



Do the planning of research projects
and the organisation of project tenders
comply with the laws and contribute to
the achievement of science policy
objectives?



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Audit report

“Do the planning of research projects and the organisation of project tenders comply with the laws and contribute to the achievement of science policy objectives?”

30.11.2021.

Compliance audit “Monitoring the implementation of the recommendations of the closed regularity audit “Performance Efficiency of the Ministry of Education and Science and compliance with the statutory requirements in developing and organising the implementation of the state science policy””

The audit was performed based on audit schedule No 2.4.1-4/2021 of the First Audit Department of the State Audit Office of 23 February 2021.

The cover design includes an image from the website *Depositphotos*.



Dear Reader,

We have completed an audit on the fulfillment of the recommendations for the improvement of the implementation of the state science policy. Almost a decade has passed since the State Audit Office carried out a previous audit in this area. It took six years for the state institutions to implement the recommendations, but not all the recommendations have been implemented.

It is material that Latvian science is globally competitive and the societal development is based on the latter. Therefore, the efforts and achievements of our scientists and scientific institutions are highly appreciated. There is no doubt that scientific progress cannot take place without adequate funding. However, ensuring the proper functioning of the management and control system for scientific research funding and prevent any doubt raising about the allocation of limited resources, the thorough assessment and further use of the results of research projects are equally important. It is no less important to introduce a transparent, comprehensible, supply competition-based approach, when the best ideas and solutions are advanced for the further development of the industry.

There is a saying that a ‘drop of tar in a barrel of honey’ can have an adverse effect on the taste and healing properties of honey. Similarly, I would like to comment on the errors and failures in the administration of the research projects mentioned in this audit report and call on the Ministry of Education and Science to take immediate action to remedy them. This is another opportunity for

public administration to take the lead in demonstrating a project assessment approach convincingly that supports the most talented researchers and the most promising directions of research.

We have received proposals to improve the selection of scientific projects from more than 200 foreign experts who have participated in the scientific review of project applications submitted by our scientists in project tenders. We hope that those proposals will help improving the tenders for fundamental and applied research projects and national research programs. In their turn, the recommendations of the State Audit Office will promote the development of the management and control system for science funding and the effective use of state budget funds allocated to science.

We thank the experts of the Ministry of Education and Science, the Latvian Council of Science, and other scientific development and administration, and foreign experts, as well as scientists for their cooperation, opinions provided, proposals, and discussions during the audit.

Respectfully
Ms Inese Kalvāne
Department Director

A handwritten signature in blue ink, appearing to read 'Inese Kalvane'.

Summary

Almost a decade ago, in 2012, the State Audit Office completed the regularity audit¹ in the area of science (hereinafter - the 2012 audit), within which the Ministry of Education and Science (hereinafter - the MES), which is the leading state institution in science, develops science policy and organises and coordinates the implementation of the science policy², was provided 12 recommendations. There were recommendations made for the improvement of both the planning of state science policy and state budget funding for science, as well as for the improvement of the approval, assessment, and monitoring processes of various research projects.

In general, it took six years for the MES to implement the recommendations. As we assessed the implementation of the audit recommendations provided in 2012 based on the information provided by the MES without re-inspections and the fact that a new regulation of the procedure for the implementation of fundamental and applied research projects (hereinafter - FARP) and national research programs (hereinafter - NRP)³, entered into force since the previous audit, the State Audit Office has assessed during this audit whether the MES succeeded in ensuring the perfection of the sustainability of the improvements and the required improvement of the science policy implementation obtained as a result of the recommendations introduced after the closed regularity audit⁴.

The available state budget funding for the development of science in Latvia has increased in recent years, especially in 2020, however, it has been low for a long time compared to other Member States of the European Union (hereinafter - EU)⁵. Therefore, it is crucial to ensure that the state budget funding available to Latvian scientists and researchers is invested purposefully in solving issues and challenges important to Latvia by supporting those FARP and NRP projects that show the highest scientific quality, thus promoting effective and appropriate use of the state budget.

The State Audit Office considers that the MES has improved several areas essential for the development of science in the result of the audit recommendations provided in 2012, for example, the calculation of basic funding for science has been improved by providing that only those research institutions that have reached at least a good level of research pursuant to the assessment received in the international evaluation of scientific institution activity receive the basic funding for science, and the planning, allocation, evaluation, and monitoring of the EU Structural Funds has been improved.

According to the international evaluation of scientific institution activity conducted in 2019, progress has been observed in Latvian science since 2013. The results of the evaluation show clearly that the scientific results have improved in Latvia both in science as a whole and in all groups of scientific disciplines, which is also confirmed by the fact that the most frequent assessment of universities and research institutions was “2” in 2013, which corresponded to a “satisfactory level of science for quality” according to the evaluation methodology (scale from 1 to 5), while the most common assessment was already “3”, which corresponded to a “good level of science” in 2019⁶.

