

WORKSHOP ON TECHNOLOGICAL ADVANCES FOR CONTROLLING  
INDOOR ENVIRONMENT

Danish Technological Institute, Taastrup, Denmark

# European Developments in the Field of Intelligent Home Environments

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DG - INFSO

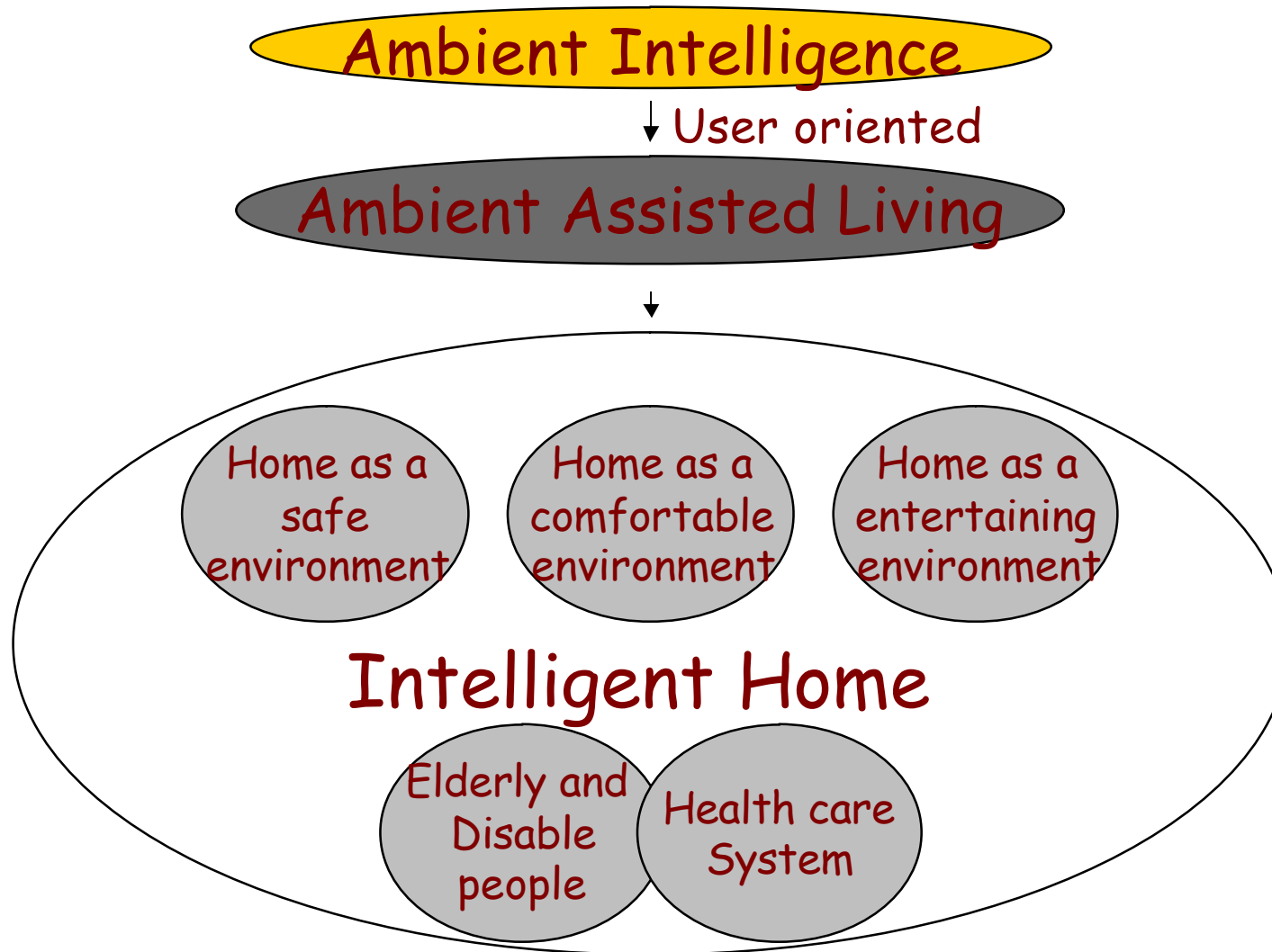
G2 Unit: Micro- and Nanosystems

# Outline

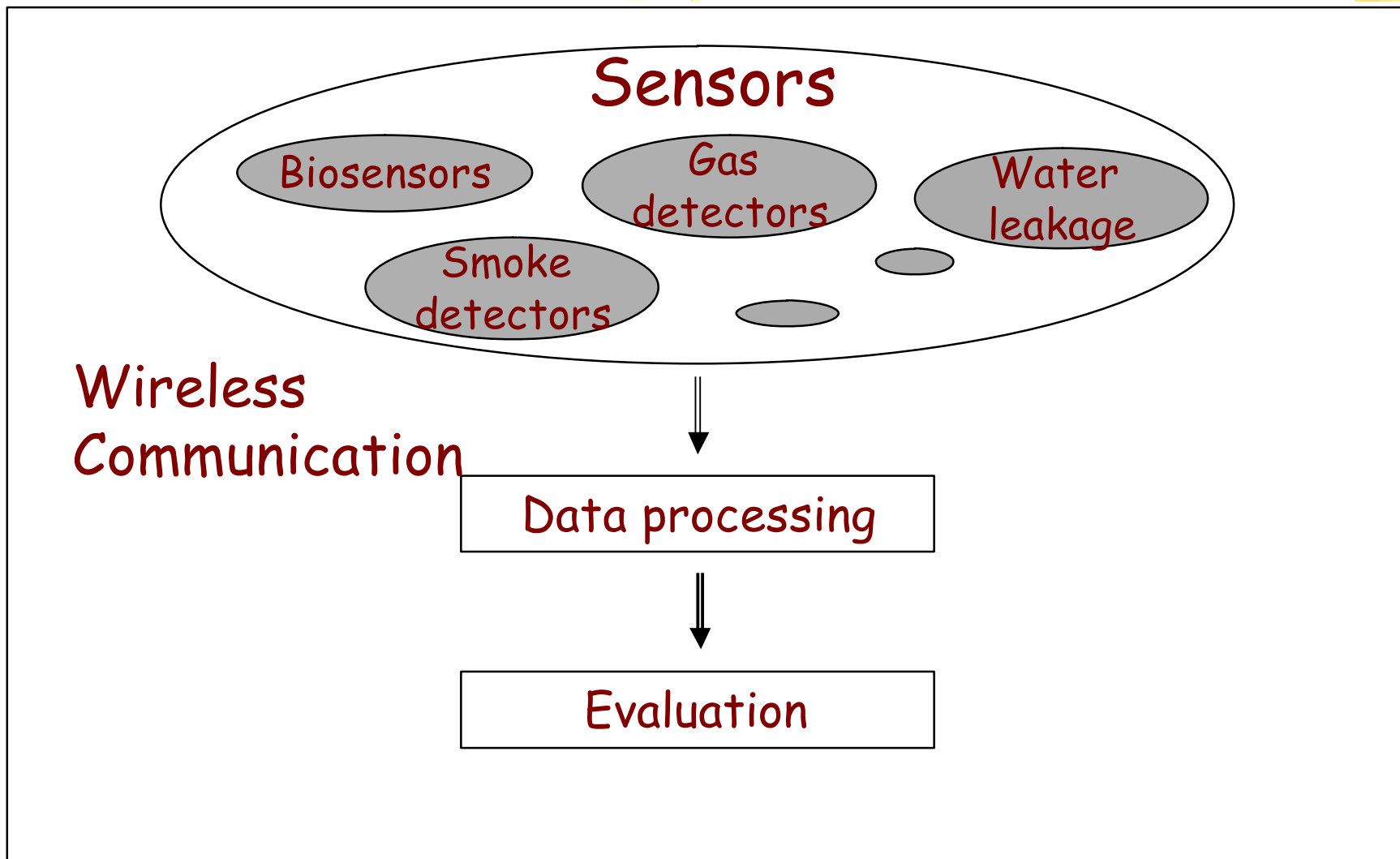
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- Introduction
- Contributions to the field under FP5 and FP6
- FP7: Some hints
- Conclusions

