INFORMATION SOCIETIES TECHNOLOGY
(IST)
PROGRAMME

REVIEW REPORT

IST-004527 - ARTIST2

Embedded Systems Design

Review Y2

Covering project month M13 to M24: 01/09/2005 – 30/08/2006

Contract start date:	Sept 1 2004
Contract end date:	August 30 2008
Review date:	8 & 9 November 2006
Review location:	Forest-Hill La Vilette Paris - France
Project Officer:	Javid KHAN
Reviewers:	Michel RUFFIN
	Joe SVENTEK (off-line review)
	Martin TIMMERMAN
Report number:	20061108-1
Classification:	Consortium + Reviewers
Report version:	1.0
Revision History	1.0, 14/12/2006, M. Timmerman, initial draft with inputs from reviewers
	1.1, 18/12/2006, J. Khan, comments

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1 Executive Summary

1.1 Project summary:

The long-term objective of ARTIST2 is to build a durable European research community on Embedded Systems Design, by integrating the topics, teams and competencies around 7 essential clusters: Modelling and Components, Hard Real-Time, Adaptive Real-Time, Compilers and Timing Analysis, Execution Platforms, Control for Embedded Systems, and Testing and Verification. The NoE will act as a Virtual Centre of Excellence in the area of Embedded Systems Design.

The integration into joint research activities will occur at two levels:

- Integration within clusters. Currently, the efforts on the identified topics are fragmented, and there is no European research team that would gather the sufficient critical mass needed. The integration of a topic is a first step towards integrating the area as a whole.
- Integration between cluster topics to create the multi-disciplinary community that will pilot the embedded systems design area. This will be achieved through integration activities that will bring together teams from different clusters.

The Joint Programme of Research Activities includes research both within the clusters and between clusters. Intra-cluster research aims to create critical mass and excellence on each essential topic. Inter-cluster research aims to integrate the area as a whole. The implementation of the Joint Programme of Research Activities {JPRA} is supported by the Joint Programme of Integrating Activities {JPIA}, including research platforms and mobility of personnel.

A central mission for the NoE is spreading excellence to the community at large, through an ambitious Joint Programme of Activities for Spreading Excellence, including Education and Training, Dissemination and Communication, Industrial Liaison, and International Collaboration.

The project duration is four years, starting on 1st September 2004, with an EC contribution of €6.5 Million.

1.2 Period under review and main review objective

The second twelve months are under review. The review objectives are to verify contribution to the main objectives during this period:

- Strengthening Scientific and Technological Excellence for Embedded Systems Design
- Spreading Excellence in Embedded Systems Design
- A Lasting ARTIST Network of Excellence
- Structuring European R&D in Embedded Systems Design

The review was planned and executed in accordance with the contract. The consortium has consumed the expected resources and incurred the expected costs for this phase of the project.

1.3 Overall reviewers' conclusion

The overall impression is very positive with respect to representing the project community in conferences, workshops, seminars etc. Some cluster teams are working well together stimulated by a cluster team manager. This was reflected in the presentations during the review and also in the deliverables. The new website is considered a major step forward and should be elaborated more in the next period. The main points are summarised below:

- **Strengths**:
  - The NoE project seems to be well on track now with a lot of high-quality research and internal communication activities in most of the clusters.
  - Improved management - the deliverables were on time and enabled the reviewers to give preliminary feedback ahead of the meeting.
  - There is much more integration between the different partners.
- **Improvements:**
  - The website should now be used more extensively as a dissemination tool for interaction in the consortium

This report is a combined effort of all the reviewers and there are no points of disagreement between them on its content.

2 Organisation and logistics

This interim review was held in Paris, at the Forest-Hill Hotel on 8-9 November 2006. Each cluster was represented throughout the review; individuals responsible for management deliverables (VERIMAG and CDC) were also present. See list of participants, list of reports and deliverables & agenda (appended to this report). An electronic copy of each presentation was available beforehand.

3 Project Management

The Management deliverables adequately cover the management aspects of the project. The subsequent sections on each management deliverable may contain comments/criticisms of the latest document reviewed; in such cases, these comments/criticisms should be taken into account when generating the corresponding deliverable at the end of Year 3.

