ITEA 2

M

Magazine

DECEMBER 2010 • NO. 8

Co-summit 2010 & PO Days 2011
Success in Ghent & 6th Call preparation in Paris

12 Years of ITEA
Striking record of long-term success for Europe shows need for ITEA 3

Direct funding and tax credits stimulate French R&D
Focus on France

Σ!
EUREKA

ITEA 2

INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

Content

Colophon

Editorial

Dear colleagues & friends,
Dear members of the ITEA family,

An important year for ITEA is approaching its end. It is time both to look back to 2010 and look forward to 2011. What were the highlights of 2010? What will 2011 bring?

2010 has been the year of *'fast exploitation'*.

Both of our 2010 Gold award winners ParMA and ESNA – like the 2009 Gold award winner Smarttouch – convincingly demonstrated the ability of ITEA 2 to make fast exploitation happen. And for Silver award winner CAM4HOME, we are looking forward to the 2012 Olympic Games in London to see the CAM4HOME results being exploited.

Another highlight of 2010 has been the publishing of our 'Golden Book'. The ITEA steering group produced a 'golden report' on the success stories of 12 years of ITEA. Together with a high-level document on the relationship between ITEA and ARTEMIS, it will be the basis of a fruitful partnership and co-operation between the two programmes for the coming years. The *high-level message* of both documents is that the 'genetic code' of ITEA projects – their so-to-say DNA – is that they are of concrete relevance to all companies and countries involved. Our focus is Innovation, Business Impact and Exploitation.

WHAT WILL 2011 BRING?
As already announced during our Co-summit in Ghent, the focus of our attention in 2011 will be the *creation of ITEA 3*.

How will ITEA 3 evolve from ITEA 2? To answer this question, it makes sense to remember that ICT research is not a purpose in its own. It responds to trends and challenges on three levels: society, business and technology.

On a societal level, the trends and challenges seem to be quite stable: an ageing society, health and well-being, safety, security, privacy and sustainability – i.e. the management of scarce resources such as water, energy and radio frequencies.

On a business level, one of the major challenges is the integration of the next billion users into our systems and services. Therefore, the business-driven expansion of the geographic scope will be an essential element of ITEA 3. The next billion users will not live in the industrialised world. With the integration of Egypt into our projects, we have already taken a step in this direction.

On a technological level, the major challenge is the integration of the next billion devices into our systems and services. We addressed this with the theme of our 2010 Co-Summit: the powerful combination of mobile devices and cloud computing with its built-in massive scalability is the gateway for the integration of the next billion devices into our systems and services. In this respect ITEA 3 will be a seamless evolution of topics which we have already touched through wireless-sensor networks in the ESNA project or the web of objects in the SODA and SIRENA projects.

With the Golden Book, the high-level document on the relationship between ITEA and ARTEMIS, and the Roadmap from spring 2009, we have completed our preparation for ITEA 3. Now we have to make it happen.

And for this we need the support of our family members. We will ask a written confirmation of support from the public authorities representing the Founding Countries. And from all of you, from all members of the ITEA family *we need your mental support*. Because, whatever happens successfully in this world, happens first in the minds of people. And to make it true is an act of mental power.

Please support us with your mental power in 2011.

With this in mind, I wish you a merry Christmas and a successful 2011!

Sincerely yours,

Rudolf Haggenmüller

Rudolf Haggenmüller
ITEA 2 Chairman

Co-summit focuses on scalability and growth for a competitive European software-intensive systems and services industry

'Mobile and cloud power enabling massive scalability and opportunities for growth' was theme of the third ITEA & ARTEMIS Co-summit. More than 600 R&D actors and policy makers from industry, research organisations, academia and public authorities from Europe and further afield gathered in Ghent, Belgium on 26 and 27 October. Day 1 of the two-day event offered an opportunity for ITEA 2 and ARTEMIS participants to see the progress made by their communities, while Day 2 provided an overview of the subjects reflecting the theme of the Co-summit.

Close collaboration between ITEA 2 and ARTEMIS ensures a complementary approach to software and software-system research in Europe and has helped develop a critical mass in an ecosystem focused on boosting competitiveness and the wellbeing of society. "We should all work together for a better electronics industry in Europe," insisted ARTEMIS JU Director Eric Schutz. "There is one mission and two instruments to create the conditions for growth in terms of new business and new jobs," added ITEA 2 Chairman Rudolf Haggenmüller.

Matti Sihto of Tekes, the Finnish funding agency for technology and Innovation, speaking on behalf of Kari Tilli, Tekes Director, Telecommunications and Electronics Industries, outlined the benefits that Finland sees in European R&D co-operation. Finland is at a crossroads in ICT research in 2010 but believes strongly that participation in international research projects strengthens national co-operation.

"Finland sees a need for both the bottom-up ITEA and top-down ARTEMIS approaches and is committed to funding new ITEA and ARTEMIS projects," Sihto said. Helsinki will be hosting the 2011 Co-Summit.

For ITEA, 2010 was the year of fast exploitation of project results. Day 1 provided an opportunity to demonstrate examples of such speed but also the durability of the

IBBT
– Flemish Nocturne, 25 October

Running up to and in collaboration with the ITEA & ARTEMIS Co-summit 2010, IBBT organised a Flemish nocturne on Monday the 25th at the ICC in Ghent. The evening was filled with testimonials on how Flemish companies can successfully participate in European projects. Three graduation dissertations and a PhD research project were also presented with an Alcatel-Lucent Belgium Innovation Award.

results over extended periods. The success of ITEA was also highlighted by the publication of the '12 years of ITEA: Achievements and results of the EUREKA programmes ITEA and ITEA 2' Book – see pages 12-17.

GOING FOR ITEA 3
The ITEA focus for 2011 will be on ITEA 3. "We have completed the preparations for ITEA 3," said Haggenmüller. "We now need the support of the Public Authorities to make it a reality."

Vice-Chairman Philippe Letellier reinforced this message in his review of the achievements, current

status and future of ITEA. ICT is important, pervasive and critical for European industrial global leaders in all domains, he pointed out. The sector itself is growing at twice the rate of that of the economy overall. However, "we are still lagging in our R&D investment in Europe. Innovation is the heart of new business".

Differentiators of the ITEA programme include the focus on key societal and economic challenges, innovation and business impact, as well as making the best use of technologies as exemplified by cloud computing.

"We have built a community and developed a tool for

Gold award winners were:
ESNA for its important role in wireless-sensor network applications. The project offers an impressive balance between advanced technological innovation – including the world's smallest implementation of IPV6 and optimisation of radio communications between devices to reduce energy use – and a business-oriented approach to defining applications. Exploitation includes the GAIA sensor node for precision agriculture in Spain, a spin-off company - Ingeniería de Sistemas Intensivos en Software - to target energy monitoring and management in construction and ABB's use of sensors in process control.

project creation and management, and the process quality," Letellier said. "We are continuing to deliver as shown by the quality of the nominees for the 2010 ITEA Achievements Awards." The standard of projects finishing in 2010 was high, making the choice of three winners particularly difficult. "ITEA has a great future and ITEA 3 will take us to new frontiers," he concluded.

2010 ITEA ACHIEVEMENT AWARDS
The ITEA Achievement Awards reward high-level technical contributions based on real European collaboration providing significant results while promoting ITEA and its aims. Project leaders for the three shortlisted projects provided the presentations for the ITEA family session.

ParMA which developed advanced technologies to exploit multicore architectures for high-performance computing (HPC). Exploitation includes: the Bullx HPC platform, partly optimised in ParMA, named as the world's best supercomputer by *HPCWire*; the UNITE development tool package; and RECOM simulation software already used for an automatic 3D combustion-optimisation simulator.

The silver award went to the **CAM4Home** project for its content-delivery framework that allows users and contents providers to deliver rich multimedia experiences. Its 'create-once, deliver-anywhere' approach enables access to any contents on any

device through all networks. Exploitation includes: online gaming with Facebook-like updates, games ratings and new friend notifications; improved management of live webcasts; and live sports-events production with automated media asset management.

