

# MESH

*Multimedia Semantic Syndication for  
Enhanced News Services*

**Project Overview**



**mesh**



# Presentation Structure

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❖ <b>Project Summary</b>	<b>SUMMARY</b>
❖ <b>Project Motivation</b>	<b>WHY</b>
❖ <b>Problem Description</b>	<b>WHAT</b>
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❖ <b>Expected Result</b>	<b>MESH</b>
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## Project Facts

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- ❖ MESH is an Integrated Project **co-funded by the European Union** 6th Framework Programme, within the thematic priority of Information Society Technologies.
- ❖ MESH was approved under call 4 of the IST priority, in the strategic objective “**Semantic-Based Knowledge and Content Systems**”.
- ❖ MESH started in **March 2006**, and will run for **36 months**.
- ❖ The overall project budget is around **12.6 million euro**.
- ❖ **12 different organizations from 7 European countries** form the MESH consortium.



## Objective & Expected Impact

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- ❖ MESH aims to **extract, compare and combine content** from multiple **multimedia news sources**, automatically create advanced **personalised multimedia summaries, syndicate summaries and content** based on the extracted semantic information, and provide end users with a **“multimedia mesh” news navigation system.**
- ❖ MESH is expected to:
  - provide a significant contribution to emerging multimedia content markets with **innovative semantic technologies** and **new business models**
  - facilitate the **discovery and exploitation of multimedia content**, with **special focus in the area of News**, while the main technologies will be applicable to many other domains



# MESH main innovations

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**The project will create a system capable to:**

- ❖ **Deliver content to users** based on (semi-) automatically extracted semantic metadata and users' computed preferences, resolved through client & server-side reasoning.
- ❖ **Create personalised multimedia summaries**, to allow easy digest of huge chunks of information, and offer initial entry links for accessing information in depth.
- ❖ **Merge content coming from multiple sources** into one consistent and non-redundant representation (while keeping a link to their sources) for improved access.
- ❖ **Provide a dense web of content links** which will allow traversing across associated multimedia information, with navigation aids to help against the “lost in multimedia cyberspace” syndrome.



# MESH Project motivation



# MESH Project motivation

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Although there is a huge amount of multimedia news material available, **most of this content is not actually usable and is deemed to be finally lost** because:

- ❖ **the amount of available content is too large**, and while text content can be skimmed or glanced, audiovisual content has to be viewed in linear time.
- ❖ **the high costs associated with news production** and distribution often prevent small producers getting their content to global markets.

# MESH Project motivation

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Users often **cannot find the content** that would be of most value to them because :

❖ **multimedia content is not truly searchable** at present. Multimedia search engines only grasp the surface of the structure of the content.

❖ **news search is not a viable operation** for many users, since to perform search queries the news subject and keywords have to be known beforehand, which in some sense contradicts the very concept of news

❖ **content is not properly linked**, which makes it difficult to navigate across related pieces.

❖ **mobile users of news services are limited to material pre-selected and pre-formatted** by their network operator or service provider which restricts their choice.



# MESH Project motivation

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Small news producers are becoming increasingly disadvantaged in international markets because :

- ❖ compelling new **content is difficult and costly to produce** with current systems.
- ❖ **news content is not personalized.** Multimedia news production is only cost effective if the costs can be recovered by targeting great audiences.
- ❖ There is no possibility to efficiently express **dynamic usage conditions** across the whole distribution chain, and as a result content owners are very reluctant to lose direct control over their material.
- ❖ **usage restrictions** make impossible to reuse multimedia units in other contexts to re-create new pieces, since it is impossible to propagate usage rules across content creation cycles.



**...how can we bring knowledge-enabled technologies into the world of news?...**



# the problem description

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- ❖ **news have to be understood** by fully or semi-automatic mechanisms: analysed and categorised (i.e. annotated) according to their real contents.
- ❖ **news consumers have to be understood**: this involves profiling of individuals in a structured manner and constantly updating these profiles through personally provided preferences as well as through automatic understanding of their needs and interests, by monitoring their requests and habits.
- ❖ **news items have to be matched** to the readers' interests and requests, by reasoning what news would be preferred by which reader and in which way.



