ARTEMIS

JUNE 2008
No. 1 ~
A step further
For European
R&D Initiatives

ARTEMIS **is a magazine published by the Artemisia Office, which provides information on the developments within the ARTEMIS Technology Platform** ~ *www.artemisia-association.eu*

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the first call is out

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Artemis Magazine
first edition

FOREWORD:

VIVIANE REDING

Commissioner for Information Society and Media European Commission

Welcome to this special edition of the Artemis Quarterly Magazine. The European Commission is proud to announce that the first call for proposals was launched on 8th May 2008 for €100 million of public funding contributed by the Commission and 18 European countries. The public-private partnership of Artemis has thus reached its first milestone. This is an impressive achievement given that the Joint Undertaking was only established in February 2008. Of course, the history of Artemis stretches back over four years from its humble beginnings as a European Technology Platform in 2004 to the formation of Artemisia, the Artemis Industrial Association, and to the European Commission's proposals to the European Parliament and the Council for establishing a Joint Technology Initiative in May 2007. I am pleased with the tremendous progress that we have made over these years. It is commensurate with the importance of embedded systems as a driver of European innovation leading to increased employment opportunities and growth.

Artemis is important because it leverages European strengths in the engineering of complex systems, aiming at novel and improved products that reach the market quicker. An independent analysis has shown that, if Artemis reaches its technological objectives, the gains to the EU economy will be over €100 billion. This will have a wider impact in terms of jobs and quality of life. Artemis also heralds significant breakthroughs in the way collaborative research programmes are structured and managed: first, it involves the private sector in the management of the programme, thus providing extra incentives for increased R&D investments by industry. Second, Artemis puts in place for the first time a concrete mechanism for combining national and European Community money to co-fund research projects, which results in leveraging European Community funds by a factor of 6 or more.

I would like to thank all of the people involved for their vision, dedication and hard work which made it all possible. I would particularly thank Yrjö Neuvo and Jan Van Den Biesen on the industrial front, together with Rosalie Zobel and Kostas Glinos from the European Commission. I should also acknowledge all those who have been working tirelessly behind the scenes and who are too numerous to mention. These include people from Member States, the European Commission, universities, research institutes and industry, including SMEs.

There is still a lot of work to do and I am impressed to see that everybody is rising to the challenge. The Joint Undertaking is presently being managed by the Commission but this situation will change over the course of the year as Artemis progressively establishes its own rules, budget, staff and premises. I would take this opportunity to thank Jan Lohstroh from Artemisia for his considerable help and operational support during the startup phase of the Joint Undertaking.

I urge all stakeholders from industry, SMEs and academia to take advantage of the first Call for proposals published in May. The real work has started now and I shall look forward to the continued success of Artemis.

For more information:
www.artemis.eu
www.artemisia-association.eu

Addressing *embedded systems*

Advanced Research & Technology for EMbedded Intelligence and Systems

We are proud to present the first issue of our newly styled ARTEMIS Magazine. It succeeds the ARTEMIS News issued by the ARTEMISOS office at the Thales office in Brussels. The ARTEMISOS office was funded by the European Commission in the early days of ARTEMIS, before the ARTEMISIA Association was established and while the ARTEMIS Joint Undertaking (JU) was still in construction. We thank Thales for all the initial work, and thank specifically Sophie Batas Bjelic for all her organising and editing work.

The new ARTEMIS Magazine is now issued by ARTEMISIA. ARTEMISIA is a member of the ARTEMIS JU, but will also continue to take responsibility for future updates of the ARTEMIS Strategic Research Agenda (SRA) that was issued in 2006. As this SRA goes beyond the scope of the ARTEMIS JU, a special website has been created for it at: www.artemis-sra.eu.

This publication give attention to the field of embedded systems in the broadest sense and to ARTEMISIA as a member of the JU as the European Technology Platform for embedded systems that will maintain and update the SRA over time.

We will present articles and information about embedded systems in a people-oriented way and we hope that you enjoy reading them.

Please contact us if you have interesting material or stories that are of interest to our readers. You can contact us or send articles to us via: communications@artemisia-association.eu

JAN LOHSTROH
Secretary General
ARTEMISIA Association

ARTICLE:
YRJÖ NEUVO
President of ARTEMISIA

ARTEMIS *goes live*

the first call is out

YRJÖ NEUVO, PH.D. (EE), PROFESSOR AND TECHNOLOGY ADVISOR, PREVIOUSLY SENIOR VICE PRESIDENT OF NOKIA CORPORATION. HE HAS RECEIVED MANY AWARDS FOR HIS ACHIEVEMENTS AND HE HAS PUBLISHED OVER 400 TECHNICAL ARTICLES. IN JANUARI 2004 HE BECAME THE CHAIRMAN OF ETP AND SINCE JANUARI 2007 THE CHAIRMAN OF ARTEMISIA ASSOCIATION.

European R&D landscape. The menu covering the focus areas of the first call for project proposals has been circulated; it is now up to companies and research organisations to make good selections. The eight sub-programmes address the most relevant challenges and opportunities in the embedded systems area. The first call emphasises the key specific technical challenges as it lays the long-term foundation to more industry-sector specific issues.

THE ARTEMIS JOINT UNDERTAKING SUB-PROGRAMMES ~

1. Methods and processes for safety-relevant embedded systems;
2. Person-centric health management;
3. Smart environments and scalable digital services;
4. Efficient manufacturing and logistics;
5. Computing environments for embedded systems;
6. Security, privacy and dependability in embedded systems for applications, networks and services;
7. Embedded technology for sustainable urban life; and
8. Human-centric design of embedded systems.

