OptiBand

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Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Executive Summary

IPTV provides telecommunication operators with the opportunity to better serve the video market and better address the industry transition to High Definition and Unicast video (e.g. Video on Demand), both creating challenges to the existing Cable TV and Satellite providers. One of the main challenges in IPTV is the limited bit rate of the access lines, which is predominantly ADSL.

OptiBand will focus on reducing the used bandwidth of IPTV for the delivery of multiple HD streams over a single ADSL line, while optimizing the Quality of Experience (QoE) for the end user. By that, viewing of multiple HD channels per household will be possible.

The OptiBand consortium gathers leading operator, vendors and research entities in order to consider the entire IPTV network, including economical aspects, of delivering premium video content over existing installed base. Overall, OptiBand is expected to have a wide market opportunity, thanks to the huge penetration and massive deployment of DSL as the most popular access technology.

In order to make the OptiBand results widely available a number of dissemination activities will be initiated during the project, with the overall objective to target all levels of IPTV stakeholders and end users, all along the value chain represented by the OptiBand partners.

This document (deliverable D9.2.2) was originally titled "Dissemination activity in IBC2011", and intended to report on the OptiBand activities related to the IBC events of each year of the duration of the project. Following the first periodic project review a request was received to enlarge the scope of the original documents D9.2.2 (M18) and D9.2.3 (M30), in order for these deliverables to report all the dissemination activities and scientific publications performed till M24 and M30 respectively.

The present document therefore provides an overview of the dissemination activities carried out and reports the results of these efforts during the second year of the OptiBand project, presenting the results of communication and dissemination strategy for the diffusion of the project intermediate results.

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1. Introduction

The request for adding the current document amongst the project deliverables was raised by the reviewers and of the EC Project Officer following the first project review. A concern was at that time presented regarding the limited amount of dissemination activities carried out during the first year of the project.

The limited efforts at the beginning of the project were however relatively expected. The research was still in early stages, and the consortium did not yet have major results and achievements suitable for diffusion outside the project consortium.

The concern was however taken seriously by the consortium members, and during the second year of the OptiBand project the dissemination activities carried out have increased considerably compared to the first year. Results and achievements suitable for wider dissemination are now available to a wider extent, and several partners have made significant efforts to contribute to the diffusion of project results.

This document defines five objectives of the dissemination:

- to raise awareness about IPTV and related scientific topics, such as QoE
- to promote the advances of the OptiBand project
- to make contact with other researchers in the field,
- to promote business
- to extend cooperation among partners.

The document further describes the different tools and methods used for dissemination during the year:

- The core of the deliverable is a chapter about the publications and presentations, aimed at documenting the amount of dissemination performed and to demonstrate that it fulfils the expected milestones and the goals set out in the DoW and in D9.2 Dissemination Plan.
- The brochure and poster are examined, reporting where they were distributed.
- The OptiBand web site is described, including its motivation and planned future activity; also a set of references to OptiBand from other web sites of the project partners is shown.

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2. Dissemination activities

The dissemination and communication activities carried out during the second project year are described here bellow.

2.1 Participation to events

All events recorded in the Dissemination Pipeline for 2011 are described here below.

COST TMA

Three presentations were given at a special session organized by FTW within the COST TMA meeting in Zagreb, on 27 January 2011, resulting from work within the project OptiBand, see: http://www.tma-portal.eu/cost-tma-action/meetings/zagreb/zagreb-meeting-program/#qoe:

- Peter Fröhlich, Raimund Schatz, Michal Ries (FTW) *HD Video QoE assessment in the context of packet dropping*
- Raimund Schatz, (FTW) *Estimating the influence of user fatigue on QoE rating quality*
- Felipe Mata (UAM, having spent a short-time scientific mission within the COST TMA at FTW in summer 2010).) *Sliding-window based automated assessment of HD Video QoE*

Mobile World Congress - GSMA 2011, 14-17 February 2011, Barcelona, Spain

HHI participated to this event and contributed to the dissemination of the OptiBand project by displaying the project poster and distributing project flyers.

