WP9 – Impact

D9.4.1: Standardisation and Policy Report

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This document describes the applicable standardisation and policy activities that have been identified as applicable and which the partners will use through the phases of the project. This information will enable communication with standardisation forums and facilitate monitoring to ensure compliance of the project and results with existing standards and policy, including Spanish data protection law (LOPD) and personal data, brand and consumer protection and related ethical issues.

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Disclaimer

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Executive Summary

The purpose of D9.4.1 Standardisation and Policy is to deliver an initial description of the standardisation and policy activities of the project, including both business and technical standardisation aspects . Task T9.4 will provide a connector to standardisation initiatives and forums and, through monitoring of the project, will align the project results with existing applicable standards. The project results of SAM will only be applicable if they not only benefit from the effective use of existing standards but also provide active input to standards as well. Moreover, specific components of the project can be channelled to the standardisation process such as the SAM Asset description, provided by Task T5.1, and Content Syndication and Media Enrichment provided by Task T8.2 thus establishing an active communication with associations and standardisation bodies such as EIDR, NACO, MusicBiz and HbbTV. The policy regarding personal data protection and related ethical issues will also be observed in this task, and if there are any changes, the specific updates and corrective actions and strategies will be included in the report. D9.4.1 is the first of a series of three reports to be delivered over the project.

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1 Introduction

SAM – Dynamic Social and Media Content Syndication for 2nd Screen – is a project funded by the Seventh Framework Programme of the European Commission under Grant Agreement No. 611312. It provides a content delivery platform for syndicated data to be consumed in a contextualised social way through 2nd Screen devices.

1.1 SAM Project Overview

Today's generation of Internet-connected devices has changed the way users are interacting with media, exchanging their role from passive and unidirectional to proactive and interactive. Under this new role, users are able to comment or rate a TV show and search for related information regarding characters, facts or personalities. They do this both with friends and wider social communities through the so called "2nd Screen".

Another coupled phenomenon is "Content Syndication" which is a field of marketing where digital content is created once and delivered too many different marketing channels (devices, social media channels, websites and stakeholders) together and so allowing efficient content control, delivery, and feedback.

However, the 2nd Screen phenomenon has grown in an unordered way. Tools are provided by the media providers companies (e.g. as mobile or tablet apps) which limits outreach and as a result, users are not stimulated and fed with relevant contextual syndicated information. European enterprises wishing to provide services have limited potential to receive feedback, which restricts the business intelligence that can be extracted and applied therefore to profit from and enrich this market.

SAM will change this disorder by developing an advanced Social Media delivery platform based on 2nd Screen and Content Syndication within a Social Media context. This is achieved by providing open and standardised ways of characterising, discovering and syndicating media assets interactively. Users will be able to consume and prosume digital assets from different syndicated sources and different synchronised devices (e.g. connected TVs), thus creating richer experiences around the original media assets.

SAM's innovation is that instead of users reaching for the data; it is the data, which reaches the user through the syndication approach and their 2nd Screen. This is based on the creation of dynamic social communities related to the user and digital asset context (e.g. profiles, preferences and devices connected). These are dynamic hangouts where people share interests, socialise and build virtual communities. SAM will enable syndication of comments, ratings, facts, recommendations and new information that will enrich and energise the community as well as enhance personalised knowledge and satisfaction.

1.2 Deliverable Purpose, Scope and Context

The purpose of D9.4.1 Standardisation and Policy is to summarise the different standardisation and policy activities currently utilised by the partners and proposed for implementation during the SAM project. This document will therefore provide information about the relevant standards, which reflect the position of the SAM project in the current Media and Entertainment (M&E) ecosystem, business and research/technological standards, partner perspectives, underlying enablers of interoperability and applicable standards and policy which will be followed to develop a successful system.

This document contains high-level information, with two further versions providing an incremental and updated description of the liaison activity with the potential contributions indicating the standards and policy benefits contributed to, and gained from interacting with the standardisation community or similar forums and informing and involving media and content provider industries and communities.

1.3 Document Status and Target Audience

This document is listed in the Description of Work (DOW) as “public” since it provides an initial description of the standardisation and policy activities of the project and will include both business and technical standardisation aspects which are of importance to SAM.

Whilst the document is primarily aimed at the project partners, this public deliverable may also be useful for the wider business, academic and scientific community including other publicly funded projects, which may be interested in standardisation, policy and collaborative activities.

1.4 Abbreviations and Glossary

A definition of common terms and roles related to the realisation of SAM as well as a list of abbreviations is available in the SAM Glossary.

Further information can be found at
http://wiki.socialisingaroundmedia.com/index.php/Glossary

1.5 Document Structure

This deliverable is broken down into the following sections:

- **Section 1 (Introduction):** An introduction to this deliverable including a general overview of the project, and outlines the purpose, scope, context, status, and target audience
- **Section 2 (Standardisation and Policy in SAM):** Explains the benefits of standardisation and the implications/impacts of policy including ethical policy
- **Section 3 (Use of Standards):** Presents the standards which are relevant and applicable to SAM
- **Section 4 (Contributions to Standards):** Identifies the areas where SAM may potentially make a contribution to industry standards
- **Section 5 (Policy Environment):** Presents the areas of consumer, brand and copyright protection and policy applicable to SAM
- **Section 6 (Conclusion):** Provides the conclusions of the current document

2 Standardisation and Policy in SAM

The SAM project is focused on the development of an advanced Federated Social Media Delivery platform providing an open and standardised way of defining, characterising, discovering and syndicating media assets. This will enable users to consume these assets using different devices (Notebooks and smart mobile devices as 2nd Screen and Smart or Connected TV as 1st Screen) whilst at the same time become socially involved. Thus, SAM will promote a common understanding on standards for Social Media measurement and play an important role in the diffusion of new technology and ultimately contribute to growth.