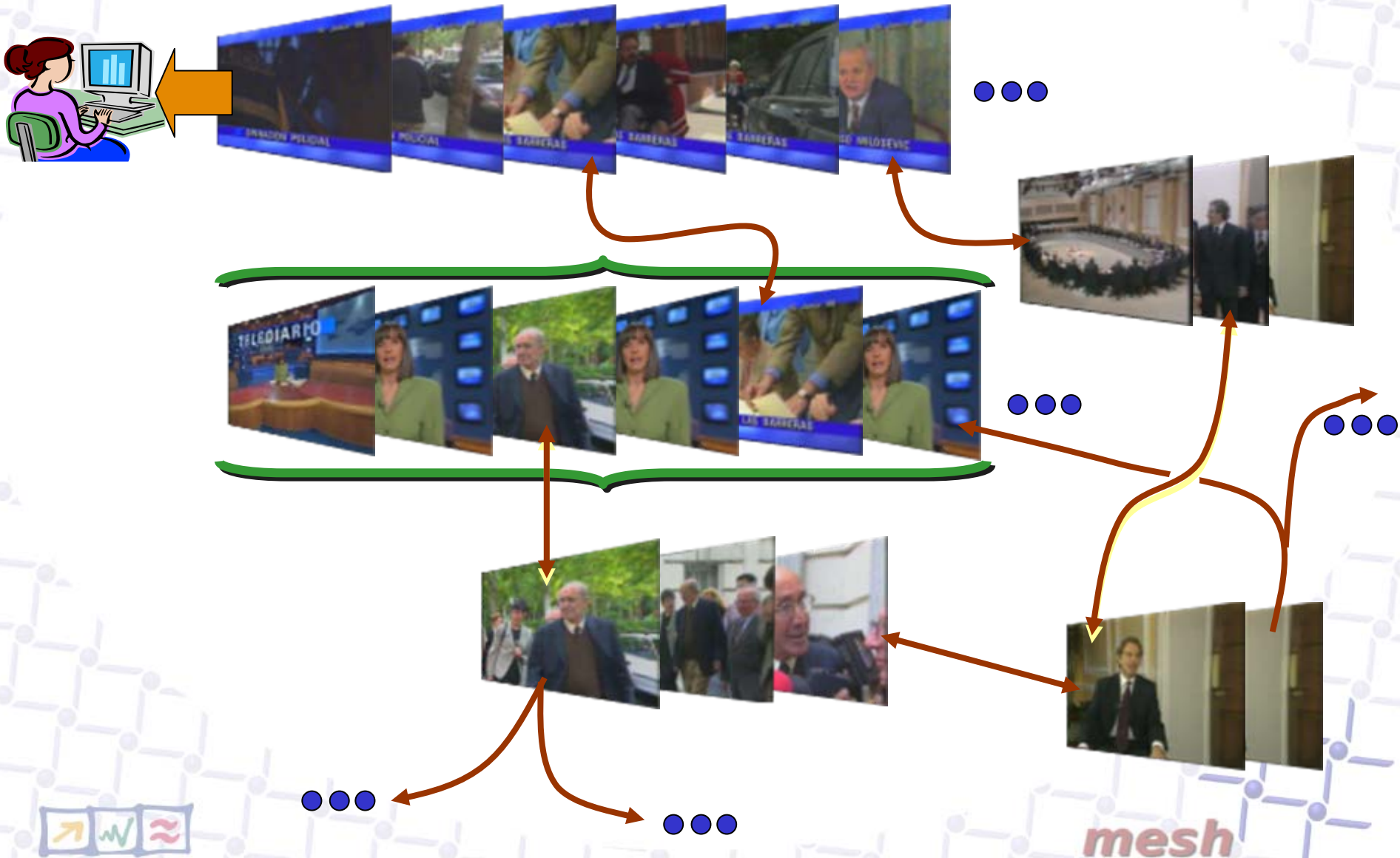
# the problem description

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- ❖ **news have to be delivered in an effective way:** Personalised multimedia summaries can be a basic means of navigation into the full set of information, while items referring to the same subject will have to be shown in parallel to make critical reviews possible.
- ❖ **the source of information will have to be understood** and profiled if the reader is to be assisted in forming an objective view of actual events. Structured information will have to be provided for the source helping the reader to understand whether the news provided could be biased and towards which side. Credibility will also have to be measured in such a way.
- ❖ **mobility is a significant aspect to be taken into account:** both for the production and consumption of news, special technologies need to be advanced into a framework that allows effective inclusion of mobile prosumers.



