



Ubiquitous Network Societies

Case Study of the Italian Republic



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International Telecommunication
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**New Initiatives Workshop on
Ubiquitous Networks
Societies**

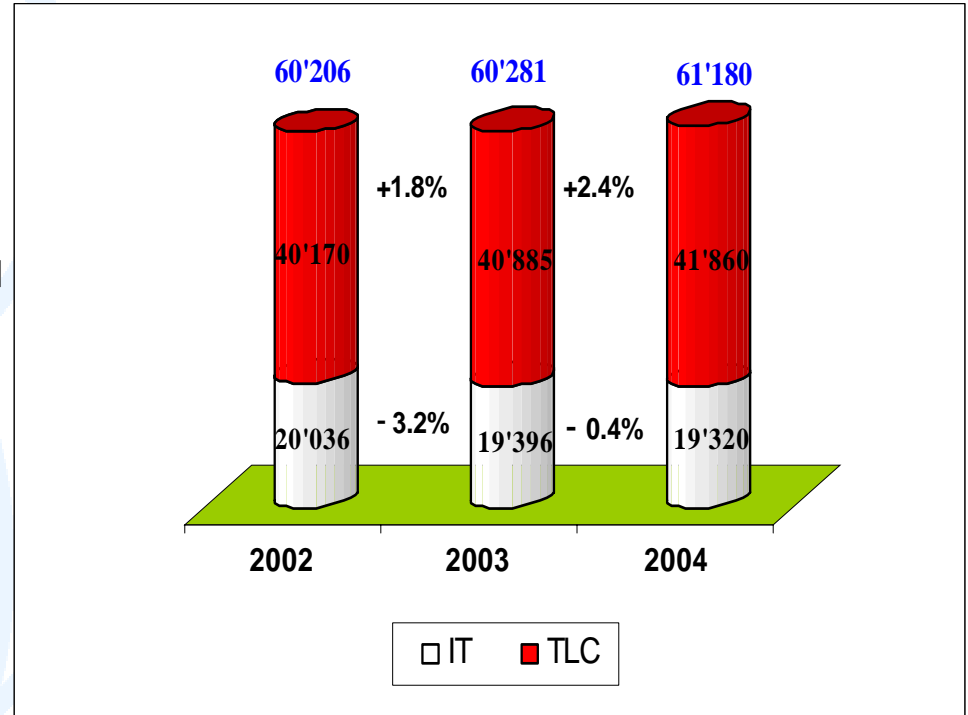
Geneva, Switzerland
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ICT Market

The real change toward Ubiquitous

Three driving forces...

- High penetration and technological leadership in mobile telephony
- The accelerated penetration and growth of broadband wireline access
- The final planned phasing-in of digital terrestrial TV, which will completely replace analogue TV by 2006



Note: IT is hardware, software and services, whilst TLC is fixed and mobile telecommunications.

Note: The percentages represent an increase or decrease in the respective markets.

Source: Assinform



The path to Italy's Ubiquitous Network Society

Implementing solutions to comply with the ubiquitous computing paradigm

At any place

- The capacity to access and use a specific IT service through different access technologies and physical devices

At any time

- The service must be “always-on”

With any object

- Enabling the use of a wide variety of non-PC equipment, such as cell phones, games machines and car navigation equipment, in addition to the desktop and laptops.



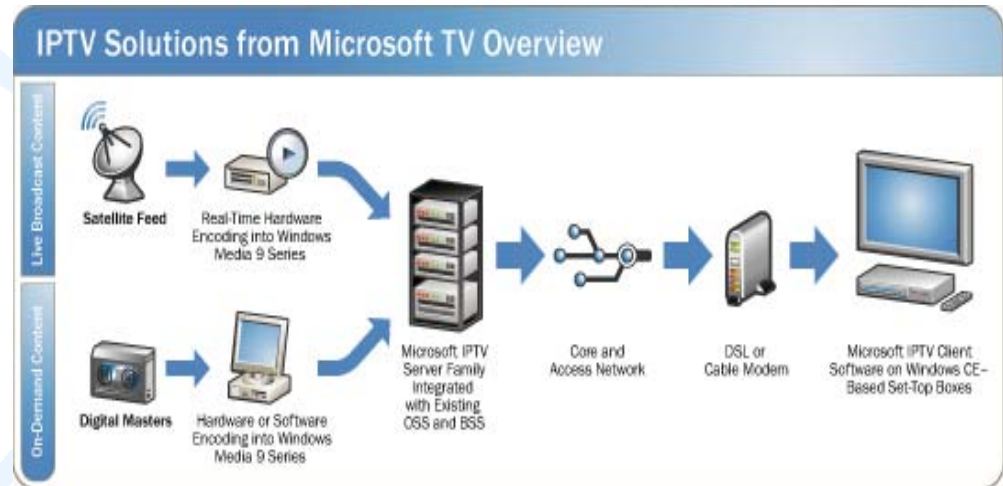
The Italian Government supports the Ubiquitous Society

