

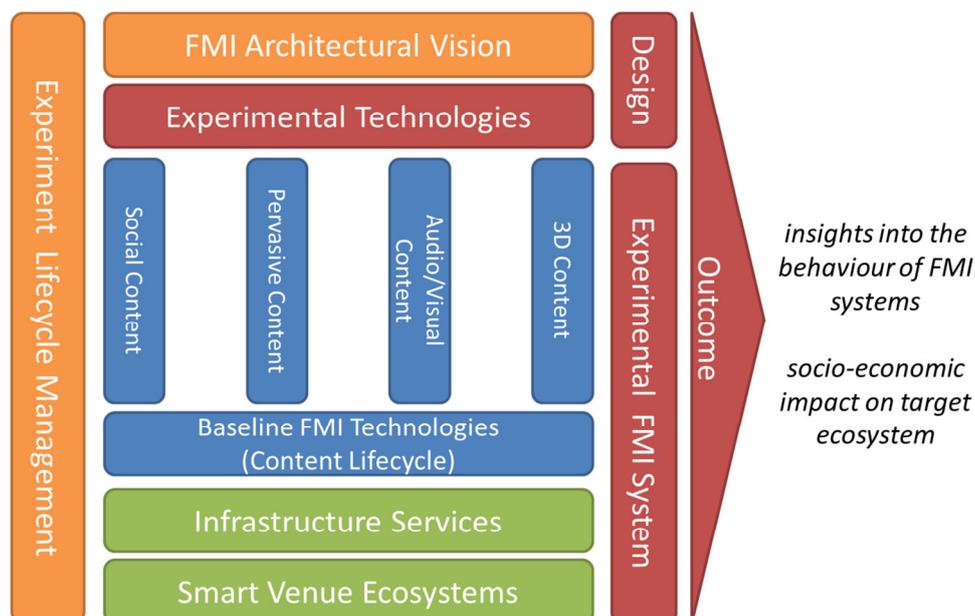
## Annex I: Technical Background

### What is an EXPERIMEDIA experiment?

An EXPERIMEDIA experiment is a study that aims to deliver insights into the behavior of FMI systems and predict/demonstrate socio-economic impact on stakeholders in the ecosystem of the target venue. Experiments must consider new forms of social interaction and rich media experiences enabled by FMI technologies considering the demands of both online and real-world communities associated with Live Events and Activities. Experiments must address important research challenges that would be extremely difficult for a single, independent institution to address on its own.

Experiments must contribute to the FMI vision and help venues drive towards this vision through the development, deployment, use, test and evaluation of an experimental FMI system. An experimental FMI system consists of Infrastructure (from the venue), Baseline FMI Technologies (from EXPERIMEDIA including the ACVV, 3DCC, PCC, SCC), Experimental Technologies (from the experimenter) and Users (from within the Venue ecosystem). Experiments must be conducted in accordance with EXPERIMEDIA's experiment lifecycle management (ECC) approach adopting mechanisms to configure, instrument, monitor, control and secure the FMI system under test. All experiments must be conducted in full consideration of EXPERIMEDIA's ethical oversight procedures.

All experiments must incorporate Users experiencing Live Events through FMI enabled technology. Understanding how to deliver experiences through FI systems is a key outcome of experiments and therefore assessment of the relationship between performance (Quality of Service), user experience (Quality of Experience) and community behaviors (Quality of Community) is an essential element.



Experiments must be conducted in accordance with the EXPERIMEDIA methodology that considers value, technology and privacy impact. It is expected that experimenters will use the Value Impact Assessment (VIA) meta-method framework<sup>1</sup> with additional methodologies necessary for the specific study. Defining, measuring and assessing business release value at specific milestones during the lifetime of an experiment in terms of Key Performance Indicators derived from Quality of Service (QoS) and Quality of Experience (QoE) metrics is important. We expect experiments to primarily focus on the Opportunity Assessment phase (Phase 1) of the VIA with some possibility for exploration of Opportunity Validation/Modelisation (Phase 2).

