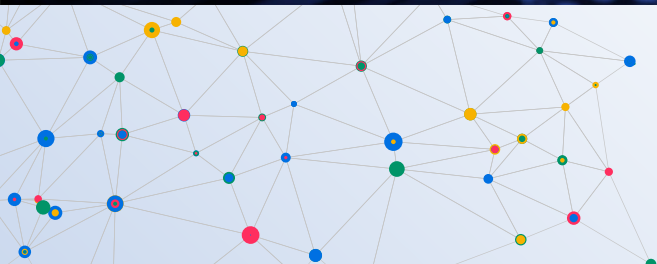


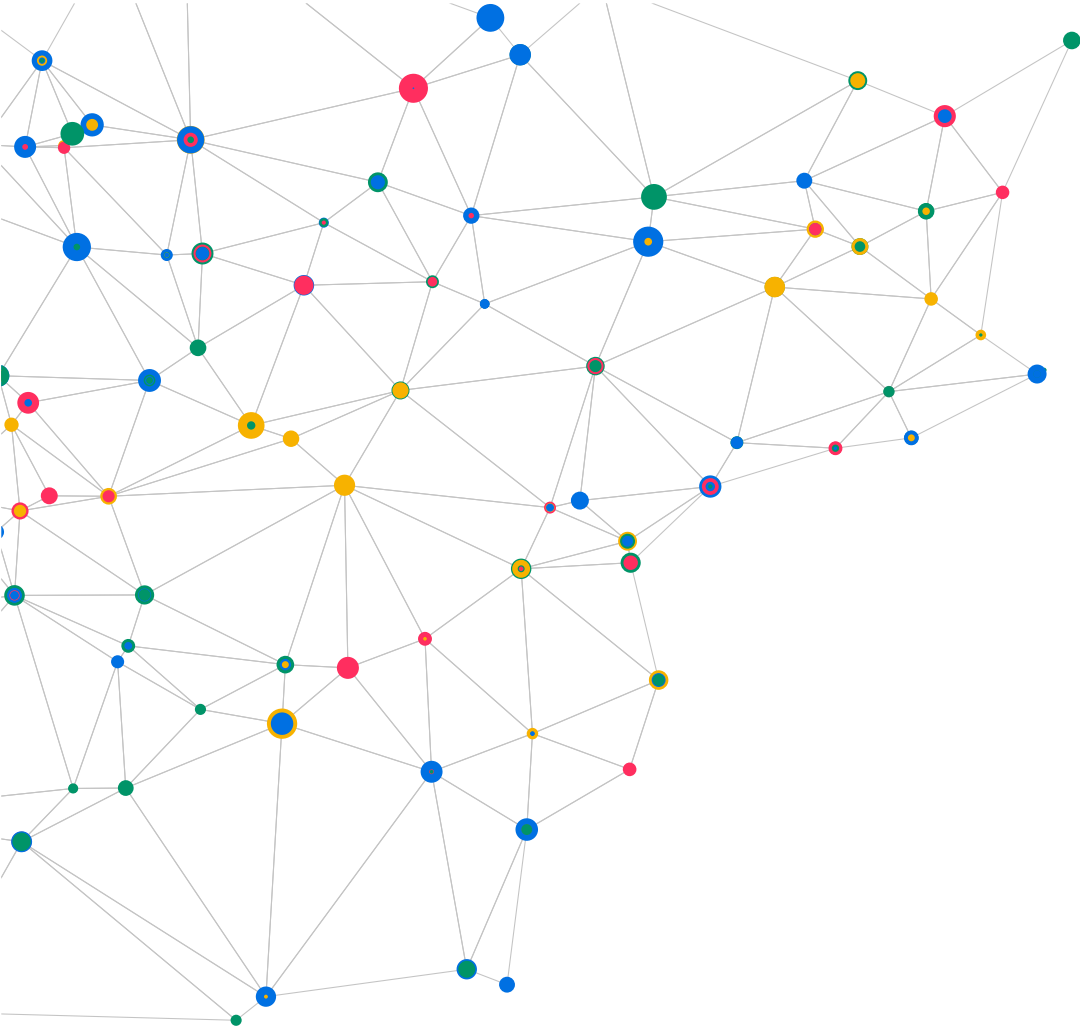


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# Smart Government

## the Case of Azerbaijan





# Smart Government

the Case of Azerbaijan



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Disclaimer

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Photo courtesy of the State Agency for Public Service and Social Innovations under the President of the Republic of Azerbaijan



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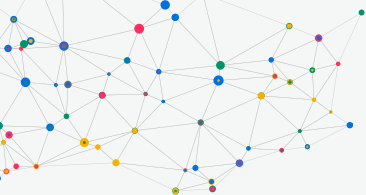
Profound gratitude is conveyed to the leadership of the State Agency for Public Service and Social Innovations under the President of the Republic of Azerbaijan, namely to the Chairman of the State Agency - Mr. Ulvi Mehdiyev, the Deputy Chairman - Mr. Jeyhun Salmanov, the Chief of Staff - Mr. Azad Jafarli and Director of “E-Gov Development Center” Public Legal Entity - Mr. Fariz Jafarov. Their invaluable insights and thorough knowledge have been instrumental in forming the authors’ approaches to develop the case study.

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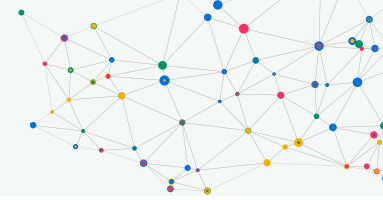




## ABBREVIATIONS

ACSH	Astana Civil Service Hub
ASAN	Azerbaijan Service and Assessment Network
AVIS	Automated Tax Information System
EDS	Electronic Declaration System
EIP	Effective Institutions Platform
G2B	Government-to-Business
G2C	Government-to-Citizen
G2G	Government-to-Government
ICT	Information and Communication Technologies
NLP	Natural Language Processing
OECD	Organisation for Economic Cooperation and Development
P2P LA	Peer-to-Peer Learning Alliance
PIN	Personal Identification Number
R&D	Research & Development
SAPSSI	State Agency for Public Service and Social Innovations under the President of the Republic of Azerbaijan
SSO	Single-Sign-On
TIN	Taxpayer Identification Number
UN	United Nations
UNDP	United Nations Development Programme

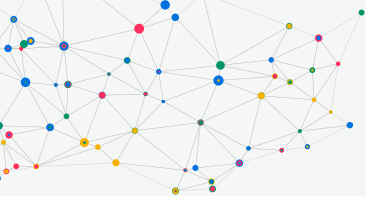




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## About the ACSH Peer-to-Peer Learning Alliances

Astana Civil Service Hub (ACSH) successfully facilitates and promotes peer-to-peer learning within its capacity-building and peer learning pillar by launching Peer-to-Peer Learning Alliances (P2P LA), created to capture tacit knowledge of practitioners and share the best solutions for country-specific issues among reformers, as well as to develop and implement “best fit” reforms.

P2P LA is developed based on the P2P Learning Guide of the Effective Institutions Platform (EIP), which is founded in the OECD Secretariat.

P2P LA takes a problem-driven approach and is geared explicitly towards unearthing insights that cannot be gained from employing a highly paid expert, but that is likely to be found with peers that have faced them, overcome them or are still struggling with them. The ACSH joined to the EIP in 2015 as a member institution.

As a result, the first ever P2P LA on public service delivery was launched by the ACSH in May 2016 between practitioners with extensive experience in implementing “One-Stop Shop” principle from Azerbaijan (ASAN Service), Georgia (Public Service Halls) and Kazakhstan (State corporation “Government for Citizens).

The second P2P LA on e-Government development has been established with the participation of experts from the Hub’s participating countries in the field e-Government, particularly from Azerbaijan (State Agency for Public Service and Social Innovations under the President of the Republic of Azerbaijan (SAPSSI), Armenia (e-Governance Infrastructure Implementation Unit (EKENG), Estonia (e-Governance Academy), Georgia (Data Exchange Agency), Kazakhstan (National Infocommunication Holding “Zerde”), Kyrgyzstan (State Personnel Service), Uzbekistan (Academy of Public Administration) and OECD.





## Introduction

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Shifting to the 21st century involves much more than the societal and economic changes – a new phase of public administration and government-citizen relations has also commenced with the integration to the new era. As a fully integrated information system is required for the provision of services in the private sector, the use of data analysis and artificial intelligence, as well as workplace automation and effectiveness of business structures have been enhanced. The rapid development of information technologies created favorable conditions to improve the quality of public services and increased citizens' expectations of the public service performance. Today, e-Government has been an optimal way to meet public expectations and to implement the citizen-centric approach of government services. The e-Government concept, which has been an innovative tool for applying the principles of good governance, involves state management and its related bodies and organizations with the use of information and communication technologies followed by the civil society and business circles. According to the United Nations, the framework of the e-Government has been widened to include the use of information and communication technologies within the scope of public administration.

A citizen-centric approach of e-Government services is an ultimate way in which the government will not only fulfill the requirements of the citizens, but also deliver services more operatively. Open and transparent management minimizing bureaucracy, which is the basis of effective public administration, has been realized through the creation of the e-Government. The digital revolution allows the delivery of services timely and effectively and incorporates e-Government services to improve the capability of the public sector to address the demands of the citizens. Taking this process into consideration, service to the citizens as the essence of public administration

reforms, enhances the effectiveness of governance and promotes development. Based on information and telecommunication technologies and citizen requests, the e-Government is characterized by user-oriented, efficient use of resources, uninterrupted service, maximum transparency, efficiency and citizen control. Simultaneously, ICTs providing direct and transparent information as well as services at all levels of government organizations stand at the core of this strategy. The e-Government does not just terminate with a government-to-citizen (G2C) or a government-to-business (G2B) relationship, it also reveals itself in government-to-government (G2G) relations. Information exchange among state agencies and information security are provided within the e-Government infrastructure. The “E-Government” project was prepared based on “National Strategy for Information and Communication Technologies for the Development of the Republic of Azerbaijan (2003-2012)” and was implemented within the framework of the “Electronic Azerbaijan” State Program. Strategic Road Map for development of telecommunication and information technologies prepared in 2016 contributed to the further improvement of the “E-Government” project in Azerbaijan. The project envisages activities aimed at improving the effectiveness and efficiency of government agencies' activities, facilitating communication among the people, business and government agencies and creating more transparency. The main goals of the project are as follows:

- Improving management methods and mechanisms by expanding the use of modern ICT;
- Increasing transparency and the effectiveness of services provided by state agencies;
- Ensuring public participation in decision-making and simplifying the means of communication between government agencies.



The “E-Government” project provides information and e-services to all individuals, legal entities, foreign citizens and stateless persons living within the territory of the Republic of Azerbaijan. It reduces the “distance” between civil servants and citizens in the delivery of public services, and provides more accessible, cost-effective as well as less time-consuming public services. The legal aspects of this system are being developed taking into consideration the necessary administrative reforms for improving the quality and increasing the number of e-services, as well as the modeling process of e-Government tools.

