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Research Management

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FSVO Research Concept 2017-2020

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1 Introduction

We actively promote the health of humans and animals, provide leadership in the area of tension between different expectations, and deliver competent and efficient performance. These are three of the four strategic objectives that the Federal Food Safety and Veterinary Office (FSVO) has set itself from 2016.

In order to achieve these strategic objectives and find answers to relevant questions, the FSVO both conducts its own research and also commissions research projects. Its approach is to conduct or commission research which no-one else is doing, but which the FSVO needs in order to fulfil its mandate. As the Office responsible for food safety, nutrition, animal health, animal welfare and species conservation in international trade, the FSVO has an area of activity which covers the entire food chain from welfare-friendly animal production to finished food product.

The FSVO's research concept is aimed mainly at professionals and researchers working in its area of activity, but also at interested lay persons. It gives an overview of the research priorities which the FSVO has defined for the next four years. FSVO research is guided by the knowledge gaps and needs of specialist departments, enforcement authorities and the general public. Its aims are to facilitate goal-oriented, efficient enforcement work, to provide customer-focused information, to ensure innovative and efficient procedures, and to improve legal texts. Research results can also serve as a basis for further application-oriented research projects.

2 Government research in the FSVO

2.1 Information on federal government research

Research which is initiated or supported by the Swiss Federal Administration is described as "government research" or "federal policy research". The results of this research are either required by federal government or policy makers for the fulfilment of their tasks or are in the public interest. Government research therefore lies at the interface between scientific research and policy or practice. It involves both "research in politics", which brings the scientific and technical dimension into the political debate, and "research for politics", which provides the basis for formulating objectives in policy areas (see Annex A3). It is legitimised by the Research and Innovation Promotion Act (RIPA) ([SR 420.1](#)), which serves as the statutory framework for government research, and by special legislative provisions (see Annex A2). It is consistent with FSVO strategy and comprises the following measures:

- the operation of federal research areas (*intramuros research*);
- *contributions* to university research institutes to carry out research projects (*extramuros research*);
- the awarding of *research contracts* (contract research).

Government research does not include expenditure by state-funded universities and university research institutes, state contributions (subsidies) under the RIPA to the SNSF, CTI and scientific institutions (academies, research infrastructures, research institutions, technology competence centres, etc.), or contributions to international scientific institutions and structural funding organisations.

In practice, government research is based on the five main principles of legality, expediency, effectiveness, cost-effectiveness and compliance with scientific quality standards. The primary responsibility for government research lies with the individual federal authorities which carry out, commission or fund the research.

2.2 FSVO government research in its' policy areas

Government research within the FSVO focuses primarily on the policy areas of agriculture and health and, to a lesser extent, environment. Some research cannot be attributed clearly to any one policy area. The close cooperation with the FOAG and FOPH is evidenced by the fact that FSVO research priorities are always included in those Offices' research concepts. In addition, the close links between relevant questions in each policy area are expressed in overarching specific strategies spanning multiple Offices and resulting research collaborations.

FSVO government research is integrated into the research concepts of the
Federal Office for Agriculture: <https://www.blw.admin.ch/blw/en/home/das-blw/forschung-und-beratung.html> , [Forschungskonzept Land- und Ernährungswirtschaft 2017-2020](#) (German) and the
Federal Office of Public Health:
<https://www.bag.admin.ch/bag/en/home/service/ressortforschung-evaluation/forschung-im-bag.html>

3 FSVO research priorities for 2017-2020

3.1 General

The framework for FSVO research is the FSVO's research concept, which is developed for successive four-year periods by policy area in parallel with the departmental research concepts. In terms of content, the FSVO's research needs are derived from its rolling strategy and its specific strategies, and from overarching specific strategies spanning multiple Offices. The FSVO's specific strategies include the Swiss Animal Health Strategy 2010+, the nutritional strategy, and the animal welfare strategy which is currently in development and will be finalised in the course of 2017. Key overarching strategies include the strategy for preventing non-communicable diseases (NCD strategy), the strategy for combating antibiotic resistance (StAR) and the food chain strategy. The FSVO leads the StAR 'animal' subproject.

The research priorities for 2017-2020 define the framework in terms of content for the FSVO's research questions over the next four years. The FSVO will use them to formulate targeted calls for tender in priority areas of its responsibility. Applicants will use them as guidelines when formulating and submitting applications. The research priorities will therefore support the process of exploring important questions in a targeted manner and developing answers and courses of action. This will help to fill knowledge gaps within FSVO and key stakeholder groups. The research priorities are sharpened and clarified in the course of the annual planning process.

3.2 Cross-cutting research questions

FSVO research is geared towards application and implementation. Applied research with high potential benefits is prioritised. The FSVO also supports projects which may be slightly further away from implementation but provide an important basis for subsequent targeted applied research.

The FSVO's remit covers most of the food chain. The FSVO is therefore the Office best able to link research questions from its individual areas of responsibility, to conduct research according to an integrated approach, and to find comprehensive solutions.

In addition, the FSVO develops synergies with other Offices based on cross-departmental or cross-agency strategies. Cooperation with the FOPH and FOAG is especially important as these Offices are its main partners in strategies such as the food chain strategy, NCD strategy or StAR. The Federal Strategy for Sustainable Development holds special significance for cooperation with other federal offices, as coordination between inherent interests and possible conflicts of aims is of particular importance in this context.

The FSVO is always keen to seize opportunities for working with other Offices involved. With the aim of handling research questions as comprehensively as possible and finding answers that can be implemented in a targeted manner.

In the past, research projects focused on influencing the behaviour of the various actors often proved difficult to implement in practice. It is therefore vital to clarify the factors that facilitate the implementation of research project findings, as well as the means by which knowledge transfer to stakeholders (e.g. veterinarians, farmers) can be improved.