The 21st International Conference Radioelektronika 2011, 19-20 April 2011, Brno, Czech Republic

Participant / Presenter	Michal Ries, FTW
Paper presented	Ries, M., Fröhlich, P., Schatz, R., “QoE Evaluation of High-Definition IPTV Services,” Proc. Radioelektronika 2011
Presentation description	Tutorial on QoE of high definition IPTV services
Type and size of audience	At the tutorial both industrial and academic representatives participated. The OptiBand project results were presented.
Countries addressed	Germany, Poland, Hungary, Slovakia Czech republic
Impact observed	At the tutorial ca 30 people from research and academic field participates.
Connections made	Informal conversations with researchers from industrial and research institutions worldwide
Comments	FIA provided opportunity to present ideas related to future project proposal based on OptiBand project and meet European research and industrial community working in field of telecommunication services.

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Future Internet Assembly (FIA), 18-19 May 2011, Budapest, Hungary

Participant / Presenter	Michal Ries, FTW
Type and size of audience	Discussion related to dissemination of project results with industrial and academic participants. The project related information materials were distributed.
Countries addressed	Germany, Holland, Hungary, Slovakia Czech republic
Impact observed	Several connections with potential of future collaborations were identified.
Connections made	Informal conversations with researchers from industrial and research institutions worldwide
Comments	FIA provided opportunity to present ideas related to future project proposal based on OptiBand project and meet European research and industrial community working in field of telecommunication services.

ICT 2011 proposers day', 19-20 May 2011, Budapest, Hungary

Participant / Presenter	Michal Ries, FTW
Type and size of audience	Discussion related to dissemination of project results with industrial and academic participants. The project related information materials were distributed.
Countries addressed	Germany, Finland, Sweden, Holland, Hungary, Slovakia Czech republic
Impact observed	specific connections with potential of future collaborations were identified
Connections made	Informal conversations with researchers from industrial and research institutions worldwide
Comments	ICT 2011 proposers' day provided opportunity to present ideas related to future project proposal based on OptiBand project and meet European research and industrial community working in field of telecommunication services.

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NOSSDAV (Network and Operating System Support for Digital Audio and Video), 1-3 June 2011, Vancouver, Canada

Participant / Presenter	Javier Taibo, UDC
Paper presented	GPU-based Fast Motion Estimation for on-the-fly Encoding of Computer-Generated Video Streams
Presentation description	In the presentation, explicit mention to OptiBand project (and EU funding) was done as the project addressed problems that may appear in the scenario explored in the paper. OptiBand brochures (25) were delivered to the audience and informal conversation with some researchers about OptiBand approaches were hold
Type and size of audience	Mainly Scientific/Academia audience. About 50 people
Countries addressed	Worldwide
Impact observed	Some researchers commented with Javier Taibo about OptiBand; they will look for more information on project's webpage.
Connections made	Informal conversations with researchers worldwide
Comments	NOSSDAV 2011 is the 21st anniversary of SIGMM's (ACM special interest group on Multimedia) leading workshop on network and operating systems support for digital audio and video. Core A in conference rankings.

Future Network & Mobile Summit 2011, 15-17 June 2011, Warsaw, Poland

Participant / Presenter	Michal Ries, FTW
Type and size of audience	Discussion related to dissemination of project results with industrial and academic participants. The project related information materials were distributed.
Countries addressed	Germany, Spain, Holland, Hungary, Slovakia, Poland, Czech republic
Impact observed	specific connections with potential of future collaborations were identified
Connections made	Informal conversations with researchers from industrial and research institutions worldwide
Comments	Future Network & Mobile Summit 2011 provided perfect opportunity to meet European research and industrial community working in field of telecommunication services.

