



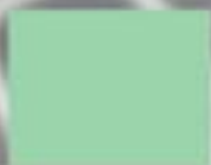
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INFORMATION TECHNOLOGY AUDIT REPORT

Information Technology Systems Project Management at the Agency for Information Society



Pristina, July 2023

The National Audit Office of the Republic of Kosovo is the highest institution of economic and financial control, and is accountable to the Assembly of the Republic of Kosovo for its work.

Our mission is to strengthen, through quality audits, accountability in public administration for an effective, efficient and economic use of national resources.

The reports of the National Audit Office directly promote accountability of public institutions as they provide a base for holding managers' of individual budget organisations to account. We are thus building confidence in the spending of public funds and playing an active role in securing taxpayers' and other stakeholders' interests in enhancing public accountability.

This information technology audit has been carried out in line with the International Standards on Supreme Audit Institutions (ISSAI 3000¹), Guidance on Audit of Information Systems (GUID 5100²) and good European Practices.

Information Technology audit undertaken by the National Audit Office is an examination and evaluation of IT systems and related controls to obtain assurance on the principles of legitimacy, economy³, efficiency⁴ and effectiveness⁵ of Information Technology system and related controls.

The Auditor General has decided on the content of this report "**Governance, Operations Management and Security of IT Systems in the Kosovo Agency of Statistics**", in consultation with the Assistant Auditor General Vlora Spanca, who supervised the audit.

The audit report team consisted of:

Samir Zymberi, Director of Audit Department
Shqipe Mujku Hajrizi, Team Leader, and
Poliksena Berisha, Team member

1 ISSAI 3000 – Standards and guidelines for performance auditing based on INTOSAI's Auditing Standards and practical experience

2 GUID 5100 – Guidance on Audit of Information Systems issued by INTOSAI

³ Economy – The principle of economy implies minimising the cost of inputs. Inputs should be available at the right time, quantity and quality and at the lowest price possible.

⁴ The principle of efficiency implies achieving the maximum from the available inputs. It relates to the relationship between input and output in terms of quantity, quality and time.

⁵ Effectiveness – The principle of effectiveness implies the achievement of set objectives and the achievement of expected outputs.

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List of Abbreviations

AIS	Agency for Information Society
CRA	Civil Registration Agency
EO	Economic Operator
GIS	Geographic Information System
HIS	Health Information System
HRMIS	Human Resource Management Information System
ICT	Information and Communication Technology
IRK	Institution of the Republic of Kosovo
IT	Information Technology
MEST	Ministry of Education, Science and Technology
MIA	Ministry of Internal Affairs
MPA	Ministry of Public Administration
MTEF	Medium-Term Expenditure Framework
PAKS	Picture Archiving and Communication System
PhD	Doctors of Philosophy
SIEM	Security, Information and Event Management
STC	State Data Centre
VOIP	Voice Over Internet Protocol

Executive Summary

The Agency for Information Society is a central body of the state administration responsible for the development, implementation, and supervision of information and communication technology processes in the institutions of the Republic of Kosovo.

The National Audit Office has conducted the Information Technology audit to assess how the Agency for Information Society manages information and communication technology systems projects and how effective it is in project evaluation including the process of initiation, planning, implementation and monitoring.

The audit outcomes have shown that the Agency for Information Society (including the Covid-19 pandemic period) has continuously developed the information and communication technology projects with the aim of digitizing services and facilitating access to them for state institutions and citizens through electronic platforms. However, the Agency has not been able to be effective in the realization of these projects.

The development process of information technology projects is not well managed by the Agency. This has affected the failure to deliver services, the improper management of information security, also affecting unnecessary expenses and damage to the budget.

The Agency's Management has not provided for good governance of information technology. It has not done adequate analysis to identify needs and solve problems with new and prioritized projects. There is a lack of a risk management plan, delays in the implementation of projects, poor orientation of the budget and it is exposed to the risk of interruption of internet services for the institutions of the Republic of Kosovo. The deficiencies in the implementation of projects that are interrelated between themselves as well as between institutions have influenced the increase of expenses for this area at the country level.

In the development of projects, the Agency has deficiencies in monitoring and communication with stakeholders in the institutions of the Republic of Kosovo, and has not made an assessment of risks and planning actions to prevent or reduce them. This has resulted in failure to deliver the services according to the project plan, and has paid around 506 thousand euros for services and licenses that have not been realized and used.

The agency has not carefully handled information security, causing ambiguity in cases of classification of information and their disclosure without evaluating and declassifying them in advance. It has not specified the requirement for limiting traffic from unsafe regional interconnections for our country. Also, it has not implemented the signing of the confidentiality declaration for all the staff of the economic operators who have access to the information and information technology state infrastructure.

In order to address the identified issues related to the management of information and communication technology systems projects, we have issued 18 recommendations to the Agency for Information Society.

Response of the entity

The Ministry of Internal Affairs, namely the Agency of Information Society, has agreed with the audit findings and conclusions and committed to address the recommendations given.

1. Introduction

The Agency for Information Society (AIS) was established as an executive government agency in December 2013, within the Ministry of Public Administration (MPA).⁶ From 2020, with the reorganization of the ministries, MPA is transferred to the Ministry of Internal Affairs (MIA), AIS is now an agency within the Ministry of Internal Affairs.

The AIS, based on legal and regulatory acts is responsible for the drafting and coordination of information and communication technology (ICT) policies for the institutions of the Republic of Kosovo (IRK). AIS leads and oversees e-government processes and mechanisms related to ICT infrastructure, enhancement of Internet services, management of the state electronic data centre, security and protection of ICT infrastructure, leading and monitoring of ICT projects, etc.

AIS has developed and maintains the state network that connects with the institutions of the Republic of Kosovo. About 1,100 state facilities with about 10,000 devices are connected to this network to enable the provision of services to all IRKs. The number of users connected to the state network is 15,000. The fibre network ring connects regional/local public institutions in larger cities. The same technology is used to connect almost all central government institutions. Other municipalities and remote rural areas are generally connected by micro waves or by borrowing networks from private Internet service providers and tunnelling the services through VPN (Virtual Private Network).⁷

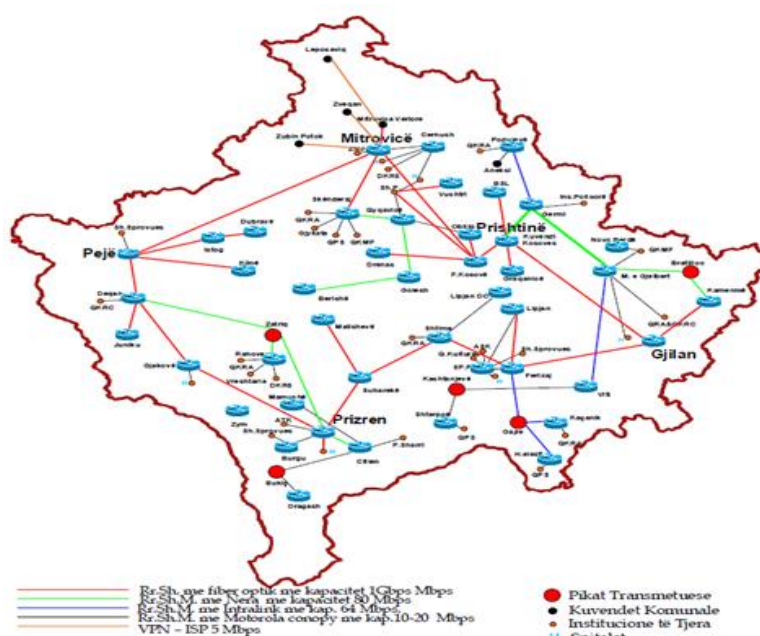


Figure 1. State network in the Republic of Kosovo ⁸

⁶ Law No. 04/L-145 on Information Society Governmental Bodies

⁷ Report from the Directorates of the Agency for Information Society.

⁸ Report from the Network and Telecommunications Directorate and the e-Government Development Directorate, AIS.

AIS also manages the State Data Centre (SDC) that has more than 400 virtual servers used by IRKs. On the servers located in SDC there are a large number of services that are hosted and that serve all IRKs. The number of users logged into the government domain is about 13,000.⁹

AIS aims to digitize services and facilitate access to IRK services through electronic platforms. From 2014 to 2022, AIS has made continuous investments in ICT and about 53 contracts have been realized and managed¹⁰. The value of contracts concluded with economic operators for ICT investments is over 32 million euros. Investments are mainly aimed at the purchase and maintenance of hardware, data storage and processing, and cyber security for the SDC. Also, the investments are oriented towards the provision of IT services for public institutions, in the development of software systems, development of the system for the interaction of the electronic systems of the Government of Kosovo, development of e-services for citizens and businesses, receiving services as well as staff training for raising professional capacities. The largest investments were made during the period 2018-2020, as can be seen in the chart, and the value of the investments was over 16 million euros.