The SAM consortium has identified and will implement some of the priorities of current standardisation as listed in Section 3 – Use of Standards. These standards will encourage and facilitate the use of valuable contextual, relevant, connected data from content providers, Social Media and more specifically 2nd Screen channels. The interoperability of the resulting solutions will be significantly improved making seamless integration and exchange of components and underlying infrastructure possible, thus leading to greater prospects of successful exploitation.

SAM will develop an open market for standardised entertainment metadata related to content consumption through 2nd Screen, SmartTV and smart mobile devices. This will enable content providers to start making profit using new business models as well as increasing content quality via user standardised feedback (including crowd-sourcing). In this content-based network, the assets will be standardised and interrelated, using applicable ID standards. This will offer consumers an opportunity to navigate through contextual content, discovering films, video, broadcast, music books and games products and be able to buy these items contextually, right away through the supply chain efficiencies SAM brings into the marketplace

Usage of open and generic ways to describe assets will stimulate development of apps for social TV and social networks around media, especially within the mobile environment. This will leverage mixed media as an enabler (via 1st and 2nd Screen consumption) of a new generation of applications and services, which following the SAM approach will provide better 2nd Screen media consumption experiences to the final user.

2.1 Approach

Standardisation efforts and monitoring will be made in this task as it is an important element in the project as the project results will be beneficial if they make use of existing standards on the one hand and provide active input to standards on the other. SAM will communicate the results and proposals by collaborating with different existing standardisation bodies.
An objective of SAM is to deliver open and standardised formats for the description of media assets and a framework for their configuration and use that will be used by third party software companies to easily build new applications or business models. This objective will be achieved mainly through the task scheduled on WP2 (T2.4), WP3 (T3.3), WP4 (T4.1) and W9 (T9.4), and it will indicate the standards contribution/application e.g. data identifiers, social media measurement standard,s etc.

The targeted approaches will be aligned to the most suitable standardisation initiatives and a set of samples or Proof of Concept (PoC) as applicable, implementing the standardised formats will be developed, validated and potentially consumed at the use cases.

2.2 Plan

SAM will establish an active communication with associations and standardisation bodies such as EIDR, NACO, MusicBiz, HbbTV and Europeana Data Model (EDM), which will include both business and technical standardisation aspects, which will have a global reach and impact. From a policy point of view this will involve participating in activities such as EU or ETP (e.g. via NEM) and contributing to roadmaps and opinion mining exercises. Additionally an identified intention will be input to standardisation activities and feeding results, and know-how into further EU RTD projects, national or industrial research projects.

Each initiative will have an appointed SAM partner to follow up the activities and liaise with the bodies, as T9.4 operates over the three years of the project, e.g. BDS with EIDR, NACO and MusicBiz, TPVision with HbbTV Association and NTUA with EDM, with one phase per year:

- **Period 1:** Standards exploration: The partners have started to identify the most significant, relevant standards and associations that can be applied to the different topics in the SAM project. This tasks will effectively continue during all the project lifecycle.
- **Period 2:** Usage and liaison: Having been identified, the standards will be applied within the project and partners will interact with the standards bodies and associations, exchanging information, questions, etc... For example BDS will participate in EIDR and MusicBiz work groups and where appropriate register assets for industry IDs.
- **Period 3:** Possible contributions: SAM partners will potentially make contributions to the standards and association bodies by sharing experiences and knowledge gained during the project.

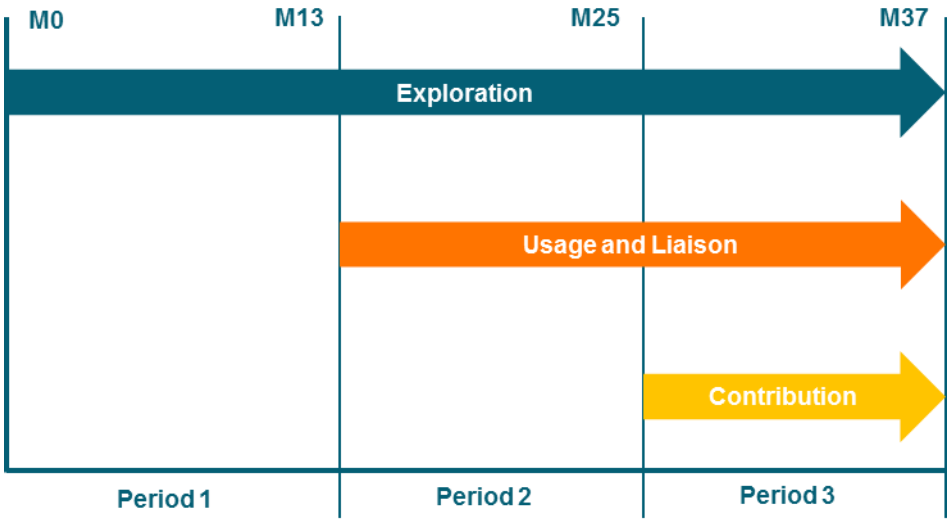

Figure 1: Plan Stages

BDS has long experience from the work in bibliographic record creation of authority control, cooperative cataloguing and ‘name disambiguation’ and is a major contributors of authority data to the Name Authorities Co-operative (NACO), a component of the Program