Building the ARTEMIS Joint Undertaking (JU), as the legal embodiment of a Joint Technology Initiative, has been an amazing experience. We first established the European Technology Platform with targets set in the ARTEMIS Strategic Research Agenda. This was hard work with some hundreds of people participating

Yrjö Neuvo, President of ARTEMISIA, meets the press at Braga Conference, Portugal, November 2007

voluntarily because of their professional interest in enabling Europe to grasp the broad benefits embedded systems offer. A lot of good progress was made during the intensive 'Summer Camps', where experts from different fields and industry sectors gathered for a couple of days to come up with consolidated strategic recommendations.

Then the possibility to create the JU emerged. Structuring the JU from scratch together with the EU and Member States was the other major task we accomplished. The outcome is now the legal structures and the rules and procedures that govern and guide ARTEMIS JU activities. We were in the front line of this development, and it really was a major effort for all involved. The timetables were extremely tight but we managed to get everything ready at about the last minute. The work we did in setting up this JU should save a lot of time and effort from those who have to establish future JUs.

Now we are in the implementation phase of the JU. We have a good number of companies and research institutes on board, and I see promising cross-sectoral co-operation emerging, as written in our objectives. The academic participation in ARTEMISIA is already quite respectable and is still growing.

On the other hand, there are many large enterprises that are not yet members of ARTEMISIA and would definitely benefit from this initiative. Small and medium-sized enterprises (SMEs) are another area for further action. Now as the call is out and the content is concrete, it is a good time to get them on board as well.

As this is my last contribution to ARTEMIS Magazine as President of ARTEMISIA and Chairman of the ARTEMIS Governing Board, I really want to thank all the hundreds of persons who have built up ARTEMIS. It is difficult for me to describe how much I have enjoyed working with you over the years. For many of us this has been a four-year odyssey starting from the first faint beginning in 2004. The target-oriented and innovative atmosphere we have in ARTEMIS is a real joy.

The ARTEMIS JU
Multi-Annual Strategic Plan
whence it came and where it goes

CALL 1 OF THE ARTEMIS JOINT UNDERTAKING (JU) IS NOW OPEN. THE RESULT OF A HUGE EFFORT BY A LARGE GROUP OF MOTIVATED AND EXPERT PEOPLE NOW RINGS IN THE START OF THE REAL WORK. INDUSTRY – WITH WHICH I ALSO EMBRACE EUROPE'S WORLD-CLASS INSTITUTES AND UNIVERSITIES – NOW HAS TO 'WALK THE TALK' BY EXECUTING RESEARCH PROJECTS THAT WILL YIELD THE INNOVATIONS NEEDED TO FULFIL THE VISION FIRST DESCRIBED BY LEADING INDUSTRIALIST AND RESEARCHERS BACK IN 2004, WHEN THE 'BUILDING ARTEMIS' REPORT WAS PUBLISHED. WITH THAT IN MIND, LETS REMEMBER WHERE ALL THIS STARTED, AND HOW IT GOT TO WHERE IT IS TODAY. A QUICK WALK THROUGH ALL THE STRANGE ACRONYMS THAT HAVE POPPED UP ALONG THE WAY WILL DO NO HARM, EITHER!

ARTICLE:
ALUN FOSTER
Senior Manager
External Technology
Coordination ST
Microelectronics

In 2005, the ARTEMIS European Technology Platform (ETP), at that time a voluntary organisation of R&D stakeholders with a concrete yet informal structure, published its first strategic research agenda (SRA) for embedded systems (ES) in Europe. Starting from a vision where the importance of embedded systems to European prosperity through innovation is paramount, the document developed an approach to R&D covering the length and breadth of ES technology.

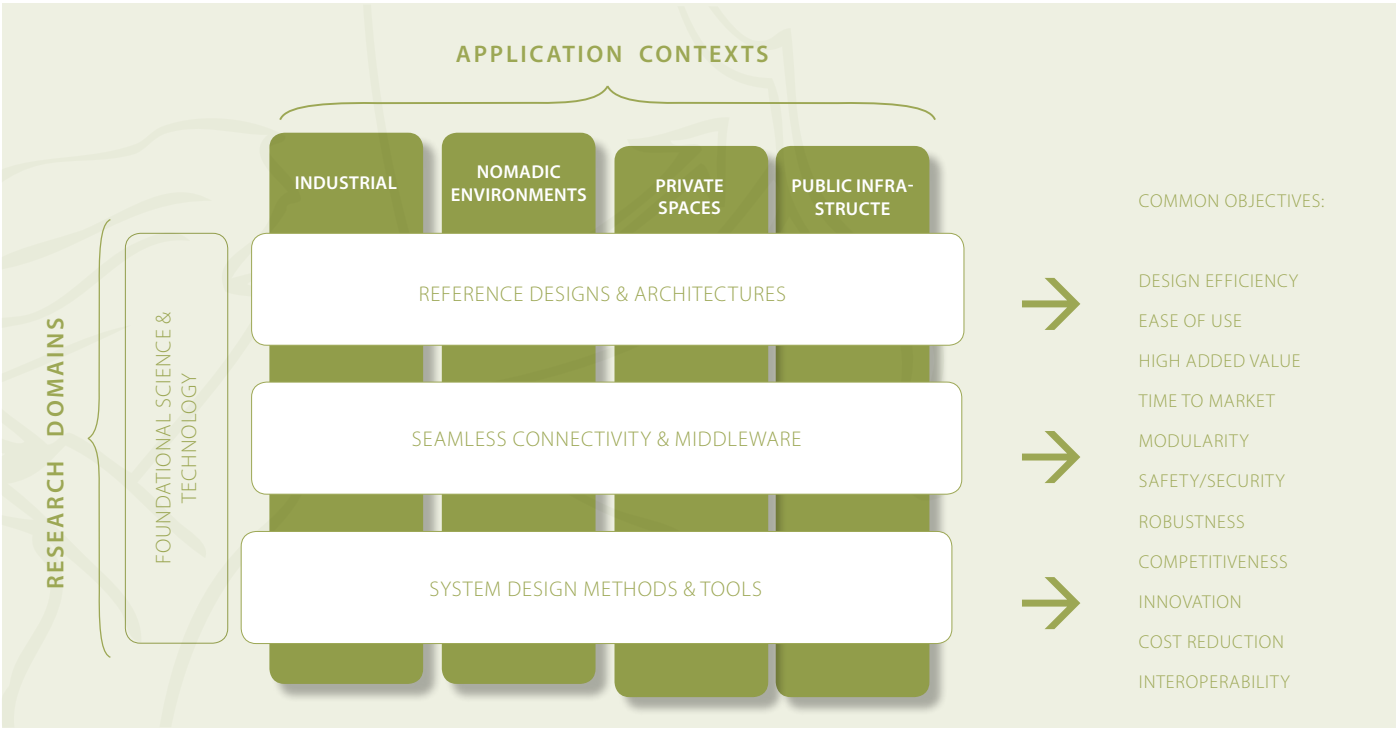
In addition to some very important support strategies aiming at building new and efficient innovation environments, the SRA grouped the R&D needed into three more-or-less transversal domains, where the technologies developed have a good chance of being reusable across several generic application contexts. This structure is drawn out as a matrix, which has become the backbone of the ARTEMIS SRA and all that follows it.