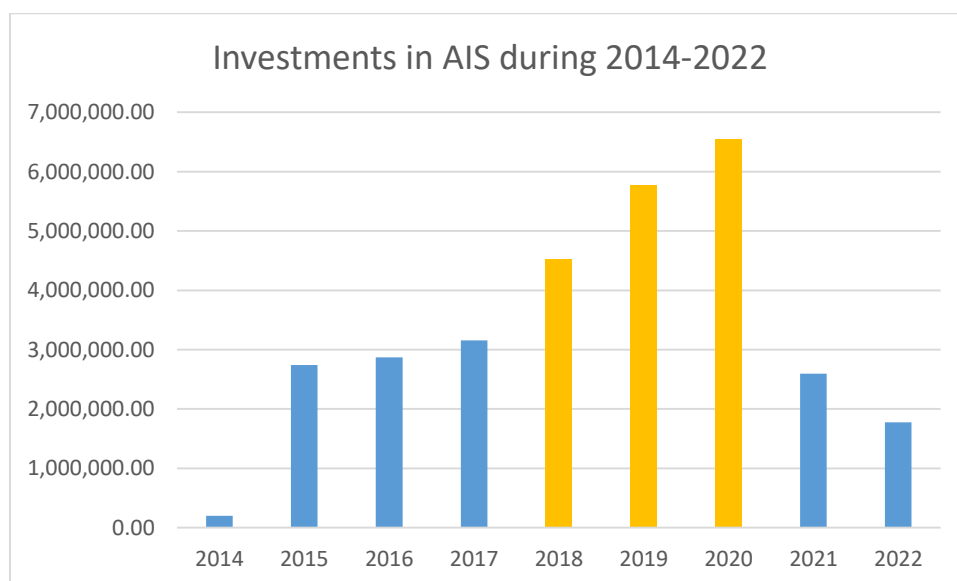


Chart 1. AIS investments in information and communication technology during the period 2014 – 2022

During the period 2014-2022, the largest expenses were made for the purchase of Microsoft licenses at 52% and in cyber security at 31%, which are presented in the chart below.

⁹ Report from the Directorate of SDC, AIS.

¹⁰ The signed contracts for developments and services/maintenance are for a period of three (3) years, where the signed contracts of the year 2021/2022 are applicable until the year 2023/2025. This report was received from AIS since the MIA procurement division failed to provide us with the full report from the establishment of AIS.

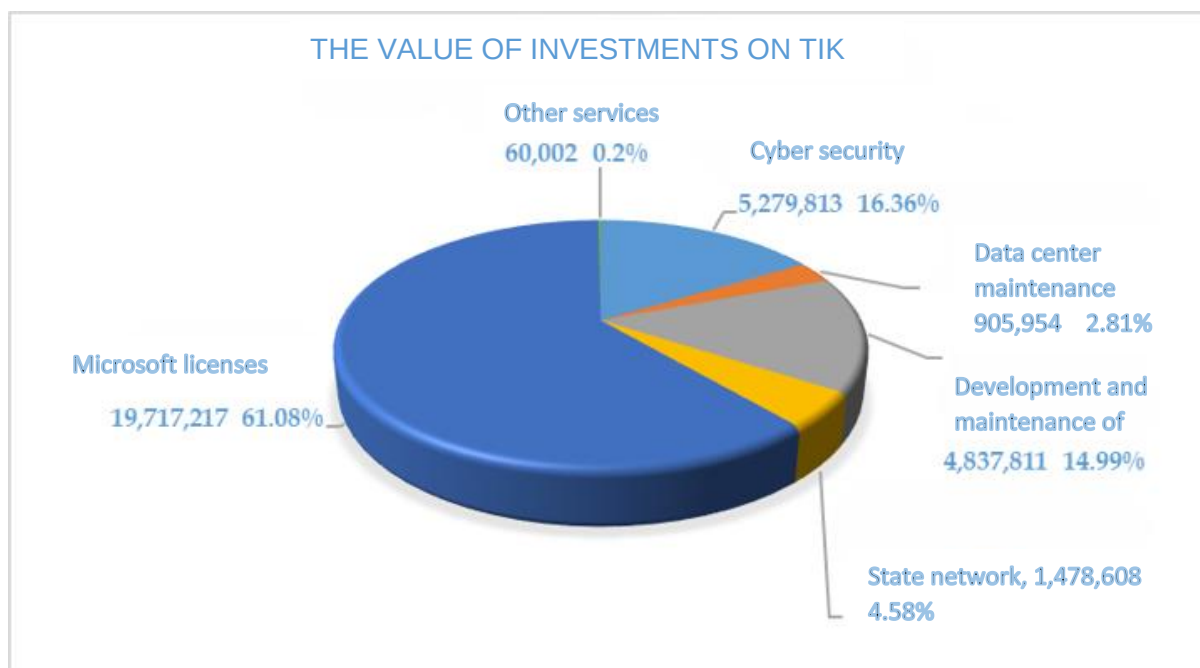


Chart 2. AIS investments in the field of information and communication technology in value and percentage

2. Audit Objective and Areas

The objective of the audit is to assess how AIS manages information and communication technology systems projects and how effective it is in project evaluation including the process of initiation, planning, implementation and monitoring.

With this audit, we aim to provide relevant recommendations to AIS, in order to improve the management of projects in the field of ICT, without including the process of evaluation of offers through procurement.

Audit areas, in order to answer the audit objective, we have focused on the IT governance, development and acquisition area, including the following issues:

Audit areas	Audit issues
1. IT Governance	1. Identification, Direction and Monitoring of business demands
	2. Risk management
2. Development and Acquisition	3. Demand development and management
	4. Project Management and Control
	5. Configuration management
	6. Security

The focus of the audit was the planning, management and monitoring of ICT systems projects. The audit covered the period from 2019 to 2022, without limiting the scope for active contracts signed before this period. The audit was focused on the level of expenses and risks identified during this period, as well as the request for an audit by the Ministry of Internal Affairs. The audit methodology and criteria are found in the appendix of this report¹¹. The scope of this audit is the Agency for Information Society.

¹¹ Appendix 1, Audit criteria and the audit methodology.

3. Audit findings

This chapter presents the audit findings related to the activities of the parties responsible for IT project management during the process of project identification, planning and monitoring, for the development and implementation of information systems. 12 contracts¹² with a total value of around 16 million euros were audited. The findings are structured according to audit issues.



Figure.2 Structure of audit issues in AIS

1. Deficiencies in identifying and managing IT project requests

The AIS should have a plan on how to identify new business requests or IT needs, and the Steering/Management Committee, which approves the requests, must have sufficient information for decision-making¹³. The committee for the evaluation of ICT conceptual projects within the AIS should handle the projects of all IRKs.¹⁴

AIS does not have a structured process for identifying new IT requests and needs. It does not propose a real plan for the management, which should clearly include the details of the IT needs as well as the possibilities and the proposal for the concrete and efficient solution for each of these requests.

¹² The list of audited contracts can be found in Appendix II.

¹³ Information Technology Audit Manual, IT Governance Audit Matrix

¹⁴ Regulation (GRK) No. 06/2018 on project management in the field of Information and Communication Technology, was approved at the 39th meeting of the Government of the Republic of Kosovo through Decision No. 04/39 dated 04.04.2018

Requests to AIS are submitted by the relevant field officers for the relevant sector and department of the Agency. Analyses are made within the sector, then the requests go to the departmental level and are further proposed to be placed in the Medium-Term Expenditure Framework (MTEF) and in the budget law. After the approval of the budget law, the procurement plan is made/proposed and sent to the procurement office at the MIA for the implementation of projects according to the approved budget.

However, during the audit, we observed that the AIS did not organize this process well, there are shortcomings in the justification of the projects and their prioritization, the identification of requests and the evaluation of the projects for the IRKs.

- In the procurement plan proposed by the AIS, the projects are not justified properly so that the Ministry has sufficient information for the inclusion of new projects in the plan. Also, there is no good communication in the process of placing projects in the final procurement plan. There are cases when projects that are considered a priority have not been placed in the final procurement plan, but projects with low priority have been processed, as in the case of purchasing a license for the management of "Active Directory" (AD)¹⁵. This system is currently not used much because AD management is mostly done with the "Domain Controller" console¹⁶. According to AIS, the AD management product was obtained through the donor and the idea of this project was to connect this system with the human resources management system (HRMIS). But HRMIS is without maintenance and the connection with this system has not been realized.
- AIS does not properly coordinate requests and projects with other organizations. The Agency's budget for investments includes several projects related to other organizations that have not been implemented. In the Procurement Plan during the years 2019-2021, the purchase of software/software license Archicad, GIS¹⁷, "Development of HIS¹⁸-cyber security" and "Creation of PACS¹⁹ Radiology system" for hardware infrastructure was planned. However, the AIS has not taken sufficient actions for the coordination and implementation of these projects. Apart from the project "Creation of the PACS system" for which the procedures have been developed but no contract has been concluded due to the lack of sufficient budget, the procedures for implementation have not been developed for the other projects. During 2019 and 2020, the projects implemented by the Agency did not have a conceptual plan of the project. The conceptual plan must be handled by the ICT project assessment committee in terms of project duplication, cost, etc., and afterwards receive

¹⁵ Active Directory is a Microsoft service for authorizing and authenticating IT users and devices in the organization's network domain.

¹⁶ Domain Controller is a server used in a computer network with the Windows Server operating system to manage and control identities and access rights for network users and devices.

¹⁷ Geographic Information System.

¹⁸ Health Information System.

¹⁹ Picture archiving and communication system

consent for project initiation. This procedure must be completed before the project is included in the procurement plan. Meanwhile, the Agency has started handling its conceptual projects, however, during the year 2021 and 2022, the conceptual plan of all IT projects in AIS has not been made, in order to be treated by the committee according to the regulation.

