To ensure more value for users, investment efficiency, fast and real results, it is necessary to manage the current administrative e-Governance model, since it is essential to institutionalize the leading status of Secretary of Information Assurance (SIA) in the structures of central, regional and municipal administrations. Bringing into force the improved legislative framework (legislation and secondary legislation acts) to support e-Governance development. Establishing strong leadership

and development of appropriate organizational culture. Ensuring the necessary status of highly qualified information technology specialists in all central administration institutions will guarantee fast results. Established and functioning e-Governance management unit.

It is also necessary to:

- **Introduce active participation in significant international European project initiatives and integration with European institutions and member-states.**

e-Governance development will be seriously hindered without the active participation in international projects and the international scientific exchange, related to e-Governance, as well as the exchange of good practices.

- **Implement services with high public effect**

In the following period we will continue at an accelerated pace to create and develop internal administrative e-services that serve the integration, as a prerequisite for the future development of interoperable complex e-services. The connectivity of registers will ensure the use of already available data in some systems. In 2013 in order to provide connectivity to 32 registers and 2 information systems, over 50 internal administrative electronic services were developed. The issue of fees for internal administrative service will be settled legally by planning a free inter-register exchange and abolishing the fees for official provision of information.

Complex administrative services will be gradually introduced.

Provision of e-services will develop within the common policy for provision of complex administrative services. Provision of e-services will be part of the new transition in order to provide services at one place from more than one administration by giving the opportunity to establish centers for provision of services, organized by regional and municipal administrations, territorial units of central administration and other public institutions. At a territorial level single centers for provision of information and services to citizens will be established, both by municipalities and territorial units of central authorities.

In the following years the portion of e-services at transaction level, including payment and delivery, will increase by applying for all main and mass services provided.

In order to increase the use of services, an opportunity for automatic generation of standardized electronic forms will be provided, by creating a generator of electronic forms.

For inclusion in the electronic data exchange among the EU countries and the integration of e-services at a regional level that will increase the use of e-services by foreign citizens or Bulgarians,

living abroad, basic cross-border e-services will be implemented and there will be transition to the IPv6 protocol.

Anticipated Results:

- 100% of document exchange among administrations will be conducted by electronic means (except the cases settled by Law);
- reduced time - 30% of the cost to implement e-services;
- prepared and implemented plan to perform priority administrative e-services;
- developed service for validation of documents;
- creating a register and information services subordinated to it;
- created buss and newsletter;
- installed electronic authorization system;
- established generator of electronic templates;
- connecting up to 200 registers of key significance for provision of complex e-services;
- removing obstacles of procedural and legislative character. Preparing a reference model.
- functioning single system integrator;
- current readiness and development of technology reflected in the legislative framework;
- established and functioning e-Governance Management Unit;
- created documentation package to guarantee appropriate knowledge and information to include administrations in e-Governance;
- covering minimum 70% of the necessary human resources with corresponding competences (as quantity and quality in administrations);
- established knowledge management portal;
- institutionalized leading status of CIO in the structures of central, regional and municipal administrations

5.3 Actions under Strategic Objective 3

Promotion, Access and Participation

- **Promoting and encouraging participation**

In order to recognize and promote the use of implemented e-services a unified branding and comprehensive external and internal communication will be provided by active marketing activities and implementation of internal and external communications plans.

By means of tracking consumers' behavior in administrative web sites and the single portal, better understanding and management of consumer adaptation speed on the part of customers will be achieved. For this purpose, a centralized information system will be developed and introduced to track down consumer behavior and create incentives to encourage the use of targeted e-services. To increase the degree of using e-services as an alternative, mechanisms and stimuli will be developed (including financial ones) to permanently increase the use of e-services by citizens and companies.

- **Electronic inclusion and cohesion**

In the previous period each administration to a different degree has established call center system to support the use of administrative services. In order to assist and stimulate the use of e-services, to register and manage enquiries of stakeholders, as well as for timely assistance in using a certain e-service or additional guidelines in searching certain information, an online system and a call center to support the use of e-services will be established.

Electronic inclusion is a global approach, so that to increase the readiness of citizens and businesses in using administrative e-services, programs will be developed and specialized trainings of population and businesses will be conducted.

