



PROJECT RESULTS

# Interactive TV beyond the crossroads

## Impact of object-oriented TV

***Moving digital TV into the next phase of innovation was foreseen to be a technical development based on emerging standards such as MPEG4, and MPEG7 and finally MPEG21. Looking back on the progress made by the JULES VERNE project reveals that while the technical developments have been significant, the true innovation has been in the social and economic changes these new digital media networks bring.***

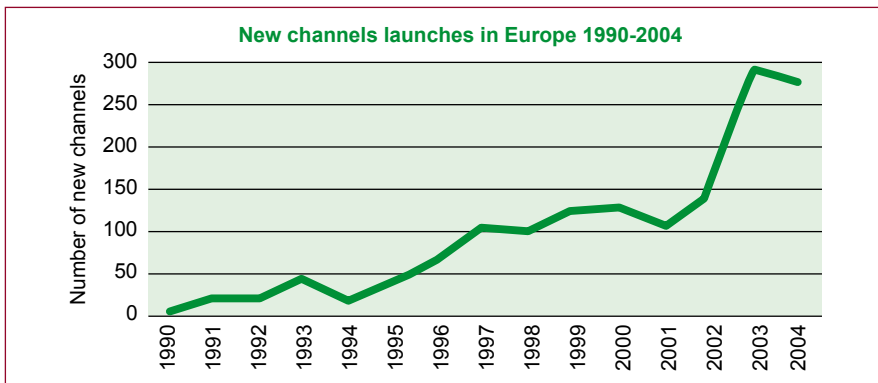
Through ISO and DVB norms, Europe's consumer electronics industry developed an audio-visual infrastructure based on open standards, which was capable of supporting diverse networks superior to the cable TV distribution employed in the USA. This infrastructure has provided both Philips and Thomson with strong positions in the addressable digital TV set-top box (STB) market, while the free digital video broadcast via satellite market gave advantage to the European semiconductor industry in STB chipsets and to a rich eco-system of companies for support software, security systems and network infrastructure.

The new challenge was to determine how Europe could maintain its strength

as the industry moved from MPEG2 standards to MPEG4. And specifically, how could the synergy and bonds between the systems and semiconductor industries be maintained? How could Internet protocol (IP) networks be used to support this technology shift, thus allowing investments in existing standards to be exploited in world markets? And for the JULES VERNE project, how could the DVB-MHP standard be utilised in media networks based on MPEG4, with overlapping capabilities but complementary implementation in silicon and the content creation flows?

### **Bridging a widening gap**

Diversity in the media networks of the European economies has taken extreme forms, with dramatic implications for the content-providing industries that seek to profit from them. One clear example is football, which has benefited greatly from the development of pay-TV in the UK and France, but much less so elsewhere. Nevertheless, football is not unique in its concentration of economic interests in the media. Bridging the gap between the spearhead of digital pay-TV and the broader adoption of digital TV is successfully bringing greater



Theme TV channels (Screen Digest, August 2005)

## JULES VERNE (ITEA 02002)

### Partners

- ARTEMIS
- Cardinal Information Systems
- CRP Henri Tudor
- Cybercultus
- INRIA - Loria
- Philips Digital Systems Laboratories
- Philips Semiconductors
- Telvent
- Thomson

### Countries involved

- Finland
- France
- Luxembourg
- The Netherlands
- Spain

### Start of the project

January 2003

### End of the project

December 2004



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diversity in theme content, resulting in the annual emergence of many new channels.

At the start of the JULES VERNE project in 2003, most of Europe had declared plans for digital switchover in 2006. By 2005, the deadlines had moved further into the future, with some major countries only planning analogue switch-off in 2016. So while the gap has widened between the digital TV generations for some nations, for the early digital TV and broadband adopters the situation has changed dramatically. For the broadband adopters both IPTV and P2P offer distribution networks that flood into the viewer's home with content. This media glut is also available via DVD and web services, sometimes referred to as 'The Long-Tail' (which has been the speculative drive behind Google's share price in 2005) or 'the second Internet boom'.

### What happened?

One of the core technologies at the conception phase of JULES VERNE was the multimedia home platform MHP-Java. At the project start in 2003, there were high hopes for MHP to bring many of the fruits of interactive media to the home. Unfortunately MHP has shown that the advantages of this technology cannot be enjoyed EU-wide if market intervention is poorly coordinated. So while it has been a greater success for the local TV networks in Italy, in a broader European context the lack of concerted support measures has left a diverse patchwork of standards over different networks.

Fortunately, the other pillar of the project's standards, i.e. MPEG4, has suffered no adverse intervention policies and has been widely adopted for IPTV and Internet TV, P2P networks and optical disk standards for blue laser technologies. MPEG4 is driving the introduction of broadband media. And the project has been able to demonstrate that MPEG4 content creation can be coupled to chip-sets from European semiconductor

vendors for STBs and digital TV. So far, it has established clear roles for Java and MPEG4 as tools for reactive media in ambient intelligent homes.

### Europe stays ahead

Introduction of high definition TV (HDTV) is now a priority in the policies of the advanced media nations of Europe. For the content industries, the ability to create and export HDTV content is critical to their future. The JULES VERNE consortium demonstrated MPEG4-AVC technology in a number of STBs and digital TVs that have recently been used in critical regional demonstration of IP-based distribution systems running on IPTV (Thomson with Swisscom) and P2P.

Philips has secured a role for Java as the interactivity platform for Blu-ray disks. As a world standard for media beyond the sphere of European policy influence, this has every chance of ensuring lasting exploitation and true added-value for the European economies. Similarly, the Finnish SME partner Cardinal has continued to develop its position in the market for interactive HD media based on the synthesis of broadcast and packaged interactive components.

These results will be used as building blocks for the next generation of ITEA and MEDEA+ projects, such as PASSEPARTOUT and BLAZE.

### Major project outcomes

#### Dissemination

- 19 publications
- 17 presentations at conferences/fairs

#### Exploitation

- 2 new products
- new European trials for IPTV

#### Standardisation

- 2 contributions to standardisation bodies ISO

#### Patents

- 12 submitted

### ITEA Office

Eindhoven University of  
Technology Campus  
Laplace Building 0.04  
PO box 513  
5600 MB Eindhoven  
The Netherlands  
Tel : +31 40 247 5590  
Fax : +31 40 247 5595  
Email : itea2@itea2.org  
Web : www.itea2.org

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