The lack of a structured process in AIS for the identification, approval and coordination of requests has affected that priority projects are not implemented and included in the procurement plan. This has a negative impact on the achievement of the objectives of the Agency and the institutions, but also on the orientation of public funds for ineffective projects.

2. AIS has deficiencies in the design of the IT risk management plan

The organization must have risk management policies and plans, as well as determine sufficient resources to identify and manage risks.²⁰

AIS does not have a policy to manage IT risks, including their identification, assessment, treatment, monitoring and reporting. A risk management plan is drawn up annually at the level of the Ministry (MIA) and AIS is part of this plan. However, this plan is general and does not include specific information security risks, which could cause data loss, service interruptions, and financial damage to the Agency. In June 2022, AIS drafted a risk management plan at the request of the Minister, but without a good analysis of the situation and did not provide clear and specific actions for the prevention and treatment of risks. Moreover, the plan is not reviewed at the end of the year to assess whether the investments made have reduced the risk or there are new risks that need to be addressed.

AIS has not yet managed to build a disaster recovery centre, due to the lack of designation of the area by the MIA. The lack of a centre with information security standards is assessed as very high risk, however, in the risk management reports, AIS has assessed the risk at a medium level.

Also, the old information security policy has been repealed and AIS still does not have a new policy, nor has it been determined which information security standard they should apply. Also, in the development cycle of IT projects, AIS has not prioritized projects according to risk for achieving the organization's objectives. As a result, in September 2022 AIS was forced to suspend services for a period of time. As an emergency solution, they were obliged to enter into a contract for the purchase of the internet service for cyber security, in a negotiated procedure with an accelerated time limit, without being a project in the procurement plan.

In the absence of a detailed IT risk management plan, AIS risks facing serious data security problems. This situation can result in loss of important data, disruption of services and financial damage to the institution.

²⁰ Information Technology Audit Manual, IT Governance Audit Matrix.

3. AIS has failed to properly manage investments in IT projects

Organisations need to manage their IT projects and investments, in order to maximize benefits and elements consideration, such as risk, capacity, and prioritisation among competing investments.²¹ The organization shall estimate the value of an envisaged public contract prior to the initiation of the procurement procedure. Such estimation shall be reasonable and realistic for the envisaged contract from the point of view of the most efficient, cost-effective, and transparent and fair use of public funds and resources.²² The organization shall have a project management plan or its equivalent for each approved project, which guides the execution of the project.

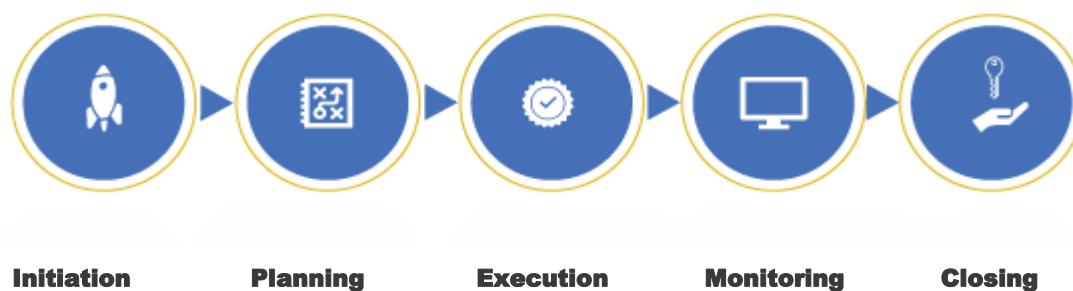


Figure 3. Project management cycle

AIS does not implement a standardized project management plan/methodology for the acquisition of hardware equipment, improvement of existing systems or development of new systems, interconnection of systems, etc. There are no cost-benefit analysis reports for projects before they are approved for development. Moreover, it has not monitored the implementation of projects for a more effective use of investments. As a result, during the development of the projects, some deficiencies were identified as follows:

"e-Kosova services portal" project management

The project "e-Kosova services portal" (hereafter e-Kosova), is an electronic services portal, which aims to provide a single window for every citizen/business to receive via the Internet a significant number of electronic services offered by public institutions in Kosovo. This platform began to be developed during the Covid-19 pandemic period and the contract terminated in December 2022.

- At the time of the initiation²³ for the development of the e-Kosova project, the AIS did not do a feasibility analysis for the current state of the information systems of IRKs, in order to assess the possibility of developing e-services on this platform. For the development of this project, AIS relied on the "Report on the Feasibility Study for e-

²¹ Information Technology Audit Manual, IT Governance Audit Matrix.

²² The Law on Public Procurement of the Republic of Kosovo and the Rules and Operational Guidelines for Public Procurement.

²³ April 2019

government and IT investments”²⁴ drawn up in May 2016 and on the Strategy on Modernization of Public Administration 2015-2020.

Consequently, in the absence of detailed information on which e-services will be developed on the platform, at the initiation of this procurement project, they have determined the development of e-services by category, without specifying in detail which e-services will be developed.

- While in the process of determining the estimated value of the contract for the development of the e-Kosova platform, the AIS has engaged an expert for the drafting of the technical specification of this platform. The expert had estimated that the cost for the development of the platform with its modules, which included the main development of the software platform, could reach 1.1 million euros. While, for the e-services that will be developed, it has not given a price, with the reasoning that there is no knowledge of the complexity of the services that will be determined for development. This has influenced that the engagement of the expert has not reached the intended goal.

However, AIS had increased the estimated value for this contract by another 2.2 million euros, determining the approximate value of 3.3 million euros. This was done without clearly specifying the number of services that will be developed for three years and their complexity. This, on the grounds that they have no experience in the development of this type of project, taking into account the legal changes, the priority of the institutions for the digitization of services. The prices of other state platforms in the region were taken as a basis for determining the price.

However, when bidding for the development of e-services, one of the EOs has given a proposal on the types of the e-services it will develop under the contract during three years. In the selection process, this EO was declared the most successful/winner by AIS, concluding a contract worth 2,976,509 euros for the realization of this platform.

At the initiation of the e-Kosova project, AIS in the pilot phase of 2.5 months²⁵ has prioritized the development of e-services for these key systems:

- Civil Status System;
- Business Registration System;
- NGO (Non-Governmental Organizations) Registration System;
- Identification Documents' system;
- Vehicle Registration System; AND
- Social Schemes System.

These priorities have been determined without coordination with the institutions that own these systems to ensure that they have a legal basis for connection, maintenance of the

²⁴ This report presented an analysis of the needs of the Government of Kosovo in terms of ICT on the one hand and international best practices on the other, ten priority projects in government institutions identified and evaluated in terms of their digitalization and interoperability (technically and financially).

²⁵ The initial phase and the development phase were planned to be completed for a period of 5.5 months.

systems, as well as the willingness and capacity to develop web services in those systems to enable receiving or giving data through the platform. As a result, none of these six systems managed to connect to the e-Kosova platform within this period.

Moreover, the Business Registration System, the ID System, the NGO Registration System and the Social Schemes System have not yet been integrated into the platform, not even within the three (3) year period of the e-Kosova contract due to the unwillingness of end-user institutions and the legal aspects.

- Meanwhile, during the development period of this project, the Government has requested the development of e-services according to their needs, which have been implemented on the e-Kosova platform. For this reason, AIS equalized/replaced some of these services requested by the Government with services that could not be developed according to the contract.

But in the contract management report it is not defined which service is equalized to the service which could not be developed during the contracting period of the project development.

The technical group at AIS has, on 20 December 2022, upon contract termination, prepared a report regarding the services that have been equalized with those categories of services that have not been developed. The report is based on and referred to EO documents for the equalization (equivalence) of services. However, the report does not contain a clear analysis of the complexity of the equalized (equivalence) services. According to the report, in the three undeveloped categories for the creation of services: related to **customs processes, registration of businesses and passports**, some services have been equalized that correspond to/interrelate with the categories of services for vehicle registration and services related to education and training, etc. But the category services for vehicles and education were envisaged and developed as separate categories within this contract and were paid for.

The cost of creating a category of e-services according to the contract was 42,421 euros, and AIS paid 127,263 euros for the three categories not developed according to the contract, which were equalized with other services.

Also, for the category "Creation of driver's license services", only two services were developed and a payment in the amount of 42,421 euros was made. Moreover, these services have not yet been launched on the e-Kosova platform. The reason is that the final institution, namely the Ministry of Environment, Spatial Planning and Infrastructure, is in the process of technical preparation to select the operator that will maintain the e-Testing platform.

AIS has not made analyses related to these changes and equivalences of services in order to efficiently use the contract, taking into account the fact that in the e-Kosova project contract, the creation of three new systems/e-services was foreseen according to needs of businesses and citizens. On the other hand, the contract was a public framework one with the possibility of using +/- 30% of the value. However, AIS for this contract fulfilled the

full order and paid the total value of the contract²⁶, even though not all the planned services were developed while no costs were analysed/derived for the equivalent (equalized) services.

