

# **Enriched Network-aware Video Services over Internet Overlay Networks**

www.envision-project.org



## **Deliverable D7.1**

### **Project Website and Project Presentation**

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#### **Authors**

*UCL* David Griffin, Eleni Mykoniati, Miguel Rio  
*ALUD* Klaus Satzke  
*LaBRI* Toufik Ahmed  
*FT* Bertrand Mathieu  
*TID* Adolfo Rosas  
*LIVEU* Bezalel Finkelstien

**Reviewers** Klaus Satzke, David Griffin

**Abstract** This deliverable marks the setting up of the public and internal websites of the ENVISION project and the presentation of an overview of the project to the Networked Media Systems concertation meeting.

**Keywords** Project Presentation, Website, Wiki, Brochure, Interactive Multi-Participant Applications, Overlay Networks, ISP Interface, Content Adaptation, Content Distribution

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University College London, UK (UCL)  
Alcatel-Lucent Deutschland AG, Germany (ALUD)  
Université Bordeaux 1, France (LaBRI)  
France Telecom Orange Labs, France (FT)  
Telefónica Investigación y Desarrollo, Spain (TID)  
LiveU Ltd., Israel (LIVEU)



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# 1. PROJECT WEBSITE

## 1.1 Public Website

The domain name *envision-project.org* was registered by the coordinator at the beginning of November 2009 and an interim website went live by the middle of November 2009, several weeks before the project officially started.

A more complete version of the website was established within the first two weeks of January 2010 with the full initial content in place following the first project meeting.

The public website will be maintained regularly with updates at least once per month as the project produces results, as papers are published, deliverables released or whenever there are items of news to report.

The structure of the website will be enhanced with additional menu items as more comprehensive results are delivered, e.g. adding links to public software releases.

Following are three snapshots of the homepage, project overview and partner descriptions pages.