for Cooperative Cataloguing which seeks to use and therefore contribute to the application and consolidation of standardisation initiatives. In addition BDS complies with the Anglo-American Cataloguing Rules, 2nd edition, (AACR2) and Resource Description and Access (RDA) standards will be used and possible liaisons will be explored during the SAM initiative.
TPVision is member of the Digital Video Broadcast consortium[1] which is an industry-led consortium of over 200 broadcasters, manufacturers, network operators, software developers, regulatory bodies and others in over 35 countries committed to designing open technical standards for the global delivery of digital television and data services that are very active in promoting and participating in standardisation initiatives. A possible liaison will be explored with DVB consortium in order to synchronise and mutually support the SAM developments and achievements.

Ascora and TIE will use different areas to disseminate information about the standards and project results of SAM in its industrial and scientific network including partners from other EU projects such as the FP7 SIMPLI-CITY project. Ascora will also promote the results in national projects such as BMBF Cloudi/o or BLE OPDIS. Additionally, Ascora is a member of different associations including the Organisation of Independent Software Vendors (OISV) and will therefore be able to gain a wide visibility of the project results.

NTUA has used its expertise, experience and knowledge of the description and representation of media assets to analyse well-established media representation standards and has identified that the best candidate for the foundation of the asset description in SAM is the Europeana Data Model. This means that they will actively follow plan that will include:

- Establishing contact with Europeana teams (Year 2)
- Communication of the initial asset description to Europeana for comment and feedback (Year 2)
- Analysis of the feedback (Year 2)
- Proposal of the final asset description together with the SAM prototype tools and use case validation results to Europeana community (Year 3)

[1] http://www.dvb.org

3 Use of Standards

Whilst it is recognised that standardisation is an important element in the SAM project resource implications will limit liaison with standards groups and much standardisation alignment will be applied throughout the technical tasks.

Although it is difficult at this stage to identify all of the standards that may be used in the project, it is important at the beginning of the project to lay the foundations for the use and sharing of any such standards and policies. It is clear that this approach will be further refined as SAM matures but by adopting an early knowledge understanding of the applicable standards from the outset, the likelihood of a successful outcome will be increased.

The partners have identified, described and tabulated the applicable standards which from their point of view are important for the project based on their importance to SAM, the Media and Entertainment ecosystem and its different sectors.

3.1 Media Representation

Standardisation Applicable	Relevance to SAM
European Article Number (EAN). Recently renamed International Article Number [2]	An EAN-13 barcode is a 13 digit (12 data and 1 check) barcoding standard which is defined by the standards organisation GS1. The EAN barcode is the earliest most widely used physical product identifier that is found on consumer products globally. Unique EAN numbers are allocated to each separate retail product, not just by product brand but by variation of format e.g. DVD, Blu ray. Physical entertainment products listed in SAM will have the associated EAN so making a potential commercial supply chain more effective by ensuring consumers receive the actual products they purchase as barcodes can provide an inexpensive and reliable method of tracking products.
Entertainment Identifier Registry (EIDR)[3]	EIDR is a universal Digital Object Identifier (DOI) that uniquely identifies an audio-visual object. It is similar to an EAN code that is used to identify physical packaged goods. EIDR can be used for both physical and digital video objects that are part of the film and television supply chain. EIDR is an opaque ID with all information about the registered asset stored in a central registry. Its structure consists of a standard registry prefix, the unique suffix for each asset and a check digit. The use of EIDR in SAM assets will increase supply chain efficiencies and support the creation of new value added services by: • Eliminating costly translations between proprietary ID systems • Improving ability to match assets and metadata from different databases, service providers, or metadata suppliers • Lowering risks of misidentification caused by duplication and lack of ID uniqueness • Improving asset tracking providing greater efficiency and accuracy in tracking external transactions between commercial entities • Creating more granular and accurate rights tracking and reporting down to the level of clips, composites and encodings • Simplifying universal search and discovery

[2] http://www.gs1.org
[3] http://eidr.org

	• Initiating detailed consumption metrics for individual assets
ONIX for Books Product Information Message [4]	The ONIX for Books Product Information Message is the international standard for representing and communicating book industry product information in electronic form. ONIX is an XML-based standard for rich metadata for books, providing a consistent way for publishers, retailers and their supply chain partners to communicate in-depth information about their products. It is expressly designed to be used globally, and is not limited to any one language or the characteristics of a specific national book trade.
The International Standard Book Number (ISBN)[5]	ISBN is a unique international identifier for monographic publications. Published as an international standard (ISO 2108) and in wide use since the 1970s it has been adopted in over 160 countries. Assigning an ISBN enables not only each publication to be uniquely identified but also rich product metadata to be associated with a particular publication record as well as the accumulation of sales data by specific title, edition and format.
Machine-Readable Cataloging (MARC)[6]	MARC standards are a set of digital formats for the description of items catalogued by libraries, such as books. It was developed at the US Library of Congress to create records that can be used by computers, and to share those records among libraries. By 1973 MARC formats had become the standard for dissemination of bibliographic data around the world, the most predominant being MARC 21. BDS has created MARC records for Audio Visual products as well as books.
International Standard Name Identifier (ISNI)[7]	ISNI enables the public identities of parties involved in media content industries to be uniquely identified so that they can be clearly disambiguated where otherwise there might be doubt. The parties to be identified may be involved in any stage of activity from creation, to production, management and content distribution chains.
Name Authority Cooperative Program (NACO)[8]	The underlying principle of the NACO Program is that participants agree to follow a common set of standards and guidelines when creating or changing authority records in order to maintain the integrity of a large shared authority file. BDS staff complies with these guidelines helping to build a consistent and predictable file that will reduce the efforts of the global library community and maximise its resources.
International Standard Recording Code (ISRC) [9]	ISRC is an international standard code for uniquely identifying sound recordings and music video recordings. An ISRC identifies a particular recording, not the work (composition and lyrical content) itself. Therefore, different recordings, edits, and remixes of the same work should each have their own ISRC.
British Board of Film Classification (BBFC)[10]	The BBFC is a trusted guide to media content and is the UK's regulator of film and video, providing age ratings to protect the public - especially children - from content which might raise harm risks and to empower the public - especially parents - to make informed viewing choices.