SETTING CLEAR PRIORITIES ~ In the first of several 'summer camps' organised by the ARTEMIS ETP in 2006, these three research domains were studied in detail by groups of technical experts from industry and academia. The result was sets of clear priority topics for researching each of the three domains.

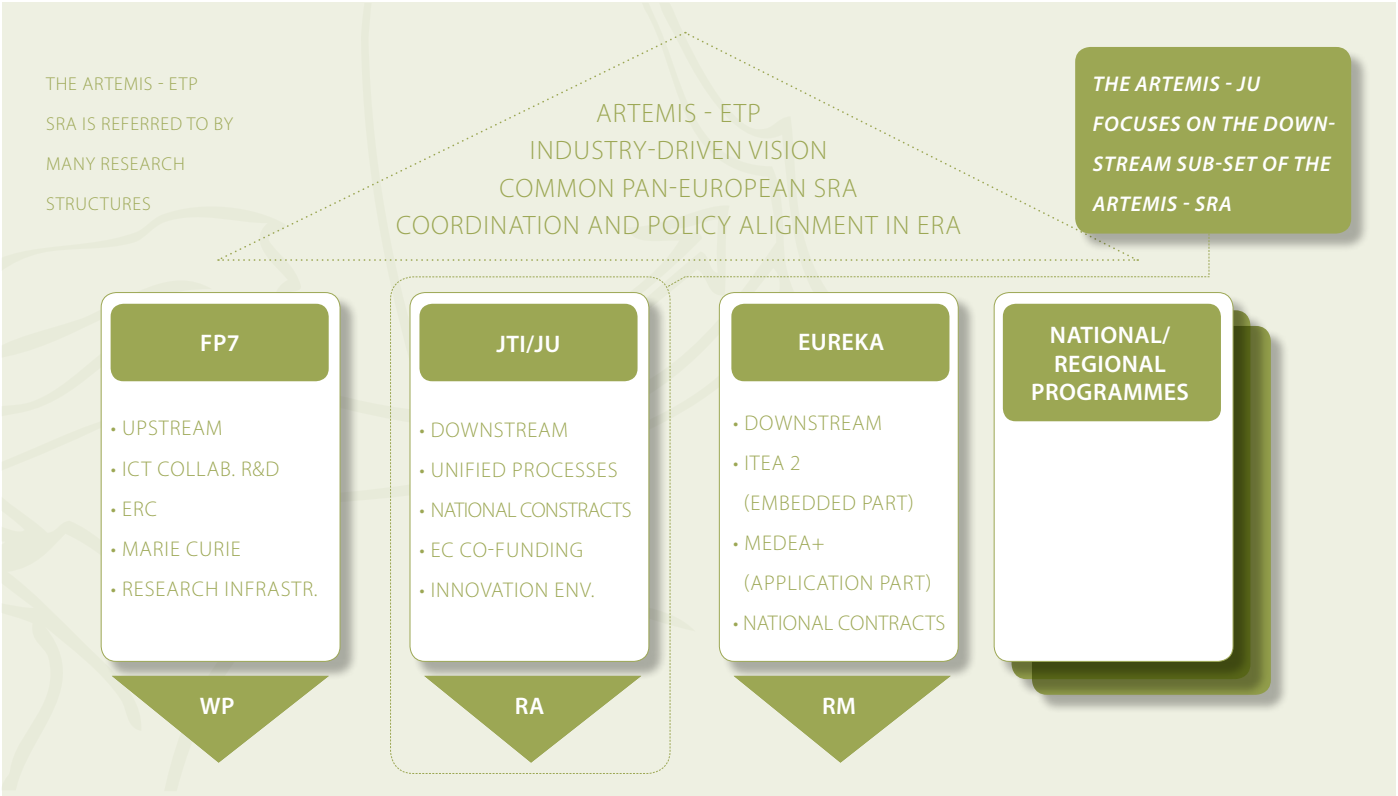
At that point, the structure of the planned Joint Technology Initiative (JTI) was becoming a little clearer. One implication of what was seen was the need to establish a body that could represent the interests of the R&D actors from industry, universities and institutes in this new type of venture in a coherent way. That body is now ARTEMISIA – a not-for-profit industry association that opened its doors on 17 January 2007.

