

GeoStandards.ch

Organisational concept GeoStandards.ch

Project "Development of a new organisation in the area of geoinformation standards"

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1 Introduction

1.1 Initial situation

Based on the Geoinformation Act (GeolG) and the Geoinformation Ordinance (GeolV), the Federal Office of Topography (swisstopo) defines the general description language for official geodata¹. In the Ordinance of the Federal Office of Topography on Geoinformation (GeolV-swisstopo²), INTERLIS was defined as the general description language for geodata models. The Swiss INTERLIS standard and tools are established, proven and successfully used in many cases. The advantages of the standard and the legal basis (GeolG, GeolV) have led to developments and projects around INTERLIS - or in general: projects and developments around geodata infrastructures - gaining a high level of momentum. However, these developments were sometimes perceived as intransparent. It is often unclear or only known to a very small group of people which tools have been developed with which versions by whom for whom and whether and how they may be used. Standardisation was not coordinated enough, with too little focus on users/usage and often too little transparency. All of this reduces efficiency, makes updating more difficult and prevents dissemination.

In addition, there was too little focus on the international level and its impact on Switzerland, which has become increasingly important with growing networking. Decoupling from international developments and focussing exclusively on INTERLIS would not do justice to the reality of cross-border tasks and stronger technical networking.

With the earmarked NGDI funds, resources are now available to overcome the aforementioned deficits. Compliance with public procurement law, transparency regarding the projects and their results are required for legal reasons and to increase efficiency. To ensure that these funds are used efficiently and effectively, further activities should be better coordinated, harmonised and goal-focused, and parallel developments should be avoided.

1.2 Framework conditions, objectives and purpose

Geoinformation legislation, administrative guidelines at the various administrative levels (Confederation - cantons - municipalities) and the economic perspective require broad, obstacle-free cooperation between the players and the opening up of geodata use and exchange within the framework of the National Spatial Data Infrastructure (NSDI).

To ensure the sustainable financing of the NCDI and cooperation between the Confederation and the cantons, CHF 3 million was transferred from the transfer credit for the cadastral survey and the PLR cadastre to swisstopo's global budget in order to "ensure the coherence, effectiveness and

¹ GeolG: <https://fedlex.data.admin.ch/eli/cc/2008/388>, GeolV: <https://fedlex.data.admin.ch/eli/cc/2008/389>

² GeolV-swisstopo: <https://fedlex.data.admin.ch/eli/cc/2008/390>

increase efficiency in the value creation of existing geodata³ ". 3 million is now available for an indefinite period each year in swisstopo's global budget for the NGDI.

In addition, the Federal Office of Topography (swisstopo) defined the establishment of a nationwide organisation in the area of geoinformation standardisation as a measure in its strategic directions for 2020.

The additional funds also mean increasing requirements under public procurement law (WTO, e.g. denomination ban). This poses a risk of long-term and paralysing legal disputes that should not be underestimated. Unclear contract awards, bilateral agreements and breaches of the principle of equal treatment must also be avoided for this reason (see 3.7 Governance).

One objective is to overcome the deficits identified in use, which are probably formulated most clearly in the Glarus/Solothurn position paper⁴ , which triggered the reorganisation. Central to this paper are the sustainable safeguarding of standardisation in the GI sector as well as the maintenance and further development of INTERLIS tools and applications in order to enable the full implementation of geoinformation law in the long term and to operate a geodata infrastructure efficiently and sustainably.

The authors point out in their paper that adapting and complying with the new organisation is not just a compulsory exercise:

"If we succeed in sustainably managing the developments around the standards, software tools and applications, then the current momentum can be maintained. The implementation of the GeoIG will not become a tiresome compulsory exercise and users and developers will recognise the benefits of finally being able to realise the entire process of geodata production and publication against the background of the model-based approach"

In future, the aim is to better harmonise and coordinate the further development of tools (e.g. which versions were developed by whom for whom and whether and how they may be used) and to improve user orientation and use.

The focus is on INTERLIS, *the* Swiss GI standard for the area of data structures/data models and for higher-level interoperability. It is important to build on what has already been created and to develop it further. In line with the broadening use of geodata, the stronger influences from the IT mainstream and increasing digitisation, which process geodata as important but integrative information, the aim of this organisational paper cannot be limited to INTERLIS alone, but must also take other standards into account.

To summarise, the implementation of the GeoStandards.ch strategy⁵ is the primary objective, as it takes into account the relevant legal requirements and the deficits that need to be overcome.

³ <https://www.geo.admin.ch/de/ueber-geo-admin/leistungsauftrag/zweckgebundene-ngdi-mittel.html>

⁴ <https://www.gl.ch/public/upload/assets/33698/PP20171020-INTERLIS-Steuerung.pdf>

⁵ GeoStandards.ch strategy: <https://nextcloud.geostandards.ch/index.php/s/n8m3QjZF7Bk6YCN>

1.3 Demarcations

The National Spatial Data Infrastructure (NSDI) includes the topics listed in the diagram below. The new "GeoStandards.ch" organisation covers the subject areas marked in red; projects and plans from other subject areas are not part of the new organisation and are therefore also delimited from this organisational concept, although there are of course interactions.



2 Situation analysis

2.1 Actual situation

In addition to the many positive developments in the area of geostandards (see 1.1, Background, and 1.2, Framework conditions, objectives and purpose), the following deficits were mentioned several times when analysing documents, documentation and in interviews with experts:

- Lack of coordination and strategy
- Lack of activities and too few resources
- Informal and non-transparent INTERLIS core team
- Deficits in the INTERLIS standard and its embedding
- Deficits with regard to tools
- Shortcomings in communication and documentation

Details of the deficits mentioned in the interviews can be found in Appendix A.

2.2 Central players

The key players in the current organisation are

- a. GKG - Coordination body for federal geoinformation
- b. COGIS - Coordination, Geo-Information and Services (swisstopo division)
- c. KGK-CGC - Conference of Cantonal Geoinformation and Cadastre Offices
- d. SOGI - Swiss Organisation for Geoinformation (in particular FG Geonorms)
- e. eCH - Standardisation in the area of eGovernment (FG Geonorms, FG INTERLIS)

In addition, an informal INTERLIS core team has developed over the past decades, whose knowledge is important for the INTERLIS status and thus for further development, which is why

the future structure of this core team within the new organisation is defined in this concept.

