



Interactive semantic video search with a large thesaurus  
of machine-learned audio-visual concepts

## **Deliverable 7.5 Setting up user groups**

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## **1 Abstract**

This document describes the initial setting up of small user groups in order to help structuring and driving the technology development within the VIDI-Video project; for each of the three target communities (cultural/scientific documentaries, broadcast archive and news, tele-surveillance) will be set up a group of experts, some of them will be contacted and interviewed to provide user requirements, some of them will contribute with some contents for trial and demonstrators.

## **2 Executive summary**

The approach proposed by the project foresees the involvement of the user from the very beginning of the work plan. The user groups, during the first phase, help define the requirements and drive technology development, then they validate the prototype and prepare the pave for wider dissemination. In the third phase, some demonstrators are instrumental for disseminating project results and convincing content holders about the advantages and benefits brought by VIDI-Video products.

The target communities have been analysed also through some interview or other research, in particular for the cultural and scientific sector, a deeper study has been carried out in order to understand better objectives, trends, economic and rights models, obstacles, constraints and opportunities.

### 3 Introduction

#### 3.1 *User Involvement, Promotion and Awareness*

To guarantee the concreteness of the project and in order to reach the requirements and opportunities of the market it is important to create a relationship between the research activity and software development in the project and the methodological definition suiting the user requirements through the establishment of a User Group for all the three fields of application (cultural heritage documentaries - broadcast archive field trial - video surveillance).

The work-modality foresees three phases:

- users' requirements definition as input to the project;
- pilot test and validation of the interfaces and searching modalities;
- dissemination and consensus building on the final products of the project.

The first two phases are included in the WP7 activity, the third phase is related to the WP9 work-plan. About the User Group, on scientific and cultural contents, due to the nature of the target community, some specific studies and surveys will be carried out under the coordination of the FRD. About the other 2 fields of demonstration foreseen within VIDI-Video some experts will be contacted and asked to comment and validate the approach and developed tools of the project.

#### 3.2 *Cultural heritage documentaries.*

The aim is to set up a user group on scientific and cultural contents that is composed by two types of users: the producers of documentaries and short films and the final users (in a second phase). The FRD is the promoter and the organizer of the user group of the project and can guarantee liaisons with the culture community and provision of a small amount of digital contents (documentaries and short films) for the research/software development and annotation tools assessment.

The user group collaborates to define and to verify the automatic metadata-extraction algorithms and the sectorized ontology definition to describe the information of documentaries and short films related scientific and cultural contents. The user group has also a fundamental role in the market approaching with the validation of the user interface of the application (specifically of the tool annotation automatic and semiautomatic) and about the legal problematic of the copyright and the author rights.

To evaluate and assess the technology produced in the VIDI-Video project in the context of cultural heritage documentary archives a field trial will be executed in the final stage of the project. To do so the run-time interactive system will be embedded in the workflow of the FRD archive. The trial will take into account different aspects, showing different modes of use of the system, and address a wider community well beyond the small user group set up in this context.

- a) A research has been carried out among the most important European institutions and networks to establish the state of the art in video storage and search technologies. A more

detailed research was done with Italian content holders (institutions, Foundations and Archives) detaining video material in order to select the most suitable for the creation of the user groups. The full research is attached.

Some considerations can be extracted regarding the policy and funding opportunity for audio-visual archives and about the level of use of digital technologies in the community. From the first analysis and comments by experts, in particular, some aspects are more evident than others.

Funding programmes are available but surely not enough to face the huge work to manage audio/visual archives and the content-holders feel alone on that mission. In many case, they must face the urgent issue to digitise the archives in order to preserve them in a long term. Cultural institutions do not have mission, internal staff, annual budget and the mentality for some sustainable economic models. In many cases, institutions do not have all the rights to manage their contents in a vision very open and flexible like the Internet or digital world. Finally, almost all the experts contacted declared that they must work in their mother language.

The Netherlands Institute for Sound and Vision has already used the current graphic concepts available in the TRECVID obtaining some good results for their documentary contents.

- b) In this first phase of the project, in addition to a large desk-research on the Internet, many experts have been contacted and interviewed in order to clarify the state-of-art and level of use or problems. In order to maximise feed-back and suggestions coming from the experts, a form has been created and it will be sent to each possible institution or video archive to carry out a survey and to start focusing on their requirements.

(Form attached and on the way to be translated)

Starting up contacts taken with the following Italian Institutions that may be interested in actively participating in the forum of user groups

- Mediateca Regionale Toscana; Florence
- Istituto Luce, Roma
- Festival dei Popoli; Florence
- Museo del Cinema, Turin
- Galleria Arte Moderna, Turin
- Archivio audiovisivo del movimento operaio e democratico, Rome
- Biennale di Venezia, Venice.
- Archivio Museo Piaggio; Pontedera

Some of the contacted experts are providing also some digital contents for test and validation of the VIDI-Video prototype.