The Italian Government is committed to making Italy a leader of the digital age

- **Modernizing the country through the widespread use of new information and communication technologies**
- **Boosting the country's competitiveness by accelerating the spread of the online economy and developing a model of the information society**
- **Financial incentives: broadband access (EUR 75 per household) digital TV (EUR 150 per household)**

Broadband Applications

- **TV and Cinema Over ADSL**



- **Broadband penetrates public transportation**

Mobile Computing

Mobile market is mature for Ubiquitous

- UMTS introduced and adopted by all operators

Increasing presence of WASP (Wireless Application Service Providers) and Mobile Internet Portals

Interesting applications include

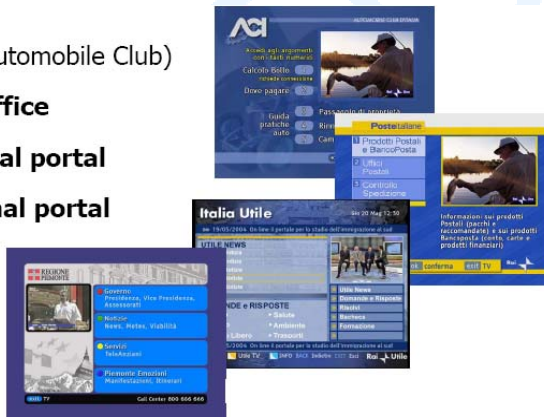
- M-payment (like parking reservation and payment in Turin)
- Ubiquitous banking; such as banking services via mobile (Ubifinance of Banca Intesa and Ubiquity)



Digital TV

- 2004 has seen the take-off of digital TV in Italy
- Final switch-over on 31 December 2006

- ACI (Automobile Club)
- Post office
- National portal
- Regional portal



- Experimental phase for t-government services (e.g. public utility services: Electronic Identity Card and Services National Card)



Wireless

Big Growth of Wi-Fi in Italy

- 35 licenses issued
- Map of hot-spots (released at last)
- R&D entities interested in the potential of wireless

Some proof of concepts toward convergence:

- Motorola and TIM co-design, deploy and support a hybrid Wi-Fi system to provide wireless Internet and intranet access using TIM's existing user authentication solution (SIM-based authentication).
- The Ugo Bordoni foundation (FUB) and Cisco Systems are experimenting with a Wi-Fi multi-operator infrastructure, which is a wireless network where different services (of different operators) are provided, using the same hotspots and access points.

Domotics and RFID

Home appliances used to provide services via different technologies and communication media



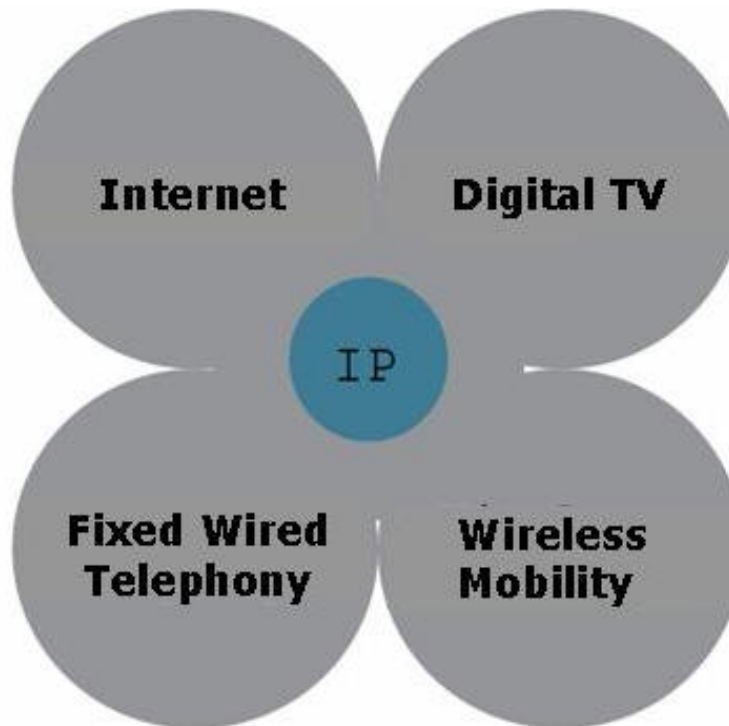
Four of the major companies in Italy AEM, Bticino, EuroMilano and Fastweb have joined forces to build the first domotic residential area, in Milan.

Merloni implements RFID on its home appliances as proof of concept



Convergence is the real challenge ...

- **Convergence at the level of access technologies,**
- **Network level convergence, end-to-end, already reachable for all terminals using the same protocol (specifically IP);**
- **Convergence at the transport-session-application level**





Thank you

**The full case study (52pp) and survey are available at
<http://www.itu.int/ubiquitous>**

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