2.3 Requirements for the new organisation

The requirements are derived from the GeoStandards.ch strategy, which has taken into account the framework conditions and the deficits identified. An extract from the strategy can be found in Appendix B.

3 Target state

3.1 Organisational structure

The superordinate organisational structure is divided into four levels, each with a different function. This is illustrated in Figure 1:



Figure 1: Superordinate organisational structure

The operational level is divided into several subject areas, as illustrated in Figure 2:



Figure 2: Thematic areas at the operational level

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The subject areas are essentially based on the Glarus/Solothurn position paper, but have the following deviations:

- The division of INTERLIS and other standards mentioned in the position paper is not made: all standards are dealt with in the "Standardisation" section.
- Expansion to include international standards.
- Introduction of a "Training" area.

In contrast to the current ad-interim organisation GeoStandards.ch, the following topics are missing and are dealt with in a different form:

- Marketing/Communication: These topics are all handled by the head office.
- Advice/support: The office acts as SPOC for enquiries. The tasks are divided or delegated as follows:
 - Coordination, mediation and organisational information: Office
 - Technical information: Subject area "Tools"
 - Consultancy for GIS agencies, data providers and users: OUT OF SCOPE (these services are covered by the private sector)
 - Helpdesk for INTERLIS tools: Subject area "Tools"
- Modelling/data models: GeoStandards.ch is neither responsible nor in charge of maintaining data models in accordance with the GeolA. The activities in accordance with the current specifications for thematic leadership in modelling are therefore largely omitted. However, GeoStandards.ch supports these processes by ensuring that suitable training programmes, standards and tools are available. Defining the strategy for the model repository and data repository has been placed under the "Tools" topic area.
- Languages:
 - Defining the INTERLIS language: Is part of the "Standardisation" area. If specific, current needs are to be addressed, individual projects are started for this purpose.
 - Technical problem areas and aids: "Tools" topic area.

3.1.1 Roles and their tasks, competences and responsibilities

The following roles are defined in the organisational structure:

- Donor
- Steering Committee
- Office
- Topic managers
- Project managers

The tasks, competences and responsibilities (AKV) of each role are described below. These terms refer to

Tasks:

- Activities required to fulfil the responsibilities.
- Tasks represent the (delegable) responsibilities ("in charge of").
- Each activity must be assignable to at least one responsibility.

- In principle, tasks can be delegated from an organisational point of view, but this is not desirable in terms of efficiency and transparency. The cost estimates in However, chapter 4.3.2 assumes that each role performs all activities itself.
- Example: Preparing minutes of the Operational Committee (part of the responsibility "Ensure coordination between subject areas" and is to be taken over by the head office).

Expertise:

- Competences refer to powers, for example decision-making powers.
- Are relevant, for example, for the acceptance of results, entering into financial commitments and the definition of working methods.
- Delimitation: This does not refer to aptitudes, skills or talents.
- Example: The steering committee is responsible for approving the annual budget prepared by the head office (as this is its responsibility).

Responsibilities:

- Means mainly responsibility for results or the responsibility to achieve a goal ("accountable for").
- Responsibilities cannot be delegated.
- In order to fulfil responsibilities, it is usually necessary to carry out tasks. These can be delegated. Anyone who accepts a delegated task is not only responsible for its fulfilment, but also accountable for it.
- Example: Office is responsible for communication and therefore represents the organisation at events (task). The appearances themselves could also be delegated.

3.1.1.1 Financing level

Role	Donor
	The sponsor ensures the financial capacity to act
Tasks	<ul style="list-style-type: none">• Conclusion of contracts with project managers• Ensuring the liquidity of GeoStandards.ch
Expertise	<ul style="list-style-type: none">• Utilisation of earmarked NGDI funds• Contracts with contractors
Responsibilities	<ul style="list-style-type: none">• Prompt decisions on the use of funds• Prompt signing of contracts

3.1.1.2 Strategic level

Role	Steering Committee GeoStandards.ch ⁶
	The GeoStandards.ch steering committee is responsible for the strategic management of the new GeoStandards.ch organisation. It is a thematically composed body that consists of both strategically minded members as well as people with specialist expertise.
Tasks	<ul style="list-style-type: none">• Defining the strategic direction of GeoStandards.ch

⁶ The GeoStandards.ch steering committee is to be confused with the NGDI resources steering body

	<ul style="list-style-type: none"> • Defining annual targets for GeoStandards.ch • Supporting the head office and those responsible for specific topics with both strategic and specific technical issues. • Review of important results from GeoStandards.ch • Managing the office
Expertise	<ul style="list-style-type: none"> • Decision on how to proceed in the event of differences between the office and / or topic managers • Filling the positions at GeoStandards.ch (office and topic managers) • Acceptance/approval of the annual budget • Commissioning of the office
Responsibilities	<ul style="list-style-type: none"> • Strategic orientation of GeoStandards.ch • Annual targets for GeoStandards.ch and measures to achieve them • Compatibility of the organisational projects with the GeoStandards.ch strategy

3.1.1.3 Tactical level

Role	<p>Office</p> <p>The head office is the link between the strategic and operational levels. It acts as an extension of the strategic management level. It deals with both administrative and technical aspects.</p>
Tasks	<ul style="list-style-type: none"> • Receiving and answering enquiries to the organisation and, if necessary, forwarding the enquiries to those responsible for the topic • Coordinate and set up exchange opportunities between topic managers and the office • Chairing the periodic meetings of the Operational Committee • Checking the receipt of new project applications • Sending the project applications received to participants Operational Committee • Documenting project application assessments by the topic managers and the office within the Operational Committee • Transmission of the minutes of the Operational Committee to the Steering Committee as a basis for decisions on the assessment of project applications • Drawing up contracts with project applicants • Carry out kick-off of projects • Checking and monitoring contractual agreements • Obtaining and documenting the ongoing activities of those responsible for the topic • Requesting reports on the projects assigned to the respective topic managers • Developing continuous improvement options for the new organisation (e.g. processes, responsibilities, guidelines, infrastructure, tools)

