Cooperating Objects

- Autonomous devices endowed with computing, communication, sensing and/or actuating capabilities
- Cooperating Objects collaborate each other to achieve a global common goal
- Typical applications: building automation, monitoring of dangerous goods, patient surveillance
- **Problem**: many isolated research efforts across Europe

Project Information

**Embedded WiSeNts**
- **Cooperating Embedded Systems for Exploration and Control featuring Wireless Sensor Networks**
- Coordination Action, 6th FP
- From September 2004 to August 2006

**Partners**
- A Consortium of 12 Partners from 10 European countries
- Cooperating Industrials: ABB, SAP, Microsoft, Infineon, Siemens, DoCoMo, T-Systems, STMicroelectronics

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Project Goals

**Education & Training**

1. **Summer School.** International Summer School on Wireless Sensor Networks and Smart Objects:
   - 60 participants (180 applicants)
   - Lectures and practical labs
   - Application competition

2. **Teach-ware improvement and dissemination.** Provide teachers and students with teaching material:
   - Web site as exchange platform
   - Development of adequate teach-ware modules

3. **Student Mobility.** Financial support for master and PhD students to visit other institutions and labs.

**Research Integration**

1. **Research Facilitation: Platform and Tools.** Improve communication and cooperation and minimize unnecessary duplication of effort.
   - Platform survey
   - Discussion forums

2. **Distinguished Visitors Program.** Encourage visits of distinguished researchers to partner institutions.

3. **Workshop Organization.** Establish the European Workshop on Wireless Sensor Networks (EWSN) as a scientific exchange forum.

Road Mapping & Technology Adoption

Survey of the state of the art and development of a critical research agenda

1. **Studies.** A survey of today’s state of the art and open research issues by the mean of the following studies:
   - Applications and Application Scenarios
   - Paradigms for Algorithms and Interactions
   - Vertical System Functions
   - System Architectures and Programming Models

2. **Visions for innovative applications.** An attempt to envision potential disrupting future applications of Cooperating Objects.
   - Whitepaper on visionary applications
   - Sentient Future Competition

3. **Research Roadmap preparation.** The studies and the visionary applications whitepaper serve as a starting point for the Research Roadmap document. The roadmap will:
   - Estimate time and effort for on-going and additional research
   - Identify research areas requiring special attention in the near future
   - Suggest organizational and funding measures for future research
   - Provide guidelines for the analysis and solution of specific problems for the realization of applications