COMMITTED TO OPEN INNOVATION
Wim De Waele, Chief Executive Officer of IBBT, was the opening speaker for the Co-summit, talking on behalf of Ingrid Lieten, Vice Minister-President of the Flemish Government and Flemish Minister for Innovation. He explained how the Flemish region is committed to open innovation focused on societal challenges with support for projects, infrastructure and nurturing entrepreneurs.

"We are achieving results but not enough," De Waele emphasised. "It is a question of scale: we are operating at a regional level but facing global competition. The issue is not technology but the market with Europe still very fragmented."

Markus Vehlow of PriceWaterhouseCoopers, provided a first view of results of a study on cloud computing in his keynote presentation. He started from basics – cloud computing offers ICT as a commodity in the same way as gas or water and involves an evolution in technology and revolution for business. Moreover, there are different clouds both public and private. Challenges include service quality, maintenance and scalability, information security and most importantly privacy. Next generation cloud computing will involve outsourcing.

Pierre Musso, Professor of Information Sciences and Communication reflected on the changing nature and more user focus of innovation. He identified four types: ordinary everyday innovation; incremental innovation; breakthrough or strategic innovation; and invention. He demonstrated his vision in the development of mobile communications – from military radios to today's smart phone and mobile communications as a service – as well as the evolution of cars into mobility services. His overall

conclusion was that the virtual and physical coexist – the borders of the atom and pixel will disappear.

Pietro Perlo of Centro Ricerche Fiat focused on the development of electromobility as the environmental answer to transport in the 21st century. While accidents are major source of concern, pollution is a greater killer. Transport already consumes 50 to 60% of fossil-based energy and this is set to reach 75%. Biofuels are not the answer as they consume more energy than they produce. The solution lies in the convergence of electrical mobility and renewable energy. This requires more efficient energy storage and improved electronics and software. "We need to consolidate and keep a fixed direction," he insisted. "Internal combustion engines are a 100-years old and still developing. Electromobility is in its infancy."

BIGGEST EXHIBITION ON FUNDED COLLABORATIVE RESEARCH
The Co-summit included the biggest exhibition of funded collaborative research, development and innovation projects in software-intensive systems & services and embedded systems in Europe. Exhibitors included 70 ITEA and ARTEMIS projects as well as national competitiveness clusters, Flemish projects, several EU Seventh Framework Programme (FP7) projects and EUREKA.

Based on votes cast by participants in the Co-summit, the exhibition awards for the best and most understandable projects went to the **DIY Smart Experiences** project for ITEA and the **SOFIA** project for ARTEMIS. The DiY Smart Experiences project aims to create a sustainable marketplace for user-generated applications and services. It supports non-technically-skilled people to create and share their own smart environment involving interactive objects, devices and media.

CO-SUMMIT
2010
Parallel sessions

A series of parallel sessions were held during the ITEA & ARTEMIS Co-summit in Ghent.
All presentations are available on the Co-summit website: www.itea2.org/cosummit2010

MULTI-CORE SYSTEMS

By Alun Foster, ARTEMIS-JU

As Alun Foster, chair of the Co-summit 2010 multi-core session, outlined in his introduction, the multi-core is no newcomer but the question persists: how do we exploit its full potential? The three projects in this parallel session aimed to look at the options and provide insight into the actual progress being made.

EXPLOITING THE POTENTIAL OF PARALLELISM
David Castells-Rufas of the Universitat Autònoma de Barcelona kicked off with a look at the powerful, innovative and comprehensive set of parallel programming methods and tools being developed in the ITEA 2 ParMA project to make possible high-performance computing applications as well as embedded compute-intensive applications that run on multi-processor system-on-chip (MPSoC) devices. The parallelism framework involved still has a number of hardware issues that need to be overcome, such as physical connections and consequent delays caused by the communication time, but the innovative designs being produced by his team are paving the way for parallelism to become an enabler to maximise capabilities and performance.

ACROSS-THE-BOARD SOLUTIONS
Christian El Salloum of the Vienna University of Technology took over with ACROSS, an ARTEMIS project that "intends to bring order to chaos and unify diversity" by defining a virtual platform that can be applied over a wide range of applications, scaled to the requirements of a given implementation and facilitating the reuse of design solutions from different fields. He outlined the need to offer industrial domain designers a common, cross-domain architectural solution for embedded systems. ACROSS intends to produce a network-on-a-chip design in which a number of subsystems are contained within a single chip – in other words, a chip for all seasons that will allow flexible connection to various systems and for different applications.

THE QUEST FOR THE GRAIL
François Pacull of CEA rounded off the session with the SMECY project, an ambitious initiative designed to keep Europe at the forefront of the quest for the *grail*: to develop embedded multi-core technology for resource-constrained and real-time applications – consumer, wireless, transportation, etc. Does this mean a single universal compilation chain for all applications, all programming paradigms and all target platforms – multi-cores in this case? While quite unrealistic of course, the possibility to have something efficient does exist. And this is what SMECY is geared to: the grand challenge of efficient programming of multi-cores for various resource-constrained embedded systems applications.

PRACTICES FOR SUCCESSFUL INNOVATION

By José Antonio Heredia Álvaro, Jaume I University

The workshop on innovation generated great interest with almost 200 people registered to attend. Prof. José Antonio Heredia introduced the session, explaining the scope of the innovation process. He highlighted that translating ideas to a commercial product is the least understood side of the innovation process.

Although the practices which companies follow to increase the business impact from innovation projects differ depending on the type of project, it is possible to observe some trends in successful projects:
- Commitment from top management;
- Open innovation: collaboration with others;
- An innovation process which is not the core product development process;
- Dedicated project team: with the right skills and competences – internal and external people; and
- User-centred innovation: user participation in the project from the beginning.

Nick Bouckart, software technological adviser from Sirris, then explained, with industrial cases, how the ITEI project is developing a body of knowledge and

a community of practice in software innovation. The content can be found at www.sinnobok.org.

Dr Minna Pikkarainen, senior research scientist at VTT, led a panel of experts from the software industries. Questions included:
- Why do you need an innovation culture in a software-intensive company?
- What are the concrete ways to create it?
- Is there any fundamental or cultural difference in innovation in different types of companies – e.g. project based, customised or out of the box?
- How can you achieve balance between the requirements of innovation and the risks in the different development companies?
- Why or why not involve external stakeholders – customers and end users – in innovation? Does it result more satisfying products and/or more sales?
- What practices are you following when involving potential customers and partners from the initial stages of innovation projects?
- How can Web 2.0 technologies be used to optimise innovation performance?

Panellists were:
- René Luyckx: Chief Executive Officer, Steria Benelux;
- Andre Menezes: Sales/Consultancy Coordinator, Auraportal (Spain);
- Wim Soens: Head of R&D, Indie Group (Belgium);
- Suvi Keinänen: Research and Innovation Manager, Movial (Finland); and
- Annika Sällström: Business Manager, Centre for Distance Spanning Technology (Sweden)

They answered with useful illustrations from their experience, showing innovative and interesting cases.

CLOUD COMPUTING

By Jean-Marc Morel & Medur Sridharan, Bull

As expected, many people gathered in this session to hear about the current hot topic that is cloud computing and to participate in a lively discussion. Session chairman Jean-Pierre Laisné from Bull started with an overview of the evolution of the Internet which prepared for the cloud era we have just entered: from time sharing in the 1960s to the web in the 1990s to the recent infrastructure as a service (IaaS), platform as a service (PaaS), software as a service (SaaS) and, more generally, everything as a service (XaaS) facilities.

After presenting the cloud-related business model issues with a special focus on the open/free cloud, the chairman elaborated on the large scope of technical components required to build a comprehensive cloud solution, demonstrating that such a solution cannot be developed and provided by a single vendor. This clearly shows the need for a large European initiative both to leverage national efforts and to ensure overall coherency. Moreover, as Laisné asserted, this is an opportunity for Europe because of its strengths: renowned software engineering and R&D collaboration; best practices in an open innovation process; powerful and efficient open-source communities; and a large consumer base in a healthy knowledge society.