Since then, the rather vague concept of a JTI has become clear and concrete. For ARTEMIS, this has taken the form of a Joint Undertaking (JU) with a well-defined legal structure. In addition to representing industrial interests in the JU, ARTEMISIA takes responsibility for the strategic research agenda and, importantly, the work programme for the JU that is derived from it.

ARTEMIS ENVISAGES CROSS-APPLICATION SOLUTIONS



THE ARTEMIS - ETP SRA COVERS THE LENGTH AND BREADTH OF EMBEDDED SYSTEMS RESEARCH



The programme for the JU is described in its Multi-Annual Strategic Plan (MASP) and research agenda (RA), which take a five-year look ahead into the future of ES. Basically, the RA describes what Industry wants to do, and the MASP says how and why we do it.

Of course, the JU must operate alongside other already existing research initiatives, so only specific and key parts of what is described in the ARTEMIS SRA should be addressed. Indeed, the SRA had already had an impact on the work programmes of these other initiatives, such as the EU Seventh Framework Programme (FP7). In order to derive these documents and the strategy that lies behind them, a working group based on the core team that wrote the original SRA was set up – the WG-SRA.

TOP DOWN AND BOTTOM UP ~ In a field as diverse as ES, deriving such a research agenda, which addresses the extremely broad industry base while at the same time providing adequate focus to be useful, was no easy task. The method used was a combination of top-down direction, provided by the members of the ARTEMISIA Steering Board, and bottom-up technical analysis provided by the research community itself.

To make this problem at all tractable, and on the advice of the steering board, a set of sub programmes was identified that represented areas where European industry would be able to provide technological answers to a set of well-known societal concerns, including cost of health care, energy efficiency and transport safety. Through the voluntary work of almost 100 technical experts from industry and academia, and using the guidelines and templates agreed with the steering board, the current set of eight sub programmes was defined and worked out in detail.

Several rounds of discussion between ARTEMISIA and the other partners in the JU later (the European Commission and the participating countries), the RA and MASP were approved. The existing set of sub programmes is by no means set in concrete: the MASP and RA will be updated as the JU advances its work, to take account of the progress made and of any other emerging needs.

ANNUAL WORK PLAN ~ With the RA and MASP in place, the JU now has a clear plan of where to head and how to get there. The implementation of this plan will be carried out through annual calls for proposals for project that address the most important technical issues at the time of the call. This annual work plan (AWP) is derived from the relevant parts of the RA and MASP, providing topics for research and other activities in support of the research community itself. Et voila! With the AWP available, and all the supporting legal documents in place, the first Call of the JU is open.

That last statement may sound simple, but it does not do justice to the huge amount of work achieved by some highly motivated and competent people in industry, in the European Commission and in the participating countries. In particular, Eric Schutz of STMicroelectronics and Laïla Gide of Thales put in a mammoth amount of their time, expertise and wisdom in making this happen, for which the ARTEMIS community is truly grateful. The ARTEMIS JU is literally a first-of-a-kind entity: nothing like this has ever been done before, and the legal and technical hurdles to be jumped were by no means simple.

In parallel with the development of the RA and MASP, a huge range of legal documents was needed, first to get the idea of the JU set up and accepted by the European Parliament and Council, then to negotiate and establish the proper legal framework for the JU itself, and finally to properly support the calls. With partners from such diverse cultural background this was not always easy but, with dedication and a lot of hard work, the ARTEMIS JU is now a reality and is open for business.

ACM honours pioneering *work on model checking*

Turing Award for Joseph Sifakis

DR JOSPEH SIFAKIS IS RESEARCH DIRECTOR AT THE CNRS AND DIRECTOR OF THE CARNOT INSTITUTE ON INTELLIGENT SOFTWARE AND SYSTEMS IN GRENOBLE, FRANCE. HE ALSO FOUNDED THE VERIMAG LABORATORY IN GRENOBLE, WHICH HE DIRECTED FROM 1993 TO 2006. VERIMAG IS A LEADING RESEARCH LABORATORY IN THE AREA OF CRITICAL EMBEDDED SYSTEMS. IT DEVELOPED THE UNDERLYING THEORY AND TECHNOLOGY FOR THE SCADE TOOL, USED BY AIRBUS FOR THE DESIGN AND VALIDATION OF ITS MISSION AND SAFETY-CRITICAL REAL-TIME SYSTEMS, AND BECOMING A DE FACTO STANDARD FOR AERONAUTICS.

LONG RECOGNISED FOR HIS PIONEERING WORK ON BOTH THEORETICAL AND PRACTICAL ASPECTS OF CONCURRENT SYSTEMS SPECIFICATION AND VERIFICATION, DR SIFAKIS MADE A MAJOR CONTRIBUTION TO THE EMERGENCE OF THE AREA OF MODEL CHECKING, NOW THE MOST WIDELY-USED METHOD FOR THE VERIFICATION OF INDUSTRIAL APPLICATIONS.

ACM considers the work of Clarke, Emerson and Sifakis has had a major impact on designers and manufacturers of semiconductor chips. "These industries face a technology explosion in which products of unprecedented complexity have to operate as expected for companies to survive," says ACM president Stuart Feldman. "This verification advance enabled these industries to shorten time to market and increase product integrity.

"Without the conceptual breakthrough pioneered by these researchers, we might still be stuck with chips that have many errors and would lack the power and speed of today's equipment. This is a great example of an industry-transforming technology arising from highly theoretical research."

