

Press Release

New European project FeedNetback sets to bring about a radical change in the design for networked controlled systems

(Stockholm, 24 September 2008) FeedNetback, a new European project, today organised its kick-off meeting and a technical workshop. More than 30 researchers met to share technical knowledge and draw up an effective work plan for the following three years of research.

A consortium of European scientists is setting out to close the control loop over wireless networks that perform sensing and actuation by deriving and applying a co-design framework that integrates communication, control, computation and energy management aspects in a holistic way.

The co-design framework and the foreseeable software tools aim at controlling more complex systems with a fraction of the effort, while increasing availability and reliability. The framework will enable application developers, programmers and system integrators to fully use the potential of networked control in a wide set of application domains. Examples of areas where an impact is expected are the fields of factory automation, public infrastructure safety and security, intelligent transport systems and building maintenance.

FeedNetback will go beyond developing the new framework, but will also apply this framework to areas of society where it protects the environment and improves people's safety, security and ultimately quality of life. To demonstrate the potential and limitations of the new technology, FeedNetback will apply it on two industrial test cases of realistic complexity and scale: underwater inspection systems based on fleets of autonomous underwater vehicles, and surveillance systems using a network of smart cameras. The control component is essential in both test cases as they require cooperation of distributed objects to achieve a common goal.

"This project is a great opportunity to enrich the control system theory field with the latest best practice from the areas of communication and computation", emphasises Professor Carlos Canudas de Wit, the coordinator of FeedNetback project. "We also strongly believe that this cross-fertilisation among the different disciplines within the ICT area will enable us to address new industrial challenges and step up European research competences in networked control systems", he continues.

The FeedNetback consortium comprises ten partners, including research centers, universities and companies from seven European countries. The partners of the project are INRIA/CNRS Grenoble (co-ordinator), Ifremer and Vitamib from France, ETH Zürich from Switzerland, the University of Seville from Spain, KTH from Sweden, the University of Padova from Italy, companies Vodera and OMG from the United Kingdom and Videotec from Italy. FeedNetback has a budget of € 3.75 million for the next 3 years and the project has been part-financed by the 7th Framework Programme of the European Commission.

Europe's sophisticated communication infrastructure and strength in embedded systems makes it well placed to develop new applications and exploit emerging new markets. The project has an ambitious plan for the dissemination and exploitation of the results. This includes technology roadmapping, the establishment of FeedNetback Interest Group and a programme of annual workshops designed to inform practitioners and researchers who are likely to become early adopters of the technology. FeedNetback also feeds directly into undergraduate and graduate education. Scientific excellence and technical skills built throughout the project will be incorporated in various courses and influence the university curricula of the academic participants for the benefit of the student communities at those universities, and eventually for the benefit of industries employing those students.

FeedNetback has also established collaboration agreements with three leading US research centres: CITRIS at University of California at Berkeley, the IST Initiative at CalTech and the Center for Pervasive Health Technology at the University of Illinois at Urbana-Champaign.

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