EUROSAI
INNOVATIONS

FOLKETINGET RIGSREVISIONEN

MAKING THE MOST OF OUR MANDATE
BY LOOKING ACROSS GOVERNMENT

Rigsrevisionen's strategy for 2018 to 2020 calls for more data-driven audits and studies that address issues across government departments and the five Danish regions. Audits and studies of this type offer an opportunity to draw out common lessons and communicate these to a wider audience. Rigsre-visionen's mandate allows us to perform cross-government audits, and we have performed this type of audits of IT and payroll for many years. However, with the implementation of a new set of national public-sector auditing standards in 2017, our auditing practices across the organisation became more streamlined and uniform, and we saw an opportunity to expand our cross-government activities beyond IT and payroll.

We therefore established and commissioned an internal analysis team to:
- contribute to – and set up a framework for – identification, development, coordination and implementation of audits looking across government
- develop ideas for data-driven cross-government studies, including value-for-money studies
- test new data analysis software and methodologies, such as process mining and data visualization tools
- create an overview of relevant government data sources
- map responsibilities shared by several government departments and map "user-journeys" across government agencies
- learn from other operators with expertise in the field, including other supreme audit institutions.

A typology of cross-government studies

In order to approach cross-government studies in a systematic and efficient manner, the internal analysis team initially set out to establish consensus on the definition of a cross-government study and the variety of studies that can be characterised as such. To do so, the team developed a typology of cross-government studies (figure 1). We understand cross-government studies as studies that draw conclusions concerning minimum two ministries. cross-government studies as studies that draw conclusions concerning minimum two ministries.

Figure 1: Typology of cross-government studies
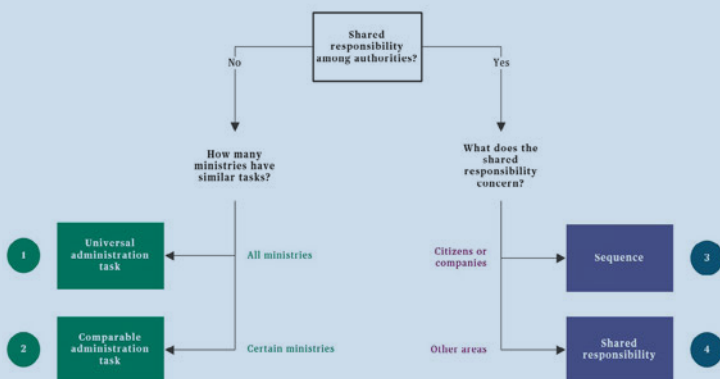
Figure 1 illustrates four different categories of cross-government studies. Category 1 and 2 include studies where several authorities' perform similar tasks, but the tasks are not performed under shared responsibility. These two categories offer excellent opportunities for benchmarking across entities. Category 3 and 4 include studies focused on shared responsibilities among several authorities regarding either citizens or companies, or other cross-government issues. Studies carried out within these categories often identify cases where the responsibility for a given task falls between two or more authorities.

Category 1 concerns universal administration tasks. These tasks include, for instance, payroll admin-istration, energy efficient behaviour, procurement etc. *Example: Rigsrevisionen's report on open data from 2019.*

Category 2 covers comparable administration tasks carried out by certain authorities. These tasks include, for instance, oversight, administration of grants, govern-ing state owned businesses etc. *Example: Rigsrevisionen's report on the ministries' supervision of reim-bursements to municipalities from 2018.*

Category 3 unfolds sequences for either citizens or companies that interact with several author-ities in a given process. *Example: Rigsrevisionen's report on pathways for refugees with trauma from 2018.*

Category 4 sheds light on shared responsibility among authorities regarding specific government is-sues like, for instance, cooperation among authorities on the execution of large events or the achievement of common or conflicting goals. *Example: Rigsrevisionen's report on Eurovision song contest budget overrun from 2015.*

Results so far

According to Rigsrevisionen's strat-egy for 2018 to 2020, minimum 25% of the reports we publish must look across government. In 2018, 36% of Rigrevisionen's reports looked into cross-government issues and we expect to achieve or exceed the 25% target also in 2019.