At the last review, frequent mention was made by many partners of the difficulty that they had in providing administrative information for a management tool provided by the co-ordinator. The reviewers were glad to hear that CDC is working with the partners to come up with a lighter-weight process for capturing this information.

A number of partnership changes were already incurred at the beginning of period 2 and these partners appear to be well-integrated in the project. ST Microelectronics wishes to leave the consortium at the end of year2 and they will be replaced by TU Berlin. The reviewers have no objections to these changes.

4 Deliverables

4.1 General comments on presentations

The presentations by each cluster regarding the 18-month plan were homogeneous, following a template.

4.2 General comments on deliverables

All deliverables have now been accepted. To avoid difficulties in the future, it is important that all future deliverables document outcomes achieved through NoE funding relative to the current 18-month plan of work, making a clear distinction between outcomes resulting from NoE funding and outcomes resulting from external funding.

The deliverables were of a uniform excellent quality, written very professionally. The template provides fields for exactly what is needed to report on progress, and the authors have clearly and concisely populated the template in each case. Unlike last year, it is obvious what has been done, in particular, how the NoE funding has supported the integration goals. We have lists of publications that resulted from the interactions between network members; note that we have not looked at the publications to see if each contains an acknowledgement of ARTIST2 support. We hope this is general practice.

We found the tables describing the primary participants in each cluster in D2 very useful, and feel that the inclusion of a digital photo of the individual is very helpful, not just for the reviewers, but also for anyone outside of the core members who will invariably run into ARTIST2 members at workshops and conferences.

The consortium should put in place a quality process for deliverable. For example, a document from one cluster should be reviewed by independent people from **other** clusters.

The consortium should open itself to external views and additional industries. Today too many stakeholders are left over. We would like to see the number of affiliates growing. Following the recommendations from the last review meeting, we are glad to see that a procedure is in place for this on the website.

The consortium might consider addressing the issues related to fault-tolerance. Today it s treated by verification but not at software level and a real-time system cannot meet its deadline in presence of uncontrolled faults.

Each document should have a short conclusion (what are the results compared to expectation – what specific actions will be taken to enhance things, to get more local funding etc.. (for example)).

External funding figures should be given – it gives an idea of the effort in a particular theme.

Some more graphics in the reports may be welcome (to make reading more pleasant and interesting). PDFs delivered with systematically clickable links in all the reports would be good.

4.3 WP0 JPMA: Joint Programme of Management Activities

4.3.1 D1-Mgt-Y2 Year 2 Project Management Report

ACCEPTED
General comments apply.

4.3.2 D2-Mgt-Y2 Year2 Project Activity Report – Exec summary

ACCEPTED
General comments apply.

4.3.3 D2-Mgt-Y2 (cluster RTC) Year2 Project Activity Report

ACCEPTED

This document reports clearly what has been achieved this year. It positions the work in perspective by the state of the art and long term vision. It shows the integration work between partners and the dissemination activities of the cluster. The evolution between year one activities and the one of year two have clearly been presented during the review meeting.

4.3.4 D2-Mgt-Y2 (cluster ART) Year2 Project Activity Report

ACCEPTED

This document is a new version of the pre-review document that was initially rejected. Compared to the pre-review version, the document has been made more concrete by adding references in various sections. However the whole document remains very verbose and general and would have really benefited from a more concise writing dividing the length by half in the interest of both readers and writers.

The partners when writing such a document should ask themselves: "what is the goal of the document?". For reviewers this should show where the consortium is standing, what has been achieved and where it is leading. For partners it can be a reference to what is the agreed actual position, what are the priorities and directions. We are not convinced that the document is fulfilling these goals.

Dissemination: the contribution of ARTIST2 partners have been enlightened but could have been made more concise by classifying actions for instance by grouping things into categories such as “workshop organization”, “invited talks”, “participation in programme committee”, ….

The state of the art has been reduced and improved with references. However the ARTIST2 positioning toward this state of the art is still unclear. Section 4.1: In the document describing the changes with previous version, it is said that it has been revised to avoid generalities. In fact there is no difference between the two versions.