Altogether, the results of the evaluation showed that most universities and scientific institutions took the recommendations of the previous evaluation seriously, which has been the basis for progress. There has been a pronounced increase in the number of Latvian scientific publications, involvement in international research networks has improved, and progress has also been made in investments in research infrastructure and improved research governance. The fragmentation of scientific resources observed in 2013 has diminished significantly due to institutional consolidation activities, and one has also observed

that the assessment of the recent consolidations will take time while the different research cultures of the merged institutions will converge fully. One can also observe the changes in the behaviour and activities of the research sector, which focus more on answering scientific questions of international significance and on forging international research partnerships and relations⁷.

However, the violations and inconsistencies found in this audit illustrate that not everything planned has succeeded. Already during the 2012 audit, we identified problems and shortcomings in the MES approach to prioritising the scientific directions, for whose elimination recommendations were provided. However, one must conclude that the MES actions have been insufficient because the priorities of scientific directions for 2018-2021 have been set so broad that they lose all effectiveness. In fact, scientific institutions can research what they consider relevant for the state budget funding allocated for the implementation of the FARP in contrast to the purpose of setting priorities of scientific directions, which envisages focusing the funding on solving the most important issues for Latvia's sustainability and development.

One must note that the MES has not managed to eliminate the problems in the organisation of scientific review of projects either without ensuring its implementation in accordance with the statutory requirements since the completion of previous audit⁸. During this audit, the State Audit Office has also identified violations and significant inconsistencies in the organisation and provision of scientific review for FARP and NRP projects carried out between 2018 and 2021. The latter, in its turn, calls into question the validity of the decisions taken between 2018 and 2021 to allocate funding for the implementation of NRP and FARP projects and suggests a possible impact on the results of scientific project tenders. Irregularities and shortcomings were also identified in the use, monitoring, and control of the financial resources allocated for the implementation of NRP projects.

The State Audit Office addressed the Prosecutor's Office of the Republic of Latvia, the State Revenue Service (hereinafter - SRS), and the Corruption Prevention and Combating Bureau (hereinafter – CPCB) regarding the mentioned above for further fact-finding and provides recommendations to the MES for elimination of the irregularities identified during the audit and for improving the control and monitoring system for the implementation of NRP and FARP projects to ensure, as far as possible, the appropriate spending of state budget funding for the implementation of NRP and FARP projects.

Main conclusions

The State Audit Office provided recommendations to the MES after the 2012 audit to eliminate the problems and shortcomings identified during the audit⁹ in the MES approach to setting priorities in scientific directions, controlling the use of state budget funds allocated for the implementation of NRP, and supervising project implementation, as well as assessing FARP and NRP projects that was recognised as discrepant with the regulatory framework¹⁰.

After the auditors of the State Audit Office assessed whether the MES succeeded in perfection of the sustainability of the improvements and the required improvement of the science policy implementation obtained as a result of the recommendations provided after the 2012 audit, one must conclude that the

MES actions in the introduction of the control and monitoring system for the NRP and FARP project planning and implementation have not been sufficient to eliminate the irregularities and shortcomings identified a decade ago and provide the allocation and use of the funding granted to FARP and NRP projects compliant with the laws and regulations due to the following reasons:

- ✓ The priorities of the scientific directions are set too broad to be able to perform the task assigned to them efficiently, namely, *to focus the work of Latvian scientists, people involved in scientific work and scientific institutions on solving the most important issues for the sustainability and development of Latvia*;
- ✓ Irregularities and shortcomings in NRP planning have been identified, which pose a risk to the achievement of NRP objectives. In addition, the Latvian Council of Science (hereinafter - LCS), which is responsible for controlling the use and cost-effectiveness of financial resources allocated for the implementation of NRP projects¹¹ has not established an appropriate control environment and performed monitoring measures, which is a prerequisite for the use of the state budget funding allocated to NRP according to its purpose;

For example, the LCS (the Administration for Studies and Science before 30 June 2020) has not performed checks on the compliance of the use of indirect eligible costs of 1,875,251 euros of the projects under NRP “Latvia’s Heritage and Future Challenges for the Country Sustainability”, NRP “Power Industry”, and NRP “Mitigating the COVID-19 Consequences” with the requirements of the Cabinet Regulation¹² thus violating the provisions of the regulation¹³;

- ✓ The audit has identified both violations of laws and regulations¹⁴ and potential violations thereof¹⁵ and significant irregularities and shortcomings in the organisation and provision of scientific review of NRP and FARP projects, which indicate the probability that the results of project tenders and distribution of state budget funds were illegally affected in that way (The state budget funding of 82,512,550 euros has been granted in the result of FARP and NRP project tenders between 2018 and 2020).

Do the priorities of the scientific directions ensure the focus of FARP funding for solving issues important for the sustainability and development of Latvia?

