

Alexandra Pan PhD
Autonomous Province of South Tyrol, Italy
Department 14, German Culture and Family
Phone: ++39/0471/413366
alexandra.pan@provinz.bz.it

Cataloging the Cultural Assets of South Tyrol

Summary

The Autonomous province of South Tyrol possesses a rich cultural heritage. There are more than 70 museums with collections ranging from the prehistory, the early history, the popular culture, the arts and handicrafts, but also the nature, the technology, the industry as well as the working reality of South Tyrol. There are more than 6000 protected architectural monuments that give evidence of the history of our country.

Only a few collections are catalogued completely and according to international standards. There are different cataloguing systems whose data cannot be connected in a net or exchanged because of their respective different methods of documentation.

Therefore, the administration of the Autonomous province of South Tyrol realises the necessity to sustain institutions like for example museums or the church, or associations concerned offering them the necessary support.

The aim of the project **cataloguing of cultural heritage in South Tyrol** is the uniform registration and cataloguing of the movable and immovable cultural riches in South Tyrol and thus the preservation of its cultural heritage. The result should be an electronic catalogue of all the cultural assets in South Tyrol, which are accessible in both Italian and German language and which correspond to the international regulations and laws. This virtual catalogue of the cultural riches of South Tyrol offers different "levels of information" for different kinds of users (public end user, researchers, administration authorities and employees, organisers of expositions) and it is going to be the basis for the development of further offers.

Starting from the results of the investigation of the actual status, the digitisation plan and the estimated concept for the realisation of the virtual catalogue have been created. They are also the basis for the call for tenders of a cataloguing software, which is published in March.

1. Initial Situation

With the transfer of responsibility for museums, collections, and art objects from the national level to the province of South Tyrol in 1972, the prerequisite for the effective protection and preservation of its own cultural assets was achieved. Since that time and within the framework of its obligations under law, the South Tyrol provincial government has supported the preservation of monuments and the museum institutions through direct administration.

With over seventy museums, South Tyrol has a very extensive museum landscape, ranging over nearly all of its inhabited valleys. Its widely varied cultural heritage (around 1.5 million objects) may be divided by content into four main areas: culture (upon which the main emphasis is placed), art, nature, and technology.

On the occasion of a comprehensive study of the initial situation in 2003, the state of South Tyrol's museums and their systems of documentation was ascertained. The analysis revealed that the cultural assets in the field of South Tyrol's monuments and museums are recorded in a manner that is very heterogeneous and in many cases is based upon structures that have evolved throughout history. Different systems and methods are currently used for the cataloging (such as software, index cards, inventory books, and lists), which is why the data cannot be networked. A search system for the cultural assets that is overarching, rapid, and clear is lacking. Therefore, the wish was expressed by several of those holding positions of responsibility in the monument and museum field for a uniform cataloging system.

Other challenges also came to light, however: in terms of information technology, only around one half of the museums are adequately equipped. Standards are lacking with regard to the documentation of the contents and activities, and so is transregional and international networking. A basis is necessary for a future-oriented development in the field of museum work that will also serve the direction and evaluation of South Tyrol's museums. For that reason, the provincial government of South Tyrol has seen the necessity of providing support to monument-preservation, museum, and church institutions.

The goal of the project is the preservation of the cultural heritage through the uniform recording and cataloging of the movable and immovable cultural assets in South Tyrol. Through the creation of a cultural assets database, access to the cultural heritage will be provided. In that regard, the minimum requirements under law according to the central cataloging institute (*Istituto Centrale per il Catalogo e la Documentazione* - the Central Institute for Cataloging and Documentation, or ICCD) of the Italian Ministry of Culture will be taken into consideration. With regard to a transregional exchange, compatibility in the museological, linguistic, and information technology respects is very important. As a result of its particular situation as a multilingual province, South Tyrol therefore strives for thorough bilingualism as a minimum requirement. Furthermore, the project is to support the qualification of museum employees with the preservation and professional preparation of museum assets. In that context, a Services Office was set up in 2005 for the field of museums, a training program was defined in order to provide a basis for successful museum work, and last but not least, technical aids such as laptop computers and digital cameras were made available.

