SEVENTH FRAMEWORK PROGRAMME

Networked Media and Wireless Technologies: FP7 projects and research directions

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European Commission

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Outline

Networked Media

- **Market, Technologies**
- **Trends, Challenges**
- **Main topics (FP7-Call 1)**
- **Future plans (FP7-Call 4)**

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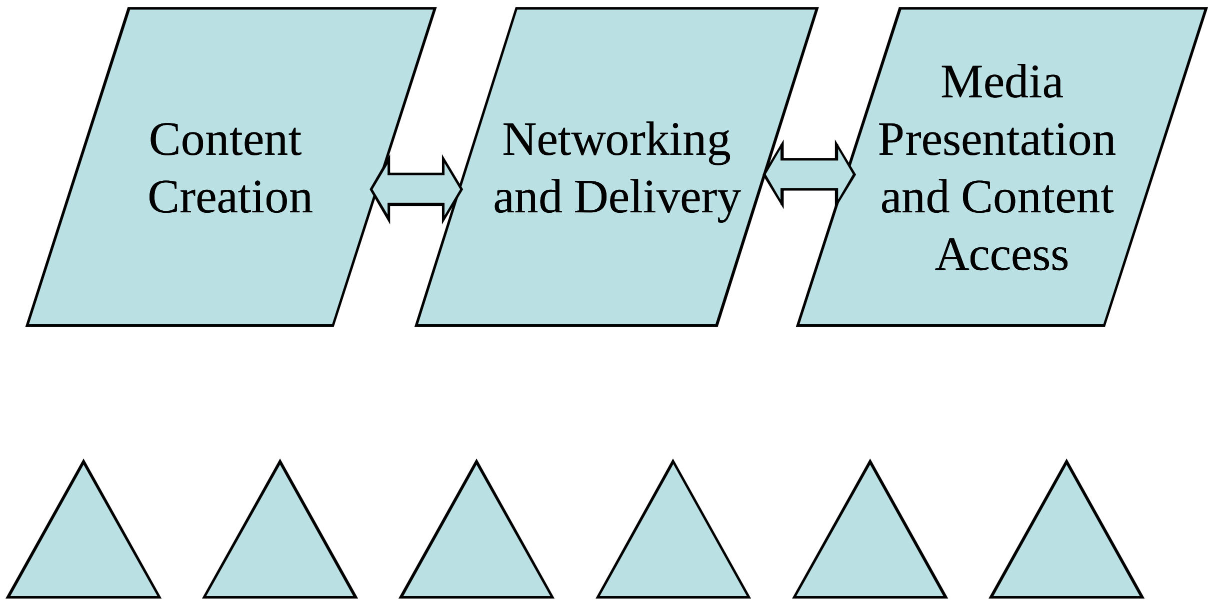
Networked Media R&D



Enabling Technologies

Trends: Information/content

- In 2003, the amount of information generated by each person on Earth amounted to 800MB;
- The overall amount of information (mostly MM) produced in 2006 was 161 EB (exabytes, 10*18) while by 2010 a total of 988 EB will be generated annually;
- In 2006, 250,000 digital pictures were taken (100,000 with mobile phone cameras) while by 2010 this figure is expected to double;
- The number of minutes taken by home camcorders will be doubled by 2010;
- By 2010, around 70% of information will be generated by end users;

The creative industries including film, video and computer games, broadcasting, advertising and marketing, Internet, mobile content, music, print and electronic publishing account for an average rate of 7% gross domestic product.

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Media Content: Market aspects

- IDATE estimates that the gaming software market, all platforms combined (PC, Home consoles, portable consoles), will be worth more than 20 billion € in 2007 (from 17 billion € in 2006)
- According to ScreenDigest, the movie industry's annual earnings is about 16 billion €;
- The International Federation of the Phonographic Industry (IFPI) estimates the music sector's sales at close to 27 billion €, and
- The global video market is close to 46 billion € according to Datamonitor while the Pay TV is close to 100 billion €.