After the 2012 audit, the State Audit Office concluded that the MES did not contribute to the achievement of the main objective of science and technology development policy to shape science and technology as a basis for the long-term development of civic society, economy, and culture by ensuring the implementation of the knowledge-based economy and its sustainable growth¹⁶ due to the following:

- ✓ Although the priority segments of the economy¹⁷ have been defined at the national level, one has not determined development of which segments scientific activity can facilitate;
- ✓ When prioritising the scientific directions for the FARP financing¹⁸ for the next four-year period, one does not assess the interconnection of the FARP and the impact of the results of the research projects implemented under the priorities of the scientific directions in the previous four-year period on the development of the Latvian economy.

One must indicate that the MES was unable to act for a long time to have the recommendation recognized as introduced, wherefore the State Audit Office closed the recommendations as not implemented in 2018. Therefore, we have assessed during this audit whether the MES has improved the approach to setting the

priorities of science directions for financing the FARP by facilitating the achievement of the main objective of science, technology, and innovation policy *to shape the Latvian science, technology, and innovation sector as globally competitive and meeting the needs for the development of Latvia's economy and society*¹⁹.

The amount of state budget funding for the development of science in Latvia has been low for a long time if compared to other EU Member States²⁰, which indicates that one must invest the financial resources available for science by weighing a decision thoroughly and choosing to invest in such scientific priorities set for the development of science and technology that will focus the state budget funding on solving the most important issues for the sustainability and development of Latvia.

The interest of scientists to participate in FARP tenders and receive state budget funding for the implementation of projects has been pronounced for the last five years, as there were 377 project applications submitted in each tender on average. Between 2018 to 2021, the funding of 63,083,637 euros has been invested in the implementation of the FARP by approving and financing 298 projects in total across all groups of scientific disciplines specified by the Cabinet of Ministers²¹.

Organising and providing FARP tenders is one of the ways how the government supports the development of science, and unlike other research project tenders, scientists and researchers are given certain discretionary power because scientists formulate FARP research topics, goals, and tasks themselves²².

However, the discretionary power of scientists is not absolute, as the Law on Scientific Activity²³ provides for setting the priorities of scientific directions for the financing of FARP. Such a restriction is set with the aim *to focus the work of Latvian scientists, people involved in scientific work and scientific institutions on solving the most important issues for the sustainability and development of Latvia*²⁴.

Therefore, the State Audit Office considers that, the MES should take into account all relevant aspects/factors when determining/ defining the priorities of scientific directions²⁵ to ensure the achievement of the above-mentioned goal such as the challenges and problems sectors face, the resources available to solve them, the results of FARP funded in previous periods²⁶, their impact on the development of industries, national economy, etc. that can influence the effectiveness of those priorities as a mechanism for the implementation of public policy by providing the solution of the most important (rather than any) issues for the sustainability and development of Latvia.

The State Audit Office finds the definition of priorities of scientific directions specified in the Cabinet Order²⁷ be too broad under the conditions of limited funding resources, as the annotation of the Cabinet Order²⁸ includes detailed elaboration of the priorities into at least 150 topics.

To prioritise the scientific directions for the period from 2018 to 2021, the MES commissioned a study²⁹ (funding of the study totalled to 14,000 euros³⁰), which included a survey of Latvian population and individual interviews with representatives of all scientific disciplines and generalised the opinions of all line ministries, professional associations, non-governmental organisations, and leading enterprises in the sector, etc.³¹ in addition. Still, the MES has not set such priorities (approved by the Cabinet Order³²) that would perform the task assigned to them effectively, namely, *to focus the work of Latvian scientists, people involved in scientific work and scientific institutions*



The priorities of scientific
directions are too broad

in solving issues important for the sustainability and development of Latvia³³.

The above is also confirmed by the audit finding that none of at least 1,884 FARP research projects³⁴ submitted by scientific institutions was rejected due to non-compliance with the set priorities of scientific directions from 2018 to 2020. In its turn, 76 projects out of 298 funded projects correspond to two priority directions and 40 projects correspond to three or more priority directions.

However, one should note that other factors have affected the distribution of state budget funding across scientific disciplines as a result of the FARP tenders, inter alia the scientific quality of a project³⁵ as a key criterion for funding allocation and the procedure for distributing funding stipulated in the FARP tender regulations³⁶, which is actually diverting investment to scientific disciplines with greater capacity and also corresponds to the areas with the greatest development and development potential indicated in the Latvian Economic Development Report and other science policy planning documents³⁷.

In the opinion of the State Audit Office, if the broad definition of the priorities of the scientific directions is not changed in the future, the MES should re-evaluate the further necessity and effectiveness of prioritising the scientific directions, taking into account the resources invested in prioritising itself.

How the responsible institutions ensure the implementation of national research programs?