# the multimedia mesh concept



SUMMARY

WHY

WHAT

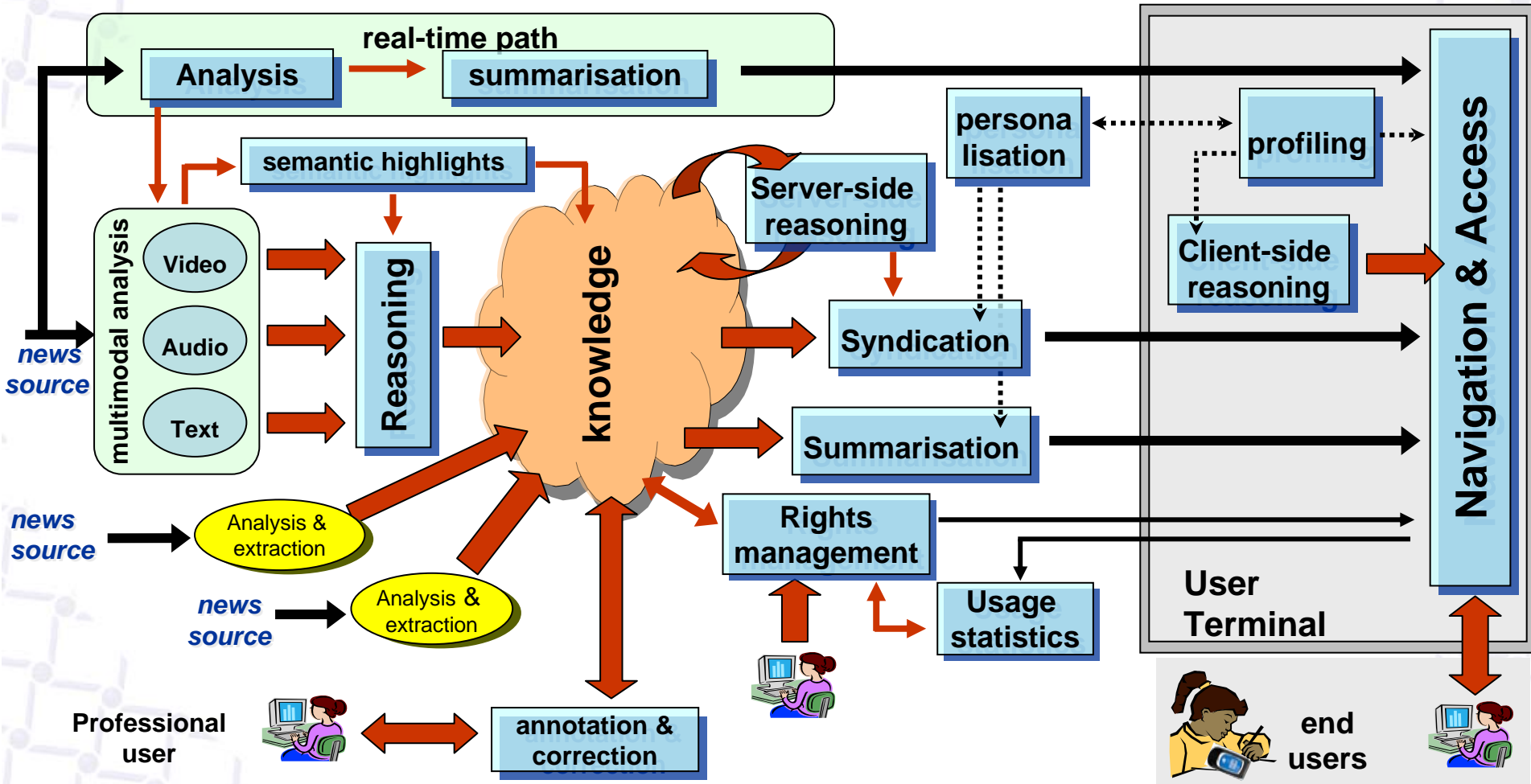
HOW

MESH

WHO

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# the MESH platform architecture



