WIDE Project - Kickoff Meeting

"DEcentralized and WIreless Control of Large-Scale Systems"

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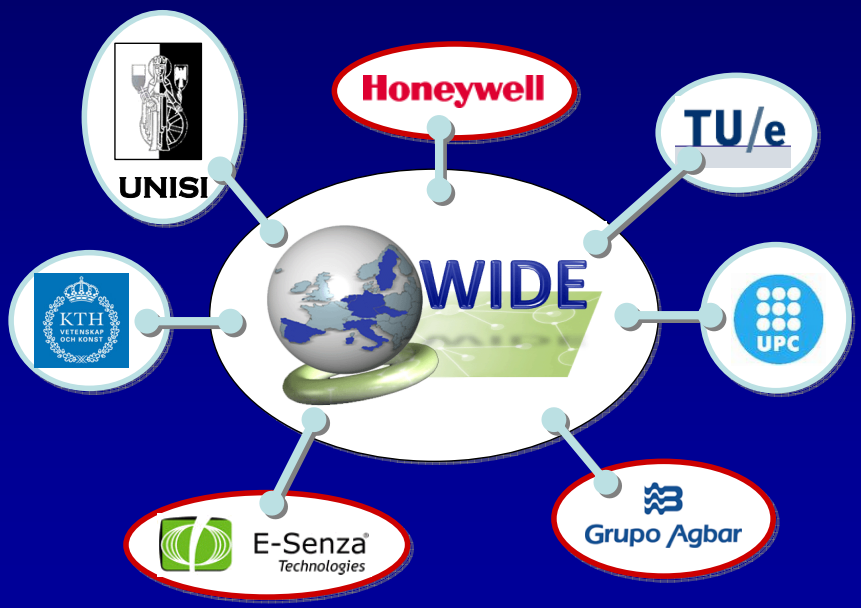
WIDE Project (2008-2011)

DEcentralized and WIreless Control of Large-scale Systems

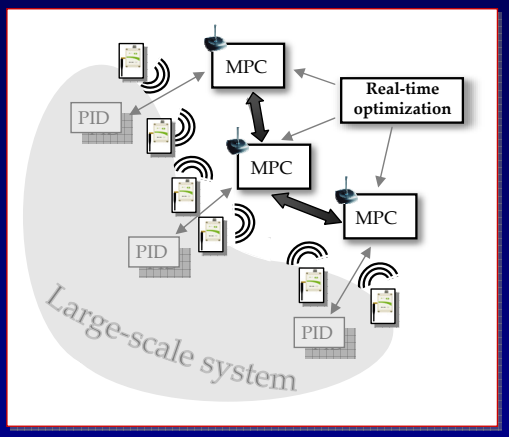
- ICT-FP7-Call 2 (2008-2011), total budget 2.7M€. Started Sept. 1, 2008
- Objective ICT-2007.3.7 "Networked Embedded and Control Systems"



WIDE will focus on advanced control of large-scale processes, exploiting feedback from wireless sensor networks, and on validating the approach on a real city water distribution system

WIDE – Research Agenda (2008-2011)