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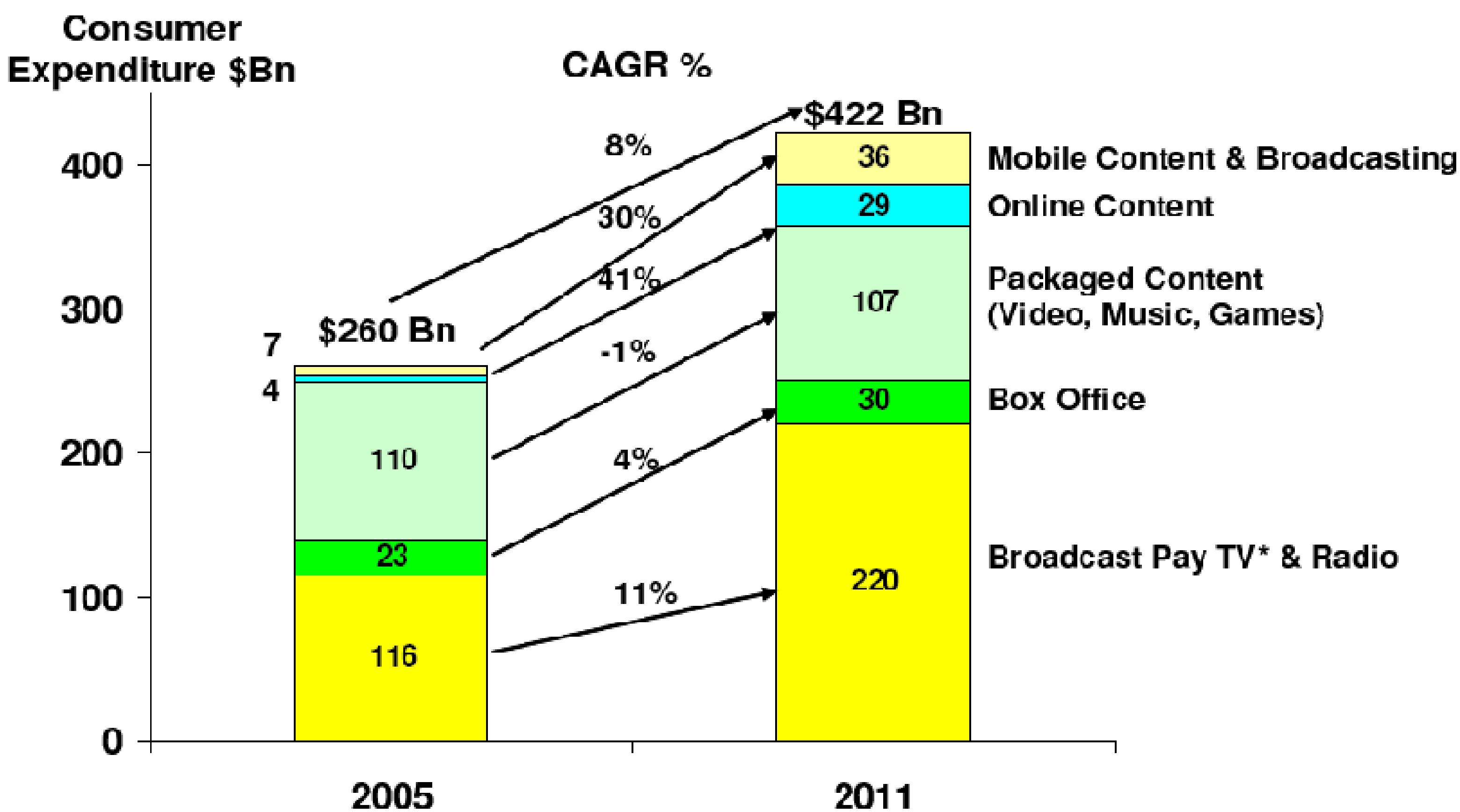
Global Entertainment Media Expenditure



* Basic & Premium, excludes receiver licenses & advertising

Understanding and Solutions April2007

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Use patterns are shifting towards non-linear usages

Percent of Total Media Time Spent with Select Media among US Teens and Young Adults, 2004-2006

	2004	2005	2006
Internet	19.30%	23.00%	23.10%
TV	25.30%	21.40%	21.60%
MP3s	15.40%	16.60%	18.70%
Radio	20.10%	17.70%	15.70%
Cellphones	9.60%	11.60%	12.40%
Magazines	0.08%	0.07%	0.07%
Newspapers	0.03%	0.02%	0.02%

Note: ages 15-24
Source: Bridge Ratings, February 2007

081420 www.eMarketer.com

Networking & Delivery: Market aspects

- **Revenue Opportunity for “converged” Network Operator (5 year cumulative)[1]**
  - **US: $9,8 Billion**
  - **Western Europe: €14 Billion**
- **The mobile TV market is forecasted to be a rapidly evolving one.**
  - **by 2015, the world mobile TV market could be worth 20 billion Euros.**
  - **Mobile TV broadcast subscribers are expected to leap to 100 million by 2010 and**
  - **Mobile TV is to generate more revenues than mobile video starting in 2011.**