SUMMARY

WHY

WHAT

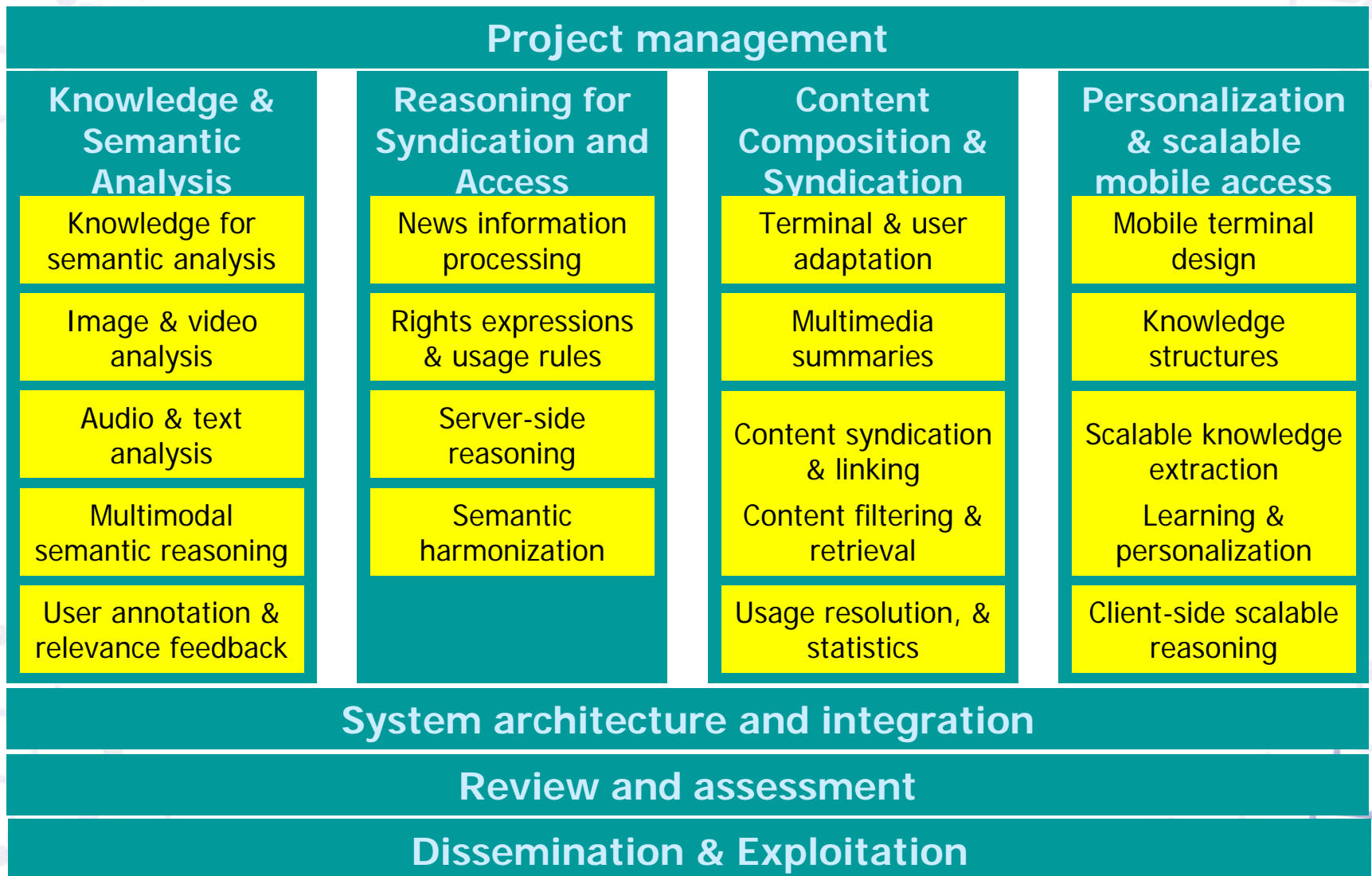
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WHO