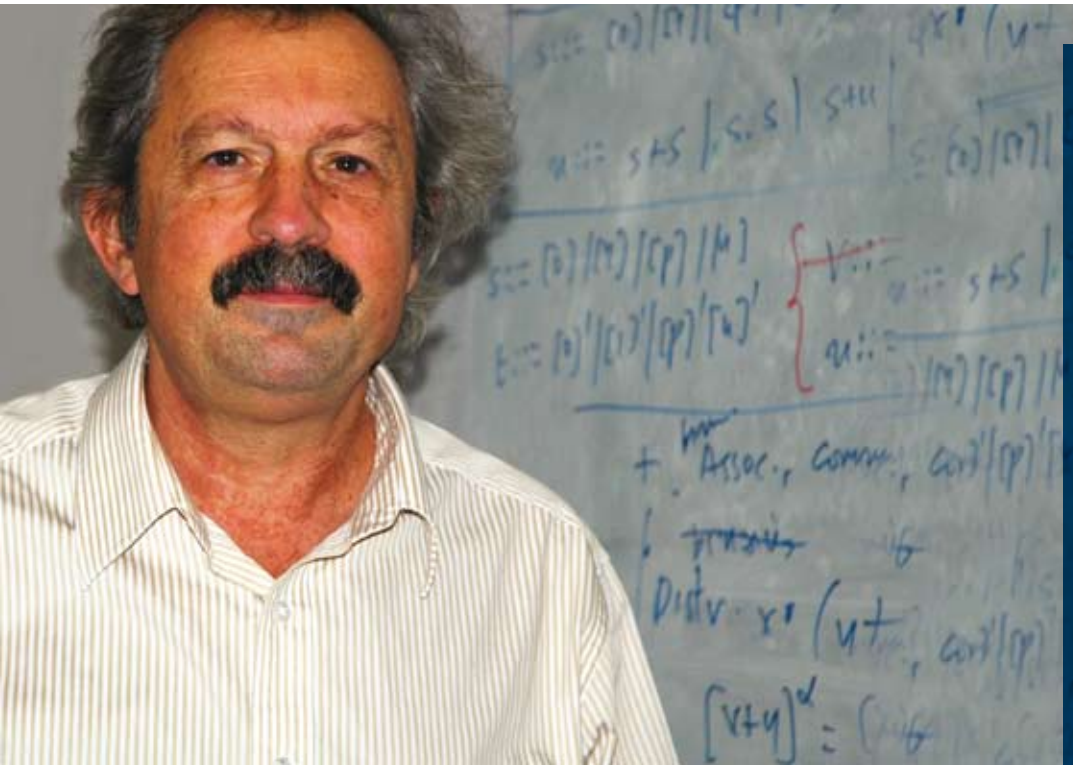
"While I am well known personally in this specific area, winning the Turing Award is important as it provides more visibility and creditability in the wider community," says Dr Sifakis, research director at the CNRS – French National Research Centre – and founder of the Verimag embedded-systems laboratory in Grenoble.

PROBLEMS SPANNING HARDWARE AND SOFTWARE ~ Model checking is a standard procedure for quality assurance that has enabled designers and manufacturers to address verification problems spanning hardware and software. It has helped them to gain mathematical confidence that complex computer systems meet their specifications and has provided security for a range of both common and critical computing applications.

Logic errors in digital circuit designs, software and communication protocols are a challenging problem for systems designers. As a result, there are often delays in getting new products to market, failures of critical systems already in use and the need for expensive replacements of faulty hardware or patching of flawed software.

"The idea of model checking is to replace testing of physical prototypes by a mathematical model or virtual device, and to check this model against operational requirements," explains Dr Sifakis. "The requirements are formalised and expressed as logical properties; algorithms are then used to check the model against these formalised requirements.

"There are many advantages over testing a physical prototype. If you have a model, you



Dr Joseph Sifakis, one of the founders of Artemis, was announced as the winner of the 2007 A.M.Turing award together with US academics Edmund Clarke and Allen Emerson in February 2008. They were honoured for their parallel contributions to the model-checking automatic verification technique for hardware and software designers. The Turing Award, named after British mathematician Alan M. Turing, has been presented by the Association for Computing Machinery (ACM) in New York since 1966. It is one of the most prestigious global awards in computing and is supported financially by Intel and Google.

ARTICLE:
DR. JOSEPH SIFAKIS
Managing director
CARNOT INSTITUTE ON INTELLIGENT SOFTWARE AND SYSTEM

have better accessibility, controllability and visibility of the state of the system, which can be modified much more easily than a physical prototype. And of course exhaustive verification is possible – initially for systems that were not too complex but now for fairly complex ones, such as microprocessors or communications protocols.

"As a result, we can make a thorough check and be sure that there are no errors. It makes testing more effective because, when with a physical system, you can't be sure that you have checked all possible configurations – it is even impossible to achieve that. Model checking allows thorough validation and testing."

FROM ACADEMIC TO INDUSTRIAL REALITY ~ Model checking started as an academic research idea. "My contribution with two American colleagues was automatic verification technology that we have developed since the beginning of the 1980s," explains Dr Sifakis. "We continued to work in parallel and set up a large scientific community working on this topic." The result was the creation of new logics, new algorithms and powerful theoretical results.

Many major hardware and software companies now rely heavily on model checking. Examples include verification of the designs for integrated circuits such as microprocessors, as well as communication protocols, software device drivers, real-time embedded systems and security algorithms.

Among beneficiaries are personal computer users, medical device makers and nuclear power plant operators. Consumers rely increasingly on digital controllers to supervise critical functions in cars, aeroplanes and industrial plants. Digital switching technology has replaced analogue components in the telecommunications industry, and security protocols enable e-commerce applications and privacy.

Wherever significant investments or human lives are at risk, quality assurance for the underlying hardware and software components becomes paramount.

Open for *business*

A NUMBER OF POSSIBLE PROJECT PROPOSALS AND PRELIMINARY CONSORTIA FOR ARTEMIS WERE PRESENTED DURING AN TWO-DAY INFORMAL BROKERAGE EVENT IN DÜSSELDORF, GERMANY ON 14 AND 15 FEBRUARY 2008, THESE PROJECTS, AS WELL AS OTHERS STILL TO BE DEFINED, ARE OPEN FOR PARTICIPATION. IF YOU WANT TO TAKE PART IN ANY OF THE PROJECTS PRESENTED, PLEASE GET IN TOUCH WITH THE RELEVANT CONTACT PERSON.