Other topics which need to be considered in virtually all research questions, but have to be addressed specifically by department or target audience, relate to early detection and (risk) communication.

3.3 Food safety, nutrition and commodities

Research in the field of food, nutrition and commodities is characterised by the goal of providing a targeted basis for assessing nutrition and the safety of food and commodities in order to protect consumer health as effectively as possible. Known and new risks and opportunities are monitored, investigated and assessed along the entire food chain. The design of research in the field of food, nutrition and commodities follows the traditional classification of risk analysis (e.g. according to the *Codex Alimentarius*). It covers the aspects of risk assessment, risk management and risk communication.

The aim of research in the field of food and commodities is to identify health risks and to assess substances, organisms and processes in order to evaluate the safety of food and commodities and thus to protect consumer health as effectively as possible. The aim is also to protect consumers against deception and fraud. Known and new food-related risks are monitored, investigated and assessed along the entire food chain. Close cooperation exists with the field of nutrition.

Research in the field of nutrition aims to collect representative data on food consumption and nutritional behaviour. These data form the basis for targeted measures to ensure that the Swiss population enjoys a balanced and healthy diet. Nutrition-related subsequent costs (e.g. NCDs) are an additional aspect of research.

Research objectives

1. Provision of basic data for risk analysis

Questions connected with the collection, evaluation and analysis of data with the aim of creating a basis for risk assessment.

Examples:

- Determining human and animal exposure to environmental contaminants and other anthropogenic and natural substances via food and commodities by means of environmental monitoring and human biomonitoring;
- Creating databases on the nutritional and eating habits of the Swiss population (dietary surveys);
- Developing cost-effective, rapid methods for recording nutritional behaviour.

2. Conceptual basis for risk assessment (methods)

Developing and refining methods used for efficient, effective risk assessment.

Examples:

- Developing an assessment concept for simultaneous exposure to multiple substances;
- Improving statistical evaluations of animal studies;
- Developing methods for early risk identification.

3. Conceptual basis (tools) for assessing effectiveness (risk management)

Developing and refining tools which allow the effectiveness of state action in the field of food and commodities to be assessed.

Examples:

- Developing methods for measuring the effectiveness of state action (official controls) and assessing the impact of risk management measures;
- Gaining knowledge on the basis of analyses and evaluations of data from dietary surveys (menuCH) and implementation of measures in the area of nutritional strategy and risk assessments in the area of food safety;
- Analysing the economic impact (cost-benefit analyses) of intervention measures to reduce the risk of diet-related NCDs;
- Developing methods and tools for assessing the effectiveness of environmental and behavioural prevention measures to support a healthy diet.

4. Conceptual basis for risk perception and communication

Developing methods for conveying risks to target groups, to give them potential courses of action, as well as for improving risk perception on the part of consumers.

Examples:

- Developing methods and media for targeted, effective communication in order to effect, promote and support changes in behaviour;
- The following list defines and ranks the priorities for departmental research in the field of food, nutrition and commodities for 2017-2020. The list will be adapted periodically to the FSVO's needs.

Priorities for 2017

(As at: 16.9.2016)

First priority

- Determining human and animal exposure to natural ingredients of foods (e.g. pyrrolizidine alkaloids, tropane alkaloids, mycotoxins) and commodities (e.g. essential oils, furocoumarins) with health relevance.
- Developing and applying cost-effective, precise methods for recording the nutritional and eating habits of different population groups (e.g. infants, toddlers, migrants).
- Reviewing/improving statistical evaluations of animal studies; dose-response relationships depending on study design.
- Integrating '-omics' methods into regulation.
- Contributing to the development of an assessment concept for simultaneous exposure to multiple substances.
- Developing new, improved methods for measuring allergens in food.
- Developing methods for characterising and measuring the uptake of chemical substances from packaging materials.
- Determining the viability of pathogenic micro-organisms, in particular viruses, in foods and in food production processes (e.g. *Mycobacterium bovis / caprae* in raw milk cheese, hepatitis E virus in meat products).
- Developing methods and media for targeted, effective communication in order to effect, promote and support changes in behaviour.
- Developing cost-effective methods and tools for assessing the effectiveness of environmental and behavioural prevention measures.

Second priority

- Occurrence and frequency of food-borne pathogenic micro-organisms in various foods with a particular focus on viruses.
- Determining human and animal exposure to environmental contaminants and other anthropogenic organic substances via food and commodities.
- Environmental (e.g. water) and human biomonitoring (serum, urine) to determine the exposure of the Swiss population to heavy metals (cadmium, arsenic, uranium, etc.) and other (organic) contaminants.
- Mathematical simulation of substance migration from food contact materials to foodstuffs.
- Developing basic principles for assessing the health risks of foreign substances in cosmetic products.
- Exploring the possibilities of using new techniques (e.g. next generation sequencing) in the molecular biological testing of food; developing new methods of species determination (animals and plants).

3.4 Animal health and StAR

In line with the food chain strategy and One Health, research questions in animal health have clear links with other specific areas (see Section 3.2, Cross-cutting research questions). The research priorities are strongly influenced by the research needs derived from the Swiss Animal Health Strategy 2010+ and the federal strategy for combating antibiotic resistance (StAR).

Good herd health care is the cornerstone of good animal health. The principle of herd health management should be developed accordingly. To this end, research is required to ensure the effective involvement of stakeholders, improve biosecurity, reduce antibiotic use, develop vaccination strategies, extend diagnostic tools, utilise existing databases, and improve data quality.