# Introduction



# Introduction: Ambient Assisted Living



# EU contributions to the field: Intelligent Home

## Ambient Intelligent Technologies for the Home Environment

Programme	# Projects	EU contribution
FP4	8	5 M€
FP5	49	84 M€
FP6 (IST Calls 1-3)	17 (7 IP, 3 STRP, 7 SSA/CA)	81 M€

# EU contributions to the field: Intelligent Home

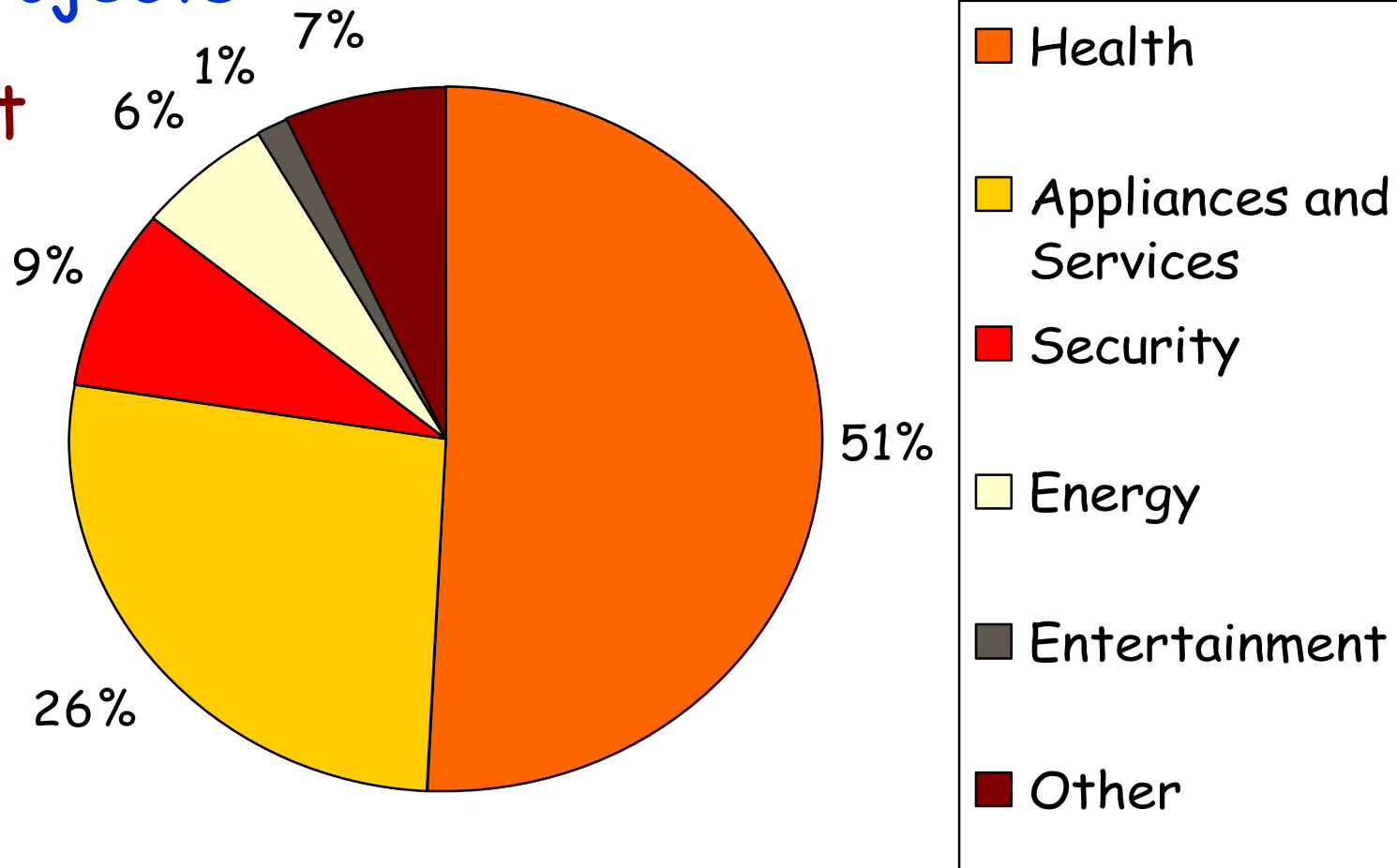
## FP5

- Health - 26 projects/42.8 M€
- Appliances and services - 10 pjts/22.2 M€
- Security (including gas sensors/fire detection) - 5 projects/7.2 M€
- Energy - 2 projects/4.9 M€
- Entertainment - 2 projects/1.1 M€
- Network/Communications/IST Services - 3 projects/5.8 M€

# EU contributions to the field: Intelligent Home

FP5 projects

Budget



# EU contributions to the field: Intelligent Home

## FP6

- Ambient Assisted Living - 3 IPs, 2 SSA/  
31.5 M€
- Health - 3 IPs, 1 SSA / 34.9 M€
- Entertainment - 1 IP / 2.0 M€
- Network/Communications/IST Services -  
3 STRPs, 3 SSA, 1 CA / 12.3 M€



# EU contributions to the field: Intelligent Home

## FP5: Specific projects on Gas detection /Indoor air quality

- **ADA** "Advanced distributed architecture for telemonitoring services"
- **ADVANTAGAS** "Advantageous applications of gas sensors for security and consumer applications"
- **IMOS** "Intelligent modular multisensor networked false alarm free fire detection system"
