

# AV INSIDER

TDR, Digital Preservation and the Soft Side of Technology

**Implementing R&D Technology**  
Automated Metadata Extraction

Netherlands Institute for Sound and Vision

**Becoming a Trusted  
Digital Repository**

**Preservation Standards**  
Which Factors Explain their Adoption?

**Multimedia Preservation  
Application Format**  
Interoperable Metadata  
for AV Archives



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### AV Insider

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### PrestoCentre

The PrestoCentre Foundation is a membership-driven organization that brings together a global community of stakeholders in audiovisual digitisation and digital preservation to share, work and learn. Using free tools and simple strategies we save you money and time, whilst improving long-term access to audiovisual collections. PrestoCentre works with experts, researchers, services providers and technology vendors, advocates, businesses, public services, educational organizations and professional associations to enhance the audiovisual sector's ability to provide long-term access to cultural heritage.

Membership is open for organizations across all user communities of practice, including broadcast archives, sound and film archives, national libraries and archives, regional archives, subject-specific archives and special collections, museums, educational institutions, corporate archives, production companies and studios, filmmakers and independent producers, research organizations, commercial providers, as well as funding bodies, standards organizations, and other organizations concerned with audiovisual archiving.

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## The Soft Side of Technology

As memory organisations, media industries and other guardians and creators of audiovisual assets are transforming their workflow to embrace the digital, they will have to deal with the “soft side” of technology. Understanding emerging standards and the latest technical possibilities is just the start. But for successful implementation and adoption much more is needed. For instance, involvement and buy-in from relevant internal stakeholders, transparent business decision-making and building a trusting relationship with suppliers and other partners.

This edition of AV Insider focuses on “the soft side of technology” with four contributions by experts from the PrestoCentre network. Annemieke de Jong explores the specific challenges AV archives face when they wish to become Trusted Digital Repositories. Werner Bailer and collaborators share the latest insights from the MPEG Multimedia Preservation Application Format (MP-AF) that is rapidly gaining traction in the preservation metadata domain.

The contribution by Eva Baaren and Erwin Verbruggen focuses on the dynamics in Communities of Practice, notably on how communal decisions on certain standards are made. The Presto4U project which successfully finished earlier this year, provided many insights that are digested in this article. This issue closes with a report of the recent EBU Seminar on implementing technologies for automated metadata extraction.

I would like to point out that earlier this month, the PrestoCentre released the publication “Preservation Case Studies for Archives” written by Jim Lindner and Mick Newnham. A total of twelve case studies have been collected. The publication provides the necessary context for teaching real-world issues confronting archives’ staff and managers in a dynamic and engaging way.

The 90 page publication can be [downloaded](#) from the PrestoCentre website for free.

Finally, we would like to inform you that the PrestoCentre is undergoing a strategic review, given the ever changing context in which the centre operates. More news about this process and its outcomes will follow in the autumn.

I hope you enjoy this issue of AV Insider. And as always, we truly appreciate your feedback. Do contact us at [membership@prestocentre.org](mailto:membership@prestocentre.org).

**Jan Müller**

President, PrestoCentre Foundation






“

You  
definitely  
don't have to  
figure it all  
out by  
yourself

Annemieke de Jong  
Photo: Inge Angevaare



# Cover Story

## The Challenges of Becoming a Trusted Digital Repository

**In conversation with Annemieke de Jong**  
preservation officer, Netherlands Institute for Sound and Vision

Annemieke de Jong is preservation officer at the Netherlands Institute for Sound and Vision in Hilversum. She is responsible for defining the strategic policies for preserving and managing the institute's digital collections. Currently de Jong and her team are creating a full set of requirements for the massive archive of Sound and Vision to become a Trustworthy Digital Repository. This involves a remodelling of the archival processes from ingest to access through to storage, as well as developing new administrative and organisational policies. The Netherlands Institute for Sound and Vision is the central production archive for Holland's public broadcasters. In this role the archive is responsible for storing and providing access to broadcasted television and radio. Sound and Vision also functions as the national audiovisual archive. Its collection includes photos and cultural objects, home movies and audiovisual collections from businesses and non-profit organisations. In addition, Sound and Vision plays a coordinating role in the Netherlands' cultural heritage landscape, gathering and disseminating knowledge in the preservation and access domains. Sound and Vision currently manages a collection, including

over 800,000 hours of radio, television and film. Fragments from the repository are delivered daily to hundreds of users in the professional broadcast domain: at home, in educational institutions, in businesses and visiting Sound and Vision's museum. Recently, Sound and Vision has made it a strategic goal to become a Trustworthy Digital Repository for The Netherlands' audiovisual cultural heritage collections.

### **What is the current portion of Sound and Vision's digital collections?**

"Since 2007, we've ingested the complete broadcasted radio and TV programming of all twenty Dutch public broadcasters as well as its related metadata via an automated digital workflow system. This year, 2015, we will finish our 7-year project *Images for the Future* in which we digitized more than half of our analogue film, video and audio collections. Our digital repository system to date holds approximately 7 petabytes of digital born and digitised material, which equals around 450.000 hours. On a yearly basis this is augmented with some ten thousand hours of digital-born broadcast programmes, as well as the >



collection materials we store and preserve for organisations in the heritage field.”

### **What is your strategy to keep this material safe and accessible in the long run?**

“Our workflows, storage infrastructure and metadata conventions have traditionally been closely related to the demands of the broadcast environment, where access is the primary goal.

When the first IT integration with production was designed in 2007, long-term preservation was not a major consideration. In the initial infrastructure design,

preservation processes were not explicitly incorporated. But obviously, whether it is public radio, television or other audiovisual material, we need to store it safely and keep it permanently available for those who want to use it. Managing our rapidly growing digital repository and the increasingly complex processes around it in a rational and responsible way, has therefore become one of our biggest challenges, leading to important questions: How to control the life cycle of the numerous broadcast programmes that are ingested daily? How to manage all the different formats, locations and size of the heritage

**Trusted OAIS compliant archiving is an important strategic goal of the organisation as a whole**



collections that are entrusted to us, and, most important: how to guarantee the delivery of up-to-date formats to all of our depositors and users in the long term?”

“We have become aware that in order to control and preserve our digital archive, more processes, more policy, more procedures and more metadata would need to be incorporated into our systems and workflows. Additionally, the roles and responsibilities of all parties involved - be it depositors, user groups as well as our own staff - would need better definition. We basically would need to know precisely what ‘digital preservation’ signifies to us, being a national audiovisual archive that operates in a dynamic production environment. Also, what common preservation concepts like ‘authenticity’ and ‘integrity’ actually imply for the management of our files.”

“In order to get a grip on the domain and find out how digital preservation would fit into our environment, we set up a project in 2013, to start ‘optimising’ our digital archive. Our first goal was to deliver a set of normative policy documents covering the organizational, technical and data management aspects of our repository system. These documents would then have to function as the main reference model for the re-design of our workflows and systems, implementation being our second goal. We figured that trying to get formally certified as a TDR could well support this work - by providing direction, quality criteria and concrete guidelines. Becoming an acknowledged Trustworthy Digital Repository - by acquiring a *Data Seal of Approval* - thus became our third goal, to be achieved in 2016.”

### **What standards and reference models did you find useful?**

“OAIS, our main source of inspiration, made us more aware of the broad scope of the preservation domain, covering not only workflows, data objects and technology, but also the financial, legal and organizational aspects of >



trusted archiving - like the need to set up formal contracts with your depositors and users, the development of methods for risk management, training plans for the staff and so on."

"One of the problems we encountered using OAIS, was that the model to date has seen wide take-up primarily in digital libraries and traditional archives. This can also be said for PREMIS, the most important preservation metadata standard. Their applicability and implementation in the media archive domain, where the emphasis lies on access and re-use – is still scarce. This meant we had to modify OAIS and PREMIS based processes and metadata to fit the specific situations and needs of audiovisual files managed in our own dynamic production environment."

"Besides OAIS and related standards and documents, we researched a lot of the Presto Prime deliverables that have been written over the last couple of years. These documents were very useful in making us understand and define the issues and solutions for our own specific AV-archive production environment. The [report on Modelling Preservation Processes](#) even became somewhat like our 'bible!'"

### What have you accomplished to date?

"We now have a large set of normative policy documents in place, outlining OAIS compliant requirements for our archive, based on the high-level quality criteria we listed. We also worked on practical guidelines for creating submission and order agreements with our depositors and users. Starting from an analysis of the current technical demands of these groups to the accessibility to our collections, we are now establishing mechanisms to permanently monitor these demands. This way, we aim to structurally make our preservation planning respond to their needs. For the preservation services itself we have developed a definition of the different preservation and access guarantee levels that we can offer, based on the demands of the depositors and our own

(Continue reading on page 8)

Trust is the basis of storing and sharing data. That trust must be shared by various stakeholders. The data depositors want the assurance that their data in the digital archive are safe and will remain accessible, usable and meaning-



### The Data Seal of Approval: a certificate for trustworthy archives

ful. Data users have questions like: have the data been well kept, have they retained their authenticity and integrity, are the data of good quality, do the identifiers refer to the appropriate objects? The funders of digital archives have other concerns. They want to be certain that their investment in data production yields optimum returns, i.e. that the data will be available for long term reuse. What characteristics make a digital archive reliable? First, a digital archive's mission should be to give reliable long-term access to the digital data under their care, now and in the future. Second, there should be permanent monitoring, planning and maintenance. The threats and risks within their systems must be understood. Finally, there should be a regular audit and certification cycle in place. Reliability is not something you achieve once and can then take for granted. Certification can make an important contribution to the confidence of various stakeholders.

#### The Data Seal of Approval:

- Gives depositors and users the assurance that their data will be stored in a reliable manner and can be reused;
- Provides funding bodies with the confidence that data will remain available for reuse;
- Enables users to assess in a reliable manner the repositories that hold the data which they want to reuse;
- Supports data repositories in the efficient

(Continue reading on page 9)

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collection policy as a national archive. The core of our work has been the Information Model that defines normative workflows and preservation metadata. Two essential things were required to ensure both the integrity and the authenticity of our files: the defined preservation business processes, that ensure that preservation related events take place; and a mechanism by which an audit trail can be generated and maintained, allowing the archive to demonstrate the outcomes of these events. By tracking and registering the events, we can demonstrate the authenticity of the ingested object. Thus we fulfil the basic requirement of trustworthiness.”

“The model describes not only the actions an object undergoes during various workflows, but also the properties of the objects

themselves. These properties are all defined in our Audiovisual Preservation Metadata Dictionary, which includes both the essential technical characteristics of audiovisual files and preservation metadata, focusing primarily on digital provenance: that is, metadata documenting the creation, chain of custody and change history over time. Rights related metadata, strictly referring to the rights to preserve, also form an essential element. For the technical metadata, we made a study of a variety of AV specific metadata schemas. PREMIS was chosen as the standard to use for the digital provenance.”

“Our documents provide Sound and Vision with an important reference framework against which we can measure to what extent our current operations consciously reflect



In Sound and Vision's vaults, approximately 7 petabytes of digital born and digitalized material is stored to date. How to keep it safe and accessible for the long term?





preservation lifecycle management in our own environment. We feel we now have a solid, theoretical basis for establishing a dedicated preservation structure that can be considered OAIS compliant. We have identified all those who play a role in the preservation process. Sound and Vision now knows how to operate according to the standards and will thus be able to demonstrate how these standards have been implemented. The implementation of the basic requirements of a 'trusted' repository allows us to prove to our depositors/producer and users that we operate responsibly."

### **How was the archive staff involved in the work?**

"We realised from the start that the digital archive is not confined to the IT department and policy-development. The entire organisation, especially the cataloguers, the access services staff and the acquisition and selection staff, plays a role in providing long term preservation and access guarantees. In order to broaden knowledge and awareness among the staff, we adopted a project structure, involving staff members from different departments. Getting everyone to better understand their own role would strengthen the responsibility they feel for preservation.

Although it proved to be difficult for most project members to find the time for researching theoretical standards and processes and translating them into policy alongside their daily responsibilities, the project approach did succeed in raising the level of consciousness about the meaning of the concepts *digital preservation* and *lifecycle management* and their importance for digital collection management. We have achieved that OAIS, its terminology and its process framework are no longer foreign to the majority of people in our organisation. Certain technical processes such as validation and fixity checking have gained prominence and have actually been implemented."

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archiving and distribution of data.

There are 16 guidelines that together determine whether a digital archive qualifies for the Data Seal of Approval. The guidelines for applying and verifying quality aspects concern the creation, storage, use and reuse of digital data. They have been designed with a focus on scientific materials, but they can be applied to all types of digital information, including audiovisual materials. Fundamental to the guidelines are five principles that together determine whether or not the digital data may be considered as sustainably archived:

1. The data can be found on the Internet.
2. The data are accessible, while taking into account relevant legislation with regard to personal information and intellectual property.
3. The data are available in a usable format.
4. The data are reliable.
5. The data can be referred to (persistent identifiers).

These principles are integral to the 16 guidelines. The DSA guidelines remain valid for a period of two calendar years: the Seal period. After this period the DSA had to be renewed. Reviews and assessment of evidence is being done by DSA peer reviewers. An online self-assessment tool has been developed to make the DSA application process easy and transparent.

The Data Seal of Approval offers the possibility of basic certification. The DIN standard provides a second set of guidelines. The 34 criteria were developed by the German organisation NESTOR (a consortium of museums, archives and libraries) and formalized as the DIN 31644 standard. This DIN standard is essentially a catalogue of criteria which digital archives should satisfy. In 2014 the first DIN-based audits have been conducted. The third way to evaluate a digital archive is provided by ISO standard 16363. This standard is based on the OAIS model that provides a framework for understanding archival concepts needed for the preservation of and long-term access to digital information. ■



**Three basic conditions for becoming a Trustworthy Digital Repository:**

1. Have your management committed;
2. Involve the rest of your organisation;
3. Get documents, standards and advice from other archives & knowledge centres.

**How do these requirements relate to other IT-developments in the archive?**

“It’s important that all the knowledge we gained during the preservation requirement trajectory remains the reference framework for any development in and around the digital archive. Our requirements demonstrate to IT staff that preservation processes and workflows first need mapping to functional areas in the IT architecture system. Only then can applications for carrying out preservation functionalities be identified. In the meantime, the IT department needs to start finding solutions to support the newly developed business processes.”

“Good synchronization of the various developments within the archive also remains crucial. For example, at Sound and Vision, our requirements project was running when the process to acquire a new MAM system took off. In order to enable that a new MAM would contribute to OAIS compliancy goals, steps in the Information Model workflows were quickly translated into detailed and concrete MAM requirements. This also meant that some requirements outside of the workflow needed to be analysed. At this point it became clear that OAIS compliancy requirements themselves offer few concrete solutions. Those OAIS-compliant lifecycle management requirements that did become part of our overall MAM requirements represent a sub-set of the overall OAIS requirements.”

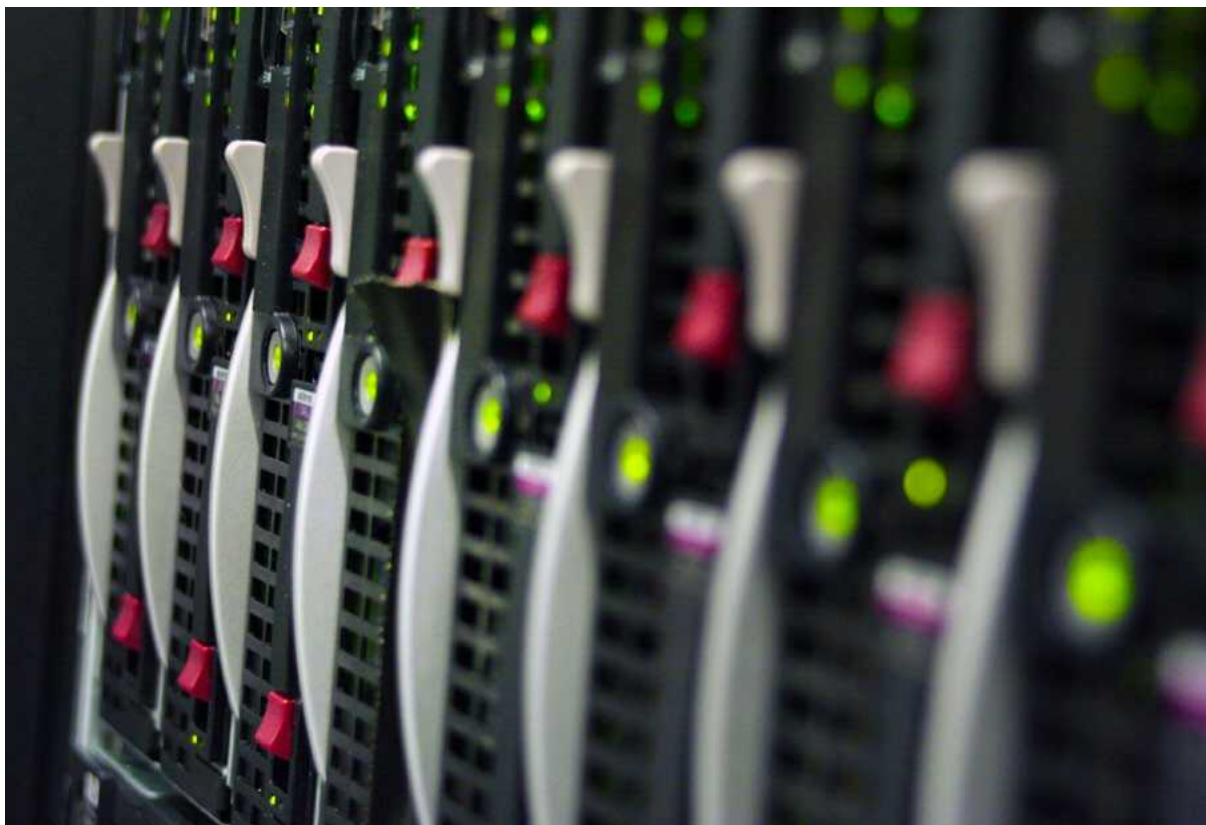
**What are the challenges for the near future?**

“Besides working out where and how within the IT architecture the preservation functions need to land, serious plans will have to be made to train the staff in digital life cycle management and preservation planning. At the same time we will need to find answers to the financial questions: what are the actual cost implications of implementing the full preservation

scenario we worked out? How to connect costs and budgets to the different preservation levels we have developed? And who will pay for preservation in the long run: the archive itself, the producer/depositor or the user?” Another burning question concerns all the previously ingested files and metadata: how, for example, do you ensure that the ‘dark metadata’, generated during earlier digitisation processes, is brought into the preservation workflow and data management system? What does one do with the approximately 400,000 hours that have been ingested into a non-OAIS compliant repository, and thus never underwent the fixity checking and validation processes?” “Furthermore, the preservation business processes need to incorporate answers to new questions: are we going to apply the full preservation workflow and metadata processes to all the collections and types of content (metadata, photos, written sources) that are ingested, or only to some? If the latter, how are we going to define different preservation levels for broadcast production material, cultural heritage materials and contextual materials?”

**Any recommendations for other AV-archives that consider starting an OAIS-TDR trajectory?**

“First and foremost: make sure your management is committed to the task! Help >



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them understand that preservation is their primary business and convince them of the benefits: safe, accessible and well-organised digital collections, skilled staff and happy stakeholders. In this way they will hopefully define trusted OAIS-compliant archiving to be an important strategic goal of the organization. This will guarantee you the necessary acknowledgement, funding and human resources. Secondly: share and communicate! Make sure all departments in your organization are somehow involved in the process. Include the IT people, so they understand that preservation is more than storing and migrating the bits, convince your ingest department of the importance of solid contracts with depositors and make sure cataloguers and archivists become familiar with the principles of digital

lifecycle management as part of their daily work. And lastly: make use of anything that's out there that can help you understand what you need and what you want for your own organisation: preservation standards, models, guidelines and so on. Ask your peer archives for their policies and best practices. After all: every audiovisual archive now is learning how to best control their increasing digital collections, how to cope, what solutions to find and how to work in trusted ways. You definitely don't have to figure it all out by yourself." ■



**Further reading**

- **ISO 14721:2012. The Open Archival Information System Model**  
This document is a technical recommended practice for use in developing a broader consensus on what is required for an archive to provide permanent, or indefinite long term, preservation of digital information.
- **DRAMBORA, Digital Repository Audit Method Based on Risk Assessment**  
The Digital Repository Audit Method Based on Risk Assessment (DRAMBORA) toolkit is intended to facilitate internal audit by providing repository administrators with a means to assess their capabilities, identify their weaknesses, and recognise their strengths.
- **CCSDS, Audit and Certification of Trustworthy Digital Repositories Recommended Practice**  
This document is a technical Recommendation to use as the basis for providing audit and certification of the trustworthiness of digital repositories. It provides a detailed specification of criteria by which digital repositories shall be audited.
- **PREMIS**  
The PREMIS Data Dictionary for Preservation Metadata is the international standard for metadata to support the preservation of digital objects and ensure their long-term usability. Developed by an international team of experts, PREMIS is implemented in digital preservation projects around the world, and support for PREMIS is incorporated into a number of commercial and open-source digital preservation tools and systems.
- **CCSDS Producer-Archive Interface specification**  
This Recommended Standard is a technical Recommendation providing the abstract syntax and an XML implementation of descriptions of data to be sent to an archive. These descriptions are negotiated agreements between the data Producer and the Archive that facilitate production of agreed data by the Producer and validation of received data by the Archive.
- **Presto Prime Deliverables**  
This is an overview of the public deliverables that were created within the PrestoPrime project.
- **DSA**  
The Data Seal of Approval website, where you can find all the necessary information to assess your digital repository and apply for the Data Seal of Approval.
- **ISO**  
Website of the Primary Trustworthy Digital Repository Authorization Body. Here you can find more information about the three standards that form a closely related family important in establishing an internationally recognised and certified set of trustworthy digital repositories.
- **DIN**  
Website of nestor, the German competence network for digital preservation. Libraries, archives, museums and leading experts work together in nestor to ensure the long-term preservation and accessibility of digital sources.



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# Multimedia Preservation Application Format (MP-AF) as Metadata Container

By Walter Allasia, Roberto Borgotallo and Werner Bailer

This article provides a short overview of MP-AF, a novel MPEG standard that has been developed with strong contributions from the Presto4U project. It was partly presented in the 2014 Presto4U report on emerging standards. To read the original report and find recent updates regarding standards, please see the references below or go the [PrestoCentre website](#).

Many organisations collecting various types of multimedia content, such as archives, libraries and museums, have digital preservation systems in place. These organisations often have the need to exchange multimedia assets and related metadata between preservation systems/repositories, either within the organization or with related organizations. They also often wish to change/upgrade their preservation systems, exchange content with service providers, or provide preservation services for other organisations. In order to do so, interoperable metadata standards are needed. This article discusses the MPEG Multimedia Preservation Application Format (MP-AF) data model and its relation to three other metadata specifications.

## Multimedia Preservation Application

When organisations exchange multimedia assets, they need to include preservation metadata that enables the receiving organisation to both assess the integrity and fidelity of the assets it receives and establish a baseline for their curation and

use. The receiving organisation also needs information about any preservation processes the assets went through, including descriptions of the outcomes of such preservation processes. These descriptions may include metadata about content, structure, and quality, as well as technical, historical and editorial information, and information about property and usage rights and conditions. A standard is needed that defines the content and format of multimedia preservation description information (MPDI), in order to facilitate interoperability between preservation systems, ensure accurate understanding of the resources exchanged, and reduce the risks of corruption both during data exchange and thereafter. In the context of MP-AF, the MPDI covers eight categories of metadata required for preservation: Provenance, Context, Reference, Quality, Fixity, Integrity, Authenticity and Rights.

The Moving Picture Experts Group (MPEG), well known for specifying widely adopted audiovisual compression standards, has started to address this issue in 2011. MPEG application formats are standards composed of subsets of different MPEG technologies (e.g., metadata standards such as MPEG-7 and MPEG-21) targeting a specific application scope, and extending them with existing technology from outside MPEG or new technologies if needed. The multimedia preservation metadata standard is thus named >



Multimedia Preservation Application Format or MP-AF.

The interoperability with other existing data models related to digital preservation has been taken into account as a core design principle of MP-AF. The purpose of MP-AF is not to provide yet another metadata standard, but an interoperable and complete metadata standard for describing the preservation information needed in professional audiovisual domains, building on other standards and integrating them where needed. Three data models have been selected as the most adopted in the current practice of audiovisual archives, and therefore as mapping targets: PREMIS, W3C PROV and EBU CCDM. In this article, we discuss the way MP-AF maps to two of these models (PREMIS and W3C PROV), and how it is related to the quality metadata model recently developed by the EBU strategic programme on Quality Control (EBU QC).

### MP-AF and PREMIS

PREMIS is nowadays the (de facto) standard which is used by many national libraries and archives for aggregating and preserving metadata required for ensuring long-term access to digital content. PREMIS defines the information needed to support long-term digital preservation. Preservation metadata answers a number of questions that support the preservation of digital objects over time. It deals with provenance (those who've had custody or ownership of the object), authenticity (the actual object versus what it purports to be), preservation activity (steps taken to preserve it), technical environment (requirements for rendering and use) and rights (defining the intellectual property rights that must be preserved and the actions granted by the rights holder to the repository in order to carry out preservation actions). PREMIS defines a dictionary of preservation metadata elements, but not the structure of the description or, in other words, the metadata

container. It thus needs to be embedded in some container structure. For example, METS or MPEG-21 DID. As the choice of the container is left to the implementation, there are no built-in mechanism for ensuring the referential and data integrity of the package. Consequently in the case of broken packages there is no mechanism defined for verifying which parts of the package are not corrupted and can still be used properly in preservation processes. When using PREMIS in an application scenario dealing with audiovisual content, it is soon observed that different enhancements are required to address particular needs of a given preservation context, such as compatibility with standards in use, enhanced support for modelling complex hierarchical complex structures and descriptions, support for time-based metadata and defining the metadata container. MP-AF offers such a container (see Figure 1 for the relation to PREMIS entities).

### MP-AF and W3C PROV

The W3C has developed a suite of standards for representing provenance information for any kind of data, which has become a recommendation in April 2013. The suite's main components are the provenance data model (PROV-DM), and its representations: plain text, XML and RDF/OWL ontology (PROV-O). The model provides some extension points for typing the entities and their relations, as well as extending it with additional properties.

The model is applicable to describing the provenance of audiovisual content. With the three core classes Entity, Activity and Agent (not using Rights as in PREMIS) the model is easier to map to other models in the audiovisual domain. The W3C PROV model provides hooks for refinement of types and relations, which also enables to adjust the model more specifically to activities and agents in preservation processes of audiovisual media. In the context of audiovisual data, Entity has to be understood as also involving fragments of content (using W3C URI for Media Fragments to identify the entity). These >



features make W3C PROV a good candidate to be mapped with MP-AF (see Figure 1).

### MP-AF and Quality Control

Quality Control (QC) metadata are explicitly considered as one of the eight areas of Multimedia Preservation Description Information. In the context of preservation, the key concept is that when preparing an Archive Information Package, the workflow shall prepare accurately all the digital items to be included, taking care not only to what is needed, but also to the quality of the essences. This means

checking the conformance of multimedia files to the relevant standards, the technical properties like aspect ratio and resolution and also the intrinsic baseband quality of the audio and video tracks. All the information coming out of quality control tools has then to be stored, together with the other metadata in order to document the quality at the moment of ingest into the archive and to leverage a long term process aimed at preservation.

MP-AF allows including QC information making use of MPEG-7 and an extension of it, recently standardized as MPEG-7 part 5 amendment

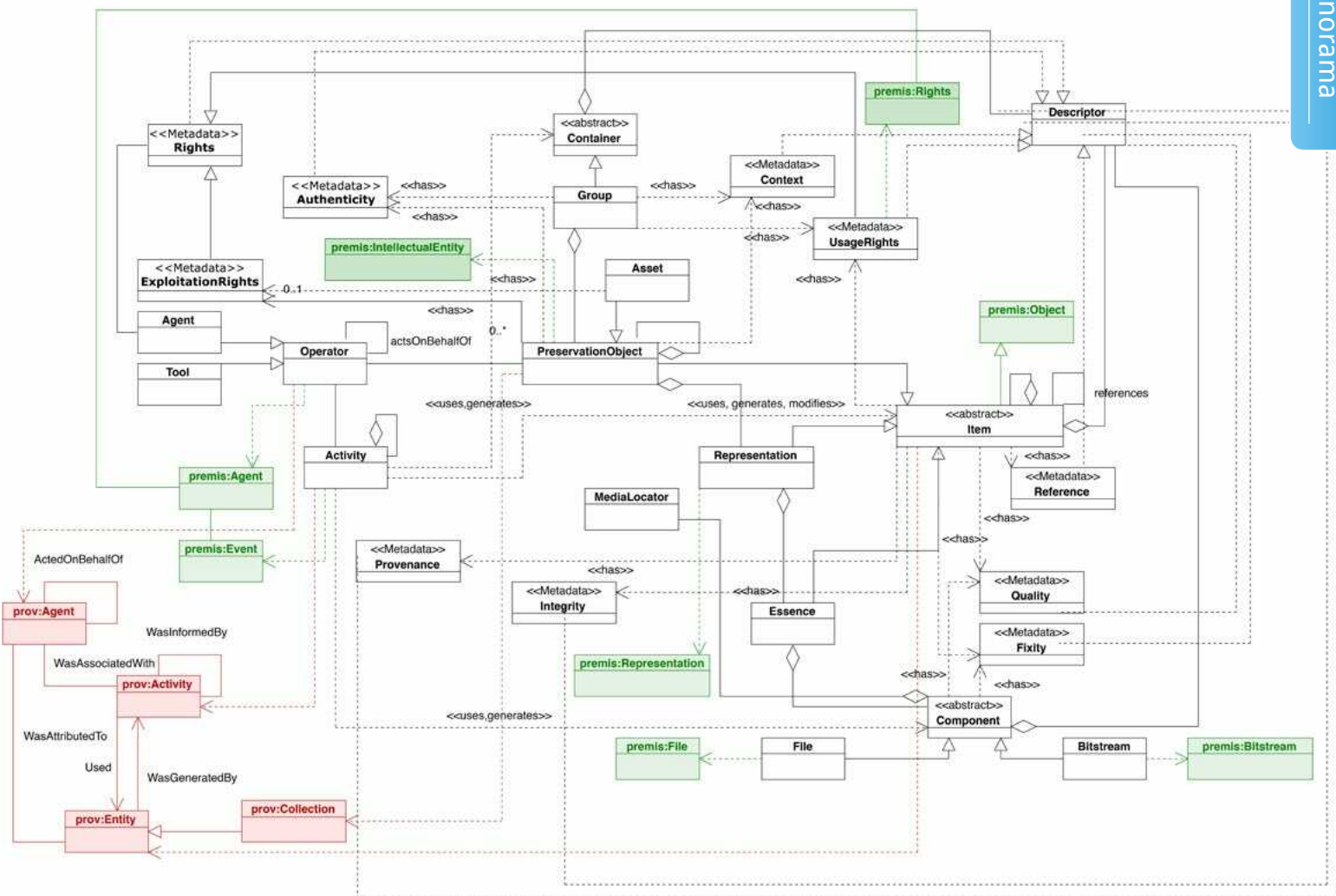


Figure 1 - Mapping between MP-AF and PREMIS 3.0 (highlighted in green) and W3C PROV (highlighted in red) entities

[Click here to enlarge](#) (will open in your browser)



5. This extension was developed following the specific requirements identified and described by the EBU (European Broadcasting Union) strategic group on Quality Control. This group focuses on Quality Control of audiovisual content, especially in the new and pervasive file-based environments and with respect of four main areas of application: ingest, legacy archive transfer to files, final programme delivery, and programme exchange. The first two are seen as the most important in the context of long term preservation. Within information technology settings, the quality control process can be highly automated but still requires manual checks for final decisions and subjective evaluation. Since 2011 the group has worked mostly on the collection of requirements for automated QC, taking into consideration the real necessities of participating broadcasters, the state-of-the-art of what technology can do today and future research. Nevertheless also non-automatable (manual) tests are included, using the same data model for representing analysis results. A web platform has been set up where every single test (called QC Item) is publicly available with a permanent URI, ID and clear definition of what is expected to check and measure. At the time of writing the work is continuing with precise definition for each item of expected inputs and outputs, together with their measure units, type and range.

## Not yet another standard

In a time when metadata standards deal with all kinds of preservation needs, interoperability and container models can offer a solution to structuring and checking preservation metadata. The MP-AF data model can be used for these purposes in professional audiovisual domains and because it was conceived taking into account the already existing standards, trying to keep compatibility and fill the gaps. It should be the most suitable in many practical applications. The purpose of MP-AF is not to provide yet another metadata standard, but the most interoperable and complete metadata standard for describing preservation information in the domain of (professional) audiovisual archiving. As of summer 2015, the draft standard (DIS) is under ballot, and the final standard is expected to be issued by the end of 2015. ■

This article was based on:

Colbron, K., Allasia, W., Bailer, W., Borgotallo, R., Boch, L., Pellegrino, J., Heritage, T., Factor, S., Walland, P., Chakravarthy, A., Ligios, L., Laurenson, P., Teruggi, D. (2014), *Deliverable D4.3: Recommendations for Standards and Trusted Audiovisual Repositories*. pp. 12-30. Available in the [PrestoCentre Library](#)

### Further reading:

- [MPEG within the ISO structure](#), L. Chiariglione
- [PREMIS Data Dictionary for Preservation Metadata](#)
- [Library of Congress Linked Data Service: Preservation Metadata: Implementation Strategies \(PREMIS\) Ontology](#)
- [Library of Congress Linked Data Service: Preservation vocabularies](#)
- Paul Groth, Luc Moreau (eds.), *PROV-Overview: An Overview of the PROV Family of Documents*, W3C Working Group Note, April 2013
- Timothy Lebo, Satya Sahoo, Deborah McGuinness (eds.), *PROV-O: The PROV Ontology*, W3C Recommendation, April 2013
- Walter Allasia, Werner Bailer, Sergiu Gordea and Wo Chang, "A Novel Metadata Standard for Multimedia Preservation," in Proceedings of iPres 2014, Melbourne, AU, Oct. 2014.
- [Draft text of ISO/IEC DIS 23000-15 Multimedia Preservation Application Format](#)
- [EBU QC web platform](#)





## Welcome to the Jungle of Preservation Standards

Quite a few people are concerned with the survival of audiovisual content. Artists, producers, musicians, librarians and researchers all have stakes in the safekeeping of their moving images and sounds. The different domains in which these people reside often provide their own rules and regulations. So many rules and regulations, in fact, that the dense thicket of norms and acronyms can, to outsiders, quickly become incomprehensible.

In a report that came out of the Presto4U project, experts from these various domains explain what standards have been adopted in the different communities of practice that the

**Standards are the invisible framework that ensure that products and services used in preservation workflows are both reliable and sustainable**

project focused on. Divided into nine communities, they include personal collections, video art collections, collections for learning and teaching and collections for research and scientific collections. They also include organisations such as footage sales

libraries, video production and post-production facilities, film collections and filmmakers, music and sound archives and TV, radio and new media broadcasters.

Standards are the invisible framework that ensure that products and services used in preservation workflows are both reliable and sustainable. In order to educate and inform

their users, several initiatives have attempted to create standalone registers of the many standards that exist, or to incorporate standards information into their websites. The Presto4U project created an interconnected set of communities involved in digital audiovisual preservation. Each community varies in its knowledge and use of standards. PrestoCentre set up a dedicated standards register around these communities of practice to solve this complexity and show which standards are relevant to whom.

### Why Standards Matter

A standard is a wide term. Everything can be standardised. There are ISO norms for the way a country name can be abbreviated, for the materials that should be packaged in or the proper execution of user testing. Standardisation guarantees that the products you use, and the descriptions you set up to facilitate their use, interconnect with the usage in other domains, on other locations, with different equipment. They also need to respond to the needs of those involved in a specific process - in our case, that of audiovisual preservation.

Standards provide reliable and sustainable frameworks around which services can be developed. In the audiovisual and preservation domains, workflows underlie the proper functioning of broadcasting chains, cataloguing systems, and display technologies. Standards are crucial to their proper functioning. Some like to say that metadata is a love letter to the future. Our preservation activities are geared towards people in that yet unknown future. >



## New customer demands and technologies can require sudden adaptations in the forms of access and quality

Both these metadata and the audiovisual records they describe need to follow a standard in order to be understood. In the audiovisual field, we have at least two main categories to consider: audiovisual content standards on the one hand, and digital preservation standards on the other.

Standards are never finished. Emerging and evolving standards in audiovisual preservation include widely varied topics such as preservation metadata (MPEG-A part 15 (MP-AF) and PREMIS), formats (MPEG-21 part 21, EBU/AMWA

FIMS and MXF AS-07) and rights and descriptive information (MCO, W3C Provenance, W3C Web Annotation). Because digital preservation is quite a young scientific discipline, not many “international standards” are available in this field. Current guidelines and specifications have been created based on best practices and professional analysis. Even if some of these are not at all “standard”, they ought to be considered as “de facto standards” because of their wide use and adoption. But standards in the audiovisual context are changing rapidly. On the side of digital preservation, over the past few months we’ve seen the evolution of the MPEG preservation and rights standards as well as the creation of new specific groups for defining and representing quality information (such as EBU QC and FIMS-QA). The well established digital preservation standard PREMIS is currently under revision and improvement.

The MPEG Multimedia Preservation Application Format (MP-AF) was created specifically for preserving audiovisual metadata. It provides a novel approach for describing preservation description information and covers the gaps left

by other digital preservation metadata formats. Its interoperability with other existing data models related to digital preservation has been adopted as a core design principle. Three data models have been selected as the most adopted in the current practice of audiovisual archives, and therefore as mapping targets: PREMIS, W3C PROV and EBU CDM.

While there are commonly used standards across all communities in digital audiovisual preservation, differing communities employ some standards more than others. These can then act as a means of educating other communities on the scope of standards available. Broadly speaking, there are four factors that explain the adoption of a format, preservation or metadata standard in these nine communities of practice. For AV insider, we summarised the main factors that influence their use in these different domains.

### Factor 1: Business Model Impact

A main factor for determining the implementation of a certain standard is related to the core business of a community. Those that have strong bonds with media professionals (re-)using audiovisual content on a regular basis, opt for standards that help them meet the demands and workflows of business-to-business or business-to-consumer services. This is especially true for footage sales libraries, broadcast archives, and (post-) production facilities. For these communities, the choice of standards first and foremost needs to support the continuation of their business. New customer demands and technologies can require sudden adaptations in the forms of access and quality.

Business size can also be a factor of influence. In small postproduction companies, which make up for half of the postproduction market, the use of standards mainly comes with the job, as they often use proprietary soft- and hardware. Larger postproduction companies have a higher awareness about the value of standards,



especially regarding digital asset management and standardized preservation systems. For broadcasters, using standards for both formats and metadata stands in a long tradition of optimizing workflows, although the discussion for the 'right' standard is ever on-going.

### Factor 2: Market Changes and Technological Innovations

With changes in the media and technology landscape, audiovisual content is no longer limited to traditional institutions, channels and value chains. Many organisations therefore need to change their approach to audiovisual content. Broadcast archives as well as libraries and archives are looking at how to store web content, ever increasing image resolutions (ranging from low resolution to 4k) and forms of interactive media. All of these topics call for a continuous search for new standards and solutions, whereby member organizations and knowledge platforms such as PrestoCentre play an important role in advising and guiding organizations through their options. Music and sound archives also deal with rapid changes in use of content through digital distribution and access platforms channels with various speed and bandwidth possibilities. The advent of the web, the upgrading of personal computing devices and the constant development of multimedia applications and platforms integrated to network services, have made this area of fundamental practical importance.

### Factor 3: Culture and Context

The choice for standards highly depends on the organisation of the archives. Commercial archives tend to be concerned most with a standard that will allow them to support access from multiple users and - sometimes simultaneously - deliver efficiencies and high levels of interoperability to facilitate

distribution. They will more often use compression as a means to deliver cost and operational efficiency into commercial workflows. Audiovisual institutions such as the Netherlands Institute for Sound and Vision work closely together with the production chain, where norms and standards for the broadcast MXF OP1a format finally decide what's received in the archive. Organizations such as the KB in Sweden or Ina in France have a deposit legislation that allows them to choose their own archival format, and decided on JPEG2000 wrappers for the task.

For institutions that archive audiovisual material for other purposes of memory and historic cultural heritage or organisations that hold certain amounts of audiovisual content, but not as their main asset the compatibility of new standards or best practices needs to blend in with existing solutions. For a new standardization project such as MP-AF, for example, the compatibility of its data model with PREMIS is of the utmost importance. Luckily, its interoperability will only increase with the changes planned for the upcoming version 3 of PREMIS.





Content, carriers, resolution, and formats all together create meaning. This concept is central to the preservation concerns in film archives and video art collections, where the creator's choices of carrier and format are part of the work's intrinsic value. The cultural and historical practices of making and consuming film for large screens in theatres also add to the view that film should be preserved as large and 'uncompressed' as possible, and as close to the original experience its maker intended its public to have. The film archive's approach to storage is usually different to that of archives with high throughput volumes. Digital standards used for easy distribution and exchange are chosen on the basis of the lowest possible compression, unless the industry demands otherwise. The actual preferred preservation master for many a film archive in practice remains the 35mm film, which is considered safer as well as cheaper to preserve.

The decision to adopt a standard for a film archive or museum may be driven by a preservation agenda deeply concerned with the creation of a digital version of a creation

**Easy access to information about the purpose, use and implementation of standards is crucial**

which is as gentle and transparent to the original medium as possible. It should not introduce any degradation to the quality of the signal through lossy compression or alter or colour the asset in any way. For the

film archive and video art collections, access to the digital asset can be extremely infrequent, which influences the data storage model and relating standards. Archives serving the needs of different sectors must consider competing standards from those sectors relating to both descriptive information or metadata and encoding standards.

For the video art community, much attention is on preservation standards for contemporary art

environments. There is great awareness about preservation standards such as OAIS, but also about the limitations of their implementation possibilities. Standards like OAIS are often more focused on an end-of-life model than on an active life model. Therefore, they are not a perfect fit for the contemporary art environment. Standards emerging from the records management community may therefore become increasingly important for this group of organisations.

Next to preservation, the video art community needs metadata schemas that embody or are compatible with information about the video-art installation, exhibition histories, artist information and the artist's notes of what needs to be preserved - and in what way. With these factors surrounding video art, the adoption of standards is a complex matter, and many video art communities use few standards, although awareness is growing.

**Factor 4: Awareness and Applicability**

Institutions dealing with audiovisual content on a daily basis need to consider or choose standards in order to get their work done. This is different for personal collections and for communities that don't primarily work on audiovisual materials. One of these communities is the learning & teaching environment, where moving images and audio materials are only part of the educational materials instead of at the heart of the education business. The same can be said for the research community, which can be even more challenging as individual researchers have no stake in keeping file formats and metadata in check with standard compliance. Format conversions could for example damage the repeatability of experiments, which is the core of the scientific research, on the same data. Easy access to information about the purpose, use and implementation of standards is crucial. Government bodies and knowledge institutions can play an important role in educating these >



more hierarchically structured communities. The decision to adhere to a standard is not without cost. There are people and organisations who, if required, will subscribe to payment services for having their library of standard up-to-date, especially when this is strictly related to their core business, as for example the manufacturers of devices which might be sold in millions of units around the world. In other cases, a lack of access to the standard information results in the impossibility to evaluate its appropriateness for recommendation or adoption. If people think that knowing the details of a particular standard document is essential for their work, they will gladly pay - but this isn't expected of communities that aren't centrally involved in this process. Any business looking to adopt standards will need to consider their cost issues carefully, and weigh them against the undoubted benefits of customer acceptance and compatibility. Cost can come in the form of a financial penalty, such as the licensing cost. But it can also come in terms of the additional resources needed to implement and test a product, the support needed to maintain adherence with the latest version of a standard, or the time penalty of delaying availability to customers.

### Trustworthiness in Standards

What is most characteristic of the audiovisual preservation field, is the broadness of the issues related to our domain and the many stakeholders involved. Format descriptions, provenance information, descriptions of quality characteristics and of preservation information all need to be covered in order to get an archive into a sense of comfort about the stability of its digital surroundings. Beyond doubt there is a lack of standards among digital preservation, especially (but not only) for what concerns preservation metadata description information. Professional practices are considered as "references", more than any other standards or

specifications.

This is all the more true within conservation communities, whilst in other communities, choices are more driven by professional technologies available on the global marketplace. Standards for certification under the OAIS model promise a safe haven of digital trustworthiness, but even at the end of that road, our fields have much to win from remaining vigilant, together, about the challenges that arise and the best practices that ensue to cover them.

A number of standards have been developed for appraisal and certification of the "trustworthiness" of digital repositories and carrying out audits or self assessments against these has been shown to be practical. Even without any assessment being carried out, these standards appear to drive development of good practice in organisations with more developed digital preservation repositories. A lot of this progress on Trusted Digital Repositories has been made in relation to non audio-visual content – it is important for all the audio-visual communities of practice to learn from this progress.

Business workflows, production practices, technologies, markets, cultural and contextual meaning all play a role in considerations for

### Practices of production, consumption and (re-) use of audiovisual content are changing rapidly

preservation standards in every community of practice. The weight of these factors, however, differs between one community and the next. While these differences don't have to be considered problematic for different communities per se, one can conclude that, because of these differences, exchange of audiovisual content and metadata will remain >



difficult. This is especially true in a digital media market where practices of production, consumption and (re-) use of audiovisual content are changing rapidly. Documentary films are being made on mobile phones, broadcast archives release and record web content, researchers use big data and consumers take part in production. On a baseline level, all communities have common needs and challenges. The need for interoperability will only increase. Finding suitable standards and models for purposes beyond business models and cultural frameworks will thus remain a worthwhile challenge. Guidelines from knowledge brokers for all communities working with audiovisual materials and knowledge exchange between organisations remain crucial to the audiovisual media landscape - both for the purpose of long term preservation and for daily retrieval. ■

This article was based on:

Colbron, K., Allasia, W., Bailer, W., Borgotallo, R., Boch, L., Pellegrino, J., Heritage, T., Factor, S., Walland, P., Chakravarthy, A., Ligios, L., Laurenson, P., Teruggi, D. (2014), *Deliverable D4.3: Recommendations for Standards and Trusted Audiovisual Repositories*. pp. 12-30. Available in the [PrestoCentre Library](#). For recent updates regarding standards, visit the [Standards Register](#) on the PrestoCentre website.



# Automated Metadata Extraction and the Rocky Road to Daily Operations for Users, Researchers and Vendors

By Eva Baaren

On June 11, the European Broadcasting Union, Belgian broadcaster VRT and the Netherlands Institute for Sound and Vision organised a workshop at the EBU headquarters in Geneva to discuss the uptake of automatic metadata extraction (AME) in daily operations at broadcast archives.

The workshop focused on R&D technologies such as speech recognition, computer vision and natural language processing and asked the question what factors influence the transition of these kinds of innovations to their implementation in the operations environment

of broadcast archives. The meeting brought together 30 experts, representing mostly broadcast archives' R&D departments. The first main question was whether the implementation of metadata extraction technology lags behind expectations, given the large research investments of the past decades and the promising results in demonstration systems. The second question that came to the fore was what factors influence the implementation success of R&D results for metadata extraction technology in production environments. Throughout the day, speakers made it clear that crossing the bridge from innovation to daily production environments is challenging. When it comes to defining barriers, opportunities and best practices, experiences differ from organisation to organisation. Three main themes could be distinguished: accuracy of the technology, policies and workflows, and the role of organisation cultures.

## Accuracy of Technology

One of the factors that many presenters addressed is the maturity of the technology and especially, whether the accuracy levels are sufficiently high to warrant implementation in operations. A case study from VRT regarding a tool for journalists that uses automatic





transcription using speech recognition hinted at the importance of high accuracies. Because of arguments for unaccountability, an innovative system runs the risk of getting rejected when errors are made. However, according to Francesco Veri from the Swiss Italian broadcasting Corporation RSI, lower accuracies do not always have to be a problem: other situational factors such as lack of human resources to do manual annotation or the ability to correct errors by hand can still make the integration of 'imperfect' technology worthwhile. Moreover, as most attendants agreed on, waiting for the 'perfect' technology doesn't make sense. Humans make mistakes too, or are sometimes not capable of annotating large quantities of data. Collecting (user)

into production, starting small and gradually scaling up, and monitoring the output of the technology on various levels. For speech recognition, for example, technology output should be monitored both on the level of speech recognition accuracy, search (precision and recall) and user experience (whether more content can be found). Eventually the outcomes can be used to improve on the technology or to make adaptations to the workflows in which the technology has its part. The success of this circular way of working depends, in turn, on suitable organisation policies, workflows and realistic expectations.

### Workflows and Policies

Addressing the balance between new opportunities and the acceptance criteria for an operational context, is key to successful innovation policies. In his talk, Bouke Huurnink from the Netherlands Institute for Sounds and Vision discussed timing issues. Implementing new technologies can imply a change in the established daily workflows of archivists, people working with digital forms of access, and people retrieving content. These changes are beyond the scope of individual teams or departments and depend on a commitment from policy makers, who, in turn, typically do not focus on innovation. This can make successful technology transfer a matter of lobbying for your project. Good timing can help. A lot. As Mr. Huurnink pointed out, timing played an important role in implementing automatic metadata extraction at Sound and Vision in the context of its reorganisation activities, where new plans, workflows and teams had to be re-established.



experiences with new technology is important to understand what errors are significant and which aren't. They also help improve the technology or related workflows. In general, it is crucial to get a sense of how the technology performs on real data of varying kinds and for real end-users. To a certain extent, technologies need to be pushed (or pulled) out of the R&D environments in order to become mature. This means that organisations need to assess whether technologies are 'good enough' to take

### Organisation Culture

Several presentations mentioned expectations and fear as keywords in the context of innovation uptake. Perhaps the most profound and most intangible factors influencing technology adoption are embedded in the people that constitute an organisation's culture. First of all, >





expectations of new technologies are typically either not tuned to reality or too general. Technologies are expected to solve problems rather than create new ones, reduce workload rather than change its nature, and improve the quality of products rather than demonstrate errors. When one of these expectations is not met, other forms of added value tend to be overlooked. Expectation management and informing the organisation adequately should therefore be central to any innovation activity.

A second issue is fear. In the case of metadata extraction, content specialists and archivists, can feel threatened by the idea that automated processes make their specialist work redundant. While this may be true in some cases, moving the tedious types of work, for large quantities of data in the hands of machines opens up new opportunities for more qualitative and interesting types of work, such as curation, contextualisation, partnering, or quality control. This may require willingness to learn new skills and to understand and work with automated processes.

### **Expectation Management, Advocates, Knowledge and Co-creation**

During the workshop, several examples of solutions to help the implementation of automatic metadata extraction were addressed. One proposed solution was providing clear steps for the transition from one workflow to the next. Both speakers from RSI and the Dutch Public Broadcasting organization showed how automatic subtitling can be helped by building user-friendly tools that use automatic processes and at the same time maintain the option of data entry by individuals, ensuring that human operators play a central role in correcting errors and monitoring progress.

Another way of dealing with expectations is through co-creation. The speech recognition case study from the VRT regarding a digital tool for journalists shows that pulling end-users into the development loop helps build better interfaces and increases user acceptance. VRT also presented a case study of extending co-creation towards incubation-type of activities. These allow start-ups to further develop, experiment and test new technologies with



audiences both within and outside of the organisation.

Allocating dedicated time slots for discussions between technology and archive experts can create a more fundamental understanding of the potential and limits of technologies in development. Face-to-face events can in turn help R&D departments become more aware of daily needs, expectations and considerations from the production environment. According to Peggy van der Kreeft from Deutsche Welle and Susanne Weber from BBC World, this is something to consider long before committing to new innovation projects.

Agile development approaches can also be of value to increase the success factor of





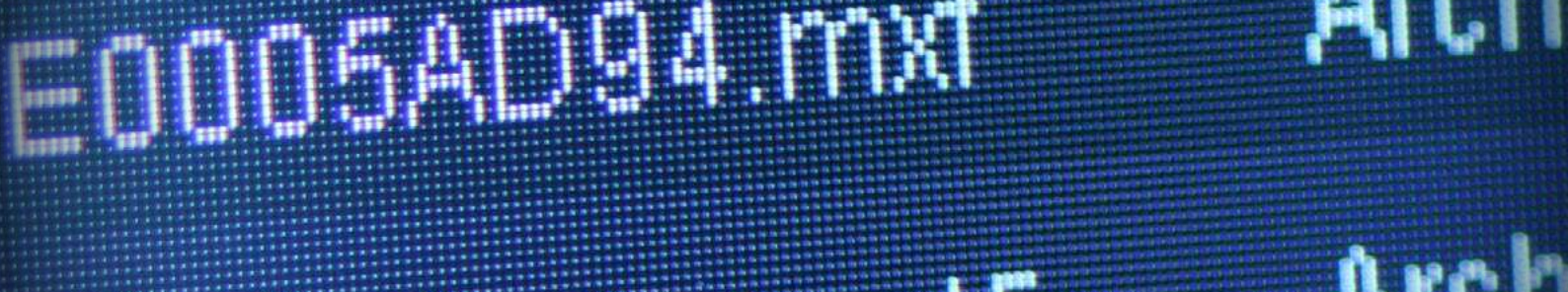
Others are maybe 'not there yet' such as computer vision technology, although recently a lot of progress has been made in this area.

embedding new technology in the operations environment. SCRUM teams that take care of small development steps in relatively short 'sprints' of a week or two can more easily make the translation from prototypes to tools and interfaces. They can tune them to specific organisational needs and goals while keeping users up-to-date after every sprint. In the case of Sound and Vision, these teams serve both as advocates and critical experts when it comes to innovation.

### **Wines on the Shelf**

Back to earlier. Do broadcast archives fundamentally lag behind on expectations when it comes to implementing metadata extraction technologies in operations? The responses at the end of the workshop day were divided. Some technologies, such as speech and speaker recognition, are ready for take-up if implemented with care. The general feeling here is that implementation indeed lags behind. Others, such as computer vision technology, are maybe not quite there yet, although recently a lot of progress has been made in this area. Especially with respect to processing large quantities of data, the accuracy levels of the technology and ease of implementation, it seems that some crucial steps still need to be made. Nevertheless, participants agreed that R&D departments need to be ahead of production environments, and should advocate results from research with a critical mindset. Production environments will always – and for good reasons- have to consider policies, business cases, workflows and daily

consequences. Bridging this gap between perspectives is a continuous process that needs to be invested in on a regular basis by means of workshops, face-to-face meetings, round tables and other types of information exchange. Fortunately, like wine, technologies can be kept in the dark cellar of R&D for a while. Timing was crucial, as we already discovered: as long as it's safeguarded under the right conditions, technologies can be consumed with the right flavour. And as wine lovers will know: in the end, it's all about the finish. ■



## Reading Room

### Preservation Case Studies for Archives

**Jim Lindner, Mick Newnham (2015)**

Preservation Case Studies for Archives is an innovative educational experience that places the student in the role of the decision maker, who has to balance both resources and constraints. Through a dynamic process of idea exchange, students first learn about the situation, then identify and analyse the problems to determine the causes, and finally develop alternative strategies for a solution.

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PrestoCentre has published five Case Studies over the past few years. These Case Studies are now collected in a new publication, that includes seven brand new cases. This collected work contains 90 exciting pages of learning materials, and a special Guide for Students as well as a Guide for Teachers. This publication is available for free under a CC BY-NC-ND 4.0 license.

**[Read more about this publication](#)**

'Science with and for Society' will be instrumental in addressing the European societal challenges tackled by Horizon 2020, building capacities and developing innovative ways of connecting science to society. It will make science more attractive (notably to young people), raise the appetite of society for innovation, and open up further research and innovation activities.

It allows all societal actors (researchers, citizens, policy makers, business, third sector organisations etc.) to work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of European society. This approach to research and innovation is termed Responsible Research and Innovation (RRI).

**[Read more about this publication](#)**

### Horizon 2020 Work Programme 2014 – 2015 "Science with and for Society..."

**(2015)**



## Webinar: Essence quality control for AV archive digitisation, migration and exploitation

**PrestoCentre (2014)**



[click here to play webinar](#)  
(will open in Youtube)

This recorded webinar is an introduction to essence (baseband) quality control (QC) in the context of audiovisual preservation. It will start with the role of essence QC in the use cases video archive digitisation, digital migration, content selection and use. Currently available and emerging functionalities will be presented. Strategies for cost-efficient implementation of essence QC will be introduced, and showing how this can be achieved by automation and efficient interactive essence QC.

In addition to the technology development important quality related standardisation activities are on-going. The video will give a brief introduction and an overview of the current state of affairs on the EBU Strategic Programme on Quality Control, the MPEG Multimedia Preservation Application Format (MP-AF) and the EBU/AMWA FIMS Service for Quality Analysis.

[Read more about this webinar](#)

This webinar was organised in celebration of World Audiovisual Heritage Day 2014. The recording focuses on standardisation efforts for broadcast file preservation formats and offers a real-life example of an audiovisual archive selecting its preservation format. In it, broadcast archive specialists lead you into the topic of file selection. For many archives in the digital domain a recurring question is what file formats to approve of and what file formats to standardise to. Mr. Carl Fleischhauer from the Library of Congress and mr. Jörg Houper from Cube-Tec give an introduction to the on-going standardisation work in the field of the MXF AS-11 standard as an archival standard for the MXF wrapper. Mr. Emanuel Lorrain from PACKED and Brecht Declercq from VIAA share their experiences and decision process of selecting file formats for the Flemish audiovisual collections.

[Read more about this webinar](#)

## Webinar: Choosing your File Format

**PrestoCentre (2014)**



[click here to play webinar](#)  
(will open in Youtube)



Events for full information see the PrestoCentre Calendar

## August 2015

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### **SOIMA 2015: Unlocking Sound & Image Heritage**

August 27 - September 2

A five-day intensive workshop on Sustaining Sound and Image Collections. The workshop is tailored to address the challenges of collecting, preserving and using (and reusing) sound, still, and moving image content within the broader context of rapidly changing technology and shrinking resources. It will focus on collection management issues in different institutional contexts that are unique to these types of materials.

### **Also going on in August:**

**August 16 - 22:** [SAA Annual Meeting](#)

**August 20 - 22:** [The Reel Thing: Los Angeles](#)

**August 26 - 28:** [ARA Conference](#)

## September 2015

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### **IBC Conference & Exhibition 2015**

September 10 - 15

IBC (International Broadcasting Convention) is an annual event for professionals engaged in the creation, management and delivery of entertainment and news content worldwide. Attracting 50,000+ attendees from more than 170 countries, IBC combines a highly respected and peer-reviewed conference with an exhibition that exhibits more than 1,400 suppliers of electronic media technology.

### **Also going on in September**

**September 1 - 5:** [DC-2015 International Conference and Annual Meeting of DCMI](#)

**September 3 - 4:** [SOIMA 2015 International Conference](#)

**September 16 - 18:** [ECREA Conference](#)

### **IASA 2015 Annual Conference**

September 27 - October 1

Annual conference for all who manage and care for the world's sound and audiovisual heritage, to explore innovative and tested solutions to contemporary issues that face us all. This year's Conference theme is "All for One – One for All: Common Concern – Shared Solutions".



## October 2015

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### **2015 FIAT/IFTA World Conference**

October 8 - 10

Audiovisual Culture is in all places and activities; and our society uses and generates an increasing number of content. The more audiovisual archives interact with society and Internet, the more questions arise on how to advance, which decisions to take and how to maintain the spirit of archiving in an ever-changing environment.

This year's conference will provide a unique occasion in which archives can discuss & learn about the many challenges and innovations for archives in their quest towards the future. Different aspects of the archives life, use and potential will be permitting participants to grasp what has been done and what we will be able to do in the future.

### **Also going on in October**

**October 5 - 8:** [4th Museums and the Web Asia Conference](#)

**October 10:** [Home Movie Day](#)

**October 19 - 23:** [FRAME Training 2015, session 2](#)

**October 27:** [World Day for Audiovisual Heritage 2015](#)

## November 2015

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### **AMIA 2015**

November 18 - 21

The AMIA annual conference provides an opportunity for colleagues and those interested in the field of moving image media to meet, share information and work together.


The AMIA Conference is the largest gathering of motion picture and recorded sound archivists and interested professionals. More than 550 attendees from the world's major media, library, university, military and other institutions.

The Annual Conference is a unique forum for colleagues from all areas of the field to meet, share information and work together.

### **Also going on in November**

**November 2 - 3:** [Taxonomy Bootcamp](#)

**November 2 - 6:** [iPRES 2015](#)



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