[4] http://www.editeur.org/8/ONIX
[5] https://www.isbn-international.org
[6] http://www.loc.gov/marc
[7] http://www.isni.org
[8] http://www.loc.gov/aba/pcc/naco
[9] http://isrc.ifpi.org/en
[10] http://www.bbfc.co.uk

Games Rating Authority (GRA)[11] BBFC (see above) European Leisure Software Publishers Association (ELSPA)[12] Pan-European Game Information (PEGI)[13]	GRA a trading name for the game rating activities of the Video Standards Council. Prior to 1994 there was no system available for use in rating video games, however games that contained extreme material, the equivalent of an 18 rating, were rated by the BBFC using film rating methodology. In 1994 the games industry introduced a rating system, known as the ELSPA System, which in turn was superseded by the PEGI system in 2003. The PEGI age rating system was established to help European parents make informed decisions on buying computer games and replaced a number of national age rating systems with a single system now used throughout most of Europe.
MPEG MXF - IMX 50	Material eXchange Format (MXF) is a container format for professional digital video and audio media defined by a set of SMPTE standards. MXF has full timecode and metadata support, and is intended as a platform-agnostic stable standard for future professional video and audio applications.
H.264.MP4	H.264 or MPEG-4 Part 10, Advanced Video Coding (MPEG-4 AVC) is a video compression format that is currently one of the most commonly used formats for the recording, compression, and distribution of video content.
EDM, Europeana Data Model[14]	Europeana Data Model (EDM) is a data model that brings meaningful links to cultural heritage data including media representation, digital rights, etc... Data from partners or external information resources with references to persons, events, subjects, etc., will connect to other data sets. One of the key features of this model is the fact that it supports most of the well-known and established models as namespaces, such as Dublin Core[15], FOAF[16], OWL[17] and RDF[18].

Figure 2: Media Representation related Standards

3.2 User Interaction

Standardisation Applicable	Relevance to SAM
HbbTV[19] (2.0)	The HbbTV specification enables the delivery and presentation of interactive services to TV sets and set-top boxes using both conventional TV broadcast and IP-based broadband. The specification provides a platform to which a wide variety of content and services can be deployed. The version 1 and 1.5 HbbTV specifications are widely implemented in connected TV sets sold in Europe today. The version 2 HbbTV specification is currently being developed and will include, amongst other things, support for 2nd screen. TV sets implementing the version 2 HbbTV specification will likely form one of the targets for the content syndicated through the SAM Social Media delivery platform.

[11] http://www.gamesratingauthority.org/pegi/
[12] http://spong.com/company/1885/Entertainment-and-Leisure-Software-Publishers-Association-Ltd
[13] http://www.pegi.info/en/index/
[14] http://pro.europeana.eu/edm-documentation
[15] http://dublincore.org
[16] http://www.foaf-project.org
[17] http://www.w3.org/TR/owl-ref
[18] http://www.w3.org/RDF
[19] https://www.hbbtv.org

HTML5[20]	HTML5 generally refers to a collection of technologies, including HTML, CSS and JavaScript which are used for the client side implementation of web applications. These applications run in a web browser, and can be deployed to any device with a web browser – examples include PCs, tablets, smart phones, televisions and set top boxes. HTML5 applications are highly portable between devices, although adaptations may be needed for different types of user interface. HTML5 may be used to implement some of the applications that a user interacts with in a SAM ecosystem. It is largely standardised through W3C, and APIs are available or under development that are relevant to SAM, such as: • Video and audio objects are available allowing application to present multimedia content. • XMLHTTPRequest API allows applications to send and receive metadata. APIs are under development to support metadata extraction, ACR and various second screen use cases. At the time of writing, these activities are at an early stage. HTML5 can be used in SAM as Application Development technology.
SmartTV Alliance[21]	The Smart TV Alliance (STA) is a consortium of TV manufacturers (LG Electronics, Panasonic, Toshiba, TP Vision and Vestel), and other industry players. The Alliance has created a common platform for Smart TV applications, allowing a single application to run on TVs from multiple manufacturers without modification. The platform is based on HTML5 (see above), and other open standards such as MPEG-DASH and H.264. It also covers DRM, and provides facilities for second screen applications to interact with the TV. As well as a device specification, the Alliance also provides an SDK and an emulator for application developers. The common platform supports the DIAL protocol is supported, allowing an application on another device to launch an application on the TV. Once the relevant applications are running, they can communicate directly using the WebSockets, or via the cloud. The STA platform can be used to implement SAM applications that run on televisions.