	<ul style="list-style-type: none"> • Documenting and developing processes • Representing the new organisation at internal and external events • Leading communication about the new organisation • Search for further sources of funding • Reporting to the steering committee
Expertise	<ul style="list-style-type: none"> • Procurement of services and material resources up to an annual amount of CHF 20,000 • Second signature for contracts above the budget authority (e.g. positions of subject managers) • Assignment of the topic managers • Acceptance of the organisational manual
Responsibilities	<ul style="list-style-type: none"> • Infrastructure of GeoStandards.ch (e-mail, filing, templates, etc.) • Coordination of all work within GeoStandards.ch • Communication and marketing (presentations, networking, advertising) • Guidelines on methodologies, working methods and tools within GeoStandards.ch • Regular reports to the attention of the steering committee • Ensuring process compliance • Formal quality of the results, in particular their harmonisation with all subject areas

3.1.1.4 Operational level

Role	<p>Topic managers</p> <p>Topic managers are responsible for the implementation work. They are familiar with the community and the current discussions within their subject area. They have a broad network within the public and private sectors.</p>
Tasks	<ul style="list-style-type: none"> • Coordinating and managing the topic area • Specifying the basic strategic principles of the GeoStandards.ch organisation for your own subject area. • Collecting and bundling needs, suggestions and feedback from the community • Maintaining contacts within the community and the network • Participation and membership in relevant specialist groups • Describing and initialising project proposal ideas • Search for potential applicants • Supporting applicants in the preparation of project applications • Maintaining a regular dialogue with the head office and the other topic managers • Regular and active participation in the Operational Committee • Assessing the project applications received • Managing the post-processing of received project applications together with project applicants • Supporting the project managers and their projects • Reporting to the head office on the status of the projects and activities assigned to the subject area

	<ul style="list-style-type: none"> • Specialised public relations work, e.g. presentations at conferences
Expertise	<ul style="list-style-type: none"> • Project management
Responsibilities	<ul style="list-style-type: none"> • Professional realisation of assigned tasks within the division • Thematic involvement and exchange with specialist groups and external stakeholders • Professional, content-related quality of the results • Securing and publishing relevant project results

Role	Responsible for training Promote education and training related to GeoStandards.ch
Tasks	<ul style="list-style-type: none"> • Create a complete overview of existing course offerings (training and continuing education), enrich it with suitable meta-information and publish it for broad use • Strengthen marketing of training/further education • Check and award certification options • Maintain contact with educational institutions and encourage them to develop and support the required training programmes.
Expertise	<ul style="list-style-type: none"> • no further
Responsibilities	<ul style="list-style-type: none"> • Maintenance of a target group-orientated overview of offers

Role	Responsible for standardisation Creating and further developing standards relevant to the NGDI. Active participation as a member of the Swiss Association for Standardisation (SNV), the eCH association and the relevant international bodies (OGC, ISO). INTERLIS according to Further develop user needs
Tasks	<ul style="list-style-type: none"> • Active participation in the relevant specialist committees (e.g. eCH, SOGI, SNV) • Maintain and update existing standards and develop them further in line with requirements • Clarify the need for new standards and promote standardisation • Monitor the work of ISO Technical Committee 211 (Geographic information/Geomatics) and proactively communicate developments • Keep documentation of the INTERLIS language up-to-date and widely usable, e.g. in the form of reference manuals, user manuals, glossaries, application examples, etc. • Answer questions regarding the INTERLIS reference manual. If necessary, suitable experts should be consulted.
Expertise	<ul style="list-style-type: none"> • Commissioning of suitable experts up to an annual amount of CHF 10,000 for the following work: <ul style="list-style-type: none"> ◦ Minor adjustments to maintain existing standards.

- Answering questions about standardisation

Responsibilities	<ul style="list-style-type: none"> • Maintenance of existing standards • Driving forward standardisation in line with demand • Maintenance of INTERLIS documentation • Further development of INTERLIS
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Role	Tools responsible for the topic
	Lead and support the creation and maintenance of user-centred tools for the NGDI. Assume the role of maintainer for system-critical tools. Issuing specifications and guidelines for the further development of system-critical tools. Tools

Tasks	<ul style="list-style-type: none"> • Creating, publishing and maintaining overviews of the available tools that process the standards managed by GeoStandards.ch. • Answer user questions about the supported tools • Proactive contacting of tool and system manufacturers • Actively driving forward tool renewals • Ensure user-friendly documentation of these tools • Define a strategic architecture of system-critical tools for processing INTERLIS models and data. • Defining the strategy for the model repository and data repository • The INTERLIS Group has issued specifications and guidelines for the further development of system-critical INTERLIS tools. • Change and release management for the system-critical INTERLIS tools. • Setting up and managing a support organisation for the supported tools in use
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Expertise	<ul style="list-style-type: none"> • Acceptance of the strategic architecture of system-critical tools for processing INTERLIS models and data. • Acceptance of the specifications and guidelines for the further development of the system-critical INTERLIS tools • Commissioning minor maintenance and servicing work on system-critical tools (up to an annual amount of CHF 10,000)
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Responsibilities	<ul style="list-style-type: none"> • Drive forward the further development, maintenance and support of tools for the NGDI. • Assumption of the maintainer role for system-critical INTERLIS tools. • Ensure technical support for end users
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Role	Project managers
	Project managers implement accepted project applications in the form of projects. They coordinate the realisation of the projects and are responsible for the project results
Tasks	<ul style="list-style-type: none"> • Realise requested and accepted project applications in the form of projects

	<ul style="list-style-type: none">• Manage projects• Project planning, resource management• Report project status to the respective topic manager
Expertise	<ul style="list-style-type: none">• Internal project decisions
Responsibilities	<ul style="list-style-type: none">• Professional and results-orientated implementation of requested and accepted project applications• Time, cost and quality targets of the project

3.2 Future INTERLIS core team

The perceived lack of transparency of the INTERLIS core team is identified as one of the shortcomings of INTERLIS governance (see chapter 2). Its reorganisation is essential in order to achieve a sustainable improvement.

In accordance with the decision of the project committee of 11 February 2021, the INTERLIS core team will be dissolved. Finances from the "earmarked NGDI funds" are to be applied for exclusively via the formally correct channel as described in this document or the organisational manual. This means in terms of implementation:

- The head of the standardisation area leads the topic and sets up work packages (WPs) as required, which can be carried out by groups of different compositions.
- Several applications can be submitted by different teams for one WP. The Operational Committee discusses the projects and makes a recommendation to the Steering Committee.
- The person responsible for standardisation can allocate small budgets on their own authority (e.g. for minor adjustments or answering questions about standards) without triggering the entire bureaucratic apparatus (see AKV).

