Scenarios for AmI & AmI@Home project

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• Background: Phd. in Social Sciences (June 2000)
  • Use and Acceptance of ICTs in everyday life
  • Social Studies of Technology (SCOT)

• Institute for Prospective Technological Studies
• Two year Post-Doctoral Fellowship (EMTEL)
IPTS Mission statement

- **IPTS provides prospective techno-economic analyses** in support of the European Union’s policy-making process.

- **IPTS monitors and analyses S&T related developments**, their cross-sectorial impact, the inter-relationships between technology and society, and their future policy implications.

- **IPTS operates international networks**, pools the expertise of high level advisors and **presents information in a timely and synthetic fashion**.
Scenario’s for Ambient Intelligence in 2010

K. Ducatel, M. Bogdanowicz, F. Scapolo, J. Leyten & JC. Burgelman
AmI: Goal & Vision

• Develop a longer term vision of the challenges and opportunities for sustained global competitiveness of the European IST industry circa 2010 (ISTAG Mission)

ISTAG vision of AmI in 2010:

• It should be unobtrusive, often invisible:

• Everywhere and yet in our consciousness - nowhere unless we need it.

• Interaction should be relaxing and enjoyable.

• It is all about user or people centric technology.
The scenarios

• Not just scenario scripts but also develop a technology roadmap and identify key drivers, constraints & uncertainties, technological trajectories, possible breakpoints and key events.

• Discuss economic, social and political factors

• 35 experts, Dg InfSo & IPTS

• Scenarios are not predictions but provide a glimpse, a provocative vision of possible futures, aimed at improving our understanding and at mobilising people and resources towards a common vision.
Scenario structure

1: Maria:  personal ambient communicators

2: Dimitrios:  connecting people and expressing identities

3: Carmen:  traffic optimisation

4: Annette & Solomon:  social learning by connecting people and creating a community memory

Efficient

Individual

Community

Sociable, humanistic
Key technological requirements

- Requirement 1: Very unobtrusive hardware
- Requirement 2: A seamless mobile/fixed web-based communications infrastructure
- Requirement 3: Dynamic and massively distributed device networks
- Requirement 4: Natural feeling human interface
- Requirement 5: Dependability and security
Technological Roadmap to AmI

Generic AmI Techno line

1. Embedded intelligence & services
2. Dynamically and massively distributed device networks
3. Communications
4. Trust and confidence enabling tools
5. Cross Media Content
6. Multi-modal and adaptive interfaces
7. Dialogue goal-oriented negotiation (agents)
8. Electronics (Micro/nano): scaling down
9. Displays
10. Power source
11. Other issues:

Software languages/engineering


1. Anticipated period of FP6
   - Open standards (ontologies) versus de facto proprietary pacts
   - Optical routing
   - 3.5th Generation + (ADSL, Bluetooth)
   - 4th Generation Mobile

2. Key bifurcation 1: emergence of standardised interfaces around 2003/4

3. Key bifurcation 2: the steady growth of fuzzy matching techniques spurs a massive growth of new Artificial Intelligence applications

4. Key bifurcation 3: the transition to the nanoscale - a key issue will be interconnection between the micro and nano scales

5. Position of Europe
   - Very Strong
   - Strong
   - Weak
   - Very Weak

**EUROPEAN COMMISSION**
Key Impacts / demand side

• The social and the political: privacy, identity, security... Who is in control?

• The economic: How to « make a business » in such an environment? What impact on manufacturing and services?

• The scientific: which targeted research effort is needed? (AmI in FP6)
S&TRM of Ami@Home

• Societal problem:
  - Acceptance of these technologies is not obvious (vt, vod, wap)
  - Real use differs from intended use (SMS, answering machine)
  - No typical user but a diversity of users and uses
  - Digital divide in an AmI environment?

• Solution not in reactively trying to influence diffusion but rather in proactively taking users on board in the design of new techs.

• Challenge in flexible design that enables a diversity of users to feel at home with these techs.

• S&TRM of Ami@Home as part of a larger S& TRM exercise