



ArtistDesign

ArtistDesign Network of Excellence on Embedded Systems Design

The ArtistDesign NoE is the visible result of the ongoing integration of a community. It builds on existing international visibility and recognition, to play a leading role in structuring the area.

At A Glance: ArtistDesign

ArtistDesign Network of Excellence on Embedded Systems Design



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Project website:

<http://www.artist-embedded.org/>

Partners: Univ. Joseph Fourier/VERIMAG, UJF Filiale SAS - Floralis, RWTH Aachen, Aalborg University, Univ Aveiro, Univ of Bologna, TU Braunschweig, Univ of Cantabria, CEA, TU Denmark, TU Dortmund, EPFL, ESI, ETHZ, IMEC, INRIA, Univ of Kaiserslautern, KTH, Linköping, Univ of Lund, Mälardalen Univ, OFFIS, PARADES, Univ of Passau, Scuola Superiore Sant'Anna, Porto Polytech, Saarland Univ, Univ of Salzburg, Uppsala University, TU Vienna, Univ. of York, IST Austria

Duration: 48 Months

Start: 2008.01.01

EC Contribution: € 4.5 M€

Contract Number: NoE 214373

KEYWORDS:

Embedded Systems Design, Systems Architecture, Systems Engineering, Real-Time Programming, Applications, SoC, Dependability, Modelling, Model-based Design, Hard Real Time, Adaptive Real Time, Component-based Design, Compilers, WCET, Timing Analysis, Execution Platforms, Control for Embedded, Testing, Verification, Integrated Modular Avionics, Autosar, Wireless Sensor Networks, Distributed Systems

Main Objectives

The central objective for ArtistDesign is to build on existing structures and links forged in Artist2, to become a virtual Center of Excellence in Embedded Systems Design. This is mainly achieved through tight integration between the central players of the European research community. Also, the consortium is smaller, and integrates several new partners. These teams have already established a long-term vision for embedded systems in Europe, which advances the emergence of Embedded Systems as a mature discipline.

ArtistDesign has extended its dissemination activities, including Education and Training, Industrial Applications, as well as International Collaboration. ArtistDesign has established durable relationships with industry and SMEs in the area, especially through ARTEMISIA / ARTEMIS.

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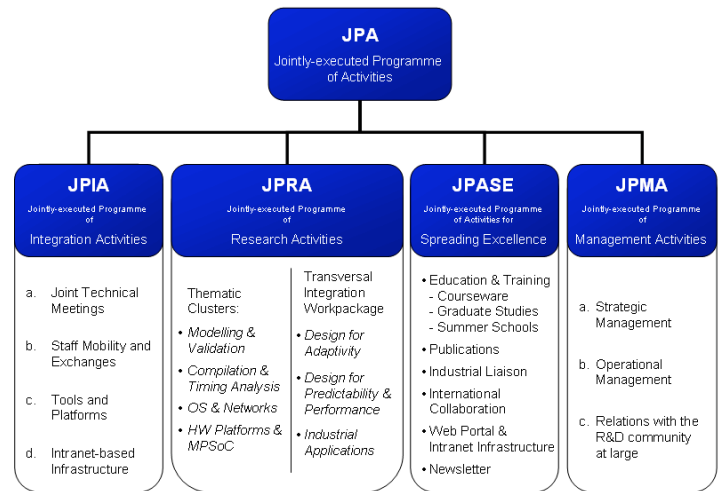
The research effort aims to integrate topics, teams, and competencies, grouped into 4 Thematic Clusters: "Modelling and Validation", "Software Synthesis, Code Generation, and Timing Analysis", "Operating Systems and Networks", "Platforms and MPSoC". "Transversal Integration" covering both industrial applications and design issues aims for integration between clusters.

ArtistDesign is the main focal point for dissemination in Embedded Systems Design, leveraging on well-established infrastructure and links.

Technical Approach

The ArtistDesign NoE implements a Joint Programme of Activities, composed of:

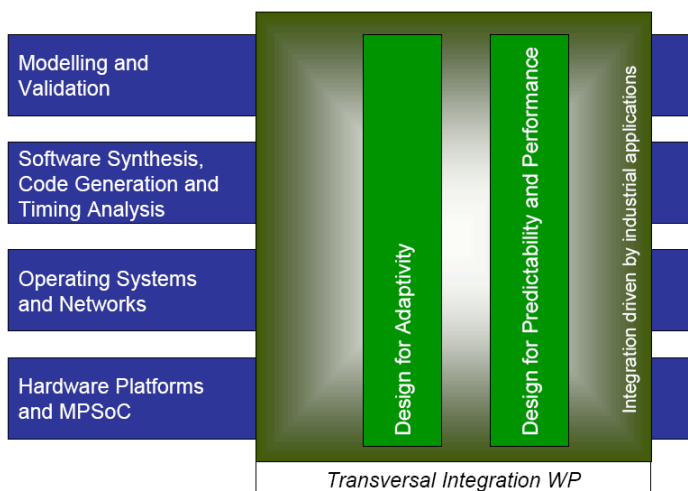
- **Joint Programme of Management Activities (JPMA)** plan, organize, direct and monitor the integrated effort to efficiently achieve the technical objectives within the ArtistDesign constraints of time schedule and budget.
- **Joint Programme of Activities for Spreading Excellence (JPASE)** These activities serve as a relay between the NoE and the international embedded systems design community at large. They are managed at the NoE level, and are mostly not specific to any cluster.
- **Joint Programme of Integration Activities (JPIA)** The JPIA activities are carried out on a global, NoE level, transcending the clusters. They form the supporting background for integration of the NoE, and are executed in phase and in interplay with the JPRA research activities.
- **Joint Programme of Research Activities (JPRA)** The JPRA is structured into 4 Thematic (horizontal) Clusters, and a Transversal Integration workpackage. Thematic clusters are autonomous entities, with specific objectives, teams, leader(s), and a dedicated yearly budget. The set of Thematic Clusters cover all the main topics in Embedded Systems Design. The thematic activities in the Transversal Integration workpackage focus on Design methodologies, with specific objectives (Predictability, Adaptivity).



Expected Impact

The ArtistDesign NoE actions target the embedded systems community as a whole, at 2 levels:

1. *Actions targeted towards the affiliated partners* Affiliated partners are not core members in the consortium, but receive support for travelling to ArtistDesign meetings, and actively contribute to the implementation of the Joint Programme of Activities (JPA). These affiliated partners include industrial, SME, academic, and international affiliates.
2. *Targeted towards the scientific and technical community in the large* This is achieved mainly bottom-up through the organization of scientific events, publications, distribution of tools and components, industrial partnerships (not funded by ArtistDesign), education; and through the ARTIST web pages. Regarding Scientific events, we distinguish between conferences and workshops, schools, and high-level events mainly for International Collaboration.



Key Issues

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