The project is directed first and foremost at institutions and persons whose task is to record the inventories. In that context, the South Tyrol provincial

government has taken over the role of initiator and project sponsor. South Tyrol's museums, whether administered publicly (provincial and municipal institutions), privately, or by the church, are the partners who contribute their specialized knowledge and the content for digital conversion and, in the end, the ones who also produce and will directly use the data. Upon completion, the project will, in a second step, be directed at external users who are to receive access on three levels: the scientific and governmental community, the general public and business community, and, as already mentioned above, museums and collections.

Since the project comprises the establishment of a central database in the field of museums and monuments as well as the technical support for uniform cataloging, the archives and libraries were left out for the time being. Through the creation of interfaces, however, the prerequisite is present for integration at a later date.

2. Project Organization

The ordering institution is the Provincial Government of South Tyrol. The project is supported by the "Department of German Culture and Family" and the "Department of Monument Preservation" whose directors form the steering committee. Two officials, one from each department are managing the project. Various project teams and workgroups were formed for the implementation. In the workgroups, it is above all else the larger museums which are represented as the group of stakeholders which, as a result of their specialized knowledge and active participation, make a considerable contribution to the project.

With regard to technical advice, both the Department of Information Technology and Südtiroler Informatik AG stand ready to assist. Specialized advice will be provided by two experts from the field of library science: Dr. Günter Mühlberger of the University of Innsbruck and Dr. Johannes Andresen of the South Tyrol Library Association. Both have already collected extensive experience with the digitizing and cataloging of historical book inventories.

As a result of his many years of experience in the field of cultural heritage information technology, Prof. Walter Koch, director of the Steinbeis Transfer Center for Information Management and Cultural Heritage Informatics in Graz, Austria, was entrusted with the project management. The assignment encompasses the design and management of the project which is organized into the following main phases: the survey of the current situation, the establishment of a target concept, the procurement of cataloging software, and finally the implementation and realization up to the establishment of a cultural assets database. The professional accompaniment of the project also encompasses the creation and updating of a project handbook and the setting up of a project server upon which it will be possible for all project partners to have access to the jointly created files. This medium also offers the possibility of a discussion forum for the mutual exchange of information.

In the detailed planning phase at the beginning of 2003 (January through mid-February), the project was structured into phases and work packages and subdivided into activities. An activity plan describes the detailed structure of the project. It began in mid-February 2003 and was targeted through the end of 2005, that is, for three years at first. Because of some delays in the area of the software procurement, however, the project will now last until 2006.

Starting from the analysis phase, with which the current situation of cataloging within the individual museums in South Tyrol was ascertained, the project encompasses the phase of the preparation and design of various areas of work that run in parallel and, in further steps, the formulation of specifications and the implementation of software as well as the production of a cultural assets database.

The following passages contain descriptions on the procedures and progress reports on the individual work packages and activities that have gradually been addressed since 2003 and have been implemented to date.

3. Activities

3.1. *Survey of the Current Situation*

For the purpose of a comprehensive study of the initial situation, the state of South Tyrol's museums and their systems of documentation was ascertained in two stages. The data were collected with the help of a survey form according to the principle of a do-it-yourself analysis in which the museum was questioned on its activities in five areas. The first worksheet served to describe the institution together with its computer and operating systems as well as the inventories that had not yet been documented. The other worksheets contained the description of each individual catalog, data fields, all lists and forms, and the activities for object management. A detailed manual was attached to the survey form to assist in filling it out.

The survey was carried out in two phases. From February through June 2003, the sixteen stakeholder museums filled out their forms, and from July through October 2003, the remaining fifty-three museums and collections were surveyed. The survey was always accompanied by the same person so that the result was homogeneous, comparable data. The return rate was 100%.