Project proposal	*Contact person*
CAMMI – Cognitive Adaptive Man Machine Interface	antonello.mangogna@galileoavionica.it
CESAR – Cost-Efficient methods and processes for Safety Relevant embedded systems	herve.portier@airbus.com
Communications in Smart Environments	stefan.drude@nxp.com
Composition with Guarantees – How to guarantee the non-functional properties at system level during component assembly	mmiguel@dit.upm.es
DESTECS – applied to mechatronic machines	j.f.broenink@utwente
eDIANA – Embedded systems for DIstrict Area eNergy explotAtion	jherasbu@acciona.es
EMPreSs – embedded systems potential by establishing new state-of-the-art and standards for multi-core/ multi-processor computing platforms for cost-effective transportation applications	gerard.maniez@freescale.com
Embedded computing environments for nomadic & multimedia applications	eric.gielen@nxp.com
HEREDA – HEterogeneous platforms for Real-time massive DAta processing	claude.gomez@inria.fr
Person-centric health management	frank.van.der.linden@philips.com
RODES – Robustness in designs requirements for more guarantees	philippe.baufreton@hispano-suiza-sa.com
RELIFE – Real time LIFE cycle management of efficient production systems	jperez@ideco.es
SEMTECH – approaching embedded systems security, privacy and dependability in pervasive computing environment as well as protection of people and infrastructures against threats	egladis@haicorp.com
Smart Environments – infrastructure and semantic	petri.liuha@nokia.com

Focusing on *improved medical imaging*

INTERVIEW:
FRANK VAN DER LINDEN
Managing director
PHILIPS

PHILIPS HEALTHCARE SEES ARTEMIS AS AN IMPORTANT WAY TO GET PEOPLE WORKING TOGETHER ON EMBEDDED SYSTEMS AND SOFTWARE ASPECTS. A LOT OF COMPANIES IN EUROPE NEED THIS. "IT IS GOOD INITIATIVE AND NEEDS TO BE TAKEN FURTHER," SAYS FRANK VAN DER LINDEN OF PHILIPS, WHO IS THE CONTACT FOR THE PERSON-CENTRIC HEALTH MANAGEMENT PROPOSAL. "I'M ALSO VERY INTERESTED TO SEE HOW ARTEMIS WILL BE DIFFERENT FROM ITEA, PARTICULARLY IN TERMS OF COUNTRY PARTICIPATION AND FUNDING."

His first reaction to the Düsseldorf event was that there were too many research groups and not enough industry –and not necessarily all countries were well represented. "We found people for some of our areas but not for others. And research institutes have different types of questions. I wanted to be very practical for our embedded systems; research people want to build models but not to apply them in industry as I was hoping." Nevertheless van der Linden found it was a good timing for triggering and starting discussions as no project outlines were yet necessary.

At present van der Linden is working on two proposals. "One proposal originated in Düsseldorf and we got a large number of potential partners – although we are now down to 15 or 20," he says. "However, for a second proposal we did not find enough partners and I am now back to using my normal contacts, although this takes longer. But I expect both proposals will meet the September deadline."

WORKING ON TWO PROPOSALS ~ The first project is on healthcare is Subprogamme two. The intention is to work on new and better image sensor systems for X-rays that give much

more data than current systems to provide doctors with greater detail. "This means new algorithms are needed just for basic processing to calibrate, remove noise, etc.," he explains.

For this project, van der Linden found a range of partners in Düsseldorf. These are mainly companies but include some research institutes and many specialist SMEs as it necessary to know what the hardware and the sensors are doing and how advanced image processing works. He also has a partner with knowledge of high performance computing.

His second project concerns reliability of system configurations. "We are moving increasingly from hardware to software in our systems as this allows reconfiguration of the way image processing is done at run time," he says. "We want to do this but we want to do it reliably as our systems are used for medical image processing."

This requires modeling of image processing, which is more than simply pixel spacing but really enhancing specific parts of the image and removing other parts, and mapping images from one source to images from another source. "We want to combine these things into something we know will operate reliably and will do exactly what we expect." For this project, van der Linden is still looking for partners, particularly in Germany and the UK, in the area of reliability.

LONG TERM PLANS ~ Both these proposals are just a part of long term plans to improve the whole image-processing chain – from hardware, through basic software, to applications. "I'm interested to see what comes out of ARTEMIS," adds van der Linden. "I like the idea very much and the programme gives enough 'hooks' to get the right projects.

BROKERAGE EVENT VIEWS

Tampere ~ High impact smart environment

High impact from *smart environment projects*

Creation of generic solutions

NOKIA HAS A PARTICULAR INTEREST IN ARTEMIS BECAUSE IT SEES IT AS A VEHICLE FOR STARTING NEW AND BIGGER INITIATIVES IN AREAS WHERE INTENSIVE CO-OPERATION BETWEEN INDUSTRIAL PLAYERS IS NEEDED. "IT ALSO PROVIDES A FIXED AGENDA FOR COMMERCIALISATION IN THE MEDIUM RATHER THAN THE LONGER TERM, WHICH IS ATTRACTIVE FOR US," EXPLAINS PETRI LIUHA, OF THE NOKIA RESEARCH CENTER IN TAMPERE, FINLAND, WHO CHAIRED THE SUBPROGRAMMES 2 AND 3 SESSION IN DÜSSELDORF.

"We have been involved in ARTEMIS for some time but have a particular interest in the smart environment area – Subprogramme three. I found the Düsseldorf event very useful. Interest was very high as there were a lot of people and many different organisations – companies and universities – involved, so we could talk directly about ideas that are already going forward."