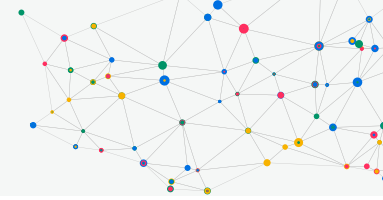
As a successful model in providing citizens with public services based on One-Stop-Shop principle, the SAPSSI has played an active role in implementation of e-Government policy. The SAPSSI gives recommendations by evaluating more than 700 online and offline services of approximately than 40 central executive authorities. The implementation of measures for the development of e-Government concept has also been empowered as of March 2018 as a continuation of the successful activity of the SAPSSI in the direction of improving public services. This authority involves.

- Implementation of state policy and regulation in the field of e-Government;
- Development and management of “e-Government” portal;
- Provision information exchange between information systems and resources of state bodies;
- Provision of electronic services through the “e-Government” portal.

“E-Government Development Center” has been established as a public legal entity subordinate to the SAPSSI. The mission of the center is to ensure effective work and development of the e-Government portal, increase the number of proactive services, and apply predictive model of government. An Administrative Group was formed with the participation of all central executive bodies` representatives in order to accelerate the integration process and to enhance communication among public authorities.

*Pic. 1. Building of the E-Gov Development Center, Baku*





## New Strategic Approach to Digital Government

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### The vision of e-Government concept is:

*“Provision of online services for citizens and businesses with just one click”*

3-year and 5-year strategic goals have been set to develop e-Government and transform to digital government in order to increase the number of users of electronic services.

### The goals to reach within three years (2020-2022):

- Online public services in one single window reached by one “click”;
- Organization of user-oriented service;
- “One-Stop-Shop” model for e-services;
- Automated internal processes of state bodies;
- Single platform for data exchange;
- Interoperability among the services;
- To be among the top 20 countries in the list of the e-Government Development Index.

### Five-year goals are the following (2020-2024):

- Electronization of legal consequences of public services;
- Paperless work;
- The principle of “Once only” – providing certain standard information to the authorities and administrations once;
- Optimizing sensor networks and analytics;
- Making services “Digital by Default”– easy to access online to use in a daily based manner;
- To be among the top 10 countries in the list of the e-Government Development Index.



## History of e-Government

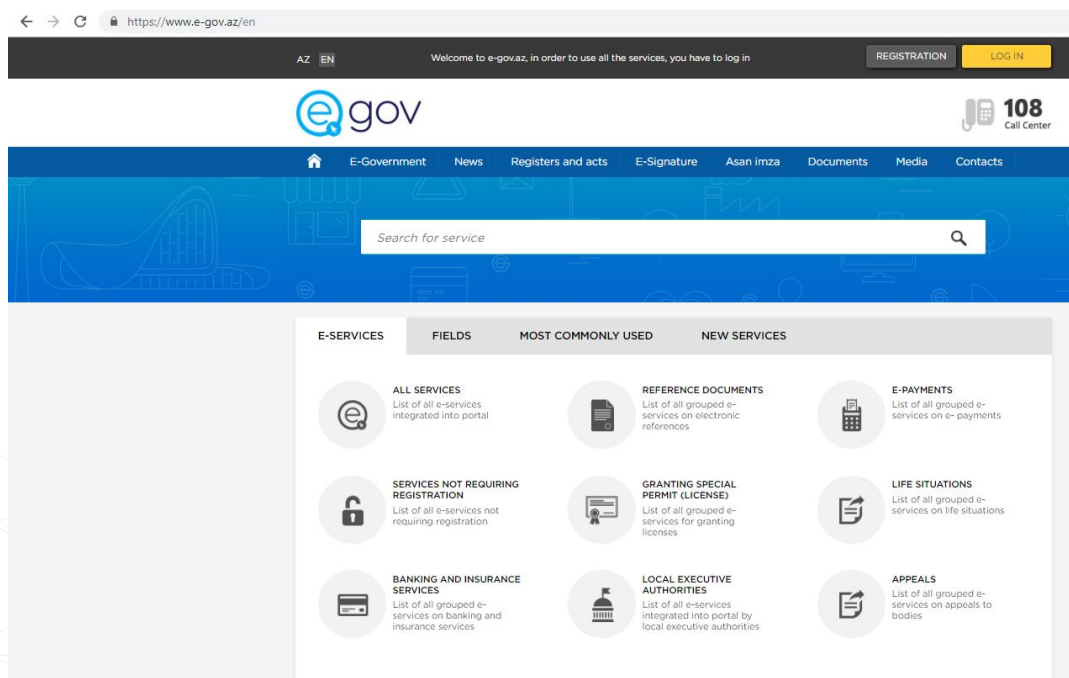
The National Strategy for Information and Communication Technologies for the development of the Republic of Azerbaijan, approved by the Decree of the President of the Republic of Azerbaijan on February 17, 2003 (2003-2012) serves as a basis for the establishment and development of e-Government in Azerbaijan. The next stage of e-Government development undertook with the adoption of State Program for Development of Communication and Information Technologies in Azerbaijan for the years of 2010-2012 (Electronic Azerbaijan). The main goals of the latter were:

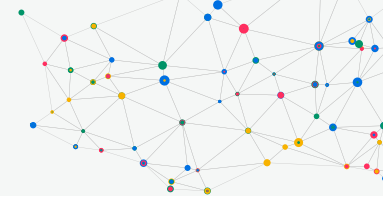
- Building a single information system within the whole country;
- Setting up state information systems and resources;
- Application of e-Government solutions and provision of e-services from a single window.

In 2010, Action Plan on Establishment of e-Government in the Republic of Azerbaijan (2010-2011) was adopted by the instruction of the Cabinet of Ministers. The Action Plan envisaged the following steps:

- Development of legal and methodological database;
- Promoting and involving professional staff who will have a positive impact on the development and management of information systems;
- Identifying critical areas of the e-Government infrastructure and identifying target areas;
- Ensuring protection of the “e-Government” structure and information systems, as well as maximizing the security of personal data;
- Minimizing “digital distinction” between groups of people, regions, increasing the level of literacy among the population in the field of information and communication technologies, etc.

*Pic. 2. Interface of the e-Government portal of Azerbaijan*





As a consequence of all legal and institutional measures e-Government portal (www.e-gov.az) of the Republic of Azerbaijan was launched in 2012, and e-Government Information System was established in partnership with foreign companies. By the end of 2012, 48 e-services were provided to 16 government agencies. Consequently, the number of services was extended to 450, incorporated to more than 90 agencies.

“Azerbaijan 2020: Look into the Future” development concept, adopted in 2012, envisages the total use of e-Government services as one of the main priorities of Azerbaijani Government. In addition to that, more than 20 state economic and social development programs acknowledge the importance of e-Government development and take further measures steps to achieve these goals. In September 2011, National Certification Services Center was established to facilitate the use of electronic signature to be provided to government agencies, citizens and entrepreneurs. Implementation of electronic signature has enabled access to better quality, transparent and efficient electronic services, as well as disseminate the use of e-Government and e-Commerce portals.

The following are the primary tools to access and use the e-Government portal:

**- Signing-in with electronic signature card**

Physical and legal persons may sign-in to the portal with electronic signature card issued by the Data Processing Centre of the Ministry of Communication and High Technologies.

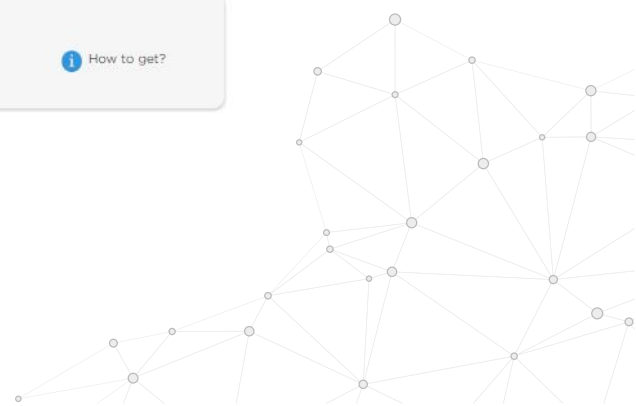
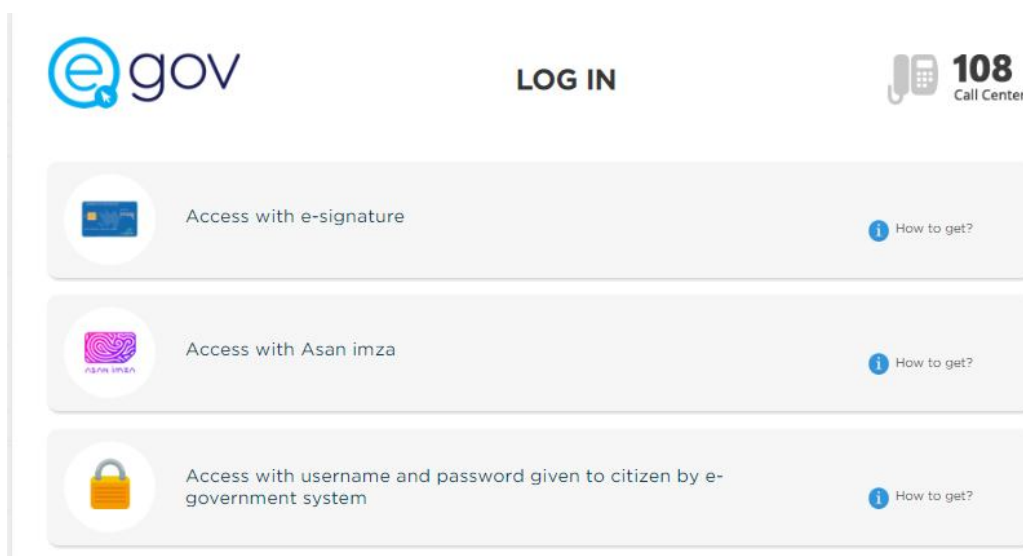
**- Signing-in with Asan Imza**

Asan Imza (Mobile ID) is a mobile identity by which one can confirm his/her identity while accessing e-services. It is a legally binding e-signing tool provided by the Certificate Services Center of the Ministry of Taxes.

**- Signing-in with username and password provided by electronic government system**

Physical and legal persons may sign in using the username and password provided by the “Electronic government” system during the authentication process. The username and password can be obtained from any post office free of charge.

*Pic. 3. E-Gov login*





**Currently, it is possible to obtain up to 20 types of online reference documents from the e-Government portal (since 2014):**

- Document confirming employment;
- Document verifying a student's enrollment at primary and secondary schools;
- Document confirming the absence of any debt related to communication services;
- Personal information according to PIN (personal identification number);
- Reference on diploma;
- Document confirming residence status;
- Reference document related to the use of water and sewer services;
- Yearly statement of payments for communication services;
- Document confirming licenses of business owners.

Usage of information and communication technologies in government agencies and public services in the first phase of e-Government and the introduction of innovative solutions have been recognized as one of the priorities within the state policy. Establishing a nationwide Internet network and promoting an open government, as well as providing free access to information systems has led to a massive increase in the number of the Internet users in recent years. From the beginning of E-Azerbaijan project to the end of the first stage of e-Government development process, many legal and infrastructural acts have been conducted including the following:

- "eAzerbaijan" project was launched in 2003;
- eTax system was launched in 2006;
- E-register of businesses was launched in 2009;
- E-Government portal was launched in 2011;
- Population register was launched in 2012;
- Mobile ID was launched in 2013.