While auditing the implementation of the recommendations, the State Audit Office auditors acknowledged that the MES implemented the recommendations provided in the 2012 audit by improving the application and monitoring procedures for NRP. However, the Cabinet of Ministers adopted new regulation³⁸ on 4 September 2018 that changed the existing NRP implementation procedure significantly and enabled line ministries to draft public contracts for the research sector when implementing NRP, which one intended to use for identification and study of the most important issues for the sustainability and development of Latvia and to focus the work of Latvian research institutions on solving those issues. Therefore, we assessed during this audit whether the new procedure for planning and implementing NRP³⁹ and its fulfillment ensures the achievement of the objectives set for NRP in accordance with the purpose of establishing NRP⁴⁰.

Although one cannot deny that the procedure for planning and implementing NRP⁴¹ is aimed at achieving the above-mentioned objective, the State Audit Office considers that the MES and the LCS have failed to ensure the planning and implementation of NRP that provide confidence in achieving the objectives set for NRP and appropriate⁴² use of the state budget funds because:

- ✓ For evaluating NRP project applications, one has failed to ensure a consistent approach up to now in the assessment of the compliance of project applications with the overarching goal and objective of NRP;
- ✓ In five project applications for NRP “Latvia’s Heritage and Future Challenges for the Country Sustainability”, NRP “Power Industry”, and NRP “Mitigating the COVID-19 Consequences” totalling to 2,493,599 euros, there was a number of results for one of the seven planned results indicated instead of the type of result as provided for in the tender regulations⁴³;
- ✓ According to the foreign experts, assessing the direct project outcome / real added value / actual effect was impossible in three of the five projects under NRP “Latvia’s Heritage and Future Challenges for the Country Sustainability” because it was not possible to assess the extent to which activities were a direct project end result and contribution to achieving the project target.

- ✓ Plans for strengthening and publicising project results Under NRP “Mitigating the COVID-19 Consequences” during the project extension and in project acceptance and transfer deeds do not distinguish clearly between the achievable results indicated in the project application and those that can be recognized as additional results created during the project implementation. However, one must note that all ministries involved in the use of the results responded to the survey of the State Audit Office that they used the results of the projects for policy planning and implementation.

One must remark in addition that the State Audit Office regards that the LCS, which is responsible for organising and implementing the NRP project tenders, as well as monitoring the project tasks and results in accordance with the project contract and tender regulations and controlling the use and cost-effectiveness of project funding⁴⁴, has failed to establish a control environment and to monitor the implementation of NRP projects that would provide assurance on the efficient and appropriate use of public budget funding. For instance,

- ✓ Without coordination with the LCS following the project implementation contracts (the contract stipulates that the project implementer may make changes in a separate budget financing classification code up to 30% (inclusive) without coordination with the LCS), scientific institutions have changed the planned expenditure amounts in budget expenditure classification codes exceeding even more than 100% of the planned expenditure in the relevant code;
- ✓ Although the Cabinet Regulation⁴⁵ stipulates that the Administration for Studies and Science (hereinafter - ASS) (before 30 June 2020) and the LCS (since 1 July 2020) are responsible for the control of the use and cost-effectiveness of the financial resources allocated for the project implementation, they have not checked the compliance of the use of indirect eligible costs of 1,875,251 euros in the projects under NRP “Latvia’s Heritage and Future Challenges for the Country Sustainability”, NRP “Power Industry”, and NRP “Mitigating the COVID-19 Consequences” with the requirements specified in the Cabinet Regulation⁴⁶. Besides, the LCS did not provide information on the costs included in the relevant cost item during the audit, thus violating the provisions of the law⁴⁷.



Irregularities in the LCS
control and supervision over
the spending of the funding
allocated to the NRP projects

Moreover, one has detected a budget surplus in certain expenditure classification codes in several NRP projects such as the surplus of 85% for mission expenses, 87% for the purchase of stocks, 100% for the purchase of fixed assets, etc. Considering that the measures to curb the COVID-19 in the world have changed the organisation of events (conferences, workshops and so on) by reducing mission expenses, expenses for services, etc. and that the projects are ongoing in the final stage, a part of the remaining funding will not be necessary for project implementation, the State Audit Office considers that the MES must assess the amount of funding allocated to NRP projects in cooperation with the LCS and the Ministry of Economics and ensure the repayment of the part that is not required for project implementation back into the state budget.

Does the responsible institution ensure independent and unbiased evaluation of scientific projects?

To eliminate the problems identified during the 2012 audit in the performance of scientific review of projects, inter alia by providing independent and unbiased evaluation of projects, the MES developed a new regulatory framework⁴⁸ envisaging the involvement of at least two relevant experts included in the European Commission's expert database or the experts included in other international expert database if the first database does not include such experts (hereinafter - foreign expert) for the scientific review of FARP and NRP projects that took effect. Therefore, the State Audit Office auditors have assessed during this audit whether the changes made have ensured the elimination of irregularities and deficiencies identified 10 years ago⁴⁹ and whether scientific review of FARP and NRP projects has been provided in accordance with the laws and regulations from 2018 to 2021.