- During the development of e-services in the e-Kosova project, the tender dossier required that all services be connected to the GG platform. At present, 9 services for connection to the e-Kosova platform are being used through the GG platform. In the e-Kosova project, services directly connected to the source system have been implemented, with the reason that during the development of e-services on the e-Kosova platform, there is no maintenance for the GG platform to develop the necessary services. Therefore, this might affect information security and lead to additional costs.
- In the framework of the e-Kosova project, AIS has also included the realization of a media and marketing campaign. This campaign was included without defining the plan and scope for the activities that should be undertaken in view of the e-Kosova project, or the objectives that should be achieved with this campaign. This was done on the basis of the offer/proposal made by the EO. AIS has accepted the offer for marketing which had a cost of 86,694 euros, which was paid under the project.

The e-Kosova platform is operational and the citizens are using it. But, in the absence of adequate analysis for the identification of the needs for the development of the e-Kosova platform with its modules/systems and the development of e-services, as well as the lack of monitoring and communication with the stakeholders of IRKs, staff turnover, AIS has not managed to implement the project on time and according to the plan. Due to improper contract management and lack of detailed analysis for the equivalence and complexity of services, the contract has not been used cost-effectively and efficiently. The possibility of using the framework contract has not been taken either, thus the contract was paid in full.

Microsoft License for Universities and Schools project management

- At the initiation of the project for the purchase of Microsoft licenses for education in universities and schools, AIS has not carried out a proper analysis for determining the purchase of licenses for schools and putting them to operation. In March 2015, MEST, MPA and Microsoft had signed a memorandum of cooperation for the use of Microsoft licenses in the pre-university education system, for the March 2015 to June 2018 period. This memorandum includes different programs and the Microsoft Office 365 is provided free for education purposes. In December 2017, AIS developed the project for the purchase of Microsoft licenses for education and signed a framework contract with EO for the period January 2018 to December 2020, for the supply of licenses.
- The project (procurement procedures) for the purchase of Microsoft licenses for education in pre-university education was initiated by AIS on 23.06.2017. The request for equipment with licenses was made by MEST initially on 13.06.2017. However, on 28.06.2017, AIS

²⁶ Except for the category Creation of services for the registration of NGOs, the value is 42,421 euros.

received the second request from MESTI with a smaller number of licenses than it was in the initial request of AIS for the type and number of licenses. In this request, MESTI had asked for the assistance and support of ASI and the EO for planning and installing these products in the schools given that it was lacking an adequate IT department for schools. In the period 2018-2020, MEST used 5611 licenses of Windows Education and Office 365 each year, which was in line with the planned/ordered quantity. As regards the Microsoft Imagine Academy product for teacher training, AIS and EO had activated only one (1) license each year out of 8 that were planned/ordered per year. Whereas, the Office Professional Plus had not been used at all. For the category of pre-university education, the request for the number of licenses and their use is specified in the table.

Microsoft Licenses for Schools 2018-2020					
No.	Name	Quantity for 3 years	Quantity used for 3 years	Price per euro unit	Price with VAT in euros
1	Office Professional Plus	15000	0	26.76	401,400
2	Windows Education	16833	16833	23.42	394,229
3	Microsoft® Office 365	16833	16833	26.76	450,451
4	Microsoft® MS Imagine Academy	24	3	1,884.42	45,226

Table 2. List of Microsoft licenses for pre-university education ordered and used during the period 2018-2020

- AIS had ordered the same type and number of licenses for secondary schools each year at the request of MEST, but some of them were not used. While in the order for 2020, the MEST had excluded (reduced) the "Office Professional Plus" licenses from the request and for the "Microsoft® MS Imagine Academy" license it had requested only one (1) license per year, because these licenses were not used/activated in schools. However, AIS has asked MEST to assess the need to revise the order based on the terms of the contract. Prior to signing the contract with the EO, the AIS and Microsoft had concluded an agreement in October 2017 setting forth the minimum order for education licences. Following the review, the number of licenses in request has increased and the AIS, MESTI, EO and Microsoft have committed to implement the activities, including the licenses activation. But, there was no evidence to have been activated. Therefore, due to poor contract management by the responsible parties of the project, orders had been made for licences that were never used, thus incurring unnecessary expenses of €440,973²⁷, thus causing financial damages for the ordered and inactivated licenses for schools for the 2018-2020 period. While in relation to this project, licenses in the amount of 850 thousand euros were

²⁷ Whilst for the 2019-2020 period, AIS spent €293,982

used. In total, the expenses/payments for the Microsoft License project for schools are 1,291,306 euros.

- In addition to the number of licenses for universities, AIS made orders based on the EO requests rather than needs. On 11 December 2019, AIS made an order to EO for the type and number of Microsoft licenses, to use them during 2020. Then EO had requested to increase the number of orders with the reason that it has made the order to the subcontractor and the difference in value from the preliminary orders of 2018 and 2019 was about 65 thousand euros²⁸. AIS has implemented the request of the EO and on 19 December 2019 made the new request, increasing the number of licenses. The contract concluded for this service was a framework contract with +/- 30% use possibility, however this was not used by AIS. The value of the contract for three years was €1,945,196 which was used over 90% and in total 1,995,727 euros were paid for three years²⁹.

Expenditures of €505,973³⁰ constitute 26% of the total value of the contract for the "Microsoft License for Universities and Schools", but no benefits have resulted from spending this amount, which could have been saved³¹.

Inadequate management of this contract is as a result of different issues raised throughout the process, starting from the analysis of the needs for purchasing the licenses, over to their distribution and activation. In addition, failure to use the potential benefits within the +/- 30% as part of the contract and the implementation of the EO's request to increase the order has resulted in AIS placing orders for licenses that have not been used, thus causing financial damages.

"Microsoft Licenses for IRKs" project management

- For the Microsoft licenses project for the period 2018-2020, AIS did not perform proper monitoring during the implementation of the contract. Therefore, they have not monitored the use and needs of licenses in institutions before making the annual license order to see if they were necessary for the institutions. Also, they do not have accurate reports of the distribution and use of licenses, to assess the need for new orders for the following year.
- Also, for technical support for Microsoft products and solutions, AIS has ordered 200 hours per year for the period 2018-2020. While AIS has no documentation proving that this support was received from Microsoft. The agency has paid EO 28,320 euros per year for technical support from Microsoft without proving that it has accepted/received the service. In total, for two years, it has paid 56,640 euros.

²⁸ The amount of €65,000 constitutes around 3.4% of the framework contract amount.

²⁹ The higher price of the payment is due to the change of the \$ currency over the years, since the Microsoft company for the Kosovo market offers prices only in USD.

³⁰ €440,973 for the years 2018-2020 and €65,000 for the increased order.

³¹ For the period 2019-2020, the unnecessary expenses were 358,982 euros or about 18% of the value of the contract.

The failure to properly identify the needs for licenses in IRKs and technical support, as well as the lack of continuous monitoring for their distribution and receiving the service, leads to making unnecessary orders for licenses and unnecessary spending of the budget for services.

"Licenses for cyber security and monitoring" project management

- At the initiation of the purchase of software licenses for monitoring and security, AIS had planned the purchase of the Security Information and Event Management (SIEM) system. In the technical specification, it had requested that the accumulated number of events per second (EPS) from the devices should be 20 thousand. However, it was not fully specified which systems the events/activities will be collected for, in order to evaluate the number of collected events and the rationale as to why the number of events should be 20 thousand. The number of events that must be collected in "SIEM" also determines the annual license price. AIS has determined this number of events in relation to the budget, because the greater the number of events, the higher the price. The agency has signed a contract for three (3) years in the amount of 134,095 euros for this service but has not managed to configure all the systems in the SIEM.
- In the management plan of the "SIEM" project, we have identified that the annual payment of the project has been fully realized, although not all activities have been realized in the timeline foreseen in the dynamic work plan. Activities such as staff training and technical documentation of configurations were not completed within the stipulated time. The AIS has only accepted the work report, while the training for this system was done late (after 4 months) in March 2023, due to the engagements of the AIS staff. This indicates that the Contract Management Plan is deficient. The management of the contract is done according to the work reports from the parties involved and there is no assurance whether the project has been fully realized or not.
- Moreover, within the project for software licenses for monitoring and security, AIS planned to purchase a license for auditing activities in "Active Directory" (AD). On the other hand, it is also possible to audit activities in AD through SIEM. This project was realized with the reason that the system for auditing activities in AD has more features compared to SIEM and the number of events is limited. For this system, AIS did not conduct market research, while it was easily possible to be informed directly on the official website of this product and to estimate the value of the contract based on the research. However, it has chosen to base itself on the price of the previous contract by determining the annual value of EUR 15,000 or EUR 45,000 for three years, which is higher than the current market price for this product/service. Since on the official website of this product, we observed that in 2023 the price of the license was around seven (7) thousand euros.

However, AIS for this product has concluded a contract in the amount of 54,075 euros, exceeding the estimated value.

Failure to identify the needs for recording events in information systems and not configuring all systems in SIEM, can lead to a lack of event recording for the various activities that are carried out in information systems. This may jeopardize the identification of intentional or accidental activities that may have an impact on the vulnerability of the system. Also, the lack of analysis of the estimated value for the purchase of the license has affected the conclusion of a contract with a value greater than the market value.