Figure 3: User Interaction related Standards

3.3 Media Analytics

The IPR Social Media Measurement Standards Committee, dubbed "*the Conclave*", is a coalition of B2B and B2C companies, PR and Social Media Agencies, and Industry associations that work with paid, owned and earned Social Media, aiming at establishing standard definitions and best practices for Social Media. In October 2011, the Conclave moved towards the standardisation in several areas of the Social Media.

Standardisation Applicable	Relevance to SAM
Content Sourcing and Transparency	This standard comes along with a table, the "Sources & Methods Transparency Table", which captures critical information regarding the content, the channels, the collection of data, the languages, the content filtering, the sentiment analysis, etc. so that full transparency is provided.
Reach and Impressions	This standard refers to the foundational measures that serve as the basis for defining data collection in Social Media and enabling subsequent metrics and potentially other standards to be calculated consistently. More specifically, the terms "item", "mention",

[20] http://www.w3.org/TR/html5
[21] http://www.smarttv-alliance.org/

	"impressions", "reach" are defined. • "An ITEM of content is a post, micro-post, article, or other instance appearing for the first time in a digital media" • "A MENTION refers to a brand, organisation, campaign, or entity that is being measured" • "IMPRESSIONS represent the number of times an ITEM has an opportunity to be seen and reach people, based on the simple addition of those audiences that have had the opportunity to see it" • "REACH: REACH is the total number of unique individuals who had the opportunity to see an ITEM"
Engagement and Conversation	• "Engagement is defined as some action beyond exposure, and implies an interaction between two or more parties. Social Media engagement is an action that typically occurs in response to content on an owned channel – i.e. when someone engages with you". • "Conversation is defined as some form of online or offline discussion by customers, citizens, stakeholders, influencers or other third parties. Social Media conversation includes online discussion about your organisation, brand or relevant issues, whether via your channel or third party channels – i.e. when someone talks about you". Engagement and Conversations come along with some best practices regarding their objective and measurement.
Opinion and Advocacy	• "Sentiment: is a component of opinion and advocacy. Sentiment is the feelings the author is trying to convey, often measured through context surrounding characterisation of object" • "Opinion is a view or judgment formed about something, not necessarily based on fact or knowledge. Standard indicators of opinion standards have not yet been achieved but typically opinion is definitively articulated and associated to the speaker" • "Advocacy (n) vs (v) is a public statement support for or recommendation of a particular cause or policy. Advocacy requires a level of expressed persuasion" • "The key distinction between "advocacy" and "opinion," is that advocacy must have a component of recommendation or a call to action embedded in it" This standard, also, comes along with guidance and best practices for experts who are not trained in marketing research but who are considering leveraging social media data in their measurement approach.
Influence	The fact that people are influenced by other people, and that some of them wield greater influence than others is a common secret among marketers and business communicators. As the term influence is so significant, a common language regarding its meaning should be established. • "Influence is the ability to cause or contribute to a change in opinion or behaviour" • "Where the initial actor is a "Key Influencer" who is: A person or group of people who possess greater than average potential to influence due to attributes such as frequency of communication, personal persuasiveness or size of and centrality to a social network, among others" • "Key Influencers interact with others and those they influence are "*Influencees*:" A person or group of people who change their opinion or behaviour as the result of exposure to new information" "Therefore Influencer Marketing is: The act of a marketer or communicator engaging with key influencers to act upon *influencees* in pursuit of a business objective" "Research shows a marketer is more effective when focusing resources on Key Influencers with the highest propensity to influence a population of Influencees who have the highest propensity to be influenced"

Impact and Value	The terms impact and value refer to the ultimate outcome of a Social Media effort in accordance with specific the goals of the program. It should not be confused with the term “Return on Investments” (ROI). • “Impact: The effect of a Social Media campaign, program or effort on the target audience” • “Value: The importance, worth, or usefulness of something. Value may be described in financial terms (see ROI below). Value may be described in non-financial terms, for example in business performance management (BPM) terms. Value can be short term or long term. It may be expressed in any number of ways including a comparative cost savings, shortened sales cycle, increased customer retention or renewals, to name a few” • “ROI: Return on Investment. A financial performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio”

Figure 4: Media Analytics related Standards

The SAM consortium will consider and follow in the possible the Social Media Measurement Standards Committee definitions and best practices for Social Media data measuring.

4 Contributions to Standards

The importance of accurate and consistent meta-data is paramount to facilitate the distribution of cultural products in the industry supply chain. In order to aggregate data in a meaningful way it is important that SAM promotes the use of standards for media assets, reference models, cataloguing rules, vocabularies, authority files, and data exchange specifications.

4.1 Media Representation

Standards are critical to the M&E supply chain, because they enable various parties to exchange information with ease. There are a huge number of inventory items, and many manifestations of the same work, so identifying the correct item is extremely important as illustrated by the examples which follow.

4.1.1 Information IDs

An issue which is important for public bodies such as libraries, schools, museums, etc. is the obligation to provide an audit trail to ensure that public money is spent appropriately. Hence, identifying exactly what was bought, the physical description of the item and the price has always been a stringent requirement and so SAM will ensure that all bibliographic records contain the ISBN as a unique identifier which has been a long-established standard.