In order to support Rigsrevisionen in achieving its ambitions in this area, the internal analysis team sub-mitted a catalogue of nine ideas for cross-government studies to the management team in Decem-ber 2018. During the process of producing this catalogue, multiple stakeholders across the organisa-tion were engaged in "idea workshops". These workshops brought together employees with different expertise and knowledge of certain areas of government, and they very efficiently contributed specific ideas to new studies and identified issues in the public sector that had hitherto gone unnoticed. The management team decided to initiate five of the nine cross-government studies presented in the catalogue in 2019. All five fall within the categories 1 to 3 of our typology. The idea workshops held in 2019 have been focused on sequences (typology category 3), because this type of cross-government study has proven to be particularly excellent for pinpointing weaknesses and gaps in coordination among the authorities.

In March 2019, Rigsrevisionen published a report on the Danish ministries' work with open data. One of the purposes of the audit was to create an overview of open datasets provided by the ministries. The report identified 921 open government datasets that were published on 88 different web pages. In order to communicate our findings across the 18 different ministries, we tested a new data visualisation tool and presented an interactive visualisation of our findings on our web page.

Figure 2: Overview of all government web pages publishing open data
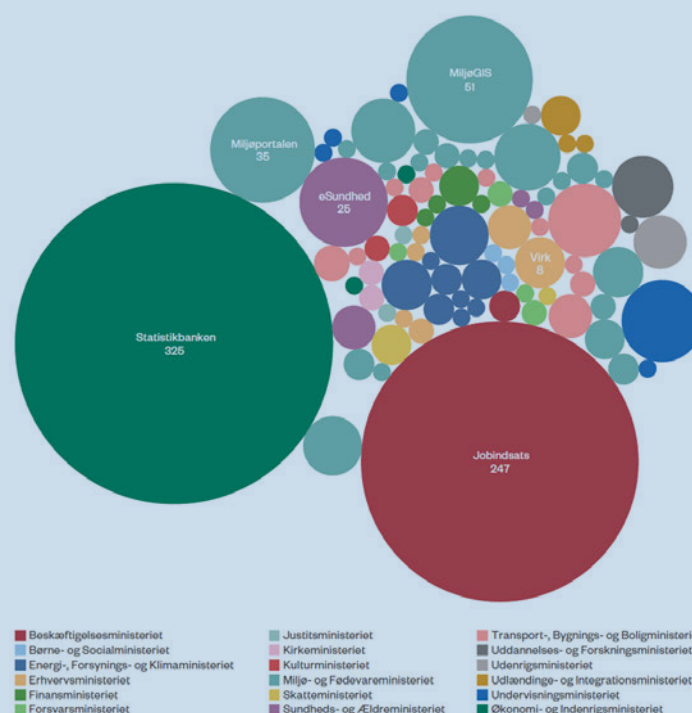
Note: Screenshot from the report on open data. Each circle represents a government web page containing open datasets. The size of the circle indicates the number of open datasets and the colour indicates the responsible ministry.

The interactive visualisation increased the interest in both the results of the study and the report itself considerably. We also invited 100+ par-ticipants to attend a 2-hour session to debate best practice in opening government data and the value of open data. Participants included rep-resentatives from all Danish ministries and several municipalities, NGO's and companies. Lessons learnt from both the use of new software and the 2-hour session will feed into Rigsrevisionen's future work with cross-gov-ernment studies.

Cour des comptes

YELLOW JACKETS, GRAND NATIONAL DEBATE AND ONLINE CONTRIBUTIONS: HOW DID THE FRENCH SUPREME AUDIT INSTITUTION INNOVATE TO CONNECT WITH CITIZENS?

In order to analyse the almost 14,000 online contributions from citizens mentioning the French SAI, the Cour des comptes developed an in-house software aiming to filter, tag and visualise results. By doing so, the French SAI contributed to the digitalisation of the institution with artificial intelligence and deepened its relationship with citizens after the Yellow Jackets movement.

Confronted to the movement of the Yellow Vests, which emerged in France in October 2018 to protest against the increase of the gas tax, the Government decided to take action. Facing a spontaneous social movement and several violent episodes in France's main cities (among them a particularly mediatized one on the Avenue des Champs-Élysées in Paris in early December), Emmanuel Macron announced in December the launch of a National Grand Débat as a way to start a direct exchange with citizens.

This national consultation was supposed to bring to light the concerns of the French people with regard to four main themes (ecological transition, taxation, public services and democracy). On April 25, 2019, Emmanuel Macron concluded the debate with a press conference at the Elysée Palace.

