

Networks and Media: Trends and Prospects in EU Research

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***Media & Content issues in the new Convergent
Environment***

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The multiple dimensions of Media



Trends: a media revolution

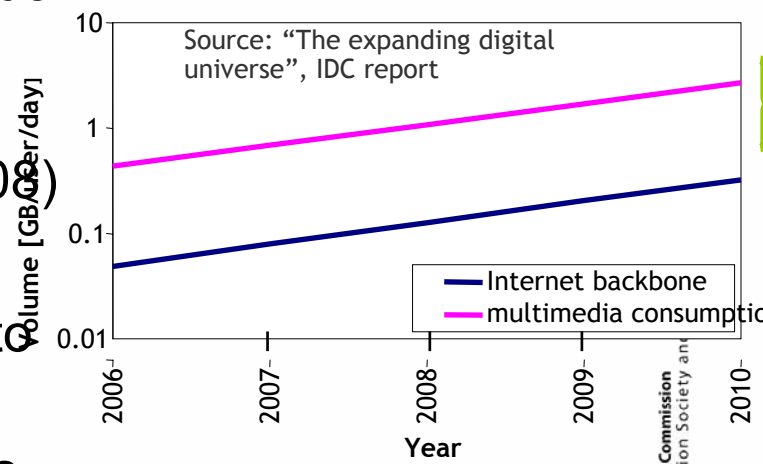
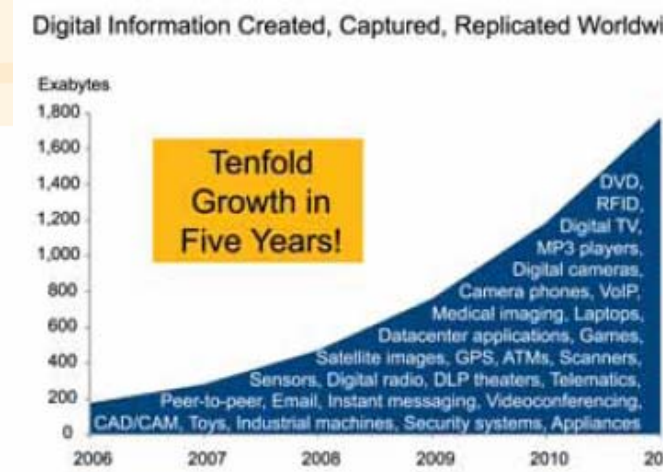
User controlled collaborative usage is driving the media delivery and management environment, with “information explosion”
 The digital universe in 2007 is estimated at **281 exabytes** (or 281 billion gigabytes). By 2011, the digital universe will be **10 times** the size it was in 2006.

Total IP traffic: from 4.5 Exabytes/mo in 2005 to 29 exabytes/mo in 2011

Video/social: You Tube= half of US video traffic (2007), 10% of all Internet traffic (2007)
 120K new blogs every day

Diversity: from 6 gigabyte movies on DVD to 128-bit signals from RFID tags.

Approximately **70%** of the digital universe is created by individuals.



-> No room for all traffic consumed by user to be transported over the Internet

Source: <http://www.emc.com> “An Updated Forecast of Worldwide Information Growth Through 2011, March 2008



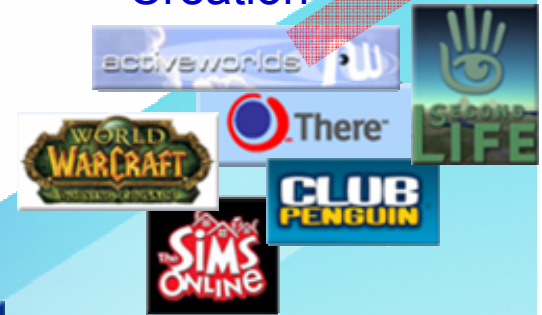
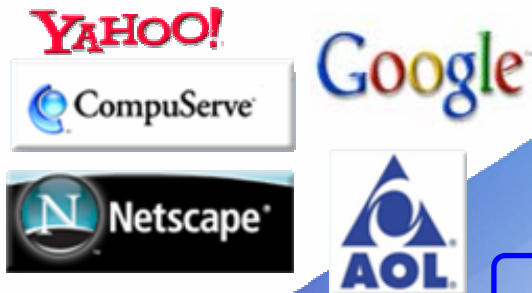
Mass Collaborative Usage

User generated content fueled by mass collaborative usage, for an ever larger range of applications

3rd Phase Web
Experience, Participation
Creation

2nd Phase Web
Sharing, Collaboration

Early Web
Access and Find



Time



Future Media Internet": R&D challenges

Internet of Services, Service Web

3D & Media Internet

For a Future Internet of creative media based on content-centric networks allowing real-time collaboration, multi-sensory context-based services, global ubiquitous access on multi-functional devices and open access to public content.

Networks of the Future

Internet of Things

Sources: 3GPP, 3GPP2, Qualcomm, WiMAX Forum
<http://www.alexandria.unisg.ch/EXPORT/DL/38496.pdf>

Future Media Internet Brussels 1st 2008

Next Steps: 3D & Global Media Processing

Education



Augmented Reality



Social Nets.



Real World



WEB 3D

GIS

WEB 2.0

Gaming

Mirror World



E-Commerce



Games



Collaboration



➤ An Open 3D Immersive Web is Emerging (combining the virtual digital world with the physical world)
➤ Massively distributed server farms
➤ Distributed creation and access to applications (also mobile)



The way ahead: Future R&D on Networked Media and 3D Internet

Content-aware Networks and Network-aware Applications:

- ❑ User generated content/social networks, Enriched media experiences (at the “Extended Home”, content and context-aware, personalised, social media, real time). Optimal Quality of Experience. Users as producers, consumers, managers of content



3D Media Internet

- ❑ Mass distribution, real time delivery and rendering, representation, augmented worlds.



Networked Search and Retrieval

- ❑ Large scale distributed MM content, interaction, dynamic adaptation to context and application, personalised search

Electronic Cinema & Immersive media experiences beyond HDTV

- ❑ Next generation MM and cinema: higher QoE (frame rates, contrast range, colour, resolution, “spacialised” sound, 3D, innovative 3D/multi-viewpoint coding)



Threats and Opportunities

› Nokia's CEO Olli-Pekka Kallasvuo: “we should expect the US to soon steal Europe's we-drive-the-mobility-market crown, as more emphasis is placed on software and internet-based services”

› **New Media usages, consumption and delivery modes may offer Europe an opportunity to react and to regain ground in the Internet technological and economic spheres. We need to build upon excellent EU industry (Content, Broadcasting, Telcos, CE) to meet the new demand for personalised content and services and create wider market opportunities**

This represents an opportunity for European industry ...and a key cultural challenge for Europeans too!!!