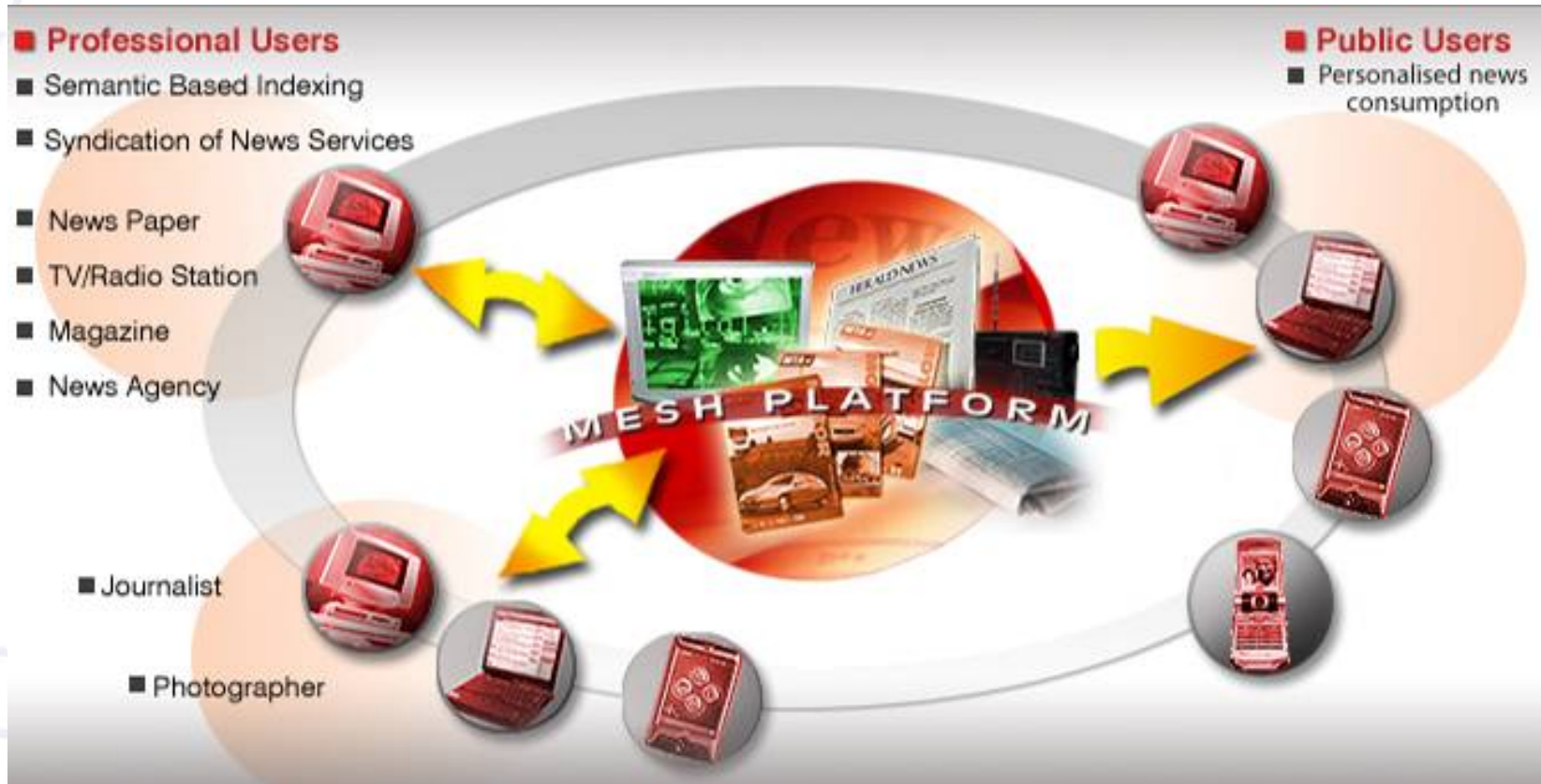
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# Project Structure