Transparency and benefit-orientation are achieved through the following measures:

- Governance ensures that directly commissioned tasks do not jeopardise transparency.
- All resources are channelled through the official application process for funding from "Earmarked NGDI funds".
- Applicants are listed on the official application page for NGDI funds. The project results including all contributors are published on GeoStandards.ch.
- User-orientation is ensured by the assessment of the project applications in the Operational Committee and in the NGDI funds steering body, as well as the decision of the swisstopo Director responsible for finance

3.3 Cooperation with external stakeholders

3.3.1 Universities/universities of applied sciences

GeoStandards.ch maintains contact with educational institutions in order to promote training and further education related to GeoStandards.ch

Activities GeoStandards.ch (responsible for training):

- Establish and maintain contacts with educational institutions
- Collecting and coordinating needs and offers from the education sector
- Generate project ideas and motivate stakeholders to submit project proposals

3.3.2 eCH

There are currently two eCH specialised groups (incl. excerpt from the eCH homepage):

- eCH Expert Group GeoStandards SOGI FG5

SOGI Section 5 (Norms and Standards) has been a regular eCH section since 2008

- eCH INTERLIS specialist group:

The aim of the specialist group is to support the INTERLIS user community by collecting questions and requests relating to INTERLIS, organising answers to them and developing supplementary standards and recommendations.

Activities GeoStandards.ch (steering committee):

- Dissolution of both eCH specialist groups incl. official communication
- Establishment of a new eCH specialist group "Geoinformation" under the leadership of the person responsible for the GeoStandards.ch topic area "Standardisation"

3.3.3 SOGI

As an industry association, SOGI primarily represents the private sector. However, as the cantons, the federal government and (municipal) utilities are also represented, SOGI has a relatively broad base. Preparations are currently underway to further develop SOGI. Workshops will be held in May and June 2021 as part of this process. SOGI is divided into seven specialist groups, of which specialist group 4 (GIS technology), specialist group 5 (norms and standards) and specialist group 6 (education) are particularly relevant for GeoStandards.ch

3.3.3.1 SOGI Specialist Group GIS Technology (FG4)

According to the SOGI homepage:

The GIS Technology specialist group takes a forward-looking approach to the technical development of GIS technology and its relevant IT areas...

Current objective:

- *Treatment of focus topics*
- *Treatment of further issues*
- *Technical support for SOGI (at events, consultations, etc.)*
- *Information on GIS technology as news in the SOGI information sheet.*

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Activities of GeoStandards.ch (Topic Manager Tools):

- Membership and active participation in SOGI FG4
- Meeting the needs of the community
- GeoStandards.ch, its objectives and mechanisms represent
- Generate project ideas and motivate stakeholders to submit project proposals

3.3.3.2 SOGI Specialist Group Norms and Standards (FG5)

SOGI FG5 is perceived as invisible and inactive. The positioning according to the SOGI homepage is difficult to grasp and is therefore not reproduced here.

Activities GeoStandards.ch (responsible for standardisation):

- Membership and active participation in SOGI FG5
- Ensure that the SOGI FG5 positioning is compatible with GeoStandards.ch
- GeoStandards.ch, its objectives and mechanisms represent
- Generate project ideas and motivate stakeholders to submit project proposals

3.3.3.3 SOGI Specialist Group Education (FG6)

According to the SOGI homepage:

The specialist group is dedicated to the coordination of education and training programmes in geoinformation in Switzerland...

The following thematic priorities are currently being pursued:

- *Vocational training reform for geomatics technicians*
- *Further training*
- *Schools*
- *E-learning*

Activities GeoStandards.ch (responsible for training):

- Membership and active participation in SOGI FG6
- Meeting the needs of the community
- GeoStandards.ch, its objectives and mechanisms represent
- Generate project ideas and motivate stakeholders to submit project proposals

3.3.4 OGC

As an international, unofficial standardisation organisation, OGC defines de facto standards for the entire geoinformation sector in a broadly supported process. The standards are open, free to use and implemented in many tools.

Activities GeoStandards.ch (responsible for standardisation):

- Observe activities, with involvement if necessary
- Catalogue relevant standard

3.3.5 ISO/CEN

ISO/CEN: You only have access to their standards and drafts if you are a member of SNV. Only official, national standardisation organisations (such as SNV) can be members. This is why SNV is relevant.

CEN adopts the standards defined by ISO, which in turn must be adopted by the national standardisation organisations (e.g. SNV). This is why it is important to be part of SNV.

Activities GeoStandards.ch (responsible for standardisation):

- Observe activities, with involvement if necessary
- Catalogue relevant standard

3.3.6 SNV

SNV: The standards are expensive, access only against payment. In future, all SNV standards relevant to geoinformation in Switzerland are to be transferred to eCH in order to ensure free access and free use.

Activities GeoStandards.ch (responsible for standardisation):

- Observe activities, with involvement if necessary
- Catalogue relevant standards

3.4 Legal form

The legal form of GeoStandards.ch has a significant impact on its handling of financial resources, operational processes and competences. Depending on how it is organised, efficiency gains are either made possible or prevented.

This chapter contains explanations of the possible legal forms that can be taken into account in an assessment.

3.4.1 Association

pursuant to Art. 60-79 ZGB, legal entity with its own legal capacity and capacity to act, written articles of association required: Describe name, registered office, purpose, origin of financial resources and organisation

- Organisation: at least a general meeting, board of directors, auditors (whether this is mandatory depends on the available funds (Art. 69b para. 1 ZGB - balance sheet total of 10 million etc.))
- Once the articles of association have been adopted and defined by the board of directors, the association can be entered in the commercial register (entry in the commercial register is not always mandatory, only under certain circumstances: if it operates a commercial business for its purpose or is subject to auditing. (for auditing, see above, Art. 69b)
- Association meeting or Board of Directors can decide on the admission of new members
- The association's assets are liable for debts and liabilities
- The association can be dissolved at any time by its own decision
- Legally binding documents can be signed by the persons entered in the register of actions

- An association is a legal entity and must therefore always pay taxes. Tax exemption is possible if the association pursues a public or charitable purpose.

3.4.2 Foundation

pursuant to Art. 80-89a ZGB, legal entity that has its own legal capacity and capacity to act

- Purpose of the foundation: Dedication of assets in favour of a specific purpose
- Organisation: At least one foundation board; mandatory supervision by the state foundation supervisory authority
- Profit and loss transfer falls to the foundation's assets
- Entry in the commercial register required
- No memberships in the actual sense possible; only membership of a foundation body, e.g. the foundation board

3.4.3 GmbH (limited liability company)

pursuant to Art. 772-827 CO, a commercial company with its own legal personality (legal entity).