Another key element is surveillance. Surveillance methods should be refined and tailored to the dynamic environment and to ever-changing environmental conditions. This requires targeted research into monitoring and surveillance systems, notably where there are gaps in disease surveillance, early detection, assessment of new dangers and risks, as well as in the monitoring of antibiotic resistance and antibiotic use.

In international comparisons, Switzerland has an excellent status with regard to state control of animal diseases. To maintain and enhance that status, it needs accompanying research into the fundamentals of animal diseases and zoonoses. This application-oriented accompanying research should facilitate and/or optimise the eradication and control of animal diseases and zoonoses (research into strategy development as well as research into diagnostics and evaluation of control).

Animal husbandry systems, forms of production (e.g. pig producer groups, calf fattening) and animal transport should be assessed with regard to food safety risks on the one hand and effective prevention of infectious diseases and antibiotic resistance on the other. Basic principles for innovative systems should be explored.

There is also a need for research with a view to refining methods and building and using databases in the One Health context. This is important for the detection, prevention, surveillance and control of pathogens and diseases which are important for animals, humans, food and the environment.

Effective implementation of the research results, early detection, surveillance and control programmes as well as sustainable and targeted strengthening of disease awareness among animal owners and veterinarians require a target group-specific, socio-scientific analysis of communication. Communication concepts should be developed on this basis.

3.5 Animal welfare

It is vital for animal welfare that animals' needs are explored and that especially people who keep and handle animals, but also the general population, have knowledge and understanding of these needs. Research which is characterised by both high scientific quality and high relevance to specific animal welfare problems has the greatest potential to bring about sustainable improvement in animal welfare, and therefore has priority. The FSVO and the cantonal enforcement bodies are currently working on an animal welfare strategy which will be finalised in the course of 2017. This will also support the sharpening of research questions and the formulation of the annual research priorities.

Research in the field of animal welfare is geared to the following areas of action:

- Developing new and improving established methods for recording animal welfare.
- Optimising methods for anaesthesia and the killing of animals.
- Assessing the housing conditions of livestock, domestic animals and wild animals, especially in the light of technical innovations in animal husbandry and societal changes. This includes, at the interface with animal health, assessing new types of housing which are aimed at the effective prevention of (infectious) diseases.
- Impact of new uses, forms of production and technologies on animal welfare (e.g. aquaculture, sports, therapy animals).
- Welfare-related aspects in the breeding of animals.
- Implementation of 3R requirements in animal experiments.
- Studies on societal developments in the context of human-animal interaction.
- Evaluating the impact of existing and future animal welfare regulations on animal welfare.
- New methodological approaches to reinforce the practical implementation of research project findings.

4 Research process

The research process is described in detail in the [Research Guide](#) (German) published on the FSVO website. Its main general elements, and principles for the selection and documentation of projects, are outlined in the following subsections.

4.1 General

The FSVO strives to design its research process in a targeted manner and to adapt it continually to developments in its environment. Its aim is to guarantee a prompt response to evolving trends and conditions, and to make sure that the latest findings from completed research projects are implemented quickly and effectively or are used to refine future research questions.

Specific research questions for the following year are defined annually as part of the planning process, based on the generally worded research priorities, the latest findings and developments, and the objectives of the FSVO and its departments. These specific research questions may be published on the FSVO website in the form of research calls and made available to interested parties. Based on the prioritisation, the bulk of FSVO research funding flows towards such targeted research calls.

However, projects outside these research calls which are in line with the general research priorities and contribute to solving specific problems should continue to be supported in future.

In principle, applications should be submitted in such a way that questions can be answered as efficiently as possible. The promotion of young researchers remains a key concern for the FSVO.

4.2 Selection of research projects

Selection of submitted research projects is carried out in a competitive two-step process. In the first selection round, the FSVO Research Commission examines whether the research outline addresses the question and pursues relevant, application-oriented solutions. Projects which meet these criteria are approved for the development of a full description. The descriptions then undergo a more in-depth examination and rating by the concerned divisions and the Research Commission with the assistance of external experts. In deciding whether to implement projects, the FSVO Executive Board is guided by the recommendations of the Research Commission.

The Animal Welfare and Risk Assessment divisions have their own permanent research teams whose mandate is to provide technical expertise, to support and advise risk management in enforcement matters, and also to carry out intramuros research. Whereas projects by the Animal Welfare research team (ZTHT) undergo the above selection process, Risk Assessment selects projects for its research team (laboratory) without involving the FSVO Research Commission. All new laboratory projects (intramuros government research projects and mandates to the laboratory) by the Risk Assessment division are notified to the Executive Board.

At the same time as the FSVO Executive Board decides whether to implement research projects, the Risk Assessment division presents a detailed overview of all projects and mandates that are planned or ongoing, or have been completed in the reporting period. The Risk Assessment division researchers commission an external report on projects which they consider suitable, with the aim of generating added value for the projects.