**Legislative acts**

- Law on "Information, informatization and protection of information", approved by the Presidential Decree (No. 460, April 3, 1998);
- Law on "Electronic signature and electronic document", approved by the Presidential Decree (No. 602, March 9, 2004);
- Law on "Acquiring information", approved by the Presidential Decree (No.1024, September 30, 2005);
- Law on "Personal data", approved by the Presidential Decree (No. 998, May 11, 2010);
- "Entry-exit and registration on automated information system", approved by the Presidential Decree (No. 744, 22 April 2008).

**E-Tax**

Reforms implemented in the taxation system have been to fully ensure data security for the tax service providers by including data encryption and other related fundamental management principles. The Ministry of Taxes started the process of digitalization of the services back in 2005, and enlarged State Program was implemented for digital engagement with tax administrations.

Firstly, new digital technologies such as automation and analytics within the e-tax system were embraced. The implementation of the Automated Tax Information System (AVIS) to conduct tax administration processes online was achieved in 2006. The AVIS ensured storing and processing source data in the integrated information space, circulation and rapid information exchange.

The AVIS has been designed to adopt digital technologies for a borderless service delivery model (multiple-location deliveries). In 2007 one of the largest state portals - Internet Tax Office portal of the Ministry of Taxes was launched, which contains Electronic Declaration System (EDS), to submit all tax related documents and receive information. The implementation of EDS has significantly reduced



the time required for submission of documents, provided data security and accuracy. Currently, approximately all of the declarations submitted by taxpayers to the Ministry of Taxes are sent in electronic format using e-signatures.

Later, an e-Tax invoice system for issuance of invoices and an “Online record-keeping system” with built-in search engine capabilities allowing quick search for any records were launched.

A personal electronic cabinet was created in the webpage ([www.e-taxes.gov.az](http://www.e-taxes.gov.az)) of the Ministry of Taxes for the taxpayers to reach any data on the e-taxation system.

Since 2008, the registration of entrepreneurial entities using the One-Stop-Shop principle has been an integral part of the e-services. The successful application of this system in state registration of commercial entities, later on, gave impetus to the application of the One-Stop-Shop principle in other areas.

Since 1 July 2011, registration of private individuals engaged in entrepreneurial activities has been carried out electronically. Now, anyone interested in becoming an entrepreneur can complete the formal process of registration in just several minutes.

### **Labor contract notification system**

“Labor contract notification system” was created in 2014 to protect employees’ labor rights and to restrict the cases on unlawful termination of labor contracts. All state-owned and private-sector enterprises provide the system with the data on how many employees they currently had with the current number of labor contracts. All data is updated ceaselessly for labor market analysis in the country. According to the current legislation, information on employment, modification or termination of a labor contract must be immediately included in the “Labor contract information

system”. The labor contract becomes legal after registering in the system and sending the relevant notification to the employer. Employers use an enhanced electronic signature or mobile signature to include a labor contract notice to the electronic information system.

So far, the number of updates received in the system in 4 years has reached about 5.5 million and currently about 1.5 million active labor contracts are registered in the system. The relevance of the system is made specific by regularly entering information by up to 100,000 employers in the country.

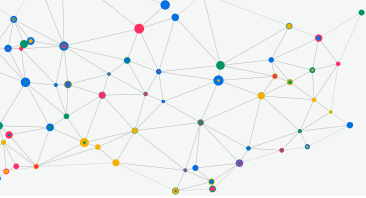
The system has provided the opportunity of real-time realization of 3 types of electronic services through the “Electronic Government” portal:

- Registration of labor contract notifications and informing the employer about it;
- Information about labor contract notifications by employees;
- Reference about workplace and salary.

In general, the system positively affects employees’ rights of labor, as well as enhancing control over employer-employee relationships, improves the quality of work affecting the social welfare and economic well-being.

For better organization and more efficient delivery of public services the next stage of e-Government development was targeted at application of single standards and approaches on the development, management and integration of state information resources and systems, as well as acceleration of transition to digital government, implementation of predictive analytics and use of disruptive technologies in electronic services. To achieve these goals, relevant Decree was signed on March 14, 2018, by the President of the Republic of Azerbaijan “On the E-Government Development and Transition to the Digital Government”. According to this Decree, the SAPSSI has been entitled to:





Pic. 4. Statistics

## Statistics

Total number of integrated e-services **446**

Average service usage per day **55 000**

Users **769 439**

Followers on social media **+130 000**

# WE SAVED

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- Carry out state policy and regulation in the field of e-Government;
- Fulfill the functions of the coordinating body in the formation, implementation, integration and effective management of state information resources and systems;

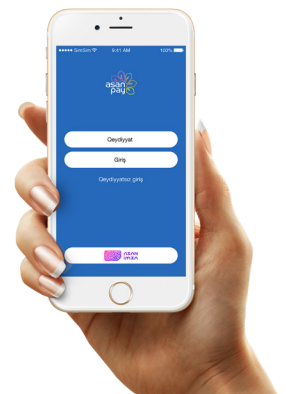
- Ensure the management and operation of the “electronic government” portal and take necessary measures to improve it;
- Provide information exchange and electronic services between the information systems and resources of state bodies through the “electronic government” portal.

## Smart Solutions for e-Government

### “ASAN payment”

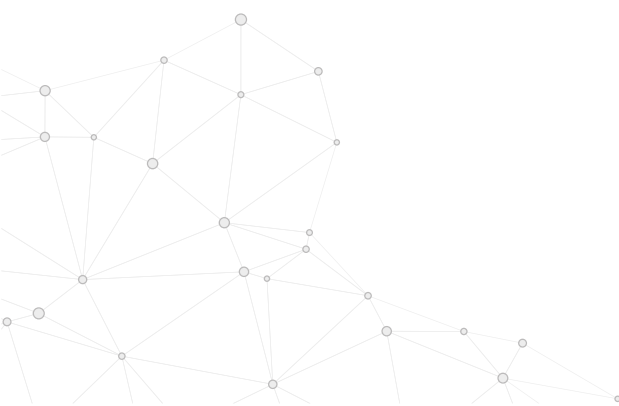
The multi-functional “ASAN payment” system enables payment of fines, utility bills and other payments in a fast, secure and easy way. Through the “ASAN Payment” terminals, [www.asanpay.az](http://www.asanpay.az) portal and “ASAN Pay” mobile application covering almost whole territory of the country, it is also possible to make a 24/7 payment without any restrictions on any service.

Pic. 5. ASAN Pay application

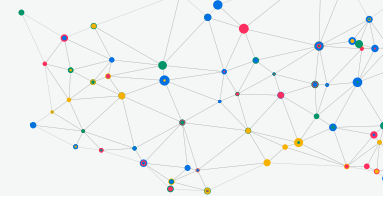


### The advantages of “ASAN payment” system:

- An access to completely secure payment
- Payment possibilities without registration
- Portal and terminals with convenient use
- Reception of 24/7 payments
- The terminals covering a large area within republic







Payment of fines, utilities, duties, leasing, credit, rent and other fees of the 221 organizations are accessed through the payment portal ([www.asanpay.az](http://www.asanpay.az)) and terminals of ASAN payment system, as well as other payment portals and terminals have been connected to the system.

*Pic. 6. ASAN Pay terminals*



### ASAN Visa - “Electronic Visa to Azerbaijan”

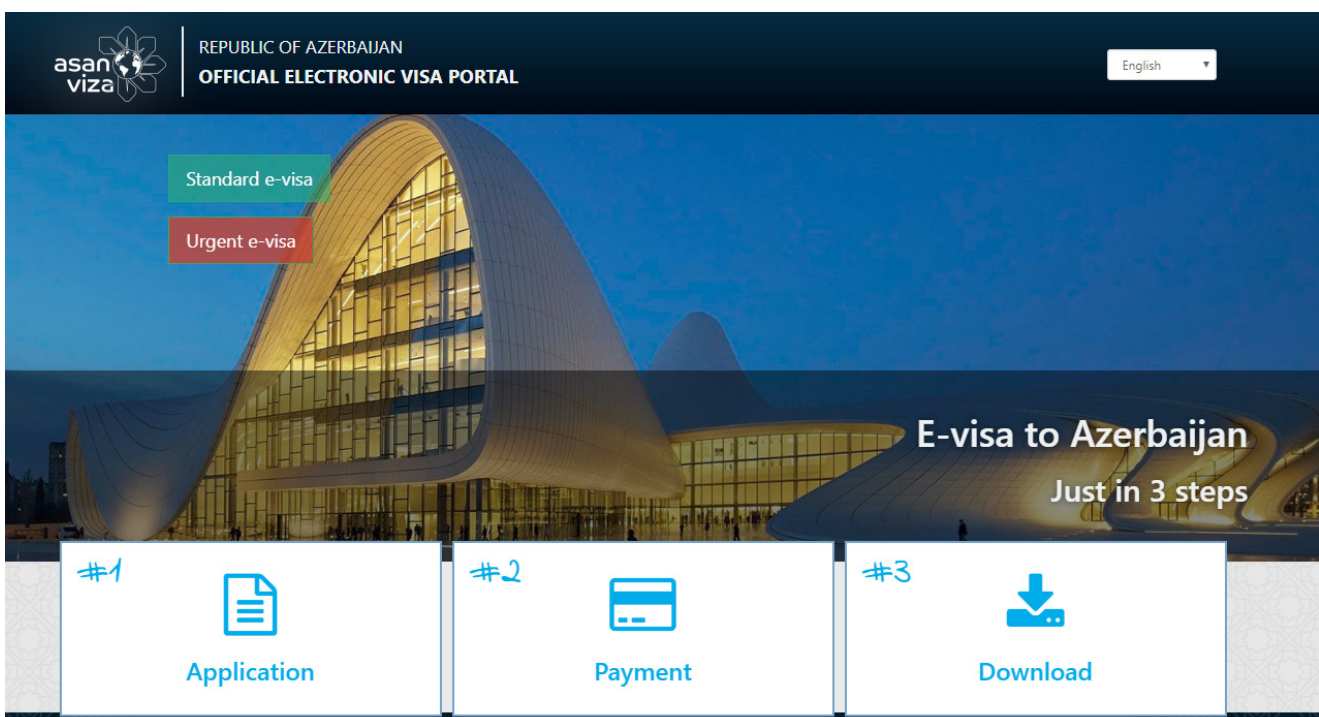
“ASAN Visa” has been launched to simplify the process of visa issuance procedure for foreign citizens and stateless persons visiting Azerbaijan. It is operated by the SAPSSI and the platform was integrated with all relevant state entities’ information systems.

“ASAN Visa” system operates in two directions:

1. Electronic visa issuance through the portal of [www.evisa.gov.az](http://www.evisa.gov.az);
2. Provision of visa issuance upon arrival at International Airports of Azerbaijan.

Individuals are able to apply for an electronic visa before coming to the country. Only national passport details are required during the application process for issuance of the electronic visas. Depending on the applicant’s choice, the visa can be issued within three days (standard visa application form) or three hours (emergency visa application form). Since May 15, 2018, the electronic visa issuance for foreigners and stateless persons is provided with the help of ASAN Visa staff and in the self-service terminals at Baku, Ganja, Gabala and Lankaran International Airports.