Overall there are few differences between the original version of the document and the revised version. It has been made more concrete by adding reference but remains very verbose and general. The information needed is in the document, even if difficult to find. Since it is not a technical deliverable for external use there is no point to request additional work to change it but the partners should build on these comments for the next review management documents.

4.3.5 D2-Mgt-Y2 (cluster CTA) Year2 Project Activity Report

ACCEPTED
General comments apply.

4.3.6 D2-Mgt-Y2 (cluster EP) Year2 Project Activity Report

ACCEPTED
General comments apply.

4.3.7 D2-Mgt-Y2 (cluster Control) Year2 Project Activity Report

ACCEPTED
General comments apply.

4.3.8 D2-Mgt-Y2 (cluster TV) Year2 Project Activity Report

ACCEPTED
General comments apply.

4.4 WP1 JPIA: Joint Programme of Integrating Activities

4.4.1 D4-RTC-Y2 Component Modelling and Verification (Platform)

ACCEPTED

This task consists of defining modelling languages around three platforms for the analysis of safety critical embedded systems, performance critical systems and for the certification of smart card applications. The work around the last platform has been delayed due to a reschedule of priorities in project EDEN-2.

The document explains in detail the progresses made and shows the various work of integration of languages and tools. However with the number of modelling languages and tools, the document is a bit difficult to read. It would have benefited of additional figures representing the interactions of the various components.

Figures have been presented during the review presentation. The document is accepted, however one should add one (or several) figure(s) showing the tools chains/languages and interaction between components.

The timetable needs to be updated.

4.4.2 D11-ART-Y2 A common infrastructure for adaptive Real-time Systems (Platform)

ACCEPTED

This task is a collaborative task around the SHARK Real-time operating system. This year the work has mainly consisted of consolidating the experience by developing application on the OS and developing features, drivers for the kernel.

The document is very clear, concise and factual. It clearly shows the results and the work of integration between partners. The addition of URLs where to find results is a good idea - these links should also be put on the artist2 web site. In Section 2.2.3 the course: “improving your research skills” is a bit surprising, the link with embedded systems is not clear.

4.4.3 D14-CTA-Y2 Timing - Analysis (Platform)

ACCEPTED

This document has been internally reviewed which is good. This technique should be generalised for other deliverables.

4.4.4 D14-CTA-Y2: Timing Analysis Platform AIR SPEC

This is a paper. German and English mixed – should be avoided

4.4.5 D15-CTA-Y2 Compilers (Platform)

ACCEPTED
The same structure as for D14 would have been nice to see.

4.4.6 D19-EP-Y2 System modelling infrastructure (Platform)

ACCEPTED
General comments apply.

4.4.7 D23-Control-Y2 Design Tools for Embedded Control (Platform)

ACCEPTED
General comments apply.

4.4.8 D26-TV-Y2 Testing and Verification Platform for Embedded Systems (Platform)

ACCEPTED
General comments apply.

4.5 WP2 JPASE: Spreading Excellence

4.5.1 D3-Mgt-Y2 Report on Spreading Excellence

ACCEPTED

International collaboration has been a good success in period 2 with events in Asia {China} – this will be extended to South America.

The actual website is very big progress compared to last year. Some suggestions for further enhancements:

- some pages are too long
- there should be more links in the page
  - example: shark test – find ARTIST website via Google but no link in artist to shark website – reviewer needed to download a Shark paper to discover the link.
- There are links to the websites of activity local at universities; however these should link back to home page AND to the specific page.
- All partners and affiliates should link to the ARTIST site to help improve its page rank for search engines.
- We suggest to also use the website for interacting in the consortium
  - Reports on workshops, conferences etc. only a few people go to these activities – "notification" should go the artist people (rss feed technology could be used if this is feasible.
  - It is not clear if the e-letter is just for the artist members or also for other interested people.
- Publications should be classified (journals, conferences, pure artist, ….)
- Statistics as quantifiers – visitors – visits – number of email addresses collected - etc..

4.6 WP3 JPRA: NoE Integration - Research Activities

4.6.1 D6-RTC-Y2 Forums with specific industrial sectors (NoE Integration)

ACCEPTED - CANCELLED

This document has been cancelled. The reviewers agreed with the project partners that reporting details of meetings should not be part of the deliverables assuming that this reporting is done on the consortium web for partners' benefit.