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11th Würzburg Workshop on IP: Joint ITG and Euro-NF Workshop "Visions of Future Generation Networks" (EuroView2011), 1-2 August 2011, Würzburg, Germany

Participant / Presenter	Raimund Schatz
Paper presented	User-centered Quality Assessment of HD IPTV Services - Results from the FP7 Project OptiBand
Presentation description	Poster describing the OptiBand project, selected results of the first QoE testing campaign and lab facilities used.
Type and size of audience	Academia and industry, approx. 150 participants
Countries addressed	Europe, USA
Impact observed	Strong interest in test results and methodology for HD-IPTV Quality testing
Connections made	University of Würzburg (Prof. Tran-Gia), Tlabs Berlin, NTT Docomo Eurolabs (Dr. Wolfgang Kellerer)

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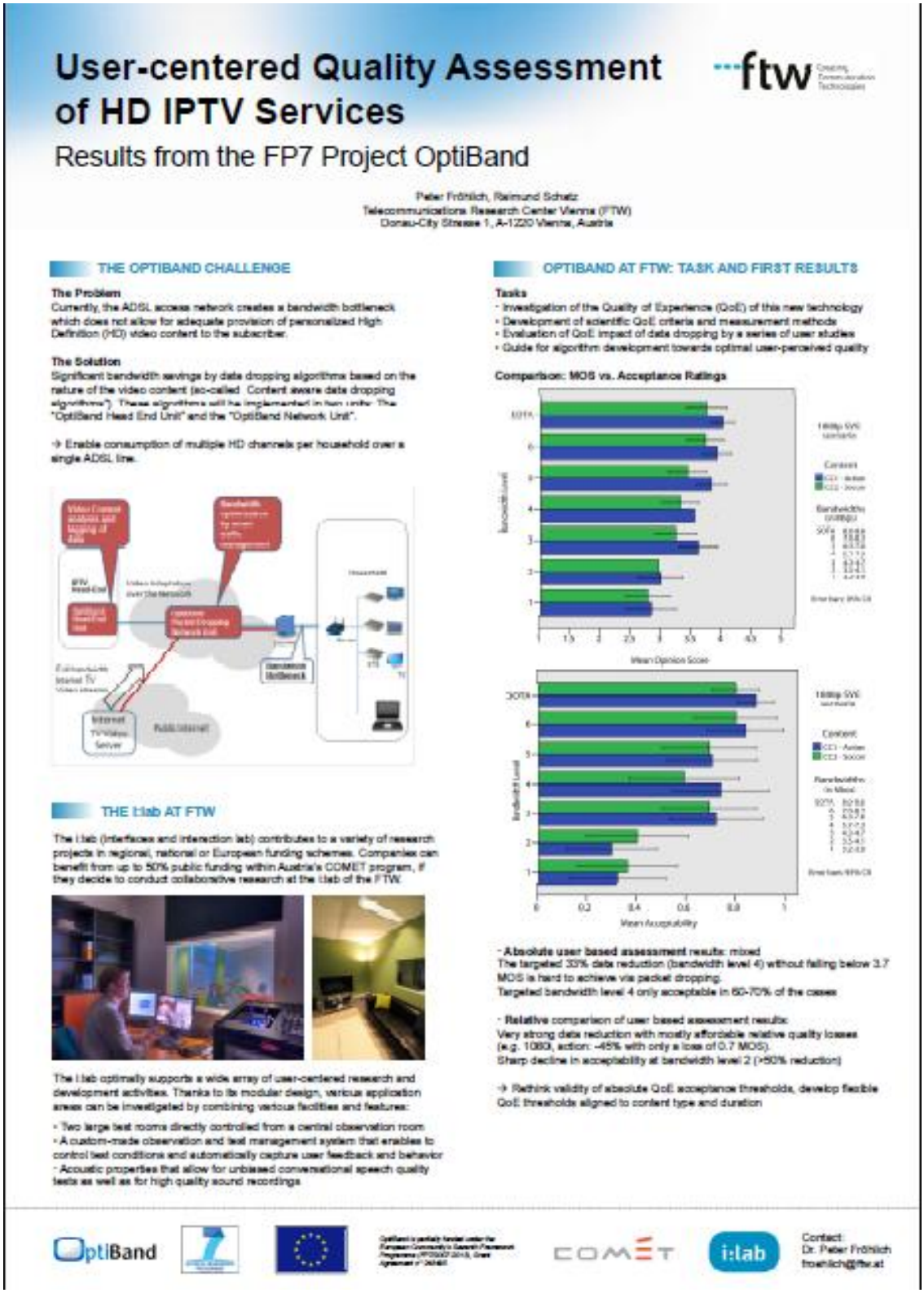