“Maintenance and servicing of IT equipment at the SDC-AIS” project management

- AIS had concluded a three (3) year framework contract (December 2019 - November 2022) for the maintenance of a total of five (5) devices. Maintenance was monthly and billed at 3,277 euros per month for the five products as a whole. During the audit and the interview with AIS officials, we observed that from September 2022, one of the five products (containing less components) was removed from operation and maintenance. While the bill for maintenance remained and was paid the same. Even though the "EMC VPLEX LOCAL" device has been stopped, the Agency has not removed the product from the invoice, with the reasoning that the division of products/units by device has not been made in the contract.
- However, the contract for these devices was a framework contract which allows for up to 30% of the contract value not to be realized as needed. In this case, AIS paid the whole invoice which was also affected by the failure to split the components into units. As a result, the possibility of using the framework contract was not used and one of the five devices has been invoiced and paid for another three months in vain. In addition, while analysing the evidence provided by AIS for device interruption, we also observed earlier interruptions dating back to August 2020 due to temperature increase in the server room.
- Also, for this contract, AIS has not been able to estimate the approximate value of the price, since it has planned the amount of 80,000 euros per year, or 240,000 euros for 3 years. While it was offered an offer with a much lower value of 117,967 euros at which it signed the contract.

The poor planning and monitoring of the project management, as well as the lack of detailed technical specification in the contract and breakdown into elements for each component with its price, has influenced payments to be made for services that have not been performed. Also, in the absence of analysis for the approximate estimation of the price, they risk concluding contracts with a value higher than the market value, as well as not using the budget in the right way for the realization of other projects.

4. Shortcomings in the acceptance tests of the system/services on the e-Kosova platform

Only authorized and approved changes should be introduced into the production (real) environment.³² The contract manager must ensure that the EO performs the contract in accordance with the terms and conditions specified in the contract. The responsibility and task of the technical group is the acceptance-delivery of new modules/services integrated in the e-Kosova portal and the testing of the functionalities of the services offered through the portal.³³

In the framework of the e-Kosova project, the AIS in the tender dossier requested a backup storage system for the e-Kosova platform, which must have a backup and restoration system that enables effective continuity or real-time replication and automatic recovery. In addition, AIS has a special system for storing and retrieving data.

However, during the audit (physical observation) AIS has not managed to provide us with the data saving/retrieval module/tool.

The system we were presented with by the AIS was dysfunctional and was not the same as the contracted system which, according to the documents of the acceptance tests made in September 2020, appeared to have been accepted.

However, after discussing this issue with the AIS, in April 2023 the AIS sent evidence of the tool for saving and retrieval of data of the e-Kosova platform. From the evidence obtained, its functions can be observed, but this tool was not integrated into the e-Kosova platform. This tool was integrated following the contract termination. The Agency paid €219,415 for this tool as part of the e-Kosova project.

Also, there are cases where the technical acceptance of the services by the technical group was carried out after the launch of the services, as well as the acceptance was carried out only by one member of the technical group. The failure to carry out technical acceptance in time was on the grounds that the tests were first carried out by the end institutions, which made the request.

Failure to test in time, as well as failure to include all members of the technical group for testing the acceptability of services/modules, has resulted in delayed integration of the tool in the platform and the group members not being able to introduce the accepted tool in time.

5. AIS has failed to identify requirements for IT systems related to the level of classification of information

The organization should have plans or procedures on how to collect, review and categorize requests for new or added functionality.³⁴ The Classification Authority, from which the classified information originates, has the right to declassify the information when it no longer requires protection and does not meet the criteria.³⁵

³² Information Technology Audit Manual, Development and Acquisition audit matrix.

³³ Decision - Appointment of the contract manager and the Technical Group, on 25.09.2020.

³⁴ Information Technology Audit Manual, Development and Acquisition audit matrix.

³⁵ Law No. 03/L-178 on Information Classification and Security Clearances

During 2022, AIS concluded two contracts through the open procurement procedure for the extending of equipment licenses and equipment maintenance. These two new contracts were an extension of the contract concluded in November 2018, which according to AIS officials was classified as confidential and contained the marking Confidential Document. For this contract, the decision on the level of information classification has not been provided³⁶. Therefore, the realization of these two contracts was done without analysing the classification level and without first declassifying the information from the confidential contract.

AIS officials do not have any clear explanation for this, except for the reasoning that they hesitated to do a negotiated procedure and followed the open procedure in order not to limit the competition between EOs also with the aim of lowering the price. Emphasizing that such a contract for licenses or even for maintenance does not jeopardize the aspect of cyber security.

In addition to not having done a good analysis of the projects and running afoul of the applicable legislation on the classification of information, the confidential information could be disclosed without re-evaluating it in the first place and de-classifying it according to the legislation.

6. Shortcomings in prioritizing user requests-IRKs

*The organisation analyses, prioritises, and manages requirements to ensure that user needs are met in an optimum and cost effective manner.*³⁷

In the process of initiating the "VOIP" telephony project and the "Cybersecurity in networks" project, the lack of prioritization has caused problems in their realization. The "VOIP" project was started earlier than the "Cybersecurity in networks" due to the lack of professional staff and detailed analysis for the preparation of the technical specification of the project for cybersecurity in networks.

AIS does not have a list of IT infrastructure needs of the IRKs and their prioritization in SDC to help them in the budget allocation proposal. The requests of IRK users are implemented depending on the needs they have and what is necessary for that stage. In cases where the AIS does not have the capacity to implement solutions, then these projects must be carried out by the IRKs, due to the limited budget of the AIS.

Also, the AIS did not give priority to the initiation and realization of the project for "Increasing hardware capacities" planned in the procurement plan for the years 2019, 2020, 2021, which had an insufficient budget. The AIS in September/October 2021 had planned the start of the procurement procedures with a budget of 10,000 euros, but the value foreseen at the initiation of this project had increased to 550 thousand euros, on the grounds that the requirements of the IRKs related to the system back up storage have increased. As a consequence, the MIA has stopped the procurement procedures on the grounds that they did not plan the budget carefully and sufficiently. This procurement procedure has started in September 2022.

The lack of prioritization and reasonableness of IT projects and adequate allocation of the budget affects delays in the implementation of projects that negatively affect other projects

³⁶ For classification reasons, this contract has not been audited by the National Audit Office

³⁷ Information Technology Audit Manual, Development and Acquisition audit matrix.

that are interconnected, as well as poor budget management, increasing expenditures for this area at the country level.

7. AIS has set in the tender dossier (discriminatory) requirements that limit competition)

The contracting authority should prepare the tender dossier in such a way that it does not limit competition among EOs and/or discriminate against or act in favor of one or more EOs.³⁸

In the tender dossier for the e-Kosova project, the AIS had set a request/criterion which limited the competition in the process of selecting the EO for the realization of the project. The request was for a quality control and project audit expert. The criterion for this expert was "to be a graduate in computer science and/or software engineering, with a qualification of no less than a PhD (Doctors of Philosophy)". The EOs interested in the procurement process have considered this request discriminatory and in the "Clarifying questions" during the procurement procedure, they have asked for clarifications. But the AIS has not given an answer to justify this criterion. For the determining/setting of this criterion, the AIS has not managed to argue the specific need of academic/school qualification for this cadre even during the audit.

As a result, one of the three bidding economic operator has fulfilled this criterion, including the others, being in accordance with the requirements of the tender dossier, and as such has been declared the most successful and the winner of the contract.

8. AIS does not fully implement the Regulation on the management of IT projects

Configuration management activities should be performed in accordance with organizational policies or procedures.³⁹ From June 2018, all IRKs are obliged to implement the regulation on the management of projects in the field of ICT, which are financed from the budget of Kosovo and donations.⁴⁰

AIS does not maintain a complete record of its projects carried out from 2014 to 2022. We identified that there were AIS projects that were not included in the register or list of AIS projects. During the audit, AIS took actions to update the list, but through this process it became difficult to find contracts and it cannot be guaranteed that all completed projects are included in the project register.

The failure to maintain the register of AIS projects endangers the development of similar projects and prevents the correct prioritization of the needs for the realization of projects to achieve its objectives.

Also, AIS does not have a plan for managing the capacity to supply institutions with VPN. During the analysis of VPN capacity utilization for institutions, it was identified the lack of a written procedure for determining the necessary VPN capacity that should be supplied to an IRK office/unit/or centre, based on needs including the number of users, applications and data that will be used on the network, etc.

³⁸ The Law on Public Procurement of the Republic of Kosovo and the Rules and Operational Guidelines for Public Procurement

³⁹ Information Technology Audit Manual, Development and Acquisition audit matrix.

⁴⁰ Regulation (GRK) No. 06/2018 on the Management of Projects in the field of Information and Communication Technology, was approved at the 39th meeting of the Government of the Republic of Kosovo with decision No. 04/39 dated 04.04.2018

In some cases, the provision of 30 Mbps VPN capacity was the same in an office/unit with few staff and low number of requests as in a centre/office with many staff and high number of requests. So there are no VPN capacity criteria for IRK offices. The capacity for VPN to supply an office/unit is determined based on the need, geographical position, technical infrastructure and the request made by the institution's officials. If the capacity of the VPN is higher, its cost is higher.

The lack of a capacity management standard for determining the supply of institutions with VPN was due to a lack of staff and engagements to cover the network needs of all institutions. This may lead to poor contract management of the network's capacity.