4.6.2 D7-RTC-Seeding New Work Directions (NoE Integration)

ACCEPTED - CANCELLED

Same comment as for D6

4.6.3 D8-ART-Y2 QoS aware Components (NoE Integration)

ACCEPTED
This task this year consisted of identifying notations for the description of functional and non functional QoS properties using UML profiles, generating analysable models and defining a contract model to express component interaction with regard to QoS.

The original pre-review document was not always very clear. This has been addressed in the revised document. Some document sections have been slightly reshaped according to the three axis of the task and the unclear wording has been fixed.

The collaboration effort between partners is clear.

The deliverable is now accepted as it is.

4.6.4 D16-EP-Y2 Resource-aware Design (NoE Integration)

ACCEPTED
General comments apply.

4.6.5 D20-Control-Y2 Adaptive Real-time, HRT and Control (NoE Integration)

ACCEPTED
General comments apply.

4.6.6 D24-TV-Y2 Quantitative Testing and Verification (NoE Integration)

ACCEPTED
General comments apply.

4.7 WP5 JPRA: Real-Time Components

4.7.1 Overall comment

The status of the resulting tool chains in term of intellectual property rights must be clarified. The domains of avionic, automotive, railways and energy are far to cover the domains of embedded systems. The consortium should make plans to extend its domain activities to better cover the other embedded system domains, which is something expected from a Network of Excellence on the topic. Globally the consortium should extend more its activities to external members.

4.7.2 D5-RTC-Y2 Development of UML for Real-time Embedded Systems (Cluster Integration)

ACCEPTED

This document could benefit from an editing pass by a native English speaker; this would improve its appearance and appeal. The document content is of very good quality. It clearly shows what has been achieved, what the future work is and what the reasons are for that. It is synthetic, factual and full of references. Integration works between partners would have benefited from some additional details.

The post-review version of the document corrects the typography of the pre-review version. Except in section 1.5 where OMG still stand for “OBJECT management group” rather than “OPEN management group”.

The timetable needs to be updated.

4.8 WP6 JPRA: Adaptive Real-time

4.8.1 Overall comment

All of the questions raised during the pre-review assessment have been addressed during the presentation of the review meeting. The motivation for the re-orientation of the activities (on programming languages and network) has been presented during the meeting, but would have had a place in deliverables.

The effort around technologies such as real-time Java, Java for embedded systems, multi-core hardware, SMP technologies, virtualisation and (carrier grade/Real-time) Linux which are current strong concerns of embedded industry are not clearly addressed in various activities/ deliverables while when answering questions during the review meeting, ARTIST2 partners said some activities exist concerning these technologies.

4.8.2 D9-ART-Y2 Flexible Scheduling Technologies (Cluster Integration)

ACCEPTED

This task concentrated this year on the integration of different scheduling policies to cope with different application requirements.

The document is very concise (which is nice) but the current results on section 2.2 do not provide enough information.

- The requirements for integrated-resource scheduling framework are not included in the document
- The baseline for integrated-resource scheduling framework lack details or at least some references.
- The new theoretical development is much clearer but need reference to articles.
- Same comments for the following section.

The document is accepted. However it should be completed with references and more detailed results. The timetable needs to be updated.

4.8.3 D10-ART-Y2 Adaptive Resource Management for Consumer Electronics (Cluster Integration)

ACCEPTED

This task concentrated this year in defining common requirements for resource management especially in the domain of multimedia application, wireless networks and middleware QoS. The deliverable is concise, very clear, well structured. Collaboration and funding are identified. Future work is very factual and clear.

4.8.4 D12-ART-Y2 Real-Time Languages (Cluster Integration)

ACCEPTED

This task is aiming at studying RT languages and particularly ADA 2005 and its suitability in expressing RT constraints. The activity is starting and has not yet a lot of results to show which is normal. The document is very clear but would have slightly benefited to be a bit more concise. Interactions between partners are clearly appearing.

From telecom industry point of view, the reviewers would like to pin-point the importance in the future on real-time java which is a bit controversial at the moment.