Figure 1: Poster from EuroView 2011

Third International Workshop on Quality of Multimedia Experience (QoMEX), 7-9 September 2011, Mechelen, Belgium

Participant / Presenter	Raimund Schatz
Paper presented	Tobias Hossfeld, Raimund Schatz, Sebastian Egger: SOS: The MOS is not enough! QoMEX 2011: 131-136
Presentation description	When it comes to analysis and interpretation of the results of subjective QoE studies, one often witnesses a lack of attention to the diversity in subjective user ratings. In extreme cases, solely Mean Opinion Scores (MOS) are reported, causing the loss of important information on the user rating diversity. In this paper, we emphasize the importance of considering the Standard deviation of Opinion Scores (SOS) and analyze important characteristics of this measure. As a result, we formulate the SOS hypothesis which postulates a square relationship between the MOS and the SOS. We demonstrate the validity and applicability of the SOS hypothesis for a wide range of studies. The main benefit of the SOS hypothesis is that it allows for a compact, yet still comprehensive statistical summary of subjective user tests. Furthermore, it supports checking the reliability of test result data sets as well as their comparability across different QoE studies.
Type and size of audience	Industry and academia, ~100-120 participants
Countries addressed	EU countries, USA, Japan
Impact observed	Informal conversations with researchers from industrial and research institutions worldwide
Connections made	At the presentation, 40 people from research and academic field participated. Contacts with Dialogic Research (USA), IRCCyN (Patrick Le Callet, FR), and Alinari (Andrea de Polo, IT) intensified.

International Broadcasting Convention (IBC), 7-11 September 2011, Amsterdam, the Netherlands

Participant / Presenter	Dmitri Jarnikov
Paper presented	*N/A*
Presentation description	*N/A*
Type and size of audience	Broadcasting media professionals
Countries addressed	Worldwide
Impact observed	Hundreds of visitors visited the exhibition booth over the five day period
Connections made	Informal conversations with industry professionals worldwide
Comments	The IBC2011 provided an opportunity to meet professionals working in field of broadcasting services.

NEM Summit 2011 - European Technology Platform on Networked and Electronic Media, 27-29 September 2011, Torino, Italy

The OptiBand project was one of several European projects selected for presenting its work and results at the NEM Summit of 2011. A booth was set up for OptiBand, where dissemination material was distributed and a demonstration of the SVC solution was given by HHI.

Participant / Presenter	Claudio Franco, Salvatore Lazzara, Petr Verbitskiy
Paper presented	*N/A*
Presentation description	*N/A*
Type and size of audience	Exhibition and Conference: 300 participants, 50 exhibitors. Discussion related to dissemination of project results with industrial and academic participants. The OptiBand project related information materials were distributed. HHI presented a demo of their SVC based IPTV solution, showing the impacts of encoding at progressively reduced bandwidth on video quality.
Countries addressed	Austria, Belgium, Finland, France, Germany, Italy, Netherlands, Spain, Turkey, UK
Impact observed	Specific connections with potential of future collaborations were identified
Connections made	Exchange of information with members of other EU projects. The OPTIBAND booth was also visited by the EU Project Officer for this project Informal conversations with researchers from industrial and research institutions worldwide
Comments	The NEM Summit 2011 provided an opportunity to meet European research and industrial community working in field of telecommunication services.

