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Specific Targeted Research Project

My eDirector 2012

(FP7-215248)

**My eDirector 2012 - Real-Time Context-Aware and
Personalized Media Streaming Environments for
Large Scale Broadcasting Applications**

[D2.7 Business Model(s) Specification]

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1 Introduction

The ultimate output of a research and development project such as My eDirector 2012 is the future adoption of the technologies developed. The adoption of new technologies can be carried out with existing business models but sometimes the new technologies require new business models or new disruptive business models that can stimulate the introduction of a new technology.

Recent history has taught us that business models can be much more important than technology engineering efforts. One example of this is the failure and recent success of Apple; these are more related to their business models rather than their technologies.

The key to success of another worldwide well-known organisation, Google has been through adopting innovative business models where no one else had succeeded. Google's AdWorks is seen as a threat by the traditional press and event TV media advertising. The increasing media fragmentation has placed Google in a much stronger position.

We have designed different business models that will allow the adoption of the My eDirector 2012 project results in different research areas. These business models are;

- The Business Model for the My eDirector 2012 platform at the Olympic Games
- The Business Model for the My eDirector 2012 platform at the FIFA Cup
- The Business Model for the My eDirector 2012 platform at the UEFA Champions league
- Targeted Advertising
- Real Time Location System
- Personalized broadcast services

The My eDirector 2012 project is related to advanced interactive content that is transmitted via interactive digital television infrastructure. In order to provide the full potential of the solutions that are currently under research, this document focuses first on the study of interactive digital television with real time content. For this purpose, we have categorised the business models taking into account their further commercial relationship and differentiating them according to their degree of deployment. In general terms, distribution technologies, basically digital real time content television supporting interactive services, are the enablers of the My eDirector 2012 platform. Their development is related to the list of scenarios where My eDirector 2012 can possibly be exploited and these scenarios help define possible revenue streams and business models.

Finally, it is important to mention that this document is aligned with the Exploitation Plan of the consortium and therefore, an overview of the specific adaptation of the generic business plan to the specific situation of the project's position is included with the understanding that the proposition could be designed for a third party to run the complete business plan.

2 The Business Model for the My eDirector 2012 platform at the Olympic Games

This business model has been elaborated after presenting the My eDirector 2012 view and partial results to key players, and main stakeholders. Nowadays, most of the Olympic revenues come from the broadcast and therefore the business and technology supporting these events come from a traditional broadcast scheme. Although, as we have included in the Marketing Analysis deliverable (D8.2), there are several experiences of new media in and around the Olympics, the business behind these sports major events is only evolving slowly.

The potential market for the results of the My eDirector 2012 is very large (see D8.2) but the very nature of this market severely limits the potential business models that may be applied. The only potential business models involve either individualised solutions for each of the (up to) 220 RHB (Rights Holding Broadcasters) or to provide more or less generic solutions. It seems clear that if the possibility for generic solutions exists then that route should be taken. At the same time, there already exists one broker who, by definition, deals directly with all of these 220 RHB and that is the Olympic Broadcasting Service. Therefore it would seem that to be successful at a global scale, in practice, necessarily requires working directly with the OBS. At the same time, the nature of the OBS business model (and client base) requires the use of packaged solutions which, of course, goes well with the preference for the use of generic solutions that was explained earlier.

The nature of the Olympic Games requires having a very solid and structured relationship between the so called "Olympic Family". In fact most providers are not considered providers but partners and invest a lot of the revenues that these contracts generate back as Olympic Games sponsors. In this scenario, the IOC relays only in the services of those companies that they "trust" such as Atos Origin and OMEGA. In the deployment, all services are converted into packages and included in the "ratecard" (the list of services offered to the Rights Holders). All services are disaster-proof reliable solutions with several layers of redundancy and disaster plans.

Therefore the My eDirector 2012 platform is foreseen to be sold for the next Olympic Games as an integrated, but at the same time, personalised solution to the RHB's. The best approach to do this is, as has been said, creating new packages for the OBS so that they can include it in their "rate card" for the London Olympic Games (and for the following Olympic Games). Following this approach we have defined a basic business model where we are able to follow the revenues streams and the provision of services to different actors.

We understand that Atos Origin will be the industrial partner responsible of the deployment and provision of the services from My eDirector 2012, while the rest of organisation of the consortium will collaborate in this effort and share the revenues.

We plan to extrapolate this business model to other major events. These of course would be the main sporting events, but also other types of large scale events.

Product Mix

The proposed solution (iVoP – interactive video online platform) can be divided in two parts, first a set of packetized solutions which will be defined and fine tuned with the OBS and included in the OBS portfolio for the London 2012 Olympic Games and the following Games. Depending on the needs of each Broadcaster, we expect the OBS to offer two packages for the new media solution; *Basic package* and *Advanced package*.

The second part of the proposed solution is the integration of the packetized solution with the broadcaster's IT infrastructure. Depending on the IT infrastructure and the degree of integration desired by the broadcaster, we have defined two degrees of Integration named *Minimal integration* and *Full integration*.

In this sense the proposed solution can be presented in the following matrix:

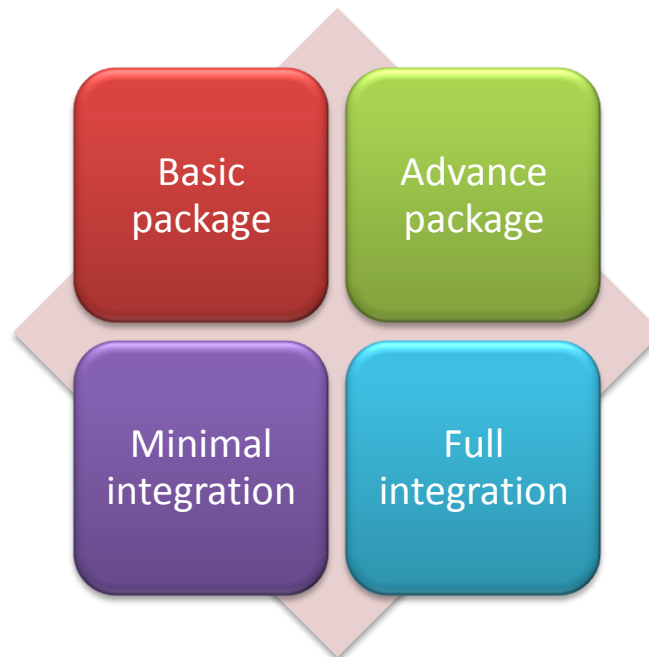


Figure 1 Packetized Solution

Basic package

This package will be offered as a service, where a microsite with basic templates to adjust the appearance will support the centralisation and allow the Olympic portal to semi-automatically access static content as well as audiovisual distribution over the platform for WebTV. Atos Origin will host the microsite and be in charge of the communication between the Olympic System and the microsite, which will automatically be populated with the results, schedule etc. Atos will centralise the complete service including connecting to one or more CDNs (whose cost has not been included in the budget).

Advanced package

This package is a premium version of the previous package, but it would include automatic recommendations for the consumers, access to additional cameras feeds, possibility to cover Microsoft and Flash users, advance UI functionalities like athlete identification, and integration with social networks.

Minimal integration

In this case, the solution provided will require a minimum interaction with the broadcaster and non-localised services other than the translation of the micro-site. We will ensure they have a basic functionality accessible from the Broadcaster infrastructure to update static content manually, without a real integration with their CMS for the delivery platform. The solution will include the support of Atos Origin for the necessary contract between the broadcaster and the CDN(s).

Full integration

In this case, the proposed solution will be integrated with the broadcaster's CMS and other IT infrastructure at the broadcaster headquarters as well as the operational teams at the Olympic Games site.

Package Business Model

The business model described is related to the package that will be offered through the OBS, which would also be the trigger for the additional services. The idea is for the OBS to operate basically as they do now, but with upgraded new media services in their portfolio. Those new services will be in fact been delivered by Atos Origin, acting as representative of the My eDirector 2012 consortium, who would receive revenues from the OBS.

