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D6.1 Innovation Management and Initial Exploitation Plans

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Abstract

The present document presents how the results of the 2-IMMERSE project shall be exploited. It sketches a plan for exploitation by identifying the potential assets that shall be made available outside the project and it gives an overview of the different mechanisms how this can be achieved.

An overview of dissemination activities of the first 6 months is given and a plan for future publications, talks and presentations of project results.

Partners in 2-IMMERSE are very active in relevant standardisation bodies, the document includes an overview of these activities which could be used to contribute project results into standards.

This is the first report of 2-IMMERSE work package 6. An update of this document is issued with the intermediate report in May 2017.

Target audience

General public. Everybody interested how results from 2-IMMERSE are planned to be exploited and disseminated.

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Impressum

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Executive Summary

This document presents the innovation management for the knowledge created in the H2020 Project 2-IMMERSE. Besides being a source of information for the public, it also serves as a guide for the 2-IMMERSE consortium partners and as information source for the European Commission.

Innovation management in 2-IMMERSE includes the exploitation, dissemination and potential standardisation of project results within and outside the member companies. The aim of 2-IMMERSE is to build four different pilots on a novel platform for multiscreen services. The expected assets that shall be exploited from the project are grouped into the following categories:

- **New forms of multi screen programming**
- **Production tools, insights and workflows**
- **Standardisation contributions**
- **Reference architecture**
- **Reference implementation**
- **Guidelines and design specifications**

To structure exploitation efforts 2-IMMERSE reuses an exploitation framework developed in the Vconnect project. The relevant mechanisms that will be used in 2-IMMERSE are

- **Influence the strategic directions of a partner**
- **Integration with an existing product/service**
- **Standardization**
- **Consultancy**
- **Open Source**

For the dissemination of results the target audiences have been identified. Beside typical ones like the general public and academics 2-IMMERSE wants to address especially programme makers and production engineers to make them aware and familiar with new types of programming and technology. The main dissemination channels are the web site, deliverables defined in the technical annex, workshops with practitioners. e.g. programme makers , trade fairs, etc.

The 2-IMMERSE architecture will build on open standards recognised and deployed by the broadcast industry. The project will evaluate their applicability for its four pilots, extending or modifying specifications if necessary. This shall be fed back into standardisation. Active membership of 2-IMMERSE partners in relevant standard bodies are documented.

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1 Introduction

2-IMMERSE is funded under ICT-19. The scope of ICT 19 is described thus:

The focus is on research, development and exploitation of new or emerging technologies (e.g. 3D and augmented reality technologies) for digital content creation to support the creative and media industries and for unlocking complex information and media and interacting with them. The topic will be addressed by the following actions:

2-IMMERSE is an Innovation Action, as opposed to a Research & Innovation action. Its focus is more on taking ideas and concepts out of labs and into trials than on developing concepts within labs. The Work Programme describes innovation actions thus.

Innovation Actions

Demonstration of the viability of new technologies and validation of innovative solutions through large scale demonstrations, pilots or testing of use cases so as to guarantee sustainable deployment that facilitate convergence and integration between broadcasting, broadband Internet-based services, audio-visual and social media. Multimodal and multidisciplinary approaches for searching technologies responding to the new demands from the content side (3D, user-generated, real-time media, social media, ...) and from the user context (context-centric, semantic, relevant community feed-back, ...). This also includes new forms of experiencing environments (immersive, surrounding, multi-sensory and interactive, in any device, always connected).

2-IMMERSE seeks to develop more immersive experiences that bring together TV and on-line services based on the use of multiple screens and an adaptation in the way content is delivered to those screens that enables customised and personalised delivery of content.

This document describes the framework and initial thoughts and activities through which 2-IMMERSE will manage the innovation within the project and seek to maximise the impact of its work and results.

Section 2 of this document describes the framework we use to manage innovation and exploitation. It introduces three key terms, the innovation asset (the thing we believe is exploitable) – the likely mechanism for exploitation and the method (and in particular the next steps) that will be taken to further the exploitation. This section includes descriptions of the assets that we expect the project to create.

Section 3 describes our dissemination approach with an initial analysis on our target audience and then a breakdown of the different channels we use to reach these audiences. It includes early successes in terms of dissemination.