<sup>1</sup> D2.1.1: <http://www.scribd.com/doc/89644744/D2-1-1-First-EXPERIMEDIA-Methodology-v1-02>

All experiments must be conducted in accordance with EXPERIMEDIA's ethical oversight procedures<sup>2</sup> and will be subject to review by the Ethics Advisory Board to ensure compliance with applicable legal frameworks<sup>3</sup>. Experimenters will be expected to complete a Privacy Impact Assessment to demonstrate how privacy concerns will be addressed.

## What are the EXPERIMEDIA venues' ecosystems?

EXPERIMEDIA venues provide a complete environment for carrying out different experiments and offer a wide range of resources<sup>4</sup>. The types of Live Events are defined by human activities undertaken by specific venues (see below).

### CAR

The High Performance Centre of Catalonia is an organisation which gives support to sport so that it can be competitive at an international level, optimizing resources of the highest technical and scientific quality. The aim is to provide the athletes with everything necessary for their complete training so that we can share the knowledge of their activities.

This center considers the academic and humane training of each individual just as, or more important than the sports training. With this as a priority, the CAR gives athletes all the necessary help needed for their educational development. The CAR athletes can attend classes of "Batxillerato" and "ESO" (compulsory secondary education) in the secondary school which is situated in the sports facilities, with a highly qualified staff.

The installations include a hall of residence for training camps with 325 Beds capacity. 18 hectares of Olympic sporting facilities indoor and outdoor Academic and Scientific support is provided for the teams training at the center. A lot of national and international sports teams use the CAR for their preparation for Olympic Games and World Championships,

CAR offers experiments based on collaborative working experiences. These experiments are oriented mainly to coaches and athletes of different sports, The sports focused for the EXPERIMEDIA experiments include: waterpolo, swimming, synchronised swimming, diving, trampoline, table tennis, weightlifting, men and women gymnastics, taekwondo, judo and wrestling.

Experimenters interested in making experiments here could obtain the following benefits:

- They will redesign their normal training process in a high performance training
- They will get the information faster
- They will share information to achieve more accurate decision making
- They will enhance reality to create a better understanding and increase the quality of sport training

CAR offers access to training sessions for the sports mentioned above.

### Schladming

Schladming is a tourist destination located in the Alps in Austria. It offers all kinds of winter sports like skiing, snowboarding, sledging, ski hiking, cross country skiing, etc., but also summer sports like hiking, biking or climbing.

---

<sup>2</sup> D5.1.1: <http://www.scribd.com/doc/79825565/D5-1-1-EAB-and-DPB-Operating-Procedures-v1-01>

<sup>3</sup> D5.1.2: <http://www.scribd.com/doc/88693303/D5-1-2-Ethical-legal-and-regulatory-framework-for-social-and-networked-media-v1-11>

<sup>4</sup> D3.1.1: <http://www.scribd.com/doc/89645165/D3-1-1-First-Assets-Inventory-v1-02>

Schladming is one of the leading international ski resorts in Austria and part of the Ski Amadé network covering 28 ski areas and towns that combined make up the largest ski area in Europe. Schladming has been the host of several world-class events on Alpine and Nordic skiing including the FIS Alpine World Ski Championships 1982. Recently Schladming has been selected to host the FIS Alpine World Ski Championships 2013 in February 2013 which will provide an attractive setting for EXPERIMEDIA experiments but also experiments that target other areas or activities are welcome.

Schladming offers to experimenters participative community experiences in a world-class tourist destination and event location. Experimenters will have the opportunity of enjoying an ideal setting for their experiments that enhance the experience of on-site and remote visitors. Experimenters that choose Schladming as the place for making their experiments will also be able to use linked open data services where they can access information about several points of interest and events. Experiments may address both winter and/or summer tourism. The winter tourism seasons will run approximately from late October 2013 until mid-April 2014 and the summer season from late May 2014 until early October 2015. Experiment proposals should take these timing constraints into account in their plans.

Experiments must target stakeholders (e.g., on-site visitors, remote spectators, or citizens) in the Schladming area and provide a benefit to them. Schladming 2030 GmbH as project partner in EXPERIMEDIA is a company dedicated to promoting sustainable developments in the region and is partly owned by the municipality, the tourism board and the ski lift operator. As different resources in the area are owned and operated by different parties it is strongly advised to contact Schladming before submitting a proposal if special resources are required by an experiment.