The following figure shows the overall relationship between the main actors of the business model:

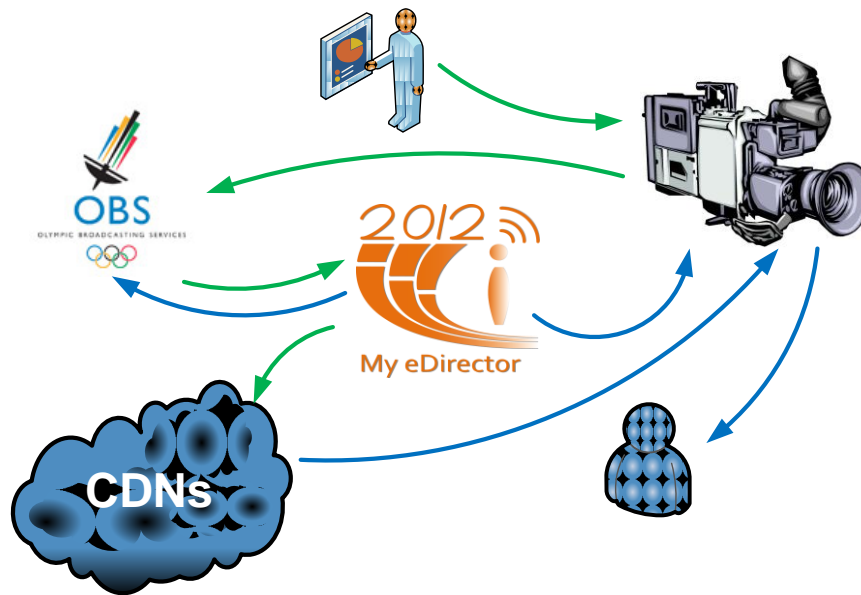


Figure 2 My eDirector 2012 Business Model



This relationship with the OBS requires having very packetized solutions as the OBS operates in a standardised way to ensure the successful coverage of the Olympic Games by all broadcasters. Atos Origin will act as an intermediary between the CDN's and the broadcasters. However there would have to be a legal bond between the broadcaster and the CDN (or CDN's) in order to reduce the financial risk for Atos Origin. The CDN would be responsible of the content distribution including the live audiovisual content, the VoD content and the Website published by Atos Origin (Management Operations). This deliverable should support the agreed platform which might include mobile operators.

Therefore the Broadcaster (or Olympic Games Rights Holders) will pay the OBS for the services and to the CDN (or CDNs) selected by Atos Origin. Atos Origin will deploy the packetized solution and integrate it (depending on the degree selected by the broadcaster) with the broadcaster infrastructures and processes.

We expect the Broadcaster to receive revenues from their regular sources which would depend on the nature of the Broadcaster business models. In most cases, those revenues would probably be gener-

ated by advertising, however in some cases the revenues would come from public sources. Within the complete offering, we will include a solution for increasing these revenues with notification services (SMS/MMS and others – see the complete list of services below).

Finally, the consumers will perceive that the content will be provided by their broadcaster although the actual distribution will be in charge of the CDN(s).

2.1 Additional Services

Other than the product mixes explained above, this venture is expected to foster new business opportunities, with services oriented to broadcasters oriented to improve not only their coverage of the Olympic Games but also their regular offering. These services would be offered by the My eDirector 2012 consortium directly to the broadcasters who contract the packaged services through the OBS.

The following figure shows the list of these additional services that we have identified:

Post production archive

Deploy and support the timestamp based annotation of Olympic Audio-visual content with the SIS information which can be integrated with other metadata sources and stored within the content and/or with the metadata repository. This annotation will provide a header describing the event, athletes, teams, officials etc. Partial event results with timestamps will be included. Depending on the automatic and/or manual additional source tool used, the metadata can be enriched with a description of the scene (where, who, colour histogram, voice to text etc.)

CMS

Some broadcasters, especially the smaller ones, may be interested in taking advantage of the Olympic Games to update / upgrade or just deploy a CMS, therefore we expect that our activities to trigger the deployment of CMS to broadcasters worldwide, which would be totally compatible with the proposed solutions for the Olympic Games.

Website improvements

This service will improve the Internet presence of the broadcaster in such things, for example as graphic design, accessibility, content sources, etc.

Premium Messages Platform (SMS / MMS)

Within the related offer to the broadcaster for the Olympic Games, that in some cases could go beyond the OBS package, we will be in a position to offer them a complete solution including the generation of alerts, a subscription platform and message distribution (this probably would only be offered within the EU, while outside of the EU a partner would have to be found). The sales proposition of this service towards the broadcaster is that this platform will pay for itself as well as generate additional revenues to partially cover the Olympic Games operation. The idea is that these alerts will be managed automatically by integrating the messaging alert systems with the SIS.

Professional production tools	<p>Taking into account the My eDirector 2012 experience, the consortium will be in a position to offer professional tools to be implemented in the broadcasters control rooms. These tools would include live information from the Olympic Systems, production archive recommendations, configurable alerts etc.</p>
Pre-production tools	<p>Pre-production tools can be provided that will facilitate the preparation of material that can be used in the Olympic broadcasts.</p>
Multiplatform distribution support	<p>For London 2012, we will be in a position to offer a complete multiform distribution platform as most of the current visualisation devices will be able to reproduce H264. In some cases we can consider changing the video coding. The solution would cover Olympic content on WebTV including Microsoft state of the art scalable technology (smooth streaming) and Flash scalable solutions. The solution can be compatible with Microsoft PCs, Macs, Linux, video consoles (Xbox 360, Wii, and even possibly Sony PS3) and mobile phones (Microsoft with the smooth streaming, iPhone (dedicated application) and in general of other mobile devices capable of reproducing H264 streams.</p> <p>We would also be able to integrate the multiplatform solution for DVB-T/H and WiMax scenarios as well as IPTV.</p> <p>The Multiplatform distribution support will provide the Web front capable of identifying the device and/or the access technology in order to deliver the content in the most appropriate format while the content will of course be delivered by CDN's. We will also provide a backend to manage the distribution platform which should be integrated with the CMS.</p>
Package platform adaptation	<p>There may be clients who prefer to change the packages being offered to better suit their needs. These cases would be studied case by case to assess their feasibility.</p>
Support metadata relay to third parties	<p>This service would provide support for the broadcaster to be able to provide third party information systems with the information from the SIS so they can relay structured information, deciding which information and when to relay it. This would allow third parties to automatically generate specific content and to populate research databases.</p> <p>The broadcaster would be able to obtain a benefit either because they charge for this service to a third party or because they exchange information or something else with the third party.</p> <p>We will offer a managed environment to forward this information, which should probably include a delay in the delivery of the information.</p>

Support for personalised advertising

One of the most promising sources of revenue for broadcasters is the possibility to include personalised advertising, although some of the RHB are public broadcasters which in some cases like BBC (with the exception of the BBC who carries no advertising on its domestic services) or RTVE do not carry advertising. In My eDirector 2012 platform users will be registered with a large amount of profile data that would be very interesting for advertisers – age, sex, nationality, preferred events/athletes, etc.

Simply with the information of age+sex+nationality advertisers can begin to provide targeted advertising but the addition of preferred events and/or athletes would greatly increase the possibilities. Sports such as horse show jumping, female beach volleyball or snowboarding could allow advertisers to infer very important information about the viewers. And of course there may be athletes whose fans fit a very specific advertising profile.

The business models to be applied here by the consortium could be pay-per-click, pay for each placed ad or a lump sum payment for the service. Targeted advertising can increase broadcaster revenue and so would be a strong argument for them to use the My eDirector 2012 platform.

Besides the basic My eDirector 2012 platform there are a number of technologies being developed in the project that will probably have exploitation potential. The applicable business models for these technologies have not yet been defined. Some examples would be the following:

Personalized & interactive broadcast

In order for a user to be able to have access to the personalization services over the DVB-T/H, a user must first log in (register) into the My eDirector 2012 platform and create a profile with his sports preferences. After creating a profile the provision of the service is simple. The user uses his terminal like a pda or laptop to login to the DVB live service page and from this page he can change automatically his television channels. While watching a channel, if an athletic event takes place in another channel which according to his user profile the user would like to know about it, in this page he takes the recommendation of this athletic event. According to the importance of this specific event for the user, the service can even change the television channel automatically, after informing the user for five seconds.

WiFi Content distribution

The clients will be offered the technologies required to provide content distribution deployment through WiFi networks.

3 Real Time Location System

The investigation of non-image based tracking system could lead to events using tracking information to aid the understanding of a sport and adding graphics. This data could be collected by RTLS, GPS or another system. This tracking data may be of use for analysis of the sport. The RTLS system at its current size is unlikely to be used on specific athletes in the next 12 months due to its unacceptably large size for a competing athlete. However it may have applications within the studio such as focus assist. This is currently being investigated by the BBC.

Experience gained by BBC in the project when applying its existing image-based camera tracking technology to athletics (and any improvements to this technology developed as a part of the My eDirector 2012-2012 work) are already feeding into existing commercialisation activities for the camera tracker. For example, experiments already conducted on use of the tracker to track very long sequences have helped refine the tracker and improve its performance, and these results have been passed onto licensees of the technology (Red Bee Media and RT Software).

The image-based athlete identification technology developed by other partners may be exploitable by the BBC or its commercial partners in various ways, for example in logging material for the BBC sports archive. It is too early to make concrete plans for such exploitation, until the technology has been tested successfully on a wide range of material, which will happen as a part of the trial in year 3.

Many developments in the project are potentially reusable in the FP7 project 'FascinatE', in which the BBC is a partner. The FascinatE project, which started in Feb 2010, is developing a system for capturing a very high-resolution panoramic view of a scene and allowing viewers to select the area they want to look at. Sports events are likely to be a key application area, so technology for identification, tracking and selecting views of athletes is thus highly relevant.