The consultation was divided into two phases. First, exchanges between citizens and city mayors (from mid-December 2018 to mid-January 2019) and local debates organized by mayors, associations, individuals, etc., around questions raised on the four themes chosen by the Government. Second and more importantly, from mid-January to mid-March 2019, citizens were able to voice their opinion on these four themes and to make proposals on a dedicated website.

Le grand
débat national

À l'initiative du Président de la République, le Gouvernement engage un Grand Débat National permettant à toutes et tous de débattre de questions essentielles pour les Français.

Dedicated website to the National Grand Débat

According to historians and political specialists, such a large scale and diversified consultation throughout France over a period of three months, had not taken place in the country since 1788, the year preceding the French Revolution. There were more than 8,000 local initiative meetings and almost two million contributions on the dedicated website. It has been a very original process for France and a first in the world for a debate of that scale.

Among those almost 2 million contributions, more than 14,000 were spontaneously mentioning the French Supreme and regional audit institutions. This was the starting point of a truly fascinating professional and technological experience.

Presentation of the day

Invited by the First President of the Cour des comptes, nearly 130 people (technical teams and participants) gathered on April 17 to read and analyse the more than 14, 000 contributions related to the French SAI resulting from the National Grand Débat. "Financial institutions are not in an ivory tower," Didier Migaud said, in his opening speech stressing out the important role played a handful of employees from the methodology and data and the information systems departments during the intense period of preparation of April 17.

Dider Migaud, the First President of the Cour des comptes' opening speech.

Preparing for D-day, what methodology?

Step 1 - An intuition about the content

Out of the almost two million contributions posted on the platform, the methodology and data team quickly highlighted 14,000 contributions related to the French SAI on the basis of certain keywords detected in the text (for example: "Cour des comptes", "regional audit chamber", "French SAI"). Among them, the methodology and data team read about one hundred of them,

from which they drew three main topics of opinion - the general perception of the French Cour des comptes, the perception of its recommendations and the account-ability and sanctions of public accountants and official managers. This process is what is usually referred to as a proof of concept, "PoOC", among data scientists.


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> cooc_terms(dtmso,"dépense")
               % Term/Cooc.  % Cooc./Term    Global % Cooc.  Global t value
absents         0.05883910    76.92308      0.017411142    60     78     Inf
abusif          0.03922607    88.88889      0.010044889    40     45     Inf
acquisition     0.10002648    87.93103      0.025893493   102    116     Inf
adaptés         0.04020672    89.13043      0.010268109    41     46     Inf
afin            0.27065988    43.46457      0.141744552   276    635     Inf
âge             0.09021996    61.33333      0.033482965    92    150     Inf
agression       0.03922607    83.33333      0.010714549    40     48     Inf
allocations     0.15298167    80.82902      0.043081415   156    193     Inf
ame             0.04510998    77.96610      0.013169966    46     59     Inf
ans             0.42168025    38.66906      0.248220380   430   1112     Inf
arrêt           0.04903259    70.42254      0.015848603    50     71     Inf
arrêter         0.10100713    50.49020      0.045536832   103    204     Inf
arrive          0.05883910    68.18182      0.019643339    60     88     Inf
assiette        0.04020672    87.23404      0.010491329    41     47     Inf
auteur          0.03922607    93.02326      0.009598450    40     43     Inf
avantages       0.20593687    42.25352      0.110940224   210    497     Inf
baisse          0.28242770    84.45748      0.076117940   288    341     Inf
baisser         0.06766497    79.31034      0.019420120    69     87     Inf
baisses         0.03040020    93.93939      0.007366252    31     33     Inf
biocarburant    0.02941955   100.00000      0.006696593    30     30     Inf
cadrage         0.13729124    98.59155      0.031697207   140    142     Inf
centrale        0.08139409    89.24731      0.020759438    83     93     Inf
chapitre        0.11963951    89.05109      0.030581108   122    137     Inf
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Tag cloud and tags statistics

Step 2 - Analysis by tagging

A discussion then began between the methodology and data and the IT department developers in order to identify the next step to take: how to process this data?

The two teams of innovators were looking for a tool that could be delivered quickly and easily upgraded, especially by non-IT specialists. Finally, the idea of a web platform distributing contributions to participants emerged. This platform was plan to allow everyone to read and define the meaning of a text by pinning it to one or more predefined tags. The choice was made based on the principle of tagging or labelling, making it possible to highlight the key ideas of a set number of contributions via a cloud of words (the tags most often chosen by the participants).