Section 4 describes our approach to standardisation, highlighting the standards bodies to which we have access and the ways in which the outputs from 2IMMERSE will be used to help the standardisation process.

2 Innovation Management and Exploitation

The partners in 2-IMMERSE comprise small companies, large corporations and academic and research organisations. Their common purpose is to explore the fusion of broadcast and broadband services through a number of pilots that employ multiple screens and devices to deliver a coherent experience of drama and live sport. Each company is known for its ground-breaking innovations in the value chain of creating, capturing and delivering engaging experiences to audiences. Each partner has its own channels and methods of delivering new ideas and technology to bear in his fields of operation. In this document we will describe our initial intentions for the exploitation and dissemination of the innovations resulting from the project and the mechanisms we intend to employ to achieve them.

2.1 IPR Management

The assignment of intellectual property amongst the partners has been covered in section 8 of the completed and signed Consortium Agreement.

Ownership of intellectual property shall be shared where there is joint invention and where the IPR cannot be broken down into subcomponents for the purpose of applying for, obtaining and maintaining protection.

IPR will be an agenda item for each Project Management Committee meeting and discussed during the weekly conference calls when appropriate, e.g. if a new opportunity to file is identified.

2.2 Exploitation Framework

The framework used to describe exploitation in 2-IMMERSE was developed during the Vconnect project (<http://www.vconnect-project.eu>). It is based on the experiences of the partners involved (as well as on many external discussions with other European projects). The framework is composed of two main concepts:

- **Exploitation mechanisms:** this refers to the different exploitation channels that can result in the commercial use of the technological innovations.
- **Exploitation methodologies:** this refers to the enablers that make it possible to exploit certain technologies in different contexts.

The following sections use this exploitation framework to describe the intentions of the project at this early stage.

2.2.1 Exploitation Mechanism

Because of the different business foci of each partner, several mechanisms will be used for making commercial use of the project results. As we embark on the project and without complete knowledge of what the project will realise, we expect the following mechanisms to be the most relevant ones for 2-IMMERSE.

Integration with an existing product/service: The consortium represents businesses across the workflow from capture of sound, images and data to editing, compositing and delivery and finally to engagement with audiences. For the larger companies channels to the businesses are good and involvement with editorial and production is good. Through Illuminations TV we have our associate partners, the Royal Shakespeare Company and Illuminations' capacity to deliver experiences at scale. Similarly, Chyron-Hego is a fast moving digital innovator in the area of sports data capture and delivery. BBC, BT, Cisco and IRT all have R&D functions with links through company structures to enable the flow of IP into products and services. As broadcasters

BBC and BT are keen to discover how they can increase the enjoyment of their live and on-demand sport and drama content by audiences through integrated and augmented multi-screen services. Cisco is an important network services partner in this delivery value chain.

IRT has developed a cloud service-based Second Screen Framework as part of the EU FP7 FI-CONTENT project. IRT may extend this framework to include the new features of HbbTV 2.0 if it fits with the 2-IMMERSE architecture.

Influence the strategic directions of a partner: All the commercial partners intent that 2-IMMERSE results will have a strategic impact on the way their companies deliver experiences to audiences. BBC, BT and IRT are looking for effective and engaging ways to tell stories and convey live events across broadcast and broadband routes that fuse the capabilities of scale and personalisation. 2-IMMERSE will inform these strategies. The form through which this impact is realised may depend on whether the company is a Public Service Broadcaster or a subscription content provider. Both BT and the BBC have innovative Sports service teams making the most of the crossflow between broadcast and broadband services. These teams are keen innovators and explorers of new capabilities. In the network service space the 2-IMMERSE consortium includes Cisco's innovation team responsible for the 'Fresco' multi-screen pilot. We intend that the technical knowledge acquired during the 2-IMMERSE project will influence the strategic directions within our organisations. Results from the project will be used as showcases and discussions with higher-level management regarding live coverage of events and the synergistic strategies across broadcast and online content and services. Through BBC R&D's Taster platform a number of new online services are tested in the public arena, most recently Story Arc a way for exploring the stories and characters in a popular drama 'Peaky Blinders'.