The following diagram shows a possible business model, which feasibility requires further analysis, but the intention of this section is to provide a first view of the project business view.

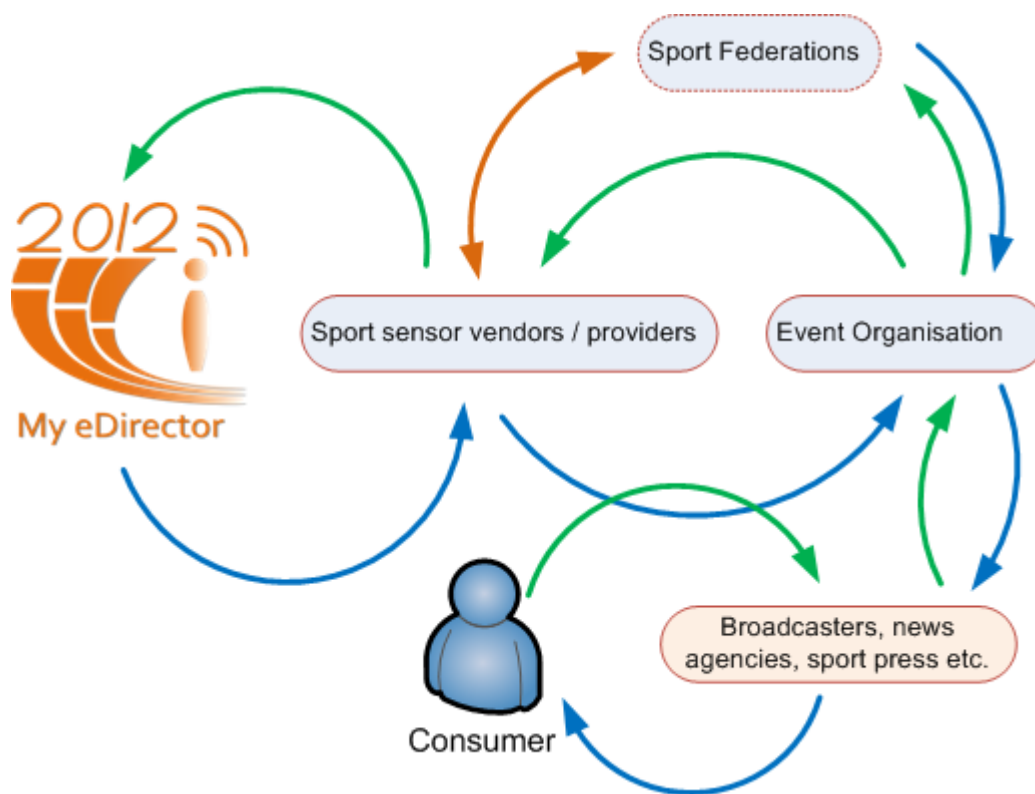







Figure 3 First view of the project business view

Legend	Description
	Income flow, represent who pays to who for receiving a service.
	Service provision flow, represent who is providing a service to who even if they are not been paid for the same actor.
	Collaboration ship which could involved which not necessarily involved direct exchange of services / income.
	This icon represent the consumer, who always participate in the business models as final consumer of the value chain, but does not always have to paid for the services.
	My eDirector 2012 Consortium.
Sport sensor vendor / provider	A realistic approach to the commercialization of a RTLS, should involved a sport sensor vendor as the sport federation and/or event organizer would not rely on a new actor in the industry. Therefore we expect that the commercialization of a RTLS will involve the collaboration or intermediary of organizations such as OMEGA.

- Event Organisation** This is the actor who actually organized the sport event, which business is related usually to the audiovisual rights, although they also have additional income streams from other sources such as other related rights or services to the right holders. These organizations collaborate with the sport federations in order to have their support.
- Sport Federations** They are very involved in the organization of the sport events and in the detail of what, which and how the information is gathered on their sport. They also define the specific rules of the game for the event and that affects on how the sport information is collected.
- Broadcasters, news agencies, sport press etc.** These organizations make use of the information either to generate an added value service (commentator, extrapolate sport data, etc) or just relay the information to the consumers. They are also who charge the consumers or third parties (in the case of advertising) and therefore maintain the whole business model.

4 Personalised broadcast services

The proliferation of internet and wireless network technologies as well as the increasing demand for real time multimedia services anytime and everywhere, has lead to a huge research interest on tools for offering cross platform homogeneous viewing experience. The increasing everyday non-stop usage of multimedia devices such as TVs, PCs, internet mobiles, PDAs, iPods, has created the need of platform independent multimedia services.

Indicatively, according to the “A2/M2 Three Screen Report Volume 5” [Nielsen09], more than half of Americans (57%) who have Internet access at home use television and the Internet simultaneously at least once a month. Furthermore, the mobile video audience increased 70% from a year prior and time spent watching online video increased 46%. Simultaneously, traditional TV consumption continues to grow (141 hours a month in the second quarter). Americans are using DVRs more than ever watching one hour more of time-shifted TV each month than a year ago.

All these combine an indication of the growing demand for personalized multimedia services that is not focused only in Personal computers but reaches far beyond, including Television Sets and Mobile Devices. This demand has inevitably led to the development of cross platform implementation solutions that enable (or to be more accurate claim to enable) the design and implementation of applications that can be easily ported across all the above types of devices. Such applications focus mainly on the use of the internet and web services for information (i.e. news), communication (with a strong emphasis on social networking), and access to multimedia (i.e small video clips and pictures). The common denominator in all these services is the ability to feed data to the end user device that are either created in a real time or near time manner, such as news feeds and instant messages, and the ability to support a flow of information, either on a block by block (i.e. news highlights) or streaming (i.e. video).

The corresponding existing technologies have not been standardized yet. In fact we could safely say that the researchers and engineers working in this field are still experimenting with different approaches that bring into mind the similar cases of the recent past, when they were trying to determine if the mobile phone would prevail over the laptop devices or the opposite. As a result, several solutions that implement popular web applications such as Facebook, Picasa, Youtube, e.a. are available, enabling the use of these popular applications through a single account and a common User Interface over all 3 screens, taking advantage of the particular advantages of each device type as regards mobility, usability, processing power and viewing capacity. The following figure depicts the corresponding features per device.

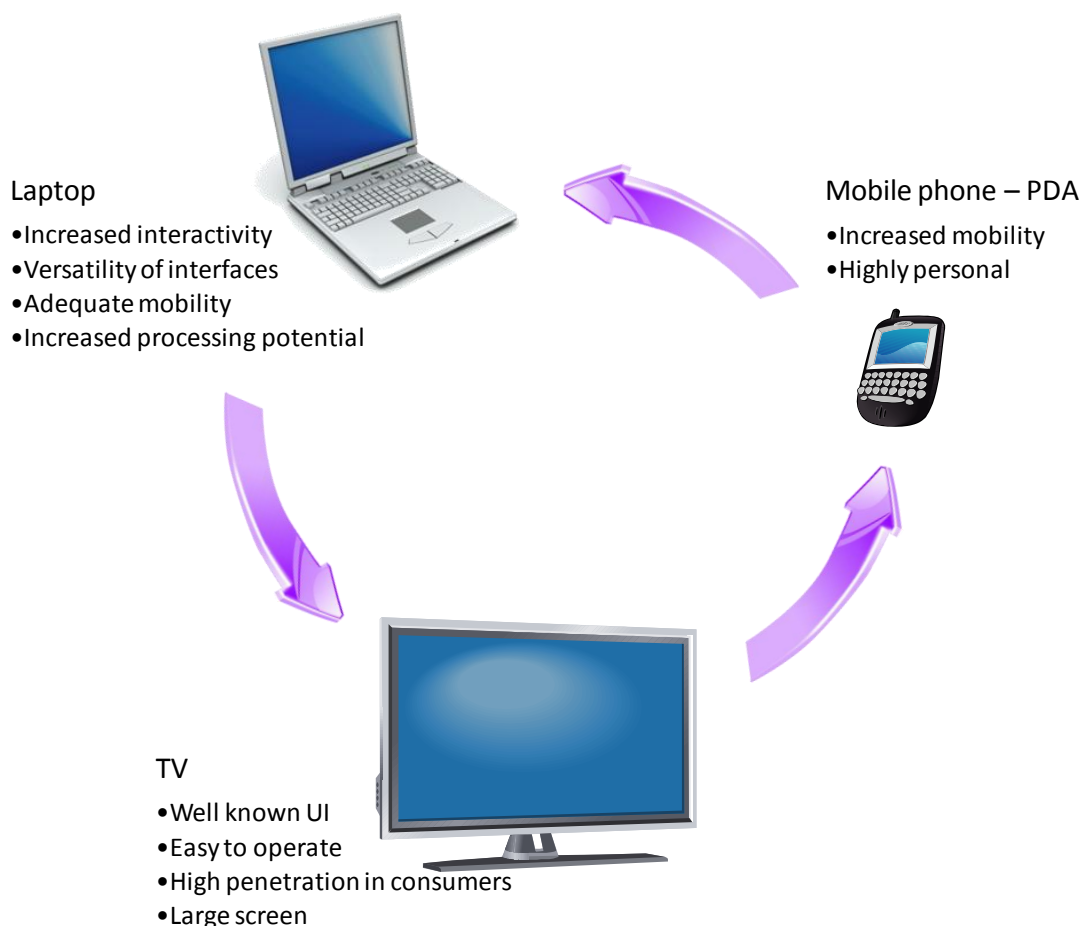


Figure 4 The 3 screens and their profile as regards user access to multimedia content