IEEE International Symposium on Multimedia 2011, 5-7 December 2011, Dana Point, CA, USA

Participant / Presenter	Michal Ries
Paper presented	Bruno Gardlo, Michal Ries, Markus Rupp and Roman Jarina, “On QoE Evaluation Methodology Using Social Networking for HD Video Streaming,” in proc of ISM 2011
Presentation description	Presentation of obtained results
Type and size of audience	Industry and academia.
Countries addressed	EU, USA, China, Japan
Impact observed	Informal conversations with researchers from industrial and research institutions worldwide
Connections made	At the presentation, 30 people from research and academic field participated.
Comments	ISM 2011 provided the opportunity to present ideas related to future project proposal and

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	meet US and China research and industrial community working in field of multimedia.

Cluster activities & Concertation meetings

Concertation meeting 14-15 April 2011

AIL participated on behalf of the consortium in the Concertation meeting held in Trento, Italy on 14-15 April 2011, since the project Coordinator was unable to travel to the meeting. A brief presentation was prepared by AIL in collaboration with the Coordinator and the other partners, and presented during the meeting. In addition flyers and contact details were distributed to the other participants.

AIL is continuously following up on the Future Media Network cluster activities, and operating the liaison between the cluster chairman and the OptiBand partners.

Concertation meeting 13-14 December 2011

Orckit-Corrigent participated on behalf of the consortium in the Concertation meeting held in Brussels, Belgium on 13-14 December 2011. Mr. Sharon Mantin, vice president of marketing, and Yossi Barsheshet, the coordinator and vice president of R&D, participated in the event.

A presentation regarding the project itself and the intermediate results were presented at the cluster meeting (at the FMN meeting). The results caused some questions which were all answered satisfactorily and overall indications were very positive.

During the event there were some discussions with other projects representatives who were explained about the project and the real results that were achieved during the integrations. Such projects came from the gaming world and from multimedia through the internet.

2.2 Standardisation

3GPP - the 3rd Generation Partnership Project is producing Technical Specification and Technical Reports for a 3G mobile system based on GSM networks: http://en.wikipedia.org/wiki/3GPP and http://www.3gpp.org/.

Two contributions in relation to the OptiBand project have been provided to the 3GPP "S4-110024" and "S4-110149" with the title "Rate adaptation with SVC MGS scalability" and presented during the 3GPP meeting in Berlin. These documents introduce also how several reasonable Operation Points (OP) within the same SVC encoded bit stream are defined and describe in detail the MGS based rate adaptation approach. These two contributions were approved by 3GPP partners and added into the technical report **TR 26.904 V1.0.2**. This technical report is the outcome of the study item IVCS "Improved Video Coding Support" within the SA4 subgroup in 3GPP under Release 10. The documents are available on the website http://ftp.3gpp.org/Specs/html-info/TDocExMtg--S4-62--28867.htm

No	Type	Description	Date	Location	Impact observed*	Partners involved
1	3GPP	3GPP SA4#62, TDoc S4-110024, " Rate adaptation with SVC MGS scalability", Fraunhofer Gesellschaft, 10-14 January, 2011.	10-14/01/ 2011	3GPP meeting Berlin, Germany	TR 26.904 V1.0.2	HHI
2	3GPP	3GPP SA4#62, TDoc S4-110149, " Rate adaptation with SVC MGS scalability", Fraunhofer Gesellschaft, 10-14 January, 2011.	10-14/01/ 2011	3GPP meeting Berlin, Germany	TR 26.904 V1.0.2	HHI

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2.3 Professional Publications

During 2011 the OptiBand partners produced five articles and papers which were published or accepted for publication during 2012 – published material is available on the OptiBand public website:

NO.	Title	Main author	Title of the periodical or the series	Publisher
1	QoE Evaluation of High-Definition IPTV Services	Ries, M., Fröhlich, P., Schatz, R. (2011) (FTW)	Proceedings of Radioelektronika - Radioelektronika (RADIOELEKTRONIKA), 2011 21st International Conference	IEEE
2	User-centered Quality Assessment of HD IPTV Services: Results from the FP7 Project OptiBand	Fröhlich, P., Schatz, R. (FTW)	Proceedings of EuroView 2011, Joint ITG and Euro-NF workshop on "Visions of Future Generation Networks"	Univ. of Würzburg
3	SOS: The MOS is not enough!	Tobias Hossfeld, Raimund Schatz, Sebastian Egger	QoMEX 2011: 131-136	QoMEX
4	A QoE Evaluation Methodology for HD Video Streaming using Social Networking	B. Gardlo_, M. Ries, M. Ruppz and R. Jarina (FTW)	ISM2011, in Proc. of 2011 IEEE International Symposium of Multimedia, Dana Point, California USA, December 5-7, 2011.	IEEE
5	Session-based Watermarking in Live IPTV Environment'	Dmitri Jarnikov, Egbert Westerveld, Jeroen Doumen (IRD)	Accepted by 2012 IEEE International Conference on Consumer Electronics (ICCE)"	ICCE
6	Internet TV, 'DASH-based Approach for Delivery of Automatic Video Summaries'	Janne Vehkaperä, Onni Ojutkangas, Mikko Myllyniemi, Seppo Tomperi (VTT)	Accepted for publication in IWSSIP 2012 conference in April 2012 (Vienna, Austria).	IWSSIP

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3. OptiBand's dissemination material

3.1 Leaflet and Poster

3.1.1 OptiBand's Poster

The original version of the project poster was released during the first year of the project, while a revised version was produced during the second half of 2011, following review and suggestions by the project partners. The poster offers a broad overview of the project's solution concept, expected impact and beneficiaries, and is intended to increase the visibility of the OptiBand project at the various events attended by project partners.

The Figure below shows a snapshot of the Project's poster in its current version:

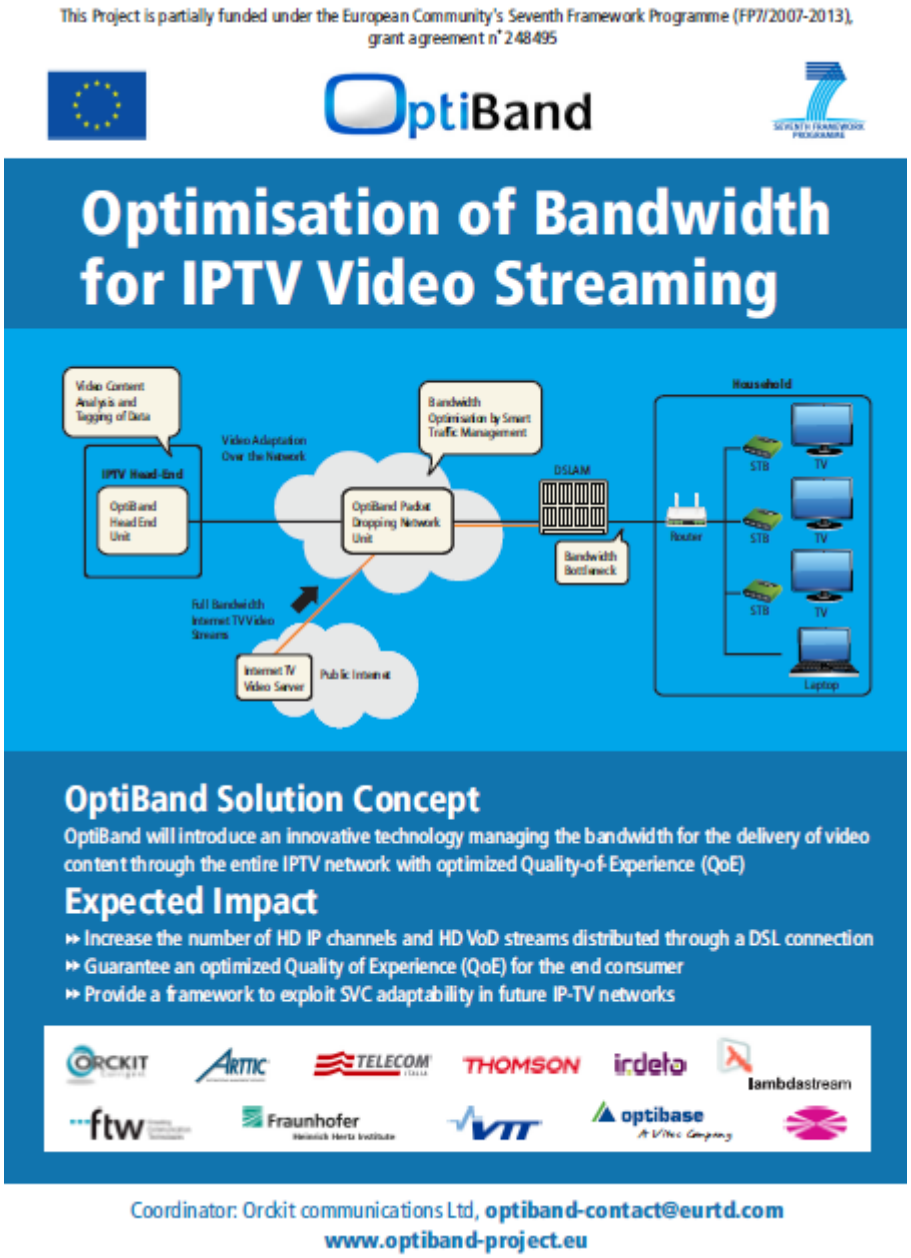

Figure 2: OptiBand's poster

3.1.2 OptiBand's leaflet

An initial version of the project leaflet was produced and released during the first quarter of the project, and it has been revised several times since then, in order to properly reflect changes within the project and consortium.

The main intention of the leaflet is to direct the recipients towards the OptiBand website, where more in-depth information can be found, and where the latest achievements and public deliverables of the project are available.

The figures below show the current version of the OptiBand leaflet. Note that the leaflet is a 3-fold flyer, which means that Figure 3 shows the front and the back page, while Figure 4 shows the internal page.

Figure 3: OptiBand's leaflet front and back page

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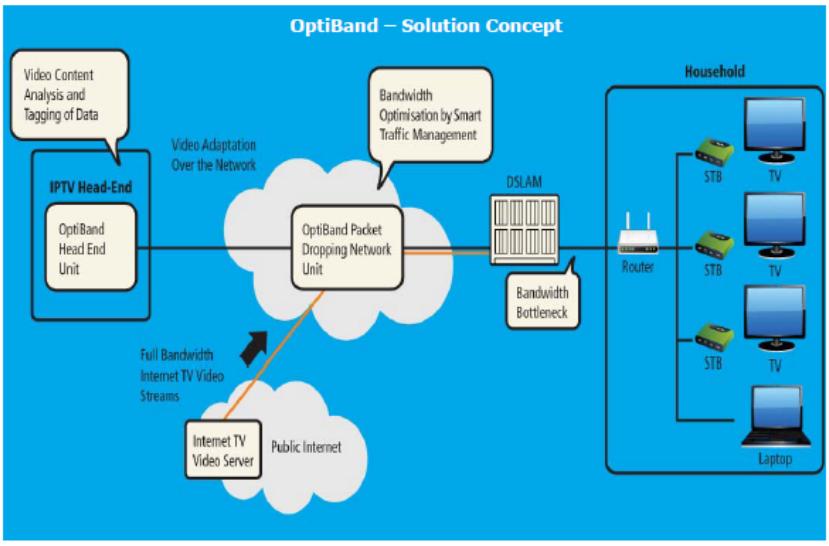

Currently, the ADSL access network creates a bandwidth bottleneck which does not allow for satisfactory perceived quality of personalized High Definition video content to the subscriber.