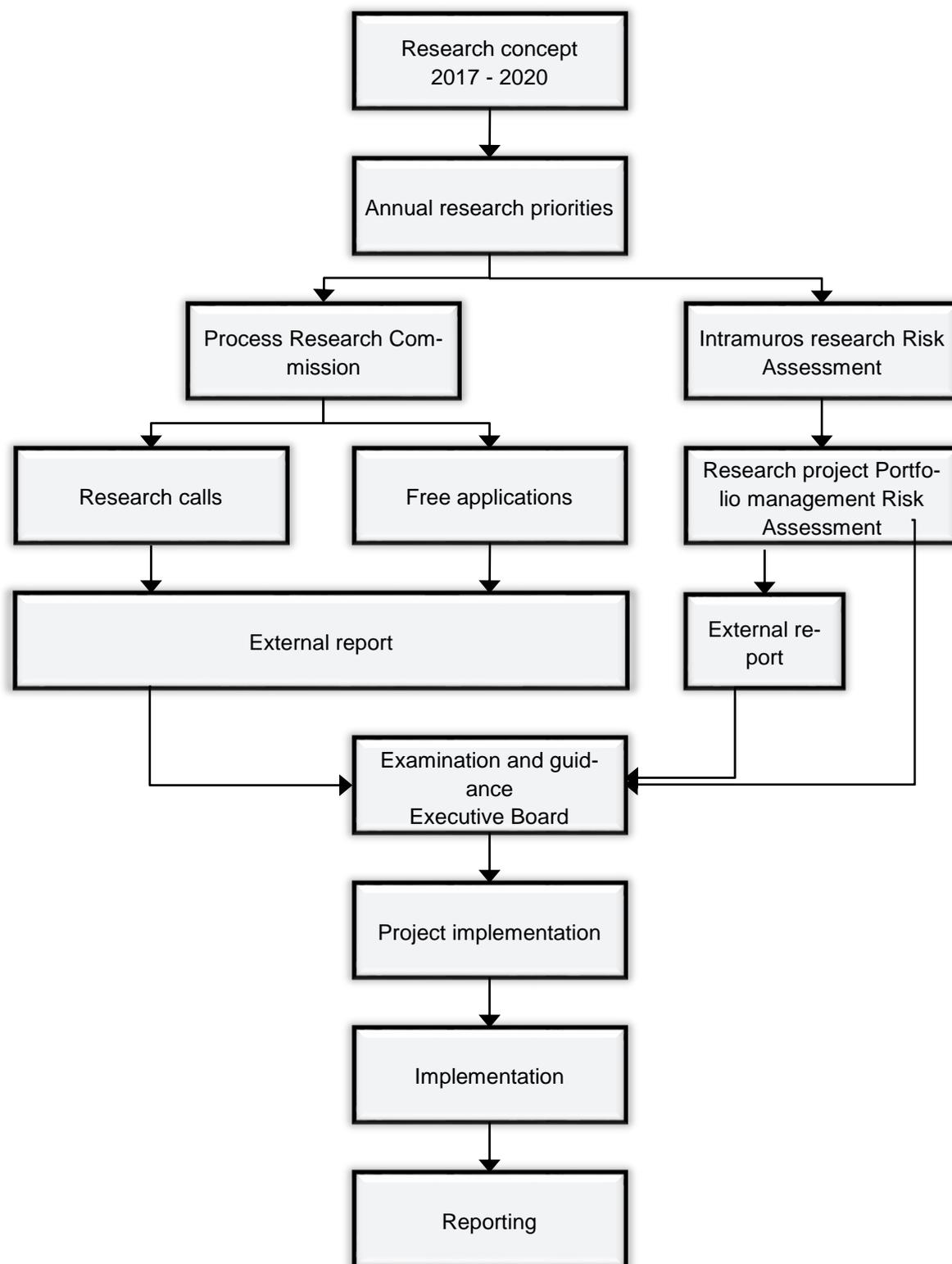


Figure 1: Overview of the FSVO research process

4.3 Documentation of research projects in ARAMIS

Transparency surrounding the research projects the FSVO supports, as well as projects conducted in-house, is important to the Office. For that reason, all submitted research projects are recorded in the federal ARAMIS research database. Project data are continuously updated until the projects are completed. This provides third parties with information about ongoing research projects and key findings. Further details concerning the ARAMIS database can be found in the Annex.

5 Implementation of research results; review of effectiveness of research

Government research within the FSVO is strongly geared towards implementation. Among all of the projects meeting the quality criteria and scientific character requirements, priority is given to those with the highest demand for their implementation.

5.1 Implementation of research results

To ensure that findings obtained in research projects are implemented in suitable ways, the FSVO sets specific implementation goals from the outset, i.e. when a research project is selected. These goals can be assigned to the following categories:

- **Supporting enforcement bodies** (advice, adoption and updating of directives, guidelines, etc.; training and continuing education for enforcement bodies)
- **Communication** (results are published in scientific or target group-specific publications, or presented to a specialist audience)
- **Adaptation of procedures or management systems** (e.g. agricultural housing systems, technological adjustments to manufacturing processes)
- **Diagnosis** (developing new test methods, validating methods, etc.)
- **Surveillance and control of diseases** (e.g. epizootic diseases)
- **Basis for further applied research**
- **Legislation**
- **Impact on cost-effectiveness of action**

The actual implementation of research findings usually takes place after completion of the projects under the direction of the responsible department. In specific cases where there is a great need for knowledge and action and the results of the research projects permit, initial reliable findings may be implemented (e.g. detection methods or recommendations for vaccination strategies) before a project is completed.

The effective implementation is verified as part of the annual implementation meeting. Here the FSVO assesses whether the results obtained in completed research projects have led to the planned implementation or whether follow-up work is necessary.

5.2 Review of effectiveness

The Federal Administration is obliged to act in accordance with the principles of expediency and cost-effectiveness, and to provide services in a manner that is close to the public, sustainable and (cost-) effective.¹ For this reason, it is important to evaluate both the research process and individual projects at irregular intervals. This is done with the aim of verifying efficiency and effectiveness and, if necessary, taking corrective action.

¹ Government and Administration Organisation Act (GAOA, SR 172.010) Art. 3 para. 3 and Government and Administration Organisation Ordinance (GAOO, SR 172.010.1), Art. 11 letter c

6 Communication of findings (communication channels and options)

The FSVO is keen to see that the findings of research projects are suitably implemented and utilised. To do this, it is important to reach and motivate the stakeholders crucial to implementation. These stakeholders differ widely depending on the research area. They can be either narrowly defined groups such as the cantonal food and veterinary enforcement authorities, or broad groups such as animal keepers (professional or private) and their veterinarians, the food industry, or certain population groups in the case of targeted nutritional awareness campaigns. Communication of findings to target groups therefore has to be very sophisticated in order to achieve successful implementation.