The evaluation provided in a scientific review of NRP and FARP project applications is the basis for the decisions made on the allocation of funding for the implementation of projects⁵⁰. It should provide an assessment of the scientific quality of the projects allowing the best among all submitted projects to be identified and funded. Therefore, there can be no doubt about the importance of ensuring the transparency of organising and providing scientific review of FARP and NRP project applications, interim and final reports and traceability of decision-making, giving both responsible institutions and scientists confidence in the effectiveness of decision-making and appropriate use of state budget funding.

The State Audit Office finds that the evaluation process of FARP and NRP projects that the LCS carries out whose mandate includes evaluation (review) of state budget- funded scientific research projects and programs applied on tender basis and provision of the process transparency⁵¹, is not performed in the manner as to ensure independent, law-compliant evaluation of submitted projects, the absence of the conflict of interests, and funding such research projects from the state budget, which are eligible in accordance with the provisions of the laws and regulations due to the following reasons:

- ✓ The audit has established that one of the five project secretaries involved in three project tenders (one of three under NRP "Mitigating the COVID-19 Consequences") has performed the following while having employment relations with a scientific institution:
 - Organising the scientific review of the project application of the particular scientific institution, including the selection of foreign experts disregarding the provisions of the project tender regulations;
 - Organising and providing the scientific review of the project application for projects where the particular scientific institution was one of the co-operation partners;
- ✓ According to the Cabinet Regulation⁵², a foreign expert must fill out and approve the evaluation of scientific project application, interim scientific report, and final scientific report in the National Information System of Scientific Activity scientific information system (hereinafter - NISSA). However, the audit has found that the evaluation by a foreign expert is actually filled out and submitted in the LCS Project Application, Evaluation, and Report Information System (hereinafter – LCS IS), thus violating the requirements of the Cabinet Regulations⁵³;

- ✓ The LCS has not elaborated and introduced an information system security policy, as required by the Cabinet Regulations⁵⁴, which is the basis for information technology security management in general;
- ✓ When assessing the LCS IS audit trails, one has established that the activities such as connecting to / disconnecting from the system, populating information, provision of project evaluations, what only a foreign expert may do according to the Cabinet Regulations⁵⁵ have been performed not only from a foreign IP address, but also from Latvian IP addresses and internal LCS IP addresses, for example, there were 411 actions in 87 projects executed from LCS IP address 10.0.0.102. in 2020 by using the usernames of foreign experts.



Alleged interference in the
evaluations by foreign
experts detected

The identified alleged violations in the use of user access properties and tracking of activities performed in LCS IS indicate significant problems in the management of LCS IS user rights, which is a crucial element of information system protection to protect the information system from unauthorized access and verify the identity and access rights of information system users. User rights management would guarantee the quality and integrity of the evaluations entered into the system (saving complete and unchanged information).

The State Audit Office considers that alleged interference detected in the project evaluations provided by foreign experts indicates the probability that the following were influenced illegally by this means:

- ✓ The results of the project tenders and the distribution of state budget funds in the first FARP tender and the second FARP tender in 2020, where the funding of 23,289,064 euros was allocated to scientific institutions for the implementation of projects;
- ✓ Decisions on the continuation of projects made (decisions are made based on the review of interim scientific report of the project) of achievement of the project objectives (decisions are made based on the review of final scientific report of the project) and, consequently, the use of state budget funding in accordance with the statutory requirements⁵⁶:
 - In three FARP projects, for the implementation of which state budget funding of 764,272 euros was provided;
 - In three projects under NRP “Mitigating the COVID-19 Consequences”, for the implementation of which state budget funding of 1,475,212 euros was provided.

The State Audit Office concludes that the project secretaries as well as employees of the LCS Expertise and Analysis Department perform such duties as officials perform according to the Law on the Prevention of the Conflict of Interest in Activities of Public Officials⁵⁷ who are subject to the restrictions and prohibitions provided for in the said Law (including the prohibition to perform activities, in which a public official or his or her business partners have a personal or material interest, as well as a restriction that a public official may prepare decisions on the distribution of funds only in accordance with statutory procedure⁵⁸). Nevertheless, neither project secretaries nor relevant employees have not submitted declarations of public officials⁵⁹ in connection with the performance of the official duties in question.

One must note that the duty of the head of an institution of a public entity⁶⁰ is to prevent, in accordance with the mandate, state officials working in this institution from entering a conflict of interest and exercising the authority of a public official in such a situation. In addition, it is possible that the LCS managers have not submitted the lists of public officials to the SRS regarding project secretaries and employees following the procedures specified in the regulatory framework⁶¹ at least since 2018.

The State Audit Office points out that non-compliance with the requirements of the Law on Prevention of Conflict of Interest in the Activities of Public Officials is inadmissible, as the latter are a precondition for activities of public officials to ensure public interest by preventing the influence of the personal or material interests of any public official, his or her relatives or business partners on the activities of public official concerned.