# Overview of Expected Result

## A platform integrating semantic technologies as services...



...a web-based central point of access to *news*





# Overview of Expected MESH Services

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- ❖ **A single point of access to news**
  - A web-based portal that can provide access to any news provider, including agencies, publishers, newsfeeds or even personal blogs
- ❖ **Archive Library**
  - An online archive of established libraries providing you with cross linked news
- ❖ **Personalised Access to News Content**
  - A system that can recognise your preferences while you are searching the web and automatically suggest useful information
- ❖ **Unstructured Search Queries**
  - Being able to formulate a search query in plain text
- ❖ **Query by Relevance**
  - Searching for content similar to the one you are viewing



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# Overview of Expected MESH Services

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## ❖ **Cross lingual querying**

- **A mechanism that allows you to query in one language and receive relevant articles in many language**

## ❖ **Multimedia Summaries**

- **Receiving a multimedia summary of cross-linked news that interest you on your desktop or mobile device**

## ❖ **Scene Recognition**

- **Methods for automatic recognition of the contents of a scene (place, time, season...)**

## ❖ **Automatic or manual content annotation**

- **A process that automatically annotates the content you produce on your desktop or mobile device**
- **A tool that helps you annotate manually the content you produce on your desktop or mobile device**



# Overview of Expected MESH Services

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## ❖ **Assessing the credibility of sources**

- A trusted system that classifies the credibility of the news you are provided with

## ❖ **News content syndication**

- A method for marketing news by direct sale or auctioning to a huge number of users

## ❖ **E-payment for news transactions**

- A safe and easy way of paying for the content you wish to consume

## ❖ **News portal building capabilities**

- A method for building a thematic news portal in an easy way

## ❖ **Community building**

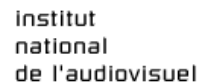
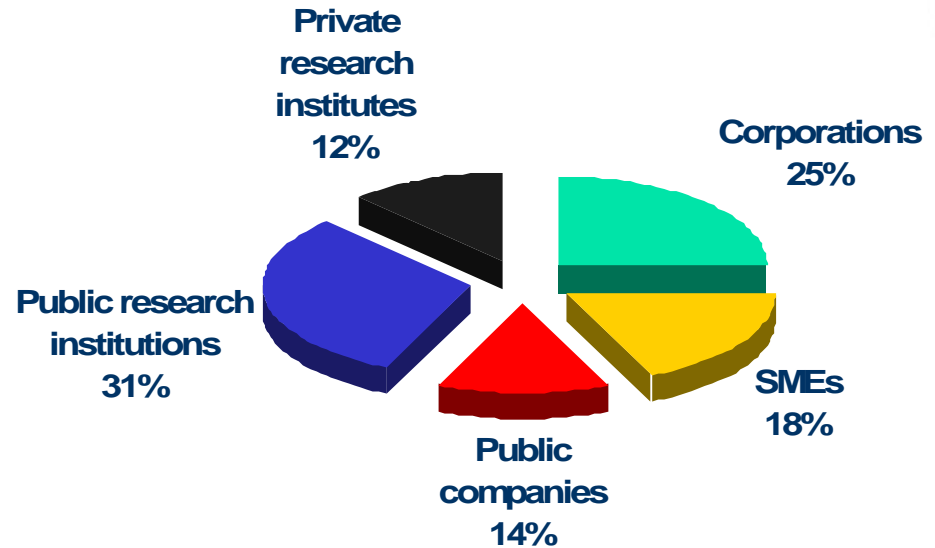
- Automatic constitution of communities of users according to their interests



# The MESH consortium

## ❖ 12 organizations from 7 countries

- Network & service provider (TID)
- Mobile Device Manufacturer (Motorola)
- Solution & system providers (ATC, Noterik)
- Universities (QMUL, UAM, UT)
- Research institutes (ITI, DFKI)
- R&D in public archives (INA)
- Broadcasters & news companies (DW, DIAS)



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# Conclusions

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- ❖ **In March 2009 the MESH platform will be ready allowing semantic navigation across multimedia news content...**
  - **The infrastructure of the platform allowing exchange of news content will be in place**
  - **The selected application domains will have been modelled**
  - **Semantic analysis technologies will be demonstrated in these domains**
  - **Similar technologies with more light functionalities will operate on mobile devices**
  - **Personalisation techniques will be operable in the modelled domains**
  - **Personalised summaries will be demonstrated in the modelled domains**
  - **Technologies will be in place for a post-MESH consortium to take them further into a commercial system**



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# Thank you for your attention!

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