## Foundation for the Hellenic World

This Greek foundation offers an Ultra-modern Cultural Centre and Museum that stands out for its innovative programmes. It is a multifunctional area where visitors experience Hellenic history and culture, while at the same time it is a venue of cultural creation and expression

In its 60,000 square metres equipped with the latest media technology so many activities could be done in this venue, for example: Interactive exhibitions, Virtual Reality Tours, Educational Programmes and Conferences. It offers to experimenters cultural and educational experiences. These experiences are oriented to the wide public, but with special focus on students and special programmes for school classes.

Experimenters will be able to use multifunctional and adaptable buildings and to create virtual reconstructions and 3D environments; they will also have access to an extended collection of educational and cultural contents (virtual reality productions, documentations, exhibitions, etc...)

FHW is interested in developing new ways to engage its visitors in interactive group activities. Therefore, without being negative to experiment ideas that explore different aspects of communication, FHW particularly welcomes experiment ideas that explore new and intuitive interaction paradigms that are designed around groups of people rather than individuals.

FHW would particularly welcome experiment ideas that take into consideration the venue's tight scheduling constraints for certain parts of the facility, such as the Tholos and the Virtual Theatre, and are designed to operate with little or no impact on the existing daily activities.

## What are the EXPERIMEDIA baseline technologies?

EXPERIMEDIA provides a set of baseline technologies supporting the content lifecycle and the experiment lifecycle. Further information can be found in the 1<sup>st</sup> Blueprint Architecture Deliverable<sup>5</sup>

---

<sup>5</sup> D2.1.3: <http://www.scribd.com/doc/88867843/D2-1-3-First-Blueprint-Architecture-v1-02>

and on the project's website<sup>6</sup>. Four principal technical components have been established to support the content lifecycle for different classes of content expected in the Future Media Internet:

- Social Content Component (SCC)
- Audio Visual Content Component (AVCC)
- Pervasive Content Component (PCC)
- 3D Content Component (3DCC)

Each component model focuses on a different content aspect within the FMI and technologies supporting the lifecycle of the specific content. A key aspect for EXPERIMEDIA is to provide tools and services that support the seamless mixing of different content types in the delivery of user experience where the content lifecycles are implemented within separate systems. Social, Audio Visual and Pervasive content present the content types supported by baseline technologies that experiments can use and extend. In addition an Experiment Content Component (ECC) is provided that provides supporting tools for aspects of the Experiment Lifecycle including specification, experiment data management, instrumentation/monitoring, and data protection reporting.

## What is the technical infrastructure at EXPERIMEDIA venues?

A summary is included here. Further information is available from the project's website<sup>7</sup>. Again, we recommend discussing specific requirements with the venue representatives.

### CAR

Network connectivity: Symmetric bandwidth of 100mb connected to the Scientific fibre-optic Ring and Universities in Catalonia. Internal 10Gb Network between nodes and 1g to up to 140 1Gb connections for cameras and sensors. Open wireless network for up to 600 connected devices.

Intra-venue infrastructures: High speed Wi-Fi network with VoIP, Data and Localization will be placed in the building with more than 100 AP 802n distributed along the 4 levels of the building; Camera setup of over 35 IP and 103 Gig Ethernet recording camera, that will range from HD 1280 x 960 to High Speed recording up to 100 fps. Phase one will cover up to 35 in 4 main sports.; Interactive IP Audio system based on AudiaFlex and Bose Technology; Network Switching and Routing infrastructure of 10g between 7 nodes of the building and the data centre; A data centre with multicore systems with 100TB of storage will be installed; VMWare environment; Local content distribution services; Web services for CMS Audio, Video and Tagging part Commercial and part Open Source to be developed.

Intra-venue media services: Delivering real-time video of the training sessions in different mixes of High Speed and High Definition supporting various devices, such as; iPhones, iPads, Smartphones, PDAs, Laptops, Video walls; Audio stream of music for training purposes; tagged Metadata timelines in real time.