Indeed, the European-le d OW2 Consortium – an open-source community committed to making available to everyone the best and most reliable middleware technology, including generic enterprise applications and cloud-computing technologies –

has already launched its Open Source Cloudware initiative (OSCi) at the global level. This involves a clear vision to create an innovative and sustainable cloud ecosystem while fostering open cloud standards to enable cloud interoperability and avoid vendor lock-in solutions such as those that are currently proposed on the market.

Each of the three panellists – Pertti Huuskonen from Nokia, Mario Lopez-Ramos from Thales Communications and Pekka Abrahamsson from University of Helsinki – then presented their respective views of cloud computing, addressing common concerns especially about security, privacy and European sovereignty:
- For Huuskonen, cloud computing appears to be critical for the full deployment of the internet of things because, in the future, most consumers devices as well as many professional systems will need cloud support to deliver requested features;
- Lopez-Ramos reinforced the need to provide trust in security, privacy to also support critical applications, as well as openness and standards; and
- According to Abrahamsson, data location continues to be an important issue, constituting an opportunity for European-based trusted cloud services. Most European countries have started to define cloud strategies. Finland, for instance, has just launched a €60 million industry-led research programme to stimulate companies to transfer their services to the cloud and adopt new business models. However we are still lacking European-wide projects to leverage and harmonise such national approaches. This calls for attention from public funding bodies to support projects tackling cloud technology, process and business issues including migration aspects.

Direct funding and tax credits stimulate French R&D

The General Directorate for Competitiveness, Industry and Services (DGCIS) – part of the French Ministry for the Economy, Finance and Industry – plays a leading role in the funding of national competitiveness clusters and EUREKA Clusters in France. Specific actions have been implemented to support industry, in particular small and medium-sized enterprises (SMEs), in the current economic crisis. In addition to direct funding targeting individual projects, public policies to stimulate business R&D include a tax credit based on the volume of a company's R&D expenditure.

"Information and communications technologies (ICT), as well as the sectors that rely on them, represent one of the primary sources of both growth and jobs in France," says Cécile Dubarry, member of the ITEA 2 Directors Committee for France and Head of the DGCIS ICT Department. Software-intensive industries cover a wide range of industrial and service activities, such as automotive, aeronautics, energy and telecommunications.

"Key enabling technologies, such as embedded software, contribute a significant part of the innovation and added value in these sectors," she points out. They also have a growing importance in domains such as healthcare, urban infrastructures and consumer electronics. High-performance computing and simulation tools are another example of software-intensive technologies providing significant gains in competitiveness for many industrial sectors for example by shortening design cycles.

KEY ROLE FOR CLUSTERS
Competitiveness clusters play a key role in research funding at national and regional level. These clusters bring together large companies, SMEs and research organisations to elaborate co-operative R&D projects. For example, the Systematic cluster in the Paris region addresses technologies for the conception and development of complex systems in software-intensive industries. Minalogic in Grenoble and Solutions Communicantes Sécurisées in Sophia Antipolis are respectively related mainly to micro-/ nanotechnologies and to technologies for security, traceability, connectivity and mobility.

EUREKA Clusters represent a natural continuation of competitiveness clusters at European level.

"They enable more ambitious projects that require collaboration between participants from different countries to achieve a critical mass," says Dubarry. "EUREKA Clusters, EU Joint Technology Initiatives and the EU Framework Programme have different characteristics, allowing each to address specific objectives. Thus the most efficient approach is to use each instrument for the role it is best suited."

The recent interim evaluation report on ARTEMIS and ENIAC[1] mentions aspects of the relative strengths of ITEA 2 and ARTEMIS. ARTEMIS is a programme-oriented top-down instrument with a pan-European nature whereas ITEA 2 is funded to implement specific projects in a bottom-up approach. "The high-level document elaborated last October by a dedicated task force co-chaired by Eric Schutz of ARTEMIS and Fopke Klok of ITEA 2 provides a detailed analysis and significant insights," she adds.

EUREKA Clusters represent the most efficient tool to support projects involving co-operation at European level with an industrial policy perspective and focused on strategic technological breakthroughs. In the ICT sector, the EUREKA CATRENE microelectronics, ITEA 2 software, CELTIC telecommunications and EURIPIDES smart systems Clusters represent key instruments for establishing and implementing an industrial policy in interaction with other European public authorities.

GENERATING SIGNIFICANT RESULTS
ITEA and ITEA 2 projects have generated significant results for French competitiveness. They have in particular paved the way for a strong collaborative ecosystem involving large companies, SMEs and research organisations at European level. Such co-operation has enabled French companies to combine

their R&D efforts with other European business and research organisations to meet time-to-market schedules in crucial sectors.

The ministry plays the leading role in funding EUREKA Cluster projects in France. More specifically, the DGCIS is involved at operational level in funding and reviewing of ITEA projects as well as at the strategic level though interaction with other public authorities and industry representatives. France will host the next joint ITEA Directors Committee and Board meeting in May 2011.

Co-operation between large companies, SMEs and research organisations is a key aspect of French R&D ecosystems. More than 4,000 SMEs belong to at least one competitiveness cluster. SMEs also play a crucial role in the dissemination of innovation in the ICT sector. Both competitiveness and EUREKA clusters are focused on the funding of co-operative R&D projects but the effective funding is given to individual partners, with specific incentives in terms of funding rates for SMEs.

"We are working on the co-operation between the EUREKA Clusters and our competitiveness clusters, especially in terms of co-labels," concludes Dubarry. "This approach proves to be efficient and successful."

[1] First Interim Evaluation of the ARTEMIS and ENIAC Joint Technology Initiatives; European Commission Information Society and Media DG, 30 July 2010

French SME builds global lead in Internet tablet market

French SME ARCHOS has achieved remarkable success in the global Android-based Internet tablet market in the past two years. It now plans to breakthrough from its high technology niche terminals sector – all highly dependent on software – into the more general consumer electronics market. This highly innovative company develops its portable media player products in France and Germany with manufacture in China.

ARCHOS was founded some 20 years by CEO Henri Crohas – a structural engineer with a background in the oil industry who rather enjoyed playing with electronic 'toys'. "Ten years ago we invented the first high capacity MP3 player based on a hard disk – that was a year before the I-Pod," says Crohas. "Then in 2003 we came up with the first portable video player. And last year we released the first Android-based tablet. Now we are very much entrenched in the Internet tablet market."

The company is engineering centred and sees innovation as the key to growth. Software is crucial with much of the technology involved having to be developed in house. Although the products are based on Linux, it has been necessary to develop new layers for applications such as video interfaces and multimedia playback. It has also enabled the company to differentiate its Android-based tablets and keep ahead of the market.

COLLECTING AND PROVIDING KNOWLEDGE
ARCHOS was approached by Alcatel-Lucent to participate in the ITEA 2 DiYSE project which aims to create a marketplace for user-generated applications and services in an open Internet-of-things. It will support non-technically-skilled people to create and share their own smart environment involving interactive objects, devices and media. ARCHOS saw DiYSE as a perfect way to collect and provide knowledge on what end-users could do, have done and probably would like to do regarding interface personalisation.

"We saw the opportunity to work with major European actors on a complex issue and anticipated that the large-scale programme would provide a wide area of solutions and experience," explains Marc de Courville, software engineering director at ARCHOS. "We were

glad to join as a member of the French group led by a major company as we believe such big projects need to be coordinated by larger entities than ours."

De Courville feels ARCHOS brings 'real life' feedback as the company is aware of both the developer's environment and end-users' expectations. This is based upon the specific time scale that ARCHOS addresses: the short and medium term – 12 to 18 months – as this is the time span in which it is compelled to act as an SME. "We need to cope with the day-to-day business of delivering quality products while at the same time working very hard on next-generation products," he says.

The main support from ITEA came through the French consortium and Alcatel Lucent. This included guidance into the overall ITEA 2 organisation, feedback on other groups' achievements and exposure in workshop sessions. ARCHOS had already worked for a long time with the French public authorities responsible for innovative projects and participates in many national R&D projects. "We always get strong support regarding either financing or networking with other companies," says de Courville.