Name authority standards are well-established, because single authors can have many works, and a standard name has to be used to bring them all together. Similarly, contributors may have the same or similar names, and it is essential to be able to identify the correct person especially for the preservation of copyrights and payment of royalties. BDS currently uses NACO but is exploring the value of using established crosswalks to store identifiers for other standards such as ISNI, VIAF and ORCID in records, so that this content may have other applications. NACO names have been incorporated into the BDS databases for the most popular names so that these records can file seamlessly into SAM along with records from any M&E database.

BDS has been working with The Music Business Association (MusicBiz) to create a guide[22] to assist in the harmonising of standards across digital music retailers with respect to how music is listed, ingested, and managed by establishing a common set of metadata guidelines. The guide is designed to provide all music industry stakeholders the opportunity to work from common naming conventions and data entry standards to help avoid past pitfalls and improve on data quality on a going-forward basis. Conforming to a common set of metadata entry rules is critical to ensuring content can be easily discovered, correctly presented, and accurately disclosed in order to eliminate customer confusion, complaints and costly processing errors. In addition to advising on capitalisation, casing and abbreviation, West10 was instrumental in advising on name authority best practice for defining instances of artist name disambiguation like John Williams (Composer) and John Williams (Guitarist) to enable content distributors to communicate the exact display text for the artists associated with the release.

[22] http://musicbiz.org/wp-content/uploads/2014/08/MusicMetadataStyleGuide-MusicBiz-FINAL.pdf

The EIDR ID as universal identifier is a long-awaited entertainment industry initiative and is setting the stage for efficient, streamlined work flows to support the new world of entertainment everywhere, anytime, on any device. This fits in with an aim of SAM to use standards which help to drive out inefficiencies in the supply chain, enabling new business models and workflow processes to support the increasing opportunities and complexities in the digital distribution of content. BDS, as an EIDR registrant, recognises the value of using an EIDR global unique identifier in the media and entertainment industry supply chain, will provide SAM with not only standalone IDs, and linked sets of IDs that can identify not only a work, but also all of its versions, encodings and related content. Furthermore SAM, through BDS, will enable users to register their audio-visual products setting the stage for efficient, streamlined work flows to support the new world of entertainment everywhere, anytime, on any device.

4.1.2 Asset Representation

Media Assets are among the main entities of the SAM Platform and the asset related functionality plays a key role in the realisation of the overall SAM features and vision. This functionality refers to various interdependent processes across the asset lifecycle, from importing media content into SAM and its semantic annotation, to the creation of asset compositions and their social aware syndication to end-users. The above require a robust, semantically and social enabled, dynamic and at the same time efficient schema for the description and representation of media assets. In addition, this schema should be extendable and compliant with the popular and widely adopted approaches available nowadays in order to simplify the asset importing process and also allow for effective exploitation of assets through syndication of the contents in the SAM Marketplace.
To this direction, the SAM approach will be built on top of well-established media representation standards, which will be extended to accommodate the specific functional and technical requirements of SAM environment. The analysis of state of the art in this domain concluded that the main specification candidate for the foundation of the asset description in SAM is the Europeana Data Model (EDM). According to Europeana, the Europeana Data Model (EDM) is "*a more developed data model that brings more meaningful links to Europe's cultural heritage data*". Data from partners or external information resources with references to persons, places, subjects, etc., will connect to other initiatives and institutions. This will result in sharing enriched content, adding to it and thereby generating more content in ways that no single provider could achieve alone." In addition, one of the key features of this model is the fact that it supports most of the well-known and established models as namespaces, such as Dublin Core, FOAF, OWL and RDF. The latter is of high importance for SAM since it allows for high flexibility on the model and also ensures compliance other models and specifications.

In the frame of SAM however, additional extensions to EDM are expected to address the following aspects:

- **Characterisation and Semantic Annotation:** SAM will support automated characterisation of assets with semantic information in order to enhance among other processes, the asset discovery and recommendation. In that sense, the SAM Asset Description will incorporate semantic information and the respective placeholders will be introduced in the model.
- **Social Awareness:** In addition the model will include incorporate information from social networks and user generated content from dynamic communities to improve the

use experience, something that is considered as a very important enhancement of the model.

- **Asset Linking and Composition of Assets:** SAM supports linking of assets and the creation of asset compositions to be merchandised or syndicated. In SAM, the linking process can be performed in a fashion which will be aware of the asset timeline so as the linked information is available in specific periods to avoid overloading the user with information and improve engagement. Therefore the functionality of "linking" poses specific requirements to asset description specification which are not currently addressed by EDM and will be provided as EDM extensions in the frame of SAM.
- **Asset Syndication and Presentation:** For the effective syndication and presentation of assets and asset compositions, SAM Platform should be aware of the appropriate and optimal method to communicate the respective media content to end-users. This mainly refers to the widgets, themes and media formats required for each asset type or more specifically for any type of linked information (media, semantic or social) and all these features will be included in the asset description model.

The SAM Asset Description model will extend EDM with the aforementioned aspects in order to facilitate the SAM vision, however these extensions could be also exploited beyond the project. To this direction, the outcomes of asset description task will be communicated to European community to receive feedback with the long term objective to have them integrated in EDM or recommend them as official extensions to EDM.