The entirety of the platform was developed in-house in less than two weeks, from the cleaning of the data to the mounting of the database and the creation of the user interface. This necessitated that our business data experts and the developers communicate almost constantly, meeting on a daily basis as part of a process of iteration and incremental advances. The final few days even saw the teams catching up on an almost hourly basis.

The platform was accessible to everyone from the morning of April 17 via an internet address posted on the Cour's intranet website.

Online platform for the contributions' tagging

Step 3 - Pre-definition of the labels for each workshop

The organizers defined several tags upstream. For each of the three workshops, the organizers defined several tags upstream (i.e. words to qualify the content of a contribution). This essential work paved the way for the analysis carried out on D-Day. Thus, on April 17, participants were provided with the set of words to conduct their analysis, a necessarily human work, which could not be carried out by any algorithm.

Members of the Cour des comptes tagging the contributions

Step 4 - Visualization of the analysis in real time

Simultaneously to the tagging of those contributions, the organizer and developers were considering how to monitor in real time and visually represent the evolution of the work carried out by the participants. The developers then used a free software[1] to design a dashboard indicating, for each workshop, the number of contributions processed - via a counter - as well as the main tags chosen to qualify the content - via a cloud of words. Projected on a large screen, this dashboard not only provided information on the progress of the work but also stimulated the participants, whose work was immediately visible.
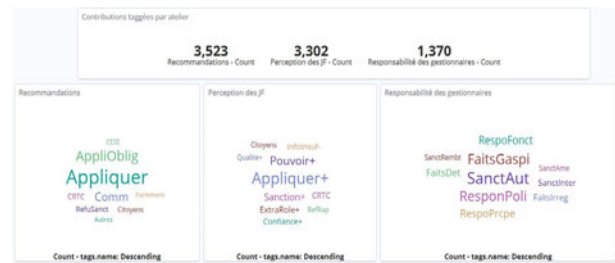
Tags clouds and results for each workshops

Step 5 - Experimentation with artificial intelligence

Finally, April 17 was also marked by the willingness to test new analysis tools. The fourth workshop tested three software packages[2] having in common that they were based on principles of artificial intelligence. These softwares were able to provide graphical analyses taking into account the human operating mode. This experimental approach has not been conducted in vain; it sets the stage for future practices for the Cour's needs.
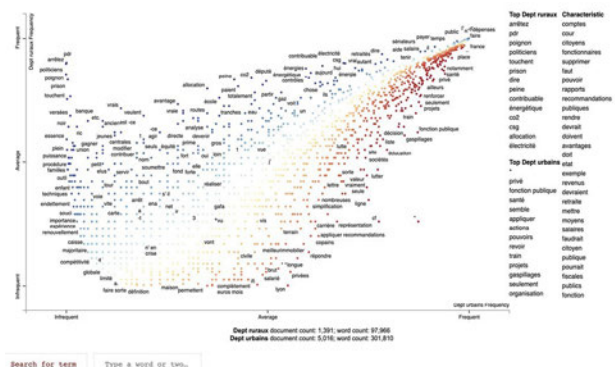
Data corpus analysis led in real time: difference of topics mentioned by citizens from rural or urban departments

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1   Kibana-Elasticsearch system
2   Gargantex, ScatterText and R. Temis

Le grand
débat na

À l'initiative du Président de la République, le
Débat National permettant à toutes et tous
pour les Français.

Lessons learned

The level of flexibility and response this project required was unparalleled for an institution traditionally firmly rooted in process and protocol. But all departments understood the importance of the issue and most importantly were committed to rapidly finding a way to read and analyse citizens' contributions. Understanding the significance of this project was crucial to making it a success.

The critical nature of having hybrid profiles - i.e. people that are both audit and tech savvy – was salient for this process. It was a strong reminder of the importance of skills development. Having staff members with basic understanding of technology is a first step, but not sufficient; the future will require auditors that are proficient with technology and technicians that truly understand the business' goals and challenges. Agility is about understanding users and that can only be achieved if people speak a common language and truly cooperate on building solutions (as opposed to having two side by side silos communicating through small bridges).

Clearly planning the follow-ups to a hackathon-type day was also a perhaps a missed opportunity. After April 17, reactivating the different teams to continue building the on what was achieved was somewhat challenging. This was partly technical – some basic needs for reusability were omitted – and partly human: with a tight but very real deadline, the day of the event becomes the summit every member of the team aims for, forgetting the next day that climbing down the mountain also requires effort.

What are the results?