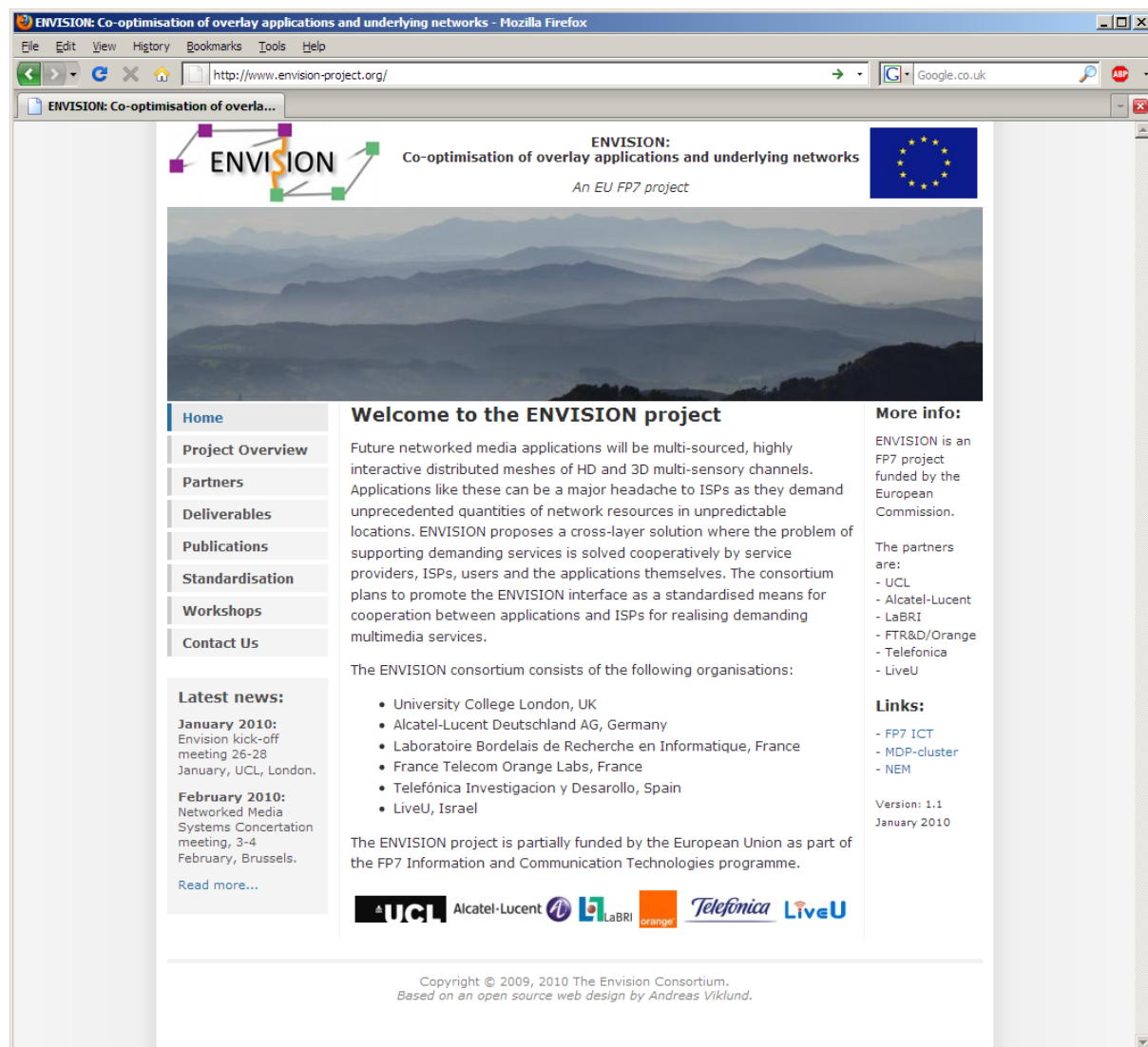


Figure 1 ENVISION Project Website: Homepage

The screenshot shows a Mozilla Firefox browser window displaying the ENVISION project website. The browser's address bar shows the URL <http://www.envision-project.org/overview/index.html>. The website header features the ENVISION logo, the project title "ENVISION: Co-optimisation of overlay applications and underlying networks", and the text "An EU FP7 project" next to the European Union flag. Below the header is a large landscape image of mountains. The main content area is divided into three columns:

- Left Column:** A vertical navigation menu with links for Home, Project Overview (highlighted), Partners, Deliverables, Publications, Standardisation, Workshops, and Contact Us. Below the menu is a "Latest news:" section with two entries:
  - January 2010:** Envision kick-off meeting 26-28 January, UCL, London.
  - February 2010:** Networked Media Systems Concertation meeting, 3-4 February, Brussels.
 A "Read more..." link is provided at the bottom of the news section.
- Middle Column:** Titled "Project overview", it contains a paragraph describing the challenges of multi-sourced, highly interactive distributed meshes of HD and 3D multi-sensory channels. It states that while high-quality user-centric applications offer advantages, they present a major headache to ISPs due to the demand for unprecedented quantities of network resources in unpredictable locations. It notes that the traditional solution of pre-provisioning sufficient network resources everywhere is no longer economically viable. ENVISION proposes a three-pronged, cross-layer solution where:
  - intelligent overlay applications are optimised for true end-to-end performance at a global scale according to the actual capabilities of multiple underlying ISPs;
  - network resources are dynamically mobilised to where they are most needed; and
  - the content, the way it is accessed and distributed is adapted on-the-fly to what the network is able to deliver.
 The text continues: "The ENVISION cross-layer approach, where the problem of supporting demanding services is solved cooperatively by service providers, ISPs, users and the applications themselves, delivers both content-aware networks and network-aware applications." It concludes by stating that ENVISION is researching and developing novel algorithms, mechanisms and protocols for its three pillars of investigation, building upon and extending the current SoA, validating its proposals experimentally through simulations and testbed prototypes.
- Right Column:** Titled "More info:", it states that ENVISION is an FP7 project funded by the European Commission. It lists the partners: UCL, Alcatel-Lucent, LaBRI, FTR&D/Orange, Telefonica, and LiveU. Below this is a "Links:" section with links to "FP7 ICT", "MDP-cluster", and "NEM". At the bottom of the column, it indicates "Version: 1.1" and "January 2010".