At this point, we should draw attention to the ability of using broadcasting technology in all 3 types of devices. The support of DVB technologies not only by the traditional target devices (TVs and STBs), but also by PCs and Mobile phones/PDAs through either native hardware or through hardware extensions such as USB receivers, has provided the ground on which personalized broadcast services can be offered. The traditional model of broadcast support only over IP interfaces for PCs and mobile phones/PDAs, due to the problems of deployment across domains and setup of the network, though in paper could support the transmission of multimedia content, has not enjoyed great adoption. The introduction of DVB support at these devices means that their users can enjoy the advantages of TV signal reception everywhere and with no configuration cost from the provider, while the potential of even supporting High Definition content is only depending on the capability of the devices to reproduce it. Several successful examples of DVB broadcasting to mobile devices and the variety of low cost hardware extensions for PCS using USB interface have established the feasibility of using DVB for multimedia broadcasting to all 3 screens. In reference, TV and broadcast services for mobile users are being deployed in many countries using DVB-H and will be soon available on an even broader scale thanks to its satellite counterpart, DVB-SH. Alcatel – Lucent has recently announced that will trial the new hybrid satellite-terrestrial mobile broadcast technology with DISH Network [Alcatel-Lucent].

Summarizing the analysis provided in the previous paragraphs we see that combination of the support for DBV broadcast and the ability of web access now available in all three screens enables has enabled the provision of personalized services in all parts of our daily routine: at home (TV), at work (PC) or on the move (mobile phone/PDA). Before proceeding with a presentation of the technical issues related to the way this can be achieved, a presentation of the state of the art technologies that can enable access

to personalised web services and content will be provided.

The proposed scenario for this business model relays on the combination of broadcasting of multimedia content with the provision of personalized information about events of interest, while in special cases where an event of outmost interest to the user occurred, different scenario flavors, tailored to the particular functionality of each device have been provided. The actions of the system in these cases ranges from simple text notifications (allowing the user to select if he will switch to the corresponding channel) up to pop up or PiP based video displays. The results of this work have resulted to the provision of a generic model for providing personalized multimedia services in which:

1. DVB broadcasting is used in order to efficiently offer to the user a streaming multimedia experience of live content
2. Personalised web services providing metadata about events of interest are used in order to enhance the user viewing experience through extra information
3. Push content technologies again over web technologies are again used in order to provide to the user notifications about events of interest and in the case that it is supported, direct access to the live coverage of the event in the form of small pop-up screens or PiP.

To provide a proof of concept of the ability of introduction of personalized broadcasting, a simple use case scenario deploying conventional devices (a plain TV and an infra-red mobile device) has been designed, implemented and demonstrated. The scenario is depicted in the following figure.

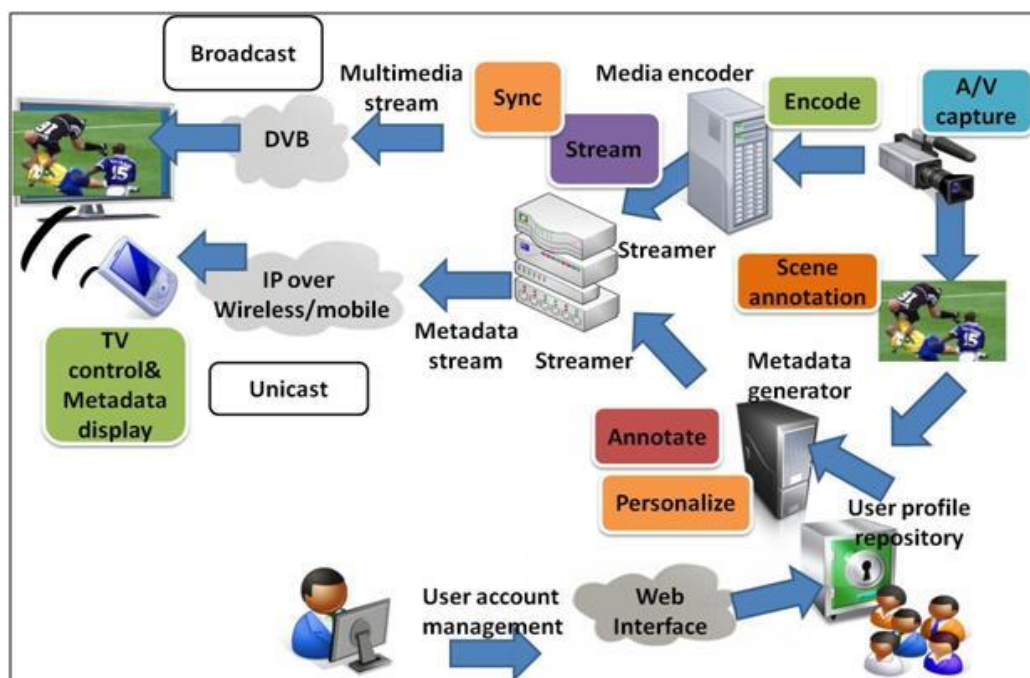


Figure 5 Proof of concept of the personalized broadcasting

In the selected proof of concept scenario, live video and audio from the cameras covering the athletic events (in our case the soccer games which take place in parallel) is encoded properly (i.e. MPEG4/H.264 format) in order to be transmitted to the media streamers. In addition, metadata containing information about the games (such as statistics and events that take place in parallel with the action in the field) are generated and filtered according to user preferences. As regards the streaming procedure, there are two streamers: the metadata streamer that takes the generated metadata aforementioned and the multimedia streamer that is used to stream the corresponding video and audio data. The two different streams are synchronized and then the multimedia streams are broadcasted over DVB to the end users TV sets, while the metadata streams are sent in unicast mode over wireless and mobile technologies using IP to the end users' personal devices such as PDAs and mobile phones. The archi-





ecture allows the users to watch the athletic event that interests them most, while in parallel they get information about what is happening in other events based on their preferences collected from their personal profiles.

4.1 Personalized Broadcast Services Business Models

The services outlined above section, will generate several different alternatives business models, depending on each case of the actors involved and the nature of the both content and the personalization service provide.

In general the following business models are describe in terms of type of organization service provision (who provides the service to who) and the income flow to understand who receive income from who.

The following table shows the main actors and other elements used to describe the business models related to the personalized broadcast services.

Legend	Description
	Income flow, represent who pays to who for receiving a service.
	Service provision flow, represent who is providing a service to who even if they are not been paid for the same actor.
	This icon represent the consumer, who always participate in the business models as final consumer of the value chain, but does not always have to paid for the services.
	Advertising agencies.
Broadcast Content Provider	These are the organizations that actually create the content, which in some cases could be the actual broadcasters but nowadays it is very common that the content is actually created by third parties. There are many different types of Broadcast Content Providers, from those dedicated to create TV series to those that cover sport events.
Broadcast Content Aggregator	Under this role we include those organizations that gather content from different sources usually from Broadcast Content Providers but it could also include their own archive or user generated content, and create a bouquet that is broadcast to the consumers. Traditional broadcasters can act also a Broadcast Content Aggregator as they can buy content for several Broadcast Content Providers and fill their channels.
Broadcast service provider	
Broadcast network service provider	These organizations are supporting actual broadcast of the content to the citizens having the necessary infrastructure for massive broadcast.
Data content provider	This is a very generic role and the actual characteristic of the organization change from one content to another. For example, in the Olympic Games in EU the EBU will be the data content provider, who will pay the service to the OBS and receive the service from Atos Origin.
	We should however take into account that we are not only talk-

ing about organizations supporting of structure data that can enrich video, but any “data” including multimedia content that can be used ultimately to enrich the broadcast content.

News agencies, sport statistics or sensors contractors will be included under this category.

Personalized Broadcast services Those organizations that transform the data from third parties and are capable of producing services than enhance and personalized the consumer experience. For example been capable of synchronizing metadata transmitted over Internet with broadcast content, supporting recommendation mechanism or offer additional audiovisual content like additional audio streams additional side views etc.

Content Delivery Network provider These are the organization capable of forward content over the Internet to mass audience making use of their infrastructures ensuring the quality of the network transmission and solving the scalability issues related to Internet.

Mobile Operator This are the mobile operator, which in some cases will be transparent to the business models even is some cases where their infrastructures are used by the proposed platform. However, there are some models based on the collection of income base on the consumer

4.1.1 Consumer does not pay for the personalized broadcast services

This is a very traditional broadcast business model, where we have included the provision of Personalised Broadcast Services but they are not been paid (directly) by the consumer. Therefore under this model, the new services are provided as an added value of the content supported by the Broadcast Content Aggregator, which will motivated in order to differentiate themselves from the competition.