Standardization: Our aim is to build on existing and emerging standards to accelerate the developments of the capabilities and services we hope to enable. Our primary focus is on HbbTV 2.0 as it appears to cover many of our ambitions, but currently only exists as an approved specification. We will also work through our links with W3C and others on specifications such as WebRTC and TAL, as they become appropriate to our success. The 2-IMMERSE platform's reference architecture and APIs will be aimed at sustainable delivery, enabling others to extend and augment the services available to producers and audiences. Enabling new distributed media apps beyond the life of the project will extend the coverage to other content genres increasing the impact and the market for multi-screen content.

Consultancy: The wisdom and know-how derived from the experience of building the capabilities to deliver the four pilots and the feedback from audience and production team data will almost certainly shape the relationships of the partners within the value chain. Though formal consultancies might be pursued by academic partners' presentations, demonstrations and papers will also be a route to impact more broadly.

Spin-Off: It is hard to say whether the circumstances of the market and the individuals and organisation participating in 2-IMMERSE will lead to spin-off/start-up activity. We have no intentions at this point to do other than exploit the results within the consortium and to the benefit of the industry as a whole.

Licensing: Decisions about licensing will be made in the light of the progress and the solutions developed to meet the needs of the pilots and the sustainable architecture that evolves. The consortium agreement covers the methods by which licensing opportunities may be pursued by the consortium partners but see 'Open Source' below.

Open Source: The 2-IMMERSE consortium fully intends to make the technology open to the industry, following the success of previous open source packages (e.g., AmbulantPlayer or

VideoLat by CWI). The capabilities we will enable will need a community of practice to develop around them to fully exploit the opportunities created and the challenges still to be addressed. Though there is no immediate monetary return the indirect benefits from this type of exploitation are high, as it helps to build an industry heavily dependent on partnerships and innovation.

2.2.2 Exploitation Method

We expect market exploitation of project outputs from within the consortium and as a result organisations external to the consortium building on the published papers and open source code we deliver. We will develop prototype services as we progress through the build of our four feasibility pilots. We will make accessible tools, libraries and APIs for further development during and beyond the project whilst taking full advantage of the opportunities to file IP significant to the businesses of the partners. In the area of Open Source tools, BBC has already posted - VideoContext - a set of media libraries for composition and rendering on the Web and CWI maintains – Ambulant Player – a media video player, enabling rich composition and synchronization.

Individually, the partners will augment their own current processes for assessing IP and innovation opportunities from the work of their employees. At the BBC regular review meetings with the Partnerships team cover the opportunities for impact and considerations for IP protection and contributions to Open Source and Standards communities. The BBC, IRT, BT, CWI and Cisco have good track records for contributions to Industry Standards. Methods may differ across organisations but the end results are the same: careful choices made between research, management and legal professionals intimate with the organisations businesses and strategic directions. In the case of the BBC the impact strategy is to fulfil its public purposes as a Public Service Broadcaster; for BT it is to build on the success of its entry into the Broadcasting market and its long established position as a networking and telecommunications technology and service provider; for CWI is to enable an open ecosystem based on early research on novel technological areas.

Illuminations will seek to incorporate features of the service prototype provided they have a clear ability to better achieve the aims of those that commission the content. Thus (for example) if the RSC are persuaded that the multi screen aspects of the productions clearly improve engagement and educational outcomes then work will commence to deliver the new multi-screen experiences for schools.

Within the consortium the three-day quarterly meetings within which the PMC sessions are hosted will provide the main forum for tactical and strategic decisions with regard to the best routes to optimise the projects impact. Innovation workshops within these meeting will explore the potential of technology and knowhow created in the Work Packages to be exploited within the partners, the industry and the wider community.

At the heart of the pilots are the audience benefits and their impact on economic, social and cultural health. To deliver the pilots prototype services, production and delivery tools, experience designs and process innovation are expected to be created. These will form the seeds for broader impact. Enablers of impact will include architecture designs, prototypes, papers, trial results and feedback from academic and industrial review.

Individually and locally, each of the teams contributing to the 2-IMMERSE project will be reviewed objectively by the stakeholders within their organisation. In addition Consortium innovation workshops will report back to these internal processes and be guided by the enquiries they make.