*Pic. 7. ASAN Visa portal*



It takes 3 minutes to get e-visa at airports for the nationals of certain countries (list of eligible countries for e-visa can be found in the portal - <https://evisa.gov.az/en/countries>). In addition to self-service terminals, the visa issuances through 4 help desks and banking services are also rendered at the airports.

Generally, electronic visa is provided to citizens of 95 countries through the “ASAN Visa” portal. The electronic visa portal and self-service terminals of “ASAN Visa” at the airports function in 9 languages, including Azerbaijani, English, French, Spanish, German, Italian, Arabic, Persian and Russian.

### ASAN Wi-Fi

ASAN Wi-Fi is a free public awareness network that informs users about the news and services of public and private organizations. In general, ASAN Wi-Fi network has five main functions:

1. Awareness platform;
2. Free and high-speed internet network;
3. Ads platform;
4. Promotions and contests;
5. Conducting surveys.

The main function is the public awareness platform, which provides citizens with free and high-speed public Internet in the country. As of now, ASAN Wi-Fi network system has been launched at 9 spots (Haydar Aliyev International Airport; Baku “ASAN service” centers No.1, 2 and 3; Guba “ASAN service” center, Baku Railway Station, other public areas).

**Pic. 8. ASAN Wi-Fi platform before you print screen, accept all those underlined (red)**

### What is ASAN wifi?

The main function is the public awareness platform, which provides citizens with free and high-speed public internet in the country.

### High-Speed Wifi?

10 mb/s



### Electronic Registry of Public Services

The SAPSSI has been implementing assessment of organizations and provision of electronic services since 2013. During the assessment, different aspects of electronic service delivery process, including software update tasks, replacement of systems, human resources, digitalization and integration level of databases are implemented. Evaluation has had a positive impact on the detection and elimination of existing problems in the field of organization of services, such as lack of public services in a single registry platform.

The purpose of establishing a registry is collection and systematization of information about the services carried out by the authorities at a single source. It includes eliminating duplication in provision of services, maintaining flexibility through new types of services, expanding the capacity of analysis and forecasting on services as well as ensuring transparency by allowing citizens' access to data about public services.

Central and local executive bodies assigned to submit information about the services, provide and update the data regularly on the platform. These include a legal basis, the list of documents required by the legislation for the provision of services, payments, service users, service delivery period, method of service delivery and existing electronic information resources used for the provision of services.

Development of service registry have created opportunities listed below:

- Identifying total number and directions of all services provided by government organizations;
- Setting standards on service areas and regulation for each government service;
- Acceleration of developing electronic services;
- Improving electronic and integration level of information systems, which are required to provide to the government services;
- Detecting and eliminating duplicated services;

- Conducting a number of important statistical analysis and monitoring on public services;
- Achieving transparency by ensuring citizens' access to information about services;
- Reducing public spending on service organization.

As a result, further progress will be achieved in optimization, improvement and digitalization of public services. Thus, to eliminate duplication in services and required documents, to determine spheres of mass requests, to define priorities regarding digitalization, to ensure coherence in the organization of public services will be more simplified.

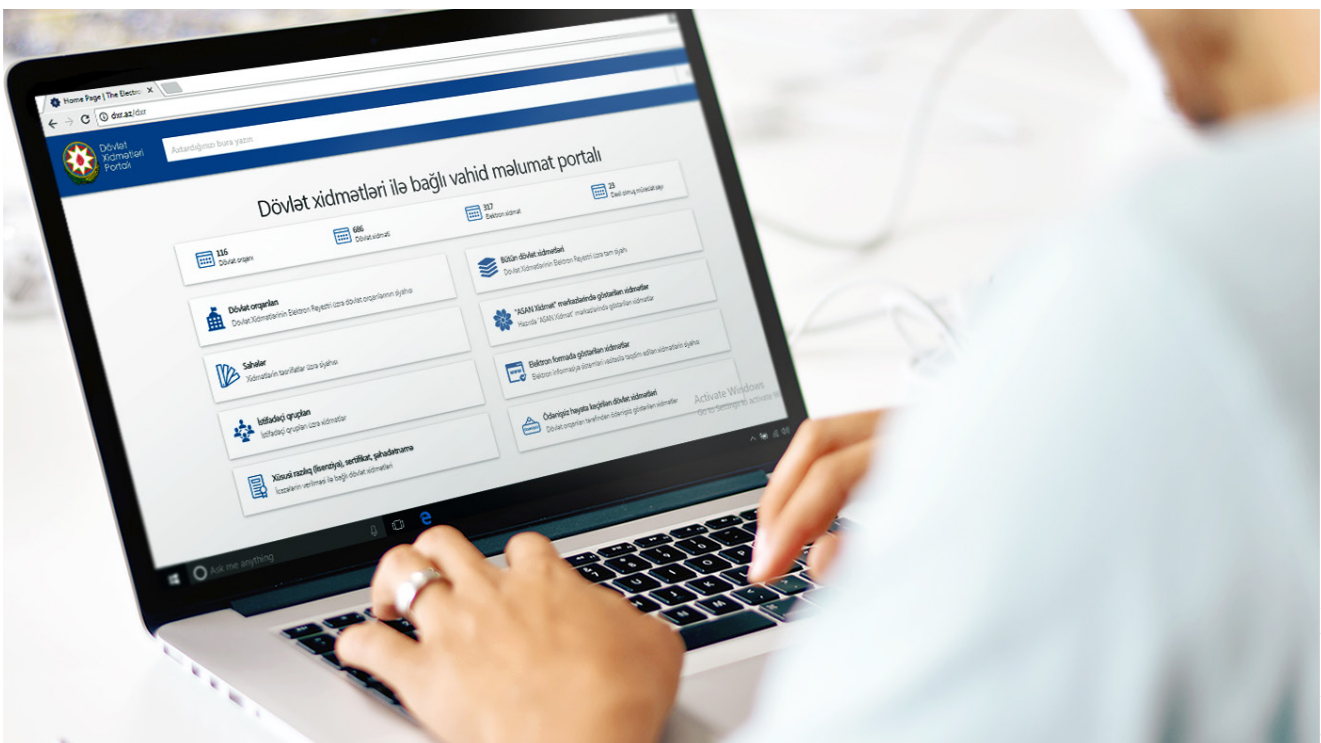
The Electronic Registry of Public Services ([www.dxr.az](http://www.dxr.az)) is a unified information portal on all public services rendered by all state entities in Azerbaijan. The Electronic Registry for citizens was established as a result of implementation of the Presidential Decree No. 262 on September 11, 2014, by the SAPSSI.

The portal contains necessary information about each service: legal basis of service and service suspension or rejection, administrative procedures for implementation, the result of service implementation, notification forms on the outcome of the service procedure.

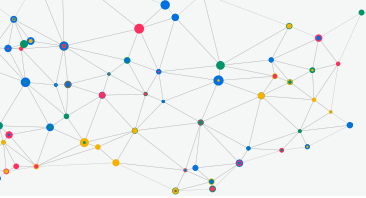
Currently, [www.dxr.az](http://www.dxr.az) contains detailed information about 753 public services provided by 133 public agencies/state entities. 394 of these services are also provided as e-services. The portal collects primary data on each service:

- General information about service;
- Legal basis of service;
- Legal basis for service suspension or rejection of service implementation, administrative procedures for implementation of service;
- Information about the possibility resolution of disputes caused as a result of service implementation before applying to the court (judicial);

*Pic. 9. Public services portal*







- The result of service implementation;
- Implementation forms of service;
- Notification forms on the outcome of the service procedure;
- Statistical data on the use of services.

Citizens can get more information about organization providing relevant service, expenses on services (service fee, state fee, etc.) or services provided free of charge, relevant documents required, the servicing period, and whether service may be applied for online or not. The portal also makes available the addresses, communication means, working hours and other necessary information related to state authorities providing services.

The Electronic Registry of Public Services and Information portal is run by the SAPSSI.

### ASAN INDEX

The Electronic Registry of Public Services gives new opportunities to improve government services. “ASAN Service” Index is an example of improving and simplifying the provision of public services.

“ASAN Service” Index is a public service organization and presentation of the current status of the unit of measurement, which is expressed as a result of the evaluation. The index itself contains seven parameters related to the State Register of Electronic Services.

Providing information about the service, access to the services via e-mail or directly, the integration level of information system used in presenting services, professionalism level of staff, availability of control and complaint systems, measurement of citizen satisfaction are the defined parameters of “ASAN service index”.

Pic. 10. ASAN index criteria

## ASAN Index



**7 criteria** for assessment of public services





“ASAN Service” experience in the provision of public services has led to the creation of new quality indicators. Services are determined in advance, efficiency, transparency, ethical behavior, responsibility and comfort by applying the principles of ethical conduct rules in compliance with the provision of the highest level, paved the way for setting up new standards.

The parameters defined by the “ASAN service” index, criteria and sub-criteria of any government agency, including the goal of obtaining a positive result for service providers have been specified. The border here is the assessment of shares of state-owned entities and state agencies, which belongs to the state controlled legal entities, to public entities created on behalf of the state

**“ASAN Index” 7 criteria** for assessment of public services

1. Information about services;
2. Access channels for services;
3. Time requirements for service delivery;
4. E-level of information systems;
5. Training level of service providers;
6. Control and complaints systems;
7. Customer satisfaction measuring mechanisms.

The application period for evaluation is held each year during November and December. The service providers available through the portal “www.dxr.az” are able to fill out or update evaluation forms. Later, the evaluation period starts, and during

eight months from January to September of each year the working group of the SAPSSI analyzes the filled questionnaires, carries out spot inspections or inquiries and the final assessment. The working group regularly makes publications about evaluation results and progress made within this. The results are presented to the service providers each year in September.

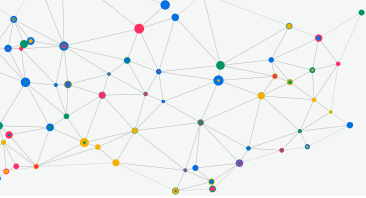
It should be noted that all the test results and information obtained from the evaluation process are included in the “ASAN service” index evaluation system, and the results are calculated through special software. Even the presentation and publication of the results are carried out through the system. It has been the goal of the process of applying optimization and innovation.