MORE INFORMATION:
www.archos.com

Striking record of long-term success for Europe shows need for **ITEA 3**

As a key element in the preparation for ITEA 3, ITEA has published a comprehensive summary of the long-term success of the two programmes in the '12 years of ITEA: Achievements & results of the EUREKA programmes ITEA and ITEA 2' book. This book shows the vital role that ITEA has played in building a major resource to maintain and grow Europe's industry through innovation and the mastering of software-intensive systems & services.

Established within the EUREKA multi-governmental research initiative with financial support at national level from EUREKA member states, ITEA has obtained consistent and effective research results that have led to fast, effective and long-term commercial exploitation. The programme is particularly proud of the well-established and continually growing open ITEA community. Its success has confirmed that public co-funding stimulates the necessary private R&D efforts in an environment of open innovation.

WELL BALANCED PARTICIPATION
Participation has shown a good balance between industry, academia and research organisations with a strong participation by small and medium-sized enterprises (SMEs) — exceptional in view of the difficulties to ensure real SME involvement in such co-operative research and development programmes.

ITEA's unique approach comes from its industrial leadership, while working closely with the public authorities. The major founding companies have put an important and continuing effort into organising the programme through a series of co-design events, project evaluations, project steering and community events.

TACKLING MAJOR CHALLENGES
ICT innovation is essential for the competitiveness of the European economy and for the health and wellbeing

of Europe's citizens. ITEA has long focused on the major challenges which include:
- **Societal** — meeting the needs of an ageing population, demands for increased personal wellbeing and the necessity for environmental sustainability;
- **Business** — anywhere/anytime connectivity, cloud computing to provide utility-like services over the Internet together with the new business models required; and
- **Technology** — such as massive scalability and reliability in information storage and access, computing power, connectivity and complexity in systems development.

ACHIEVING REAL SUCCESSES
Regular ITEA success patterns show both real innovations and business impact. These can involve:
- Crossing industry sectors and promoting open innovation between complementary competences and markets — such as in the development of algorithms for intelligent sensor networks for security and medical care;
- Creating ecosystems that support industry-wide application and standardisation of common approaches such as achieved through the ITEA EAST-EAA project which drove the global Automotive Open System Architecture (AUTOSAR) standard;
- Gathering all the partners along a value chain for the introduction of a new consumer technology such as in high-definition TV (HDTV); and
- Evolution of development processes and methods as found in the ITEA Families, Agile and TWINS projects.

STRUCTURED VISION OF THE FUTURE
The ITEA Roadmap has long provided a structured view of where innovation is likely to be fruitful. The mapping process started under ITEA and has continued in ITEA 2, identifying the market moving from pure embedded software to software-intensive systems and services. The third edition of the roadmap was published in 2009. It updated the definition of the ITEA domains and the main trends in software-intensive systems and services, as well as pointing to business model innovation.

Particularly important has been the fast exploitation of results, one of the best measures of success for an industry-oriented approach. Typical examples include the ITEA near field communication (NFC) SmartTouch project, the ITEA networked healthcare services NUADU project and the ITEA 2 high-performance computing ParMA project.

DEMONSTRATING LONG-TERM EXPLOITATION
The ITEA Digital Cinema project resulted in the development of a step-change in technology that led to a complete solution for distribution and projection for digital cinema. The success of the project has enabled Belgian company Barco to build a global leadership in digital projection years after the project finished.

Standardisation is another key element in ITEA project success, impacting specific end-users. A powerful example is the bringing together of the card-payment systems across the euro zone with the ITEA EPAS

project that helps Europe support large ecosystems and ensures that Europe can influence global standards.

PRODUCT AND ENGINEERING ADVANCES
Significant successes have been registered in areas such as the effective use of high-performance computing, near-field communication devices for access and ticketing, and global standardisation of safer and more comfortable automotive operation. Impact has been equally high in areas such as healthcare and wellbeing with applications ranging from faster and more effective diagnosis and treatment in hospitals to remote monitoring systems that help elderly and handicapped citizens stay independent for longer.

Software developments within ITEA have played a major role in the entertainment industry. Typical is ensuring the whole video production chain from studio and outside broadcast venue to the TV in the home has been able to provide ever higher levels of quality and definition – through full 1080 HDTV to the imminent widespread availability of 3D TV. Moreover, the development of digital cinema equipment has put

one European supplier at the forefront of a global revolution in film distribution and projection.

Developments in new algorithms and associated systems are also ensuring personal security from improved public safety at sporting events to anti-terrorist protection in railway stations, airports and other public venues.

Developments in ITEA have not only boosted product development but also the technology required to make such development possible. ITEA results in software engineering such as product line methodology, agile software-design methods, model-based approaches and more effective and efficient testing have enabled Europe to increase its competitiveness in this key domain.

PREPARING FOR ITEA 3
While information and communications technologies are important and pervasive, Europe is still lagging the USA and Asia in its ICT R&D investment. Innovation is the heart of new business. There are

a wide range of social and economic challenges that must be addressed and the best use must be made of new and developing software technologies.

The ITEA programme is always ready to address new challenges and to strengthen its economic impact – particularly by encouraging rapid exploitation of research results. Moreover, the ITEA organisation itself has proven to be very flexible and adaptable to market needs and evolution. It has the opportunity to reinvent itself towards future challenges due to its industrial roots which ensure a continuous market connection.

ITEA 2 is already committed to:
- Paving the way towards societal computing by addressing key societal issues;
- Responding to generalising connectivity and the challenge of massive scalability;
- Supporting European industry in providing end-to-end solutions involving both products and services;
- Contributing ICT-based innovations to ensure the competitiveness of jobs and businesses; and
- Addressing greater sustainability and efficient use of scarce resources such as energy, water and radio frequencies.

ITEA 3 would enable ITEA to continue to work closely with public authorities and the ITEA community to enlarge the necessary innovation instruments. It would also strengthen the economic impact of the European ICT industry by more support to exploit ITEA results. Moreover, it would reinforce standardisation efforts by adding a strong European dimension to the results and the projects achieved and, through such innovation and co-operative programmes, boost education and training for young engineers to reinforce employment capabilities in European high-tech industries.

European industry is convinced that ITEA 3 is essential to maintain Europe's position in the global market and to keep its differentiators. This will require the continuing good and close co-operation between industry and the public authorities across Europe.

DOWNLOAD YOUR COPY NOW
A PDF version of the '12 years of ITEA: Achievements & results of the EUREKA programmes ITEA and ITEA 2' book may be downloaded free of charge from the ITEA 2 website: www.itea2.org/12_years_itea

Opening of ITEA 2 Call 6:
15 February 2011

The PO Preparation Days: a key opportunity
to kick off your PO!

ITEA 2 will open its sixth Call for projects on 15 February 2011. In order to help interested parties to prepare for this call, ITEA 2 is organising Project Outline Preparation Days on 15 and 16 February 2011 in Paris, France.

As a EUREKA Cluster programme, our approach is intergovernmental, bottom up and industry driven. Financial support can be provided via National Programmes of all EUREKA Member Countries. ITEA 2 is open to partners from large industrial companies, and small and medium-sized enterprises (SMEs), as well as research institutes and universities. Our projects involve at least two organisations in two different countries – according to the EUREKA rules.

Our Calls for projects involve a two-step procedure with continuous involvement of the relevant national funding authorities. First, short Project Outlines are submitted. For those outlines approved, the next step is to submit a Full Project Proposal. These are evaluated and, if approved, given the EUREKA-endorsed ITEA 2 label. Project participants can then apply for funding in their own countries.

If you plan to participate in this sixth Call, now is the time to visit our website, explore what is going on, start defining your project ideas, look for potential consortium partners and investigate local funding possibilities.

ITEA 2 PROJECT OUTLINE PREPARATION DAYS 2011
The aim of this event is to help organisations form consortia and generate preliminary outlines for projects by bringing together interested companies, research institutes and universities with innovative ideas for projects in ITEA 2.