4.9 WP7 JPRA: Compilers and Timing Analysis

4.9.1 D13-CTA-Y2 Architecture-aware compilation (Cluster Integration)

ACCEPTED

This report needs further elaboration and is below the standards of other similar reports. It is highly synthetic and does not go in sufficient detail. Examples:
Chapter 2: publications: no links to conference websites or publications
Chapter 3 on Future Work and evolution: gives too rough an overview in years. It does not go in detail of what the partners are going to do. These plans should be updated and include TU-Berlin.

4.10 WP8 JPRA: Execution Platforms

4.10.1 D17-EP-Y2 Communication-centric systems (Cluster Integration)

ACCEPTED
General comments apply.

4.10.2 D18-EP-Y2 Design for low power (Cluster Integration)

ACCEPTED
General comments apply.

4.11 WP9 JPRA: Control for Embedded Systems

4.12 D21-Control-Y2 Control in real-time computing (Cluster Integration)

ACCEPTED
General comments apply.

4.13 D22-Control-Y2 Real-time techniques in control system implementations (Cluster Integration)

ACCEPTED
General comments apply.

4.14 WP10 JPRA: Testing and Verification

4.14.1 D25-TV-Y2 Verification of Security Properties (Cluster Integration)

ACCEPTED

General comments apply.

5 Future work – 18-month Work Programme

The document presenting the next 18 month work plan needs updating to include TU Berlin.

6 Assessment of objectives

The project continues to be relevant and the original objectives, as expressed in the DoW, are still valid and will be for the foreseeable future.

7 Recommendations

7.1 Recommendation 1: Policy for Year 3 Deliverables (same as Year 2)

- All technical deliverables should be available on the ARTIST2 web site by 30 September 2007.
- All technical deliverables available on the ARTIST2 web site by 30 September 2007 will be pre-assessed by the reviewers by 15 October 2007.
- All technical deliverables MUST be available on the ARTIST2 web site by 15 October 2007 {this is a contractual requirement}.
- All technical deliverables NOT available on the ARTIST2 web site by 15 October 2007 are REJECTED.
- All management deliverables MUST be available on the ARTIST2 web site by 15 October 2007.
- If any management deliverables are NOT available on the ARTIST2 web site by 15 October 2007, the review meeting is CANCELLED.

7.2 Recommendation 2: Deliverables

The 18-month plan document must be modified and resubmitted as soon as possible, no later than 30 January 2007.

7.3 Recommendation 3: Activity leader change

Reviewers understand that there are circumstances pushing to replace an activity leader. The management of the project should take care to ensure continuity.

7.4 Recommendation 4: Demos and demonstrators

Reviewers appreciated demonstrators like the “pig” project and the “lego” one. The use of demos and demonstrator should be encouraged.

7.5 Recommendation 5: Deliverables under web format

Deliverables like D6 and D7 should be provided on the WEB to the benefit of everybody. The planning of the next period should incorporate this kind of format.

7.6 Recommendation 6: Peer review of deliverables

Put a deliverables quality assurance process in place before the next review. For example, deliverables from one cluster could be reviewed by someone in another cluster.

7.7 Recommendation 7: Metrics on impact

In order to assess the impact of ARTIST2, a number of metrics have been defined in the DoW. The project managers need to take a careful look at these and other relevant metrics and start to quantify them. A brief presentation on this topic is expected at the next review. The reviewers recommend that a calculation of the budgets (EC – national etc.) of projects “around” ARTIST2 should be done.

8 Review conclusion

The proposed integration of the research community continues to be very relevant. The consortium enhanced the performance of its technical work.

The reporting has improved and the new website is considerable progress. This website should now been enhanced to better serve the collaborative aspect of the project.

8.1 Next Meeting

Next review is planned in Brussels at VUB campus 7 & 8 November 2007. The same formula as this year will apply.