### E-license and Permits

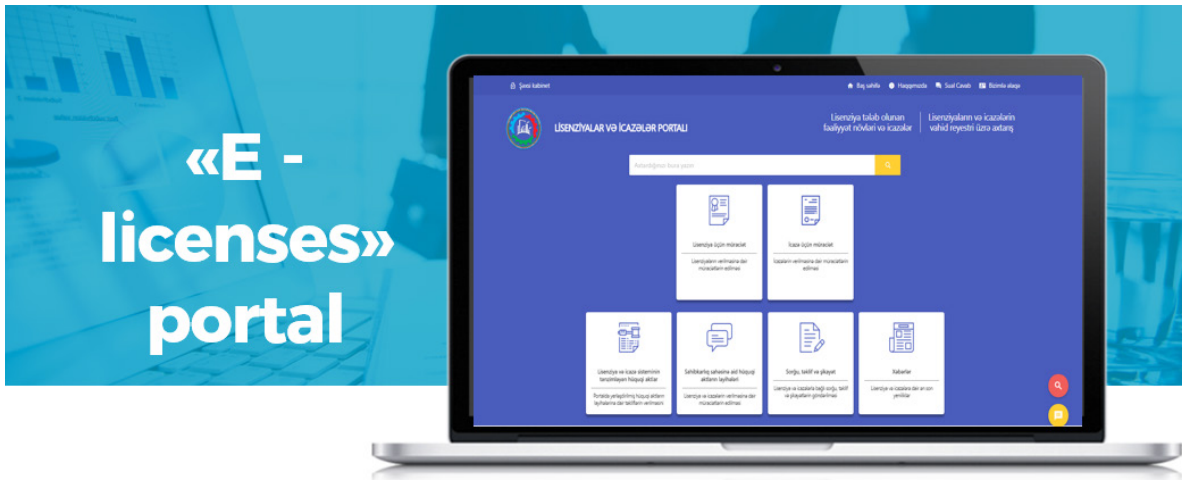
“Licenses & Permits”, portal is designed for issuing e-licenses and permissions for commercial activities. Everyone who needs to get a license or permit for a specific type of entrepreneurial activity may electronically apply for the license from the Ministry of Economy and obtain the permission of relevant organizations through the portal ([lisenziya.gov.az](http://lisenziya.gov.az)).

The portal also serves as a single database for license applications, obtaining required documents on licenses and permits, as well as a communication platform between the government agencies and applicants. Citizens may access to the service electronically from the e-Government portal.





Pic. 11. E-licenses portal



- Simplify the licensing process
- Transfer of processes to electronic environment
- Integration of related systems

### ASAN Finance

“ASAN Finans” project has been established by “E-Government Development Center” in order to provide financial organizations with access to state information resources.

Objectives of the system are:

- Establishment of single electronic location for provision of financial services via “e-Government” portal.
- Building electronic access platform to state information resources and systems for financial service provider institutions.

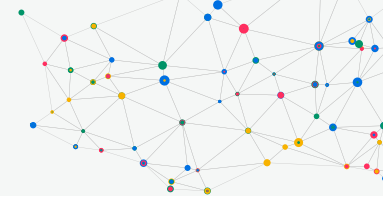
By enabling legal access to state information system, “ASAN Finans” brings advantages such as:

- Accessing data about workplace, incomes, ordinary passports and other data by PIN (Personal Identification Number) and TIN (Taxpayer Identification Number);
- Accelerating development of the digital banking;
- Reducing costs of operations as well as physical resources.

The system offers following opportunities for citizens:

- Paperless work in bank services; bank services and insurance inquiries are applied via single digital location;
- Accessibility of remote banking, 24/7 availability of bank services;
- Fulfillment of appeals of citizens via the “ASAN Finans” portal.

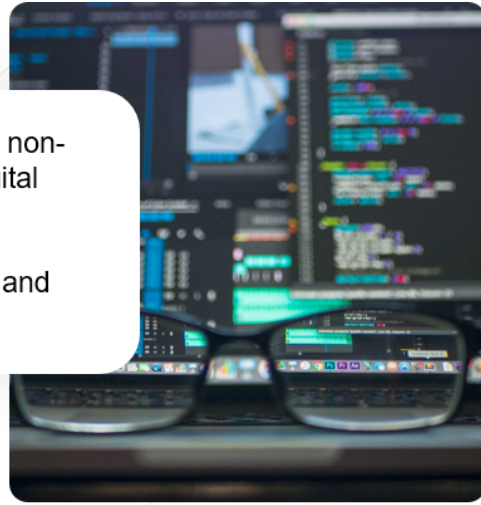




## “ Digitalization of Finance System

The main purpose of the system is to provide non-stop, digital service with the application of digital solutions to the financial sector.

Consequently, it is time saving for customers and resource saving for finance institutions.



Hence, in case of citizen’s consent, institutions can easily access electronic information via “ASAN Finans” system, including one’s ID, workplace, TIN, existing property and information about person’s responsibilities before the state.

By these means, institutions save time and resources. At the same time, citizens are allowed to use a number of bank services, create bank account and apply for credit via the “ASAN Finans” system with their electronic signatures.

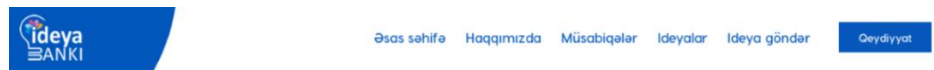
### Idea Bank

Idea Bank, established in 2012, is a platform for citizens to share their ideas and suggestions about the services delivered in ASAN service centers and

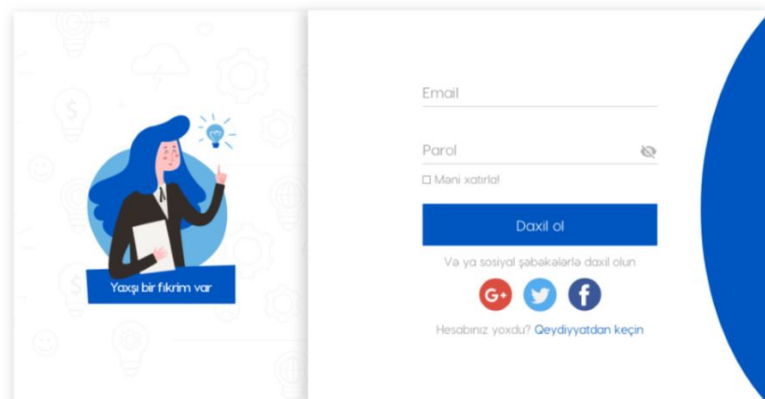
on the overall activity of the SAPSSI. Contributions made by citizens are carefully analyzed, evaluated, used to enhance and advance the delivery of public services in Azerbaijan. It is a convenient, innovative and transparent way of interaction between the government and its citizens.

It requires constant observation, search for innovation, most importantly, active citizenship. Overall, the quality of public services is constantly being increased, which serves with the principle of citizens’ satisfaction.

Every citizen can electronically submit ideas and suggestions to improve the performance of public authorities. Up to now, 7000 ideas have been received by the Idea Bank and 700 of them have been implemented successfully.



**Pic. 12. Idea Bank - Unique platform to collect ideas**





## Digital Agro

The Electronic Agricultural Information System includes information on the procedures of implementation of agricultural activities by citizens and foreign nationals in Azerbaijan, as well as simplifies communication between the farmers and the state. The portal provides free use of agricultural services and resources, access to information, and serves as a monitoring tool for agricultural services providers. The purpose of this system is to establish and develop a registration system to ensure the implementation of farming policy and support agricultural businesses.

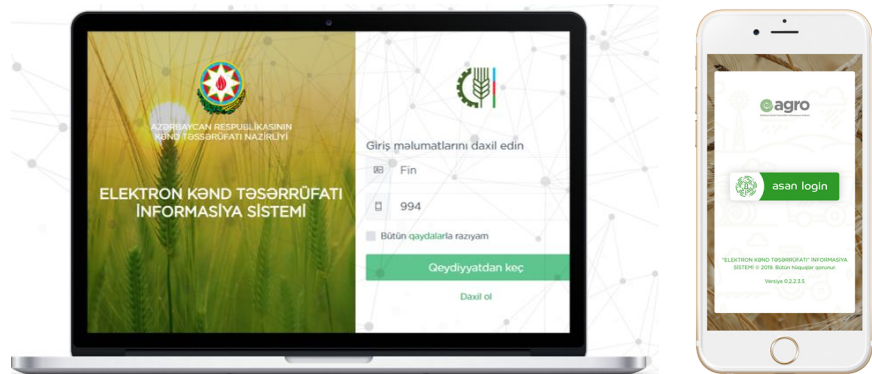
The system has interactive information and services related to the registration of all farmers and their activities throughout the country, the lands and products registries, the land-based sowing system, subsidies and other agricultural discounts.

## E-procurement

Government agencies concerned with acquiring all of the goods, services and other related practices use the E-procurement portal ([www.etender.gov.az](http://www.etender.gov.az)), which is an electronization and automation of all procurement processes of government agencies. The portal has two sections: informative and interactive. The informative section contains information about the tenders published by the Purchasing authority, annual procurement plan, contracts and Annual Reports by the Agency, questions and answers section, legislation, unreliable consignors, past considerations, etc.

The interactive section is used by purchasing companies, consignor companies and agencies as a functional tool.

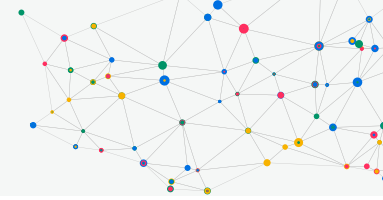
*Pic. 13. Interface of the Digital Agro platform*



## ASAN Brain Research (concept)

Innovation in the companies is the outcome of focusing on the targets, investing in the right fields, planning all the strategies, as well as Research & Development (R&D) activities. Following the conceptual framework, the relationship between the R&D and the development of the economy has been at the core of much empirical research until today. The R&D is crucial in decision-making processes, strategy designing, and it establishes a unique platform for companies to adopt an innovative strategy in a particular relevant environment.

Not surprisingly, developed countries, as well as global companies like Google, Facebook and Microsoft create their R&D centers and continue to support their development. The establishment of a modern R&D center at ASAN service is essential to improving the quality of services provided to citizens, the application of disruptive technologies, enhancing product innovations and increasing the overall performance of the company. The Research Center to be launched in the coming years will serve as a hub not only for researches on Data Analysis, the Internet of Things, Cloud Computations, but also on technical sciences, law and regulations, human resources, linguistics, etc. Not only employees of ASAN Service, but also experts in relevant fields in Azerbaijan and around



the world will be brought together to address existing problems. Large datasets and examples of cases will allow the experts to analyze the innovative activities in-depth and draw out a similar