2.3 Exploitation Assets

The project will conduct innovation workshops to ensure we identify, and build a plan for the exploitation of, innovation assets at the earliest opportunity. We anticipate generating assets such as: New forms of multi screen programming; Production tools, insights and workflows; Standardisation contributions; Reference architectures; Reference implementations and Guidelines and design specifications.

The table below shows the relationship between the work packages the forms of asset generated.

Workpackage	Asset type
WP1 – Project coordination and Management	None
WP2 – Distributed media Application Platform WP5 – Components for Multi Screen Entertainment	<p>Standardisation contributions</p> <p>The two technical work-packages will develop insights that may be relevant for standardisation bodies – such as use-cases that are not well supported by the current suite of standards.</p> <p>Reference Architecture</p> <p>The early work of D2.1 has already described an architecture for the 2IMMERSE project. This architecture, which has been designed to enable the four multi-screen service prototypes that will be delivered through the project, is layered as a set of platform services, a client application architecture and production architecture. The publication is a public deliverable available through the web site.</p> <p>Reference Implementation</p> <p>This is a work in progress. D2.2 will document APIs and other enablers that will allow the project (and others) to build the reference architecture. This deliverable will also be available on the web site when completed.</p>
WP3 – User Interaction Design	<p>Guidelines and Design Specifications</p> <p>Insights about the design and production of multi-screen experiences as they relate to the user experience. This tacit knowledge may be exploited through making the knowledge explicit in the form of guidelines and design rules.</p>
WP4 – Prototype Services Development and trial	<p>New Form of Multi Screen programming</p> <p>New forms of multi-screen programming which can act as exemplars of subsequent production investment.</p> <p>Production Tools, Insights and Workflows</p> <p>New content forms usually need some instructions (or at least knowledge) about how to make them efficiently. Such knowledge will be generated during the development of the trial prototypes</p>
WP6 – Innovation Management	None - though it will manage exploitation activity on other WPs

Being more specific we highlight some assets that we anticipate and the bodies to whom such assets may be useful:

Asset: New forms of multi screen programming	
based on Filmed Theatre for a school audience.	Royal Shakespeare company, BBC, BT, Illuminations
based on Filmed Theatre for people at home	BBC, BT, Illuminations
related to MotoGP for people at home	BT, Dorna Sports, BBC
related to Football for people in pubs and clubs	BT Sport, BBC

Asset: Production tools, insights and workflows	
New production tools that support new workflows for Object Based Production of Content.	BBC, BT, Chyron Hego, CWI
Insight and know how about content capture and handling to support the production of multi screen programming	BBC, BT, Chyron Hego, CWI

Asset: Standards related	
Adaptation and extension to the HbbTV 2.0 specification that will enable more compelling multi screen programming types based on object based Production to be experienced.	HbbTV association and associated /referenced standards bodies
Exemplar implementations using HbbTV2.0 that may inspire and accelerate market evolution.	Manufacturers (of TV's and Set top boxes),

Asset: Reference Architecture	
Development of a reference architecture which has been validated through iterative implementation over the four service prototypes.	CISCO, BT, BBC, IRT, CWI, ChyronHego

Asset – Reference Implementation	
A set of platform service components, client applications and Distributed Media Application components, which we aspire to open source at the conclusion of the project	CISCO, BT, BBC, IRT, CWI

Asset: Design specifications	
Design specifications for the proven delivery of content streams, to multiple devices and multiple users simultaneously (future smart TV, set top box, content steamer, iPlayer)	CISCO, BT, BBC, CWI

Asset: Design specifications	
Designs recommendations and proof of concept for the successful delivery of coherent and appropriately synchronised content across multiple devices.	CISCO, BBC, BT, CWI
Design recommendations for effective and user-friendly set up and management of end-user multi-device environments (building on the specific examples of Drama and Sport).	RSC, BT, BBC
Design recommendations for effective end-user interaction within multi-device experiences (building on the specific examples of Drama and Sport).	RSC, BT, BBC
Guidelines for the development of distributed media applications to extend the services and experiences offered to users of multi-screen environments	BBC, BT

3 Dissemination

In this section we cover our plans from the proposal and early activities. Dissemination strategies will range from formal academic papers presented at conferences such as ACM CHI and ACM TVX through industry White Papers at shows such as IBC, NAB and CES to press coverage of the work (such as the recent editorial on Object-Based Content in Broadcast [reference here]. Demonstrations at European events, youtube videos and regular communication pieces and blogs on the 2-IMMERSE website and social media, will maintain awareness and interest in the project and our results. Open source contributions will enable others to explore and build on some of the micro-services and libraries that make up the architecture supporting the pilots.