Reviewer's signature:

9 Appendix: state of project deliverables by WP

WP	Work package title	Lead contractor	Start month	End month	Deliverable ID	Reviewer	Status	Comment
WP0	JPMA : Joint Programme of Management Activities	1 CDC	0	48	**D1-Mgt-Y2** Year 2 Project Management Report	All	accepted	
		2 UJF/ VERIMAG	0	48	**D2-Mgt-Y2** (executive summary) Year2 Project Activity Report	All	accepted	
					D2-Mgt-Y2 (cluster RTC) Year2 Project Activity Report	Joe + Mic	accepted	
					D2-Mgt-Y2 (cluster ART) Year2 Project Activity Report	Mic	accepted	
					D2-Mgt-Y2 (cluster CTA) Year2 Project Activity Report	Mar	accepted	
					D2-Mgt-Y2 (cluster EP) Year2 Project Activity Report	Mar	accepted	
					D2-Mgt-Y2 (cluster Control) Year2 Project Activity Report	Joe + Mar	accepted	
					D2-Mgt-Y2 (cluster TV) Year2 Project Activity Report	Joe	accepted	
WP1	JPIA : Joint Programme of Integrating Activities	2 UJF/ VERIMAG	0	48	**D4-RTC-Y2** Component Modelling and Verification (Platform)	Joe + Mic	accepted	
		37 Scuola Sant'Ana	0	48	**D11-ART-Y2** A common infrastructure for adaptive Real-time Systems (Platform)	Mic	accepted	
		25 Saarland	0	48	**D14-CTA-Y2** Timing - Analysis (Platform)	Mar	accepted	
		3 Aachen	0	48	**D15-CTA-Y2** Compilers (Platform)	Mar	accepted	
		12 DTU	0	48	**D19-EP-Y2** System modelling infrastructure (Platform)	Mar	accepted	
		16 KTH	0	48	**D23-Control-Y2** Design Tools for Embedded Control (Platform)	Joe	accepted	
		4 Aalborg	0	48	**D26-TV-Y2** Testing and Verification Platform for Embedded Systems (Platform)	Joe	accepted	

WP2	JPASE : Spreading Excellence	2	UJF/ VERIMAG	0	48	**D3-Mgt-Y2** Report on Spreading Excellence	Mar	accepted	
WP3	JPRA : NoE Integration - Research Activities	32	Uppsala	13	48	**D6-RTC-Y2** Forums with specific industrial sectors (NoE Integration)	Joe	Accepted (cancelled)	
		15	INRIA	13	48	**D7-RTC** Seeding New Work Directions (NoE Integration)	Joe	Accepted (cancelled)	
		24	UP Madrid	0	48	**D8-ART-Y2** QoS aware Components (NoE Integration)	Mic	accepted	
		29	TUBS	0	48	**D16-EP-Y2** Resource-aware Design (NoE Integration)	Mar	accepted	
		19	Lund	0	48	**D20-Control-Y2** Adaptive Real-time, HRT and Control (NoE Integration)	Joe	accepted	
		30	Twente	0	48	**D24-TV-Y2** Quantitative Testing and Verification (NoE Integration)	Joe	accepted	
WP5	JPRA : Real-Time Components	8	CEA	0	48	**D5-RTC-Y2** Development of UML for Real-time Embedded Systems (Cluster Integration)	Joe + Mic	accepted	This document is accepted, but could benefit from an editing pass by a native English speaker; this would improve its appearance and appeal.
WP6	JPRA : Adaptive Real-time	7	Cantabria	0	48	**D9-ART-Y2** Flexible Scheduling Technologies (Cluster Integration)	Mic	accepted	
		40	Kaiserslauter	0	48	**D10-ART-Y2** Adaptive Resource Management for Consumer Electronics (Cluster Integration)	Mic	accepted	
		34	York	18	48	**D12-ART-Y2** Real-Time Languages (Cluster Integration)	Mic	accepted	
WP7	JPRA : Compilers and Timing Analysis	25	Saarland	0	48	**D13-CTA-Y2** Architecture-aware compilation (Cluster Integration)	Mar	accepted	
WP8	JPRA : Execution Platforms	13	ETHZ	0	48	**D17-EP-Y2** Communication-centric systems (Cluster Integration)	Mar	accepted	