INSTITUTION	CONTACT	COLLECTIONS	PARTICIPATION
Mediateca Regionale Toscana	Ippoliti, Director	cultural and natural documentaries	interview + contents
Istituto Luce	Ceccuti, Archive Director	historical documentaries	interview
Festival dei Popoli	Giorgio Bonsanti; President	folks documentaries and films	interview + contents

Museo del Cinema	Pesenti, Director	cultural and cinema documentaries	interview
Galleria Arte Moderna	Pier Luigi Castagnoli	cultural and artistic documentaries	interview
Archivio audiovisivo del movimento operaio e democratico	Gabriele D'Autilia, Director		interview + contents
Biennale di Venezia	Bussetto	films	interview
Archivio Museo Fondazione Piaggio	Tommaso Fanfani, Presidente	technology and folks documentaries	interview

- c) As soon as the software prototype and its tools will be ready for testing FRD will present it to a selected user group in order to validate and refine it with new requirements. Using the first contents provided by users participating in the group, a first test has been carried out between FRD and the University of Amsterdam using the available graphic concepts. First considerations can be done from this experimentation about cultural/scientific domain:
- 1- the graphic concepts defined originally for news and broadcast in the context of TRECVID are only in part reusable for the new domain;
  - 2- heterogeneity of cultural/scientific contents is a richness but also source of variance and difficulty in order to define some research tools and mechanisms;

## 4 Video surveillance

The aim is to set up a user group for the research community on video surveillance. This goal is required in order to be able to test the advancement of the algorithms and software prototypes developed during the project.

In fact, one of the initial steps that have to be taken in the setting up of a scientific community is to agree on a set of data that can be freely used to compare the algorithms, and that comprises the ground truth, created by human annotators, that describe the expected results.

This work has already been done for the news video domain within the TRECVID initiative (e.g. TRECVID 2005 is a well known video data set, used in this domain), and has been done also for the documentaries in the newest TRECVID data sets. Currently there is no common data set for video surveillance.

One of the goals of the Video Surveillance Online Repository (ViSOR) system, developed within the VidiVideo project (described in more detail in D7.1) is to create this video repository.

A forum tool has been included in the web based ViSOR system to build a community, and several actions have been taken in order to increase awareness of the system.

### Videosurveillance Forum

An important aspect for a research community is the information exchange and the opportunity to share opinions, requests, comments about the videos and the annotations, and so on.

The online portal of Visor [1] includes a forum in which one topic for each video, generic topics on video surveillance, and topics on VISOR (e.g., call for videos) are already active. In addition, each registered user can create his own topics.



The access to the forum is free and guest user can read all the posts. The registration is instead mandatory in order to post in the forum.

At the end of December, there were 23 registered users plus 8 staff members.

The forum is powered by Snitz Forums 2000; a screenshot of the main page is reported in Fig.1.

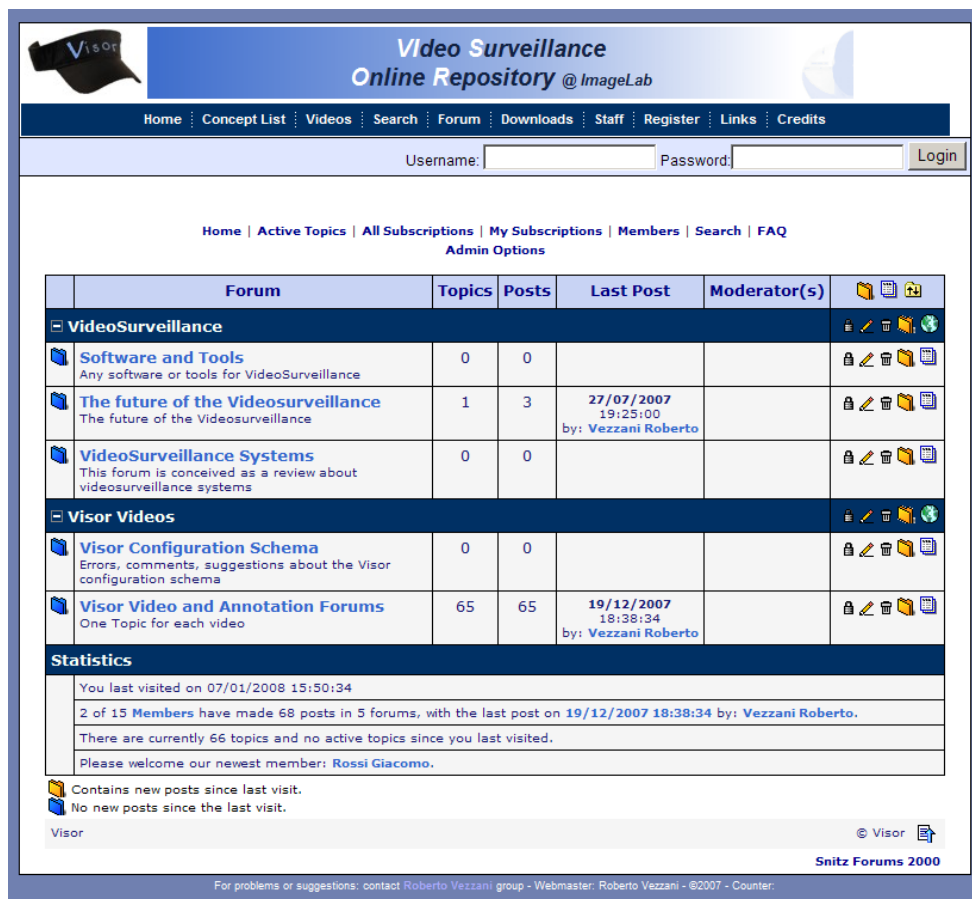


Fig. 1: Screenshot of the Forum homepage

#### 4.1 Other dissemination activities

The Visor System and the VidiVideo project have been presented during the following events:

##### 14th International Conference on Image Analysis and Processing (ICIAP 2007)

10-14 September 2007, Modena (Italy)

ICIAP is one of the most important events covering image processing and pattern recognition which is organized every two years by the Italian group of researchers on pattern recognition (GIRPR) affiliated with the IAPR (International Association on Pattern Recognition). The topics of ICIAP 2007 have been organized into main streams, one of which was about Surveillance and Security.

During the conference UoM did a demo presentation and advertised the system with posters and brochures.

##### ANSA news bulletin

13 September 2007

ANSA (Italian General News Service) is the Italy's leading newswire providing national and international news. The Ansa news agency, created by Italian newspapers in 1945, supplies up-to-the-minute coverage of events in Italy and around the world.

The ViSOR system has been presented as a new technology available for video surveillance researchers. Some screenshots of the news published on different web site in Italian and Spanish are reported in Appendix.

#### **VideoGov Summit**

27 September 2007, Rome (Italy)

VideoGov was a national summit principally for public administration. The topic of the summit was the future of the Videosurveillance, with particular attention to real implementation issues.

UoM has participated as invited speaker presenting the ViSOR portal.

#### **BMVA symposium on "Security and surveillance: performance evaluation"**

12 December 2007, London (UK)

The BMVA provides a national forum for individuals and organizations involved in machine vision, image processing, and pattern recognition in the United Kingdom. The aim of this meeting was to provide a forum for the discussion of recent algorithms, results, protocols and datasets for the evaluation and validation of computer vision algorithms for security and surveillance.

UoM participated with an oral presentation

## 5 Conclusion

### 5.1 *User Involvement and User Groups*

The approach proposed by the project foresees the involvement of the user from the very beginning of the work plan. The user groups, during the first phase, help define the requirements and drive technology development, then they validate the prototype and prepare the pave for wider dissemination. In the third phase, some demonstrators are instrumental for disseminating project results and convincing content holders about the advantages and benefits brought by VIDI-Video products.

**ANNEX 1**

*Form for interview*

<b>INFO ON THE INSTITUTION OR CUSTOMER</b>		
<p><i>First indication relates to the name of the institution, company, archive or private who detains documents or AV materials</i></p>	<p>1.</p>	<p><b>SUBJECT</b> (Institution, archive, company)  .....</p> <p><b>NAME</b></p> <p><b>Denomination of the Institution, archive, company</b>  .....  .....</p> <p><b>Denomination of the institution of which the archive is part</b>  .....  .....</p> <p><b>Other denominations</b>.....</p> <p><b>Address and contacts</b>  .....  .....</p>
<p>Short history of the institution and activities description .....</p>	<p>2.</p>	<p><b>HISTORY</b> (history, functions and goals; cultural context, activities of the institution/archive/ private person).  .....  .....  .....  .....</p>
<p>Data relative to the contacts inside the institution or company</p>	<p>3.</p>	<p><b>CONTACTS</b>  <b>name</b>.....  <b>surname</b> .....</p> <p><b>position</b>.....  <b>telephone</b>.....  <b>e-mail</b> .....</p>

Fill with information on the kind of materials of the institution archive, explaining, if possible its composition and choosing a measurement.

4.

## VIDEO/PHOTOGRAPHIC MATERIALS

Video/photographic heritage :

Meters

Boxes

Hours

Composition of the video/photographic materials :

- Advertising
- Amateur film
- Documentaries on
- Film fiction
- News on
- Shootings or photographic services?
- Other (specify)

Kind of video support:

Videotape

- VHS - DVD
- Super-VHS
- 8mm
- Hi-8
- Hi-band (BVU)
- Lo-band (U-matic)
- Beta/Beta-SP
- DVCam
- 1"
- 2"
- D1
- D2
- other (specify)

Notes on the conservation of video documents

.....

<p><i>Insert information on the cataloguing and its standards</i></p>	<p>5.</p>	<p><b>CATALOGUING/ Digitalization</b></p> <p>Documents are catalogued?</p> <p><input type="checkbox"/> All  <input type="checkbox"/> Partly                      Percentage of cataloguing: .....  <input type="checkbox"/> No</p> <p>Specify the cataloguing system</p> <p><input type="checkbox"/> File.....  <input type="checkbox"/> Printed Catalogue.....  <input type="checkbox"/> Database  - which software .....</p> <p>Cataloguing is consultable on-line  - which models/standard of description where adopted?.....  .....</p> <p>Notes.....  .....  .....</p>
<p><i>Sources of information and tools relative to the materials</i></p>	<p>6.</p>	<p><b>SOURCES OF INFORMATION, TOOLS, KEYWORDS</b></p> <p><input type="checkbox"/> inventories  <input type="checkbox"/> guides  <input type="checkbox"/> list  <input type="checkbox"/> paper catalogues  <input type="checkbox"/> bibliographies  <input type="checkbox"/> glossaries  <input type="checkbox"/> indexes  <input type="checkbox"/> documents  Other (specify) .....</p>
<p><i>Acquisition of the materials and their origin provenance</i></p>	<p>7.</p>	<p><b>ACQUISITION</b></p> <p><input type="checkbox"/> self production  <input type="checkbox"/> depository  <input type="checkbox"/> purchase  <input type="checkbox"/> donation  <input type="checkbox"/> exchange  Other (specify) .....</p>