The survey data were analyzed and presented in two stages from March through December 2003. The analysis of the sixteen stakeholders in May 2003 brought to light differing documentation schemes with a whole host of data fields, namely, 74 paper-based documentation systems, 36 electronic documentation systems, and 1,022 data fields. The variability of the cataloging systems and formats was based primarily upon a structure that had evolved throughout history. It also turned out that hardly any controlled vocabularies were used and, if they were, then they were not at an overall institutional level.

A similar result was achieved with the study of the fifty-three smaller museums and collections that were primarily private. In that case, the survey revealed 82 paper-based documentation systems, 39 electronic documentation systems, and 700 data fields. Here, as well, the museum documentations relied primarily upon lists and paper catalogs, and only around 50% of them relied upon electronic aids. The non-homogeneous documentation material clearly showed that the institutions work alone, having to fend for themselves, and that the documents simultaneously serve several purposes, namely, documentation, location control, loan control, and as an information sheet. Most of the documents consist of lists, small catalogs, and inventories with up to a maximum of five hundred entries. Only around 50% of the museums are equipped with a personal computer.

In summary, it can therefore be emphasized that the initial situation at the beginning of the project was characterized by heterogeneous documentation, documents that have evolved throughout history, and only a slight application of modern standards.

3.2. *Establishment of the Target Concept*

In the next step (October 2003 through March 2004), the target concept was formulated. It contained a uniform concept for the future cataloging and was based upon the following points: first of all, the requirements from the analysis of the current situation had their influence. These consisted of the minimum requirements for object documentation and process documentation and the consideration of the heterogeneity of the museums. Added to these were the requirements for software based upon international standards, namely, the criteria catalog of the CHIN (the Canadian Heritage Information Network) and the recommendations from the MDA (the Museums Documentation Association). The requirements catalog was discussed with the stakeholder museums and was then coordinated with the state of the art in the field of cultural heritage information technology (for example, the distributed search on the basis of Dublin Core data fields).

The target concept therefore contained the requirements of access in multiple languages, the definition of expert and layperson access, the preparation of the basis for e-business, the organization of an optimal search access, and the requirements for the search of all data in the system. The target concept presented two different technical possibilities for realization: one was locally installed systems with the requirements that were defined in the project for the software, data fields, standard files, and data exchange. The other was the model of an external application service provider with which the museums would have access to the system and their data over the Internet.

An investigation that was carried out simultaneously on the software packages for cataloging that were available on the market, including the relevant offer of services, provided a preliminary estimate of the costs and expenditures that were to be expected.

The target concept and market analysis served as the basis for the decision as to whether a readily available product was to be employed in the museums of South Tyrol or whether the path was to be taken to a new development (possibly on the basis of an open source product that was already available). An onsite project presentation reported the results and went into detail regarding the suggestions for solutions that had been worked out and the criteria for reaching the decision.

3.3. Procurement of the Cataloging Software

After an intense phase of discussion about the possibility of developing new software on the basis of open source programs, the decision was made in August 2004 to purchase existing software. The criteria catalog of the target concept then became the basis for a Europe-wide invitation for tenders that is being published in April 2005.

The criteria for the procurement describe two development phases: on one hand, the requirements for a base system for smaller museums; on the other hand, the criteria for a collection management system that covers the needs of the provincial museums. Certain aspects are especially important for the development of the South Tyrol museum network: complete multilingualism, the possibility of central installation with one service provider, interfaces, data exchange, and multiclient capability. They were therefore formulated as knockout criteria.

The procedures for the invitation for tenders were established by the ordering institution, the project management, and the responsible parties in the technical field, and a technical committee was set up for the evaluation of the offers. A suitable three-stage selection process provides firstly for the fulfillment of the most important criteria, secondly for the checking of the references cited by the manufacturer, and thirdly for the testing by using a test installation. The selected software will be installed in test institutions and used in “real operation”. A detailed test report will summarize the experiences of the user and will serve as a basis for possible adaptations and corrections that will have to be arranged with and carried out by the manufacturer.

It is envisioned to install the system with one central technical partner and to implement it as a network. Every museum will have access to its software and the data over the Internet. Through the use of interfaces, an exchange of data will be possible with those systems that will be maintained. The object data of all participating institutions will be uniformly presented to the general public in a “virtual catalog” at the level of the Dublin Core metadata (fifteen data fields).