Figure 2 ENVISION Project Website: Project Overview Page



Figure 3 ENVISION Project Website: ENVISION Partners Page

## 1.2 Internal Project Website

The project has also established an internal wiki and a set of mailing lists to facilitate electronic collaboration between the project partners, a snapshot of the wiki's index page is presented below.

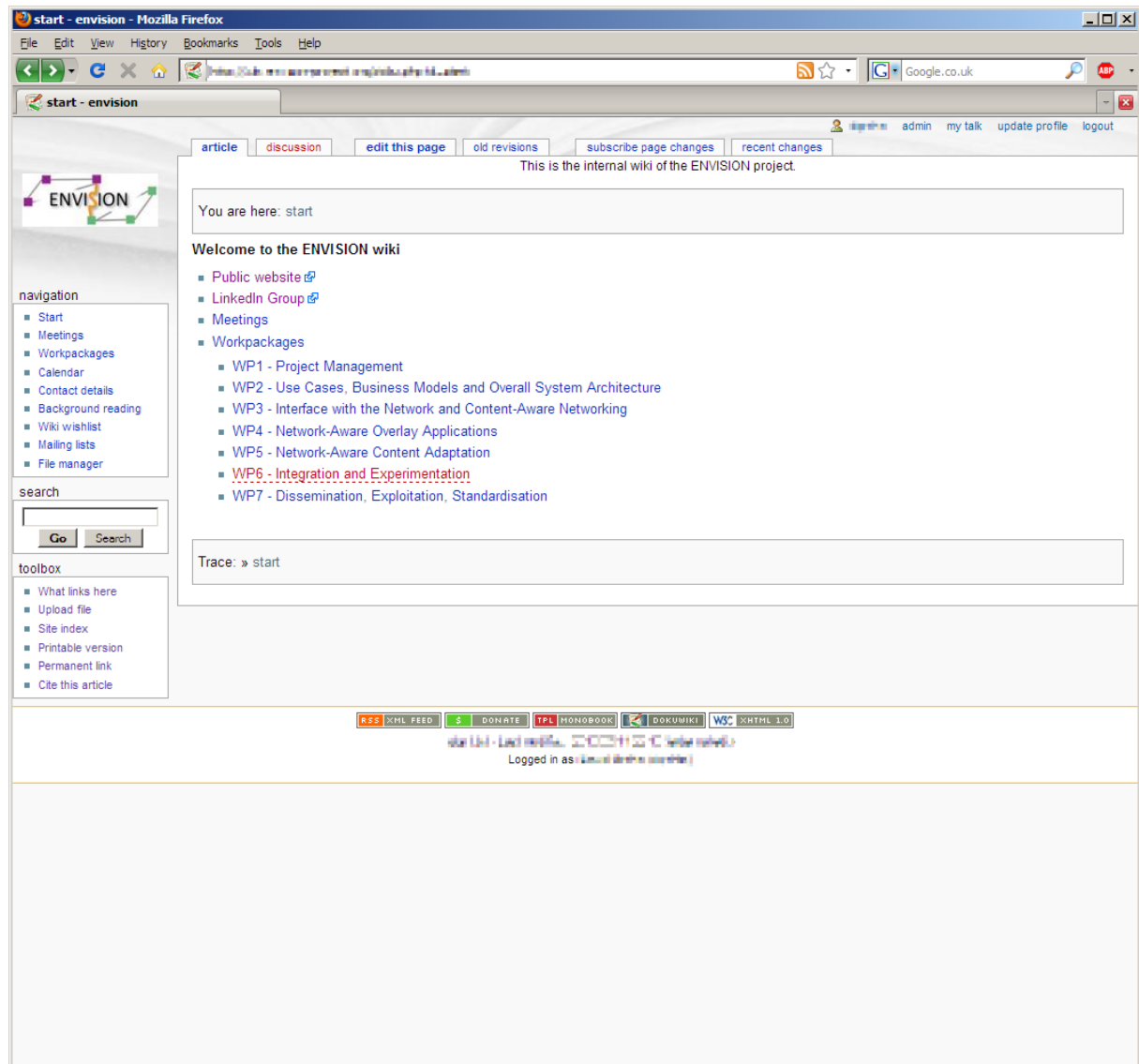







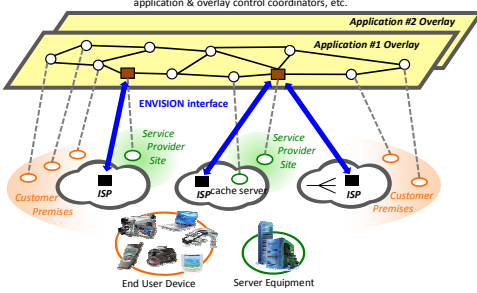

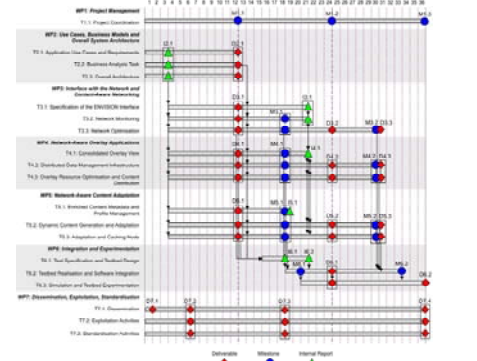


Figure 4 Internal Project Wiki Index Page

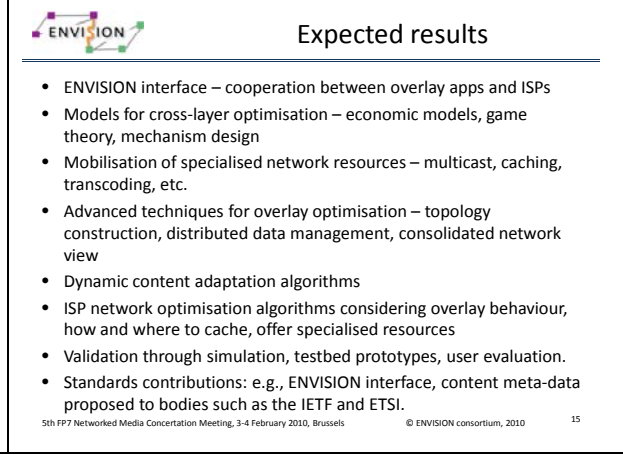