OptiBand will research and develop algorithms for data dropping which will be based on the research of user-perceived quality. These algorithms will be implemented in two units: The "OptiBand Head End Unit" and the "OptiBand Network Unit".

OptiBand Expected Impact:

Overall, OptiBand is expected to have a **wide market opportunity, thanks to the huge penetration and massive deployment of DSL** as the most popular access technology.

By lowering the cost of IPTV systems while still maintaining acceptable end-user Quality of Experience (QoE), **OptiBand will enable public institutions (e.g. schools) with budget constraints to use IPTV technology for educational purposes.**

This will make IPTV services much less expensive than today's video services, therefore demands for Video will increase and more content will be produced.

Besides, and although OptiBand focuses on IPTV application, it proposes a technology that can be used in the future as the platform for delivering high-consumption 3D media internet through bottlenecks networks.

The OptiBand solution is aimed to become a commercial technology, and by that **OptiBand will help strengthen the European industry in multimedia, enabling HDTV and IPTV to become a very common service in Europe and globally.** By taking the lead on this technology, the European industry will reinforce its leading position in delivery of multimedia content.

Figure 4: OptiBand's leaflet – internal page

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3.2 OptiBand's Website

The project web site is the most direct public communication channel, providing the most updated information about the project. The site has been set-up at www.optiband-project.eu.

Some part of the information that it contains is consolidated: it describes the project, its objectives and the consortium. The site contains also dynamic information about documentation and public project deliverables; it provides training material, publishes news about the project main events, and proposes contacts to the visitors with the project partners.

Figure 5: OptiBand's Website Homepage

3.3 Detailed content:

- Home
  - News & Events
  - Project at a glance
  - Welcome
- The OptiBand Project
  - Project objectives
  - Technical data
  - Project results
  - Project coordination
  - 7th framework programme
- Publications
  - Public deliverables
  - Dissemination material
  - Scientific publications & Presentations

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- Collaborations
  - Cluster activities
  - Related projects
  - Other collaborations

- Contact

3.4 Update and maintenance

The OptiBand public website is maintained by AIL, who is in charge of creating, administrating and updating the website content and changing its structure (additional pages) as required by the consortium, in line with the project dissemination plan.

Within the OptiBand project a majority of the project deliverables are public, and all such documents are uploaded to the public website. Large part of the OptiBand results and achievements are thereby available to the public in a straight forward manner through the website.

3.4.1 Action plan for all partners

All project partners are responsible for making sure related information generated from their organisation is being added to the site, as well as to provide information regarding dissemination efforts and publications which should be mentioned on the website.

Every dissemination actuation from a partner should be announced among the consortium, and should be reflected in the website's sections News & Events or Publications.

The sustained tasks require a moderate effort from the partners all project long:

- Ensuring that a correct link to OptiBand's website is available on the partner organisation's own corporate website.
- Collaboration in different dissemination events to promote OptiBand's website.
- Informal promotion (offline and by word of mouth).
- Providing feedback from external contacts.

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4. Conclusion

This document provides a comprehensive description which illustrates the consortium's effort to fulfil the requests and comments received from the PO and reviewers regarding dissemination at the first periodic review. According to those request this document reports "what" we have disseminated (technical content of the dissemination), "why" we have chosen certain activities or methods, and the impact observed of the dissemination events.

This report describes some of the dissemination activities initiated at the beginning of the project, but is mainly presenting the dissemination effort and its impact for year 2011, through a detailed report of the various activities and tools used for achieving the objectives.

Dissemination will get a much larger impact when integration results will be available, which is not yet the case. At the end of 2011 the integration phase of the OptiBand project has been initiated, but results will be available for diffusion only at the beginning of 2012.

The project dissemination has increased significantly since year one, and is overall on track with respect to what was planned in the original DoW. Of course, the effort required regarding dissemination tools and actions is still high, and should be further increased during the last six months of the project.

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