4.2 User Interaction

SAM will review and analyse the HbbTV v2 specification (referred to above) to identify how HbbTV v2 terminals can fit in the SAM ecosystem and what additions to that specification would be needed in order to properly support SAM applications and use-cases. SAM will document these, propose them for inclusion in future versions of the HbbTV specification and explain/defend them during the process for selecting the contents of those future specification versions. If development of a future specification version were to start during the lifetime of the SAM project then SAM would contribute its results to that work. The early results of the interaction with the HbbTV Association have provided the SAM consortium with technical details that have been embedded into the SAM Technical Specification for easier alignment (e.g. 1st and 2nd screen interaction scheme).

4.3 Security System Implementation

As is evident in other sections of this deliverable, SAM applies existing standards in many parts of the overall SAM system implementation, including in particular Web Services for the inter-component communication.
In terms of opportunities and needs for contributions to standards, the area of data and service access authorisation has been identified as a suitable and useful area in which contributions can be made by the SAM project partners. These opportunities pertain in particular to the use and extension of OAuth 2.0 and OpenID Connect authentication in combination with access control and authorisation.

The University of Reading has been investigating options concerning access control and authorisation based on OAuth 2.0. The particular interest of the University of Reading is to improve the applicability, configurability and flexibility of OAuth 2.0-based authorisation systems so that complex authorisation scenarios such as ones that may occur in SAM can be implemented.

Complex scenarios require generalised managed authorisation at a higher level of abstraction than the ad-hoc authorisation that is commonly supported by OAuth 2.0 (e.g. supporting complex authorisation scenarios is the goal of the User-Managed Access (UMA) Kantara Initiative work group[23]. This work group produces draft and final specifications for delegated and interoperable access control and authorisation in the form of the UMA specifications UMA Core, OAuth Resource Set Registration and UMA Claim Profiles. At the time of writing, version 0.9 of the UMA specifications has been reviewed and it is expected that version 1.0 of the specifications will be published within a few months.

As part of their work with and on standardisation in SAM, the University of Reading intends to:

- Apply UMA in a demonstration use case with a scope depending on the release date and status of the UMA specifications; envisioned for Prototype 2 or 3 release
- Identify requirements and solutions that can be proposed for updates to the UMA specifications and/or be provided to the work group as best practices to be promoted
- Participation in UMA standardisation activities via work group membership

The University of Reading is preparing to apply for academic membership to the Kantara UMA work group that is concerned with the preparation and release of the UMA specifications.

While the membership application process involves elaborate processes both at the University of Reading and at the Kantara work group, it is expected that membership will be established during the second reporting period. It is also expected that the University of Reading will be able to provide initial input to the work group during that period. To this end, the University of Reading expects to participate in one face-to-face work group meeting (task budget permitting) during the second reporting period.

For reporting period 3 it is envisioned that the University of Reading will provide either best practices to be published accompanying the UMA specifications or suggestions for improvements and updates of the UMA specifications in a future release. To this end, the University of Reading expects to participate in at least one face-to-face work group meeting (task budget permitting) during the second reporting period.

[23] Kantara Work Group User Managed Access

5 Policy Environment

SAM will actively participate in the activities organised at programme level relating to the ICT Converging Media and Content area with the objective of providing input towards common activities and receiving feedback (e.g. from clusters and coordination groups), offering advice and guidance and receiving information relating to ICT programme implementation, standards, policy and regulatory activities, national or international initiatives, etc.

The project will primarily process information on the partners' products and company information and there are no plans to handle personal data (whether identified by name or not) of the partners. However, should this be required, all the information related to individuals) will be managed after explicit consensus and in compliance with the European and national legislation of the countries of interest. The policy regarding personal data protection and related ethical issues will be observed at this task, and if any change, the specific updates and corrective actions and strategies will be reported in the periodic yearly reports.

The SAM project will interact with different ETPs through the Collaboration task T9.5 and will provide possible inputs about policy or try to influence in the work-programme through this type of interaction or the collaboration with other projects e.g. the mini-cluster activity.

5.1 Consumer Protection

Regarding Consumer Integrity, the fact that the SAM Platform interferes with the social networks, creates the necessity for mechanisms that evaluate and categorise the content in order to avoid inappropriate language, spam and malicious content. Without a doubt, the most vulnerable groups of users are children and adolescents (under 18 year-old consumers). The LSE report "Risks and safety on the internet"[24] summarises the following general online risks for European children: pornography, bullying, receiving sexual messages, contact with people not known face-to- face, off-line meetings with online contacts, potentially harmful user-generated content and personal data misuse. There are now an increasing number of tools available for parents/guardians, which allow for the supervision of children when they are online or using social media. These include general online URL-blocking functions, specific social media behaviour monitoring tools and functionalities offered by social networks.

As far as other media distribution systems such as TV, video or cinema are concerned, children need to be protected from online access to media content, which is not appropriate for their age and learning potential. General protection from inappropriate content is achieved with media age-rating and content classification systems, which are provided by national organisations, media publishers or independent bodies (e.g. BBFC: the British Board of Film Classification). Longform video items such as films and movies usually contain age-rating information for parents/guardians. Closed on-demand digital media distribution systems often provide parental control features, where under age content has to be unlocked by parents/guardians with a PIN. The aforementioned techniques and practices consist of a policy framework towards the consumer protection and more specifically, the protection of younger people. Nonetheless, all policy actors are

[24] http://www.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20II%20 %282009-11%29/EUKidsOnlineIIReports/D4FullFindings.pdf

responsible for ensuring greater availability of age-appropriate positive content for children. In this context, a complete Consumer Protection Policy not only provides the right mechanisms for the delivery of the appropriate content but also includes the responsibility for the parental awareness of risks and online safety.