In short, this meeting will enable you to:
- Receive general information on ITEA 2 and the project call process;
- Present your idea in a poster session and an elevator pitch;
- Discuss and brainstorm about project ideas in workgroup sessions; and
- Contact other interested parties/potential partners from all over Europe.

Participation is free of charge and open to all those with an interest in our sixth Call.

If you are interested in participating in this event, go to our website and fill-in the online registration form – **www.itea2.org/po_days2011**

ITEA 2 CALL 5 – PROJECT IDEAS ALREADY PRESENTED DURING PO DAYS 2010

The closure of this year's 5th Call was on 1 October. 21 Full Project Proposals (FPPs) were submitted, with a total effort of 3,643 person-years. The final labelling decision was made on 7 December: 16 projects have been labelled, with a total effort of 2,987 person-years. The project consortia will be informed about the labelling decision.

Looking back, 14 projects out of these 16 labelled projects were first presented during the PO Days 2010 in Berlin. This again shows that the PO Days are a key opportunity to start your participation in ITEA 2 projects.

Be sure to join us via:
www.itea2/po_days2011

Paris
15 & 16
February

FLEXI
(ITEA 2 ~ 06014)

Developing methodology and tools for widespread use
of agile development technology

LINDO
(ITEA 2 ~ 06011)

Speeding access to distributed
video and multimedia details

TECOM
(ITEA 2 ~ 06038)

Enabling Trust for Safety and Security
in Embedded Systems

FLEXI
(ITEA 2 – 06014)

Pekka Abrahamsson, University of Helsinki
Finland

Developing methodology and tools for widespread use of agile development technology

The ITEA 2 FLEXI project has resulted in major improvements in productivity for embedded systems software development across large enterprises. Adoption of the agile approach has grown rapidly within consortium partners with two-thirds of users unwilling to return to previous methods. Some 58 trials demonstrated concrete impacts in terms of production innovation, reduction in lead times for new products and cutting integration time in major software development projects from weeks to hours.

Few industrial or consumer products can now function without software. Yet companies involved in their design and manufacture are still managed by people with little or no software development experience. There is a particular problem for global enterprises in how to deal with this fast-growing software need across their organisations — especially as much of this software is still developed using traditional manpower-intensive techniques.

FLEXI set out to improve performance in embedded software development across large, multi-site enterprises and so boost productivity. The preceding ITEA AGILE project had demonstrated that agile methodology offered important savings at team level. It led to radical improvements that made it possible to

develop products much faster. Moreover, those involved appreciated the ability to reduce reaction time to a bare minimum by automation, leading to new organisational structures that permitted feedback on a new idea in minutes or a very few days rather than weeks or months.

SCALING UP TO LARGE DOMAINS
Agile offers a particularly flexible approach for embedded software by promoting development iterations throughout the project life cycle. FLEXI worked on scaling up the agile approach to very large domains with hundreds or thousands of people involved.

Problems identified included:
• Multi-product synchronisation and cultural

variations between sites and locations, even within a single country, in large, multi-site, distributed development environments;
• Value-chain management in a global production landscape;
• Enabling and managing innovation;
• Tool support;
• Contracting; and
• Clashes between research and business operations.

There are also many pinch points in a large organisation that had to change — mainly in non-software areas such as marketing and performance-reward systems that focus on individuals rather than teamwork. Adoption of agile technology also required the development of a new type of tooling that supported flexible integration and innovation.

THREE WORK AREAS IDENTIFIED
FLEXI worked on three areas:
1. Market-shaping innovation — developing new mechanisms rather than following the market;
2. Product portfolio management — market changes, new technologies and customers who want own their own competitive advantage mean there is often a need to react to last-minute changes; and
3. Large-scale agile production — the R&D engine that acts in every company required scaling up and integration. With many people working on a development, it is necessary to integrate their individual contributions.

The result is a 'hyper-performing' organisation which offers a high level of agility in decision-making processes and also in its ability to respond to market needs.

A major outcome was an 'agile positioning system' — a strategic and practical tool for a company to assess and analyse how agile it is and what it can do to improve its situation. This is being taken further in other projects — and more widely than just agile development but also as an overall measure about how a company is succeeding in its markets.

FLEXI packaged lessons learnt about innovation in a very concrete way. This included a book entitled Building blocks of agile innovation which was published at the end of 2009. And a spin-off company in Finland is selling capability development dealing with new innovation aspect. Other major outcomes included development of tools to solve problems with concrete impact. Seven such tools were published of which some are already in commercial development. These included Product Backlog Management (Reaktor), PLUM (ESI) and Releasious (Sirris). Sirris also encouraged technology transfer with integration of the agile approach into a service offering by ProSource.

CHANGING DIRECTIONS MORE EASILY
A survey of a 1,000 people carried out as part of the project indicated that they highly rated the agile approach as:
• It makes it possible to change directions much more easily than before; and
• It is more transparent to both those responsible for the business side and those who do the work.

In practice, the agile approach can go as far as those involved have influence in an organisation. For

example, by using this approach Finnish company F-Secure with its fast-growing anti-virus range has managed to launch a product that requires 70% less resources in terms of memory than before. This is a significant advance for F-Secure's customers. Overall, F-Secure has already implemented the agile approach across 800 employees in its two sites in Finland as well as in Malaysia — its largest operations outside Finland.

Major industrial robotics and power systems manufacturer ABB does not consider itself as a software company but develops a lot of software for its own use. When it started with agile, it was able to consult companies such as Nokia Siemens Networks (NSN) which had already experience changing. As a result of applying agile techniques, ABB has been able to reduce lead time for new products by 63%. Pilot projects involved only a relatively limited number of participants — 30 to 40 people — but they were widely distributed over eight or so ABB sites around the globe.

NSN itself cut integration time for one new system from three weeks to 96 minutes. However such change did not happen overnight — it took 2 to 2½ years and investment to build the technical ability required for agility. The company has already trained over 5,000 people around the globe to make use of their agile development approach.

INDUSTRY-DRIVEN APPROACH
FLEXI developed as an ITEA project for three main

reasons: ITEA is industry driven; it offers an international platform where it is possible to adjust targets once they have been set; and it provides a well-developed platform in terms of procedures, support and expertise.

Putting together companies with different levels of expertise in different areas was also very useful — and many company-to-company collaborations emerged. ITEA also allows SMEs to work with large companies and see what they do. Moreover, in this project, some of the SMEs had specialist expertise that would not have been known otherwise.

BENEFITS FOR EUROPE
The impact and wide adoption of AGILE and FLEXI results have now put many of Europe's big players in the right place. An organisational development philosophy where accepting change is seen as a competitive advantage has given Europe the possibility of being a front runner in terms of time to market and productivity. It has also had an influence on standardisation through IEEE 1648 on agile methods and ISO SC7 on software and systems engineering.
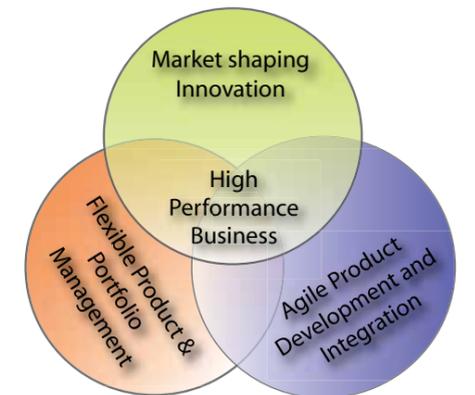
MORE INFORMATION:
www.flexi-itea2.org

LINDO
(ITEA 2 06011)

Jean-François Sulzer, Thales Security Solutions and Services, France

Speeding access to distributed video and multimedia details

The ITEA 2 LINDO project has demonstrated an effective open system for indexing and retrieving specific objects in very large distributed multimedia archives with remote selection and processing. A few seconds of critical video can be retrieved from thousands of hours of recordings based on any type of criteria. The system offers an integrated solution optimised for video over Internet, implementation of a practical querying mechanism and standardised data formats. Applications include improved usability of video surveillance, knowledge management and government archiving.