At the end of April 17, the outputs of the workshops were presented to the First President, the General Rapporteur and all the participants on the basis of the 8 500 contributions analysed that day. This project allowed the Cour to sketch an accurate picture of citizens' opinion on the French SAI. Beyond the quantitative aspect, the event allowed meetings, within the workshops, between people who do not generally work together or interact on a daily basis (see testimonies). A challenge that was both human, and eminently technical, since it is the result of an intense collaboration between the support departments (IT, methodology and data, and logistics).

For the department of methodology and data and the IT department, the Grand Débat project was not only the opportunity to display the technological capabilities available at the Cour, but also to test new innovative tools. While the main platform was based on a traditional database structure, the development team experimented with open source big data tools such as Elastic search. Combined with the Kibana plugin, this set-up was used to create data visualisations of the workshops outputs and broadcast them across offices throughout the day. The technical teams took advantage of this event and the resources gathered to test tools that may be deployed in the future as the institution moves further towards digitalisation.

ÁLLAMI
SZÁMVEVŐSZÉK

DO YOU JUMP OR FALL? IT'S UP TO YOU! – CHANGE CONSCIOUSLY!

By the beginning of the 21st century, the number of impulses institutions, economic operators, and individuals encounter as a result of globalization, IT revolution, and the acceleration of scientific and technological progress has increased, and environmental changes have gained momentum. The values of the learning-adaptation process of self-learning institutions are shifting, and new solutions to challenges are born; this is the way forward. Taking the example of international trends and success stories among organizations and institutions operating within the private and public sector, we can see that one of the keys to success is proactive strategic management that goes ahead of changes.

It is in this changing environment that the State Audit Office of Hungary has to perform its tasks efficiently and effectively, the operating environment of which is determined, on the one hand, by the public sector, whereas, due to its activities, its internal control environment has to meet much more explicit expectations.

The organization's ability to react successfully depends on its preparedness. Change management is an activity based on strategic thinking, covering all levels and processes of the organization, providing a coordinated response to external and internal challenges.

It includes the mapping of reasons for changes, as well as determining the purposes of changes, their planning, implementation, control and integration into the organization.

As an objective set forth in the institutional and functional strategy of the State Audit Office of Hungary, the SAO aims to become an organization which is able to meet today's challenges and adapt to changes. Therefore, our institution continuously develops its external and internal responsiveness in order to provide substantive responses to challenges and expectations and to operate the organization in an economic, efficient, effective, and sustainable way.
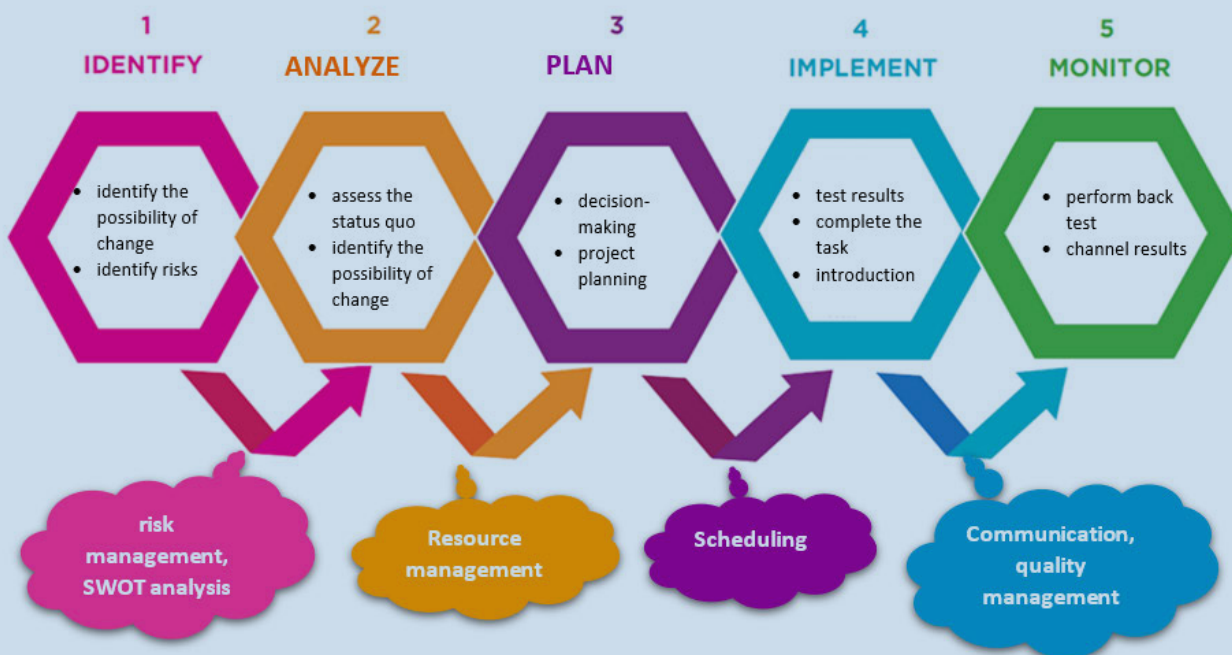
In order for the State Audit Office of Hungary to manage changes in a more efficient way, it has become necessary to elaborate a uniform framework system at organizational level, the creation of which was started by the SAO in 2016. The strategic planning model elaborated during the renewal of the SAO's strategic planning and management, as well as the definition of guidelines for change management have highlighted the need for integrating factors characterizing the work of the organization and affecting its performance into the signaling system. The change management project was launched after the definition of