*Insert information relative to the copyright of the materials possessed and preserved conservation, to the accessibility, and to their use relative especially for different possibilities of exploitation and valorisation.*

8.

**COPYRIGHT**

The archive/institution/private person detains the full copyright of the material they possess?

- yes
- partially
- no

Notes.....  
....

The archive/institution/private person agrees tot o release the copyright for the use and reuse of the materials

- yes
- no

The archive/institution/private person agrees to to give to researchers information and contacts relative to the copyright detainers for all the materials preserved int he archive ?

- yes
- no

## **Annex 2**

*Case studies and good practises in Europe*

## 6 The Principal European Public Broadcasters

The principal public broadcasters of Europe represent the largest and most significant audiovisual archives in the world. They contain an immense cultural patrimony and economic resource which assumes an incalculable value as the audiovisual distribution channels gradually increase. It is therefore fundamental for Europe to preserve, order and organise the “visual memory” of the contemporary epoch by means of photos, freeze-frames, and digital images.

When we talk about digitalising the archives of these large public broadcasters, we have to bear in mind that this is not a single process. It involves digitalising the previews archive, long-term safety filing, which is to say converting the older material into the digital by copying it onto other formats and, finally, creating a complete work cycle entirely in digital form: from shooting to editing to broadcasting. Hence ensues a series of problems. First of all, it is not possible to convert all the material (on the average, 50 years of documentation!) into digital format, nor is it possible to consider losing the previous databases. In order to carry out the various transitions, it is necessary to dispose of enormous economic resources, equipment suited for restoration, an efficient system of copyright management, a system to integrate with existent databases, on-line contents and a cross-management with the different media.

For all broadcasters, the expectations of digitalisation are diverse: freedom from archiving formats, greater storage capacity, guarantee of real-time permanent access and parallel use, possibility of on-line remote access, and long-term safety of the property in question. And all this, minimising management costs. The true transition to the digital status has probably not yet taken place. The most optimistic forecasts indicate 2010 as the year of the transition. Broadcasters coexist with hybrid forms made up of analogical and digital, and it is unlikely that we will be able to do totally without analogical archive material, and this without counting the fact that considering long-term conservation, the digital format is not the definitive solution. Here too, there is a problem of obsolescence. It is not true that the digital format means lower costs (we need only consider the additional costs of implementation, technology, qualified personnel, programming and maintenance). And in conclusion: digital archives do not solve the basic problems of any archive, such as valuation, diversity of materials, and storage capacities.

In this chapter, we shall conduct a synthetic analysis of the digitalisation plans of the broadcasters of the four largest European countries: the Rai for Italy, the BBC for the United Kingdom, Ina for France and Zdf for Germany.

### 6.1 *Rai, Italian Radio and Television Broadcasting Corporation*

The Rai began a complete restructuring of its archives in 1997. Despite the fact that 70% of the Rai television production was conserved, the principal problem lay in the necessity to document this material. A complete and documented multimedia cataloguing exists of all Rai products. This is a digital library system based on a multimedia catalogue which, after recovering the historical television and radio archives, will contain approximately 500,000 hours of video and 400,000 hours of audio, which are implemented every day with the broadcast hours of television and radio channels.

The system has two principal objectives: to optimise the internal production processes for network broadcasters and to make it possible to supply the new satellite channels and realise products for the new media. Now in an advanced stage of implementation, the new system called "Teche" places the Rai in a privileged position with respect to archiving and utilising audiovisual materials. The Multimedia Catalogue enables archiving, searching and viewing audio and video materials which can be extracted from the catalogue for use via the web. The search system is called Octopus. For archiving and use, the Teca Fast system is conceived to produce and transmit audio and video material with a broadcast-news or broadband quality of any type. There is also a large sound archive which permits archiving and using radio material for production and broadcasting purposes, in all types of digital format. A photographic archive and media library represent the digital archive of the photographic material of which the Rai holds the copyrights; there are also the paper documents which accompany the audiovisual material (music scores, scripts, etc.) which expand the offer of metadata contained in the multimedia catalogue.

In the awareness that the valorisation of the archives is strongly influenced by the problems of copyrights and by the cost of acquiring these rights, the Teche Administration has realised a copyright archive: a well-developed databank of copyrights, with the complete list of everything that has been broadcast on TV or on the radio with its relative copyrights for both the purchased products and for those produced by the corporation.