- **MASCOT** "Micro acoustic sensor system for CO<sub>2</sub> tracking"

# EU contributions to the field: Indoor air quality

Specific projects on indoor air quality (no  
IST projects)

Programme	# Projects	EU contribution
<b>Energy</b> (1988-1997)	<b>9</b>	<b>1.8 M€</b>
<b>FP5</b>	<b>17</b>	<b>10.7 M€</b>
<b>FP6</b> FP6-JRC air quality and health		

# EU contributions to the field: Indoor air quality

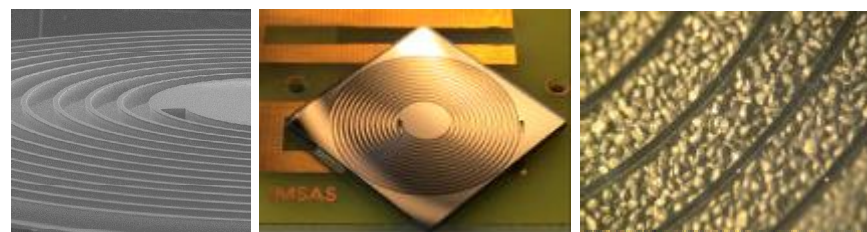
## FP5: Example of specific projects on Indoor air quality (no IST)

- **CLEANAIR** "Dedicated electronic noses for enhanced performance of medium/large size air conditioning systems"
- **ETIAQ** "Energy technologies and indoor air quality: state of the art and review of significant trends"
- **AIRALLERG** "Effects of outdoor and indoor air pollution on the development of allergic disease in children"
- **ENVIE** "Coordinated action on indoor air quality and Health Effects" **FP6-POLICIES**

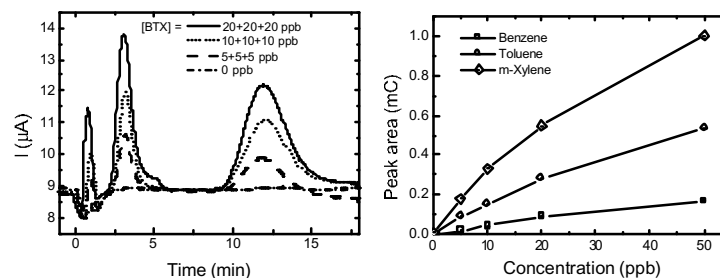
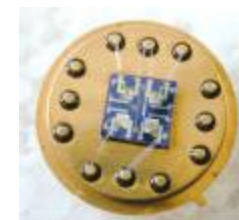
# EU contributions to the field: Example of results

## CLEANAIR "Dedicated electronic noses for enhanced performance of medium/large size air conditioning systems"

**Main results:** Development of a highly selective hybrid microsystem based on a gas-chromatographic-like (GC) approach suitable to monitor single toxic volatile compound in indoor air.



