

ICA 2003 COUNTRY REPORT

Switzerland

1 Identification of strategic and operational goals

Current directions of development are laid out in the following 4 main strategy documents¹:

1.1 Strategy of the Federal Council for an Information Society in Switzerland (February 1998)

On the basis of a wide range of national and international preparatory work, the Federal Council laid down a strategy in February 1998 for an information society in Switzerland founded on the following *four principles*:

1. All inhabitants of Switzerland shall receive equal opportunity of access to the new information and communication technologies;
2. The ability to use these technologies constitutes a foundation of everyday life which must be promoted through ongoing basic and further education;
3. The information society shall develop in free competition through the initiative of everyone, while the State shall ensure that this development is socially compatible;
4. Trust in the new information and communication technologies must be promoted. These technologies shall be used in a responsible manner, fundamental and human rights shall be safeguarded, and the law shall be enforced.

These principles were supplemented by *nine concrete measures* that are to be implemented by the responsible Federal offices. These measures include an educational offensive (school infrastructure, competence of teachers, new teaching methods), electronic business transactions and transactions with authorities (digital signature, confidentiality), new forms of culture (multimedia and interactive possibilities, electronic access to libraries and museums), adjustment of the legal framework (labour, social insurance, copyright, and data protection law), and guidance and coordination of the activities of the Confederation within the administration related to the new information and communication technologies.

An "Information Society Coordination Group" guides and coordinates the corresponding activities of the public administrations. In an annual report, the coordination group informs the Federal Council about its work, the status of the Swiss information society, the implementation of the strategy, and the international context.

This strategy and further information on the Information Society Coordination Group are available on the website <http://www.infosociety.ch/>

¹ Most of the documents referred to in this report, as well as further informations, are available at the Website of the Swiss Federal Strategy Unit for Information Technology, <http://www.isb.admin.ch>.

1.2 Information Technology Policy of the Swiss Federal Administration (October 2000)

The information technology Policy of the Swiss Federal Administration lays down the goals and principles for the use of information and communication technologies in the Federal Administration as well as their medium-term and long-term development (time horizon 2005). In accordance with this policy, the Federal Council aims for the Federal Administration to become one of the leading administrations by 2005 in terms of its use of new information and communication technologies (NICT).

The information technology policy is a binding guiding principle for the work of all employees of the Federal Administration - not only in the area of information technology in the narrow sense. The policy is intended to demonstrate, beyond the Federal Administration, that the Federal Council and the Administration aim to help shape the developments of NICT and work together with cantons, the private sector, and the scientific community for this purpose.

In a country without natural resources, NICT are now a central quality factor, both for the business and services location and for society in general. In view of the future potential of these technologies, the Federal Council aims for Switzerland to attain a top position internationally also with regard to the development and use of NICT in the Administration. In this context, the potential inherent in NICT must be used for the promotion of equality of opportunity. A "digital divide" of society must be prevented.

The policy is strongly characterised by its outward perspective. The partners of the Confederation in the private sector and society as well as the population in general shall benefit from impeccable and inexpensive services, thanks to the use of the new technologies. The technology itself also creates new possibilities and gives an impetus to improve the Administration in terms of quality and economic efficiency.

1.3 Information Technology Strategy for the Swiss Federal Administration (November 2000)

The information technology strategy bridges the gap between the Information Technology Policy and the Architectures. Strategy and the architectures at the level of the Confederation are mandatory frameworks within which the departments and offices² can develop their own, more detailed strategies and architectures.

The strategy includes point of departure, framework conditions, overriding objectives, strategic targets, and guidelines for implementation.

The information technology strategy is thoroughly revised every three to five years in accordance with the methodological approach. An exceptional adjustment of the strategy is only undertaken when urgent circumstances arise.

1.4 The eGovernment Strategy of the Swiss Confederation (February 2002)

In order to make full use of information and communication technologies (ICT) their use must be integrated horizontally across all departments (at the level of the Confederation) and eventually vertically across cantons and municipalities all the way to the individual inhabitants.

² The Swiss Federal Administration is composed of the Federal Chancellery and of 7 Departments (*Ministries*), each composed of a number of Offices (*Agencies, Directions*). See <http://www.admin.ch>.

Through its eGovernment Strategy, the Federal Council strives toward the following overriding goals:

- Efficiency: improved information and communications flow
- Flexibility: facilitated adaptation to a changing environment
- Transparency: clear administrative procedures
- Participation: Participation in political processes

In the first strategy phase (4-year period), three strategic thrusts constitute the guidelines for a successful implementation of the eGovernment Strategy:

- "Create prerequisites" (smooth cooperation within the Federal Administration and with the cantonal administrations)
- "Service excellence" (electronic cooperation between the State and the private sector institutions as well as organisations under public law)
- "Networking" (promotion of projects on "electronic integration" of the government and administrative activities of the Confederation, cantons, and municipalities with the private sector and society)

In Switzerland, with its well-developed conventional democratic processes, electronic votes and elections are not a top priority. For the time being, some pilot projects are being conducted, which the Confederation supports financially and provides with know-how³.