3.1 Target Audiences

The dissemination activities in 2-IMMERSE will be targeted at four major groups

- **General Public** – who require information described in easy to understand language.
- **Academics** – who require rigorous presentation of scientific results.
- **Programme makers and commissioners** – who require exemplars of production practice and object-based experience design and production workflows and tools with which to explore these.
- **Production engineers and suppliers** – who require concise and convincing presentation of exploitation opportunities and potential business models (from ITC suppliers, broadcasters, production houses and public venues)

These groups will inform not only the languages used in the presentation of the project’s findings, but also the dissemination channels which should maximise audience reach and impact. The table below summarises the channels we will use to address different target groups.

Target Group	Dissemination channels
General Public	Project website, public deliverables, media and publicity activities, involvement in the trials and end-user experiments, blogs
Academics	Peer reviewed publications, demonstrations at H2020 related events, blogs.
Programme Makers and commissioners	H2020 related events, presentation of the prototype in the trials workshops and sandbox calls e.g. BBC Connected Studios, blogs
Production Engineers and suppliers	H2020 related events, presentation of the prototype in the trials and at trade shows.

All forms of dissemination will be tracked within the project using an excel sheet available on the document server (BSCW)

3.2 Dissemination channels

3.2.1 Project web site

The webpage (<http://2immerse.eu>) describes the aims of the project, the intended trials and gives access to all public available results of the project. The home page of the project is shown below. The web site will focus on showing attractive content including videos and storyboards. The storyboards for the four service prototypes are already published on the web site www.2Immerse.eu



2-IMMERSE is a collaborative project co-funded by the European Commission's Horizon 2020 Research Programme. Partners in the project include broadcasters, producers, rights holders, technology companies and universities to design, build and test four prototype experiences involving live performance and sport. The project's ambition is to deliver technology enabling services 'to immerse' audiences in shared and personalised multiscreen experiences.

2-IMMERSE will develop prototypes of multi screen experiences for 'any device' environments. These experiences will merge broadcast and broadband content with the benefits of social media.

To deliver the prototypes, **2-IMMERSE** will build a platform based on a relatively new specification for television called HbbTV2.0. The project will thus highlight the capabilities of the HbbTV2.0 specification and contribute towards its evolution.

2-IMMERSE will explore the benefits and challenges of object based broadcasting; that is where content objects are rendered at the client device (the television) rather than prior to transmission at the broadcaster.

2-IMMERSE runs from December 1st 2015 to November 30th 2018.

3.2.2 Public Deliverables

All public deliverables will be, as far as is practical, available on the project web site following acknowledgement and approval by the commission.

3.2.3 Media and Publicity

The project expects to manage publicity through the channels of the partners. These PR professionals will help us identify significant events and stories that can justify development of a news story and that are most likely to attract the attention of the target audiences. We only expect a handful of stories; these are likely to be associated with trial results.

3.2.4 Involvement in trials and end user experiments

The 2-IMMERSE innovations will be showcased in the four trials involving end users in a range of locations. Currently we expect to perform test in locations including:

- Labs
- Demonstration venues
- Users' homes
- School classes
- Public places (e.g. a sports bar)

The trials will explore the technical feasibility of delivery and the value to producers, venue owners and audiences.

The first trial of the project 'Theatre at Home' will be in the first week of November. The trial will involve The Royal Shakespeare Company and a trial group of about 20-30 users. The location of the trials is not yet agreed.

3.2.5 Peer reviewed publications

Project partners will submit articles to targeted journals, conferences and other scientific publications across the disciplines involved in the project.