The State Audit Office considers that the MES must act immediately to eliminate the irregularities identified during the audit in the organisation of the scientific review of FARP and NRP projects and in the allocation and spending of the state budget funds.

The State Audit Office has addressed the Prosecutor's Office of the Republic of Latvia, the State Revenue Service, and the Corruption Prevention and Combating Bureau regarding the audit findings for further investigation of the established facts.

Key recommendations

To comply with the requirements of laws and regulations, to identify and eliminate shortcomings in procedures on time by facilitating appropriate spending of the state budget, the Ministry of Education and Science has been provided with specific recommendations:

- ✓ Take urgent action to:
 - Streamline the control environment and supervision measures over the organisation of scientific review of FARP and NRP projects, ensure the transparency of the expert selection process and traceability of the justification of the decision on attracting a foreign expert;
 - Determine the status and legal regulation of LSC IS, at the same time creating an information technology security management environment in accordance with the regulations of the Cabinet of Ministers⁶²;
 - Improve the internal control system for LSC IS user governance, including drafting a procedure for the management of user rights (assignment, revocation, renewal, regular inventory), as well as improve the user authentication mechanism for access to LSC IS by providing for automatic replacement of the originally issued password, regular change of password, excluding the possibility of password recurrence;
 - Assess the responsibility of LSC employees for the violations identified during the audit in the organisation and provision of the scientific review process;

- ✓ Revise the approach to setting the priorities of scientific directions so that the state budget funding would be focused on solving issues important for Latvia's sustainability and development.
- ✓ Improve the control environment and supervision measures for the planning and implementation of the NRP projects and the use of funding to comply with the laws and regulations;
- ✓ In cooperation with the Latvian Scientific Council and the Ministry of Economics, evaluate the opportunities of adjusting the cost items of goods and services of NRP projects and transfer the financing not required for the projects back to the state budget.

References

- ¹ Closed regularity audit “Performance Efficiency of the Ministry of Education and Science and compliance with the statutory requirements in developing and organising the implementation of the state science policy” performed by the State Audit Office (audit file No 5.1-2-25 / 2010).
- ² Section 1 and 4 of Cabinet Regulation No 528 “Regulations of the Ministry of Education and Science” of 16 Sep 2003.
- ³ Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017.
- ⁴ Closed regularity audit “Performance Efficiency of the Ministry of Education and Science and compliance with the statutory requirements in developing and organising the implementation of the state science policy” performed by the State Audit Office (audit file No 5.1-2-25 / 2010).
- ⁵ Conceptual Report on the Introduction of a New Doctoral Model in Latvia (approved by Cabinet Order No 345 of 25 June 2020); “Country Report Latvia 2020”, Commission Staff Working Paper, Brussels, 26 Feb 2020, available: <https://eur-lex.europa.eu/legal-content/LV/TXT/HTML/?uri=CELEX:52020SC0513&from=EN>; European Semester 2020: Country-Specific Recommendations, Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, Brussels, 20 May 2020, available: <https://eur-lex.europa.eu/legal-content/LV/TXT/PDF/?uri=CELEX:52020DC0500&from=EN>.
- ⁶ International evaluation of scientific institution activities 2019, viewed on 26 Nov 2021, available: <https://www.izm.gov.lv/lv/2019-gada-zinatnisko-instituciju-starptautiskais-novertejums>
- ⁷ International evaluation of scientific institution activities 2019, viewed on 26 Nov 2021, available: <https://www.izm.gov.lv/lv/2019-gada-zinatnisko-instituciju-starptautiskais-novertejums>
- ⁸ Closed regularity audit “Performance Efficiency of the Ministry of Education and Science and compliance with the statutory requirements in developing and organising the implementation of the state science policy” performed by the State Audit Office (audit file No 5.1-2-25 / 2010).
- ⁹ Closed regularity audit “Performance Efficiency of the Ministry of Education and Science and compliance with the statutory requirements in developing and organising the implementation of the state science policy” performed by the State Audit Office (audit file No 5.1-2-25 / 2010).
- ¹⁰ Cabinet regulation No 1066 of 22 Sep 2009 “Procedures for Evaluation, Financing, and Administration of Fundamental and Applied Research Projects” (valid until 31 March 2011).
- ¹¹ Section 63, Par. 7.2 and 7.4 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ¹² Section Par. 14.2 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ¹³ Part one, Section 2 of the Law on Prevention of Waste of the Financial Resources and Property of a Public Entity.
- ¹⁴ Section 46 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Section 23 and 34 of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017; Section 8.1 of Cabinet Regulation No 442 “Procedures for Ensuring Compliance of Information and Communication Technology Systems with Minimum Security Requirements” of 28 July 2015.
- ¹⁵ Section 47 and 50 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Section 18, 34, and 35 of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017; Part one, Section 11, Part one and five, Section 20, Section 18 of the Law on Prevention of Conflict of Interest in the Activities of Public Officials.
- ¹⁶ Guidelines for the Development of Science and Technology 2009-2013 (supported by Cabinet Order No 631 of 16 Sep 2009).
- ¹⁷ Par. 1 of the Minutes of the Cabinet sitting of 10 Nov 2009 (Minutes No 79, § 52) - Informative Report of the Ministry of Economics on the Directions of Economic Recovery Policy in the Medium-Term Period.
- ¹⁸ Cabinet Order No 412 on the priority scientific directions for financing fundamental and applied research in 2006-2009 of 6 June 2006; Cabinet Order No 594 on the priorities of scientific directions for financing fundamental and applied research in 2010-2013 of 31 Aug 2009.
- ¹⁹ Guidelines for Science and Technology Development and Innovation 2014-2020 (supported by Cabinet Order No 685 of 28 Dec 2013).
- ²⁰ Conceptual Report on the Introduction of a New Doctoral Model in Latvia (approved by Cabinet Order No 345 of 25 June 2020); “Country Report Latvia 2020”, Commission Staff Working Paper, Brussels, 26 Feb 2020, available: <https://eur-lex.europa.eu/legal-content/LV/TXT/HTML/?uri=CELEX:52020SC0513&from=EN>; European Semester 2020: Country-Specific Recommendations, Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, Brussels, 20 May 2020, available: <https://eur-lex.europa.eu/legal-content/LV/TXT/PDF/?uri=CELEX:52020DC0500&from=EN>.
- ²¹ Cabinet Regulation No 49 “Regulations on Latvian Science Disciplines and Sub-Sectors” of 23 Jan 2018.
- ²² Part one, Section 34 of the Law on Scientific Activity.
- ²³ Part four, Section 34 of the Law on Scientific Activity.