The eGovernment Strategy is binding on the Federal Administration. Cantons and municipalities are invited to implement it themselves and in adjusted form. The Confederation provides its services and know-how for these purposes.

2 Organizing for e-Gov

2.1 IT reorganisation (NOVE-IT)

By means of the NOVE-IT programme, a major in-depth structural and process reform in the area of information technology and telecommunications, the Federal Council aims to improve the use of these modern key resources with respect to quality, efficiency, and effectiveness and to create the conditions for modifying their use at any time and in a flexible manner in response to fast-changing responsibilities and developments in the technological environment. The programme has been launched in 1998 and is to be completed by the end of 2003.

The objectives of NOVE-IT are:

- efficiency increase of the overall IT costs by 23% or 130 million francs annually (the IT costs for the IT service portfolio of 1999 are the basis);
- increase of the flexibility, effectiveness, and quality of the IT services;
- integration of information and communications technologies (ICT) into the regular management structures.

In order to achieve these objectives, the following measures have been mandated:

- separation of provision and receipt of services;
- step-by-step liberalisation of the receipt of IT services;
- reduction of the previously 75 service providers in the different agencies to a maximum of 7 (maximum one per department);

³ See also Chapter 17.

- IT process orientation (guidance, human resources, procurement, management, project planning, operation, financing, process management);
- introduction of IT controlling at all levels;
- introduction of cost-performance calculation;
- comprehensive harmonisation of the technical infrastructure (see also chapter 5).

NOVE-IT is currently in its implementation phase. Somewhat more than three quarters of the programme duration have passed. The objectives of the programme can generally be achieved by the end of 2003, especially the efficiency increase annually of about 130 million francs. The sum of the budgetary commitments of 230 million francs should also be maintained. The status of central projects of the programme provide indicators for this assessment, such as the good progress of the harmonisation, the successfully introduced project foundations including releasing, the largely introduced cost-performance calculation, and the likewise introduced IT controlling.

The change of culture has, in contrast, been more difficult than expected, such as the creation of transparency at all levels and the stipulation that clients should determine the use of information and communications technology (ICT).

More information on the programme can be found at <http://www.nove-it.admin.ch>.

2.2 IT-Processes

The receipt and provision of IT services in the Swiss Federal Administration are defined by means of nine IT processes. They integrate clients (service recipients), internal service providers, and suppliers into joint processes. The services of the core processes (P05, P06, P07) contribute to the added value of the IT service provider. The support processes (P02, P03, P09) are necessary to execute the IT core processes. The management processes (P01, P04, P08) create framework conditions, serve to coordinate, and ensure process and product quality. The 9 IT processes are:

- The process *P01 "IT Steering"* establishes the framework for optimal IT support of administration processes, through the development of strategies, architectures and standards. The steering of programmes is also described within P01.
- The process *P02 "Professional skills development"* supplements the human resources process of the Federal Administration from the perspective of IT processes.
- The process *P03 "Acquisition of goods & services"* ensures the effective and efficient acquisition of hardware, software, and services.
- The process *P04 "IT Management"* plans the use of IT in the department and the administrative units. An IT portfolio (studies, projects, and application) is established and updated. P04 also supports the conclusion and monitoring of service level agreements (SLA) between the client and service provider.
- The process *P05 "Solutions development"* covers the entire development of IT projects, from initialisation to introduction. P05 describes the activities necessary to undertake IT projects to the satisfaction of the client with respect to quality, duration, costs, and client demands. The main tool of P05 is HERMES, the standard method of the Confederation for the management and execution of ICT projects.
- By means of the process *P06 "Infrastructure operation"*, operational IT services are planned and provided according to the service level agreements. P06 serves to optimise the operational steps and IT security with respect to confidentiality, availability, integrity, and traceability.

- The process *P07 "User support"* specifies that the client must have access to a point of contact for all questions and problems. P07 describes procedures for efficient and effective problem resolution.
- Process management is laid down in the process *P08 "Process management"*. This management process includes the measurement, evaluation, and ongoing improvement of the IT processes in the framework of release management.
- The foundations for financial planning, budgeting, and resource management for IT services are developed in the process *P09 "Financial management support"*. As part of a comprehensive financial controlling process, an SAP-supported cost-performance calculation is employed as the most important management instrument.

3 Funding

The financial policy in the IT area of the Federal Administration has been strongly influenced in recent years (since 1999) by the comprehensive IT reorganisation (NOVE-IT, see chapter 2) and by rigorous savings measures, resulting from the generally tight economic and financial situation (see <http://www.efd.admin.ch/e/aktuell/geschaefte/finanzen/index.htm>).

4 Changing laws, regulations and policies

Some of the legislative issues currently in discussion are addressed in chapters 9 (authentication procedures), 14 (harmonising registers of persons and electronic census) and 17 (E-Voting).