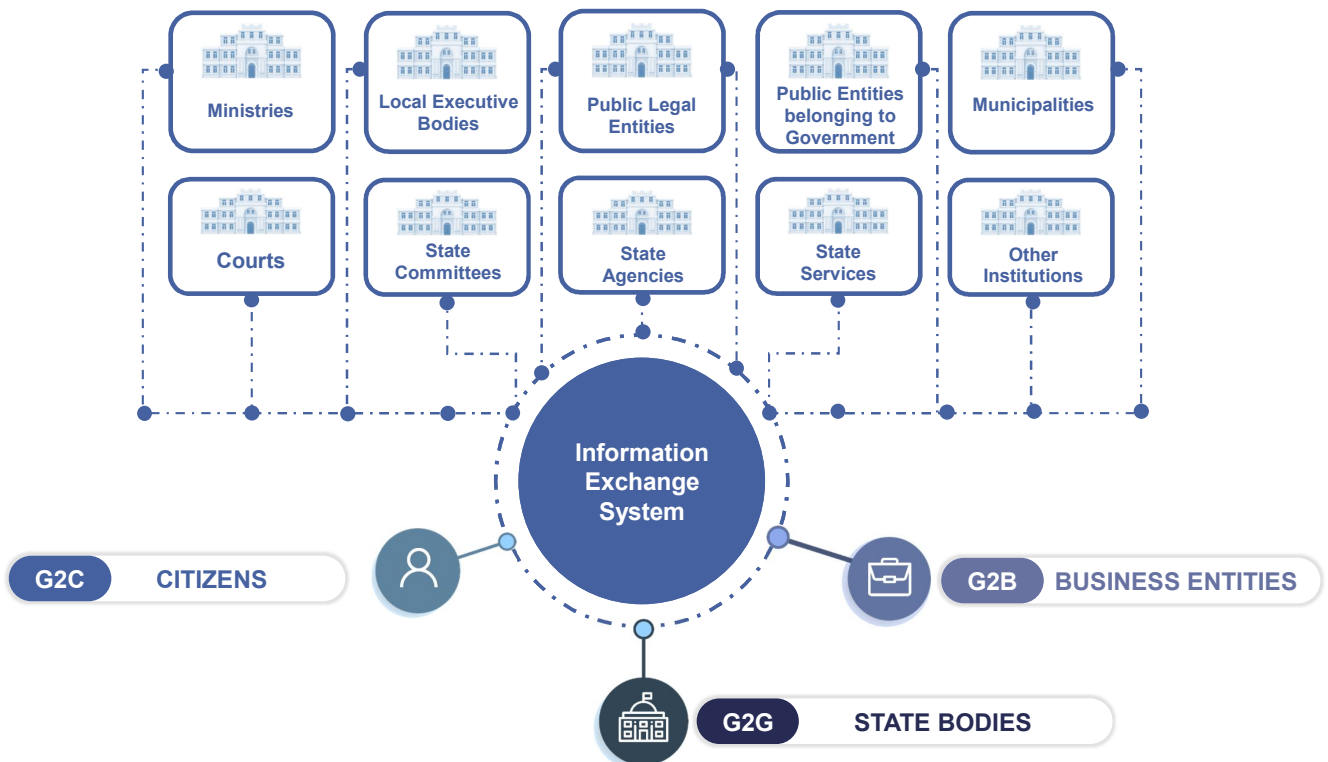
strategy. Annual conferences, seminars, training for professionals, knowledge-sharing platforms will also be organized within the Research Center to capture innovative and disruptive technologies.

## One-Stop-Shop e-Government

Increasing the effectiveness of the digital government and accelerating the exchange of information between state agencies are essential elements for the concept of smart government. The collection of personal data in a single platform and making this data accessible for government agencies and citizens (upon their consent) will enhance the effectiveness and timeliness of the processes. The introduction of a unified approach to data processing, information systems and resources will improve the service provided by government agencies, accelerate information processing and exchange encompassing predictive

analytics for the future. Revision of unstructured data, which does not have a pre-defined data model, data anomalies, and further elaboration on the concept of electronized information systems are vital in terms of optimal digital government management. A One-Stop-Shop approach is used to organize public information systems and e-services in order to realize these processes in Azerbaijan. Here, a single approach is applied to information systems, resources, structure of data, form and ways of data exchange, and processes are managed from single source.

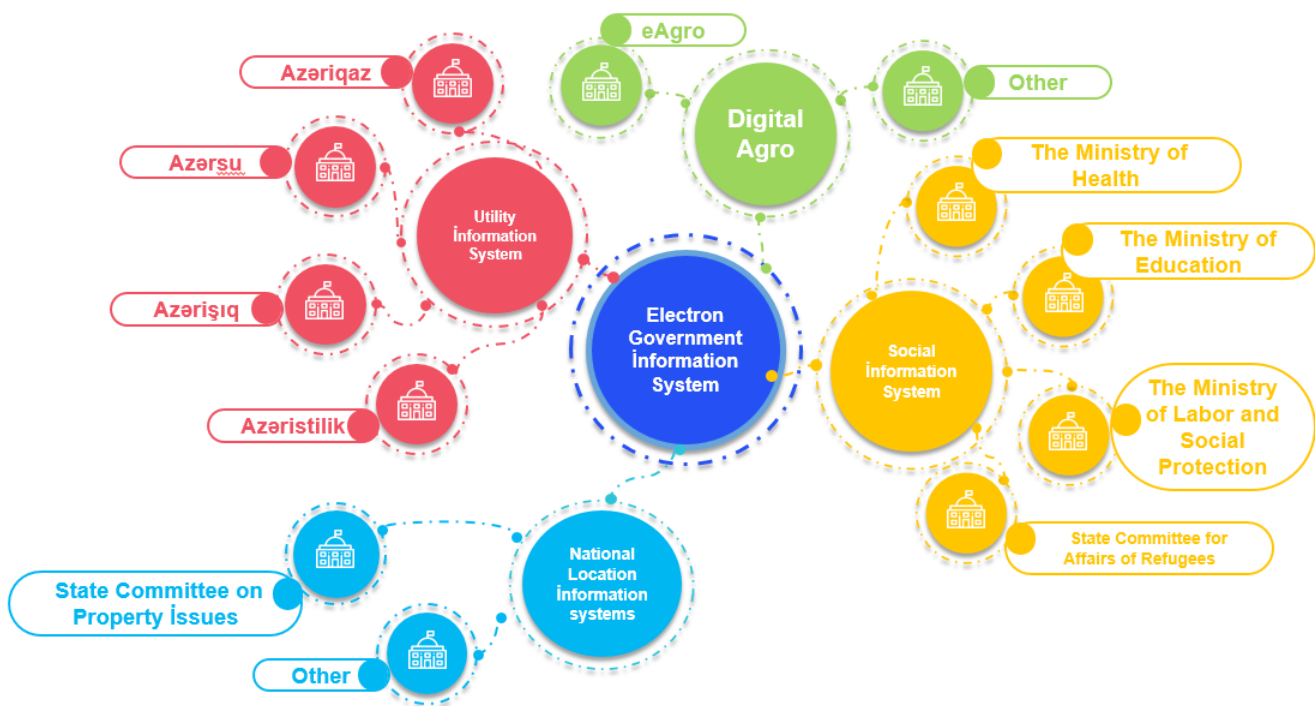
*Pic. 14. Scheme of myGov platform*



Electronic Government Information System was established to coordinate the information resources and systems of the agencies, to ensure the availability of these resources and systems, as well as to access information as prescribed by law. Integration of the state information resources,

systems and reforms in this regard, including an exchange of information from the primary source and elimination of duplication are critical points in the formulation of a new approach and acceleration of transition to digitalization process of services.

*Pic. 15. Electronic Government Information System*



### “Non-stop-shop proactive e-Government services”

One of the key elements of the smart digital government is that citizens always have the opportunity to get updates about the information available to different government agencies about them, make revision to them, request information moreover, to send it to various organizations electronically.

At the same time, unlike the traditional e-Government approach, the state regularly sends citizens a notification of public service in their account.

“MyGov” is established for transition to smart digital government in Azerbaijan, to raise the accessibility of public services as well as automation and intelligent processing of already available data.

## MyGov

### Towards proactive government services

“MyGov” platform works with the following government agencies to help citizens access and update with their own information, benefit from services, and obtain electronic certificates online:

- Ministry of Justice;
- Ministry of Education;
- Ministry of Health;
- Ministry of Agriculture;
- Ministry of Economy;
- The State Construction and Architecture Committee;
- Supreme Attestation Commission under the President of the Republic of Azerbaijan;
- Financial Markets Supervisory Authority;
- Tourism Agency.

The information provided by each organization is endorsed by the very agency.

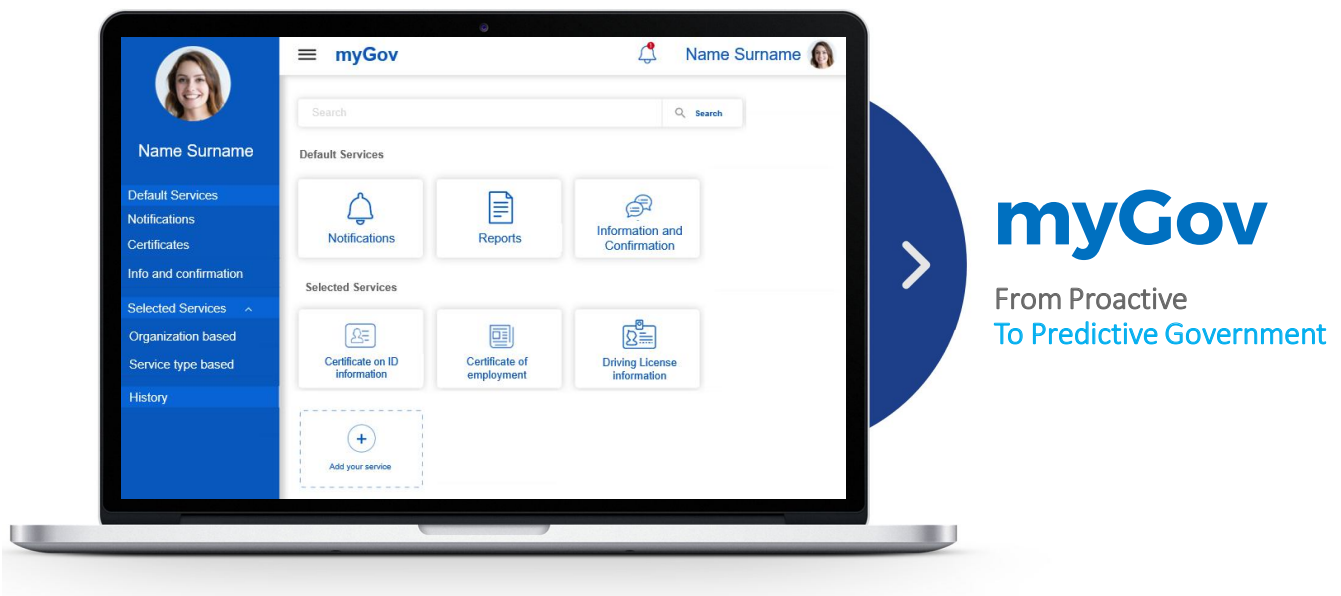
### myGov–Citizen`s e-cabinet

MyGov is a personal electronic cabinet designed to provide citizen-centered services and interactive information by the portal.

The electronic cabinet has the following facilities:

- User access is only possible with a single sign-on system (SSO);
- The main page provides all the basic information that the user sees. Manual adjustment of menu or titles on this page based on user’s request;
- The following types of notifications are available at the Cabinet:
  - Expiration of ID card, Driving License, etc.
  - Requested services (utility, payment, etc.);
  - Updates on system or availability of new services, etc.
- When there is a request to review citizens’ information from e-Government portal and other related systems, citizen has an opportunity to get notification about the request and option to confirm it or send the requested information beforehand to the third party by his/her consent;
- Notifying taxpayers about the report to the Ministry of Taxes and the Ministry of Labor and Social Protection and direct them to necessary services, as well as notify about incorrect reports via sms and/or e-mails.
- Possibility to track user`s activity history (access to the cabinet, use of services, etc.).

*Pic. 16. myGov-personal cabinet of citizen*



## New possibilities with myGov





### Features

 <p><b>General tools</b></p> <p>ASAN Bridge Single Sign On ASAN Notify</p>	 <p><b>Predictive tools</b></p> <p>myGov Assistant myGov Dynamic View</p>	 <p><b>Informing and confirmation</b></p> <p>Personal informations Informations about family</p>
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## ASAN Bridge

### Information Exchange System

ASAN Bridge is a system providing secure data exchange between organizations. The system consists entirely open source components and does not depend from any physical equipment.

