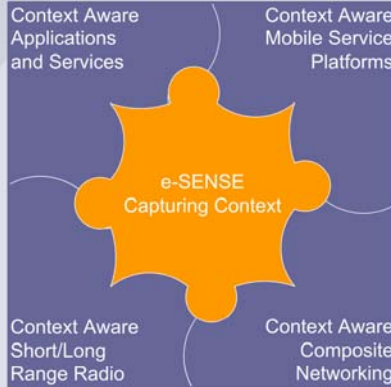
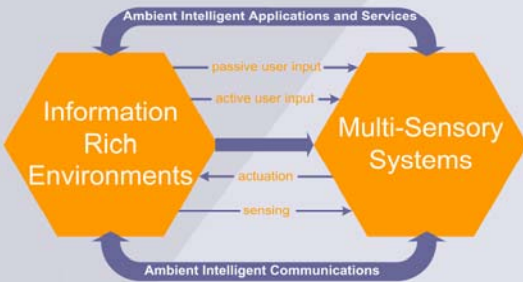


Capturing Ambient Intelligence for Mobile Communications through Wireless Sensor Networks

Key Technical Issues

- Energy-Efficient **Sensor Node and Sensor Network Architecture**
- Ultra Low-Power **Air-Interface Designs**
- Efficient Wireless Sensor **Networking Protocols**
- **Distributed Processing Middleware**
- Validation of Key Concepts with **Test Beds**



Expected Outcome

- EU **competitiveness** in WSN
- EU and International **wireless standards for Sensor Networks**
- Provide the missing piece of the **Beyond 3G puzzle**

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e-SENSE has 24 partner in 11 EU countries:

- 8 Companies:** ALMA, IBM, FLE, ITE, TRT, TID, EADS, SCI
- 4 Research Institutes:** CEA, FOKUS, CSEM, IMEC
- 2 SMEs:** Ambient Systems, HFC
- 10 Universities:** UniS, AAU, Aegean, CFR, DUT, ETHZ, KCL, UO, UT, UPMF

Sensor Network Domains and Interworking with B3G

Body Sensor networks

- Power consumption minimisation
- Embeddability (size & cost)
- Self-configuration
- Mobility effects

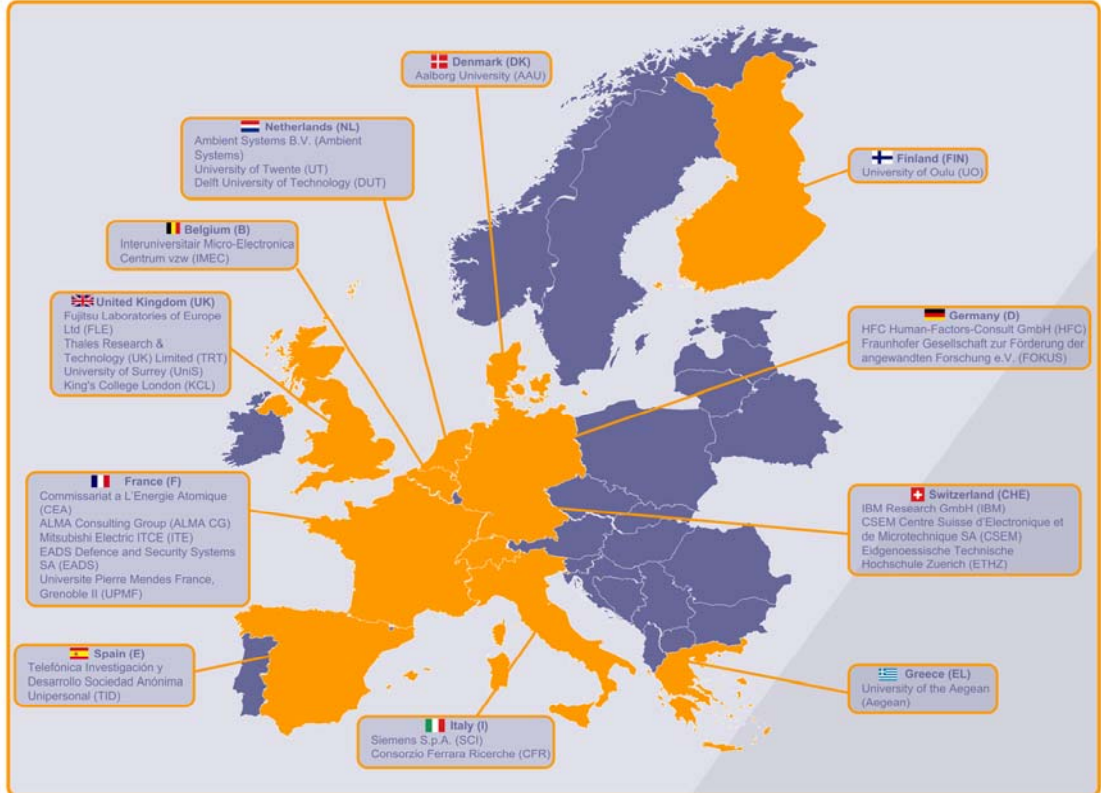
Object Sensor networks

- Self-configuration
- Reliability & robustness
- Scalability
- Power consumption minimisation
- Embeddability (size & cost)



Environmental sensor networks

- Self-configuration
- Rapid ad hoc access
- Scalability



e-SENSE is split into 7 Workpackages

WP1 Scenarios, Requirements and Socio-Economic Impact	WP2 System Concept and Architecture	WP3 Energy Efficient and Light Weight Wireless Sensor Communications Systems	WP4 Distributed Processing Middleware	WP5 Implementation, Evaluation and Validation	WP6 Exploitation and Dissemination	WP7 Project Management
T1.1 User Requirements, Technological Roadmap and Business Cases	T2.1 Definitions and Early Reference Model	T3.1 Energy Efficient Air Interfaces for Wireless Sensor Systems	T4.1 Distributed Services	T5.1 Requirement Specifications, Selection and Planning	T6.1 Standardisation	T7.1 Project Secretariat
T1.2 Use case Portfolio and User Scenarios	T2.2 e-SENSE System Architecture	T3.2 Efficient Protocol Elements	T4.2 Distributed Data Processing	T5.2 Test Bed Implementation	T6.2 EMC and Coexistence studies	T7.2 Project Management
T1.3 User and Application Requirements	T2.3 e-SENSE Security, Trust and Privacy Framework	T3.3 Cross-Layer Optimisation for Wireless Sensor Systems	T4.3 Data Centric Resource management	T5.3 Concept Validation	T6.3 Training and Dissemination	T7.3 Project Coordinator specific functions
T1.4 Sociological, Psychological and Economic Impact					T6.4 Exploitation	T7.4 Project Communication
						T7.5 Technical Quality Control

Project start 1st January 2006, duration 24 months