5 Identifying and building additional critical infrastructure

5.1 Information Assurance (Critical Information Infrastructure Protection)⁴

In the information age the functioning of a country's critical infrastructure (i.e., energy supply, emergency and rescue services, telecommunications, traffic, banking and insurance, as well as government and public administration) is highly dependent on the supporting information and communication systems, notably the Internet. This fact has led to the recent development of a field termed information assurance. Like quality assurance, which is aimed at ensuring the quality of a product, information assurance aims to guarantee the quality of information (accuracy, timely availability, confidentiality) – even in a challenging environment – necessary to complete given tasks (such as, e.g., running the critical infrastructure).

The general «Operational Concept for Information Assurance in Switzerland», developed by the Swiss Federal Strategy Unit for Information Technology (FSUIT) comprises the following four pillars:

- Suitable preventive measures should limit the number of incidents.
- Dangers and threats are to be identified as early as possible through a Reporting and Analysis Centre for Information Assurance MELANI (Melde- und Analysestelle

⁴ A comprehensive introduction to information assurance in Switzerland, the respective organisations involved and its history is compiled in the FSUIT publication entitled "Vulnerable Information Society – Challenge Information Assurance" which can be downloaded or ordered at <http://www.isb.admin.ch> (follow the links "Sicherheit" "Schutz der kritischen Infrastrukturen").

Informationssicherung) allowing the necessary protective measures to be taken or certain high-risk technology to be avoided.

- For strategic crisis management the Special Task Force on Information Assurance SONIA (Sonderstab Information Assurance) is responsible for ensuring that the effects of breakdowns on society and state are kept to a minimum.
- Finally, the technical reasons for breakdowns should be identified and corrected.

5.2 *Harmonisation of the IT infrastructure*

Objective

The harmonisation of the IT infrastructure is one of the main projects within NOVE-IT (see chapter 2) and should result in decreased costs and increased efficiency and flexibility. The implementation projects were initiated starting in 2000. The entire harmonisation will be concluded by the end of 2003. Individual projects will be concluded with some delay. The overall investment of CHF 130 million results in an annual gain of CHF 85 million.

Implementation

The implementation is focused on the following areas:

Desktop and LAN server

In particular, this entailed the unification of the workspaces under Windows 2000 or XP. Due to the prevailing diversity of desktops and laptops, some of these projects were delayed. Nevertheless, operations in the future should be accompanied by considerably less extensive support efforts.

Network

A number of existing physical networks were reduced to one network with a number of logical networks using VPN technology.

Platforms

Reduction of the host platforms

One BS2000 system was retired through migration of the applications to a Unix/Oracle environment. This project was completed on time with no great difficulties.

The retirement of a further complex BS2000 environment was, however, difficult. The applications were rewritten for OS/390. This continues to result in delays and qualitative problems.

Reduction of the Unix derivatives

The historically evolved diversity of Unix derivatives is being reduced to Compaq-Thru64, HP-UX, IBM-AIX, SUN-Solaris, and Linux, which are classified as strategic in the Federal Administration. In addition, the many small systems are being concentrated into more powerful platforms.

Storage centralisation

The many decentralised storage systems are being centralised using SAN/NAS technology.

System management

Help desk

The various help desks are being reorganised as ARS (Remedy) in order to gain synergies.

System monitoring

The existing products are being unified in the individual computing centres.

Architectures

See chapter 11.

6 Communicating and marketing to the public

Federal Internet Strategy

The Federal Administration today offers more than one million pages of information on almost 200 different Internet sites for various target groups. The use of the Internet has developed in a decentralised manner, and has been left and continues to be left to the initiative of individual administrative offices. The decentralised organisation of the Internet content ensures that the content is produced by those offices that are also responsible and competent with respect to the subject matter. The decentralised structure also has its disadvantages, however. For instance, there is a lack of a clear, uniform navigational philosophy and user interface. In addition, certain pages of the Federal Administration are not immediately identifiable as such. The diversity and differences of the presentation have increasingly been perceived by important target groups as a disadvantage.

In this context, the Conference of the Information Services of the Federal Administration called for the elaboration of an Internet strategy applicable across the Confederation. As a consequence, the Web Forum of the Confederation has formulated a vision according to which the Internet content of the Confederation shall be realised as a reference, developed thematically across organisations, and oriented toward a joint navigational philosophy. The content of the administrative offices shall be clearly recognisable as the content of the Confederation. Finally, the transaction possibilities of the Internet shall be used systematically.

The goal of the Internet strategy is to contribute to an integral communication by the Federal Administration and to create the synergy that arises when the individual communication tools reinforce each other. Accordingly, the "Federal Internet Strategy" is directed at those responsible for communication and the Web in the agencies and departments. The adoption of the Federal Internet Strategy in June 2003 has given those in the Federal Administration responsible for information and the Web a guide they can use in the future to orient themselves when establishing and continuing to develop their Web presentations. The strategy includes three main strategic thrusts, each of which is in turn assigned guiding principles.