In the following period alternative access channels will be developed (i.e. mobile devices, terminals) and public access will be provided (in post-offices, libraries etc.) to facilities such as kiosks, computers and more.

To enhance the use of e-services, administration will be encouraged to provide access by public points (information terminals) and unified service provision centers. In this way, access points will increase, customer awareness will enhance, and at the same time, costs for administrative service will decrease.

Anticipated Results:

- Unified formatting and image standards
- Internal and external communications strategy
- Established mechanisms to design and disseminate e-services that correspond to the behavior and consumption motives of target groups.
- conducted trainings

6. Coordination and Management of the Strategy Implementation

6.1. Managing the implementation of results

In order to manage the implementation of results, it is necessary to introduce a systematic approach to planning and performance measurement. Through the introduction of an information management system to report the implementation of the e-Governance strategy and resources management there will exist, the opportunity to effectively manage initiatives and outcomes related to e-Government, project and resources management, as well as to report results in central administrations.

The introduction of management supervision by means of auditing correspondence and the implementation level of set policies, the control in providing correspondence of completed e-Government initiatives at each phase will enhance.

The implementation of the e-Governance strategy is directly dependent on good coordination between state institutions.

The proposed structure to manage and control the implementation of the Strategy is shown in Figure 2.

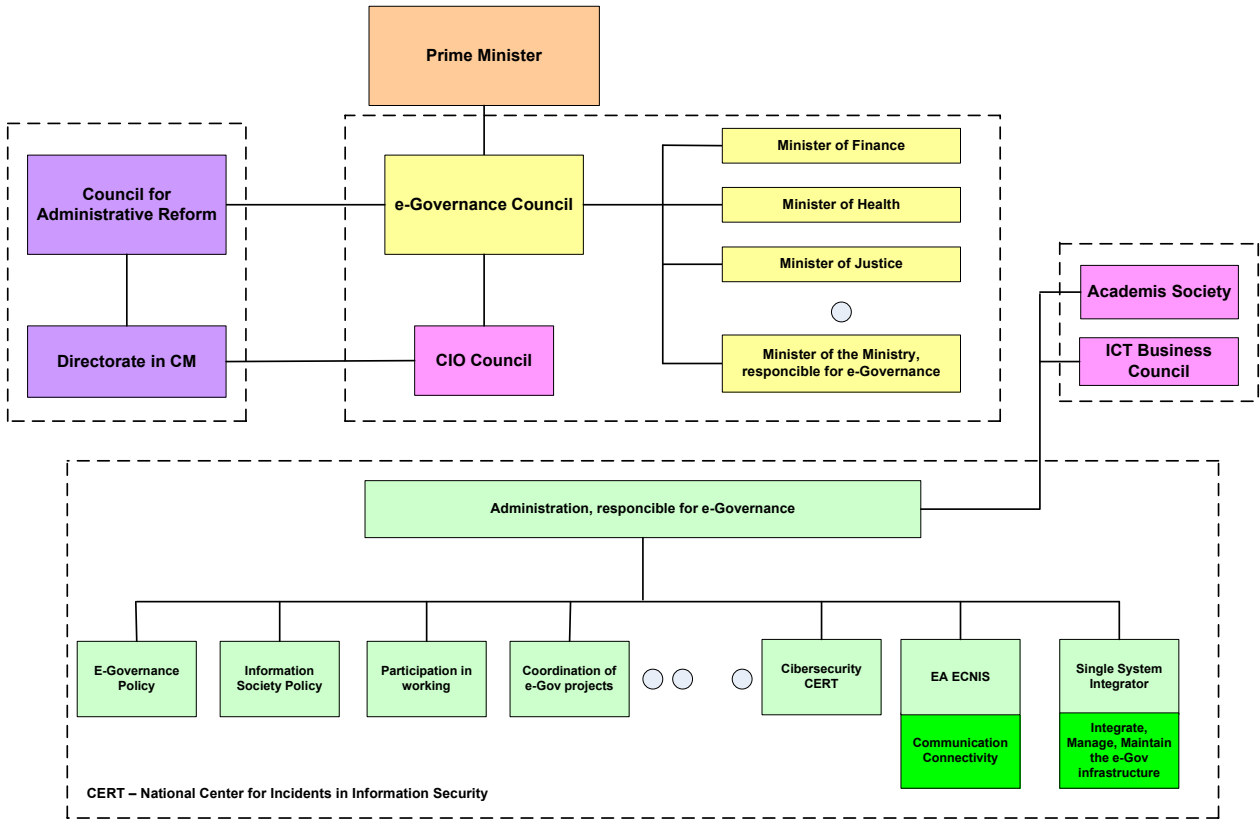


Figure 2 Organizational Diagram

e-Governance Council to the Council of Ministers (ECCM) – plays the role of a ‘national platform’ at the country’s highest level for centralized imposition and coordinated implementation of the