## 6.2 *BBC*

The BBC possesses one of the largest multimedia archives in the world: 1.5 million recordings of films and videocassettes, 750 thousand radio recordings, 3 million photographs, etc. This is a key resource for the public service and for commercial exploitation.

The conservation of this TV and radio material is the greatest problem that the BBC archives must confront. The conservation programme for the duration of 10 years that has been launched has a budget of approximately 55 million pounds and provides for: transferring the materials to a more economic and appropriate format, creating duplicates of Masters, copies for viewing, and finally digital copies that can be consulted directly via computer. The crucial node of all the projects concerning the preservation of the archives is the high costs they involve and the impossibility of justifying financial investments in this sector from the strictly economic viewpoint: the investment of capital in this case indeed involves no returns; on the contrary, an increase of costs (for equipment, personnel, etc.) is to be expected initially, and there are no immediate savings. The actual value of the archive remains to be identified. The advantages are therefore of a different nature. They concern the creative and cultural sphere: ideas for programmes (for example, the use of this material to create new programmes), the creation of new channels (such as the BBC 6 that utilises recordings of the most important pop and rock groups conserved in the archive). It is obvious that an archive like that of the BBC is the vastest repertory to draw from in defining the culture of our times.

The question of costs is also confronted by the Prestospace project which pursues a reduction of conservation costs by 30%; as we have already seen, the principal partners are the BBC, the Rai and Ina.

### 6.3 *INA*

The Ina Archives contain some 500,000 hours of television broadcasts and cinema news and 600,000 hours of radio broadcasts. A conservation and digitalisation programme is also underway for Ina. Multifarious issues are being addressed: of a strategic nature, (why keep these archives); of an economic nature, (how to find financing, how to lower and optimise the costs); of a technical nature (what formats to transfer recordings to); as well as of an “archival” nature, (what to look for in the archives, what priority to give and what selection to make). Ina is not a broadcaster; it is a public institution appointed to conserve and exploit the archives of the public radio and television networks. The programme is a set of projects aimed at forming a digital archive, implementing instruments suited to manage this digital collection, and restructuring the archives services. It is a plan negotiated between Ina and the Ministry of Culture as of 2002.

Ina has attempted to reduce costs by developing instruments capable of automating the various industrial processes and procedures that make it possible to limit costs and to accelerate rhythm. Costs reduction has also been considered on the long term, attempting to prepare the successive transition, transferring the contents to formats and devices that can be successively transferred automatically. The speed of deterioration of the materials is another problem to confront. With the collaboration of several research laboratories, Ina has created an Observatory on the Physical Conservation of Supports in order to determine the ageing of the various elements and to anticipate prevention or recovery measures. Materials struck by the so-called “vinegar syndrome”, for example, are particularly at risk. Almost 40% of the material from the seventies is affected with this syndrome. The choice of formats to transfer materials to (Digital Beta, Mpeg 2, Mpeg 1 for TV materials, CD-R for Radio), depends on the use this new material is intended for, as well as on the quality of the original content.

In parallel, Ina has carried out the task of researching, compiling and writing in order to explain the history of the programmes and the history of the archives, as well as what is currently contained in the archives. It has started a training programme for archive personnel and for internal staff in particular. It has also formed a conservation committee made up of external figures (historians, manufacturers, authors, etc.). Ina too, has targeted international cooperation, which has made it possible to compare experiences, exchange information on formats, equipment and standards, search for shared solutions with respect to conservation: with the Rai, it participates in the Capmed project to transfer know-how between northern and southern Mediterranean countries with a programme to conserve and digitalise archives, which also offers and forms thematic catalogues in conjunction with the different Mediterranean Countries.

### 6.4 *ZDF*

The digitalisation of the ZDF archives began in September 2000 with the Digital Archive System project (DAS) whose goal is to construct a digital archive system for all the potential users at ZDF, initially based on archiving the programmes produced with the ZDF digital production system. The DAS should be fully integrated in the ZDF infrastructure, in the informatic infrastructure, and in that of broadcasting and production. This project with its interdisciplinary approach has witnessed the involvement of the users themselves, and has

concentrated on the technical, economic and work organisation aspects. The first project phase of a conceptual nature has conceived a prototype with the principal functions, and has interfaced it with the ZDF television database. The second phase was a pilot project, particularly focused on low resolution. The third phase concerns a high-resolution production system and the use of robotics.

## 6.5 *EBU, the European Broadcasting Union*

In the past years, conservation has recorded considerable progress in technology and “awareness” of broadcasters and yet, a series of problem areas remain to be solved. These problems as analysed in this study and which the European Union strives to solve – problems of a linguistic nature, shared standards, metadata, access software, and uniform regulations – make a European Union of audiovisual archives possible. It is therefore necessary to have a greater homogeneity of technical standards, of documentation standards, of archival quality standards, and a shared proposal for a profound change, suited to the new demands of the market of regulations on copyrights. The regulations on copyrights are the principal obstacle for people who work with archives. In light of digital technology, which renders the market open by definition and also makes a rigid application of the defence of intellectual property impossible, a revision of regulations is called for so that protection is given to the deviser and interpreter of a radio-television work, as well as to its producer: the broadcaster and the publisher. It is increasingly more necessary in Europe to concentrate on the possible cooperation strategies between broadcasters concerning the topic of archives. And to respond to issues such as: How to guarantee access? At what price? Can costs be shared? How to calculate the commercial value of archives? Bearing in mind the fact that public service mandates will change, as public financing will also change, and new mixed public-private forms are on the horizon.