9. AIS has not sufficiently addressed the issue of information security in the implementation of IT projects

The organization's information security requirements should be defined towards the contractor in an appropriate manner and include them in the contract and confidentiality statement.⁴¹

In the analysis of the tender dossier, the EO offer and the contract for Internet and VPN supply, it was identified that AIS in the technical specification had not requested that the network dedicated to AIS should not pass through channels/networks which are not safe for our country. AIS has asserted that this requirement was an important criterion for them and information security. However, during the preparation of the terms of reference by the technical group, this requirement was not established. The initiation of this request for procurement in the absence of this criterion was approved by the general director of AIS. In the bid of the winning EO of the project, two autonomous systems were declared as physical connections for the exchange of traffic between different networks (international regional interconnection): Telecom Serbia and Albania. In order to prevent internet traffic from going through Serbia, AIS had requested confirmation from EO that internet traffic does not go through Serbia.

Failure to include information security criteria risks exposure of IRKs to information leakage.

In addition, AIS in none of the IT equipment maintenance contracts at SDC has provided for signing a confidentiality statement for EO employees who are engaged for the respective contracts, even though the employees in question have access to the SDC, the equipment for extracting logs and swapping server disks.

AIS has implemented the confidentiality statement in cases where they did not have a direct contract with the EO which has subcontracted the performance of services for AIS as well as for their internal staff who are engaged in the call centre for the e-Kosova platform. Whereas, when they have a contract with the EO, then they rely on the procurement contract and do not oblige the staff engaged through the EO to sign the confidentiality statement.

AIS, in the absence of signing the confidentiality statement, risks handling information that is considered confidential, that the EO staff who have access to them do not understand the importance of information protection, obligations and penalties in case of legal and contractual violations, as well as endangers the disclosure of official information.

⁴¹ Information Technology Audit Manual, Development and Acquisition audit matrix.

4. Conclusions

The AIS does not clearly identify the requirements and needs for new IT investment projects. There is a lack of clear prioritization and cost analysis for budget allocation for projects that help solve problems for achieving the objectives of the Agency and IRKs. The disaster recovery centre for IRKs has not yet been provided. There are cases that the project was not initiated on time, with the justification of insufficient budget, even though every year it was set in the procurement plan. Therefore, the budget and IT investment projects are not oriented according to priorities. These shortcomings have influenced the IRKs to initiate the same projects in the absence of support from the AIS, leading to the risk of duplication of projects and increased cost for this area at country level.

AIS projects were initiated and carried out without obtaining the consent of the project evaluation committee. Also, the AIS failed to do a price estimate analysis, and there is a project in the AIS where the price estimate was higher than the offer and the market price. This has resulted in paying for services/products at a value higher than the real market value.

There is no policy for creating an IT risk management plan. As a result, AIS has faced problems with interruption of internet services for all IRKs. This can also affect the loss of reputation as well as financial damages for the institutions for which they provide services.

In its projects, AIS has requested the realization of e-services/systems, as well as the purchase of Microsoft licenses without evaluating and justifying their purchase and development. AIS has purchased systems which it does not use efficiently. This has resulted in unnecessary investments and poor orientation of public money. These investments have not affected the mitigation of IT risks and the fulfilment of the Agency's objectives.

During the implementation of the e-Kosova project, monitoring and communication with stakeholders (IRKs) was not carried out on time, resulting in failure to deliver the planned services. Also, the interconnection of some services has not been realized through the GG platform, risking information security and additional costs. For the development of services that have come at the request of the Government, no analysis has been made for the complexity and cost of their development, before the equivalence with other services. As a result, the Agency has ordered the total value of the contract without doing a cost analysis for the development of equivalent services and the possibility of savings in the budget.

As part of the e-Kosova project, AIS has received and paid in the amount of €219,415, a system for storing and retrieving data, but this system was not integrated in the platform following the contract termination. Furthermore, acceptance testing was performed by only one member of the technical team, and there were cases where system testing was performed after the launch of services on the platform.

Also, this project had shortcomings related to the reduction of competition among the EOs. In the tender dossier, the AIS set requirements that limit the competition (discriminatory) in relation to the technical and/or professional abilities of the bidders. The EOs interested in this project have also reacted to this criterion. As a result, one of the bidders has fulfilled the requirements of the tender dossier related to that criterion.

The agency has placed orders for Microsoft licenses for schools that have not been used/activated. For the period 2018-2020, unnecessary expenses were made for these orders in the amount of 440,973 euros, causing financial damage. Whereas, for Microsoft licenses for the needs of IRKs, for the period 2018-2020 there was no accurate license distribution report, to assess the need for orders for the following year, which may affect the ordering of unnecessary licenses. Also, the Agency for annual technical support has paid in the amount of 56,640 euros, for 200 hours. These payments were made without receiving a report of the number of hours spent on technical support from Microsoft.

Thus, in most cases, AIS has concluded framework contracts, which it did not exceed, but has not used the possibilities to not execute +/- 30%, as a result has made unjustified and unnecessary expenses even for non-realized services, failing to save the budget.

AIS has developed two projects with an open procedure that are related to a contract that had previously been classified/marked as a confidential contract, without re-evaluating and de-classifying it first according to the legislation.

AIS does not fully comply with the Regulation on ICT project management, which has the responsibility of keeping project records for all IRKs. As a result, there is no complete portfolio of projects realized by AIS.

Also, AIS does not have a standard for determining VPN supply capacity for IRKs. This may result in poor management of the VPN network capacity.

AIS has not carefully addressed issues related to information security. In the development of the projects, it has not determined the requirement to limit the Internet traffic passing from insecure countries through the regional interconnection. Also, it has not implemented the signing of the confidentiality statement for all EO staff who have access to information and IT infrastructure.

5. Recommendations

The Ministry of Internal Affairs and the Agency for Information Society should ensure that:

1. **Identification, definition and approval of IT requirements.** Create a structured plan/process for identifying IT needs and proposing concrete solutions to determine those that need to be approved. Identify project priorities in order to approve the most important requests in line with the budget that help achieve the organization's objectives;
 - 1.1 In the proposed procurement plan, sufficient and convincing justifications for the new projects are presented so that the Ministry has sufficient information for their placement in the procurement plan;
 - 1.2 For each ICT project, the conceptual plan must be submitted to the ICT project evaluation committee for approval/rejection of the project;
2. **Risk management.** Develop and implement a detailed plan for risk management in information technology. The plan must be updated and reviewed periodically to assess whether the investments made have reduced the risk or there are new risks that need to be addressed;
3. **IT project management.** For the development of IT systems, make a feasibility analysis in order to evaluate the technical capabilities that the system can be developed and implemented successfully, make a cost-benefit analysis for IT projects before the projects are approved. Also, during the development of IT projects, a certain methodology should be defined;
 - 3.1 Cooperate with the relevant departments of AIS and MIA on the management and planning of projects in order to make a project planning and price forecast to be as reasonable and realistic as possible;
 - 3.2 In cases of Agreements for receiving services, the needs should be analysed and oriented towards its most favourable opportunities and their implementation should be in line with the subsequent acts/contracts;
 - 3.3 AIS to monitor and evaluate projects to ensure achievement of project requirements/services on cost, timeline, performance/complexity.
 - 3.4 During the project development phases, monitor and evaluate project development, as well as update project management plans according to requirements and report on project implementation phases;
 - 3.5 In the contract, make the technical specification more detailed and break it down into elements and give the price for each element/component so that payment is made only for the service received.
4. **Acceptability test.** Acceptability testing must be carried out by the technical group before the launch of the service/module, while system acceptance and payment must

be made after its implementation has been carried out in accordance with the requirements presented in the tender dossier/contract and the requests made by the users;

5. **Information classification.** Before initiating open public procurement procedures, it must first examine the information classification level and treat it according to the legislation in force;
6. **Prioritization of user/IRK requests.** To make a list of priorities for the implementation of projects in order to help cover the most critical needs of users and to make a cost analysis for investments in projects based on needs and to adhere to the deadline for the start of procurement procedures;
7. **Requirements in the tender dossier.** The tender dossier must be prepared according to the established rules so that it does not limit competition among EOs and/or discriminate against or act in favour of one or more EOs;
8. **Regulation on the management of IT projects.** To implement the regulation on the management of IT projects and to maintain the register of completed ICT projects;
 - 8.1 To draw up a capacity management standard for the supply of IRKs, precisely identifying their needs for the necessary capacity;
9. **Handling information security.** In defining the terms of reference/technical specification, it shall define the requirements relating to Internet traffic via the international interconnection that is necessary for national security; AND
 - 9.1 Enforce the signing of a confidentiality statement by all employees, contractors and external parties before they are allowed access to AIS IT systems and work premises and should ensure that information held confidential is not disclosed or used without the required permission.

The recommendations are related to the findings presented and the issues within them, resulting in 18 recommendations.

Annex I. Audit design

Risk areas and audit motive

The Agency for Information Society, as an institution responsible for the development and implementation of information and communication technology in IRKs, referring to the strategic priorities of the Republic of Kosovo⁴², is oriented towards the planning and definition of projects related to the digital transformation of services in the public sector, with the aim of improving work processes and facilitating services for citizens.

AIS, in order to achieve its strategic objectives, has carried out projects for investments in information systems for the centralization of services and the interaction of systems at the Government to Government, Government to Citizens and Government to Business levels, in the expansion of Internet services in IRK, in security and protection of the electronic communication infrastructure, etc.