- ²⁴ Initial impact assessment report (annotation) of Cabinet Order No 746 “On Priorities of Scientific Directions 2018-2021” of 13 Dec 2017.
- ²⁵ Part four, Section 34 of the Law on Scientific Activity.
- ²⁶ Cabinet Order No 594 on the priorities of scientific directions for financing fundamental and applied research in 2010-2013 of 31 Aug 2009; Cabinet Order No 551 on the priorities of scientific directions in 2014-2017 of 20 Nov 2013.
- ²⁷ Cabinet Order No 746 “On Priorities of Scientific Directions 2018-2021” of 13 Dec 2017.
- ²⁸ Initial impact assessment report (annotation) of Cabinet Order No 746 “On Priorities of Scientific Directions 2018-2021” of 13 Dec 2017.
- ²⁹ Current Issues for the Development of Latvian Society, Economy, and Science, Their Future Development Trends and Opportunities. Analytical Report, M. Kaprāns, I. Austers, 2017, available: https://www.izm.gov.lv/sites/izm/files/latvijas_sabiedribas_tautsaimniecibas_un_zinatnes_attistibai_aktualie_jautajumi_to_nakotnes_attistibas_tendences_un_iespejas2.pdf.
- ³⁰ Annotation of the Research on the Priority Directions for the Financing of Fundamental and Applied Research in 2018-2021, available: http://petijumi.mk.gov.lv/sites/default/files/file/anutacija_2017_par_prioritarajiem_virzieniem_fundamentalo_un_lietisko_petijumu_finansesani_2018_2021_gada.pdf.
- ³¹ MES Summary on the priority directions in science in 2018-2021 (taken note of at the Cabinet sitting on 12 Dec 2017 (Minutes No 61, § 17)); Current Issues for the Development of Latvian Society, Economy, and Science, Their Future Development Trends and Opportunities. Analytical Report, M. Kaprāns, I. Austers, 2017, available: https://www.izm.gov.lv/sites/izm/files/latvijas_sabiedribas_tautsaimniecibas_un_zinatnes_attistibai_aktualie_jautajumi_to_nakotnes_attistibas_tendences_un_iespejas2.pdf.
- ³² Cabinet Order No 746 “On Priorities of Scientific Directions 2018-2021” of 13 Dec 2017.
- ³³ Initial impact assessment report (annotation) of Cabinet Order No 746 “On Priorities of Scientific Directions 2018-2021” of 13 Dec 2017.
- ³⁴ Evaluation Report of the first Fundamental and Applied Research Project Tender in 2018, LCS 2018, available: <https://lzp.gov.lv/parskats-par-lzp-2018-gada-pirma-flpp-konkursa-rezultatiem/?lang=lv>, Evaluation Report of the second Fundamental and Applied Research Project Tender in 2018, LCS 2019, available: <https://lzp.gov.lv/2018-gada-otra-flpp-konkursa-izvertesanas-parskats/?lang=lv>, Evaluation Report of the Fundamental and Applied Research Project Tender in 2019, LCS 2020, available: <https://lzp.gov.lv/pieejams-fundamentalo-un-lietisko-petijumu-projektu-2019-gada-konkursa-izvertesanas-parskats/?lang=lv>, Evaluation Report of the Fundamental and Applied Research Project Tender in 2020, LCS 2020, available: <https://lzp.gov.lv/pieejams-2020-gada-fundamentalo-un-lietisko-petijumu-projektu-konkursa-izvertesanas-parskats/?lang=lv>, Evaluation Report of the Open Tender for Individual Project Applications of Scientists in 2020, LCS 2021, available: <https://lzp.gov.lv/sakums-par-mums/publikacijas-un-statistika/?lang=lv#toggle-id-3>.
- ³⁵ Part two, Section 34 of the Law on Scientific Activity.
- ³⁶ Section 8 of the Tender Regulation for the Fundamental and Applied Research 2018 (the Regulation was approved by LCS Decision No 21-1-1 of 2 Feb 2018); Section 8 of the Second Tender Regulation for the Fundamental and Applied Research 2018 (the Regulation was approved by LCS Decision No 29-1-1 of 28 June 2018); Section 8 of the Tender Regulation for the Fundamental and Applied Research in 2019 (the Regulation was approved by LCS Decision No 52-1-1 of 22 May 2019); Section 8 of Open Tender Regulation for the Fundamental and Applied Research 2020 (the Regulation was approved by LCS Decision No 63-1-1 of 23 Jan 2020 (amendments approved by Decision No 65-1-1)); Section 47 of Open Tender Regulation for the Fundamental and Applied Research of Individual Project Applications by Scientists in 2020 (the Regulation was approved by LCS Order No 31 of 7 Sep 2020).
- ³⁷ National Industrial Policy Guidelines 2014-2020 (supported by Cabinet Order No 282 of 28 June 2013); Informative Report on the development of the smart specialization strategy” (taken note of at the Cabinet sitting of 17 Dec 2013 (Minutes No 67, § 96)), Informative Report on smart specialization strategy monitoring” (taken note of at the Cabinet sitting of 27 Feb 2018 (Minutes No 13, § 46)).
- ³⁸ Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ³⁹ Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ⁴⁰ Part one, Section 35 of the Law on Scientific Activity; Law on the Amendments to the Law on Scientific Activity of 21 June 2018. Initial impact assessment report (annotation) on the draft law on the Amendments to the Law on Scientific Activity.
- ⁴¹ Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ⁴² Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Part one, Section 46 of the Law on Budget and Financial Management.
- ⁴³ Annex 2 of Regulation of 28 Sep 2018 under NRP “Power Industry” Open Tender for Project Applications (INFRA, EE, AER) “Methodology for Designing and Submitting a Project Application, Project Interim Scientific Report, and Project Final Scientific Report”.
- ⁴⁴ Section 63, Par. 7.2 and 7.4 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ⁴⁵ Section 63 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ⁴⁶ Section 14.2 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.
- ⁴⁷ Part one, Section 2 of the Law on Prevention of Waste of the Financial Resources and Property of a Public Entity.
- ⁴⁸ Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017.
- ⁴⁹ Closed regularity audit “Performance Efficiency of the Ministry of Education and Science and compliance with the statutory requirements in developing and organising the implementation of the state science policy” performed by the State Audit Office (audit file No 5.1-2-25 / 2010).