The archives of public broadcasters are also flanked by a precious patrimony which is possessed by the historical association of public broadcasters. The EBU which for years has managed and organised Eurovision, today numbers all the public broadcasters of Europe among its members and even several private enterprises. Its archives also represent the capability to make the truth about the common history of Europe known. Telling “transnational” histories will only be possible if access to reciprocal archives is possible. Without this possibility of access, we shall not be able to reconstruct the history, politics, and economy of Europe. A global approach is necessary on the level of research and programming, of standardisation and metadata, in order for one country to search the archives of another. A great task of standardisation still remains to be done in the field of data in order to have a common software, so that we can communicate with one another. A management system is needed to inform the producers whether they have access to the material, whether they can utilise it, the purchase cost, the existence of international copyrights, and without which the archives have no value. The EBU is working with its members in the attempt to create common standards for managing the various copyrights. Other priority themes are: the search for a common cataloguing system, technical and content management, the development of a common system of billing and payment. It is not possible, however, to standardise prices. This sector pertains to the market economy and, moreover, if you have a very good archive containing interesting things, these can be sold at the highest possible price. If we can overcome these obstacles, we shall truly see a new

generation of producers and a new type of programme that would be inexpensive and certainly have a high content value.

## 6.6 *Content Holders in Italy*

In this part of the study, we shall identify the realities existent in Italy, one of the countries in Europe with the highest concentration of works of art and with a vast diffused audiovisual heritage.

The potential audiovisual archives present in the entire country and the conservation structures involved in recovering and valorising the audiovisual patrimonies have been identified in order to draw a synthetic picture of the situation in one of the countries of the European Union concerning the defence of and access to the audiovisual patrimony which represents the collective memory.

In Italy there is a network of subjects and structures which, at times, develops and takes on the shape of one or more systems of production, collection and conservation organisms which aggregate on the basis of shared projects and solutions, ethical motivations, civil commitment. These entities confirm the growth of sensitivity around the management, handling and valorisation of the audiovisual patrimonies. This is also shown by the commitment of the Institutions that refer to the Ministry for Cultural Properties and Activities, and the many local authorities such as municipalities, provinces and regions.

When we speak of audiovisual archives, we often think principally of the large and well-known structures: the library of films, the archives of television broadcasters such as the Rai, Istituto Luce, the State Record Library with the Audiovisual Museum, the National Museum of Cinema in Turin. These archives contain a good portion of Italy's patrimony of moving images and other documentation. The Italian reality, however, is more broken up and multifarious. The late sixties witnessed the proliferation of a series of production, collection, handling and conservation structures in concomitance with the technological revolution of those years which determined new forms and modalities of production and diffusion of audiovisuals, with the arrival on the market of more economical and useable supports in alternative to film, and new instruments for recording and viewing which were lighter, portable and also less expensive.

Furthermore, in the past thirty or forty years, the archives and repositories of large organisations and companies of audiovisual production such as the Istituto Luce and the Rai, have been joined by the formation of consistent archives of structures committed civilly, politically and culturally. The Archivio Nazionale Cinematografico della Resistenza of Turin (Ancr) was formed in 1966; the Cineteca Sarda in 1966; the Cineteca del Friuli, formerly Cinepopolare, in 1977, the Fondazione Archivio audiovisivo del movimento operaio e democratico (Aamod) in 1979. It is interesting to note how these were spontaneous phenomena, fruit of social interests and, principally, with a civil and cultural commitment.

By initiative of several local organisations and niche structures engaged in collection and conservation, the same period also witnessed the birth of video libraries, media libraries, and numerous audiovisual documentation centres. The latter, in particular, were often born adjunctive to public and private structures; many of these, still operative, do not specifically deal with audiovisuals. They were collection centres (often sections or specific offices) which were

born and spread, for example, inside museums, departments of universities and research institutes such as the Comitato Nazionale delle Ricerche (CNR) and Enea, and even enterprises like Fiat, Ansaldo, Dalmine, Olivetti, Cinzano, Barilla, Perugina, or Piaggio, but also theatres and festivals, cultural and academic associations.

In the late seventies, the first steps were taken towards instituting regional media libraries which in past decades have spread throughout the national territory and, in particular, in several regions. The best-known and advanced structures include, for example, the system of the Marches Media Libraries, the Media Library of Tuscany, the Media Library of Lombardy, the Media Library of Calabria, the Media Library of Teramo, and the Media Library of Santa Teresa in Milan. The media libraries were born of the necessity to create more agile regional conservation structures, to access and distribute audiovisual, cinema and television documents, taking on the shape of places which not only guarantee the conservation of copies of films, but also more easily permit their circulation and reproduction for cultural and educational purposes.