[1]Source: Alcatel Lucent

The Media revolution…

- Audiovisual Media is moving from a collective and passive approach to personal active behavior, at home and in mobile situations outside the home.
  - User centric media: social media, pervasive media experiences, personalised media, context aware
  - Barriers between professional and non professional media are getting blurred
  - Content generation moving to the edge
- Personal Internet time rivals TV time
  - "TV is rapidly approaching the same kind of crunch moment that the music industry faced with the arrival of the MP3 player" (Vint Cerf)
- An ever increasing quality (Digital Cinema, Ultra HDTV, Computer Games…)
- Media on the move: an irreversible trend
  - Today, mobile devices have reached a point where ubiquitous multimedia is becoming feasible.
  - Omnipresence and proliferation of audio-visual content
- Convergence of media and communications

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Challenges

- **On the content side**
  - Relation of content to services
  - take into account the capabilities of the terminals
  - become an integral part of the communication (social networks)
  - Be more than just information (emotional needs)
- **On the network side**
  - new concepts for Multicast distribution
  - New internet architectures
    - EU: Future Internet initiatives
    - Japan initiative: a new Internet by 2020

Underlying network technologies to become invisible to the user and to the application

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Networked Media
WP 2007-08: The research themes

Roadmapping, interoperability, research coordination

MEDIA DELIVERY/ STORAGE/ SEARCH
unstructured
variable distribution patterns

LIVING and UNIQUE AV CONTENT
integrity and the quality of the media,
enrichment at every step of the media lifecycle;

multimedia services and distribution infrastructures

EXTENDED HOME:
seamless, personalised MM experience in variety of roles, locations, contexts

Intuitive and intelligent AV content
creation, manipulation, management, search, rendering

multimedia systems and application platforms

Collaborative composing, linking and sharing

interactive, immersive,
very high quality
media and experiences

FP7 Call 1-Networked Media. Proposals selected for negotiation

- **Selected proposals:**
  - **CP: 18 Collaborative Projects: 3 IP & 15 STREP**
  - **NoE: 1 project on MM services & Applications Research**
    - **Brings together four National Research Networks already in operation**
  - **SA: 1 project on Road-mapping and conference support**
    - **Support to NEM ETP**
  - **Industry: 48%, Research Institutes: 24%, University: 27%, Other:1%**
  - **Increased presence of Content Providers (including creative content)**
  - **SME: 28% (Participations), 22% (budget)**
- **Success rate**
  - **100 submissions: 18 IP, 3 NoE, 75 STREP, 4 SA**
  - **Success rate: 20% (Overall)**

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Selected projects: Main topics

- P2P services positioned as an alternative of (or complementing and enhancing) traditional broadcasting;
- new 3D media environments (in both fixed and mobile environments);
- Virtual and augmented reality;
- new forms of interactivity between users and content such as immersive environments;
- development of virtual and shared spaces for music creation, media personalisation and delivery networks;

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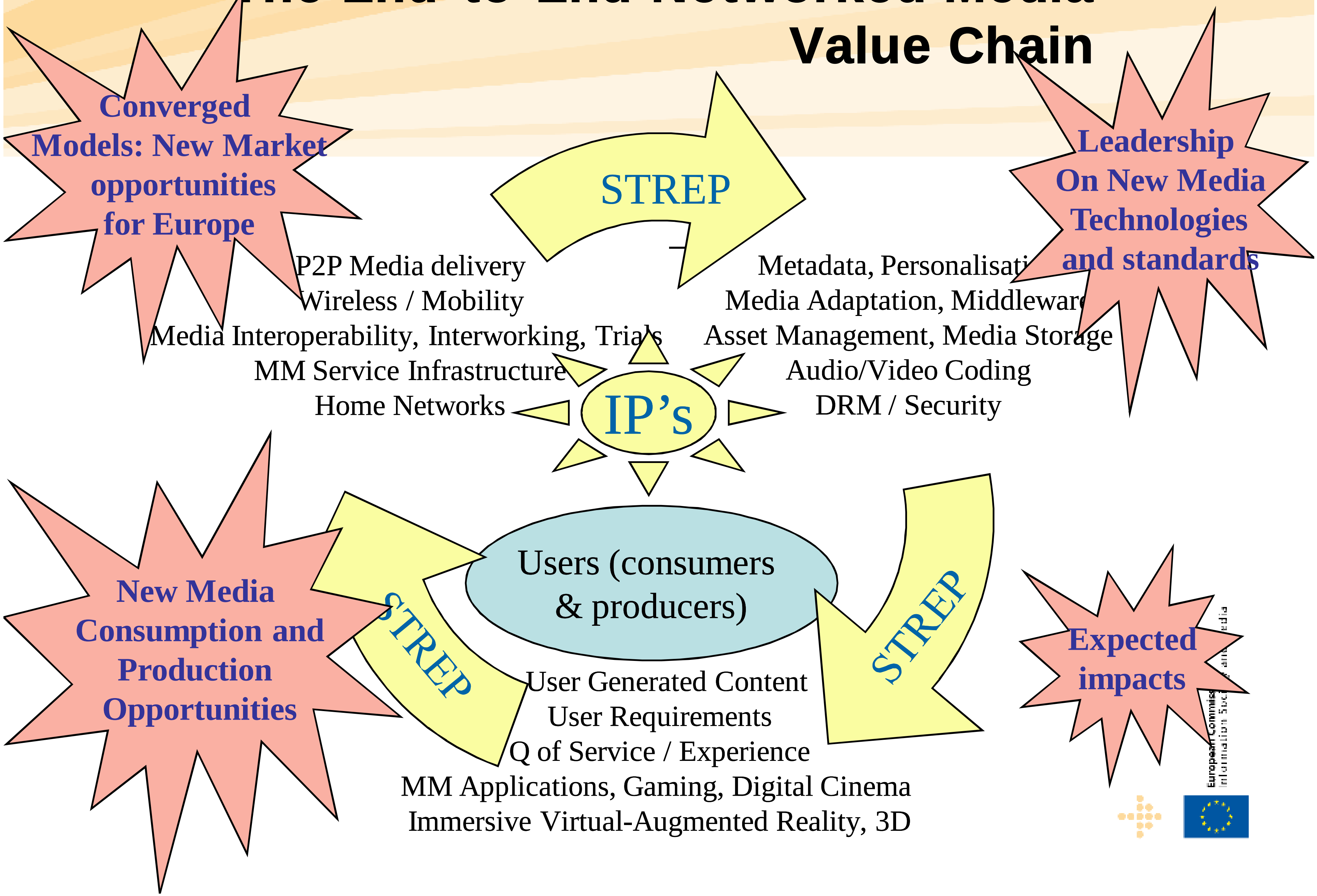
The End-to-End Networked Media Value Chain