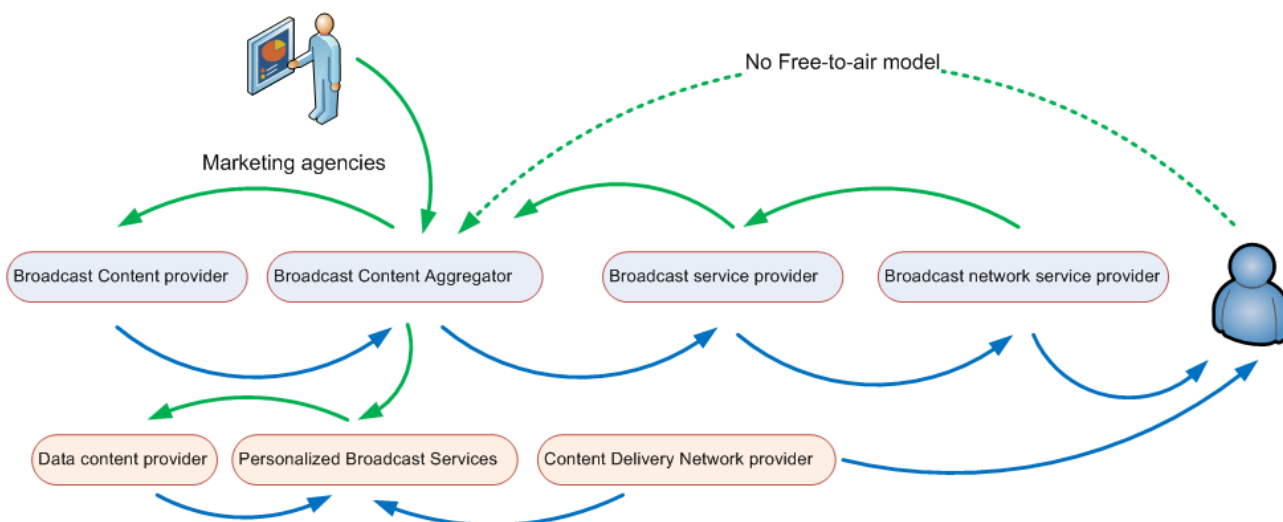


Figure 6 Free to air & paid model Schema

Under this scheme there both business models are valid the Free-to-air and the paid model. In both cases, the consumer will not pay directly the Personalized Broadcast Services.

4.1.2 Consumer pays for the personalized broadcast services

This model is the opposite of the previous one, as the consumer pays a third party, the Personalised Broadcast Service provider. The Personalised Broadcast Service is not linked economically (income / service provision) to the Content Aggregator.

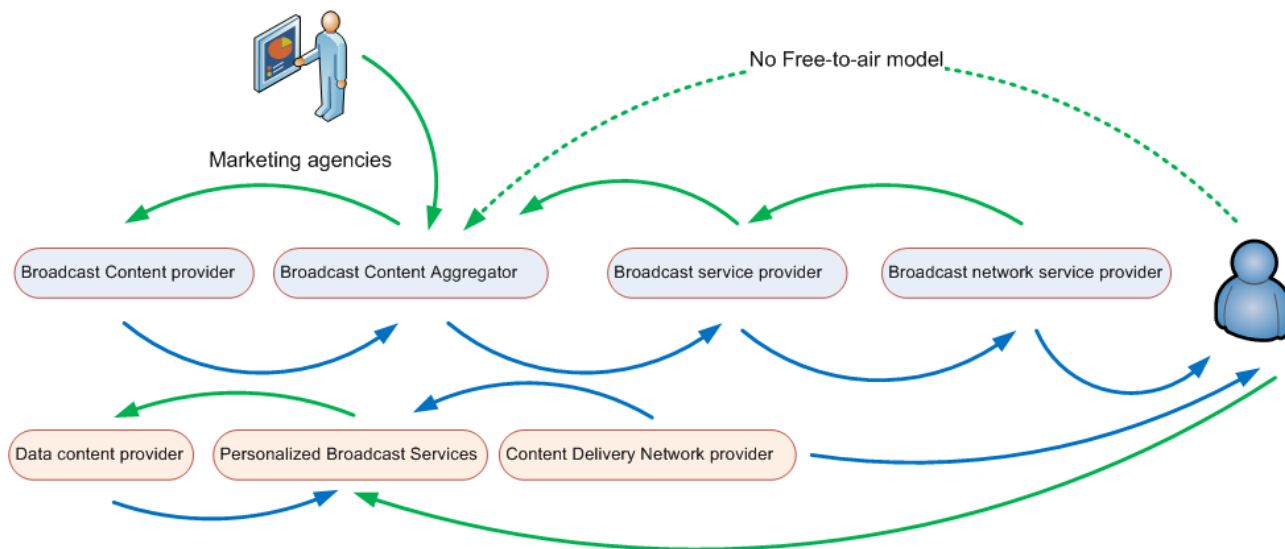


Figure 7 Paid model for personalized services

The complete personalized broadcast services could be a separate business (or not) from the broadcast environment providing the opportunity to create a parallel “industry” supporting the experience of the consumer.

There are a lot of entry barriers for this model as the consumer will have to establish new relationship with this third party, and the Personalised Broadcast Service will have to manage a mass audience as client portfolio in order to be feasible. Well known Internet service provider could position themselves, especially if they have micro-payment infrastructures.

4.1.3 Mobile model of personalized broadcast services

This model includes the possibility of having a Mobile Operation charging the consumers as pay mechanism. This payment can be re-directed to the Broadcast Content Aggregator that would support the Personalized Broadcast Services.

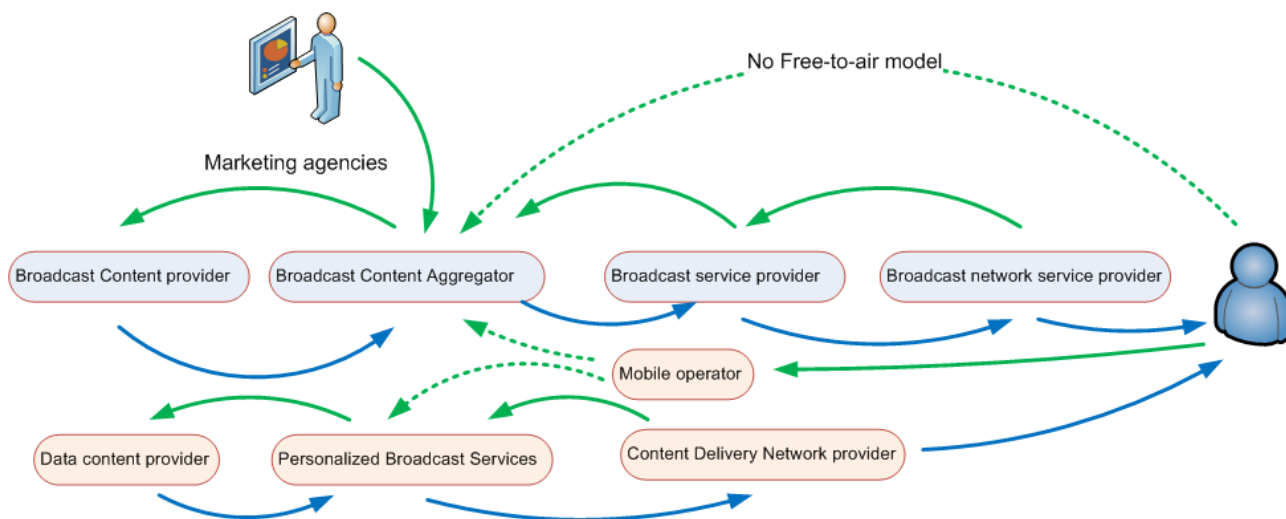


Figure 8 Mobile model of personalized broadcast services

This mobile operator model can also assume the alternative of having to separate business environment and using the mobile operator basically as a platform to provision inflows to the Personalised Broadcast Services.

5 The Business Model for the My eDirector 2012 platform at Football

5.1 FIFA World Cup

To extend the proposed solution for Olympic Games, My eDirector 2012 could be used in other sports events, such as FIFA World Championship.

This business model will involve, unlike the case for Olympic Games, an only individualised solution for HBS (Host Broadcast Services), the local broadcaster designed by FIFA for its upcoming World Championship events. The services that would be served are explained in deliverable D8.3 Exploitation Plan, and all of them are disaster-proof reliable solutions with several layers of redundancy and disaster plans that characterizes the solutions in whose development is Atos Origin involved.

Therefore, in an analogue way to Olympic Games use case, the My eDirector 2012 platform is foreseen to be sold for the next FIFA World Championship as an integrated, but at the same time, personalised solution to the HBS. The best approach is creating new packages for the HBS so that they can include it in their “rate card” for the 2014 FIFA World Cup (and for the following football world up events). Following this similar approach to the ones selected for Olympic Games, we have defined a basic business model where we are able to follow the revenue streams and the provision of services to different actors.