The museum network will provide information describing approximately around one million cultural objects covering different domains and disciplines such as archaeology, art, natural sciences, technology, etc.

3.4. Digitization of the “Legacy” Catalogs

Another partial area of the preparation phase concerned the digitization of old catalogs to the extent of 35,300 pages. This work package took up the results of the current situation and was carried out by the Department for Digitization and Electronic Archiving of the University of Innsbruck from the autumn of 2003 through January 2005. The goal of this step was to safeguard the “old” inventory books and museum catalogs as cultural assets and to make their contents accessible. Positive secondary effects that resulted were the indirect protection of the originals, which now no longer need to be consulted, and the digital basis for the recording of the legacy inventories.

The challenge with the digitization lay in the enormous variety of formats, since there were catalogs in every possible form, including as bound books (around 9,800 pages) or as loose sheets, index cards, and plans (a total of 25,500 pages).

The implementation showed that in principle, onsite scanning, that is, a decentralized mode of operation, is to be recommended. What was important was scanning in color, since many documents contained remarks in colored pencil, especially in red and blue. Large format documents up to a size of DIN A1 format could be recorded well with a digital camera. With the many different small formats, good results were achieved with a combined flatbed and document scanner (Kodak i260). Only a short processing time was then necessary and the paper transport took place smoothly and quickly. The subsequent processing of the image files proved to be nearly as demanding as the scanning itself. Because of the color reduction to black and white, the microfilm that was created at the same time as the test unfortunately did not provide the quality that was expected, which is why the planned long-term preservation of the digitized material was postponed for the time being.

The digitized material now forms the basis for a virtual guide through South Tyrol's collections and catalogs which is to be assembled in the second half of 2005.

3.5. The Basic Cataloging of Museum Objects

On the occasion of the survey of the current situation, it was primarily the small museums which demonstrated great interest in the immediate beginning of a systematic cataloging of museum objects. This desire was attended to immediately and, as the “Basic Cataloging” work package, was moved up in the project plan to autumn 2003. What was requested was the development and introduction of minimum standards for the uniform cataloging of South Tyrol's cultural assets through the development of suitable instruments for a simple cataloging and personnel support. These minimum standards would make possible the clear identification and rapid location of an object. In addition, it would make possible at minimum the documentation of the object entry and the determination of the object's value. In December 2003, interested museum employees were introduced to the work process at a

workshop and supported with materials that were especially developed for the purpose.

International and national guidelines served as the models for the creation of these documents. Thus, the documentation rules of the CIDOC, in particular the ObjectID of the Getty-Research, were of great importance, as were the procedures of the Museums Documentation Association (MDA), the *Istituto Centrale per il Catalogo e la Documentazione* (ICCD), the recommendations of the Westphalian Museum Office, and the State Office for Non-National Museums in Bavaria.

A scheme was developed on this basis for the cataloging of the most important types of objects: for general historico-cultural objects, art objects, archaeological and natural history objects, printed works, archive records, and audiovisual media (films, photographs, and audio recordings). The individual schemes were each drawn up in an Excel spreadsheet in a German and Italian version. The use of Excel was a less than ideal solution but proved to be suitable because of the program's easy accessibility and usability. Added to this, a manual was drawn up for the handling and filling out of the data fields, once again in two languages, and a workshop was provided for the concrete application.

Through the course of 2004, some of the museums began cataloging and reported their experiences. For example, the "Steinegg Museum" carried out the draft recording of the museum's inventory within a very short period of time. By recording from room to room, two persons managed the rough registration of around 6,000 objects in August 2004. A more extensive treatment was planned for the winter months. The materials proved to be extremely helpful for this museum in the practical implementation for two reasons: they were well-suited for the rapid recording of the objects on site with the use of the laptop computer and, through the use of Excel, they made possible the flexible insertion of data fields that were necessary for certain special areas.