3.2.5.1 Key Achievements

CWI has co-authored a book chapter:

- P. Cesar and D. Geerts, "Social Interaction Design for Online Video and Television," in R. Nakatsu, M. Rauterberg, and P. Ciancarini (eds.), *Handbook of Digital Games and Entertainment Technologies*, Heidelberg, Germany: Springer-Verlag (2016).

And is co-editing a book on media synchronization:

- M. Montagud, P. Cesar, J. Jansen, and F. Boronat (eds.), *MediaSync: Handbook on Multimedia Synchronization*, Heidelberg, Germany: Springer-Verlag (2017).

With chapters from IRT (on media synchronisation for television services) and BT (on video delivery and challenges)

Finally, CWI has recently published an article based on the keynote talk at the Congress of Interactive Digital TV: P. Cesar, "From Secondary Screens to Socially-Aware and Immersive Experiences," in *Applications and Usability of Interactive TV*, (revised selected papers from CTVDI 2015), 2016, pp. VII – VIII.

3.2.6 Courses

Training is an important dissemination activity of the project, aiming at instructing others with the knowledge gained during the project. 2-IMMERSE particularly targets audiences outside the consortium institutions.

3.2.6.1 Key Achievements

CWI has delivered a course at the prestigious ACM CHI conference:

- D. Geerts, P. Cesar, and M. Obrist, "Interaction Design for Online Video and Television," in the ACM CHI Conference on Human Factors in Computing Systems (CHI 2016) [May 10, 2016, San Jose (CA), USA].

3.2.7 Demonstrations

Parts of the technical platform and the user and production services supported will be presented by the project or individual partners at H2020 related events, broadcast trade shows including IBC, academic conferences such as ACM TVX and festivals such as Tribeca.

The live "Football in a Pub" trial planned for May 2018 will be preceded by 'as live' demos that are based on existing coverage. This year (2016) the project is collecting coverage from the FA Cup Final at Wembley stadium in order to showcase the types of live multi screen demos that the project would like to develop for the live demo. This showcase will be used to affect internal thinking within BT and the other members of the consortium.

Within the BBC Object-Based Media and IP Broadcasting is a key strand of BBC R&D who are engaged with product organisations across TV, Radio and Online. A number of object-based demonstrations have been used as communications tools the largest of which was the live broadcast of 4K content during the Commonwealth Games end-to-end-over IP. The 2-IMMERSE trials will feed into this series of feasibility demonstrations that shift thinking and enable technical and production communities to prepare for the extension of broadcasting to Object-based and IP delivered.

3.2.7.1 Key Achievements:

Following intense negotiation between BT Sport and 2-IMMERSE research team we have been offered space in the BT Sport building to showcase the Football In a Pub scenario.

We plan to build a working prototype based on captured material from the 2016 FA Cup final. We will develop plans for this showcase and submit them to BT Sport for final approval. We hope to have the physical space equipped in a basic form by late summer 2016. In due course we hope this showcase can become a key tool for affecting internal decision making with BT and BBC Sport and will help accelerate a move towards Object-based Production techniques across the value chain as well as enabling BT to develop a much improved coverage of football for pubs and clubs and for BT and BBC to develop deeper engagements with home audiences.

The locale identified as suitable for the showcase is pictured below. We are developing a design for the showcase currently.



This locale is in an audience holding area but more importantly also close to the BT production facilities. This space will (we hope) be used to highlight the impact of object based production approaches for media professionals.

3.2.8 End User Experiments

In preparation for the trials and to understand the user needs for owning and operating a multi-device coordination system the project lab experiments will explore topics such as synchronisation tolerance, attention during multi-screen experiences, ease access to and set up of multi-screen experiences.

3.2.8.1 Key achievements

A first round of experiments is planned for June 2016 to be carried out by the BBC and IRT. These experiments will look at people's tolerance for different types of synchronised content including the synchronisation precision required for using a script to a filmed theatrical performance – a use case relevant for two of the prototype services.

3.2.9 Trade Shows

CISCO, BT, Chyron-Hego and BBC will all be at IBC and these partners will be exploring the extent to which the message of Object Based Production is relevant for the intentions of each partner at this key event. At this early stage of the project it is unlikely that 2-IMMERSE will feature very strongly in the 2016 event.

3.2.9.1 Key achievements

None to date.