Atos Origin will be, again, the industrial partner responsible for the deployment and provision of the services from My eDirector 2012, while the rest of organisation of the consortium will collaborate in this effort and share the revenues.

My eDirector 2012 could be offered as a set of packetized solutions which will be defined and fine tuned with the FIFA specifications and included in its portfolio for the next FIFA World Championship. In this case, FIFA is the rights holder and sells them to broadcasters. Depending on the needs of each broadcaster, we expect the FIFA to offer different options for the new media solution. These options could be seen in Deliverable “D8.3 Exploitation Plan”.

Business Model

The preferred business model is similar to the one proposed for the Olympic Games, but with different actors. The solution will be offered through the HBS, which has direct contact with the RHB and therefore, a perfect sales channel. Again, we would offer HBS to sell our solution under their branding so they can incorporate My eDirector 2012 solution to their service offering to the RHB. The idea is for the HBS to operate basically as they do now, but with upgraded new media services in their portfolio. Those new services will be in fact been delivered by My eDirector 2012, acting as representative of the My eDirector 2012 consortium, who would receive revenues from the HBS.

The following figure shows the overall relationship between the main actors of the business model:

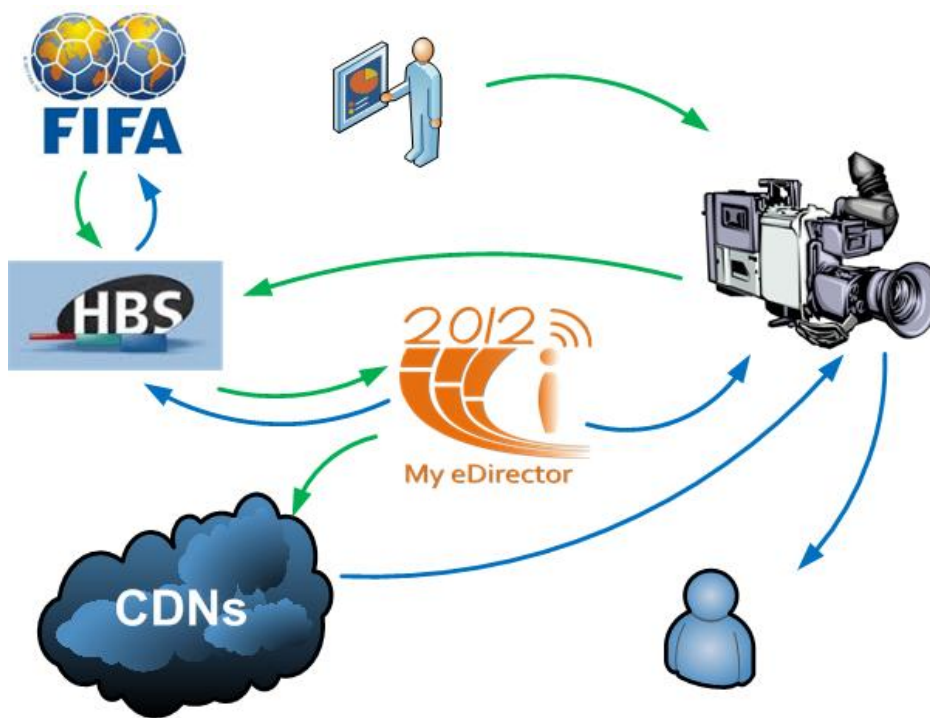


Figure 9 My eDirector 2012 Business Model for FIFA

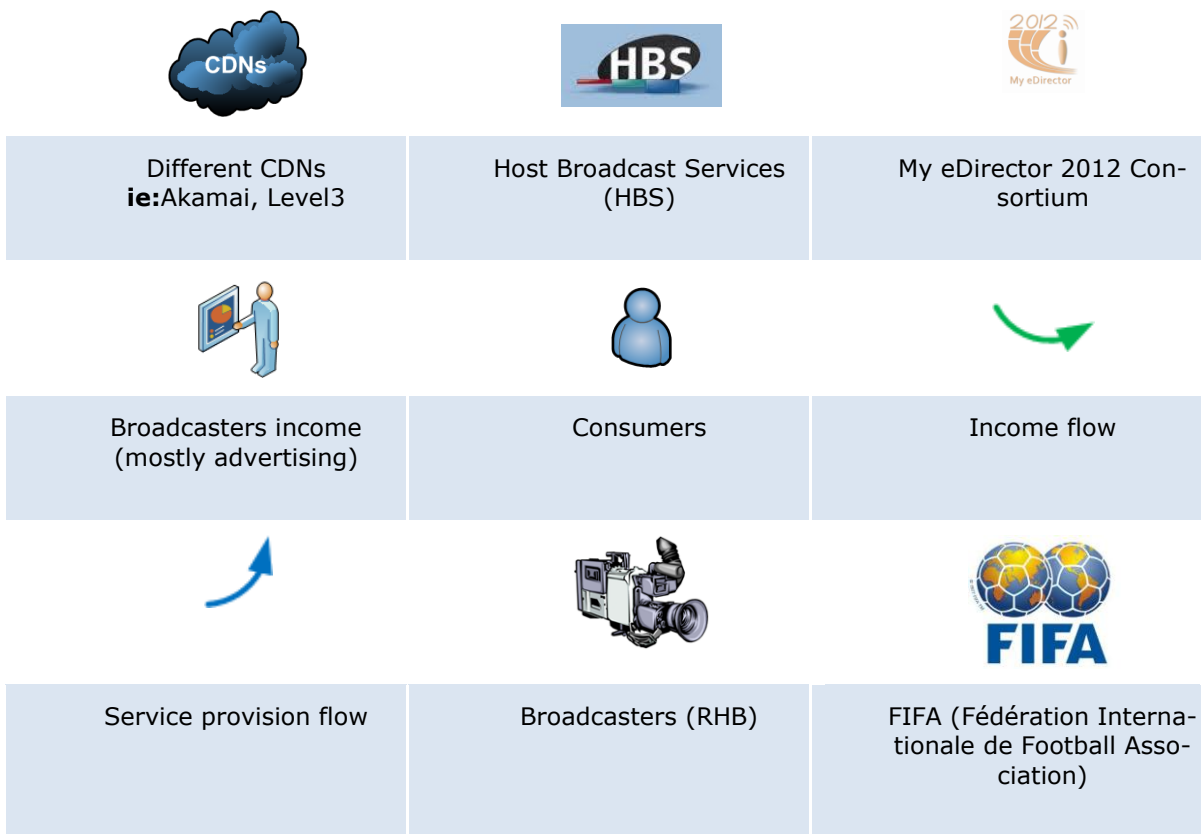


Figure 10 Actors in My eDirector 2012 Business Model for FIFA

As depicted in the figure above, relationships with the HBS require having packetized solutions, as the HBS operates to ensure the successful coverage of the World Cup by all broadcasters. Atos Origin will act, one more time (identical operation mode as in the case of Olympic Games), as an intermediary between the CDN's and local broadcasters.

Similar to the case of Olympic Games, it will be necessary to sign an agreement between the broadcaster and the CDN to minimize the financial risk for Atos Origin. The CDN would have to be responsible for the content distribution, including live audiovisual content and VoD content and the website published by Atos Origin (Management Operations).

Similar to the case of Olympic Games, the broadcaster will pay the HBS for the services and to the CDN selected by Atos Origin, and Atos Origin will deploy the solution and will integrate it with the broadcaster's infrastructures and processes.

As mentioned in previous section with the case of the Olympic Games, this way makes the broadcasters to receive revenues from their regular sources; revenues that would probably be generated by advertising.

Of course, all this process will be transparent for the customers and they will perceive that it will be provided by their broadcaster although the actual distribution will be in charge of the CDN.

5.2 UEFA Champions League

The proposed solution for FIFA World Cup fits perfectly in UEFA Champions League. In the same way, the business model will include an individualised solution. But in this case, the solution will be exploited by the company "Television Event And Media Marketing AG" (TEAM Marketing AG), the local broadcaster designed by UEFA for this event. The services offered can be consulted in deliverable "D8.3 Exploitation Plan"

Therefore, in an analogue way to the previous use case, the My eDirector 2012 platform is foreseen to be sold for the next UEFA Champions League as an integrated, but at the same time, personalised solution to TEAM Marketing AG. In this case this entity will offer My eDirector 2012 solution to RHB's by including it into their "rate card" for the next edition of this famous championship.

In this case, Atos Origin will be, once again, the industrial partner responsible of the deployment and provision of the services from My eDirector 2012, sharing revenues with the rest of My eDirector 2012's partners that will collaborate with Atos in this magnum effort.