As the next step, some of the museums are planning the pictorial recording of the objects, the completion of details on dimensions and materials, and the assignment of inventory numbers. Training sessions will therefore be scheduled for this work package for the correct image documentation of the objects in the form of a photo workshop and in the area of cataloging (such as with an inventory kit). In the meantime, the materials were also developed further and were enriched by numerous valuable tips from the daily museum practice.

3.6. The Setting Up of Controlled Vocabularies

In order to have uniform descriptions of the objects' content and for the purpose of the support of cataloging by vocabularies, it is necessary to create controlled vocabularies. These allow for the universal and uniform access to all objects. The preparation for the cataloging of content has taken place in a

two-phase process. From October 2003 through December 2004, the basis for the standard files was prepared. Beginning in 2005, the development of South Tyrol's standard files is on the agenda, and their continual processing and care is guaranteed through the simultaneous establishment of the Museum Services Office.

First of all, a workgroup was formed for each standard file. They collected and inspected lists from South Tyrol, from the regional level (North Tyrol, Bavaria, and Styria), at the national level (ICCD), and at the international level. After several comparisons and tests using case studies and in discussions under the valued advisement of experts from the Institute for Museum Studies in Berlin (Axel Ermert and Dr. Monika Hagedorn-Saupe), the decision was made regarding the basis upon which the files in South Tyrol are to be developed. It was primarily the following topics that were dealt with: place names, person names, materials and technology, object names, iconography, keywords, and corporations.

The development of the files takes place cooperatively within the workgroup at regular meetings and is also supported electronically by an online work platform. The workgroups defined more specific action in the course of 2004. Based upon international vocabularies to the greatest extent possible, a vocabulary will be developed that will be valid for South Tyrol and that could be implemented. With regard to geography, cooperation is being sought with the Thesaurus of Geographic Names (TGN) from Getty Research. The section for South Tyrol will be incorporated one step at a time, beginning with a linguistic survey with 100,000 place names. Data on persons that were already being used in the museums were imported into a central online database and will then be compared with the person names file of the National Library of Germany. With regard to the iconography, the use of Iconclass was discussed. With respect to the area of materials and technology, it is anticipated to enter into cooperation with the Reiss-Engelhorn Museums in Mannheim, Germany. The large area of object identification is composed of branch-specific vocabularies: the basis for ethnology is the system of the Hessian Museum Association, while that of archaeology is a list that was drawn up in South Tyrol based on a Swiss model. In connection with art, the decision is still open. The keyword file of the National Library of Germany is to be universally applied.

The goal is the adaptation of the vocabularies to South Tyrol's requirements and their translation into German or Italian in order to guarantee multilingualism.

3.7. *Establishment of the Museum Services Office*

Another step in the course of the project which, because of necessity, was moved up to November 2004, was the lasting monitoring by a permanent institution of the steps that have been carried out thus far. What was required, therefore, was an office which managed and coordinated the activities, including all the way to the end of the project. At the end of 2004, ahead of

schedule, the “Museum Services Office” was established in the Office of Culture of the Department of German Culture and Family, and it assumed its responsibilities on January 1, 2005. In addition to the topics regarding the cataloging of cultural assets, the office is viewed as the first contact for all museum-related questions.

The goal is the conception and development of a museum network that supports access to South Tyrol's cultural heritage as well as the preservation and processing of museum assets. In addition to support at the professional, technical, and financial levels, it offers a training program that is tailored to the needs of the museums, cooperation with local and international experts and committees, and a more intensified presence with the general public. Additional tasks consist of the creation of a South Tyrol Museum plan, the coordination of pilot events, the maintenance of the Internet platform, and the support of cooperation between the museums.

The implementation of these measures was structured in three phases. It began with the preparations in 2005 and, in the medium-term (through 2007) will be developed and refined. The long-term plan calls for the consolidation and development of the established structures and programs through 2010.

4. Outlook

The calendar for 2005 calls for the acceptance and evaluation of software offers that will arrive in the wake of the EU-wide invitation for tenders. In parallel to this, the heterogeneous digital data records of the stakeholder museums will be prepared and classified in accordance with the data fields that have already been defined in the target concept and the basic cataloging. The harmonized data will then serve as the basis for tests and the implementation of the new software.