national and sector strategies in the field of e-Governance. In practice it allows e-Governance to be developed as a national priority, with clear understanding on the part of all stakeholders. It approves draft documents proposed by the Coordination Unit and offers their adoption by the Council of Ministers. **An ICT Business Council functions to the Council that represents** the interests of the Bulgarian ICT companies through representatives of their organizations regarding issues related to the introduction of e-Governance. When necessary the Council provides a specialized technological and technical expertise and takes part in development and discussions of policies, strategies and plans of e-Governance implementation.

The Council of Administrative Reform together with the Council of e-Governance CEG provides coordination with administrative reform objectives and initiatives related to their implementation, including the priorities to organize administrative services and electronize the priority administrative services.

Primary Contracting Authorities: They are responsible for the development and implementation of their e-Governance sector policies, including the ones to apply their measures regarding the secondary contractors in their structures; they assign individuals who are responsible for the implementation of sector policies as part of the national one, take an active participation in the work of the e-Governance Council to the Council of Ministers; they are in charge of the integration of their systems and services to the central e-Governance systems.

6.2 Providing resources and funding of the project.

By improving the capacity and skills for financial management to conduct contracts and ensure transparency and accountability of financial management, an opportunity will be provided to define precisely the necessary financial resources so as to assign the implementation of the project. Effective management of funds and contracts will be ensured by defining procedures on common assessment, planning and budgeting. Criteria for financial assessment of project needs at the level of Ministry/Agency will be developed.

Another familiar funding mechanism to achieve effective governance is the long-term financial planning and multi-annual program budgeting that will provide the opportunity to synchronize the financial assessment of the necessary resources to fund programs and projects, identifying, setting and negotiating funding resources, (including the external ones).

Taking into account the priorities for fast e-Governance implementation, the e-Governance Council will plan centrally the necessary resources and it will propose them to the Council of

Ministers for adoption. Spending resources will be done in a decentralized manner in accordance with the Roadmap and the corresponding sector strategies.

An important source of e-Governance funding is European Funds. Within the forthcoming programming 2014-2020 period. The major financial resource to fund measures and activities, related to e-Governance development and in particular the establishment of its common resources and systems, development and provision of administrative e-services, as well as to improve knowledge and skills of individuals, businesses and administrations the field of ICT will be planned in the Good Governance Operational Programme. Regarding the development of communications connectivity as a technological prerequisite for the effective functioning of e-Governance, funding will be provided under the Regional Development Programme.

In order to fund the achievement of the objectives, set out in the strategy other international funding sources will also be used.

A Potential source to fund e-Governance is also public and private partnerships. The necessary changes of legislation will be made, in order to set the framework of these partnerships.

By the approaches indicated above, the Bulgarian government strives to provide annual funding for the implementation of the national strategy of up to 0.2% percent of GDP for e-Governance development and infrastructure establishment, but not less than 0.5% percentage points for the entire period.

Financial security of e-Governance is requested by the ministries that are responsible for sector strategies. On this basis the e-Governance Council plans and controls the implementation of the 2014 – 2020 strategy on e-Governance development in the Republic of Bulgaria, as well as the roadmap for its implementation

7. E-Governance Model

Figure 3 indicates a flowchart that illustrates the model, according to which the functioning of e-Governance is implemented with the corresponding levels and constituent elements.