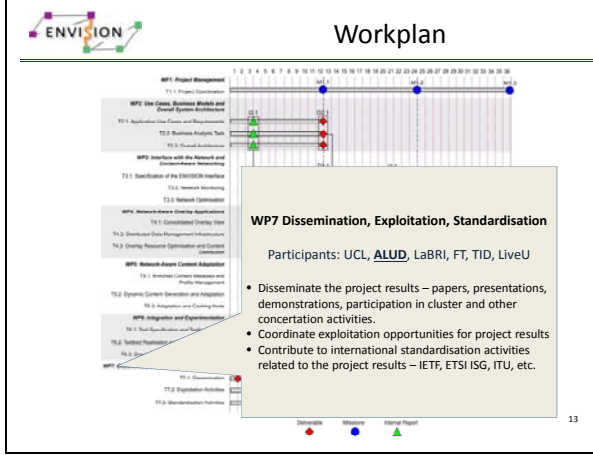
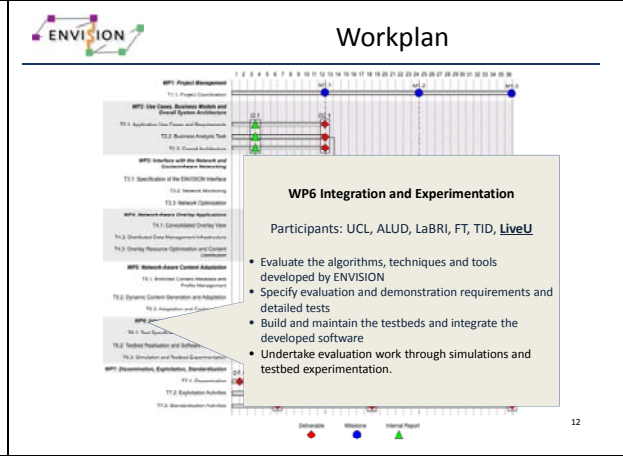
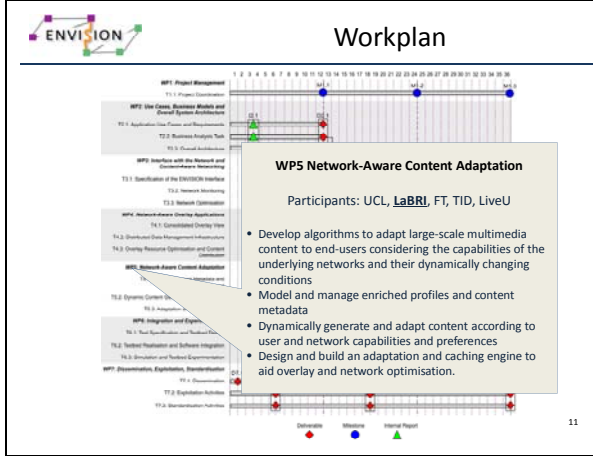
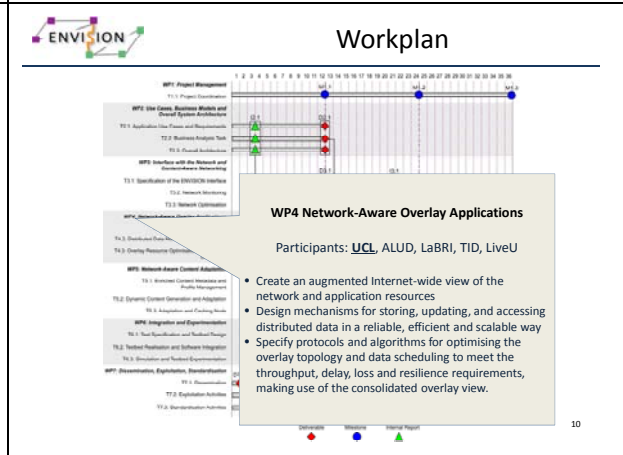
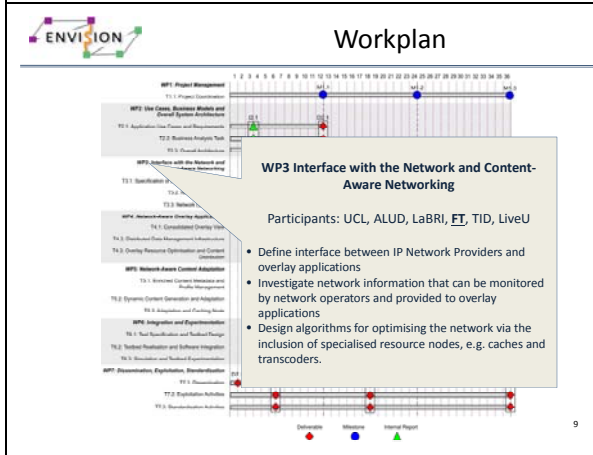
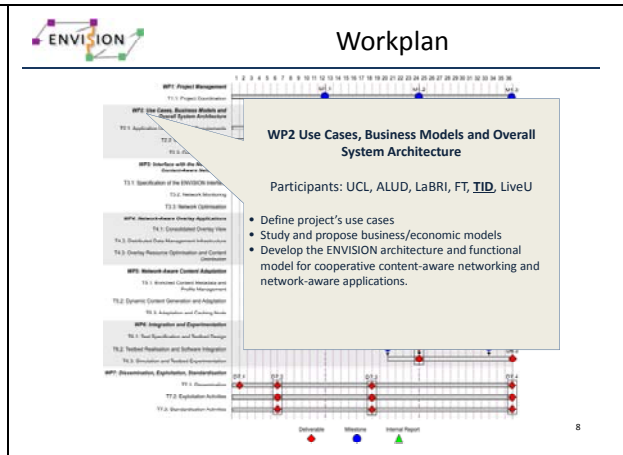
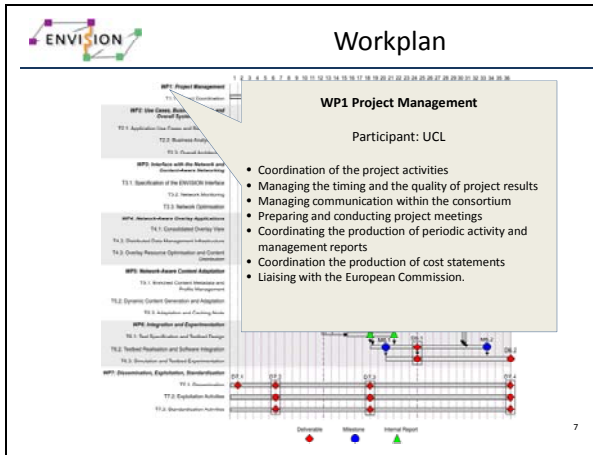
## 2. PROJECT PRESENTATION