3.2.10 Workshops and Meetings with Practitioners

Workshops and meetings will be held with Creative Industry practitioners during the project to canvas their views and experience and inform our experience designs and technology implementations. As the project progresses discussions will include a broader group of Sports and Drama commissioners and producers. Illuminations, as a skilled and experienced media production SME, will help to ensure highest- quality dissemination and communication activities appropriate for a media innovation project, e.g. by preparing short promo clips. Supported by excellent links to the Royal Shakespeare Company, Illuminations will be instrumental in communicating innovations toward the creative industry. As a commissioner of content BBC is the hub of a network of creative companies and through its Creative Studios and On-line Taster platform has the means to engage and communicate media innovation to broad section of the community. Naturally, Illuminations also has a high commercial interest in the project itself and will seek exploitation opportunities also for different customers.

3.2.10.1 Key Achievements

BT have met with the production team delivering the RSC's current Theatre At School Experience; they expressed interest in the opportunities of object based broadcasting that would be embodied in the 2-IMMERSE pilots.

BT have met with Dorna team delivering the MotoGP. This has resulted in little side experiments around some responsive design approaches to visual layout carried out between BT and Dorna. This acts as a very early introduction to the characteristics and potential benefits of object based production.

3.2.11 Blogs

John Wyver, from Illumination, writes a blog under the company web site Illuminations <http://www.illuminationsmedia.co.uk/blog/>

John is a respected and authoritative figure in the broadcasting of Arts TV in the UK. As and when there is a 2-IMMERSE related story or an experience about which it is relevant to write John will use the blog to mention the outputs of this project.

The 2-Immerse web site may also adopt a blog type approach but we are mindful that this will only be effective if well managed and carefully considered.

<https://2immerse.eu/>

3.2.11.1 Key achievements

There are three blogs posted on the 2IMMERSE web site (as of 8th June 2016). Posts attempt to be light, short accessible and timely.

4 Standardization

As an innovation project 2-IMMERSE expects to utilise and evaluate existing technology and standards as far as it is possible to do so. An obvious use case is with the HbbTV 2.0 association’s adoption of specific profiles of the TM-CSS specification from DVB to which HbbTV adds further protocols for device discovery and communication between applications running on multiple devices.

The project will evaluate first implementations (prototypes) of this specifications and assess its suitability for the use cases envisioned. The project expects to discover use-cases that the current specifications and standards do not support. The project will seek to alert the relevant associations and standards bodies to these deficiencies and if appropriate to share with them the methods we have adopted to overcome the shortcoming.

2-IMMERSE partners will follow on-going relevant activities and discuss potential contributions. Currently, there are a number of working groups either forming or progressing in W3C which target TVs and user devices acting as TV companions.

At the time of writing there are no specific contributions planned, this will be reconsidered when first prototype implementation and results from the pilots are available.

Many of the project partners have active roles in a number of standards organisations. Partners can work with their colleagues who are members of the different standards groups to ensure relevant findings of 2-IMMERSE are represented appropriately.

	BBC	BT	CISCO	IRT	CWI
W3C			Member	Member	Member
HbbTV		Member	Member	Founding member	
DASH industry forum			Member		
DVB	Member – Chair of DVB TM CSS group	Member	Active, TM-AVC and TM	Member	
IETF		Member	Active		
DTG		Member			
ETSI			Member	?	
SMPTE		Member	Member		

5 Conclusion

This deliverable outlines plans for exploitation, dissemination and standardisation of the project results.

The four envisioned pilots of 2-IMMERSE are a perfect basis for exploitation and dissemination. From the beginning of the project practitioners the project partners have been involved in the project to gather their requirements and views on novel multiscreen services but also to introduce them the potential of new technology that may change their work in future.

The document identified the assets from 2-IMMERSE that will be made available to the (broadcast) community reaching from new ways of story-telling, to user interaction design to the architecture specification and prototype implementation which is planned to be open source. It also lists the mechanisms and channel through which results will be published.

During the next year of the project, the first two pilots will be designed, implemented and performed. The first update of this report which will be issued in June 2017 will summarize the achievements on successful exploitation and dissemination activities. Depending on the lessons learned from the prototype implementation, feedback and contributions to standard bodies will be considered.