There is a continually growing volume of multimedia data resulting from numerous activities – such as personal videos and websites, medical files, TV news, video surveillance and company archives. Until now, access to specific clips has required transfer of massive amounts of bandwidth-hungry data files from local storage to central facilities for processing.

LINDO addressed how to limit unnecessary transfer of video and multimedia information, especially when the intention is only to perform smart search activity on the contents. The problem that it was trying to solve is even more important now than when the project started as ever greater amounts of video and multimedia data is travelling over networks. Recent figures from telecommunications operators in Europe indicate such transfers now account for over 50% of their traffic and are forecast to grow to 75 or 80% in the near future.

The original idea for the project came some five or six years ago when two SMEs – Enertec and Hi-Stor Technologies – saw a real market need in the broadcast industry, at the time the main provider of video content. Visiting the NAB Show in the USA, they were surprised to see that video archiving was very crude. An informal brainstorming came up with the idea of distributing storage and intelligence – resulting in an ITEA 2 project.

There are two options for performing actions such as contents analysis or subject recognition on locally produced or stored video:
1. Send it to some central facility which has this processing capability; or
2. Send the analytical tool to the local node where the information resides and transfer back only relevant data – a huge benefit in terms of the quantity of information that has to be transferred and processing parallelisation.

It is the latter that LINDO set out to develop. As a result, a central processing facility is no longer required but rather the action involves activating processing capabilities at the local nodes or, if the right tools are not installed at all relevant local nodes, setting up tools as required to answer a query.

The principal objectives were to: optimise data flow by co-location of acquisition, storage and search functions, limiting data transfer to pertinent information with remote deletion of out-of-date archives; and improve archive exploitation through standardising indexation at the input, assisting in exploitation and quality control.

WELL-STRUCTURED ARCHITECTURE
The whole concept was quite new and involved development of the necessary architecture. This is designed in such a way that even in a single node it is possible to have processing tools that run under Linux and Windows simultaneously on the same content all managed by a single central facility.
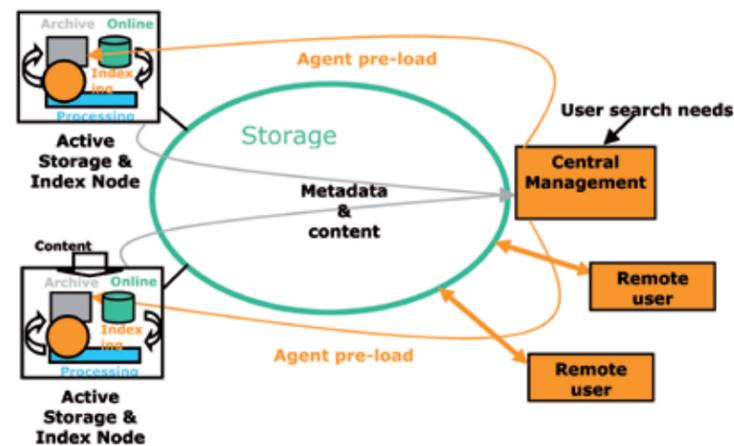
For maximum flexibility, this required very strict and well structured interface specifications allowing the design of both generic and application-specific modules which in all cases are a really integral part of this concept. Use of split modules ensures proper communications to accommodate different types of worlds.

While smart indexing and clever algorithms were necessary, the object was not to make advances in these individual areas as such, but rather to use them to demonstrate the architecture. The innovation lies in the ability to master the interface between the modules – and, specifically when looking at video surveillance, agreement on a common data format.

NATIONAL AND GLOBAL STANDARDISATION
This latter work involved activities with the French AFNOR standards organisation, supported by French ministries. There are similar needs globally and this

NUMEROUS APPLICATIONS
Applications are ubiquitous and the ITEA 2 project looked at:
- The broadcast and multimedia industry which produces information in very high quality requiring huge bandwidths. However, most of the time it is only necessary to know whether something is available and where it is for transfer for example to DVD;
- All archival organisations – including government agencies and large companies; and
- Video surveillance with large IP-based systems involving hundreds of cameras that generally store information locally.

As an example of video surveillance, one city has equipped all its buses with multiple video cameras; their output is not broadcast in real time but stored on the vehicle. If a child was kidnapped and police want to

but the name of a person is for example in a closed caption with an image. The LINDO approach would make it possible to send an algorithm to the images and find the right information and, once it has been found, return the data. This requires very limited information and very limited bandwidth until the name is found.

COMMERCIAL IMPLEMENTATION IN PROGRESS
Commercial implementation has already started. The flexibility of the architecture has enabled each partner to implement the results at modular level. Typically Thales has already installed this architecture even if not in a full system. And it has another programme in view for government agencies to find videos in systems – a key interface makes it possible to use any commercial algorithm in a storage node.

Full turnkey systems will come with applications – such as the bus/kidnapped child scenario – being discussed

activity is now at ISO level with the LINDO co-ordinator also the convenor of ISO 223 WG5 – the interoperability standard for video surveillance which will probably be submitted in early 2011.

At a more modest level, there has been active support of this project in knowledge management for space application in Belgium. This involved Topics Maps (also an ISO standard) which provide a model and grammar for representing the structure of information resources used to define topics, and the relationships between topics.

LINDO implements topic maps in the querying process and as a representation of semantic metadata. Academic entities in Belgium, France and Spain were involved in developing semantic ways of querying information in a system.

see if the child has been on a bus, it would no longer be necessary to recall the buses, extract the videos and check them, but rather to send a search software agent to each bus with a photo and have a return saying seen or not seen. Crucial information can also be gathered from street cameras and by monitoring TV news.

This same principle can be applied to a growing number of industrial applications using video, such as flight tests or crash tests in the automotive industry, where only a few seconds of data are critical.

Obvious extensions include: dynamic medical imaging – again involving huge amounts of information – and searching on public websites. Imagine looking for something on YouTube or Dailymotion that is not indexed

with big operators. Some of the partners are already active worldwide – such as Infoglobal and Telefonica in Spain as well as Thales – and are really pushing this technology for their export markets.

MORE INFORMATION:
http://lindo-itea.eu

TECOM
(ITEA 2 06038)

Antonio Kung, Trialog
France

Enabling Trust for Safety and Security
in Embedded Systems

The ITEA 2 TECOM project has developed mechanisms in terms of architectures and solutions combining embedded trust services and trusted operating system technologies to ensure security and dependability in a wide range of complex and dynamic embedded systems. The project focused on enabling multiple applications to be run safely on the same systems and processors while acting totally independently of each other. Applications range from protecting film rights in video-on-demand applications and ensuring bug-free software upgrades in domestic appliances to safe operation of the multiple control systems now found in cars and, potentially, partitioned systems for safety-critical applications in aircraft.

Industry and society are increasingly dependent on embedded systems that are getting ever more complex, dynamic and open, while interacting with progressively more demanding and heterogeneous environments. Consequently, reliability and security have become major concerns, yet current approaches provide little or no support to determine the level of dependability and trustworthiness in a system.

The growing number of external security attacks as well as design weaknesses in operating systems, especially in personal computers (PCs), has resulted in major economic damage. As a result, it has been difficult to attain user acceptance and gain favourable recognition in the market for such systems.

Consequently, stakeholders in embedded systems are increasingly demanding execution platforms which address both their integrity and security concerns. The worries include:
▪ Denial-of-service security issues provoked by shortage of resources such as memory and processing power, while ensuring availability of resource budget; and
▪ Malicious access to data created by another application and, from an integrity viewpoint, unexpected memory access caused by programming errors.

ESTABLISHING TRUST BETWEEN STAKEHOLDERS
The ITEA 2 project therefore set out to investigate solutions and architectures for embedded systems platforms which have to meet both security and integrity requirements. The basis of the TECOM approach was to apply the concept of trusted platforms to real-time embedded systems.
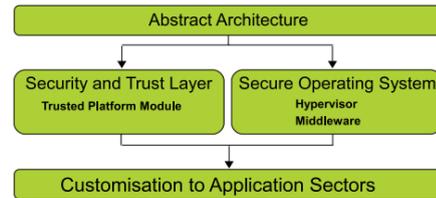
Trusted computing involves the accepted dependence between two stakeholders, one of which is responsible for a trusted computing artefact such as an electronic device. Such trust is achieved by involving means for security and dependability, and providing some form of evidence for trust that can be examined by the stakeholders involved. The trustworthiness of a computing system is important as it allows reliance to be justifiably placed on the service it delivers.

