Application of Wireless Sensor Networks for Event Detection and Dissemination in Logistics

Motivation
- No real-time information about critical events leading to damage, loss or delayed delivery of transported goods
- Wireless sensor networks for timely event information to enhance supply chain visibility to enable early reactions, countermeasures, reduce insurance rates etc.

Challenges
- Real-time transmission of critical parameters & events
- Communication in heterogeneous environment
- Specifics of logistics processes
  - Different means of transport (intermodal)
  - Many different stakeholders
  - Huge cost pressure
  - Influences from loading equipment and freight
- Energy issues in wireless sensor networks

Contributions
- Analysis of interdisciplinary requirements
  - technological
  - economical and organizational
  - regulatory
  - logistics market specific
- Testbed for wireless sensor networks in logistics
- Simulation of wireless sensor networks in logistics
- Concepts for integration of wireless sensor networks in supply chains and logistics end users systems
- Concept for energy-efficient and cost-efficient event processing with wireless sensor networks in logistics
- Integration with existing logistics systems and concepts (e.g. Tracking & Tracing, SCEM)