### 2.1 Networked Media Systems Concertation Meeting



The project is planning to present an overview of its work to the fifth Networked Media Systems concertation meeting due to take place on the 3-4 February 2010. This will be the first presentation of the ENVISION scope, research objectives, organisation and expected results to the wider Networked Media Systems research community. The project presentation will be as in the following slides.

 <h1 style="text-align: center;">ENVISION</h1> <p style="text-align: center;">Enriched Network-aware Video Services over Internet Overlay Networks</p> <p style="text-align: center;">David Griffin, UCL</p> <p style="text-align: center;">5th FP7 Networked Media Concertation Meeting 3-4 February 2010, Brussels</p>	 <h2 style="text-align: right;">Project organisation</h2> <ul style="list-style-type: none"> <li>• STREP</li> <li>• Budget: ~€3.6M (EC contribution)</li> <li>• 3 years: 1 January 2010 to 31 December 2012</li> <li>• Partners:             <ul style="list-style-type: none"> <li>– University College London (coordinator)</li> <li>– Alcatel-Lucent Deutschland AG</li> <li>– Université de Bordeaux 1</li> <li>– France Telecom SA</li> <li>– Telefónica Investigación y Desarrollo SA</li> <li>– LiveU Ltd.</li> </ul> </li> </ul> <p style="font-size: small;">5th FP7 Networked Media Concertation Meeting, 3-4 February 2010, Brussels © ENVISION consortium, 2010 2</p>
 <h2 style="text-align: center;">Project overview</h2> <ul style="list-style-type: none"> <li>• Future networked media applications will be multi-sourced, highly interactive distributed meshes of HD and 3D multi-sensory channels</li> <li>• Major challenges:             <ul style="list-style-type: none"> <li>– higher quantities of data throughout the network</li> <li>– additional pressure at the network edge for unprecedented upload capacity in wired and wireless access networks</li> </ul> </li> <li>• Traditional solutions of throwing bandwidth cannot address these challenges:             <ul style="list-style-type: none"> <li>– pre-provisioning sufficient network resources everywhere is costly</li> <li>– upgrading the capacity of ISPs infrastructure by several orders of magnitude is practically impossible</li> </ul> </li> <li>• ENVISION solution aims to develop intelligent cross-layer techniques:             <ul style="list-style-type: none"> <li>– increasing the degree of cooperation between ISPs and the networked applications</li> <li>– optimising application overlay networks to make best use of the capabilities of the underlying networks and the participant end users</li> <li>– enabling dynamic adaptation of the content to meet the networks and users capabilities</li> </ul> </li> </ul> <p style="font-size: small;">5th FP7 Networked Media Concertation Meeting, 3-4 February 2010, Brussels © ENVISION consortium, 2010 3</p>	 <h2 style="text-align: center;">ENVISION applications</h2> <ul style="list-style-type: none"> <li>• Highly distributed, multi-sourced, interactive, multi-sensory, dynamic applications involving fixed and mobile nodes pose novel networking problems</li> <li>• The application is a network itself and relationships with underlying ISPs are complex</li> <li>• Two initial use cases:             <ul style="list-style-type: none"> <li><b>Multi-Participant Live Events: Micro-Journalism</b> <ul style="list-style-type: none"> <li>• Live, highly distributed media sources with highly localised peak bandwidth usage</li> <li>• Real-time interest management of individual streams to maximise QoE</li> </ul> </li> <li><b>Immersive Telepresence supporting Natural Communications</b> <ul style="list-style-type: none"> <li>• Virtual multimedia meeting space: podium discussions, breakout sessions and hallway conversations</li> <li>• Mixture of A/V, participation of 3D avatars</li> <li>• Dynamic mapping of application requirements to network resources (e.g. multicast).</li> </ul> </li> </ul> </li> </ul>   <p style="font-size: small;">5th FP7 Networked Media Concertation Meeting, 3-4 February 2010, Brussels © ENVISION consortium, 2010 4</p>
 <h2 style="text-align: center;">ENVISION overview</h2> <p style="text-align: center;">content producers &amp; consumers, transcoding gateways, NAT gateways, caches, storage &amp; processing power servers, upload bandwidth multipliers, application &amp; overlay control coordinators, etc.</p>  <p style="font-size: small;">5th FP7 Networked Media Concertation Meeting, 3-4 February 2010, Brussels © ENVISION consortium, 2010 5</p>	 <h2 style="text-align: center;">Workplan</h2>  <p style="font-size: small;">5th FP7 Networked Media Concertation Meeting, 3-4 February 2010, Brussels © ENVISION consortium, 2010 6</p>







 <h3>Collaboration</h3> <ul style="list-style-type: none"><li>• Collaboration with COMET, nextMEDIA and COAST already planned</li><li>• Seeking further collaboration on the <b>Networking</b> aspects of Networked Media Systems<ul style="list-style-type: none"><li>– Content-Centric Networking</li><li>– Evolutionary and Visionary approaches</li><li>– Novel media applications with demanding network requirements</li><li>– Common workshop(s), standards contributions</li></ul></li></ul> <p><small>5th FP7 Networked Media Concertation Meeting, 3-4 February 2010, Brussels © ENVISION consortium, 2010 16</small></p>	 <p><a href="http://www.envision-project.org">www.envision-project.org</a></p> <p>Thank you for your attention Any questions?</p>
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**Figure 5 Project Presentation Slides**

## 2.2 Networked Media Brochure, Current research, Results and Future Trends

ENVISION has also prepared a short overview for inclusion in the publication being prepared by the European Commission on all of the projects and clusters in the Networked Media Systems area. The draft brochure content is as shown in the following figure.