- Entry in the commercial register is a prerequisite for the validity of the GmbH as a legal entity
- Personal corporation formed by one or more persons or commercial companies
- Hybrid form of stock corporation and general partnership
- Organisation: At least one person (shareholder), shareholders can be natural persons or legal entities; shareholders' meeting, management with at least one member, auditors
- Management is carried out by all shareholders, unless otherwise stipulated in the Articles of Association
- Each managing director is authorised to represent the company
- Required capital: at least CHF 20,000 Share capital
- Liability exclusively through company assets
- Shareholders have a claim to profits in proportion to their share of the share capital
- In the event of losses, shareholders lose the share capital but can be obliged to make additional contributions
- Taxation is analogous to that of a stock corporation: taxation of the profit and capital of the GmbH
- Shareholder pays wealth tax on his shares and income tax on profit distribution (dividends).

3.4.4 Public limited company

pursuant to Art. 620-763 CO, a commercial company with its own legal personality (legal entity).

- Private and business assets are separated

- Minimum capital of CHF 100,000 required
- High formal requirements for incorporation
- Entry in the commercial register is necessary
- Organisation: At least one person (shareholder); shareholders can be natural persons, legal entities or commercial companies; General Meeting, Board of Directors with at least one member, auditors
- Management is carried out by the Board of Directors as a whole; representation is carried out by each Board member individually, unless otherwise stipulated in the Articles of Association; at least one member of the Board of Directors must be authorised to represent the company
- Only the company's assets are liable for the liabilities of the stock corporation
- AG as a legal entity, each person is taxed separately

3.4.5 Simple partnership

Pursuant to Art. 530-551 CO, contractual agreement between two or more persons to achieve a common purpose with joint forces or means.

- Purpose of the simple partnership: all parties involved pursue the same goal, all parties share in the desired profit, all parties share in any failure
- A simple partnership has no legal personality of its own
- Each participant must provide funds to achieve the common purpose; contributions are money, property, receivables or personal contributions in the form of labour
- There are rights and obligations between the contracting parties
- The simple partnership can be dissolved if the common purpose is achieved, the impossibility of achieving the intended purpose is demonstrated or the parties dissolve the partnership by mutual agreement.
- A person may conclude contracts on behalf of the company provided he or she has been given the power of representation for the task.

3.4.6 Public corporation

- No separate legal form
- Public task assumed by an organisational unit / institution / corporation
- A legal basis is required for the delegated task, i.e. the task must be described in the law and it must be authorised in the law to delegate this task (e.g. in the cantonal constitution, Canton of Berne Art. 95: The canton may (c) delegate public tasks to private individuals and institutions outside the administration

=> no option for GeoStandards.ch

3.5 Process organisation

3.5.1 Create annual plan

Process objective:

- Activities of the various stakeholders are coordinated in terms of timing
- Sufficient resources for / with decision-makers Process

responsibility: Head office

3.5.2 Handling project applications

Process objective:

- Provide decision-making basis for steering body NGDI funds Process

responsibility: Head office

3.5.3 Monitoring/controlling projects

Process objective:

- Ensure project deadlines/budget/quality of results
- Identify need for coordination between projects

Process owners: Topic owners

3.5.4 Ensure operational activities

Process objective:

- Ensure coordination of the thematic areas of GeoStandards.ch

Process responsibility: Head office

3.5.5 Further develop subject areas

Process objective:

- Users of the NGDI receive appropriate support
- Results are compiled and are widely available

Process owner: Topic owners

3.5.6 Carry out communication and marketing

Process objective:

- Ensure that all relevant stakeholders are informed and involved Process

responsibility: Head office

3.5.7 Provide resources (financial means/resources)

Process objective:

- Ensure that GeoStandards.ch remains capable of acting

Process responsibility: Funders

3.5.8 Ensure maintenance and support

Process objective:

- Ensure quality (up-to-dateness, accuracy, usability) of official tools

owner: Topic owner Tools

3.6 Communication

Communication in organisations covers all internal communication processes. In addition to formal forms of communication such as meetings and other forums for exchange, this also includes all informal, spontaneous and unplanned information channels. The following chapters describe how the individual players in the GeoStandards.ch organisation communicate - and through which channels and vessels. In addition to communication within the organisation, chapter 4.6.3 also describes communication/marketing with an external impact.

3.6.1 Communication channels and information exchange

The individual players in the GeoStandards.ch organisation have a shared filing system. There is also an assigned e-mail account for each role, which is used for written communication both within the organisation and externally.

Central filing system

Every stakeholder in the GeoStandards.ch organisation receives an account in the centrally used filing system.

The aim of shared storage is to enable other stakeholders to view and, if necessary, edit shared documents from other authors.

GeoStandards.ch e-mail account

Each role has its own GeoStandards.ch e-mail account. This is used for written communication within the organisation and for external communication with external stakeholders.

An "Infrastructure guide" is available in the central filing system to provide an introduction to the filing system and the use of e-mail accounts. The office is also available to answer questions and provide further information. The principles of use are described in the organisation manual.

3.6.2 Exchange forums, committees

In the GeoStandards.ch organisation, the following exchange vessels and committees are defined for regular and planned exchange. All planned, regular meetings are recorded in minutes.

GeoStandards.ch

Meeting of the GeoStandards.ch steering committee

Contents	Goal	Duration	Periodicity	Participants
Review/update the GeoStandards.ch strategy	GeoStandards.ch strategy supports the objectives of the NGDI	120 min.	Quarterly	Members of the Steering Committee
Determining the annual targets and approving the annual budget	Office remains capable of acting and can prioritise all activities			
Staffing the office and topic managers with suitable persons	Securing resources			

Steering Committee GeoStandards.ch - Office

Contents	Goal	Duration	Periodicity	Participants
Assessment by the Operational Committee of the project applications received	Check strategy conformity of the assessments	120 min.	Quarterly (before steering committee)	Members of the Steering Committee Office
Ongoing projects / activities in the subject areas	Steering committee is informed and can provide feedback.			
Strategic orientation / annual targets for the following year	Input to the office for annual planning			
Check status of annual targets, define measures	Ensuring achievement of annual targets			

Operational Committee

Contents	Goal	Duration	Periodicity	Participants
Discussion of the project applications received	Protocol for assessing the project applications received	120 min.	Monthly	Office Topic managers
Compilation of the project application assessments for the attention of the steering body NGDI funds				
Submit updates on ongoing projects	Clarity about the current status of ongoing projects			
Coordination and exchange between the individual topic managers	Uniform understanding of currently relevant topics			
Discussing concrete content and specific questions from topic managers and the office	Clarification of current content-related questions			
Discuss organisational issues (e.g. filing systems, communication, scheduling)	Clarification of current organisational issues			
Setting up and organising further workshops	Definition and organisation of further coordination requirements			

Meeting Topic managers

- The prioritised topics within the subject areas are discussed in greater depth. The administrative office does not take part in the meeting.