So that the strategy is also followed by deeds, concrete implementation measures were also adopted in addition to the guiding principles. Out of this catalogue of measures, five measures were in turn classified as top priorities: The measure "Navigation with the same tools and nomenclature" aims to facilitate the orientation of users on Administration websites. The measure "Search better, find faster" includes better thematic access to the content. This means that users can find the desired content even if they are unfamiliar with the organisational structure of the Administration. "Formal minimal requirement for Internet sites" creates a

minimal standard for Administration websites. "Federal seal of quality / certification" pursues a similar goal by showing the user that the content is accurate, official information of the Confederation. Finally, the fifth measure, "Press portal", aims to offer the media and other interested circles the possibility of finding the desired information and contacts quickly across organisational units.

The Conference of the Information Services of the Federal Administration has entrusted the Web Forum with the implementation of these measures. The necessary adjustments to the websites of the departments and agencies are to be undertaken in the framework of the usual renovation cycle. This means that the measures should be implemented in two to five years.

7 Improving national portals

The national portal is a joint project of the Confederation, cantons, and municipalities, which respects the existing hierarchy of responsibilities of Swiss federalism. It is currently one of the projects within the eGovernment Strategy which has the highest political and media visibility. The "guichet virtuel" www.ch.ch is intended to enable the population to call up information about the Confederation, cantons, and municipalities around the clock, according to individual requirements. The primary objective is to create a new means of access to official services that offers certain advantages deriving from the medium of the Internet.

www.ch.ch provides information and will in the future also provide communication and transaction services bringing together citizens and authorities.

The contents of the national portal are subdivided into eight areas of life:

- *Private life*: identity documents, marital status, life abroad, children, family, housing, senior citizens
- *Society*: education, media, Internet, telecommunications, culture, church and religion, equality, animals
- *Employment*: employment
- *Health, social security*: health, social security
- *Mobility, environment*: public transport, cars, motorbikes, environment
- *Security*: justice and police, military service, civil protection
- *State, taxes, politics*: political rights, authorities, taxes
- *Economics*: consumption, trade and industry, insurance

8 Converging service delivery channels. Also called multi-channel service delivery

There is no explicit strategy at the moment with regard to this topic.

One can mention here the fact that the different strategy papers (see chapter 1) insist upon the fact that new delivery channels to the citizens are, for the time being, not meant to replace existing traditional channels, but rather to supplement them.

9 Authentication procedures

There are many identification and authentication technologies and mechanisms used in the Swiss government administration (e.g., passwords, one-time passwords, challenge-response

mechanisms, public key certificates, etc.). In the long term, it is assumed that more and more applications will make use of public key certificates. Consequently, the administration has established a federal public key infrastructure (PKI) that is able to issue public key certificates for internal use. In addition to software-based certificates (i.e., softtokens), the administration pushes the use of hardware-based certificates (i.e., hardtokens) on the basis of smartcards. The federal PKI is centralized but cooperates with decentralized and geographically distributed registration authorities (RAs) operated by human resources departments. It is assumed that the same centralized PKI with decentralized RAs can be used by cantonal and communal administrations in Switzerland. A corresponding feasibility study and implementation concept is currently being developed.

In addition to the internal use of public key certificates within the Swiss government administration, the administration has also drafted a digital signature law which is now in the political discussion. The law will allow private certification service providers to issue public key certificates to be used for digital signatures that are legally binding. There are a couple of applications that will take advantage of these services once they are available. It appears, however, that there are not so many companies that are interested in actually providing commercial certification services.

Last but not least, the question whether the state should issue public key certificates on electronic identification cards to citizens is being studied very seriously. This question is politically and economically motivated and must be answered accordingly. It is too early to say whether Switzerland will go into that direction.

10 Developing gateways which will process certain applications for all agencies and ministries (e.g., authentication and bill payments)

The national portal currently under development (see “guichet virtuel” www.ch.ch, chapter 7) is at present only an information and linking platform. In the future, this platform should also encompass a number of web services which will be available for the departments of the Confederation and the Cantons to utilize them for their eGovernment applications. Following web services are now under consideration:

- Tracking
- Identification
- Payment

11 Developing governmentwide architecture and standards

11.1 ICT architecture of the Confederation

The political priorities and therefore the demands on the administration are continuously changing. New organisational models are being designed. Existing technologies are no longer supported by suppliers. New technologies become available instead. The administration can only work efficiently if its ICT infrastructure takes these changes into account. The ICT architecture of the Swiss Federal Administration is therefore designed in a flexible and adaptable manner, providing tools that allow officials to meet their requirements in a targeted way.

Instead of establishing a comprehensive ICT architecture for the Federal Administration, the limited resources available for architecture development are targeted to areas where they will

result in the greatest use to citizens, the administration, and its partners. Which main areas are to be tackled is determined by officials in the framework of strategic information technology planning (SIP, top-down process), or as a result of requests for standardisation (bottom-up process). Document-centered task administration, budget planning and control, and information dissemination via the Internet and Intranet are examples of main areas of the architecture that are primarily focused on the administration. Emergency planning, eProcurement and relocation support are main areas of the architecture that are primarily focused on citizens and businesses.