6.1 Communication on research projects

All research projects submitted to and supported by the FSVO are recorded and documented in ARAMIS, the federal research database. The final reports on projects are available in the publicly accessible area of ARAMIS. This provides the research community with a centralised source where they can learn about about findings already obtained in FSVO research.

In addition, ongoing and completed research projects are listed by specialist area on the FSVO website.

6.2 Communication of findings and implementation resulting from research projects

The findings resulting from research projects are the intellectual property of the researchers. However, the use of findings and resulting implementation are the preserve of both the researchers and the FSVO.

In principle, researchers are entitled to publish their research results first, or to make them accessible to third parties. In the case of topics or research results which have particular political or social sensitivity, researchers and FSVO agree the date and manner in which the results will be first published or made accessible. In special cases, the FSVO may communicate details of a research project at an earlier stage.

To make findings obtained with public funds available to a wider circle of researchers, FSVO Open Access² advocates and supports the publication of research results. In addition, researchers are encouraged to include a reference in their publications, presentations, etc. stating that the work was supported by the FSVO.

6.3 Multi-annual report

In addition to project-related communication on specific findings of research projects or implementation in practice, the FSVO produces a multi-annual report every four years. This report represents the conclusion of the relevant four-year research period. In this way, the FSVO provides information on the findings of research projects geared to the research priorities and on the implementation of those findings. The multi-annual report also contains statistical data on the distribution of research projects across the specialist areas and the use of financial resources. The multi-annual report is aimed at funding providers, researchers and interested lay persons.

7 Funding of research in the FSVO

Detailed information on the use of funds in the areas of funded research (part-funding of projects), intramuros and extramuros research, as well as the allocation to specialist areas, can be found in the ARAMIS research database and the multi-annual report on research.

² Open Access gives free access to scientific publications: <https://open-access.net/CH-EN/switzerland-english/>

7.1 Consequences of cost-saving measures

Due to difficult financial circumstances on the part of the Confederation, the Federal Council adopted an Act on the Consolidation and Review of Tasks (CRTA 2014) in December 2012. The package of measures included reductions in government research. The FSVO has had cut its research budget by around 3% since 2014. Further reductions affecting government research are being made within the framework of the 2017-2019 stabilisation programme.

These cost-saving measures means that less funding is available for research projects. However, the FSVO cannot do without individual research priorities or research questions on certain topics, and new and existing specialist strategies impose additional demands in terms of research. To resolve this contradiction, the FSVO is committed to increasing the efficiency of its government research. One way in which it will do this is by formulating its research priorities even more concisely and advertising them in targeted research calls. It also plans to strengthen cooperation with other research centres, especially within Switzerland, and specifically to seek exchanges with international research bodies.

8 Stakeholders and interfaces

Interfaces with university research priorities, SNSF funding programmes and CTI funding activities are shown explicitly in the research concepts for the different policy areas. The intention is to link government research to general research funding wherever possible or necessary. The relevant programmes of the research funding institutions or universities are to be used increasingly by federal research.

8.1 Stakeholders in the university sector

The promotion of young researchers is a key concern for the FSVO, so it works closely with colleges and universities. Notable partners include the Vetsuisse veterinary faculties in Berne and Zurich, the Health Sciences and Technology Department of ETH Zurich, and the Institute of Social and Preventive Medicine at the University of Lausanne. In addition, the universities in Bern and Zurich are increasingly focusing on food science, nutrition and health. Cooperation will be enhanced here too.

8.2 Interfaces with the Swiss National Science Foundation

The Swiss National Science Foundation (SNSF) is the primary Swiss institution for the promotion of fundamental scientific research in all scientific disciplines. It was established in 1952 as a private-law foundation to guarantee the independence of research.

The SNSF awards public research funding via competition, which contributes to the quality of Swiss research. The SNSF is committed to the promotion of young scientists, and for that reason also supports career advancement tools.

The different funding instruments available to the SNSF aim to support research in various directions: research programmes such as the National Centres of Competence in Research (NCCRs), National Research Programmes (NRPs), research infrastructure projects, career advancement and scientific communication programmes.

The NRPs aim to provide solution-focused contributions to socially relevant topics at the interface between science and politics. The NRPs are commissioned by the Federal Council. The following NRPs are currently of relevance to the FSVO:

NRP 69: "Healthy diet and sustainable food production", which commenced in spring 2012 and is scheduled to run for 3+2 years. This NRP has a financial framework of CHF 13 million. It aims to provide a practice-oriented knowledge base on how to promote a healthy diet in Switzerland and how to provide high-quality, safe food in sufficient quantities and at affordable prices with the most efficient possible use of resources and low environmental impact.

NRP 72: "Antimicrobial resistance", which commenced in autumn 2015 and is scheduled to run for 5 years. This NRP has a financial framework of CHF 20 million. It aims to improve knowledge of the possible origins of resistance genes and their transmission mechanisms, to develop new rapid diagnostic techniques, to identify novel antimicrobial molecules and to propose intervention measures. To these ends, the NRP pursues an integrated, interdisciplinary One Health approach. The National

Strategy on Antimicrobial Resistance (StAR), developed by FOPH, FSVO and FOAG in cooperation with FOEN and the cantons, is a key element of NRP 72.

8.3 Interfaces with other federal agencies

The government research pursued by the FSVO has various interfaces with other federal agencies and their strategies. Good cooperation and coordination of research questions is therefore essential. Examples of cooperation with other federal agencies are described below.