5.2 Brand and Copyright Protection

The term Brand and Consumer Integrity refers on the one hand, to the right of owners to protect their brands and reputation from unauthorised use and on the other hand, to the safeguard towards customers regarding inappropriate content.

Thus, it is clear that Brand and Consumer Protection is an issue of great importance, in the context of SAM. Both the content/broadcast providers and companies that publish information in SAM wish to protect their brand image and reputation. Moreover, end users wish to avoid random, non-verified information or comments coming from prosumers.

As far as Brand Integrity is concerned, in 2000, the E-Commerce Directive[25] was adopted, setting up an Internal Market framework for electronic commerce. More specifically, the objective of the Directive is to provide legal certainty for business consumers by establishing harmonised rules on issues such as the transparency and information requirements for online service providers, commercial communications, electronic contracts and limitations of legal liability of intermediary service providers.

Another important factor for an application, such as SAM, which allows users to find content created by other people is the Intellectual Property Rights. The Intellectual Property Rights refer to legally recognised exclusive rights to creations of the mind. Common types of intellectual property rights include copyright, trademarks, patents, industrial design rights, and in some jurisdictions trade secrets. In general, the intellectual property rights task is not trivial as many legal issues may arise from not taking under consideration all the posed limitations. In many cases, the development of tools that deal with the intellectual property issues are out of the scope of the various applications that syndicate content. For this reason, the applications providers should be protected by addressing these issues in the Terms and Conditions section, so as to make clear their approach regarding the ownership, the storage the uploading of the content and the rights of the end users.

5.3 Ethics Policy and Data Protection for School Participation

The participation of children during the validation stages of SAM creates some special ethical issues regarding privacy and data anonymisation. These specific aspects are described in detail in the Document of Work (DOW) Section B4.1.

As a general approach to these ethical issues, the position of the SAM project and its individual partners will respect the fundamental principles associated with involving children, among others, respect, risk minimisation, UN Convention on the Rights of the Child, informed consent, etc. as described in the DOW Section B4.1, including the recognition of these ethical issues and how they are addressed in SAM.

Additionally, the following aspects are described in the DOW:

- Identification of aspects of the research that need to be addressed

[25] http://ec.europa.eu/internal_market/e-commerce/directive/index_en.htm

- Justification of the procedures and the need to involve children
- Informed Consent and Assent
- Protection
- Description of the participation of children in the validation activity
- Contents of explanatory print-out to be circulated with the consent template
- Draft consent forms for the schools

Before the execution of the activity, informative sessions will be organised with the legal representatives of the children, and with the children (with explanatory materials appropriate for the ages, and with the consent and approval of the school's didactic team). In addition, the intention is to invite an expert of the police department of internet crimes, to make an introductory session about good practices in the internet regarding personal identity, and explain the differences and the controlled environment in which SAM initiative will be executed.

The personal data treatment will be reduced to the managing of the consent forms. These forms will be sent and received by the personnel of the schools, and will be managed using the mechanism that the schools have already in place for the management of this type of forms following the LOPD (Spanish law 15/1999, December 13th of Personal Data Protection). These consent forms will be sent in the official languages of the Valencian Community (see templates in DoW), Spanish and Valencian.

All the procedures of data capture, results storage, aggregated data and resulting treatment will use only the "alias" created and selected by the children, or, so keeping all elements of the children's identities anonymous.

The consent forms will inform those with legal responsibility for the participating children about the legal framework to be used during the experience. The forms contain the officially required phrase *"The data of this consent form will be managed following the requirements described by the LOPD (Organic Law 5/1999, of September 13th of Personal Data Protection). The participation in this initiative does not imply the transfer of any kind of personal data to the partners of the SAM Project."*

At Year 1, these aspects and principles are still valid and observed in the SAM Project and no updates or further considerations have been introduced. The Data Protection plan and LOPD compliance plan has been exposed to the schools directors and pedagogic boards and no problems have been raised. Theses aspects are monitored through the periodic meetings scheduled between the boards of the schools and the SAM representative (TIE).

6 Conclusion

This deliverable begins the work to set a framework for the development of the Standardisation and Policy Plan for the SAM project.

The project's use of standards will be monitored and discussed in some detail and internal workshops may be conducted to include all partners so that there is a clear identification and prioritisation of the standards to be utilised and how each partner will be able to benefit.

Standardisation is an important element in the project as its results will only be applicable if they not only benefit from the effective use of existing standards but also provide active input to standards as well. Moreover, specific components of the project can be channelled to the standardisation process such as the asset description of Task T5.1 and Content Syndication and Media Enrichment in Task T8.2 thus establishing an active communication with associations and standardisation bodies such as EIDR, NACO, MusicBiz, EDM, CEN and W3C groupings. The policy regarding personal data protection and related ethical issues will also be observed in this task, and if there are any changes, the specific updates and corrective actions and strategies will be included in the yearly reports.

Several factors will play a role in the assessment of the success of the SAM project's business objectives and as the landscape shifts over the course of SAM there will undoubtedly be changes and technological advances and new concepts that may need to be appended to its approach. Thus the SAM project will constantly monitor developments in the marketplace standards, delivery, technical, legal and political change, report them in the D9.4.x deliverables series and factor them into the project planning.