The essential advantages of the ICT architecture from the perspective of decision-makers are:

- They have understandable and transparent information at their disposal concerning the use of ICT for their administration tasks. On the basis of their knowledge of the ICT landscape, they can avoid bad investments, which, for example, would lead to ad hoc solutions that cannot be integrated or that generate unforeseen bottlenecks (e.g. in relation to bandwidth, storage capacity, scalability of applications).
- They work more efficiently, because the tools they employ work together seamlessly. Budget information, for instance, can be consolidated across administration units without manual intervention. Another example are calendar and scheduling functionalities which work across boundaries of the administrative units.
- They can react more quickly to changing demands. For instance, an unexpected high demand on additional storage capacity can be easily met by procuring additional storage modules and installing them in existing systems with minimum effort.
- They save time and money. Framework agreements for widely used hardware and software products make it possible to place direct orders without tendering each procurement. With increasing contract volumes, the terms of purchase become more favourable and small offices pay the same amount per unit as large offices.
- The ICT infrastructure they use functions reliably. The systems used are available around the clock. They waste no unnecessary time for error recovery.

Decision-makers, planners, developers, and users of ICT have access to processes and tools that facilitate planning, development, implementation, and control of the ICT architecture.

These are:

Architecture-oriented IT processes (IT-Steering, see also chapter 2)

These are:

- *Strategic information technology planning* (SIP) analyses the strengths and weaknesses of the current ICT architecture, shows where action is needed, and formulates appropriate improvement measures.
- Projects and applications necessary for the implementation of SIP are included in the *application portfolio*. The relevant measures are initiated depending on the respective priorities and the available financial and staff resources.
- For *architecture development*, the business requirements for the relevant area are assessed, the resulting effects on the ICT architecture derived, and the corresponding target architecture developed. The results give rise to new standards and serve as a precondition for new solutions.
- Architectures and standards are introduced, developed, and approved on the basis of a now often tried and tested *standardisation process*, with the following steps: request for standard / development in an expert group / broad consultations within the

administration / consolidation of feedback by the expert group / approval of standard by the Information Technology Council of the Confederation.

Architectural scheme

The architectural scheme structures ICT according to topic area. Current examples of standard areas of operation and standard products employed in these areas include word processing (MS Word), or document management and workflow administration (eGov Suite by Fabasoft).

Product standardisation

The procurement process has been designed so that procurements in standard areas of operation are limited to products in conformity with the standard, which can then be easily called up from a product catalogue - without tender. Framework agreements create favourable purchasing conditions and legal certainty. Exceptional authorisations are possible, to the extent that they are justified by economic or organisational reasons. A current example is the standardised Intel servers used across the Confederation for filing, office automation, and diverse applications and which can be procured considerably less expensively and more quickly thanks to framework agreements concluded across the Confederation.

11.2 eCH – a platform for eGovernment standards

According to the vision of the Federal Council, businesses, teaching and research institutes, private persons and officials use the available information and communication technologies for the efficient fulfilment of their tasks among themselves. This requires that the participants are willing to look beyond the boundaries of their own organisation and to harmonise their processes and technical interfaces with those of their partners. eCH is the label under which the participating parties define and publish their standards. eCH promotes the standardisation process and ensures the quality, usefulness, and compatibility of the approved standards.

Following the example of similar international institutions, eCH builds on the free participation of interested circles from business, organisations, teaching and research institutes, the Confederation, cantons, and municipalities. A permanently staffed office provides the organisational support and serves as a first point of contact. The standards are developed by freely constituted expert groups, verified by specialists in the expert committee, and approved by the board. With the exception of the office staff, the eCH participants provide their work free of charge. Organisation and process of eCH respect the federal structure of Switzerland. All participants can contribute equally. Developed standards are submitted for comments by interested circles and the public. The approved standards are considered as recommendations. They are freely accessible and can be obtained free of charge from the Internet.

The association eCH was founded on 13 December 2002. By July 2003, more than 100 (cantons, municipalities, private companies and organisations) had already registered. Immediately after its foundation, the first expert groups began their work, such as in the areas of technology, record management, notification, standards for data exchange between business and social insurances, and process inventory. Further groups are under development.

Detailed information is available at <http://www.ech.ch>.

12 Training senior managers and policy officials to think and act intergovernmentally

The changes to IT structures and processes that NOVE-IT (see chapter 2) aims to achieve can only imperfectly be mandated from above. In order for them to be actually implemented and put into practice, the work methods of a large number of employees at all levels of hierarchy of the Federal Administration must change.

Change Management and, as one part of it, communication support this process of change. The overarching goal of Change Management is to help the programme succeed. Change Management pursues the following objectives:

- The creation of *incentives* effecting or facilitating behavioural change.
- Comprehensive communication to create transparency and to promote cooperation.
- Ensuring that changes in the Federal Administration (on the part of both clients and service providers) are implemented in suitable and *manageable packages*.
- *Informing and training* those affected with the goal of creating understanding for the rationale for the changes.
- Ideally, affected persons should be made participants who actively drive the change process in their own area. In less favourable cases, especially where disadvantages arise for the people affected, at least insight into the rationale of the changes should be promoted and resistance prevented.
- Selective *direct support* for the implementation of individual important steps of change, in cooperation with those directly affected.