8.3.1 FOPH

The FSVO and FOPH cooperate closely on a number of important research questions. For example, the FOPH coordinates the Swiss antibiotics strategy (StAR), in which the FSVO is responsible for the use of antibiotic veterinary medicinal products. Furthermore, the Offices coordinate and cooperate closely on strategies and programmes in the areas of non-transmissible diseases, nutrition and exercise.

8.3.2 FOAG

The FSVO and FOAG cooperate in the context of joint strategies (food chain strategy) and also on selected individual research projects incorporating aspects of both agricultural and veterinary practice.

8.3.3 Agroscope

The research areas covered by Agroscope extend along the whole length of the value chain in the agricultural and food sector. For this reason, Agroscope's fields of activity have interfaces and synergies with the FSVO's research priorities. As a result of this orientation, Agroscope is also a stakeholder in research and an intermediary for the dissemination and implementation of research findings.

8.4 Interfaces with international research

International cooperation in research into human and animal health is essential. The internationalisation of animal and food transport and financial pressure in livestock farming and food production means that there are virtually no borders any more, either for animal diseases, food contamination or other vector-borne health hazards.

Close cooperation with its European partners is therefore important to Switzerland. This takes place on the basis of research programmes and research networks, or via the appointment of Swiss experts to European research bodies.

COST (European Cooperation in Science and Technology) is a European body for the coordination of research activities. COST does not prescribe any programme content or propose a common research policy. COST Actions are a networking instrument for researchers throughout Europe to coordinate their nationally funded research activities.

Horizon 2020 is the European Union's eighth Research and Innovation programme and runs from 2014 to 2020. Horizon 2020 is founded on three pillars: "excellent science", "industrial leadership" and "tackling societal challenges". Originally, the intention was for Switzerland to be fully associated to this research programme. Following the adoption of the mass immigration initiative of 9 February 2014 and the associated non-signing of the Croatia Protocol, the European Union temporarily rejected Switzerland's full association to the Horizon 2020 package.

On 16 December 2016 the Swiss Parliament adopted an implementation of Article 121a of the Federal Constitution in which the bilateral agreements with the EU are respected in all aspects. On the same day, the Swiss Federal Council ratified the protocol extending the free movement of persons to Croatia, thus fulfilling the necessary condition for Switzerland's full association to Horizon 2020 from 2017. As a consequence of this ratification, Switzerland is fully associated to the Horizon package as from 1.1.2017. The European Commission has updated the information paper regarding Switzerland's full association status.

Current information on Switzerland's status in connection with Horizon 2020 is available on the SERI webpage 'Switzerland's Status in Horizon 2020'.³

³ <https://www.sbf.admin.ch/sbf/en/home/topics/swiss-international-cooperation-in-research-and-innovation/european-union-framework-programmes-for-research/horizon-2020--the-european-unions-framework-programme-for-resea/swiss-transitional-measures-for-horizon-2020.html>

9 Quality assurance

Quality assurance in research is important to the FSVO and is viewed as a cycle. Checks are carried out to establish whether the knowledge gains envisaged by the research projects have been achieved and the findings implemented.

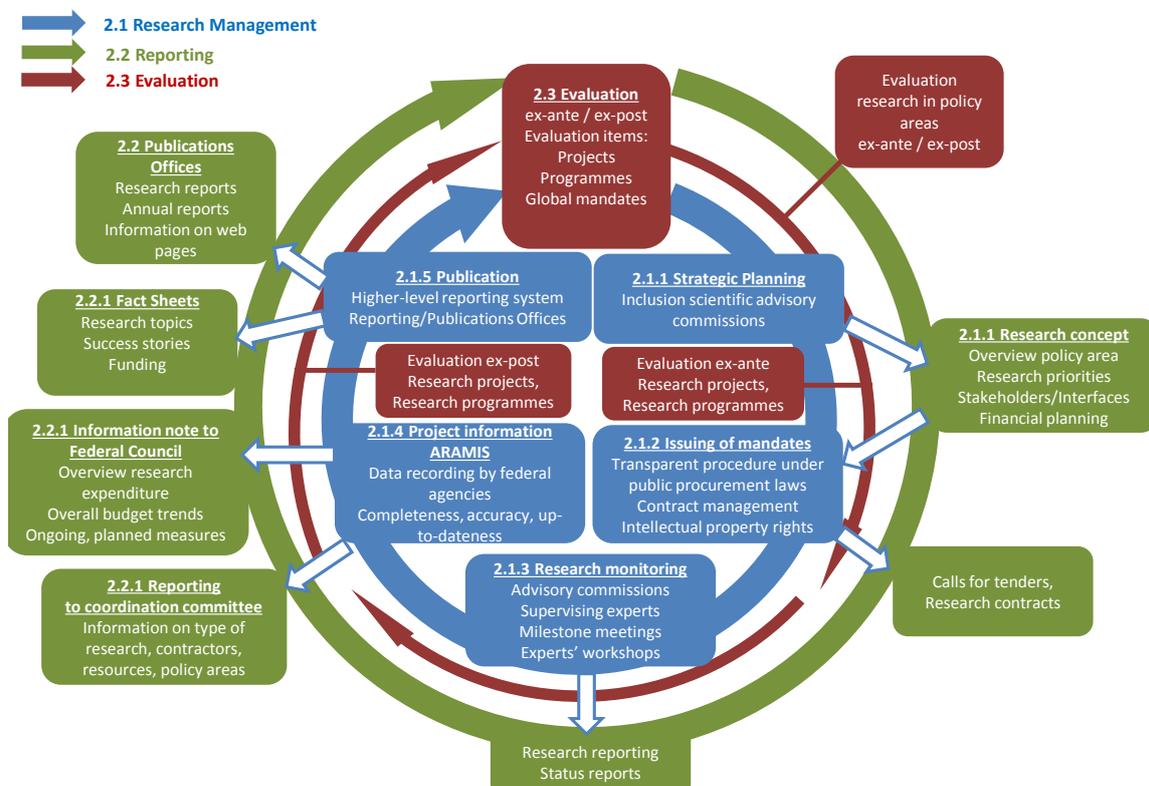
The individual specialist strategies are the starting point for this cycle. The research priorities and specific research questions are derived from these. In principle, only research projects which address these questions can be included in the selection process. This ensures as a first step that the right topics are addressed at the right time. As part of the broader selection process, the application is examined in detail for expediency, scientific merit, cost-effectiveness and potential for implementing the expected findings. This process relies on the expertise of recognised external experts.