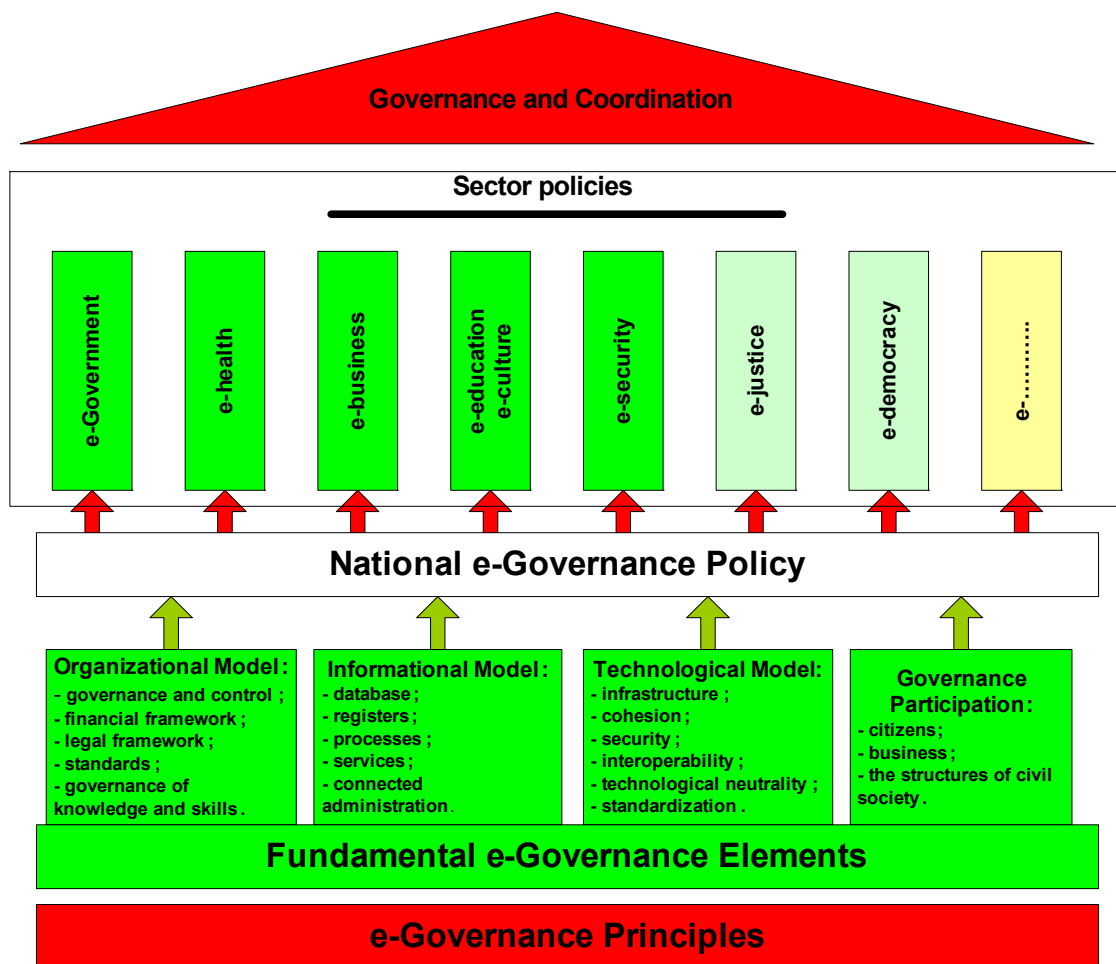


Figure. 3 e-Governance Model

7.1. Information model

The development and application of a single information model in administrations is a key constituent for the implementation of e-Governance.

Digitization of administration will cover a number of actions, related to the introduction and use of databases, complete transition to e-registers and registry production, modeling the processes for information exchange, forming complex administrative e-services, reaching the ultimate objective – ‘connected administration’.

7.1.1. Databases

A fundamental element is the creation of electronic databases, which should store:

- all data and unstructured electronic documents subjected to administrative document exchange;
- all data, which are required by law to be brought and processed in a digital form.

Data must meet the following criteria: primary, authenticity, completeness.

7.1.2 e-Registers and registration procedures

Each administration, primary data administrator is expected to introduce an e-register and the corresponding electronic registry services. These registers must be connected to the centralized e-Governance infrastructure. Thus, every administration will be able to obtain the necessary official information electronically by the primary administrator. In this way, the principle of single collection and multiple usage of information will be applied.

7.1.3 Processes and services

In order to establish modern governance, to a great extent functioning in a digital environment, a significant transformation of services is necessary. It is not sufficient to digitalize already existing administrative services but to make a complete re-engineering of administrative processes. All administrations have to model the processes of their administrative services with the aim to transmit to their electronic provision.