change management principles, as a result of which an internal "user manual" was created in spring 2018, primarily for middle and senior management.

The document provides support for the conscious, planned, and effective application of methods and procedures tailored to the organizational specificities of the State Audit Office of Hungary, in order to obtain the best possible result. In the course of consciously governed change management, it has to be taken into account that tasks—to be solved—arising in the course of the individual steps of the series of modifications are usually interdependent and also cover other areas and processes of organizational governance. This is why increments play a vital role in the course of change management: The performance of processes and sub-tasks must create added value in all cases, sub-tasks must be built on each other; therefore, it is expedient to ensure that change management projects take place in accordance with principles similar to agile methodology.

Consequently, the above entail the importance of preliminary analyses, analyses built in the process, as well as subsequent analyses, to which the State Audit Office of Hungary is paying particular attention.

Phases of change management:

1 IDENTIFY	2 ANALYZE	3 PLAN	4 IMPLEMENT	5 MONITOR
• identify the possibility of change • identify risks	• assess the status quo • identify the possibility of change	• decision-making • project planning	• test results • complete the task • introduction	• perform back test • channel results
risk management, SWOT analysis	Resource management	Scheduling	Communication, quality management	

The change management framework focuses on project perspective and project-oriented work with project management and change management tools in order to ensure the optimal use of resources. This will help to ensure that, in the case of each task, a person with suitable professional competences will be appointed for the necessary period of time based on a dedicated project plan. Relevant international literature also states that one of the keys to implement change management is specialized project management—and the State Audit Office of Hungary introduces changes exclusively based on this approach. With the use of this instrument, the introduced changes become well-founded, justified, traceable, measurable, and detectable.

With the elaboration of a change management tool set, the State Audit Office of Hungary has created the conditions necessary for implementing the objectives set forth in its strategy, thus promoting the organization's responsiveness to the flexible management of environmental challenges, the increase of efficiency and effectiveness, as well as the improvement and renewal of processes.

The performance measurement system elaborated by the State Audit Office of Hungary also supports these objectives.

REPUBLIC OF SLOVENIA
COURT OF AUDIT

SDGS ARE ON THE TOP, NAMELY ON THE ROOFTOP

The Court of Audit of the Republic of Slovenia is fully aware of its responsibility to properly respond to emerging issues. It thus believes that the use of public funds in the future strongly depends on the recognition of sustainable development. Our SAI is seriously committed to the SDGs of the Agenda 2030. The Court of Audit takes into account implementation gaps and considers them as one of the key criteria for making decisions on what to audit and points out areas where problems might occur.

Audit reports are not just critical towards the past issues, but are also visionary and sustainably oriented; floods, droughts and other extreme events, waste management, drinking water resources, forests, biodiversity, management of protected areas of Natura 2000, migration, youth policy, health care, memorial candle waste, light pollution, child obesity, green economic growth - are just a few topics addressed in the latest audits.

Besides the scope of its supreme audit powers, the Court of Audit is recognised nationally and within relevant international forums for raising awareness of the implementation of SDGs. That is achieved not just by several presentations and discussions but also through its efforts for greening the institution. One of the latest acquisitions of the Court of Audit are beehives on its roof that are also providing our SAI honey used for protocol gifts. Our bees with their own honey symbolically represent the importance of sustainable development.