My eDirector 2012 will be offered to the packetized solutions according to the UEFA specifications and the solution will be included in its portfolio for the next UEFA championship edition. UEFA is the rights holder and sells them to broadcasters. In contrast to the previous case, in some regions local laws allow these broadcasters to commercialize these rights and sell them to other smaller local broadcasters

Business Model

The solution will be offered through TEAM Manager AG, which has direct contact with the RHB and therefore it is a perfect sales channel. As in the previous case, we would offer TEAM Manager AG to sell My eDirector 2012 solution under their branding so they can incorporate it to their service offering to the RHB. This way, TEAM Manager AG will have new media services to offer to his customers, while My eDirector 2012 consortium will receive the revenues from this leading marketing agency specialising in major sports and music events.

The following figure shows the overall relationship between the main actors of the business model:

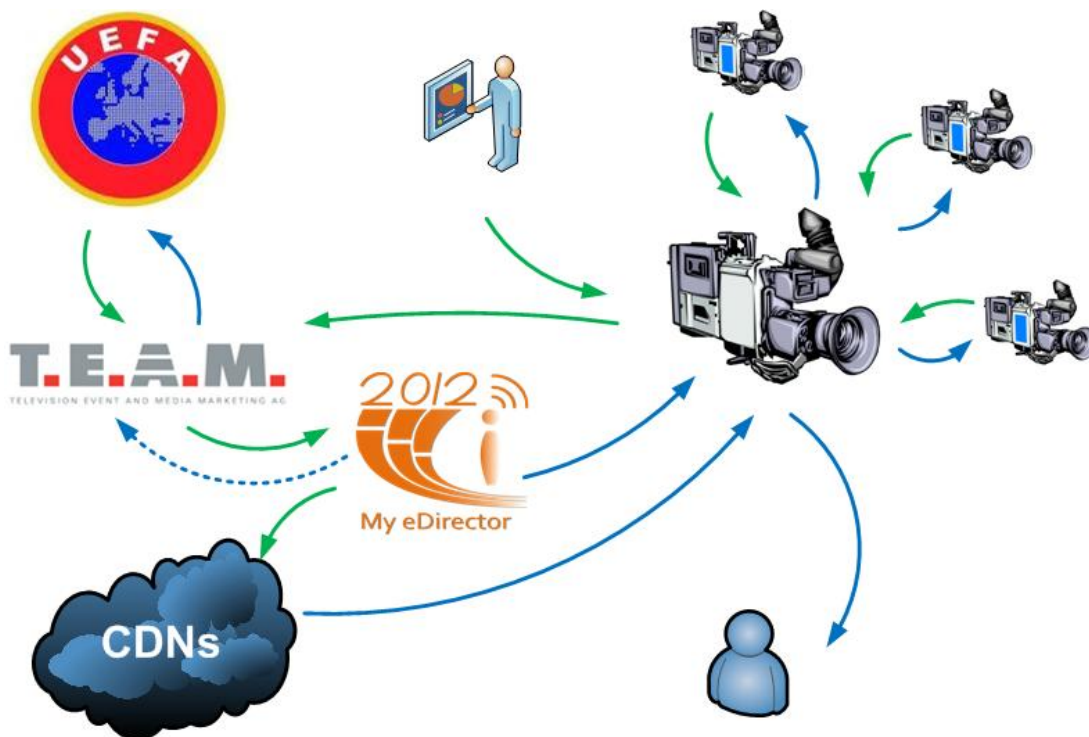


Figure 11 My eDirector 2012 Business Model for UEFA

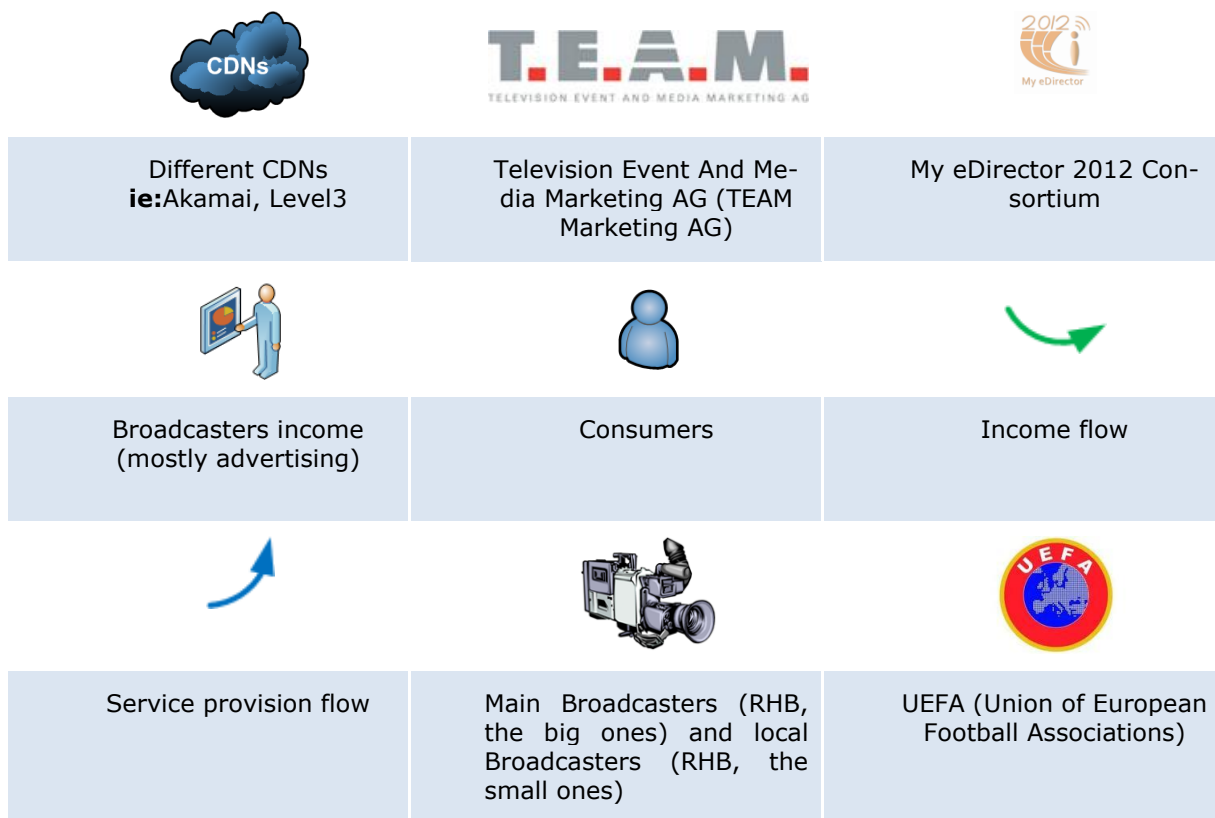


Figure 12 Actors in My eDirector 2012 Business Model for UEFA

As depicted in the figure above, relationships with TEAM Manager AG require having packetized solutions, as this company operates to ensure a successful coverage of the UEFA Champions League event by all broadcasters. Atos Origin will be the natural intermediary between the CDNs and broadcasters. It could be possible to offer a minimal and standardized solution for all smaller local broadcasters because it is possible for them to directly negotiate with RBS in order to offer the broadcast of a particular match. In some regions, big RHB allows viewing a particular event but under Pay-per-view modality; local laws force to allow public television to broadcast free part of this sport event so smaller local broadcaster could pay RHB for the broadcast rights with some minimum covers. In this case, it will be useful to offer this minimal and standardized solution in a common language, English.

Analogue to previous cases, agreements between broadcasters and the CDN will be mandatory for minimize the financial risk for Atos Origin, and it will be necessary for the Broadcasters to pay TEAM Manager AG for the services and to the CDN selected by Atos Origin, which will deploy the solution and will integrate it with the broadcaster's infrastructures and processes.

As said in previous sections, customers will perceive that it will be provided by their broadcaster although the actual distribution will be in charge of the CDN.

6 Other Business Model for the My eDirector 2012 platform: Targeted Advertising

Another feasible market with business opportunities for My eDirector 2012 can be the advertising one. Media digitizing led by the Internet has revolutionized advertising models from the possibilities of personalization, interactivity, through new models of engagement. As for the current reference targeted advertising is the Internet, where much has been achieved with certain Behavioural targeting approaches.

Behavioural Targeting uses the information collected about individuals browsing behaviour to select which specific ads to show that individual. This system allows online display advertising to users who are more likely to be influenced by it.

This way of advertising can be used in My eDirector 2012. As we have seen, this solution makes possible to select a particular discipline to show from all those compound the Olympic Games, choose a camera to view a particular place in the football field during a match, zooming into a relevant player or athlete... By using this information extracted from the users watching preferences it is possible to offer them personalized adds. These advertisements will be related to their favourite sport, their favourite team, items with the brand that wears their favourite team, tickets for events sponsored by a representative athlete or player...