In parallel to the procurement and implementation of the cataloging software, the online presentation of the museums will be considerably expanded: the Guide to the Museums of South Tyrol (www.provinz.bz.it/museenfuehrer, www.provincia.bz.it/guida-musei) will be supplemented by a guide through the collections of South Tyrol – the “Collections Guide” – and a virtual catalog of all object data that are released by the museums for publication.

In a first step for the setting up of the Collection Guide, the “recording template” is to be created with which the employees will be able to transcribe old catalogs, some of which may be handwritten. In the subsequent step, the catalogs in the online museum guide that currently exists will be supplemented by the individual collections of every museum. The Collection Guide will therefore be a more in-depth level of the Museum Guide in which the user will have the possibility to acquire an overview of the range, context, and details of a collection and the associated catalogs. As such, it represents a primary stage in the object database in which, in the end, the user is to have access to the individual objects at the deepest level.

The final goal of the project provides for the setting up of a cultural assets database as a virtual catalog which contains both the object database and the Museum and Collection Guides. On top of that, additional museum-related services are to be provided, such as an events calendar and an online shop for all of the museums as well as an information point with information about the Museum Services Office that can be provided by means of an Internet portal. The creation or adaptation of legal and organizational basic conditions is envisioned for the regulation of all of these services as well as questions of copyright, contracts with new partners, and offers on the Internet. These will be continually worked out as the project progresses.

Literature References

Guide to the Museums of South Tyrol, www.provinz.bz.it/museenfuehrer,
www.provincia.bz.it/guida-musei

Ministero per i Beni Culturali e Ambientali, Istituto Centrale per il Catalogo e la Documentazione (ICCD) [Ministry of Cultural Heritage, Central Institute for Cataloging and Documentation], Strutturazione dei dati delle schede di catalogo e precatalogo, Rome 1992,
<http://www.iccd.beniculturali.it/standard/index.html>

Landschaftsverband Westfalen-Lippe, Westfälisches Museumsamt [Wesphalia-Lippe Regional Association, Westphalian Museum Office], Inventarisierung, Dokumentation, Bestandsbewahrung, Münster, 2003.
<http://www.lwl.org/LWL/Kultur/Museumsamt/Dokumentation/1109089077/index.html>

Landesstelle für die nichtstaatlichen Museen in Bayern [State Office for Non-National Museums in Bavaria], Inventarisierung als Grundlage der Museumsarbeit, Dr. Viktor Pröstler, Munich: 2000,
<http://www.museeninbayern.de>

ICOM - CIDOC Information Categories,
<http://www.willpowerinfo.myby.co.uk/cidoc/>

Dublin Core Metadata Initiative, <http://dublincore.org/>

Deutsche Bibliothek [National Library of Germany],
Gemeinsame Körperschaftsdatei (GKD),
<http://www.ddb.de/professionell/gkd.htm>
Personennamendatei (PND), <http://www.ddb.de/professionell/pnd.htm>
Schlagwortdatei (SWD), <http://www.ddb.de/professionell/swd.htm>

Deutscher Museumsbund (DMB) [German Museums Association],
<http://www.museumsbund.de/>

Hessischer Museumsverband [Hessian Museum Association],
<http://www.museumsverband-hessen.de/>

Getty Thesaurus of Geographic Names,
http://www.getty.edu/research/conducting_research/vocabularies/tgn/

Iconclass, <http://www.iconclass.nl/>

Reiss-Engelhorn-Museen [Reiss-Engelhorn Museums], <http://www.reiss-engelhorn-museen.de/>

CHIN – Canadian Heritage Information Network,
http://www.chin.gc.ca/English/Collections_Management/Software_Review/index.html

CHIN Data Dictionary, <http://www.chin.gc.ca/>

The Museum Documentation Association (MDA),
Spectrum, The UK Museums Documentation Standard, Second Edition,
Cambridge: 1997, <http://www.mda.org.uk/>