For each research project carried out, implementation goals are set in addition to project goals. The internal experts review the interim and final reports of their assigned research projects against the agreed project objectives and request reworking if necessary. Based on the findings of the completed projects, the responsible department initiates the implementation. Successful implementation of project findings is reviewed at the annual implementation meeting. If it emerges that implementation has not yet been carried out, or is incomplete, the project is re-examined at the next implementation meeting.

With successful implementation of the research findings, the original research question has been answered; it can subsequently be used to adjust the research priorities and the specialist strategy. This completes the research cycle.

As an external quality assurance tool, the annual statistics produced by the Swiss Federal Statistics Office on the use of research funds can be evaluated, together with the information note to the Federal Council. The statistics are based on ARAMIS data and provide information on the Office's financial expenditure for intramuros and extramuros research as well as research funding. These research statistics also show the amounts of research funding invested by the Office in different policy areas.

Research Management – Reporting – Evaluation



Source: Guidelines on "Quality assurance in government research"; produced by the interdepartmental coordination committee for government research; version dated 26 March 2014

Figure 2: Quality assurance tools in government research

The quality assurance concept in government research is based on the three pillars of **research management, reporting** and **impact study/assessment**. With the revision of the quality assurance guidelines by the coordination committee for government research, an additional component has been included in research management, besides **strategic planning, transparent award procedures, project information in ARAMIS** and **publication of research results**. This new addition is **research monitoring**. Monitoring serves to increase the scientific quality of the research by introducing state-of-the-art methods as well as the efficient and effective development and evaluation of research results.



Annex

Glossary

Term	Meaning
ZTHT	Centre for proper housing TÄnikon
RIPA	Federal Research and Innovation Promotion Act
FOPH	Federal Office of Public Health
FOAG	Federal Office for Agriculture
SERI	State Secretariat for Education, Research and Innovation
Swiss Animal Health Strategy 2010+	Swiss Animal Health Strategy 2010+
Nutritional strategy	Nutritional strategy measures (German)
StAR	Swiss National Strategy on Antimicrobial Resistance (German)
NCD	Non-communicable diseases (German)
ARAMIS	Administration Research Management Information System (Federal research database)
SNSF	Swiss National Science Foundation
NCCR	National Centres of Competence in Research
NRP	National Research Programme
COST	European Cooperation in Science and Technology

Links

<http://www.ressortforschung.admin.ch> (German)

<http://www.snf.ch/de>

<https://www.ARAMIS.admin.ch/>

<http://www.nfp69.ch/de>

<http://www.nfp72.ch/de>

Research in the Federal Administration

A2. Official mandate

Statutory framework

The Federal Government's commitment to research and research funding is legitimised by Article 64 of the Federal Constitution ([SR 101](#)), under which the government promotes scientific research and innovation, or can set up, take over or operate research facilities.

With the overhaul of the [RIPA](#) on 14 December 2012, this Act was developed into a statutory framework for government research: The Federal Administration is a research body insofar as it conducts government-funded research for the fulfilment of its remit, or carries out activities to promote research and innovation (Article 4, letter d). The government promotes research and innovation pursuant to the RIPA and other specific legislation by its own research, including setting up and operating federal research facilities (Article 7, para. 1, letter e). Government research measures (see above) and guidelines for the acquisition of external funding are set out in Article 16. The setting up of federal research institutes is regulated by Article 17. An important aspect of government research is its coordination. For this purpose, the Federal Council is to set up an interdepartmental coordination committee whose tasks include coordinating the process for the development of the multi-year programme and issuing guidelines on quality assurance (Article 42). The multi-year programmes for government research - a coordination and planning instrument - are presented in the form of trans-organisational research concepts which take into account the existing research priorities for higher education institutions, the SNSF's funding programmes under government mandate and the CTI's activities (Article 45).

Specific legislative bases

Besides being anchored in the RIPA, Federal Administration research is based on more than 55 [specific legislative provisions](#). In these, the government defines direct research contracts or financing obligations, or formulates direct evaluation, inquiry or review mandates which require the relevant scientific work. In addition, research mandates are clarified in numerous ordinances, many related to the laws. Moreover, even where there is no explicit statutory mandate for research, the application and implementation of applicable law (e.g. the adoption of guidelines and ordinances) often requires expert knowledge, which should be up-to-date and must therefore be developed through research. This is why research commitments are often part of the mandate of FLAG offices (from 2017, according to the New Management Model), or are laid down in departmental organisation ordinances for the different offices.

Commitments under international agreements and parliamentary mandates

Besides the specific legislative provisions, more than 90 [international agreements, conventions or memberships](#) contain or imply commitments in terms of research or national research efforts in the respective relevant fields. But even in cases where there are no explicit research commitments arising from mandates, commissioned research is vital to some offices in order to maintain necessary international contacts. Research carried out by the Federal Administration therefore enables an exchange on the basis of specialist knowledge founded on its own current scientific findings.