The main advantages of the new model are:

- Absence of any physical equipment (such as HSM, USB Token, etc.). Complete virtualization;
- Possibility of software upgrade;
- The model can work in other operating systems (distributors);
- Monitoring and Logging System;
- Network-level permissions;
- Availability of clustering opportunities;
- Centralized authorization service (CAS), etc.

## ASAN Login (Single Sign On)

ASAN Login is a single authentication and authorization system, available for state agencies free of charge.

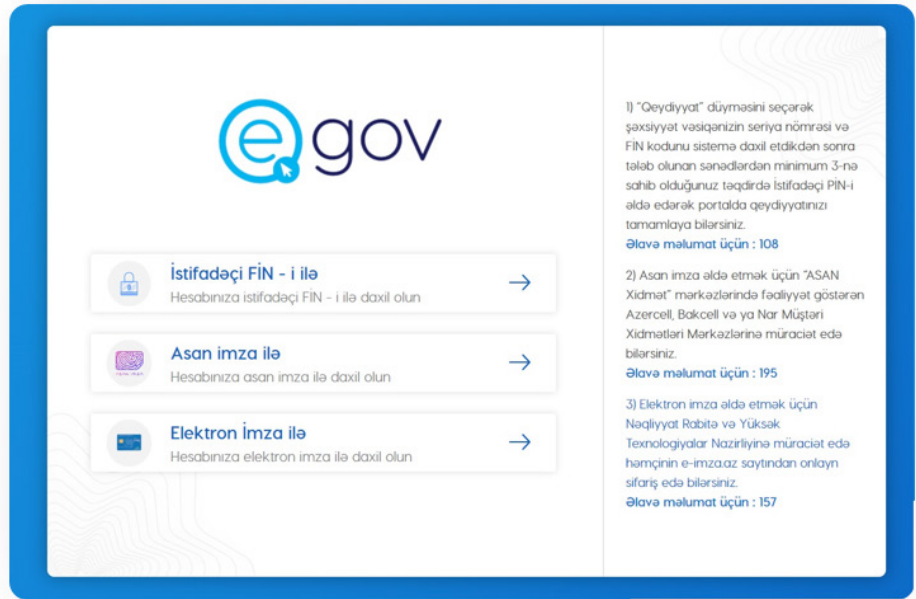
Single Sign On (SSO) consists of two parts:

1. Auth module (authentication module): provides access with three tools (ASAN signature, E-signature, code-password) and is expandable for new type of inputs. When one signs up to SSO once, other systems which use this login feature will also be automatically logged in. The same principle works for managing the system.
2. Authz module (authorization module) – validates the token given by Auth module and verifies the user's authority. As a result, it can determine to which menus and services the user is allowed to have an access.

Access via the system is carried out in three different ways to verify identity.



Pic. 17. Single Sign On



This feature helps the detection of identification duplication of a person. Furthermore, the system allows citizens to manage user authorization from the single center.

When accessing to the "ASAN Login" system, it will automatically log in to other partner systems using this login system. At the same time, while logging out from an integrated system, all other partner systems will be automatically logged out.

Permissions of users from a single destination is enabled without repeated registrations of authentication and authorization systems.

Hence, the cases of forgetting usernames and passwords are avoided.

### ASAN Observer (Central Observer System)

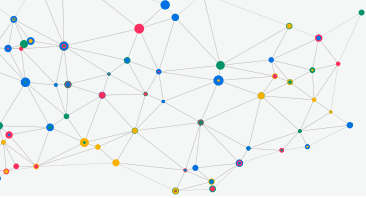
ASAN Observer – provides information about the updates done in all information systems integrated to e-Government such as informing about the new user, birth of a child and expiration of ID card.

It is possible to collect all data from each system in a single platform through this module.

As a result, each related system`s database will be kept updated. Currently integration process with connected organizations is underway.

The event incorporates the relevant advantages of events that occur in systems:

- ability to transfer events to related systems;
- event synchronization.



### ASAN Notification (Central Notification Module)

It is a personal electronic cabinet intended for the design of citizen-centered services and interactive communication with the citizens. Design elements for both mobile and web have been developed for this section and software application development is in progress.

ASAN Notification is a central notification system that:

- Prevents recording of repeated notification systems;
- Gives an option to connect to a large number of systems;
- Combines sending notifications via e-mail, SMS or mobile, etc.

## From E-Gov to Smart Gov

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### Transformation from citizen-centric model to “Data and citizen-driven” e-Government model

The development of “electronic government” system around the world is seen as an indicator of the national welfare and democratization of society. As a result, today, all governments are competing to build a more progressive “electronic government” system to provide access to services and information twenty-four hours a day, seven days a week. Consequently, the emerging force of nowadays e-Government is faster, cheaper, more transparent and cost-effective.

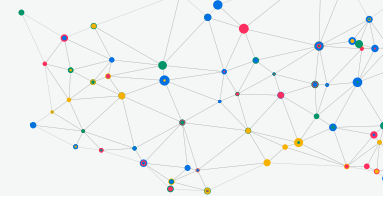
Serving citizens properly and effectively by understanding their demands is one of the main targets of electronic government. As social media reshapes the interaction of users with online services, more than 80 percent of the population are Internet users in Azerbaijan. This, in turn, allows e-Government to make use of open data on social platforms to understand the needs of

the citizens better and act accordingly. Analysis of this data leads to data-driven evaluation and improvement of e-Government services, and sometimes to launches of new e-services. Citizens have become indirect, yet empowered figures in the management of electronic public services.

However, the rapid expansion of the Internet usage, variety of big data technologies, complexity of managing data quality, security holes in information systems, troubles with upscaling have led to challenges in controlling Big Data. Storing the data and making decisions based on its analysis is very substantial. To confront this challenge, E-Government Development Center gets familiar with international practices, ensures the participation of employers in appropriate training programs and focuses on research and development in this direction.







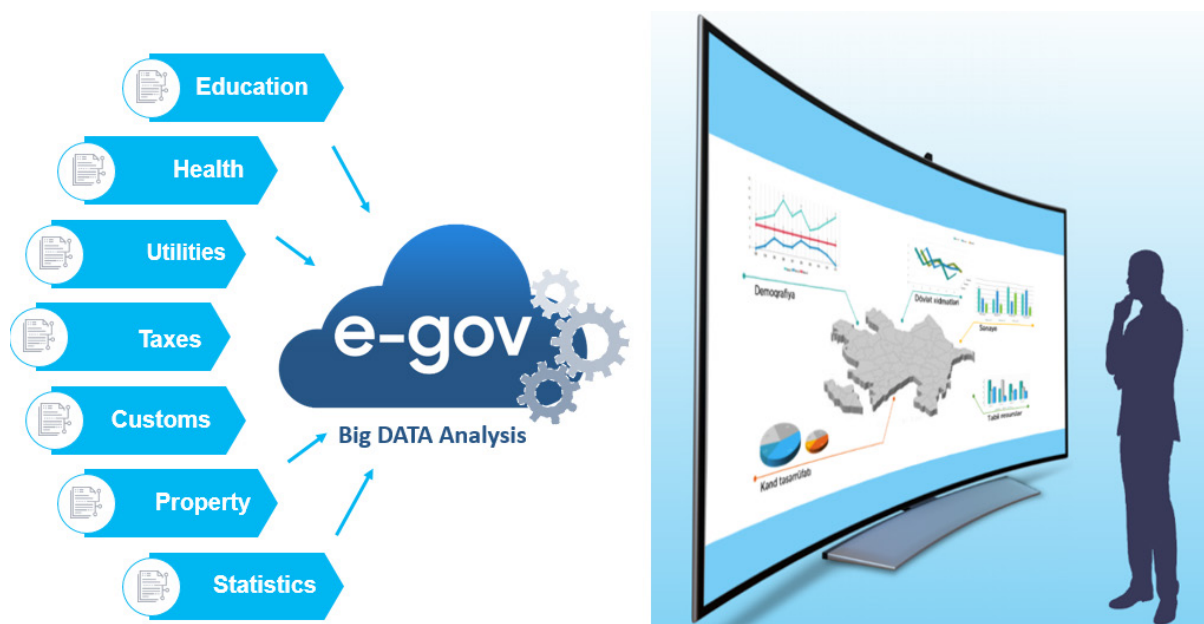
*Pic.18. Data driven e-Government*



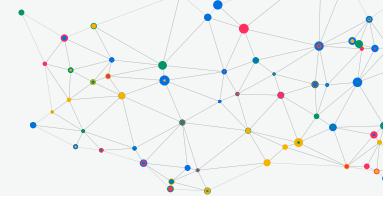
Moreover, by making non-confidential data available to the citizens and holding contests based on this data, e-Government aims at fostering citizens' participation in the process and raising awareness of the related issues.

Data hides the future inside itself. Being aware of that, tracking changes through trend analysis, monitoring real time dashboards, taking insights from anomaly detection modules, predictive analytics lets the government to prevent actions against security threats and draw effective resource planning.

*Pic. 19. Analysis of public data*







As an application of Machine Learning and NLP techniques in ASAN visa system sentiment analysis, which is the process of identifying emotions and attitudes from textual data is used. The widespread use of social media and the increasing use of electronic surveys for assessing the quality of the services have led to a significant increase in the amount of textual data. Collecting survey data in textual format allows users to express their opinions, and at the same time to describe particular aspects of services with which they are satisfied or dissatisfied in more detail using extensive capabilities of the natural language. Natural language is optimal for expressing opinions and feelings. However, its analysis and extracting useful information requires sophisticated approaches and natural language processing expertise.

The application of sentiment analysis has several advantages in e-Government. Firstly, the services can be made more adaptive by taking into account the attitudes of users. Moreover, sentiment analysis can contribute to a better understanding of the citizens' needs and improve the quality of services.

Machine learning methods enable us to analyze sentiment in user feedback effectively. A sentiment analysis model is being developed for ASAN visa to understand the visitors' feedbacks better

and detect problems by relying on data. The comparative analysis of overall sentiment in different areas of interest plays a crucial role in determining the areas that are more problematic and needed to be improved. Moreover, the analysis of overall sentiment against time makes it possible to observe the patterns and regularities in the sentiment of users' opinions.

ASAN chat service aims at providing citizens with the needed information about government services and assisting them in finding such information. The availability of automated bots to respond to citizens' requests has a significant potential to make the process of question answering operative and useful. This technology can parallelize the process of answering the requests and make it easier for citizens to obtain specific pieces of information. One of the products the institution is working on is in this direction. The process of automating question answering is not an easy task in itself and involves several NLP tasks such as understanding and generating natural language, building and searching a knowledge base and machine reasoning. Different approaches are researched and taken into consideration to realize the project. The project also helps to lay the foundations for NLP research in Azerbaijani language.