All this is joined by the many archives of directors and cinema and television authors, cinema and television production houses, several of which are particularly attentive and aware of the importance of the conservation and therefore the valorisation of their own patrimony . Another example is the Associazione Home Movies, formed in Bologna in 2001, which created the Archivio Nazionale del Film di Famiglia for collecting, studying and valorising this particular typology of audiovisual documents which, for the problem areas of identification and the unique characteristics of its language, requires specific treatments, still object of research and examination by documentarists, not only in Italy, but also abroad. These are vacation and travel films, which represent social rituals, filmed notes and diaries: films by now forgotten that are important private testimonies of the memory of Italian society. Home Movies operates in contact and collaboration with research institutes, universities, archives, private parties, associations and organisations in Belgium, Holland, Great Britain, France and Canada, and has consolidated experience in the study and conservation of non-professional films. In Italy, where the research field is still unexplored, Home Movies initiatives see the participation of university departments of cinema, history and sociology, as well as that of institutes of historical research. The activities are supported by a Scientific Committee made up of scholars and archivists from various European Countries. The Archive is available for consultation by scholars and specialists, as well as by the simply curious .

The Associazione Nazionale archivistica italiana (Anai) has promoted the formation of this non-institutionalised work group on the problem areas of describing the audiovisual patrimonies; its periodic meetings witness the participation of numerous collection and conservation structures, from the largest and best-known to those of small and medium dimensions. The Anai solicits the attention of traditional and consolidated disciplines, such as library science and traditional archive rules and systems, towards the world of film conservation; at the same time, it has succeeded in arousing the sensitivity of the world of film libraries and audiovisual archives as to the necessity to take into account the experience of archivists, documentarists, and librarians in the field of handling the documentary materials of the various typologies they conserve.

### **6.6.1 Audiovisual Archive of the Workers and Democratic Movement**

The Archivio audiovisivo del movimento operaio e democratico Foundation (Audiovisual Archive of the Workers and Democratic Movement) (Aamod) is another organisation that for decades has worked to protect the audiovisual patrimony. Its purpose is to arouse the awareness of institutions to recognise audiovisual sources as cultural properties to protect, since the late seventies, when the archive was formed. Organising conferences and seminars have proven, and still do, to be productive opportunities of exchange, not only among large structures, but also among small and medium-sized realities, central and territorial. Aamod has also conducted a series of censuses on the patrimony deployed in Italy. This task represents an example of collaboration between a sectorial reality such as the audiovisual archive and the government institutions appointed to protect the cultural property. These censuses have been methodologically formulated and conducted with the priority objective of the knowledge and visibility of conservation organisms, their properties, the modalities and conditions of access to the patrimony. Data has been collected on the addresses with the names of the persons in charge and those to refer to, information on the amount of film and video patrimonies conserved, criteria for incrementing and selecting, description and cataloguing activities, ready databases, activities and services performed, and conditions of access and copyrights. The contents of patrimonies have been suggested by means of keywords and, finally, the category to which the structure belongs has been indicated. Mapping these realities represents the first and perhaps most important step towards accessing and valorising a fast-growing national patrimony, one that is very diversified in terms of contents, technologies, supports and formats of recording and conservation and, moreover, increasingly more difficult to manage with respect to the problems tied to use and reuse, and thus moral, patrimonial and commercial copyrights for their diffusion. The picture becomes increasingly more complex also in terms of localising these patrimonies.

Aamod on several occasions has pointed out the limits of excessive categorization, non-functionality, excessive parcelling and the inadequate conceptual elaboration of the terminology chosen to define the various categories. The necessity has emerged to organise the conservation structures by sectors or areas, by consortium networks, or on the basis of shared projects, or by conserved product and contents typologies or by characteristics of access, possibility to reuse the conserved materials, or on the bases of copyrights. Access, the possibility to use this immense fast-growing patrimony, is therefore a fundamental issue and must be the principal objective of any serious policies for the protection of audiovisual cultural property. At this point of the debate, the need emerges for a detailed and precise description to enable the immediate and exact retrieval of the images searched for using information retrieval systems. In the world of libraries and media libraries in Italy, but not only, the model of the *Isbd nbm* has prevailed; from these derive the rules of the *Federazione internazionale degli archivi di film* (International Federation of Film Archives) (Fiaf), and the *Anglo-American Aacr2*.

### **6.6.2 Institutes for the History of the Resistance and Liberation Movement**

As of the mid-seventies, the *Istituti per la storia della Resistenza e del movimento di liberazione* (Institutes for the History of the Resistance and Liberation Movement) spread throughout Italy with the purpose of collecting, conserving and producing paper documentation, audiovisual documents, filmed and/or sound testimonies on the history of World War II, anti-Fascism and the Resistance on the local level. These purposes were also stimulated by the onset of the historiographic debate on the use of new sources. As for the critical interpretation of the audiovisual “new sources”, it is timely to reaffirm how this problem is closely tied to that of the

semantic description of film documents for study. There are no models in this sense, and the very figure of the audiovisual documentarist is still being defined in Italy. A model for the semantic description of audiovisual documentation would enable scholars in general, cinematographers, journalists, documentarists and all users to access the single document, along with the total picture of the historical, linguistic, cultural and production reference to which that document belongs .