During the pre-study phase of the audit and the interviews conducted with the responsible officials in AIS, in order to evaluate the development cycle of information technology projects, we have identified the risks as follows:

- They do not have a risk management plan for the organization, therefore the prioritization of projects has not been carried out according to risk;
- Deficiency in the identification of the needs for the acquisition and development of the projects, therefore, there is a lack of feasibility analysis and identification of interconnections with other necessary systems, as well as in the identification of other e-services before the initiation of the project;
- A real analysis of the market has not been done in determining the approximate value price for project developments;
- The conclusion of contracts without being in the procurement project plan;
- Failure to implement the procurement plan, as a result of which AIS still does not have a recovery centre;
- There is no monitoring for the use of licenses, and payments for technical support are made without a report of the number of hours;
- Submission of discriminatory requirements for EOs that perform the same services;

AIS has several times done various interoperability projects to interconnect the systems but they are still not interconnected, moreover in the scan of the state of IT in the IRKs that a working group from AIS has done are also encountered duplicate systems. In addition to IRK, we also encountered deficiencies in the interconnection of systems in AIS. Although the interoperability platform (GG Platform) for the interconnection of systems has been created, in the e-Kosova project civil status services have been implemented which are directly

⁴² National Development Strategy 2016-2021

interconnected with the CRA and have bypassed the interconnection with the GG platform, which affects double cost and breach of information security;

- For projects that were initially classified and developed through a negotiated procedure, in the case of the extension of the project for equipment licenses, an open procedure was conducted, violating the disclosure of information about equipment from the initial classified project.

In addition to these issues/problems, the Government of Kosovo submitted a request for this audit. Based on the discussions with officials in the MIA, the request for an audit by the National Audit Office was made after the Ministry of Internal Affairs made a scanning report of the state of IRKs in the field of IT and noticed a lack of monitoring and controlling mechanisms for investments in ICT and dysfunction of information systems. These concerns were also revealed in the meeting with officials at the MIA.

Review of problem indicators identified from various sources as well as from our assessments based on the Active IT Audit Manual⁴³ for identifying the most risky areas from the received documentation and meetings held with the persons responsible for identifying the needs for acquisition and development and implementation of information systems orients us to the main problem in information systems project management.

System description

The mission of the Ministry of Internal Affairs is to take care of the rule of law and public safety in the entire territory of the Republic of Kosovo. The Ministry of Internal Affairs prepares and implements the systems administration and communication policies as one of the main institutions in Kosovo that maintains electronic data in terms of quantity, quality and importance, with its own agencies and bodies, namely eight (8) of them including AIS, as well as thirteen (13) departments and divisions.

Pursuant to Article 65 (1) of the Constitution of the Republic of Kosovo, the Assembly of the Republic of Kosovo in 2013 adopted Law 04/L-145⁴⁴ which defines AIS as the main body for the development and implementation of services in the field of Information and Communication Technology in all institutions of the Republic of Kosovo. The structures responsible for the information society in the institutions of the Republic of Kosovo according to this law are the AIS as well as the relevant organizational structure or the ICT management officer in the IRKs.

The Law on Information Society Government Bodies defines the bodies responsible for the development of information society services, their competences, responsibilities, organization and operation at the institutions of the Republic of Kosovo.

⁴³ Active Audit Manual - is a platform developed by ITWG/EUROSAT and WGITA/INTOSAT, which is used to identify the most risky areas, define questions, criteria and work methodology during the IT audit process.

⁴⁴ Law No. 04/L-145 on Information Society Government Bodies, promulgated by decree No. DL-021-2013, dated 02.05.2013 by the President of the Republic of Kosovo.

AIS is the central body of the state administration for the development and implementation of Information and Communication Technology for the institutions of the Republic of Kosovo and the development of IT projects. Its duties and responsibilities are:

- Manages and supervises the implementation of ICT projects in the institutions of the Republic of Kosovo;
- Accumulates, administers, disposes and stores data produced by electronic systems;
- Examines the requirements for the planned projects and monitors their implementation in accordance with the policies and the E-Government Strategy;
- Coordinates activities for the security of electronic services.

The project management stages that must be followed by the AIS according to the regulation on the management of projects in the field of ICT are presented in Figure 3. Similar procedures of this process must also be followed by IRKs.



Figure 3. Description of project phases

Roles and responsibilities of the parties

The AIS was established as an executive government agency within the ministry responsible for public administration, or at the highest authority of the state administration established by the Government and which is now the Ministry of Internal Affairs.

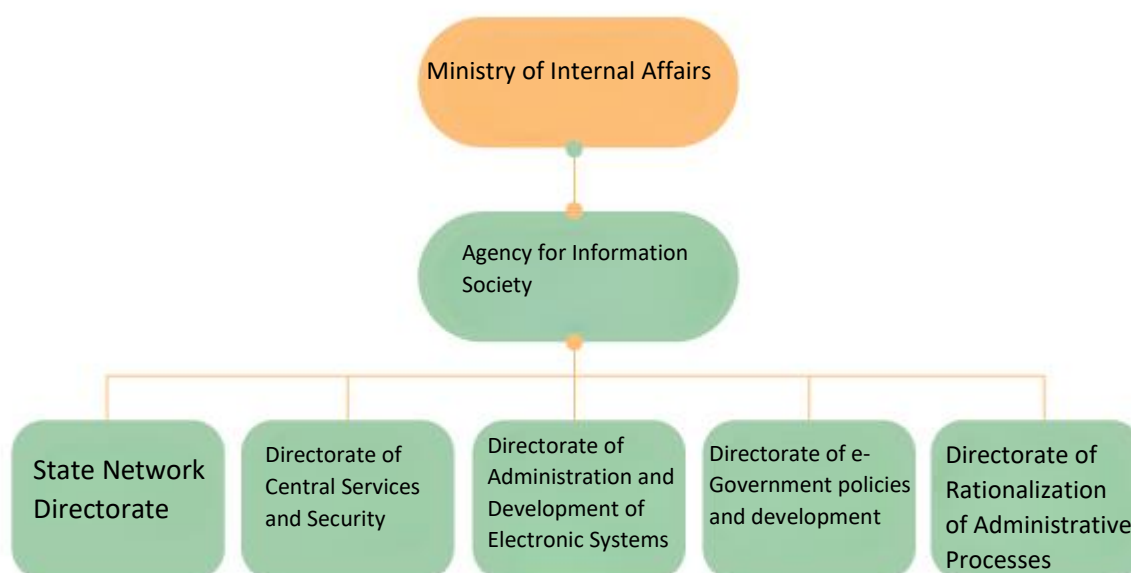


Figure 4. AIS organization

The main directorates of AIS, each with its own objectives and tasks, are:

- Directorate of e-Government Policies and Development ;
- Directorate of Rationalization of Administrative Processes;
- Directorate of Administration and Development of Electronic Systems;
- Directorate of Central Services and Security; AND
- State Network Directorate.

The Directorate of e-Government Policy and Development is responsible for creating policies and standards and for monitoring their implementation. It identifies and lists the requirements and needs of Public Administration institutions for e-government in areas such as information systems, system security, databases, and IT skills development. The current main priority of the e-government Directorate is the implementation of interoperability of existing systems in institutions. The plan for such an implementation aims to identify the potential and technical interoperability for its implementation.

The Directorate of Administration and Development of Electronic Systems manages and administers the e-government systems used by Public Administration institutions. It is

responsible for initiating projects aimed at developing software that automates administrative processes, public services and interaction between systems. This directorate is also responsible for specifying the requirements that define the software, including architecture, models, processes, services, etc. The Directorate of Systems Management and Integration plays an essential role in AIS for providing infrastructure as a service to institutions. Their objective is to provide software as a service in the future.

The Directorate of Central Services and Security manages the government information system and data centre. It also manages the Private Key Infrastructure so that users and e-service providers can be verified. They continuously monitor services in progress in terms of continuity, availability and security of IT systems.

State Network Directorate is primarily responsible for the operation and maintenance of the government network. The state network is currently established and covers almost every region in the Republic of Kosovo. This is a network based on fiber optics. This directorate also manages the services provided by local telecommunications operators.

Procurement Division in the MIA

The duties and responsibilities of the Procurement Division are:

- Prepares, coordinates and implements the annual plan of the ministry in the field of public procurement, in accordance with the legislation in force;
- Ensures that all procurement requests are prepared in accordance with procurement rules and procedures;
- Determines the tender procurement methodology and price evaluation procedures;
- Provides advice and assists management in making decisions regarding contentious issues that may arise in cases of contract execution.

The Head of the Procurement Division reports to the Secretary General of the ministry, now the Ministry of Internal Affairs.

Audit scope and questions

The scope of this audit will be:

AIS, which is responsible for the identification, planning, implementation and monitoring of projects for the development of e-government systems, the expansion of Internet services in the IRK, the accumulation, administration, dissemination and storage of data, security and protection of electronic communication and data infrastructure.

The Procurement Division, which is responsible for the preparation, coordination and implementation of the annual procurement plan in the MIA. Our scope will be based on the requirements of the IT audit manual and the criteria for the acquisition and development of ICT systems. The work of the procurement division and the bid evaluation process are not our focus.

The focus of the audit will be the planning, management and monitoring of ICT systems projects. The audit will cover the period from 2019 to 2022. The period and focus of the audit are based on the level of expenses and risks identified during this period, as well as the request for an audit by the MIA.

Audit questions

To answer the audit objective, we have presented the main audit question and sub-questions as follows:

How AIS plans, manages and monitors ICT projects to achieve the organization's objectives and how these systems perform in relation to meeting the criteria?