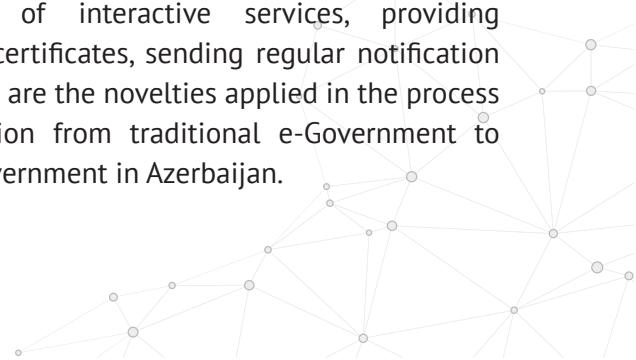
## Lessons learned

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Applying a data-driven government approach in the field of e-Government is recognized as the basis of a new stage in the relations between the government and citizens, helping the government to make smarter decisions, improve productivity and deliver more qualified citizen services. Earlier, collecting, approving, and reviewing information and documents about citizens took lots of time and resources. The predictable smart digital government helps to build paperless relationship

with the citizens and allows the transparent, prompt realization of all government-citizen relations.

Developing smart mobile and web solutions, provision of interactive services, providing personal certificates, sending regular notification to citizens are the novelties applied in the process of transition from traditional e-Government to Smart Government in Azerbaijan.



The “e-Government” portal has facilitated the exchange of information between the state authorities, and the state bodies are able to render their services from single virtual space. This also results in a significant reduction of legal procedures when services are being rendered. The launch of a new e-Government model will help eliminate duplications, keep the data updated and speed up the data exchange between different organizations.

### **Main challenges in development of successful digital government**

#### **Incomplete automation of information systems**

- Formation of information systems for state bodies has not been fully completed. Incomplete automation of information resources, non-identification of data in all organizations with individual Identification Number, lack of uniform approach to data structuring, as well as presence of duplications on data and system databases create obstacles for ensuring the flow of information, fast and convenient data exchange, and analysis of collected data.

**Partial integration of information systems** - Complete integration of information systems of state bodies has not been provided. Rapid exchange of information among state information resources and systems in order to ensure easy access to services is one of the key factors for yielding qualified electronic public services to the citizens. Incomplete integration entails the need for additional documents from citizens within the process of service rendering and the extension of the service provision.

**Lack of automation in service results** - Even if citizens apply for electronic services, processing the results of many interactive services is paper-based. Although there is a legal basis for the expansion of usage of the electronic documents within the country, in practice, challenges still exist in the relevant field.

#### **Failure to present services on the basis of data**

- Transition from document-based services to information-based services is incomplete. While using public services, relevant government agencies require the original or copies of the documents, even if they have access to the citizen's documents information.

#### **Lack of e-Government engagement in the regions**

- Awareness of e-services and digital knowledge among the population in the regions is low, which limits the usage of the e-services.

**Shortage of Human Resources** – One of the main problems in the development and formation of information technologies and resources is a human resource shortage. Although there are professional specialists in the field of ICT in the country, their shortage as well as lack of specialization, practical knowledge and skills, as well as insufficient amount of professionally educated civil servants in the related field lead to a knowledge gap and delay in the process of transformation to digitalization.

**Lack of uniform standards** – Lack of application of uniform standards in the process of setting up information technologies and resource systems within the state bodies, existence of different strategies in the process of formation of ICTs as well as usage of various kinds of technological infrastructures are significant problems in the field of e-Government. At the same time, the use of different equipment (hardware) by various state bodies causes difficulties in information exchange.

**Information security problem** – Inadequacy of legal framework in the field of information security, absence of uniform standards an inadequate level of control over information security are main deficiencies in the relating field. At the same time human resources and the number of training programs for ensuring information security are considerably insufficient.

**Legal issues** – Legislation is lagging behind the rapid development process of ICTs and most of the issues in this field are not being regulated legally.





Although there capabilities for the development of state information systems and their integration, in some cases the realization of this process becomes impossible as these are not managed in a legal framework.

### Lessons learned and new trends

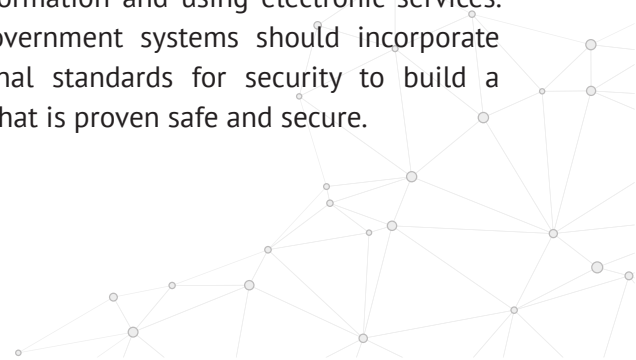
**Lifelong proactive digital services** – Proactive services must encircle the citizens and businesses at all life stages. From the moment of born to death, the digital government engages in providing more of such services, rather than requiring citizens or businesses to engage the government. As a child is born, the information is created at information systems and digital government predicts what kind of services will be required to the citizen. This likewise applies for businesses as it transits through its life stages from registration to its conduct, and then to its closure. Digital Government offers different services to citizens and businesses by smart notifications. All information is updated in real time and integrated systems share the data with relevant systems. The process continuous life long and at all stages. The Digital Government uses data analytics to determine the needs of digital citizens and predict services that can be desired by citizens at any time.

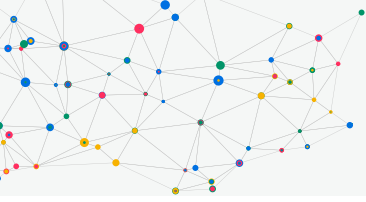
**Citizen participation** – The involvement of users of digital services to organize public services increases effectiveness. Better quality, more convenient and functional digital services are the factors that make citizens satisfied. The modern approaches require from the digital government are not only providing public services, but also gathering feedback and ideas on the quality of service from users. E-feedback, e-survey, and crowdsourcing for ideas are effective methods to improve the quality of services and create new services. In the new digital government trend, citizens and businesses are not just the ones receiving services, but also the initiator of creating new services.

**Public-private partnership** – The participation of the private sector in organizing digital services is crucial in terms of effectiveness. The private sector brings a new approach to the service delivery process by adding new values, giving importance to the quality and user-oriented service. While using any public service, a citizen can also benefit from private services, all of which corresponds to the citizen's wishes in an electronic environment. The public-private partnership also stimulates the application of new technologies to the services and supports reforms in the public sector, leads to a reduction in public spending, and keeps the quality of service always at high levels.

**Public awareness** – Lack of IT skills in elder people, especially those who live in rural areas causes imbalance in the use of e-services. To solve this problem, it is important to conduct country-wide education companies and provide digital service awareness in the region. Provision of TV broadcasts, publications and instructional materials in the field of e-Government, guiding service delivery promotes the popularity of electronic services among the elderly population and the region's population. Teaming group of young volunteers to help adults and elder people to more use electronic and digital services in their home or offices, or in public areas such as libraries, cultural centers, etc. is also an option to use as supporting mechanism to improve public awareness and digital literacy.

**Privacy** – Protecting confidentiality and ensuring the security of data is a matter of concern to the e-Government. The citizen must know how and for what purposes his/her information is used and must be sure that his/her personal information is protected. Not providing this by a digital government can lead to the loss of citizen trust. As a result, a citizen refuses to be part of this system and is not interested in ensuring the actuality of his or her information and using electronic services. Digital government systems should incorporate international standards for security to build a platform that is proven safe and secure.





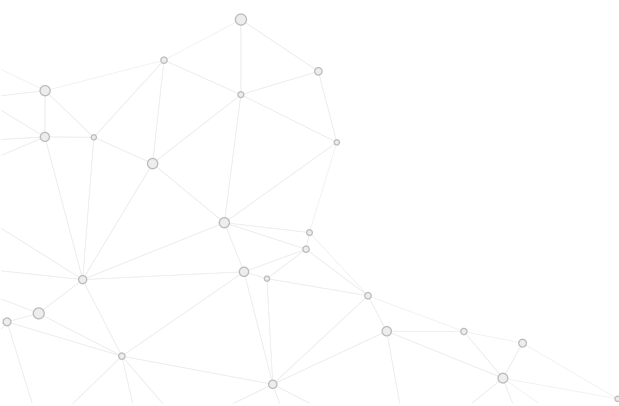
### **Forthcoming e-Government concept in Azerbaijan**

Advanced IT will enable the e-Government to expand its facilities significantly in the nearest future. The scope and areas of the projects, such as e-Education, e-Finance and e-Audit, e-Documentation, e-Law, e-Health, e-Contract, e-Reference will expand its usage in the country. The measures and processes implemented in the area of medicine, law, economics, finance, tourism, education, ecology and other spheres are becoming an integral part of the e-Government. Implementation of awareness raising activities in e-Government and increasing the digital awareness of the population, especially in rural areas, will ensure the successful implementation of the more significant Digital Azerbaijan project.

Ensuring transition to an information society, innovation-oriented and knowledge-based economy,

broader ICT application in central and local governing bodies, as well as protection of personal data and ensuring data security are among e-Government development priorities in Azerbaijan. As a result, the broader application of distance learning, e-Commerce, e-Contract, telemedicine and other modern services will be achieved soon. With the introduction of ICT in the regions, the digitalization of the population and the integration of the country into the global information space will be enhanced.

Application of IT and innovations in e-Government contributed to the provision of more comfortable and transparent public services, whereas the use of artificial intelligence and machine learning technology will help to forecast likely behavior for smarter government - driven interventions for third-generation predictive e-services, which are currently under the development process.





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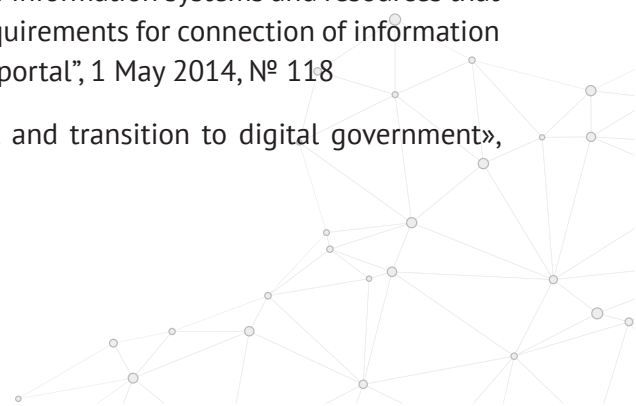
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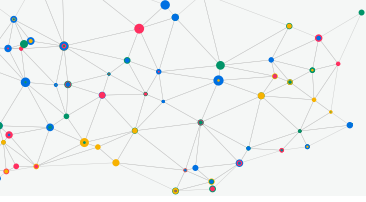
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## Websites

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Homepage of ASAN Pay Portal, [www.asanpay.az](http://www.asanpay.az)

Homepage of Electronic Registry of Public Services, [www.dxr.az](http://www.dxr.az)

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The Astana Civil Service Hub (ACSH), an initiative of the Government of Kazakhstan and the United Nations Development Programme, was established in March 2013 by 25 countries and 5 international organisations. It receives financial and institutional support from the Government of Kazakhstan and it relishes the backing of UNDP as the key implementing partner.

The ACSH is a multilateral institutional platform for the continuous exchange of knowledge and experience in the field of civil service development, aiming at supporting governments in the region through fostering partnerships, capacity building and peer-to-peer learning development activities; and evidence-based solutions, informed by a comprehensive research agenda. The geographical range of participants stretches from the North America and Europe, through the CIS, the Caucasus and Central Asia to ASEAN countries, demonstrating that partnership for civil service excellence is a constant and universal need for all nations.

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