Quite a significant case study is that of the Archivio Nazionale Cinematografico della Resistenza (National Cinema Archive of the Resistance) (Ancr), strongly committed to digitalising its patrimony. Adjusting to evolutions in computer science has been continuous; a first, fundamental difficulty is tied to the heterogeneity of the supports on which the documents of the film library, video library and audio library of the Archive have been produced and are now conserved. The issue was to make them useable as part of a single archive corpus, at the same time guaranteeing their conservation and defining codification modalities that would make for more extensive consultation. As for the Archive's audiovisual section, digital tapes produced by Sony were initially utilised: DV-CAMs and imxs; audio CDs were selected to digitalise the sound material. These materials must, in turn, be readapted to the ongoing computer technologies and equipped with a series of metadata for their storage in compressed files. The metadata becomes an integral part of the patrimony's archival application which associates a descriptive file of the work's content. Thanks to the addition of this metadata, it is possible to consult all the Archive's material by means of an intranet network. The general public can access a part of the materials from the Internet.

The digitalisation process has advanced according to priorities. The first materials digitalised are those from the Fondo Val di Lanzo, Fondo Como, Fondo Val Borbera, Fondo Le barricate di Parma, Fondo Lotte contadine in Basilicata, the Amici di Gobetti section, the American, German, Italian and Russian newsreels and other unique exemplars in the Archive patrimony .

The Archive's cinema production activity, already alive since the early seventies, was joined by that of video in the late seventies, when a programme to systematically collect interviews from the protagonists of anti-Fascism and of the Resistance was begun. Since then, the video patrimony has grown constantly, enabling the making of documentaries whose distinctive feature lies in the use of direct testimonies .

### **6.6.3 Olivetti Historical Archive**

Another type of archive is represented by corporate archives. A good example is the Olivetti Historical Archive which possesses a substantial Film and Video Library of approximately two thousand titles. In addition to the quantity aspect, the quality of the materials constitutes a significant presence in the history of the Italian audiovisual . It is a vast production of the so-called industrial film and video, in which the term industrial intends to characterise the documentary nature, the substantial conciseness, contents that are not always oriented toward advertising purposes, but also toward illustrating environments, productions, processes and technologies, even extending to themes such as art, history, society and landscape. The Film and Video Library covers a lengthy production period that dates back to the late forties. It also includes, of course, corporate materials such as Films on Education and Training and Product Documentation Films, while a more promotional character is expressed in the

Institutional Image Films and those concerning advertising activities or tied to special Company events or products, in function of televised reports. A greater historical impact, veritable time documents with an importance that does not stop at the company, is expressed in films on Factory Buildings and Social Services, and those of the section defined as Films of the Community Movement, which describe the political, social and cultural experiment at Ivrea and in the Canavese territory. This important section includes industrial, technical and educational films, and commercials all realised as of the fifties, and directly produced by Olivetti or commissioned from important external directors. Finally, the Films of Exhibitions and Corporate Activities constitute a section that recounts the Olivetti activities in more than thirty years in exhibitions and cultural initiatives of worldwide prestige.

## 6.7 Conclusions

Though they can count on a technological support of the highest level, and exploit technology for their own conservation to the utmost, audiovisual archives are paradoxically prisoners of technological development: obsolescence, turnover, reliability index. It is a theme we shall have to resign ourselves to live with forever in the future – not only in the past – of audiovisual archives.

Another paradox concerns the role of the audiovisual archive in social practises. Compared to other traditional archives, the audiovisual archive is more tied to the audiovisual industry, that is to say the very one that created it, the one that supplies it: suffice it to observe the figures, the amazing percentages of continuous growth of this audiovisual memory, which will inevitably continue to rise. The audiovisual archive is, at the same time, the strongbox and source of the new product. We shall never be able to sunder the fact that the audiovisual archive contains the work of an author, untouchable by definition, and the material which, in order to have a second life, must be touched and modified. The work of the author, too, however, must be violated in the name of a new work that must come to light. A third paradox emerges from the current debate: everything contained in an audiovisual archive has a private owner, at times the author and at times a producer, who is holder of the copyrights; at the same time, though, it is also public property, which is another copyright that no one can deny, because those images, those works are part of a collective property, of collective interest. This coexistence of an individual right and a public right of property can not be eliminated. We can only attempt to regulate it.

Furthermore, it can not be denied that in saying “archive”, we do not automatically say “memory”: the archive is a metaphor of memory. Memory, however, means “selection”. We shall never be able to remember everything, and even less will we be able to archive and conserve everything. Who decides what to select? Who controls this mechanism?

We shall have to attempt to coexist with these four paradoxes. This means that in order to find a way to master or control the complexity of the problem of archives, perhaps the ideal instrument is to succeed in bringing to the negotiation table all the subjects who in some way are involved in the problem of archives: in its management, its content, the use of this content, in what can be done. This undertaking, though, is not easy: conflicts, distances, the irreconcilability of the viewpoints of the different actors are innumerable. The only way passes through a habit, an intensification of dialogue between the different subjects, a series of spontaneous agreements of accepted, and not imposed standards that are the cornerstones of a process.