3.6.3 Communication and marketing: external presentation

The content of GeoStandards.ch is highly specialised and is therefore aimed at experts in the field. Public relations work in the sense of the dissemination and wider use of geodata is not required.

Accordingly, the aim of external communication is to keep the experts from the GI world regularly informed. This is to be achieved through

a) Current website:

- The frequency of updating is characterised by progress in substantive work: through information on projects at the start, periodic interim reports, publishable results and interim results that are widely discussed (principle of consultation).
- As INTERLIS is the core of Geostandards.ch and redundancies should be avoided, the INTERLIS.ch page should remain as a URL but link directly to a subpage of GeoStandards.ch. The existing content should be checked as soon as possible by the office to ensure that it is up-to-date, complete, useful and user-friendly and, if necessary, adapted and transferred to the new GeoStandards.ch website, e.g. at geostandards.ch/interlis.

b) Publication of regular information via geowebforum.ch:

- An author/editor role must be applied for from those responsible for the Geowebforum so that your own content can be published quickly.
- In addition, a separate category (GeoStandards.ch) should be set up in which regular publications and discussions can take place.
- It is the task of the head office to initiate, moderate, conduct and evaluate these discussions.

c) Own Twitter channel:

- The Twitter channel should be regularly updated with information.
- Relevant and short references to other resources (website, GitHub, etc.) could be made here.
- Initially, a search for other Twitter channels (e.g. swisstopo, KKGEO, etc.) of the Swiss GI world should be carried out and linked or interacted with accordingly.

d) Specialised events:

- These are to be used for workshops, presentations and personal presence.
- In addition to the typical GI events (GEOSummit, Spirgarten meeting, federal and cantonal events, etc.), IT events should also be utilised in the interests of opening up the markets.

Particularly at the beginning, information and communication should be broadly disseminated so that a) the game-change is publicised b) opportunities are seen by all those involved (clients and contractors)

and c) the provider market is opened up. General IT specialists and the open data community in particular should be specifically addressed.

3.7 Governance

The principle of equal treatment, WTO requirements and deficits identified in the past require the formulation of and consistent compliance with the following governance rules when allocating earmarked NGDI funds:

- a) Conflicts of interest are pointed out by the parties themselves and without being asked.
- b) Subject managers may not derive any advantage whatsoever from this activity in the procurement of earmarked NGDI funds.
- c) The application and assessment processes for projects are strictly adhered to. Only documents that are made available to all persons involved in a timely and process-compliant manner are taken into account in the discussion and decision-making processes.
- d) Double funding by the public sector must be avoided as a matter of principle. Public servants (e.g. universities, federal agencies, cantonal level and cities / municipalities) show the value "0" in the monetary costs or sign a self-declaration that the requested funds are not part of their public mandate (appointment).
- e) Representatives of the private sector may be mandated to serve on the steering committee for public institutions (Confederation, cantons, cities/municipalities), provided that neither they nor other employees of their companies submit applications or participate in projects for the duration of this activity.
- f) For applications classified as "research" that exceed the WTO threshold for procurement (currently CHF 238,000) and are therefore not subject to WTO law, the applicant must document that and why these applications are considered research in the WTO sense.

4 Transition concept

The establishment of the new organisation in the Geoinformation Standards division provides for a new organisational structure and new processes. The following work must be carried out to ensure that the transformation from the ACTUAL state to the desired TARGET state can take place in a targeted manner:

- Leading the transformation
- Communicating the transformation
- Recruitment of the roles to be filled: Preparation and realisation
- Customise the processes
- Adjusting the legal form
- Definition of Go Live / effective date of the new organisation
- Defining and implementing the implementation measures / change support
- Ensure availability of financing / financial resources
- Success monitoring after a start-up phase

4.1 Leading the transformation

The transition from the ad-Interim organisation to the new organisation will be managed by a representative of the GeoStandards.ch steering committee. The management of the transformation includes the following areas of responsibility:

- Define the effective date for the new organisation
- Plan preparatory tasks (e.g. introductory measures and accompanying measures) and define responsibilities for them
- Close identified gap with regard to necessary roles
- Make process adjustments
- Carry out activities to adapt and implement the legal form
- Plan and execute communication of the transformation

4.2 Communicating the transformation

An important success factor for the transition to the new organisation lies in communicating the changes. Timely, comprehensible, target group-specific and appealing communication helps to win over employees and other stakeholders for the upcoming change and prevents existing potential and energy from remaining unutilised.

Measure	Who	Target group	What	When
Info mail	Preparation: Representatives of the Steering committee, project management realisation: Representative of the steering committee or office	All employees External stakeholders Community	Current project status, next steps until the start of the new organisation	Summer 2021
Website update	Preparation: Representatives of the Steering committee, project management realisation: Representative of the steering committee or office	All employees External stakeholders Community	Current project status, next steps until the start of the new organisation	Summer 2021
Development of Twitter channel	Office	All employees External stakeholders Community	Current project status, next steps until the start of the New organisation	Summer 2021
Info flyer / Info event	Preparation: Representatives of the Steering committee, project management realisation: Representative of the steering committee or office	All employees	Key facts of the new organisation Planned timetable	Autumn 2021

4.3 Recruitment of the roles to be filled

4.3.1 Preparation for recruitment

The new organisation envisages three key areas:

- Education
- Standardisation
- Tools

The following activities are to be carried out for the recruitment of the **roles of "topic managers"** in these topic areas:

- Create/update requirement profiles
- Formulate and publish job offers
- Interview and commission suitable people (taking into account existing recommendations for possible roles)

The following activities must be carried out to fill the **role of "office"**:

- Create/update requirement profiles
- Formulate and publish a job offer
- Interview and recruit suitable people (taking into account existing recommendations for possible roles)

Please note the following when filling the roles:

- The contracts of ad interim thematic managers and office managers must be terminated in good time or the extension must be stopped
- The tasks newly recognised as a core competence of COGIS must be included in the service/task portfolio and defined with a responsibility. In addition, it must be examined whether the responsible role requires measures in the form of training and education. /Further training required.
- When filling the roles, it must be ensured that the newly recruited employees have the necessary ACV and, if necessary, that measures in the form of training/further training are implemented.