Change Management functions as part of the programme management. It supports those working on programme management and on implementation projects in respecting the points mentioned above to promote processes of change.

13 Organizing and managing information for sharing across the government

The improvement of the information and process quality in the context of a standard office automation environment is one of the goals of the "business administration" (GEVER) project of the Confederation. GEVER supports business activities in the areas of *task control*, *process management*, and *records management*.

GEVER integrates (and partially replaces) application areas of standard office automation and standard Web technology used for performing tasks (e.g., e-mail, task lists, office administration, filing, Web browser, etc.).

GEVER is a prerequisite for *eGovernment* processes that are primarily to be conducted by means of standard office automation and Web technology. "Electronic processes and information represent the foundation of cooperation and interaction extending across the participants in *eGovernment*" (cited from "EGovernment Strategy of the Confederation 2002"). *EGovernment Strategy* accordingly also describes GEVER as a strategic cornerstone project for the implementation of *eGovernment*.

The introduction of GEVER in the Confederation is not centrally directed. The departments and agencies remain responsible for introducing GEVER in their areas of responsibility. Standardisation of GEVER is therefore all the more important. A uniform task model, the standardisation of functionalities, metadata, and further interfaces to be defined are prerequisites for the interoperability between GEVER systems, in addition to harmonization of document formats. The necessary standards for the GEVER Confederation have been

developed or are still under development. The GEVER Confederation follows ISO 15489 Records Management with respect to the requirements for task information management. The Confederation also fosters professional exchanges with similar European projects in Germany (DOMEA Project) and Austria (ELAK Project).

GEVER projects currently exist in all departments of the Confederation. By 2006, a conversion of the majority of standard office automation workplaces to GEVER is expected.

14 Developing Government Without Boundaries (GWoB) systems that cross program, office, department, and agency/ministry lines.

This chapter describes a selection of prominent current initiatives. A more comprehensive list of eGovernment projects can be found at <http://www.isb.admin.ch/internet/egovernment>.

14.1 Free and Open Source Software (FOSS)

The "free software", or the software that has been traded since about 1998 under the term "open source software", has increasingly gained professional acceptance in businesses and in the public administration in Switzerland. For instance, seven percent of the 1200 servers in the Federal Administration are already operating under Linux, and StarOffice is used comprehensively within the Federal Supreme Court.

In a survey, the following main reasons for the use of FOSS were mentioned: (a) cost reduction, (b) security aspects, (c) independence from suppliers, and (d) technological innovation. Whether the named reasons are also justified has not yet been verified overall for the Federal Administration. For instance, it has not yet been determined when and where FOSS can be employed more economically than conventional software.

The Swiss Federal Strategy Unit for Information Technology is currently developing a FOSS strategy for the Federal Administration, due to be completed by the end of 2003.

14.2 Electronic public procurement

The internet-based collaborative sourcing solution *simap*⁵ currently supports the entire workflow from preparation, publication, and evaluation to conclusion of the contract.

The project *simap2* integrates all federal administrations, the companies of the Confederation under public law, the cantons, and many municipalities. Under the guidance of Swiss Federal Strategy Unit for Information Technology (FSUIT), the supplier side will also be integrated by the end of 2004. The fixing of the necessary standards for the identification of partners, for the catalogue data and data exchange will also be coordinated by FSUIT. Numerous electronic media, printed media, and interested companies receive the tender notices or links directly in multiple languages.

To supplement eSourcing, the provision of a procurement solution is planned for the decentralised processing of orders. Transactions in the areas of eSourcing and eOrdering are evaluated in a central Business Information Warehouse for the various target groups. *Simap2* will represent all procedures of public procurement in a legally sound manner and will provide technologies for digital signatures.

Despite the markedly federal structure of Switzerland, the public clients, procurement offices, statisticians and the private suppliers receive a central, future-oriented sourcing and

⁵ See <http://www.simap.ch/>

procurement solution that is easy to use and of course multilingual, that guides all parties effectively through the process steps, that respects the political and legal framework conditions, and that guarantees investment protection through modular development and expansion.

14.3 *Impulse programme e-geo.ch*⁶

The objective of e-geo.ch – an initiative of the interdepartmental coordination organ for geo-information and geographical information systems of the Confederation – is to promote the establishment of a national geo-data infrastructure and to coordinate activities in this area.

As a central element of national infrastructure, their importance is similar to that of the transportation and communications network or the nationwide energy and water supply.

A user-friendly, networked, and decentralised solution is necessary to make use of this wealth of data, always and everywhere guaranteeing fast and inexpensive access to reliable geo-information. This requires a so-called national geo-data infrastructure (NGDI). This is a generally available system of procedures, institutional facilities, technologies, data, and persons which make the mutual exchange and efficient use of geographic data possible.

The e-geo.ch charter was initiated as part of a long-term vision. The signatories of the charter pledge to actively take or support appropriate internal and external measures that promote the networked use of geo-information and that utilise their great economic potential to the fullest.