		31	Bologna	0	48	**D18-EP-Y2** **Design for low power** **(Cluster Integration)**	Mar	accepted	
WP9	JPRA : Control for Embedded Systems	19	Lund	0	48	**D21-Control-Y2** **Control in real-time computing** **(Cluster Integration)**	Joe	accepted	
		33	UPVLC	0	48	**D22-Control-Y2** **Real-time techniques in control system implementations** **(Cluster Integration)**	Joe	accepted	
WP10	JPRA : Testing and Verification	30	Twente	0	48	**D25-TV-Y2** **Verification of Security Properties** **(Cluster Integration)**	Joe	accepted	

10 List of PO and reviewers

Name	Organisation	Email
Javid Khan	European Commission	javid.khan@cec.eu.int
Michel Ruffin	Alcatel	Michel.Ruffin@alcatel.com
Martin Timmerman	Dedicated Systems Experts	m.timmerman@dedicated-systems.info
Deliverables reviewer		
Joseph Sventek	University of Glasgow	joe@dcs.gla.ac.uk

11 Agenda

Day 1 (November 8th)

09:00	Project Officer's Announcements	Project Officer
	Management Overview	
09:15	Objectives, General Structure and Scientific Management	Scientific Coordinator: Joseph Sifakis (UJF/VERIMAG)
09:50	Financial & Contractual Management	Jean-Noel Forget (CDC)
10:00	Break	
	Real-Time component cluster	
10:30	Achievement and Perspectives cluster overview	Bengt Johnsson (Uppsala)
11:00	Autosar	Werner Damm (OFFIS)
11:30	UML for RTES	François Terrier (CEA-LIST)
11:45	Platform	Susanne Graf (Verimag)
12:10	EMSOFT workshop report	Joseph Sifakis (VERIMAG)
12:30	lunch	
	Adaptive Real Time	
13:40	Achievements and perspectives cluster overview	Giorgio Buttazo (Sant'Anna – Pisa)
14:10	Flexible Scheduling Framework	Michael Gonzalez Harbour (Cantabria)
14:24	Network support for adaptive distributed systems	Eduardo Tovar (Porto)
	Compilers and Timing Analysis	
14:50	Achievements and Perspectives – overview by cluster leader: Timing analysis part	Reinhard Wilhelm (Saarland)
15:12	Compiler part of this cluster	Rainer Leupers (RWTH Aachen)
15:40	Scientific detail	Peter Marweder (Universität Dortmund)
15:46	Cont	Rainer Leupers (RWTH Aachen)
15:58	Compiler platform (Cosy)	Sabine Glesner (TU Berlin)
16:00	**Break**	

	Execution platforms	
16:15	Achievements and Perspectives - overview	Lothar Thiele (ETHZ)
16:30	Scientific highlight 1	Rolf Ernst TU Braunschweig
16:50	Scientific highlight 2	Luca Benini (DEIS Università di Bologna)
17:30	**END of the day**	

Day 2

	Control for Embedded Systems	
9:00	Achievements and perspectives	Karl-Erik Årzén Lund University
9:25	Highlight 1:	Martin Törngren, KTH
9:40	Highlight 2:	Alfons Crespo – UPVLC
10:25	**BREAK**	
	Testing & Verification	
10:40	Achievements and perspectives – cluster overview	Kim Guldstrand Larsen CISS, Aalborg University
11:00	Coverage Metrics for Testing	Ed Brinksma, University of Twente, Enschede, NL
11: 20	Controllers: robustness and synthesis	Jean-François Raskin, CFV - Université Libre de Bruxelles
11 :40	RT validation and tools	Kim Guldstrand Larsen CISS, Aalborg University
11:58	Verification of Security protocols	Sandro Etalle, University of Twente
12 :07	discussion	
12 :10	**Spreading excellence**	Bruno Bouyssounouse
12 :48	**End of the morning session**	
14:00	Reviewers discussion	
14:45	Reviewers debriefing	
15:30	End of meeting	

12 Attendees

12.1 Project officer and reviewers

Javid Khan (DG Information Society and Media)
Alkis Konstantellos (DG Information Society and Media)
Michel Ruffin (Reviewer - Alcatel)
Martin Timmerman (Reviewer – Dedicated Systems Experts)