4.3.2 Realisation of recruitment

The following general conditions should be taken into account during recruitment:

4.3.2.1 Steering Committee GeoStandards.ch

Profile:

- Well-founded, broad specialist knowledge and many years of experience in the development, organisation and implementation of strategic geoinformation projects as well as a broad network in all relevant stakeholder groups.
- The steering committee consists of representatives from all administrative levels:
 - 2 swisstopo/COGIS representatives
 - 2 Representative KGK

- 2 representatives of the municipal association (To counteract the criticised coordination between the political levels⁷ (see Chap□))

AKV: see chapter 3.1.1.2 Strategic level Estimated annual

expenditure: 32h:

- GeoStandards.ch steering committee meeting: 4x2h
- Steering committee meeting - office: 4x2h
- Preparation and follow-up: 8x2h

4.3.2.2 Office

Profile: Organiser, communicator, broad but not necessarily in-depth specialist knowledge of the topics relevant to GeoStandards.ch.

AKV: see chapter 3.1.1.3 Tactical level

Estimated annual expenditure: approx. 1'300h (approx. 70% position):

- Steering committee meeting - office: 4x2h
- Operational committee: 12x2h
- Preparation and follow-up: 12x8h
- Communication & Marketing: 12x24h
- Managing and coordinating the topic managers: 12x16h
- Answering external enquiries incl. clarifications: 12x16h
- Further development of GeoStandards.ch: 12x8h
- Administration: 12x32h

As there are no empirical values for the above estimates as yet, remuneration is not paid on a flat-rate basis, but per reported working hour. As soon as empirical values are available, it may be possible to switch to flat-rate remuneration for reasons of efficiency.

4.3.2.3 Topic managers

Profile: Organiser, communicator, enabler, solid specialist knowledge in own subject area, but not necessarily in-depth detailed knowledge and many years of experience.

AKV: see chapter 3.1.1.4 Operational level

Estimated annual expenditure: around 900 hours (approx. 45% position), for the subject area of tools around 1,100 hours (approx. 55% position):

- General expenditure:
 - Operational committee: 12x2h
 - Preparation and follow-up: 12x16h
 - Networking & project support: 12x24h
 - Continue topic area: 12x32h
- Additionally for the subject area of tools:
 - Maintainer role for system-critical INTERLIS tools: 12x16h

⁷ Coordination between the administrative levels (federal government - cantons - cities/municipalities) was described as inadequate, particularly at the municipal level. Measures are needed to improve interaction between the different administrative levels.

As there are no empirical values for the above estimates as yet, remuneration is not paid on a flat-rate basis, but per reported working hour. As soon as empirical values are available, it may be possible to switch to flat-rate remuneration for reasons of efficiency.

4.4 Customise the processes

The processes defined in section 3.5 are detailed in the organisational manual.

4.5 Adjusting the legal form

The NGDI resources steering committee has decided to staff the office with swisstopo employees. A separate legal form is not currently planned for GeoStandards.ch.

The legal form of GeoStandards.ch could be reassessed at a later date.

4.6 Definition of go live/date of validity of the new organisation

From a strategic perspective, a key date is defined for the introduction of the new organisation, on which the new organisation comes into force and becomes valid.

The cut-off date is based on the deadline for recruiting the new roles. For the transfer of the ad interim organisation to the new organisation

The introduction measures take the form of a transition phase. These are explained in section 5.6.

4.7 Define and implement the implementation measures/change monitoring

Various measures are planned for the successful completion of the key date and the associated successful start to the new organisation.

These **take** the form of **information**, some of which has already been listed as communication in section 4.7.1. Furthermore, introductory measures in the form of support are planned (see chapter 4.7.2).

4.7.1 Inform

To ensure that employees can make a successful start to the new organisation, the first priority during the introductory phase is to ensure that employees are sufficiently informed about the organisation's new regulations.

The following introductory measures are defined to ensure the provision of information:

Measure	Who	Target group	What	When
Info mail	Preparation: Representatives of the steering committee, project management	All employees External stakeholders Community	Current project status, next steps until the start of the new organisation	Summer 2021
	Implementation: Representatives of the steering committee, or office			
Info flyer/info event	Preparation: Representatives of the steering committee,	All Employees	Key facts of the new Organisation	Autumn 2021

	Project management Realisation: Representative of the steering committee, or office		Planned schedule	
Kick-off topic managers	Preparation: Steering Committee Project management Implementation: Steering Committee, or office	New topic managers	Key facts of the new organisation Clarification of mission understanding Definition of time and Task list	Autumn 2021
Kick-off office	Preparation: Steering Committee Project management Implementation: Steering Committee	New office management	Key facts of the new organisation Clarification of mission understanding Definition of tasks and schedule (series of deadlines Operational Committee)	Autumn 2021

4.7.2 Support for

New employees are supported by various measures during the induction phase to ensure a successful transition to the new organisation.