14.4 *GovLink*⁷

The GovLink project is a joint initiative of the Federal Supreme Court, the Swiss Bar Association, and the Federal Office of Justice, the objective of which is to elaborate a framework for the secure electronic exchange of structured legal documents.

Secure exchange means that the transfer process must be traceable. For instance, this entails that a sender bound by a deadline must be given a receipt for delivery by the deadline. If the applicable time period begins with acknowledgement by the recipient, this point in time must also be traceable.

Secure document exchange also means that data protection must be respected when dealing with sensitive legal data. Only the appropriate, authorised communications partners shall be granted access to transferred contents.

The structuring of the documents allows the recipient to further process the contents electronically, without re-entering the data. From a technical perspective, standardised transfer information allows communication between systems in the medium-term that do not yet share an electronic interface.

The framework will include a technical architecture enabling electronic correspondence in the manner described above. In addition, demands on the functioning of participating systems will be formulated and document structures defined for the transfer, in order to guarantee a smooth communications process.

⁶ See <http://www.e-geo.ch/>.

⁷ See <http://www.govlink.ch>

14.5 Harmonising registers of persons and electronic census⁸

Every ten years, Switzerland conducts a nationwide census. Until now, data has been compiled by means of costly questionnaire campaigns, which have regularly met with more or less vehement resistance from the population. A large part of the data necessary for the census has already been collected by the municipalities in the course of their normal business. Statistical use of this data has, however, been difficult or even impossible, since the structure and form may be differently defined in each municipality. This prevents not only the use of data for overarching statistics, but also electronic exchange among the municipalities. The *register harmonisation* project will create the legal, organisational, and technical framework allowing different offices of the Confederation as well as cantons and municipalities to exchange personal data electronically.

14.6 Exchange of salary data between businesses and social insurances

Social insurance responsibilities in Switzerland are administered by the authorities and by semi-private and even fully private insurance companies. They all have one thing in common: Their provision of services depends on salary data supplied by businesses that they may also exchange among themselves. In the future, the exchange of salary data will be possible by electronic means and without incurring costs arising from transitions between different means of communication.

15 Measuring results

15.1 Measuring IT performance in the Federal Administration

IT performance in the Federal Administration is measured by various means which are described below.

IT process assessments: The ISO/IEC TR 15504 standard applies. Indications are expected of the level of maturity of the introduced information technology processes and of possibilities for improvement.

IT controlling: The IT Council of the Confederation adopted a comprehensive IT controlling method in 2002. This method governs IT controlling at all levels (from agency level to Confederation) and over all project phases (study phase, project phase, operations phase). In the future, the method will be supported by SAP-based tools currently under development. The IT controlling method defines over 100 possible parameters, primarily for operational controlling at the level of agency and department. An appropriate strategic controlling at the level of the Confederation, i.e., for top management, still remains a challenge.

Measurements at the interface between provider and client: The IT processes of the Confederation entail service agreements (SLA, especially for operational services) and project agreements (investment plans, projects) between provider and client. Beginning in 2005, IT services within the administration will also be billed according to effective credit. This entails that performance must be measurable. Requirements concerning form and use of SLA have been issued and approved in the framework of the P04 process (*IT Management*, see chapter 2). A standardised service and product catalogue has also been approved. The actual SAP-based cost-performance calculation system is currently being developed and standardised.

⁸ See <http://www.statistics.admin.ch>

Measurement of operational data by the provider: Providers still use different tools for system management and therefore also for measuring and monitoring system parameters. Standardisation is also intended here, in accordance with the P01 process (*Steering IT*). This is not only for fleet-political reasons (investment and operational costs of system and network management are considerable), but also because these systems are increasingly expected to offer standardised interfaces with cost-performance calculation, service level management, and IT controlling.

Measurements relating to QA, risk management, etc.: For years, projects within the Confederation have been successfully completed using the HERMES method. The method is also used beyond the boundaries of the Confederation. HERMES itself does not specify explicit measuring methods, but refers to the other methods and procedures mentioned in this section.

Measurements relating to IT security: The currently employed measurement and assessment procedures, namely in the framework of risk management, have for quite some time been based on a synthesis of different internationally known methods and tools, such as the baseline protection concept of the German BSI or the British BS 77 99 standard (also published as ISO/IEC 17799). The procedure is based on:

- an assessment of all protected objects (systems, applications, networks)
- their classification according to security criteria
- the assignment of measures as a function of the classification
- cyclic measurement of the compliance with and effectiveness of the measures.

Periodic and result-oriented evaluation of IT personnel: All employees of the Federal Administration, including the administrators of IT processes, are guided and evaluated annually on the basis of measurable outcomes.

IT auditing (auditing office): The auditing office for IT auditing is the Swiss Federal Audit Office (SFAO). The SFAO employs the COBIT method and tools for its (measurement) activities. Preliminary efforts are currently underway to harmonise COBIT with the other procedures described in this section (HERMES, process assessments, IT security, etc.). An recent study by META Group has shown that the process assessment procedures according to ISO/IEC TR 15504 and COBIT are mutually complementary.