TECOM focused on the growing demand for execution platforms in embedded systems that address both integrity and security concerns. It developed abstract architectures based on generic modules involving on one side an embedded trust-services layer offering hardware security and, on the other, trusted operating-system technology involving system and middleware space. The result can be customised to a specific application.

The state-of-the art approach to trust at systems level, close to the processor, has been some form of hypervisor or virtualisation application for securely partitioning the applications. While this had already been developed for use on main-frame computers and on PCs where it was possible to run two windows independently at the same time, it had not been available for embedded systems.

One Solution Does Not Fit All
• Different resource constraints and footprints
• Fragmented market with different technologies and standards

Xtratum	L4	RT-Linux
Arinc653	XEN	OSEK-VDX

Abstract Architecture

Security and Trust Layer
Trusted Platform Module

Secure Operating System
Hypervisor Middleware

Customisation to Application Sectors

Example Areas
• Research management
• Data Access

Security Issues
• Non-authorised access
• Denial of service

Safety Issues
• Lack of quality of service
• Accidental access
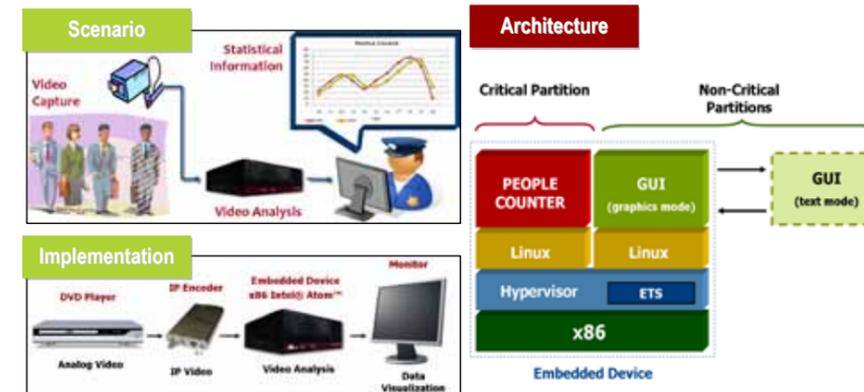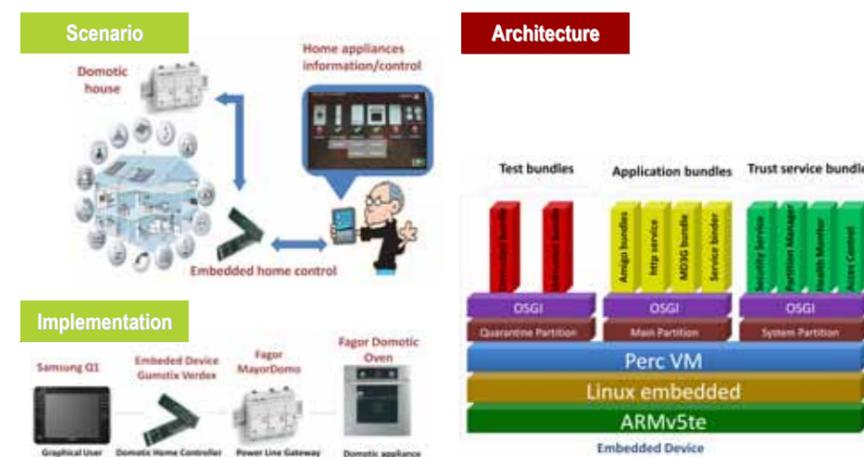
OPEN-SOURCE SOLUTION
Partner Universidad Politécnica de Valencia had already started development of a hypervisor system for the European Space Agency. This was intended to enable several partitioned applications to be run safely at the same time on the same processor to reduce space requirements. The hypervisor provides a framework to run several operating systems in a robust partitioned environment.

This work was taken further in the ITEA 2 project, resulting in an open-source and evolvable virtual machine solution now available as the XtratuM hypervisor. This can be used to build an architecture with Multiple Independent Levels of Security (MILS) for safety-critical embedded systems which can meet stringent certification needs in the avionics industry.

On the middleware side, TECOM extended the PERC Ultra Java-based virtual machine technology from Atego to support multiple-level real-time and embedded applications. PERC was integrated with the TECOM middleware security layer and the TECOM trusted operating systems. The outcome was a proof of concept that it is possible to add partitioning applications in such a virtual machine.

FIVE APPLICATIONS DEMONSTRATED
TECOM demonstrated its approach in five applications:
1. Isolation of the film stream from other activities in a PC for video-on-demand applications to prevent copying and thus protect copyrights. This was led by Technicolor;
2. Separated counting of numbers of accesses for exhibitions or sports events in video-surveillance applications for legal or accounting purposes. This was led by Visual Tools;
3. Quarantining of software updates in domestic appliances until an update has proved bug free. This was led by Fagor;

4. Independent operation of multiple separate functions, such as engine control and telematics, in automotive applications to reduce the number of processors required. Such partitioning is intended to enable full control in separate partitions for greater safety and dependable services. This was led by Trialog;
5. Combination of a series of independently operating safety-critical applications on single processors in avionics for weight and cost reasons. This was seen as a more long-term possibility and the work in TECOM was principally a proof of concept for such applications. This was lead by EADS DS.

DEVELOPING COMMERCIAL USE
The resulting convergence of security and dependability developed in this ITEA 2 project is already leading to commercial applications of both the operating systems and virtual machines. These include:
▪ The XTratuM secure operating system, which is now available as an open-source product (www.xtratum.org). Support in the use of the product is available from FentiSS, a spin-off set up by the Universidad Politécnica de Valencia that specialises in the development of safety secure and critical embedded solutions using virtualisation technologies. Universidad Politécnica de Valencia, FentiSS, and Trialog are also co-operating on further work based on XTratuM; and
▪ The Atego PERC virtual machine, which is ready for integration once the required isolation functions are identified by potential customers.

Concepts developed in the other demonstrators are also serving as a basis for future products with Visual Tools, Fagor, and Technicolor ready to integrate isolation and Embedded Trust Services (ETS) features into future applications.

TAKING WORK FURTHER
Work developed in the ITEA 2 TECOM project is also being taken further in an EU Seventh Framework Programme (FP7) project which involves several TECOM partners. The OVERSEE project is an initiative for the automotive sector intended to provide a secure, standardised and generic communication and application platform for vehicles.

MORE INFORMATION:
www.tecom-itea.org

NEWS & CALENDAR

Good news from Spain for the ITEA community

In October, the ITEA community received positive messages on the Spanish funding for projects. In 2010, Spanish funding for ITEA 2 projects has highly increased by nearly 178% compared to 2009 because:

- The grants provided are set to increase by nearly 10% to about 10 million Euro in 2010.
- Additional loans for business-oriented innovation funding are set to increase by a factor 25 to about 17 million Euro in 2010.
- Funding decisions now cover the full duration of the projects. This is a major change from previous years in which the funding decision in many cases had a one-year span.

The strong participation of Spanish partners in all 2010 Achievement award winning projects again confirmed the major role of Spain in ITEA. These positive funding messages support and stimulate a further strengthened participation of Spanish partners to the benefit of ITEA projects and our community.

15-16 FEBRUARY 2011
ITEA 2 PROJECT OUTLINE PREPARATION DAYS 2011 – OPENING CALL 6
PARIS, FRANCE

During this event you will be able to brainstorm new project ideas, start working on a Project Outline, locate potential partners, join existing consortia and find out more about the specifics of Call 6.