⁵⁰ Section 35 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Section 25, 27 of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017.

⁵¹ Par. 4, Section 16 of the Law on Scientific Activity; Section 7 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018; Chapter II of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017.

⁵² Section 23 of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017; Section 46 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.

⁵³ Section 23 of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017; Section 46 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.

⁵⁴ Section 8.1 of Cabinet Regulation No 442 “Procedures for Ensuring Compliance of Information and Communication Technology Systems with Minimum Security Requirements” of 28 July 2015.

⁵⁵ Section 18 and 34 of Cabinet Regulation No 725 “Procedures for Evaluation and Funding Administration of Fundamental and Applied Research Projects” of 12 Dec 2017; Section 46 of Cabinet Regulation No 560 “Procedures for Implementation of National Research Program Projects” of 4 Sep 2018.

⁵⁶ Part one, Section 46 of the Law on Budget and Financial Management.

⁵⁷ Par. 3, Part two, Section 4 of the Law on Prevention of Conflict of Interest in the Activities of Public Officials.

⁵⁸ Part one, Section 11, Section 18 of the Law on Prevention of Conflict of Interest in the Activities of Public Officials.

⁵⁹ According to part one, Section 23 of the Law on Prevention of Conflict of Interest in the Activities of Public Officials.

⁶⁰ Part one, Section 20 of the Law on Prevention of Conflict of Interest in the Activities of Public Officials.

⁶¹ Part five, Section 20 of the Law on Prevention of Conflict of Interest in the Activities of Public Officials.

⁶² Cabinet Regulation No 442 “Procedures for Ensuring Compliance of Information and Communication Technology Systems with Minimum Security Requirements” of 28 July 2015.