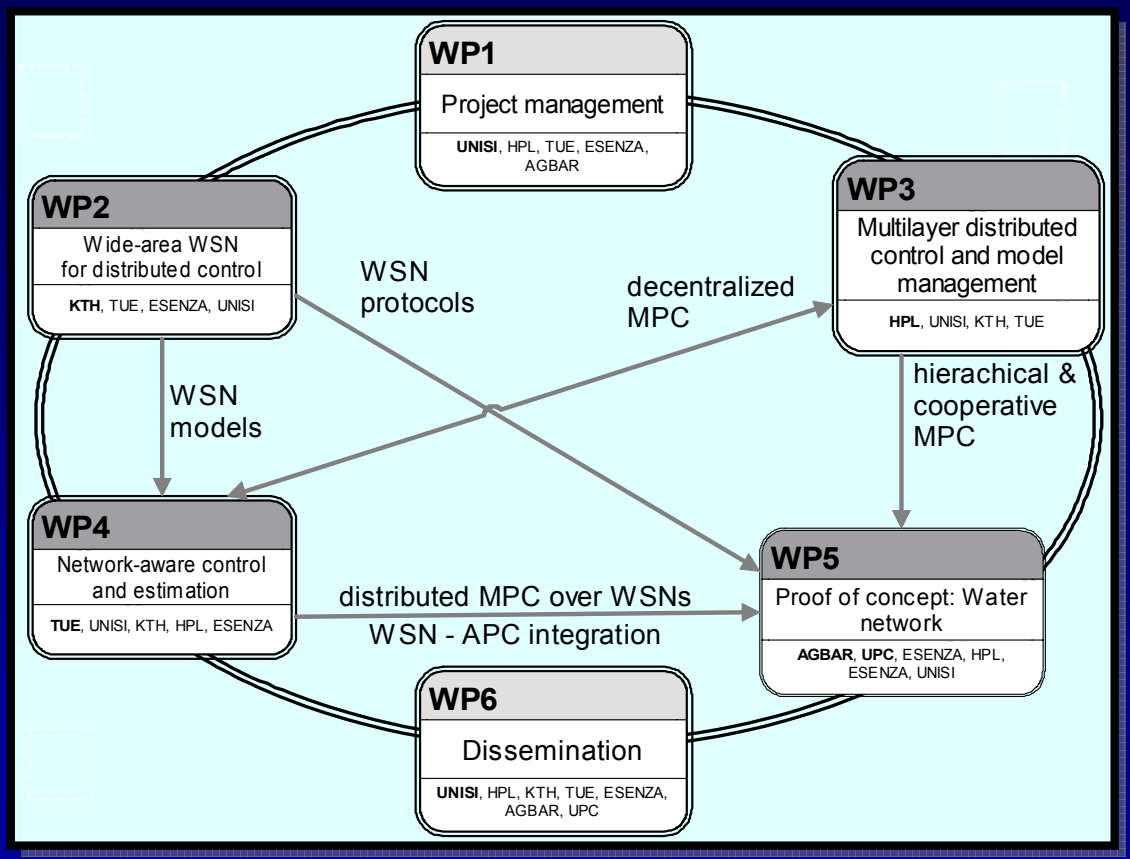
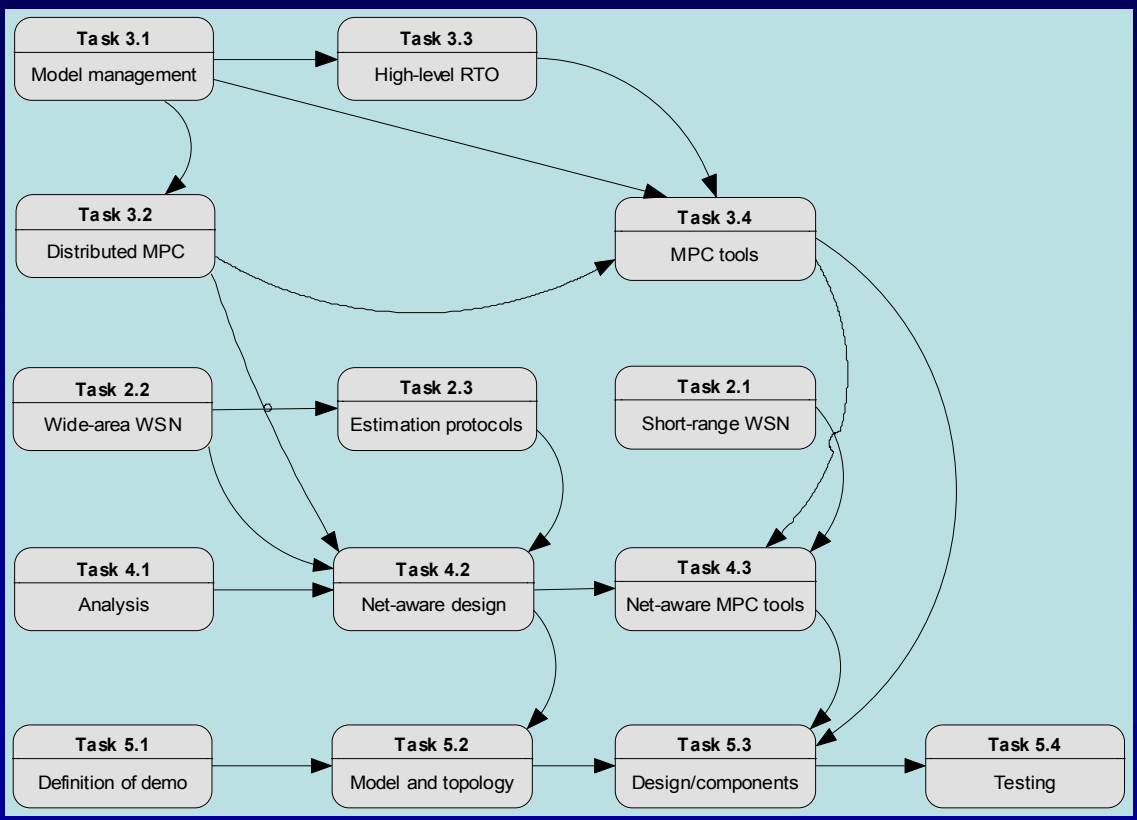
- A unified and flexible framework for expressing models and control specs (large-scale, multi-layer)
- New techniques for distributed model predictive control to achieve best performance and robustness, under physical and topological constraints
- Control-communication co-design of feedback-oriented wide-area WSNs and of network-aware control algorithms
- Experimental demo of the approach on the water distribution network of the city of Barcelona



WIDE – Expected impact

- Go beyond current centralized control solutions: handle large-scale processes of arbitrary complexity.
- A Matlab/Simulink toolbox for design and simulation of networked control systems
- Show ability of WSNs to collect distributed data for feedback control, beyond pure wide-area monitoring.
- The general tools will open new avenues for networked distributed control into several application domains (water networks, gas/oil distribution, environmental systems, electrical networks, urban and extra-urban traffic flows, supply chains, finance, etc.)
- New market opportunities for providers of industrial process control and WSN solutions

WIDE Workpackages



WIDE Tasks