ITEA 2 Project Outline Preparation Days 2011

Register now! www.itea2.org/po_days2011

23-26 JANUARY 2011
TEI'11 – 5TH INTERNATIONAL CONFERENCE ON TANGIBLE, EMBEDDED AND EMBODIED INTERACTION
FUNCHAL, PORTUGAL

During the event, the ITEA 2 project DiYSE organises "Studio 5. Do-it-Yourself Creation of Pervasive, Tangible Applications".

www.tei-conf.org / www.dyse.org

7-9 FEBRUARY, 2011
OPENMODELICA AND MODPROD WORKSHOPS ON MODEL-BASED PRODUCT DEVELOPMENT
LINKÖPING UNIVERSITY, SWEDEN

The ITEA 2 Project OPENPROD co-organises these events.

www.modprod.liu.se
www.openmodelica.org
www.openprod.org

1-5 MARCH 2011
CEBIT 2011 – HEART OF THE DIGITAL WORLD
HANNOVER, GERMANY

www.cebit.de

29-30 MARCH 2011
CELTIC-PLUS EVENT
HEIDELBERG, GERMANY

www.celtic-initiative.org

4-8 APRIL 2011
HANNOVER MESSE 2011 – GET NEW TECHNOLOGY FIRST
HANNOVER, GERMANY

www.hannovermesse.de

Mathematician turned software engineer leads the ARTEMIS Industry Association

Dr Klaus Grimm was elected as President of the ARTEMIS Industry Association in 2008 and, as such, is the Chairman of the Governing Board of the ARTEMIS Joint Undertaking. In that role he has actively supported a positive cooperation with the ITEA 2 programme, reflected among others in the joint organisation of the ITEA-ARTEMIS Co-summits. Dr Grimm is the director of the Daimler Electric/Electronics and Software Technology laboratory in Germany and a long-time resident of Berlin.

Dr Grimm studied mathematics at the Technical University of Braunschweig before joining AEG – one of the pioneers of electrical engineering in Germany – in 1980. Here he was involved in calculating the reliability of technical systems using his mathematical training in statistics and probability theory. As the reliability of systems became more and more dependent on software rather than hardware, he started working on software engineering in the mid 1980s.

AEG was taken over by Daimler-Benz in 1986 and, three years later, a central R&D division was set up in Daimler-Benz, taking in AEG research as well. "This allowed me to enhance my field of activities from the technical systems of AEG to aerospace and then automotive systems," he says. "Nowadays our cars are highly complicated, using 20 million lines of code with 60 to 70 electronic control units – more or less computers on wheels! So software engineering is a core competence for the automotive industry."

He became head of the unit responsible for the systematic testing of software and embedded systems, studying in parallel for a computer science doctorate. He obtained his PhD from the Technical University of Berlin in 1995. "I developed a new software testing method which is now widely used all over the world," he says.

EMBEDDED SYSTEMS IMPORTANT
Embedded systems have been of great importance to Dr Grimm for a long time and he has been an active member of the ITEA 2 Board between 2005 and 2007. When the original ARTEMIS Joint Technology Initiative got off the ground in 2008, he was sent by Daimler as member of the presidium of ARTEMIS-IA. Shortly afterwards he was elected as president.

ARTEMIS-IA is the industry association representing more than 200 stakeholders – large industry, small industry and research organisations – that is one of the three elements of ARTEMIS. The other two elements are EU Member States – 22 currently – and the European Commission.

"I think ARTEMIS with its top-down approach is really important to avoid the fragmentation of research in embedded systems," he explains. "We work with a strategic research agenda which is the core of our activities. From this, we derive the work programme and the topics for the annual calls for projects. Not only does it help avoid fragmentation but it is also an appropriate construction to strengthen Europe's position in embedded systems."

FACING COMMON CHALLENGES
Dr Grimm believes strongly in the need for European-level research in software. "There are lots of challenges that cannot be solved by one party or country alone," he insists. "We also face common challenges in different applications whether automotive or automation, so we have to bundle our forces if we want to be really successful. It doesn't make sense if just one party, research institute, company or country works on these problems on its own. We need to combine our capabilities to compete with other parts of the world such as the USA."

While ITEA and ARTEMIS are both involved in software research at European level, Grimm sees clear differences: "We have the same target – strengthening Europe's position in software and embedded systems, and fighting societal challenges – but we have quite different instruments. ARTEMIS is a tripartite organisation with the Commission, EU Member States and industry, while ITEA is a EUREKA programme with only two parties – the Commission is not involved.

ITEA and ARTEMIS recently co-authored a document addressing the synergy and coordination between the programmes as an answer to the public authorities. "This is a good document as we sat together and discussed our topics, ambitions and ways of working," says Dr Grimm. "It shows how the two programmes complement each other with the ARTEMIS common top-down strategy and the more flexible short-term approach to consortium forming possible in ITEA. And it describes well how our two different organisations really work and our shared ambitions. "

Outside work, Dr Grimm is a keen listener to music. "I still live in Berlin and am a great fan of the Berlin Philharmonic orchestra. At the same time I like modern jazz and rock music – not classical music only. My first interest was rock music – I was 14 when the Woodstock festival took place, and it had a big influence on my musical taste. I then started to discover jazz and classical music!" And when he has time, Dr Grimm is also keen on sports, particularly playing tennis and jogging.

ITEA and the CANTATA project join EUREKA at the ICT 2010 Event

Brussels, 27-29 September

The ICT 2010 event, organised by the European Commission under the auspices of the Belgian Presidency of the EU, showcased over 100 ICT research projects funded by the EU. The event was opened by keynote speeches from Commission Vice President Neelie Kroes (responsible for the digital agenda), Research Commissioner Máire Geoghegan-Quinn, Belgian Prime Minister Yves Leterme and MEP Silvana Koch-Mehrin, and a VIP debate featuring CEOs from international companies.

Representatives of the ITEA 2 Office and the ITEA project CANTATA joined EUREKA at the exhibition on a stand providing information about the EUREKA Network and its Clusters, and showing innovative project highlights. The CANTATA project showcased its results in advanced digital video content analysis with two demonstrations: on home entertainment – an Interactive TV; and medical diagnosis – a system that automatically detects pulmonary embolisms.

Such a combined stand enables us to get across the core messages on industry-driven ICT research, innovation, business impact and fast exploitation optimally on different levels and to different types of visitors. Furthermore, it was a good opportunity to promote the opening of the Sixth Call and the ITEA 2 PO Days on 15 and 16 February 2011.

EUREKA Israeli Chairmanship welcomed at the Co-summit

During the ITEA & ARTEMIS Co-summit closing session and award ceremony, ITEA was honoured to welcome Avi Bivas, Senior member of the Chief Scientist Office at the Israeli Ministry of Industry, Trade and Labor, speaking on behalf of Eli Opper, EUREKA High Level Group (HLG) Chairman in this year's Israeli's Chairmanship.

Mr Bivas opened the closing session by highlighting two priorities of the Israeli Chairmanship focus for 2010-2011. First, EUREKA is working together with the Clusters to create a 'Clean-Tech Initiative' campaign aimed at encouraging project proposals focused on R&D co-operation in the clean-tech sector – renewable energy, environmental and water technologies. And second, EUREKA is promoting strong relations between the Network and the Clusters. Last year, during the German Chairmanship year, an Inter-cluster Committee was created, currently headed by Enrico Villa, Chairman of the CATRENE nanoelectronics Cluster. The Clusters are engaged in efforts to simplify and shorten the project creation cycle – e.g. by installing fast track processes – and

to improve the co-operation and information exchange between them. In exchange, the EUREKA Network and member countries provide more support in the areas of logistics, budget, dissemination and other activities. All these activities will be included in a 'Letter of Intent', to be published at the end of the Israeli Chairmanship year. This letter will then become an official document of the EUREKA Network.

Following his speech, Avi Bivas, together with ITEA 2 Vice-Chairman Philippe Letellier, handed over this year's ITEA Achievement Awards to ParMA, ESNA and CAM4HOME.

EUREKA AND ITEA TOGETHER AT THE PROJECT EXHIBITION

Following the success of previous Co-summits, the EUREKA Network had a stand together with ITEA at the Co-summit project exhibition. We are again grateful for the support of the EUREKA Secretariat in the realisation of the ITEA project exhibition.

ITEA 2

INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT