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Author(s) and company: Jean-Pierre Evain (EBU), Werner Bailer, Pooran Jalili
(JRS)

Internal reviewer: Georg Thallinger (JRS)

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7	2014-05-28	Final version

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1 Executive Summary

This document is a report on dissemination and standardisation activities carried out by the project partners during the final six months of the project.

Dissemination covers scientific dissemination, the project cooperation with its Stakeholder Board, as well as external communication and liaisons to other projects.

7 public deliverables have been delivered during the final 6 months. 10 papers and articles have been released in international publications. Project partners have made presentations, presented posters and participated in demonstrations in 7 international symposiums, conferences or workshops (5 further conference papers are accepted for publication after the end of the project) and 3 journal articles have been submitted and we are being reviewed.

The work on standardisation has continued during the final 6 months. Several contributions have been made to MPEG and the EBU-AMWA FIMS project. Several TOSCA-MP partners represent the project by participating in meetings to promote the solutions developed by the project.

2 Introduction

2.1 Purpose of this Document

This document summarises the dissemination and standardisation activities of the project months 25-30.

2.2 Scope of this Document

The document lists the activities and provides pointers to further documentation (e.g. publications, slides, etc.)

2.3 Status of this Document

This is the final version of D7.1.3.

3 Dissemination Tools and Mechanisms

Since it was started, the project uses the following mechanisms for disseminating project results.

It consists of sharing project results through all possible practical means including publications in technical revues, participation in workshops, demonstrations, exhibitions and conferences. It also comprises the publication of deliverables and maintenance of the project website.

- **Articles in targeted magazines and journals:** During the final period, TOSCA-MP partners have published articles in three journals (International Journal on Multimedia Retrieval, Journal on Language Resources and Evaluation, FKT Fernseh- und Kinotechnik). Two further articles are submitted.
- **Papers at scientific conferences:** During the final period, TOSCA-MP results have been presented at 12 international and regional scientific conferences (e.g. ACM International Conference on Multimedia Retrieval, IEEE Visual Communications and Image Processing, FIAT/IFTA World Conference).
- **Presentations related to FP7/H2020 activities:** Project partners organised a networking session “Pervasive access to media content” at the ICT2013 conference in Vilnius.
- **Information activities within TOSCA-MP partner organisations:** TOSCA-MP partners have kept their senior managers up-to-date about TOSCA-MP, its progress and its benefits. This acts as a catalyst for disseminating TOSCA-MP results. It also helps to keep TOSCA-MP business, dissemination and exploitation focussed.
- **TOSCA-MP public Website:** The public TOSCA-MP Website is regularly updated. It ensures that all interested parties are informed about the project and its progress, and can access the publicly available results of the project, including public deliverables and publications. The address of the public TOSCA-MP Website is <http://www.tosca-mp.eu>.
 - Public deliverable published by TOSCA-MP can be found at <http://tosca-mp.eu/publications/public-deliverables/>
 - Publications or presentations can be accessed from <http://tosca-mp.eu/publications/conferences-presentations/>
- **Individual partners’ homepages:** Project partners provide information about TOSCA-MP on their homepages (with a focus on their share of the work, of course) and link to the project’s homepage for further information (which will also increase the search engine ranking of the TOSCA-MP homepage).
- **Other online services:** In this respect Twitter was used and a Facebook page maintained in continuation of the earlier activities..
- **Liaison with other projects:** Around the topics of automatic metadata extraction and metadata for audiovisual content, TOSCA-MP has collaborated with the FP7 projects LinkedTV, 3DTV5 and iTalk2Learn.
- **Industrial Stakeholder Board:** The main objective of the Industrial Stakeholder Board consists of assessing the relevance of the project work. Its members also provide advice and market insight on the future implementation of automatic metadata extraction tools. The opinion of the ISB impacts the development the TOSCA-MP’s exploitation plan. The Industrial Stakeholder Board is formed of key experts and influential personalities in businesses relevant to work carried out in the project, independent of their geographical location but preferably equally representing different economic regions of the world.

4 Dissemination Activities in Year 3

4.1 Website

The TOSCA-MP website www.tosca-mp.eu serves as the primary source of information for the public. It provides extensive information about the project TOSCA-MP such as the idea behind this project, work plans, list of milestones and technical sections.

It also provides information about the consortium, contact details linked to partner's website, each partner's description and their rolls within this project.

The scientific publications and presentations, and the public deliverables produced by the project are presented at this website and are updated regularly.

- Publications or presentations can be accessed from <http://tosca-mp.eu/publications/conferences-presentations/>
- Public deliverable published by TOSCA-MP can be found at <http://tosca-mp.eu/publications/public-deliverables/>

The news section presents the partners and the public on upcoming presentations, conferences, events, development and released technologies associated to TOSCA-MP. The news section also offers visitors the possibility to comment on the news to increase the exchange of information in relation to the research articles and news. This interactive section of the website provides us very useful information about the opinion of the website's visitors and their potential interest on the project researching area.

The website was updated regularly.

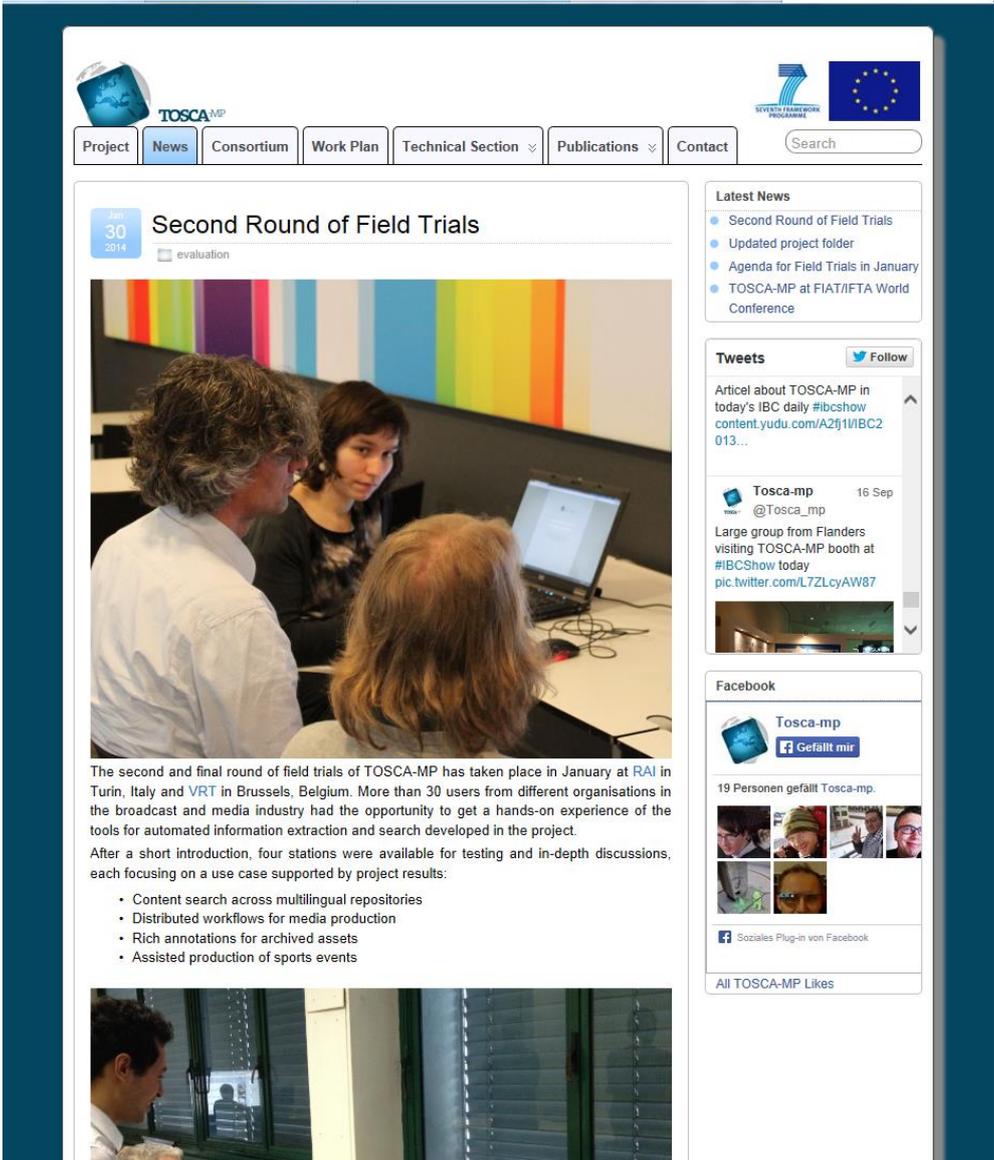
A contact form is available in order to contact the project coordination via tosca-mp-office@joanneum.at and to send questions or requests.

Widgets for Twitter and Facebook are contained on the TOSCA-MP website in order to broaden the audience for the project.

There have been 24 News posted on the TOSCA-MP website and 42 Tweets haven been sent.

Figure 1 below shows a screen shot of the TOSCA-MP website which contains the following main sections:

- Project
- News
- Consortium
- Work Plan
- Technical Section
- Publications
- Contact



The screenshot displays the TOSCA-MP website interface. At the top, there is a navigation menu with tabs for Project, News, Consortium, Work Plan, Technical Section, Publications, and Contact. A search bar is located to the right of the menu. The main content area features a news article titled "Second Round of Field Trials" dated Jan 30, 2014, with a sub-category of "evaluation". The article includes a photograph of three people (two men and one woman) gathered around a laptop, looking at the screen. Below the photo, the text describes the second and final round of field trials held in January at RAI in Turin, Italy, and VRT in Brussels, Belgium. It mentions that over 30 users from various organizations in the broadcast and media industry participated to gain hands-on experience with the project's tools for automated information extraction and search. The article also lists four stations used for testing and in-depth discussions, each focusing on a specific use case supported by project results:

- Content search across multilingual repositories
- Distributed workflows for media production
- Rich annotations for archived assets
- Assisted production of sports events

Below the text, there is another photograph showing a person looking out a window. To the right of the main article, there is a sidebar with social media integration. It includes a "Latest News" section with links to the field trials, project folder updates, and a conference. Below that is a "Tweets" section featuring a tweet from @Tosca_mp about a group from Flanders visiting the booth at #IBCShow. The sidebar also includes a Facebook section showing the TOSCA-MP page profile, a "Gefällt mir" button, and a list of 19 people who liked the page.

Figure 1: screen shot of the TOSCA-MP website

4.2 Public Documents

Public deliverables published by TOSCA-MP can be found at <http://tosca-mp.eu/publications/public-deliverables/>

Publications or presentations can be accessed from <http://tosca-mp.eu/publications/conferences-presentations/>

4.3 Publications and Presentation and Scientific/Technical Events

#	Category	Status	Partner(s) responsible/involved	Author(s)	Conference, Journal, Event	Date of publication / event	Location of event	Title
1.	Presentation	Invited and held	IRT	R. Mies	Meeting of the AWV Arbeitskreis 6.2: "Dokumentation und Archivierung von Webpräsenzen"	22.10.2013	Ludwigshafen, DE	Erschließung multimedialer Inhalte
2.	Paper	Published	VRT, JRS, RAI, EBU	M. Matton, W. Bailer, M. Sano, A. Messina, J.-P. Évain and P. Schallauer	FIAT/IFTA World Conference	25.10.2013	Dubai, UAE	The MPEG-7 Audiovisual description profile standard for describing results of automatic annotation services
3.	Journal Article	Published	HHI, JRS	S. Gerke, A. Linnemann, P. Ndjiki-Nya, W. Bailer	FKT Fernseh- und Kinotechnik	November 2013		Standardisierte Beschreibung von automatisch extrahierten Metadaten in der Medienproduktion
4.	Paper	Published	JRS	W. Bailer, H. Stiegler, R. Mörzinger	TRECVID Workshop	November 2013	Gaithersburg, MD, USA	JOANNEUM RESEARCH at TRECVID 2013: Semantic Indexing and Instance Search
5.	Paper	Published	JRS, HHI	W. Bailer, S. Gerke, A. Linnemann, P. Ndjiki-Nya	TRECVID Workshop	November 2013	Gaithersburg, MD, USA	TOSCA-MP and HHI at TRECVID 2013: Semantic Indexing

#	Category	Status	Partner(s) responsible/involved	Author(s)	Conference, Journal, Event	Date of publication / event	Location of event	Title
6.	Paper	Published	JRS	M. Lokaj, H. Stiegler, W. Bailer	MediaEval Workshop	17-18.11.2013	Barcelona, ES	TOSCA-MP at Search and Hyperlinking of Television Content Task
7.	Paper	Published	HHI, JRS	S. Gerke, S. Singh, A. Linnemann, P. Ndjiki-Nya	IEEE Visual Communications and Image Processing	17-20.11.2013	Kuching / Malaysia	Unsupervised Color Classifier Training for Soccer Player Detection
8.	Journal Article	Published	JRS	K. Schoeffmann, D. Ahlström, W. Bailer, C. Cobârzan, F. Hopfgartner, K. McGuinness, C. Gurrin, C. Frisson, D. Le, M. Del Fabro, H. Bai, W. Weiss	International Journal on Multimedia Retrieval	December 2013		The Video Browser Showdown: a live evaluation of interactive video search tools
9.	Paper	Published	FBK	G. Falavigna, R. Gretter, F. Brugnara, D. Giuliani	6th Language & Technology Conference	7-9.12.2013	Poznan, PL	Dynamic Language Model Focusing for Automatic Transcription of Talk-Show TV Programs
10.	Paper	Published	JRS	W. Bailer, W. Weiss, C. Schober, G. Thallinger	20th Multimedia Modeling Conference	6-10.01.2014	Dublin, IE	Browsing Linked Video Collections for Media Production

#	Category	Status	Partner(s) responsible/involved	Author(s)	Conference, Journal, Event	Date of publication / event	Location of event	Title
11.	Paper	Published	JRS	W. Bailer, M. Lokaj, H. Stiegler	ACM International Conference on Multimedia Retrieval	4.4.2014	Glasgow, UK	In Video Search: Is Close-by Good Enough When Using Linking?
12.	Journal Article	Submitted	FBK	R. Sprugnoli, G. Moretti, L. Bentivogli, D. Giuliani, R. Gretter	Journal on Language Resources and Evaluation			Creating a Multilingual Dataset of News and Talk Show Transcriptions through Crowdsourcing
13.	Presentation	Accepted	JRS, RAI	W. Bailer, A. Messina	EBU Metadata Developer Network	3-4.06.2014	Geneva, CH	Task-based benchmarking and cost simulation
14.	Paper	Accepted	JRS, RAI	W. Bailer, A. Messina, F. Negro	12th International Workshop on Content-Based Multimedia Indexing	18-20.06.2014	Klagenfurt, AT	Task-based Assessment of Performance and Cost-effectiveness of Automatic Metadata Extraction
15.	Paper	Accepted	JRS	W. Bailer, A. Horti	12th International Workshop on Content-Based Multimedia Indexing	18-20.06.2014	Klagenfurt, AT	TAME-Diff: Smart Differencing of Time-aligned Multimedia Metadata
16.	Paper	Accepted	HHI	S. Gerke, A. Linnemann, P. Ndjiki-Nya	12th International Workshop on Content-Based Multimedia Indexing	18-20.06.2014	Klagenfurt, AT	Augmenting Training Sets with Still Images for Video Concept Detection

#	Category	Status	Partner(s) responsible/involved	Author(s)	Conference, Journal, Event	Date of publication / event	Location of event	Title
17.	Paper	Withdrawn after acceptance ¹	IRT, RAI, JRS	Matthias Elser, Ronald Mies, Peter Altendorf, Alberto Messina, Fulvio Negro, Werner Bailer, Albert Hofmann, Georg Thallinger	IEEE 2014 4th International Workshop on Performance Aspects of Cloud and Service Virtualization			A Business-Driven Framework for Automatic Information Extraction in Professional Media Production
18.	Paper	Accepted	VRT, IRT, RAI, DTO, JRS	Mike Matton, Werner Bailer, Matthias Elser, Alberto Messina, Ronald Mies, Carlos Ruiz	International Broadcasting Convention	Sept. 2014	Amsterdam, NL	
19.	Presentation	Presented	JRS	Hannes Fassold	Scientific seminar of project EkDan at Silesian University of Technology	14-16 May 2014	Wisła, PL	Research topics & projects at JRS Audiovisual Media Group
20.	Journal article	Submitted	JRS	Stefanie Wechtitsch, Werner Bailer, Lucas Paletta	IEEE Transactions on Circuits and Systems for Video Technology			Refining and Evaluating a Gradient Based VideoSharpness Metric

¹ The paper was first rejected for the IEEE International Conference on Services Computing conference and later accepted for an attached workshop. As the paper did not match the workshop topics well, we decided to withdraw the paper.

#	Category	Status	Partner(s) responsible/involved	Author(s)	Conference, Journal, Event	Date of publication / event	Location of event	Title
21.	Journal article	Submitted	IRT, RAI, JRS	Matthias Elser, Ronald Mies, Peter Altendorf, Alberto Messina, Fulvio Negro, Werner Bailer, Albert Hofmann, Georg Thallinger	Multimedia Tools and Applications			A Business-Driven Framework for Automatic Information Extraction in Professional Media Production

4.4 Collaboration with other projects

Members of TOSCA-MP and the LinkedTV project have met in the context of different conferences and benchmarking initiatives, and have exchanged information about the progress in the respective projects. TOSCA-MP has collaborated with the 3DTVS project in aligning the metadata representations used for describing the results of automatic content analysis services, in particular, MPEG-7 AVDP: This has also resulted in analysis of potential ambiguities in the use of the standard and in contributions to the guidelines document maintained by EBU MIM/SCAIE.

The methods and results of benchmarking, in particular in the area of ASR and NER, have been exchanged with the iTalk2Learn project. The members of this project are interested in optimising the performance of ASR in order to best support subsequent processing of the text.

4.5 Other dissemination activities

4.5.1 Field trials

The final field trials of the project, held in Torino at RAI and Brussels at VRT in January 2014 resulted in a good opportunity to disseminate the project's results to the internal stakeholders. Details of the field trials proceedings are reported in D6.4.3.

The field trials resulted in additional contacts to end users and industry partners. Some of the participants (in particular those from industry) were contacted for interviews about the exploitation of the project results (see D7.2 Exploitation plan).

4.5.2 Project folder

The project folder has been updated for the final field trials. The most recent version is available at <http://tosca-mp.eu/wp-content/uploads/2014/01/digf012014-TOSCA-MP-Folder2web.pdf>

4.5.3 Participation in benchmarking activities

As in the previous years JRS has again co-organised the Video Browser Showdown (VBS) at MMM in Dublin in Jan. 2014, and also participated with their browsing tool. VBS 2014 had seven participating teams, and was for the first time extended to a whole afternoon. The competition consisted of single video and multi-video tasks, and compared known-item queries with visual and with text queries. One session included audience, and the option for visitors to participate in a novice round. Another novelty was an ad-hoc round, where the teams received the video data during the coffee break of the competition, and thus could only apply very fast automatic processing. The datasets from 2012-2014 have been published on the EBU MIM/SCAIE MAMMIE data store. A journal paper on the evaluation of the Video Browser Showdown 2014 is under preparation and will be submitted in June 2014.



Figure 2: Visitors at the public session of VBS 2014.

4.5.4 MIM-SCAIE

VRT, JRS, RAI and HHI created a MPEG-7 AVDP guideline document describing common usage scenarios together with some sample MPEG-7 AVDP documents. Its aim is to help potential users to getting started with MPEG-7 AVDP. Furthermore, the document describes existing software for MPEG-7 AVDP and projects using it.

NHK (Nippon Hoso Kyokai), an associated member of EBU and contributor to MIM-SCAIE, has invited us to present TOSCA-MP results at their research lab in July 2014.

4.5.5 IRT

IRT's activities in and experience from TOSCA-MP has been continuously reported in several working groups of the public broadcasters in Germany, Austria and Switzerland; thus, IRT's associates have been appropriately informed about TOSCA-MP progress and results.

In specific cooperation with several German public broadcasters on the deployment of Software Oriented Architecture (SOA) based solutions in production environments, the bilateral exchange of know-how was continued. Specifically IRT had meetings with Hessischer Rundfunk (HR) and Rundfunk Berlin Brandenburg (RBB) on SOA deployments, as well as with Zweites Deutsches Fernsehen (ZDF), with whom IRT also cooperated with respect to the realization of a Proof of Concept.

By invitation of IRT, a representative of Westdeutscher Rundfunk (WDR) participated in the TOSCA-MP Field Trials in Brussels. In the cooperation with WDR the deployment of automatic metadata extraction tools in general, with specific focus on audio mining, is continuously under discussion and evaluation.

IRT consolidated the information on and references to TOSCA-MP on its homepage (<http://www.irt.de/en/research/production.html>).

4.5.6 PLY

Our dissemination activities included participating in research conferences (e.g. WIAMIS), trade fairs (e.g. IBC), and industrial events. Moreover, our participation in both Field Trials was very valuable and several internal meetings with our development and product teams were carried out to share the insights and results of the field trials. All the information and insights were taken into account by the commercial departments for future steps and developments. In the same way, PLY has participated in the Industry Stakeholder Board where the technology developed in the project was shown and effective feedback was given.

It is worth noticing that one of our objectives in the dissemination activities of the project is oriented, firstly, to create a strong interest among commercial communities addressed and related to the TOSCA-MP project as preparation for later exploitation. This approach shows the strong commitment of the company in taking the maximum possible advanced from the technological developments achieved within the project.

PLY has used the TOSCA-MP demonstrators in multiple commercial meetings (a number over 20-30 in the last year) as value proposition describing the benefits that the technology creates for its customers and partners. Some of the new commercial activities were achieved due to this approach.

PLY consolidated the information on and references to TOSCA-MP on its homepage (<http://www.playence.com/company/playence-labs>).

4.5.7 FBK

FBK submitted a paper to the journal Language Resources and Evaluation, titled "A crowdsourced multilingual dataset of speech transcriptions".

The ground truth generated during the project for automatic transcription and spoken language translation is in the process to be made available to the research community for free together with, whenever possible, the corresponding videos.

FBK has the mission to promote scientific research and technological development with the aim of advancement of knowledge and of transferring research and development results to support new entrepreneurs and the growth of new professional skills. Therefore FBK is permanently engaged in dissemination activities of research results and technological advancements achieved especially towards medium and small companies that systematically contact FBK in search of ideas for new

products. Results obtained within the TOSCA-MP project are certainly in the core of the dissemination activity concerning multilingual speech processing.

5 Standardisation Activities

5.1 Activities in Year 3

During Year 3, TOSCA-MP partners have made several contributions to different international standardisation efforts:

5.1.1 ISO/IEC MPEG Multimedia Preservation (MP-AF)

JRS, RAI, and EBU have made contributions to work in the Multimedia Preservation AhG. A data model for preservation of audiovisual content, including results of automatic quality analysis, has been developed. A Committee Draft (CD) of the specification has been issued at the 108th MPEG Meeting in April 2014 and is currently under ballot.

5.1.2 ISO/IEC MPEG Compact Descriptors for Visual Analysis (CDVA)

RAI has been following the work of CDVS for some time, and has several times raised the need to consider video in addition to still images, proposing use cases motivated among others by the TOSCA-MP business goals. At the 105th MPEG meeting, a submission by RAI and JRS has been presented, stressing the need for video descriptors in the audiovisual media production and archiving applications, and outlining a framework that could be standardised. During the 106th MPEG meeting a dedicated Ad-hoc group (AhG) has been started by MPEG, with contributions of JRS (co-chairing the AhG) and RAI. In the latest meeting (MPEG 108) held in Valencia, the AhG has further refined its mandate to cover a broader range of applications than the original search case. The name of the group has been changed to Compact Descriptors for Video Analysis, thus encompassing also video-analysis-based classification tasks.

5.1.3 EBU QC

The programme has a simple Terms of Reference: "...how to best implement Quality Control (QC) in radio and television production facilities, which are increasingly file-based".

In order to do this the QC programme was formed as a collaboration between the EBU member broadcasters and the QC vendors (JRS, Tektronix, Interra, Digimetrics, Cube-tec, Amberfin, Emotion, VidCheck, Venera, Media Service, Minnetonka) who's names are well known in the file, measurement and QC world.

EBU QC is defining a set of reference points and associated test criteria, and is collaborating with FIMS on the implementation of Quality Control in SOA environments.

IRT, JRS and RAI contributed to the EBU QC working group and its coordination with the FIMS Service Definition Project on Quality Analysis. IRT and RAI have taken over the role of chairing a subgroup for creating a data model for quality analysis profiles and results.

5.1.4 FIMS (Framework for Interoperable Media Services)

FIMS is an international consortium of more than 90 companies. The goal of FIMS² is to define web service interfaces (SOAP or REST). Interfaces for content capture, transform and transfer have already been specified and published by AMWA, EBU and SMPTE. The specification of the interface for managing repositories is now complete and the FIMS 1.1 specification was released at NAB 2014. Reference implementations exist in both SOAP and REST. Technical work has started on the definition of the interface for Quality Analysis / Control as well as on 'timecode support' for partial content. Future priorities are, in order, "automatic metadata extraction" and "IMF/OPL (Interoperable Master Format/ Output Profile List)".

TOSCA-MP is represented in FIMS by JRS, EBU, IRT and RAI. These TOSCA-MP partners have been active in promoting the need for FIMS to develop SOA service interface for Automatic Metadata Extraction (AME) within the FIMS Business Board chaired by Turner Broadcasting International

² <http://www.fims.tv>

(Atlanta). A charter partly based on contributions from TOSCA-MP is being finalised. It is expected that the FIMS Technical Board will start working on a service interface for AME after NAB, i.e. in May 2014.

As mentioned above, FIMS is also working on Quality Analysis/Control in close cooperation with EBU QC. IRT has made a contribution providing an example of structured metadata report as could be provided by QC tools. Like for AME, one of the key challenges will be to define a common output metadata format.

It is also expected that project being done on better timecode support will have an impact on solutions developed for both AME and QA/QC.

5.1.5 W3C Media Annotations API

The specification of the W3C Media Annotations API, to which JRS has contributed, has been published as a W3C Recommendation in March 2014.

6 Conclusions

Dissemination has been rich using all available communication mechanism including publication in newspapers, participation in conferences and demonstrations / benchmarking. All information on the project activities, its deliverables and publications has been regularly updated on the project website.

Standardisation activities have progressed well, although some activities are behind their original schedule. TOSCA-MP and the partners involved have been successfully influencing relevant standardisation activities in ISO/IEC MPEG, EBU QC and EBU-AMWA FIMS.

7 Glossary

Terms used within the TOSCA-MP project, sorted alphabetically.

AVDP	AudioVisual Description Profile
CDVS	Compact Descriptors for Visual Search
MPDI	Multimedia Preservation Description Information

Partner Acronyms

DTO	Technicolor, DE
EBU	European Broadcasting Union, CH
FBK	Fondazione Bruno Kessler, IT
HHI	Heinrich Hertz Institut, Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung e.V., DE
IRT	Institut für Rundfunktechnik GmbH, DE
K.U.Leuven	Katholieke Universiteit Leuven, BE
JRS	JOANNEUM RESEARCH Forschungsgesellschaft mbH, AT
PLY	Playence S.L., ES
RAI	Radiotelevisione Italiana S.p.a., IT
VRT	De Vlaamse Radio en Televisieomroeporganisatie NV, BE

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