The system is composed of a solid state gas sensor, together with a packed GC column micromachined in Si, a zero grade air unit, a minipump and a minivalve.



With this prototype is reliable to detect concentrations down to 5 ppb of BTX in air.

Contact Person: S. Zampolli  
CNR-IMM Sezione di Bologna

2000 - 2003  
FP5



Taastrup, 24-25 November 2005  
I. Vergara



# EU contributions to the field: Example of results

## ENVIE "Co-ordination action on Indoor Air Quality and Health Effects"

2004 - 2007  
FP6 POLICIES

European Co-ordination Action interfacing science and policy making in the field of indoor air quality.

**the specific objectives of EnVIE are**

- to collate research results from EU supported projects and other national and international actions (including that derived from epidemiological studies) and will provide relevant, widely supported research interpretation/advice for the facilitation of policy development options by the EU (and other bodies).
- to assess policy relevance of research into the health effects of isolated agents and mixtures,
- to consider the implications for safety thresholds
- to investigate the contribution of indoor air quality to acute and chronic health impacts (including asthma and respiratory allergy).

Coordinator: Christian COCHET

<http://indoorairenvie.cstb.fr>

CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT, Paris, France

# EU contributions to the field: AAL

## FP6: Next IST Call 6 (open Nov. 2005)

S.O.	Instruments	Indicative Budget
Advanced Robotic	STREP, CA, SSA	34 M€
Ambient Assisted Living (AAL) for the Ageing Society	IP, STREP, CA, SSA	40 M€
Search Engines for Audio-Visual Content	IP, STREP, CA	30 ME

IST Call 6 close date: 15 March 2006 (tentative)

# FP7: Some Hints

## Main new elements compared to FP6:

- Annual budget doubled (€ 5 billion ? 10 billion)
- Basic research (~ € 1.5 billion per year)
- Flexible funding schemes
- Joint Technology Initiatives
- Simplification of procedures
- Logistical and administrative tasks transferred to external structures

# FP7: (2007 - 2013)

***Cooperation – Collaborative research***

***Ideas – Frontier Research***

***People – Human Potential***

***Capacities – Research Capacity***

+

**JRC (non-nuclear)**

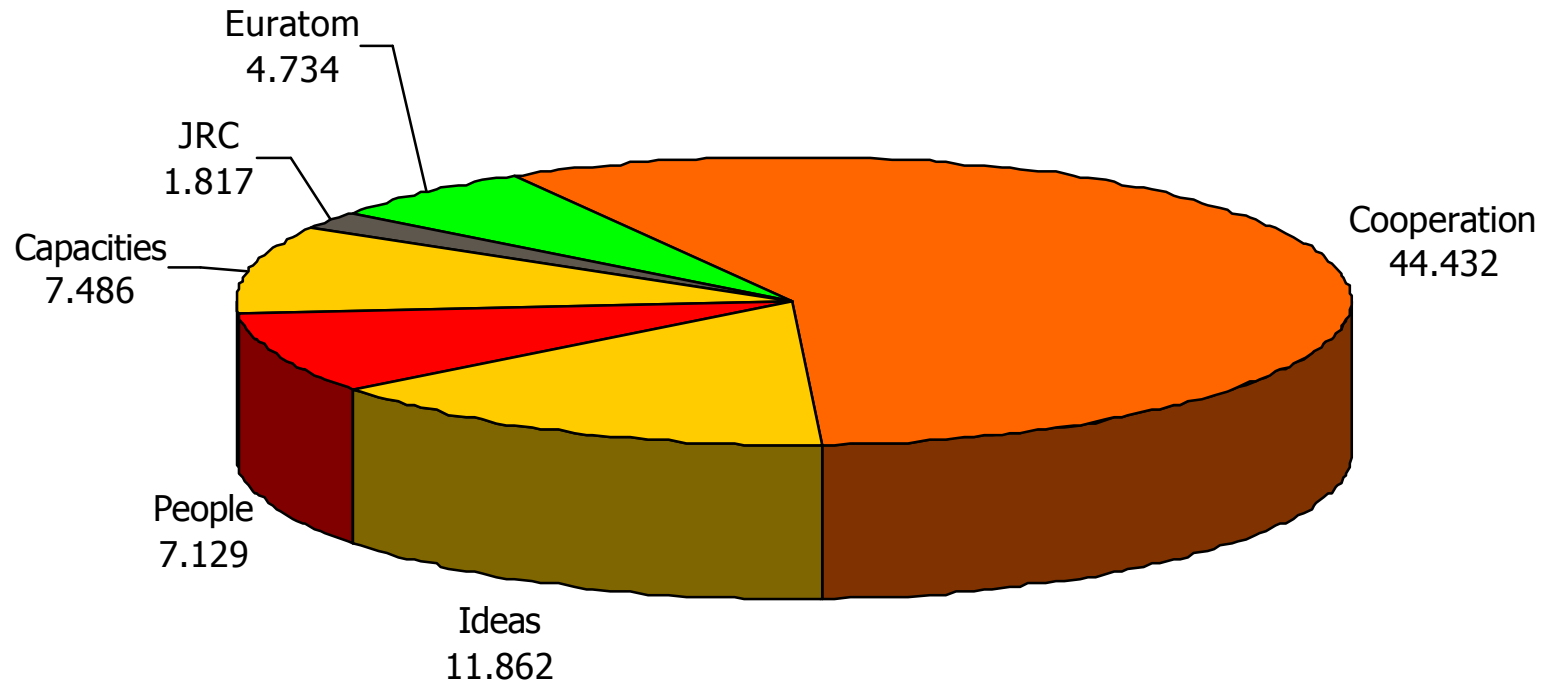
**JRC (nuclear)**

**Euratom**



# FP7: (2007 - 2013)

FP7 budget  
(€ billion, current prices)



# FP7: (2007 - 2013)

## SP1 - Cooperation

### 9 Themes

1. Health
2. Food, agriculture and biotechnology
3. Information and communication technologies
4. Nanosciences, nanotechnologies, materials and new production technologies
5. Energy
6. Environment (including climate change)
7. Transport (including aeronautics)
8. Socio-economic sciences and the humanities
9. Security and space

+ Euratom: Fusion energy research, nuclear fission and radiation protection

# FP7: "Smart Home" as a sector of AAL

- A number of member states have put AAL high on their research agenda and have launched a preparatory **ERA coordination action**.  
<http://www.aal169.org>
- The **AAL Article 169 initiative** is now included as one of the 4 official Art. 169 candidates identified in the proposal for the FP7 specific programme on "Collaboration" and has been presented as such to CREST for further elaboration.
  - **The AAL article 169 initiative was presented to the National IST Directors forum on 10 March 2005**
- A first **AAL consultation workshop** was held in Brussels on 2 May 2005 with participation of representatives of major stakeholders
- **FP6 IST Call 6** includes AAL as a strategic RTD objective in order to serve as a preparatory action for larger scale RTD activities in FP7

# CONCLUSION

The European Commission has already played an important role in the support of research on the field of Intelligent Home Environments at European level during the Fifth and Sixth Framework Programmes.

For the upcoming Seventh Framework Programme, AAL will be an important RTD activity. Relevant sectors for AAL solutions, applications and products will be, among others, "Smart Home" and "Health care".

Indoor air quality will also be relevant in Themes 3, 5 and 6 of future FP7 (ICT, Energy and Environment).

# Contact persons at the Unit G2 Micro/Nanosystems

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