For the implementation of new systems and e-services, it will be necessary for the interfaces and services to be published in an appropriate way, so as to be used administratively upon their future development not only the interfaces, but if necessary already established services to be reused.

7.1.4 Connected Administration

Integration environment will be improved by the creation of a system to govern the processes for the provision of complex administrative services by electronic means. In this way, an entirely automated electronic data exchange between administrations will be gradually achieved.

All components, building the e-Governance infrastructure should be integrated in a common architecture, addressing services and providing connectivity conditions, based on open industrial standards.

7.2. Technological Model

The technological model is developed on the basis of open standards that ensure scalability and flexibility. The applied technologies and approaches will enable a rapid change to apply new business processes – fast enrollment of business applications, optimization of their use according to continually changing needs of users - citizens, business organizations and administration.

The e-Governance technological framework in the Republic of Bulgaria foresees the use of modern solutions to optimize information and communication resources through remote access to shared resources, also including data centers in state administration.

The change in technology will be gradual rather than revolutionary whenever possible. In some cases, realities will require and it will be necessary to carry out major reconstructions. In this way

stability and actuality of the technological model for a long period of time will be achieved. Stakeholders will be able to develop their own processes, services and data by meeting only common framework for design and technology.

7.2.1. Infrastructure

Infrastructure is the backbone of e-Governance and it is a crucial factor for all initiatives in this direction. The fundamental elements of infrastructure are expressed in the provision of:

- proprietary and front centers to locate equipment, including Data centers;
data;
- communication connectivity;
- hardware assurance;
- system software assurance;
- software to manage and monitor central and local e-Governance systems.

A necessary condition to implement the e-Governance centralized integration system is the development of guaranteed and duplicated high-speed communications connectivity with phased accession of all administrations. The Government will manage and develop a single crucial communications infrastructure in order to achieve sustainability, quality of service as well as to minimize public costs.

As far as infrastructure is concerned, the Government considers introduction of instruments that are important to measure, monitor and optimize the use of available resources, as well as to accurately forecast the needs of hardware and communications resources for subsequent deliveries or developments of information solutions. One of the possible approaches is the implementation of centralized systems for virtualization and resources management.

In order to guarantee appropriate planning, developing and utilizing the infrastructure and the main e-Governance resources it is necessary to institutionalize a system integrator of e-Governance, upon which to transfer the responsibility of existing centers and to assign the duties on their service and development, as well as on the provision of resources to these centers of various administrations.

For the purpose, it is necessary to define the resources that are subjected to provision, the levels of support and availability of these resources. In this way, a working environment will be provided to the central e-Governance systems and it will enable utilization of unused resources, which can be provided to administrations in need. Thus, there will be prerequisites to establish environment

with shared resources (Cloud), which could provide services/resources to the corresponding organizations.

The management and monitoring software it is a necessary condition for quality management of hardware and communications resources, supporting high-level indicators for quality of infrastructure services, which in its turn leads to better customer service.

The Single System Integrator (SSI) is an organization, the main function of which is to ensure continuity of ICT systems functioning in state administration under a certain level of service (different for different systems - 24/7 for the crucial ones). SSI must have offices in the country and ensure the operation and maintenance of:

- communication systems in state administration;
- servers and main hardware;
- Operating systems and databases
- software applications, outcomes of project implementations;
- information systems;
- interoperability of used resources;
- information and network security

SSI ensures management and coordination of ICT projects by central and local administrations.

SSI supports a unit to model and optimize business processes, for the very organization and the needs of institutions in state administration and municipal administrations. SSI also maintains a small team of programmers who perform tasks related to the maintenance of the systems, installed in state administration. In separate cases SSI implements entire ICT projects whenever it is inappropriate to use external contractors.

7.2.2. Succession

The introduction of ICT solutions in the country will be regulated through the elaboration and application of procedures for continuity and upgrade of already implemented solutions.

Regarding software assurance to deliver the elaboration of databases, specialized products, system and application software, already provided systems and resources will be reported and the repetitive use and update will be sought.