Audit sub-questions:

- 1. How does AIS identify and approve business and IT requirements?*
- 2. How does AIS manage IT risks and investments?*
- 3. How does AIS identify, prioritize user requirements for IT systems and manage them?*
- 4. How does AIS manage and control the development or acquisition of approved IT projects?*
- 5. How does AIS manage the configuration of work products related to development and acquisition?*
- 6. How does AIS address security requirements in the procurement and project development process?*

Audit criteria⁴⁵

The criteria used in this audit are derived from the Active IT Audit Manual, the Law on Public Procurement of the Republic of Kosovo and the Rules and Operational Guidelines for Public Procurement.

In order to evaluate the management of AIS projects and the systems operation starting from the identification of needs, projects planning and implementation over to their monitoring, the following criteria have been established:

- AIS has a plan on how to identify new business requirements or IT needs and the management that approves the requirements has sufficient information for decision-making;
- Organizations should manage their IT projects and investments in order to maximize benefits and consider elements such as risk, capacity, and prioritization among competing investments;
- The organization should calculate the anticipated value for a public contract before initiating the procurement procedure. Such pre-calculation must be reasonable and realistic for the stipulated contract in terms of efficiency, cost effectiveness, and transparent and fair use of public funds and resources.
- The organization has risk management policies and plans, and has determined sufficient resources to identify and manage risks;
- The organization has plans or procedures for how to collect, review and categorize requests for new or added functionality;
- The AIS for the development of each project must be based on a preliminary planning, "Determining the needs that must be met" according to the law on public procurement in the Republic of Kosovo;
- The organization analyzes, prioritizes and manages requests to ensure that users' needs are optimally and cost-effectively met;
- The contracting authority must prepare the tender dossier in such a way that it does not limit competition among EOs and/or discriminate against or act in favor of one or more EOs;
- The organization has a project management plan or its equivalent for each approved project, which guides the execution of the project;
- The organization effectively controls and monitors the projects to ensure that the requirements on cost, time and performance are met;

⁴⁵ The Information Technology Audit Manual is a product of the EUROSAT Working Groups on Information Technology Audits (WGITA) as well as the INTOSAT Development Initiative (IDI) for the definition of Information Technology Audit standards- then Information Technology Audit Manual.

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- Project management activities include managing project-related risks and undertaking appropriate activities for their reduction;
 - Configuration management activities are performed in accordance with organizational policies or procedures;
 - Only authorized and approved changes will be introduced to the production environment;
 - The security requirements of the organization are highlighted by the contractor in an appropriate manner

Audit Methodology

In order to answer the audit question and sub-questions and in order to support the audit conclusions, we will apply the following methodology:

- Analysis of new request documents for projects and their approval;
- Review the requirements management plan or procedures to ensure that users, stakeholders, or others are involved in the identification of requirements;
- Review of the portfolio of prioritized projects;
- Analysis of project reports and cost benefit analysis;
- Review the IT risk management plan, review duplicate meeting minutes to ensure that new risks are included and analysed appropriately and if IT risks are monitored on a periodic basis;
- Review request samples to ensure that there is an initial review and that similar or duplicate requests are grouped;
- Review requests to determine that they contain author, date, priority, cost, risk and other elements;
- Review the criteria for prioritizing requests to assess whether they contain elements related to costs, business needs, emergency issues and new capacities;
- AIS procurement plans for the years 2019-2022;
- Law on budget appropriations for the budget of the Republic of Kosovo for the years 2019-2022;
- Analysis of project files selected for verification from initiation to implementation and evaluation;
- Comparison of new projects with completed ones, which have the same activity in cases where the prices of the projects have large differences;
- Review of the organizational structure of the project to determine the tasks of the individuals responsible for quality assurance or testing, development, and installation of the system in the IT infrastructure of the organization, the support group, etc.;

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- For the supplied/purchased projects, lists of plans for general supervision and review that any material brought under them is approved;
 - Analysis of projects on which SDLC method was/is being used in project development. Comparison of project cost and timeline basis with status reports to assess deviations, if any;
 - Review of the project management plan or risk management plan to determine if risks have been identified for this project, risks have been categorized and assigned to different individuals or groups to be monitored or reduced in the most appropriate ways;
 - Review of project configuration management policies;
 - Ensure that there is a group for authorizing changes to work products that reviews and approves project changes;
 - Analysis of documents for the implementation of system testing to ensure that the program has been tested, meets the acceptance criteria, has appropriate documentation and includes training for users;
 - Document review to assess that the security requirements have been identified by the organization and drafted in the contract or SLA;
 - Conduct interviews with responsible officials.

Relevant documents

List of laws and regulations relevant to this audit:

- Law No. 04/L-145 on Information Society Government Bodies;
- Law No. 04/L-042 on Public Procurement in the Republic of Kosovo;
- Regulation (GRK) No. 02/2016 for Coordination between the Agency for Information Society and Organizational Structures/ Information and Communication Technology Officials in the Institutions of the Republic of Kosovo;
- Regulation (MPA) No. 02/2015 on Software and Hardware Standards;
- Regulation (GRK) No. 06/2018 on Project Management in the Field of Information and Communication Technology;
- Rules and Operational Guidelines for Public Procurement.

Annex II. List of projects that have been audited

Below is the list of projects that have been audited, that have been selected by the importance of the systems, the price and the identification of issues during the pre-study phase.

No.	Name of the Information System	Deliverer / Developer / Supplier	Contract number	Date (From-to)		Cost in €
1	Supply of licenses for IRK LOT1	Cactus j.s.c.	Procurement no. 202/17/080/111	05.12.2017	31.12.2020	9,529,147
2	Supply of MS Licenses /Lot2 Supply of MS Licenses for Universities 2018,2019,2020	PBC Kosova	Procurement no. 202/17/080/111	05.12.2017	31.12.2020	1,945,196
3	Maintenance and servicing of IT equipment at SDC-AIS	INFOSOFT SYSTEM Ltd & ITD	Procurement no. 202-19-1197-2-1-1 internal number 202/19/029/211	09.12.2019	09.12.2022	117,967
4	e-Kosova	PBC	Procurement no: 202-19-3193-2-1-1	26.12.2019	26.12.2022	2,976,510
5	Alternative Back-UP VPN and Internet Services for IRK needs	TelKos L.L.C	Procurement no. 202-19-9495-1-1-1 internal number 202/19/120/111	26.02.2020	25.02.2023	360,000
6	Extension of Cyber Security Equipment Licenses - CISCO	NOVUS	214-21-10599-1-1-1/C155	09.03.2021	09.03.2024	588,713
7	Maintenance and servicing of IT equipment-SDC- IT components-Retender	Infosoft Systems Ltd	214-20-8603-2-1-1/C82	06.08.2021	06.08.2024	135,000
8	Supply of software licenses for monitoring and security	VIRTUO	214-22-1582-1-1-1/C234	24.05.2022	24.05.2025	523,800
9	Maintenance of IT equipment at SDC (VXBLOCK)	NOVUS Ltd	214-22-2501-2-1-1	01.08.2022	01.08.2025	178,880
10	VoIP Phone System	"Cactus" j.s.c.	214-22-5153-1-2-1/C225	25.08.2022	25.08.2023	74,161
11	Solution for SIEM (Security, Information and Event Management)	Infosoft System	214-22-1582-1-1-1/C235	30.08.2022	30.08.2025	134,095
12	Supply of software licenses for monitoring and security - manage engine AD Manager plus, manage engine log360, ad audit	Infosoft System	214-22-8778-1-1-1/C254	14.10.2022	13.10.2025	89,531
Total value of contracts						16,653,000

Annex III. Letter of Confirmation



Republika e Kosovës

Republika Kosova-Republic of Kosovo

Qeveria - Vlada-Government

Ministria e Punëve të Brendshme-Ministarstvo Unutrašnjih Poslova-Ministry of Internal Affairs

LETËR E KONFIRMIMIT

Për pajtueshmërinë me të gjeturat e Auditorit të Përgjithshëm për raportin e auditimit të teknologjisë së informacionit “Menaxhimi i Projekteve për Sistemet e Teknologjisë së Informacionit në Agjencinë e Shoqërisë së Informacionit”, dhe për zbatimin e rekomandimeve.

Për: Zyrën Kombëtare të Auditimit

Vendi dhe data: Prishtinë 27.06.2023

I nderuar,

Përmes kësaj shkrese, konfirmoj se:

- kam pranuar drafri raportin e Zyrës Kombëtare të Auditimit “Menaxhimi i Projekteve për Sistemet e Teknologjisë së Informacionit në Agjencinë e Shoqërisë së Informacionit” (në tekstin e mëtejshëm “Raporti”);
- pajtohem me të gjeturat dhe rekomandimet dhe nuk kam ndonjë koment për përmbajtjen e Raportit; si dhe
- brenda 30 ditëve nga pranimi i Raportit final, do t’ju dorëzoj një plan të veprimit për implementimin e rekomandimeve, i cili do të përfshijë afatet kohore dhe stafin përgjegjës për implementimin e tyre.



Xhelal Syca,
Ministër i Punëve të Brendshme



**National Audit Office of Kosovo | Arbëria District | St.Ahmet Krasniqi, 210 | 1000 Prishtina
Republic of Kosovo**