15.2 *Measuring progress in eGovernment*

Switzerland has participated and will continue to participate in the comparative study⁹ ordered by the EU Commission on electronic services in European countries. In the October 2002 survey, Switzerland was ranked 15th out of 18 countries, which is not satisfactory with regards to the ambitions of the eGovernment Strategy. As a positive development, Switzerland attained the greatest progress in percentage terms since the last measurement in April 2002. Switzerland also participates at the "top of the web" initiative¹⁰.

A further instrument for measuring progress is the "E-Government Barometer" of the Institute for Public Services and Tourism of the University of St. Gallen (IDT-HSG). By means of a quantitative survey of all municipalities, cantonal offices and departments, state chancelleries

⁹ See http://europa.eu.int/information_society/eeurope/action_plan/egov/index_en.htm

¹⁰ See <http://www.topoftheweb.net/en/index.htm>

as well as federal agencies and departments, the status and development of eGovernment in Switzerland will be examined in more detail¹¹.

As part of the eVanti.ch¹² project of the Swiss Federal Strategy Unit for Information Technology (FSUIT), a measuring tool for verifying eGovernment progress in Switzerland is under development.

16 Obtaining feedback from the public

The Federal Council has mandated the Federal Chancellery to present a report by the end of 2003 on an assessment of the needs of the Swiss population relating to eGovernment services.

This comprehensive analysis incorporates a number of different studies conducted according to different assessment methods. For instance, a representative telephone survey was conducted on the attitudes and expectations relating to eGovernment. Qualitative interviews were used to assess other specific aspects. In addition, feedback obtained through the new portal of the Swiss authorities, www.ch.ch¹³, contributes to the analysis.

The report will be presented to the Federal Council at the end of 2003 and will be published on the website www.e-gov.admin.ch.

17 E-governance including E-voting and obtaining comments on proposed laws and regulations.

17.1 E-Voting

The first phase of the "electronic voting" project of the Federal Chancellery aims to open a political discussion and to conduct and evaluate pilot trials on individual issues in connection with the application of this new technology.

The pilot projects for various cantons serve to examine technical and organisational challenges in depth and are intended to provide important experiences and insights with a view to a solution for all of Switzerland. The Confederation is making a substantial contribution to the costs of these pilot projects.

Pilot project for the canton of Geneva¹⁴: In January 2003, the canton of Geneva successfully conducted a first official voting procedure with electronic voting in the municipality of Anières. The Geneva pilot project is currently only concerned with electronic voting in popular votes (referendums and initiatives), not elections. The usual voting ballots are circulated with a personal code that is uncovered by scratching. Voters wishing to vote electronically can access a central system in the Internet by entering this code to cast their vote. In order to identify the voter, protect the secrecy of the vote, and ensure its security, the canton of Geneva has chosen a procedure that is as closely related as possible to experiences made with absentee ballots and that does not require special skills on the part of the voter.

¹¹ See <http://www.electronic-government.org/>

¹² See <http://www.evanti.ch/>

¹³ See also Chapter 7.

¹⁴ For further information on this pilot project, see: <http://www.geneve.ch/chancellerie/e-government/e-voting.html>

Pilot project for the canton of Neuchâtel¹⁵: The pilot project of the canton of Neuchâtel aims to make electronic signing of initiatives and referendums possible. As a first step, the canton of Neuchâtel has centralised the voter rolls of the municipalities. Starting in 2004, electronic voting in votes and elections at the cantonal level and the municipalities shall be made possible. Electronic voting is designed to supplement the two existing systems of voting (at the ballot box and by absentee ballot).

Pilot project for the canton of Zurich¹⁶: The pilot project of the canton of Zurich aims to provide an electronic voting and election system. The first task is to establish a cantonal voter roll. The difficulty in this is that Zurich is a canton with a markedly decentralised organisation. It includes extremely small municipalities with less than 200 voters, but also the city of Zurich with 216,000 voters. The canton of Zurich is the only pilot project canton to develop a comprehensive electronic voting and election system. This includes all end user devices currently on the market such as personal computers, televisions, mobile phones, personal digital organisers, etc. Accordingly, the system design and the organisation of the development and the implementation will already take this diversity of devices into account.

17.2 Proposed laws and regulations

The Internet platform www.parlament.ch provides all relevant information on the Federal Assembly (Swiss Parliament) such as legislative revisions, elections, the political system, contact information, etc. The platform also contains a database with information on all items on the agenda of the National Council and the Council of States. So far, however, there is no possibility of obtaining comments on proposed laws and regulations.

18 What new and/or innovative activity not outlined above is under consideration.

¹⁵ For further information on this pilot project, see: <http://www.ne.ch/neat/site/jsp/rubrique/rubrique.jsp?StyleType=marron&CatId=3892>

¹⁶ For further information on this pilot project, see: http://www.egov.zh.ch/internet/sk/e-gov/de/teilprojekte/e-voting_vote_electronique.html