In order to guarantee future upgrade and development of each system elaboration there will be provided a standardized minimum number of technological instructions and data, such as: a source code and compiled documentation models of databases, as a spreadsheet level and all fields; documentation of the source code (main models, classes, architecture); installation and configuration guidelines with details that enable performance by experts of lower specialization level; tools for operation and support of information solutions.

7.2.3. Security

Network and information security (or cyber-security) is indicated in the European programming document “Digital Agenda for Europe” as one of the eight pillars of contemporary digital society. Following this assumption, in 2013 the European Commission developed a Strategy on Cyber-security in the European Union and a draft directive of the European Parliament and the Council regarding measures to ensure a high general level of network and information security in the Union.

In accordance with these documents, the developments of the European Network and Information Security Agency (ENISA) and the accumulated experience, it is necessary to support a secure, sustainable and reliable cyber-environment; to decrease/overcome the risk when using information and communication technologies; to promote trust and achievement of conditions for economic and social growth.

In order to ensure e-Governance security, a set of methods and tools will be applied to protect information and information systems from unauthorized access, modification and destruction of data etc.

Security management is a continuous process and it is one of the priorities to work in a digital environment.

The aim is to ensure a balance among accessibility and confidentiality in data exchange among individual e-Governance stakeholders.

The achievement of this goal is guaranteed by the implementation and provision of services, such as services to manage access to business processes, e-services and data, services to protect data from unauthorized access etc.

In addition to the implementation of services, various security levels will be set in order to achieve reliable communication in using public access channels.

In this relation priority will be laid on the development of information, reactive and preventive services, protecting customer rights in e-Governance and the Internet environment.

The establishment of networks including distributed virtual Disaster Recovery Centers will be organized. These centers will store data that will enable fast work recovery to the affected by various disasters and malicious influences on information systems of crucial importance, for the operation of administration.

7.2.4. Interoperability

The efficient exchange of data among various systems in administration will be ensured through the application of developed European and national interoperability framework and international standards. It appears to be one of the important prerequisites for successful communication with users of e-services, provided by e-Governance systems. Interoperability guarantees exchange of electronic documents among various systems and facilitates, as well as the development of new e-services. The semantic, syntactic, technological and organizational interoperability that meets internationally recognized (open) standards, in accordance with the European Interoperability Framework, are a warrantee to establish a unified information-communication infrastructure. It is also the basis for the implementation of administrative services that are customer oriented.

Interoperability problems are not only technological but they also include a wide range of aspects, related to the adoption of inter-institutional, cross-sector and cross-border interoperability legal basis, insufficient awareness and political will or lack of agreement regarding the necessary governance structures.

The lack of holistic approach to interoperability results in a risk both at national and EU level to choose mutually incompatible solutions that instead of improving the efficiency of economy would rather cause new obstacles for the provision of public services.

Cross-sector interoperability is hindered by the lack of common data models, different interpretations of one and the same data, as well as the lack of common reference data. One of the priorities is harmonization of metadata for specific areas and, wherever possible, between domains. Examples of such standardized data definitions are elaborated through the ISA programme and they are called - **Asset Description Metadata Schema (ADMS)**.

7.2.5. Technological Neutrality

The development speed of devices, systems and solutions in the information and communication sector are very dynamic. For this reason e-Governance systems and solutions must meet approved international standards and be as much as possible independent from certain operating systems, platforms, technologies, software and providers.

Such standards in the field of e-Governance are being developed by a number of international organizations, among which are:

- International Organization for Standardization (ISO);
- Internet Engineering Task Force (IETF)
- United Nations Centre for Trade Facilitation and Electronic Business;
- Organization for the Advancement of Structured Information Standards (OASIS);
- World Wide Web Consortium etc.

In order to build and install a new system, its parts related to interfaces with other systems and the provision of services should be registered in a corresponding format in storage places for their future use/re-use. The registration procedure must be free, as far as a standard format of information is required.

7.2.6. Standardization

It is necessary to introduce standardization in terms of delivery, development and support of software solutions. A systematic approach must be introduced to ensure high quality of information solutions and regulate the minimal requirements in each stage of delivery or software development.

Standardization is a main prerequisite for multiple use of available technologies, solutions and knowledge (infrastructure, applications, solutions, licenses and technological instruments). This will improve the stability and maturity of existing solutions, it will decrease the time and resources to develop new ones, it will decrease the costs for support and maintenance.