In the session he chaired, Liuha saw two main areas that need to be tackled in the area of smart environments:

Directly addressing the main challenges, particularly interoperability – this is being addressed very well in the Sofia project proposal; and Communications technologies – this was left hanging in the air as many of the topics could handled in Sofia.

While interoperability will therefore be the initial focus, other proposals are expected to emerge later.

NEW CONTACTS MADE ~ Discussions on partners had already started before Düsseldorf, so most had already been identified. "However we did get new contacts," says Liuha. "The discussions confirmed our ideas but some new insights came in from

INTERVIEW:

PETRI LIUHA

Managing director

NOKIA

"The discussions confirmed our ideas but some new insights came in from different organisations and people participating"

different organisations and people participating. And we are still looking for a couple of members for our consortium. A positive element of Düsseldorf was the interest from universities and research institutes. We had started our work with a core team without such partners."

Liuha's project is setting out to tackle the whole of the strategic research agenda as it affects Subprogramme three. This means creation of generic solutions to build interoperability between generic devices and different intelligent environments and on top of this how to create applications and services that are useful and have business value.

"These would be related to very small spaces or even rooms," he explains. "We would have the possibility of using all the digital information embedded in the room from different devices – whether a home entertainment device, a mobile form or a heating installation – to provide both professional and consumer services. While this is a generic approach, we are now looking at very different environments where we can start testing and piloting this."

POSITIVE VIEW ~ Overall, Liuha is very positive about ARTEMIS. "Although the whole process has taken a long time, I think it is now looking very promising," he says. "I expect to see interesting and quite large projects emerging that potentially have high impact – at least from what we have been seeing in our area."

Yrjö Neuvo and Emile Aarts

step down as ARTEMISIA Presidium members

YRJÖ NEUVO,
promoting the ARTEMIS Orchestra Contest

EMILE AARTS
enthusiastic communicator

Some 25 companies and institutes were invited to a meeting on 12 January 2004 called by the European Commission and chaired by Commissioner Liikanen, responsible for Information Society and Enterprise. Both Jan van den Biesen as the Philips representative and I, representing ITEA as the Philips board member, attended. The Commissioner introduced the new concept of the European Technology Platform and challenged the invited group to work on a Strategic Research Agenda on embedded systems for the benefit of Europe. The participants accepted this challenge. Commissioner Liikanen then proposed that Prof. Yrjö Neuvo, chief technical officer of Nokia, would chair this newly formed ETP, and this was agreed by the meeting as well.

Shortly after this, Yrjö Neuvo organised his first ETP meeting, at which Emile Aarts began representing Philips, to develop the first ideas on how to structure the approach to produce the desired SRA. The name ARTEMIS – Advance Research & Technology for EMbedded Intelligence and Systems – was also conceived at this meeting. In addition, Jan van den Biesen was asked to chair a working group that would propose a governance structure for all ETP bodies installed to do the work, as well as a mechanism to fund the research. It was further decided that ITEA would be represented by the ITEA chair, rather than by a board member, so I left the scene, but would be continuously informed by Jan van den Biesen.

Since that time, Yrjö Neuvo and Emile Aarts have been very active in the development of the ETP and its Strategic Research Agenda. In the four years of preparation for the launch of the ARTEMIS Joint Undertaking, we had long and complicated debates about the governance models for the ETP and later for the JU itself, and also about possible funding mechanisms. The establishment of the ARTEMISIA association too required major work and legal discussions. Although these may not always have been the favourite topics of our Chairman, he skilfully steered the joint process with the Commission and Member States that ultimately led to the establishment of the ARTEMIS JU, always keeping the ARTEMIS vision in mind.

When the SRA Working Group was created, under the co-chairmanship of Laila Gide and

Eric Schutz, Yrjö and Emile always provided their guidance, suggestions and advice. This has been essential in the realisation of the present SRA, which is the foundation of the ARTEMIS JU.

Since June 2007, I have returned to the scene, now as Secretary General of ARTEMISIA, and witnessed the enormous drive of the Presidium when working on the success of ARTEMISIA and the ARTEMIS JU. Yrjö and Emile, on board from the very beginning, played a crucial role, especially Yrjö as chairman. Both are now stepping down, and we will miss them as the charismatic father (Yrjö) and enthusiastic communicator (Emile), both with enormous knowledge and vision in the field of embedded systems.

We thank Yrjö and Emile for all the work they have done. The embedded systems community owes them a lot.

Jan Lohstroh,
Secretary-General, ARTEMISIA Association

Input from Eric Schutz, Klaus Grimm, Dominique Vernay, Jan van den Biesen, Laila Gide, Alun Foster and Kees van Mourik

FUNDING

Brussels/Eindhoven ~ Submitting an Artemis proposal

AD BURGMANS
Program Coördinator
Artemisia

Cooking up *a project proposal*

THE ARTEMIS JOINT UNDERTAKING LAUNCHED ITS FIRST CALL FOR RESEARCH PROPOSALS ON 8 MAY 2008, THREE MONTHS AFTER THE JU WAS LAUNCHED. COLLABORATIVE PROPOSALS ARE INVITED AND SHOULD BE FOCUSED ON INDUSTRIAL RESEARCH AND TECHNOLOGY DEVELOPMENT IN AN APPLICATION CONTEXT. THE DEADLINE FOR SUBMISSION OF ARTEMIS FIRST CALL PROPOSALS IS 3 SEPTEMBER 2008 AT 17.00 BRUSSELS LOCAL TIME.