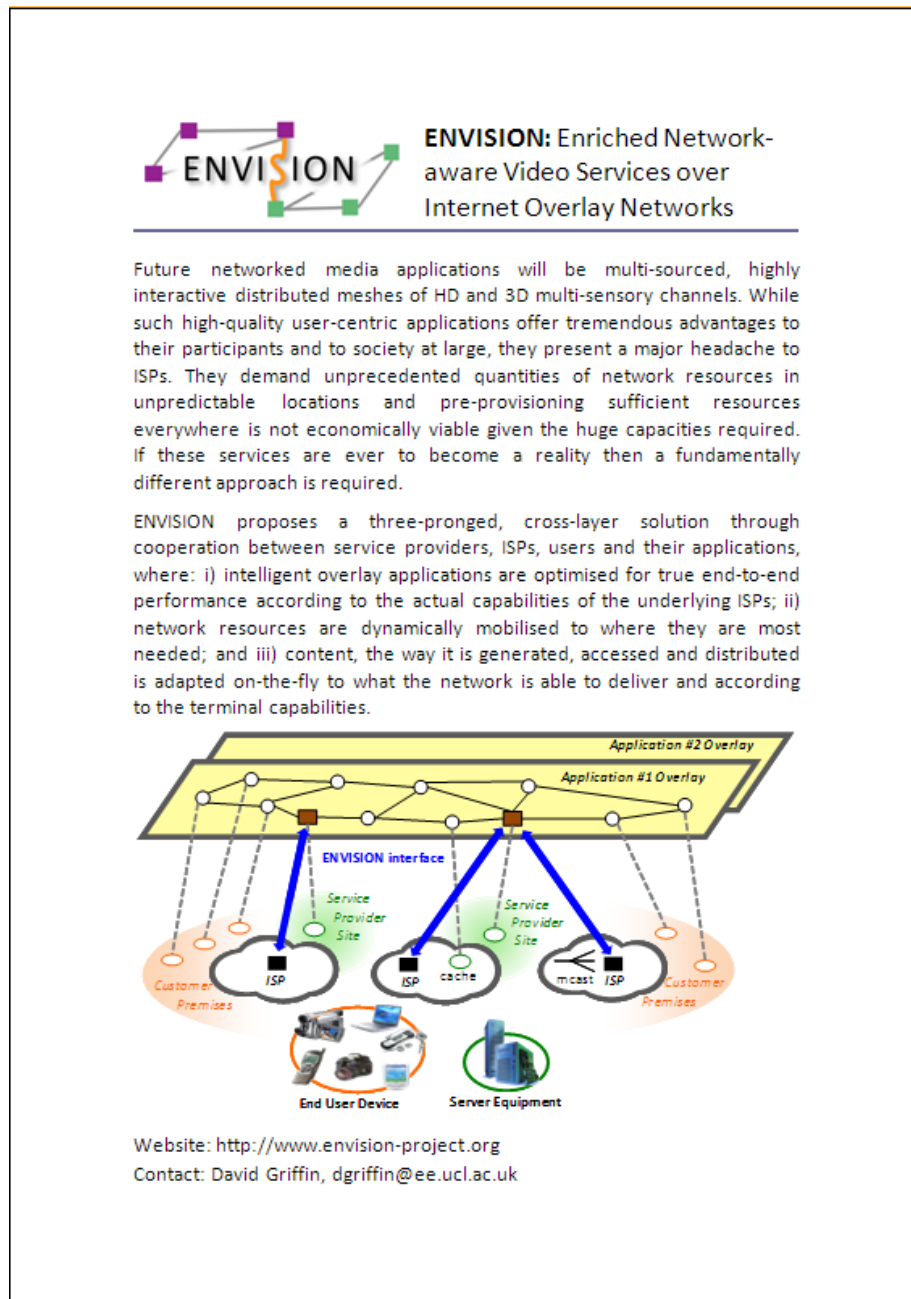


Figure 6 Draft ENVISION Contribution to Network Media Systems Brochure