12.2 Speakers

Day 1:

Joseph Sifakis (VERIMAG)
Bengt Johnsson (Uppsala)
Werner Damm (OFFIS)
François Terrier (CEA-LIST)
Susanne Graf (Verimag)
Joseph Sifakis (VERIMAG)
Giorgio Buttazzo (Sant'Anna – Pisa)
Michael Gonzalez Harbour (Cantabria)

Eduardo Tovar (Porto)
Reinhard Wilhelm (Saarland)
Rainer Leupers (RWTH Aachen)
Peter Marweder (xxx)
Sabine Glesner (TU Berlin)
Lothar Thiele (ETHZ)
Rolf Ernst (TU Braunschweig)
Luca Benini (DEIS Università di Bologna)

Day 2:

Karl-Erik Årzén Lund University
Martin Törngren, KTH
Alfons Crespo – UPVLC
Kim Guldstrand Larsen, CISS, Aalborg University
Ed Brinksma, University of Twente, Enschede, NL
Jean-François Raskin, CFV - Université Libre de Bruxelles
Sandro Etalle, University of Twente
Bruno Bouyssounouse (VERIMAG)

12.3 Other participants

A lot… (54 people in total)

13 Partner list for

Role	N°	Name	Short Name	Country
CO	1	Caisse des Dépots et Consignations	CDC	FR
CR	2	University Joseph Fourrier / Verimag	UJF / Verimag	FR
CR	3	RWTH Aachen	Aachen	DE
CR	4	BRICS – Aalborg University	Aalborg	DK
CR	5	AbsInt Angewandte Informatik GmbH	AbsInt	DE
CR	6	University of Aveiro	Aveiro	PT
CR	7	Universidad de Cantabria	Cantabria	ES
CR	8	Commissariat à l'Énergie Atomique Laboratoire LIST	CEA	FR
CR	9	Centre Fédéré en Vérification, Université de Liège	CFV	BE
CR	10	Czech Technical University	Czech TU	CZ
CR	11	Dortmund University	Dortmund	DE
CR	12	Technical University of Denmark	DTU	DK
CR	13	Swiss Federal Institute of Technology	ETHZ	CH
CR	14	France Telecom R&D	FTR&D	FR
CR	15	Institut National de Recherche en	INRIA	FR

		Informatique et Automatique		
CR	16	Royal Institute of Technology	KTH	SE
CR	17	Linköping University	Linköping	SE
CR	18	Centre National de la Recherche Scientifique / Laboratoire LSV	LSV / CNRS	FR
CR	19	Lund University (Sweden)	Lund	SE
CR	20	University of Mälardalen	Mälardalen	SE
CR	21	Kuratorium OFFIS e. V.	OFFIS	DE
CR	22	PARADES EEIG	PARADES	IT
CR	23	University of Pavia	Pavia	IT
CR	24	Universidad Politecnica de Madrid	UP Madrid	ES
CR	25	Saarland University	Saarland	DE
CR	26	ST Microelectronics - Central R&D	STM	FR
CR	27	Technical University of Eindhoven	Eindhoven	NL
CR	28	Technical University of Vienna	TU Vienna	AT
CR	29	Technical University Braunschweig	TUBS	DE
CR	30	University of Twente	Twente	NL
CR	31	University of Bologna	UoB	IT
CR	32	Uppsala University	Uppsala	SE
CR	33	Universidad Polytecnica de Valencia	UPVLC	ES
CR	34	University of York	York	UK
CR	35	Polytechnic Institute of Porto	Porto	PT
CR	36	EPFL Lausanne	EPFL	CH
CR	37	Scuola Superiore Sant'Anna	Pisa	IT
CR	38	ACE	ACE	NL
CR	39	Tidorum	Tidorum	FI
CR	40	the University of Kaiserslautern	Kaiserslautern	DE

14 Project calendar

Month	2004	2005	2006	2007	2008
Jan		5	17	29	41
Feb		6	18	30	42
Mar		7	19	31	43
Apr		8	20	32	44
May		9	21	33	45
Jun		10	22	34	46
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Sep	1	13	25	37	
Oct	2	14	26	38	
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Dec	4	16	28	40	