Sensor network: It has more than 3 gateways available per sensor; it offers Wi-Fi interface and between 1 and 10 nodes. With this sensor network is possible to get information regarding to: Light, temperature, humidity, Video, audio and smoke, fire and gas detection. In order to prevent unauthorized access to the sensors, an access control service is offered.

Customer devices: Smart phone, Laptop, Tablet, Wearable sensors; compatibility with Windows, OSX, Linux, IOS, Android, RIM/Blackberry, Windows Phone, Symbian. In order to prevent unauthorized access to devices, an access control service is offered.

---

<sup>6</sup> <http://www.experimedia.eu/software/>

<sup>7</sup> <http://www.experimedia.eu/smart-venues/>

Data management: CAR offers data storing; type of data that could be stored: Health, Media and Generic measurements.

Mobile network: It offers access to Internet, access to Intranet, VPN, voice conference, video conference, collaboration, mail, IM, VoIP and video distribution. Communication protocols supported: 3G (UMTS) and WIMAX. There is the possibility of network traffic prioritisation.

Wi-Fi Network: It offers access to Internet, VPN, voice conference, video conference, VoIP, video distribution, light control, climate control, CCTV security control, PA system and audio for sport. Communication protocols supported: 802.11n.

Wired Access network: Ethernet 1000 and 10G interfaces.

Private cloud offered from the first quarter of 2012; API's supported: Proprietary Computing management API and Proprietary Storage management API. Virtualization: VMWare, Cisco and Netapp.

## Schladming

Public network connectivity: Wireless LAN (free Wi-Fi access covering many spots in the area, in the city and also on the mountain), Mobile internet commercially provided by mobile network providers (almost full coverage of the region with 3G and HSPA), Wired internet commercially offered (ADSL/VDSL/Fibre), - connected via scalable backbone, ready for extreme demands during live events.

Content distribution services: traditional TV (local cable TV available for experiments upon negotiation), IPTV, other types of internet-streams, mobile audio/video streams (via 3G), etc.

Content streams: official TV material (subject to license/rights), user generated content from mobile devices, content generated by journalists (professional video and photo cameras, subject to license/rights), local data pool (points of interest, events).

Devices: Visitors' devices including smart mobile devices (smartphones, PDAs, etc.) and notebooks/PCs.

## FHW

Network connectivity: Broadband Internet and Wi-Fi connectivity.

Local content distribution services: multimedia material distribution over local computers, local network. Virtual reality distribution and projection through clusters of PCs, running on FHW developed software and the overall Dome infrastructure, multimedia and projection and VR projects infrastructure in THEATRON (projection systems, time planning and projection consoles, sound and image management consoles, etc).

Content streams: VR content, pre-rendered static and interactive Video content streams, interactive multimedia exhibits displayed on local computer based systems, internet access to databases of FHW content.

Access devices: THOLOS projection systems, THEATRON projection and presentation systems, Powerwall consisting of 1 silver screen 3.5 x 2.5 meters, 2 projectors for stereo 1024 x 768 resolution, local computers.

## Annex II: Experiment Schedule (Gantt)

Activity	Finish date	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	
<b>Open Call Experiment Submission Process</b>																			
Call opens	2013-05-03	◆																	
Prepare open call experiment submission																			
Call closes	2013-07-03			◆															
Review, selection of proposals, negotiations																			
<b>Example Experiment Schedules</b>																			
CAR, FHW, Schladming Summer Sports 2013																			
<b>Mandatory deliverables (additional deliverables to be proposed as required)</b>																			
D4.x.1 Experiment problem statement and requirements	Month 3								◆										
D4.x.2 Experiment progress report	Month 6												◆						
D4.x.3 Experiment results and evaluation	Month 12																		◆
Schladming Winter Sports 2013																			
<b>Mandatory deliverables (additional deliverables to be proposed as required)</b>																			
D4.x.1 Experiment problem statement and requirements	Month 2							◆											
D4.x.2 Experiment progress report	Month 5											◆							
D4.x.3 Experiment results and evaluation	Month 8													◆					