Measure	Who	Target group	What	When
Documents for topic managers and the office	Preparation: Representatives of the steering committee, project management Implementation: Representatives of the Steering Committee	New topic managers, new office management	Key facts of the new organisation, extract from the organisational handbook	Autumn 2021
Geo-Standards coffee	Preparation: Representatives of the steering committee, project management Implementation: Representative of the steering committee	All employees	Informal information about the new organisation and ongoing topics Serves as an informal vessel for feedback from Employees	Autumn 2021

5 Appendix

A. Actual situation

The deficits mentioned several times in the interviews (Chapter 2.1) are detailed below:

A.1. Lack of coordination and strategy

- The objective of INTEL RIS and the other standards does not appear to be clear
- An overall concept that covers all relevant aspects of standardisation, including training and further education, for example, would be helpful.
- Coordination between the administrative levels (federal government - cantons - cities/municipalities) was described as inadequate, particularly with regard to the municipal level: *"The federal government would decide, the cantons might add something and in the end the municipalities would have to implement it with limited expertise and resources - often without any direct benefit,"* said one interviewee with a focus and expertise regarding the interaction between the different administrative levels. This impression arises, for example, because work is not sufficiently requirements-orientated or only technical improvements are made, but none in terms of functionality or user interfaces.
- Arbitrary, non-transparent distribution of tasks and assignments.
- Unmanageable, more or less usable and useful standards.
- Too little interaction between available, useful and usable tools on the one hand and specifications (standards, laws, instructions) on the other. The timely implementation of standards in software tools and applications is lacking and inhibiting.
- Closed versus open source is a crucial strategic question that has neither been generally decided by those responsible nor is it clearly demanded in the individual contracts.
- Two quotes that are representative:
 - "Too many people talk to each other, but too few talk with each other"
 - "There are already too many non-transparent organisations with unclear tasks - now Geostandards.ch is another one. You almost get the impression that instead of strategy, leadership and coordination, only committees are being created".

A.2. Lack of activities and too few resources

- There is a lack of consciously driving forward activities. It is not only/primarily a question of a lack of coordination and strategy, but the problem of a lack of resources.
- SOGI FG5 has not become active and the eCH specialist groups are also perceived as not being visible. A general lack of activity is noted in SOGI (FG5), but it is also recognised that it cannot take on strategic or coordinating tasks - although it can take on operational work.
- Critical dependence on a few individuals. On the one hand, the provider market is very small; on the other hand, relevant activities were and are carried out in a non-transparent manner.

A.3. Informal and non-transparent INTERLIS core team

- The INTERLIS core team is not comprehensible to outsiders:
 - Participants are unclear, there are assumptions as to who is taking part - contact person(s) are missing, as are the rules and opportunities for participation.
 - The information flows, motivations, orders and results as well as their usability are equally unclear.
- The merits of this INTERLIS core team are generally recognised, but so is the need for transparency, openness and renewal.

A.4. Deficits in the INTERLIS standard and its embedding

- The relationship with SNV is unclear.
- The role and processes of eCH are unclear.
- The idea of internationalisation has not been implemented.
- It is unclear whether and how the INTERLIS standard will be further developed.
- Not only the Swiss INTERLIS standard is relevant, international developments and non-geoinformatics-specific standards must also be taken into account - after all, INTERLIS is not an internationally valid or established standard.
- Standards with "valid" status (INTERLIS 2.4) are hardly used, the earlier versions (INTERLIS 2.3 and partly earlier) are officially "superseded", but are actually still the focus of use. Instead of establishing INTERLIS on a broad basis, it is being expanded to include functionalities that are very little used. In addition, the further development of the standard is not synchronised with the further development of the tools.
- Previous knowledge of INTERLIS, which is perceived as a very complex language and concept, is not sufficient; the need for training is clearly perceived.
- INTERLIS appears to be very German language-orientated and is less widespread in French- or Italian-speaking Switzerland.

A.5. Deficits with regard to tools

- INTERLIS tools are perceived as too complex, not user-friendly enough and too cumbersome to use. On the one hand, the installation process is too complex due to the fragmented tool landscape; on the other hand, the operation of the tools does not correspond to the state of the art. To make matters worse, the documentation is inadequate.
- Development is carried out without a goal or a plan: the requirements, their implementation and the benefits are often unclear. Duplication, isolated solutions, lack of clarity regarding terms of use, etc. are the rule, not the exception.
- There is a lack of a diverse developer community: the tools are dependent on a few key people, which is not conducive to quality.

- Competing products from INTERLIS tools such as HALE and FME are becoming stronger and stronger - regardless of how consistently they pursue the model-based approach. Obviously, it is not always the best product (but possibly the best-selling or most user-friendly) that prevails on the market.
- The tools are hardly used in French- or Italian-speaking Switzerland.
- There is a lack of communication with users.
- Interfaces to system manufacturers are missing or outdated.
- Here, too, is another telling quote:
 - "Are the needs of the users or those of the programmers being met?"

A.6. Shortcomings in communication and documentation

- Outdated communication channels and styles (website).
- INTERLIS training and further education at ETH has been noticeably reduced over the last 15 years, which is why there is an increasing shortage of young talent.
- There is a lack of positive examples or these are not communicated enough (QGIS Model Baker under the leadership of Romedi Filli/SH).
- Documentation of the models (models.interlis.ch) is inadequate in terms of user-friendliness and usability (lack of search function).
- The current separation of the data from the models is neither efficient nor objectively justifiable

B. Extract from the GeoStandards.ch strategy

The following is an extract from <https://nextcloud.geostandards.ch/index.php/s/n8m3QjZF7Bk6YCN>:

The following strategic goals derived from the eGovernment Strategy Switzerland [↗](#) form the basis:

- Support the digitalisation and networking of public institutions;
- Achieve efficiency and transparency;
- focus on broad benefits in all our work;
- Establish organisational structures and processes;
- Achieve future-proof standardisation.

The following equivalent, strategic basic principles of **GeoStandards.ch** result from this and from the other sources listed in Section 2:

- I. **GeoStandards.ch** supports the **digitisation of the administration** and interested third parties through automated, standardised processes, data and services. Further technical framework conditions (e.g. architecture) are to be defined separately.
- II. The **focus** is on **developing software tools** with proven benefits and a **high level of user-friendliness**. Innovative and open-source solutions are to be favoured, as they optimally support widespread use.
- III. The **results of the work**, such as concepts, recommendations, standards, source code and documentation, are **always open and freely available and documented** in accordance with the usual rules.
- IV. The future viability of standardisation is supported by the fact that the tools are fully documented, are further developed in line with requirements and are broadly supported.
- V. **Transparency** applies to all technical, organisational, financial and personnel issues. If people from the private sector are involved in the organisation, this must not result in any advantage or disadvantage in the allocation of public funds. Possible conflicts of interest must be clarified and avoided through appropriate regulations in the organisational manual. The principle of equal treatment in public procurement applies.
- VI. **Training, further education and support** are key success factors that need to be promoted more strongly.
- VII. Activities related to geodata, data models and their implementation implement the **model-based method** (with INTERLIS and the corresponding software tools) for solving interoperability problems.
- VIII. **Standards** in the area of geodata infrastructures must be observed and further developed from a **Swiss and international** perspective (e.g. metadata, geoservices).