Business Model

In this case, My eDirector 2012 solution is an extra value for RHB. These companies will have permanent contact with advertising agencies and can take benefit of this utility by selling this service and using it to increase their revenues; Advertisement agencies will have another way to announce their customer's products and this could be a new way to catch new clients. On the other hand, advertisers which wish to announce their products will receive their part of the revenues when My eDirector 2012 user's purchase what they have saw announced while they was watching their team winning a cup.

This business model is based on free-to-air television one.

The figure below shows the overall relationship between the main actors of this business model:

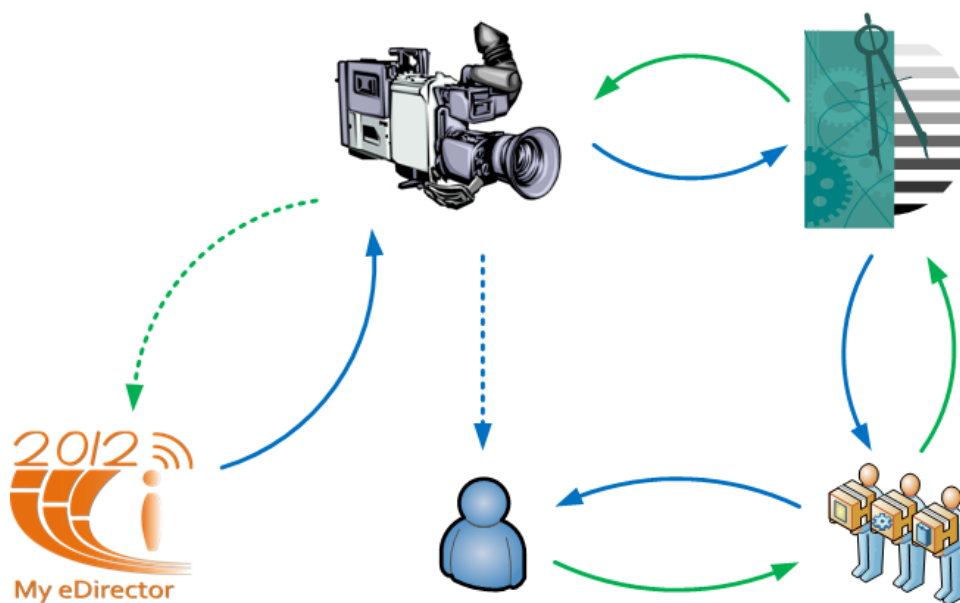


Figure 13 My eDirector 2012 Business Model for targeted advertising

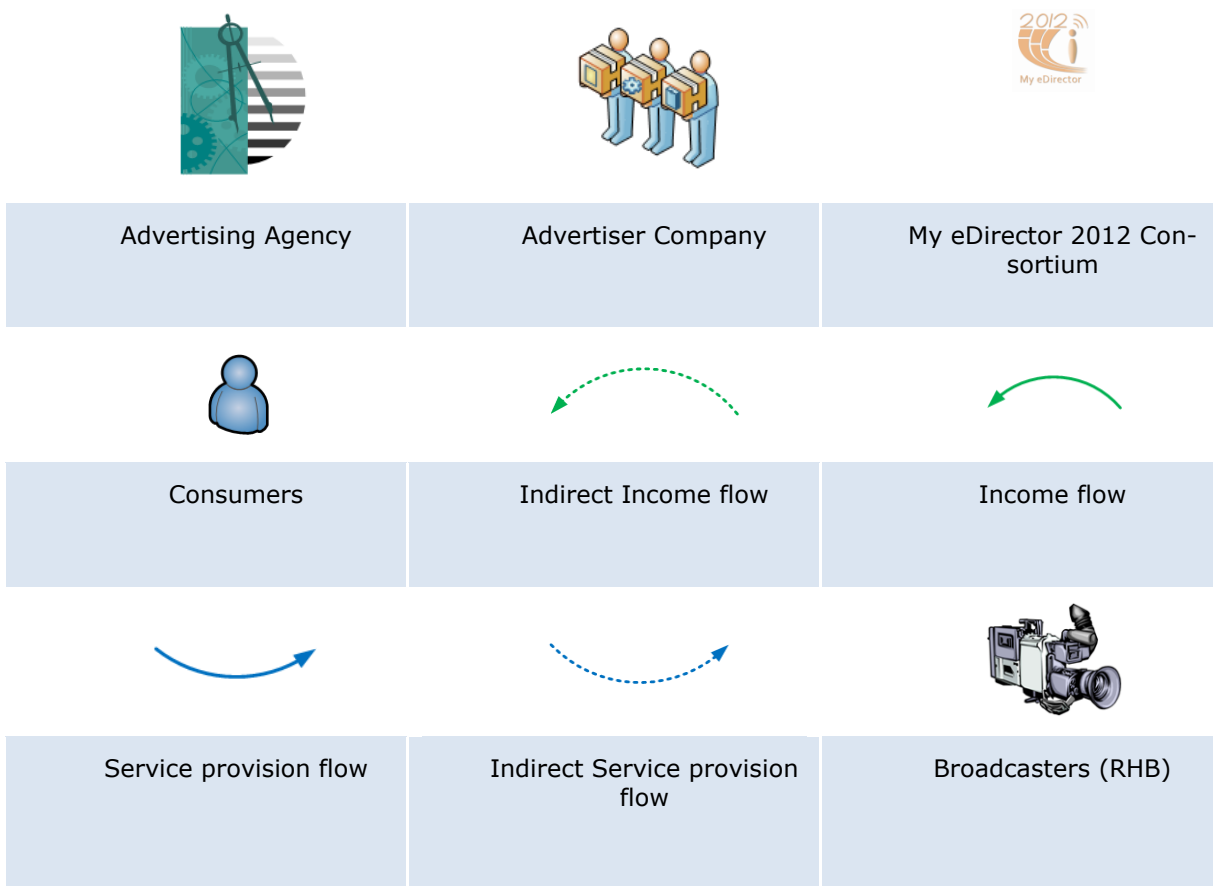


Figure 14 Actors in My eDirector 2012 Business Model for targeted advertising

7 Conclusions

After reviewing the project's output and developing reasonable business models that could sustain the future adoption of the research results; we are very positive about not only the feasibility of the technology adoption of the project results but also the exploitation potential that some of the proposed business models have.

As explained in the introduction, the most promising commercial exploitation is related to the Business Model for the My eDirector 2012 platform at the Olympic Games, which is a very robust Business Model, but very limited in terms of flexibility. The simplest and clearest of this model requires working directly with the OBS and the use of packaged solutions. At the same time these packaged solutions would serve as a point of entry in the RHB for members of the consortium to sell other associated added value services (for example services associated with archiving or CMS).

Atos Origin is the official IT provider for the Olympic Games and thus has had much previous experience with OBS. At the same time, the only commercial enterprise in the consortium is Atos Origin. Therefore it would seem that the commercial leader of the consortium and the interface between OBS and My eDirector 2012 should be Atos Origin.

The basic business model and structure therefore would include the following elements:

- A package solution to be included in the Rate card (list of services offered to RHB's) of the OBS
- Four different packages will be offered
 - Basic + low integration
 - Basic + high integration
 - Advanced + low integration
 - Advanced + high integration
- The commercial efforts will be led by Atos Origin with the other partners providing support
- Other associated services will be offered by the consortium to those RHB's who contract the package through OBS. Such things as post-production archive services and personalised advertising could be very powerful revenue generators for the My eDirector 2012 consortium.

The consortium considers that with a business model and structure of this form with packaged solutions sold through OBS, Atos Origin as commercial leader and associated services offered directly to the RHB's, the exploitation potential of My eDirector 2012 can be maximized.

The Real Time Location System business model has also a great potential but requires a crucial coordination between key players such as The Sport Sensors Vendors, Sport Federations and event Organization. An important part of this business model is the full exploitation of the information gathered through the sensors, which in our opinion; is something that requires further investigation.

The potential of the proposed Personalised Broadcast Services business models is especially interesting from the exploitation perspective. Rather than choosing between them, these business models will most probably coexist. The challenge of the consortium is to implement one (or more) of the proposed business models, looking for an internal revenue share scheme that allow us to enter in this industry before other large organizations raise their market entry barriers.

As a natural consequence of our primary business activity, there is a potential business model in the provision of tools that will support the professional coverage of Olympic Games by the RHB. In this case, we have a clear, simple and robust business model, which most probably would not require further review but an exploitation plan.

The Business model developed for the Olympic Games fits in other sports event, as FIFA World Cup and UEFA Champions League; some minor changes in the model make it possible to include this promising solution into the football sports events, another big market for the commercial exploitation of the My eDirector 2012 results.

Related with the previous business model we have identified another market where My eDirector 2012 solution could fit: targeted advertising; this potential business model is based on free-to-air television Business model and will generate indirect revenues to My eDirector 2012 consortium.

Finally, the proposed business models represent the results of the exercise of My eDirector 2012 consortium to determine the feasibility of the adoption of the technology developed in the project, and a real approach to the future commercialization of the project's results. In terms of future technology adoption and commercialization, our expectations are very high in most of the detailed business models.

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