A proposal must satisfy all of the following criteria to be retained for evaluation:

- It is submitted using the ARTEMIS Proposal Service (APS);
- It is received by the ARTEMIS JU before the deadline given in the call text;
- It involves at least three non-affiliated legal entities established in at least three ARTEMIS Member States;
- It is complete and the following elements are present in the proposal as requested in the Guide for Applicants:
  - The administrative forms; and
  - The proposal description with all the mandatory sections.
- It is submitted in English; and
- The content of the proposal relates to the topic(s) described in the Annual Work Programme of the Call.

ARTEMIS PROPOSAL SERVICE (APS) ~ Proposals must be submitted electronically, using the ARTEMIS Proposal Service (APS). All data uploaded is securely stored on a server to which only the proposal coordinator and the other participants in the proposal have access until the deadline.

You can access the APS from the call page on https://www.artemis-ju.eu/call_2008. The APS system has a built-in help function. The most important points are:

Use of the system by the proposal coordinator

A proposal coordinator can:

- Register as interested in submitting a proposal;
- Set up (and modify) the consortium by inviting/removing participants;
- Complete all of Part A pertaining to the proposal in general and to his/her own administrative details;
- Download the document template for writing Part B of the proposal and, when it is completed, upload the finished Part B; and
- Submit the complete proposal Part A, Part B (one PDF file) and Part C (as several PDF or ZIP files).

COLOPHON

ARTEMIS (Advanced Research & Technology for Embedded Intelligence & Systems) is a Joint Technology Initiative, with a legal structure of a Joint Undertaking, that coordinates the public funding of research and development in embedded systems in Europe and brings together the European Commission, Member States and industry represented by the ARTEMISIA Association; the association of R&D actors in the field of ARTEMIS.

Through ARTEMIS(IA), Europe has a unique and exciting opportunity to transform this promising area of embedded systems into a genuine, world-class strength.

ARTEMIS magazine is published three times a year by the ARTEMISIA Office in English and provides information on the developments within the ARTEMIS Technology Platform. Its aim is to keep the ARTEMISIA community and beyond updated about the association, programme status and progress, achievements and events.

An online version is available at www.artemisia-association.eu

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Subscription enquiries:
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Submissions:
The ARTEMISIA Office is interested in receiving news or events linked to the ARTEMIS programme, its projects or in general: R&D in the Advanced Research & Technology for Embedded Intelligence & Systems field. Please submit your information to communications@artemisia-association.eu.

Special thanks to all contributors to this issue of the ARTEMIS magazine.

Use of the system by the other participants

Other participants can:

- Complete their own A2 sections (participant details);
- Download the document template for writing Part B of the proposal to assist the coordinator in preparing it (however, only the coordinator can upload the finished version);
- View the whole proposal; and
- For participants from France, Germany, Hungary or Italy only, upload the relevant PDF or ZIP file

About the deadline

Call deadlines are absolutely firm and are strictly enforced. The APS will be closed at the call deadline. After this point, access to the APS will be impossible.

Please note that you may submit successive drafts of your proposal through the APS. Each successive submission overwrites the previous version.

Withdrawing a proposal

You may withdraw a proposal before the call deadline by submitting a revised version with a Part B section containing only the following text: "The applicants wish to withdraw this proposal. It should not be evaluated." You may also withdraw a proposal after the deadline.

ARTEMIS Member States

ARTEMIS member states are:

Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Portugal, Romania, Slovenia, Spain, Sweden and the United Kingdom, Czech Republic, Norway.

Project agreements

Participants in any project are required to conclude a project agreement amongst themselves. This project agreement shall lay down the intellectual property arrangements.

ARTEMISIA office moves

to the High Tech Campus in Eindhoven

THE ARTEMISIA OFFICE HAS JUST MOVED FROM THE EINDHOVEN UNIVERSITY CAMPUS TO THE HIGH TECH CAMPUS IN EINDHOVEN. THE CREDO OF THE HIGH TECH CAMPUS IS 'OPEN INNOVATION' AND THIS IS BEING PUT INTO PRACTICE BY THE MORE THAN 50 COMPANIES AND INSTITUTES CURRENTLY LOCATED AT THIS CAMPUS.

As ARTEMISIA promotes 'open innovation' projects, the High Tech Campus in Eindhoven is the perfect environment to be. In addition, this campus has a fantastic architecture and an excellent infrastructure that is motivating and inspiring the synergy of high-end industry, R&D and science. Many delegations from other countries are visiting this location to learn about the concepts being applied on this technological breeding ground.

More information about the High Tech Campus Eindhoven can be found on: www.hightechcampus.nl

Our new address is:
ARTEMISIA Office
High Tech Campus 69 – 3
5656 AG Eindhoven
The Netherlands

Kees van Mourik
Artemisia Office

CALENDAR

OCT. 21-23 2008

ITEA 2 SYMPOSIUM 2008
ARTEMIS ANNUAL EVENT
ROTTERDAM, THE NETHERLANDS
The ITEA 2 Symposium & ARTEMIS Annual Event in 2008 will be coordinated with ARTEMISIA with a joint one-day programme (22 October). The event will be held in the 'Port of Europe' Rotterdam, the Netherlands from 21 to 23 October 2008.

NOV. 25-27 2008

ICT EVENT 2008
EUROPE'S LEADING ICT RESEARCH EVENT
LYON, FRANCE
The ICT Event is organised by the European Commission's Directorate General for the Information Society and Media and is usually hosted by the current Presidency of the European Union.

ARTEMISIA Association, or shortly ARTEMISIA, is the association for R&D actors in the field of ARTEMIS: Advanced Research & Technology for EMbedded Intelligence and Systems.

ARTEMISIA is responsible for the ARTEMIS Strategic Research Agenda, and is a founding member of the ARTEMIS Joint Undertaking.

Artemis is a magazine published by the Artemisia Office, which provides information on the developments within the ARTEMIS Technology Platform .

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