Highlights of the planned work (FP7)-I

- **Content creation**
  - 3D capture/content creation
  - Authoring tools for User Generated Content
- **Networking and Delivery**
  - enhanced video streaming in an IP based wireless heterogeneous system
  - PQoS-optimisation
  - Resource Management techniques for heterogeneous networks

Highlights of the planned work (FP7)-II

- Media Presentation and Content Access
  - adaptive media playout / time-stretching.
  - Synchronised media consumption (inter-domains)
  - All-3D imaging mobile phone
  - 3D sound rendering
  - natural multimodal interfaces for mobiles.
  - Entertainment/Gaming Rendering Services
  - perceptive technologies for person identification, localization, tracking and scene analysis

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Highlights of the planned work (FP7)-III

- Enabling technologies
  - Coding/decoding algorithms for the delivery and display of stereoscopic video over the broadcasting channel
  - dynamic cross layer adaptation/optimisation
  - cross-domain interoperability (identity management, media synchronisation and metadata integration).
  - Advanced scalable and multiview video coding
  - Content protection
  - Personalisation
  - Context adaptation

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Networked Media: Possible R&D topics for future calls (Call 4)

- **MM Search Engines**
  - interactive, scalable, multi-modal (and cross-modal) content search,
  - diverse search paradigms,
  - search in distributed repositories, Peer-to-Peer overlays,
  - MM search for media professionals.
- **Massive Multiplayer Mobile Games**
  - integrating gaming with telecommunications
- **Extended Home**
  - nomadic user: overcoming the physical borders of the various living environments (e.g. home, work, car, train, holiday house, etc.)
  - virtual distributed devices -ad-hoc federation of devices assembled on demand-, "mobile augmented reality"...
- **Digital Cinema: novel end-to-end solutions (creation, delivery and rendering)**
- **Innovative combinations of semantic Web, P2P technologies and mobility.**
- **End-to-end solutions for 3D Internet**

Workprogramme 2009-20010 in preparation

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Next steps

- **Next Calls**
  - **Call 2**
    - **Publication date: 12 June 2007**
    - **Budget: € 477 m**
    - **Deadline: 09 October 2007 at 17:00:00 (Brussels local time)**
  - **Joint Call between ICT and Security Themes on Critical Infrastructure Protection**
    - **Publication date: 03 August 2007**
    - **Budget: € 40 m**
    - **Deadline: 29 November 2007 at 17:00:00 (Brussels local time)**
  - **Call 3**
    - **Date of publication: Dec 2007**
    - **Closure date: Mar 2008**
    - **Indicative budget: € 265 m**
  - **Call 4**
    - **Possibly end 2008/beg. 2009**

http://cordis.europa.eu/fp7/ict/

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Thank you