Parliament itself, through parliamentary initiatives, motions, postulates, representations or requests, issues mandates for the drafting of decrees or the preparation of test reports and information, and the processing of such mandates may entail activities in the area of Federal Administration research.

A3. Coordination of Federal Administration research

Classification of Federal Administration research into policy areas

In the interests of effective coordination and cooperation between the federal agencies concerned, Federal Administration research is divided according to policy areas. The policy areas which require a strategic research plan (RIPA Article 45, para. 3) are defined by the Federal Council in the relevant communication on the promotion of education, research and innovation (ERI) (RIPA Article 46, para 1, letter d). To this end, the federal agencies concerned, under the direction of a lead agency and with the specific involvement of external expertise (usually a scientific monitoring committee or group), draw up four-year research concepts. These research concepts are concise, comprehensive strategy documents. They serve to inform interested and affected research stakeholders, both within and outside federal government, and the public authorities in general. They also support the coordination of research and provide a tool for planning and legitimising the government's research activities. Since the 2004-2007 ERI period, research concepts have been developed for the following 11 policy areas: 1. Health (lead office FOPH), 2. Social security (FSIO), 3. Environment (FOEN), 4. Agriculture (FOAG), 5. Energy (SFOE), 6. Sustainable spatial development and mobility (ARE), 7. Development and cooperation (SDC), 8. Security and peace policy (S+T, FOCP, FDFA/DP), 9. Professional education (SERI), 10. Sport and exercise (FOSPO) and 11. Sustainable transport (FEDRO).

Interdepartmental coordination committee for government research

In 1997, as part of the reorganisation of "Education, Research and Technology", the Federal Council set up a steering committee to coordinate government research. Following the overhaul of the RIPA, this Committee now enjoys a legal status as an interdepartmental coordination committee.

Tasks: Based on the RIPA, the Committee's tasks include coordinating the research concepts⁴ and drafting quality assurance guidelines.⁵ In addition, the Committee ensures the strategic coordination of government research, acts as an active platform for the exchange of good practice in quality assurance, and records research expenditure and budgetary frameworks of Federal Administration research activities for reporting associated with the annual information notice to the Federal Council (also contains information on current and planned measures in the field of Federal Administration research, such as evaluations and activities related to parliamentary initiatives, etc.). It also performs tasks associated with the selection of National Research Programmes (NRPs) and National Centres of Competence in Research (NCCRs), coordinates between government research and other tools of programme research, and may initiate evaluations on overarching topics in the area of government research.

However, cross-departmental management of the financial resources of Federal Administration research does *not* lie within the Committee's remit. In 2006, the Federal Council rejected a recommendation to that effect from the Control Committee of the National Council on the management of government research resources by the Federal Administration.⁶ This control must ultimately be exercised by Parliament, which approves the relevant credits granted to the Offices, and is effectively ensured by current Parliamentary procedure in the context of annual budgetary decisions.

Composition: The coordination committee for government research is chaired by a member of the Executive Board of the State Secretariat for Education, Research and Innovation (SERI). The Committee consists of members of the Directorates or Executive Boards of the Federal Offices with their own research and the Federal Financial Administration, and representatives of the SNSF, CTI and the Board of the Swiss Federal Institutes of Technology (ETH Board).

Working group and secretariat of the Coordination Committee

The drafting of basic principles, guidelines and reports on government research as well as the preparation of meetings and decisions of the Coordination Committee are carried out in a working group

⁴ "Principles for the development of concepts 2017 – 2020 concerning the research activities of the Federal Administration in the 11 policy areas", interdepartmental coordination committee for government research, October 2014.

⁵ "[Quality assurance in government research](#)", guidelines of the interdepartmental coordination committee for government research, 26 March 2014.

⁶ BBI 2007 847 (<http://www.admin.ch/ch/d/ff/2007/847.pdf>).

composed of research directors from the federal Offices. The working group is headed by the Secretariat of the Coordination Committee, which is located at the SERI. The Secretariat in turn ensures the flow of information between the federal Offices represented on the Coordination Committee, and oversees its operations. It is responsible for the website www.ressortforschung.admin.ch, which provides brief information on research priorities in the [policy areas](#), current research concepts, links to the research pages of the federal Offices and documentation on the [legal basis](#) for research. The sites also contain standardised [Fact Sheets](#) which are updated annually by the lead Offices in each policy area. These fact sheets inform the public about successful research activities ("success stories") and about the financial resources.

ARAMIS database

The ARAMIS information system (www.aramis.admin.ch) contains information on research projects and assessments conducted or funded by the Federal Government. The system was introduced in 1997 in the wake of several parliamentary proposals calling for greater transparency and improved cooperation in federal government research. The aims and tasks of the system are laid down in the ARAMIS Ordinance ([SR 420.171](#)): (1) creation of transparency regarding funding flows in the area of research and innovation, (2) coordination of projects funded or conducted by the Federal Government, (3) data collection for Federal Statistical Office (FSO) statistics in the area of "research and development in the Federal Administration", (4) planning and control in the area of research and innovation promotion, and (5) project management support.

The information system functions as a simple database application in which all research projects and impact studies or assessments conducted by the Federal Administration are listed as individual or cross-referenced projects. ARAMIS serves as a pillar of quality assurance in the area of federal government research and is anchored accordingly in the Coordination Committee's quality assurance guidelines. To support research coordination and planning, and to ensure efficient use of resources, detailed R&D statistics based on ARAMIS are submitted annually to the Federal Council and the Coordination Committee.