Research for next-generation Embedded Systems

The project agendaCPS gives political, economical and scientific recommendations to support R&D activities in Germany. agendaCPS sets up on the National Roadmap Embedded Systems (NRMES).

The National Research Agenda Cyber-Physical Systems, in short agendaCPS, presents a vast approach to develop research activities for Embedded Systems and Cyber-Physical Systems (CPS). agendaCPS is a project of the German Academy of Science and Engineering (acatech) and will evaluate the German position in area of Embedded Systems and CPS. Based on these analyses, research objectives will be prioritized to align R&D projects.

Connectivity and much higher complexity require new solutions

The evolution of Embedded Systems to Cyber-Physical Systems enables innovation and hence supports economic growth. To realize the high potential of this technology, the project agndaCPS will create a cross-industry research agenda. Therefore, to find solutions for actual and coming problems issues and requirements of different industry domains will be analysed with the help of industrial and scientific stakeholders. Standardization and industrial policies are considered, as well. The project provides a systematisation of the complex area of Embedded Systems and CPS, identifies the status quo of German R&D (including screening and evaluation of techniques) and shows their economic importance. Finally, agendaCPS will present specific recommendations to strengthen the German position in the application of Embedded Systems and CPS.

Design and implementation

agendaCPS is structured into eight work packages (WPs). Within these WPs, interviews with experts will be conducted, existing studies and literature analyzed, economic conditions and business models as well as technologies evaluated. The WPs are coordinated with each other and run partly simultaneously. Recommendations at a national, European and international level, will be given during the whole project duration of 18 months and will summarise the results of the project at its end. The recommendations will be partly implemented by appropriate research projects.

agendaCPS started at 1st June 2010. In its first month, meetings of the Project Advisory Board, who is responsible for the strategic direction, and the project team, which is the executive body, took place. The project team developed a detailed specification of the WPs and the work allocation. The Advisory Board will present the first funding recommendations to the Federal Ministry of Education

and Research (BMBF) till the end of October 2010. These recommendations will base on the NRMES and the first results of agendaCPS.

Manfred Broy, TU Munich and fortiss, is leading the project. The project agendaCPS builds on the NRMES, which was published in December 2009, and is supported by the BMBF.

agendaCPS – Short facts:

Start:	1st June 2010
Duration:	18 month
Volume:	about 1,44 Mio €
Funding volume:	684.174 €
Participants	
Industrial partner	Intel Deutschland GmbH
	Robert Bosch GmbH
	BMW AG
	Siemens AG
	Daimler AG
	EADS Deutschland GmbH
	ESG Elektroniksysteme GmbH
	Festo AG & Co. KG
	Microsoft Deutschland GmbH
Associations	ZVEI, VDMA, BITKOM
Research institutes / other participants	acatech, fortiss, SafeTRANS, OFFIS, Fraunhofer IESE, TU München

More information:
www.acatech.de/cps

More information about the National Roadmap Embedded Systems:
www.safetrans-de.org/en_nrmes.php